

Planetengetriebe Planetary Gearboxes **JPL und JPW**

Ausgabe/Edition 3.02



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Fragebogen, Questionnaire

Getriebe, Gearbox

Abtriebsdrehmoment
Output power **Nm**

Abtriebsdrehzahl
Output speed **min⁻¹**

Radialkräfte
Radial load **N, mm**

Axialkräfte
Axial load **N**

Schalzhäufigkeit
Starting frequency **1/h**

Einschaltdauer
Duty type **%ED**

Lebensdauer
Life time **h**

Umgebungstemperatur
Ambient temperature **°C**

Ausführung, Type

☐ Linearge triebe
Linear gearbox

☐ Winkelgetrie be
Right angle gearbox

☐ Fußausführung
Foot mounted

Montageposition Seite H-46
Mounting positions page H-46

Ausgangswelle
Output shaft

☐ Bremse
Brake
Bremsmoment
Brake torque **Nm**

Antrieb, Drive

☐ Hydromotor, Hydraulic motor

Fabrikat
Brand

Typ
Type

Abtriebswelle
Output shaft

Schluckvolumen
Displacement **cm³/Umdr**

Max. Ölstrom
Max. operating flow rate **l/min**

Max. Betriebsdruck
Max. operating pressure **bar**

☐ Elektromotor, Electric motor

IEC Baugröße
IEC Size

Nennleistung
Rated power **kW**

Spannung
Voltage **V**

Frequenz
Frequency **Hz**

Drehzahl
Speed **min⁻¹**

Schutzart
Motor protection degree **IP**

☐ Eingangswelle, Input shaft

Antriebsdrehzahl
Input speed **min⁻¹**

Radialkräfte
Radial load **N, mm**

Axialkräfte
Axial load **N**

Einführung

Mit der Einführung neuer Baugrößen wurde der Produktbereich der Planetengetriebe JPL und JPW nach oben erweitert. Der Drehmomentbereich der Getriebe in diesem Katalog geht von 1.000 Nm bis 3.000.000 Nm. Bei Anforderungen außerhalb dieser Werte bitten wir um Rücksprache.

Diese Getriebe wurden für die unterschiedlichsten Anwendungen entwickelt, wobei sowohl die starken Überlastungen bei mobilen Anwendungen, als auch die bei industriellen Einsätzen erforderliche Langlebigkeit und Zuverlässigkeit berücksichtigt wurden.

Die Getriebe finden Anwendung bei mobilen Maschinen im Bereich des Hebens und des Transports, bei Baumaschinen, bei Landmaschinen und im Schiffbau, sowie auch bei Drehwerken für Betonpumpen, bei Baggern, bei Kränen für Fahrzeuge und Hebebühnen. Außerdem in vielen Industriebereichen z.B. metallverarbeitende Industrie, Verarbeitung von Kunststoffmaterialien, Abwasserreinigung, chemische Industrie, Energiewirtschaft und Bergbau.

Der vorliegende Katalog erlaubt eine einfache und schnelle Auswahl der Getriebe über die übertragene Leistung und die gegebene Eingangs-drehzahl oder das erforderliche Abtriebsdrehmoment und die gewünschte Ausgangsdrehzahl. Bei der Auswahl sind die entsprechenden Betriebsfaktoren zu berücksichtigen.

Für die Getriebe sind auf der Eingangsseite verschiedene hydraulisch lüftbare Lamellenbremsen, Eingangswellen sowie Adapter für alle gängigen Hydromotore und Elektromotore lieferbar. Für die Abtriebsseite sind Vielkeilwellen, Ritzel, Flansche, Kupplungen, Schrumpfscheiben, Drehmomentstützen sowie Fußbefestigungen erhältlich.

Inhalt



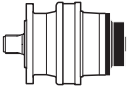
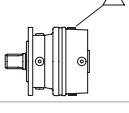
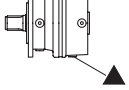
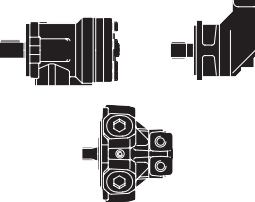
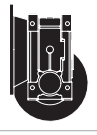
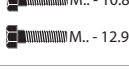
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1.0 Symbole und Maßeinheiten

Symbol	Maßeinheit	Beschreibung
$_{-1}$		Eingangswert
$_{-2}$		Ausgangswert
bu	mm	Eingangswert
de	mm	Eingangswert
dp	mm	Eingangswert
fa	N	Axiallast
f_{amax}	N	maximale Axiallast
f_r	N	Radiallast
H	mm	Zahnradbreite
i_e	-	Untersetzung
m	mm	Modul
n	RPM	Drehzahl
n_{max}	RPM	maximale Drehzahl
nxh	RPMxh	Lebensdauer
P₁	kW	Leistung
pb	bar	Öffnungsdruck (Bremsen)
pmax	bar	max. Öffnungsdruck (Bremsen)
P_t	kW	Thermische Leistung
T	Nm	Drehmoment
T_b	Nm	Bremsmoment
T_{max}	Nm	max. Drehmoment
X	mm	Abstand der Radiallast
x	-	Modulverschiebung
z	-	Anzahl der Zähne

Symbol	Beschreibung
	Ausgangsflansch
	Eingangsflansch
	Eingang
	Anzugsmoment (Nm)
	Ölmenge (Liter)
	Gewicht (kg)
	Öleinfüllstopfen/Entlüftung
	Ölstand
	Ölablaß
	Hydraulikmotor
	Elektromotor
	Schneckengetriebe
	Schrauben
	Seitenangabe

2.0 Lieferbare Ausführungen

Anwendbare Motoren

- 1 Elektromotor
- 2 Gerotormotor
- 3 Axialkolbenmotor
- 4 Radialkolbenmotor
- 5 Orbitalmotor 'MLR'

Eingänge

- 9 Motorflansch
- 10 Eingang mit Antriebswelle
- 11 Eingang für Elektromotor
- 12 Eingang für Orbitalmotor
- 13 Lamellenbremse F1, F2
- 14 Lamellenbremse
- 15 Standardflansch
- 16 Flansch für Orbitalmotor 'MR'
- 17 Flansch für Orbitalmotor 'MD'

Übersetzungsstufen

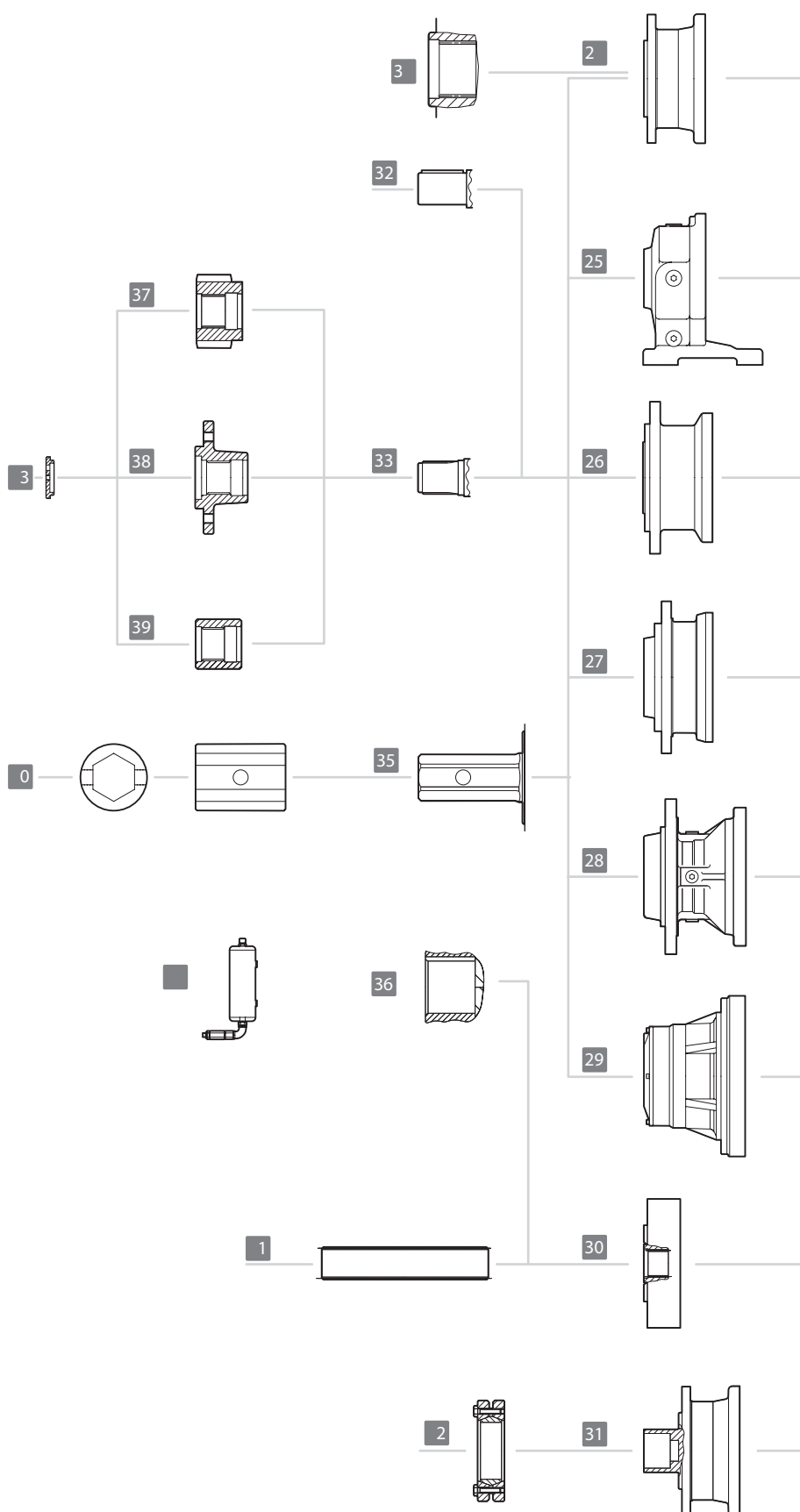
- 18 Eingangsstufe bei Winkelgetriebe
- 19 Eine Stufe
- 20 Zwei Stufen
- 21 Drei Stufen
- 22 Vier Stufen
- 23 Fünf Stufen

Ausgangsflansche und Wellen

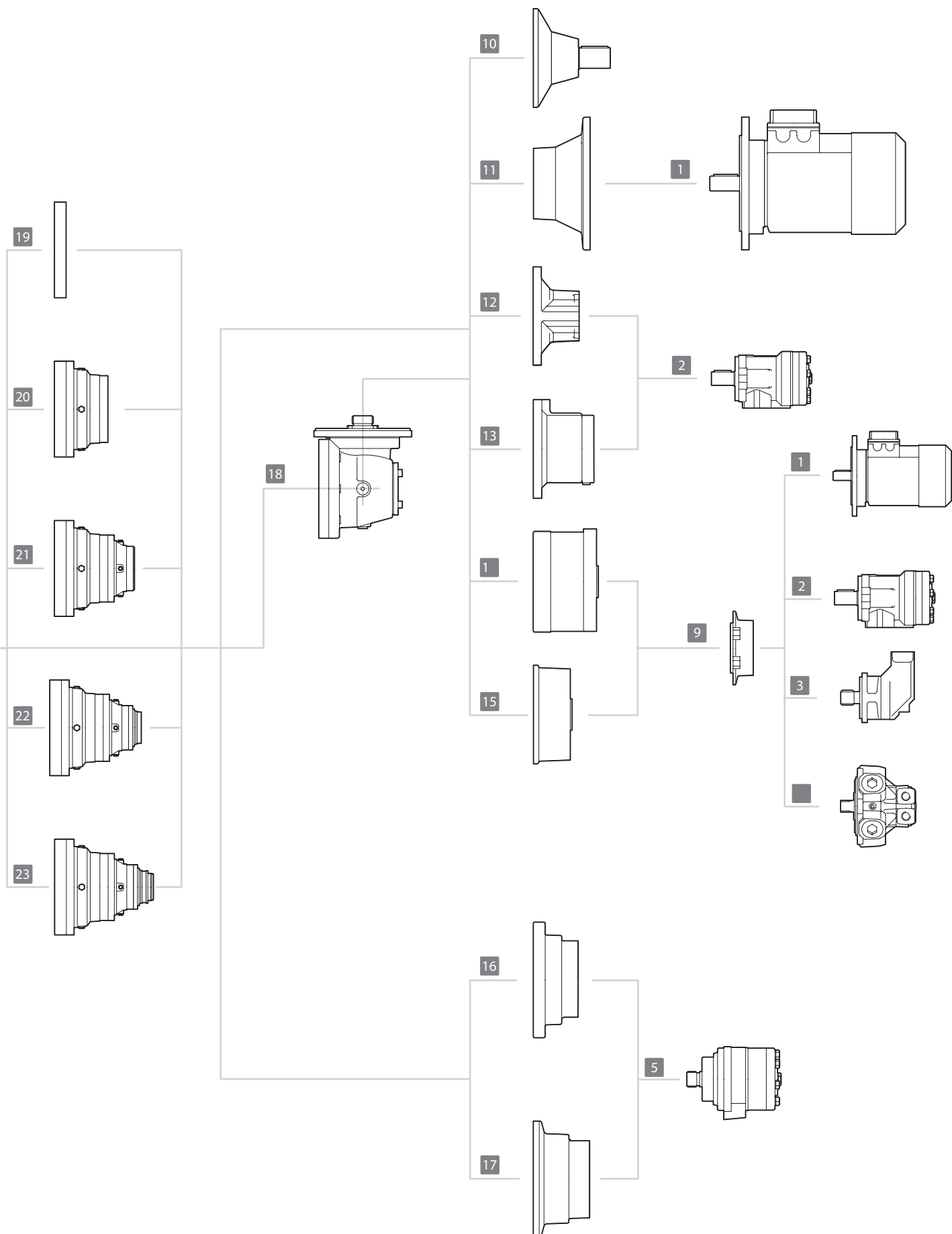
- 24 Ausgang 'N'
- 25 Ausgang 'P'
- 26 Ausgang 'T'
- 27 Ausgang 'TR'
- 28 Ausgang 'TL'
- 29 Ausgang 'H'
- 30 Ausgang 'F'
- 31 Ausgang 'NQ'
- 32 Zylindrische Paßfederwelle
- 33 Vielkeilwelle
- 34 Vielkeilhohlwelle
- 35 Sechskantwelle
- 36 Zylindrische Paßfederhohlwelle

Zubehör

- 37 Ritzel 'P'
- 38 Flansch 'FL'
- 39 Kupplung 'BS'
- 40 Sechskantkupplung 'ES'
- 41 Vielkeilwelle 'BF'
- 42 Schrumpfscheibe 'GA'
- 43 Endscheibe 'EP'
- 44 Ölausgleichsbehälter 'VE'



Einführung



3.0 Technische Definitionen

Alle Werte in diesem Katalog sind unter Berücksichtigung von ISO 6336 und ISO 281 berechnet.

f_s - Betriebsfaktor

Dies ist ein Faktor der die Belastung durch die Anwendung berücksichtigt. Er ist Abhängig von der Art des Antriebes, Anzahl der Betriebstunden pro Tag und Anzahl der Starts pro Stunde.

Die Angaben im Katalog basieren auf einem Servicefaktor von 1. Die Werte für Nennleistung und aufgenommene Leistung sind durch diesen Faktor zu teilen.

Betriebsfaktor (tab.1)

	Betriebsfaktor								
	Gleichmässig			Gemässigt			Schwer		
	U			M			H		
Stunden/Tag	Starts pro Stunde								
	< 16	16 - 63	64 - 250	< 16	16 - 63	64 - 250	< 16	16 - 63	64 - 250
< 0.5	0.9	1.3	1.5	0.9	1.3	1.5	1.2	1.5	1.8
0.5 - 3	0.9	1.3	1.5	1.2	1.5	1.8	1.7	2.0	2.3
3 - 8	1.2	1.5	1.8	1.4	1.8	2.0	1.9	2.3	2.8
8 - 24	1.4	1.8	2.0	1.7	2.0	2.5	2.4	2.8	3.0

P_1 - Nennleistung (kW)

Bei $f_s = 1$ liegt die theoretische Lebensdauer nach ISO 6336 bei 10.000 Stunden. Dieser Wert berücksichtigt aber nicht die thermische Grenze P_t der Getriebe.

P_a - Aufgenommene Leistung (kW)

Leistung die momentan von der Anwendung aufgenommen wird.

P_t - Thermische Leistung (kW)

Dies ist die maximale Leistung die von einem Getriebe im Dauerbetrieb bei normaler Schmierung und einer Öltemperatur kleiner 90°C übertragen werden kann. Wird dieser Wert überschritten so ist eine Ölkühlung erforderlich.

Die Thermische Leistung gilt für eine Eingangs-drehzahl von 1500 U/min, einem Einsatz im Raum, einer Umgebungstemperatur von 20°C und bei einer Höhe bis 500 m über NN. Für abweichende Einsatzbedingungen muß dieser Wert mit den Faktoren der Tabelle 2 multipliziert werden.

Bei niedrigen Eingangs-drehzahlen und Einsatzbedingungen bei denen die Getriebe nur kurzzeitig über diesen Werten betrieben werden und dabei die max. Öltemperatur über die gesamte Einsatzzeit nicht erreicht wird kann meist auf eine Ölkühlung verzichtet werden.

Einführung

Thermische Faktoren (tab. 2)

Umgebungstemperatur	Einschaltdauer				
	100%	80%	60%	40%	20%
10°	1.2	1.3	1.4	1.6	1.8
20°	1.0	1.1	1.3	1.4	1.6
30°	0.8	1.0	1.1	1.3	1.4
40°	0.7	0.8	1.0	1.1	1.3
50°	0.5	0.7	0.8	1.0	1.1
Höhe über NN [m]	Eingangsdrehzahl				
	400	800	1000	1500	2000
0	1.2	1.1	1.1	1.0	0.7
500	1.2	1.1	1.1	1.0	0.7
1000	1.1	1.0	1.0	0.9	0.6
1500	1.1	1.0	1.0	0.9	0.6
2000	1.1	1.0	1.0	0.9	0.6

P_d - Erforderliche Kühlleistung (kW)

Erforderliche Leistung für ein Kühlsystem wenn die übertragene Leistung über der zulässigen thermischen Leistung liegt.

η_m - Mechanischer Wirkungsgrad

Der mechanische Wirkungsgrad liegt zwischen 0,97 und 0,98 pro Planetengetriebestufe und zwischen 0,94 und 0,95 bei der Eingangsstufe am Winkelgetriebe. Dieser ist Abhängig von verschiedenen Faktoren wie Eingangsdrehzahl, Drehmoment, Übersetzung, Einbaulage und Schmierung.

T₂ - Übertragbares Drehmoment (Nm)

In Abhängigkeit von der Eingangsdrehzahl gibt dieser Wert das kontinuierlich übertragbare Drehmoment an, basierend auf einer Lebensdauer von 10.000 Stunden für die Verzahnung und 5.000 Stunden (L_{h10}) für die Lager.

T_{2max} - Maximales mechanisch übertragbares Drehmoment (Nm)

In Abhängigkeit von der Übersetzung gibt dieser Wert das maximal mechanisch übertragbare Drehmoment an.

Bei Einstazbedingungen mit häufigen Anläufen und/oder Drehrichtungswechsel muß dieser Wert reduziert werden.

T_b - Bremsmoment (Nm)

Statisches Bremsmoment der hydraulisch lüftbaren Lamellenbremse.

n_1 - Eingangsdrehzal (U/min)

Drehzahl am Getriebeeingang.

n_2 - Ausgangsdrehzal (U/min)

Drehzahl am Getriebeausgang.

n_{1max} - Maximale Eingangsdrehzahl (U/min)

Dies ist die maximale Eingangsdrehzahl für hydraulisch löfzbare Lamellenbremsen. Bei Anwendungen die diesen Wert übersteigen bitten wir um Rücksprache.

i_e - Untersetzung

Quotient der Eingangsdrehzahl durch die Ausgangsdrehzahl.

n_{xh} - Lebensdauerindex

Produkt aus Ausgangsdrehzahl und geforderter Lebensdauer in Stunden. Der Wert wird als **n_{2xh}** angegeben wenn er auf die Ausgangsdrehzahl und als **n_{1xh}** wenn er auf die Eingangsdrehzahl bezogen wird.

Erforderliche Lebensdauer für verschiedene Anwendungen (tab.3)

Anwendung	Lh Stunden
Landwirtschaftsmaschinen	300 - 3000
Maschinen mit intermittierendem Betrieb oder mit kurzen Betriebszyklen (Baumaschinen)	3000 - 8000
Maschinen mit intermittierendem Betrieb oder mit kurzen Betriebszyklen mit hoher Zuverlässigkeit (Lastenaufzüge)	8000 - 12000
Maschinen mit 8 Stunden Betrieb täglich, jedoch nicht voll genutzt (Industriemaschinen, Rotationsbrecher)	10000 - 25000
Maschinen mit 8 Stunden Betrieb täglich, voll genutzt (Industriemaschinen, Förderbänder)	20000 - 30000
Maschinen mit Dauerbetrieb (Walzstrassen, Textilmaschinen)	40000 - 50000

k_f - Korrekturfaktor

Korrekturfaktor für die theoretische Lagerlebensdauer für Getriebe mit Vollwelle bei n_{xh} Werten ausserhalb der Diagramme. Die Diagramme für externe Lasten sind für folgende n_{xh} Werte berechnet.

- $n_{2xh} = 100.000$ für Lagerung im Ausgang
- $n_{1xh} = 1.500.000$ für Lagerung im Eingang

L_{min} - Minimale Länge der Drehmomentstütze (mm)

Die erforderliche mindestlänge für die Drehmomentstütze bei Einsatz als Aufsteckgetriebe. Bei diesen Antrieben bitte das übertragbare Drehmoment der Schrumpfscheibe überprüfen/berücksichtigen.

4.0 Getriebeauswahl

4.1 Auswahl

Die Getriebeauswahl erfolgt über das benötigte Abtriebsmoment und die Ausgangsdrehzahl sowie den für die Anwendung ermittelten Servicefaktoren. Nach Festlegung des Antriebes (Elektromotor oder Hydraulikmotor) wird das Getriebe so ausgewählt, daß durch eine geeignete Übersetzung sowohl die geforderte Abtriebsdrehzahl als auch das Drehmoment erreicht werden. Dabei muß sichergestellt sein, daß die Nennleistung des Getriebes größer ist als die Antriebsleistung multipliziert mit den Servicefaktoren.

$$i_e = n_1 / n_2$$

$$P_1 \geq P_a \times f_s$$

4.2 Überprüfung

Getriebeeingang und Getriebeausgang

Die Ein- und Ausgangsstufen des Getriebes müssen in der jeweiligen Ausführung auf vorhandene Radial- und Axiallasten hin überprüft werden. Dazu sind die jeweiligen Last Diagramme mit den Anforderungen aus der Anwendung abzugleichen. Die Diagramme basieren auf der ISO 281 mit einem Lebensdauerindex $n \times h = 100.000 (L_{h10})$.

Von L_{h10} abweichende Lebensdauern können mit dem Korrekturfaktor k_f ebenfalls anhand der Diagramme ermittelt werden. Dabei muß aber immer sicher gestellt sein, daß der ermittelte Wert nicht die Diagrammwerte überschreitet. Dies gilt auch für axiale Lasten, die ebenfalls innerhalb der erlaubten Werte liegen müssen.

Ausgangsdrehmoment

Das geforderte Abtriebsmoment der Anwendung muß immer unterhalb des maximal übertragbaren Abtriebsmoments des Getriebes liegen. Dies muß anhand des Antriebsmoments des Motors multipliziert mit der gewählten Getriebeübersetzung unter Berücksichtigung des mechanischen Wirkungsgrads sorgfältig geprüft werden.

Eingangsdrehzahl

für Drehzahlen über den im Katalog genannten Werten bitten wir um Rücksprache.

Thermische Leistung

Dieser Wert ist die maximale mechanische Leistung die das Getriebe im Dauerbetrieb mit Umlaufschmierung übertragen kann. Die Öltemperatur darf 90° C nicht überschreiten. Der Wert P_t berücksichtigt eine Eingangsdrehzahl von 1500 U/min, eine Umgebungstemperatur von 20° C, eine Höhe bis 500 m über NN sowie eine Anwendung im geschlossenen Raum.

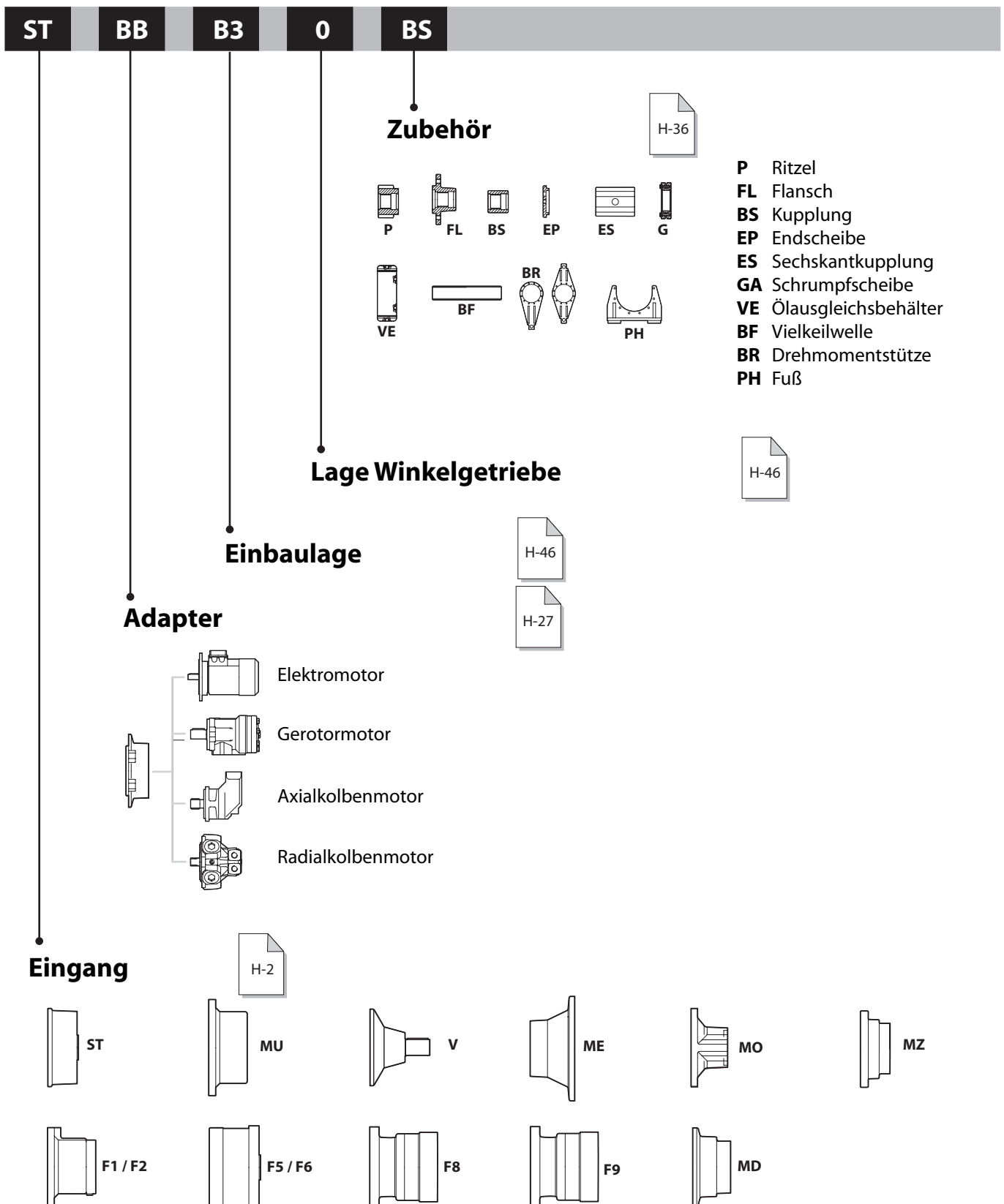
Bei Einsatz einer Kühlung berechnet sich die abzuführende Leistung nach der folgenden Formel:

$$P_d = (P_a - P_t) \times (1 - \eta_m)$$

5.0 Typenschlüssel

JPL	21	3	P	S		78.7																																					
Ausgang Anzahl der Stufen 1 - 2 - 3 - 4 - 5 - 6 Baugröße <table border="1"> <thead> <tr> <th>JPL, JPW</th> <th>JPL, JPW</th> <th>JPL, JPW</th> <th>JPL, JPW</th> </tr> </thead> <tbody> <tr><td>110</td><td>1520</td><td>12010</td><td>61000</td></tr> <tr><td>210</td><td>2000</td><td>16000</td><td>85000</td></tr> <tr><td>240</td><td>2520</td><td>21000</td><td>110000</td></tr> <tr><td>310</td><td>3000</td><td>26000</td><td>130000</td></tr> <tr><td>510</td><td>3510</td><td>31000</td><td>150000</td></tr> <tr><td>610</td><td>4800</td><td>40000</td><td>205000</td></tr> <tr><td>810</td><td>6000</td><td>45000</td><td>235000</td></tr> <tr><td>1020</td><td>8000</td><td>53000</td><td></td></tr> </tbody> </table> Ausführung JPL = Linear JPW = Winkel Ausgangswelle - S Vielkeilwelle - F Vielkeilhohlwelle - C Zylindrische Paßfederwelle - K Zylindrische Paßfederwelle - E Sechskantwelle - Q Welle für Schrumpfscheibe - FS Vielkeilhohlwelle - FC Paßfederhohlwelle - U Paßfederhohlwelle Untersetzung Varianten - Standard - L Leichte Ausführung - R Verstärkte Ausführung - S Sonderausführung								JPL, JPW	JPL, JPW	JPL, JPW	JPL, JPW	110	1520	12010	61000	210	2000	16000	85000	240	2520	21000	110000	310	3000	26000	130000	510	3510	31000	150000	610	4800	40000	205000	810	6000	45000	235000	1020	8000	53000	
JPL, JPW	JPL, JPW	JPL, JPW	JPL, JPW																																								
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1020	8000	53000																																									

Einführung



Das Beispiel zeigt den Typenschlüssel für ein 3-stufiges Winkelplanetengetriebe **JPW** der Baugröße **213** in Fußausführung **P**. Die Abtriebswelle **S** ist eine Vielkeilvollwelle. Die Übersetzung beträgt **78,7**. Am Eingang **ST** wird ein **SAE B** Motorflansch an gebaut. Die Einbaulage **B3** ist horizontal mit Ausrichtung der Antriebswelle senkrecht nach oben **0**. Als Zubehör erhält die Abtriebswelle noch eine Zahnnahe **BS**.

6.0 Bremsen

6.1 Hydraulisch löfthbare Lamellenbremsen

Die Getriebe können mit hydraulisch löfthbaren Lamellenbremsen ausgerüstet werden. Bei den Bremsen handelt es sich um Feststellbremsen, die ein statisches Bremsmoment erzeugen, solange kein Steuerdruck anliegt. Das Bremsmoment reduziert sich sobald der Steuerdruck 0 bar überschreitet. Bei überschreiten des Öffnungsdruckes ist das freie Drehen des Getriebes möglich.

Das Bremsmoment wird durch einen Kolben erzeugt der mittels Federn auf ein Paket aus wechselweise Stahlscheiben und gesinterten Bronzescheiben drückt. Das lösen der Bremse wird durch Druckbeaufschlagung mittels Hydrauliköl am Steueranschluß erreicht. Der Steuerdruck wirkt auf den Kolben der die Federn zusammengedrückt und somit das freie Drehen des Getriebes ermöglicht.

Die Bremsen **F1** und **F2** haben ein Bremsmoment bis zu 608 Nm und sind für den direkten Anbau von Orbital Hydromotoren mit Standard SAE A Flansch ausgelegt. Die Bremsen **F5** und **F6** haben ein Bremsmoment bis zu 1150 Nm und sind mit dem Universal Eingang ST ausgestattet. Dieser Eingang erlaubt den Anbau einer Vielzahl aller erhältlichen Motoren. Die Bremse **F8** hat ein Bremsmoment bis zu 3051 Nm und ist mit dem Universal Eingang MU ausgestattet. Die Bremse **F9** hat ein Bremsmoment bis zu 1500 Nm. Als Eingang steht SAE C, SAE D oder der Universal Eingang ST zur Verfügung. Für diese Bremse ist auch eine Freilaufkupplung lieferbar.

Die Bremsen müssen mit ca. 0,1 Liter Mineralöl der Viskosität ISO VG32 gefüllt werden, alternativ kann auch Hydrauliköl verwendet werden.

6.2 Bremsen Auswahl

Die angegebenen Bremsmomente werden bei einem Steuerdruck von 0 bar erreicht. Staudruck auf diesem Anschluß reduziert das Bremsmoment.

$$\text{Effektives Moment} = \text{theoretisches Moment} * (\text{Öffnungsdruck} - \text{Staudruck}) / \text{Öffnungsdruck}$$

Das Bremsmoment multipliziert mit der Übersetzung und dividiert durch den mechanischen Wirkungsgrad muß größer oder gleich dem übertragbarem Drehmoment sein.

$$T_b \times i_e / \eta_m \geq T_2$$

Das Bremsmoment multipliziert mit der Übersetzung und dividiert durch den mechanischen Wirkungsgrad muß kleiner oder gleich dem maximalen übertragbarem Drehmoment sein.

$$T_b \times i_e / \eta_m \leq T_{2 \text{ max}}$$

7.0 Einbaulage

Für eine vollständige Beschreibung des Bestellcodes ist die Definition der Einbaulage äußerst wichtig, da mit ihr die Positionen der Verschlußschrauben, Ölschauläser und Entlüftungsstopfen bestimmt werden.

8.0 Einbauhinweise

Die nachfolgenden Hinweise sind Auszüge aus dem Wartungs- und Installations-Handbuch, das für ausführlichere Informationen immer zu Rate gezogen werden sollte.

8.1 Installation

Getriebe mit Flansch und Vollwelle.

Das Gegenstück des Flansches muß für einwandfreien Anbau unlackiert und eben sein. Die Flächen müssen bearbeitet und senkrecht zur Rotationsachse sein. Für Getriebe bis zur Baugröße 8000 ist eine Toleranz H8 für die Zentrierung erforderlich.

Diameter	[mm]	80 - 120	120 - 180	180 - 250
Tolerance	[mm]	+0.054 0	+0.063 0	+0.072 0
Diameter	[mm]	250 - 315	315 - 400	400 - 500
Tolerance	[mm]	+0.081 0	+0.089 0	+0.097 0

Getriebe der Größen 1520 bis 8000 mit Abtriebsausführung **H** haben zwei Zentrierungen. Bei radialen Lasten bis 50% der maximal erlaubten Belastung genügt es, wenn nur eine Zentrierung verwendet wird.

Für Getriebe ab Baugröße 12000 gilt eine Toleranz F8 für die Zentrierung.

Diameter	[mm]	80 - 120	120 - 180	180 - 250
Tolerance	[mm]	+0.186 +0.076	+0.205 +0.080	+0.226 +0.086

Getriebe mit Vielkeilhohlwelle

Getriebe mit Vielkeilhohlwelle sind für Radiallasten am Ausgang nicht geeignet. Deshalb ist es wichtig, das Getriebe und die Antriebswelle sorgfältig auszurichten. Während des Betriebes muß auch sichergestellt sein, daß sich die Antriebswelle nicht verformt.

Getriebe mit Fußbefestigung

Die Fußstütze muß auf einer ebenen Oberfläche befestigt und sorgfältig zur Antriebsmaschine ausgerichtet werden. Geschieht dies nicht, kann dies die Lebensdauer des Getriebes negativ beeinflussen.

Aufsteckgetriebe mit Schrumpfscheibe und Drehmomentstütze

Die Drehmomentstütze muß so befestigt sein, daß sie in axialer Richtung nicht eingeschränkt ist. Die Befestigung muß über eine geeignete Stoßdämpfung verfügen.

Die jeweiligen Maßtabellen weisen die Mindestlängen der dem Getriebe entsprechenden Drehmomentstützen aus.

Einführung

Anzugsmoment und entsprechende Vorspannkraft für Schrauben (tab.4)

	Class 8.8		Class 10.9		Class 12.9	
	Anzugsmoment (Nm)	Vorspannkraft (N)	Anzugsmoment (Nm)	Vorspannkraft (N)	Anzugsmoment (Nm)	Vorspannkraft (N)
M10	44	26000	62	37000	74.5	44000
M12	77	37800	108	53000	130	64000
M14	122	51500	172	72000	207	87000
M16	191	70400	269	99000	323	119000
M18	263	86000	370	121000	444	145000
M20	373	110000	525	154000	630	185000
M22	507	138000	714	191000	857	229000
M24	645	158000	908	222000	1090	267000
M27	944	206000	1330	289000	1590	347000
M30	1280	251000	1800	353000	2160	424000
M33	1740	311000	2460	437000	2940	525000
M36	2240	366000	3150	515000	3780	618000
M39	2900	437000	4080	615000	4890	738000
M42	3580	502000	5040	706000	6050	847000

8.2 Schmierung

Die Getriebe werden **ohne** Ölfüllung geliefert. Vor der Inbetriebnahme muß das Getriebe bis zur angegebenen Füllhöhe mit Schmieröl befüllt werden. Die Auswahl des Öls wird vom Anwender vorgenommen und richtet sich nach der Art der Anwendung.

8.3 Anstrich

Die Getriebe werden **unlackiert** geliefert. Einige Teile sind mit einem wasserlöslichen roten Epoxy-Basislack behandelt. Sollten die Getriebe lackiert werden, ist eine mit dem Basislack kompatible Farbe zu verwenden. Die Dichtungen müssen während der Lackierung geschützt werden.

8.4 Anbau der Antriebsmotoren

Die Anbindung von Motoren an die Getriebe ist einfach. Allerdings sollten folgende wichtige Empfehlungen beachtet werden:

- Die Kupplung sollte mit einer leichten Fettschicht oder einem Ölfilm benetzt sein, um die Montage zu erleichtern.
- Ein Versatz beim Anbau am Getriebe muß ausgeschlossen werden.
- Der Motor muß eng am Flansch anliegend frei drehen können.
- Den Motor mit geeigneten Schrauben am Getriebe befestigen.

Für weitere Informationen beachten Sie bitte die Installations- und Wartungsanleitungen.

8.5 Montage von Motoren mit Anschlusskupplungen

Beim Einsatz von Kupplungen zwischen Motor und Getriebe muß sichergestellt sein, daß der Versatz innerhalb der Grenzen für die gewählte Kupplung liegt. Kupplungen sind in der Industrie für eine Vielzahl von Funktionen weit verbreitet.

Zum Beispiel

- zur Begrenzung des Antriebsmoments,
- um Schwingungen des Motors zu absorbieren sowie
- zur Kompensation bei geringem Versatz.

Bei der Verwendung von Kupplungen sind generell die Installationshinweise des Herstellers zu beachten.

8.6 Gewichte

Die ungefähren Gewichte der verschiedenen Getriebe sind ab der Seite H 52 zu finden.

9.0 Lagerung

Die Getriebe sollen trocken, staubfrei, frostfrei, nicht im Freien und nicht in unmittelbarem Bodenkontakt gelagert werden.

Zur Langzeitlagerung müssen die Getriebe mit Öl gefüllt und alle äußeren, bearbeiteten Teile mit Fett eingeschmiert sein; die Wellenoberflächen müssen gegen Oxidierung geschützt werden. Wir empfehlen alle zwei Monate einmal den Antrieb ohne Last zu betätigen, eine komplette Umdrehung der Ausgangswelle reicht aus. Weitere Informationen zur Lagerung entnehmen Sie bitte dem Bedienungshandbuch.

10.0 Schmierung

10.1 Typ des Schmiermittels

Die Schmierung der Getriebe erfolgt durch ein Ölbad. Vor der Inbetriebnahme muß das Getriebe mit Öl gefüllt werden, wobei durch eine Sichtkontrolle am Niveaustopfen sichergestellt werden muss, dass das Öl den korrekten Stand erreicht. Dieser Vorgang macht besondere Sorgfalt erforderlich und nach einigen Betriebsminuten muss erneut überprüft werden, ob der Ölstand korrekt ist. Die Ölmengen, die im Katalog angegeben werden, sind unverbindlich und von der Untersetzung sowie vom Typ des Eingangs des Getriebes abhängig.

10.2 Wahl des Öls

Es kann jedes Öl für mechanische Antriebe mit EP-Additiv verwendet werden, das den Viskositätsklassen von ISO VG220 bis ISO VG320 nach ISO 3448 entspricht. In besonderen Fällen kann Öl mit abweichender Viskosität verwendet werden. In diesen Fällen bitten wir um Rücksprache.

Die Viskosität des Öls muss in Abhängigkeit von der Raumtemperatur sowie der tatsächlichen Betriebstemperatur des Getriebes gewählt werden. Für Getriebe, die mit sehr hohen Raumtemperaturen oder starken Temperaturschwankungen arbeiten müssen, wird die Verwendung von Synthetiköl empfohlen. Getriebe mit vertikaler Montage und Dauerbetrieb können einer starken Erwärmung ausgesetzt sein; in diesen Fällen ist ein externer Tank (VE Seite H 40) erforderlich um die Ausdehnung des Öls zu ermöglichen.

10.3 Ölwechsel

Der Ölwechsel muss nach den ersten 150 Betriebsstunden vorgenommen werden; anschliessend nach 2000 oder 4000 Betriebsstunden, je nach Einsatz oder einmal pro Jahr. Zur Vereinfachung der Entleerung des Getriebes sollte der Ölwechsel in warmem Zustand erfolgen. Die inneren Bauteile müssen mit einer geeigneten Flüssigkeit gereinigt werden, bevor das neue Öl eingefüllt wird. Es dürfen keine Öle mit unterschiedlicher Viskosität oder verschiedenen Marken gemischt werden; insbesondere dürfen nie Synthetiköle und Mineralöle gemischt werden. Nach der Inbetriebnahme den Ölstand in regelmässigen Abständen kontrollieren und gegebenenfalls nachfüllen.

10.4 Ölmenge

Die Ölmenge für die korrekte Schmierung der Getriebe sind auf Seite H 48 angegeben.

10.5 Empfohlene Schmiermittel

Empfohlene Viskosität (tab. 5)

ISO VG 3448	Betriebstemperatur [° C]												
	Ambient Temperature [C°]												
	-20°	-10°	0	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°
220													
320													

Empfohlene Schmiermittel (tab. 6)

Standard Schmiermittel

Hersteller	Mineralöl	Synthetiköl	
		Poly-Alpha-Olefin (PAO)	Polyglycol (PG)
AGIP	Blasia	Blasia SX	Blasia S
ARAL	Degol BG		Degol GS
BP	Energol GR-XP	Enersyn EPX	Enersyn HTX
CASTROL	Alpha SP	Alphasyn EP	Alphasyn PG
CHEVRON	Ultra Gear	Tegra Synthetic	HiPerSYN
DEA	Falcon CLP		
ELF	Reductelf SP	Elf Syntherma	Elf Syntherma
ESSO	Spartan EP	Spartan S EP	Glycolube
FINA	Giran		
IP	Mellana		Telesia Oil
KLÜBER	Kluberoil GEM 1	Klubersynt EG4	Klubersynt GH6
MOBIL	Mobilgear XMP	Mobilgear SHC	Glygoile
OPTIMOL	Ultra		
Q8	Goya	El Greco	El Greco
SHELL	Omala S2 G	Omala S4 GX	Omala S4 WE
TOTAL	Carter EP	Carter SH	Carter SY

Schmiermittel Lebensmittel geeignet

Hersteller	Hersteller
AGIP	Rocol Foodlube Hi-Torque
ESSO	Gear Oil FM
KLÜBER	Kluberoil 4 UH1 N
MOBIL	DTE FM
SHELL	Cassida Fluid GL

10.6 Temperatur

Die empfohlene Umgebungstemperatur beim Einsatz von Standardgetrieben liegt zwischen -15° C und +40° C.

11.0 Autarke Kühleinheiten

Wenn die Übertragene Leistung die zulässige Thermische Leistung des Getriebes übersteigt

Es steht eine Reihe von autarken Öl/Wasser und Öl/Luft Kühlern bis zu einer Leistung von 50 kW zur Verfügung.

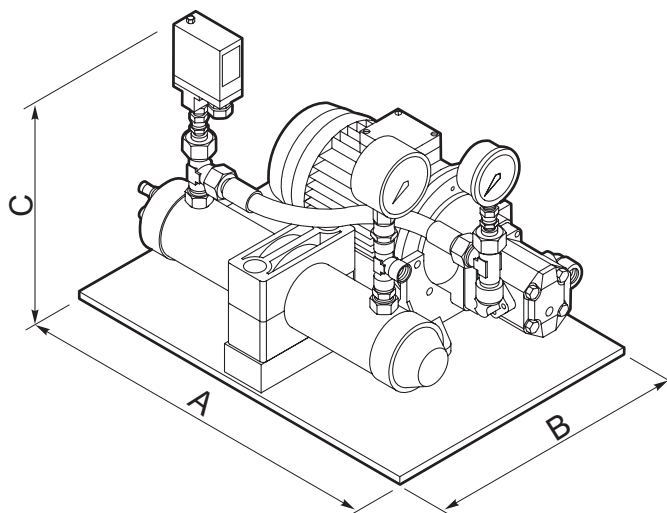
11.1 Öl/Wasser Kühler

Standard Serie URO/W bestehend aus:

- Ein Öl/Wasser Kühler
- Elektromotor mit Zahnradumpe (Viton Dichtungen), 4-pol. Elektromotor B3/B5 Standard 230/400 V/50 Hz
- Manometer 0-16 bar zwischen Pumpe und Öl/Wasser Kühler
- Analog Thermometer 0-120° C montiert auf dem Kühler
- Ölfilter zur Installation auf Tank (empfohlene Option)

Sonderausführungen

- Druckschalter zwischen Pumpe und Kühler zur Drucküberwachung
- Schalter zur Überwachung des Ölflusses



Typ	Leistung [kW]*	Pumpenantrieb		Wasser Menge [l/min]*	A	B	C
		[kW]	[l/min]				
URO/W 4	4	0.37	16	8	500	350	400
URO/W 6	6	0.37	16	10	500	350	400
URO/W 9	9	0.55	16	16	500	350	400
URO/W 13	13	1.1	30	25	500	350	400
URO/W 21	21	1.5	30	40	500	400	450
URO/W 31	31	2.2	56	50	720	510	520
URO/W 50	50	3.0	80	80	730	520	520

* Die Werte basieren auf einer Wassertemperatur von 20° C

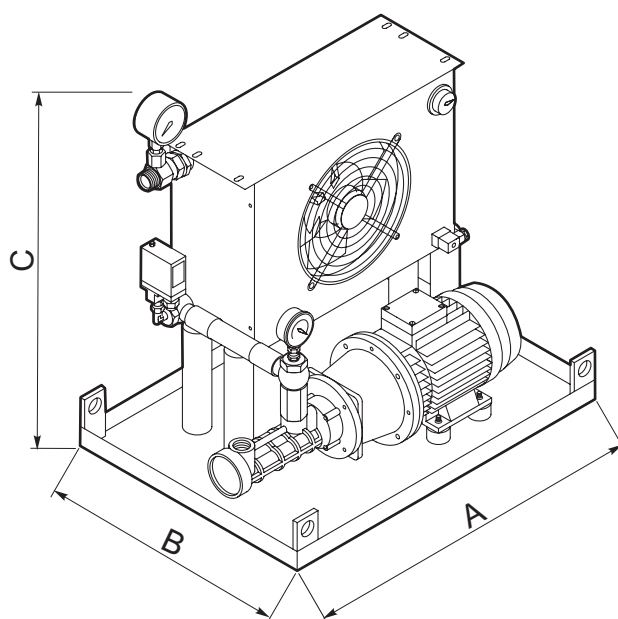
11.2 Öl/Luft Kühler

Standard Serie URO/A bestehend aus:

- Ein Öl/Luft Kühler mit Ventilator, Thermostat verstellbar zwischen 0-90° C, Einheit komplett verdrahtet
- Elektromotor mit Schraubenpumpe (Viton Dichtungen), 4-pol. Elektromotor B3/B5 Standard 230/400 V/50 Hz
- Manometer 0-16 bar zwischen Pumpe und Öl/Luft Kühler
- Analog Thermometer 0-120° C montiert auf dem Kühler
- Ölfilter zur Installation auf Tank (empfohlene Option)

Sonderausführungen

- Druckschalter zwischen Pumpe und Kühler zur Drucküberwachung
- Schalter zur Überwachung des Ölflusses



Typ	Leistung [kW]*	Pumpenantrieb		Lüfterantrieb		A	B	C
		[kW]	[l/min]	[kW]	[m³/h]			
URO/A 5	5	1.5	30	0.12	900	660	430	700
URO/A 7	7	1.5	30	0.12	1300	710	510	700
URO/A 10	10	1.5	30	0.18	2750	710	510	830
URO/A 13	13	1.5	30	0.23	2750	710	510	830
URO/A 16	16	2.2	56	0.23	3500	710	510	1010
URO/A 21	21	2.2	56	0.56	6300	800	500	1200
URO/A 26	26	3	56	0.56	7450	800	500	1265
URO/A 30	30	3	80	0.56	7450	800	500	1265
URO/A 40	40	2.2	56	0.9	9500	1010	600	1350
URO/A 46	46	3	80	0.9	9500	1010	600	1350

General information

To meet the needs of an increasingly demanding and selective market Jahns have completely updated their JPL and JPW ranges of planetary gearboxes. With the introduction of new sizes the already comprehensive product lines have been extended and enhanced in line with feedback from the power transmission market.

Planetary gearboxes are suited to a broad range of applications covering the high overload characteristics found in the mobile industry to the longevity and reliability requirements of the industrial sector.

In the mobile market Jahns products can be found in machinery for lifting and transportation, building and construction, agriculture and marine; specific applications include concrete pumps, excavators, cranes and aerial platforms, in fact anywhere rotational movement is required. The use of planetary gearboxes for industrial applications is growing rapidly and they are now common in sheet metal, steel, plastics water treatment, chemical, energy mining and process industries.

The new catalogue facilitates quick and easy preliminary gearbox selection based on the transmissible power adjusted by the appropriate service factors. However, the Dinamic Oil Technical Sales Department is at your disposal providing a wealth of experience backed by the latest technology to provide confirmation and ensure the most cost effective solution in accordance with relevant standards.

The catalogue illustrates the range of gearboxes in production at the time of going to press with maximum torque capacity between 1000 Nm and 3,000,000 Nm. If your requirements fall outside this range please contact us.

The renowned versatility of Jahns gearboxes has been further expanded with the introduction of new input and output adaptors and accessories to make this the most comprehensive transmission system on the market.



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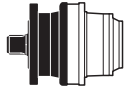
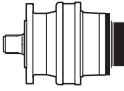
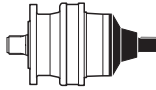
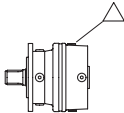
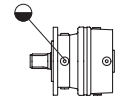
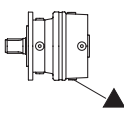
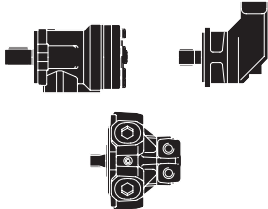
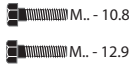
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General information

1.0 Symbols and Unit of Measurement

Symbol	Unit of measurement	Description
-1		Input value
-2		Output value
bu	mm	Height of toothed set
de	mm	External diameter
dp	mm	Theoretical primitive diameter
fa	N	Axial load
f_{amax}	N	Maximum axial load
f_r	N	Radial load
H	mm	Pinion height
i_e	-	Effective reduction ratio
m	mm	Module
n	RPM	Speed
n_{max}	RPM	Maximum speed
nxh	RPMxh	Duration index
P₁	kW	Rated power
pb	bar	Brake opening pressure
pmax	bar	Maximum brake pressure
P_t	kW	Thermal power
T	Nm	Torque
T_b	Nm	Braking torque
T_{max}	Nm	Maximum torque
X	mm	Load application distance
x	-	Tooth correction
z	-	Number of teeth

Symbol	Description
	Support at output
	Input
	Support at input
 ...Nm	Tightening torque [Nm]
	Oil quantity [liters]
	Weight [kg]
	Oil fill / bleed
	Oil level
	Oil drain
	Hydraulic motors
	Electrical motors
	Wormgearbox
	Recommended screw
	Reference page

2.0 Construction Options

USABLE MOTORS

- 1 Electric motor
- 2 Orbital hydraulic motor
- 3 Hydraulic motor with axial pistons
- 4 Hydraulic motor with radial pistons
- 5 Orbital hydraulic motor "MLR"

TYPES OF INPUT

- 9 Preparation for motor connection
- 10 Input shaft
- 11 Direct electric motor adapter
- 12 Direct orbital motor adapter
- 13 Negative brake "F1../F2.."
- 14 Negative brake "F5../F6../F8../F9"
- 15 Standard flange
- 16 Adaptor "MZ"
- 17 Adaptor "MD"

REDUCTION STAGES

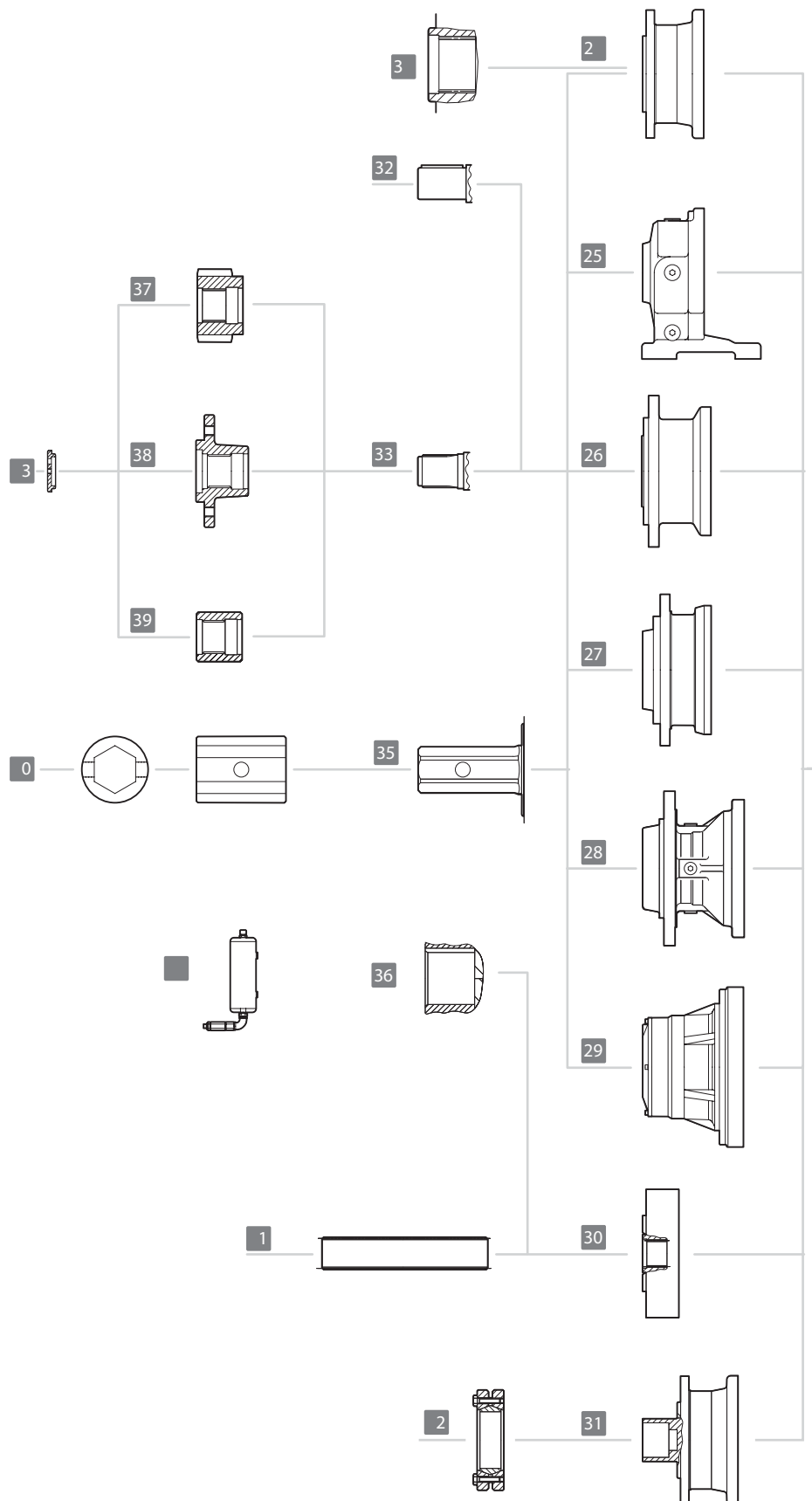
- 18 Angular gearbox with direct input
- 19 One reduction stage
- 20 Two reduction stages
- 21 Three reduction stages
- 22 Four reduction stages
- 23 Five reduction stages

SUPPORTS AND OUTPUT SHAFTS

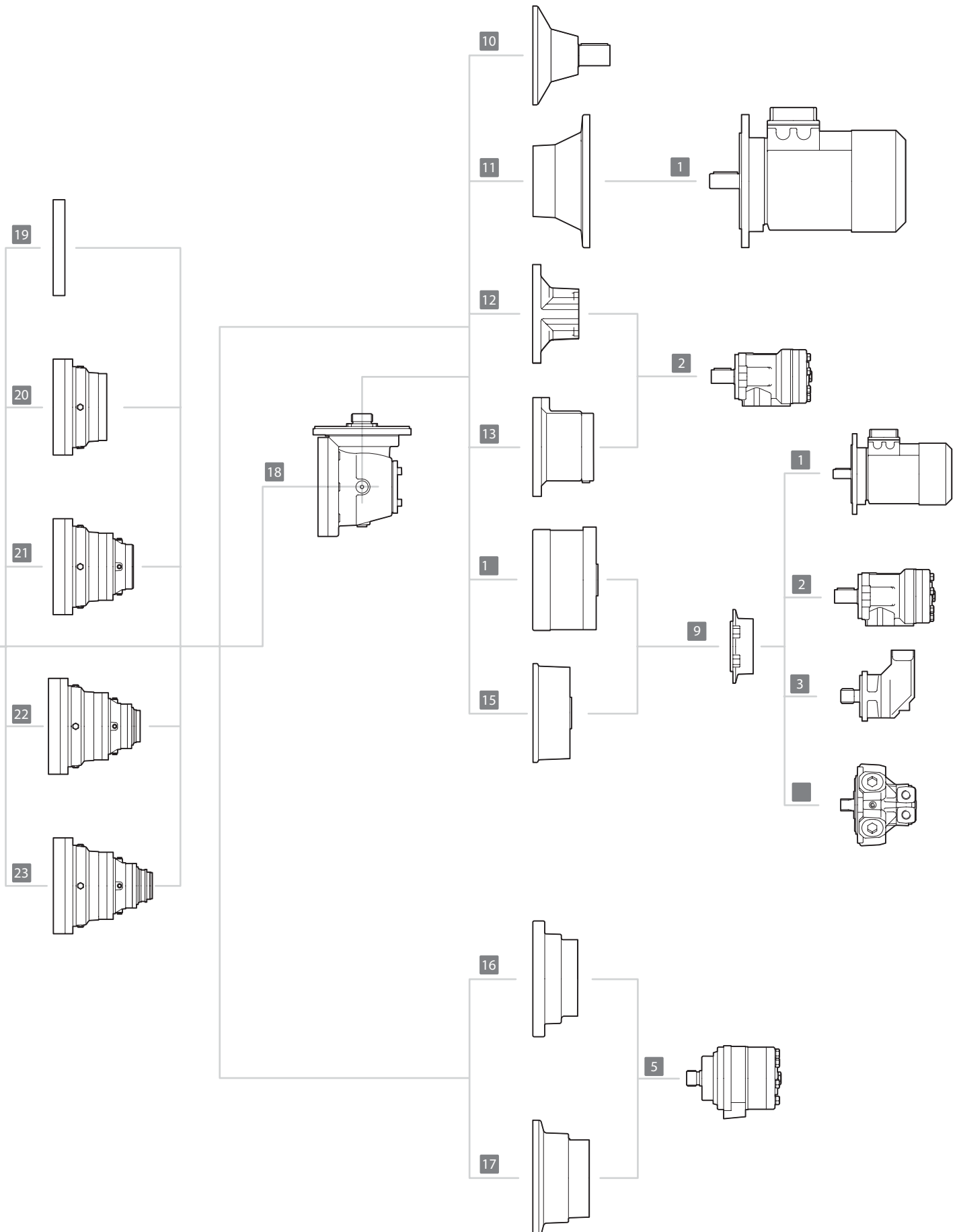
- 24 Output support "N"
- 25 Output support "P"
- 26 Output support "T"
- 27 Output support "TR"
- 28 Output support "TL"
- 29 Output support "H"
- 30 Output support "F"
- 31 Output support "NQ"
- 32 Cylindrical output shaft
- 33 Splined output support
- 34 Female splined output shaft
- 35 Hexagonal output shaft
- 36 Female cylindrical output shaft

ACCESSORIES

- 37 Pinion "P"
- 38 Flange "FL"
- 39 Cylindrical bushing "BS"
- 40 Hexagonal bushing "ES"
- 41 Splined bar "BF"
- 42 Shrink disk "GA"
- 43 End plate "EP"
- 44 Oil expansion tank "VE"



General information



3.0 Technical Definitions

All values specified in this catalogue were calculated using the ISO 6336 and ISO 281 standards, but may not meet additional requirements set by the internal regulations of certifying bodies.

To select products that comply with these regulations, contact Dinamic Oil's sales team.

f_s - Service Factor

this factor represents the application's industrial rating; it depends on operating conditions, type of drive and frequency of start-up.

The information provided in this catalog is calculated for $f_s = 1$. The service factor value of a gearbox may be calculated by dividing its nominal power by its absorbed power.

Service factors (tab. 1)

	OPERATING CONDITIONS								
	Uniform U			With moderate shocks M			With moderate shocks H		
hours / day	START-UPS / HOUR								
	< 16	16 - 63	64 - 250	< 16	16 - 63	64- 250	< 16	16 - 63	64 - 250
< 0.5	0.9	1.3	1.5	0.9	1.3	1.5	1.2	1.5	1.8
0.5 - 3	0.9	1.3	1.5	1.2	1.5	1.8	1.7	2.0	2.3
3 - 8	1.2	1.5	1.8	1.4	1.8	2.0	1.9	2.3	2.8
8 - 24	1.4	1.8	2.0	1.7	2.0	2.5	2.4	2.8	3.0

P_1 - Nominal Power [kW]

the mechanical power transmitted by the gearbox, related to input. At $f_s = 1$ the gearbox has a theoretical lifetime of 10000 hours under the ISO 6336 standard. This value does not take into account any limits on the gearbox's thermal capacity, as it is exclusively based on mechanical resistance in accordance with the speed of use.

P_a - Absorbed Power [kW]

relates to installed or available power, the amount of power actually absorbed by the application, at the gearbox input

P_t - Thermal Power [kW]

the maximum mechanical power the gearbox can transmit while in continuous operation, with splash fed lubrication, without going beyond its maximum temperature level (oil temperature below 90°C). More power may be transmitted using a Viton seal and synthetic oils or special cooling devices. The values indicated for various gearbox sizes refer to continuous operation with input speeds of 1500 RPM, at an ambient temperature of 20°C and an altitude of 0 / 500 m, for indoor applications.

Under different conditions of use, thermal power must be multiplied by the thermal factors identified in the tables below. For limited periods of operation, followed by periods of rest long enough to guarantee sufficient cooling of the gearbox, thermal power loses its significance and may be neglected.

General information

Thermal Factors (tab. 2)

Ambient Temperature	Operating Time [%]				
	100%	80%	60%	40%	20%
10°	1.2	1.3	1.4	1.6	1.8
20°	1.0	1.1	1.3	1.4	1.6
30°	0.8	1.0	1.1	1.3	1.4
40°	0.7	0.8	1.0	1.1	1.3
50°	0.5	0.7	0.8	1.0	1.1

Altitude [m]	Input Speed [RPM]				
	400	800	1000	1500	2000
0	1.2	1.1	1.1	1.0	0.7
500	1.2	1.1	1.1	1.0	0.7
1000	1.1	1.0	1.0	0.9	0.6
1500	1.1	1.0	1.0	0.9	0.6
2000	1.1	1.0	1.0	0.9	0.6

P_d - Power to be Dissipated [kW]

the power that a cooling system must dissipate if the power to be transmitted exceeds the gearbox's thermal power.

η_m - Mechanical Efficiency

The ratio between mechanical power output and input; normally considered equal to 0.97 ÷ 0.98 for each epicycloidal reduction stage in the gearbox, and equal to 0.94 ÷ 0.95 for conical torque; the actual value depends on a number of factors including speed, torque, ratio, assembly position and lubrication.

T₂ - Torque Transmitted [Nm]

this value represents torque continuously applied at a speed of n₁, at which the gearbox has a theoretical lifetime of 10000 h for gears, or 5000 h (L_{h10}) for the bearings in gear mechanisms.

T_{max} - Maximum Transmissible torque [Nm]

the maximum torque transmitted by the accessory supplied with the gearbox, if applicable. This value may limit the maximum transmissible torque of the gearbox.

T_{2max} - Maximum Torque [Nm]

the maximum admissible output torque, as a peak value or for brief periods of time (calculated at 90% Rs of the weakest component).

For drives with a high number of start-ups or inversions, appropriately reduced maximum torque values should be considered.

The value specified refers to the version with a grooved female shaft (FS); different versions may have lower values.

T_b - Braking Torque [Nm]

the value of braking torque that may be conveyed statically by the negative brake.

General information

n_1 - Input Speed [RPM]

the speed on the fast side of the gearbox.

n_2 - Output Speed [RPM]

the speed on the slow side of the gearbox.

n_{1max} - Maximum Speed [RPM]

the maximum input speed at the brake. For applications with higher values, contact Dinamic Oil's sales service to determine application compatibility.

i_e - Actual Reduction Ratio

the actual reduction ratio, meaning the ratio between the gearbox's input and output speeds.

n_{xh} - Duration Index [RPMxh]

the value of the product between speed and duration of theoretical lifetime in hours. This value is expressed as n_2xh when used with output speed, n_1xh with used with input speed.

Duration Values Required for Different Applications (tab. 3)

Application	Required Lifetime
Agricultural machinery	300 - 3000
Machines operated intermittently or for short periods of time (construction machines)	3000 - 8000
Machines operated intermittently or for short periods of time with high operational reliability (freight lifts)	8000 - 12000
Machines operated 8 hours a day but not all the time (various industrial machines, rotary mills)	10000 - 25000
Machines operated 8 hours a day all the time (various industrial machines, conveyor belts)	20000 - 30000
Machines operated continuously (rolling mills, textiles machines)	40000 - 50000

k_f - Correction Factor

the factor applied to calculate the theoretical lifetime of bearings with male shafts for values of n_{xh} other than those shown in catalog diagrams. External load curves are calculated for all gearboxes as:

- $n_2xh = 100000$ for output supports
- $n_1xh = 1500000$ for input supports

L_{min} - Minimum Length of Torque Arm [mm]

the minimum length recommended for the torque arm, applied to pendular applications.

4.0 Gearbox selection

4.1 Selection

Gearbox selection is based on the service factor required by the application and the required output speed. Once the electric motor has been determined (in terms of nominal speed and power), select the gearbox with the reduction ratio required to reach the required output speed and nominal power needed to ensure that the ratio between its value and the value of the motor's rated power is higher than the service factor.

$$i_e = n_1 / n_2$$

$$P_1 \geq P_a \times f_s$$

Confirm the selection with other parameters such as thermal power, impulse torque and any radial or axial loads acting on the male input and output shafts.

If the drive is not electric, apply the same method for the outgoing torque required by the application rather than the nominal power.

4.2 Verification

Gearbox input and output supports:

these must be verified based on any radial and axial loads present. For each model, the catalog provides diagrams representing the dynamic radial loads that may be supported in accordance with the ISO 281 standard with a duration of L_{10} corresponding to $n_x h = 100000$. For different durations, an applicable radial load can be calculated by multiplying the values in the diagrams by the corrective factor k_f .

The radial load cannot in any case exceed the maximum value on the curve in the diagram.

Make sure that if there are axial loads, they do not exceed the maximum permitted value.

Output torque:

this must never exceed the maximum transmissible torque of the selected gearbox. Carefully check that this value is higher than the maximum torque deliverable by the motor installed, shown at the gearbox output (that is, multiplied by the actual reduction ratio and the gearbox's mechanical yield).

Input speed:

for speeds other than those shown in the table, please contact the sales office.

Thermal power:

if installed power exceeds the gearbox's thermal power, select a larger gearbox and use synthetic oil with Viton seals or use a cooling circuit.

If you use Viton seals and synthetic oil, you may consider the thermal factor equivalent to an ambient temperature lower than 20°C with respect to the actual temperature, in order to consider the fact that the gearbox can withstand overheating 20°C over the projected data.

If you use a cooling system, the power to be dissipated is

$$P_d = (P_a - P_t) \cdot (1 - \eta_m)$$

General information

5.0 Order code

JPL	21	3	P	S		78.7	
------------	-----------	----------	----------	----------	--	-------------	--

OUTPUT VERSION

G-2

OUTPUT SHAFT

G-2

S = Male spline
 F = Female spline
 C = Cylindrical shaft
 K = Extended cylindrical shaft
 E = Hexagonal shaft
 Q = Hollow female shaft
 FS = Female spline
 FC = Female cylindrical shaft
 U = Female cylindrical shaft

NUMBER OF STAGES

F-2

1 - 2 - 3 - 4 - 5 - 6

GEARBOX FRAME SIZE

F-1

JPL, JPW	JPL, JPW	JPL, JPW	JPL, JPW
110	1520	12010	61000
210	2000	16000	85000
240	2520	21000	110000
310	3000	26000	130000
510	3510	31000	150000
610	4800	40000	205000
810	6000	45000	235000
1020	8000	53000	

REDUCTION RATIO

F-2

Please write the exact ratio as shown on the selection table

EXECUTION

F-1

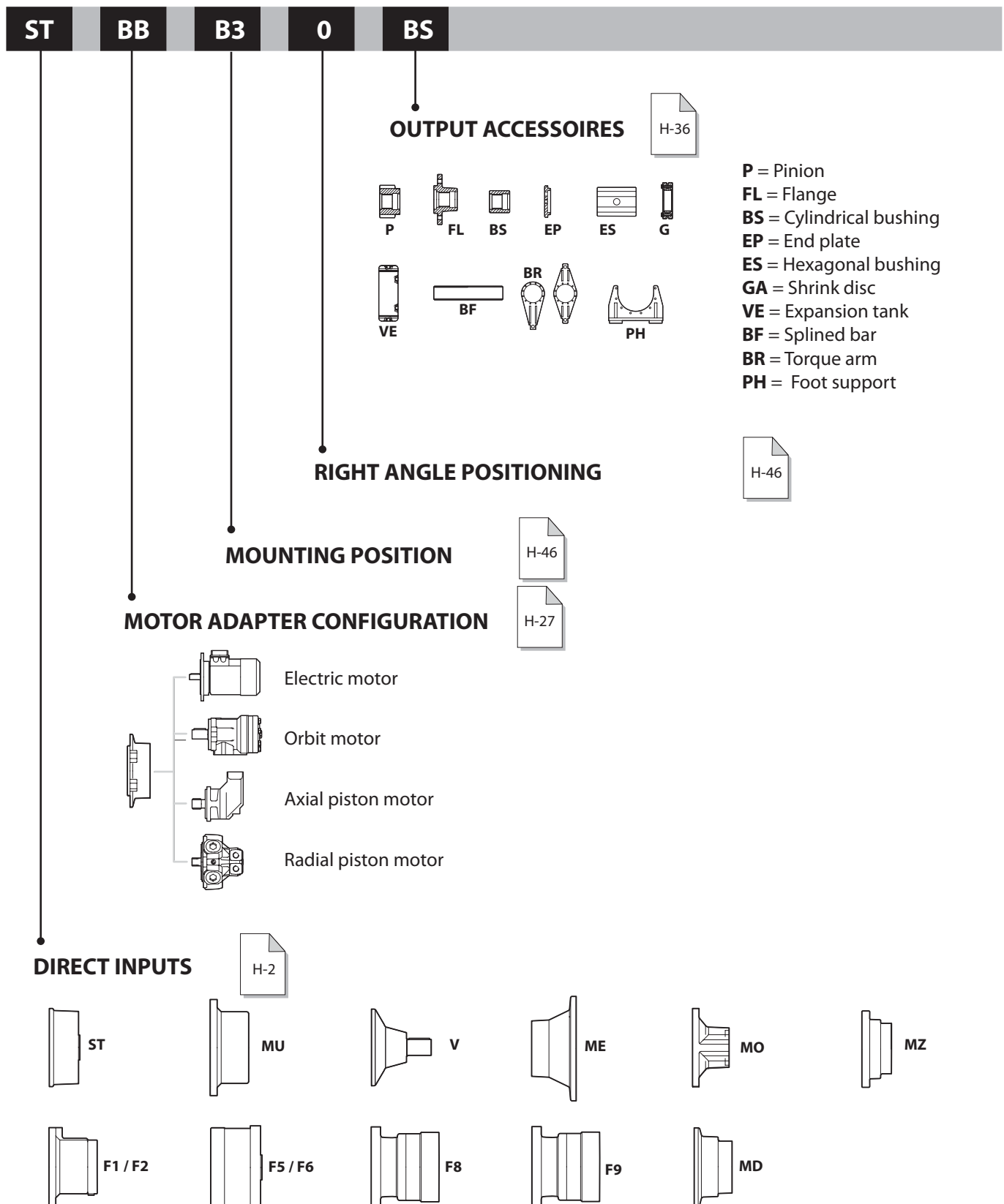
JPL = Linear **JPW = Angular**

COMPOSITION

F-2

/ = Standard
 L = Light
 R = Reinforced
 S = Special

General information



The example shows the ordering code for a right angle planetary gearbox frame 210, with 3 reduction stages a foot mounted output support and a male splined shaft, and 78.7 reduction ratio, with a "ST" input and "SAE B", 16/32 15 teeth motor adapter flange. Horizontal mounting position and standard right angle positioning, and a parallel bushing output accessory.

6.0 Negative Hydraulic Brakes

6.1 1.1 Negative Hydraulic Multi disk Brakes

Dinamic Oil gearboxes may have a static negative multi disk brakes and hydraulic control.

The brakes on models **F1** through **F2** are designed for direct assembly of orbital hydraulic motors with flanging, compliant with the SAE A Standard.

The brakes on models **F5** through **F6** reach greater braking torques and have an ST universal for connection to wide range of motors available on the market.

The brakes on model **F8** reach braking torques of up to 3000 Nm and have an MU input for connection to a wide range of motors available on the market.

The brakes on model **F9** reach braking torques of up to 1500 Nm. An optional sprag clutch mechanism with a torque of up to 1200 Nm can also be mounted. They have a "SAE C" or "SAE D" input and or optional universal ST input. These can be used for connection to a wide range of motors available on the market.

The **MD** brake is assembled with a direct flange connection for MLR motors on reduction stages RE 110/RE 240.

Braking is generated by springs which compress fixed tempered steel disks alternating with bronze disks; friction transforms this thrust into a braking torque.

The brakes open when hydraulic oil pressurizes the brake release port; the pressure acts on a piston which compresses the spring so that the disks can turn freely. These are parking brakes which act by creating static braking torque when hydraulic release pressure is zero. The action stops when hydraulic pressure reaches the minimum release value.

For the following brakes F1, F2 and standard versions of F5, F6 and F8, circa 0.1 liter of mineral oil, with an ISO VG 32 viscosity is required.

Several brake models - F5, F6, F8 and F9 - are available in special versions with a higher maximum velocity.

6.2 Brake Selection

The following criteria must be considered:

- Braking torques are calculated under zero release pressure; if there is counter-pressure in the hydraulic circuit the actual braking values will be reduced as follows:

Actual torque = Theoretical torque x (Opening pressure – Counter-pressure) / Pressure at the start of opening.

- Brake torque multiplied by the reduction ratio and divided by gearbox efficiency must be greater than or equal to the required output torque:

$$T_b \times i_e / \eta_m \geq T_2$$

- Except in particular cases, brake torque multiplied by the reduction ratio and divided by gearbox efficiency must not exceed the maximum gearbox torque:

$$T_b \times i_e / \eta_m \leq T_{2max}$$

7.0 Assembly Positions

For a complete definition of gearbox order code, it is necessary to determine the assembly position. This position defines the location of the oil filling caps, levels and drainage plugs.

See page H46 - H48.

8.0 Installation Instructions

The information in this chapter is indicative: it provides a partial summary of the installation and maintenance manual, which users should always refer to for more detailed information.

8.1 Installation

Gearboxes with flange and male shaft:

The coupling frame must have an unpainted, flat surface for the gearbox to rest on. The surface should be processed with machine tools and perpendicular to the axis of rotation. The table below shows the tolerance for centering on couplings. For the RE series, the centering has a tolerance of H8.

Diameter	[mm]	80 - 120	120 - 180	180 - 250
Tolerance	[mm]	+0.054 0	+0.063 0	+0.072 0
Diameter	[mm]	250 - 315	315 - 400	400 - 500
Tolerance	[mm]	+0.081 0	+0.089 0	+0.097 0

The gearboxes sized from RE1520 to RE8000 with output H have two pilot diameters. It is sufficient to use 1 pilot when the radial loads on the output shaft are not present or are less than 50% of the maximum permitted loads. For the GB line, the pilot diameter has a tolerance of F8.

Diameter	[mm]	80 - 120	120 - 180	180 - 250
Tolerance	[mm]	+0.186 +0.076	+0.205 +0.080	+0.226 +0.086

Gearboxes with a female splined shaft:

gearboxes with a female splined output shaft are not suitable for supporting radial loads on the output; it is therefore very important to carefully align the gearbox and the drive shaft. It is also necessary to check that the drive shaft does not bend while operating.

Gearboxes with Foot Support:

the gearbox foot support must be anchored to a flat surface and be aligned with the drive machine; it is important to align and level it very carefully. Incorrect support or alignment will affect the gearbox's lifetime.

Gearboxes with Pendular Assembly:

anchor the torque arm so that it is not constrained in the direction of the gearbox axis. The anchor point must have appropriate shock absorption.

The dimensional tables for each gearbox show the minimum length of the torque arm.

General information

Torques and corresponding axial forces exerted by large pitch screws (tab. 4)

	Class 8.8		Class 10.9		Class 12.9	
	Torque [Nm]	Force [N]	Torque [Nm]	Force [N]	Torque [Nm]	Force [N]
M10	44	26000	62	37000	74.5	44000
M12	77	37800	108	53000	130	64000
M14	122	51500	172	72000	207	87000
M16	191	70400	269	99000	323	119000
M18	263	86000	370	121000	444	145000
M20	373	110000	525	154000	630	185000
M22	507	138000	714	191000	857	229000
M24	645	158000	908	222000	1090	267000
M27	944	206000	1330	289000	1590	347000
M30	1280	251000	1800	353000	2160	424000
M33	1740	311000	2460	437000	2940	525000
M36	2240	366000	3150	515000	3780	618000
M39	2900	437000	4080	615000	4890	738000
M42	3580	502000	5040	706000	6050	847000

8.2 Lubrication

Gearboxes are supplied without oil.

Before use, the gearbox should be filled up to the specified level with a recommended lubricant oil.

The choice and quantity of oil will be determined by the installer / user based on the type of application.

8.3 Paint

Gearboxes are supplied unpainted. Some parts are treated with a water-soluble base coat of red epoxy paint. The customer should paint them using a paint compatible with the base coat. Oil seals must be protected during painting

8.4 Assembling Flanged Motors

Assembling motors on the coupling flanges supplied by Dinamic Oil is easy, but these important recommendations should be followed:

- lubricate the coupling with a light layer of anti-seizure grease or lubricant;
- make sure the motor runs freely but snugly on the flange, anchoring the gearbox in place, without forcing the shaft or the pilot;
- tighten screws.

Refer to the installation and maintenance manual for additional information.

8.5 Assembling Motors with Connection Couplings

When connection couplings are used between the motor and the gearbox, ensure that the alignment is compatible with the type of coupling used. Couplings are widely used in industrial applications for a variety of functions, such as:

- limiting input torque,
- absorbing vibrations from the motor,
- compensating for small misalignments.

When using connection couplings, refer to the instruction manuals supplied by the suppliers of the component.

8.6 Gearbox Weight

For your information, the indicative weights of various gearboxes are provided on page H52.

9.0 Storage

The information in this chapter is indicative: it provides a partial summary of the installation and maintenance manual, which users should always refer to for more detailed information.

Gearboxes must not be stored outdoors or in direct contact with the ground or sun. For long-term storage they must be filled with oil, and all external parts covered with grease; coupling surfaces must be protected with rust proof agents and the gearbox should be operated under no load at least once every two months (one complete turn of the output shaft is sufficient). Refer to the installation and maintenance manual for additional information on storage.

10.0 Lubrication

10.1 Type of Lubrication

Gearboxes are lubricated in oil baths; before operating the gearbox, fill it with oil and look through the level cap to see if the oil is at the correct level; this operation requires special attention, and you must check the level again after a few minutes of operation. The oil quantities identified in the catalog are approximate and vary according to the reduction ratio and the type of gearbox input.

10.2 Selecting an Oil

You may use any mechanical transmission oil with EP additives in viscosity classes ISO VG220 to ISO VG320 under ISO 3448. In special cases, oils with different viscosities may be used; for more information on these exceptions, contact Dinamic Oil's Technical Assistance Service. Oil viscosity must be selected based on ambient temperature and the actual operating temperature of the gearbox. If the gearboxes are being operated at very high ambient temperatures, synthetic oil is recommended. Oil may suddenly overheat in gearboxes assembled vertically and continuously functioning; in these cases it is necessary to use an external expansion tank (which Dinamic Oil may supply) to allow the oil to expand through thermal dilation.

10.3 Changing the oil

Oil must be changed after the first 150 hours of operation, and then after 2000 or 4000 hours of operation depending on how the gearbox is used, and in all cases at least once a year. To facilitate the process of emptying the gearbox, change the oil while the gearbox is hot; internal parts must be washed with a suitable liquid before introducing new oil. Oils with different viscosities or different brands of oil should not be mixed. In particular, synthetic and minerals oils must never be mixed together. Once the machine is in operation, periodically check lubricant level and top it off, if necessary.

10.4 Oil quantity

Information on the quantity of oil required for proper gearbox lubrication is provided on page H48.

General information

10.5 Recommended lubricants

Recommended viscosity (tab. 5)

ISO VG 3448	OPERATING TEMPERATURE [C°]												
	Ambient Temperature [C°]												
	-20°	-10°	0	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°
220													
320													

Recommended lubricants (tab. 6)

Lubricants for general use

Manufacturer	Mineral Oil	Synthetic Oil	
		Poly-Alpha-Olefin (PAO)	Polyglycol (PG)
AGIP	Blasia	Blasia SX	Blasia S
ARAL	Degol BG		Degol GS
BP	Energol GR-XP	Enersyn EPX	Enersyn HTX
CASTROL	Alpha SP	Alphasyn EP	Alphasyn PG
CHEVRON	Ultra Gear	Tegra Synthetic	HiPerSYN
DEA	Falcon CLP		
ELF	Reductelf SP	Elf Syntherma	Elf Syntherma
ESSO	Spartan EP	Spartan S EP	Glycolube
FINA	Giran		
IP	Mellana		Telesia Oil
KLÜBER	Kluberoil GEM 1	Klubersynt EG4	Klubersynt GH6
MOBIL	Mobilgear XMP	Mobilgear SHC	Glygoile
OPTIMOL	Ultra		
Q8	Goya	El Greco	El Greco
SHELL	Omala S2 G	Omala S4 GX	Omala S4 WE
TOTAL	Carter EP	Carter SH	Carter SY

Lubricants for food use

Manufacturer	Gear Oils
AGIP	Rocol Foodlube Hi-Torque
ESSO	Gear Oil FM
KLÜBER	Kluberoil 4 UH1 N
MOBIL	DTE FM
SHELL	Cassida Fluid GL

10.6 Temperature

The recommended ambient temperature for use of standard gearboxes is from -15°C to +40°C.

11.0 Independent Cooling Units

When transmitted power exceeds the thermal power that may be dissipated by the reducer, it is necessary to use a cooling unit to dispose of excessive thermal power.

Dinamic Oil offers a series of independent oil/water and oil/air cooling units which can dissipate up to 50 kW. For greater power levels, contact our technical office.

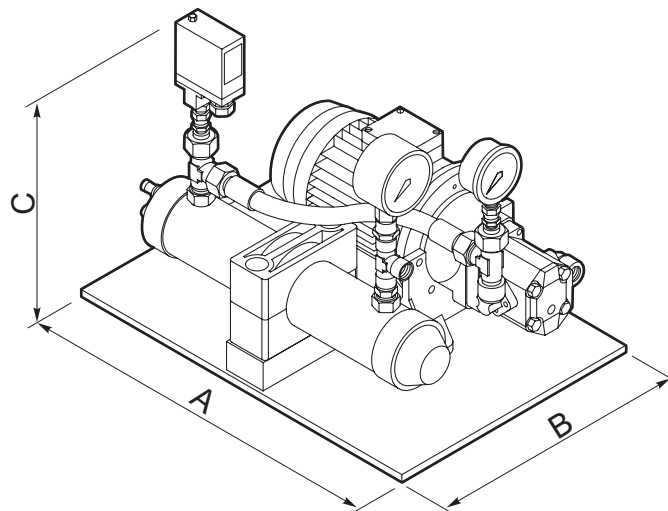
11.1 Independent oil/water cooling units, standard and customized composition.

Standard series URO/W cooling units are composed of:

- A water/oil heat exchanger.
- A motor-driven pump (motor/pump connection with joint and support; pump with viton seals) composed of a 4 pole B5 motor, standard three-phase 230-400V 50 hz power supply and gear pump.
- 0-16 bar manometer assembled between pump and heat exchanger.
- Analogue 0-120 °C thermometer mounted at the exchanger exit.
- Filter for installation on the tank delivery for cleaning the oil released (recommended option).

Units in customized installations may be equipped with the following options:

- Minimum pressure switch with exchange contacts, for assembly between the pump and the heat exchanger. (In this case the hydraulic system is already prepared).
- Electric flow switch for total control of oil flow. .



Unit	Capacity [kW]*	Motor-driven oil pump		Water quantity [l/min]*	A	B	C
		[kW]	[l/min]				
URO/W 4	4	0.37	16	8	500	350	400
URO/W 6	6	0.37	16	10	500	350	400
URO/W 9	9	0.55	16	16	500	350	400
URO/W 13	13	1.1	30	25	500	350	400
URO/W 21	21	1.5	30	40	500	400	450
URO/W 31	31	2.2	56	50	720	510	520
URO/W 50	50	3.0	80	80	730	520	520

* The values appearing in the table are for a water temperature of 20° C..

General information

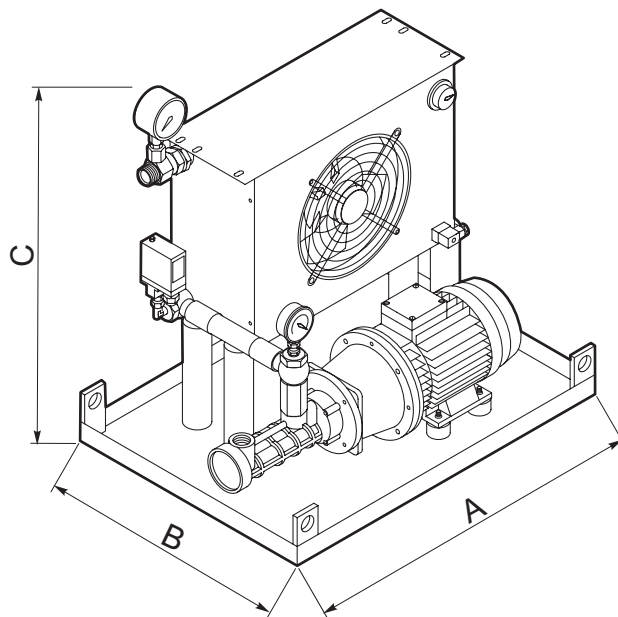
11.2 Independent oil/water cooling units, standard and customized composition

Standard series URO/A cooling units are composed of:

- An air/oil heat exchanger complete with a fan and an adjustable 0-90 ° C thermostat, already wired.
- A motor-driven pump (motor/pump connection with joint and support; pump with viton seals) composed of a 4 pole B3/ B5 motor, standard 230-400V / 350 hz power supply and screw pump.
- 0-16 bar manometer assembled between pump and heat exchanger.
- Analogue 0-120 °C thermometer mounted at the exchanger exit.
- Filter for installation on the tank delivery for cleaning the oil released (recommended option).

Units in customized installations may be equipped with the following options:

- Minimum pressure switch with exchange contacts, for assembly between the pump and the heat exchanger. (In this case the hydraulic system is already prepared).
- Electric flow switch for total control of oil flow.
- Filter for installation on the tank delivery for cleaning the oil released (recommended option).



Unit	Capacity [kW]*	Motor-driven oil pump		Motor-driven fan		A	B	C
		[kW]	[l/min]	[kW]	[m³/h]			
URO/A 5	5	1.5	30	0.12	900	660	430	700
URO/A 7	7	1.5	30	0.12	1300	710	510	700
URO/A 10	10	1.5	30	0.18	2750	710	510	830
URO/A 13	13	1.5	30	0.23	2750	710	510	830
URO/A 16	16	2.2	56	0.23	3500	710	510	1010
URO/A 21	21	2.2	56	0.56	6300	800	500	1200
URO/A 26	26	3	56	0.56	7450	800	500	1265
URO/A 30	30	3	80	0.56	7450	800	500	1265
URO/A 40	40	2.2	56	0.9	9500	1010	600	1350
URO/A 46	46	3	80	0.9	9500	1010	600	1350

* The values appearing in the table are for a water temperature of 20° C..

JPL110

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPL 111	3.48	216	14.7	630	259	16.8	610	417	23.5	530	833	38.2	430	1730	10.8 (N) 12.8 (T) 8.2 (F) 21 (P)
	4.26	176	12.2	650	211	14.4	640	340	20.1	550	680	32.7	450	1780	
	5.77	130	6.7	480	156	7.9	470	251	12.4	460	503	23.9	440	1320	
	7.20	104	3.8	340	125	4.6	340	201	7.1	330	403	13.7	320	950	
JPL 112	12.11	62	4.6	680	74	5.5	670	120	8.6	660	239	16.4	620	1730	6.5 (N) 7.5 (T) 5.1 (F) 13.1 (P)
	14.84	51	3.8	690	61	4.6	680	98	7.1	660	195	13.7	640	1730	
	18.17	41.3	3.2	700	49.5	3.8	700	80	6.0	680	160	11.4	650	1780	
	20.08	37.4	2.9	700	44.8	3.4	690	72	5.4	670	144	10.3	650	1730	
	24.60	30.5	2.4	720	36.6	2.9	710	59	4.5	690	118	8.6	660	1780	
	30.69	24.4	2.0	720	29.3	2.3	720	47.2	3.6	700	94	7.0	670	1780	
	33.28	22.5	1.3	530	27.0	1.6	520	43.6	2.4	510	87	4.7	490	1320	
	41.54	18.1	1.1	530	21.7	1.3	530	34.9	2.0	510	70	3.8	490	1320	
	51.84	14.5	0.61	380	17.4	0.73	380	28.0	1.1	370	56	2.2	350	950	
JPL 113	51.63	14.5	1.2	750	17.4	1.5	740	28.1	2.3	720	56	4.4	690	1730	5.1 (N) 5.7 (T) 4.1 (F) 9.5 (P)
	63.25	11.9	1.0	760	14.2	1.2	750	22.9	1.9	730	45.9	3.6	700	1780	
	69.87	10.7	0.92	750	12.9	1.1	740	20.8	1.7	720	41.5	3.3	700	1730	
	77.48	9.7	0.84	760	11.6	0.99	760	18.7	1.6	740	37.4	3.0	710	1780	
	85.59	8.8	0.76	770	10.5	0.90	760	16.9	1.4	740	33.9	2.7	710	1780	
	104.85	7.2	0.64	790	8.6	0.75	770	13.8	1.2	750	27.7	2.2	720	1780	
	106.82	7.0	0.63	790	8.4	0.73	770	13.6	1.1	750	27.1	2.2	720	1780	
	130.86	5.7	0.53	820	6.9	0.62	800	11.1	0.95	760	22.2	1.8	730	1780	
	141.90	5.3	0.49	830	6.3	0.58	810	10.2	0.88	760	20.4	1.7	730	1780	
	144.55	5.2	0.49	840	6.2	0.58	820	10.0	0.86	760	20.1	1.6	730	1730	
	177.09	4.2	0.41	860	5.1	0.48	830	8.2	0.72	770	16.4	1.4	740	1780	
	180.40	4.2	0.41	870	5.0	0.48	850	8.0	0.72	790	16.1	1.3	730	1730	
	221.00	3.4	0.34	880	4.1	0.40	860	6.6	0.59	800	13.1	1.1	750	1780	
	239.64	3.1	0.22	630	3.8	0.26	610	6.1	0.39	570	12.1	0.75	550	1320	
	299.08	2.5	0.18	650	3.0	0.21	630	4.8	0.32	590	9.7	0.61	550	1320	
JPL 114	220.10	3.4	0.35	880	4.1	0.41	860	6.6	0.61	800	13.2	1.1	750	1780	4.4 (N) 4.9 (T) 3.6 (F) 7.6 (P)
	243.14	3.1	0.33	910	3.7	0.38	890	6.0	0.57	830	11.9	1.0	750	1730	
	269.63	2.8	0.29	910	3.3	0.34	890	5.4	0.51	830	10.8	0.95	760	1780	
	303.44	2.5	0.27	940	3.0	0.32	920	4.8	0.47	850	9.6	0.85	770	1730	
	364.89	2.1	0.23	950	2.5	0.27	930	4.0	0.40	860	7.9	0.72	780	1780	
	403.08	1.9	0.21	980	2.2	0.25	960	3.6	0.37	890	7.2	0.67	800	1730	
	447.00	1.7	0.19	980	2.0	0.22	960	3.2	0.33	890	6.5	0.60	800	1780	
	493.79	1.5	0.18	1000	1.8	0.21	970	2.9	0.31	900	5.9	0.55	810	1780	
	557.86	1.3	0.16	1020	1.6	0.19	990	2.6	0.28	920	5.2	0.50	830	1780	
	627.80	1.2	0.15	1050	1.4	0.17	1020	2.3	0.25	950	4.6	0.46	860	1730	
	818.63	0.92	0.11	1080	1.1	0.13	1050	1.8	0.20	980	3.5	0.36	880	1780	
	942.17	0.80	0.10	1100	0.96	0.12	1070	1.5	0.18	1000	3.1	0.32	900	1780	
	1021.64	0.73	0.09	1120	0.88	0.11	1090	1.4	0.17	1010	2.8	0.30	910	1780	
	1275.01	0.59	0.08	1150	0.71	0.09	1120	1.1	0.14	1040	2.3	0.25	940	1780	
	1591.22	0.47	0.07	1190	0.57	0.08	1160	0.91	0.11	1080	1.8	0.21	970	1780	
	1725.44	0.43	0.04	840	0.52	0.05	820	0.84	0.07	760	1.7	0.13	690	1320	
	2153.35	0.35	0.04	870	0.42	0.04	850	0.67	0.06	790	1.3	0.11	710	1320	

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPW 112	11.14	67.3	5.1	680	81	6.1	670	130	9.5	650	260	16.4	560	1730	4.7 (N)
	13.64	55.0	4.3	690	66	5.1	680	106	7.9	670	213	15.1	630	1780	5.4 (T)
	18.46	40.6	2.3	510	48.8	2.8	500	79	4.3	490	157	8.3	470	1320	3.8 (F)
	23.04	32.6	1.3	370	39.1	1.6	360	63	2.5	350	126	4.8	340	950	8.9 (P)
JPW 113	38.75	19.4	1.6	730	23.2	1.9	720	37.4	3.0	700	75	5.8	670	1730	4.1 (N)
	47.47	15.8	1.3	740	19.0	1.6	740	30.5	2.5	720	61	4.8	690	1780	5.4 (T)
	58.16	12.9	1.1	750	15.5	1.3	740	24.9	2.1	720	49.9	4.0	700	1780	3.4 (F)
	64.25	11.7	1.0	750	14.0	1.2	740	22.6	1.9	720	45.1	3.6	690	1730	8.1 (P)
	78.70	9.5	0.84	770	11.4	0.99	760	18.4	1.6	740	36.8	3.0	710	1780	
	98.22	7.6	0.69	780	9.2	0.81	770	14.8	1.3	750	29.5	2.4	720	1780	
	106.51	7.0	0.46	560	8.5	0.54	560	13.6	0.85	540	27.2	1.6	520	1320	
	132.92	5.6	0.37	570	6.8	0.44	570	10.9	0.69	550	21.8	1.3	530	1320	
JPW 114	165.89	4.5	0.21	410	5.4	0.25	410	8.7	0.40	390	17.5	0.76	380	950	
	134.86	5.6	0.55	830	6.7	0.64	810	10.8	0.95	750	21.5	1.8	720	1730	
	165.21	4.5	0.45	850	5.4	0.53	820	8.8	0.79	770	17.6	1.5	740	1780	
	202.39	3.7	0.38	870	4.4	0.44	850	7.2	0.67	790	14.3	1.3	750	1780	
	223.58	3.4	0.36	900	4.0	0.41	880	6.5	0.62	810	13.0	1.1	740	1730	
	247.94	3.0	0.32	900	3.6	0.37	880	5.8	0.56	810	11.7	1.0	760	1780	
	273.89	2.7	0.29	910	3.3	0.34	890	5.3	0.52	830	10.6	0.95	760	1780	
	335.53	2.2	0.25	940	2.7	0.29	920	4.3	0.43	850	8.6	0.78	770	1780	
	341.82	2.2	0.24	950	2.6	0.28	920	4.2	0.43	860	8.5	0.77	770	1780	3.7 (N)
	418.74	1.8	0.21	970	2.1	0.24	950	3.5	0.36	880	6.9	0.65	790	1780	4.1 (T)
	454.06	1.7	0.19	990	2.0	0.22	960	3.2	0.34	890	6.4	0.60	800	1780	3.2 (F)
	566.67	1.3	0.16	1020	1.6	0.19	990	2.6	0.28	920	5.1	0.50	830	1780	7.7 (P)
	614.47	1.2	0.10	720	1.5	0.12	700	2.4	0.18	650	4.7	0.33	590	1320	
	707.21	1.1	0.13	1060	1.3	0.15	1030	2.1	0.23	960	4.1	0.41	860	1780	
	766.86	0.98	0.09	750	1.2	0.10	730	1.9	0.15	680	3.8	0.27	610	1320	
	957.05	0.78	0.07	770	0.94	0.08	750	1.5	0.12	700	3.0	0.22	630	1320	
	1194.39	0.63	0.04	550	0.75	0.05	540	1.2	0.07	500	2.4	0.13	450	950	

JPL210

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPL 211	3.48	216	26.5	1140	259	30.1	1080	417	42.0	940	833	68	760	2420	11.4 (N) 13.4 (T) 8.7 (F) 22 (P)
	4.26	176	22.7	1200	211	25.7	1140	340	36.0	980	680	58	800	3550	
	5.77	130	13.4	960	156	16.0	950	251	25.0	930	503	45.8	850	2650	
	7.20	104	7.8	690	125	9.2	690	201	14.4	670	403	27.8	640	1920	
JPL 212	12.11	62	9.7	1410	74	11.5	1400	120	18.0	1360	239	29.3	1110	2420	6.8 (N) 7.8 (T) 5.4 (F) 13.4 (P)
	14.84	51	7.7	1390	61	9.2	1380	98	14.4	1340	195	25.0	1160	3550	
	18.17	41.3	6.4	1410	49.5	7.6	1390	80	11.9	1360	160	21.7	1240	3550	
	20.08	37.4	6.0	1460	44.8	7.1	1440	72	11.2	1400	144	20.5	1290	2420	
	24.60	30.5	4.8	1430	36.6	5.7	1420	59	9.0	1380	118	17.2	1330	3550	
	30.69	24.4	3.9	1450	29.3	4.6	1430	47.2	7.3	1400	94	14.0	1340	3550	
	33.28	22.5	2.6	1060	27.0	3.1	1050	43.6	4.9	1030	87	9.5	990	2650	
	41.54	18.1	2.1	1080	21.7	2.5	1070	34.9	4.0	1040	70	7.7	1000	2650	
	51.84	14.5	1.2	780	17.4	1.5	770	28.0	2.3	750	56	4.4	720	1920	
JPL 213	51.63	14.5	2.5	1490	17.4	2.9	1480	28.1	4.6	1440	56	8.8	1380	3550	5.2 (N) 5.9 (T) 4.3 (F) 9.6 (P)
	63.25	11.9	2.0	1510	14.2	2.4	1500	22.9	3.8	1460	45.9	7.2	1400	3550	
	69.87	10.7	1.9	1570	12.9	2.3	1550	20.8	3.5	1510	41.5	6.8	1450	2420	
	77.48	9.7	1.7	1530	11.6	2.0	1510	18.7	3.1	1470	37.4	6.0	1420	3550	
	85.59	8.8	1.5	1540	10.5	1.8	1520	16.9	2.8	1480	33.9	5.4	1420	3550	
	104.85	7.2	1.3	1580	8.6	1.5	1540	13.8	2.3	1500	27.7	4.5	1440	3550	
	106.82	7.0	1.3	1590	8.4	1.5	1540	13.6	2.3	1500	27.1	4.4	1440	3550	
	130.86	5.7	1.1	1630	6.9	1.2	1590	11.1	1.9	1520	22.2	3.7	1460	3550	
	141.90	5.3	1.0	1660	6.3	1.2	1610	10.2	1.8	1520	20.4	3.4	1460	3550	
	144.55	5.2	1.0	1750	6.2	1.2	1700	10.0	1.8	1590	20.1	3.4	1510	2420	
	177.09	4.2	0.82	1710	5.1	1.0	1660	8.2	1.4	1550	16.4	2.7	1480	3550	
	180.40	4.2	0.63	1330	5.0	0.74	1320	8.0	1.2	1290	16.1	2.2	1240	3290	
	221.00	3.4	0.63	1630	4.1	0.74	1620	6.6	1.2	1570	13.1	2.2	1500	3550	
	239.64	3.1	0.45	1260	3.8	0.52	1230	6.1	0.78	1150	12.1	1.5	1100	2650	
	299.08	2.5	0.37	1310	3.0	0.43	1270	4.8	0.65	1180	9.7	1.2	1120	2650	
JPL 214	220.10	3.4	0.70	1770	4.1	0.82	1720	6.6	1.22	1600	13.2	2.3	1500	3550	4.5 (N) 5.0 (T) 3.8 (F) 7.8 (P)
	243.14	3.1	0.68	1900	3.7	0.79	1840	6.0	1.19	1720	11.9	2.1	1550	2420	
	269.63	2.8	0.59	1820	3.3	0.69	1770	5.4	1.03	1650	10.8	1.9	1520	3550	
	303.44	2.5	0.56	1960	3.0	0.66	1910	4.8	0.98	1770	9.6	1.8	1600	2420	
	364.89	2.1	0.45	1910	2.5	0.53	1860	4.0	0.80	1730	7.9	1.4	1560	3550	
	403.08	1.9	0.43	1970	2.2	0.50	1950	3.6	0.77	1850	7.2	1.4	1670	2420	
	447.00	1.7	0.38	1970	2.0	0.45	1920	3.2	0.67	1780	6.5	1.2	1600	3550	
	493.79	1.5	0.35	2000	1.8	0.41	1940	2.9	0.62	1810	5.9	1.1	1630	3550	
	557.86	1.3	0.32	2040	1.6	0.37	1980	2.6	0.55	1840	5.2	1.0	1660	3550	
	627.80	1.2	0.30	2190	1.4	0.35	2130	2.3	0.53	1980	4.6	0.95	1780	2420	
	818.63	0.92	0.23	2160	1.1	0.27	2100	1.8	0.40	1950	3.5	0.72	1760	3550	
	942.17	0.80	0.20	2200	0.96	0.24	2140	1.5	0.36	1990	3.1	0.64	1800	3550	
	1021.64	0.73	0.19	2230	0.88	0.22	2170	1.4	0.33	2020	2.8	0.60	1820	3550	
	1275.01	0.59	0.16	2310	0.71	0.18	2240	1.1	0.28	2090	2.3	0.50	1880	3550	
	1591.22	0.47	0.11	1970	0.57	0.13	1920	0.91	0.19	1790	1.8	0.36	1690	3550	
	1725.44	0.43	0.09	1700	0.52	0.10	1660	0.84	0.15	1540	1.7	0.27	1390	2650	
	2153.35	0.35	0.07	1760	0.42	0.08	1710	0.67	0.12	1590	1.3	0.22	1440	2650	

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPW 212	11.14	67	7.1	940	81	8.4	930	130	12.4	850	260	20.2	690	2410	4.9 (N) 5.5 (T) 4.0 (F) 9.0 (P)
	13.64	55	7.1	1150	66	8.4	1140	106	12.4	1050	213	20.2	850	2950	
	18.46	40.6	4.7	1030	48.8	5.6	1020	79	8.7	990	157	16.7	950	2650	
	23.04	32.6	2.7	740	39.1	3.2	730	63	5.0	710	126	9.7	690	1920	
JPW 213	38.75	19.4	3.4	1510	23.2	4.0	1500	37.4	6.3	1460	75	12.0	1400	2420	4.2 (N) 4.7 (T) 3.5 (F) 8.2 (P)
	47.47	15.8	2.8	1530	19.0	3.2	1470	30.5	5.0	1430	61	9.6	1380	3550	
	58.16	12.9	2.2	1500	15.5	2.6	1490	24.9	4.1	1450	49.9	8.0	1390	3550	
	64.25	11.7	2.1	1560	14.0	2.5	1540	22.6	3.9	1500	45.1	7.5	1440	2420	
	78.70	9.5	1.7	1530	11.4	2.0	1510	18.4	3.1	1470	36.8	6.0	1420	3550	
	98.22	7.6	1.4	1560	9.2	1.6	1530	14.8	2.5	1490	29.5	4.9	1430	3550	
	106.51	7.0	0.92	1140	8.5	1.1	1130	13.6	1.7	1100	27.2	3.3	1050	2650	
	132.92	5.6	0.75	1160	6.8	0.89	1140	10.9	1.4	1110	21.8	2.7	1070	2650	
JPW 214	165.89	4.5	0.43	830	5.4	0.51	820	8.7	0.80	800	17.5	1.5	770	1920	3.9 (N) 4.3 (T) 3.3 (F) 7.9 (P)
	134.86	5.6	1.1	1730	6.7	1.3	1690	10.8	2.0	1570	21.5	3.8	1500	2420	
	165.21	4.5	0.90	1690	5.4	1.1	1650	8.8	1.6	1540	17.6	3.1	1480	3550	
	202.39	3.7	0.76	1750	4.4	0.89	1700	7.2	1.3	1580	14.3	2.5	1490	3550	
	223.58	3.4	0.74	1870	4.0	0.86	1820	6.5	1.3	1690	13.0	2.4	1550	2420	
	247.94	3.0	0.64	1800	3.6	0.75	1750	5.8	1.1	1630	11.7	2.1	1510	3550	
	273.89	2.7	0.59	1830	3.3	0.69	1780	5.3	1.0	1650	10.6	1.9	1520	3550	
	335.53	2.2	0.50	1890	2.7	0.58	1830	4.3	0.87	1710	8.6	1.6	1540	3550	
	341.82	2.2	0.49	1890	2.6	0.57	1840	4.2	0.85	1710	8.5	1.5	1540	3550	
	418.74	1.8	0.41	1950	2.1	0.48	1900	3.5	0.72	1760	6.9	1.3	1590	3550	
	454.06	1.7	0.38	1970	2.0	0.45	1920	3.2	0.67	1790	6.4	1.2	1610	3550	
	566.67	1.3	0.32	2040	1.6	0.37	1990	2.6	0.56	1850	5.1	1.0	1660	3550	
	614.47	1.2	0.21	1460	1.5	0.24	1420	2.4	0.37	1320	4.7	0.66	1190	2650	
	707.21	1.1	0.22	1750	1.3	0.26	1730	2.1	0.41	1680	4.1	0.78	1620	3550	
	766.86	1.0	0.17	1510	1.2	0.20	1470	1.9	0.30	1360	3.8	0.55	1230	2650	
	957.05	0.78	0.14	1560	0.94	0.17	1520	1.5	0.25	1410	3.0	0.45	1270	2650	
	1194.39	0.63	0.08	1120	0.75	0.10	1090	1.2	0.14	1010	2.4	0.26	910	1920	

JPL240

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPL 241	3.82	196	32.8	1550	236	37.2	1470	380	51.98	1270	760	84	1040	4010	13.4 (T) 8.7 (F)
	4.44	169	29.0	1600	203	32.9	1520	326	46.01	1310	653	75	1070	4010	
	5.43	138	19.7	1330	166	23.4	1310	267	36.67	1280	534	64	1110	3710	
JPL 242	13.29	56	12.5	2000	68	14.8	1980	109	22.27	1850	218	36.2	1500	4010	7.8 (T) 5.4 (F)
	15.47	48.5	9.4	1760	58	11.2	1740	94	17.48	1690	188	32.0	1550	4010	
	16.28	46.1	10.3	2030	55	12.2	2010	89	19.15	1950	178	31.4	1600	4010	
	18.95	39.6	7.8	1780	47.5	9.2	1760	77	14.44	1710	153	27.8	1650	4010	
	22.03	34.0	6.8	1820	40.9	8.1	1800	66	12.73	1760	132	24.5	1690	4010	
	25.64	29.3	5.8	1810	35.1	6.9	1790	57	10.85	1740	113	20.9	1670	4010	
	27.49	27.3	3.9	1310	32.7	4.7	1290	53	7.32	1260	105	14.1	1210	3610	
	31.32	23.9	3.9	1470	28.7	4.6	1450	46.3	7.20	1410	93	13.9	1360	3710	
	39.09	19.2	3.1	1490	23.0	3.7	1470	37.1	5.85	1430	74	11.2	1380	3710	
JPL 243	46.24	16.2	3.9	2150	19.5	4.7	2130	31.4	7.34	2070	63	14.1	1990	4010	5.9 (T) 4.3 (F)
	53.82	13.9	3.0	1890	16.7	3.5	1870	26.9	5.53	1820	54	10.6	1750	4010	
	56.65	13.2	3.3	2180	15.9	3.9	2150	25.6	6.06	2100	51	11.7	2010	4010	
	65.94	11.4	2.5	1910	13.6	2.9	1890	22.0	4.57	1840	44.0	8.8	1770	4010	
	69.39	10.8	2.7	2200	13.0	3.2	2180	20.9	5.01	2120	41.8	9.6	2040	4010	
	76.66	9.8	2.4	2210	11.7	2.9	2190	18.9	4.56	2130	37.8	8.8	2050	4010	
	93.91	8.0	2.0	2240	9.6	2.4	2220	15.4	3.76	2160	30.9	7.2	2070	4010	
	95.67	7.8	2.0	2240	9.4	2.4	2220	15.2	3.70	2160	30.3	7.1	2080	4010	
	111.36	6.7	1.5	1970	8.1	1.8	1950	13.0	2.79	1900	26.0	5.4	1820	4010	
	117.20	6.4	1.7	2300	7.7	1.9	2250	12.4	3.05	2180	24.7	5.9	2100	4010	
	147.93	5.1	1.2	2030	6.1	1.4	1980	9.8	2.13	1930	19.6	4.1	1850	4010	
	158.60	4.7	1.1	2040	5.7	1.3	2020	9.1	2.03	1960	18.3	3.9	1890	4010	
	184.62	4.1	0.97	2100	4.9	1.1	2050	7.9	1.73	1950	15.7	3.3	1870	4010	
	197.93	3.8	0.63	1460	4.5	0.74	1450	7.3	1.17	1410	14.7	2.2	1360	4010	
	230.40	3.3	0.63	1700	3.9	0.74	1690	6.3	1.17	1640	12.6	2.2	1580	4010	
	281.42	2.7	0.53	1750	3.2	0.62	1710	5.2	0.93	1600	10.3	1.8	1540	4010	
JPL 244	241.49	3.1	0.92	2570	3.7	1.08	2500	6.0	1.62	2320	12.0	3.0	2190	4010	5.0 (T) 3.8 (F)
	295.84	2.5	0.78	2650	3.0	0.91	2570	4.9	1.36	2390	9.8	2.5	2210	4010	
	326.80	2.3	0.71	2690	2.8	0.83	2610	4.4	1.25	2430	8.9	2.3	2230	4010	
	344.36	2.2	0.58	2310	2.6	0.68	2250	4.2	1.02	2090	8.4	1.9	1940	4010	
	400.35	1.9	0.60	2770	2.2	0.70	2690	3.6	1.05	2510	7.2	1.9	2260	4010	
	442.25	1.7	0.55	2810	2.0	0.64	2730	3.3	0.97	2540	6.6	1.7	2290	4010	
	499.63	1.5	0.50	2860	1.8	0.58	2790	2.9	0.87	2590	5.8	1.6	2330	4010	
	551.93	1.4	0.46	2910	1.6	0.53	2830	2.6	0.80	2630	5.3	1.4	2370	4010	
	676.14	1.1	0.39	3000	1.3	0.45	2920	2.1	0.67	2710	4.3	1.2	2440	4010	
	733.18	1.0	0.27	2310	1.2	0.32	2250	2.0	0.49	2140	4.0	0.94	2060	4010	
	843.83	0.89	0.32	3100	1.1	0.37	3020	1.7	0.56	2810	3.4	1.0	2530	4010	
	915.01	0.82	0.23	2390	0.98	0.27	2330	1.6	0.40	2170	3.2	0.77	2090	4010	
	1065.09	0.70	0.22	2740	0.85	0.26	2670	1.4	0.39	2480	2.7	0.70	2230	4010	
	1141.93	0.66	0.19	2470	0.79	0.22	2410	1.3	0.33	2240	2.5	0.62	2110	4010	
	1300.93	0.58	0.15	2210	0.69	0.17	2150	1.1	0.26	2000	2.2	0.47	1800	4010	
	1329.23	0.56	0.19	2830	0.68	0.22	2760	1.1	0.32	2570	2.2	0.58	2310	4010	
	1658.88	0.45	0.11	2060	0.54	0.13	2000	0.87	0.19	1860	1.7	0.36	1770	4010	

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPW 242	12.22	61	7.1	1030	74	8.4	1020	119	12.4	940	237	20.2	760	2640	5.5 (T) 4.0 (F)
	14.22	53	7.1	1200	63	8.4	1190	102	12.4	1090	204	20.2	880	3080	
	17.37	43.2	6.9	1420	52	8.1	1400	83	12.4	1330	167	20.2	1080	3710	
JPW 243	42.52	17.6	4.3	2140	21.2	5.1	2120	34.1	8.1	2060	68	15.5	1980	3710	4.7 (T) 3.5 (F)
	49.49	15.2	3.3	1880	18.2	3.9	1860	29.3	6.1	1810	59	11.7	1740	3710	
	52.09	14.4	3.6	2170	17.3	4.2	2140	27.8	6.7	2090	56	12.8	2000	3710	
	60.63	12.4	2.7	1900	14.8	3.2	1880	23.9	5.0	1830	47.8	9.7	1760	3710	
	70.49	10.6	2.4	1950	12.8	2.8	1930	20.6	4.4	1880	41.1	8.5	1800	3710	
	82.05	9.1	2.0	1930	11.0	2.4	1910	17.7	3.8	1860	35.3	7.3	1790	3710	
	87.97	8.5	1.4	1400	10.2	1.6	1380	16.5	2.5	1350	33.0	4.9	1290	3610	
	102.40	7.3	1.4	1630	8.8	1.6	1610	14.2	2.5	1570	28.3	4.9	1510	3710	
	125.07	6.0	1.1	1590	7.2	1.3	1570	11.6	2.0	1530	23.2	3.9	1470	3710	
JPW 244	147.97	5.1	1.4	2380	6.1	1.7	2320	9.8	2.6	2210	19.6	4.9	2130	3710	4.3 (T) 3.3 (F)
	172.24	4.4	1.1	2080	5.2	1.2	2020	8.4	1.9	1940	16.8	3.7	1870	3710	
	181.27	4.1	1.2	2460	5.0	1.4	2390	8.0	2.1	2240	16.0	4.1	2150	3710	
	211.00	3.6	0.90	2150	4.3	1.0	2090	6.9	1.6	1970	13.7	3.1	1890	3710	
	222.06	3.4	1.0	2530	4.1	1.2	2460	6.5	1.8	2290	13.1	3.3	2180	3710	
	245.30	3.1	0.93	2570	3.7	1.1	2500	5.9	1.6	2330	11.8	3.0	2190	3710	
	285.54	2.6	0.69	2250	3.2	0.81	2190	5.1	1.2	2030	10.2	2.3	1920	3710	
	306.14	2.4	0.77	2660	2.9	0.89	2590	4.7	1.3	2410	9.5	2.5	2220	3710	
	375.03	2.0	0.65	2740	2.4	0.75	2670	3.9	1.1	2480	7.7	2.0	2240	3710	
	406.67	1.8	0.47	2150	2.2	0.55	2130	3.6	0.87	2070	7.1	1.7	1990	3710	
	436.55	1.7	0.48	2400	2.1	0.57	2330	3.3	0.85	2170	6.6	1.5	1970	3710	
	507.52	1.5	0.38	2190	1.8	0.45	2160	2.9	0.71	2100	5.7	1.4	2020	3710	
	590.77	1.3	0.37	2510	1.5	0.44	2440	2.5	0.66	2270	4.9	1.2	2040	3710	
	633.39	1.2	0.22	1560	1.4	0.26	1550	2.3	0.41	1510	4.6	0.78	1450	3610	
	721.58	1.0	0.25	2020	1.2	0.29	1970	2.0	0.43	1830	4.0	0.78	1650	3710	
	900.53	0.8	0.21	2090	1.0	0.24	2040	1.6	0.36	1890	3.2	0.65	1710	3710	

JPL310

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPL 311	3.60	208	43.9	1960	250	49.9	1860	403	70	1610	806	113	1310	4320	18.4 (N) 22 (T) 12.8 (F) 35.9 (P)
	4.25	176	38.5	2030	212	43.8	1920	341	61	1670	682	99	1350	5630	
	5.33	141	25.3	1680	169	30.1	1660	272	47.1	1610	544	82	1410	4610	
	6.20	121	18.4	1410	145	21.8	1400	234	34.2	1360	468	66	1310	3900	
	7.50	100	11.9	1110	120	14.2	1100	193	22.2	1070	387	42.7	1030	3070	
JPL 312	12.53	60	14.9	2260	72	17.3	2180	116	24.1	1890	231	39.2	1540	4320	10.3 (N) 12.2 (T) 7.5 (F) 21 (P)
	14.79	51	12.3	2200	61	14.6	2180	98	22.9	2120	196	39.2	1810	5630	
	15.35	48.9	12.3	2280	59	14.6	2260	94	20.6	1980	189	33.5	1610	4320	
	18.12	41.4	10.2	2230	49.7	12.1	2210	80	18.9	2150	160	33.5	1900	5630	
	20.77	36.1	6.8	1720	43.3	8.1	1700	70	12.7	1650	140	24.5	1590	4320	
	22.74	33.0	6.6	1820	39.6	7.9	1800	64	12.3	1750	128	23.7	1690	4610	
	24.52	30.6	6.8	2030	36.7	8.1	2010	59	12.7	1950	118	24.5	1880	5960	
	26.43	28.4	4.8	1540	34.1	5.7	1520	55	8.9	1480	110	17.2	1420	3900	
	30.77	24.4	5.0	1850	29.3	5.9	1830	47.1	9.3	1780	94	17.8	1720	4610	
	35.77	21.0	3.6	1560	25.2	4.3	1550	40.5	6.7	1510	81	12.9	1450	3900	
	38.40	19.5	3.9	1830	23.4	4.7	1810	37.8	7.3	1760	76	14.1	1690	4610	
	44.64	16.8	2.9	1580	20.2	3.5	1570	32.5	5.5	1520	65	10.5	1470	3900	
	54.00	13.9	1.9	1240	16.7	2.3	1230	26.9	3.5	1200	54	6.8	1150	3070	
JPL 313	43.60	17.2	4.7	2420	20.6	5.6	2400	33.3	8.8	2330	67	16.8	2230	4320	7.6 (N) 9.1 (T) 5.7 (F) 14.6 (P)
	51.47	14.6	3.9	2370	17.5	4.6	2340	28.2	7.3	2280	56	13.9	2190	5630	
	53.41	14.0	3.9	2450	16.9	4.6	2430	27.1	7.2	2360	54	13.9	2270	4320	
	63.05	11.9	3.2	2390	14.3	3.8	2370	23.0	6.0	2310	46.0	11.5	2220	5630	
	72.28	10.4	2.9	2500	12.5	3.5	2470	20.1	5.4	2400	40.1	10.5	2310	4320	
	77.24	9.7	2.7	2420	11.7	3.2	2400	18.8	4.9	2330	37.5	9.5	2240	5630	
	85.33	8.8	2.4	2440	10.5	2.9	2410	17.0	4.5	2350	34.0	8.7	2250	5630	
	104.53	7.2	2.0	2510	8.6	2.4	2440	13.9	3.7	2370	27.7	7.2	2280	5630	
	106.49	7.0	2.0	2510	8.5	2.3	2440	13.6	3.7	2380	27.2	7.0	2280	5630	
	130.45	5.7	1.7	2590	6.9	2.0	2520	11.1	3.0	2400	22.2	5.8	2310	5630	
	141.46	5.3	1.3	2240	6.4	1.6	2220	10.3	2.5	2160	20.5	4.8	2080	5960	
	163.71	4.6	1.1	2100	5.5	1.3	2050	8.9	2.0	1960	17.7	3.8	1890	4610	
	176.54	4.2	1.1	2270	5.1	1.3	2250	8.2	2.0	2190	16.4	3.9	2100	5960	
	190.31	3.9	0.79	1770	4.7	0.92	1720	7.6	1.4	1660	15.2	2.7	1590	3900	
	221.54	3.4	0.84	2200	4.1	0.98	2140	6.5	1.5	2000	13.1	2.8	1920	4610	
	257.54	2.9	0.61	1850	3.5	0.71	1800	5.6	1.1	1680	11.3	2.1	1620	3900	
	276.48	2.7	0.63	2040	3.3	0.74	2020	5.2	1.2	1970	10.5	2.2	1890	4610	
	321.41	2.3	0.50	1920	2.8	0.59	1860	4.5	0.88	1730	9.0	1.7	1640	3900	
JPL 314	219.42	3.4	1.1	2800	4.1	1.30	2730	6.6	1.9	2540	13.2	3.6	2380	5630	6.3 (N) 7.4 (T) 4.9 (F) 11.5 (P)
	268.80	2.8	0.93	2890	3.3	1.09	2810	5.4	1.6	2620	10.8	3.0	2410	5630	
	296.94	2.5	0.86	2930	3.0	1.00	2850	4.9	1.5	2660	9.8	2.7	2420	5630	
	329.29	2.3	0.79	2980	2.7	0.92	2900	4.4	1.4	2700	8.8	2.5	2440	5630	
	363.76	2.1	0.72	3030	2.5	0.84	2940	4.0	1.3	2740	8.0	2.3	2470	5630	
	416.98	1.8	0.61	2930	2.2	0.71	2850	3.5	1.1	2680	7.0	2.1	2580	4320	
	453.98	1.7	0.60	3130	2.0	0.70	3040	3.2	1.0	2830	6.4	1.9	2550	5630	
	492.27	1.5	0.56	3170	1.8	0.65	3080	2.9	0.98	2870	5.9	1.8	2580	5630	
	556.14	1.3	0.50	3230	1.6	0.59	3140	2.6	0.88	2920	5.2	1.6	2630	5630	
	614.35	1.2	0.46	3280	1.5	0.54	3190	2.4	0.81	2960	4.7	1.5	2670	5630	
	766.71	0.98	0.38	3390	1.2	0.45	3290	1.9	0.67	3070	3.8	1.2	2760	5630	
	795.61	0.94	0.35	3190	1.1	0.41	3100	1.8	0.61	2880	3.6	1.1	2700	4320	
	939.26	0.80	0.32	3490	0.96	0.38	3400	1.5	0.57	3160	3.1	1.0	2850	5630	
	1018.49	0.74	0.23	2660	0.88	0.27	2590	1.4	0.40	2420	2.8	0.77	2320	5960	
	1178.68	0.64	0.21	2840	0.76	0.24	2760	1.2	0.37	2570	2.5	0.66	2310	4610	
	1271.08	0.59	0.19	2750	0.71	0.22	2680	1.1	0.33	2490	2.3	0.62	2350	5960	
	1595.08	0.47	0.16	2970	0.56	0.19	2890	0.91	0.28	2690	1.8	0.51	2420	4610	
	1990.66	0.38	0.11	2470	0.45	0.13	2400	0.73	0.19	2230	1.5	0.36	2120	4610	

		n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
	ie	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPW 312	10.03	75	18.6	2230	90	22.1	2200	145	34.7	2150	289	58	1780	4320	10 (N) 11.5 (T) 8.2 (F) 16.5 (P)
	11.84	63	15.4	2180	76	18.3	2150	122	28.7	2100	245	50	1840	5630	
	14.40	52	13.3	2270	63	15.7	2250	101	24.7	2190	201	44.7	1980	4320	
	17.00	44.1	11.0	2220	53	13.0	2200	85	20.4	2140	171	39.2	2050	5630	
	21.33	35.2	7.1	1810	42.2	8.5	1800	68	13.3	1750	136	25.5	1680	4610	
	24.80	30.2	5.2	1530	36.3	6.1	1510	58	9.6	1470	117	18.5	1420	3900	
	30.00	25.0	3.4	1200	30.0	4.0	1190	48.3	6.3	1160	97	12.0	1110	3070	
JPW 313	40.09	18.7	5.2	2410	22.4	6.1	2390	36.2	9.6	2320	72	18.1	2180	4320	6 (N) 7 (T) 4.5 (F) 11 (P)
	47.33	15.8	4.3	2360	19.0	5.1	2330	30.6	8.0	2270	61	15.3	2180	5630	
	49.11	15.3	4.3	2440	18.3	5.1	2410	29.5	8.0	2350	59	15.3	2260	4320	
	57.98	12.9	3.5	2380	15.5	4.2	2360	25.0	6.6	2290	50	12.7	2210	5630	
	66.46	11.3	2.4	1840	13.5	2.8	1820	21.8	4.4	1770	43.6	8.5	1700	4730	
	72.76	10.3	2.3	1950	12.4	2.7	1930	19.9	4.3	1870	39.9	8.2	1800	4610	
	78.46	9.6	2.4	2170	11.5	2.8	2150	18.5	4.4	2090	37.0	8.5	2010	5590	
	84.58	8.9	1.7	1640	10.6	2.0	1620	17.1	3.1	1580	34.3	6.0	1520	3900	
	98.46	7.6	1.7	1980	9.1	2.1	1960	14.7	3.2	1910	29.5	6.2	1830	4610	
	114.46	6.6	1.3	1670	7.9	1.5	1650	12.7	2.3	1610	25.3	4.5	1550	3900	
	122.88	6.1	1.4	1950	7.3	1.6	1930	11.8	2.5	1880	23.6	4.9	1810	4610	
	142.85	5.3	1.0	1690	6.3	1.2	1670	10.2	1.9	1630	20.3	3.6	1570	3900	
	172.80	4.3	0.66	1330	5.2	0.79	1320	8.4	1.23	1280	16.8	2.37	1230	3070	
JPW 314	139.51	5.4	1.7	2620	6.5	2.0	2590	10.4	3.1	2500	20.8	5.9	2400	4320	5.2 (N) 6 (T) 4.1 (F) 10 (P)
	164.70	4.6	1.4	2680	5.5	1.7	2610	8.8	2.5	2440	17.6	4.9	2340	5630	
	170.91	4.4	1.4	2680	5.3	1.6	2650	8.5	2.6	2580	17.0	4.8	2430	4320	
	201.77	3.7	1.2	2770	4.5	1.4	2690	7.2	2.1	2500	14.4	4.0	2370	5630	
	231.29	3.2	1.0	2690	3.9	1.2	2670	6.3	1.9	2590	13.9	3.6	2470	4320	
	247.17	3.0	1.0	2850	3.6	1.2	2780	5.9	1.8	2580	11.7	3.3	2400	5630	
	273.05	2.7	0.94	2900	3.3	1.1	2820	5.3	1.6	2620	10.6	3.0	2410	5630	
	310.18	2.4	0.66	2320	2.9	0.77	2250	4.7	1.15	2100	9.3	2.15	1960	4610	
	340.76	2.2	0.78	3000	2.6	0.91	2910	4.3	1.36	2710	8.5	2.45	2440	5630	
	417.45	1.8	0.65	3090	2.2	0.76	3010	3.5	1.14	2800	6.9	2.06	2520	5630	
	452.66	1.7	0.47	2400	2.0	0.55	2370	3.2	0.87	2310	6.4	1.67	2220	5590	
	497.11	1.5	0.36	2050	1.8	0.42	1990	2.9	0.64	1850	5.8	1.15	1680	3900	
	564.92	1.3	0.38	2430	1.6	0.45	2400	2.6	0.71	2340	5.1	1.36	2250	5590	
	608.98	1.2	0.31	2110	1.5	0.36	2050	2.4	0.54	1910	4.8	0.96	1720	3900	
	708.92	1.1	0.33	2630	1.3	0.38	2560	2.0	0.57	2380	4.1	1.03	2140	4610	
	824.12	0.91	0.24	2210	1.1	0.28	2150	1.8	0.41	2000	3.5	0.75	1800	3900	
	884.74	0.85	0.22	2190	1.0	0.26	2160	1.6	0.41	2100	3.3	0.78	2020	4610	
	1028.51	0.73	0.20	2280	0.88	0.23	2220	1.4	0.34	2070	2.8	0.62	1860	3900	
	1244.16	0.60	0.13	1790	0.72	0.15	1740	1.2	0.22	1620	2.3	0.40	1460	3070	

JPL510

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPL 511	3.60	208	76	3400	250	86	3220	403	121	2790	806	196	2260	11600	19.4 (N) 24 (T) 13.9 (F) 37 (P)
	4.25	176	67	3520	212	76	3330	341	106	2890	682	172	2340	11600	
	5.33	141	52	3450	169	62	3420	272	88	3010	544	143	2440	9500	
	6.20	121	37.9	2920	145	45.1	2890	234	71	2810	468	127	2530	8050	
	7.50	100	24.6	2290	120	29.2	2260	193	45.8	2200	387	88	2120	6320	
JPL 512	12.53	60	27.2	4120	72	30.9	3900	116	43.1	3380	231	70	2750	11600	11.1 (N) 13.4 (T) 8.3 (F) 21 (P)
	14.79	51	25.4	4540	61	30.1	4500	98	43.1	3990	196	70	3240	11600	
	15.35	48.9	23.2	4320	59	26.4	4090	94	36.9	3540	189	60	2880	11600	
	18.12	41.4	21.0	4600	49.7	24.9	4550	80	36.9	4180	160	60	3400	11600	
	20.77	36.1	13.8	3470	43.3	16.4	3430	70	25.7	3340	140	46.9	3050	9540	
	22.74	33.0	13.6	3750	39.6	16.2	3710	64	25.4	3610	128	48.8	3470	9500	
	24.52	30.6	13.8	4090	36.7	16.4	4050	59	25.7	3940	118	46.9	3600	11300	
	26.43	28.4	9.9	3170	34.1	11.8	3140	55	18.5	3060	110	35.5	2940	8050	
	30.77	24.4	10.2	3820	29.3	12.2	3780	47.1	19.1	3680	94	36.7	3530	9500	
	35.77	21.0	7.5	3230	25.2	8.9	3190	40.5	13.9	3110	81	26.7	2990	8050	
	38.40	19.5	8.0	3700	23.4	9.4	3660	37.8	14.8	3560	76	28.5	3420	9500	
	44.64	16.8	6.0	3270	20.2	7.2	3230	32.5	11.3	3150	65	21.7	3030	8050	
	54.00	13.9	3.9	2560	16.7	4.7	2530	26.9	7.3	2470	54	14.0	2370	6320	
JPL 513	43.60	17.2	9.5	4870	20.6	11.2	4820	33.3	17.6	4690	67	30.0	3990	11600	8.2 (N) 9.7 (T) 6.3 (F) 15 (P)
	51.47	14.6	8.0	4880	17.5	9.5	4830	28.2	15.0	4700	56	28.7	4520	11600	
	53.41	14.0	7.8	4920	16.9	9.3	4870	27.1	14.5	4740	54	25.7	4180	11600	
	63.05	11.9	6.6	4940	14.3	7.9	4880	23.0	12.3	4750	46.0	23.7	4570	11600	
	72.28	10.4	5.9	5020	12.5	7.0	4960	20.1	10.9	4820	40.1	21.0	4640	11600	
	77.24	9.7	5.5	4990	11.7	6.5	4940	18.8	10.2	4810	37.5	19.6	4620	11600	
	85.33	8.8	5.0	5020	10.5	5.9	4970	17.0	9.3	4840	34.0	17.8	4650	11600	
	104.53	7.2	4.2	5160	8.6	4.9	5030	13.9	7.7	4890	27.7	14.7	4700	11600	
	110.50	6.8	4.0	5220	8.1	4.8	5170	13.1	7.3	4940	26.2	14.1	4750	11600	
	130.45	5.7	3.5	5340	6.9	4.0	5200	11.1	6.2	4960	22.2	12.0	4760	11600	
	141.46	5.3	2.7	4520	6.4	3.2	4480	10.3	5.0	4360	20.5	9.7	4190	11300	
	163.71	4.6	2.2	4330	5.5	2.6	4220	8.9	4.0	4040	17.7	7.8	3890	9500	
	176.54	4.2	2.2	4580	5.1	2.6	4530	8.2	4.1	4410	16.4	7.9	4240	11300	
	190.31	3.9	1.6	3650	4.7	1.9	3550	7.6	2.9	3420	15.2	5.7	3290	8050	
	221.54	3.4	1.7	4540	4.1	2.0	4410	6.5	3.0	4120	13.1	5.8	3960	9500	
	257.54	2.9	1.3	3830	3.5	1.5	3720	5.6	2.2	3480	11.3	4.3	3340	8050	
	276.48	2.7	1.3	4140	3.3	1.5	4100	5.2	2.4	3990	10.5	4.5	3830	9500	
	321.41	2.3	1.0	3960	2.8	1.2	3850	4.5	1.8	3580	9.0	3.5	3390	8050	
JPL 514	219.42	3.4	2.3	5780	4.1	2.7	5620	6.6	4.0	5230	13.2	7.5	4910	11600	6.7 (N) 7.8 (T) 5.3 (F) 11.9 (P)
	268.80	2.8	1.9	5960	3.3	2.2	5800	5.4	3.4	5390	10.8	6.2	4960	11600	
	296.94	2.5	1.8	6050	3.0	2.1	5880	4.9	3.1	5470	9.8	5.6	4990	11600	
	329.29	2.3	1.6	6140	2.7	1.9	5980	4.4	2.8	5560	8.8	5.1	5020	11600	
	363.76	2.1	1.5	6240	2.5	1.7	6070	4.0	2.6	5650	8.0	4.7	5080	11600	
	416.98	1.8	1.3	6100	2.2	1.5	5940	3.5	2.2	5580	7.0	4.3	5340	11600	
	453.98	1.7	1.2	6450	2.0	1.4	6270	3.2	2.2	5840	6.4	3.9	5260	11600	
	492.27	1.5	1.2	6530	1.8	1.3	6350	2.9	2.0	5910	5.9	3.6	5320	11600	
	556.14	1.3	1.0	6650	1.6	1.2	6470	2.6	1.8	6020	5.2	3.3	5420	11600	
	614.35	1.2	0.96	6750	1.5	1.1	6570	2.4	1.7	6110	4.7	3.0	5500	11600	
	766.71	0.98	0.64	5670	1.2	0.76	5610	1.9	1.2	5460	3.8	2.3	5250	11600	
	939.26	0.80	0.64	6950	0.96	0.76	6880	1.5	1.2	6520	3.1	2.1	5870	11600	
	1018.49	0.74	0.46	5370	0.88	0.53	5220	1.4	0.80	4880	2.8	1.5	4690	11300	
	1178.68	0.64	0.43	5840	0.76	0.50	5680	1.2	0.75	5290	2.5	1.4	4760	9500	
	1271.08	0.59	0.38	5550	0.71	0.44	5400	1.1	0.66	5030	2.3	1.3	4750	11300	
	1595.08	0.47	0.33	6120	0.56	0.39	5950	0.91	0.58	5540	1.8	1.1	4990	9500	
	1854.28	0.40	0.24	5160	0.49	0.28	5020	0.78	0.42	4670	1.6	0.76	4200	8050	
	1990.66	0.38	0.22	5000	0.45	0.25	4860	0.73	0.38	4520	1.5	0.72	4290	9500	

		n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
	ie	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPW 512	10.03	75	27.1	3240	90	30.8	3070	145	43.0	2660	289	70	2160	11600	10 (N) 11.8 (T) 8.6 (F) 16.8 (P)
	11.84	63	27.1	3820	76	30.8	3620	122	43.0	3140	245	70	2550	11600	
	14.40	52	20.0	3440	63	22.8	3260	101	31.8	2820	201	51.7	2290	10000	
	17.00	44.1	20.0	4060	53	22.8	3840	85	31.8	3330	171	51.7	2710	11600	
	20.89	35.9	9.7	2430	43.1	11.6	2400	69	18.1	2340	139	34.9	2250	6320	
	21.33	35.2	14.7	3740	42.2	17.5	3700	68	27.4	3600	136	51.7	3400	9500	
	24.80	30.2	10.7	3160	36.3	12.7	3130	58	19.9	3040	117	38.3	2930	8050	
	30.00	25.0	6.9	2480	30.0	8.2	2450	48.3	12.9	2390	97	24.8	2290	6320	
JPW 513	40.09	18.7	7.3	3390	22.4	8.6	3350	36.2	12.7	3070	72	20.7	2490	8660	6.5 (N) 8.5 (T) 5 (F) 11.5 (P)
	47.33	15.8	7.3	4000	19.0	8.6	3960	30.6	12.7	3630	61	20.7	2950	10300	
	49.11	15.3	7.3	4150	18.3	8.6	4110	29.5	12.7	3760	59	20.7	3060	10700	
	57.98	12.9	7.3	4900	15.5	8.6	4850	25.0	12.7	4440	50	20.7	3610	11600	
	66.46	11.3	4.8	3710	13.5	5.7	3670	21.8	8.9	3570	43.6	17.2	3430	9540	
	72.76	10.3	4.7	4010	12.4	5.6	3970	19.9	8.8	3860	39.9	17.0	3710	9500	
	78.46	9.6	4.8	4370	11.5	5.7	4330	18.5	8.9	4210	37.0	17.2	4050	11300	
	84.58	8.9	3.4	3390	10.6	4.1	3360	17.1	6.4	3270	34.3	12.3	3140	8050	
	98.46	7.6	3.6	4080	9.1	4.2	4040	14.7	6.6	3930	29.5	12.8	3780	9500	
	114.46	6.6	2.6	3450	7.9	3.1	3410	12.7	4.8	3320	25.3	9.3	3190	8050	
	122.88	6.1	2.8	3950	7.3	3.3	3910	11.8	5.2	3810	23.6	9.9	3660	9500	
	142.85	5.3	2.1	3500	6.3	2.5	3460	10.2	3.9	3360	20.3	7.5	3230	8050	
	172.80	4.3	1.4	2740	5.2	1.6	2710	8.4	2.5	2640	16.8	4.9	2530	6320	
JPW 514	139.51	5.4	3.4	5440	6.5	4.1	5390	10.4	6.1	5020	20.8	11.8	4810	11600	5.6 (N) 6.5 (T) 4.5 (F) 10.5 (P)
	164.70	4.6	3.0	5530	5.5	3.5	5380	8.8	5.2	5020	17.6	10.0	4830	11600	
	170.91	4.4	2.8	5350	5.3	3.3	5300	8.5	5.1	5150	17.0	9.7	4870	11600	
	201.77	3.7	2.5	5710	4.5	2.9	5550	7.2	4.4	5160	14.4	8.3	4880	11600	
	231.29	3.2	2.1	5600	3.9	2.5	5540	6.3	4.0	5400	12.5	7.3	4950	11600	
	247.17	3.0	2.1	5880	3.6	2.5	5720	5.9	3.7	5320	11.7	6.8	4940	11600	
	273.05	2.7	1.9	5970	3.3	2.3	5810	5.3	3.4	5410	10.6	6.2	4970	11600	
	310.18	2.4	1.4	4770	2.9	1.6	4640	4.7	2.4	4320	9.3	4.4	4030	9500	
	340.76	2.2	1.4	5410	2.6	1.7	5360	4.3	2.6	5210	8.5	5.0	5010	11600	
	417.45	1.8	1.3	6370	2.2	1.6	6200	3.5	2.4	5760	6.9	4.2	5190	11600	
	452.66	1.7	0.94	4830	2.0	1.1	4780	3.2	1.8	4660	6.4	3.4	4480	11300	
	497.11	1.5	0.75	4230	1.8	0.88	4110	2.9	1.3	3820	5.8	2.4	3470	8050	
	564.92	1.3	0.77	4910	1.6	0.91	4850	2.6	1.4	4720	5.1	2.7	4530	11300	
	608.98	1.2	0.63	4360	1.5	0.74	4240	2.4	1.1	3940	4.8	2.0	3550	8050	
	708.92	1.1	0.67	5410	1.3	0.79	5260	2.0	1.2	4900	4.1	2.1	4410	9500	
	824.12	0.91	0.49	4560	1.1	0.57	4440	1.8	0.85	4130	3.5	1.5	3720	8050	
	884.74	0.85	0.44	4420	1.0	0.52	4380	1.6	0.82	4260	3.3	1.6	4100	9500	
	1028.51	0.73	0.40	4720	0.88	0.47	4590	1.4	0.71	4270	2.8	1.3	3840	8050	
	1244.16	0.60	0.26	3680	0.72	0.31	3580	1.2	0.46	3340	2.3	0.82	3000	6320	

JPL610

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPL 611	4.00	188	93	4630	225	106	4380	363	148	3800	725	240	3080	14900	19.9 (N) 24 (T) 14.3 (F) 37 (P)
	4.55	165	84	4730	198	95	4480	319	133	3880	638	216	3160	12860	
JPL 612	14.40	52	34.3	5970	63	40.7	5910	101	62	5580	201	100	4530	14900	14.6 (N) 13.9 (T) 8.8 (F) 22 (P)
	16.36	45.8	26.8	5320	55	31.9	5260	89	50	5120	177	90	4630	12860	
	17.00	44.1	29.3	6030	53	34.8	5970	85	55	5810	171	89	4760	14900	
	19.32	38.8	23.0	5370	46.6	27.3	5310	75	42.7	5170	150	81	4870	12860	
	21.33	35.2	23.6	6110	42.2	28.1	6040	68	44.0	5880	136	76	5100	14900	
	24.24	30.9	18.5	5440	37.1	22.0	5380	60	34.5	5240	120	66	5030	12860	
	28.18	26.6	16.1	5490	31.9	19.1	5430	51	29.9	5280	103	58	5080	12860	
	30.00	25.0	12.2	4440	30.0	14.5	4400	48.3	22.8	4280	97	43.8	4110	12300	
	34.09	22.0	12.2	5050	26.4	14.5	5000	42.5	22.8	4860	85	43.8	4670	12860	
JPL 613	50.11	15.0	10.8	6410	18.0	12.9	6350	28.9	20.2	6180	58	38.8	5940	14900	8.5 (N) 10 (T) 6.6 (F) 16.8 (P)
	56.95	13.2	8.5	5710	15.8	10.1	5650	25.5	15.8	5500	51	30.4	5290	12860	
	61.39	12.2	9.0	6490	14.7	10.6	6420	23.6	16.7	6250	47.2	32.0	6000	14900	
	69.76	10.8	7.0	5780	12.9	8.3	5720	20.8	13.1	5560	41.6	25.1	5350	12860	
	82.36	9.1	6.0	5830	10.9	7.1	5770	17.6	11.2	5620	35.2	21.5	5400	12860	
	90.95	8.2	6.2	6630	9.9	7.3	6570	15.9	11.5	6390	31.9	22.1	6140	14900	
	98.08	7.6	5.8	6660	9.2	6.8	6590	14.8	10.7	6420	29.6	20.6	6170	14900	
	111.45	6.7	4.5	5930	8.1	5.4	5870	13.0	8.4	5710	26.0	16.1	5490	12860	
	123.08	6.1	4.7	6830	7.3	5.5	6680	11.8	8.7	6500	23.6	16.6	6250	14900	
	139.86	5.4	3.7	6060	6.4	4.3	5950	10.4	6.8	5790	20.7	13.0	5560	12860	
	153.60	4.9	3.9	7070	5.9	4.6	6870	9.4	7.0	6580	18.9	13.5	6330	14900	
	174.55	4.3	3.0	6270	5.2	3.6	6100	8.3	5.5	5860	16.6	10.6	5640	12860	
	202.91	3.7	2.7	6410	4.4	3.1	6240	7.1	4.8	5910	14.3	9.2	5680	12860	
JPL 614	174.39	4.3	3.6	7200	5.2	4.2	7010	8.3	6.4	6630	16.6	12.3	6370	14900	7 (N) 9.3 (T) 5.5 (F) 12.7 (P)
	205.88	3.6	3.1	7390	4.4	3.6	7190	7.0	5.5	6690	14.1	10.5	6430	14900	
	233.95	3.2	2.4	6550	3.8	2.8	6380	6.2	4.3	5960	12.4	8.2	5730	12860	
	252.21	3.0	2.6	7620	3.6	3.1	7410	5.7	4.6	6890	11.5	8.7	6510	14900	
	286.60	2.6	2.0	6760	3.1	2.4	6570	5.1	3.6	6120	10.1	6.8	5800	12860	
	316.50	2.4	2.1	7820	2.8	2.5	7670	4.6	3.8	7140	9.2	7.0	6590	14900	
	354.17	2.1	2.0	8020	2.5	2.3	7800	4.1	3.4	7260	8.2	6.3	6640	14900	
	402.47	1.9	1.5	7110	2.2	1.8	6920	3.6	2.7	6440	7.2	4.9	5910	12860	
	450.73	1.7	1.3	6680	2.0	1.5	6610	3.2	2.4	6430	6.4	4.6	6180	14900	
	502.28	1.5	1.3	7360	1.8	1.5	7160	2.9	2.2	6660	5.8	4.0	6000	12860	
	565.83	1.3	1.3	8610	1.6	1.5	8370	2.6	2.3	7790	5.1	4.2	7020	14900	
	642.99	1.2	1.0	7640	1.4	1.2	7430	2.3	1.8	6910	4.5	3.3	6220	12860	
	706.15	1.1	1.1	8900	1.3	1.3	8660	2.1	1.9	8060	4.1	3.5	7250	14900	
	802.45	0.93	0.86	7900	1.1	1.0	7680	1.8	1.5	7150	3.6	2.7	6440	12860	
	886.15	0.85	0.86	8810	1.0	1.0	8570	1.6	1.5	7990	3.3	2.8	7510	14900	
	1006.99	0.74	0.71	8170	0.89	0.82	7950	1.4	1.2	7400	2.9	2.2	6660	12860	
	1105.92	0.68	0.64	8180	0.81	0.76	8100	1.3	1.2	7880	2.6	2.3	7570	14900	
	1256.73	0.60	0.58	8450	0.72	0.68	8220	1.2	1.0	7650	2.3	1.8	6890	12860	
	1416.08	0.53	0.40	6590	0.64	0.47	6410	1.0	0.71	6020	2.0	1.4	5780	12860	

		n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM				
	ie	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	T _{2max} [Nm]	P _t [kW]
JPW 612	11.14	67	27.1	3600	81	30.8	3410	130	43.0	2950	260	70	2400	14900	10.5 (N) 12 (T) 8.5 (F) 16 (P)
	12.66	59	27.1	4090	71	30.8	3870	115	43.0	3350	229	70	2720	12800	
	16.00	46.9	20.0	3820	56	22.8	3620	91	31.8	3140	181	51.7	2550	11100	
	18.18	41.3	20.0	4340	49.5	22.8	4110	80	31.8	3560	160	51.7	2890	12800	
JPW 613	40.11	18.7	13.6	6330	22.4	16.1	6270	36.1	25.3	6100	72	48.6	5860	14900	9 (N) 10.2 (T) 7.5 (F) 14.2 (P)
	45.58	16.5	10.6	5640	19.7	12.6	5580	31.8	19.8	5430	64	38.1	5220	12800	
	47.36	15.8	11.6	6390	19.0	13.8	6330	30.6	21.6	6160	61	41.6	5920	14900	
	57.60	13.0	9.7	6460	15.6	11.5	6400	25.2	18.0	6220	50	34.6	5980	14900	
	65.45	11.5	7.6	5760	13.8	9.0	5700	22.2	14.1	5540	44.3	27.1	5330	12800	
	68.00	11.0	8.3	6530	13.2	9.8	6460	21.3	15.4	6280	42.6	29.6	6040	14900	
	78.51	9.6	6.4	5820	11.5	7.6	5760	18.5	11.9	5600	36.9	22.8	5380	12800	
	85.33	8.8	6.7	6610	10.5	7.9	6540	17.0	12.4	6370	34.0	23.9	6120	14900	
	96.97	7.7	5.2	5890	9.3	6.2	5830	15.0	9.7	5670	29.9	18.7	5450	12800	
	112.73	6.7	4.5	5940	8.0	5.4	5880	12.9	8.4	5720	25.7	16.2	5500	12800	
JPW 614	160.36	4.7	3.9	7110	5.6	4.6	6920	9.0	7.0	6600	18.1	13.5	6340	14900	6 (N) 6.8 (T) 4.7 (F) 10.8 (P)
	182.23	4.1	3.1	6310	4.9	3.6	6140	8.0	5.5	5880	15.9	10.6	5650	12800	
	196.45	3.8	3.3	7330	4.6	3.8	7140	7.4	5.8	6680	14.8	11.1	6420	14900	
	231.92	3.2	2.9	7520	3.9	3.3	7320	6.3	5.0	6810	12.5	9.5	6480	14900	
	263.54	2.8	2.2	6670	3.4	2.6	6490	5.5	3.9	6040	11.0	7.5	5770	12800	
	291.03	2.6	2.4	7780	3.1	2.8	7570	5.0	4.1	7050	10.0	7.7	6560	14900	
	313.85	2.4	2.2	7870	2.9	2.6	7660	4.6	3.9	7130	9.2	7.2	6590	14900	
	356.64	2.1	1.7	6990	2.5	2.0	6800	4.1	3.0	6320	8.1	5.6	5870	12800	
	393.85	1.9	1.8	7920	2.3	2.1	7840	3.7	3.2	7380	7.4	5.8	6680	14900	
	447.55	1.7	1.4	7230	2.0	1.7	7030	3.2	2.5	6540	6.5	4.5	5950	12800	
	491.52	1.5	1.4	7810	1.8	1.7	7730	3.0	2.6	7520	5.9	4.8	6870	14900	
	558.55	1.3	1.2	7480	1.6	1.4	7270	2.6	2.1	6770	5.2	3.7	6090	12800	
	629.37	1.2	0.84	5960	1.4	0.99	5900	2.3	1.6	5740	4.6	3.0	5520	12800	

JPL810

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPL 811	3.56	211	155	6860	253	108	3970	407	150	3440	—	—	—	18600	30 (N) 29 (T) 19.4 (F) 56 (P)
	4.15	181	118	6100	217	95	4090	349	133	3550	—	—	—	16800	
	5.10	147	81	5130	176	81	4250	284	113	3690	—	—	—	14200	
	5.82	129	60	4370	155	72	4330	249	102	3800	—	—	—	12100	
	6.86	109	44.2	3760	131	52	3720	211	82	3620	—	—	—	10400	
JPL 812	12.83	58	47.6	7380	70	45.1	5830	113	63	5060	226	102	4110	18600	16.5 (N) 16.4 (T) 11.4 (F) 31.3 (P)
	15.14	49.5	39.9	7310	59	40.1	6130	96	56	5310	192	91	4320	18600	
	17.65	42.5	31.0	6630	51	35.5	6320	82	49.5	5470	164	80.5	4450	16800	
	18.36	40.8	24.9	5520	49.0	29.5	5470	79	46.3	5320	158	76.5	4400	14200	
	22.15	33.9	25.0	6710	40.6	29.7	6640	65	42.2	5860	131	68.6	4760	16800	
	25.75	29.1	18.8	5870	34.9	22.4	5810	56	35.1	5660	113	61.8	4980	16200	
	27.20	27.6	17.2	5650	33.1	20.4	5590	53	31.9	5440	107	58.1	4950	14200	
	31.62	23.7	14.9	5700	28.5	17.7	5640	45.9	27.7	5490	92	52.3	5180	14200	
	36.11	20.8	11.1	4850	24.9	13.2	4800	40.2	20.7	4670	80	39.7	4490	12100	
	38.25	19.6	12.2	5660	23.5	14.5	5610	37.9	22.8	5460	76	43.8	5240	14200	
	43.68	17.2	9.3	4900	20.6	11.0	4850	33.2	17.3	4720	66	33.2	4540	12100	
	51.43	14.6	6.8	4220	17.5	8.1	4180	28.2	12.6	4060	56	24.3	3910	10400	
JPL 813	52.69	14.2	12.6	7850	17.1	15.0	7770	27.5	23.5	7560	55	39.0	6270	18600	11.8 (N) 11.7 (T) 8.4 (F) 22 (P)
	54.68	13.7	12.4	8020	16.5	14.8	7940	26.5	21.2	7060	53	34.4	5730	18600	
	63.75	11.8	9.5	7130	14.1	11.3	7060	22.7	17.6	6870	45.5	33.6	6540	16800	
	75.26	10.0	8.1	7200	12.0	9.6	7120	19.3	15.1	6930	38.5	29.0	6660	16800	
	77.10	9.7	7.9	7210	11.7	9.4	7130	18.8	14.8	6940	37.6	28.4	6670	16800	
	87.35	8.6	7.0	7230	10.3	8.3	7150	16.6	13.1	6960	33.2	25.1	6690	18600	
	101.85	7.4	6.2	7450	8.8	7.2	7250	14.2	11.3	7050	28.5	21.8	6780	16800	
	109.62	6.8	5.1	6600	8.2	6.1	6530	13.2	9.5	6360	26.5	18.3	6110	16500	
	127.81	5.9	5.1	7700	7.0	6.0	7500	11.3	9.2	7150	22.7	17.6	6870	16800	
	134.80	5.6	4.0	6310	6.7	4.6	6130	10.8	7.2	5960	21.5	13.9	5730	14200	
	156.92	4.8	3.5	6450	5.7	4.1	6280	9.2	6.3	6010	18.5	12.1	5780	14200	
	182.42	4.1	3.1	6600	4.9	3.6	6420	7.9	5.4	6060	15.9	10.5	5830	14200	
	195.84	3.8	2.9	6670	4.6	3.4	6490	7.4	5.1	6090	14.8	9.8	5850	14200	
	227.66	3.3	2.5	6830	4.0	3.0	6640	6.4	4.4	6180	12.7	8.5	5900	14200	
	251.98	3.0	1.9	5770	3.6	2.3	5610	5.8	3.4	5220	11.5	6.5	5020	12100	
	275.40	2.7	2.0	6340	3.3	2.3	6280	5.3	3.6	6110	10.5	7.0	5870	14200	
	314.47	2.4	1.6	5960	2.9	1.9	5800	4.6	2.8	5400	9.2	5.3	5080	12100	
JPL 814	183.36	4.1	4.0	8430	4.9	4.7	8340	7.9	7.4	8120	15.8	14.3	7800	18600	9.4 (N) 9.3 (T) 6.8 (F) 17 (P)
	224.62	3.3	3.3	8530	4.0	3.9	8440	6.5	6.1	8210	12.9	11.8	7900	18600	
	261.91	2.9	2.9	8590	3.4	3.3	8360	5.5	5.0	7780	11.1	9.2	7160	16800	
	275.17	2.7	2.7	8630	3.3	3.2	8540	5.3	5.1	8310	10.5	9.8	7990	18600	
	320.85	2.3	2.4	8860	2.8	2.8	8620	4.5	4.2	8020	9.0	7.6	7240	16800	
	354.43	2.1	2.2	9000	2.5	2.6	8750	4.1	3.9	8140	8.2	7.0	7330	16800	
	393.66	1.9	2.1	9300	2.3	2.4	9200	3.7	3.7	8770	7.4	7.2	8430	18600	
	459.00	1.6	1.8	9350	2.0	2.1	9100	3.2	3.1	8470	6.3	5.6	7620	16800	
	503.94	1.5	1.4	7990	1.8	1.6	7910	2.9	2.6	7690	5.8	4.9	7390	18600	
	541.88	1.4	1.5	9590	1.7	1.8	9330	2.7	2.7	8680	5.4	4.8	7820	16800	
	634.83	1.2	1.1	7970	1.4	1.3	7750	2.3	1.9	7210	4.6	3.4	6500	14200	
	733.31	1.0	1.1	9430	1.2	1.3	9330	2.0	2.1	9080	4.0	3.8	8180	16800	
	792.27	0.95	0.90	8240	1.1	1.1	8020	1.8	1.6	7460	3.7	2.8	6720	14200	
	905.33	0.83	0.81	8410	0.99	0.94	8180	1.6	1.4	7610	3.2	2.5	6850	14200	
	1052.44	0.71	0.71	8600	0.86	0.83	8370	1.4	1.2	7790	2.8	2.2	7010	14200	
	1129.85	0.66	0.67	8700	0.80	0.78	8460	1.3	1.2	7870	2.6	2.1	7090	14200	
	1313.45	0.57	0.59	8900	0.69	0.69	8660	1.1	1.0	8050	2.2	1.9	7250	14200	
	1410.05	0.53	0.55	8990	0.64	0.65	8750	1.0	0.97	8140	2.1	1.7	7330	14200	
	1639.18	0.46	0.49	9200	0.55	0.57	8950	0.88	0.85	8330	1.8	1.5	7500	14200	
	1814.25	0.41	0.37	7780	0.50	0.43	7560	0.80	0.65	7040	1.6	1.2	6340	12100	
	1982.88	0.38	0.34	7650	0.45	0.39	7440	0.73	0.59	6920	1.5	1.1	6570	14200	
	2264.19	0.33	0.31	8040	0.40	0.36	7820	0.64	0.54	7280	1.3	0.97	6550	12100	

		n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM				
	ie	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	T _{2max} [Nm]	P _t [kW]
JPW 812	10.41	72	46.6	5790	86	53	5480	139	74	4750	278	120	3860	18600	16 (N) 16 (T) 12.5 (F) 29 (P)
	12.14	62	41.2	5960	74	46.8	5650	119	65.4	4890	239	106	3970	16800	
	14.25	53	37.4	6360	63	42.5	6020	102	59.4	5220	204	96	4240	18600	
	16.62	45.1	33.1	6550	54	37.6	6200	87	52.5	5380	175	85	4370	16800	
	20.40	36.8	22.9	5560	44.1	27.1	5500	71	42.5	5350	142	72	4540	14200	
	23.29	32.2	17.0	4730	38.6	20.2	4680	62	31.7	4560	124	61	4380	12100	
	27.43	27.3	12.5	4070	32.8	14.8	4030	53	23.2	3920	106	44.6	3770	10400	
JPW 813	35.73	21.0	18.9	7830	25.2	22.4	7750	40.6	32.0	6870	81	52	5580	18600	11.5 (N) 11.5 (T) 8.5 (F) 25 (P)
	41.66	18.0	14.4	6960	21.6	17.1	6890	34.8	26.8	6700	70	46.0	5750	16800	
	51.30	14.6	13.4	7990	17.5	15.9	7910	28.3	24.8	7660	57	40.4	6220	18600	
	60.56	12.4	11.2	7910	14.9	13.4	7830	23.9	20.9	7620	47.9	35.9	6540	18600	
	70.62	10.6	8.7	7170	12.7	10.4	7100	20.5	16.3	6910	41.1	31.3	6640	16800	
	76.00	9.9	7.3	6460	11.8	8.7	6400	19.1	13.6	6230	38.2	26.2	5980	16500	
	88.62	8.5	7.1	7290	10.2	8.4	7190	16.4	13.1	7000	32.7	25.3	6730	16800	
	103.02	7.3	5.3	6360	8.7	6.3	6290	14.1	9.9	6120	28.2	19.0	5890	16200	
	108.80	6.9	4.8	6110	8.3	5.7	6050	13.3	9.0	5890	26.7	17.3	5660	14200	
	126.48	5.9	4.2	6240	7.1	5.0	6100	11.5	7.8	5940	22.9	15.0	5710	14200	
	144.42	5.2	3.2	5300	6.2	3.7	5200	10.0	5.8	5060	20.1	11.2	4860	12100	
	153.00	4.9	3.4	6130	5.9	4.1	6070	9.5	6.4	5910	19.0	12.3	5680	14200	
	174.71	4.3	2.7	5460	5.2	3.1	5310	8.3	4.9	5110	16.6	9.4	4910	12100	
JPW 814	142.82	5.3	5.3	8590	6.3	6.3	8500	10.2	9.8	8210	20.3	18.5	7760	18600	8 (N) 8 (T) 5.5 (F) 15 (P)
	168.61	4.4	4.4	8390	5.3	5.2	8300	8.6	8.2	8080	17.2	15.7	7770	18600	
	174.96	4.3	4.4	8690	5.1	5.2	8600	8.3	8.2	8370	16.6	15.5	7940	18600	
	206.55	3.6	3.6	8490	4.4	4.3	8400	7.0	6.8	8180	14.0	13.0	7860	18600	
	211.58	3.5	2.9	6850	4.3	3.4	6780	6.9	5.3	6600	13.7	10.2	6340	16500	
	246.71	3.0	2.9	7990	3.6	3.4	7910	5.9	5.3	7700	11.8	9.9	7130	16800	
	279.52	2.7	2.4	7720	3.2	2.9	7640	5.2	4.5	7440	10.4	8.7	7150	18600	
	302.23	2.5	2.4	8090	3.0	2.8	8000	4.8	4.4	7790	9.6	8.1	7210	16800	
	352.12	2.1	1.8	7290	2.6	2.1	7090	4.1	3.2	6600	8.2	5.9	6050	14200	
	408.99	1.8	1.8	8230	2.2	2.1	8140	3.5	3.3	7920	7.1	6.3	7490	16800	
	431.36	1.7	1.5	7520	2.1	1.8	7310	3.4	2.7	6800	6.7	4.8	6130	14200	
	502.15	1.5	1.4	7690	1.8	1.6	7480	2.9	2.4	6960	5.8	4.3	6270	14200	
	583.75	1.3	1.2	7870	1.5	1.4	7660	2.5	2.1	7120	5.0	3.7	6410	14200	
	626.69	1.2	1.1	7960	1.4	1.3	7740	2.3	2.0	7200	4.6	3.5	6480	14200	
	728.52	1.0	0.99	8140	1.2	1.2	7920	2.0	1.7	7370	4.0	3.1	6630	14200	
	806.33	0.93	0.75	6880	1.1	0.88	6690	1.8	1.3	6230	3.6	2.4	5610	12100	
	881.28	0.85	0.68	6780	1.0	0.81	6710	1.6	1.3	6530	3.3	2.4	6270	14200	
	1006.31	0.75	0.62	7110	0.89	0.73	6920	1.4	1.1	6440	2.9	2.0	5800	12100	
	1184.91	0.63	0.45	6100	0.76	0.53	5940	1.2	0.80	5520	2.4	1.4	4970	10400	

JPL1020

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPL 1021	3.56	211	130	5750	253	148	5440	407	206	4720	—	—	—	27200	36 (T) 22 (F) 58 (P)
	4.15	181	115	5920	217	131	5610	349	182	4860	—	—	—	24200	
	5.10	147	97	6160	176	111	5830	284	154	5050	—	—	—	20400	
	5.82	129	87	6320	155	100	6010	249	139	5200	—	—	—	17400	
	6.86	109	64	5440	131	76	5380	211	119	5240	—	—	—	15000	
JPL 1022	12.83	58	54	8440	70	62	8000	113	86	6930	226	140	5630	27200	20 (T) 22 (F) 58 (P)
	15.14	49.5	48.4	8880	59	55	8400	96	77	7280	192	125	5920	27200	
	17.65	42.5	42.8	9140	51	48.6	8660	82	68	7500	164	110	6090	24200	
	19.00	39.5	41.3	9500	47.4	46.9	9000	76	66	7800	153	106	6330	27200	
	22.15	33.9	36.3	9720	40.6	41.5	9270	65	58	8030	131	94	6520	24200	
	25.75	29.1	31.5	9810	34.9	37.3	9700	56	52	8400	113	85	6830	24200	
	27.20	27.6	24.8	8170	33.1	29.5	8080	53	46.2	7870	107	79.7	6780	20400	
	31.62	23.7	21.5	8240	28.5	25.6	8150	45.9	40.1	7930	92	71.7	7100	20400	
	36.11	20.8	16.1	7020	24.9	19.1	6940	40.2	29.9	6760	80	57.5	6490	17400	
	38.25	19.6	18.0	8330	23.5	21.4	8240	37.9	33.5	8020	76	62.7	7510	20400	
	43.68	17.2	13.4	7090	20.6	15.9	7020	33.2	25.0	6830	66	48.0	6570	17400	
	51.43	14.6	9.8	6110	17.5	11.6	6040	28.2	18.3	5880	56	35.1	5650	15000	
JPL 1023	52.69	14.2	18.6	11600	17.1	22.1	11500	27.5	32.9	10600	55	53.5	8600	27200	14.6 (T) 9.8 (F) 22 (P)
	54.68	13.7	18.0	11600	16.5	21.4	11500	26.5	32.1	10700	53	52.1	8700	27200	
	63.75	11.8	13.7	10300	14.1	16.3	10200	22.7	25.6	9950	45.5	46.0	8960	24200	
	73.99	10.1	13.6	11900	12.2	16.1	11700	19.6	25.2	11400	39.2	42.2	9500	27200	
	81.00	9.3	12.6	12100	11.1	14.8	11800	17.9	23.1	11400	35.8	39.6	9800	27200	
	87.35	8.6	11.8	12200	10.3	13.8	11900	16.6	21.5	11500	33.2	37.5	10000	27200	
	89.62	8.4	10.0	10600	10.0	11.8	10400	16.2	18.5	10100	32.4	35.6	9750	24200	
	101.85	7.4	9.0	10800	8.8	10.5	10500	14.2	16.4	10200	28.5	31.6	9820	24200	
	109.62	6.8	9.8	12600	8.2	11.4	12300	13.2	17.4	11600	26.5	32.0	10700	27200	
	127.81	5.9	7.4	11200	7.0	8.6	10900	11.3	13.3	10300	22.7	25.5	9950	24200	
	148.58	5.0	6.5	11400	6.1	7.6	11100	9.8	11.5	10400	19.5	22.1	10000	24200	
	159.51	4.7	6.1	11500	5.6	7.2	11200	9.1	10.8	10500	18.2	20.7	10100	24200	
	185.43	4.0	5.4	11800	4.9	6.3	11500	7.8	9.4	10700	15.6	18.0	10200	24200	
	195.84	3.8	4.2	9650	4.6	4.9	9390	7.4	7.4	8810	14.8	14.2	8460	20400	
	227.66	3.3	3.7	9870	4.0	4.3	9600	6.4	6.4	8930	12.7	12.3	8540	20400	
	275.40	2.7	3.1	10160	3.3	3.6	9880	5.3	5.5	9190	10.5	10.3	8630	20400	
	314.47	2.4	2.3	8630	2.9	2.7	8390	4.6	4.1	7810	9.2	7.7	7350	17400	
JPL 1024	190.27	3.9	6.3	13700	4.7	7.3	13300	7.6	11.0	12400	15.2	20.4	11500	27200	11.6 (T) 8.0 (F) 17.4 (P)
	224.62	3.3	5.4	14100	4.0	6.4	13700	6.5	9.5	12700	12.9	17.4	11700	27200	
	257.49	2.9	4.8	14400	3.5	5.7	14000	5.6	8.5	13000	11.3	15.3	11700	27200	
	275.17	2.7	4.6	14500	3.3	5.3	14100	5.3	8.0	13100	10.5	14.4	11800	27200	
	315.43	2.4	4.1	14800	2.9	4.8	14400	4.6	7.1	13400	9.2	12.9	12100	27200	
	345.32	2.2	3.7	14500	2.6	4.3	14400	4.2	6.6	13600	8.4	11.9	12200	27200	
	393.66	1.9	3.4	15300	2.3	3.9	14900	3.7	5.9	13900	7.4	10.7	12500	27200	
	503.94	1.5	2.7	15900	1.8	3.2	15500	2.9	4.8	14400	5.8	8.6	13000	27200	
	583.20	1.3	2.3	15400	1.5	2.7	15000	2.5	4.2	14400	5.0	7.6	13200	27200	
	632.40	1.2	2.1	15600	1.4	2.5	15200	2.3	3.8	14500	4.6	7.1	13400	27200	
	733.31	1.0	1.7	14500	1.2	2.0	14100	2.0	3.0	13200	4.0	5.4	11900	24200	
	857.19	0.87	1.5	14900	1.0	1.8	14500	1.7	2.6	13500	3.4	4.8	12100	24200	
	920.24	0.82	1.4	15100	0.98	1.7	14600	1.6	2.5	13600	3.2	4.5	12300	24200	
	984.96	0.76	1.3	14700	0.91	1.5	14600	1.5	2.4	14200	2.9	4.7	13700	27200	
	1148.46	0.65	1.2	15600	0.78	1.4	15100	1.3	2.1	14100	2.5	3.7	12700	24200	
	1273.11	0.59	0.87	12800	0.71	1.0	12500	1.1	1.5	11600	2.3	2.8	10400	20400	
	1410.05	0.53	0.80	13000	0.64	0.94	12700	1.0	1.4	11800	2.1	2.5	10600	20400	
	1588.85	0.47	0.72	13200	0.57	0.85	12900	0.91	1.3	12000	1.8	2.3	10800	20400	
	1814.25	0.41	0.54	11200	0.50	0.63	10900	0.80	0.94	10200	1.6	1.70	9170	17400	
	1982.88	0.38	0.60	13700	0.45	0.70	13300	0.73	1.05	12400	1.5	1.89	11200	20400	
	2264.19	0.33	0.45	11600	0.40	0.52	11300	0.64	0.78	10500	1.3	1.41	9480	17400	

		n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM				
	ie	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	T _{2max} [Nm]	P _t [kW]
JPW 1022	10.41	72	64	7930	86	73	7510	139	101	6510	278	165	5290	27200	18.5 (T) 13.5 (F) 29 (P)
	12.14	61	56	8170	74	64	7740	119	90	6707	239	146	5450	24200	
	14.25	53	51.3	8720	63	58	8250	102	81	7152	204	132	5810	24700	
	16.62	45	45.3	8980	54	52	8500	87	72	7369	175	117	5990	24200	
	20.40	36.8	33.0	8030	44.1	39.2	7950	71	61	7660	142	99	6220	20400	
	23.29	32.2	24.6	6840	38.6	29.3	6770	62	45.9	6590	124	88	6330	17400	
	27.43	27.3	18.0	5890	32.8	21.4	5830	53	33.5	5672	106	64	5450	15000	
JPW 1023	35.73	21.0	27.3	11300	25.2	31.4	10900	40.6	43.9	9423	81	71	7650	27200	13.5 (T) 9.5 (F) 25 (P)
	41.66	18.0	20.8	10100	21.6	24.7	9980	34.8	38.8	9707	70	63	7890	24200	
	49.18	15.3	17.8	10200	18.3	21.1	10100	29.5	33.2	9800	59	56	8290	24200	
	59.82	12.5	14.8	10300	15.0	17.6	10200	24.2	27.6	9910	48.5	48.9	8790	24200	
	61.71	12.2	14.4	10300	14.6	17.1	10200	23.5	26.8	9927	47.0	47.8	8870	24200	
	70.62	10.6	12.7	10400	12.7	15.0	10300	20.5	23.6	10004	41.1	43.5	9240	24200	
	76.00	9.9	13.5	11900	11.8	15.9	11700	19.1	24.9	11396	38.2	42.0	9600	27200	
	88.62	8.5	8.5	8740	10.2	12.1	10400	16.4	19.0	10135	32.7	36.6	9740	24200	
	103.02	7.3	9.0	10800	8.7	10.5	10500	14.1	16.5	10222	28.2	31.7	9830	24200	
	108.80	6.9	7.0	8840	8.3	8.3	8750	13.3	13.0	8514	26.7	25.0	8180	20400	
	126.48	5.9	6.1	9030	7.1	7.2	8830	11.5	11.3	8588	22.9	21.7	8250	20400	
	153.00	4.9	5.2	9290	5.9	6.1	9040	9.5	9.4	8682	19.0	18.1	8340	20400	
	174.71	4.3	3.9	7890	5.2	4.5	7680	8.3	7.0	7394	16.6	13.5	7110	17400	
JPW 1024	142.82	5.3	7.5	12100	6.3	8.9	11900	10.2	13.1	10941	20.3	21.2	8890	27200	9.5 (T) 6.5 (F) 15 (P)
	168.61	4.5	7.1	13500	5.3	8.2	13100	8.6	12.3	12190	17.2	21.2	10500	27200	
	174.96	4.3	6.8	13500	5.1	8.0	13200	8.3	12.0	12258	16.6	21.2	10900	27200	
	206.55	3.6	5.9	13900	4.4	6.9	13500	7.0	10.4	12570	14.0	19.2	11600	27200	
	236.77	3.2	4.9	13200	3.8	5.8	13100	6.1	9.2	12711	12.2	16.8	11700	27200	
	259.20	2.9	4.9	14300	3.5	5.7	14000	5.6	8.6	13009	11.2	15.5	11700	27200	
	302.23	2.5	3.7	12700	3.0	4.3	12400	4.8	6.5	11511	9.6	11.8	10400	24200	
	350.77	2.1	3.7	14500	2.6	4.3	14400	4.1	6.6	13618	8.3	11.9	12300	27200	
	408.99	1.8	2.9	13300	2.2	3.4	13000	3.5	5.0	12050	7.1	9.1	10900	24200	
	475.46	1.6	2.5	13600	1.9	3.0	13200	3.0	4.4	12327	6.1	8.0	11100	24200	
	510.42	1.5	2.4	13800	1.8	2.8	13400	2.8	4.2	12460	5.7	7.5	11200	24200	
	593.37	1.3	2.1	14100	1.5	2.4	13700	2.4	3.7	12748	4.9	6.6	11500	24200	
	706.15	1.1	1.5	11700	1.3	1.7	11400	2.1	2.6	10602	4.1	4.6	9550	20400	
	806.33	0.93	1.1	9950	1.1	1.3	9680	1.8	1.9	9004	3.6	3.4	8110	17400	
	881.28	0.85	1.2	12100	1.0	1.4	11800	1.6	2.1	10963	3.3	3.8	9870	20400	
	1006.31	0.75	0.90	10300	0.89	1.1	10000	1.4	1.6	9311	2.9	2.8	8380	17400	
	1184.91	0.63	0.66	8830	0.76	0.77	8590	1.2	1.15	7991	2.4	2.1	7200	15000	

JPL1520

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPL 1521	4.09	183	193	9800	220	219	9280	354	306	8040	—	—	—	39000	44 (T) 36 (H) 28 (F)
	5.25	143	158	10300	171	179	9730	276	250	8430	—	—	—	30500	
	6.23	120	114	8780	144	135	8690	233	211	8460	—	—	—	24200	
JPL 1522	14.73	51	78	13900	61	89	13200	98	124	11400	197	201	9270	39000	25 (T) 21 (H) 16.1 (F)
	17.39	43.1	68	14400	52	78	13600	83	108	11800	167	176	9590	39000	
	21.82	34.4	53	14100	41.3	64	14000	66	90	12300	133	146	9990	38900	
	25.36	29.6	38.9	11900	35.5	46.2	11800	57	72	11500	114	130	10400	32900	
	28.00	26.8	35.9	12200	32.1	42.7	12100	52	67	11700	104	129	11300	30500	
	32.55	23.0	31.2	12300	27.6	37.0	12200	44.5	58	11800	89	112	11400	30500	
	33.23	22.6	24.0	9700	27.1	28.5	9570	43.6	44.7	9310	87	86	8950	24200	
	39.38	19.0	25.2	12000	22.9	29.9	11900	36.8	46.9	11600	74	90	11100	30500	
	46.73	16.0	17.4	9900	19.3	20.7	9750	31.0	32.4	9490	62	62	9120	24200	
JPL 1523	51.25	14.6	27.2	16400	17.6	31.7	16000	28.3	44.2	13800	57	72	11200	39000	17.4 (T) 14.7 (H) 11.7 (F)
	60.50	12.4	23.2	16600	14.9	27.6	16400	24.0	43.2	16000	47.9	72	13300	39000	
	62.78	11.9	22.4	16600	14.3	26.6	16400	23.1	37.8	14500	46.2	61	11800	39000	
	74.12	10.1	19.2	16800	12.1	22.8	16600	19.6	35.7	16200	39.1	61	13900	39000	
	80.57	9.3	13.6	12900	11.2	16.2	12800	18.0	25.3	12500	36.0	49	12000	30500	
	93.01	8.1	14.0	15300	9.7	16.6	15200	15.6	26.0	14800	31.2	50	14200	38900	
	100.31	7.5	14.1	16700	9.0	16.8	16600	14.5	26.3	16100	28.9	48.1	14700	39000	
	109.04	6.9	10.2	13200	8.3	12.1	13000	13.3	19.0	12700	26.6	36.6	12200	30500	
	125.87	6.0	10.5	15600	7.2	12.5	15500	11.5	19.6	15000	23.0	37.6	14500	38900	
	146.33	5.1	7.6	13200	6.2	9.1	13100	9.9	14.2	12700	19.8	27.4	12200	32900	
	157.09	4.8	8.2	15100	5.7	9.7	15000	9.2	15.2	14600	18.5	29.2	14000	38900	
	182.62	4.1	6.2	13400	4.9	7.4	13200	7.9	11.6	12900	15.9	22.2	12400	32900	
	201.60	3.7	6.0	14400	4.5	7.1	14000	7.2	10.7	13100	14.4	20.5	12600	30500	
	234.36	3.2	5.3	14700	3.8	6.2	14300	6.2	9.3	13300	12.4	17.8	12700	30500	
	239.26	3.1	4.0	11400	3.8	4.7	11100	6.1	7.1	10400	12.1	13.7	10000	24200	
	278.14	2.7	3.5	11600	3.2	4.1	11300	5.2	6.2	10500	10.4	11.9	10100	24200	
JPL 1524	210.56	3.6	8.0	19400	4.3	9.4	18900	6.9	14.0	17600	13.8	26.3	16500	39000	13.7 (T) 11.6 (F) 9.4 (P)
	218.49	3.4	7.8	19500	4.1	9.1	19000	6.6	13.6	17700	13.3	25.4	16500	39000	
	257.94	2.9	6.7	20000	3.5	7.9	19500	5.6	11.8	18100	11.2	21.7	16700	39000	
	280.40	2.7	4.7	15100	3.2	5.5	14700	5.2	8.2	13700	10.3	15.4	12900	30500	
	315.99	2.4	5.6	20400	2.8	6.6	20100	4.6	9.9	18700	9.2	17.9	16900	39000	
	349.06	2.1	5.1	20500	2.6	6.1	20300	4.2	9.1	19000	8.3	16.5	17100	39000	
	396.53	1.9	3.7	16700	2.3	4.3	16500	3.7	6.8	16100	7.3	13.1	15400	38900	
	452.05	1.7	4.1	21400	2.0	4.9	21100	3.2	7.3	19700	6.4	13.2	17800	39000	
	508.89	1.5	2.8	16500	1.8	3.3	16100	2.8	4.9	15000	5.7	8.9	13500	30500	
	578.69	1.3	2.8	18500	1.6	3.3	18300	2.5	5.2	17800	5.0	9.9	17100	39000	
	629.07	1.2	2.4	17100	1.4	2.8	16600	2.3	4.1	15500	4.6	7.4	13900	30500	
	722.20	1.0	2.3	18700	1.2	2.7	18500	2.0	4.2	18000	4.0	8.1	17300	39000	
	800.57	0.94	1.9	17700	1.1	2.2	17200	1.8	3.4	16000	3.6	6.1	14400	30500	
	906.29	0.83	1.8	18600	0.99	2.1	18100	1.6	3.1	16800	3.2	6.0	16200	38900	
	999.11	0.75	1.6	18300	0.90	1.9	17800	1.5	2.8	16600	2.9	5.0	14900	30500	
	1156.68	0.65	1.3	17300	0.78	1.5	17100	1.3	2.4	16700	2.5	4.4	15300	30500	
	1285.79	0.58	0.99	14700	0.70	1.2	14300	1.1	1.7	13300	2.3	3.1	12000	24200	
	1451.52	0.52	1.2	19400	0.62	1.4	18900	1.0	2.0	17500	2.0	3.7	15800	30500	
	1635.58	0.46	0.83	15700	0.55	0.97	15300	0.89	1.5	14300	1.8	2.8	13800	30500	
	1722.68	0.44	0.77	15300	0.52	0.90	14900	0.84	1.4	13900	1.7	2.4	12500	24200	
	2041.20	0.37	0.69	16200	0.44	0.81	15800	0.71	1.2	14700	1.4	2.3	13900	30500	

		n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM				
	ie	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	T _{2max} [Nm]	P _t [kW]
JPW 1522	12.56	60	91.7	13700	72	104	13000	115	145	11300	231	236	9150	39000	24 (T) 20 (H) 18.3 (F)
	16.13	46.5	61.4	11800	56	73	11700	90	114	11400	180	193	9590	30500	
	19.09	39.3	53.9	12300	47.1	64	12100	76	100	11800	152	176	10400	31600	
	24.50	30.6	41.4	12100	36.7	49.2	12000	59	77	11600	118	144	10900	30500	
	29.08	25.8	27.7	9600	31.0	32.9	9500	49.9	52	9200	100	99	8880	24200	
JPW 1523	34.38	21.8	27.8	11100	26.2	31.6	10500	42.2	44.1	9100	84	72	7400	34100	15.3 (T) 12.8 (H) 11.3 (F)
	41.03	18.3	27.8	13200	21.9	31.6	12500	35.3	44.1	10900	71	72	8830	39000	
	48.43	15.5	27.8	15600	18.6	31.6	14800	29.9	44.1	12800	60	72	10400	39000	
	58.91	12.7	20.6	14100	15.3	23.4	13300	24.9	32.6	11400	49.2	53.0	9380	39000	
	62.16	12.1	17.6	12700	14.5	21.0	12600	23.3	32.9	12300	46.7	63	11800	30500	
	70.66	10.6	15.4	12700	12.7	18.3	12500	20.5	28.7	12200	41.0	55	11700	24200	
	78.00	9.6	14.2	12900	11.5	16.9	12800	18.6	26.5	12400	37.2	51	12000	32900	
	89.25	8.4	12.5	13000	10.1	14.9	12900	16.2	23.4	12500	32.5	44.9	12000	30500	
	101.45	7.4	11.0	12900	8.9	13.0	12800	14.3	20.4	12500	28.6	39.3	12000	30500	
	112.00	6.7	10.1	13200	8.0	12.0	13000	12.9	18.9	12700	25.9	36.2	12200	32900	
	130.20	5.8	8.9	13500	6.9	10.4	13200	11.1	16.4	12800	22.3	31.5	12300	30500	
	154.52	4.9	5.9	10600	5.8	7.0	10400	9.4	10.9	10200	18.8	21.0	9770	30500	
	186.92	4.0	5.0	11000	4.8	5.9	10700	7.8	9.1	10300	15.5	17.6	9880	24200	
JPW 1524	164.00	4.6	7.5	13900	5.5	8.9	13700	8.8	13.1	12600	17.7	21.2	10200	24200	11.3 (T) 9.2 (H) 8 (F)
	193.61	3.9	7.5	16400	4.6	8.9	16200	7.5	13.1	14800	15.0	21.2	12000	35500	
	200.91	3.7	7.5	17000	4.5	8.9	16800	7.2	13.1	15400	14.4	21.2	12500	39000	
	237.19	3.2	7.4	19800	3.8	8.6	19200	6.1	12.9	17900	12.2	21.2	14800	39000	
	248.47	3.0	5.3	14800	3.6	6.2	14400	5.8	9.2	13400	11.7	17.5	12800	39000	
	271.89	2.8	4.9	15200	3.3	5.8	15000	5.3	9.2	14600	10.7	17.6	14000	30500	
	297.65	2.5	4.9	16400	3.0	5.8	16200	4.9	9.1	15800	9.7	17.4	15200	39000	
	320.98	2.3	4.9	17900	2.8	5.8	17700	4.5	9.2	17200	9.0	17.6	16600	38900	
	348.92	2.1	4.0	15600	2.6	4.6	15200	4.2	6.9	14100	8.3	12.7	13000	39000	
	402.80	1.9	3.7	16700	2.2	4.3	16500	3.6	6.8	16100	7.2	13.1	15400	30500	
	444.05	1.7	3.2	16200	2.0	3.8	15800	3.3	5.6	14700	6.5	10.1	13200	38900	
	516.92	1.5	2.8	16600	1.7	3.3	16100	2.8	5.0	15000	5.6	8.9	13500	30500	
	600.92	1.2	2.5	17000	1.5	2.9	16500	2.4	4.4	15300	4.8	7.8	13800	30500	
	645.12	1.2	2.3	17100	1.4	2.7	16700	2.2	4.1	15500	4.5	7.4	14000	30500	
	749.95	1.0	2.1	17500	1.2	2.4	17100	1.9	3.6	15900	3.9	6.5	14300	30500	
	907.20	0.83	1.4	14400	0.99	1.7	14200	1.6	2.6	13800	3.2	5.0	13300	30500	
	1076.68	0.70	1.2	14300	0.84	1.4	13900	1.3	2.0	12900	2.7	3.7	11600	30500	

JPL2000

		n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
	ie	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPL 2001		3.83	196	272	12900	235	309	12200	378	431	10600	—	—	—	44 (T) 36 (H) 28 (F)
		5.25	143	210	13700	171	239	13000	276	333	11200	—	—	—	40300
JPL 2002	L	13.80	54	78	13000	65	89	12300	105	124	10700	210	201	8680	44000
		15.33	48.9	96	17700	59	109	16800	95	152	14600	189	246	11800	44100
		17.42	43.0	86	18100	52	98	17200	83	136	14900	166	222	12100	44100
		21.00	35.7	61	15600	42.9	73	15400	69	114	15000	138	210	13800	40300
	L	22.31	33.6	58	15600	40.3	69	15500	65	108	15100	130	176	12300	40300
	L	28.00	26.8	46.7	15800	32.1	55	15700	52	87	15300	104	146	12800	40300
	L	32.55	23.0	38.9	15300	27.6	46.2	15200	44.5	72	14800	89	130	13300	40300
	L	39.38	19.0	25.2	12000	22.9	29.9	11900	36.8	47	11600	74	90	11100	33200
JPL 2003	L	48.02	15.6	27.9	15800	18.7	31.7	15000	30.2	44	13000	60	72	10500	44000
		55.20	13.6	35.1	22900	16.3	41.7	22700	26.3	63	21400	53	103	17400	44100
		65.17	11.5	30.0	23100	13.8	35.7	22900	22.3	56	22300	44.5	92	18200	44100
		74.05	10.1	23.5	20600	12.2	28.0	20400	19.6	43.8	19800	39.2	83	18700	44100
		81.78	9.2	24.3	23400	11.0	28.8	23200	17.7	45.2	22500	35.5	78	19500	44100
		92.93	8.1	19.0	20800	9.7	22.6	20600	15.6	35.4	20100	31.2	68	19300	44100
		101.42	7.4	14.2	17000	8.9	16.9	16900	14.3	26.5	16400	28.6	51	15800	40300
		112.00	6.7	13.0	17100	8.0	15.4	17000	12.9	24.1	16500	25.9	46.4	15900	40300
	L	128.73	5.8	11.4	17300	7.0	13.5	17100	11.3	21.2	16600	22.5	40.7	16000	40300
		147.95	5.1	10.0	17400	6.1	11.8	17200	9.8	18.6	16800	19.6	35.7	16100	40300
		157.50	4.8	9.4	17500	5.7	11.2	17300	9.2	17.5	16800	18.4	33.7	16200	40300
		178.98	4.2	8.5	17900	5.0	9.9	17400	8.1	15.5	17000	16.2	29.8	16300	40300
	L	201.60	3.7	7.6	18200	4.5	8.9	17700	7.2	13.9	17100	14.4	26.7	16400	40300
JPL 2004		192.10	3.9	11.1	24600	4.7	13.2	24300	7.5	20.7	23700	15.1	39.8	22800	44100
		226.78	3.3	9.5	24800	4.0	11.3	24600	6.4	17.7	23900	12.8	34.0	23000	44100
		257.70	2.9	7.5	22100	3.5	8.8	21900	5.6	13.9	21300	11.3	26.7	20500	44100
		284.59	2.6	7.7	25100	3.2	9.1	24900	5.1	14.3	24200	10.2	27.5	23300	44100
		315.70	2.4	6.2	22400	2.9	7.3	22100	4.6	11.5	21500	9.2	22.0	20700	44100
		348.63	2.2	6.3	25400	2.6	7.5	25200	4.2	4.7	9700	8.3	22.7	23500	44100
		396.17	1.9	5.0	22600	2.3	5.9	22400	3.7	9.2	21800	7.3	17.8	21000	44100
	L	447.97	1.7	4.0	20500	2.0	4.6	20000	3.2	7.0	18600	6.5	12.9	17200	40100
	L	500.07	1.5	3.6	20500	1.8	4.2	19900	2.9	6.4	19000	5.8	12.3	18300	40100
	L	562.15	1.3	3.3	21200	1.6	3.8	20700	2.6	5.7	19200	5.2	10.4	17400	40100
	L	629.07	1.2	2.8	20100	1.4	3.3	19900	2.3	5.2	19400	4.6	9.4	17600	40100
	L	701.57	1.1	2.7	22000	1.3	3.2	21400	2.1	4.8	19900	4.1	8.6	17900	40100
		806.40	0.93	2.4	22400	1.1	2.8	21800	1.8	4.2	20300	3.6	7.6	18300	40300
		908.65	0.83	2.2	22800	0.99	2.6	22200	1.6	3.8	20700	3.2	6.9	18600	40300
		1032.56	0.73	2.0	23300	0.87	2.3	22700	1.4	3.4	21100	2.8	6.2	19000	40300
		1134.00	0.66	1.8	23600	0.79	2.1	23000	1.3	3.2	21400	2.6	5.7	19300	40300
		1288.64	0.58	1.6	24100	0.70	1.9	23400	1.1	2.8	21800	2.3	5.1	19600	40300
	L	1451.52	0.52	1.3	21700	0.62	1.5	21500	1.0	2.4	20900	2.0	4.6	20000	40100

		n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM					
		ie	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	T _{2max} [Nm]	P _t [kW]
JPW 2002		11.77	64	107	15000	76	121	14200	123	169	12300	246	275	9970	44100	24 (T) 20 (H) 18.3 (F)
		16.13	46.5	80	15300	56	95	15200	90	149	14800	180	257	12800	40300	
		17.89	41.9	54	11500	50	64	11400	81	100	11100	162	191	10500	29600	
		24.50	30.6	54	15700	36.7	64	15600	59	100	15100	118	191	14400	40300	
JPW 2003	L	38.44	19.5	27.1	12400	23.4	31.6	11800	37.7	44.1	10200	75	72	8270	44000	15.3 (T) 12.8 (H) 11.3 (F)
		42.71	17.6	27.1	13800	21.1	31.6	13100	33.9	44.1	11300	68	72	9190	44100	
	L	45.38	16.5	27.8	14700	19.8	31.6	13900	31.9	44.1	12000	64	72	9770	44000	
	L	52.65	14.2	26.8	16400	17.1	31.6	16100	27.5	44.1	13900	55	72	11300	40300	
	L	55.20	13.6	20.6	13200	16.3	23.4	12500	26.3	32.6	10800	53	53	8790	38200	
	L	62.16	12.1	22.9	16600	14.5	27.3	16400	23.3	42.7	16000	46.7	72	13400	40300	
		69.70	10.8	20.6	16600	12.9	23.4	15800	20.8	32.6	13700	41.6	53.0	11100	44100	
	L	78.00	9.6	18.5	16800	11.5	22.0	16600	18.6	34.5	16200	37.2	66	15500	40300	
	L	89.25	8.4	16.3	16900	10.1	19.4	16700	16.2	30.4	16300	32.5	53.0	14200	40300	
		95.45	7.9	15.3	17000	9.4	18.2	16800	15.2	28.5	16400	30.4	53.0	15200	40300	
	L	112.00	6.7	13.2	17100	8.0	15.6	17000	12.9	24.5	16500	25.9	47.1	15900	40300	
	L	130.20	5.8	11.0	16600	6.9	13.0	16400	11.1	20.4	16000	22.3	39.3	15400	40300	
	L	157.50	4.8	7.1	13000	5.7	8.4	12900	9.2	13.2	12500	18.4	25.4	12000	33200	
JPW 2004		153.77	4.9	13.9	24300	5.9	16.5	24000	9.4	25.9	23400	18.9	49.9	22500	44100	13.2 (T) 9.2 (H) 9.8 (F)
		181.54	4.1	11.9	24500	5.0	14.1	24200	8.0	22.2	23600	16.0	42.6	22700	44100	
		206.29	3.6	9.3	21800	4.4	11.1	21600	7.0	17.4	21000	14.1	33.4	20200	44100	
		220.80	3.4	9.9	24800	4.1	11.8	24500	6.6	18.4	23900	13.1	35.4	22900	44100	
	L	248.47	3.0	6.7	18800	3.6	7.8	18300	5.8	11.9	17300	11.7	21.2	15500	40300	
		282.53	2.7	6.0	19100	3.2	5.8	15200	5.1	10.5	17400	10.3	20.2	16700	40300	
	L	311.81	2.4	5.5	19400	3.2	7.0	18600	4.7	9.6	17600	9.3	18.4	16800	40300	
	L	348.92	2.1	4.9	19500	2.6	5.8	19200	4.2	8.7	17900	8.3	16.6	16900	40300	
	L	411.92	1.8	4.3	20300	2.2	5.1	19700	3.5	7.6	18300	7.0	14.2	17100	40300	
		448.00	1.7	4.0	20500	2.0	4.7	20000	3.2	7.1	18600	6.5	13.1	17200	40300	
		498.58	1.5	3.7	20900	1.8	4.3	20300	2.9	6.5	18900	5.8	11.8	17300	40300	
	L	547.58	1.4	2.2	13400	1.6	2.6	13300	2.6	4.0	12900	5.3	7.7	12400	30900	
		591.82	1.3	3.2	21400	1.5	3.7	20800	2.5	5.6	19400	4.9	10.1	17500	40300	
		630.00	1.2	3.0	21600	1.4	3.5	21000	2.3	5.3	19600	4.6	9.5	17600	40300	
		715.91	1.0	2.7	22000	1.3	3.2	21400	2.0	4.8	19900	4.1	8.6	18000	40300	
	L	907.20	0.83	1.4	14400	1.0	1.7	14200	1.6	2.6	13800	3.2	5.0	13300	33200	

JPL2520

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPL 2521	4.00	188	294	14600	225	334	13800	363	467	12000	—	—	—	63000	46 (H) 41 (F)
	5.20	144	238	15300	173	270	14500	279	377	12600	—	—	—	50100	
	6.25	120	184	14300	144	218	14100	232	327	13100	—	—	—	39300	
JPL 2522	14.25	53	97	16800	63	111	15900	102	154	13800	—	—	—	47700	26 (H) 24 (F)
	16.62	45.1	86	17300	54	98	16400	87	136	14200	—	—	—	47700	
	18.53	40.5	87	19600	48.6	104	19400	78	154	17900	—	—	—	50100	
	21.60	34.7	76	19700	41.7	90	19500	67	136	18400	—	—	—	50100	
	26.52	28.3	62	20000	33.9	74	19800	55	115	19200	—	—	—	50100	
	30.28	24.8	55	20100	29.7	65	19900	47.9	102	19400	—	—	—	50100	
	35.66	21.0	45.3	19600	25.2	54	19400	40.7	84	18800	—	—	—	50100	
	42.86	17.5	30.7	15900	21.0	36.5	15800	33.8	57	15300	—	—	—	39300	
JPL 2523	51.30	14.6	40.7	24600	17.5	46.2	23300	28.3	65	20200	57	105	16400	47700	18.6 (H) 17.1 (F)
	59.82	12.5	36.0	25400	15.0	40.9	24000	24.2	57	20800	48.5	93	16900	47700	
	60.56	12.4	36.2	25900	14.9	41.2	24500	23.9	57	21300	47.9	93	17300	47700	
	70.62	10.6	31.8	26500	12.7	36.4	25300	20.5	51	21900	41.1	83	17800	47700	
	78.73	9.5	22.9	21300	11.4	27.2	21000	18.4	42.6	20500	36.8	82	19700	50100	
	86.70	8.7	21.8	22300	10.4	25.9	22100	16.7	40.6	21500	33.4	70	18500	47700	
	103.02	7.3	19.3	23500	8.7	22.9	23300	14.1	36.0	22600	28.2	63	19900	47700	
	112.71	6.7	16.3	21700	8.0	19.4	21500	12.9	30.4	20900	25.7	58	20100	50100	
	128.70	5.8	14.6	22100	7.0	17.1	21600	11.3	26.8	21100	22.5	52	20200	50100	
	141.44	5.3	13.4	22400	6.4	15.7	21800	10.3	24.5	21200	20.5	47.1	20400	50100	
	164.42	4.6	11.8	23000	5.5	13.8	22300	8.8	21.3	21400	17.6	40.9	20500	50100	
	187.75	4.0	10.6	23400	4.8	12.3	22800	7.7	18.8	21500	15.4	36.1	20700	50100	
	198.90	3.8	10.1	23600	4.5	11.8	23000	7.3	17.8	21600	14.6	34.2	20800	50100	
	221.07	3.4	8.3	21700	4.1	9.9	21500	6.6	15.5	20900	13.1	29.8	20100	50100	
	239.06	3.1	6.5	18500	3.8	7.6	18000	6.1	11.6	16900	12.1	22.3	16300	39300	
	267.43	2.8	7.0	21900	3.4	8.3	21700	5.4	12.9	21100	10.8	24.9	20300	50100	
	321.43	2.3	5.1	19300	2.8	5.9	18800	4.5	8.9	17500	9.0	16.9	16500	39300	
JPL 2524	210.76	3.6	13.0	31400	4.3	15.4	31100	6.9	23.7	29700	13.8	40.0	25100	47700	14.8 (H) 13.5 (F)
	218.70	3.4	12.7	32100	4.1	15.1	31800	6.6	21.7	28200	13.3	35.2	22900	47700	
	245.74	3.1	10.1	28500	3.7	12.0	28200	5.9	18.7	27400	11.8	35.4	25900	47700	
	301.04	2.5	8.3	28800	3.0	9.9	28500	4.8	15.5	27700	9.6	29.8	26700	47700	
	308.38	2.4	8.1	28800	2.9	9.7	28500	4.7	15.1	27800	9.4	29.1	26700	47700	
	345.09	2.2	7.2	28600	2.6	8.5	28300	4.2	13.4	27500	8.4	25.7	26400	47700	
	407.40	1.8	6.4	29800	2.2	7.4	29000	3.6	11.6	28200	7.1	22.4	27100	47700	
	448.62	1.7	5.2	26700	2.0	6.0	26000	3.2	9.1	24200	6.5	16.3	21800	50100	
	500.19	1.5	4.3	24900	1.8	5.1	24400	2.9	8.0	23700	5.8	15.3	22800	47700	
	550.80	1.4	4.4	27600	1.6	5.1	26800	2.6	7.6	25000	5.3	13.7	22500	50100	
	638.03	1.2	4.1	30400	1.4	4.9	30000	2.3	7.6	28900	4.5	14.7	27800	47700	
	711.36	1.1	3.5	28700	1.3	4.1	27900	2.0	6.1	25900	4.1	11.0	23400	50100	
	800.41	0.94	3.0	27800	1.1	3.5	27100	1.8	5.5	26400	3.6	10.0	23800	50100	
	910.66	0.82	2.6	27300	0.99	3.0	26600	1.6	4.6	24700	3.2	8.7	23600	47700	
	1018.37	0.74	2.6	30300	0.88	3.0	29400	1.4	4.5	27400	2.8	8.1	24700	50100	
	1147.50	0.65	2.3	30800	0.78	2.7	30000	1.3	4.1	27900	2.5	7.4	25100	50100	
	1310.29	0.57	2.0	30000	0.69	2.3	29200	1.1	3.5	27100	2.2	6.6	25600	50100	
	1432.08	0.52	1.9	31900	0.63	2.3	31000	1.0	3.4	28800	2.0	6.1	26000	50100	
	1635.25	0.46	1.6	31000	0.55	1.9	30200	0.89	2.9	28100	1.8	5.4	26400	50100	
	1925.49	0.39	1.2	26600	0.47	1.4	25900	0.75	2.1	24100	1.5	4.0	22700	50100	

		n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM				
	ie	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	T _{2max} [Nm]	P _t [kW]
JPW 2522	12.29	61	107	15600	73	121	14800	118	169	12800	236	275	10400	48300	24 (H) 22 (F)
	15.97	47.0	102	19400	56	121	19200	91	169	16700	182	275	13500	50100	
	19.20	39.1	66	15200	48.2	64	11900	76	124	14600	151	238	14100	39300	
	24.27	30.9	54	15600	37.1	64	15400	60	100	15000	120	191	14300	40200	
	29.17	25.7	44.8	15600	30.9	53	15400	49.7	83	15000	99	160	14400	39300	
JPW 2523	41.65	18.0	47.8	23100	21.6	54	21900	34.8	76	19000	70	123	15400	57300	18 (H) 16.7 (F)
	44.01	17.0	42.3	21600	20.4	48.0	20500	32.9	67	17700	66	109	14400	51900	
	51.66	14.5	38.4	23000	17.4	43.6	21800	28.1	61	18900	56	99	15400	51900	
	57.00	13.2	38.4	25400	15.8	43.6	24100	25.4	61	20900	51	99	17000	57300	
	66.46	11.3	33.9	26200	13.5	38.5	24800	21.8	54	21500	43.6	87	17500	57300	
	68.09	11.0	23.5	18600	13.2	27.9	18400	21.3	43.7	17900	42.6	83	17000	57300	
	81.60	9.2	23.4	22200	11.0	27.8	22000	17.8	43.6	21400	35.5	74	18200	57300	
	88.52	8.5	20.8	21400	10.2	24.7	21200	16.4	38.7	20600	32.8	74	19800	50100	
	103.85	7.2	13.9	16700	8.7	16.5	16600	14.0	25.8	16100	27.9	49.7	15500	39300	
	109.71	6.8	12.8	16300	8.2	15.2	16100	13.2	23.8	15700	26.4	45.7	15100	41500	
	125.27	6.0	11.6	16900	7.2	13.8	16800	11.6	21.7	16300	23.1	41.6	15700	39300	
	142.63	5.3	12.8	21200	6.3	15.2	21000	10.2	23.8	20400	20.3	45.7	19600	50100	
	171.43	4.4	8.8	17500	5.3	10.3	17100	8.5	16.1	16600	16.9	31.0	16000	39300	
JPW 2524	129.51	5.8	17.8	26200	6.9	20.8	25400	11.2	31.4	23800	22.4	53	20200	51900	13.5 (H) 12.8 (F)
	142.91	5.2	19.1	31000	6.3	22.3	30100	10.1	32.8	27500	20.3	53	22300	57300	
	152.89	4.9	15.5	26800	5.9	18.1	26100	9.5	27.1	24300	19.0	47.5	21300	51900	
	196.71	3.8	12.6	28100	4.6	15.0	27800	7.4	23.5	27100	14.7	42.0	24200	57300	
	219.54	3.4	11.4	28300	4.1	13.3	27600	6.6	19.9	25600	13.2	36.7	23600	51900	
	255.98	2.9	9.0	26000	3.5	10.6	25700	5.7	16.7	25000	11.3	31.7	23800	51900	
	282.46	2.7	9.0	28700	3.2	10.6	28400	5.1	16.7	27600	10.3	32.1	26600	57300	
	314.93	2.4	7.1	25300	2.9	8.3	24600	4.6	12.4	22900	9.2	23.1	21300	50100	
	354.46	2.1	7.3	29200	2.5	8.6	28800	4.1	13.5	28000	8.2	25.9	26900	57300	
	395.20	1.9	5.9	26200	2.3	6.8	25500	3.7	10.2	23700	7.3	18.6	21600	50100	
	449.91	1.7	5.2	26500	2.0	6.1	26000	3.2	9.2	24200	6.4	16.5	21800	50100	
	505.92	1.5	4.4	25000	1.8	5.1	24400	2.9	8.0	23800	5.7	15.4	22800	57300	
	565.76	1.3	4.3	27700	1.6	5.0	26900	2.6	7.6	25100	5.1	13.6	22600	50100	
	632.68	1.2	3.8	27000	1.4	4.5	26800	2.3	6.9	25500	4.6	12.4	22900	50100	
	698.82	1.1	2.8	21800	1.3	3.2	21200	2.1	5.0	20400	4.1	9.6	19700	57300	
	795.60	0.94	3.2	29200	1.1	3.8	28400	1.8	5.7	26400	3.6	10.2	23800	50100	
	884.30	0.85	2.4	23700	1.0	2.8	23300	1.6	4.4	22600	3.3	8.4	21700	50100	
	956.25	0.78	2.1	22800	0.94	2.5	22100	1.5	3.7	20600	3.0	6.6	18500	39300	
	1091.91	0.69	1.9	23200	0.82	2.2	22600	1.3	3.3	21000	2.7	5.9	18900	39300	

JPL3000

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPL 3001	4.00	188	392	19500	225	446	18500	363	623	16000	—	—	—	78800	46 (H)
	4.71	159	344	20100	191	390	19000	308	545	16500	—	—	—	71700	41 (F)
JPL 3002	14.25	53	133	23000	63	152	21800	102	212	18900	—	—	—	78800	27 (H) 24 (F)
	16.62	45.1	118	23700	54	134	22400	87	187	19400	—	—	—	78800	
	19.55	38.4	118	27900	46.0	134	26400	74	187	22900	—	—	—	71700	
	23.29	32.2	90	25300	38.6	102	24000	62	143	20800	—	—	—	69600	
	24.00	31.3	97	28200	37.5	113	27400	60	158	23800	—	—	—	71700	
	27.40	27.4	86	28400	32.8	102	28100	53	143	24500	—	—	—	71700	
	32.27	23.2	66	25600	27.9	78	25300	44.9	122	24700	—	—	—	70600	
JPL 3003	51.30	14.6	56	33800	17.5	63	32000	28.3	89	27700	57	144	22500	78800	19.4 (H) 17.9 (F)
	60.56	12.4	49.7	35500	14.9	56	33600	23.9	79	29100	47.9	128	23700	78800	
	76.00	9.9	40.4	36200	11.8	48.0	35900	19.1	67	31200	38.2	109	25300	78800	
	88.62	8.5	35.0	36600	10.2	41.5	36200	16.4	59	32100	32.7	96	26100	78800	
	103.02	7.3	30.3	36900	8.7	36.0	36500	14.1	53	33600	28.2	87	27300	78800	
	108.80	6.9	25.4	32700	8.3	30.2	32300	13.3	47.4	31500	26.7	81.7	27100	78800	
	124.62	6.0	25.7	37800	7.2	30.1	36900	11.6	46.8	35600	23.3	76.0	28900	78800	
	144.42	5.2	16.5	28100	6.2	19.6	27800	10.0	30.7	27000	20.1	58.9	26000	69600	
	153.00	4.9	18.4	33300	5.9	21.9	33000	9.5	34.4	32100	19.0	64.4	30100	78800	
	180.00	4.2	15.3	32600	5.0	17.9	31700	8.1	27.7	30500	16.1	53.3	29300	71700	
	205.54	3.6	13.7	33200	4.4	16.0	32300	7.1	24.5	30700	14.1	47.0	29500	71700	
	242.02	3.1	10.1	28700	3.7	11.9	28400	6.0	18.7	27700	12.0	36.0	26600	70600	
JPL 3004	178.52	4.2	19.4	39900	5.0	22.7	38800	8.1	34.5	36700	16.2	61.6	32700	78800	15.4 (H) 14.4 (F)
	208.16	3.6	17.0	40800	4.3	19.9	39700	7.0	29.8	37000	13.9	54.4	33700	78800	
	218.70	3.4	16.3	41100	4.1	19.1	40000	6.6	28.6	37200	13.3	53.4	34800	78800	
	255.00	2.9	14.1	41300	3.5	16.7	40900	5.7	25.1	38100	11.4	47.2	35800	78800	
	289.11	2.6	10.5	35000	3.1	12.3	34000	5.0	18.4	31700	10.0	35.0	30100	71700	
	324.00	2.3	11.7	43700	2.8	13.7	42500	4.5	20.5	39500	9.0	37.8	36400	78800	
	349.40	2.1	11.0	44200	2.6	12.8	43000	4.1	19.2	40000	8.3	35.2	36600	78800	
	381.18	2.0	8.3	36500	2.4	9.7	35500	3.8	14.5	33000	7.6	27.0	30600	71700	
	439.17	1.7	8.6	43600	2.0	10.1	42500	3.3	15.7	41000	6.6	28.5	37300	78800	
	508.43	1.5	7.6	44600	1.8	8.9	43400	2.9	13.7	41400	5.7	25.2	38100	78800	
	569.18	1.3	5.4	35400	1.6	6.4	35000	2.5	10.1	34100	5.1	18.6	31600	71700	
	636.12	1.2	6.4	46600	1.4	7.6	46100	2.3	11.6	43800	4.6	20.8	39400	78800	
	699.20	1.1	5.0	40000	1.3	5.8	38900	2.1	8.7	36200	4.1	15.7	32600	71700	
	783.36	0.96	4.3	38600	1.1	5.0	37500	1.9	7.6	35200	3.7	14.5	33900	78800	
	897.23	0.84	4.1	42600	1.0	4.9	42100	1.6	7.7	41000	3.2	14.8	39400	78800	
	1007.92	0.74	2.9	33400	0.89	3.4	32500	1.4	5.0	30200	2.9	9.7	29000	69600	
	1101.60	0.68	3.2	40600	0.82	3.7	39500	1.3	5.6	36800	2.6	10.5	34500	78800	
	1257.88	0.60	2.4	34500	0.72	2.8	33600	1.2	4.2	31200	2.3	7.9	29400	69600	
	1396.25	0.54	2.1	33700	0.64	2.4	32800	1.0	3.7	30600	2.1	7.1	29400	70600	
	1742.52	0.43	1.7	34800	0.52	2.0	33900	0.83	3.0	31500	1.7	5.7	29800	70600	

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPW 3002	12.29	61	107	15600	73	121	14800	118	169	12800	236	275	10400	48300	24 (H) 22 (F)
	14.45	52	107	18400	62	121	17400	100	169	15100	201	275	12200	56900	
	18.67	40.2	54	12000	48.2	64	11900	78	100	11500	155	191	11000	30900	
	21.96	34.2	54	14100	41.0	64	14000	66	100	13600	132	191	12900	36400	
JPW 3003	41.65	18.0	66	31700	21.6	74	30000	34.8	104	26000	70	169	21100	78800	14.8 (H) 17 (F)
	48.57	15.4	58	32700	18.5	66	31000	29.9	92	26800	60	149	21800	78800	
	57.00	13.2	52.6	34900	15.8	60	33000	25.4	84	28600	51	136	23200	78800	
	66.46	11.3	46.5	35900	13.5	53	34000	21.8	74	29500	43.6	120	23900	78800	
	70.15	10.7	36.8	30000	12.8	43.7	29700	20.7	68	28900	41.3	126	26700	71700	
	78.19	9.6	33.2	30200	11.5	39.4	29900	18.5	62	29100	37.1	119	27900	71700	
	93.18	8.0	25.3	27400	9.7	30.0	27100	15.6	47.1	26400	31.1	90	25300	69600	
	109.62	6.8	24.1	30800	8.2	28.7	30400	13.2	45.0	29600	26.5	86	28500	71700	
	129.08	5.8	18.5	27700	7.0	21.9	27400	11.2	34.4	26700	22.5	66	25700	70600	
JPW 3004	142.91	5.2	23.2	38600	6.3	27.8	37500	10.1	43.2	36200	20.3	73	30600	78800	14.2 (H) 13.3 (F)
	166.63	4.5	20.4	39500	5.4	24.4	38400	8.7	37.4	36500	17.4	65	31500	78800	
	196.71	3.8	17.7	40500	4.6	21.2	39400	7.4	32.0	36900	14.7	58	33200	78800	
	231.43	3.2	12.6	33800	3.9	15.1	32900	6.3	22.8	30900	12.5	43.8	29700	71700	
	246.86	3.0	14.4	41200	3.7	17.5	40700	5.9	26.2	37900	11.7	49.1	35500	71700	
	282.46	2.7	12.7	41600	3.2	15.4	41100	5.1	23.4	38700	10.3	43.7	36200	78800	
	304.00	2.5	12.2	43200	3.0	14.7	42100	4.8	22.0	39100	9.5	40.8	36300	78800	
	347.14	2.2	10.0	40300	2.6	12.2	39900	4.2	19.1	38800	8.4	36.0	36600	78800	
	407.16	1.8	7.3	34700	2.2	8.9	34300	3.6	14.0	33300	7.1	19.7	23500	71700	
	435.20	1.7	7.0	35400	2.1	8.5	35000	3.3	13.4	34100	6.7	25.7	32700	78800	
	502.94	1.5	6.5	38000	1.8	7.8	37000	2.9	11.7	34400	5.8	21.1	31100	71700	
	572.57	1.3	5.3	35400	1.6	6.5	35000	2.5	10.2	34100	5.1	18.8	31600	71700	
	612.00	1.2	5.2	37200	1.5	6.3	36200	2.4	9.7	34700	4.7	18.6	33400	78800	
	720.00	1.0	4.8	40100	1.3	5.7	39100	2.0	8.6	36300	4.0	15.5	32700	71700	
	800.27	0.94	3.3	31000	1.1	4.0	30400	1.8	6.3	29600	3.6	12.1	28500	70600	
	968.07	0.77	2.8	31900	0.93	3.4	31000	1.5	5.3	29900	3.0	10.1	28800	70600	

JPL3510

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPL 3511	3.84	195	451	21500	234	512	20300	378	715	17600	—	—	—	96500	53 (H) 54 (F)
	4.74	158	379	22300	190	431	21100	306	602	18300	—	—	—	79800	
	5.44	138	340	22900	166	386	21700	267	539	18800	—	—	—	64100	
	6.46	116	253	20300	139	301	20100	224	467	19400	—	—	—	56000	
JPL 3512	13.68	55	133	22100	66	152	20900	106	212	18100	—	—	—	96500	31 (H) 31 (F)
	16.88	44.4	133	27200	53	152	25800	86	212	22400	—	—	—	79800	
	19.68	38.1	118	28100	45.7	134	26600	74	187	23000	—	—	—	79800	
	22.59	33.2	92	25300	39.8	110	25000	64	172	24300	—	—	—	64100	
	24.16	31.0	100	29200	37.3	113	27600	60	158	23900	—	—	—	79800	
	27.73	27.0	76	25600	32.5	90	25300	52	142	24600	—	—	—	64100	
	31.67	23.7	67	25800	28.4	80	25500	45.8	125	24800	—	—	—	64100	
	37.29	20.1	58	26000	24.1	68	25700	38.9	107	25000	—	—	—	64100	
	44.31	16.9	42	22700	20.3	50	22400	32.7	79	21800	—	—	—	56000	
JPL 3513	49.25	15.2	56	32400	18.3	63	30700	29.4	89	26600	59	144	21600	96500	22 (H) 22 (F)
	58.14	12.9	49.7	34100	15.5	56	32300	24.9	79	28000	49.9	128	22700	96500	
	60.75	12.3	46.9	33600	14.8	56	33300	23.9	87	32400	47.7	144	26700	79800	
	72.96	10.3	42.4	36500	12.3	48.1	34500	19.9	67	29900	39.7	109	24300	96500	
	82.33	9.1	28.0	27200	10.9	33.3	26900	17.6	52	26200	35.2	100	25200	64100	
	90.00	8.3	32.4	34400	10.0	38.4	34000	16.1	60	33100	32.2	109	30000	79800	
	98.89	7.6	32.3	37700	9.1	38.3	37200	14.7	53	32300	29.3	87	26200	92900	
	104.94	7.1	28.1	34800	8.6	33.3	34300	13.8	52	33400	27.6	96	30900	79800	
	121.99	6.1	24.7	35600	7.4	28.9	34600	11.9	45.2	33700	23.8	87	32300	79800	
	149.78	5.0	20.8	36700	6.0	24.3	35700	9.7	37.3	34100	19.4	72	32800	79800	
	168.88	4.4	14.7	29300	5.3	17.1	28500	8.6	26.5	27300	17.2	51	26200	64100	
	181.18	4.1	17.7	37800	5.0	20.6	36800	8.0	31.2	34500	16.0	60	33100	79800	
	207.98	3.6	12.3	30200	4.3	14.4	29400	7.0	21.8	27600	13.9	41.8	26600	64100	
	237.49	3.2	11.0	30800	3.8	12.8	30000	6.1	19.2	27900	12.2	36.9	26800	64100	
	247.15	3.0	9.0	26300	3.6	10.5	25500	5.9	16.0	24100	11.7	30.7	23200	56000	
	279.64	2.7	9.6	31600	3.2	11.2	30700	5.2	16.8	28600	10.4	31.6	27000	64100	
	332.31	2.3	7.0	27500	2.7	8.2	26700	4.4	12.3	24900	8.7	23.2	23600	56000	
JPL 3514	202.33	3.7	19.1	44500	4.4	22.7	44000	7.2	33.8	40700	14.3	54.8	33000	96500	17.4 (H) 17.7 (F)
	209.95	3.6	18.5	44600	4.3	21.9	44100	6.9	32.9	41100	13.8	53.4	33400	96500	
	247.86	3.0	15.8	45000	3.6	18.7	44600	5.9	29.3	43200	11.7	47.6	35100	96500	
	291.01	2.6	12.1	40600	3.1	14.2	39500	5.0	21.2	36800	10.0	39.3	34000	79800	
	311.04	2.4	12.9	46300	2.9	15.1	45100	4.7	23.7	43900	9.3	40.6	37600	96500	
	350.48	2.1	10.4	41800	2.6	12.1	40600	4.1	18.1	37800	8.3	33.0	34400	79800	
	408.66	1.8	9.1	42800	2.2	10.6	41600	3.5	15.9	38700	7.1	28.7	34800	79800	
	447.37	1.7	8.4	43300	2.0	9.8	42200	3.2	14.7	39200	6.5	26.5	35300	79800	
	501.74	1.5	7.2	41800	1.8	8.6	41400	2.9	13.4	39900	5.8	24.1	35900	79800	
	570.55	1.3	6.7	43900	1.6	7.8	42700	2.5	11.8	40100	5.1	22.7	38500	92900	
	648.00	1.2	6.1	45800	1.4	7.2	44600	2.2	10.8	41500	4.5	19.4	37400	79800	
	703.80	1.1	5.7	46400	1.3	6.7	45200	2.1	10.0	42000	4.1	18.1	37800	79800	
	807.90	0.93	4.0	37100	1.1	4.7	36100	1.8	7.0	33600	3.6	12.6	30200	64100	
	878.34	0.85	4.7	48000	1.0	5.5	46700	1.7	8.3	43400	3.3	15.0	39100	79800	
	1045.29	0.72	3.9	46500	0.86	4.5	45300	1.4	6.8	42100	2.8	12.9	40200	79800	
	1140.94	0.66	2.8	36900	0.79	3.3	35900	1.3	5.1	34600	2.5	9.4	31900	64100	
	1304.53	0.57	3.2	48100	0.69	3.7	46800	1.1	5.6	43600	2.2	10.5	40900	79800	
	1413.55	0.53	2.5	40400	0.64	2.9	39300	1.0	4.3	36500	2.1	7.8	32900	64100	
	1613.32	0.46	2.1	38900	0.56	2.4	37900	0.90	3.7	35300	1.8	7.0	33600	64100	
	1779.51	0.42	1.7	35400	0.51	2.0	34400	0.81	3.0	32000	1.6	5.4	28900	56000	
	2013.43	0.37	0.2	40300	0.45	2.0	39200	0.72	3.0	36400	1.4	5.7	34400	64100	
	2392.62	0.31	0.1	37000	0.38	1.6	36000	0.61	2.4	33500	1.2	4.2	30200	56000	

		n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM				
	ie	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	T _{2max} [Nm]	P _t [kW]
JPW 3512	12.48	60	206	30600	72	234	29000	116	326	25100	232	530	20400	88500	30 (H) 31 (F)
	15.39	48.7	169	31100	58	197	30100	94	275	26100	188	446	21200	79800	
	17.67	42.4	118	24900	51	141	24700	82	220	24000	164	399	21800	64100	
	21.00	35.7	87	21700	42.9	103	21500	69	162	20900	138	311	20100	56000	
JPW 3513	39.99	18.8	66	30500	22.5	74	28800	36.3	104	25000	73	169	20300	96500	20 (H) 20 (F)
	46.63	16.1	58	31400	19.3	66	29700	31.1	92	25800	62	149	20900	92900	
	49.33	15.2	58	33200	18.2	69	32900	29.4	104	30800	59	169	25000	79800	
	57.51	13.0	50	33500	15.6	60	33200	25.2	92	31800	50	149	25800	79800	
	63.80	11.8	46.5	34500	14.1	53	32600	22.7	74	28300	45.5	120	23000	92900	
	70.62	10.6	41.3	33900	12.7	49.1	33600	20.5	77	32600	41.1	126	26800	79800	
	78.70	9.5	37.3	34100	11.4	44.3	33800	18.4	69	32900	36.8	120	28400	79800	
	90.35	8.3	26.1	27400	10.0	30.9	27100	16.0	48.5	26300	32.1	93	25300	64100	
	96.63	7.8	30.7	34500	9.3	36.5	34200	15.0	57	33200	30.0	101	29500	79800	
	110.34	6.8	25.3	32400	8.2	30.0	32100	13.1	47.1	31200	26.3	90	30000	79800	
	126.66	5.9	19.0	28000	7.1	22.5	27600	11.4	35.3	26900	22.9	68	25800	64100	
	131.82	5.7	15.8	24100	6.8	18.7	23900	11.0	29.3	23200	22.0	56	22300	56000	
	149.14	5.0	16.6	28700	6.0	19.4	28000	9.7	30.2	27100	19.4	58	26100	64100	
	177.23	4.2	12.1	25000	5.1	14.2	24300	8.2	22.2	23600	16.4	43	22700	56000	
JPW 3514	137.19	5.5	28.0	43500	6.6	32.2	41700	10.6	45.0	36200	21.1	73	29400	96500	15.8 (H) 16 (F)
	161.96	4.6	23.9	43900	5.6	28.4	43500	9.0	40.1	38000	17.9	65	30900	96500	
	196.99	3.8	19.9	44400	4.6	23.6	44000	7.4	33.4	38600	14.7	52.3	30100	96500	
	229.69	3.3	15.2	39500	3.9	18.0	39100	6.3	28.3	38100	12.6	50.1	33800	92900	
	250.71	3.0	14.0	39700	3.6	16.3	38600	5.8	24.5	35900	11.6	45.9	33700	79800	
	283.34	2.6	12.6	40400	3.2	14.7	39300	5.1	22.0	36600	10.2	40.9	34000	79800	
	317.56	2.4	9.0	32200	2.8	10.5	31300	4.6	15.7	29200	9.1	29.2	27200	56000	
	358.92	2.1	10.1	41000	2.5	12.0	40600	4.0	18.0	37900	8.1	32.7	34400	79800	
	395.58	1.9	9.3	41500	2.3	10.8	40400	3.7	16.9	39300	7.3	32.6	37700	92900	
	445.50	1.7	5.7	28700	2.0	6.6	27900	3.3	10.0	26000	6.5	18.3	23900	56000	
	504.73	1.5	7.3	41800	1.8	8.7	41400	2.9	13.5	40000	5.7	24.3	36000	79800	
	561.00	1.3	4.8	30300	1.6	5.7	30000	2.6	8.9	29200	5.2	17.1	28100	56000	
	633.86	1.2	4.8	34800	1.4	5.8	34400	2.3	8.7	32400	4.6	15.7	29200	64100	
	724.74	1.0	5.4	44000	1.2	6.3	42800	2.0	9.7	41100	4.0	17.9	38000	79800	
	795.43	0.94	3.9	35200	1.1	4.6	34900	1.8	7.2	33500	3.6	12.9	30200	64100	
	924.69	0.81	3.4	35800	1.0	4.0	35200	1.6	6.3	34200	3.1	11.4	30900	64100	
	988.62	0.76	2.9	32400	0.91	3.4	31500	1.5	5.1	29300	2.9	9.1	26400	56000	
	1118.57	0.67	2.9	36800	0.80	3.4	35800	1.3	5.3	34600	2.6	9.7	31800	64100	

JPL4800

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPL 4801	3.84	195	601	28700	234	683	27100	378	953	23500	—	—	—	111000	53 (H)
	5.18	145	471	30200	174	535	28600	280	746	24800	—	—	—	93500	54 (F)
JPL 4802	13.17	57	227	36200	68	258	34300	110	361	29700	—	—	—	111000	34 (H) 34 (F)
	15.71	47.7	198	37600	57	225	35600	92	314	30900	—	—	—	111000	
	17.75	42.3	167	35900	51	198	35500	82	311	34600	—	—	—	93500	
	20.16	37.2	162	39400	44.6	184	37300	72	256	32400	—	—	—	111000	
	21.18	35.4	141	36300	42.5	168	35900	68	263	34900	—	—	—	93500	
	23.93	31.3	116	33700	37.6	138	33400	61	217	32500	—	—	—	92900	
	27.18	27.6	112	36800	33.1	133	36400	53	208	35400	—	—	—	93500	
	32.25	23.3	95	37100	27.9	113	36800	45.0	177	35800	—	—	—	93500	
JPL 4803	47.40	15.8	80	44700	19.0	91	42400	30.6	127	36700	61	206	29800	111000	24 (H) 25 (F)
	56.55	13.3	79	52700	15.9	91	50500	25.6	127	43800	51	206	35600	111000	
	66.76	11.2	67	53200	13.5	80	52300	21.7	111	45300	43.4	181	36800	111000	
	72.58	10.3	53	45700	12.4	63	45300	20.0	99	44000	40.0	174	38600	111000	
	83.78	9.0	54	53900	10.7	65	53300	17.3	92	47200	34.6	150	38400	111000	
	90.00	8.3	37.1	39400	10.0	44.0	39000	16.1	69	37900	32.2	133	36400	93500	
	101.69	7.4	30.5	36600	8.9	36.3	36300	14.3	57	35300	28.5	109	33900	92900	
	112.94	6.6	29.9	39900	8.0	35.5	39500	12.8	56	38400	25.7	107	36900	93500	
	124.99	6.0	32.0	47200	7.2	38.0	46700	11.6	60	45400	23.2	114	43700	111000	
	144.94	5.2	23.7	40500	6.2	28.1	40000	10.0	44.0	39000	20.0	85	37500	93500	
	158.82	4.7	21.8	40900	5.7	25.8	40300	9.1	40.4	39200	18.3	78	37700	93500	
	172.02	4.4	20.4	41400	5.2	23.9	40400	8.4	37.5	39400	16.9	72	37800	93500	
	199.97	3.8	17.9	42300	4.5	20.9	41200	7.3	32.5	39700	14.5	63	38200	93500	
	241.90	3.1	15.3	43600	3.7	17.8	42400	6.0	27.2	40100	12.0	52	38600	93500	
JPL 4804	164.94	4.5	27.9	54300	5.5	32.5	51400	8.8	45.4	44500	17.6	74	36200	111000	19.1 (H) 55 (F)
	196.80	3.8	25.9	60100	4.6	31.0	58500	7.4	45.4	53100	14.7	74	43200	111000	
	232.34	3.2	22.5	61700	3.9	26.9	60000	6.2	40.4	55800	12.5	74	50900	111000	
	252.56	3.0	16.5	49100	3.6	20.1	48600	5.7	31.5	47300	11.5	60	45400	111000	
	284.62	2.6	18.9	63600	3.2	22.7	61900	5.1	34.0	57600	10.2	63	53400	111000	
	322.81	2.3	14.1	53900	2.8	17.2	53300	4.5	27.0	51900	9.0	49.4	47400	111000	
	357.18	2.1	14.0	58900	2.5	17.0	58300	4.1	26.7	56800	8.1	50.9	54200	111000	
	401.94	1.9	9.9	47100	2.2	11.9	45800	3.6	17.8	42600	7.2	33.2	39700	93500	
	456.90	1.6	8.9	48000	2.0	10.7	46700	3.2	16.0	43400	6.3	29.4	40000	93500	
	504.40	1.5	8.2	48700	1.8	9.8	47400	2.9	14.7	44100	5.7	26.8	40200	93500	
	564.43	1.3	7.4	49500	1.6	8.9	48200	2.6	13.3	44800	5.1	24.1	40500	93500	
	634.83	1.2	6.7	50400	1.4	8.1	49100	2.3	12.1	45600	4.6	21.8	41100	93500	
	709.31	1.1	6.1	51300	1.3	7.3	49900	2.0	11.0	46400	4.1	19.8	41800	93500	
	792.27	0.95	5.6	52100	1.1	6.7	50700	1.8	10.0	47200	3.7	18.0	42500	93500	
	899.94	0.83	5.3	56500	1.0	6.4	54900	1.6	9.5	51100	3.2	18.2	48900	111000	
	992.41	0.76	4.6	53900	0.91	5.5	52500	1.5	8.3	48800	2.9	14.9	44000	93500	
	1143.53	0.66	4.0	54200	0.79	4.9	53600	1.3	7.3	49900	2.5	13.2	44900	93500	
	1238.53	0.61	3.8	55800	0.73	4.6	54300	1.2	6.8	50500	2.3	12.3	45500	93500	
	1439.79	0.52	3.4	57100	0.63	4.0	55500	1.0	6.0	51700	2.0	10.9	46500	93500	
	1741.68	0.43	2.9	58700	0.52	3.4	57100	0.83	5.1	53200	1.7	9.2	47900	93500	

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPW 4802	12.48	60	233	34600	72	273	33800	116	381	29300	232	619	23800	88500	30 (H)
	16.82	44.6	178	35800	53	212	35400	86	332	34500	172	553	28700	93500	31 (F)
JPW 4803	40.44	18.5	108	50800	22.3	123	48100	35.9	171	41600	72	278	33800	111000	24 (H) 17.5 (F)
	48.25	15.5	93	52200	18.7	107	49900	30.1	149	43200	60	242	35100	111000	
	54.51	13.8	60	38300	16.5	72	37900	26.6	112	36900	53	216	35400	93500	
	61.92	12.1	63	45300	14.5	75	44800	23.4	117	43600	46.8	198	36800	111000	
	73.31	10.2	55	47100	12.3	66	46600	19.8	103	45300	39.6	181	39800	111000	
	94.08	8.0	42.4	46400	9.6	50	45900	15.4	79	44700	30.8	148	41700	111000	
	99.06	7.6	34.4	39600	9.1	40.8	39200	14.6	64	38100	29.3	123	36700	93500	
	111.66	6.7	28.4	36800	8.1	33.7	36500	13.0	53	35500	26.0	102	34100	92900	
	126.82	5.9	27.2	40200	7.1	32.4	39700	11.4	51	38700	22.9	98	37200	93500	
	150.52	5.0	23.2	40600	6.0	27.5	40100	9.6	43.2	39100	19.3	83	37500	93500	
JPW 4804	132.03	5.7	28.5	42600	6.8	32.4	40400	11.0	45.2	35000	22.0	73	28400	111000	17.2 (H) 15 (F)
	157.54	4.8	28.5	50900	5.7	32.4	48200	9.2	45.2	41700	18.4	73	33900	111000	
	177.99	4.2	20.6	41600	5.1	24.1	40500	8.1	37.8	39400	16.3	73	37900	93500	
	202.18	3.7	21.2	48500	4.5	25.1	48000	7.2	39.4	46700	14.3	73	43500	111000	
	223.82	3.4	21.1	53500	4.0	24.0	50600	6.5	33.4	43900	13.0	54.3	35600	111000	
	250.71	3.0	15.4	43800	3.6	18.0	42600	5.8	27.4	40200	11.6	53	38600	93500	
	280.87	2.7	15.5	49200	3.2	18.4	48700	5.2	28.8	47400	10.3	54.3	44700	111000	
	314.62	2.4	12.7	45300	2.9	14.8	44100	4.6	22.3	41000	9.2	42.5	39200	93500	
	348.19	2.2	12.7	50000	2.6	15.1	49500	4.2	23.6	48200	8.3	45.4	46300	111000	
	403.76	1.9	10.3	47100	2.2	12.0	45800	3.6	18.0	42600	7.2	33.6	39700	93500	
	442.44	1.7	9.5	47700	2.0	11.1	46400	3.3	16.7	43200	6.6	30.8	39900	93500	
	499.97	1.5	9.1	51700	1.8	10.7	50500	2.9	16.8	49200	5.8	32.3	47300	111000	
	567.79	1.3	7.7	49600	1.6	9.0	48200	2.6	13.5	44900	5.1	24.3	40500	93500	
	635.29	1.2	7.0	50400	1.4	8.2	49100	2.3	12.3	45600	4.6	22.1	41100	93500	
	688.07	1.1	6.5	51000	1.3	7.6	49700	2.1	11.5	46200	4.2	20.6	41600	93500	
	799.88	0.94	5.8	52200	1.1	6.7	50800	1.8	10.1	47300	3.6	18.2	42600	93500	
	967.60	0.78	4.9	53700	0.93	5.7	52300	1.5	8.6	48600	3.0	15.4	43800	93500	

JPL6000

		n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM					
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	T _{2max} [Nm]	P _t [kW]	
JPL 6001		4.14	181	576	29600	217	654	28100	350	910	24300	—	—	—	136000	70 (H) 63 (F)
		5.40	139	467	31300	167	530	29600	269	740	25700	—	—	—	112000	
		6.50	115	383	30900	138	452	30400	223	630	26400	—	—	—	85300	
JPL 6002	L	14.20	53	227	39100	63	258	37000	102	361	32100	—	—	—	114000	40 (H) 36 (F)
		15.88	47.2	231	44400	57	262	42000	91	366	36400	—	—	—	135000	
	L	16.95	44.3	198	40600	53	225	38400	86	314	33300	—	—	—	114000	
		20.70	36.2	175	43900	43.5	212	43400	70	296	38400	—	—	—	112000	
		21.75	34.5	185	48700	41.4	210	46200	67	294	40000	—	—	—	135000	
	L	22.09	34.0	165	44100	40.7	196	43600	66	283	39200	—	—	—	85300	
	L	25.81	29.1	116	36400	34.9	138	36000	56	217	35000	—	—	—	114000	
	L	28.35	26.5	130	44700	31.7	155	44200	51	238	42200	—	—	—	112000	
	L	33.65	22.3	111	45100	26.7	132	44700	43.1	206	43500	—	—	—	112000	
	L	40.50	18.5	70	34300	22.2	83	34000	35.8	130	33100	—	—	—	85300	
JPL 6003	L	51.13	14.7	80	48300	17.6	91	45700	28.4	127	39600	57	206	32200	114000	28 (H) 28 (F)
		63.52	11.8	77	57700	14.2	102	57100	22.8	142	55200	45.7	231	44800	135000	
	L	72.03	10.4	68	58200	12.5	80	56400	20.1	111	48900	40.3	181	39700	114000	
	L	79.53	9.4	51	47400	11.3	60	46900	18.2	94	45600	36.5	181	43900	112000	
		98.86	7.6	51	60100	9.1	75	58600	14.7	104	57000	29.3	169	51200	135000	
	L	114.79	6.5	35.7	48400	7.8	42.4	47900	12.6	67	46600	25.3	128	44800	112000	
	L	120.49	6.2	34.2	48600	7.5	40.5	48000	12.0	64	46700	24.1	122	44900	112000	
	L	141.82	5.3	22.0	36900	6.3	26.2	36500	10.2	41.0	35500	20.4	79	34100	85300	
	L	160.04	4.7	21.4	40400	5.6	25.4	40000	9.1	39.8	38900	18.1	77	37400	100000	
	L	175.77	4.3	24.8	51500	5.1	29.0	50100	8.2	44.5	47800	16.5	86	45900	112000	
	L	199.43	3.8	16.4	38700	4.5	19.2	37600	7.3	29.7	36200	14.5	57	34800	85300	
	L	216.00	3.5	15.4	39100	4.2	17.9	38100	6.7	27.6	36400	13.4	53	35000	85300	
L	251.10	3.0	13.5	40000	3.6	15.8	38900	5.8	23.9	36700	11.5	46	35300	85300		
JPL 6004	L	177.95	4.2	28.6	58500	5.1	32.5	55400	8.1	45.4	48000	16.3	74	39000	114000	22 (H) 21 (F)
	L	212.33	3.5	27.6	67400	4.2	32.2	65600	6.8	45.4	57300	13.7	74	46600	114000	
		228.69	3.3	25.9	68200	3.9	42.6	66300	6.3	59	61700	12.7	97	57500	135000	
	L	250.66	3.0	23.8	68700	3.6	28.0	67300	5.8	42.0	62600	11.6	74	55000	114000	
	L	284.15	2.6	16.9	55300	3.2	19.8	53800	5.1	29.6	50100	10.2	56	47200	112000	
		313.20	2.4	19.3	69400	2.9	34.2	68700	4.6	47.7	64700	9.3	78	58500	135000	
		355.91	2.1	17.1	69900	2.5	31.3	69200	4.1	43.6	66000	8.1	71	59400	135000	
		393.85	1.9	16.3	74000	2.3	29.1	72000	3.7	40.7	67000	7.4	66	60300	135000	
		447.55	1.7	14.7	75500	2.0	26.6	73400	3.2	37.2	68300	6.5	60	61500	135000	
	L	502.28	1.5	10.4	60300	1.8	12.2	58700	2.9	18.3	54600	5.8	32.9	49200	112000	
	L	569.67	1.3	9.4	61500	1.6	10.9	59800	2.5	16.4	55600	5.1	29.6	50100	112000	
		621.00	1.2	8.7	62300	1.4	20.6	60600	2.3	28.8	56400	4.7	46.8	50800	112000	
		703.08	1.1	7.8	63500	1.3	18.9	61700	2.1	26.4	57400	4.1	42.9	51700	112000	
	L	790.17	0.95	7.1	64600	1.1	8.3	62800	1.8	12.4	58500	3.7	22.4	52600	112000	
	L	906.45	0.83	6.3	66000	1.0	7.4	64200	1.6	11.1	59700	3.2	19.9	53800	112000	
	L	986.14	0.76	5.9	66800	0.91	6.9	65000	1.5	10.3	60500	2.9	18.6	54400	112000	
	L	1088.64	0.69	5.4	67800	0.83	6.3	66000	1.3	9.5	61400	2.7	17.1	55300	112000	
	L	1265.54	0.59	4.8	69400	0.71	5.6	67500	1.1	8.3	62800	2.3	15.0	56500	112000	
	L	1435.91	0.52	3.2	52100	0.63	3.7	50700	1.0	5.5	47200	2.0	9.9	42500	85300	

		n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM					
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	T _{2max} [Nm]	P _t [kW]	
JPW 6002		13.46	56	233	37300	67	273	36500	108	381	31600	215	619	25700	95500	36 (H) 34 (F)
		17.55	42.7	208	43500	51	242	42200	83	338	36600	165	549	29700	112000	
		21.13	35.5	131	33100	42.6	156	32700	69	245	31900	137	469	30500	85300	
JPW 6003	L	43.63	17.2	108	54800	20.6	123	51800	33.2	171	44900	66	278	36500	114000	27 (H) 25 (F)
	L	52.05	14.4	94	56900	17.3	107	53800	27.9	149	46700	56	242	37900	114000	
	L	56.87	13.2	70	46500	15.8	84	46000	25.5	131	44800	51	247	42300	112000	
		66.80	11.2	75	57900	13.5	89	57300	21.7	139	55800	43.4	227	45500	135000	
		74.11	10.1	55	47600	12.1	66	47100	19.6	103	45800	39.1	196	43600	135000	
	L	79.09	9.5	55	50800	11.4	66	50200	18.3	103	48900	36.7	181	43000	114000	
	L	87.08	8.6	47.1	47600	10.3	56	47200	16.7	88	45900	33.3	169	44100	112000	
		101.50	7.4	51	60300	8.9	60	58700	14.3	94	57100	28.6	169	51600	135000	
		116.28	6.5	27.0	36500	7.7	32.1	36100	12.5	50	35100	24.9	97	33800	85300	
	L	132.30	5.7	32.1	49300	6.8	37.7	48300	11.0	59	47000	21.9	114	45200	112000	
L	157.02	4.8	27.7	50600	5.7	32.4	49200	9.2	50	47500	18.5	97	45600	112000		
JPW 6004	L	142.45	5.3	28.5	46000	6.3	32.4	43500	10.2	45.2	37700	20.4	73	30600	114000	19.5 (H) 18.0 (F)
	L	168.17	4.5	28.5	54300	5.4	32.4	51400	8.6	45.2	44500	17.2	73	36200	114000	
		176.96	4.2	28.5	57100	5.1	32.4	54100	8.2	45.2	46900	16.4	73	38100	135000	
	L	200.65	3.7	28.5	64800	4.5	32.4	61300	7.2	45.2	53200	14.5	73	43200	114000	
	L	221.54	3.4	21.2	53300	4.1	24.8	51800	6.5	37.3	48400	13.1	72	46500	112000	
	L	251.80	3.0	21.8	62100	3.6	25.8	61400	5.8	40.5	59800	11.5	73	54200	114000	
	L	284.31	2.6	17.2	55300	3.2	20.1	53800	5.1	30.1	50100	10.2	57	47200	112000	
	L	314.74	2.4	15.8	56200	2.9	18.4	54700	4.6	27.6	50900	9.2	51.5	47500	112000	
		348.00	2.2	17.7	69900	2.6	21.0	69100	4.2	32.3	65800	8.3	54.3	55400	135000	
		395.45	1.9	15.7	70400	2.3	18.7	69600	3.7	28.9	67100	7.3	52.1	60400	135000	
		453.60	1.7	11.6	59400	2.0	10.0	42600	3.2	14.9	39600	6.4	36.5	48500	85300	
		515.45	1.5	10.4	60600	1.7	12.1	58900	2.8	18.1	54800	5.6	32.7	49400	112000	
	L	547.85	1.4	9.8	61100	1.6	11.5	59500	2.6	17.2	55300	5.3	31.0	49800	112000	
	L	640.17	1.2	6.1	44100	1.4	7.2	43300	2.3	11.2	42100	4.5	21.6	40500	114000	
	L	703.08	1.1	8.0	63500	1.3	9.3	61700	2.1	13.9	57400	4.1	25.1	51700	112000	
	L	797.73	0.94	5.3	47700	1.1	6.2	46400	1.8	9.2	43200	3.6	16.6	38900	85300	
	L	1009.38	0.74	5.2	59200	0.89	6.0	57500	1.4	9.4	55500	2.9	18.0	53300	112000	

JPL8000

		n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM					
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	T _{2max} [Nm]	P _t [kW]	
JPL 8001		4.00	188	789	39200	225	897	37100	363	1252	32200	—	—	—	198000	77 (H-F)
		4.67	161	696	40300	193	790	38200	311	1104	33100	—	—	—	175000	
JPL 8002	L	14.50	52	329	57700	62	373	54600	100	521	47300	—	—	—	198000	45 (H-F)
	L	16.00	46.9	302	58500	56	343	55400	91	479	48000	—	—	—	198000	
		18.82	39.8	274	62400	47.8	311	59100	77	434	51200	—	—	—	198000	
	L	20.80	36.1	244	61400	43.3	277	58100	70	387	50300	—	—	—	198000	
		21.96	34.2	241	64200	41.0	274	60700	66	383	52600	—	—	—	175000	
	L	24.27	30.9	225	66100	37.1	256	62600	60	357	54200	—	—	—	175000	
	L	29.17	25.7	189	66600	30.9	224	65900	49.7	314	57300	—	—	—	175000	
JPL 8003	L	51.66	14.5	100	60800	17.4	113	57600	28.1	158	49900	—	—	—	198000	33 (H-F)
	L	57.00	13.2	100	67100	15.8	113	63500	25.4	158	55100	—	—	—	198000	
	L	66.46	11.3	88	69200	13.5	100	65500	21.8	140	56700	—	—	—	198000	
	L	70.27	10.7	87	72500	12.8	100	69200	20.6	140	60000	—	—	—	175000	
		78.19	9.6	92	85200	11.5	110	84300	18.5	164	78500	—	—	—	198000	
		93.18	8.0	78	86000	9.7	93	85100	15.6	145	82700	—	—	—	198000	
	L	100.80	7.4	62	74000	8.9	74	73200	14.4	116	71200	—	—	—	175000	
		112.00	6.7	56	74400	8.0	67	73700	12.9	105	71700	—	—	—	175000	
	L	129.08	5.8	58	89100	7.0	68	86700	11.2	107	84400	—	—	—	198000	
	L	141.32	5.3	45.5	75900	6.4	54	74600	10.3	84	72600	—	—	—	175000	
L	166.40	4.5	39.6	77800	5.4	46.3	75700	8.7	72	73300	—	—	—	175000		
JPL 8004	L	185.96	4.0	41.7	89300	4.8	47.4	84600	7.8	66	73300	15.6	108	59500	198000	26 (H-F)
	L	205.20	3.7	40.5	95600	4.4	47.3	93000	7.1	66	80900	14.1	108	65700	198000	
	L	219.54	3.4	37.2	93900	4.1	42.2	88900	6.6	59	77000	13.2	96	62600	198000	
	L	255.98	2.9	32.2	95000	3.5	37.3	91600	5.7	52	79400	11.3	85	64500	198000	
	L	282.46	2.7	30.9	100000	3.2	36.0	97600	5.1	52	87600	10.3	85	71100	198000	
	L	321.23	2.3	26.3	97300	2.8	30.9	95200	4.5	44.4	85000	9.0	72	69000	198000	
	L	354.46	2.1	25.5	104000	2.5	29.7	101000	4.1	44.4	93800	8.2	72	76200	198000	
		394.63	1.9	23.2	106000	2.3	27.1	103000	3.7	40.7	95500	7.3	74	86500	198000	
		435.20	1.7	21.4	107000	2.1	25.0	104000	3.3	37.4	96900	6.7	67	87300	198000	
		502.94	1.5	18.9	109000	1.8	22.1	106000	2.9	33.1	99100	5.8	60	89200	198000	
		577.69	1.3	16.8	112000	1.6	19.6	109000	2.5	29.4	101000	5.0	53	91100	198000	
		612.00	1.2	16.0	113000	1.5	18.7	110000	2.4	28.0	102000	4.7	50	91900	198000	
		698.82	1.1	14.1	113000	1.3	16.7	112000	2.1	25.0	104000	4.1	45.1	93800	198000	
		800.27	0.94	12.3	114000	1.1	14.7	113000	1.8	22.3	106000	3.6	40.2	95700	198000	
	L	887.47	0.85	9.8	100000	1.0	11.5	97500	1.6	17.2	90700	3.3	30.9	81700	175000	
		933.65	0.80	9.4	101000	1.0	11.0	98300	1.6	16.5	91400	3.1	29.6	82300	175000	
	L	1031.68	0.73	8.5	101000	0.9	10.1	99800	1.4	15.1	92800	2.8	27.2	83600	175000	
		1129.41	0.66	8.0	104000	0.8	9.3	101000	1.3	14.0	94100	2.6	25.2	84700	175000	
	L	1248.00	0.60	7.1	102000	0.7	8.5	101000	1.2	12.9	95500	2.3	23.2	86000	175000	
JPL 8005	L	647.15	1.16	14.9	108000	1.4	17.4	105000	2.2	26.0	97700	4.5	42.3	79400	198000	22 (H-F)
	L	714.10	1.05	14.4	115000	1.3	16.8	112000	2.0	25.2	104000	4.1	42.3	87600	198000	
	L	792.79	0.95	12.5	112000	1.1	14.6	109000	1.8	22.0	101000	3.7	36.1	83100	198000	
	L	890.81	0.84	10.3	103000	1.0	12.3	102000	1.6	19.2	99400	3.3	36.3	93700	198000	
		991.80	0.76	10.9	121000	0.91	12.7	118000	1.5	19.1	110000	2.9	34.4	98900	198000	
	L	1117.88	0.67	8.3	105000	0.81	9.9	103000	1.3	15.5	101000	2.6	29.5	95800	198000	
	L	1266.57	0.59	7.4	105000	0.71	8.8	104000	1.1	13.7	101000	2.3	26.4	97000	198000	
		1416.68	0.53	8.1	128000	0.64	9.4	125000	1.0	14.1	116000	2.0	25.4	104000	198000	
	L	1589.42	0.47	5.4	95700	0.57	6.4	94700	0.91	10.0	92200	1.8	19.2	88600	198000	
		1777.79	0.42	6.6	133000	0.51	7.8	129000	0.82	11.6	120000	1.6	20.9	108000	198000	
		1993.85	0.38	6.0	135000	0.45	7.0	131000	0.73	10.5	122000	1.5	19.0	110000	198000	
	L	2236.25	0.34	4.2	106000	0.40	5.0	104000	0.65	7.8	101000	1.3	14.5	93900	175000	
		2510.77	0.30	5.0	140000	0.36	5.8	136000	0.58	8.7	126000	1.2	15.6	114000	198000	
	L	2813.91	0.27	3.8	119000	0.32	4.4	116000	0.52	6.6	108000	1.0	11.9	97300	175000	
		3164.84	0.24	3.5	124000	0.28	4.1	122000	0.46	6.4	118000	0.92	12.4	114000	198000	

		n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM					
	ie	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	T _{2max} [Nm]	P _t [kW]	
JPW 8002		13.00	58	233	36000	69	273	35200	112	381	30500	223	619	24800	92200	35
		15.17	49.5	233	42000	59	273	41100	96	381	35600	191	619	28900	108000	(H-F)
JPW 8003	L	44.54	16.8	109	56600	20.2	124	53600	32.6	173	46400	65	282	37700	175000	29 (H-F)
	L	49.14	15.3	109	62400	18.3	124	59100	29.5	173	51200	59	282	41600	175000	
	L	57.33	13.1	108	71600	15.7	124	69000	25.3	173	59800	51	282	48600	175000	
	L	63.89	11.7	105	77600	14.1	124	76800	22.7	173	66600	45.4	282	54100	175000	
		67.45	11.1	92	72300	13.3	110	71600	21.5	172	69600	43.0	282	57100	175000	
	L	76.79	9.8	68	60800	11.7	81	60200	18.9	127	58600	37.8	244	56300	158000	
	L	89.58	8.4	68	71000	10.0	81	70200	16.2	127	68400	32.4	242	65200	175000	
	L	97.07	7.7	55	62300	9.3	66	61700	14.9	103	60000	29.9	196	57100	161000	
	L	113.24	6.6	55	72700	7.9	66	71900	12.8	103	70000	25.6	196	66700	175000	
JPW 8004	L	151.00	5.0	49.1	83900	6.0	56	79500	9.6	78	68900	19.2	126	55900	175000	24 (H-F)
	L	166.62	4.5	49.1	92600	5.4	56	87700	8.7	78	76000	17.4	126	61700	175000	
	L	176.06	4.3	43.3	86500	5.1	49.2	81900	8.2	69	70900	16.5	112	57600	175000	
	L	194.27	3.9	43.1	94800	4.6	49.2	90300	7.5	69	78300	14.9	112	63600	175000	
	L	228.00	3.3	37.6	97100	3.9	43.9	94500	6.4	62	83500	12.7	101	67800	175000	
	L	252.19	3.0	29.0	82900	3.6	33.9	80600	5.7	51	75100	11.5	95	69900	175000	
		265.85	2.8	33.0	99400	3.4	38.5	96700	5.5	58	90000	10.9	109	84500	198000	
		280.62	2.7	31.5	100000	3.2	36.8	97500	5.2	55	90700	10.3	103	84800	198000	
		312.76	2.4	28.8	102000	2.9	33.6	99100	4.6	50	92200	9.3	93	85300	198000	
	L	361.76	2.1	21.4	87500	2.5	24.9	85100	4.0	37.4	79200	8.0	69	73700	175000	
		384.00	2.0	24.2	105000	2.3	28.2	102000	3.8	42.3	95100	7.6	77	86300	198000	
		438.48	1.7	21.6	107000	2.1	25.2	104000	3.3	37.8	97000	6.6	68	87400	198000	
		516.30	1.5	18.8	110000	1.7	21.9	107000	2.8	32.9	99500	5.6	59	89600	198000	
		602.35	1.2	13.9	94500	1.5	16.2	92000	2.4	24.2	85600	4.8	43.6	77000	175000	
	L	685.71	1.1	9.0	70200	1.3	10.5	68300	2.1	16.5	66400	4.2	31.8	63800	158000	
	L	800.00	0.94	9.0	81900	1.1	10.5	79700	1.8	16.5	77500	3.6	31.8	74500	175000	

JPL12010

		n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]		P _t [kW]	
		ie	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]				
JPL 12011			4.09	183	1389	70600	220	1578	66800	354	2204	57900	—	—	—	281000	102 (H-F)
			5.25	143	1132	73800	171	1286	69800	276	1795	60500	—	—	—	233000	
			6.23	120	886	68500	144	1052	67800	233	1574	63000	—	—	—	189000	
JPL 12012	L	14.83	51	330	59200	61	375	56100	98	524	48600	—	—	—	226000	59 (H-F)	
		16.36	45.8	403	79700	55	457	75500	89	639	65400	—	—	—	281000		
	L	19.03	39.4	330	76000	47.3	375	72000	76	524	62400	—	—	—	233000		
		21.00	35.7	302	76700	42.9	343	72700	69	479	63000	—	—	—	233000		
	L	22.59	33.2	270	73800	39.8	320	73000	64	502	71000	—	—	—	189000		
		24.92	30.1	246	74200	36.1	292	73400	58	458	71400	—	—	—	189000		
	L	27.30	27.5	244	80500	33.0	277	76200	53	387	66100	—	—	—	233000		
		32.40	23.1	192	75300	27.8	228	74500	44.8	357	72500	—	—	—	189000		
L	38.94	19.3	161	76100	23.1	192	75300	37.2	301	73300	—	—	—	189000			
JPL 12013	L	52.83	14.2	100	62200	17.0	113	58900	27.4	158	51000	—	—	—	212000	42 (H-F)	
		58.30	12.9	137	94100	15.4	155	89100	24.9	217	77200	—	—	—	281000		
	L	61.60	12.2	88	64100	14.6	100	60700	23.5	140	52600	—	—	—	212000		
		67.80	11.1	100	79800	13.3	113	75600	21.4	158	65500	—	—	—	268000		
	L	79.05	9.5	88	82300	11.4	100	77900	18.3	140	67500	—	—	—	268000		
		87.23	8.6	88	90800	10.3	100	85900	16.6	140	74500	—	—	—	233000		
		102.62	7.3	83	100000	8.8	98	99300	14.1	154	96600	—	—	—	233000		
		112.11	6.7	88	116000	8.0	104	115000	12.9	146	100000	—	—	—	281000		
		126.00	6.0	69	102000	7.1	81	100000	11.5	127	97800	—	—	—	233000		
		143.88	5.2	62	105000	6.3	72	102000	10.1	112	98500	—	—	—	233000		
	L	158.98	4.7	56	106000	5.7	66	103000	9.1	102	99100	—	—	—	233000		
		170.90	4.4	41.8	84300	5.3	48.8	82000	8.5	76	79700	—	—	—	189000		
	L	198.61	3.8	36.8	86200	4.5	42.9	83900	7.3	66	80400	—	—	—	189000		
		222.17	3.4	33.5	87700	4.1	39.0	85300	6.5	60	80900	—	—	—	189000		
JPL 12014	L	209.86	3.6	57	138000	4.3	65	131000	6.9	91	113000	13.8	147	92100	281000	33 (H-F)	
		224.53	3.3	37.2	96000	4.0	42.2	90900	6.5	59	78800	12.9	96	64000	212000		
		247.76	3.0	51	145000	3.6	58	138000	5.9	81	119000	11.7	131	96800	281000		
		288.88	2.6	44.4	148000	3.1	51	142000	5.0	71	123000	10.0	116	99700	281000		
		310.91	2.4	41.4	148000	2.9	49.2	147000	4.7	69	128000	9.3	112	104000	281000		
		354.68	2.1	32.3	132000	2.5	38.4	131000	4.1	60	127000	8.2	98	104000	281000		
	L	399.00	1.9	26.6	122000	2.3	31.0	119000	3.6	46.5	110000	7.3	82	97000	233000		
		445.09	1.7	26.1	134000	2.0	31.0	132000	3.3	48.6	129000	6.5	84	111000	281000		
		495.80	1.5	22.2	127000	1.8	26.3	125000	2.9	41.3	122000	5.8	79	117000	281000		
		561.09	1.3	19.9	128000	1.6	23.2	125000	2.6	34.8	116000	5.2	63	105000	233000		
		636.27	1.2	17.9	131000	1.4	20.9	127000	2.3	31.3	118000	4.6	56	107000	233000		
		720.00	1.0	16.1	133000	1.3	18.8	130000	2.0	28.2	121000	4.0	51	109000	233000		
		803.25	0.93	14.7	136000	1.1	17.1	132000	1.8	25.7	123000	3.6	46.2	110000	233000		
		892.03	0.84	13.4	138000	1.0	15.7	134000	1.6	23.5	125000	3.3	42.3	112000	233000		
	L	998.40	0.75	9.8	113000	0.90	11.7	112000	1.5	18.3	109000	2.9	35.2	105000	233000		
		1050.35	0.71	11.7	141000	0.86	13.6	137000	1.4	20.4	128000	2.8	36.8	115000	233000		
	L	1134.89	0.66	8.4	110000	0.79	9.9	107000	1.3	15.0	102000	2.6	27.1	91000	189000		
1270.59		0.59	9.9	145000	0.71	11.6	141000	1.1	17.4	132000	2.3	31.3	118000	233000			
L	1415.12	0.53	7.1	116000	0.64	8.3	113000	1.0	12.5	105000	2.0	22.5	95000	189000			
	1507.95	0.50	6.8	117000	0.60	7.9	114000	1.0	11.8	106000	1.9	21.3	96000	189000			
JPL 12015	L	661.86	1.13	14.9	111000	1.36	17.4	108000	2.2	26.0	100000	4.4	42.3	81000	212000	27 (H-F)	
		730.33	1.03	19.9	163000	1.23	23.3	159000	2.0	35.4	150000	4.0	63.2	134000	281000		
		894.68	0.84	16.8	168000	1.01	19.6	164000	1.6	29.3	152000	3.2	54.8	142000	281000		
		1005.31	0.75	15.0	169000	0.90	17.7	167000	1.4	26.6	155000	2.9	49.7	145000	281000		
		1148.18	0.65	11.1	143000	0.78	13.0	139000	1.3	19.4	130000	2.5	35.0	117000	233000		
		1257.78	0.60	12.6	177000	0.72	14.7	172000	1.2	22.0	160000	2.3	40.7	149000	281000		
		1411.73	0.53	10.9	172000	0.64	12.9	170000	1.03	19.9	163000	2.1	36.5	150000	281000		
		1580.48	0.47	8.5	150000	0.57	9.9	146000	0.92	14.8	136000	1.8	26.7	122000	233000		
		1783.84	0.42	8.6	172000	0.50	10.2	170000	0.81	16.0	165000	1.6	29.4	152000	281000		
		2001.18	0.37	6.9	156000	0.45	8.1	151000	0.72	12.1	141000	1.4	21.8	127000	233000		
		2238.55	0.34	7.7	193000	0.40	9.0	188000	0.65	13.5	175000	1.3	24.3	158000	281000		
		2516.27	0.30	5.7	161000	0.36	6.7	157000	0.58	10.0	146000	1.2	18.0	131000	233000		
		2814.15	0.27	5.2	164000	0.32	6.1	159000	0.52	9.1	148000	1.0	16.4	134000	233000		
		3157.67	0.24	4.7	167000	0.29	5.5	162000	0.46	8.2	151000	0.92	14.8	136000	233000		
	L	3544.35	0.21	3.4	133000	0.25	3.9	130000	0.41	5.9	121000	0.82	10.6	109000	189000		

		n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM					
	ie	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	T _{2max} [Nm]	P _t [kW]	
JPW 12013	L	45.55	16.5	109	57900	19.8	124	54800	31.8	173	47500	64	282	38600	180000	36 (H-F)
	L	50.26	14.9	109	63900	17.9	124	60500	28.9	173	52400	58	282	42600	198000	
	L	58.45	12.8	109	74300	15.4	124	70300	24.8	173	60900	49.6	282	49500	230000	
	L	64.50	11.6	109	82000	14.0	124	77600	22.5	173	67200	45.0	282	54600	233000	
	L	69.37	10.8	98	78600	13.0	116	77800	20.9	173	72300	41.8	282	58700	189000	
	L	75.88	9.9	109	96400	11.9	124	91300	19.1	173	79100	38.2	282	64300	233000	
	L	83.85	8.9	102	99200	10.7	121	98200	17.3	173	87400	34.6	282	71000	233000	
	L	90.06	8.3	76	79800	10.0	91	79000	16.1	142	76900	32.2	273	73900	189000	
	L	99.51	7.5	69	80300	9.0	82	79400	14.6	129	77300	29.1	248	74300	189000	
	L	116.31	6.4	55	74700	7.7	66	73900	12.5	103	71900	24.9	196	68500	189000	
	L	127.40	5.9	55	81800	7.1	66	80900	11.4	103	78800	22.8	196	75000	211000	
L	136.83	5.5	51	81800	6.6	61	80900	10.6	96	78700	21.2	184	75700	189000		
JPW 12014	L	154.43	4.9	49.1	85800	5.8	56	81300	9.4	78	70400	18.8	126	57200	200000	30 (H-F)
	L	170.40	4.4	67	130000	5.3	76	123000	8.5	107	107000	17.0	173	86500	261000	
	L	198.69	3.8	59	134000	4.5	68	127000	7.3	94	110000	14.6	153	89100	261000	
	L	218.68	3.4	44.9	111000	4.1	52	108000	6.6	78	99700	13.3	126	81000	233000	
	L	254.98	2.9	39.4	114000	3.5	46.1	111000	5.7	69	103000	11.4	112	83500	233000	
	L	286.99	2.6	37.7	123000	3.1	44.8	121000	5.1	70	118000	10.1	130	109000	261000	
	L	313.06	2.4	32.3	115000	2.9	38.4	113000	4.6	58	106000	9.3	95	86800	233000	
	L	348.92	2.1	30.2	120000	2.6	35.3	116000	4.2	53	108000	8.3	90	91700	233000	
	L	392.73	1.9	28.1	125000	2.3	33.3	124000	3.7	52	120000	7.4	100	116000	261000	
	L	448.44	1.7	24.8	126000	2.0	29.4	125000	3.2	46.1	121000	6.5	89	116000	261000	
	L	504.00	1.5	22.1	126000	1.8	25.8	123000	2.9	38.7	114000	5.8	70	103000	233000	
	L	575.50	1.3	19.8	129000	1.6	23.1	125000	2.5	34.6	117000	5.0	62	105000	233000	
	L	635.93	1.2	16.0	115000	1.4	18.9	113000	2.3	29.6	110000	4.6	57	106000	233000	
	L	677.65	1.1	11.7	106000	1.3	20.1	129000	2.1	30.1	120000	4.3	54	108000	233000	
	L	794.42	0.94	17.2	132000	1.1	13.8	103000	1.8	20.7	96300	3.7	37.2	86700	189000	
	L	888.69	0.84	10.7	108000	1.0	12.5	105000	1.6	18.8	97900	3.3	33.9	88200	189000	
JPW 12015	L	584.62	1.3	24.4	158000	1.5	28.5	154000	2.5	44.3	148000	5.0	75	125000	261000	25 (H-F)
	L	625.47	1.2	15.9	110000	1.4	18.5	107000	2.3	27.8	99300	4.6	48.7	87000	200000	
	L	690.18	1.1	21.2	162000	1.3	24.8	157000	2.1	37.9	149000	4.2	67	132000	261000	
	L	804.74	0.93	18.6	166000	1.1	21.8	161000	1.8	32.8	151000	3.6	59	136000	261000	
	L	885.73	0.85	14.1	138000	1.0	16.4	134000	1.6	24.6	125000	3.3	44.3	112000	232000	
	L	991.02	0.76	15.6	171000	0.91	18.2	166000	1.5	27.3	155000	2.9	51.8	147000	261000	
	L	1124.31	0.67	11.2	139000	0.80	13.3	137000	1.3	20.0	128000	2.6	38.2	123000	261000	
	L	1243.64	0.60	12.9	177000	0.72	15.0	172000	1.2	22.5	160000	2.3	41.8	149000	261000	
	L	1413.82	0.53	9.4	147000	0.64	11.0	143000	1.0	16.5	133000	2.1	30.8	124000	261000	
	L	1591.20	0.47	8.6	150000	0.57	10.0	146000	0.91	15.0	136000	1.8	27.0	123000	233000	
	L	1780.36	0.42	7.4	145000	0.51	8.7	143000	0.81	13.7	139000	1.6	26.3	134000	261000	
	L	1983.18	0.38	7.1	155000	0.45	8.2	150000	0.73	12.4	140000	1.5	22.4	127000	261000	
	L	2237.63	0.34	5.1	126000	0.40	6.1	125000	0.65	9.5	121000	1.3	18.3	117000	189000	
	L	2342.31	0.32	5.6	145000	0.38	6.6	143000	0.62	10.4	139000	1.2	19.3	129000	262000	
	L	2516.97	0.30	5.6	157000	0.36	6.7	155000	0.58	10.1	146000	1.2	18.3	131000	233000	
	L	2816.20	0.27	4.0	125000	0.32	4.8	123000	0.51	7.5	120000	1.0	14.4	115000	261000	
	L	3161.48	0.24	3.7	129000	0.28	4.3	125000	0.46	6.5	117000	0.92	11.7	106000	189000	

JPL 16000

		n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
	ie	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPL 16001		3.83	196	1956	93100	235	2222	88100	378	3103	76400	—	—	345000	109
		4.40	170	1746	95400	205	1983	90300	330	2770	78300	—	—	357000	(H-F)
JPL 16002	L	14.72	51	616	110000	61	700	104000	99	977	90100	—	—	345000	66 (H-F)
		16.90	44.4	462	94600	53	525	89500	86	733	77600	—	—	357000	
	L	18.16	41.3	389	85500	49.6	442	81000	80	617	70200	—	—	306000	
	L	20.84	36.0	389	98200	43.2	442	93000	70	617	80600	—	—	357000	
		22.78	32.9	482	133000	39.5	548	126000	64	765	109000	—	—	357000	
	L	23.93	31.3	348	101000	37.6	396	95500	61	552	82800	—	—	282000	
JPL 16003		50.47	14.9	233	139000	17.8	265	132000	28.7	370	114000	—	—	345000	48 (H-F)
		57.93	12.9	217	149000	15.5	258	147000	25.0	370	131000	—	—	357000	
	L	64.69	11.6	137	104000	13.9	155	98900	22.4	217	85700	—	—	306000	
		69.12	10.9	184	150000	13.0	218	149000	21.0	322	136000	—	—	357000	
		78.09	9.6	164	151000	11.5	195	150000	18.6	305	146000	—	—	357000	
		88.70	8.5	145	152000	10.1	173	151000	16.3	263	142000	—	—	357000	
	L	106.29	7.1	102	128000	8.5	116	122000	13.6	162	105000	—	—	357000	
		123.64	6.1	98	142000	7.3	116	141000	11.7	182	137000	—	—	345000	
		141.91	5.3	95	159000	6.3	111	155000	10.2	174	151000	—	—	357000	
	L	164.06	4.6	59	114000	5.5	70	113000	8.8	110	110000	—	—	282000	
JPL 16004		181.69	4.1	82	172000	5.0	93	162000	8.0	130	141000	16.0	211	114000	37 (H-F)
		208.54	3.6	70	168000	4.3	82	163000	7.0	124	154000	13.9	211	131000	
	L	222.87	3.4	51	131000	4.0	58	124000	6.5	81	107000	13.0	131	87100	
		255.93	2.9	68	201000	3.5	80	195000	5.7	114	174000	11.3	185	141000	
		281.13	2.7	52	170000	3.2	62	168000	5.2	95	159000	10.3	180	150000	
		319.33	2.3	49.0	179000	2.8	57	174000	4.5	85	162000	9.1	160	152000	
		359.16	2.1	41.0	169000	2.5	48.6	167000	4.0	76	163000	8.1	137	147000	
	L	396.00	1.9	33.2	151000	2.3	39.4	150000	3.7	62	146000	7.3	112	132000	
	L	451.75	1.7	29.4	153000	2.0	34.8	151000	3.2	55	147000	6.4	98	132000	
		496.94	1.5	30.6	176000	1.8	36.5	174000	2.9	57	169000	5.8	106	156000	
		561.47	1.3	25.2	163000	1.6	30.0	162000	2.6	47.0	157000	5.2	90	151000	
		637.74	1.2	24.4	178000	1.4	28.8	176000	2.3	45.1	171000	4.5	85	162000	
		698.82	1.1	22.3	180000	1.3	26.4	177000	2.1	41.4	172000	4.1	79	164000	
	L	797.21	0.94	18.1	166000	1.1	21.2	162000	1.8	31.9	152000	3.6	61	146000	
		896.82	0.84	18.1	187000	1.0	21.1	182000	1.6	32.7	175000	3.2	63	168000	
		1064.36	0.70	15.6	192000	0.85	18.3	187000	1.4	27.8	177000	2.7	54	170000	
	L	1241.76	0.60	8.3	118000	0.72	9.6	115000	1.2	14.5	107000	2.3	27.8	103000	
JPL 16005		632.27	1.2	29.3	208000	1.4	33.3	197000	2.3	46.4	171000	4.6	76	139000	31 (H-F)
		725.74	1.0	25.0	203000	1.2	29.1	197000	2.0	43.5	184000	4.0	76	159000	
	L	804.82	0.93	18.9	171000	1.1	22.5	169000	1.8	33.7	158000	3.6	55	128000	
		890.63	0.84	23.6	236000	1.0	27.6	230000	1.6	41.3	214000	3.3	76	195000	
		978.32	0.77	17.2	189000	0.92	20.1	184000	1.5	31.0	176000	3.0	59	169000	
		1117.65	0.67	17.8	223000	0.81	21.2	221000	1.3	33.1	215000	2.6	63	204000	
		1252.35	0.60	15.6	220000	0.72	18.3	214000	1.2	27.4	199000	2.3	49.4	180000	
		1414.88	0.53	12.6	200000	0.64	14.7	195000	1.0	22.0	181000	2.0	42.0	172000	
	L	1595.75	0.47	10.1	180000	0.56	11.8	177000	0.91	18.6	172000	1.8	35.7	165000	
		1782.44	0.42	11.0	221000	0.50	13.1	219000	0.81	20.3	210000	1.6	36.6	189000	
		2003.10	0.37	8.6	193000	0.45	10.2	191000	0.72	16.0	186000	1.4	30.7	179000	
		2224.48	0.34	8.6	214000	0.40	10.2	212000	0.65	16.0	206000	1.3	30.4	196000	
	L	2510.41	0.30	6.8	193000	0.36	8.0	188000	0.58	12.1	176000	1.2	23.3	170000	
	L	2809.54	0.27	6.1	190000	0.32	7.0	185000	0.52	11.0	180000	1.0	20.1	164000	
		3172.87	0.24	6.7	240000	0.28	7.9	234000	0.46	12.0	221000	0.91	22.5	207000	

		n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM					
		ie	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	T _{2max} [Nm]	P _t [kW]
JPW 16003	L	47.84	15.7	211	117000	18.8	240	111000	30.3	335	96300	61	544	78200	338000	42 (H-F)
	L	54.91	13.7	211	135000	16.4	240	127000	26.4	335	111000	53	544	89800	356000	
		64.49	11.6	183	137000	14.0	217	136000	22.5	341	132000	45.0	568	110000	338000	
		74.02	10.1	175	151000	12.2	208	149000	19.6	326	145000	39.2	568	126000	356000	
	L	77.76	9.6	121	110000	11.6	144	109000	18.6	226	106000	37.3	410	95700	282000	
	L	92.40	8.1	89	95600	9.7	106	95000	15.7	166	92000	31.4	319	88500	247000	
JPW 16004	L	155.01	4.8	106	186000	5.8	124	181000	9.4	176	160000	18.7	285	130000	338000	35 (H-F)
		184.96	4.1	91	191000	4.9	106	186000	7.8	153	166000	15.7	248	135000	338000	
		212.30	3.5	70	169000	4.2	82	164000	6.8	124	154000	13.7	238	148000	356000	
		220.47	3.4	51	128000	4.1	61	127000	6.6	94	122000	13.2	153	98900	306000	
		249.33	3.0	52	148000	3.6	62	147000	5.8	98	143000	11.6	188	137000	338000	
		281.02	2.7	57	180000	3.2	67	179000	5.2	105	174000	10.3	185	153000	338000	
		317.49	2.4	41.8	150000	2.8	49.6	149000	4.6	78	145000	9.1	149	139000	338000	
		360.64	2.1	43.5	178000	2.5	52	176000	4.0	81	171000	8.0	151	160000	338000	
		413.95	1.8	39.7	186000	2.2	46.4	181000	3.5	70	169000	7.0	127	154000	356000	
		435.88	1.7	35.3	174000	2.1	41.9	172000	3.3	66	168000	6.7	121	154000	356000	
		491.28	1.5	29.1	162000	1.8	34.6	160000	3.0	54	156000	5.9	104	150000	356000	
		558.02	1.3	27.9	177000	1.6	33.2	175000	2.6	52	170000	5.2	97	159000	356000	
		662.27	1.1	23.8	178000	1.4	28.2	177000	2.2	44.3	172000	4.4	84	163000	356000	
JPW 16005	L	506.13	1.5	29.2	163000	1.8	33.2	155000	2.9	46.4	134000	5.7	75	109000	338000	27 (H-F)
		580.95	1.3	29.2	188000	1.5	33.2	178000	2.5	46.4	154000	5.0	75	125000	356000	
		620.85	1.2	24.6	168000	1.4	29.2	167000	2.3	41.1	146000	4.7	67	118000	338000	
		712.94	1.1	29.0	229000	1.3	33.2	218000	2.0	46.4	189000	4.1	75	153000	338000	
		783.14	0.96	21.2	183000	1.1	24.7	178000	1.9	38.8	173000	3.7	75	167000	356000	
		894.67	0.84	22.3	221000	1.0	26.5	218000	1.6	41.5	212000	3.2	75	193000	338000	
	L	995.33	0.75	19.4	213000	0.90	22.6	207000	1.5	33.9	193000	2.9	55.7	158000	356000	
		1124.51	0.67	15.6	193000	0.80	18.2	188000	1.3	27.6	177000	2.6	53.0	170000	356000	
		1258.45	0.60	12.8	178000	0.72	15.0	173000	1.2	22.4	161000	2.3	41.6	150000	356000	
		1415.70	0.53	12.8	200000	0.64	14.9	195000	1.0	22.4	181000	2.0	42.6	172000	356000	
		1584.00	0.47	10.5	185000	0.57	12.3	180000	0.92	18.5	167000	1.8	33.5	152000	356000	
		1776.56	0.42	10.6	207000	0.51	12.3	202000	0.82	18.5	188000	1.6	34.4	175000	356000	
		1987.76	0.38	9.6	211000	0.45	11.2	205000	0.73	16.8	191000	1.5	31.0	176000	356000	
		2245.87	0.33	7.1	177000	0.40	8.5	175000	0.65	13.3	170000	1.3	25.5	164000	356000	
		2498.29	0.30	7.9	218000	0.36	9.2	212000	0.58	13.8	197000	1.2	25.0	178000	356000	
		2795.29	0.27	7.2	222000	0.32	8.4	216000	0.52	12.6	201000	1.0	22.6	181000	356000	
		3158.25	0.24	5.3	185000	0.28	6.2	180000	0.46	9.6	174000	0.92	18.5	167000	356000	
		L	3544.35	0.21	3.5	137000	0.25	4.1	135000	0.41	6.5	131000	0.82	12.5	126000	

JPL21000

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPL 21001	3.68	204	2071	94600	245	2353	89600	394	3285	77600	—	—	—	406000	133 (H-F)
	4.94	152	1627	99800	182	1848	94500	293	2581	81900	—	—	—	361000	
	5.79*	129	1111	77426	155	1262	73305	250	1763	63533	—	—	—	215000	
JPL 21002	15.25	49.2	591	109000	59	672	103000	95	938	89500	—	—	—	406000	78 (H-F)
	20.47	36.6	565	140000	44.0	671	138000	71	938	120000	—	—	—	361000	
	23.92	31.4	393	114000	37.6	464	112000	61	648	97100	—	—	—	314000	
	26.68	28.1	440	142000	33.7	522	141000	54	759	127000	—	—	—	361000	
	32.12	23.4	369	144000	28.0	439	142000	45.1	648	130000	—	—	—	361000	
JPL 21003	58.44	12.8	237	163000	15.4	269	155000	24.8	375	134000	—	—	—	406000	56 (H-F)
	80.04	9.4	190	179000	11.2	216	170000	18.1	301	147000	—	—	—	406000	
	91.69	8.2	114	123000	9.8	135	122000	15.8	211	118000	—	—	—	314000	
	102.28	7.3	127	153000	8.8	151	152000	14.2	237	148000	—	—	—	361000	
	107.47	7.0	121	154000	8.4	144	152000	13.5	226	148000	—	—	—	361000	
	123.12	6.1	107	155000	7.3	127	153000	11.8	199	149000	—	—	—	361000	
	140.08	5.4	94	156000	6.4	112	155000	10.4	176	150000	—	—	—	361000	
JPL 21004	233.77	3.2	79	212000	3.8	94	210000	6.2	146	203000	12.4	237	165000	406000	44 (H-F)
	265.65	2.8	70	214000	3.4	83	212000	5.5	130	206000	10.9	217	171000	406000	
	313.88	2.4	48.8	176000	2.9	57	171000	4.6	85	160000	9.2	162	151000	361000	
	356.68	2.1	43.8	180000	2.5	51	175000	4.1	77	163000	8.1	144	153000	361000	
	409.13	1.8	39.0	183000	2.2	45.5	178000	3.5	68	166000	7.1	126	154000	361000	
	464.92	1.6	35.0	187000	1.9	40.8	182000	3.1	61	169000	6.2	112	155000	361000	
	502.32	1.5	23.4	135000	1.8	27.8	134000	2.9	43.6	130000	5.8	84	125000	314000	
	560.33	1.3	29.8	192000	1.6	34.8	187000	2.6	52	174000	5.2	94	157000	361000	
	636.74	1.2	26.8	196000	1.4	31.3	191000	2.3	46.8	178000	4.6	84	160000	361000	
	766.44	0.98	20.9	184000	1.2	24.7	181000	1.9	38.7	176000	3.8	72	164000	361000	
JPL 21005	841.56	0.89	26.6	251000	1.1	31.0	244000	1.7	46.5	227000	3.4	87	212000	406000	36 (H-F)
	993.51	0.75	23.1	257000	0.91	27.0	250000	1.5	40.4	233000	2.9	74	214000	406000	
	1128.99	0.66	20.7	262000	0.80	24.2	255000	1.3	36.2	237000	2.6	66	215000	406000	
	1246.76	0.60	19.0	266000	0.72	22.2	259000	1.2	33.3	241000	2.3	60	217000	406000	
	1416.77	0.53	17.1	272000	0.64	19.9	264000	1.0	29.9	246000	2.0	54	221000	406000	
	1625.09	0.46	11.9	218000	0.55	13.9	212000	0.89	20.9	197000	1.8	37.8	178000	406000	
	1773.58	0.42	11.1	221000	0.51	12.9	215000	0.82	19.4	200000	1.6	34.9	180000	406000	
	1992.34	0.38	12.8	286000	0.45	14.9	278000	0.73	22.4	259000	1.5	40.3	233000	406000	
	2255.67	0.33	10.5	266000	0.40	12.5	263000	0.64	19.5	256000	1.3	36.3	237000	406000	
	2536.60	0.30	8.5	242000	0.35	9.9	235000	0.57	14.9	219000	1.1	26.8	197000	361000	
	2882.50	0.26	7.6	247000	0.31	8.9	240000	0.50	13.3	223000	1.0	24.0	201000	361000	
	3129.84	0.24	6.8	240000	0.29	8.0	234000	0.46	12.0	218000	0.93	21.6	196000	406000	

* JPL 18001

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPW 21003	49.55	15.1	239	137000	18.2	280	134000	29.3	391	116000	59	634	94500	351000	49 (H-F)
	66.53	11.3	194	150000	13.5	230	148000	21.8	360	144000	43.6	634	127000	361000	
	77.74	9.6	135	122000	11.6	160	120000	18.7	251	117000	37.3	481	112000	314000	
	86.72	8.6	151	152000	10.4	179	150000	16.7	281	146000	33.4	540	141000	361000	
	104.38	7.2	127	154000	8.6	150	152000	13.9	236	148000	27.8	453	142000	361000	
JPW 21004	179.50	4.2	103	209000	5.0	122	207000	8.1	178	187000	16.2	289	152000	351000	40 (H-F)
	233.97	3.2	65	172000	3.8	77	170000	6.2	121	166000	12.4	233	159000	351000	
	245.84	3.1	77	213000	3.7	91	211000	5.9	142	205000	11.8	232	167000	351000	
	272.73	2.7	57	175000	3.3	67	173000	5.3	105	169000	10.6	201	161000	351000	
	314.15	2.4	49.5	176000	2.9	58	171000	4.6	87	160000	9.2	164	151000	361000	
	355.49	2.1	43.8	176000	2.5	52	175000	4.1	82	170000	8.2	157	163000	351000	
	385.71	1.9	30.5	133000	2.4	48.8	174000	3.8	74	164000	7.5	109	123000	314000	
	430.25	1.7	37.9	185000	2.1	44.3	180000	3.4	66	167000	6.7	122	154000	361000	
	501.53	1.5	33.3	189000	1.8	38.9	184000	2.9	58	171000	5.8	106	156000	361000	
	574.55	1.3	27.7	180000	1.6	32.9	178000	2.5	52	174000	5.0	93	157000	361000	
	653.72	1.1	26.6	197000	1.4	31.0	192000	2.2	46.5	178000	4.4	84	161000	361000	
	786.88	1.0	20.7	185000	1.1	24.4	182000	1.8	38.3	177000	3.7	72	165000	361000	
JPW 21005	651.21	1.2	29.2	210000	1.4	33.2	199000	2.2	46.4	173000	4.5	75	140000	351000	32 (H-F)
	740.01	1.0	29.2	239000	1.2	33.2	226000	2.0	46.4	196000	3.9	75	159000	351000	
	891.87	0.84	25.6	252000	1.0	30.0	246000	1.6	45.0	229000	3.3	75	192000	351000	
	993.62	0.75	19.1	210000	0.91	22.3	204000	1.5	33.4	190000	2.9	60	171000	361000	
	1139.72	0.66	17.0	214000	0.79	19.9	208000	1.3	29.8	194000	2.5	54	175000	361000	
	1255.53	0.60	15.7	217000	0.72	18.3	211000	1.2	27.4	197000	2.3	49.4	177000	361000	
	1426.74	0.53	14.1	222000	0.63	16.4	216000	1.0	24.6	201000	2.0	44.3	181000	361000	
	1560.92	0.48	13.0	225000	0.58	15.2	219000	0.93	22.8	203000	1.9	41.1	183000	361000	
	1773.77	0.42	11.7	229000	0.51	13.6	223000	0.82	20.5	207000	1.6	36.8	187000	361000	
	1969.88	0.38	9.8	212000	0.46	11.4	206000	0.74	17.1	192000	1.5	31.8	179000	361000	
	2241.32	0.33	9.6	237000	0.40	11.2	231000	0.65	16.8	215000	1.3	30.2	193000	361000	
	2546.95	0.29	8.6	242000	0.35	10.0	235000	0.57	15.0	219000	1.1	27.1	197000	361000	
	3065.78	0.24	6.7	227000	0.29	7.8	221000	0.47	11.7	205000	0.95	21.1	185000	361000	

JPL26000

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPL 26001	3.68	204	2405	110000	245	2733	104000	394	3816	90200	—	—	—	540000	136 (H-F)
	4.94	152	1890	116000	182	2147	110000	293	2998	95100	—	—	—	414000	
JPL 26002	14.72	51	810	144000	61	920	137000	99	1284	118000	—	—	—	540000	85 (H-F)
	17.17	43.7	714	148000	52	811	140000	84	1132	122000	—	—	—	540000	
	19.76	37.9	670	160000	45.5	796	159000	73	1165	144000	—	—	—	414000	
	23.06	32.5	580	162000	39.0	688	160000	63	1046	151000	—	—	—	414000	
JPL 26003	58.88	12.7	315	219000	15.3	357	207000	24.6	499	179000	—	—	—	540000	61 (H-F)
	69.27	10.8	281	230000	13.0	319	217000	20.9	445	188000	—	—	—	540000	
	80.82	9.3	244	233000	11.1	281	224000	17.9	393	194000	—	—	—	540000	
	92.24	8.1	161	175000	9.8	191	173000	15.7	300	169000	—	—	—	414000	
	108.51	6.9	138	177000	8.3	164	175000	13.4	257	170000	—	—	—	414000	
JPL 26004	209.76	3.6	110	264000	4.3	128	257000	6.9	192	239000	13.8	342	213000	540000	48 (H-F)
	246.78	3.0	95	271000	3.6	111	264000	5.9	167	245000	11.8	305	224000	540000	
	287.74	2.6	84	277000	3.1	98	270000	5.0	147	251000	10.1	271	232000	540000	
	328.40	2.3	54	204000	2.7	63	198000	4.4	94	184000	8.8	178	174000	414000	
	353.28	2.1	70	286000	2.5	82	278000	4.1	123	259000	8.2	223	234000	540000	
	400.04	1.9	59	273000	2.2	71	271000	3.6	111	263000	7.2	200	238000	540000	
	450.74	1.7	41.2	214000	2.0	48.1	208000	3.2	72	194000	6.4	132	177000	414000	
	554.16	1.4	44.2	282000	1.6	52	276000	2.6	81	268000	5.2	151	250000	540000	
	631.92	1.2	30.9	225000	1.4	36.1	219000	2.3	54	204000	4.6	98	183000	414000	
	744.08	1.0	26.9	231000	1.2	31.4	224000	1.9	47.1	209000	3.9	85	188000	414000	
JPL 26005	755.14	0.99	37.9	321000	1.2	44.2	312000	1.9	66	290000	3.8	119	262000	540000	40 (H-F)
	891.48	0.84	32.9	329000	1.0	38.4	320000	1.6	58	298000	3.3	104	268000	540000	
	1013.93	0.74	21.2	242000	0.89	24.8	235000	1.4	37.2	219000	2.9	67	197000	414000	
	1118.72	0.67	27.1	341000	0.80	31.7	331000	1.3	47.5	308000	2.6	86	278000	540000	
	1261.21	0.59	22.6	319000	0.71	26.4	311000	1.1	39.5	289000	2.3	74	270000	540000	
	1426.71	0.53	20.3	325000	0.63	23.7	317000	1.0	35.6	295000	2.0	66	272000	540000	
	1601.54	0.47	20.0	360000	0.56	23.4	350000	0.91	35.0	325000	1.8	63	293000	540000	
	1783.98	0.42	18.3	366000	0.50	21.3	356000	0.81	32.0	331000	1.6	58	298000	540000	
	1994.99	0.38	15.3	342000	0.45	17.9	333000	0.73	26.8	310000	1.5	48.2	279000	540000	
	2252.16	0.33	15.0	379000	0.40	17.5	368000	0.64	26.2	343000	1.3	47.2	309000	540000	
	2503.24	0.30	12.7	356000	0.36	15.0	352000	0.58	23.6	342000	1.2	43.2	314000	540000	
	2854.49	0.26	8.8	283000	0.32	10.3	275000	0.51	15.4	256000	1.0	27.8	230000	414000	
	3091.20	0.24	10.5	366000	0.29	12.3	356000	0.47	18.5	331000	0.94	33.2	298000	540000	
	3532.80	0.21	9.4	373000	0.25	11.0	363000	0.41	16.5	338000	0.82	29.7	304000	540000	

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPW 26003	55.81	13.4	239	155000	16.1	280	151000	26.0	391	131000	52	634	106000	396000	49 (H-F)
	64.24	11.7	230	172000	14.0	273	170000	22.6	391	151000	45.1	634	122000	414000	
	74.94	10.0	199	173000	12.0	236	171000	19.3	370	167000	38.7	634	143000	414000	
JPW 26004	180.85	4.1	112	230000	5.0	127	218000	8.0	178	189000	16.0	289	153000	540000	42 (H-F)
	212.76	3.5	110	265000	4.2	127	256000	6.8	178	222000	13.6	289	180000	540000	
	248.22	3.0	95	266000	3.6	112	263000	5.8	169	245000	11.7	289	210000	540000	
	285.67	2.6	62	200000	3.2	72	194000	5.1	108	181000	10.2	207	173000	414000	
	320.57	2.3	57	206000	2.8	67	204000	4.5	105	198000	9.0	201	189000	540000	
	368.94	2.0	50	207000	2.4	58	202000	3.9	87	188000	7.9	162	175000	414000	
	434.05	1.7	43.2	213000	2.1	50	207000	3.3	76	192000	6.7	139	177000	414000	
	506.39	1.5	37.9	218000	1.8	44.3	212000	2.9	66	197000	5.7	120	179000	414000	
JPW 26005	613.14	1.2	45.9	311000	1.5	54	303000	2.4	80	281000	4.7	145	253000	540000	36 (H-F)
	714.92	1.0	40.3	318000	1.3	47.0	310000	2.0	71	288000	4.1	127	259000	540000	
	834.08	0.90	32.6	300000	1.1	38.0	292000	1.7	58	275000	3.5	111	264000	540000	
	877.76	0.85	33.9	328000	1.0	39.5	319000	1.7	59	297000	3.3	107	268000	540000	
	987.11	0.76	30.7	334000	0.91	35.8	325000	1.5	54	303000	2.9	97	272000	540000	
	1119.92	0.67	19.8	245000	0.80	23.2	239000	1.3	34.7	222000	2.6	62	200000	414000	
	1201.15	0.62	25.9	344000	0.75	30.3	335000	1.2	45.4	312000	2.4	82	281000	540000	
	1413.12	0.53	22.6	353000	0.64	26.4	343000	1.0	39.6	319000	2.1	71	288000	540000	
	1600.15	0.47	18.7	331000	0.56	21.9	322000	0.91	32.8	300000	1.8	60	274000	540000	
	1802.97	0.42	13.2	264000	0.50	15.5	257000	0.80	23.2	239000	1.6	41.7	215000	414000	
	1899.99	0.39	17.6	369000	0.47	20.5	359000	0.76	30.8	334000	1.5	55	301000	540000	
	2216.66	0.34	14.2	348000	0.41	16.6	338000	0.65	24.9	315000	1.3	44.8	283000	540000	
	2527.69	0.30	9.9	278000	0.36	11.6	270000	0.57	17.4	251000	1.1	31.3	226000	414000	

JPL31000

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPL 31001	3.43	219	3309	141000	263	3760	133000	—	—	—	—	—	—	549000	214 (H-F)
	4.09	183	2891	147000	220	3285	139000	—	—	—	—	—	—	650000	
	5.25	143	2357	154000	171	2678	145000	—	—	—	—	—	—	526000	
	6.23	120	1968	152000	144	2338	151000	—	—	—	—	—	—	420000	
JPL 31002	14.03	53	1266	215000	64	1438	204000	103	2008	176000	—	—	—	549000	125 (H-F)
	18.00	41.7	1015	221000	50	1205	219000	81	1687	190000	—	—	—	549000	
	21.48	34.9	929	242000	41.9	1055	229000	68	1474	198000	—	—	—	650000	
	25.49	29.4	824	254000	35.3	936	241000	57	1307	209000	—	—	—	650000	
	32.71	22.9	536	212000	27.5	636	210000	44.3	998	204000	—	—	—	526000	
	38.82	19.3	360	169000	23.2	427	167000	37.3	670	163000	—	—	—	420000	
JPL31003	56.10	13.4	356	236000	16.0	423	233000	25.8	655	224000	—	—	—	549000	89 (H-F)
	66.94	11.2	363	287000	13.4	431	284000	21.7	655	268000	—	—	—	650000	
	78.76	9.5	311	289000	11.4	370	286000	18.4	573	276000	—	—	—	650000	
	85.91	8.7	221	224000	10.5	263	222000	16.9	412	216000	—	—	—	526000	
	101.07	7.4	251	299000	8.9	292	291000	14.3	458	283000	—	—	—	650000	
	110.25	6.8	175	227000	8.2	208	225000	13.2	326	219000	—	—	—	526000	
	129.71	5.8	152	232000	6.9	178	227000	11.2	279	221000	—	—	—	526000	
	153.94	4.9	131	238000	5.8	153	232000	9.4	238	223000	—	—	—	526000	
	182.69	4.1	88	189000	4.9	102	184000	7.9	159	178000	—	—	—	420000	
JPL 31004	199.87	3.8	122	282000	4.5	143	274000	7.3	214	255000	14.5	362	215000	549000	69 (H-F)
	233.05	3.2	108	288000	3.9	126	280000	6.2	188	261000	12.4	319	222000	549000	
	256.50	2.9	99	293000	3.5	116	285000	5.7	173	265000	11.3	312	238000	549000	
	280.57	2.7	108	349000	3.2	126	339000	5.2	189	316000	10.3	345	288000	650000	
	327.14	2.3	95	357000	2.8	111	347000	4.4	166	323000	8.9	299	291000	650000	
	356.85	2.1	88	362000	2.5	103	352000	4.1	154	327000	8.1	278	295000	650000	
	401.65	1.9	80	368000	2.2	93	358000	3.6	139	333000	7.2	251	300000	650000	
	438.14	1.7	74	373000	2.1	86	363000	3.3	129	338000	6.6	233	304000	650000	
	500.29	1.5	66	381000	1.8	77	370000	2.9	116	345000	5.8	208	310000	650000	
	562.28	1.3	44.8	290000	1.6	52	282000	2.6	78	262000	5.2	141	236000	526000	
	639.43	1.2	40.2	296000	1.4	46.9	288000	2.3	70	268000	4.5	127	241000	526000	
	699.14	1.1	42.9	345000	1.3	50	335000	2.1	78	326000	4.1	151	314000	650000	
	785.08	0.96	33.8	305000	1.1	39.4	297000	1.8	59	276000	3.7	106	249000	526000	
	897.23	0.84	30.1	311000	1.0	35.2	303000	1.6	53	282000	3.2	95	254000	526000	
	1055.57	0.71	26.3	319000	0.9	30.7	310000	1.4	45.9	289000	2.7	83	260000	526000	
	1252.76	0.60	17.6	253000	0.7	20.5	246000	1.2	30.7	229000	2.3	55	206000	420000	
JPL 31005	719.53	1.04	42.4	342000	1.3	49.4	333000	2.0	74	309000	4.0	133	279000	549000	57 (H-F)
	858.53	0.87	42.9	413000	1.0	50.1	402000	1.7	75	374000	3.4	135	337000	650000	
	1001.04	0.75	37.6	423000	0.90	43.9	411000	1.4	66	383000	2.9	119	345000	650000	
	1101.78	0.68	34.7	429000	0.82	40.5	417000	1.3	61	388000	2.6	109	350000	650000	
	1254.09	0.60	26.4	372000	0.72	30.9	362000	1.2	46.3	337000	2.3	83	303000	549000	
	1403.42	0.53	28.3	445000	0.64	33.0	433000	1.0	49.4	403000	2.1	89	363000	650000	
	1577.29	0.48	25.6	453000	0.57	29.9	441000	0.92	44.8	410000	1.8	81	369000	650000	
	1784.27	0.42	23.0	461000	0.50	20.1	336000	0.81	40.3	418000	1.6	73	376000	650000	
	1981.09	0.38	15.8	351000	0.45	18.4	341000	0.73	27.6	318000	1.5	50	286000	526000	
	2239.08	0.33	19.0	478000	0.40	22.2	465000	0.65	33.3	432000	1.3	60	389000	650000	
	2516.91	0.30	14.8	419000	0.36	17.3	407000	0.58	25.9	379000	1.2	46.7	341000	650000	
	2811.38	0.27	11.7	370000	0.32	13.7	360000	0.52	20.5	335000	1.0	37.0	301000	526000	
	3148.70	0.24	14.2	503000	0.29	16.6	489000	0.46	24.9	455000	0.92	44.8	410000	650000	
	3559.02	0.21	9.6	383000	0.25	11.2	373000	0.41	16.8	347000	0.81	30.3	312000	526000	

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPW 31004	172.32	4.4	112	219000	5.2	127	207000	8.4	178	180000	16.8	289	146000	549000	60 (H-F)
	205.61	3.6	112	261000	4.4	127	247000	7.1	178	214000	14.1	289	174000	650000	
	221.14	3.4	112	281000	4.1	127	266000	6.6	178	231000	13.1	289	187000	549000	
	263.86	2.8	112	335000	3.4	127	317000	5.5	178	275000	11.0	289	223000	526000	
	310.43	2.4	101	354000	2.9	118	344000	4.7	176	321000	9.3	289	263000	526000	
	368.42	2.0	78	327000	2.4	93	323000	3.9	146	314000	7.9	274	296000	650000	
	398.38	1.9	61	275000	2.3	71	268000	3.6	107	249000	7.3	194	227000	549000	
	469.14	1.6	53	280000	1.9	63	277000	3.1	98	270000	6.2	189	259000	549000	
	514.50	1.5	49	286000	1.7	57	278000	2.8	86	259000	5.6	155	233000	526000	
	561.13	1.3	35	224000	1.6	41	218000	2.6	62	203000	5.2	111	183000	420000	
	610.62	1.2	42	294000	1.5	50	286000	2.4	74	266000	4.7	134	239000	526000	
	718.37	1.0	37	301000	1.3	43	293000	2.0	65	272000	4.0	117	245000	526000	
	852.57	0.88	25	239000	1.1	29	232000	1.7	43	216000	3.4	78	195000	549000	
JPW 31005	584.24	1.3	51	331000	1.5	60	322000	2.5	90	300000	5.0	162	270000	650000	50 (H-F)
	697.10	1.1	52	400000	1.3	61	389000	2.1	91	362000	4.2	164	326000	650000	
	812.81	0.92	45.6	410000	1.1	53	398000	1.8	80	371000	3.6	144	334000	420000	
	894.61	0.84	42.1	416000	1.0	49.1	404000	1.6	74	376000	3.2	133	339000	650000	
	997.95	0.75	38.3	423000	0.90	44.7	411000	1.5	67	382000	2.9	121	344000	650000	
	1122.27	0.67	34.7	430000	0.80	40.5	418000	1.3	61	389000	2.6	109	351000	650000	
	1262.77	0.59	26.7	372000	0.71	31.2	362000	1.1	46.7	337000	2.3	84	303000	549000	
	1427.41	0.53	28.3	446000	0.63	33.0	434000	1.0	37.0	302000	2.0	89	364000	650000	
	1578.57	0.48	26.0	453000	0.57	30.3	441000	0.92	45.4	410000	1.8	82	369000	650000	
	1788.19	0.42	20.1	397000	0.50	23.5	387000	0.81	35.2	360000	1.6	65	331000	650000	
	2001.18	0.37	21.2	469000	0.45	18.6	342000	0.72	37.2	425000	1.4	67	383000	650000	
	2227.34	0.34	14.5	357000	0.40	16.9	347000	0.65	25.4	323000	1.3	45.7	291000	526000	
	2557.72	0.29	12.9	365000	0.35	15.1	355000	0.57	22.6	330000	1.1	40.7	297000	526000	
	2796.56	0.27	13.8	425000	0.32	16.1	414000	0.52	24.1	385000	1.0	43.4	347000	650000	
	3140.31	0.24	10.8	376000	0.29	12.7	366000	0.46	19.0	340000	0.92	34.2	307000	526000	
	3557.65	0.21	9.8	383000	0.25	11.4	373000	0.41	17.1	347000	0.82	30.7	312000	526000	
	4222.26	0.18	8.4	393000	0.21	9.8	383000	0.34	14.8	356000	0.69	26.6	321000	526000	
	5011.04	0.15	5.6	312000	0.18	6.6	304000	0.29	9.9	283000	0.58	17.8	255000	420000	

JPL40000

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPL 40001	3.43	219	3905	166000	263	4436	157000	—	—	—	—	—	—	650000	224 (H-F)
	4.09	183	3412	173000	220	3876	164000	—	—	—	—	—	—	650000	
	5.25	143	2782	181000	171	3160	172000	—	—	—	—	—	—	650000	
	6.23	120	2436	188000	144	2768	178000	—	—	—	—	—	—	522000	
JPL 40002	14.03	53	1425	242000	64	1619	229000	103	2260	198000	—	—	—	650000	130 (H-F)
	16.74	44.8	1305	264000	54	1483	250000	87	2071	217000	—	—	—	650000	
	18.00	41.7	1161	253000	50	1319	239000	81	1842	208000	—	—	—	650000	
	21.48	34.9	1096	285000	41.9	1245	270000	68	1739	234000	—	—	—	650000	
	25.49	29.4	909	280000	35.3	1079	277000	57	1542	246000	—	—	—	650000	
	27.56	27.2	783	261000	32.7	930	258000	53	1418	245000	—	—	—	650000	
	32.71	22.9	666	264000	27.5	791	261000	44.3	1240	254000	—	—	—	650000	
	38.82	19.3	447	210000	23.2	531	208000	37.3	832	202000	—	—	—	522000	
JPL 40003	56.10	13.4	413	273000	16.0	469	259000	25.8	655	224000	52	1064	182000	650000	76 (H-F)
	66.94	11.2	413	326000	13.4	469	309000	21.7	655	268000	43.3	1064	217000	650000	
	72.00	10.4	352	300000	12.5	415	294000	20.1	650	286000	40.3	1064	234000	650000	
	78.76	9.5	361	336000	11.4	411	318000	18.4	573	276000	36.8	932	224000	650000	
	85.91	8.7	357	362000	10.5	423	358000	16.9	655	343000	33.8	1064	279000	650000	
	101.07	7.4	311	371000	8.9	363	361000	14.3	569	351000	28.7	932	287000	650000	
	110.25	6.8	217	283000	8.2	258	280000	13.2	404	272000	26.3	778	262000	650000	
	129.71	5.8	189	289000	6.9	221	282000	11.2	347	275000	22.4	667	264000	650000	
	155.29	4.8	125	229000	5.8	147	225000	9.3	231	219000	18.7	444	211000	522000	
	182.69	4.1	109	235000	4.9	127	229000	7.9	198	221000	15.9	381	212000	522000	
JPL 40004	199.87	3.8	140	323000	4.5	159	305000	7.3	223	265000	14.5	362	215000	650000	72 (H-F)
	235.14	3.2	132	358000	3.8	155	348000	6.2	223	311000	12.3	362	253000	650000	
	256.50	2.9	114	338000	3.5	136	334000	5.7	213	325000	11.3	362	276000	650000	
	280.57	2.7	134	433000	3.2	157	421000	5.2	223	372000	10.3	362	302000	650000	
	306.05	2.5	93	329000	2.9	109	320000	4.7	163	297000	9.5	362	329000	650000	
	351.86	2.1	85	344000	2.6	101	341000	4.1	158	331000	8.2	296	310000	650000	
	401.65	1.9	99	457000	2.2	116	445000	3.6	166	398000	7.2	270	323000	650000	
	438.14	1.7	82	412000	2.1	97	407000	3.3	152	396000	6.6	270	353000	650000	
	500.29	1.5	72	417000	1.8	86	410000	2.9	134	399000	5.8	244	363000	650000	
	562.28	1.3	56	360000	1.6	65	351000	2.6	97	326000	5.2	175	294000	650000	
	639.43	1.2	49.9	367000	1.4	58	357000	2.3	87	333000	4.5	157	299000	650000	
	699.14	1.1	42.9	345000	1.3	50	335000	2.1	78	326000	4.1	151	314000	650000	
	791.98	0.95	32.2	294000	1.1	37.6	286000	1.8	56	266000	3.7	102	239000	522000	
	889.41	0.84	37.7	386000	1.0	44.1	376000	1.6	66	350000	3.3	119	315000	650000	
	1055.57	0.71	32.6	396000	0.85	38.1	386000	1.4	57	359000	2.7	103	323000	650000	
JPL 40005	719.53	1.0	52.6	424000	1.25	61.4	413000	2.0	92	384000	4.0	151	316000	650000	59 (H-F)
	858.53	0.87	53.3	513000	1.05	62.2	499000	1.7	93	464000	3.4	151	377000	650000	
	999.35	0.75	37.5	421000	0.90	44.6	417000	1.5	70	404000	2.9	125	363000	650000	
	1101.78	0.68	38.0	470000	0.82	44.4	457000	1.3	67	425000	2.6	126	402000	650000	
	1254.09	0.60	30.3	426000	0.72	36.0	422000	1.2	56	411000	2.3	103	376000	650000	
	1413.96	0.53	26.1	414000	0.64	30.5	403000	1.0	45.7	375000	2.1	82	338000	650000	
	1577.29	0.48	28.0	496000	0.57	32.7	483000	0.92	49.1	449000	1.8	90	410000	650000	
	1784.27	0.42	25.3	506000	0.50	29.5	492000	0.81	44.2	458000	1.6	80	413000	650000	
	1981.09	0.38	19.6	436000	0.45	22.9	424000	0.73	34.3	395000	1.5	62	355000	650000	
	2239.08	0.33	20.8	520000	0.40	24.3	509000	0.65	36.5	474000	1.3	66	427000	650000	
	2514.73	0.30	14.8	419000	0.36	17.3	407000	0.58	26.0	379000	1.2	46.7	341000	650000	
	2811.38	0.27	14.6	460000	0.32	17.0	447000	0.52	25.5	416000	1.0	45.9	375000	650000	
	3166.70	0.24	12.2	433000	0.28	14.2	422000	0.46	21.3	392000	0.92	38.4	353000	650000	
	3559.02	0.21	11.9	476000	0.25	13.9	463000	0.41	20.9	431000	0.81	37.6	388000	650000	

		n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM				
	ie	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	T _{2max} [Nm]	P _t [kW]
JPW 40004	172.32	4.4	112	219000	5.2	127	207000	8.4	178	180000	16.8	289	146000	650000	62 (H-F)
	205.61	3.6	112	261000	4.4	127	247000	7.1	178	214000	14.1	289	174000	650000	
	221.14	3.4	112	281000	4.1	127	266000	6.6	178	231000	13.1	289	187000	650000	
	260.17	2.9	112	331000	3.5	127	313000	5.6	178	271000	11.1	289	220000	650000	
	310.43	2.4	112	394000	2.9	127	373000	4.7	178	324000	9.3	289	263000	650000	
	368.42	2.0	78	327000	2.4	93	323000	3.9	146	314000	7.9	280	302000	650000	
	398.38	1.9	76	342000	2.3	88	333000	3.6	133	310000	7.3	241	282000	650000	
	469.14	1.6	53	280000	1.9	63	277000	3.1	98	270000	6.2	189	259000	648000	
	514.50	1.5	57	330000	1.7	67	327000	2.8	105	318000	5.6	192	290000	650000	
	559.77	1.3	53	334000	1.6	63	331000	2.6	98	322000	5.2	189	310000	650000	
	610.62	1.2	53	365000	1.5	62	355000	2.4	92	330000	4.7	166	297000	650000	
	718.37	1.0	45.9	374000	1.3	54	364000	2.0	80	338000	4.0	145	305000	650000	
	852.57	0.88	30.7	297000	1.1	35.9	289000	1.7	54	269000	3.4	97	242000	522000	
JPW 40005	584.24	1.3	64	411000	1.5	74	400000	2.5	109	365000	5.0	178	297000	650000	54 (H-F)
	697.10	1.1	65	497000	1.3	75	484000	2.1	109	436000	4.2	178	354000	650000	
	799.48	0.94	48.8	431000	1.1	57	419000	1.8	85	390000	3.6	143	326000	650000	
	894.61	0.84	46.1	456000	1.0	54	443000	1.6	81	413000	3.2	155	397000	650000	
	997.95	0.75	47.6	520000	0.90	56	511000	1.5	82	467000	2.9	133	379000	650000	
	1122.27	0.67	40.4	501000	0.80	48.0	495000	1.3	75	482000	2.6	136	435000	650000	
	1262.77	0.59	29.6	413000	0.71	34.6	402000	1.1	52	374000	2.3	95	343000	650000	
	1427.41	0.53	31.0	489000	0.63	36.2	476000	1.0	54	442000	2.0	100	408000	650000	
	1578.57	0.48	26.1	456000	0.57	31.0	451000	0.92	48.6	439000	1.8	94	422000	650000	
	1788.19	0.42	20.1	397000	0.50	19.6	323000	0.81	35.2	360000	1.6	65	331000	650000	
	1993.03	0.38	18.4	404000	0.45	21.4	393000	0.73	32.1	366000	1.5	58	333000	650000	
	2227.34	0.34	18.0	444000	0.40	21.1	432000	0.65	31.6	402000	1.3	57	362000	650000	
	2557.72	0.29	16.0	453000	0.35	18.7	441000	0.57	28.1	410000	1.1	51	369000	650000	
	2796.56	0.27	13.8	425000	0.32	16.1	414000	0.52	24.1	385000	1.0	43.4	347000	650000	
	3140.31	0.24	13.5	467000	0.29	15.7	455000	0.46	23.6	423000	0.92	42.5	381000	650000	
	3557.65	0.21	12.1	476000	0.25	14.1	463000	0.41	21.2	431000	0.82	38.2	388000	650000	
	4222.26	0.18	10.5	489000	0.21	12.2	476000	0.34	18.3	442000	0.69	33.0	398000	650000	
	5011.04	0.15	7.0	388000	0.18	8.2	378000	0.29	12.3	351000	0.58	22.1	316000	522000	

JPL45000

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPL 45001	3.83	196	4792	228000	235	5444	216000	—	—	—	—	—	—	650000	224 (H-F)
JPL 45002	14.69	51	1919	341000	61	2180	323000	99	3044	280000	—	—	—	650000	133 (H-F)
	16.87	44.5	1742	356000	53	1979	337000	86	2764	292000	—	—	—	650000	
JPL 45003	56.43	13.3	632	421000	15.9	718	399000	25.7	1003	345000	—	—	—	650000	98 (H-F)
	64.77	11.6	594	454000	13.9	705	449000	22.4	1003	397000	—	—	—	650000	
	76.07	9.9	495	444000	11.8	562	421000	19.1	785	365000	—	—	—	650000	
	87.31	8.6	448	462000	10.3	532	457000	16.6	785	418000	—	—	—	650000	
JPL 45004	193.46	3.9	231	513000	4.7	269	499000	7.5	380	437000	—	—	—	650000	76 (H-F)
	222.06	3.4	205	520000	4.1	239	510000	6.5	359	474000	—	—	—	650000	
	260.80	2.9	176	520000	3.5	209	520000	5.6	313	486000	—	—	—	650000	
	299.35	2.5	159	520000	3.0	186	520000	4.8	279	496000	—	—	—	650000	
	311.18	2.4	149	520000	2.9	177	520000	4.7	270	499000	—	—	—	650000	
	357.18	2.1	137	520000	2.5	160	520000	4.1	240	510000	—	—	—	650000	
	399.34	1.9	118	520000	2.3	140	520000	3.6	218	518000	—	—	—	650000	
	458.38	1.6	111	520000	2.0	129	520000	3.2	194	520000	—	—	—	650000	
JPL 45005	544.01	1.4	96	520000	1.7	112	520000	2.7	168	520000	—	—	—	650000	63 (H-F)
	696.47	1.1	80	520000	1.3	93	520000	2.1	133	520000	4.2	217	438000	650000	
	799.42	0.94	71	520000	1.1	83	520000	1.8	124	520000	3.6	217	503000	650000	
	981.05	0.76	60	520000	0.92	70	520000	1.5	104	520000	3.0	188	520000	650000	
	1126.08	0.67	53	520000	0.80	62	520000	1.3	93	520000	2.6	167	520000	650000	
	1259.02	0.60	48.0	520000	0.71	56	520000	1.2	84	520000	2.3	152	520000	650000	
	1413.12	0.53	43.7	520000	0.64	51	520000	1.0	77	520000	2.1	138	520000	650000	
	1579.95	0.47	38.8	520000	0.57	46.0	520000	0.92	70	520000	1.8	125	520000	650000	
	1813.50	0.41	35.4	520000	0.50	41.3	520000	0.80	62	520000	1.6	112	520000	650000	
	1987.20	0.38	27.2	520000	0.45	32.3	520000	0.73	51	520000	1.5	97	520000	650000	
	2245.11	0.33	27.0	520000	0.40	32.0	520000	0.65	50	520000	1.3	93	520000	650000	
	2502.04	0.30	22.5	520000	0.36	26.7	520000	0.58	41.9	520000	1.2	81	520000	650000	
	2841.93	0.26	21.8	520000	0.32	25.6	520000	0.51	40.2	520000	1.0	76	520000	650000	
	3372.84	0.22	18.9	520000	0.27	22.0	520000	0.43	34.2	520000	0.9	66	520000	650000	
	3554.59	0.21	16.1	520000	0.25	18.7	520000	0.41	28.6	520000	0.8	55	520000	650000	

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPW 45004	210.50	3.6	218	520000	4.3	255	506000	6.9	382	471000	13.8	651	401000	650000	66 (H-F)
	247.21	3.0	188	520000	3.6	222	518000	5.9	333	482000	11.7	582	422000	650000	
	283.76	2.6	169	520000	3.2	198	520000	5.1	296	492000	10.2	550	457000	650000	
JPW 45005	594.21	1.3	93	520000	1.5	108	520000	2.4	162	520000	4.9	292	496000	650000	57 (H-F)
	709.00	1.1	80	520000	1.3	93	520000	2.0	140	520000	4.1	251	509000	650000	
	813.81	0.92	71	520000	1.1	83	520000	1.8	124	520000	3.6	224	520000	650000	
	902.83	0.83	58	520000	1.0	69	520000	1.6	108	520000	3.2	205	520000	650000	
	1036.29	0.72	58	520000	0.87	67	520000	1.4	101	520000	2.8	182	520000	650000	
	1097.04	0.68	54	520000	0.82	64	520000	1.3	96	520000	2.6	174	520000	650000	
	1236.48	0.61	49.8	520000	0.73	58	520000	1.2	87	520000	2.3	157	520000	650000	
	1407.87	0.53	42.5	520000	0.64	50	520000	1.0	78	520000	2.1	140	520000	650000	
	1586.82	0.47	40.3	520000	0.57	47.0	520000	0.91	70	520000	1.8	127	520000	650000	
	1670.88	0.45	36.2	520000	0.54	43.0	520000	0.87	67	520000	1.7	121	520000	650000	
	1883.25	0.40	29.9	520000	0.48	35.5	520000	0.77	56	520000	1.5	107	520000	650000	
	2211.75	0.34	24.4	520000	0.41	29.0	520000	0.66	45.4	520000	1.3	87	520000	650000	

JPL53000

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPL 53001	3.84	195	6576	313000	234	7471	477000	—	—	—	—	—	—	1191000	324 (H-F)
	5.44	138	4311	291000	166	5120	288000	—	—	—	—	—	—	801000	
JPL 53002	14.13	53	2124	363000	64	2413	514000	—	—	—	—	—	—	1191000	185 (H-F)
	18.97	39.5	1669	383000	47.4	1896	490000	—	—	—	—	—	—	1191000	
JPL 53003	111.31	6.7	263	346000	8.1	313	342000	13.0	490	333000	—	—	—	801000	132 (H-F)
	145.09	5.2	209	357000	6.2	244	348000	10.0	382	338000	—	—	—	801000	
	174.64	4.3	178	368000	5.2	208	358000	8.3	321	342000	—	—	—	801000	
JPL 53004	200.72	3.7	239	553000	4.5	272	523000	7.2	380	453000	—	—	—	1191000	103 (H-F)
	400.62	1.9	137	631000	2.2	163	625000	3.6	250	597000	—	—	—	1191000	
	475.46	1.6	117	638000	1.9	138	631000	3.0	217	614000	—	—	—	1191000	
	647.49	1.2	83	616000	1.4	97	600000	2.2	151	584000	—	—	—	1191000	
	768.45	0.98	72	632000	1.2	83	615000	1.9	129	589000	—	—	—	1191000	
JPL 53005	1437.38	0.52	43.1	695000	0.63	50	676000	1.0	75	629000	2.0	141	587000	1191000	84 (H-F)
	1639.22	0.46	38.8	713000	0.55	46.0	706000	0.88	72	687000	1.8	139	660000	1191000	
	1936.50	0.39	33.5	727000	0.46	39.1	707000	0.75	59	658000	1.5	106	597000	1191000	
	2341.28	0.32	27.2	714000	0.38	32.0	701000	0.62	50	673000	1.2	95	647000	1191000	
	2766.43	0.27	22.6	701000	0.33	26.8	694000	0.52	42.0	675000	1.0	78	625000	1191000	
	3143.67	0.24	22.2	782000	0.29	25.9	761000	0.46	38.8	708000	0.9	70	638000	1191000	
	3335.08	0.22	21.1	789000	0.30	24.6	768000	0.43	36.9	715000	0.9	66	643000	1191000	
	3673.37	0.20	18.8	775000	0.25	22.3	767000	0.39	34.0	725000	0.8	61	653000	1191000	

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPW 53003	190.27	3.9	245	527000	4.7	287	515000	7.6	401	447000	15.2	651	363000	1191000	89 (H-F)
	248.00	3.0	219	614000	3.6	255	596000	5.8	356	517000	11.7	578	420000	1191000	
	361.75	2.1	100	410000	2.5	117	399000	4.0	175	372000	8.0	323	342000	801000	
	471.53	1.6	80	427000	1.9	93	416000	3.1	140	387000	6.2	252	348000	801000	
	567.58	1.3	68	439000	1.6	80	427000	2.6	120	398000	5.1	215	358000	801000	
JPW 53004	616.50	1.2	114	773000	1.5	129	733000	2.4	180	635000	4.7	293	516000	1191000	75 (H-F)
	735.60	1.0	99	804000	1.2	112	761000	2.0	157	659000	3.9	255	536000	1191000	
	1117.65	0.67	58	717000	0.81	69	710000	1.3	108	691000	2.6	190	607000	1191000	
	1500.68	0.50	42.2	700000	0.60	49	681000	1.0	74	633000	1.9	137	589000	1191000	
	2360.24	0.32	26.6	695000	0.38	32	687000	0.61	50	669000	1.2	91	611000	1191000	
	2979.23	0.25	23.6	776000	0.30	28	755000	0.49	41	702000	1.0	74	632000	1191000	
	3334.03	0.22	15.6	574000	0.27	18.2	559000	0.43	27	520000	0.87	49	468000	801000	
	3781.89	0.20	14.0	585000	0.24	16.4	570000	0.38	25	530000	0.77	44	477000	801000	
	4218.63	0.18	12.8	595000	0.21	14.9	579000	0.34	22	539000	0.69	40	485000	801000	
	5077.99	0.15	10.9	612000	0.18	12.7	595000	0.29	19	554000	0.57	34	499000	801000	

JPL61000

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPL 61001	3.84	195	8767	418000	—	—	—	—	—	—	—	—	—	1310000	324 (H-F)
JPL 61002	14.13	53	2124	363000	64	2413	344000	—	—	—	—	—	—	1310000	185 (H-F)
	18.97	39.5	1669	383000	47.4	1896	363000	—	—	—	—	—	—	1310000	
JPL 61003	102.46	7.3	451	546000	8.8	536	540000	14.2	779	487000				1310000	132 (H-F)
	123.33	6.1	379	551000	7.3	450	546000	11.8	665	501000				1310000	
JPL 61004	224.42	3.3	243	627000	4.0	276	593000	6.5	385	514000	—	—	—	1310000	103 (H-F)
	292.52	2.6	184	620000	3.1	219	614000	5.0	312	543000	—	—	—	1310000	
	307.35	2.4	195	689000	2.9	221	652000	4.7	309	565000	—	—	—	1310000	
	400.62	1.9	137	631000	2.2	163	625000	3.6	250	597000	—	—	—	1310000	
	537.92	1.4	97	600000	1.7	115	594000	2.7	180	578000	—	—	—	1310000	
	647.49	1.2	83	616000	1.4	97	600000	2.2	151	584000	—	—	—	1310000	
JPL 61005	897.67	0.84	81	816000	1.0	96	807000	1.6	150	780000	3.2	243	633000	1310000	84 (H-F)
	1020.08	0.74	72	822000	0.88	85	813000	1.4	134	791000	2.8	222	658000	1310000	
	1170.06	0.64	51	671000	0.77	61	664000	1.2	95	647000	2.5	183	621000	1310000	
	1229.41	0.61	60	833000	0.73	72	822000	1.2	112	800000	2.4	195	696000	1310000	
	1397.06	0.54	54	849000	0.64	63	828000	1.0	99	806000	2.1	178	723000	1310000	
	1571.06	0.48	40.0	704000	0.57	46.7	685000	0.92	70	638000	1.8	129	590000	1310000	
	1785.29	0.42	35.9	718000	0.50	41.9	699000	0.81	63	650000	1.6	115	595000	1310000	
	1928.91	0.39	24.0	520000	0.47	28.5	515000	0.75	44.7	501000	1.5	86	481000	1310000	
	2151.66	0.35	30.6	739000	0.42	35.7	719000	0.67	53.6	669000	1.3	96	602000	1310000	
	2589.97	0.29	24.0	698000	0.35	28.5	691000	0.56	44.7	672000	1.1	82	619000	1310000	
	2943.14	0.25	21.4	706000	0.31	25.3	696000	0.49	39.7	677000	1.0	74	631000	1310000	

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPW 61004	190.27	3.9	245	527000	4.7	287	515000	7.6	401	447000	15.2	651	363000	1310000	89 (H-F)
	333.00	2.3	155	584000	2.7	184	577000	4.4	288	562000	8.7	554	540000	1310000	
	400.83	1.9	130	590000	2.2	154	584000	3.6	242	568000	7.2	465	546000	1310000	
JPW 61005	898.44	0.83	67	661000	1.0	79	654000	1.6	124	637000	3.2	238	612000	1310000	75 (H-F)
	944.01	0.79	78	818000	1.0	93	810000	1.5	146	788000	3.1	238	643000	1310000	
	1047.28	0.72	58	672000	0.83	69	665000	1.3	108	647000	2.8	206	617000	1310000	
	1230.47	0.61	49.5	673000	0.71	59	666000	1.1	92	648000	2.4	177	623000	1310000	
	1434.32	0.52	54	852000	0.63	63	829000	1.0	98	807000	2.0	178	729000	1310000	
	1652.17	0.40	38.9	710000	0.54	45.4	691000	0.88	68	642000	1.8	125	592000	1310000	
	1988.72	0.38	31.3	688000	0.45	37.2	681000	0.73	58	661000	1.5	105	598000	1310000	
	2206.27	0.34	28.4	692000	0.41	33.7	685000	0.66	53	666000	1.3	96	604000	1310000	
	2510.28	0.30	27.3	756000	0.36	31.8	736000	0.58	47.7	684000	1.2	85.9	616000	1310000	
	3021.63	0.25	21.2	709000	0.30	25.1	697000	0.58	39.3	678000	0.96	73.4	634000	1310000	
JPW 61006	3259.46	0.23	21.6	758000	0.28	24.6	737000	0.44	37.8	686000	0.89	72.6	659000	1310000	63 (H-F)
	3590.67	0.21	22.2	858000	0.25	25.2	812000	0.40	35.2	704000	0.81	57.2	572000	1310000	
	3923.43	0.19	13.6	574000	0.23	15.9	559000	0.37	23.9	522000	0.74	45.9	501000	1310000	
	4464.05	0.17	16.5	795000	0.20	19.3	773000	0.32	28.9	719000	0.65	54.0	671000	1310000	
	5072.78	0.15	14.8	810000	0.18	17.3	788000	0.29	25.9	733000	0.57	47.8	676000	1310000	
	5588.25	0.13	16.5	994000	0.16	19.6	984000	0.26	30.4	948000	0.52	54.8	853000	1310000	
	6284.23	0.12	12.8	869000	0.14	15.0	845000	0.23	22.5	786000	0.46	40.5	708000	1310000	
	7141.17	0.11	11.5	886000	0.13	13.4	862000	0.20	20.2	802000	0.41	36.3	722000	1310000	
	8198.76	0.09	9.3	825000	0.11	10.9	802000	0.18	16.3	746000	0.35	30.2	690000	1310000	
	8767.77	0.09	6.9	649000	0.10	8.0	631000	0.17	12.0	587000	0.33	21.6	529000	1310000	
	10359.87	0.07	7.7	854000	0.09	8.9	831000	0.14	13.4	773000	0.28	24.2	700000	1310000	
	11772.58	0.06	6.9	871000	0.08	8.0	847000	0.12	12.0	788000	0.25	21.6	710000	1310000	

JPL85000

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPL 85001	3.84	195	10959	522000	—	—	—	—	—	—	—	—	—	1310000	336 (H-F)
JPL 85002	14.13	53	2467	422000	64	2803	400000	—	—	—	—	—	—	1310000	193 (H-F)
	18.97	39.5	1938	445000	47.4	2202	421000	—	—	—	—	—	—	1310000	
JPL 85003	56.52	13.3	830	554000	15.9	943	524000	25.7	1317	455000	—	—	—	1310000	141 (H-F)
	65.95	11.4	732	570000	13.6	832	539000	22.0	1161	467000	—	—	—	1310000	
	75.90	9.9	688	616000	11.9	817	609000	19.1	1195	554000	—	—	—	1310000	
	88.55	8.5	595	621000	10.2	706	615000	16.4	1073	580000	—	—	—	1310000	
JPL 85004	226.10	3.3	323	840000	4.0	367	795000	6.4	512	689000	12.8	832	560000	1310000	110 (H-F)
	266.00	2.8	288	882000	3.4	327	835000	5.5	457	723000	10.9	742	588000	1310000	
	310.33	2.4	250	894000	2.9	288	858000	4.7	403	744000	9.3	654	604000	1310000	
	354.18	2.1	165	673000	2.5	196	666000	4.1	307	648000	8.2	591	623000	1310000	
	416.69	1.8	142	679000	2.2	168	672000	3.5	264	654000	7.0	507	628000	1310000	
JPL 85005	805.48	0.93	112	1015000	1.1	131	988000	1.8	197	919000	3.6	351	819000	1310000	91 (H-F)
	947.62	0.79	98	1041000	0.95	114	1012000	1.5	171	942000	3.1	313	860000	1310000	
	1153.11	0.65	83	1072000	0.78	97	1043000	1.3	145	970000	2.5	267	892000	1310000	
	1261.05	0.59	55	783000	0.71	65	761000	1.1	97	708000	2.3	183	669000	1310000	
	1356.60	0.55	72	1048000	0.66	84	1048000	1.1	126	994000	2.1	229	900000	1310000	
	1582.69	0.47	59	1048000	0.57	70	1041000	0.92	110	1013000	1.8	200	917000	1310000	
	1767.94	0.42	41.5	824000	0.51	48.5	801000	0.82	73	745000	1.6	133	682000	1310000	
	2062.60	0.36	36.4	843000	0.44	42.5	820000	0.70	64	763000	1.4	115	688000	1310000	
	2449.10	0.31	31.5	865000	0.37	36.8	842000	0.59	55	783000	1.2	99	705000	1310000	

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPW 85004	214.32	3.5	245	594000	4.2	287	580000	6.8	401	503000	13.5	651	409000	1310000	92 (H-F)
	246.66	3.0	236	659000	3.6	280	652000	5.9	401	579000	11.8	651	470000	1310000	
	287.77	2.6	204	665000	3.1	242	658000	5.0	380	640000	10.1	651	549000	1310000	
JPW 85005	694.45	1.1	115	882000	1.3	131	835000	2.1	182	724000	4.2	296	588000	1310000	79 (H-F)
	810.19	0.93	113	1012000	1.1	131	975000	1.8	182	845000	3.6	296	686000	1310000	
	953.16	0.79	97	1022000	0.94	115	1011000	1.5	173	943000	3.0	296	807000	1310000	
	1096.99	0.68	63	766000	0.82	74	745000	1.3	111	694000	2.6	212	664000	1310000	
	1241.33	0.60	58	797000	0.73	69	789000	1.2	108	767000	2.3	206	731000	1310000	
	1448.22	0.52	58	930000	0.62	69	920000	1.0	108	895000	2.0	206	853000	1310000	
	1652.86	0.45	44.7	815000	0.54	52	793000	0.88	78	738000	1.8	144	680000	1310000	
	1944.54	0.39	38.9	836000	0.46	45.4	813000	0.75	68	756000	1.7	124	686000	1310000	
JPW 85006	2354.48	0.32	47.1	1048000	0.38	55.0	1048000	0.62	82	1048000	1.5	148	973000	1310000	69 (H-F)
	2745.30	0.27	41.3	1048000	0.33	48.3	1048000	0.53	72	1048000	1.2	130	996000	1310000	
	3202.85	0.23	33.4	1048000	0.28	39.0	1048000	0.45	59	1048000	1.1	114	1014000	1310000	
	3686.14	0.20	23.2	920000	0.24	27.1	895000	0.39	40.6	833000	0.91	73	750000	1310000	
	3965.43	0.19	30.3	1048000	0.23	35.3	1048000	0.37	52.9	1048000	0.79	95	1048000	1310000	
	4490.27	0.17	25.1	1048000	0.20	29.3	1048000	0.32	43.9	1048000	0.65	83	1033000	1310000	
	5156.29	0.15	22.3	1048000	0.17	26.0	1048000	0.28	39.0	1048000	0.56	73	1042000	1310000	
	5426.38	0.14	23.2	1048000	0.17	27.1	1048000	0.27	40.6	1048000	0.53	73	1104000	1310000	
	6330.78	0.12	18.7	1048000	0.14	21.9	1048000	0.23	32.8	1048000	0.46	60	1048000	1310000	
	7099.24	0.11	13.3	1016000	0.13	15.5	989000	0.20	23.3	920000	0.41	41.9	828000	1310000	
	8250.39	0.09	11.7	1040000	0.11	13.7	1012000	0.18	20.5	941000	0.35	36.9	847000	1310000	
	9796.38	0.08	10.1	1048000	0.09	11.8	1038000	0.15	17.7	966000	0.30	31.9	870000	1310000	
	11429.12	0.07	8.9	1048000	0.08	10.4	1048000	0.13	15.5	989000	0.25	28.0	890000	1310000	

JPL 110000

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPL 110001	4.32	174	10073	540000	—	—	—	—	—	—	—	—	—	2250000	584 (H-F)
JPL 110002	14.81	51	4005	718000	61	4550	680000	—	—	—	—	—	—	2250000	340 (H-F)
	17.67	42.4	3499	749000	51	3976	709000	—	—	—	—	—	—	2250000	
	22.68	33.1	2853	783000	39.7	3241	742000	—	—	—	—	—	—	2250000	
	26.92	27.9	2499	814000	33.4	2839	771000	—	—	—	—	—	—	2250000	
JPL 110003	60.59	12.4	1336	955000	14.9	1587	945000	23.9	2318	857000	—	—	—	2250000	241 (H-F)
	77.76	9.6	1056	969000	11.6	1254	959000	18.6	1889	897000	—	—	—	2250000	
	92.78	8.1	897	982000	9.7	1062	969000	15.6	1664	943000	—	—	—	2250000	
	110.11	6.8	776	1008000	8.2	905	980000	13.2	1416	952000	—	—	—	2250000	
	119.07	6.3	726	1020000	7.6	847	992000	12.2	1316	956000	—	—	—	2250000	
	141.31	5.3	628	1047000	6.4	733	1018000	10.3	1119	966000	—	—	—	2250000	
	167.71	4.5	459	908000	5.4	545	898000	8.6	854	874000	—	—	—	2250000	
JPL 110004	242.37	3.1	407	1136000	3.7	475	1105000	6.0	672	969000	12.0	1091	787000	2250000	186 (H-F)
	289.19	2.6	351	1166000	3.1	409	1135000	5.0	613	1056000	10.0	1091	939000	2250000	
	311.04	2.4	330	1179000	2.9	385	1147000	4.7	577	1067000	9.3	1049	971000	2250000	
	365.93	2.0	287	1209000	2.5	335	1176000	4.0	502	1094000	7.9	905	985000	2250000	
	440.46	1.7	245	1243000	2.0	286	1209000	3.3	429	1125000	6.6	773	1013000	2250000	
	518.19	1.4	214	1274000	1.7	249	1239000	2.8	374	1153000	5.6	673	1038000	2250000	
	560.33	1.3	193	1247000	1.6	227	1220000	2.6	350	1167000	5.2	630	1051000	2250000	
	665.01	1.1	167	1280000	1.4	195	1245000	2.2	303	1197000	4.4	545	1078000	2250000	
	789.24	0.95	112	1016000	1.1	131	988000	1.8	203	955000	3.7	391	918000	2250000	
JPL 110005	863.44	0.87	142	1376000	1.0	163	1320000	1.7	228	1144000	3.4	371	929000	2250000	152 (H-F)
	1015.81	0.74	124	1411000	0.89	144	1372000	1.4	217	1277000	2.9	371	1093000	2250000	
	1108.08	0.68	115	1429000	0.81	134	1390000	1.3	201	1294000	2.6	362	1165000	2250000	
	1236.08	0.61	105	1453000	0.73	122	1413000	1.2	171	1225000	2.3	277	995000	2250000	
	1413.24	0.53	94	1483000	0.64	109	1442000	1.0	164	1342000	2.1	295	1208000	2250000	
	1474.87	0.51	90	1492000	0.61	105	1452000	0.98	158	1351000	2.0	277	1187000	2250000	
	1586.30	0.47	84	1490000	0.57	99	1468000	0.91	148	1366000	1.8	267	1230000	2250000	
	1735.14	0.43	79	1530000	0.52	92	1488000	0.84	137	1384000	1.7	248	1247000	2250000	
	1996.17	0.38	67	1511000	0.45	79	1470000	0.73	118	1368000	1.5	213	1231000	2250000	
	2246.34	0.33	57	1439000	0.40	68	1424000	0.65	106	1386000	1.3	199	1296000	2250000	
	2509.23	0.30	56	1587000	0.36	66	1544000	0.58	101	1464000	1.2	181	1318000	2250000	
	2857.68	0.26	49.8	1595000	0.31	58	1552000	0.51	87	1444000	1.0	157	1300000	2250000	
	3263.09	0.23	44.5	1628000	0.28	52	1583000	0.44	78	1473000	0.89	140	1327000	2250000	
	3553.28	0.21	38.3	1527000	0.25	44.7	1485000	0.41	69	1422000	0.82	133	1367000	2250000	

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPW 110005	744.42	1.0	115	946000	1.2	131	896000	1.9	182	776000	3.9	296	630000	2250000	131 (H-F)
	888.23	0.84	115	1129000	1.0	131	1069000	1.6	182	926000	3.3	296	752000	2250000	
	1044.97	0.72	115	1328000	0.86	131	1257000	1.4	182	1090000	2.8	296	885000	2250000	
	1123.93	0.67	115	1428000	0.80	131	1352000	1.3	182	1172000	2.6	296	952000	2250000	
	1333.89	0.56	80	1182000	0.67	95	1170000	1.1	149	1139000	2.2	296	960000	2250000	
	1462.86	0.51	89	1442000	0.62	104	1402000	0.99	156	1305000	2.0	288	1205000	2250000	
	1591.57	0.47	80	1411000	0.57	95	1396000	0.91	149	1359000	1.8	271	1230000	2250000	
	1736.14	0.43	77	1479000	0.52	90	1439000	0.84	135	1339000	1.7	245	1217000	2250000	
	2042.52	0.37	67	1516000	0.44	78	1475000	0.71	118	1372000	1.4	212	1236000	2250000	
	2222.64	0.34	54	1445000	0.40	69	1412000	0.65	108	1374000	1.3	197	1252000	2250000	
	2418.20	0.31	54	1576000	0.37	64	1430000	0.60	101	1391000	1.2	190	1311000	2250000	
	2637.86	0.28	47	1615000	0.34	63	1533000	0.55	95	1427000	1.1	170	1285000	2250000	
	3103.36	0.24	36.5	1250000	0.29	55	1571000	0.47	82	1462000	0.93	148	1316000	2250000	
	3683.11	0.20	31.5	1283000	0.24	36.8	1248000	0.39	55	1161000	0.79	99	1045000	2250000	
JPW 110006	2523.90	0.30	60	1619000	0.36	70	1575000	0.57	104	1465000	1.1	182	1282000	2250000	114 (H-F)
	2969.29	0.25	52	1659000	0.30	61	1614000	0.49	91	1502000	1.0	163	1352000	2250000	
	3239.00	0.23	47.3	1649000	0.28	55	1604000	0.45	83	1495000	0.90	152	1370000	2250000	
	3542.91	0.21	44.7	1704000	0.25	52	1658000	0.41	78	1542000	0.82	141	1389000	2250000	
	3864.72	0.19	41.5	1727000	0.23	48.4	1680000	0.38	73	1563000	0.75	131	1407000	2250000	
	4506.23	0.17	36.4	1767000	0.20	42.5	1719000	0.32	62	1547000	0.64	115	1440000	2250000	
	5071.95	0.15	32.9	1799000	0.18	38.4	1750000	0.29	58	1628000	0.57	104	1466000	2250000	
	5652.95	0.13	30.0	1800000	0.16	35.1	1779000	0.26	53	1655000	0.51	95	1490000	2250000	
	6317.56	0.12	27.3	1800000	0.14	31.9	1800000	0.23	47.8	1683000	0.46	86	1516000	2250000	
	7100.24	0.11	23.9	1800000	0.13	27.9	1781000	0.20	41.9	1657000	0.41	75	1492000	2250000	
	7925.21	0.09	22.5	1800000	0.11	26.3	1800000	0.18	39.5	1742000	0.37	71	1569000	2250000	
	8907.05	0.08	20.4	1800000	0.10	23.8	1800000	0.16	34.6	1715000	0.33	64	1597000	2250000	
	9913.71	0.08	18.0	1800000	0.09	21.1	1800000	0.15	31.6	1743000	0.29	57	1569000	2250000	
	11231.22	0.07	16.2	1800000	0.08	18.9	1800000	0.13	28.4	1776000	0.26	51	1599000	2250000	
	12081.15	0.06	14.1	1800000	0.07	16.5	1787000	0.12	24.7	1663000	0.24	44.5	1497000	2250000	
	14213.12	0.05	12.3	1800000	0.06	14.4	1800000	0.10	21.5	1704000	0.20	38.8	1535000	2250000	
	15819.46	0.05	9.4	1599000	0.06	11.0	1556000	0.09	16.4	1447000	0.18	29.6	1303000	2250000	
	18240.17	0.04	10.7	1800000	0.05	12.5	1800000	0.08	18.8	1800000	0.16	33.9	1721000	2250000	
	21647.68	0.03	7.2	1677000	0.04	8.4	1631000	0.07	12.6	1518000	0.13	22.7	1367000	2250000	

JPL 130000

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPL 130001	4.32	174	13431	720000	—	—	—	—	—	—	—	—	—	2720000	585 (H-F)
JPL 130002	16.56	45.3	4914	985000	54	5583	933000	—	—	—	—	—	—	2720000	340 (H-F)
JPL 130003	63.48	11.8	1551	1162000	14.2	1842	1150000	22.8	2888	1119000	—	—	—	2720000	243 (H-F)
	72.86	10.3	1362	1171000	12.4	1618	1159000	19.9	2536	1128000	—	—	—	2720000	
JPL 130004	243.76	3.1	479	1342000	3.7	559	1306000	5.9	837	1215000	—	—	—	2720000	190 (H-F)
	279.80	2.7	426	1370000	3.2	497	1333000	5.2	745	1240000	—	—	—	2720000	
	328.60	2.3	371	1404000	2.7	434	1366000	4.4	650	1271000	—	—	—	2720000	
	377.18	2.0	330	1434000	2.4	386	1395000	3.8	578	1298000	—	—	—	2720000	
JPL 130005	835.76	0.90	172	1617000	1.1	201	1573000	1.7	302	1464000	3.5	544	1318000	2720000	156 (H-F)
	997.21	0.75	148	1661000	0.90	173	1616000	1.5	260	1503000	2.9	468	1354000	2720000	
	1126.64	0.67	134	1692000	0.80	156	1646000	1.3	234	1531000	2.6	422	1379000	2720000	
	1293.18	0.58	119	1728000	0.70	139	1681000	1.1	208	1564000	2.2	375	1408000	2720000	
	1468.94	0.51	107	1761000	0.61	125	1713000	0.99	187	1594000	2.0	337	1435000	2720000	
	1543.00	0.49	102	1774000	0.58	120	1726000	0.94	179	1606000	1.9	323	1446000	2720000	
	1725.16	0.43	93	1805000	0.52	109	1756000	0.84	163	1633000	1.7	294	1471000	2720000	
	1980.19	0.38	83	1843000	0.45	97	1793000	0.73	145	1668000	1.5	261	1502000	2720000	
	2350.11	0.32	72	1891000	0.38	84	1840000	0.62	125	1712000	1.2	226	1541000	2720000	

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPW 130005	909.34	0.82	163	1638000	0.99	190	1593000	1.6	285	1483000	3.2	514	1335000	2720000	135 (H-F)
	1067.96	0.70	142	1678000	0.84	166	1633000	1.4	249	1519000	2.7	448	1368000	2720000	
	1225.83	0.61	127	1714000	0.73	148	1667000	1.2	221	1551000	2.4	399	1397000	2720000	
JPW 130006	2566.98	0.29	69	1916000	0.35	81	1864000	0.56	121	1735000	1.1	218	1562000	2720000	118 (H-F)
	3062.87	0.24	60	1968000	0.29	70	1915000	0.47	104	1782000	0.95	188	1604000	2720000	
	3515.64	0.21	53	2010000	0.26	62	1955000	0.41	93	1819000	0.82	167	1638000	2720000	
	3971.92	0.19	47.9	2047000	0.23	56	1992000	0.37	84	1853000	0.73	151	1668000	2720000	
	4476.76	0.17	43.2	2085000	0.20	50	2028000	0.32	76	1887000	0.65	136	1699000	2720000	
	5257.64	0.14	37.7	2136000	0.17	44.0	2078000	0.28	66	1933000	0.55	119	1741000	2720000	
	5972.20	0.13	33.9	2176000	0.15	39.5	2118000	0.24	59	1971000	0.49	107	1775000	2720000	
	6288.58	0.12	32.4	2176000	0.14	37.8	2135000	0.23	57	1986000	0.46	102	1789000	2720000	
	7087.88	0.11	29.3	2176000	0.13	34.2	2174000	0.20	51	2023000	0.41	92	1821000	2720000	
	8050.76	0.09	26.3	2176000	0.11	30.7	2176000	0.18	46.0	2062000	0.36	83	1857000	2720000	
	9554.75	0.08	22.7	2176000	0.09	26.5	2176000	0.15	39.8	2116000	0.30	72	1905000	2720000	
	10967.19	0.07	20.2	2176000	0.08	23.6	2176000	0.13	35.4	2161000	0.26	64	1946000	2720000	

JPL 150000

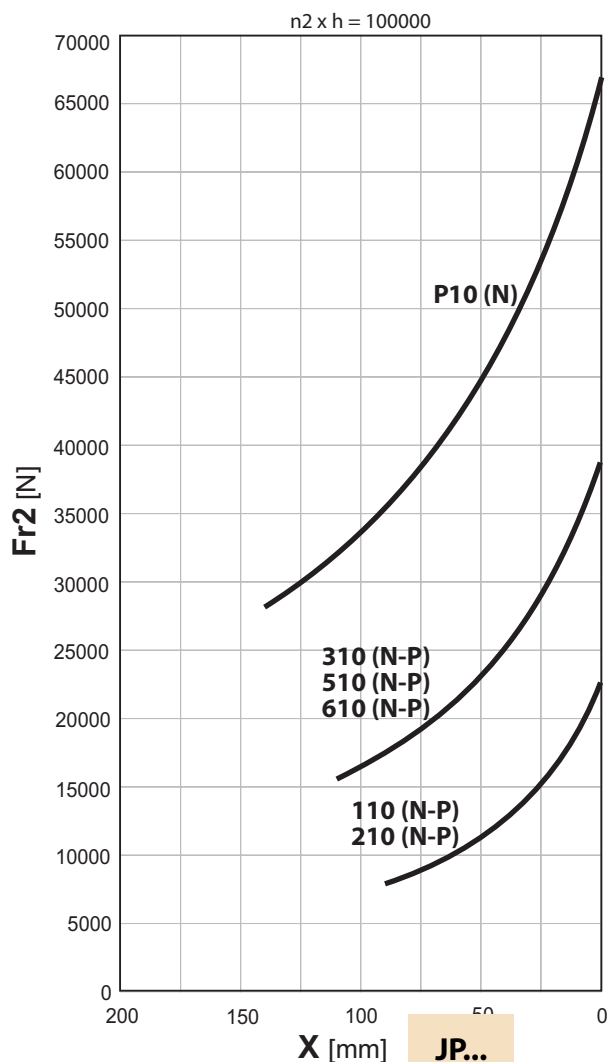
	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPL 150001	4.07	—	—	—	—	—	—	—	—	—	—	—	—	2720000	585 (H-F)
JPL 150002	15.62	48.0	4914	929000	58	5583	880000	—	—	—	—	—	—	2720000	340 (H-F)
JPL 150003	59.87	12.5	1968	1390000	15.0	2236	1316000	24.2	3122	1141000	—	—	—	2720000	246 (H-F)
	68.72	10.9	1742	1413000	13.1	2030	1372000	21.1	2834	1189000	—	—	—	2720000	
JPL 150004	248.02	3.0	563	1607000	3.6	657	1563000	5.8	986	1456000	—	—	—	2720000	192 (H-F)
	284.68	2.6	501	1640000	3.2	585	1596000	5.1	876	1485000	—	—	—	2720000	
	323.28	2.3	450	1672000	2.8	525	1627000	4.5	787	1513000	—	—	—	2720000	
	371.07	2.0	400	1707000	2.4	467	1661000	3.9	700	1545000	—	—	—	2720000	
	389.13	1.9	384	1720000	2.3	448	1673000	3.7	672	1557000	—	—	—	2720000	
	446.65	1.7	342	1756000	2.0	399	1708000	3.2	598	1589000	—	—	—	2720000	
JPL 150005	950.73	0.79	185	1969000	0.95	215	1915000	1.5	323	1782000	3.05	582	1604000	2720000	158 (H-F)
	1091.28	0.69	164	2010000	0.82	192	1955000	1.3	287	1819000	2.66	517	1638000	2720000	
	1239.23	0.61	147	2049000	0.73	172	1993000	1.2	258	1855000	2.34	464	1670000	2720000	
	1302.09	0.58	141	2065000	0.69	165	2008000	1.1	247	1869000	2.23	445	1683000	2720000	
	1422.42	0.53	131	2092000	0.63	153	2035000	1.0	229	1894000	2.04	413	1705000	2720000	
	1491.67	0.50	119	1999000	0.60	142	1978000	0.97	220	1907000	1.94	397	1718000	2720000	
	1494.57	0.50	126	2108000	0.60	147	2051000	0.97	220	1908000	1.94	396	1718000	2720000	
	1697.21	0.44	113	2149000	0.53	132	2091000	0.85	197	1945000	1.71	356	1751000	2720000	
	1712.17	0.44	112	2152000	0.53	131	2093000	0.85	196	1948000	1.69	353	1754000	2720000	
	1948.10	0.38	100	2176000	0.46	117	2135000	0.74	176	1986000	1.49	316	1788000	2720000	
	2042.94	0.37	89	2035000	0.44	105	2014000	0.71	165	1960000	1.42	304	1801000	2720000	
	2344.94	0.32	86	2176000	0.38	100	2176000	0.62	150	2043000	1.24	270	1839000	2720000	

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPL 205001	4.14	—	—	—	—	—	—	—	—	—	—	—	—	3620000	870 (H-F)
JPL 205002	15.89	47.2	6744	1297000	—	—	—	—	—	—	—	—	—	3620000	498 (H-F)
	22.50	33.3	4422	1204000	—	—	—	—	—	—	—	—	—	3620000	
JPL 205003	58.47	12.8	2530	1746000	15.4	2875	1653000	—	—	—	—	—	—	3620000	357 (H-F)
	78.51	9.6	1988	1842000	11.5	2259	1744000	—	—	—	—	—	—	3620000	
	82.80	9.1	1328	1297000	10.9	1577	1284000	—	—	—	—	—	—	3620000	
	111.18	6.7	1006	1319000	8.1	1194	1306000	—	—	—	—	—	—	3620000	
JPL 205004	239.21	3.1	834	2296000	3.8	974	2234000	6.1	1460	2078000	—	—	—	3620000	280 (H-F)
	306.99	2.4	669	2362000	2.9	788	2320000	4.7	1181	2158000	—	—	—	3620000	
	321.19	2.3	642	2371000	2.8	758	2336000	4.5	1137	2173000	—	—	—	3620000	
	338.73	2.2	361	1406000	2.7	428	1392000	4.3	672	1354000	—	—	—	3620000	
	364.34	2.1	576	2417000	2.5	676	2361000	4.0	1021	2215000	—	—	—	3310000	
	412.20	1.8	519	2462000	2.2	606	2395000	3.5	920	2257000	—	—	—	3620000	
	434.70	1.7	285	1426000	2.1	339	1411000	3.3	531	1374000	—	—	—	3620000	
	454.81	1.6	273	1430000	2.0	324	1415000	3.2	509	1377000	—	—	—	3620000	
	489.20	1.5	449	2527000	1.8	524	2458000	3.0	795	2316000	—	—	—	3310000	
	515.91	1.5	244	1446000	1.7	288	1425000	2.8	452	1387000	—	—	—	3620000	
	583.68	1.3	219	1473000	1.5	256	1435000	2.5	402	1397000	—	—	—	3620000	
	692.71	1.1	190	1512000	1.3	221	1470000	2.1	342	1411000	—	—	—	3620000	
JPL 205005	956.85	0.78	261	2797000	0.94	304	2721000	1.5	456	2532000	3.0	831	2308000	3620000	230 (H-F)
	1125.70	0.67	227	2867000	0.80	265	2789000	1.3	397	2595000	2.6	721	2355000	3620000	
	1227.95	0.61	211	2896000	0.73	246	2826000	1.2	369	2629000	2.4	664	2367000	3620000	
	1284.77	0.58	192	2762000	0.70	228	2733000	1.1	355	2647000	2.3	639	2383000	3620000	
	1354.91	0.55	110	2896000	0.66	128	2896000	1.1	193	1514000	2.1	358	1409000	3620000	
	1444.65	0.52	184	2896000	0.62	214	2900000	1.0	321	2694000	2.0	579	2426000	3620000	
	1457.35	0.51	182	2788000	0.62	213	2759000	0.99	319	2698000	2.0	575	2429000	3620000	
	1511.49	0.50	164	1715000	0.60	195	1668000	0.96	306	2685000	1.9	557	2443000	3310000	
	1594.01	0.47	96	2802000	0.56	112	2773000	0.91	168	1552000	1.8	307	1422000	3620000	
	1648.79	0.45	151	2896000	0.55	180	2896000	0.88	282	2698000	1.8	517	2475000	3620000	
	1714.53	0.44	159	1737000	0.52	185	1690000	0.85	278	2765000	1.7	500	2490000	3310000	
	1738.80	0.43	89	1749000	0.52	104	1702000	0.83	156	1573000	1.7	283	1429000	3310000	
	1819.25	0.41	86	2828000	0.49	100	2798000	0.80	150	1583000	1.6	271	1433000	3620000	
	1939.75	0.39	130	2829000	0.46	154	2800000	0.75	242	2723000	1.5	451	2537000	3620000	
	1956.80	0.38	129	1783000	0.46	153	1735000	0.74	240	2725000	1.5	447	2540000	3310000	
	2045.65	0.37	78	1793000	0.44	91	1744000	0.71	136	1612000	1.4	244	1451000	3310000	
	2063.63	0.36	77	2861000	0.44	90	2826000	0.70	135	1614000	1.4	243	1453000	3620000	
	2140.30	0.35	75	1827000	0.42	87	1778000	0.68	131	1623000	1.4	235	1461000	3310000	
	2302.12	0.33	111	1862000	0.39	131	1811000	0.63	206	2750000	1.3	390	2603000	3310000	
	2334.71	0.32	69	1864000	0.39	81	1814000	0.62	121	1644000	1.2	219	1481000	3310000	
	2427.80	0.31	67	1911000	0.37	78	1859000	0.60	117	1654000	1.2	211	1489000	3310000	
	2746.71	0.27	60	1862000	0.33	71	1811000	0.53	106	1685000	1.1	190	1517000	3293000	
	2770.86	0.27	60	1864000	0.32	70	1814000	0.52	105	1687000	1.0	189	1519000	3293000	
	3259.83	0.23	52	1911000	0.28	61	1859000	0.44	91	1729000	0.89	165	1557000	3293000	

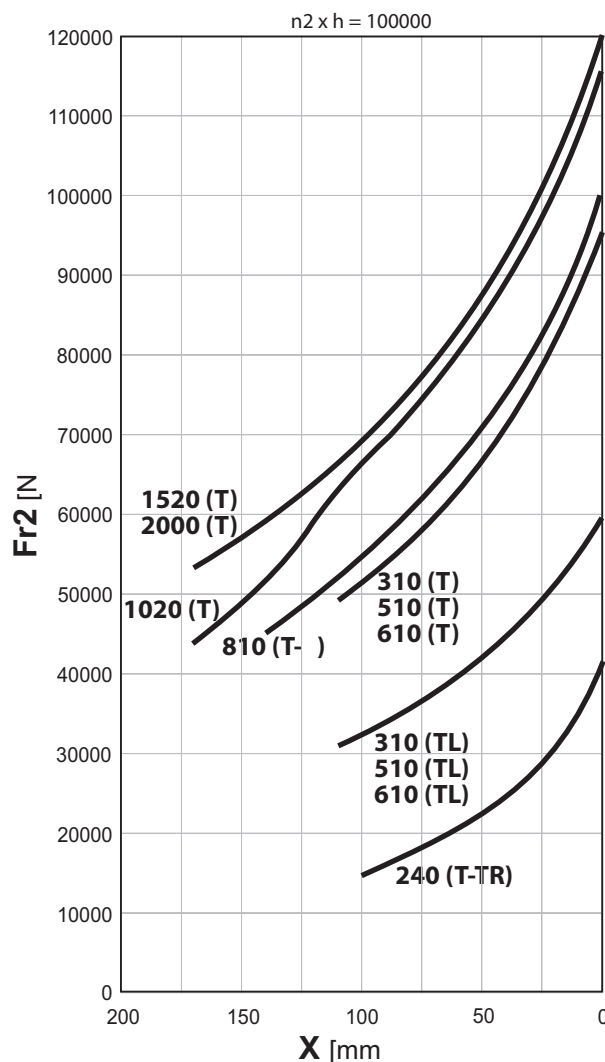
JPL235000

	ie	n ₁ = 750 RPM			n ₁ = 900 RPM			n ₁ = 1450 RPM			n ₁ = 2900 RPM			T _{2max} [Nm]	P _t [kW]
		n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]	n ₂ [RPM]	P ₁ [kW]	T ₂ [Nm]		
JPL 235001	4.14	—	—	—	—	—	—	—	—	—	—	—	—	3620000	870 (H-F)
JPL 235002	15.89	47.2	8992	1730000	—	—	—	—	—	—	—	—	—	3620000	508 (H-F)
JPL 235003	54.48	13.8	3467	2229000	16.5	4118	2206000	—	—	—	—	—	—	3620000	371 (H-F)
	65.00	11.5	2936	2252000	13.8	3486	2229000	—	—	—	—	—	—	3620000	
	83.42	9.0	2320	2284000	10.8	2755	2261000	—	—	—	—	—	—	3620000	
	99.00	7.6	1974	2307000	9.1	2345	2283000	—	—	—	—	—	—	3620000	
JPL 235004	222.87	3.4	984	2522000	4.0	1148	2454000	6.5	1754	2327000	—	—	—	3620000	291 (H-F)
	265.92	2.8	847	2591000	3.4	988	2520000	5.5	1485	2351000	—	—	—	3620000	
	286.01	2.6	796	2619000	3.1	929	2548000	5.1	1393	2371000	—	—	—	3620000	
	339.44	2.2	688	2688000	2.7	803	2615000	4.3	1204	2433000	—	—	—	3620000	
	341.27	2.2	685	2690000	2.6	800	2617000	4.2	1199	2435000	—	—	—	3620000	
	341.27	2.2	685	2690000	2.2	692	2686000	4.2	1199	2435000	—	—	—	3620000	
	405.02	1.9	592	2761000	2.1	647	2718000	3.6	1037	2499000	—	—	—	3620000	
	437.96	1.7	554	2794000	1.7	560	2789000	3.3	970	2529000	—	—	—	3620000	
	519.78	1.4	479	2867000	1.7	560	2789000	2.8	839	2595000	—	—	—	3620000	
	616.88	1.2	415	2896000	1.5	484	2862000	2.4	725	2663000	—	—	—	3620000	
JPL 235005	891.47	0.84	311	2896000	1.0	363	2896000	1.6	544	2816000	3.3	980	2535000	3620000	238 (H-F)
	1048.79	0.72	271	2896000	0.86	316	2896000	1.4	474	2886000	2.8	854	2599000	3620000	
	1063.69	0.71	268	2896000	0.85	313	2896000	1.4	469	2892000	2.7	844	2604000	3620000	
	1144.06	0.66	252	2896000	0.79	294	2896000	1.3	440	2896000	2.5	793	2633000	3620000	
	1251.40	0.60	233	2896000	0.72	272	2896000	1.2	408	2896000	2.3	735	2669000	3620000	
	1345.95	0.56	219	2896000	0.67	256	2896000	1.1	384	2896000	2.2	691	2698000	3620000	
	1357.78	0.55	218	2896000	0.66	254	2896000	1.1	381	2896000	2.1	686	2702000	3620000	
	1365.07	0.55	217	2896000	0.66	253	2896000	1.1	379	2896000	2.1	683	2704000	3620000	
	1597.39	0.47	190	2896000	0.56	221	2896000	0.91	332	2896000	1.8	597	2769000	3620000	
	1605.96	0.47	189	2896000	0.56	220	2896000	0.90	330	2896000	1.8	595	2772000	3620000	
	1620.08	0.46	187	2896000	0.56	219	2896000	0.90	328	2896000	1.8	590	2775000	3620000	
	1751.83	0.43	175	2896000	0.51	205	2896000	0.83	307	2896000	1.7	552	2808000	3620000	
	1905.97	0.39	163	2896000	0.47	191	2896000	0.76	286	2896000	1.5	514	2844000	3620000	
	2060.98	0.36	153	2896000	0.44	178	2896000	0.70	267	2896000	1.4	481	2878000	3620000	
	2079.10	0.36	152	2896000	0.43	177	2896000	0.70	265	2896000	1.4	478	2882000	3620000	
	2446.00	0.31	132	2896000	0.37	154	2896000	0.59	231	2896000	1.2	416	2896000	3620000	
	2467.50	0.30	131	2896000	0.36	153	2896000	0.59	229	2896000	1.2	413	2896000	3620000	
	2902.95	0.26	114	2896000	0.31	133	2896000	0.50	200	2896000	1.0	360	2896000	3620000	

N (110-210-310-510-810) - **P** (110-210-310-510-610)



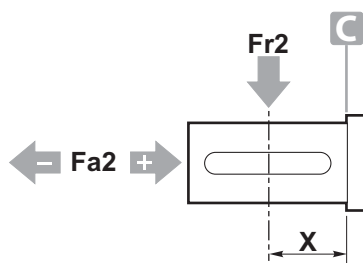
T (240-310-510-810-1020-1520-2000) - **TL** (310-510) - **P** (810-1020)



$n_2 \times h = 100000$

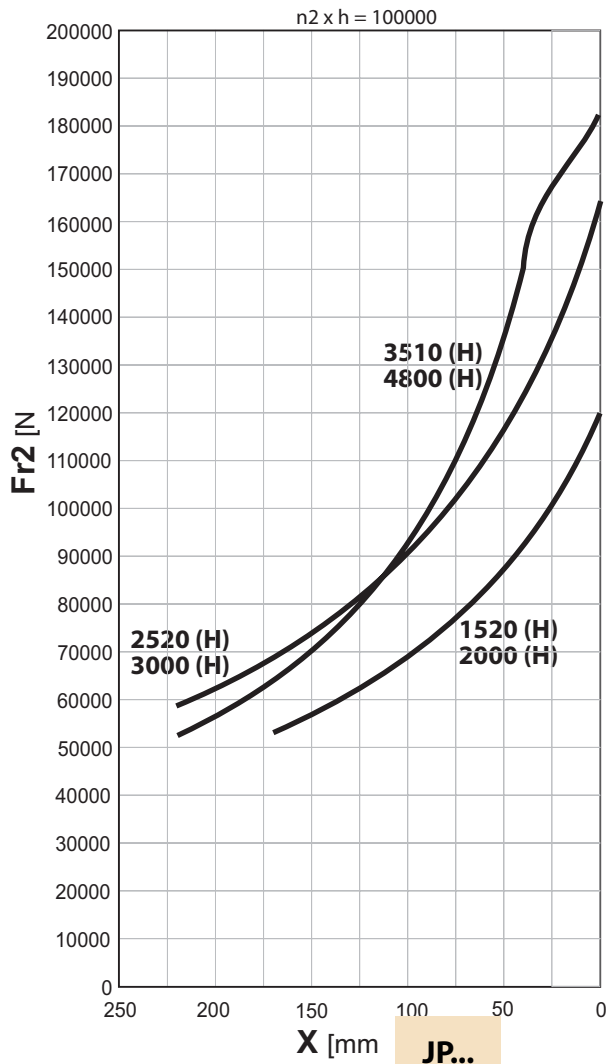
Fa2 [N]

RE-RA	FS		N		P		T		TL	
	Fa2 (-)	Fa2 (+)	Fa2 (-)	Fa2 (+)	Fa2 (-)	Fa2 (+)	Fa2 (-)	Fa2 (+)	Fa2 (-)	Fa2 (+)
110	6800	6800	19250	19250	19250	19250	22500	35500	—	—
210	6800	6800	19250	19250	19250	19250	22500	35500	—	—
240	7350	7350	—	—	—	—	25700	34400	—	—
310	10500	10500	39500	39500	58400	58400	57500	78500	48500	48500
510	10500	10500	39500	39500	58400	58400	57500	78500	48500	48500
610	10500	10500	39500	39500	58400	58400	57500	78500	48500	48500
810	21500	21500	58400	58400	58400	88500	58400	88500	—	—
1020	19000	19000	—	—	58400	88000	60500	104500	—	—
1520	27000	27000	—	—	—	—	73400	104500	—	—
2000	27000	27000	—	—	—	—	73400	104500	—	—

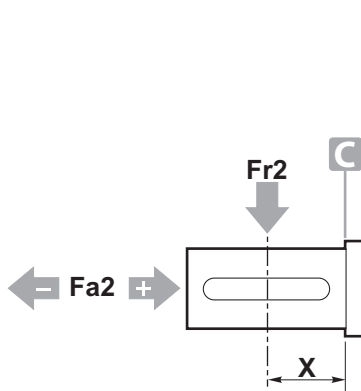
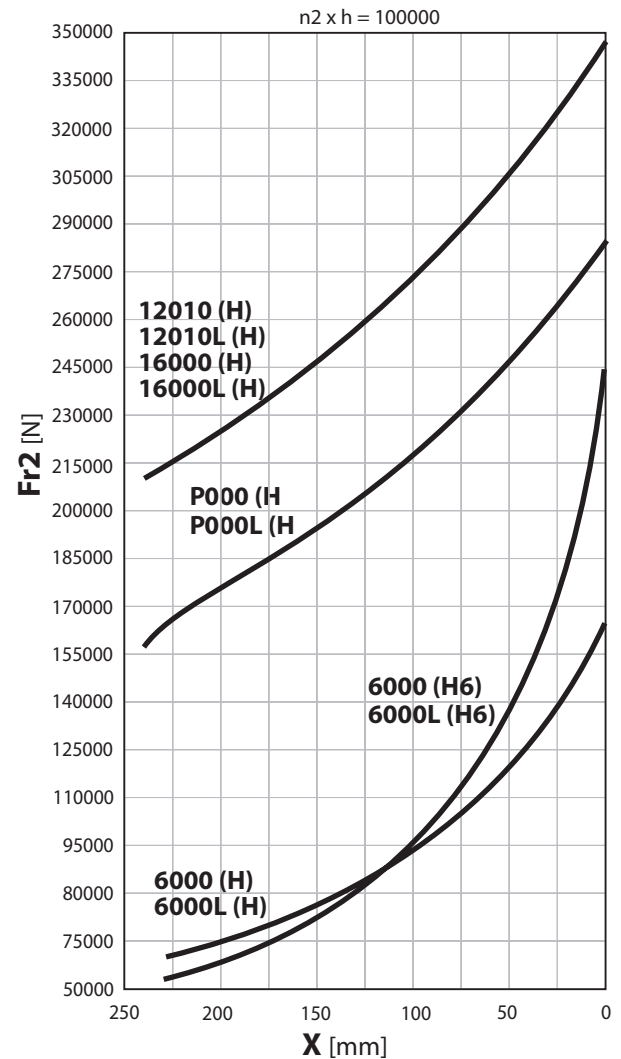


K_f	$n_2 \times h$						
	20000	40000	60000	80000	100000	200000	400000
	1.7	1.3	1.15	1.06	1	0.8	0.63

H (1520-2000-2520-3000-3510)



H (6000-8000-12010-16000) - H6 (6000)



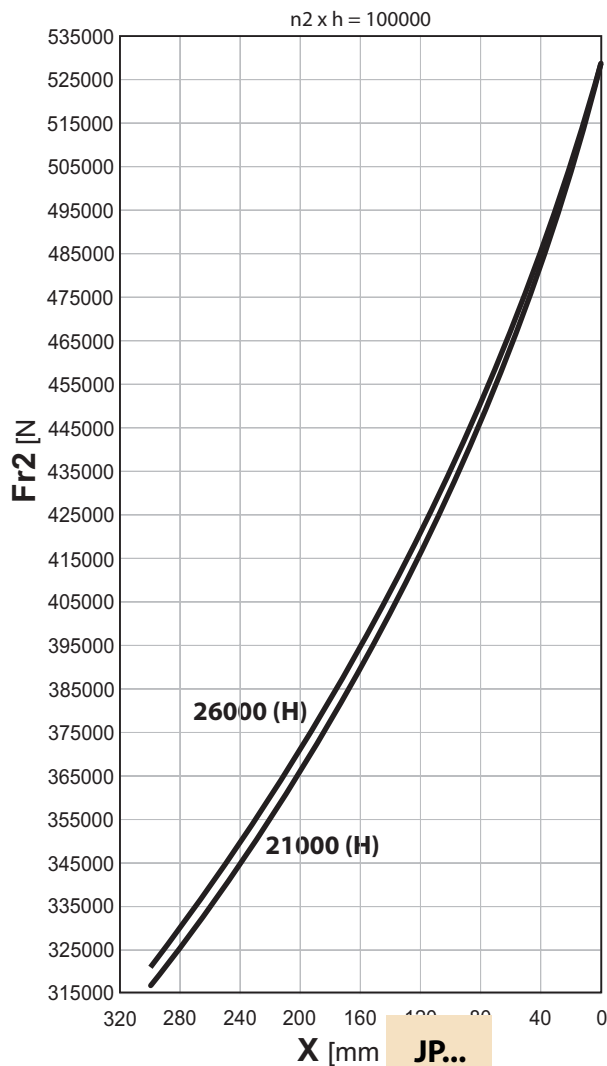
n₂ x h = 100000

RE-RA	Fa2 [N]							
	FS		FS1		H		H6	
	Fa2 (-)	Fa2 (+)	Fa2 (-)	Fa2 (+)	Fa2 (-)	Fa2 (+)	Fa2 (-)	Fa2 (+)
1520	27000	27000	—	—	73400	104500	—	—
2000	27000	27000	—	—	73400	104500	—	—
2520	29500	29500	—	—	112600	149000	—	—
3000	29500	29500	—	—	112600	149000	—	—
3500	44000	44000	—	—	59000	44000	—	—
4800	44000	44000	65250*	44000	59000	44000	—	—
6000	52000	42000	—	—	148500	131000	94000	42000
8000	67000	56000*	82200*	56000*	94000	56000*	—	—
12010	75000	65250*	—	—	114000	65250*	—	—
16000	75000	65250*	113600*	65250*	114000	65250*	—	—

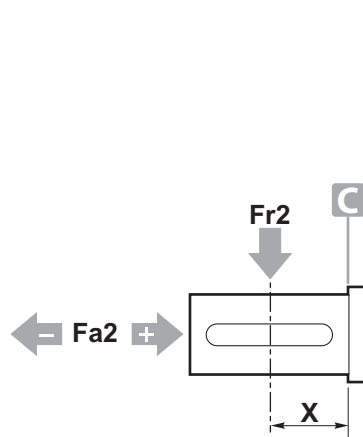
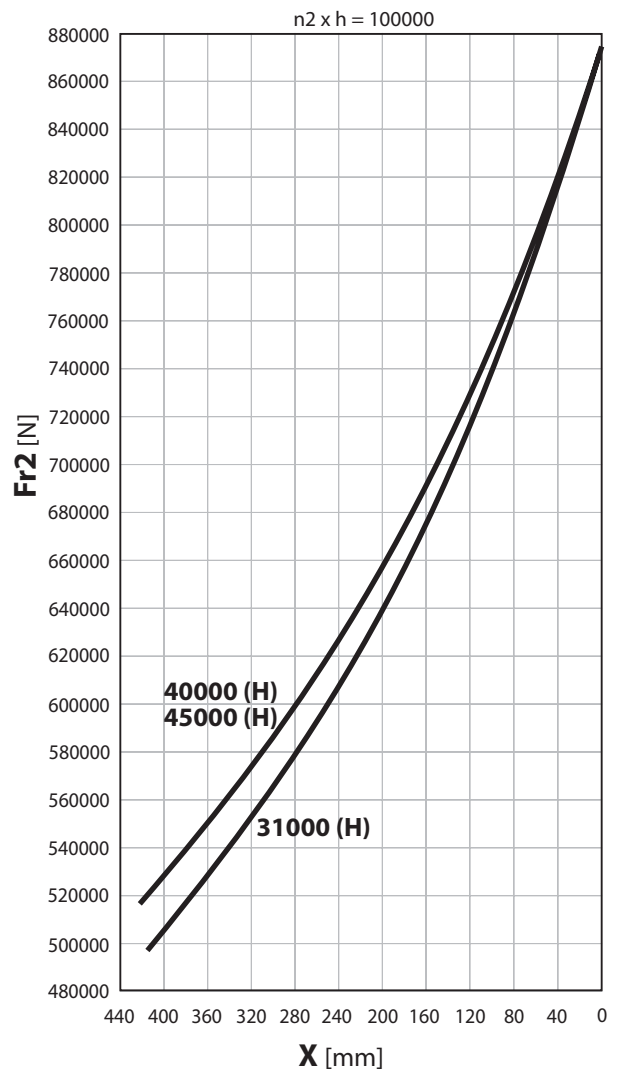
* Fa/Fr < 0.4

K _f	n ₂ x h						
	20000	40000	60000	80000	100000	200000	400000
	1.7	1.3	1.15	1.06	1	0.8	0.63

H (21000-26000)



H (31000-40000-45000)



$n_2 \times h = 100000$

GB	Fa2 [N]			
	FS		H	
	Fa2 (-)	Fa2 (+)	Fa2 (-)	Fa2 (+)
21000	113600*	113600*	170000	113600*
26000	160500*	113600*	170000	113600*
31000	240000*	160500*	275000	160500*
40000	240000*	160500*	275000	160500*
45000	260000*	160500*	275000	160500*
53000	185000	185000	—	—
61000	185000	185000	—	—
85000	225000	185000	—	—
110000	315000	230000	—	—
130000	315000	230000	—	—
150000	315000	230000	—	—
205000	550000	315000	—	—
235000	550000	315000	—	—

* Fa/Fr < 0.4

K_f	$n_2 \times h$						
	20000	40000	60000	80000	100000	200000	400000
	1.7	1.3	1.15	1.06	1	0.8	0.63



S	N	NS	110 - 210 - 310 - 510 - 610 - 810	G-4
	P	PS	110 - 210 - 310 - 510 - 610 - 810 - 1020	G-6
	T	TS/T1S/TLS/TRS/TR1S	110 - 210 - 240 - 310 - 510 - 610	G-8
		TS	810 - 1020 - 1520 - 2000 - 2000L	G-10
	H	HS	1520 - 2000 - 2000L - 2520 - 3000 - 3510 - 4800	G-12
		HS/H6S	6000 - 8000 - 12010 - 16000	G-14
		HS/H6S	6000L - 8000L - 12010L - 16000L	G-16
		HS	21000 - 26000 - 31000 - 40000 - 45000	G-18



C	N	NC/NK/NK1	110 - 210 - 310 - 510 - 610 - 810	G-20
	P	PC/PK/PK1	110 - 210 - 310 - 510 - 610 - 810 - 1020	G-22
	T	TC/T1C/TLC/TRC/TLK/TR1C	110 - 210 - 240 - 310 - 510 - 610 - 810	G-24
		TC	810 - 1020 - 1520 - 2000 - 2000L	G-26
	H	HC	1520 - 2000 - 2000L - 2520 - 3000 - 3510 - 4800	G-28
		HC/H6C	6000 - 8000 - 12010 - 16000	G-30
		HC/H6C	6000L - 8000L - 12010L - 16000L	G-32
		HC	21000 - 26000 - 31000 - 40000 - 45000	G-34



E	N	NE	110 - 210 - 310 - 510 - 610	G-36
	T	TE/T1E/TRE/TR1E/TLE	110 - 210 - 240 - 310 - 510 - 610	G-38
		TE	810 - 1020 - 1520 - 2000 - 2000L	G-40
	H	HE	1520 - 2000 - 2000L - 2520 - 3000	G-42



S	F	FS	110 - 210 - 240 - 310 - 510 - 810 - 1020	G-44
			1520 - 2000 - 2000L - 2520 - 3000 - 3510 - 4800	G-46
			6000 - 8000 - 12010 - 16000	G-48
			6000L - 8000L - 12010L - 16000L	G-50
			21000 - 26000 - 31000 - 40000 - 45000 53000 - 61000 - 85000	G-52
			110000 - 130000 - 150000 205000 - 235000	G-54
F	N	NF	310 - 510 - 610 - 810	G-56



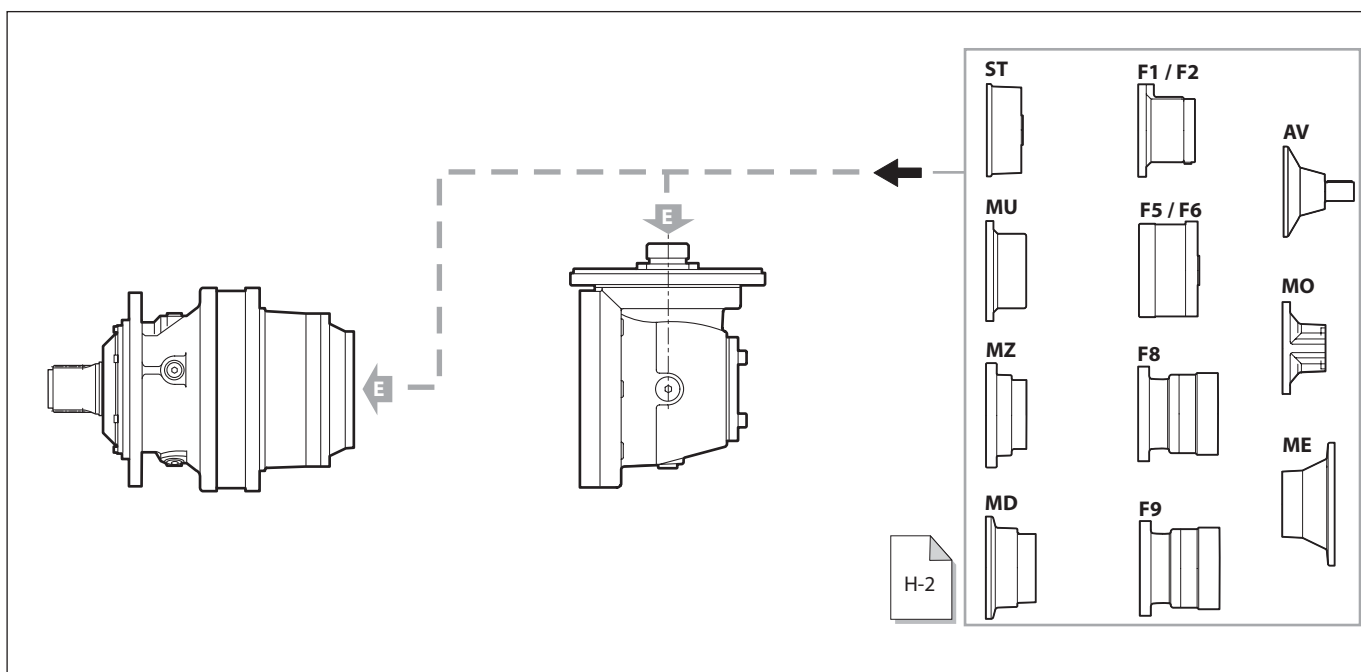
Q	N	NQ	110 - 210 - 310 - 510 - 610	G-58
	T	TQ/TRQ	240 - 810 - 1020 - 1520 - 2000 - 2000L	G-60
	H	HQ	1520 - 2000 - 2000L - 2520 - 3000 - 3510 - 4800	G-62
		HQ/H6Q	6000 - 8000 - 12010 - 16000	G-64
		HQ/H6Q	6000L - 8000L - 12010L - 16000L	G-66
		HQ	21000 - 26000 - 31000 - 40000 - 45000 53000 - 61000 - 85000	G-68
		HQ	110000 - 130000 - 150000 205000 - 235000	G-70

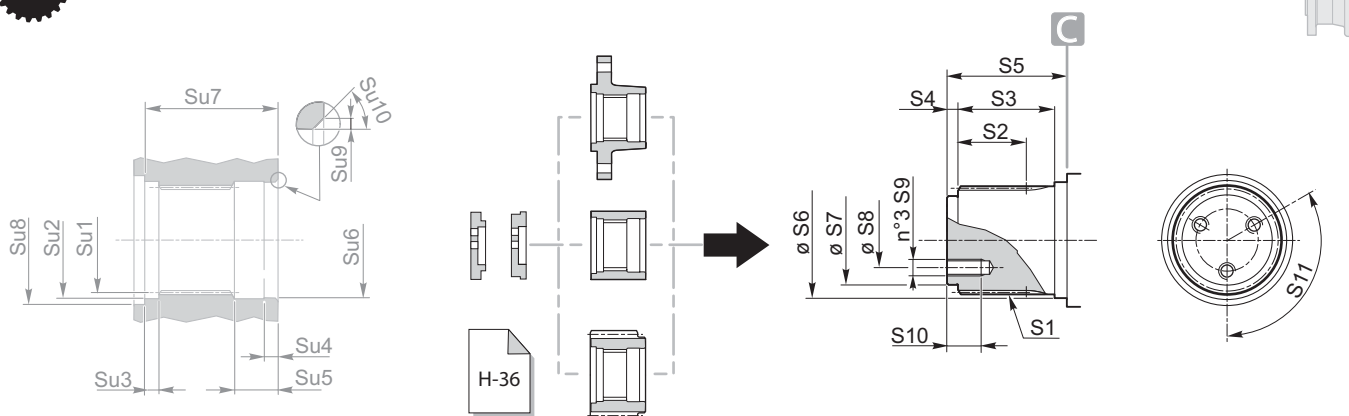


U		TU/NU/NU2	110 - 210 - 310 - 510 - 610	G-72
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C		FC	110 - 210	G-74
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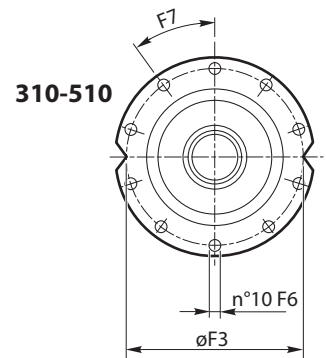
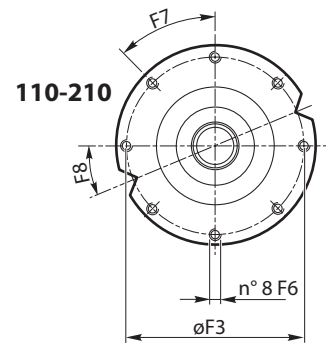
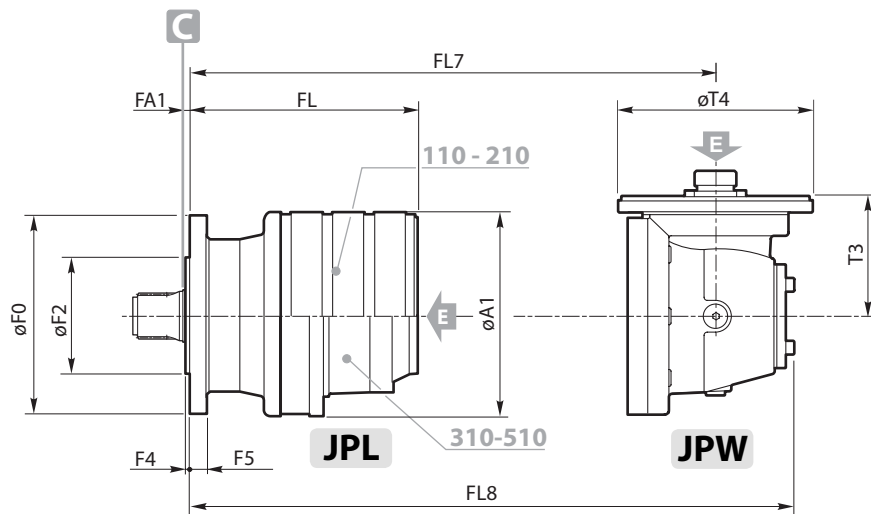


	110	210	310	510	610	810
S1	B40x36 DIN5482	B40x36 DIN5482	B58x53 DIN5482	B58x53 DIN5482	B58x53 DIN5482	B70x64 DIN5482
S2	30	30	37	37	37	51
S3	43	43	50	50	50	70
S4	5	5	8	8	8	10
S5	55	55	68.5	68.5	68.5	90
S6	42 f7	42 f7	60 f7	60 f7	60 f7	72 f7
S7	35 f7	35 f7	50 f7	50 f7	50 f7	62 f7
S8	24	24	32	32	32	40
S9	M6	M6	M10	M10	M10	M10
S10	13	13	20	20	20	22
S11	120°	120°	120°	120°	120°	120°

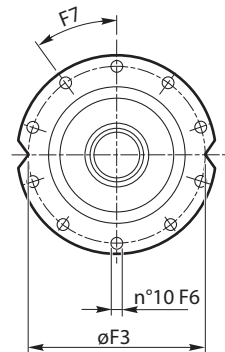
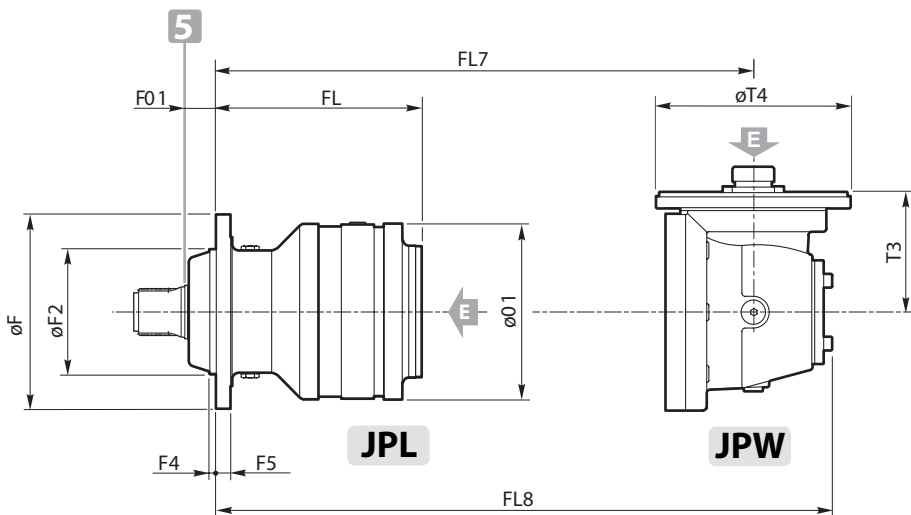
	110	210	310	510	610	810
Su1	A40x36 DIN5482	A40x36 DIN5482	A58x53 DIN5482	A58x53 DIN5482	A58x53 DIN5482	A70x64 DIN5482
Su2	Ø42 H7	Ø42 H7	Ø60 H7	Ø60 H7	Ø60 H7	Ø72 H7
Su3	6	6	7	7	7	11
Su4	6	6	10	10	10	10
Su5	20.5	20.5	25	25	25	29
Su6	Ø42 H7	Ø42 H7	Ø60 H7	Ø60 H7	Ø60 H7	Ø72 H7
Su7	49	49	69	69	69	80
Su8	Ø52	Ø52	Ø72	Ø72	Ø72	Ø80
Su9	1	1	1	1	1	1
Su10	1	1	1	1	1	1

	stages	110	210	310	510	610	810
A1		186	186	224	224	224	295
F0		185	185	222	222	222	280
F2		110 h7	110 h7	150 f7	150 f7	150 f7	200 f7
F3		165	165	195	195	195	250
F4		5	5	13.5	13.5	13.5	10.5
F5		12	12	16	16	16	18
F6		Ø10.5	Ø10.5	Ø12.5	Ø12.5	Ø12.5	Ø15
		M10	M10	M12	M12	M12	M14
F7		45°	45°	36°	36°	36°	30°
F8		22.5°	22.5°	—	—	—	—
FA1		6.5	6.5	15	15	15	40
FL	1	95	107	133	151	151	162.5
	2	138	150	185.5	215.5	209.5	229.5
	3	181	193	228.5	258.5	262	282
	4	224	236	271.5	301.5	305	325
FL7	2	176	188	255	273	273	304.5
	3	219	231	266.5	296.5	331.5	351.5
	4	262	274	309.5	339.5	343	363
FL8	2	250.5	262.5	346	364	364	412.5
	3	293.5	305.5	341	371	422.5	442.5
	4	336.5	348.5	384	414	417.5	437.5
T3	2	113.8	113.8	171.5	171.5	171.5	277
	3	113.8	113.8	113.8	113.8	171.5	171.5
	4	113.8	113.8	113.8	113.8	113.8	113.8
T4	2	184	184	183	183	183	242
	3	184	184	184	184	183	183
	4	184	184	184	184	184	184

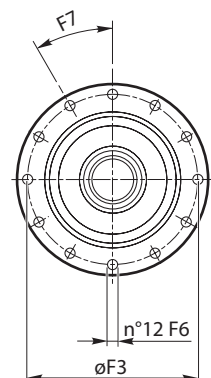
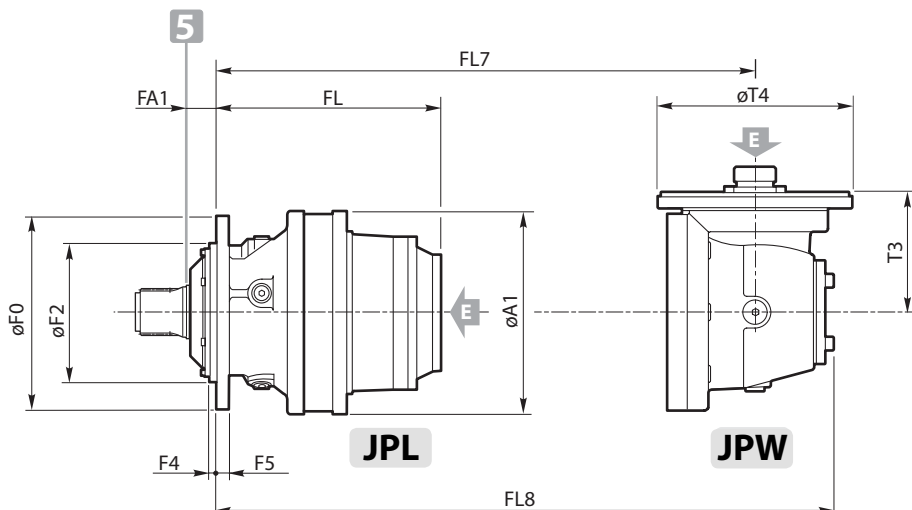
**110 - 210
310 - 510**

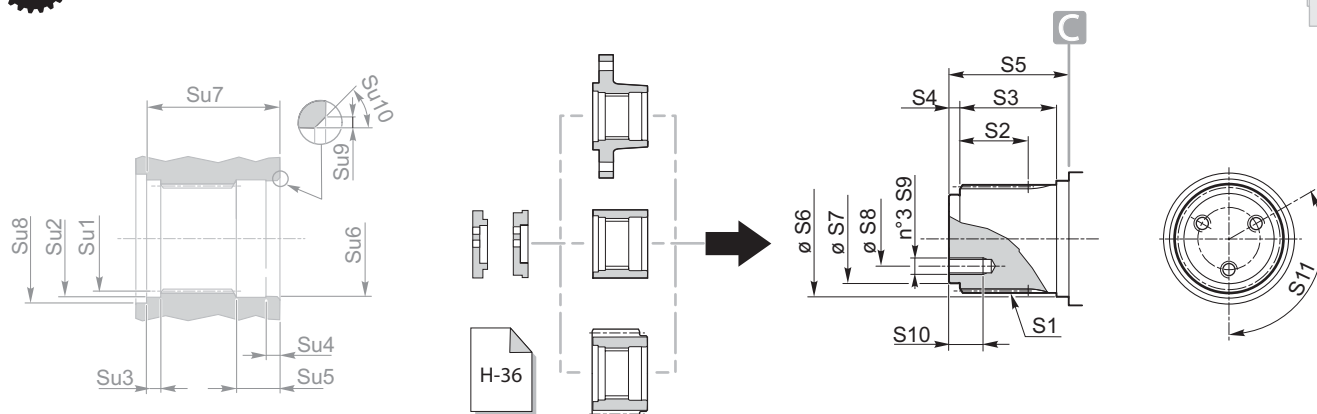


610



810

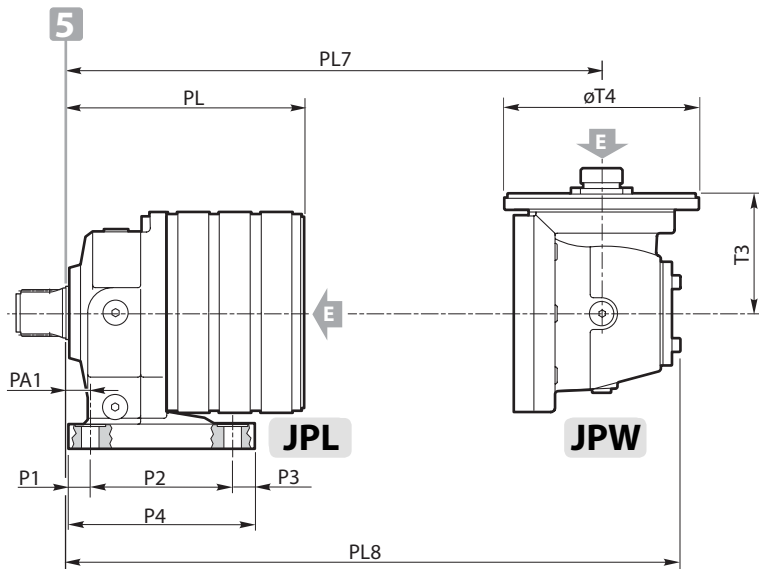
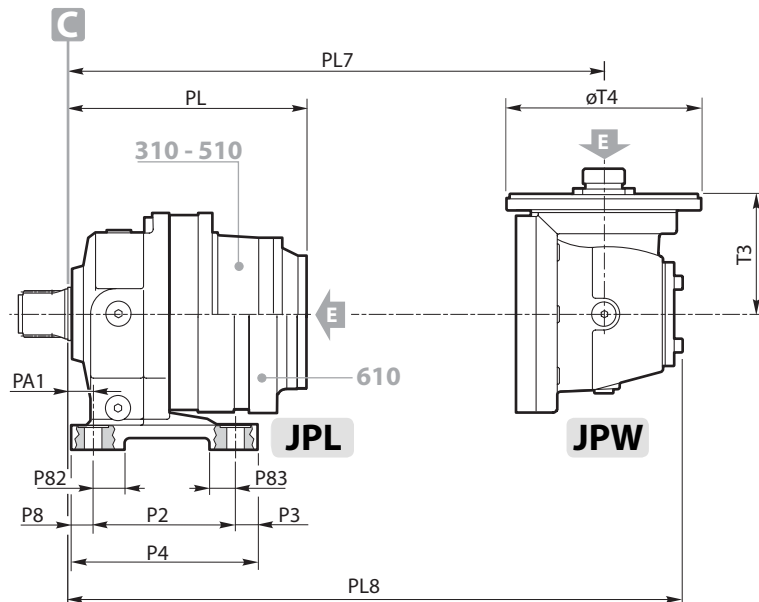
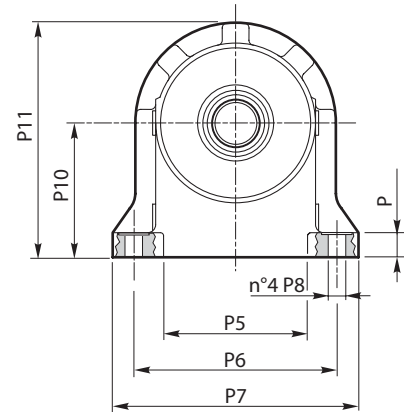
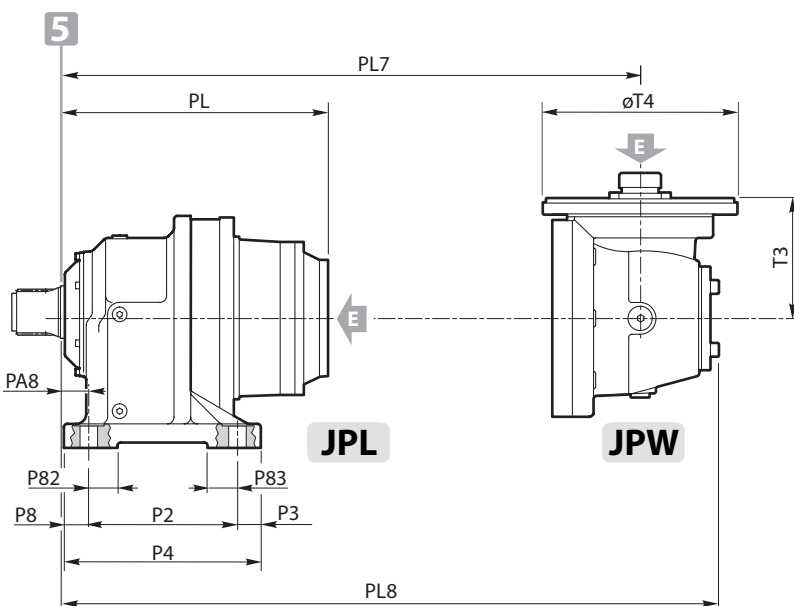
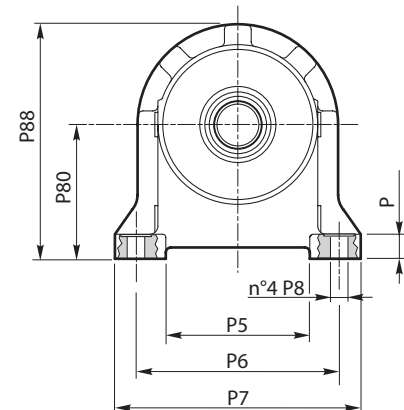
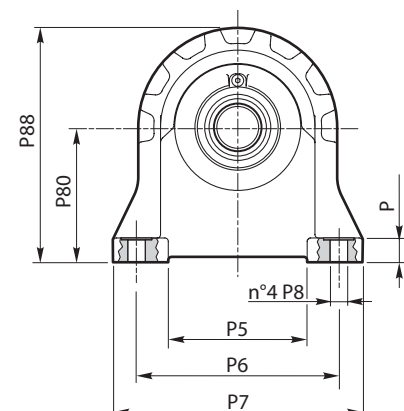


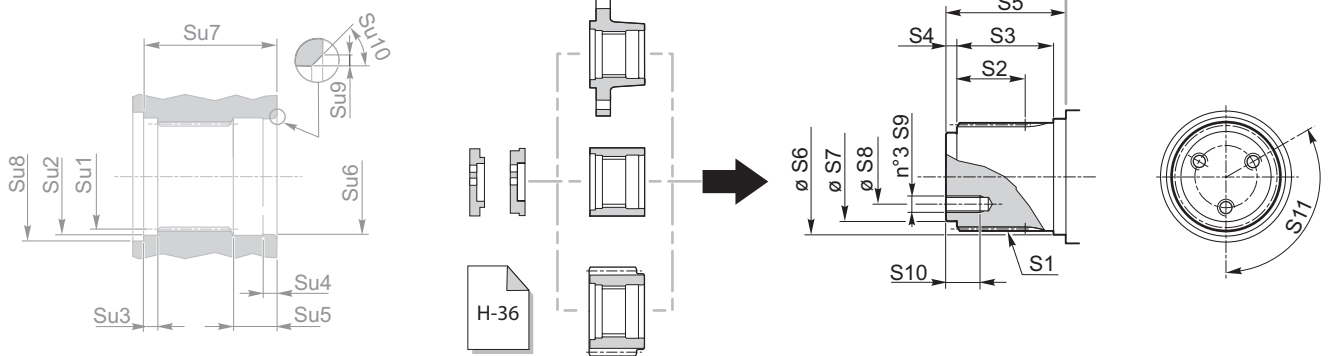


	110	210	310	510	610	810	1020
S1	B40x36 DIN5482	B40x36 DIN5482	B58x53 DIN5482	B58x53 DIN5482	B58x53 DIN5482	B70x64 DIN5482	B70x64 DIN5482
S2	30	30	37	37	37	51	51
S3	43	43	50	50	50	70	70
S4	5	5	8	8	8	10	10
S5	55	55	68.5	68.5	68.5	90	90
S6	42 f7	42 f7	60 f7	60 f7	60 f7	72 f7	72 f7
S7	35 f7	35 f7	50 f7	50 f7	50 f7	62 f7	62 f7
S8	24	24	32	32	32	40	40
S9	M6	M6	M10	M10	M10	M10	M10
S10	13	13	20	20	20	22	22
S11	120°	120°	120°	120°	120°	120°	120°

	110	210	310	510	610	810	1020
Su1	A40x36 DIN5482	A40x36 DIN5482	A58x53 DIN5482	A58x53 DIN5482	A58x53 DIN5482	A70x64 DIN5482	A70x64 DIN5482
Su2	Ø42 H7	Ø42 H7	Ø60 H7	Ø60 H7	Ø60 H7	Ø72 H7	Ø72 H7
Su3	6	6	7	7	7	11	11
Su4	6	6	10	10	10	10	10
Su5	20.5	20.5	25	25	25	29	29
Su6	Ø42 H7	Ø42 H7	Ø60 H7	Ø60 H7	Ø60 H7	Ø72 H7	Ø72 H7
Su7	49	49	69	69	69	80	80
Su8	Ø52	Ø52	Ø72	Ø72	Ø72	Ø80	Ø80
Su9	1	1	1	1	1	1	1
Su10	1	1	1	1	1	1	1

	stages	110	210	310	510	610	810	1020
P1		20	20	28	28	28	35	35
P2		132	132	180	180	180	225	225
P3		20	20	28	28	28	35	35
P4		172	172	236	236	236	295	295
P5		134	134	180	180	180	206	206
P6		190	190	250	250	250	300	300
P7		230	230	310	310	310	370	370
P8		Ø14	Ø14	Ø22	Ø22	Ø22	Ø26	Ø26
		M... - 12.9						
		M12	M12	M20	M20	M20	M24	M24
P9		23	23	26.5	26.5	26.5	36	36
P10		125	125	160	160	160	200	200
P11		218	218	282	282	282	247.5	247.5
P12		—	—	21	21	21	45	45
P13		—	—	21	21	21	45	45
PA1		20	20	29	29	29	35	35
PL	1	101.5	113.5	148	166	166	225	242
	2	144.5	156.5	200.5	230.5	224.5	292	327
	3	187.5	199.5	243.5	273.5	277	344.5	391.5
	4	230.5	242.5	286.5	316.5	320	387.5	434.5
PL7	2	182.5	194.5	297	315	288	367	384
	3	225.5	237.5	281.5	311.5	346.5	414	449
	4	268.5	280.5	324.5	354.5	358	425.5	472.5
	2	257	269	361	379	379	475	492
PL8	3	300	312	356	386	437.5	505	540
	4	343	355	399	429	432.5	500	547
	2	113.8	113.8	171.5	171.5	171.5	277	277
	3	113.8	113.8	113.8	113.8	171.5	171.5	171.5
T3	4	113.8	113.8	113.8	113.8	113.8	113.8	113.8
	2	184	184	183	183	183	242	242
	3	184	184	184	184	183	183	183
	4	184	184	184	184	184	184	184

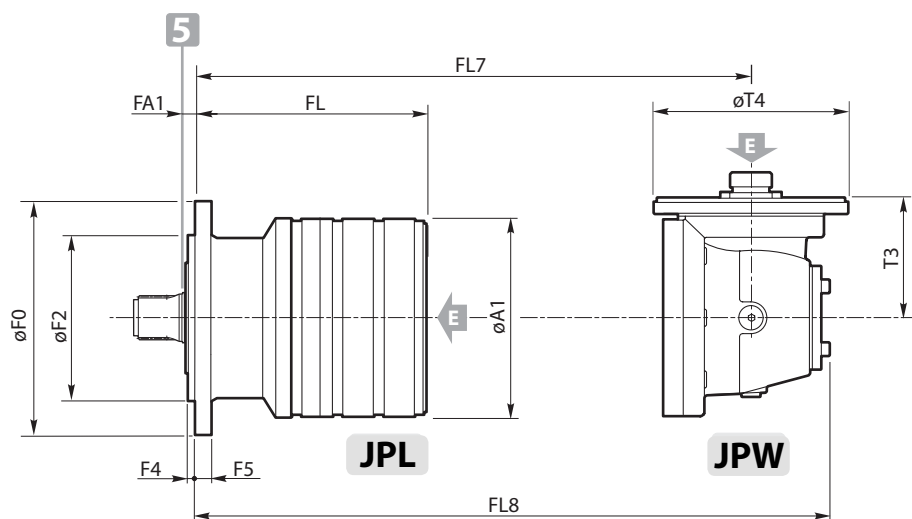
**110 - 210****310 - 510
610****810 - 1020**



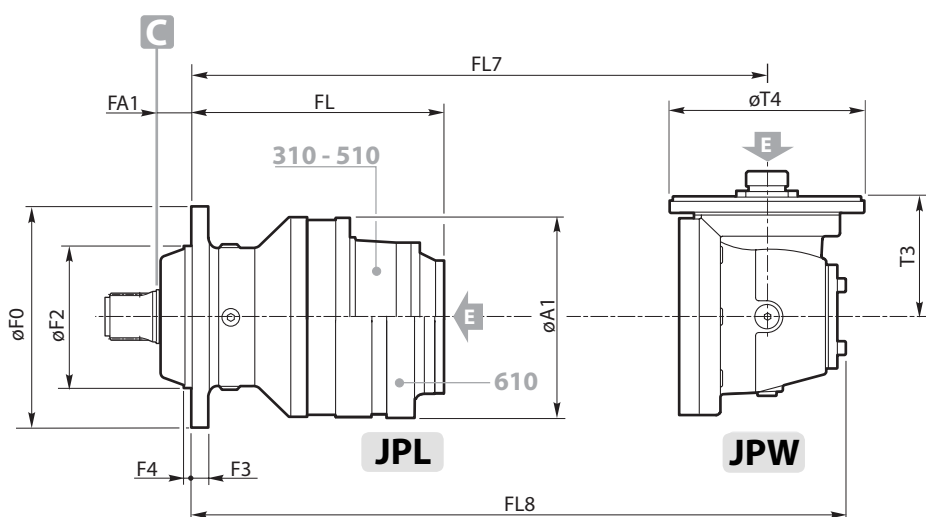
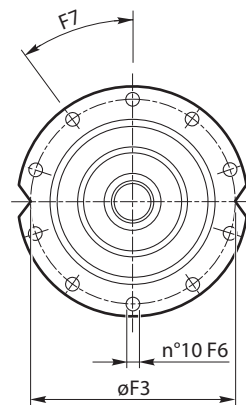
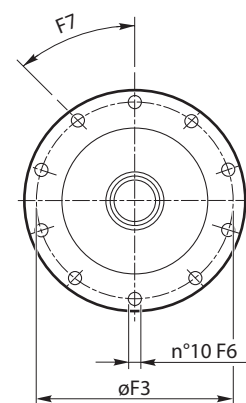
	110	210	240	310	510	610
Su1	A40x36 DIN5482	A40x36 DIN5482	A58x53 DIN5482	A58x53 DIN5482	A58x53 DIN5482	A58x53 DIN5482
Su2	42 H7	42 H7	60 H7	60 H7	60 H7	60 H7
Su3	7	7	7	7	7	7
Su4	6	6	10	10	10	10
Su5	20.5	20.5	25	25	25	25
Su6	42 H7	42 H7	60 H7	60 H7	60 H7	60 H7
Su7	62.5	62.5	69	69	69	69
Su8	51	51	72	72	72	72
Su9	1	1	1	1	1	1
Su10	1	1	1	1	1	1

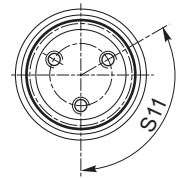
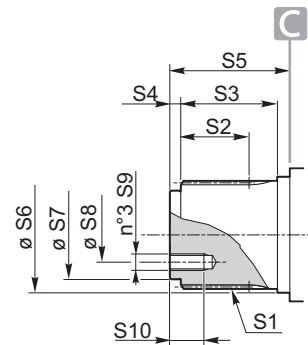
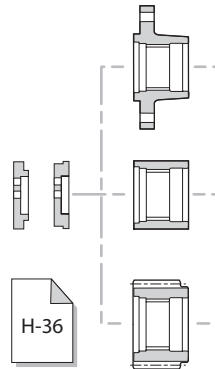
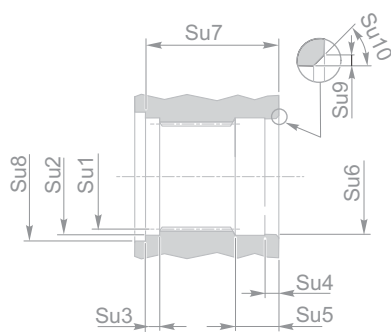
	110	210	240	310	510	610
S1	B40x36 DIN5482	B40x36 DIN5482	B58x53 DIN5482	B58x53 DIN5482	B58x53 DIN5482	B58x53 DIN5482
S2	35	35	37	46	46	46
S3	50	50	50	60	60	60
S4	7	7	8	8	8	8
S5	62	62	68.5	78	78	78
S6	42 f7	42 f7	60 f7	60 f7	60 f7	60 f7
S7	35 f7	35 f7	50 f7	50 f7	50 f7	50 f7
S8	24	24	32	32	32	32
S9	M6	M6	M10	M10	M10	M10
S10	13	13	20	20	20	20
S11	120°	120°	120°	120°	120°	120°

	stages	110				210				240		310		510		610	
		TS	T1S	TRS	TR1S	TS	T1S	TRS	TR1S	TS	TRS	TS	TLS	TS	TLS	TS	TLS
A1		186	186	186	186	186	186	186	186	186	186	244	244	244	244	244	244
F0		219	219	219	219	219	219	219	219	219	219	272	272	272	272	272	272
F2		155 h7	150 f7	155 h7	150 f7	155 h7	150 f7	155 h7	150 f7	150 f7	155 f7	175 h8	175 h8	175 h8	175 h8	175 h8	175 h8
F3		194	195	194	195	194	195	194	195	195	194	245	245	245	245	245	245
F4		7	7	10	10	7	7	10	10	7	10	12	9	12	9	12	9
F5		15	15	15	15	15	15	15	15	15	15	20	20	20	20	20	20
F6		Ø11	Ø13	Ø11	Ø13	Ø11	Ø13	Ø11	Ø13	Ø12.5	Ø11	Ø12.5	Ø12.5	Ø12.5	Ø12.5	Ø12.5	Ø12.5
		M... - 12.9															
		M10	M12	M10	M12	M10	M12	M10	M12	M12	M10	M12	M12	M12	M12	M12	M12
F7		36°	36°	36°	36°	36°	36°	36°	36°	36°	36°	36°	36°	36°	36°	36°	36°
FA1		13	13	30	30	13	13	30	30	13	30	39	39	39	39	39	39
FL	1	102	102	85	85	114	114	97	97	114	97	157	157	175	175	175	175
	2	145	145	128	128	157	157	140	140	157	140	209.5	209.5	239.5	239.5	233.5	233.5
	3	188	188	171	171	200	200	183	183	200	183	252.5	252.5	282.5	282.5	286	286
	4	231	231	214	214	243	243	226	226	243	226	295.5	295.5	325.5	325.5	329	329
FL7	2	183	183	166	166	195	195	178	178	195	178	279	279	297	297	297	297
	3	226	226	209	209	238	238	221	221	238	221	290.5	290.5	320.5	320.5	355.5	355.5
	4	269	269	252	252	281	281	264	264	281	264	333.5	333.5	363.5	363.5	367	367
FL8	2	257.5	257.5	240.5	240.5	269.5	269.5	252.5	252.5	269.5	252.5	370	370	388	388	388	388
	3	300.5	300.5	283.5	283.5	312.5	312.5	295.5	295.5	312.5	295.5	365	365	395	395	446.5	446.5
	4	343.5	343.5	326.5	326.5	355.5	355.5	338.5	338.5	355.5	338.5	408	408	438	438	441.5	441.5
T3	2	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	171.5	171.5	171.5	171.5	171.5	171.5
	3	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	171.5	171.5
	4	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8
T4	2	184	184	184	184	184	184	184	184	184	184	183	183	183	183	183	183
	3	184	184	184	184	184	184	184	184	184	184	184	184	184	184	183	183
	4	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184



110 ÷ 240

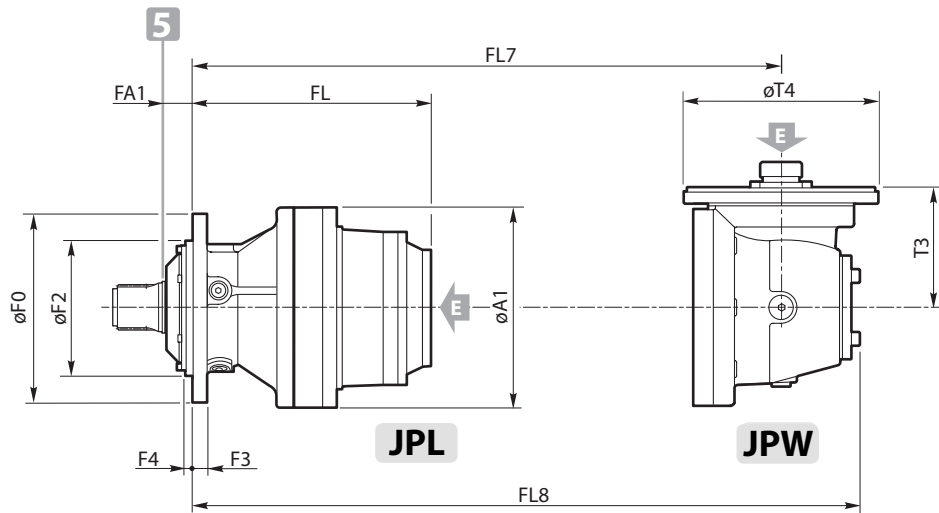
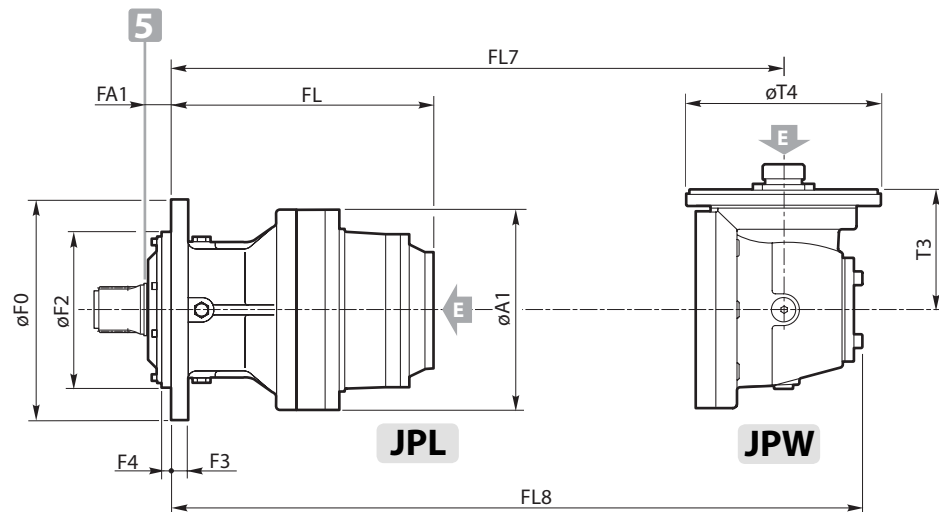
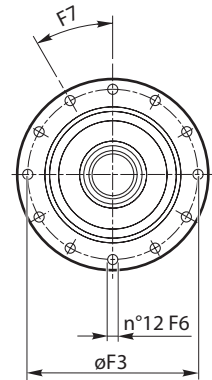
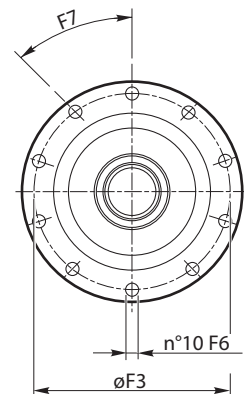
310 - 510
610

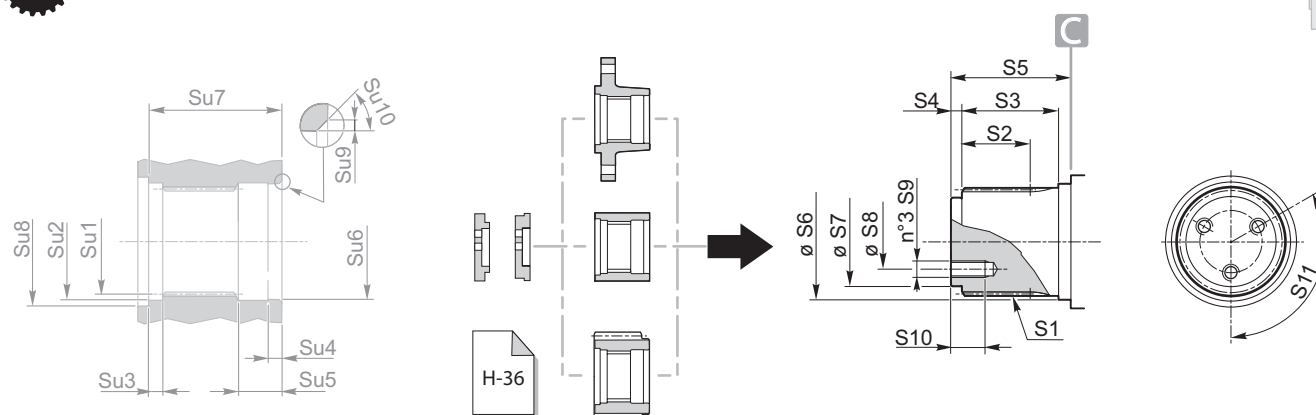


	810	1020	1520	2000 2000L
S1	B70x64 DIN5482	B80x74 DIN5482	B80x74 DIN5482	B80x74 DIN5482
S2	51	50	50	50
S3	70	70	70	70
S4	10	10	10	10
S5	90	90	90	90
S6	72 f7	85 f7	85 f7	85 f7
S7	62 f7	70 f7	70 f7	70 f7
S8	40	45	45	45
S9	M10	M10	M10	M10
S10	22	25	25	25
S11	120°	120°	120°	120°

	810	1020	1520	2000 2000L
Su1	A70x64 DIN5482	A80x74 DIN5482	A80x74 DIN5482	A80x74 DIN5482
Su2	72 H7	85 H7	85 H7	85 H7
Su3	10	10.5	10.5	10.5
Su4	11	10.5	10.5	10.5
Su5	29	30.5	30.5	30.5
Su6	72 H7	85 H7	85 H7	85 H7
Su7	90	90.5	90.5	90.5
Su8	82	100	100	100
Su9	1	1	1	1
Su10	1	1	1	1

	stages	810	1020	1520	2000	2000L
A1		295	295	350	350	350
F0		280	325	325	325	325
F2		200 f7	230 f7	230 f7	230 f7	230 f7
F3		250	295	295	295	295
F4		10.5	15	15	15	15
F5		22	25	28	28	28
F6		Ø15	Ø17	Ø17	Ø17	Ø17
		M... - 12.9				
		M14	M16	M16	M16	M16
F7		30°	36°	36°	36°	36°
FA1		40	36	36	36	36
FL	1	185	237	240	240	240
	2	252	322	333	333	333
	3	304.5	386.5	397.5	391.5	397.5
	4	347.5	429.5	440	444	440
FL7	2	326.5	379	446	446	446
	3	374	444	455	455	455
	4	385.5	467.5	478.5	513.5	478.5
FL8	2	435	487	574	574	574
	3	465	535	546	546	546
	4	460	542	553	604.5	553
T3	2	277	277	310	310	310
	3	171.5	171.5	171.5	171.5	171.5
	4	113.8	113.8	113.8	171.5	113.8
T4	2	242	242	293	293	293
	3	183	183	183	183	183
	4	184	184	184	183	184

**810****1020 - 1520
2000 - 2000L**



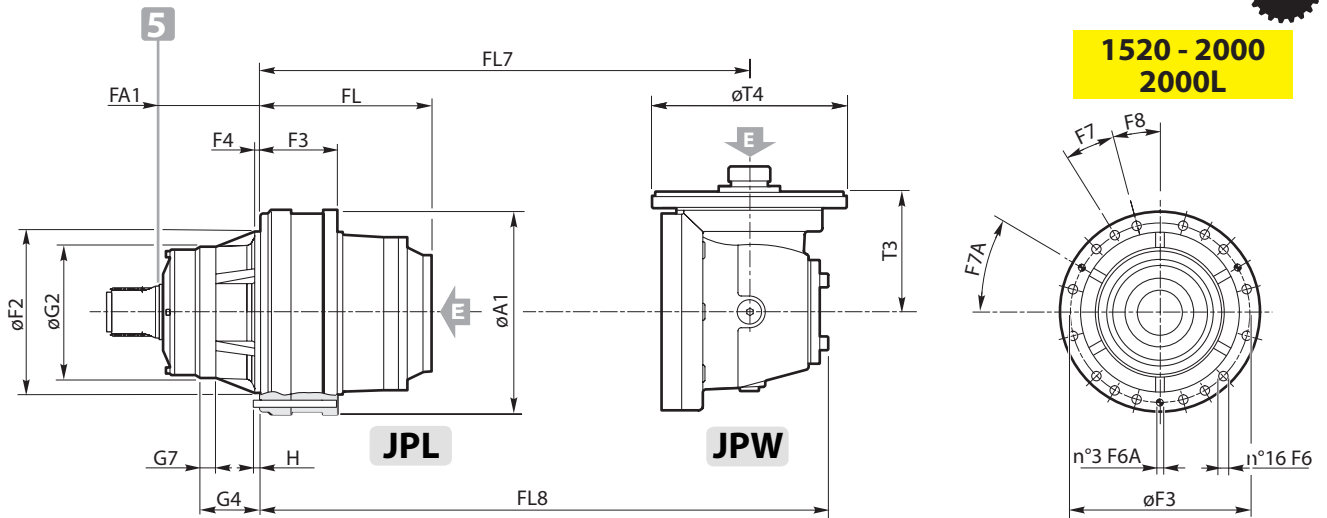
	1520	2000 2000L	2520	3000	3510	4800
S1	B80x74 DIN 5482	B80x74 DIN 5482	B100x94 DIN 5482	B100x94 DIN 5482	W120x3x8f DIN 5480	W120x3x8f DIN 5480
S2	50	50	65	65	95	95
S3	70	70	85	85	111	111
S4	10	10	12	12	15	15
S5	90	90	110	110	136	136
S6	85 f7	85 f7	105 h7	105 h7	124 f7	124 f7
S7	70 f7	70 f7	85 h7	85 h7	90 f7	90 f7
S8	45	45	52	52	50	50
S9	M10	M10	M14	M14	M16	M16
S10	25	25	30	30	30	30
S11	120°	120°	120°	120°	120°	120°

	1520	2000 2000L	2520	3000	3510	4800
Su1	A80x74 DIN 5482	A80x74 DIN 5482	A100x94 DIN 5482	A100x94 DIN 5482	N120x3x9H DIN 5480	N120x3x9H DIN 5480
Su2	85 H7	85 H7	105 H7	105 H7	130 H7	130 H7
Su3	10.5	10.5	12	12	28	28
Su4	10.5	10.5	13	13	12	12
Su5	30.5	30.5	33	33	29	29
Su6	85 H7	85 H7	105 H7	105 H7	124 H7	124 H7
Su7	90.5	90.5	110	110	150	150
Su8	100	100	116	116	132	132
Su9	1	1	1.5	1.5	3	3
Su10	1	1	1.5	1.5	3	3

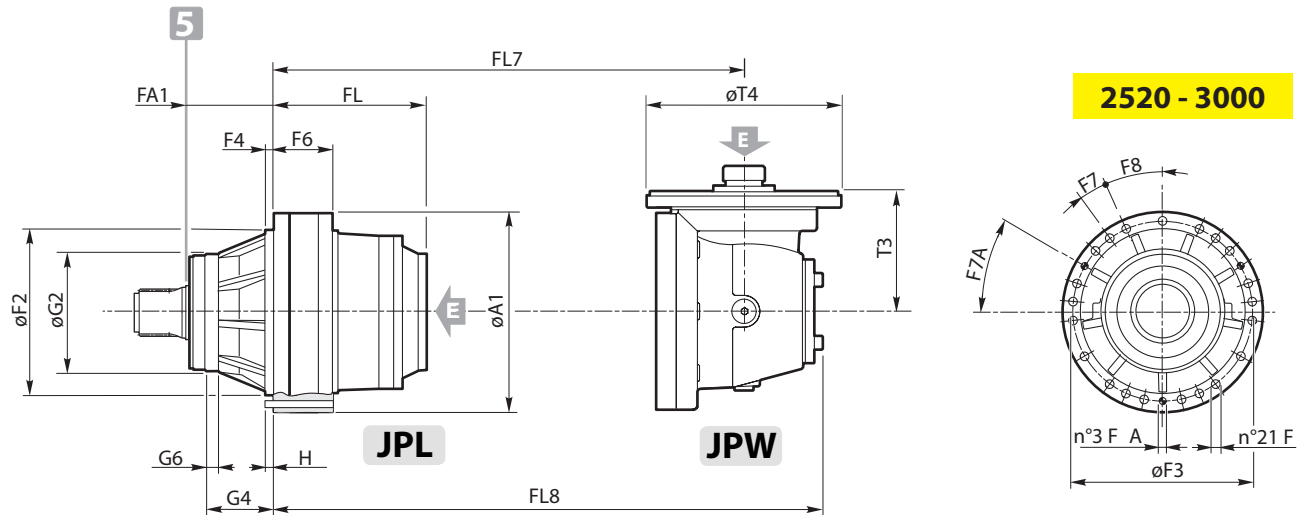
	stages	1520	2000	2000L	2520	3000	3510	4800
A1		350	350	350	409	409	452	452
FA1		169	169	169	180	180	109	109
F2		278 f7	278 f7	278 f7	340 f7	340 f7	390 f8	390 f8
F3		314	314	314	370	370	424	424
F4		10	10	10	17	17	15	15
F5		133	133	133	131	131	120	120
F6		Ø16.5	Ø16.5	Ø16.5	Ø17	Ø17	Ø17	Ø17
F6A		M16	M16	M16	M16	M16	M16	M16
F7		15°	15°	15°	12°	12°	20°	20°
F7A		30°	30°	30°	30°	30°	—	—
F8		15°	15°	15°	24°	24°	10°	10°
FL	1	107	107	107	98	98	85	85
	2	200	200	200	209	226	277	326
	3	264.5	258.5	264.5	276	311	362	419
	4	307.5	311	307.5	328.5	375.5	426.5	483.5
FL7	2	313	313	313	292	292	339	339
	3	322	322	322	351	368	419	532
	4	345.5	380.5	345.5	398	433	484	541
FL8	2	441	441	441	420	420	529	529
	3	413	413	413	459	476	527	660
	4	420	472	420	489	524	575	632
G2		225 f7	225 f7	225 f7	245 f7	245 f7	—	—
G4		104.5	104.5	104.5	142	142	—	—
G5		27.5	27.5	27.5	29	29	—	—
H		15	15	15	29	29	—	—
T3	2	310	310	310	310	310	432	432
	3	171	171	171	227	227	227	310
	4	113.8	171	113.8	171	171	171	171
T4	2	293	293	293	293	293	295	295
	3	183	183	183	242	242	242	293
	4	184	183	184	183	183	183	183



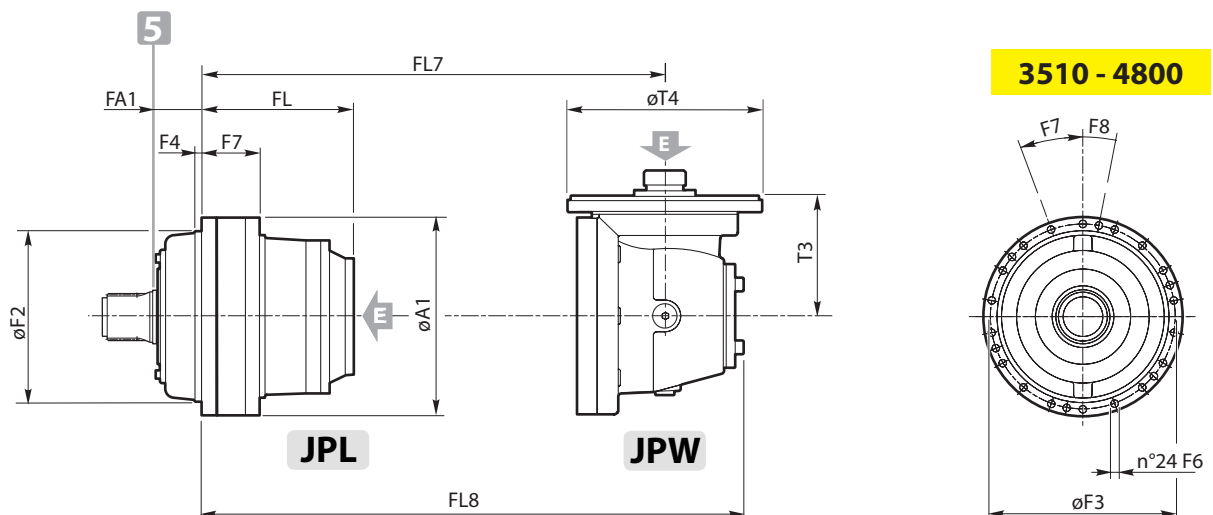
**1520 - 2000
2000L**

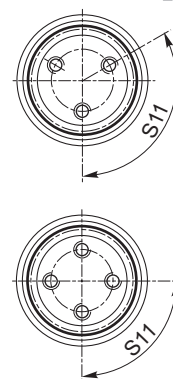
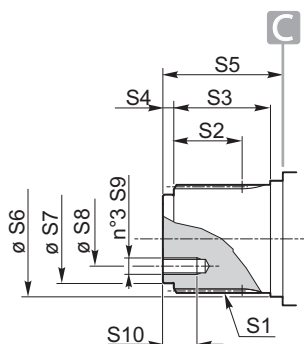
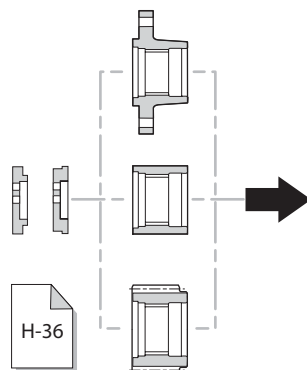
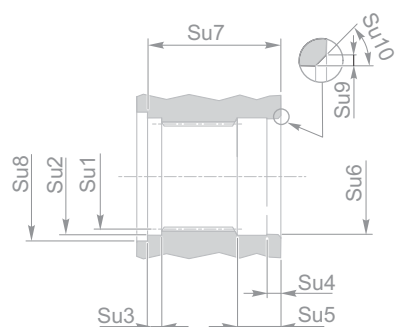


2520 - 3000



3510 - 4800

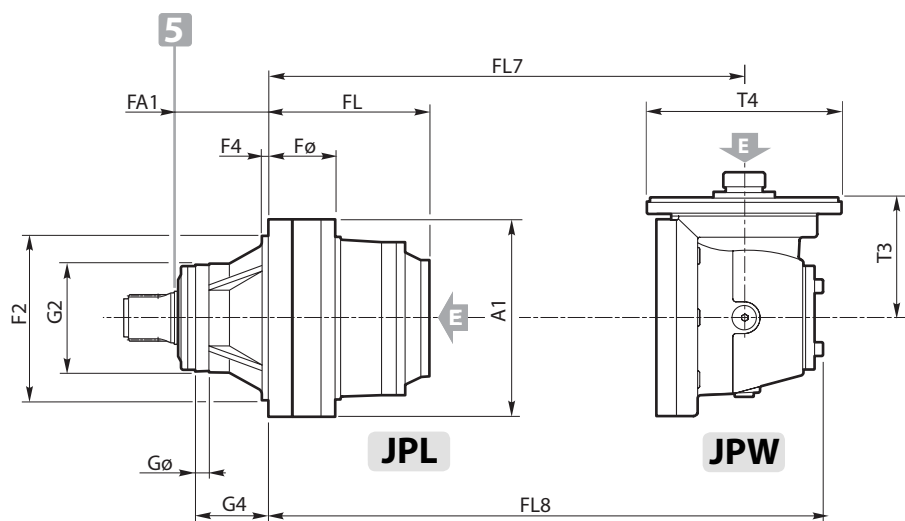




	6000		8000	12010	16000
	HS	H6S	HS	HS	HS
S1	W120x3x8f DIN 5480	W150x5x8f DIN 5480	W150x5x8f DIN 5480	W170x5x8f DIN 5480	W170x5x8f DIN 5480
S2	85	107	107	110	110
S3	103	124	124	135	135
S4	10	12	12	15	15
S5	125	150	150	165	165
S6	120 h7	151 f7	151 f7	170 f7	170 f7
S7	100 h7	125 f7	125 f7	150 f7	150 f7
S8	70	80	80	110	110
S9	M16 (3)	M16 (3)	M16 (3)	M16 (4)	M16 (4)
S10	35	35	35	35	35
S11	120°	120°	120°	90°	90°

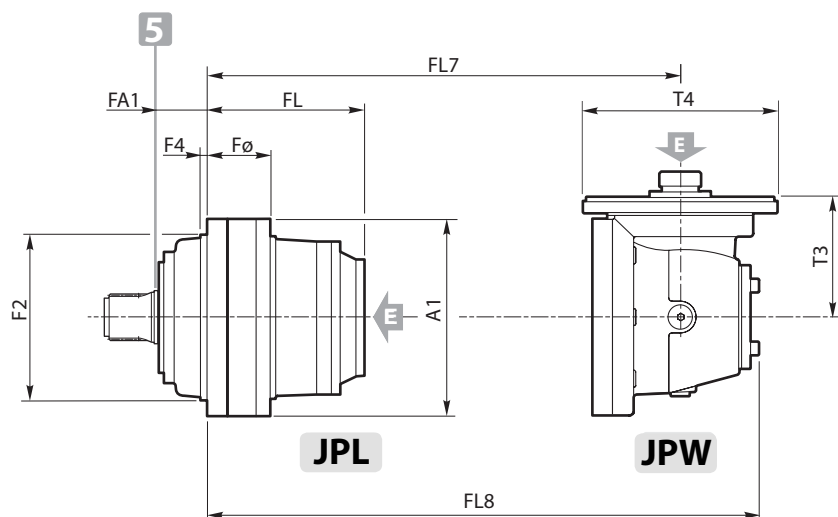
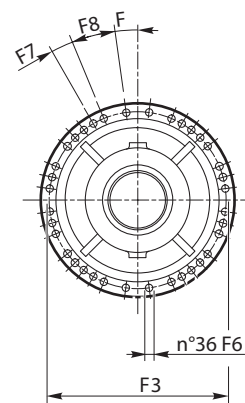
	6000		8000	12010	16000
	HS	H6S	HS	HS	HS
Su1	N120x3x9H DIN 5480	N150x5x9H DIN 5480	N150x5x9H DIN 5480	N170x5x9H DIN 5480	N170x5x9H DIN 5480
Su2	120 H7	151 H7	151 H7	175 H7	175 H7
Su3	10.5	11	11	14	14
Su4	12	33	33	15	15
Su5	31	33	33	42	42
Su6	120 H7	151 H7	151 H7	170 H7	170 H7
Su7	124.5	150	150	163	163
Su8	137	172	172	200	200
Su9	3	3	3	3	3
Su10	3	3	3	3	3

		6000		8000	12010	16000
	stages	HS	H6S	HS	HS	HS
A1		490	490	490	610	610
F2		410 f7	410 h8	410 h8	515 h8	515 h8
F3		445	445	445	560	560
F4		15	15	15	20	20
F5		187	178.5	181.5	230	230
F6		M... - 12.9		M... - 10.8		
		M18	M18	M18	M24	M24
F7		7°30'	7°30'	7°30'	15°	15°
F8		15°	15°	15°	7°30'	7°30'
F9		7°30'	7°30'	7°30'	7°30'	7°30'
FA1		226	126	126	145	145
FL	1	145	136.5	136.5	160.5	160.5
	2	313.5	305	390.5	410	427
	3	406.5	398	518.5	538	668
	4	465	456.5	603.5	623	761
	5	—	—	668	687.5	825.5
FL7	2	399	390.5	390.5	—	—
	3	519.5	511	584.5	604	681
	4	528.5	520	660.5	680	874
	5	—	—	—	745	883
FL8	2	589	580.5	580.5	—	—
	3	647.5	639	712.5	732	871
	4	619.5	611	768.5	788	1002
	5	—	—	—	836	974
G2		260 f7	—	—	—	—
G4		181	—	—	—	—
G5		33	—	—	—	—
T3	2	432	432	432	—	—
	3	310	310	310	310	432
	4	171	171	227	227	310
	5	—	—	—	171	171
T4	2	295	295	295	—	—
	3	293	293	293	293	295
	4	183	183	242	242	293
	5	—	—	—	183	183



HS

6000

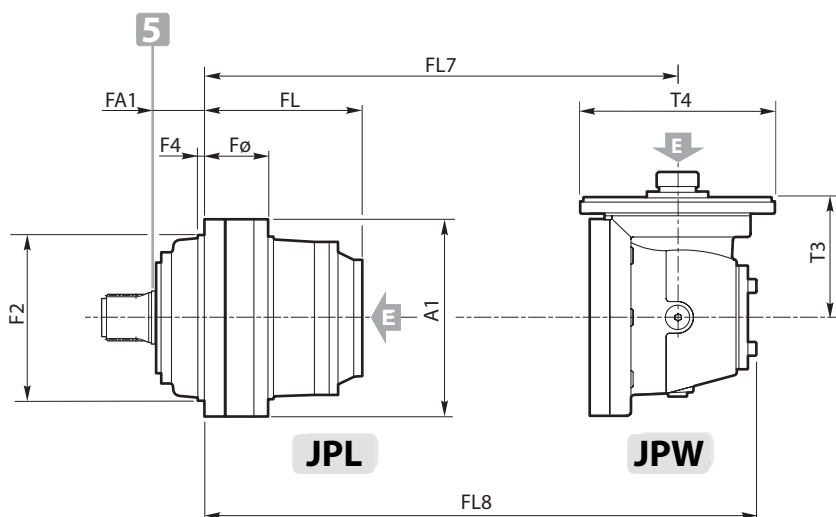
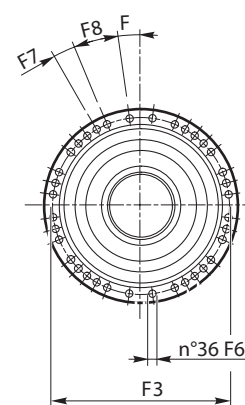


H6S

6000

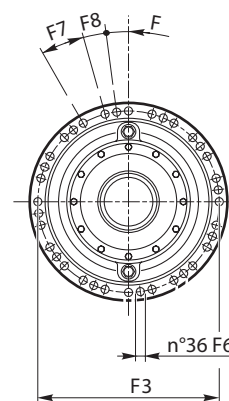
HS

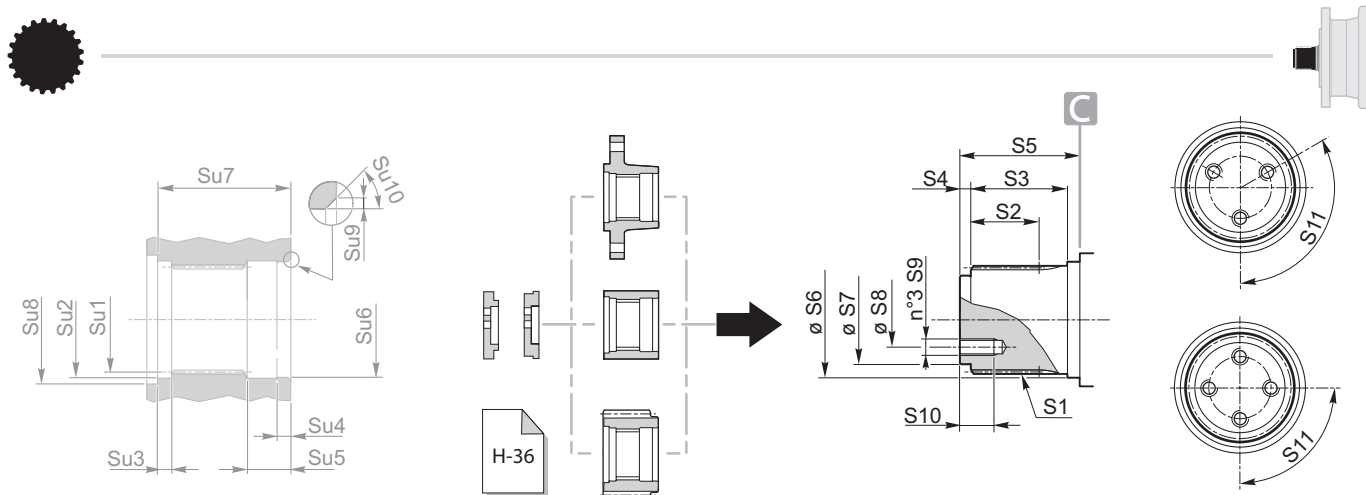
8000



HS

12010 - 16000

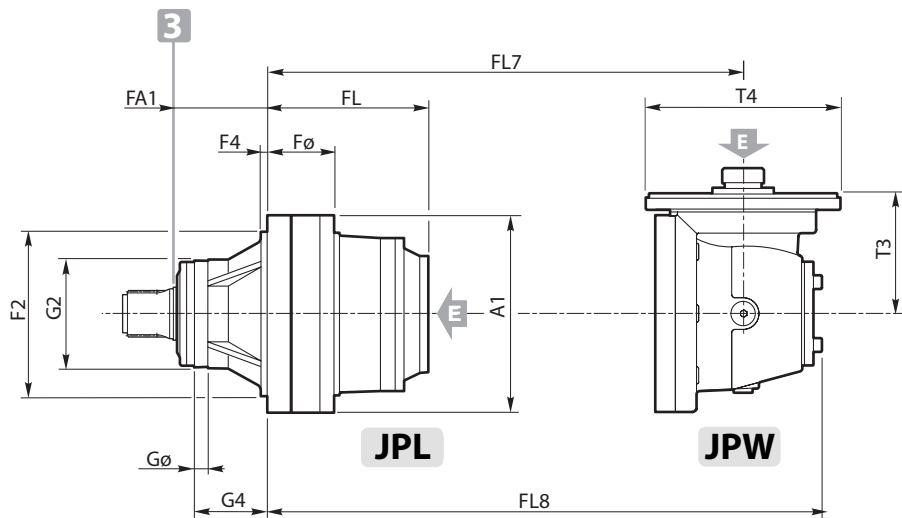




	6000L		8000L	12010L	16000L
	HS	H6S	HS	HS	HS
S1	W120x3x8f DIN 5480	W150x5x8f DIN 5480	W150x5x8f DIN 5480	W170x5x8f DIN 5480	W170x5x8f DIN 5480
S2	85	107	107	110	110
S3	103	124	124	135	135
S4	10	12	12	15	15
S5	125	150	150	165	165
S6	120 h7	151 f7	151 f7	170 f7	170 f7
S7	100 h7	125 f7	125 f7	150 f7	150 f7
S8	70	80	80	110	110
S9	M16 (3)	M16 (3)	M16 (3)	M16 (4)	M16 (4)
S10	35	35	35	35	35
S11	120°	120°	120°	90°	90°

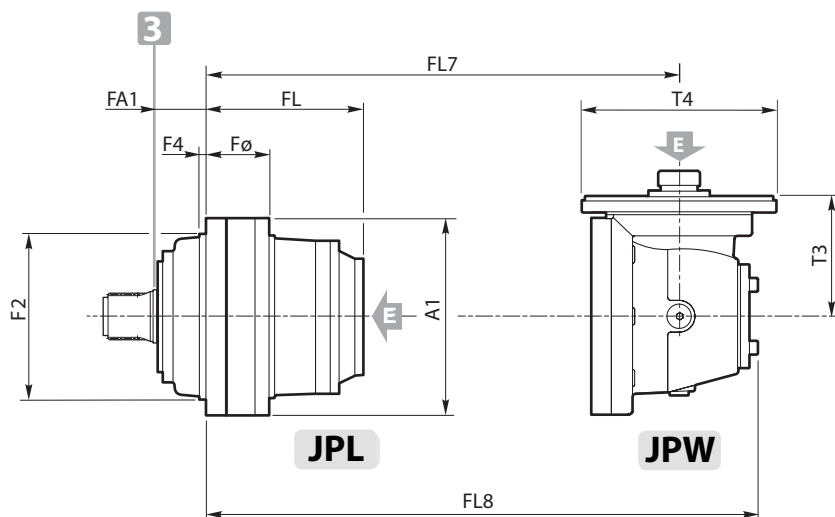
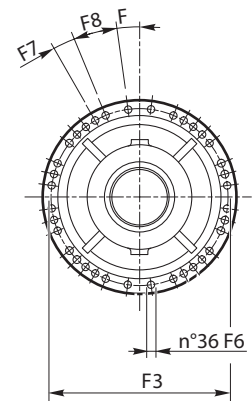
	6000L		8000L	12010L	16000L
	HS	H6S	HS	HS	HS
Su1	N120x3x9H DIN 5480	N150x5x9H DIN 5480	N150x5x9H DIN 5480	N170x5x9H DIN 5480	N170x5x9H DIN 5480
Su2	120 H7	151 H7	151 H7	175 H7	175 H7
Su3	10.5	11	11	14	14
Su4	12	33	33	15	15
Su5	31	33	33	42	42
Su6	120 H7	151 H7	151 H7	170 H7	170 H7
Su7	124.5	150	150	163	163
Su8	137	172	172	200	200
Su9	3	3	3	3	3
Su10	3	3	3	3	3

		6000L		8000L	12010L	16000L
	stages	HS	H6S	HS	HS	HS
A1		490	490	490	610	610
F2		410 f7	410 h8	410 h8	515 h8	515 h8
F3		445	445	445	560	560
F4		15	15	15	20	20
F5		187	178.5	181.5	230	230
		Ø19	Ø19	Ø19	Ø25	Ø25
F6		M18 - 12.9		M18 - 10.8		
		M18	M18	M18	M24	M24
F7		7°30'	7°30'	7°30'	15°	15°
F8		15°	15°	15°	7°30'	7°30'
F9		7°30'	7°30'	7°30'	7°30'	7°30'
FA1		226	126	126	145	145
FL	1	145	136.5	136.5	160.5	160.5
	2	313.5	305	390.5	410	427
	3	406.5	398	501.5	521	619
	4	471	462.5	568.5	588	704
	5	—	—	621	640.5	768.5
FL7	2	399	390.5	390.5	—	—
	3	519.5	511	584.5	604	681
	4	528.5	520	643.5	663	761
	5	—	—	—	710	826
FL8	2	589	580.5	580.5	—	—
	3	647.5	639	712.5	732	871
	4	619.5	611	751.5	771	869
	5	—	—	—	801	917
G2		260 f7	—	—	—	—
G4		181	—	—	—	—
G5		33	—	—	—	—
T3	2	432	432	432	/	/
	3	310	310	310	310	432
	4	171	171	227	227	227
	5	—	—	—	171	171
T4	2	295	295	295	—	—
	3	293	293	293	293	295
	4	183	183	242	242	242
	5	—	—	—	183	183



HS

6000L

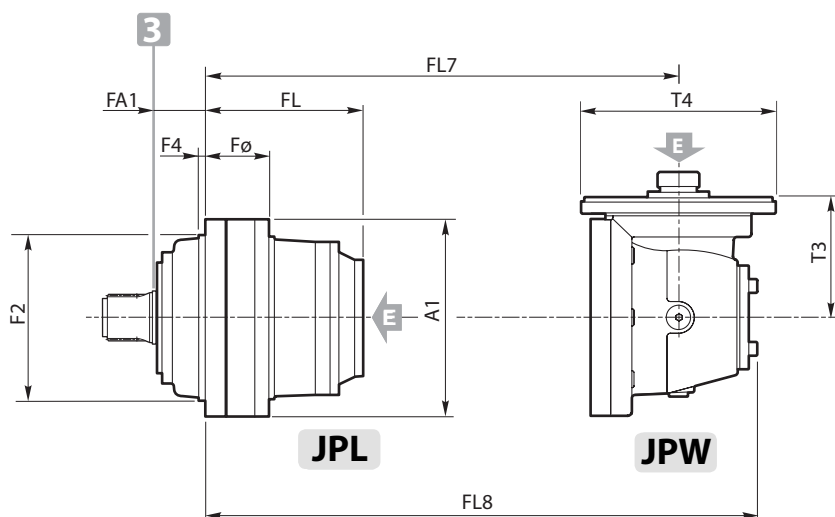
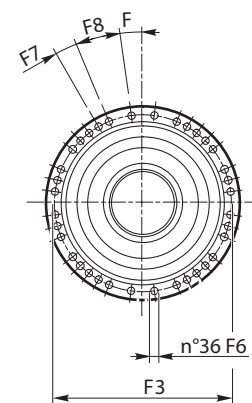


H6S

6000L

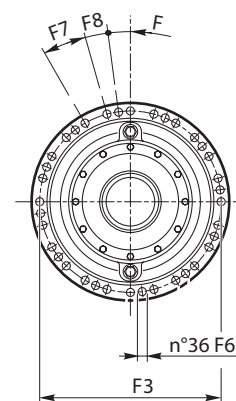
HS

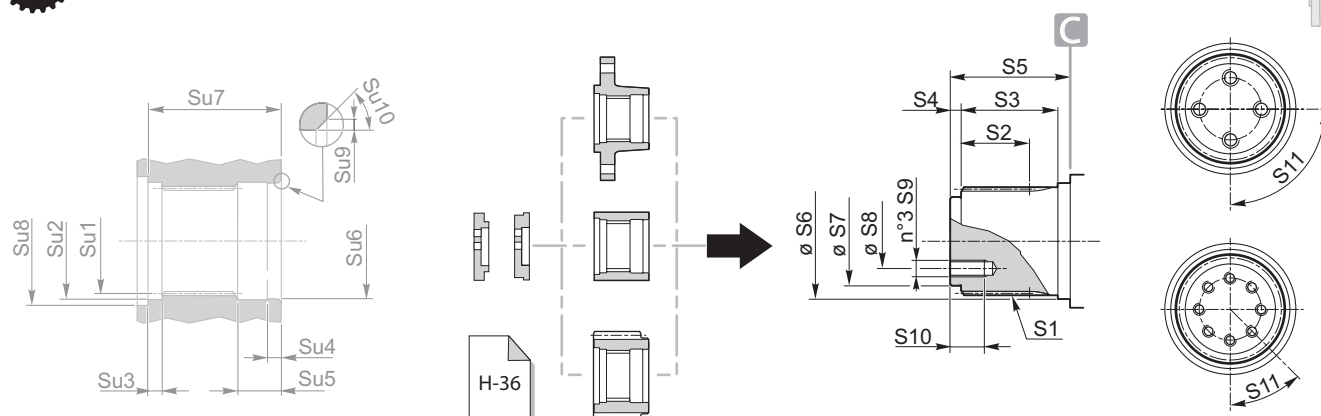
8000L



HS

12010L-16000L

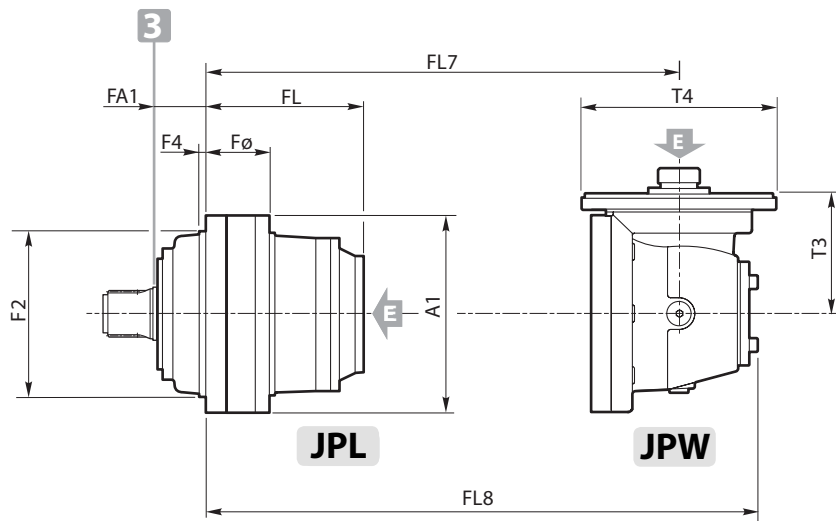




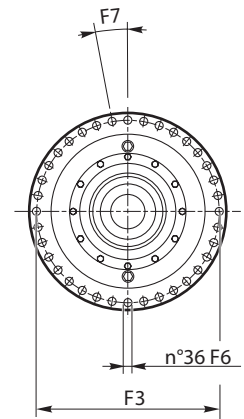
	21000	26000	31000	40000	45000
S1	W220x5x8f DIN 5480	W220x5x8f DIN 5480	W280x5x8f DIN 5480	W280x5x8f DIN 5480	W280x5x8f DIN 5480
S2	140	140	175	175	175
S3	167	167	210	210	210
S4	20	20	25	25	25
S5	210	210	260	260	260
S6	220 f7	220 f7	283 f7	283 f7	283 f7
S7	200 f7	200 f7	260 f7	260 f7	260 f7
S8	150	150	200	200	200
S9	M24(x4)	M24(x4)	M24(x8)	M24(x8)	M24(x8)
S10	50	50	50	50	50
S11	90°	90°	45°	45°	45°

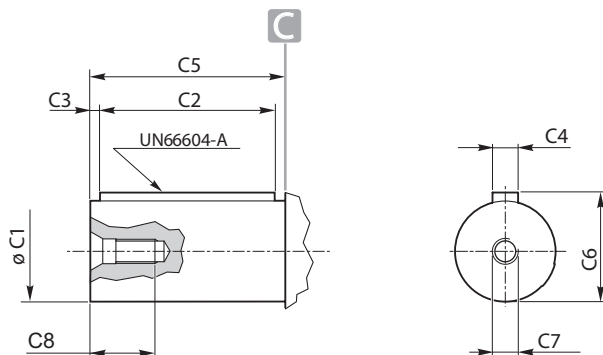
	21000	26000	31000	40000	45000
Su1	N220x5x9H DIN 5480	N220x5x9H DIN 5480	N280x5x9H DIN 5480	N280x5x9H DIN 5480	N280x5x9H DIN 5480
Su2	230 H7	230 H7	300 H7	300 H7	300 H7
Su3	16	16	24.5	24.5	24.5
Su4	23	23	25	25	25
Su5	51.5	51.5	65	65	65
Su6	220 H7	220 H7	283 H7	283 H7	283 H7
Su7	205	205	260	260	260
Su8	262	262	302	302	302
Su9	3	3	3	3	3
Su10	3	3	3	3	3

	stages	21000	26000	31000	40000	45000
A1		710	710	870	870	870
F2		600 h8	600 h8	760 h8	760 h8	760 h8
F3		660	660	810	810	810
F4		23.5	23.5	35	35	35
F5		196	216	250	290	290
F6		Ø28	Ø28	Ø32	Ø32	Ø32
F7		M25	M25	M30	M30	M30
FA1		10°	10°	10°	10°	10°
FL	1	138	158	180	220	220
	2	443	463	588.5	628.5	628.5
	3	611.5	717	838	878	895
	4	704.5	845	966	1006	1136
	5	763	930	1051	1091	1229
FL7	3	697	717	/	/	/
	4	817.5	911	1032	1072	1149
	5	826.5	987	1108	1148	1342
FL8	3	887	907	/	/	/
	4	945.5	1039	1160	1200	1339
	5	917.5	1095	1216	1256	1470
T3	3	432	432	/	/	/
	4	310	310	310	310	432
	5	171	227	227	227	310
T4	3	295	295	/	/	/
	4	293	293	293	293	295
	5	183	242	242	242	293



21000 ÷ 45000





		110	210	310	510	610	810
NC	C1	38 h7	38 h7	50 h7	50 h7	50 h7	80 h6
	C2	50	50	90	90	90	110
	C3	4	4	8	8	8	8
	C4	10	10	14	14	14	22
	C5	58	58	105	105	105	130
	C6	41	41	53.5	53.5	53.5	85
	C7	M12	M12	M14	M14	M14	M20
	C8	20	20	30	30	30	45

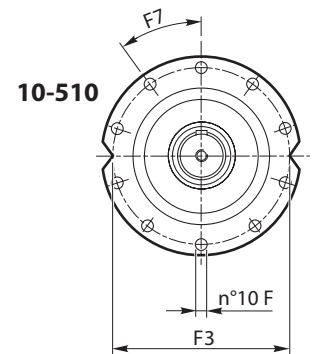
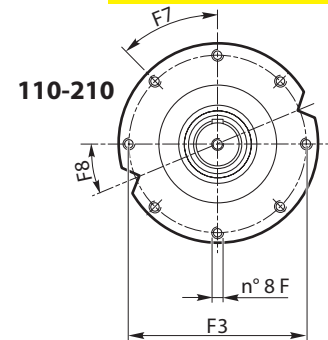
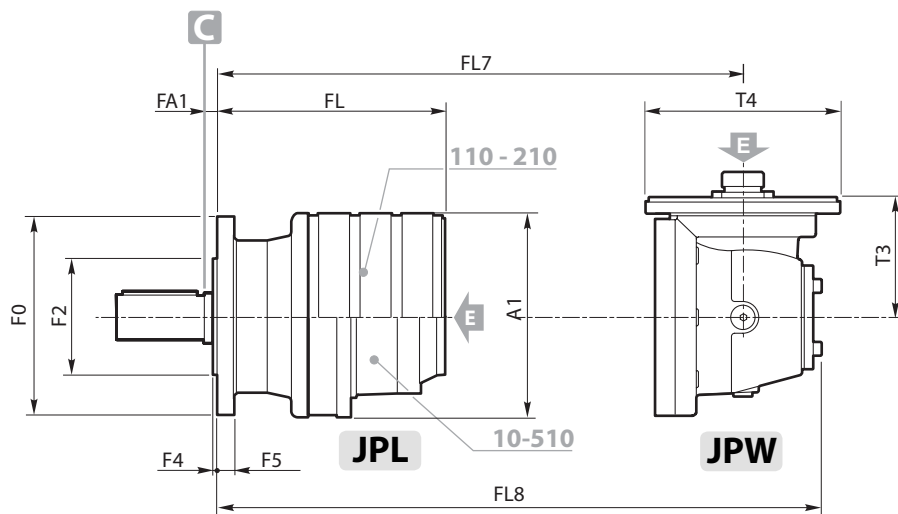
		110	210	310	510	610	810
NK	C1	42 h7	42 h7	60 h7	60 h7	60 h7	—
	C2	70	70	90	90	90	—
	C3	6	6	8	8	8	—
	C4	12	12	18	18	18	—
	C5	82	82	105	105	105	—
	C6	45	45	53.5	53.5	53.5	—
	C7	M16	M16	M16	M16	M16	—
	C8	30	30	30	30	30	—

		110	210	310	510	610	810
NK1	C1	—	—	65 h7	65 h7	65 h7	—
	C2	—	—	90	90	90	—
	C3	—	—	8	8	8	—
	C4	—	—	18	18	18	—
	C5	—	—	105	105	105	—
	C6	—	—	69	69	69	—
	C7	—	—	M20	M20	M20	—
	C8	—	—	40	40	40	—

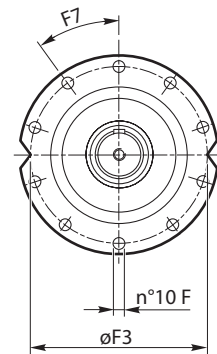
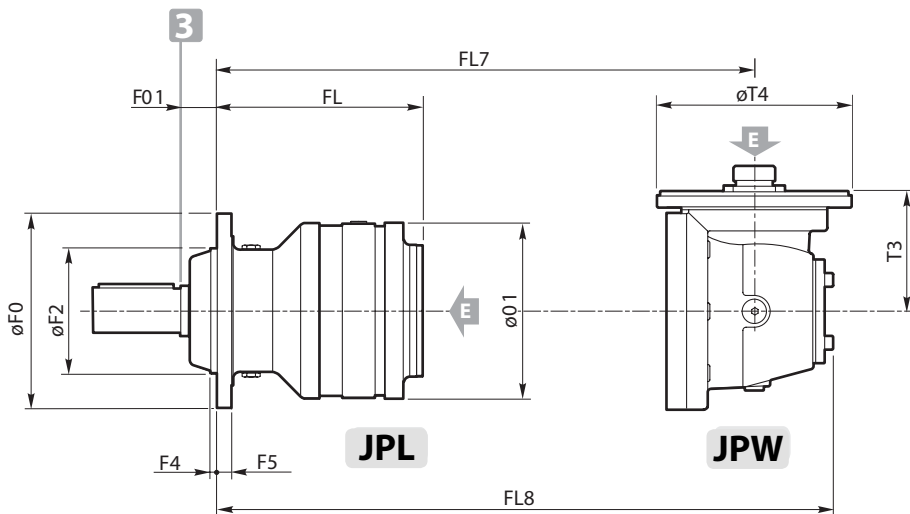
	stages	110	210	310	510	610	810
A1		186	186	224	224	224	295
F0		185	185	222	222	222	280
F2		110 h7	110 h7	150 f7	150 f7	150 f7	200 f7
F3		165	165	195	195	195	250
F4		5	5	13.5	13.5	13.5	10.5
F5		12	12	16	16	16	18
F6		10.5	10.5	12.5	12.5	12.5	15
		M10	M10	M12	M12	M12	M14
F7		45°	45°	36°	36°	36°	30°
F8		22.5°	22.5°	—	—	—	—
FA1		6.5	6.5	15	15	15	40
FL	1	95	107	133	151	151	162.5
	2	138	150	185.5	215.5	209.5	229.5
	3	181	193	228.5	258.5	262	282
	4	224	236	271.5	301.5	305	325
FL7	2	176	188	255	273	273	304.5
	3	219	231	266.5	296.5	331.5	351.5
	4	262	274	309.5	339.5	343	363
FL8	2	250.5	262.5	346	364	364	412.5
	3	293.5	305.5	341	371	422.5	442.5
	4	336.5	348.5	384	414	417.5	437.5
T3	2	113.8	113.8	171.5	171.5	171.5	277
	3	113.8	113.8	113.8	113.8	171.5	171.5
	4	113.8	113.8	113.8	113.8	113.8	113.8
T4	2	184	184	183	183	183	242
	3	184	184	184	184	183	183
	4	184	184	184	184	184	184



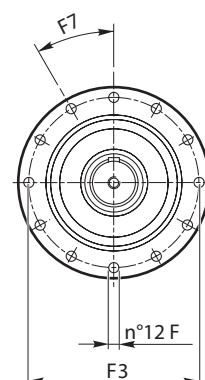
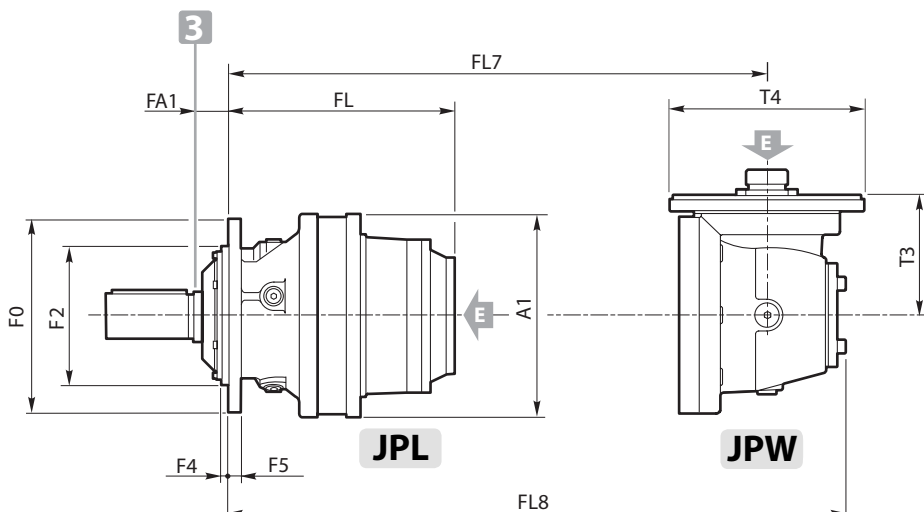
**110 - 210
310 - 510**

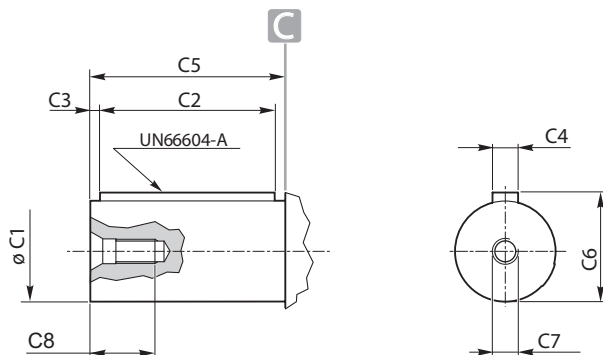


610



810



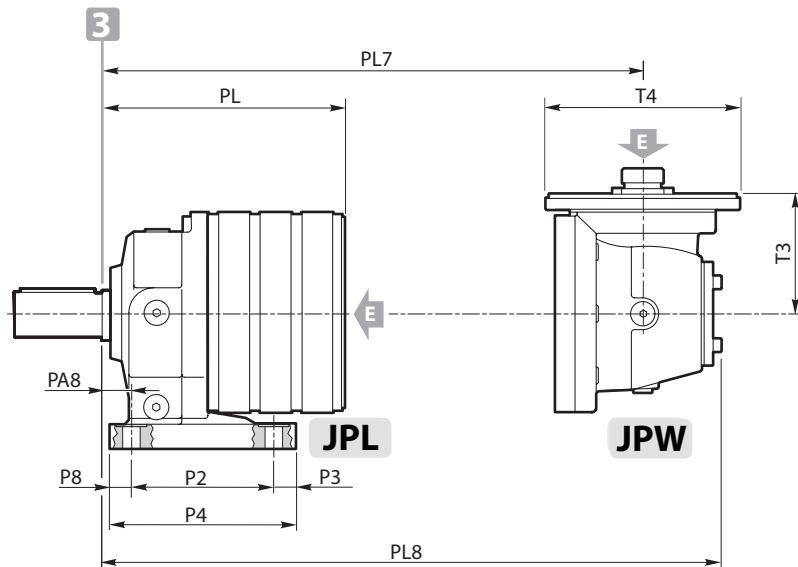
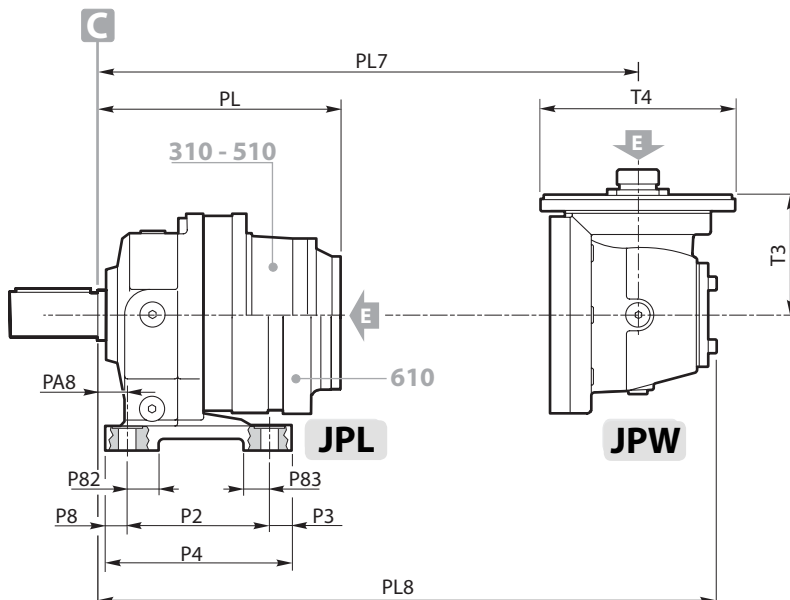
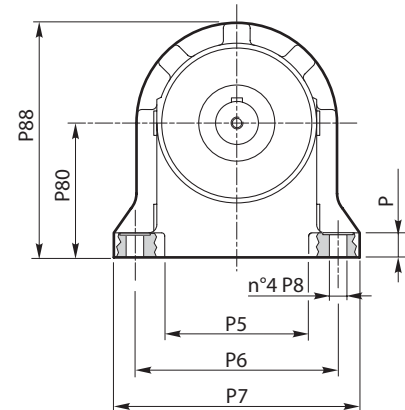
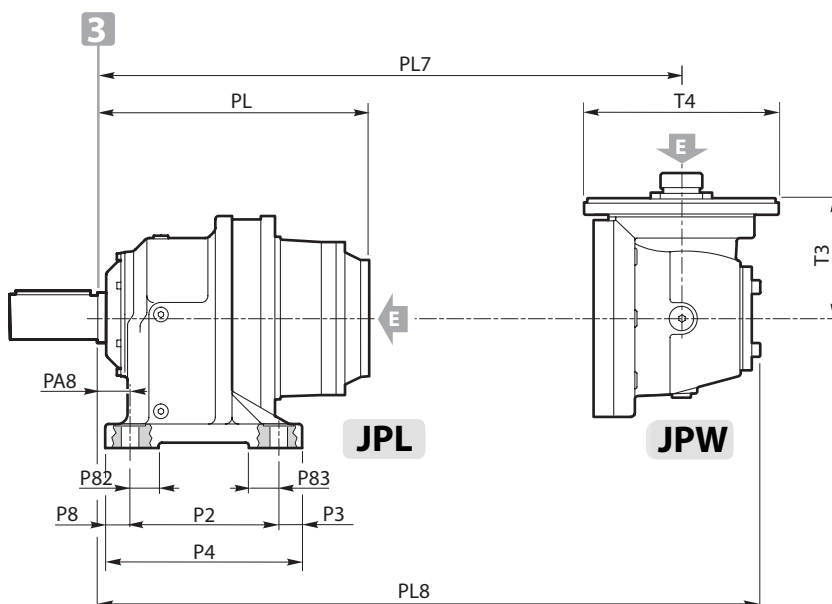
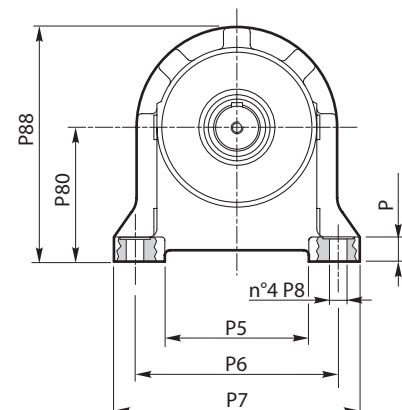
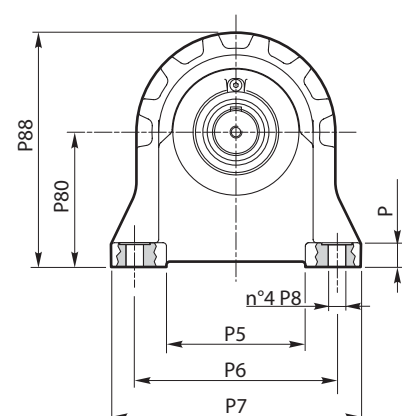


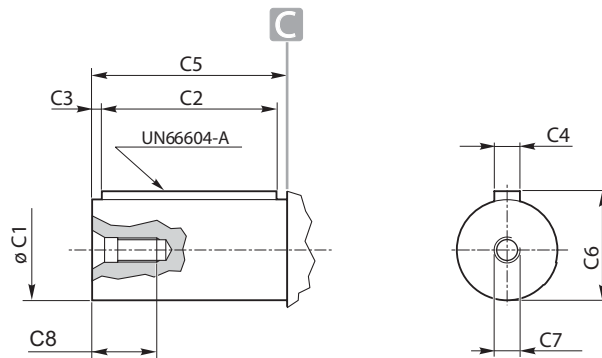
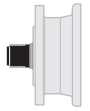
		110	210	310	510	610	810	1020
PC	C1	38 h7	38 h7	50 h7	50 h7	50 h7	80 h6	80 h6
	C2	50	50	90	90	90	110	110
	C3	4	4	8	8	8	8	8
	C4	10	10	14	14	14	22	22
	C5	58	58	105	105	105	130	130
	C6	41	41	53.5	53.5	53.5	85	85
	C7	M12	M12	M14	M14	M14	M20	M20
	C8	20	20	30	30	30	45	45

		110	210	310	510	610	810	1020
PK	C1	42 h7	42 h7	60 h7	60 h7	60 h7	—	—
	C2	70	70	90	90	90	—	—
	C3	6	6	8	8	8	—	—
	C4	12	12	18	18	18	—	—
	C5	82	82	105	105	105	—	—
	C6	45	45	53.5	53.5	53.5	—	—
	C7	M16	M16	M16	M16	M16	—	—
	C8	30	30	30	30	30	—	—

		110	210	310	510	610	810	1020
PK1	C1	/	/	65 h7	65 h7	65 h7	—	—
	C2	/	/	90	90	90	—	—
	C3	/	/	8	8	8	—	—
	C4	/	/	18	18	18	—	—
	C5	/	/	105	105	105	—	—
	C6	/	/	69	69	69	—	—
	C7	/	/	M20	M20	M20	—	—
	C8	/	/	40	40	40	—	—

	stages	110	210	310	510	610	810	1020
P1		20	20	28	28	28	35	35
P2		132	132	180	180	180	225	225
P3		20	20	28	28	28	35	35
P4		172	172	236	236	236	295	295
P5		134	134	180	180	180	206	206
P6		190	190	250	250	250	300	300
P7		230	230	310	310	310	370	370
P8		Ø14	Ø14	Ø22	Ø22	Ø22	Ø26	Ø26
		M... - 12.9						
		M12	M12	M20	M20	M20	M24	M24
P9		23	23	26.5	26.5	26.5	36	36
P10		125	125	160	160	160	200	200
P11		218	218	282	282	282	247.5	247.5
P12		—	—	21	21	21	45	45
P13		—	—	21	21	21	45	45
PA1		20	20	29	29	29	35	35
PL	1	101.5	113.5	148	166	166	225	242
	2	144.5	156.5	200.5	230.5	224.5	292	327
	3	187.5	199.5	243.5	273.5	277	344.5	391.5
	4	230.5	242.5	286.5	316.5	320	387.5	434.5
PL7	2	182.5	194.5	297	315	288	367	384
	3	225.5	237.5	281.5	311.5	346.5	414	449
	4	268.5	280.5	324.5	354.5	358	425.5	472.5
	2	257	269	361	379	379	475	492
PL8	3	300	312	356	386	437.5	505	540
	4	343	355	399	429	432.5	500	547
T3	2	113.8	113.8	171.5	171.5	171.5	277	277
	3	113.8	113.8	113.8	113.8	171.5	171.5	171.5
	4	113.8	113.8	113.8	113.8	113.8	113.8	113.8
T4	2	184	184	183	183	183	242	242
	3	184	184	184	184	183	183	183
	4	184	184	184	184	184	184	184

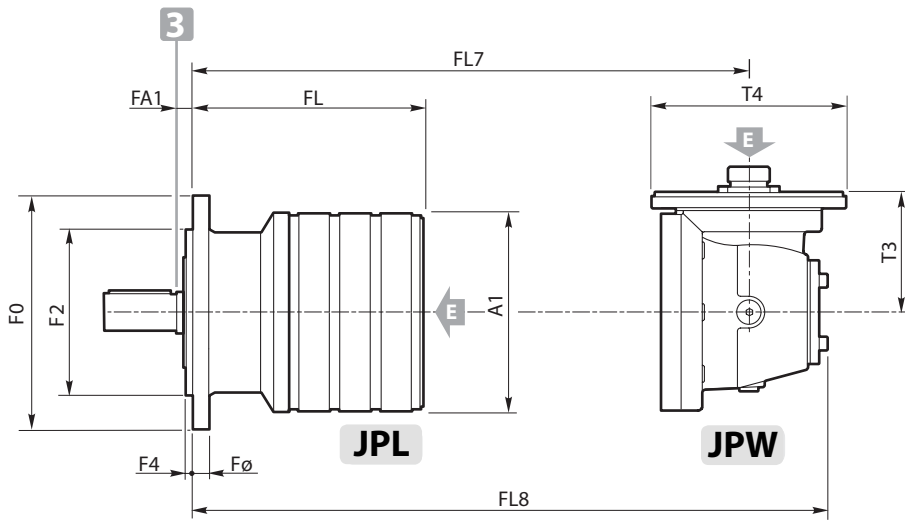
**110 - 210****310 - 510
610****810 - 1020**



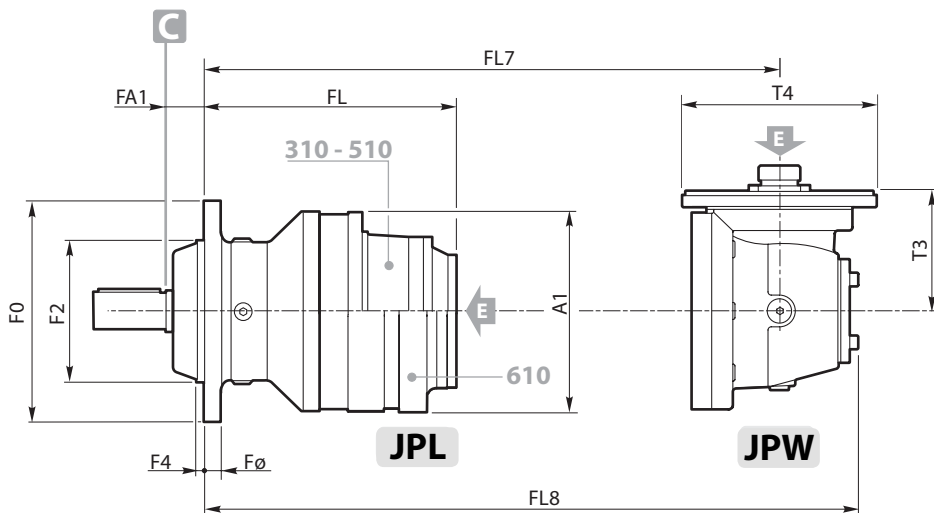
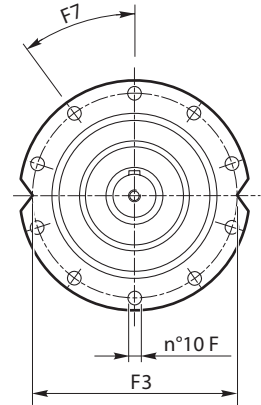
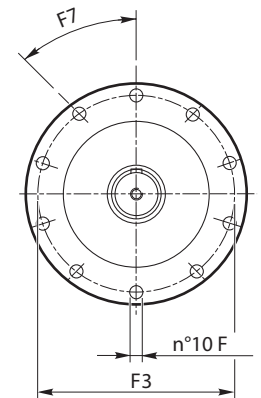
		110	210	240	310	510	610
TC T1C TRC TR1C TLC	C1	50 h7	50 h7	50 h7	60 h7	60 h7	60 h7
	C2	90	90	90	90	90	90
	C3	5	5	5	8	8	8
	C4	14	14	14	18	18	18
	C5	100	100	100	105	105	105
	C6	53.5	53.5	53.5	64	64	64
	C7	M12	M12	M12	M16	M16	M16
	C8	30	30	30	30	30	30

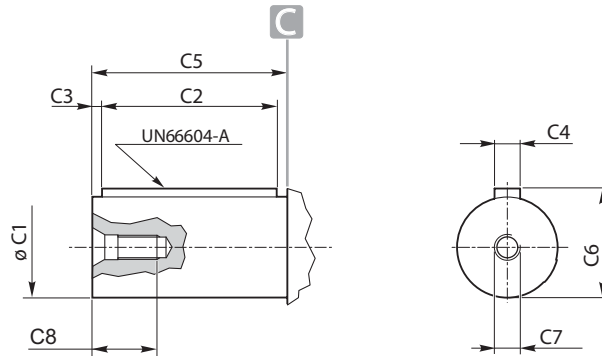
		110	210	240	310	510	610
TK TLK	C1	/	/	/	65 h7	65 h7	65 h7
	C2	/	/	/	90	90	90
	C3	/	/	/	8	8	8
	C4	/	/	/	18	18	18
	C5	/	/	/	105	105	105
	C6	/	/	/	69	69	69
	C7	/	/	/	M20	M20	M20
	C8	/	/	/	40	40	40

	stages	110				210				240		310		510		610	
		T_	T1_	TR_	TR1_	T_	T1_	TR_	TR1_	T_	TR_	T_	TL_	T_	TL_	T_	TL_
A1		186	186	186	186	186	186	186	186	186	186	244	244	244	244	244	244
F0		219	219	219	219	219	219	219	219	219	219	272	272	272	272	272	272
F2		155 h7	150 f7	155 h7	150 f7	155 h7	150 f7	155 h7	150 f7	150 f7	155 f7	175 h8	175 h8	175 h8	175 h8	175 h8	175 h8
F3		194	195	194	195	194	195	194	195	195	194	245	245	245	245	245	245
F4		7	7	10	10	7	7	10	10	7	10	12	9	12	9	12	9
F5		15	15	15	15	15	15	15	15	15	15	20	20	20	20	20	20
F6		Ø11	Ø13	Ø11	Ø13	Ø11	Ø13	Ø11	Ø13	Ø12.5	Ø11	Ø12.5	Ø12.5	Ø12.5	Ø12.5	Ø12.5	Ø12.5
		M. - 12.9															
		M10	M12	M10	M12	M10	M12	M10	M12	M12	M10	M12	M12	M12	M12	M12	M12
F7		36°	36°	36°	36°	36°	36°	36°	36°	36°	36°	36°	36°	36°	36°	36°	36°
FA1		13	13	30	30	13	13	30	30	13	30	39	39	39	39	39	39
FL	1	102	102	85	85	114	114	97	97	114	97	157	157	175	175	175	175
	2	145	145	128	128	157	157	140	140	157	140	209.5	209.5	239.5	239.5	233.5	233.5
	3	188	188	171	171	200	200	183	183	200	183	252.5	252.5	282.5	282.5	286	286
	4	231	231	214	214	243	243	226	226	243	226	295.5	295.5	325.5	325.5	329	329
FL7	2	183	183	166	166	195	195	178	178	195	178	279	279	297	297	297	297
	3	226	226	209	209	238	238	221	221	238	221	290.5	290.5	320.5	320.5	355.5	355.5
	4	269	269	252	252	281	281	264	264	281	264	333.5	333.5	363.5	363.5	367	367
FL8	2	257.5	257.5	240.5	240.5	269.5	269.5	252.5	252.5	269.5	252.5	370	370	388	388	388	388
	3	300.5	300.5	283.5	283.5	312.5	312.5	295.5	295.5	312.5	295.5	365	365	395	395	446.5	446.5
	4	343.5	343.5	326.5	326.5	355.5	355.5	338.5	338.5	355.5	338.5	408	408	438	438	441.5	441.5
T3	2	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	171.5	171.5	171.5	171.5	171.5	171.5
	3	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	171.5	171.5
	4	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8
T4	2	184	184	184	184	184	184	184	184	184	184	183	183	183	183	183	183
	3	184	184	184	184	184	184	184	184	184	184	184	184	184	184	183	183
	4	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184



110 ÷ 240

310 - 510
610

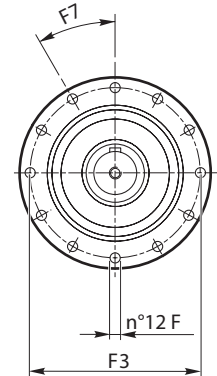
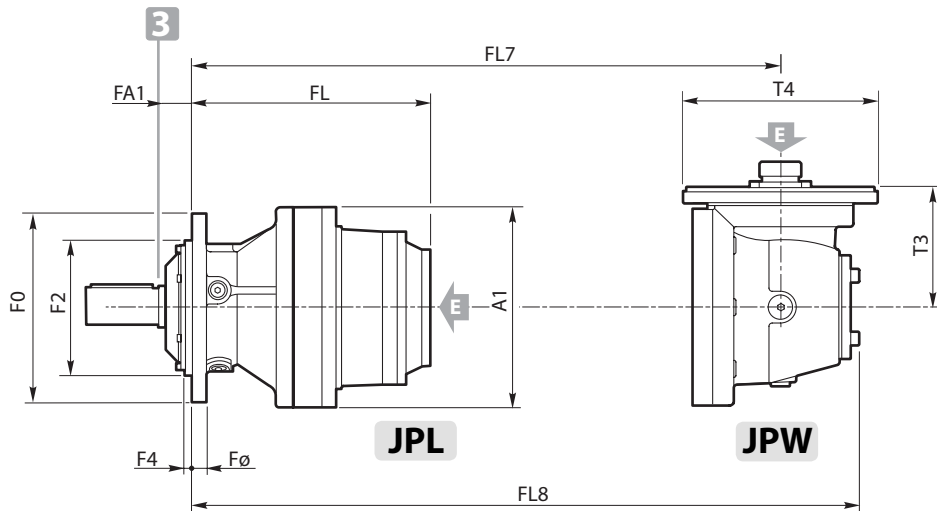


		810	1020	1520	2000	2000L
TC	C1	80 h6	90 h7	90 h7	90 h7	90 h7
	C2	110	160	160	160	160
	C3	8	5	5	5	5
	C4	22	25	25	25	25
	C5	130	170	170	170	170
	C6	85	95	95	95	95
	C7	M20	M24	M24	M24	M24
	C8	45	50	50	50	50

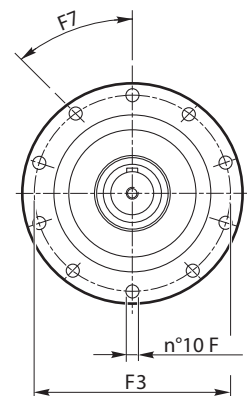
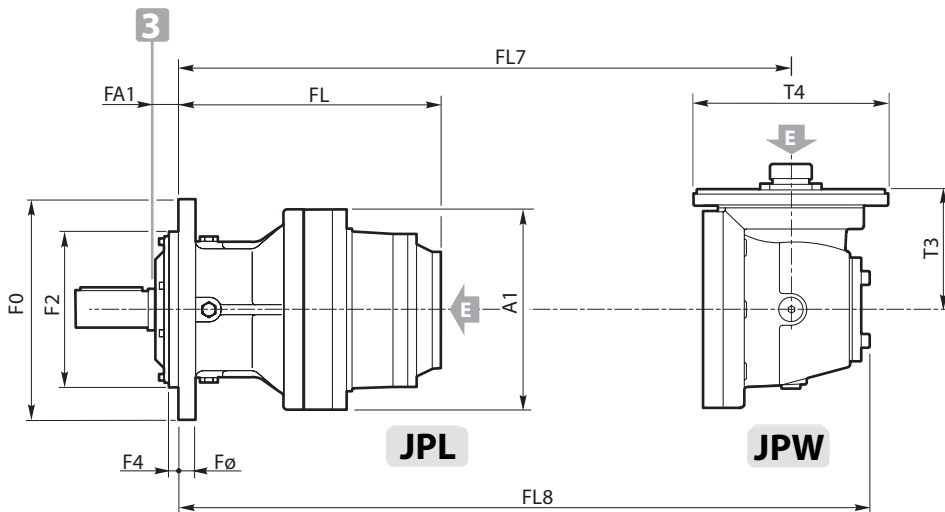
	stages	810	1020	1520	2000	2000L
A1		295	295	350	350	350
F0		280	325	325	325	325
F2		200 f7	230 f7	230 f7	230 f7	230 f7
F3		250	295	295	295	295
F4		10.5	15	15	15	15
F5		22	25	28	28	28
F6		Ø15	Ø17	Ø17	Ø17	Ø17
		M... - 12.9				
		M14	M16	M16	M16	M16
F7		30°	36°	36°	36°	36°
FA1		40	36	36	36	36
FL	1	185	237	240	240	240
	2	252	322	333	333	333
	3	304.5	386.5	397.5	391.5	397.5
	4	347.5	429.5	440	444	440
FL7	2	326.5	379	446	446	446
	3	374	444	455	455	455
	4	385.5	467.5	478.5	513.5	478.5
FL8	2	435	487	574	574	574
	3	465	535	546	546	546
	4	460	542	553	604.5	553
T3	2	277	277	310	310	310
	3	171.5	171.5	171.5	171.5	171.5
	4	113.8	113.8	113.8	171.5	113.8
T4	2	242	242	293	293	293
	3	183	183	183	183	183
	4	184	184	184	183	184

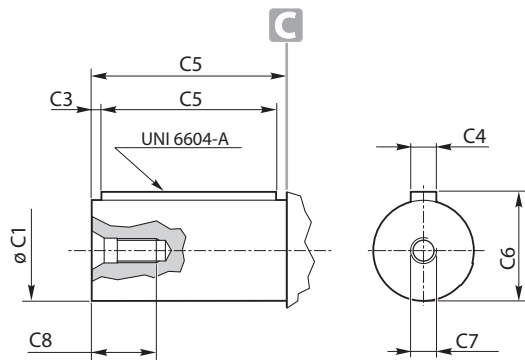


810

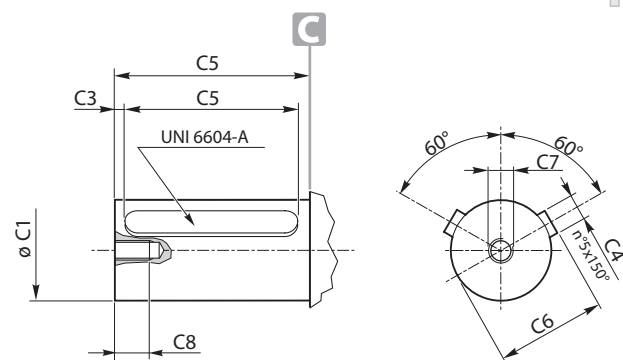


1020 - 1520
2000 - 2000L





1520 ÷ 3000



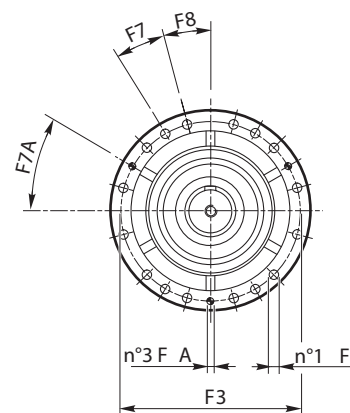
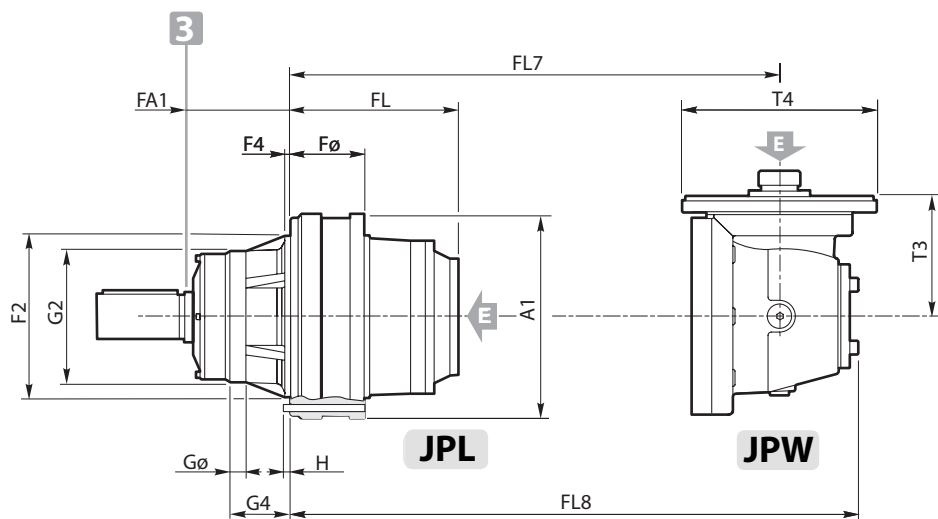
3510 - 4800

		1520	2000	2000L	2520	3000	3510	4800
HC	C1	90 h7	90 h7	90 h7	110 h6	110 h6	120 h7	120 h7
	C2	160	160	160	200	200	200	200
	C3	5	5	5	5	5	5	5
	C4	25	25	25	28	28	32	32
	C5	170	170	170	210	210	210	210
	C6	95	95	95	116	116	127	127
	C7	M24	M24	M24	M24	M24	M24	M24
	C8	50	50	50	50	50	50	50

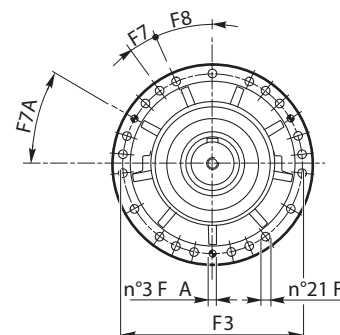
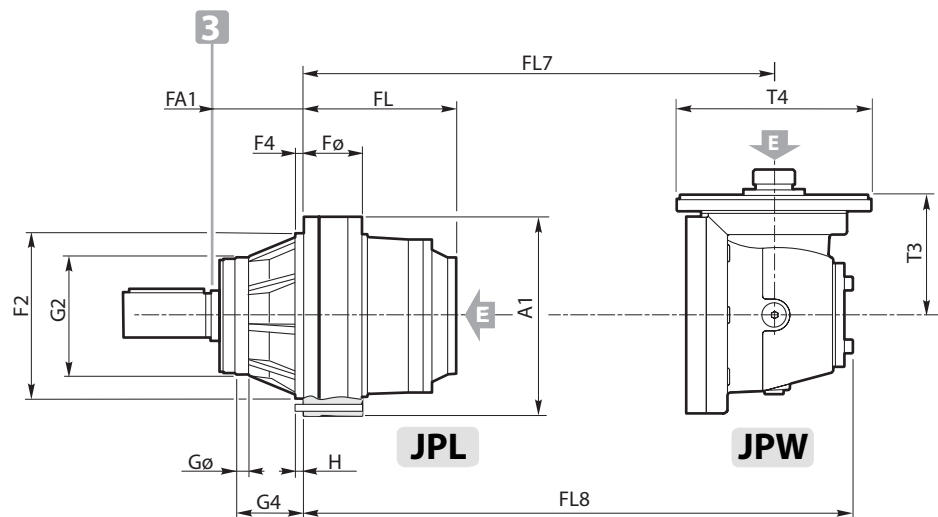
	stages	1520	2000	2000L	2520	3000	3510	4800
A1		350	350	350	409	409	452	452
FA1		169	169	169	180	180	109	109
F2		278 f7	278 f7	278 f7	340 f7	340 f7	390 f8	390 f8
F3		314	314	314	370	370	424	424
F4		10	10	10	17	17	15	15
F5		133	133	133	131	131	120	120
F6		Ø16.5	Ø16.5	Ø16.5	Ø17	Ø17	Ø17	Ø17
		M... - 12.9						
		M16	M16	M16	M16	M16	M16	M16
F6A		Ø12	Ø12	Ø12	Ø16	Ø16	/	/
F7		15°	15°	15°	12°	12°	20°	20°
F7A		30°	30°	30°	30°	30°	/	/
F8		15°	15°	15°	24°	24°	10°	10°
FL	1	107	107	107	98	98	85	85
	2	200	200	200	209	226	277	326
	3	264.5	258.5	264.5	276	311	362	419
	4	307.5	311	307.5	328.5	375.5	426.5	483.5
FL7	2	313	313	313	292	292	339	339
	3	322	322	322	351	368	419	532
	4	345.5	380.5	345.5	398	433	484	541
FL8	2	441	441	441	420	420	529	529
	3	413	413	413	459	476	527	660
	4	420	472	420	489	524	575	632
G2		225 f7	225 f7	225 f7	245 f7	245 f7	/	/
G4		104.5	104.5	104.5	142	142	/	/
G5		27.5	27.5	27.5	29	29	/	/
H		15	15	15	29	29	/	/
T3	2	310	310	310	310	310	432	432
	3	171	171	171	227	227	227	310
	4	113.8	171	113.8	171	171	171	171
	2	293	293	293	293	293	295	295
T4	3	183	183	183	242	242	242	293
	4	184	183	184	183	183	183	183



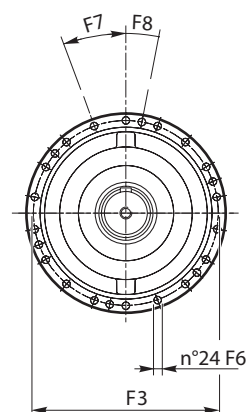
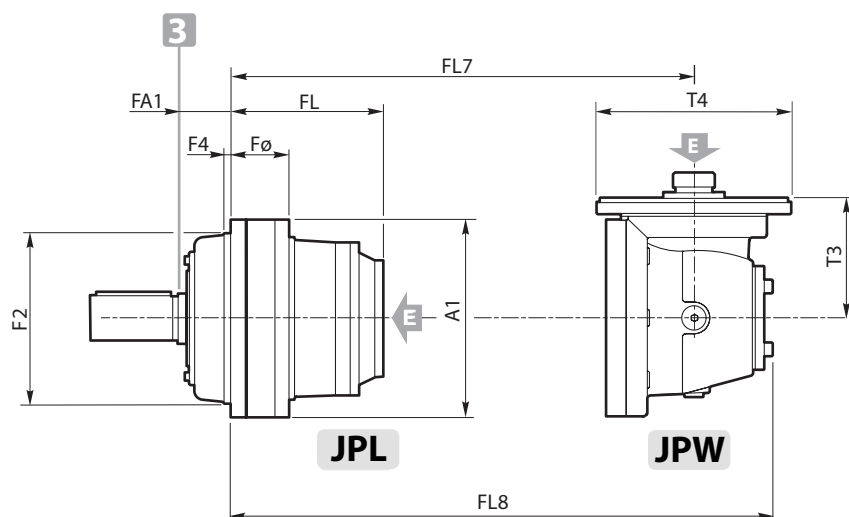
**1520 - 2000
2000L**

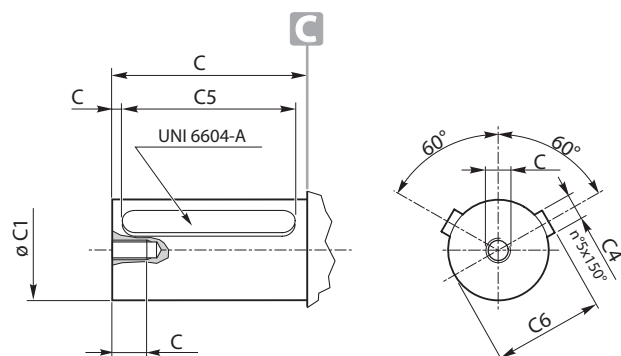


2520 - 3000

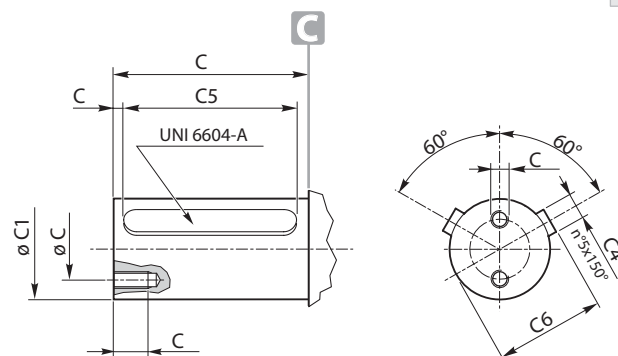


3510 - 4800





6000 - 8000



12010 - 16000

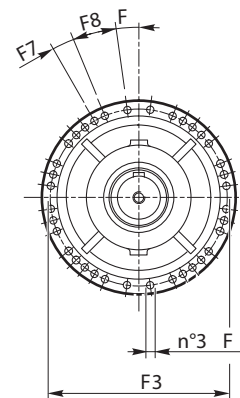
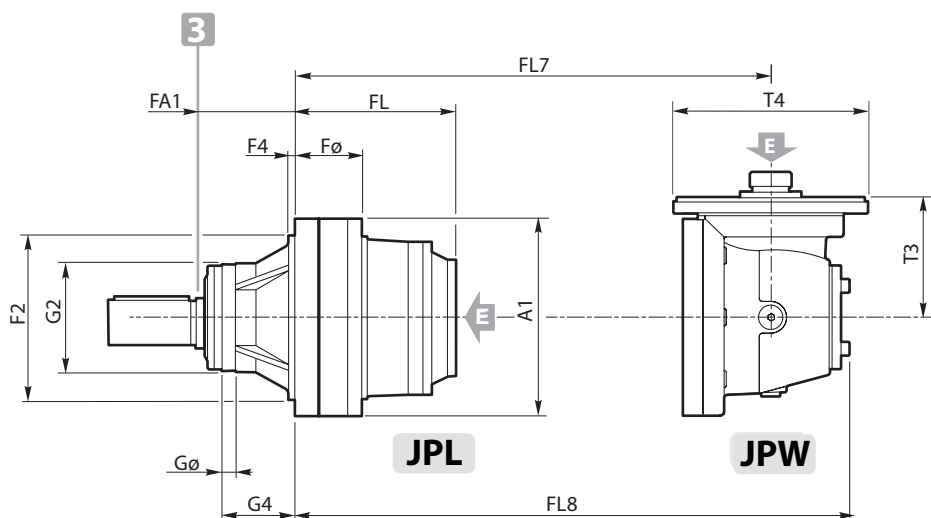
		6000		8000	12010	16000
		HC	H6C	HC	HC	HC
HC H6C	C1	140 h6	160 h7	160 h7	180 h7	180 h7
	C2	200	210	210	220	220
	C3	10	10	10	10	10
	C4	36	40	40	45	45
	C5	220	230	230	240	240
	C6	148	169	169	190	190
	C7	M24	M24	M24	M16(2)	M16(2)
	C8	50	50	50	35	35
	C9	—	—	—	110	110

		6000		8000	12010	16000
		HC	H6C	HC	HC	HC
A1		490	490	490	610	610
F2		410 f7	410 h8	410 h8	515 h8	515 h8
F3		445	445	445	560	560
F4		15	15	15	20	20
F5		187	178.5	181.5	230	230
F6		Ø19	Ø19	Ø19	Ø25	Ø25
F7		M18	M18	M18	M24	M24
F8		7°30'	7°30'	7°30'	15°	15°
F9		7°30'	7°30'	7°30'	7°30'	7°30'
FA1		226	126	126	145	145
FL	1	145	136.5	136.5	160.5	160.5
	2	313.5	305	390.5	410	427
	3	406.5	398	518.5	538	668
	4	465	456.5	603.5	623	761
	5	—	—	668	687.5	825.5
FL7	2	399	390.5	390.5	—	—
	3	519.5	511	584.5	604	681
	4	528.5	520	660.5	680	874
	5	—	—	—	745	883
FL8	2	589	580.5	580.5	—	—
	3	647.5	639	712.5	732	871
	4	619.5	611	768.5	788	1002
	5	—	—	—	836	974
G2		260 f7	—	—	—	—
G4		181	—	—	—	—
G5		33	—	—	—	—
T3	2	432	432	432	—	—
	3	310	310	310	310	432
	4	171	171	227	227	310
	5	—	—	—	171	171
T4	2	295	295	295	—	—
	3	293	293	293	293	295
	4	183	183	242	242	293
	5	—	—	—	183	183



HC

6000

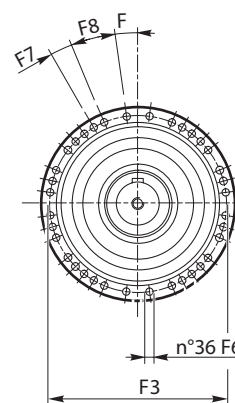
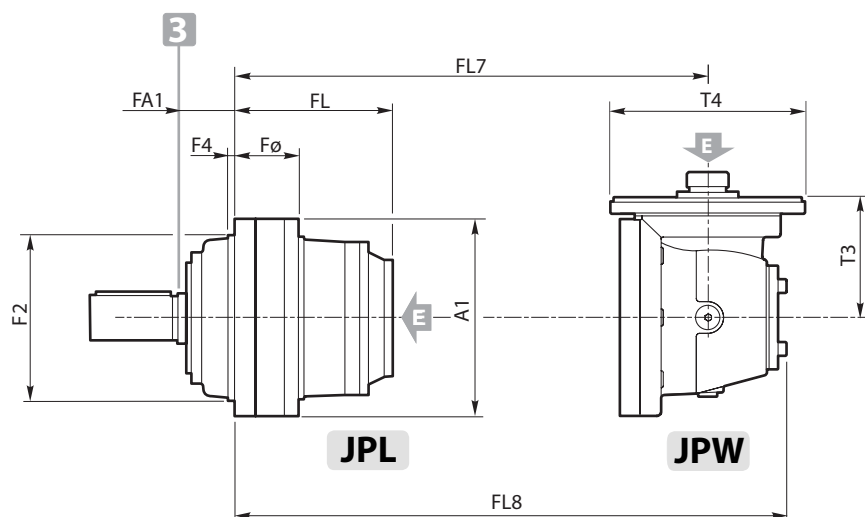


H6C

6000

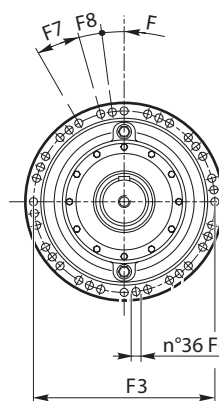
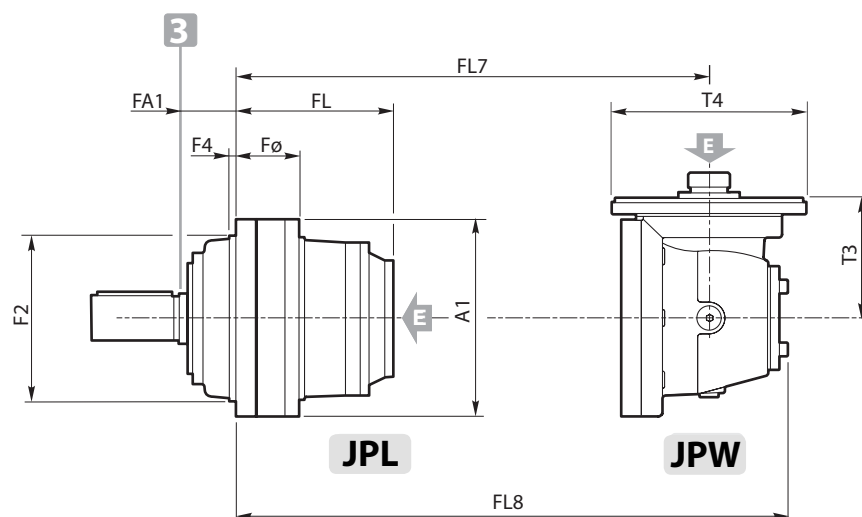
HC

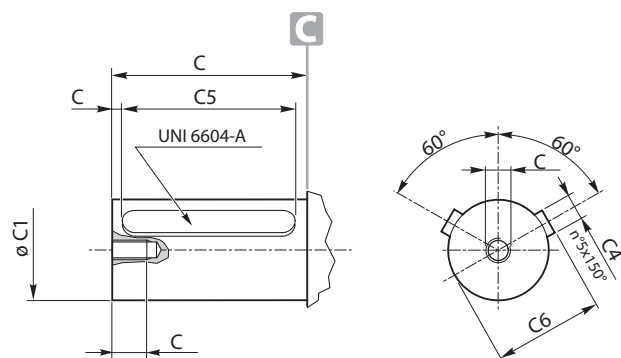
8000



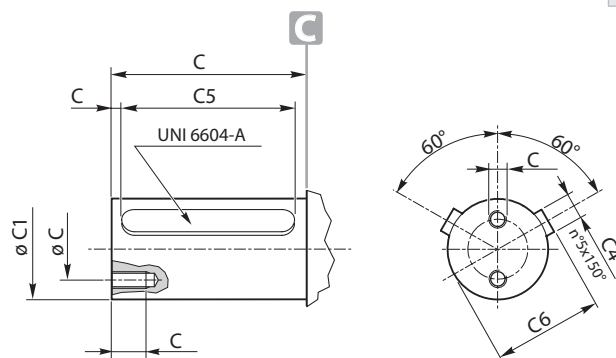
HC

12010 - 16000





6000L - 8000L



12010L - 16000L

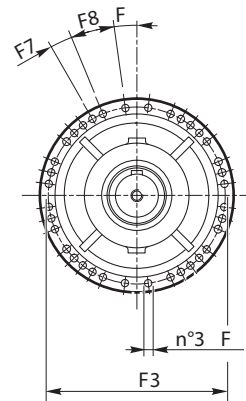
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		HC	H6C	HC	HC	HC
HC H6C	C1	140 h6	160 h7	160 h7	180 h7	180 h7
	C2	200	210	210	220	220
	C3	10	10	10	10	10
	C4	36	40	40	45	45
	C5	220	230	230	240	240
	C6	148	169	169	190	190
	C7	M24	M24	M24	M16(2)	M16(2)
	C8	50	50	50	35	35
	C9	—	—	—	110	110

		6000L		8000L	12010L	16000L
	stages	HS	H6S	HS	HS	HS
A1		490	490	490	610	610
F2		410 f7	410 h8	410 h8	515 h8	515 h8
F3		445	445	445	560	560
F4		15	15	15	20	20
F5		187	178.5	181.5	230	230
F6		Ø19	Ø19	Ø19	Ø25	Ø25
		 M.. - 12.9			 M.. - 10.8	
		M18	M18	M18	M24	M24
F7		7°30'	7°30'	7°30'	15°	15°
F8		15°	15°	15°	7°30'	7°30'
F9		7°30'	7°30'	7°30'	7°30'	7°30'
FA1		226	126	126	145	145
FL	1	145	136.5	136.5	160.5	160.5
	2	313.5	305	390.5	410	427
	3	406.5	398	501.5	521	619
	4	471	462.5	568.5	588	704
	5	—	—	621	640.5	768.5
FL7	2	399	390.5	390.5	—	—
	3	519.5	511	584.5	604	681
	4	528.5	520	643.5	663	761
	5	—	—	—	710	826
FL8	2	589	580.5	580.5	—	—
	3	647.5	639	712.5	732	871
	4	619.5	611	751.5	771	869
	5	—	—	—	801	917
G2		260 f7	—	—	—	—
G4		181	—	—	—	—
G5		33	—	—	—	—
T3	2	432	432	432	—	—
	3	310	310	310	310	432
	4	171	171	227	227	227
	5	—	—	—	171	171
T4	2	295	295	295	—	—
	3	293	293	293	293	295
	4	183	183	242	242	242
	5	—	—	—	183	183



HC

6000L

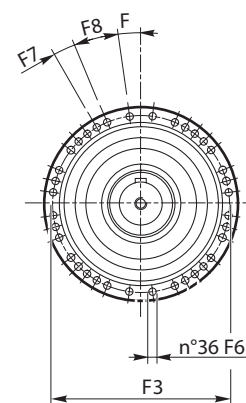


H6C

6000L

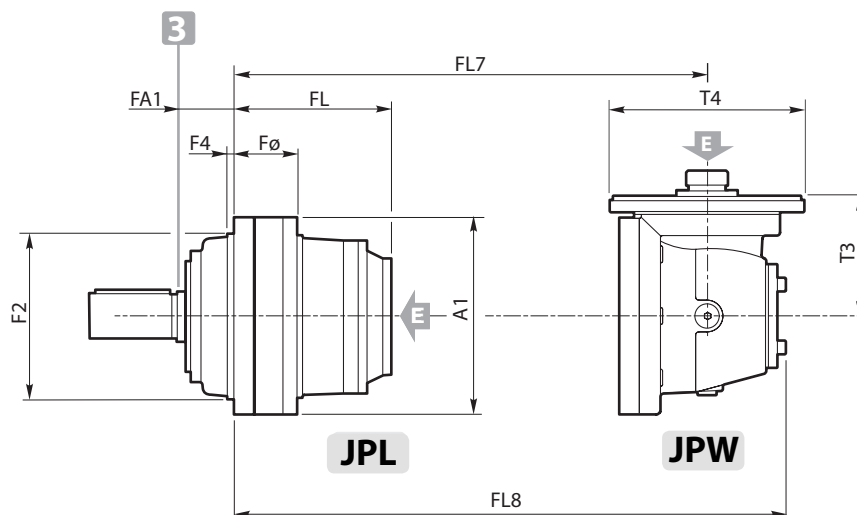
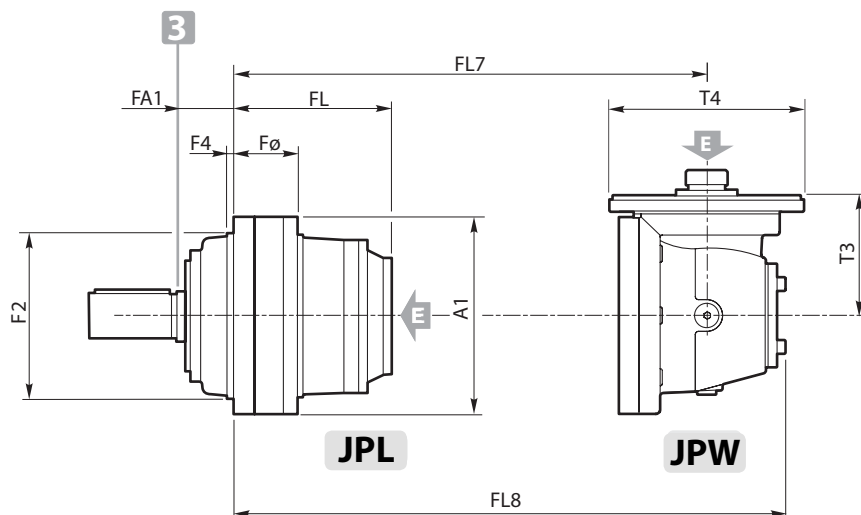
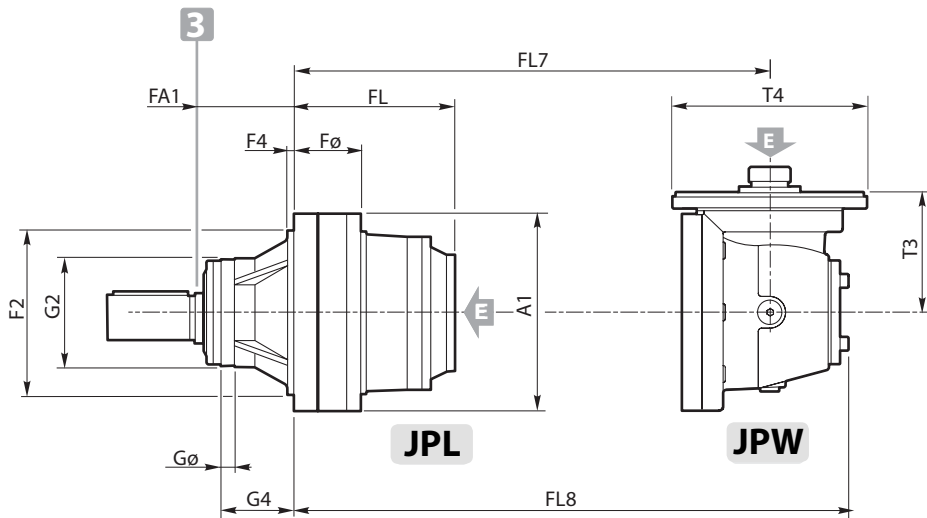
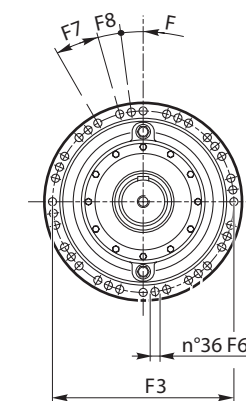
HC

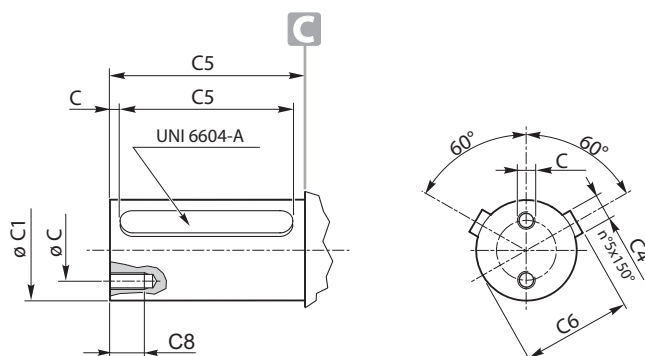
8000L



HC

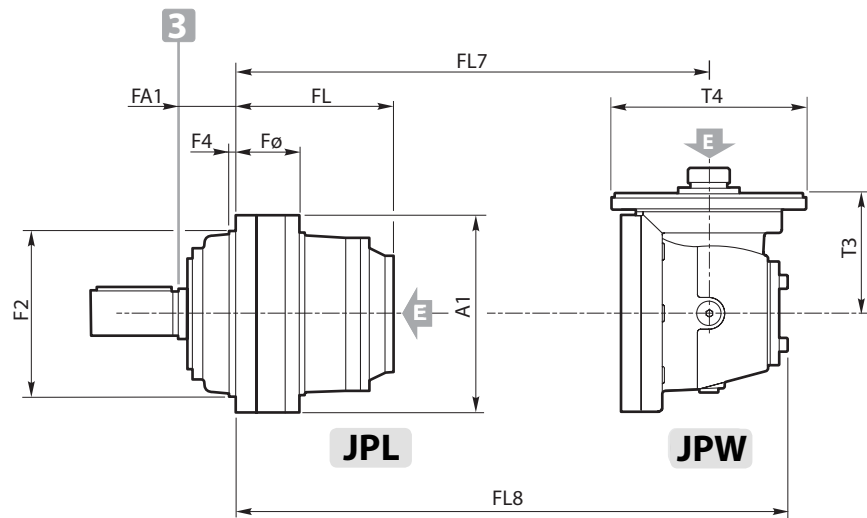
12010L-16000L



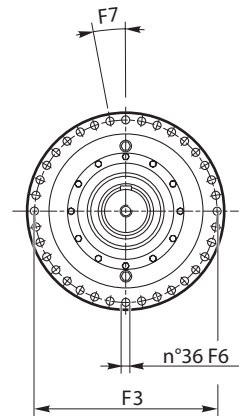


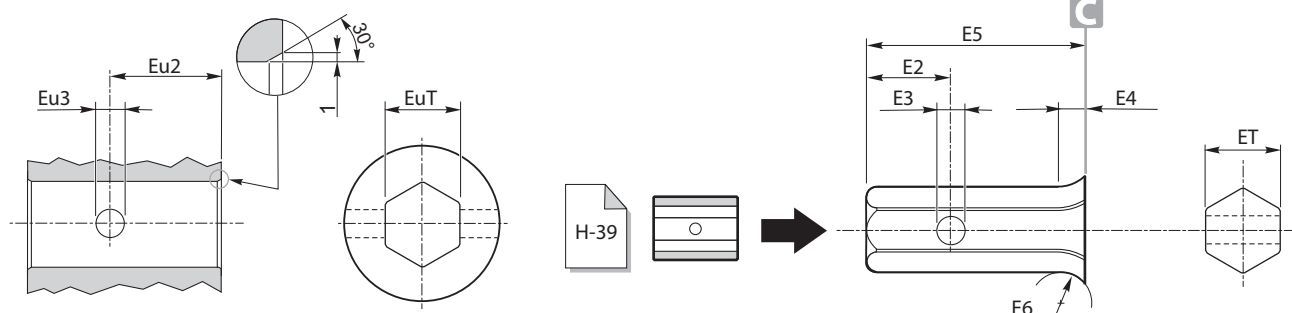
TC		21000	26000	31000	40000	45000
	C1	230 h7	230 h7	290 h7	290 h7	290 h7
	C2	280	280	400	400	400
	C3	10	10	12.5	12.5	12.5
	C4	50	50	63	63	63
	C5	300	300	425	425	425
	C6	241	241	302	302	302
	C7	M24(2)	M24(2)	M24(2)	M24(2)	M24(2)
	C8	50	50	50	50	50
	C9	150	150	200	200	200

	stages	21000	26000	31000	40000	45000
A1		710	710	870	870	870
F2		600 h8	600 h8	760 h8	760 h8	760 h8
F3		660	660	810	810	810
F4		23.5	23.5	35	35	35
F5		196	216	250	290	290
F6		Ø28	Ø28	Ø32	Ø32	Ø32
		M... - 10.8				
		M27	M27	M30	M30	M30
F7		10°	10°	10°	10°	10°
FA1		180	180	225	225	225
FL	1	138	158	180	220	220
	2	443	463	588.5	628.5	628.5
	3	611.5	717	838	878	895
	4	704.5	845	966	1006	1136
	5	763	930	1051	1091	1229
FL7	3	697	717	—	—	—
	4	817.5	911	1032	1072	1149
	5	826.5	987	1108	1148	1342
FL8	3	887	907	—	—	—
	4	945.5	1039	1160	1200	1339
	5	917.5	1095	1216	1256	1470
T3	3	432	432	—	—	—
	4	310	310	310	310	432
	5	171	227	227	227	310
T4	3	295	295	—	—	—
	4	293	293	293	293	295
	5	183	242	242	242	293



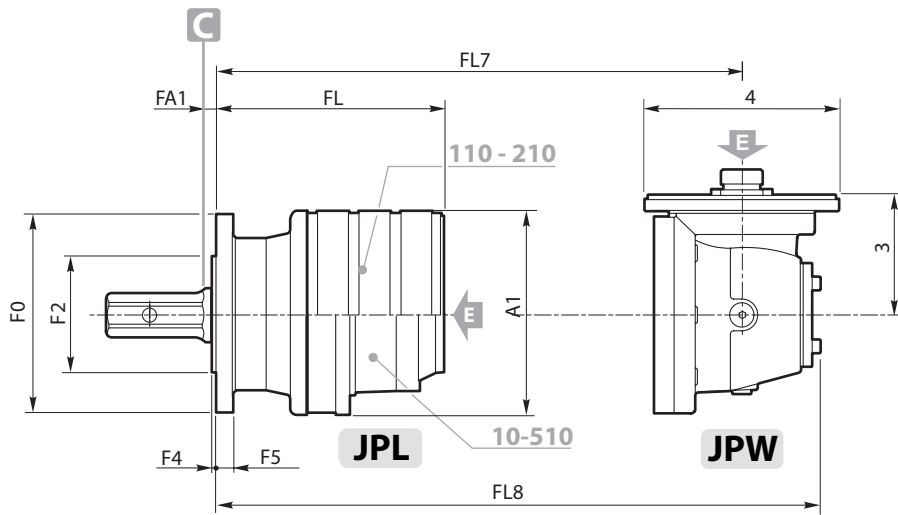
21000 ÷ 45000



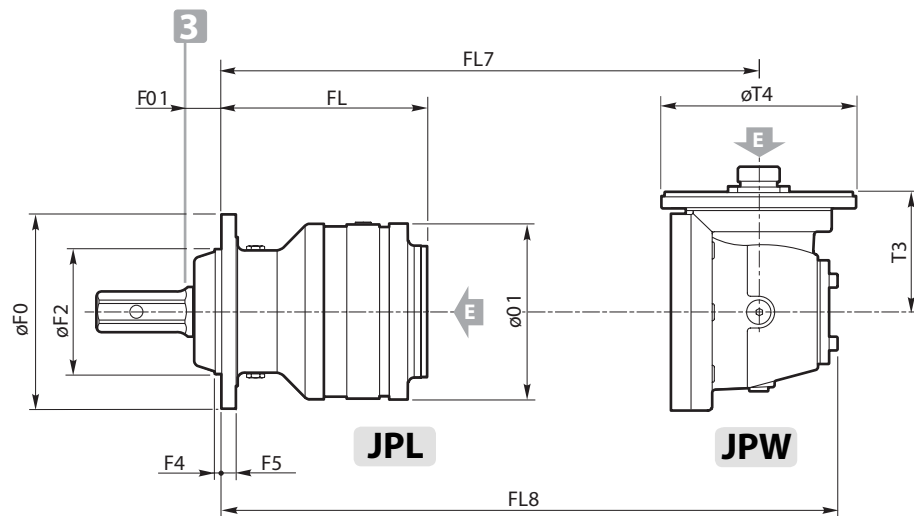
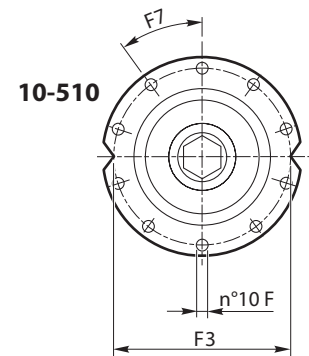
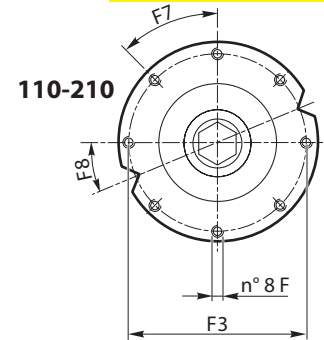


	110	210	310	510	610
E1	50	50	50	50	50
E2	54	54	54	54	54
E3	Ø 18	Ø 18	Ø 18	Ø 18	Ø 18
E4	6.5	6.5	13	13	13
E5	121	121	132	132	132
E6	r 24	r 24	r 24	r 24	r 24
Eu1	50	50	50	50	50
Eu2	54	54	60	60	60
Eu3	Ø 18	Ø 18	Ø 18	Ø 18	Ø 18

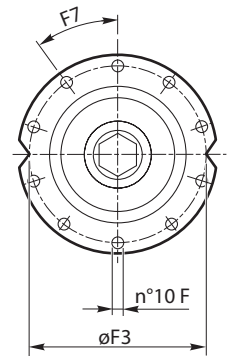
	stages	110	210	310	510	610
A1		186	186	224	224	224
F0		185	185	222	222	222
F2		110 h7	110 h7	150 f7	150 f7	150 f7
F3		165	165	195	195	195
F4		5	5	13.5	13.5	13.5
F5		12	12	16	16	16
F6		10.5	10.5	12.5	12.5	12.5
		M... - 12.9				
		M10	M10	M12	M12	M12
F7		45°	45°	36°	36°	36°
F8		22.5°	22.5°	—	—	—
FA1		7	7	22	22	22
FL	1	97	109	134	152	152
	2	140	152	186.5	216.5	210.5
	3	183	195	229.5	259.5	263
	4	226	238	272.5	302.5	306
FL7	2	178	190	256	274	274
	3	221	233	267.5	297.5	332.5
	4	264	276	310.5	340.5	344
FL8	2	252.5	264.5	347	365	365
	3	295.5	307.5	342	372	423.5
	4	338.5	350.5	385	415	418.5
T3	2	113.8	113.8	171.5	171.5	171.5
	3	113.8	113.8	113.8	113.8	171.5
	4	113.8	113.8	113.8	113.8	113.8
T4	2	184	184	183	183	183
	3	184	184	184	184	183
	4	184	184	184	184	184

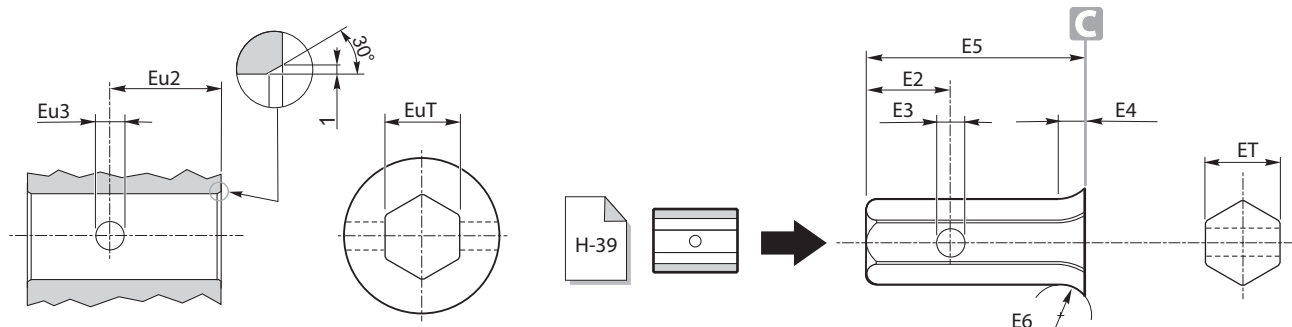


**110 - 210
310 - 510**



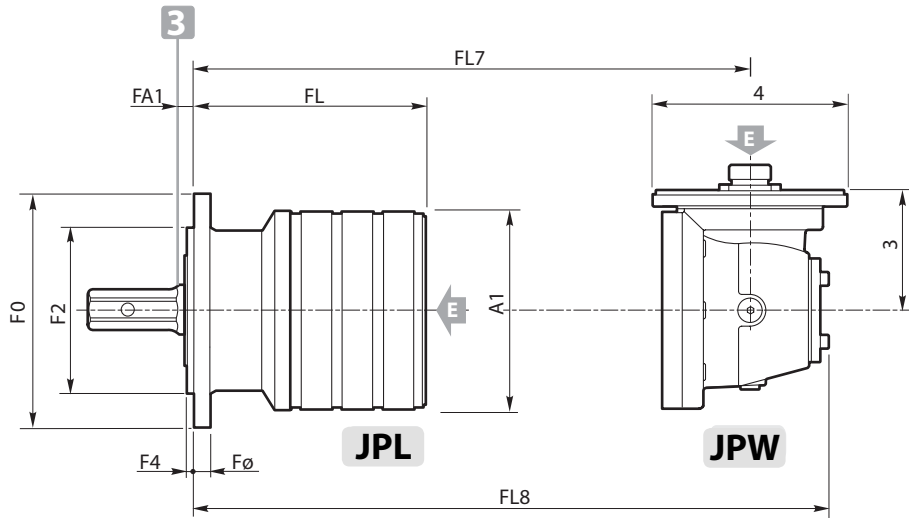
610



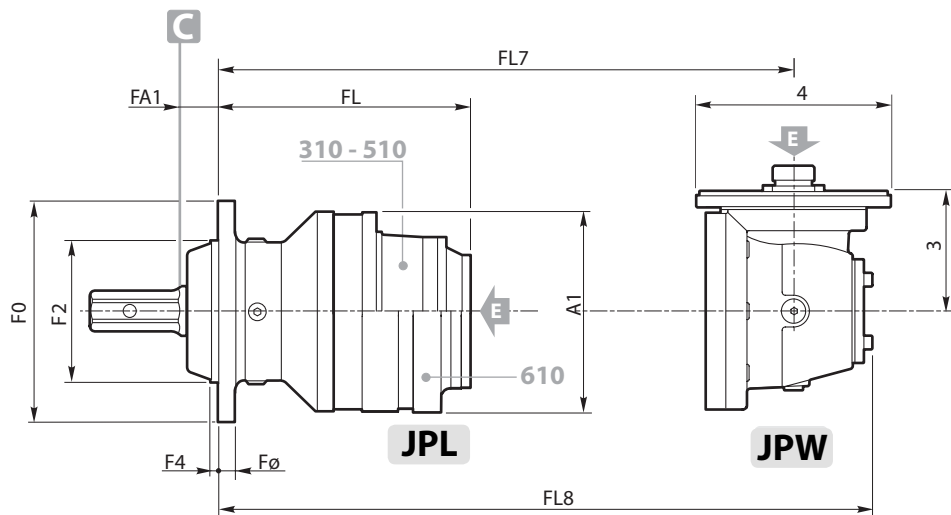
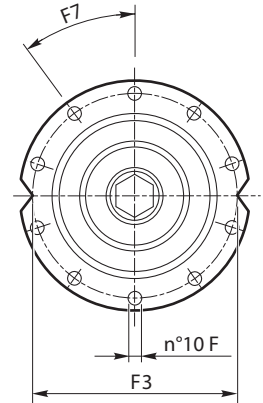
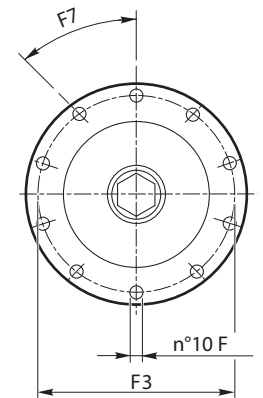


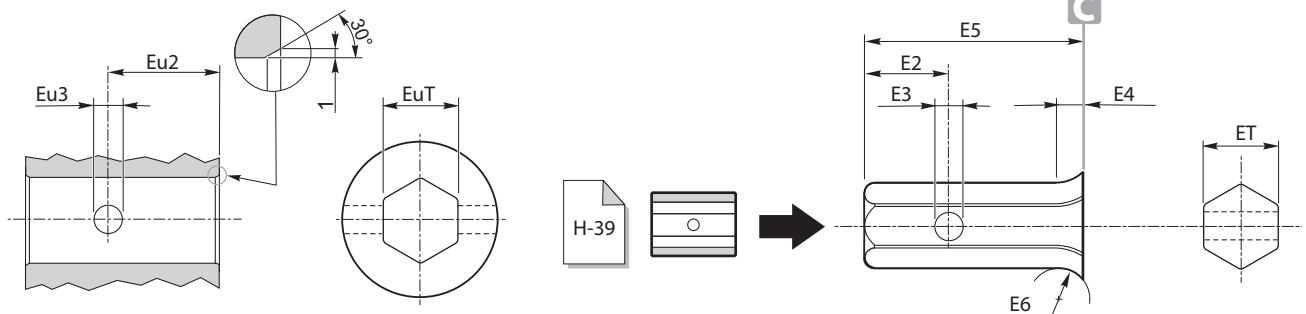
	110	210	240	310	510	610
TE	50	50	50	70	70	70
T1E	54	54	54	65	65	65
TRE	Ø 18	Ø 18	Ø 18	Ø 22	Ø 22	Ø 22
TR1E	9	9	15	15	15	15
TLE	121	121	119.5	138	138	138
	r 15	r 15	r 24	r 30	r 30	r 30
Eu1	50	50	50	70	70	70
Eu2	54	54	54	50	50	50
Eu3	Ø 18	Ø 18	Ø 18	Ø 22	Ø 22	Ø 22

	stages	110				210				240		310		510		610	
		TE	T1E	TRE	TR1E	TE	T1E	TRE	TR1E	TE	TRE	TE	TLE	TE	TLE	TE	TLE
A1		186	186	186	186	186	186	186	186	186	186	244	244	244	244	244	244
F0		219	219	219	219	219	219	219	219	219	219	272	272	272	272	272	272
F2		155 h7	150 f7	155 h7	150 f7	155 h7	150 f7	155 h7	150 f7	150 f7	155 f7	175 h8	175 h8	175 h8	175 h8	175 h8	175 h8
F3		194	195	194	195	194	195	194	195	195	194	245	245	245	245	245	245
F4		7	7	10	10	7	7	10	10	7	10	12	9	12	9	12	9
F5		15	15	15	15	15	15	15	15	15	15	20	20	20	20	20	20
F6		Ø11	Ø13	Ø11	Ø13	Ø11	Ø13	Ø11	Ø13	Ø12.5	Ø11	Ø12.5	Ø12.5	Ø12.5	Ø12.5	Ø12.5	Ø12.5
		M. - 12.9															
		M10	M12	M10	M12	M10	M12	M10	M12	M12	M10	M12	M12	M12	M12	M12	M12
F7		36°	36°	36°	36°	36°	36°	36°	36°	36°	36°	36°	36°	36°	36°	36°	36°
FA1		17	17	34	34	17	17	34	34	17.5	34.5	47.5	47.5	47.5	47.5	47.5	47.5
FL	1	102	102	85	85	114	114	97	97	114	97	157	157	175	175	175	175
	2	145	145	128	128	157	157	140	140	157	140	209.5	209.5	239.5	239.5	233.5	233.5
	3	188	188	171	171	200	200	183	183	200	183	252.5	252.5	282.5	282.5	286	286
	4	231	231	214	214	243	243	226	226	243	226	295.5	295.5	325.5	325.5	329	329
FL7	2	183	183	166	166	195	195	178	178	195	178	279	279	297	297	297	297
	3	226	226	209	209	238	238	221	221	238	221	290.5	290.5	320.5	320.5	355.5	355.5
	4	269	269	252	252	281	281	264	264	281	264	333.5	333.5	363.5	363.5	367	367
FL8	2	257.5	257.5	240.5	240.5	269.5	269.5	252.5	252.5	269.5	252.5	370	370	388	388	388	388
	3	300.5	300.5	283.5	283.5	312.5	312.5	295.5	295.5	312.5	295.5	365	365	395	395	446.5	446.5
	4	343.5	343.5	326.5	326.5	355.5	355.5	338.5	338.5	355.5	338.5	408	408	438	438	441.5	441.5
T3	2	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	171.5	171.5	171.5	171.5	171.5	171.5
	3	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	171.5	171.5
	4	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8
T4	2	184	184	184	184	184	184	184	184	184	184	183	183	183	183	183	183
	3	184	184	184	184	184	184	184	184	184	184	184	184	184	184	183	183
	4	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184



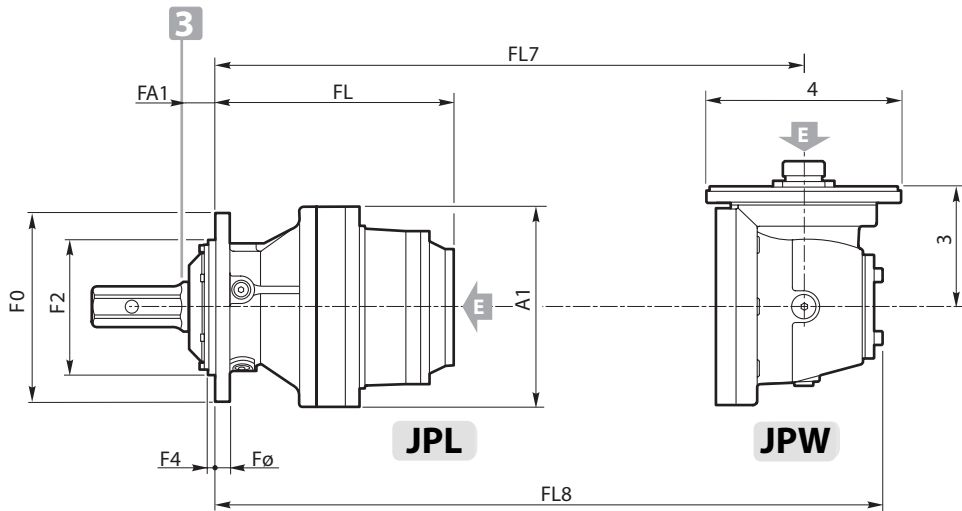
110 ÷ 240

310 - 510
610

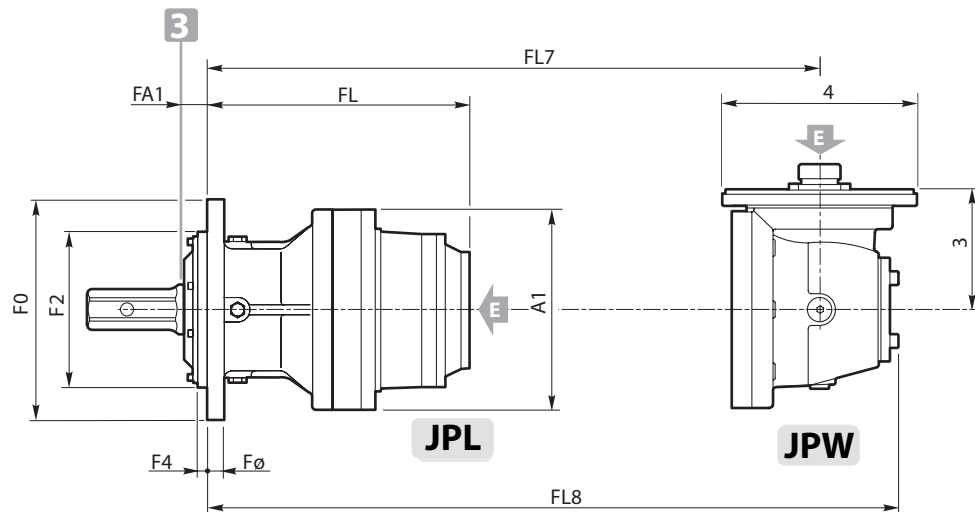
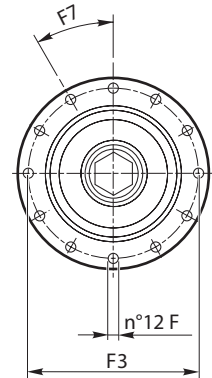


		810	1020	1520	2000	2000L
TE	E1	70	70	70	70	70
	E2	40	65	65	65	65
	E3	Ø 22	Ø 22	Ø 22	Ø 22	Ø 22
	E4	3	25	25	25	25
	E5	141	142.5	142.5	142.5	142.5
	E6	r 30	r 30	r 30	r 30	r 30
	Eu1	70	70	70	70	70
	Eu2	95	50	50	50	50
	Eu3	Ø 22	Ø 22	Ø 22	Ø 22	Ø 22

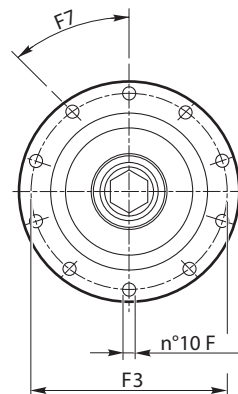
	stages	810	1020	1520	2000	2000L
A1		295	295	350	350	350
F0		280	325	325	325	325
F2		200 f7	230 f7	230 f7	230 f7	230 f7
F3		250	295	295	295	295
F4		10.5	15	15	15	15
F5		22	25	28	28	28
F6		Ø15	Ø17	Ø17	Ø17	Ø17
		M... - 12.9				
		M14	M16	M16	M16	M16
F7		30°	36°	36°	36°	36°
FA1		41	43.5	43.5	43.5	43.5
FL	1	185	237	240	240	240
	2	252	322	333	333	333
	3	304.5	386.5	397.5	391.5	397.5
	4	347.5	429.5	440	444	440
FL7	2	326.5	379	446	446	446
	3	374	444	455	455	455
	4	385.5	467.5	478.5	513.5	478.5
FL8	2	435	487	574	574	574
	3	465	535	546	546	546
	4	460	542	553	604.5	553
T3	2	277	277	310	310	310
	3	171.5	171.5	171.5	171.5	171.5
	4	113.8	113.8	113.8	171.5	113.8
T4	2	242	242	293	293	293
	3	183	183	183	183	183
	4	184	184	184	183	184

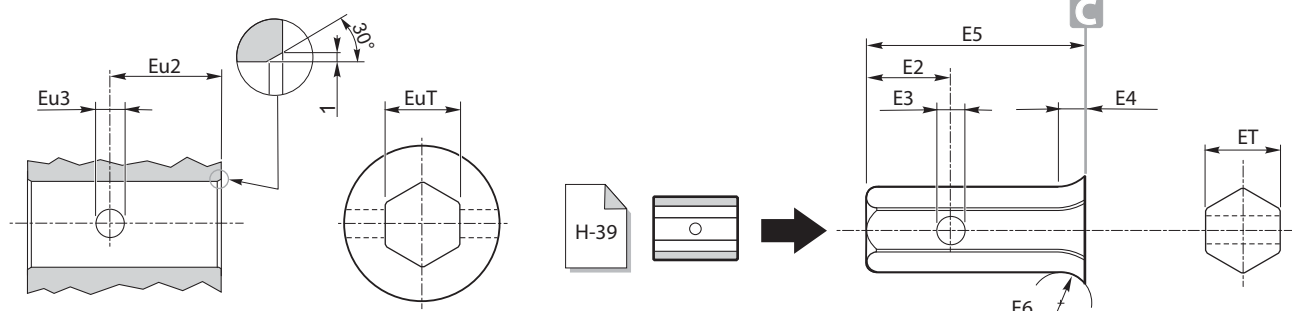


810



1020 - 1520
2000 - 2000L



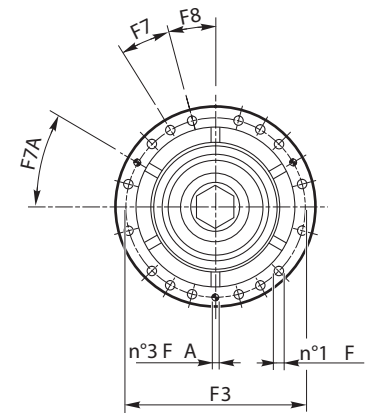
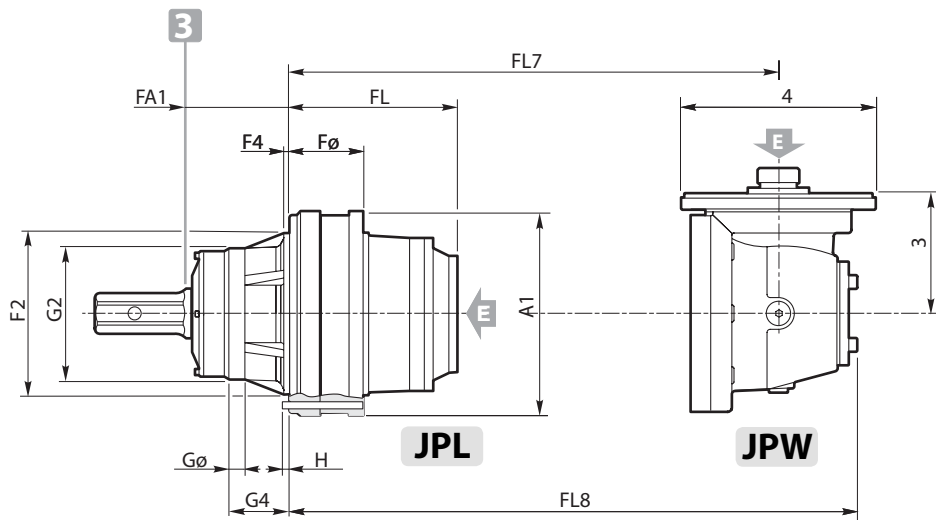


		1520	2000	2000L	2520	3000
HE	E1	70	70	70	100	100
	E2	65	65	65	170.5	170.5
	E3	Ø 22	Ø 22	Ø 22	Ø 32	Ø 32
	E4	25	25	25	20	20
	E5	142.5	142.5	142.5	160	160
	E6	r 30	r 30	r 30	r 35	r 35
	Eu1	70	70	70	100	100
	Eu2	50	50	50	65	65
	Eu3	Ø 22	Ø 22	Ø 22	Ø 32	Ø 32

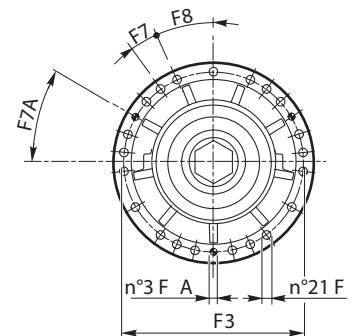
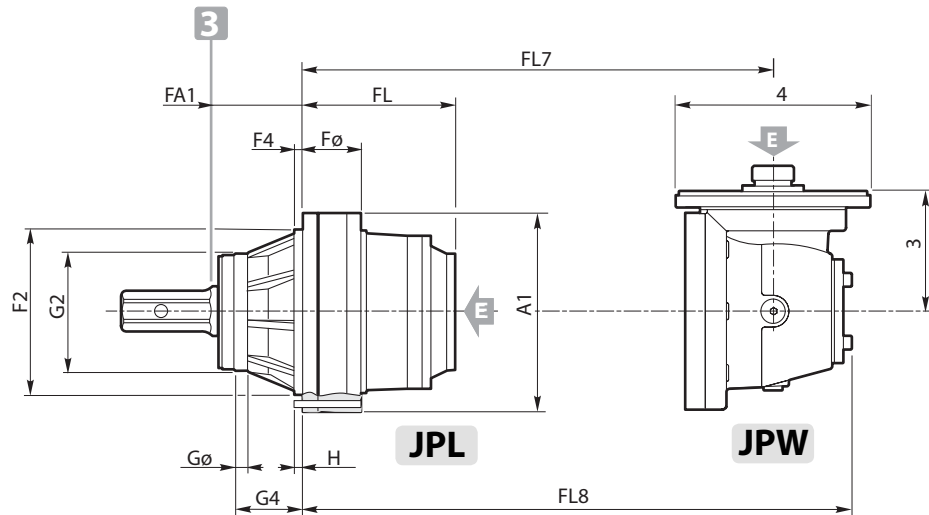
	stages	1520	2000	2000L	2520	3000
A1		350	350	350	409	409
FA1		176.5	176.5	176.5	210	210
F2		278 f7	278 f7	278 f7	340 f7	340 f7
F3		314	314	314	370	370
F4		10	10	10	17	17
F5		133	133	133	131	131
F6		Ø16.5	Ø16.5	Ø16.5	Ø17	Ø17
		M... - 12.9				
		M16	M16	M16	M16	M16
F6A		Ø12	Ø12	Ø12	Ø16	Ø16
F7		15°	15°	15°	12°	12°
F7A		30°	30°	30°	30°	30°
F8		15°	15°	15°	24°	24°
FL	1	107	107	107	98	98
	2	200	200	200	209	226
	3	264.5	258.5	264.5	276	311
	4	307.5	311	307.5	328.5	375.5
FL7	2	313	313	313	292	292
	3	322	322	322	351	368
	4	345.5	380.5	345.5	398	433
FL8	2	441	441	441	420	420
	3	413	413	413	459	476
	4	420	472	420	489	524
G2		225 f7	225 f7	225 f7	245 f7	245 f7
G4		104.5	104.5	104.5	142	142
G5		27.5	27.5	27.5	29	29
H		15	15	15	29	29
T3	2	310	310	310	310	310
	3	171	171	171	227	227
	4	113.8	171	113.8	171	171
T4	2	293	293	293	293	293
	3	183	183	183	242	242
	4	184	183	184	183	183

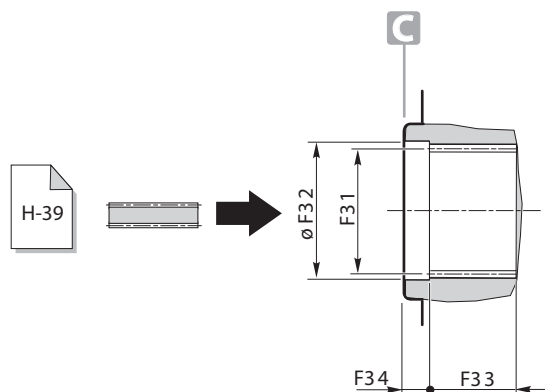


**1520 - 2000
2000L**



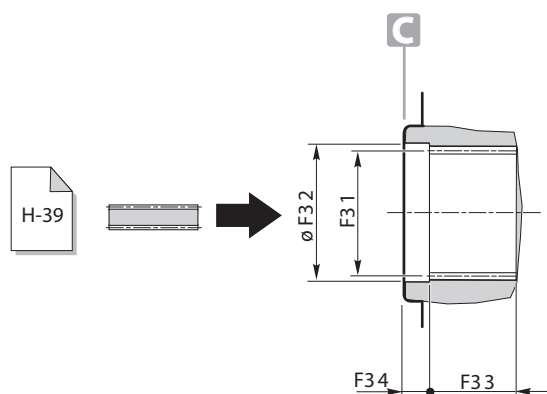
2520 - 3000





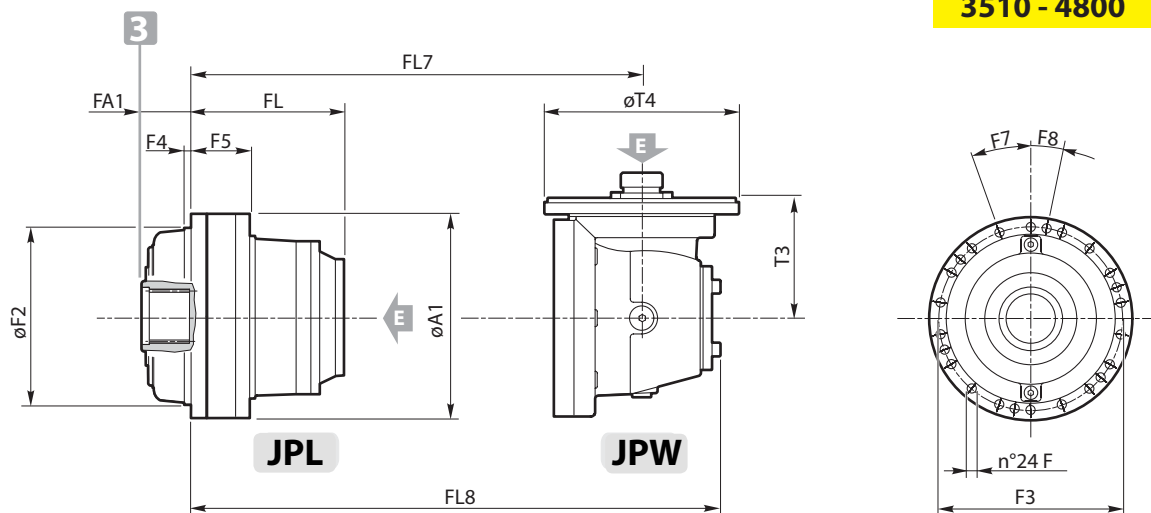
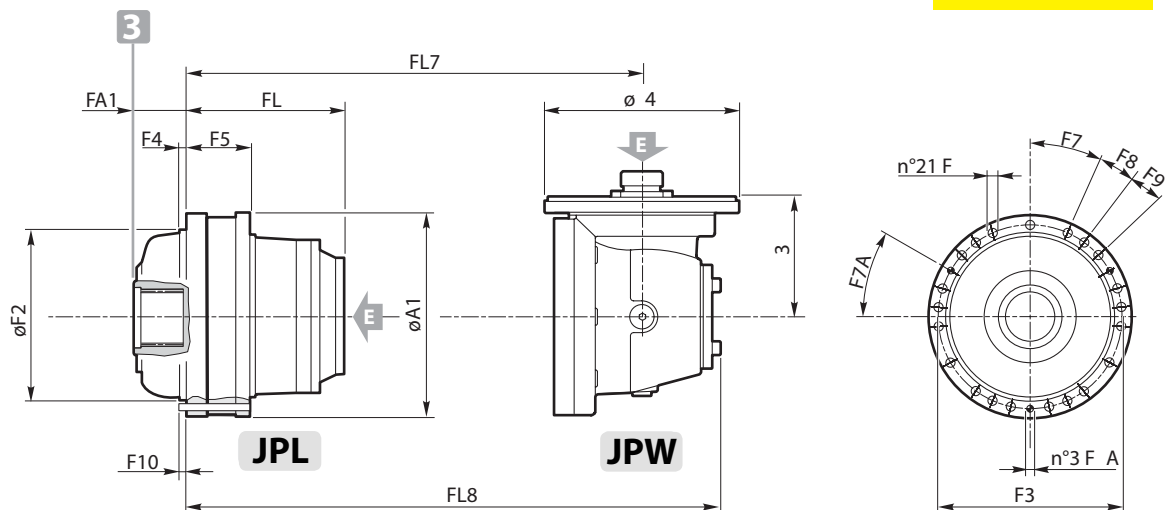
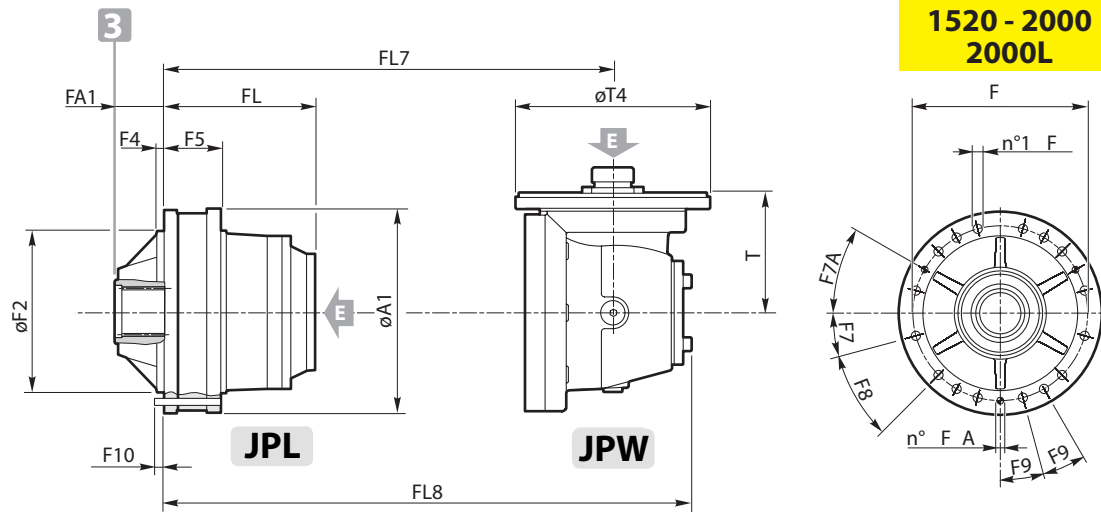
FS		110	210	240	310	510	810	1020
	FU1	A 40x36 DIN 5482	A 40x36 DIN 5482	A 45x41 DIN 5482	A 58x53 DIN 5482	A 58x53 DIN 5482	A 70x64 DIN 5482	A 80x74 DIN 5482
	FU2	42 H7	42 H7	46 H7	60 H7	60 H7	72 H7	85 H8
	FU3	29	29	29	41	41	50	59
	FU4	6	6	6	7	7	11.5	10

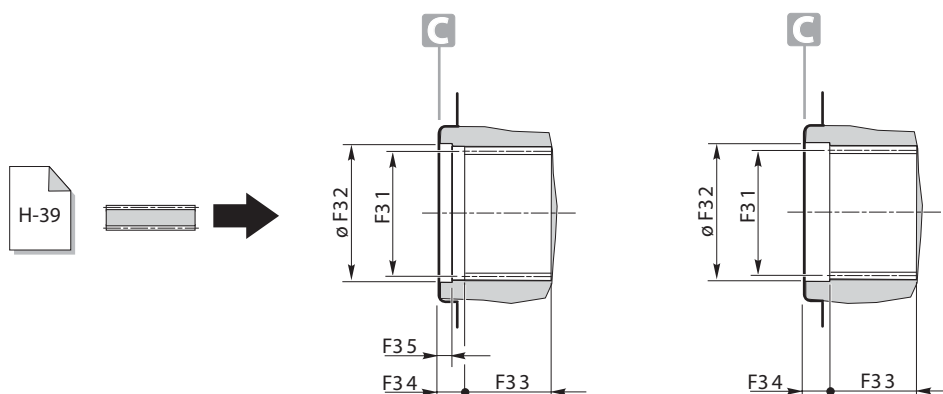
	stages	110	210	240	310	510	810	1020
A1		186	186	186	244	244	295	295
F2		110 h7	110 h7	110 h7	200 h8	200 h8	240 f7	240 f7
F3		165	165	165	222	222	265	265
F4		5	5	5	9	9	10	10
F5		—	—	—	62	80	83	101
F6		Ø10.5	Ø10.5	Ø10.5	Ø10.5	Ø10.5	Ø13	Ø13
		M10	M10	M10	M10	M10	M12	M12
F7		45°	45°	45°	30°	30°	30°	15°
F8		22.5°	22.5°	22.5°	—	—	—	15°
F9		—	—	—	—	—	—	30°
FA1		5	5	5	51	51	50	57
FL	1	59	71	71	39.5	57.5	67	85
	2	102	114	114	92	122	134	170
	3	145	157	157	135	165	186.5	234.5
	4	188	200	200	178	208	229.5	277.5
FL7	2	140	152	152	188.5	179.5	209	227
	3	183	195	195	173	203	256.5	292
	4	226	238	238	216	246	267.5	315.5
FL8	2	214.5	226.5	226.5	252.5	270.5	317	335
	3	257.5	269.5	269.5	247.5	277.5	347.5	383
	4	300.5	312.5	312.5	290.5	320.5	342	390
T3	2	113.8	113.8	113.8	113.8	171.5	277	277
	3	113.8	113.8	113.8	113.8	113.8	171.5	171.5
	4	113.8	113.8	113.8	113.8	113.8	113.8	113.8
T4	2	184	184	184	184	183	242	242
	3	184	184	184	184	184	183	183
	4	184	184	184	184	184	184	184



FS		1520	2000	2000L	2520	3000	3510	4800
	FU1	A 80x74 DIN 5482	A 80x74 DIN 5482"	A 80x74 DIN 5482"	A 100x94 DIN 5482"	A 100x94 DIN 5482	N120x3x9H DIN5480	N120x3x9H DIN5480
	FU2	88 H8	88 H8	88 H8	102 H8	102 H8	121.5 H7	121.5 H7
	FU3	77	77	77	86	86	85	85
	FU4	7	7	7	10	10	10	10

	stages	1520	2000	2000L	2520	3000	3510	4800
A1		350	350	350	409	409	452	452
F2		278 f7	278 f7	278 f7	240 f7	240 f7	390 f7	390 f7
F3		314	314	314	370	370	424	424
F4		12	12	12	18	18	15	15
F5		103.5	103.5	103.5	126	126	120	120
F6		Ø16.5	Ø16.5	Ø16.5	Ø17	Ø17	Ø17	Ø17
		M16	M16	M16	M16	M16	M16	M16
F6A		Ø12	Ø12	Ø12	Ø16	Ø16	—	—
F7		15°	15°	15°	24°	24°	20°	20°
F7A		30°	30°	30°	30°	30°	—	—
F8		30°	30°	30°	12°	12°	10°	10°
F9		15°	15°	15°	12°	12°	—	—
F10		15	15	15	34	34	—	—
FA1		83	83	83	95	95	109.5	109.5
FL	1	77.5	77.5	77.5	93	93	85	85
	2	170.5	170.5	170.5	204	221	277	326
	3	235	229	235	271	306	362	419
	4	278	281.5	278	323.5	370.5	426.5	483.5
FL7	2	283.5	283.5	283.5	287	287	339	339
	3	292.5	292.5	292.5	346	363	419	532
	4	316	351	316	393	428	484	541
FL8	2	411.5	411.5	411.5	415	415	529	529
	3	383.5	383.5	383.5	454	471	527	660
	4	390.5	442	390.5	484	519	575	632
T3	2	310	310	310	310	310	432	432
	3	171	171	171	227	227	227	310
	4	113.8	171	113.8	171	171	171	171
T4	2	293	293	293	293	293	295	295
	3	183	183	183	242	242	242	293
	4	184	183	184	183	183	183	183



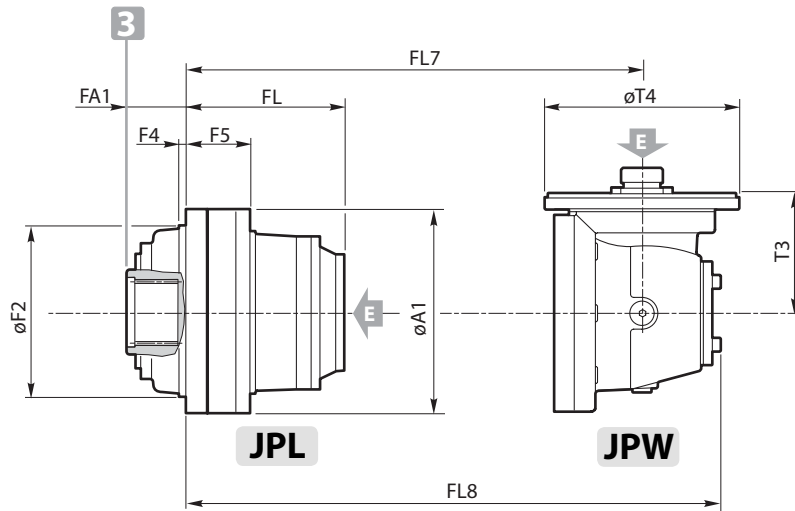


		6000	8000	12010	16000
FS	FU1	N140x5x9H DIN 5480	N140x5x9H DIN 5480	N160x5x9H DIN 5480	N160x5x9H DIN 5480
	FU2	142 H9	142 H9	165 H7	165 H7
	FU3	97	122	100	100
	FU4	—	—	40	40
	FU5	12	12	20	20

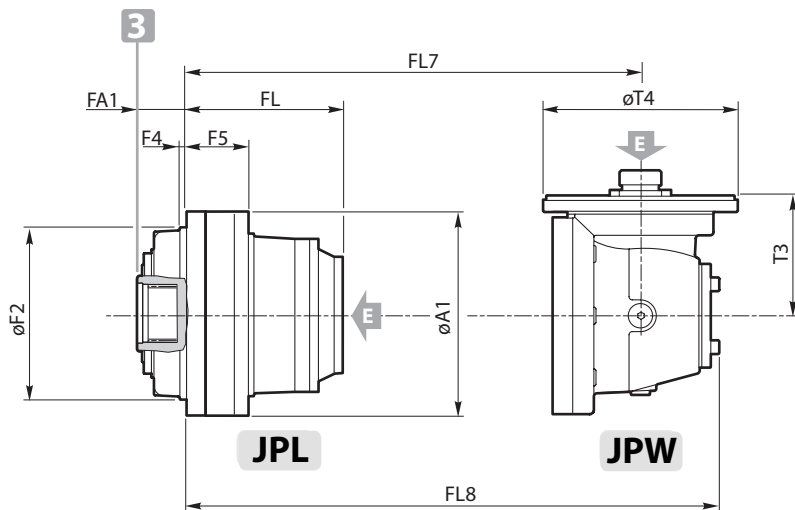
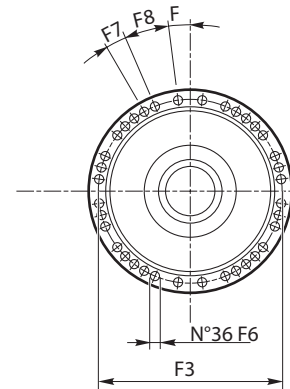
		6000	8000	12010	16000
FS1	FU1	N150x5x9H DIN 5480	N150x5x9H DIN 5480	—	—
	FU2	152 H7	152 H7	—	—
	FU3	74	74	—	—
	FU4	41	41	—	—
	FU5	20	20	—	—

		6000	8000	12010	16000
FS4	FU1	—	—	N180x5x9H DIN 5480	N180x5x9H DIN 5480
	FU2	—	—	185 H7	185 H7
	FU3	—	—	100	100
	FU4	—	—	—	—
	FU5	—	—	40	40

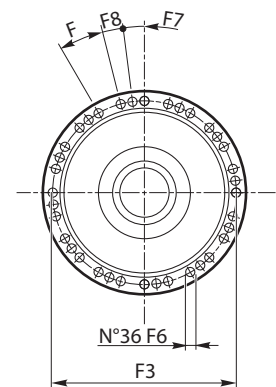
	stages	6000	8000	12010	16000
A1		490	490	610	610
F2		410 f7	410 h8	515 h8	515 h8
F3		445	445	560	560
F4		15	15	20	20
F5		178.5	181.5	230	230
F6		$\varnothing 19$	$\varnothing 19$	$\varnothing 25$	$\varnothing 25$
		M.. - 12.9		M.. - 10.8	
		M18	M18	M24	M24
F7		7°30'	7°30'	15°	15°
F8		15°	15°	7°30'	7°30'
F9		7°30'	7°30'	7°30'	7°30'
FA1	FS	100	100	152	152
	FS1	106	106	—	—
	FS4	—	—	152	152
FL	1	136.5	136.5	160.5	160.5
	2	305	390.5	410	427
	3	398	518.5	538	668
	4	456.5	603.5	623	761
	5	—	668	687.5	825.5
FL7	2	390.5	390.5	—	—
	3	511	584.5	604	681
	4	520	660.5	680	874
	5	—	—	745	883
FL8	2	580.5	580.5	—	—
	3	639	712.5	732	871
	4	611	768.5	788	1002
	5	—	—	836	974
T3	2	432	432	—	—
	3	310	310	310	432
	4	171	227	227	310
	5	—	—	171	171
T4	2	295	295	—	—
	3	293	293	293	295
	4	183	242	242	293
	5	—	—	183	183

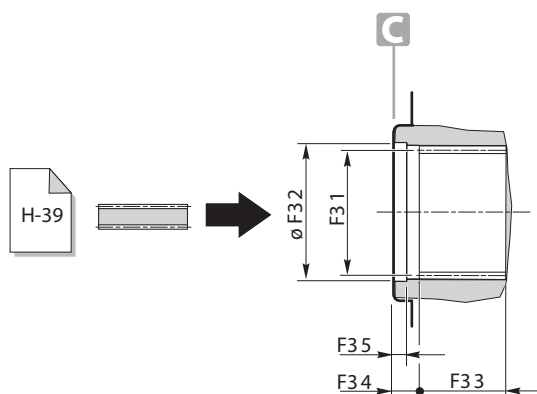


6000 - 8000



12010 - 16000



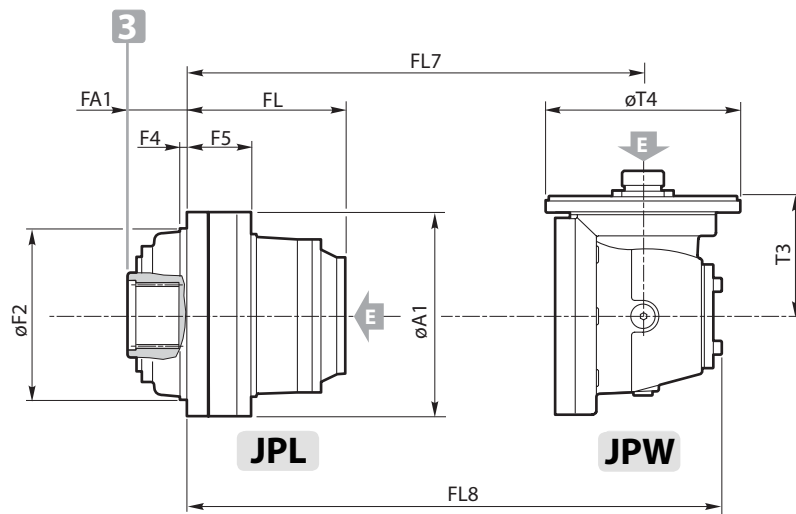


		6000L	8000L	12010L	16000L
FS	FU1	N140x5x9H DIN 5480	N140x5x9H DIN 5480	N160x5x9H DIN 5480	N160x5x9H DIN 5480
	FU2	142 H9	142 H9	165 H7	165 H7
	FU3	97	122	100	100
	FU4	—	—	40	40
	FU5	12	12	20	20

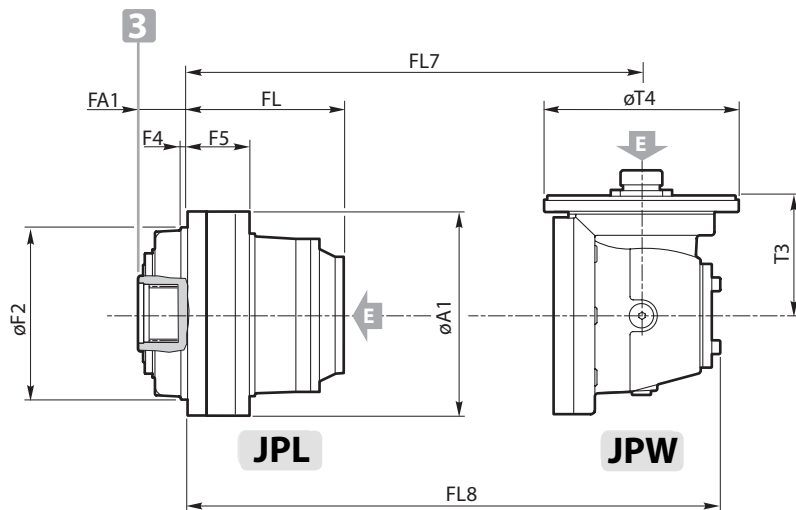
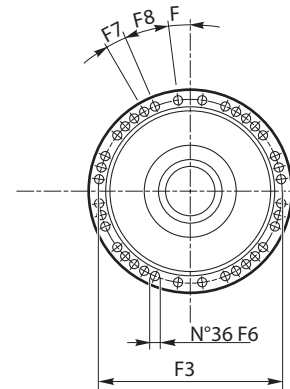
		6000L	8000L	12010L	16000L
FS1	FU1	N150x5x9H DIN 5480	N150x5x9H DIN 5480	—	—
	FU2	152 H7	152 H7	—	—
	FU3	74	74	—	—
	FU4	41	41	—	—
	FU5	20	20	—	—

		6000L	8000L	12010L	16000L
FS4	FU1	—	—	N180x5x9H DIN 5480	N180x5x9H DIN 5480
	FU2	—	—	185 H7	185 H7
	FU3	—	—	100	100
	FU4	—	—	40	40
	FU5	—	—	—	—

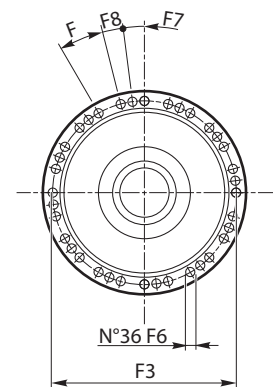
	stages	6000L	8000L	12010L	16000L
A1		490	490	610	610
F2		410 f7	410 h8	515 h8	515 h8
F3		445	445	560	560
F4		15	15	20	20
F5		178.5	178.5	230	230
F6		Ø19	Ø19	Ø25	Ø25
		M18 - 12.9		M24 - 10.8	
		M18	M18	M24	M24
F7		7°30'	7°30'	15°	15°
F8		15°	15°	7°30'	7°30'
F9		7°30'	7°30'	7°30'	7°30'
FA1	FS	100	100	152	152
	FS1	106	106	—	—
	FS4	—	—	152	152
FL	1	136.5	136.5	160.5	160.5
	2	305	390.5	410	427
	3	398	501.5	521	619
	4	462.5	568.5	588	704
	5	—	621	640.5	768.5
FL7	2	390.5	390.5	—	—
	3	511	584.5	604	681
	4	520	643.5	663	761
	5	—	—	710	826
FL8	2	580.5	580.5	—	—
	3	639	712.5	732	871
	4	611	751.5	771	869
	5	—	—	801	917
T3	2	432	432	—	—
	3	310	310	310	432
	4	171	227	227	310
	5	—	—	171	171
T4	2	295	295	—	—
	3	293	293	293	295
	4	183	242	242	293
	5	—	—	183	183

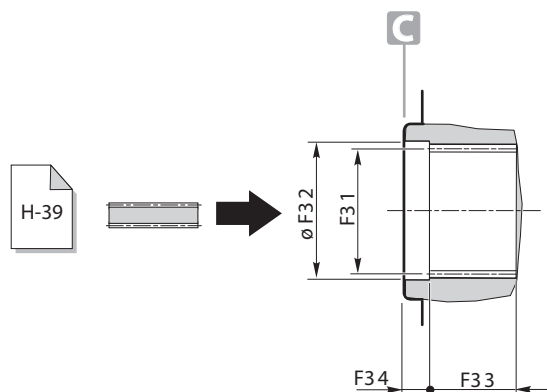


6000L - 8000L



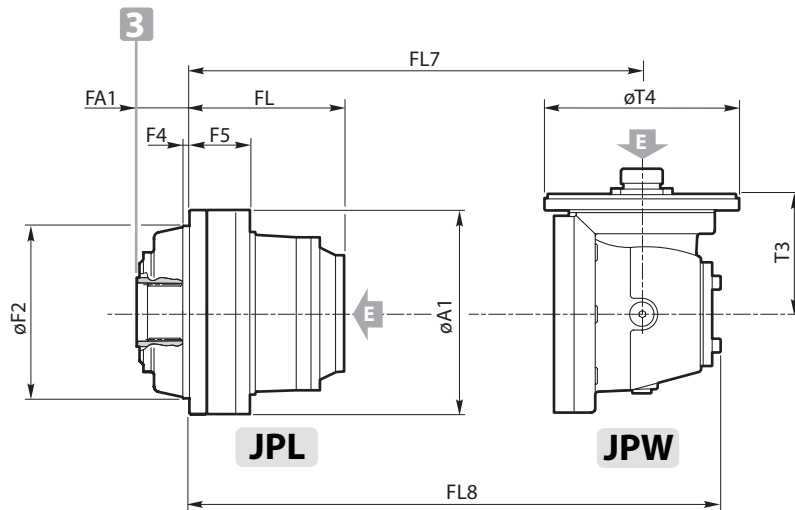
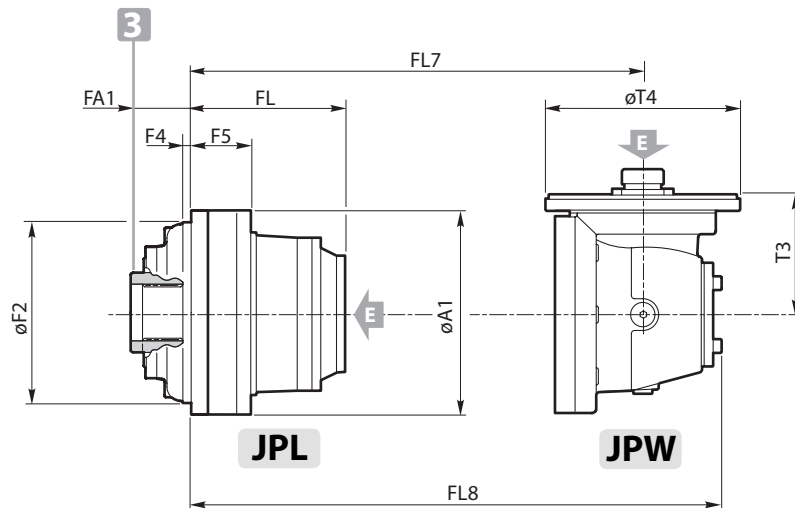
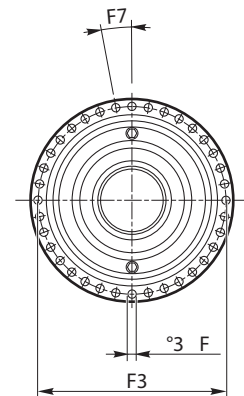
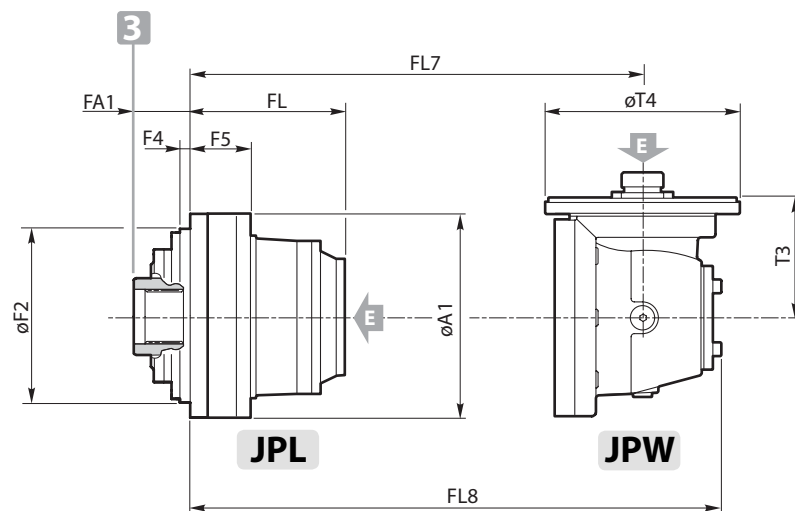
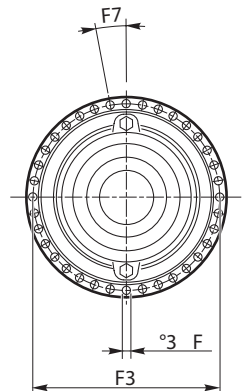
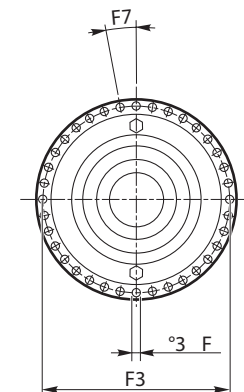
12010L - 16000L

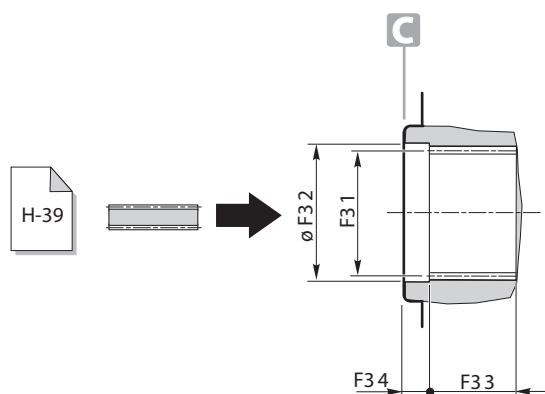




		21000	26000	31000	40000	45000	53000	61000	85000
FS	FU1	N200x5x9H DIN 5480	N220x5x9H DIN 5480	N240x5x9H DIN 5480	N240x5x9H DIN 5480	N280x6x9H DIN 5480	N300x8x9H DIN 5480	N300x8x9H DIN 5480	N340x8x9H DIN 5480
	FU2	202 H7	222 H7	242 H7	242 H7	281 H8	303 H7	303 H7	343 H7
	FU3	120	120	170	170	175	190	190	190
	FU4	38	38	50	50	50	70	70	70

		21000	26000	31000	40000	45000	53000	61000	85000
A1	stages	710	710	870	870	870	1090	1090	1090
F2		600 h8	600 h8	760 h8	760 h8	760 h8	930 h8	930 h8	930 h8
F3		660	660	810	810	810	1020	1020	1020
F4		23.5	23.5	35	35	35	50	50	50
F5		196	216	250	290	290	305	305	353
F6		Ø28	Ø28	Ø32	Ø32	Ø32	Ø39	Ø39	Ø39
		M... - 10.8							
		M27	M27	M30	M30	M30	M36	M36	M36
F7		10°	10°	10°	10°	10°	10°	10°	10°
FA1		185	185	255	255	260	300	300	300
FL	1	138	158	180	220	220	225	225	273
	2	443	463	588.5	628.5	628.5	700	700	768
	3	611.5	717	838	878	895	1005	1005	1073
	4	704.5	845	966	1006	1136	1173.5	1173.5	1327
	5	763	930	1051	1091	1229	1266.5	1266.5	1455
FL7	3	697	717	—	—	—	—	—	—
	4	817.5	911	1032	1072	1149	1259	1259	1327
	5	826.5	987	1108	1148	1342	1379.5	1379.5	1521
	6	—	—	—	—	—	—	1388.5	1597
FL8	3	887	907	—	—	—	—	—	—
	4	945.5	1039	1160	1200	1339	1449	1449	1517
	5	917.5	1095	1216	1256	1470	1507.5	1507.5	1649
	6	—	—	—	—	—	—	1479.5	1705
T3	3	432	432	—	—	—	—	—	—
	4	310	310	310	310	432	432	432	432
	5	171	227	227	227	310	310	310	310
	6	—	—	—	—	—	—	171	171
T4	3	295	295	—	—	—	—	—	—
	4	293	293	293	293	295	295	295	295
	5	183	242	242	242	293	293	293	293
	6	—	—	—	—	—	—	183	183

**21000 - 26000****31000 ÷ 45000****53000 ÷ 85000**

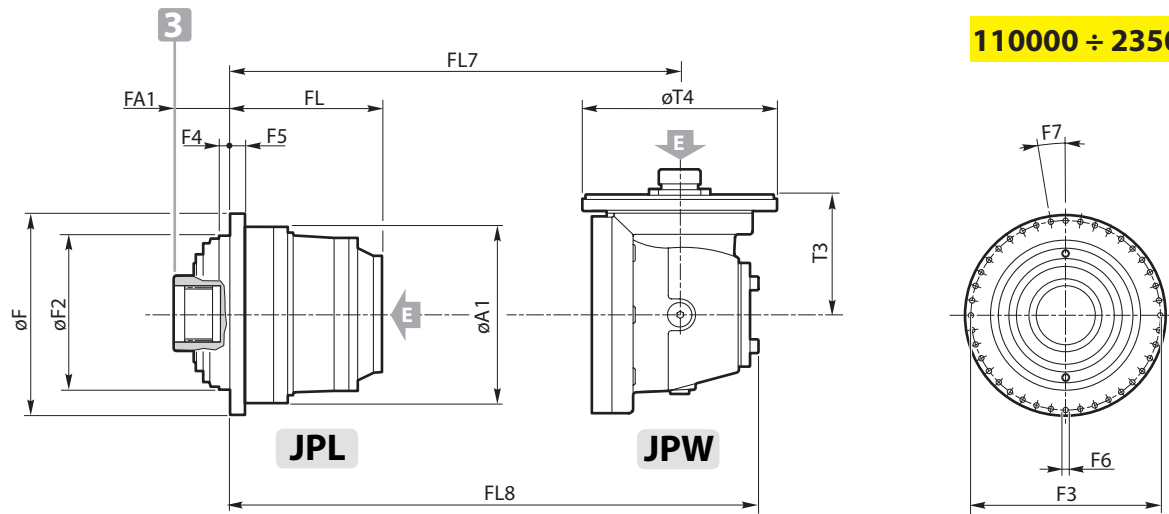


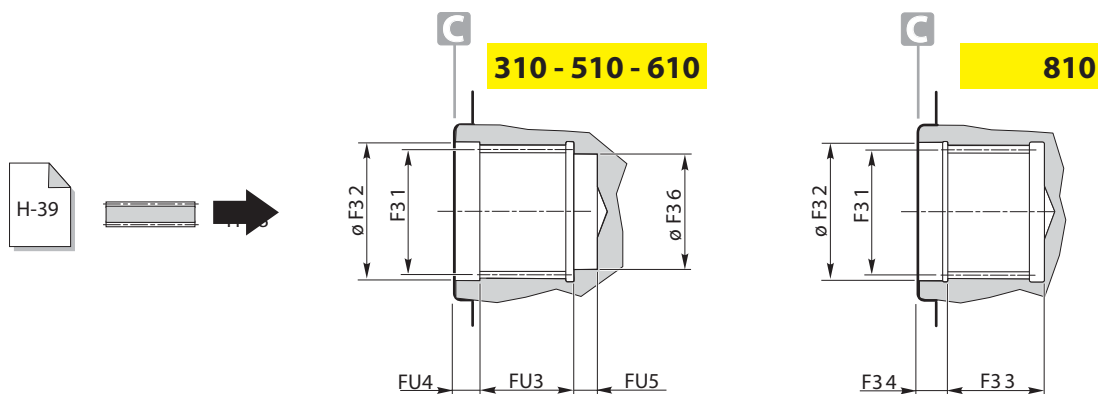
FS		110000	130000	150000	205000	235000
	FU1	N420x8x9H DIN 5480	N420x8x9H DIN 5480	N420x8x9H DIN 5480	N500x8x9H DIN 5480	N500x8x9H DIN 5480
	FU2	430 H7	430 H7	430 H7	510 H8	510 H8
	FU3	210	210	210	265	265
	FU4	80	80	80	73	73

	stages	110000	130000	150000	205000	235000
A1		1320	1320	1320	1630	1630
F0		1538	1538	1538	1880	1880
F2		1150 h9	1150 h9	1150 h9	1440 h8	1440 h8
F3		1450	1450	1450	1780	1780
F4		80	80	80	80	80
F5		110	110	110	110	110
F6		Ø44 (x40)	Ø44 (x40)	Ø44 (x40)	Ø44 (x48)	Ø44 (x48)
		 M... - 10.8				
		M42	M42	M42	M42	M42
F7		9°	9°	9°	7°30'	7°30'
FA1		402.5	402.5	402.5	375	375
FL	1	315	315	315	303	303
	2	966.5	966.5	966.5	1016	1016
	3	1375	1375	1375	1511	1590.5
	4	1624.5	1641.5	1721.5	1852	1986.5
	5	1752.5	1882.5	1890	2101.5	2236
FL7	5	1818.5	1895.5	—	—	—
	6	1894.5	2088.5	—	—	—
FL8	5	1946.5	2085.5	—	—	—
	6	2002.5	2216.5	—	—	—
T3	5	310	432	—	—	—
	6	227	310	—	—	—
T4	5	293	295	—	—	—
	6	242	293	—	—	—



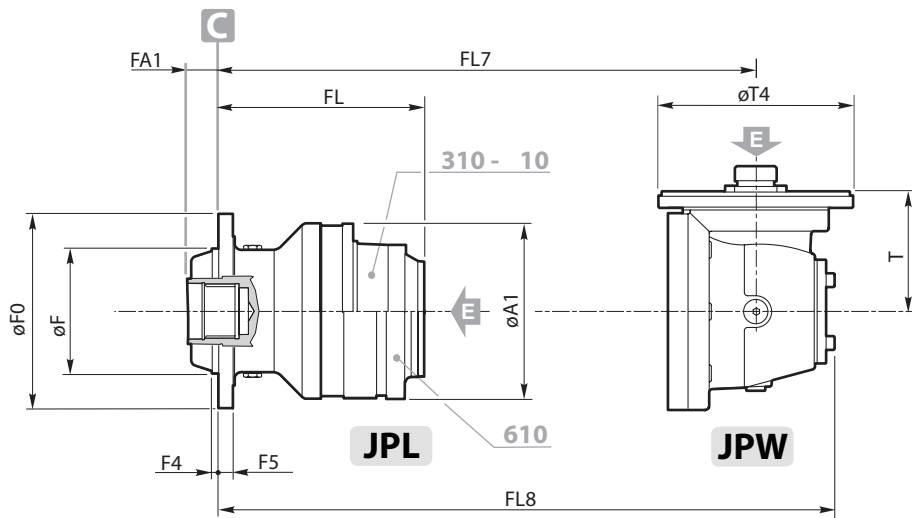
110000 ÷ 235000



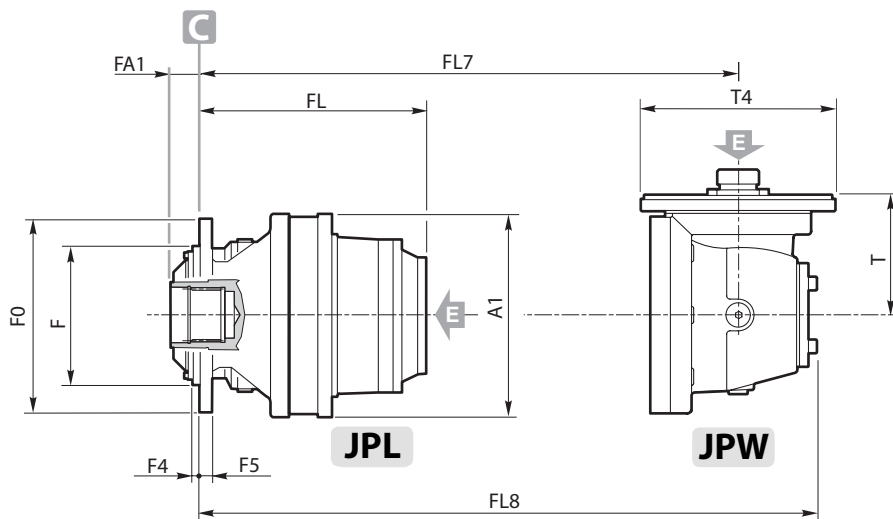
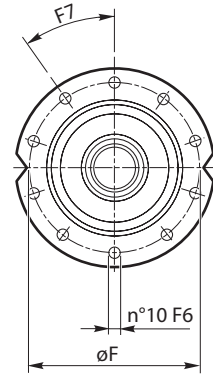


NF		310	510	610	810
	FU1	A 58x53 DIN 5482	A 58x53 DIN 5482	A 58x53 DIN 5482	A 70x64 DIN 5482
	FU2	60 H8	60 H8	60 H8	72 H8
	FU3	29	29	29	45
	FU4	15	15	15	22
	FU5	10	10	10	—
	FU6	50 H8	50 H8	50 H8	—

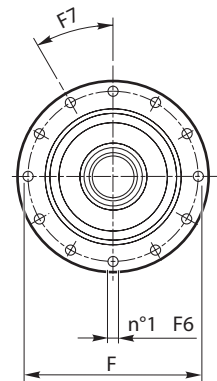
	stages	310	510	610	810
A1		224	224	224	295
F0		222	222	222	280
F2		150 f7	150 f7	150 f7	200 f7
F3		195	195	195	250
F4		13.5	13.5	13.5	10.5
F5		16	16	16	18
F6		Ø12.5	Ø12.5	12.5	Ø15
		M... - 12.9			
		M12	M12	M12	M14
F7		36°	36°	36°	30°
FA1		15	15	15	40
FL	1	133	151	151	162.5
	2	185.5	215.5	209.5	229.5
	3	228.5	258.5	262	282
	4	271.5	301.5	305	325
FL7	2	255	273	273	304.5
	3	266.5	296.5	331.5	351.5
	4	309.5	339.5	343	363
FL8	2	346	364	364	412.5
	3	341	371	422.5	442.5
	4	384	414	417.5	437.5
T3	2	171.5	171.5	171.5	277
	3	113.8	113.8	171.5	171.5
	4	113.8	113.8	113.8	113.8
T4	2	183	183	183	242
	3	184	184	183	183
	4	184	184	184	184

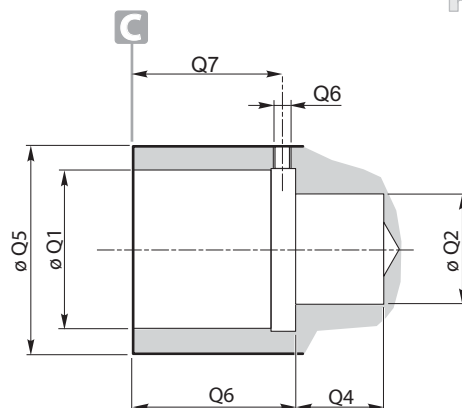
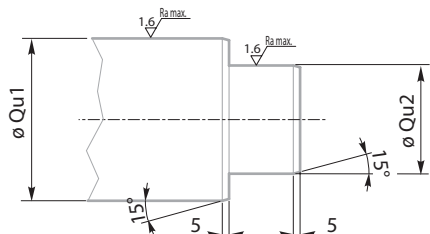


310 - 510 - 610



810



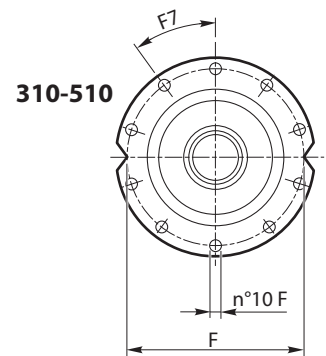
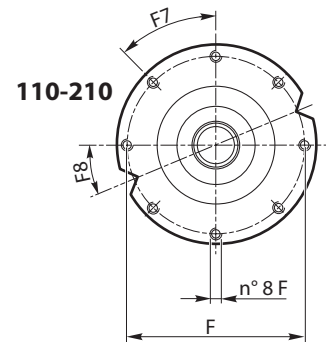
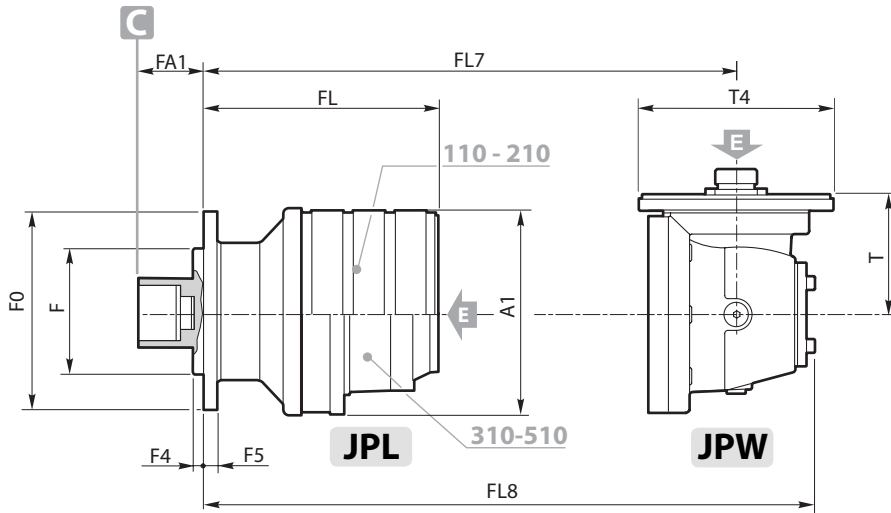


NQ		110	210	310	510
	Q1	50 H7	50 H7	75 H7	75 H7
	Q2	30 H7	30 H7	40 H7	40 H7
	Q3	38	38	55	55
	Q4	12	12	20	20
	Q5	62 f7	62 f7	100 f7	100 f7
	Q6	—	—	1/8"G	1/8"G
	Q7	—	—	52	52
	Qu1	50 g6	50 g6	75 g6	75 g6
	Qu2	30 f6	30 f6	40 f6	40 f6

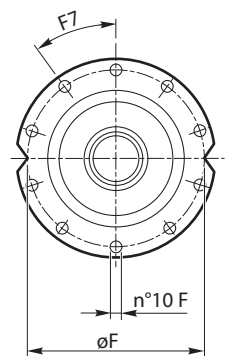
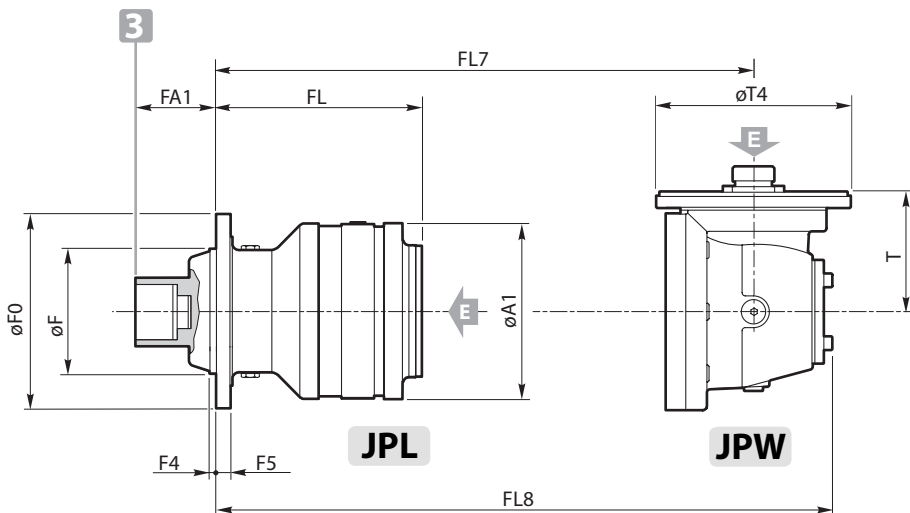
	stages	110	210	310	510	610
A1		186	186	224	224	224
F0		185	185	222	222	222
F2		110 h7	110 h7	150 f7	150 f7	150 f7
F3		165	165	195	195	195
F4		5	5	13.5	13.5	13.5
F5		12	12	16	16	16
F6		10.5	10.5	12.5	12.5	12.5
		M... - 12.9				
		M10	M10	M12	M12	M12
F7		45°	45°	36°	36°	36°
F8		22.5°	22.5°	—	—	—
FA1		55	55	87	87	87
FL	1	95	107	133	151	151
	2	138	150	185.5	215.5	209.5
	3	181	193	228.5	258.5	262
	4	224	236	271.5	301.5	305
FL7	2	176	188	255	273	273
	3	219	231	266.5	296.5	331.5
	4	262	274	309.5	339.5	343
FL8	2	250.5	262.5	346	364	364
	3	293.5	305.5	341	371	422.5
	4	336.5	348.5	384	414	417.5
T3	2	113.8	113.8	171.5	171.5	171.5
	3	113.8	113.8	113.8	113.8	171.5
	4	113.8	113.8	113.8	113.8	113.8
T4	2	184	184	183	183	183
	3	184	184	184	184	183
	4	184	184	184	184	184

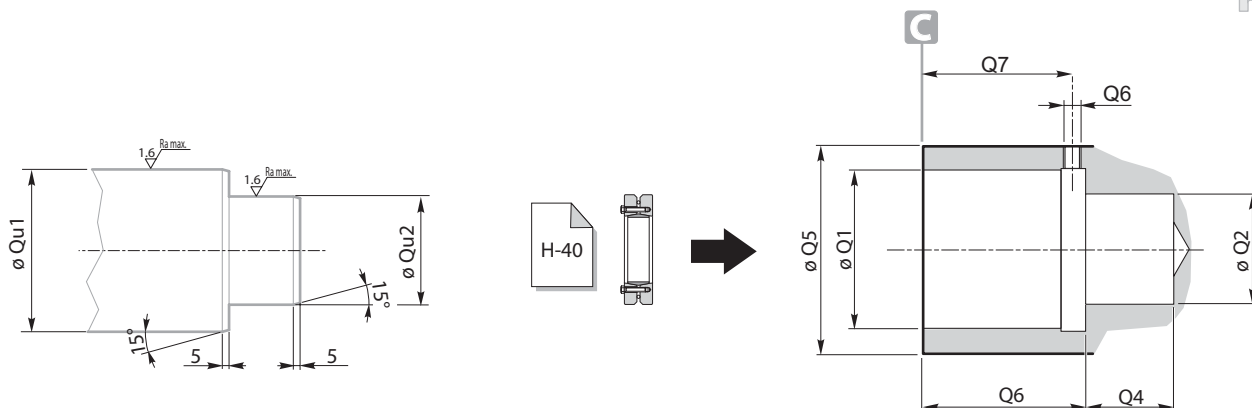


110 ÷ 510



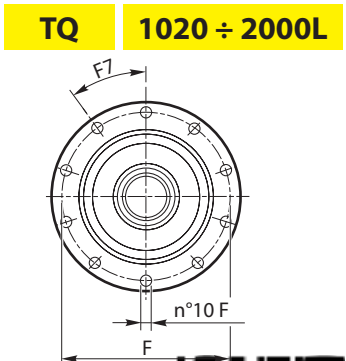
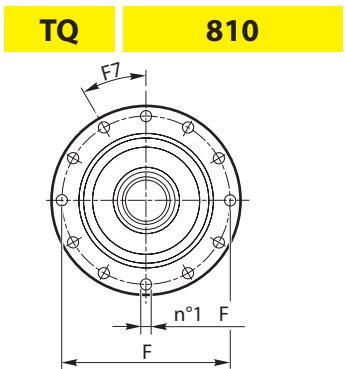
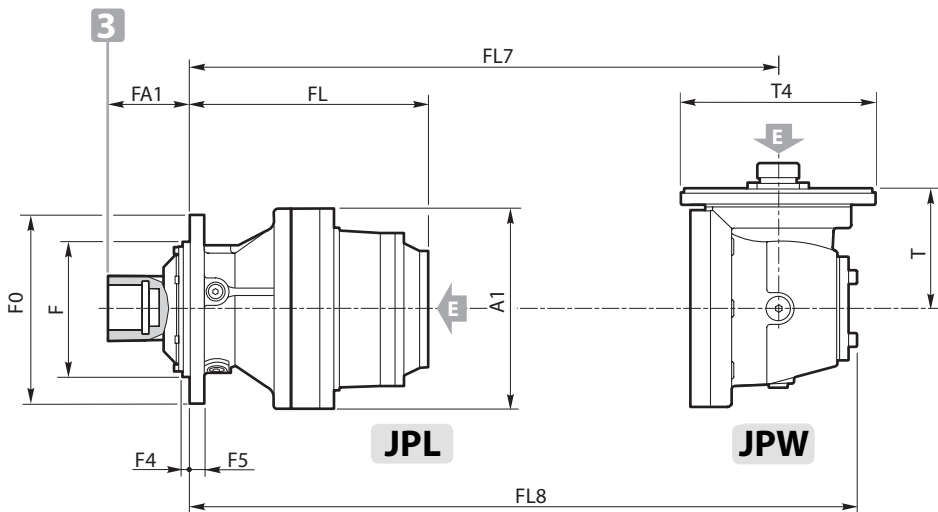
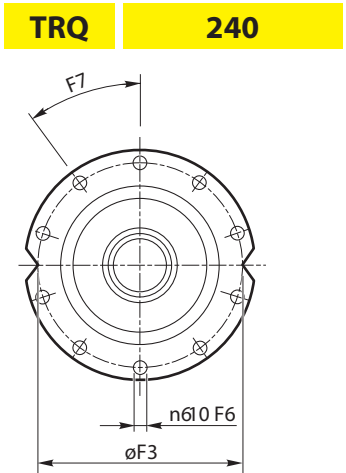
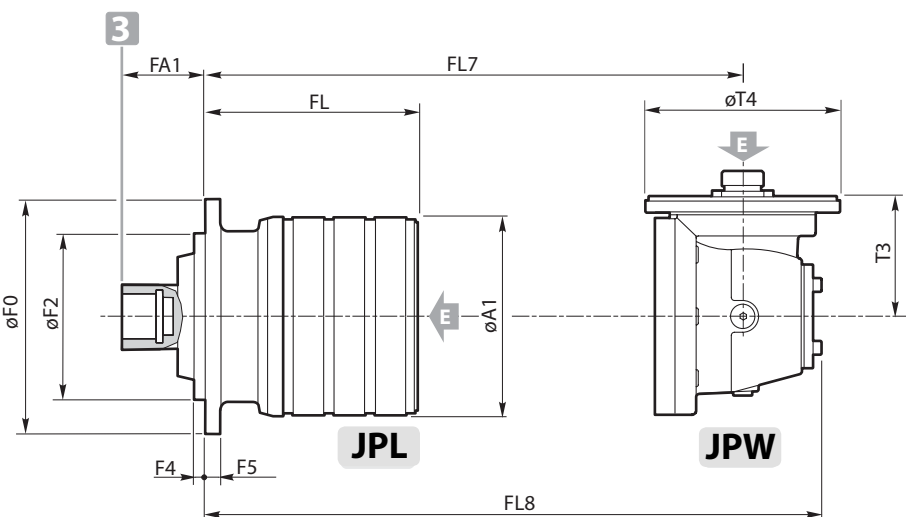
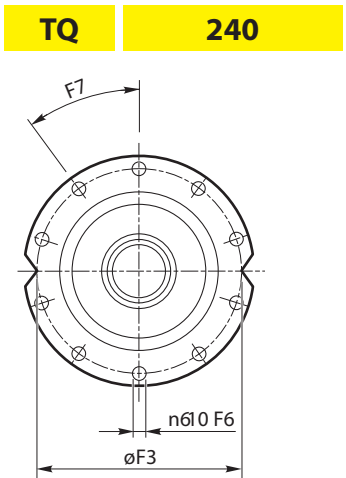
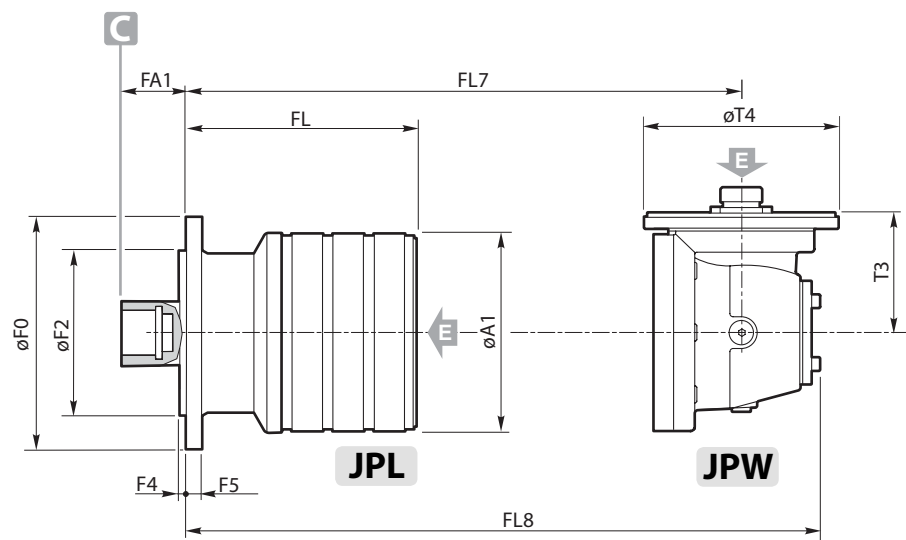
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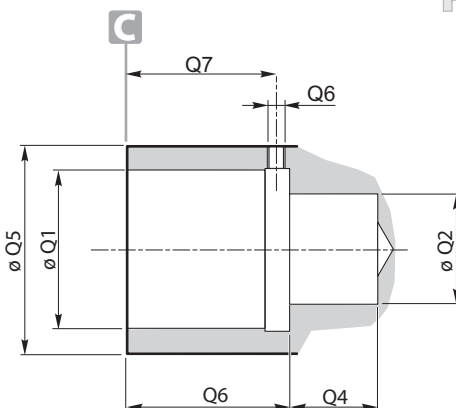
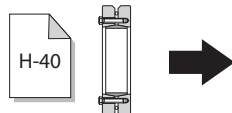
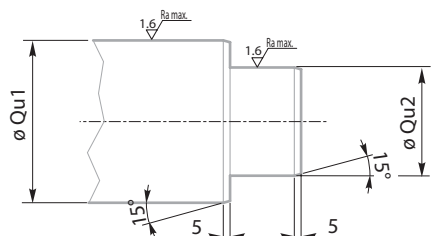




		TQ TRQ					
		240		810	1020	1520	2000 2000L
		TQ	TRQ	TQ	TQ	TQ	TQ
TQ TRQ	Q1	75 H7	75 H7	90 H7	120 H7	120 H7	120 H7
	Q2	40 H7	40 H7	50 H7	80 H7	80 H7	80 H7
	Q3	55	55	72	85	85	85
	Q4	17	17	25	30	30	30
	Q5	100 f7	100 f7	125 f7	165 f7	165 f7	165 f7
	Q6	—	—	1/8"G	1/8"G	1/8"G	1/8"G
	Q7	—	—	81.5	97.5	97.5	97.5
	Qu1	40 f6	40 f6	50 f6	80 f6	80 f6	80 f6
Qu2	75 a6	75 a6	90 a6	120 a6	120 a6	120 a6	

Tapered roller bearings								
	stages	240		810	1020	1520	2000	2000L
		TQ	TRQ	TQ	TQ	TQ	TQ	TQ
A1		186	186	295	295	350	350	350
F0		219	219	280	325	325	325	325
F2		150 h7	155 f7	200 f7	230 f7	230 f7	230 f7	230 f7
F3		195	194	250	295	295	295	295
F4		7	10	10.5	15	15	15	15
F5		15	15	22	25	28	28	28
F6		Ø12.5	Ø11	Ø15	Ø17	Ø17	Ø17	Ø17
		 M.. - 12.9						
F7		36°	36°	30°	36°	36°	36°	36°
FA1		87	104	131	140	140	140	104
FL	1	114	97	185	237	240	240	240
	2	157	140	252	322	333	333	333
	3	200	183	304.5	386.5	397.5	391.5	397.5
	4	243	226	347.5	429.5	440	444	440
FL7	2	195	178	326.5	379	446	446	446
	3	238	221	374	444	455	455	455
	4	281	264	385.5	467.5	478.5	513.5	478.5
FL8	2	269.5	252.5	435	487	574	574	574
	3	312.5	295.5	465	535	546	546	546
	4	355.5	338.5	460	542	553	604.5	553
T3	2	113.8	113.8	277	277	310	310	310
	3	113.8	113.8	171.5	171.5	171.5	171.5	171.5
	4	113.8	113.8	113.8	113.8	113.8	171.5	113.8
T4	2	184	184	242	242	293	293	293
	3	184	184	183	183	183	183	183
	4	184	184	184	184	184	183	184





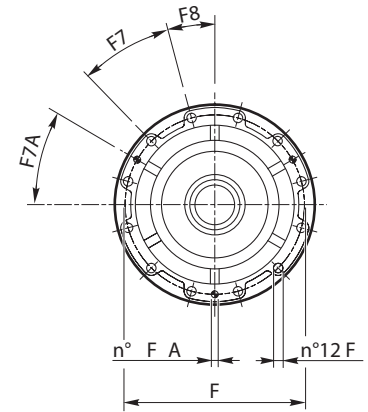
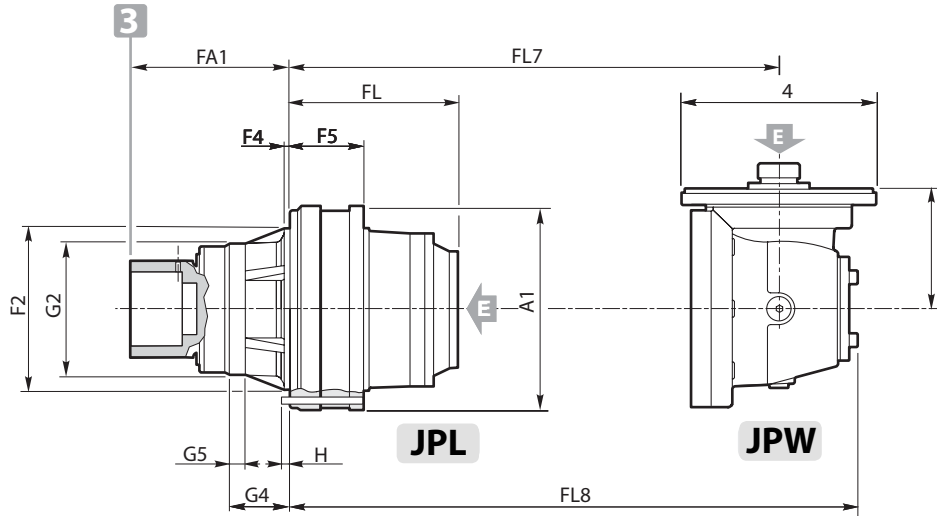
		1520	2000 2000L	2520	3000	3510	4800
HQ	Q1	120 H7	120 H7	130 H7	130 H7	145 H7	145 H7
	Q2	80 H7	80 H7	80 H7	80 H7	100 H7	100 H7
	Q3	85	85	100	100	146	146
	Q4	30	30	30	30	89.5	89.5
	Q5	165 f7	165 f7	175 f7	175 f7	185 f7	185 f7
	Q6	1/8"G	1/8"G	1/8"G	1/8"G	1/8"G	1/8"G
	Q7	97.5	97.5	99	99	136	136
	Qu1	120 g6	120 g6	130 g6	130 g6	145 g6	145 g6
	Qu2	80 f6	80 f6	80 f6	80 f6	100 f6	100 f6

	4800
Q1	155 H7
Q2	100 H7
Q3	146
Q4	99.5
Q5	200 f7
Q6	1/8"G
Q7	136
Qu1	155 g6
Qu2	100 f6

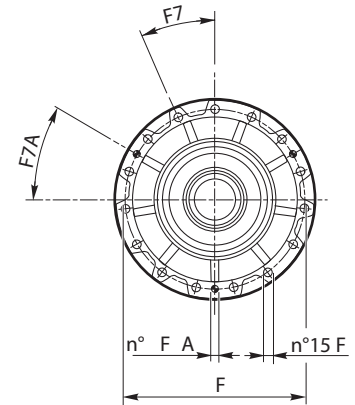
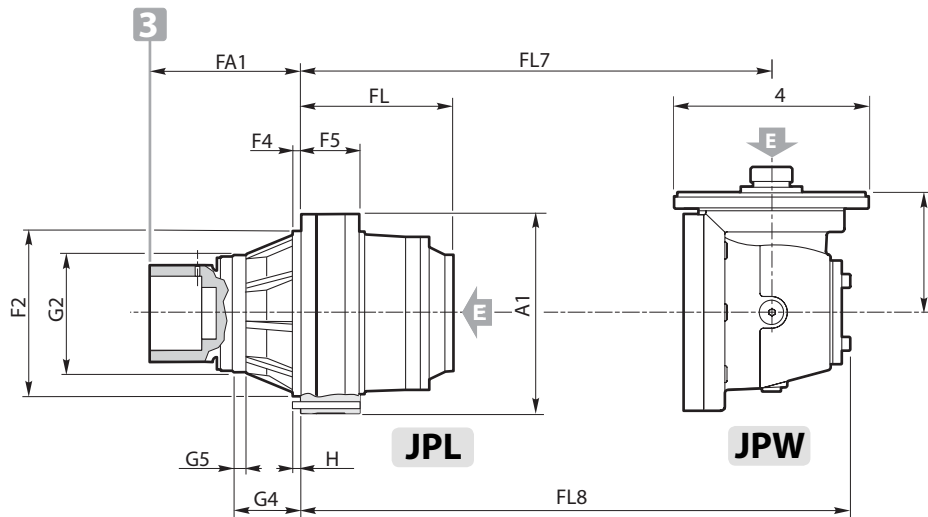
	stages	1520	2000	2000L	2520	3000	3510	4800
A1		350	350	350	409	409	452	452
FA1	Q	273	273	273	310	310	250	250
	Q1	—	—	—	—	—	—	260
F2		278 f7	278 f7	278 f7	340 f7	340 f7	390 f8	390 f8
F3		314	314	314	370	370	424	424
F4		10	10	10	17	17	15	15
F5		133	133	133	131	131	120	120
F6		Ø16.5	Ø16.5	Ø16.5	Ø17	Ø17	Ø17	Ø17
		M16	M16	M16	M16	M16	M16	M16
F6A		Ø12	Ø12	Ø12	Ø16	Ø16	—	—
F7		15°	15°	15°	12°	12°	20°	20°
F7A		30°	30°	30°	30°	30°	—	—
F8		15°	15°	15°	24°	24°	10°	10°
FL	1	107	107	107	98	98	85	85
	2	200	200	200	209	226	277	326
	3	264.5	258.5	264.5	276	311	362	419
	4	307.5	311	307.5	328.5	375.5	426.5	483.5
FL7	2	313	313	313	292	292	339	339
	3	322	322	322	351	368	419	532
	4	345.5	380.5	345.5	398	433	484	541
FL8	2	441	441	441	420	420	529	529
	3	413	413	413	459	476	527	660
	4	420	472	420	489	524	575	632
G2		225 f7	225 f7	225 f7	245 f7	245 f7	—	—
G4		104.5	104.5	104.5	142	142	—	—
G5		27.5	27.5	27.5	29	29	—	—
H		15	15	15	29	29	—	—
T3	2	310	310	310	310	310	432	432
	3	171	171	171	227	227	227	310
	4	113.8	171	113.8	171	171	171	171
T4	2	293	293	293	293	293	295	295
	3	183	183	183	242	242	242	293
	4	184	183	184	183	183	183	183



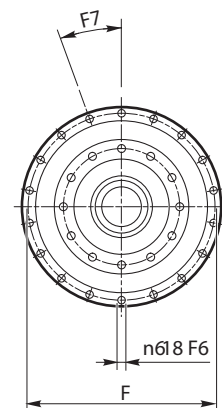
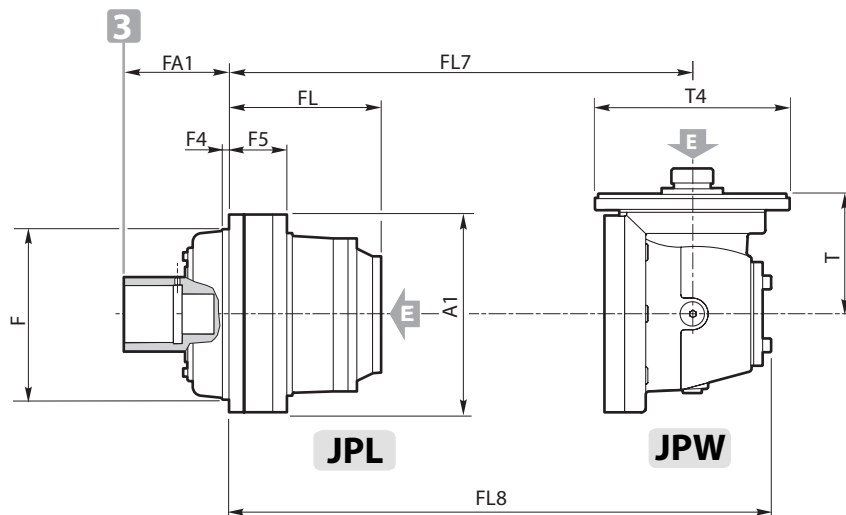
1520 ÷ 2000L

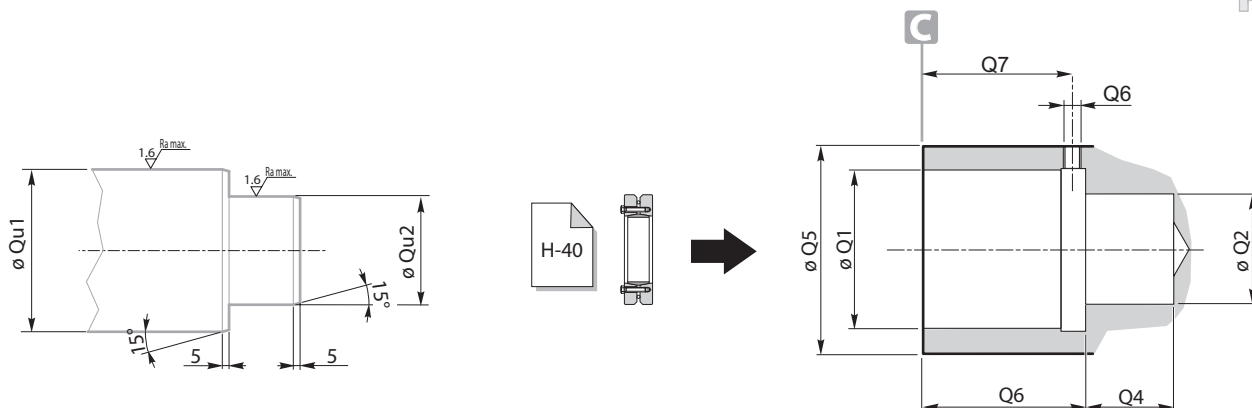


2520 - 3000



3510 - 4800





		H6Q			
		6000	8000	12010	16000
		H6Q	HQ	HQ	HQ
H6Q H6Q	Q1	155 H7	155 H7	190 H7	190 H7
	Q2	85 F8	85 F8	90 H7	90 H7
	Q3	125	125	190	190
	Q4	70	70	40	40
	Q5	195 f7	195 f7	240 f7	240 f7
	Q6	1/8"G	1/8"G	1/8"G	1/8"G
	Q7	107	107	160	160
	Qu1	155 g6	155 g6	190 g6	190 g6
Qu2	85 f6	85 f6	90 f6	90 f6	

HQ1 H6Q1		6000	8000	12010	16000
		H6Q1	HQ1	HQ1	HQ1
	Q1	180 H7	180 H7	210 H7	210 H7
	Q2	110 H7	110 H7	110 H7	110 H7
	Q3	183	183	210	210
	Q4	70	70	50	50
	Q5	240 f7	240 f7	260 f7	260 f7
	Q6	1/8"G	1/8"G	1/8"G	1/8"G
	Q7	164	164	187	187
Qu1	180 g6	180 g6	210 g6	210 g6	
Qu2	110 f6	110 f6	110 f6	110 f6	

		Sizing			
		6000	8000	12010	16000
	stages	H6	H	H	H
A1		490	490	610	610
F2		410 h8	410 h8	515 h8	515 h8
F3		445	445	560	560
F4		15	15	20	20
F5		178.5	181.5	230	230
F6		Ø19	Ø19	Ø25	Ø25
		 M... - 12.9		 M... - 10.8	
		M18	M18	M24	M24
F7		7°30	7°30	15°	15°
F8		15°i	15°	7°30'	7°30'
F9		7°30	7°30	7°30'	7°30'
FA1	Q	240	240	300	300
	Q1	298	298	330	330
FL	1	136.5	136.5	160.5	160.5
	2	305	390.5	410	427
	3	398	518.5	538	668
	4	456.5	603.5	623	761
	5	—	668	687.5	825.5
FL7	2	390.5	390.5	—	—
	3	511	584.5	604	681
	4	520	660.5	680	874
	5	—	—	745	883
FL8	2	580.5	580.5	—	—
	3	639	712.5	732	871
	4	611	768.5	788	1002
	5	—	—	836	974
G2		—	—	—	—
G4		—	—	—	—
G5		—	—	—	—
T3	2	432	432	—	—
	3	310	310	310	432
	4	171	227	227	310
	5	—	—	171	171
T4	2	295	295	—	—
	3	293	293	293	295
	4	183	242	242	293
	5	—	—	183	183

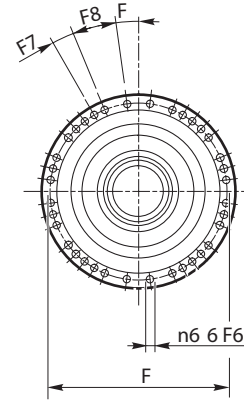
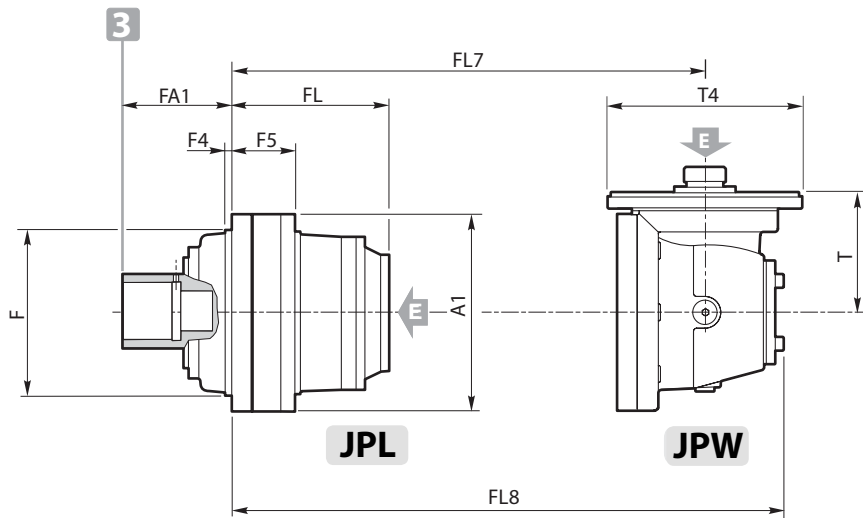


H6Q

6000

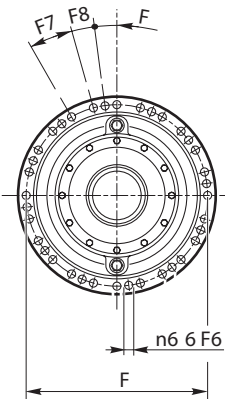
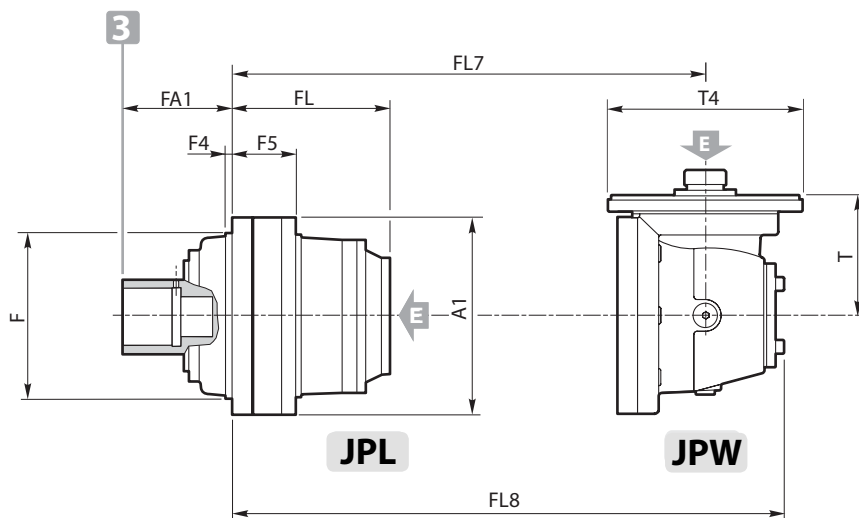
HQ

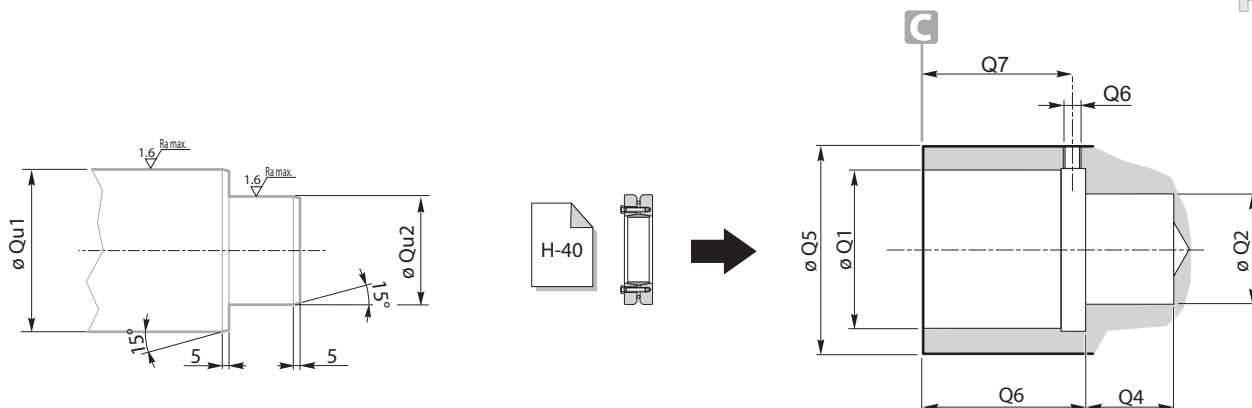
8000



HQ

12010 - 16000





		H6Q			
		H6Q			
		6000L	8000L	12010L	16000L
		H6Q	HQ	HQ	HQ
H6Q H6Q	Q1	155 H7	155 H7	190 H7	190 H7
	Q2	85 F8	85 F8	90 H7	90 H7
	Q3	125	125	190	190
	Q4	70	70	40	40
	Q5	195 f7	195 f7	240 f7	240 f7
	Q6	1/8"G	1/8"G	1/8"G	1/8"G
	Q7	107	107	160	160
	Qu1	155 g6	155 g6	190 g6	190 g6
Qu2	85 f6	85 f6	90 f6	90 f6	

		H6Q1			
		H6Q1			
		6000L	8000L	12010L	16000L
HQ1 H6Q1		H6Q1	HQ1	HQ1	HQ1
	Q1	180 H7	180 H7	210 H7	210 H7
	Q2	110 H7	110 H7	110 H7	110 H7
	Q3	183	183	210	210
	Q4	70	70	50	50
	Q5	240 f7	240 f7	260 f7	260 f7
	Q6	1/8"G	1/8"G	1/8"G	1/8"G
	Q7	164	164	187	187
	Qu1	180 g6	180 g6	210 g6	210 g6
Qu2	110 f6	110 f6	110 f6	110 f6	

		6000L	8000L	12010L	16000L
	stages	H6	H	H	H
A1		490	490	610	610
F2		410 h8	410 h8	515 h8	515 h8
F3		445	445	560	560
F4		15	15	20	20
F5		178.5	181.5	230	230
F6		Ø19	Ø19	Ø25	Ø25
		 M... - 12.9		 M... - 10.8	
		M18	M18	M24	M24
F7		7°30	7°30	15°	15°
F8		15°i	15°	7°30'	7°30'
F9		7°30	7°30	7°30'	7°30'
FA1	Q	240	240	300	300
	Q1	298	298	330	330
FL	1	136.5	136.5	160.5	160.5
	2	305	390.5	410	427
	3	398	501.5	521	619
	4	462.5	568.5	588	704
	5	—	621	640.5	768.5
FL7	2	390.5	390.5	—	—
	3	511	584.5	604	681
	4	520	643.5	663	761
	5	—	—	710	826
FL8	2	580.5	580.5	—	—
	3	639	712.5	732	871
	4	611	751.5	771	869
	5	—	—	801	917
G2		432	432	—	—
G4		310	310	310	432
G5		171	227	227	310
T3	2	—	—	171	171
	3	295	295	—	—
	4	293	293	293	295
	5	183	242	242	293
T4	2	—	—	183	183
	3	293	293	293	295
	4	183	242	242	293
	5	—	—	183	183

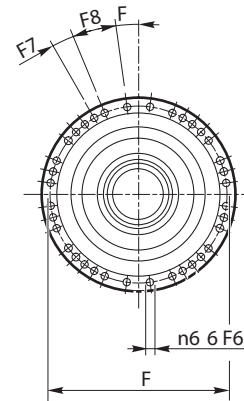
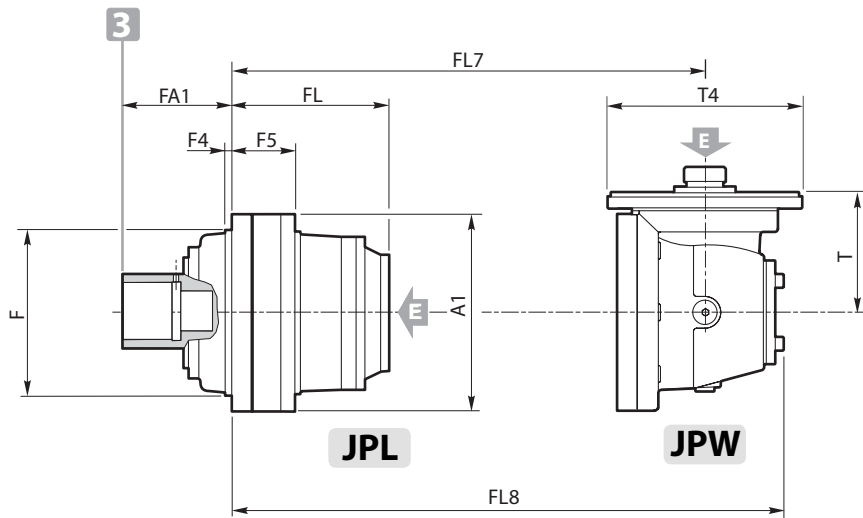


H6Q

6000L

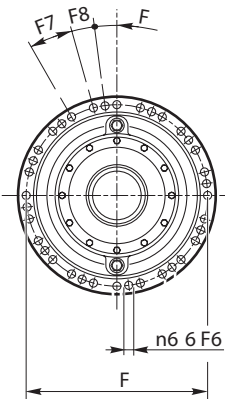
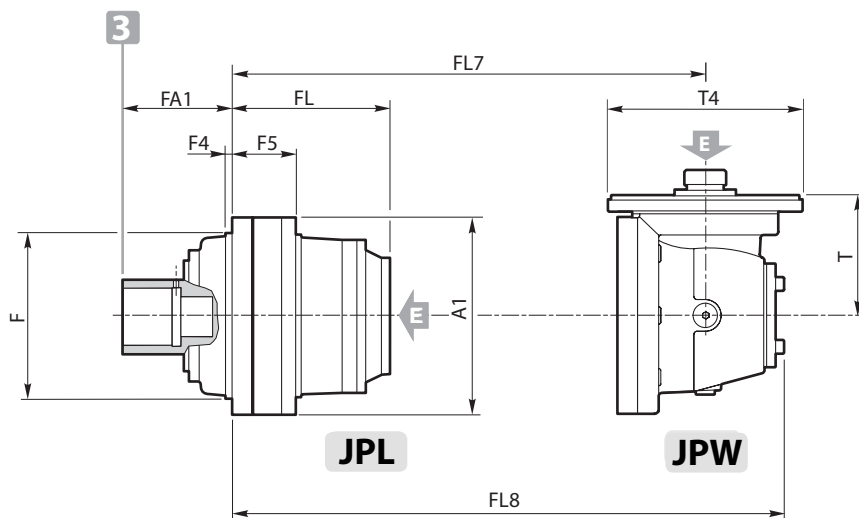
HQ

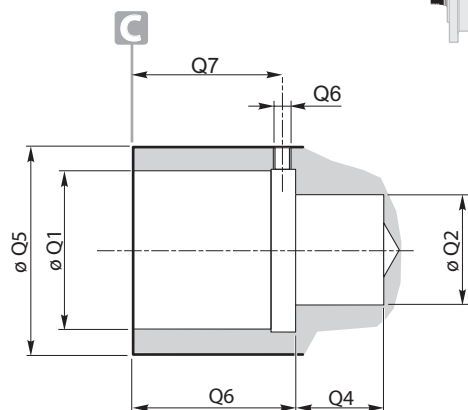
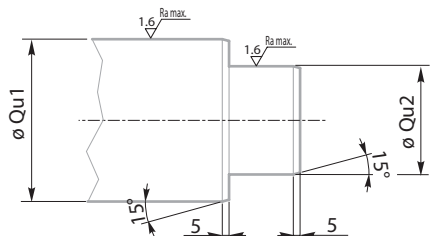
8000L



HQ

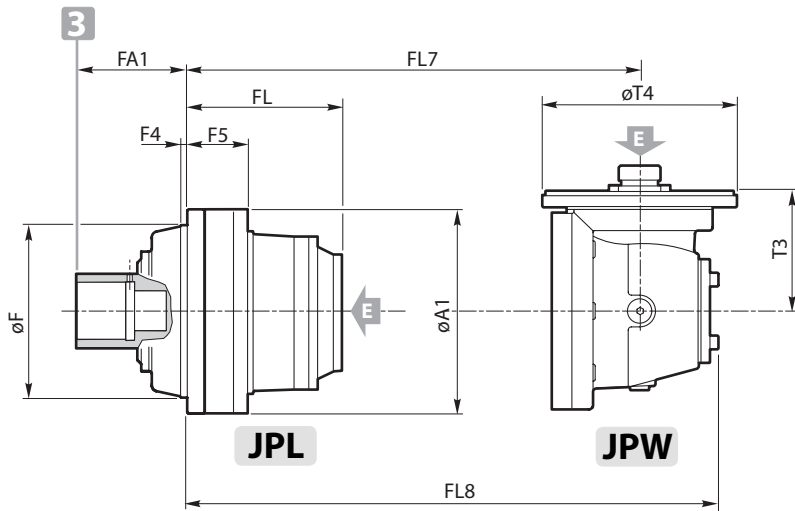
12010L - 16000L



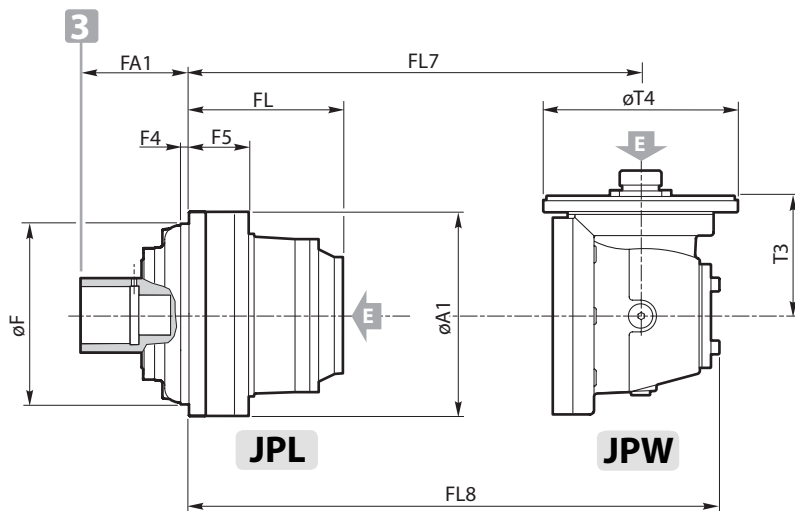
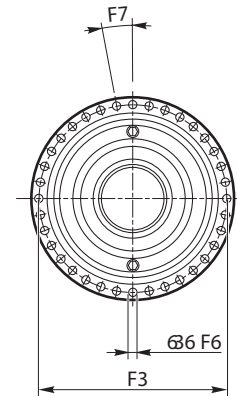


		21000	26000	31000	40000	45000	53000	61000	85000
HQ	Q1	230 H7	230 H7	295 H7	295 H7	300 H7	320 H7	320 H7	380 H7
	Q2	120 H7	120 H7	210 H7	210 H7	210 H7	190 H7	190 H7	260 H7
	Q3	230	230	300	300	300	335	335	335
	Q4	101	101	155	155	155	175	175	170
	Q5	280 f7	280 f7	360 f7	360 f7	380 f7	390 f7	390 f7	460 f7
	Q6	1/8"G	1/8"G	1/8"G	1/8"G	1/8"G	1/4"G	1/4"G	1/4"G
	Q7	225	225	265	265	265	305	305	323
	Qu1	230 g6	230 g6	295 g6	295 g6	300 g6	320 h6	320 h6	380 g6
	Qu2	120 f6	120 f6	210 f6	210 f6	210 f6	190 f6	190 f6	260 f6

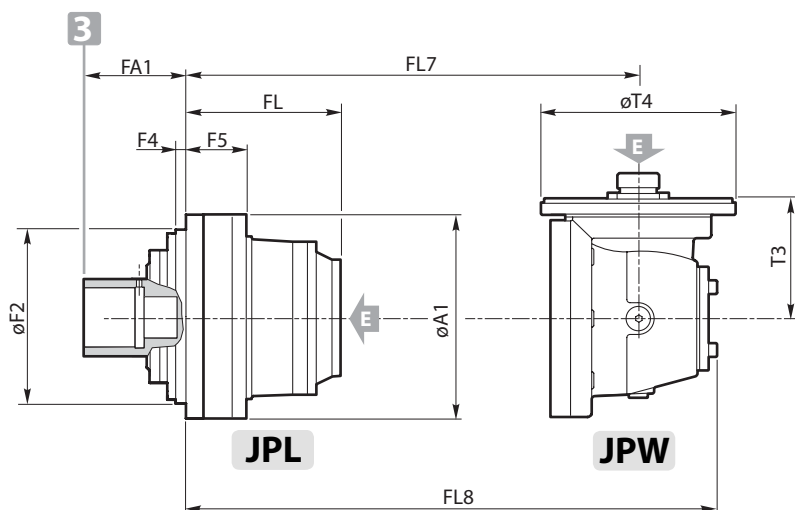
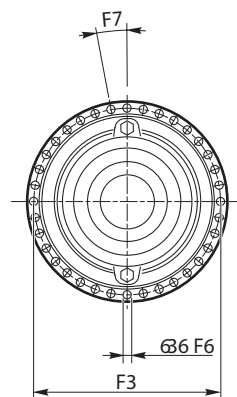
	stages	21000	26000	31000	40000	45000	53000	61000	85000
A1		710	710	870	870	870	1090	1090	1090
F2		600 h8	600 h8	760 h8	760 h8	760 h8	930 h8	930 h8	930 h8
F3		660	660	810	810	810	1020	1020	1020
F4		23.5	23.5	35	35	35	50	50	50
F5		196	216	250	290	290	305	305	353
F6		Ø28	Ø28	Ø32	Ø32	Ø32	Ø39	Ø39	Ø39
		M.. - 10.8							
		M27	M27	M30	M30	M30	M36	M36	M36
F7		10°	10°	10°	10°	10°	10°	10°	10°
FA1		440	440	490	490	490	550	550	550
FL	1	138	158	180	220	220	225	225	273
	2	443	463	588.5	628.5	628.5	700	700	768
	3	611.5	717	838	878	895	1005	1005	1073
	4	704.5	845	966	1006	1136	1173.5	1173.5	1327
	5	763	930	1051	1091	1229	1266.5	1266.5	1455
FL7	3	697	717	—	—	—	—	—	—
	4	817.5	911	1032	1072	1149	1259	1259	1327
	5	826.5	987	1108	1148	1342	1379.5	1379.5	1521
	6	—	—	—	—	—	—	1388.5	1597
FL8	3	887	907	—	—	—	—	—	—
	4	945.5	1039	1160	1200	1339	1449	1449	1517
	5	917.5	1095	1216	1256	1470	1507.5	1507.5	1649
	6	—	—	—	—	—	—	1479.5	1705
T3	3	432	432	—	—	—	—	—	—
	4	310	310	310	310	432	432	432	432
	5	171	227	227	227	310	310	310	310
	6	—	—	—	—	—	—	171	171
T4	3	295	295	—	—	—	—	—	—
	4	293	293	293	293	295	295	295	295
	5	183	242	242	242	293	293	293	293
	6	—	—	—	—	—	—	183	183



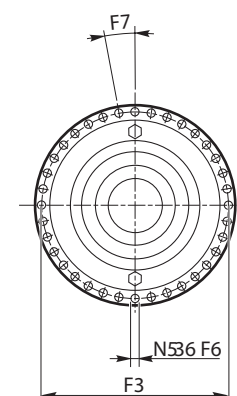
21000 - 26000

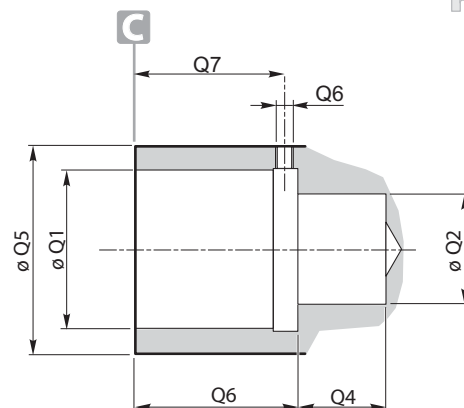
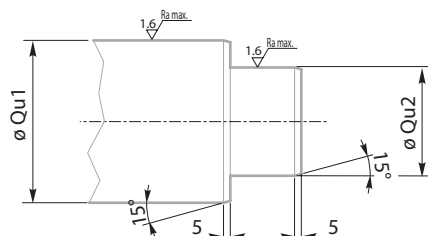


31000 ÷ 45000



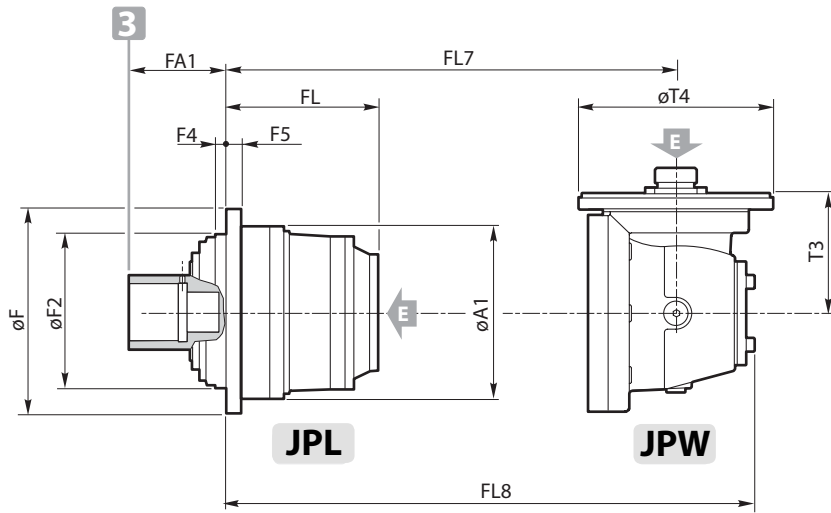
53000 ÷ 85000



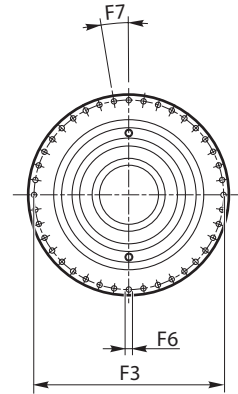


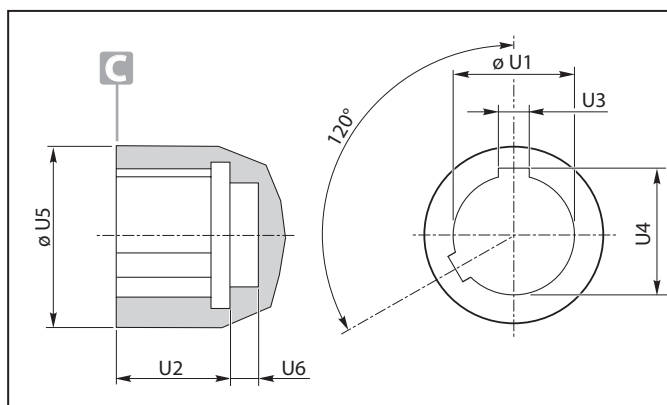
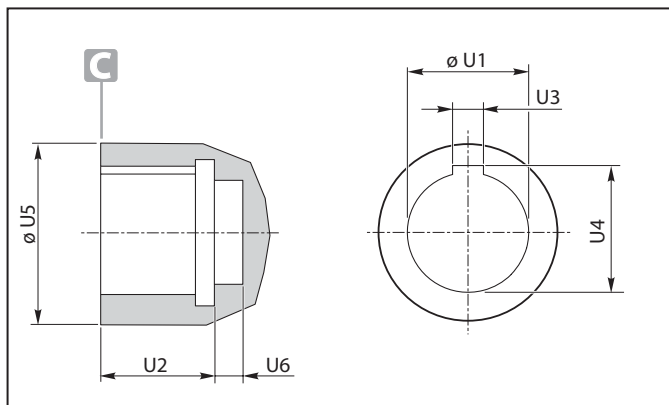
		110000	130000	150000	205000	235000
HQ	Q1	450 H7	450 H7	450 H7	600 H7	600 H7
	Q2	320 H7	320 H7	320 H7	590 H7	590 H7
	Q3	450	450	450	277	277
	Q4	150	150	150	282	282
	Q5	560 f7	560 f7	560 f7	700 f7	700 f7
	Q6	1/4"G	1/4"G	1/4"G	—	—
	Q7	420	420	420	—	—
	Qu1	450 h6	450 h6	450 h6	600 g6	600 g6
	Qu2	320 f6	320 f6	320 f6	590 g6	590 g6

	stages	110000	130000	150000	205000	235000
A1		1320	1320	1320	1630	1630
F0		1538	1538	1538	1880	1880
F2		1150 h9	1150 h9	1150 h9	1440 h8	1440 h8
F3		1450	1450	1450	1780	1780
F4		80	80	80	80	80
F5		110	110	110	110	110
F6		Ø44 (x40)	Ø44 (x40)	Ø44 (x40)	Ø44 (x48)	Ø44 (x48)
		M42	M42	M42	M42	M42
F7		9°	9°	9°	7°30'	7°30'
FA1		722.5	722.5	722.5	675	675
FL	1	315	315	315	303	303
	2	966.5	966.5	966.5	1016	1016
	3	1375	1375	1375	1511	1590.5
	4	1624.5	1641.5	1721.5	1852	1986.5
	5	1752.5	1882.5	1890	2101.5	2236
FL7	5	1818.5	1895.5	—	—	—
	6	1894.5	2088.5	—	—	—
FL8	5	1946.5	2085.5	—	—	—
	6	2002.5	2216.5	—	—	—
T3	5	310	432	—	—	—
	6	227	310	—	—	—
T4	5	293	295	—	—	—
	6	242	293	—	—	—



110000 ÷ 235000



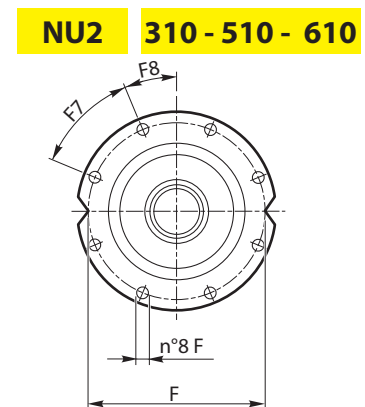
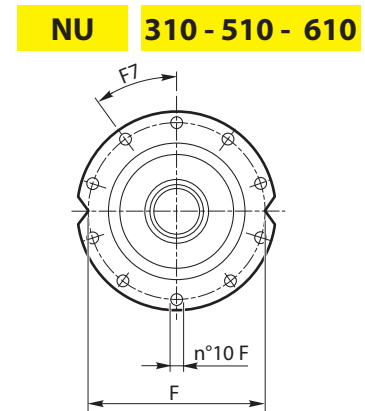
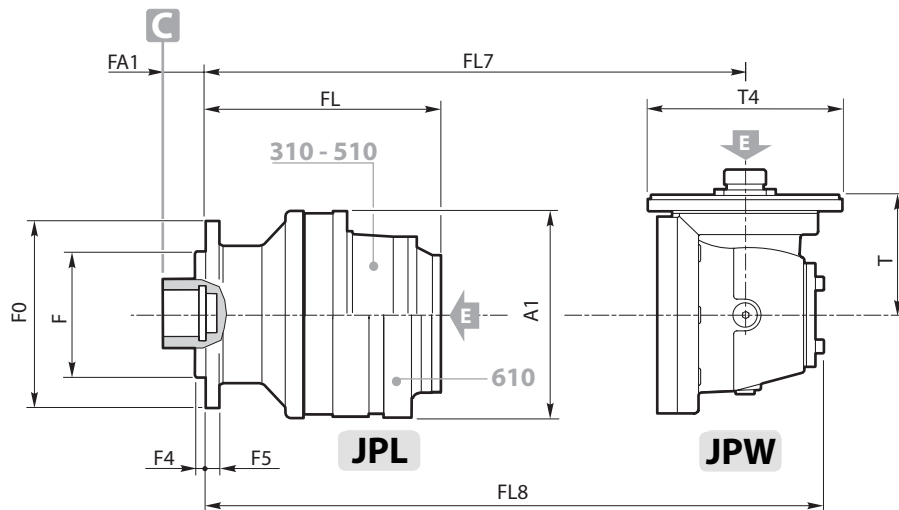
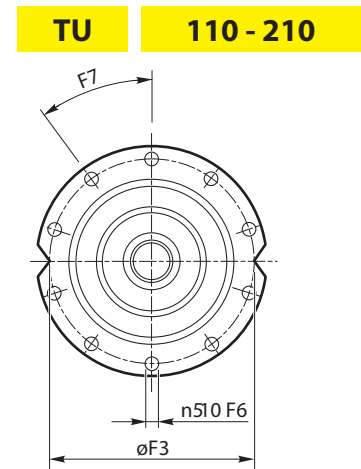
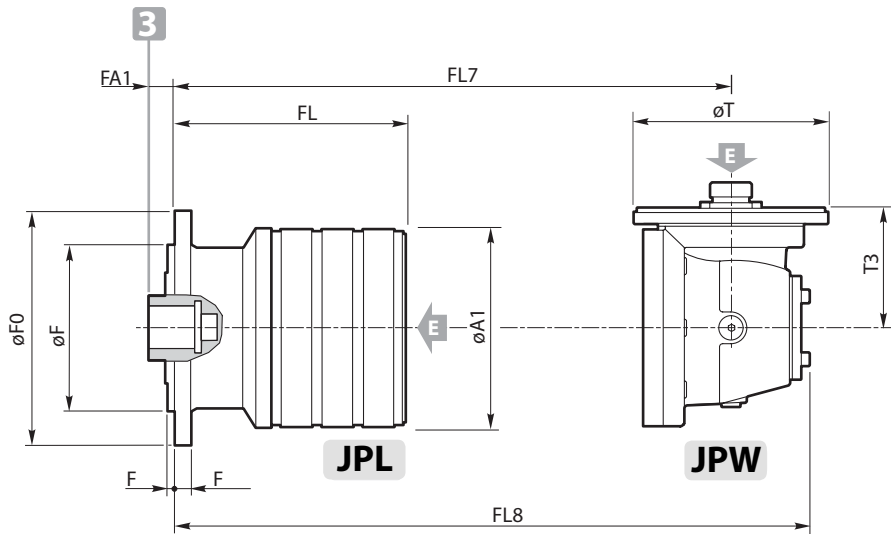


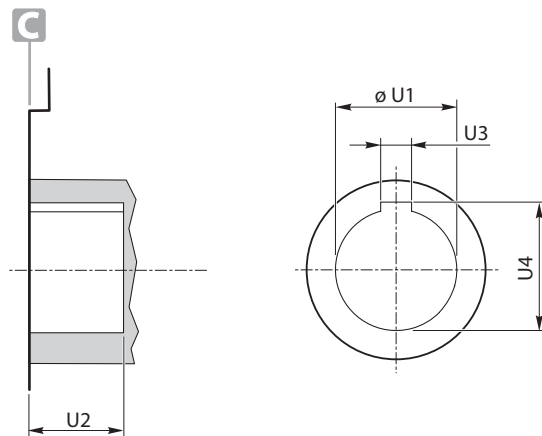
		110	210	310	510	610
TU	U1	40 H7	40 H7	—	—	—
	U2	49	49	—	—	—
	U3	12	12	—	—	—
	U4	43.3	43.3	—	—	—
	U5	60	60	—	—	—
	U6	15	15	—	—	—

		310	510	610
NU	U1	60 H7	60 H7	60 H7
	U2	60	60	60
	U3	18	18	18
	U4	64.5	64.5	64.5
	U5	85	85	85
	U6	15	15	15

NU2	U1	—	—	70 G6	70 G6	70 G6
	U2	—	—	75	75	75
	U3	—	—	20	20	20
	U4	—	—	75	75	75
	U5	—	—	99.5	99.5	99.5
	U6	—	—	20	20	20

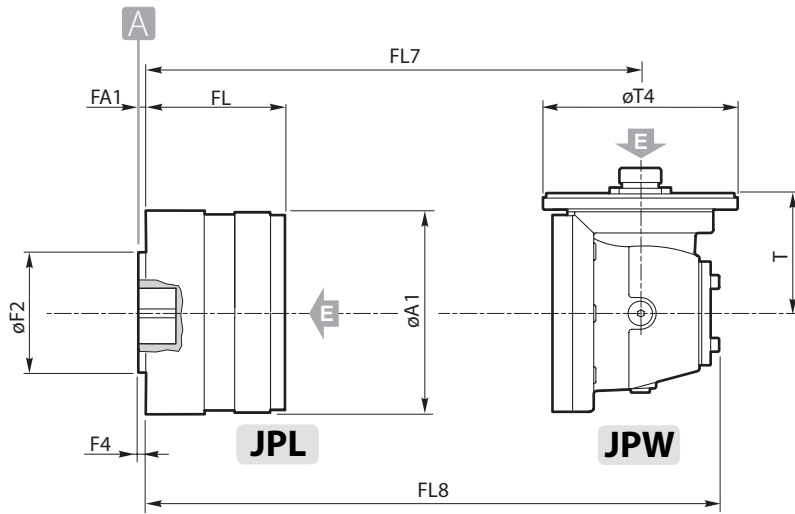
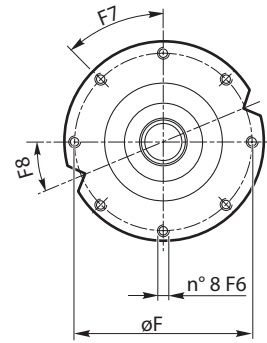
	stages	110	210	310		510		610	
		TU	TU	NU	NU2	NU	NU2	NU	NU2
A1		186	186	224	224	224	224	224	224
F0		219	219	222	222	222	222	222	222
F2		155 h7	155 h7	168 f7	168 f7	168 f7	168 f7	168 f7	168 f7
F3		194	194	195	190	195	190	195	190
F4		7	7	20.5	13.5	20.5	13.5	20.5	13.5
F5		15	15	16	16	16	16	16	16
F6		Ø11	Ø11	Ø12.5	Ø14.5	Ø12.5	Ø14.5	Ø12.5	Ø14.5
		M10	M10	M12	M14	M10	M14	M10	M14
F7		36°	36°	36°	45°	36°	45°	36°	45°
F8		—	—	—	22°30'	—	22°30'	—	22°30'
FA1		13	13	52	130	52	130	52	130
FL	1	102	114	133	133	151	151	151	151
	2	145	157	185.5	185.5	215.5	215.5	209.5	209.5
	3	188	200	228.5	228.5	258.5	258.5	262	262
	4	231	243	271.5	271.5	301.5	301.5	305	305
FL7	2	183	195	255	255	273	273	273	273
	3	226	238	266.5	266.5	296.5	296.5	331.5	331.5
	4	269	281	309.5	309.5	339.5	339.5	343	343
FL8	2	257.5	269.5	346	346	364	364	364	364
	3	300.5	312.5	341	341	371	371	422.5	422.5
	4	343.5	355.5	384	384	414	414	417.5	417.5
T3	2	113.8	113.8	171.5	171.5	171.5	171.5	171.5	171.5
	3	113.8	113.8	113.8	113.8	113.8	113.8	171.5	171.5
	4	113.8	113.8	113.8	113.8	113.8	113.8	113.8	113.8
T4	2	184	184	183	183	183	183	183	183
	3	184	184	184	184	184	184	183	183
	4	184	184	184	184	184	184	184	184

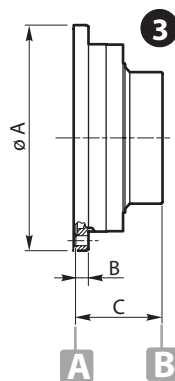
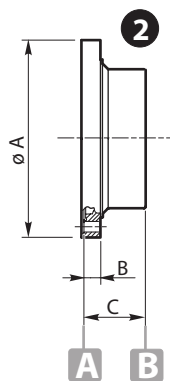
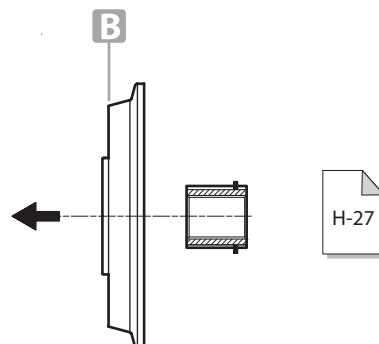
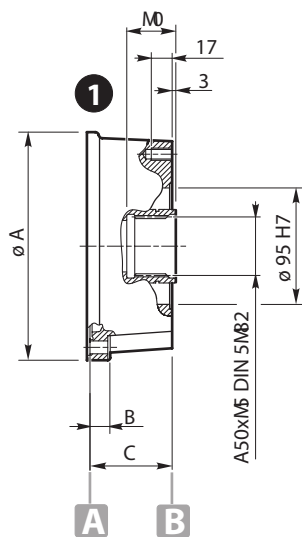


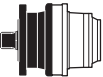


		110	210
FC	U1	40 H7	40 H7
	U2	38	38
	U3	12	12
	U4	43.3	43.3

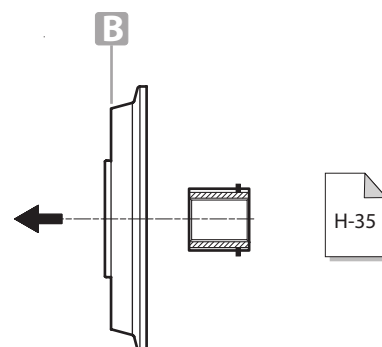
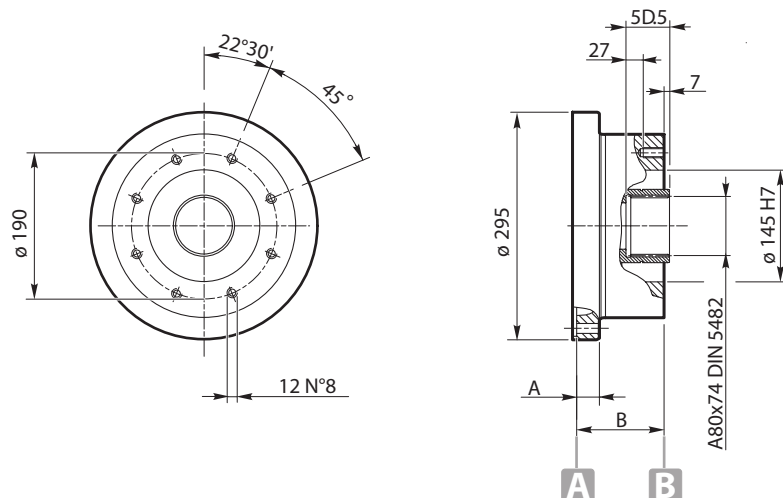
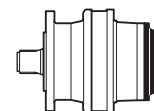
		110	210
A1	stages	186	186
F2		110 h7	110 h7
F3		165	165
F4		5	5
F6		Ø10.5	Ø10.5
F7		45°	45°
F8		22.5°	22.5°
FA1		5	5
FL	1	59	71
	2	102	114
	3	145	157
	4	188	200
FL7	2	140	152
	3	183	195
	4	226	238
FL8	2	214.5	226.5
	3	257.5	269.5
	4	300.5	312.5
T3	2	113.8	113.8
	3	113.8	113.8
	4	113.8	113.8
T4	2	184	184
	3	184	184
	4	184	184

**110 - 210**



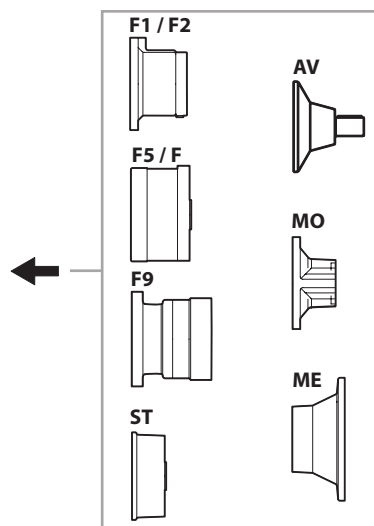
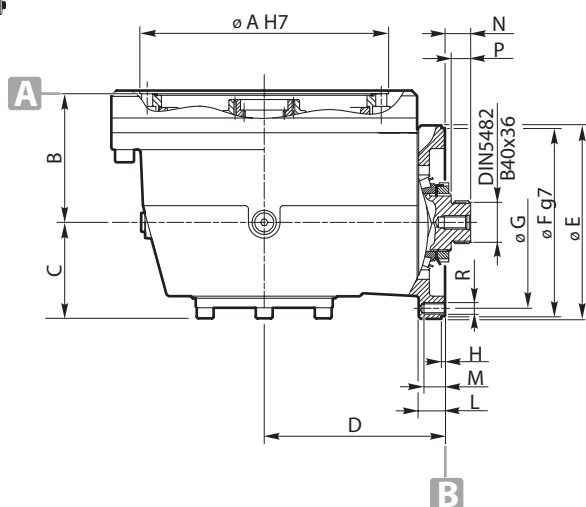
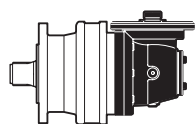
2			
Ø A	B	C	Code
244	20,5	76,5	K0700D2
			
311-511			
611 - 612			
812-1022			
1522-2003			
2523-3003			
3513-4803			
6003 - 6003L			
6004 - 6004L			
8004 - 8004L			
12014 - 12014L			
16004 - 16004L			
21004 - 21005			
26005-31005			
40005-45005			
53005			
CC350			

3			
Ø A	B	C	Code
295	16	121	K0700A1
			
811			
1021			
2522			
3002			
3512			
8003 - 8003L			
12013 - 12013L			
16003L			
26004			
31004			
40004			
85005			
110005			
CC1000			
CC600			



	A	B	Code
811	30	114	K0700D3
1021			
2522			
3002			
3512			
8003 - 8003L			
12013 - 12013L			
16003L			
26004			
31004			
40004			
85005	50	134	
110005			
CC600			
CC1000	61	145	

CC30 - CC120

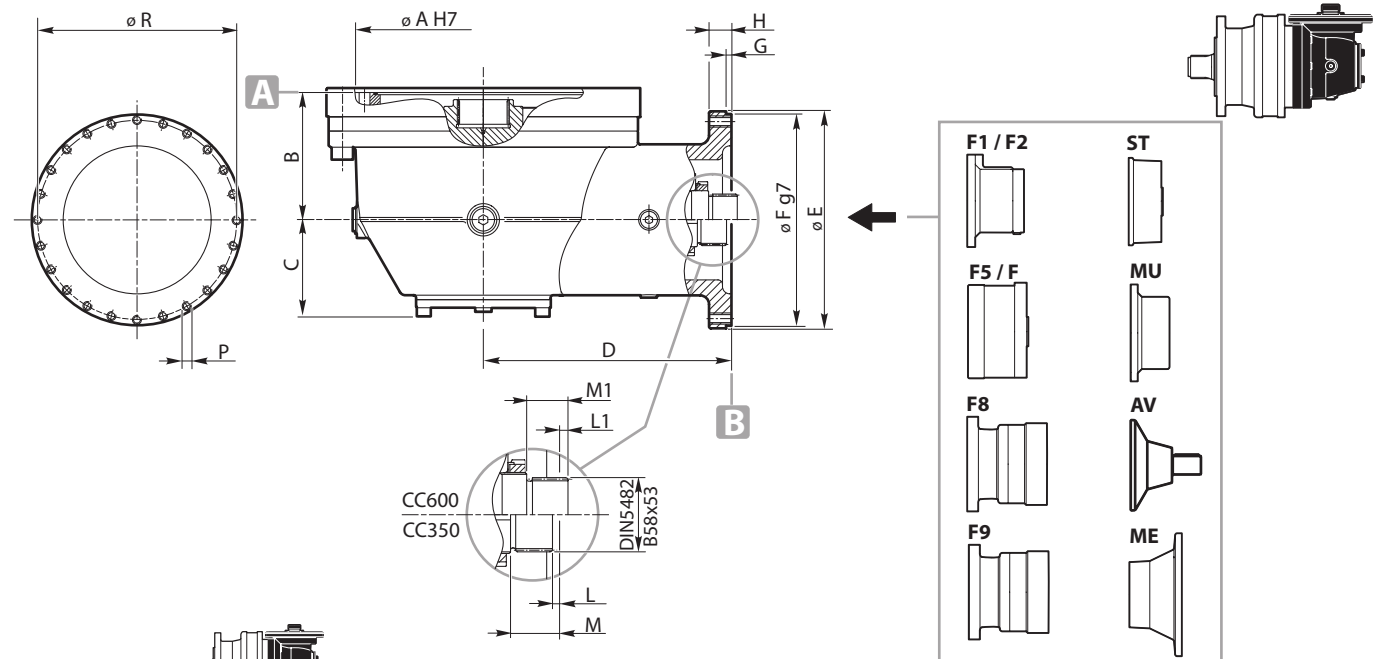


		øA	B	C	D	øE	øF	øG	H	L	N	P	R
CC30 110/210/240	112-113-114												
	212-213-214												
	242-243-244												
	313-314												
	513-514												
	814												
	1024												
	1524	178	84	71.5	113.8	184	178	165	4	15.7	23.75	18.25	N°8-M10 AT 45°
	2004L												

		øA	B	C	D	øE	øF	øG	H	L	M	P	R
CC120 310/510/610	312												
	512-612												
	613-813												
	1023												
	1523												
	2003-2003L												
	2524												
	3004	236	122	91	171.5	183	178	165	3.5	25	24.25	18.5	N°8-M10 AT 45°
	3514												
	4804												
	6004-6004L												
	12015-12015L												
	16005-16005L												
	21005												

Max Eingangs-drehzahl Max input speed		ohne zusätzliche Schmierung without forced lubrication	mit zusätzlicher Schmierung with forced lubrication
		U/min rpm	U/min rpm
CC120	i = 2,87	3.000	4.800
	i = 4,00	4.000	4.800
CC350	i = 2,92	3.000	4.800
	i = 4,00	3.500	4.800
CC600	i = 3,07	3.000	4.500
	i = 4,66	3.500	4.500
CC1000	i = 2,07	1.650	2.600
	i = 3,25	2.000	2.600

CC350 - CC600



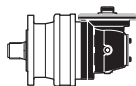
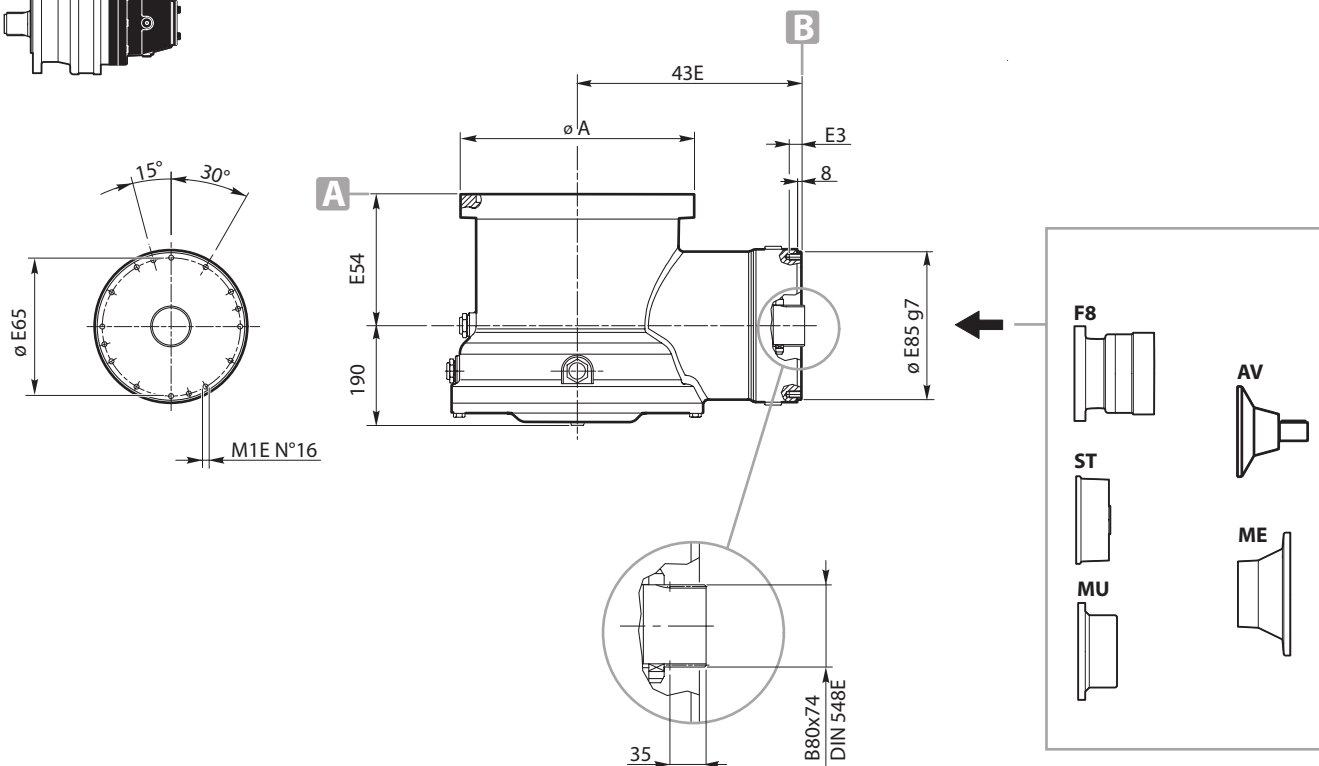
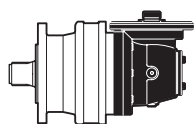
		$\varnothing A$	B	C	D	$\varnothing E$	$\varnothing F$	G	H	L	M	P	R
CC350 810/1020	812	285	142	108	276.75	242	236	6	25	5,5	38	N°24- M10 AT 15°	222
	1022												
	2523												
	3023												
	3523												
	8004-8004L												
	12014-12014L												
	16004L												
	26005												
	31005												
	40005												

		$\varnothing A$	B	C	D	$\varnothing E$	$\varnothing F$	G	H	L1	M1	P	R
CC600 810/1020	812	285	198	128	310	293	285	8	27	6,5	25,5	N°12- M10 AT 30°	265
	1022												
	2523												
	3023												
	3523												
	8004												
	12014												
	16004												
	26005												
	31005												
	40005												

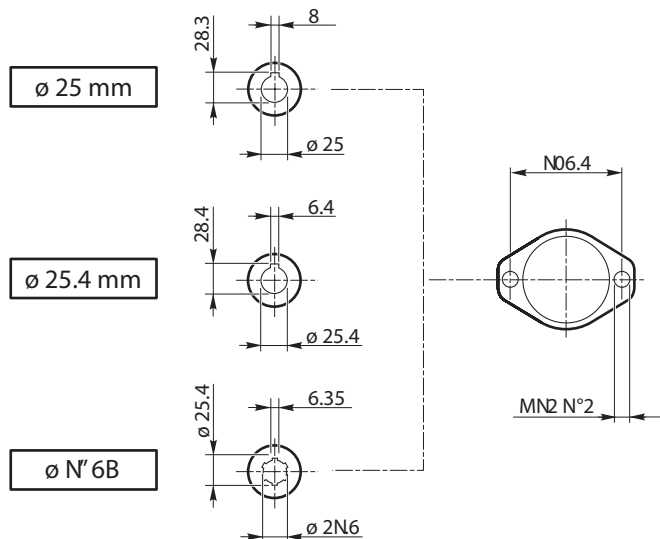
		$\varnothing A$	B	C	D	$\varnothing E$	$\varnothing F$	G	H	L1	M1	P	R
CC600 1520/2000	1522	340	206	128	310	293	285	8	27	6,5	25,5	N°12- M10 AT 30°	265
	2002												
	4803												
	6003-6003L												
	16014												
	21004												
	45005												
	53005												
	61005												

		$\varnothing A$	B	C	D	$\varnothing E$	$\varnothing F$	G	H	L1	M1	P	R
CC600 2520/3000	2522	395	194	128	310	293	285	8	27	6,5	25,5	N°12- M10 AT 30°	265
	3002												
	8003-8003L												
	12013-12013L												
	26004												
	31004												
	40004												
	85005												
	110005												

CC1000



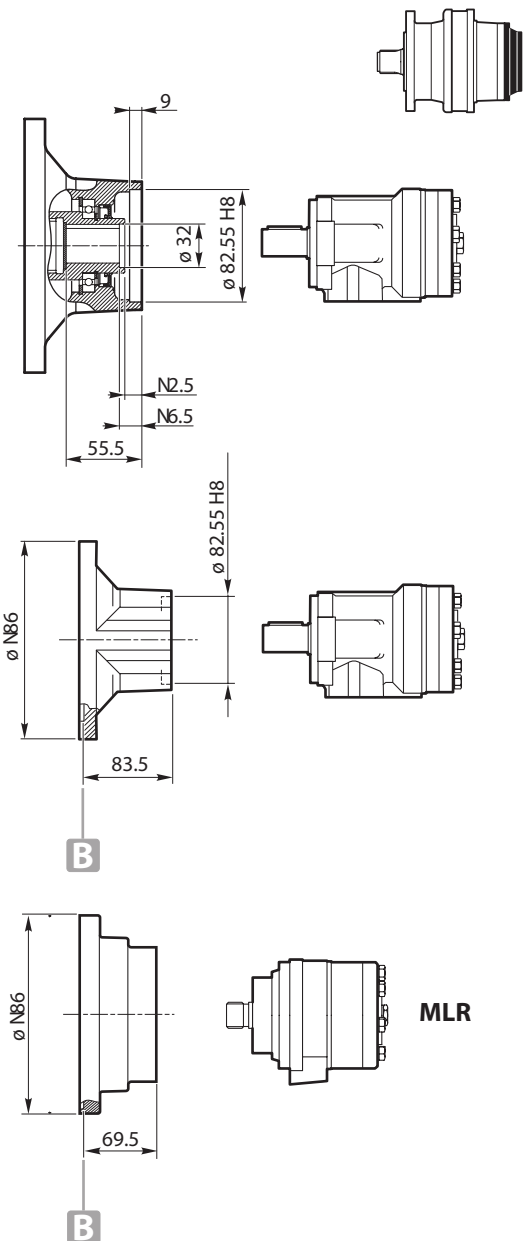
CC1000		Ø A
	3512-4802	452
	6002-8002	490
	16003-16003L	452
	21003-26003	490
	45004	452
	53004-61004	490
	85004	490
	130005	452



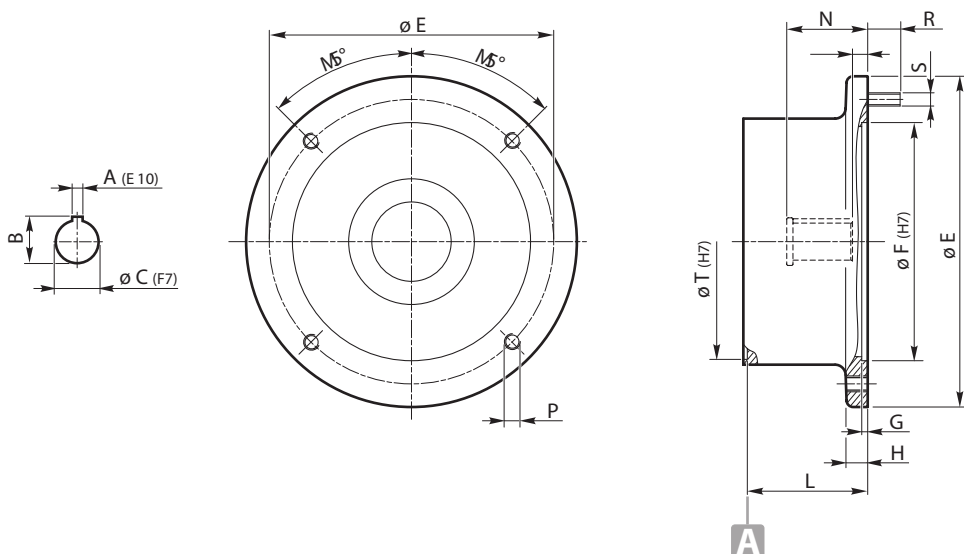
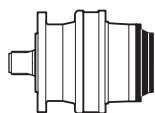
MO

MO

MZ



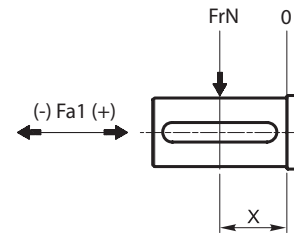
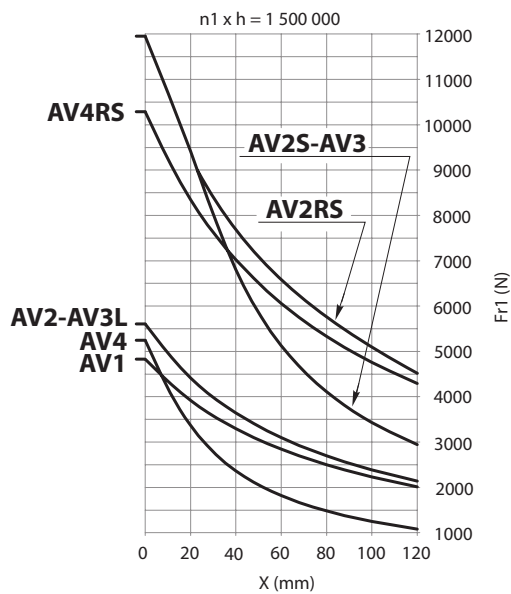
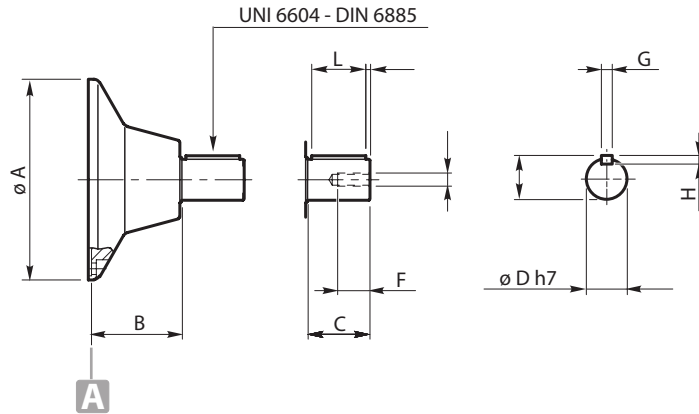
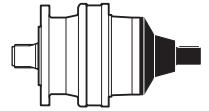
	Type	Code
111 - 112 - 113 - 114	MO 25 MO 25.4 MO 1" 6B MZ	K0700AA K0700AB K0700AC —
211 - 212 - 213 - 214		
241 - 242 - 243 - 244		
312 - 313 - 314		
512 - 513 - 514		
613 - 614		
813 - 814		
1023 - 1024		
1523 - 1524		
2004		
2524		
3004		
3514-4804		
6004L		
8005 - 8005L		
12015 - 12015L		
16005 - 16005L		
CC30-CC120		



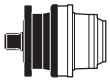
	Input type	Shaft			Flange											
		A	B	C	D	E	F	G	H	L	M	N	P	R	S	T
111 - 112 - 113 - 114 211 - 212 - 213 - 214 241 - 242 - 243 - 244 312 - 313 - 314 512 - 513 - 514 613 - 614 813 - 814 1023 - 1024 1523 - 1524 2004-RE 2004L 2524 3004 3514-4804 6004L 8005 - 8005L 12015 - 12015L 16005 - 16005L CC30-CC120	ME 80	6	21.8	19	200	165	130	4	16	82.5	6.5	44.5	—	25	N°4-M10	178
	ME 90	8	27.3	24	200	165	130	4	16	82.5	11.5	52	—	25	N°4-M10	
	ME 110/112	8	31.3	28	250	215	180	4.5	16	91	11.5	61	N°4-M12	—	—	
	ME 132	10	41.3	38	300	265	230	5	20	115.5	8	82.5	N°4-M12	—	—	
	ME 160	12	45.3	42	350	300	250	6	20	145	23	110.5	N°4-M16	—	—	
	ME 180	14	51.8	48	350	300	250	6	20	145	23	110.5	N°4-M16	—	—	

	Input type	Shaft			Flange											
		A	B	C	D	E	F	G	H	L	M	N	P	R	S	T
311-511 611 - 612 812-1022 1522-2002-2002L 2003 2523-3003 3513-4803 6003 - 6003L 6004 - 6004L 8004 - 8004L 12014 - 12014L 21004 - 21005 26005-31005 40005-45005 53005 CC350	ME132	10	41.3	38	300	265	230	5	20	125.5	8	82.5	N°4-M12	—	—	236
	ME160	12	45.3	42	344	300	250	7	20	154.5	23	110.5	N°4-M16	—	—	
	ME180	14	51.8	48	344	300	250	7	20	154.5	23	110.5	N°4-M16	—	—	
	ME225	18	64.4	60	450	400	350	7	20	191.5	30	143.5	N°4-M16	—	—	

	Input type	Shaft			Flange											
		A	B	C	D	E	F	G	H	L	M	N	P	R	S	T
811 1021 2522 3002 3512 8003 - 8003L 12013 - 12013L 16003L 26004 31004 40004 85005 110005 CC600-CC1000	ME200	16	59.3	55	400	350	300	7	18	165	11.5	114.5	N°4-M18	—	—	285
	ME225	18	64.4	60	450	400	350	7	20	194	30.5	143.5	N°8-M18	—	—	
	ME250	18	6.4	65	550	500	450	7	22	195	17	145	N°8-ø19	—	—	
	ME280	20	79.9	75	550	500	450	7	22	195	12	145	N°8-ø19	—	—	



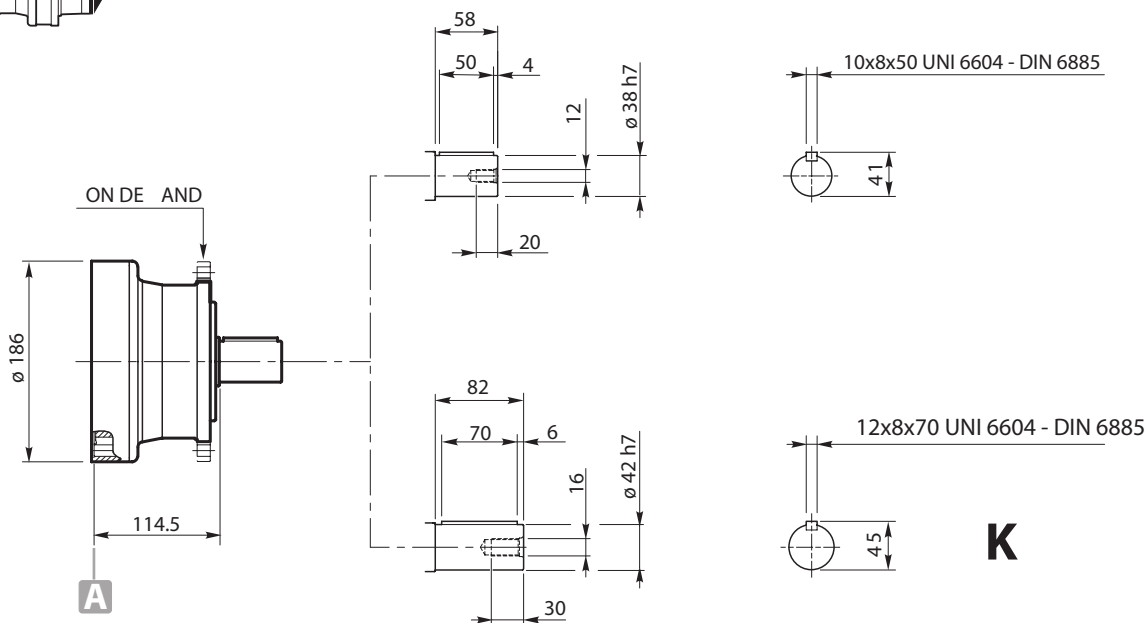
$n1 \times h = 1\,500\,000$ Fa1 max (Fr1 = 0)		
	Fa1 (+)	Fa1 (-)
AV1	4 800	4 800
AV2 - AV3L - AV4	7 800	7 800
AV2S - AV3	4 900	7 800
AV2RS - AV4RS	4 900	4 900



	Type	øA	B	C	øD	E	F	G	H	L	M	N	Code
111 - 112 - 113 - 114	AV1 AV2 AV3L AV4 AV4RS	186	83.5	58	38	M12	30	10	8	50	4	41	K0700AH
211 - 212 - 213 - 214													
241 - 242 - 243 - 244													
312 - 313 - 314													
512 - 513 - 514													
613 - 614 - 813 - 814													
1023 - 1024 - 1523 - 1524													
2000 - 2524 - 3004 - 3514													
4804 - 6004L - 8005 - 8005L													
12015 - 12015L													
16005 - 16005L	AV4RS	186	108.5	65	40	M12	30	12	8	60	2.5	43	K0700AX
CC30-CC120													

	Type	øA	B	C	øD	E	F	G	H	L	M	N	Code	
311-511-611-612	AV2 AV2S AV2RS AV3 AV4 AV4RS													
812-1022-1522-2003		244	106	82	42	M12	30	12	8	70	6	45	K0700DL	
2523-3003-3513-4803		244	106	82	42	M12	30	12	8	70	6	45	K0700DL	
6003-6003L-6004-6004L		244	106	82	42	M12	30	12	8	70	6	45	K0700DL	
8004-8004L		244	106	82	48	M16	40	14	9	70	6	51.5	K0700DM	
12014-12014L-16004-16004L		244	118	65	40	M12	30	12	8	60	2.5	43	K0700DJ	
21004-21005-26005-31005		244	118	65	40	M12	30	12	8	60	2.5	43	K0700DJ	
40005-45005-53005														
61005														
CC350-CC600														

AVF-AV110N-NL



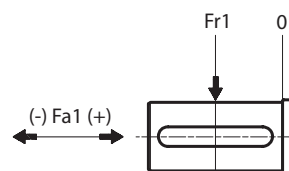
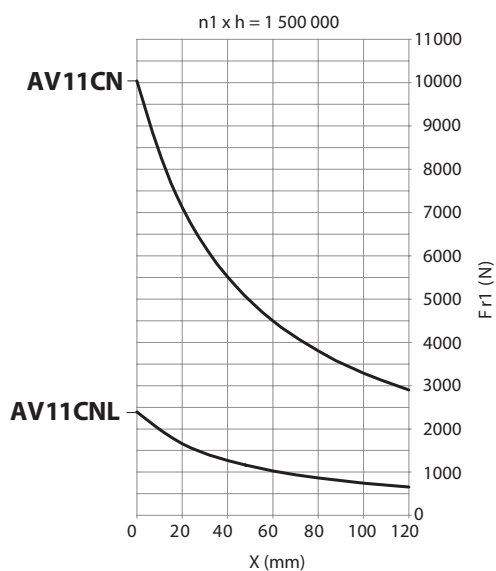
K



Code
111 - 112 - 113 - 114
211 - 212 - 213 - 214
241 - 242 - 243 - 244
312 - 313 - 314
512 - 513 - 514
613 - 614
813 - 814
1023 - 1024
1523 - 1524
2004
2524
3004
3514
4804
6004L
8005 - 8005L
12015 - 12015L
16005 - 16005L
CC30-CC120

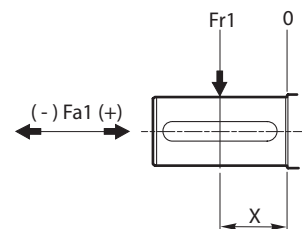
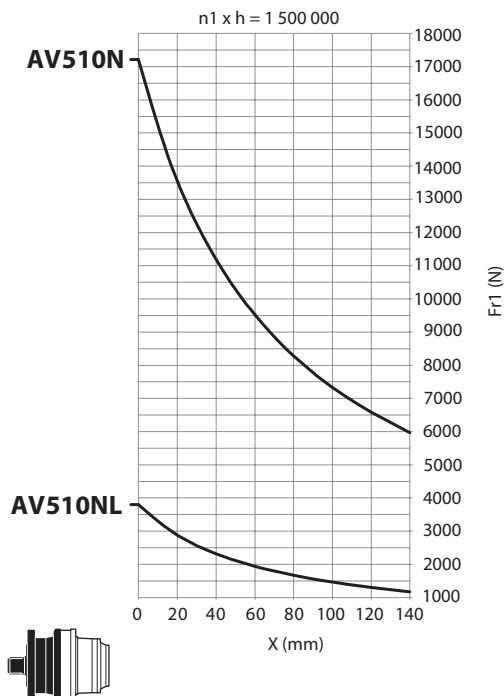
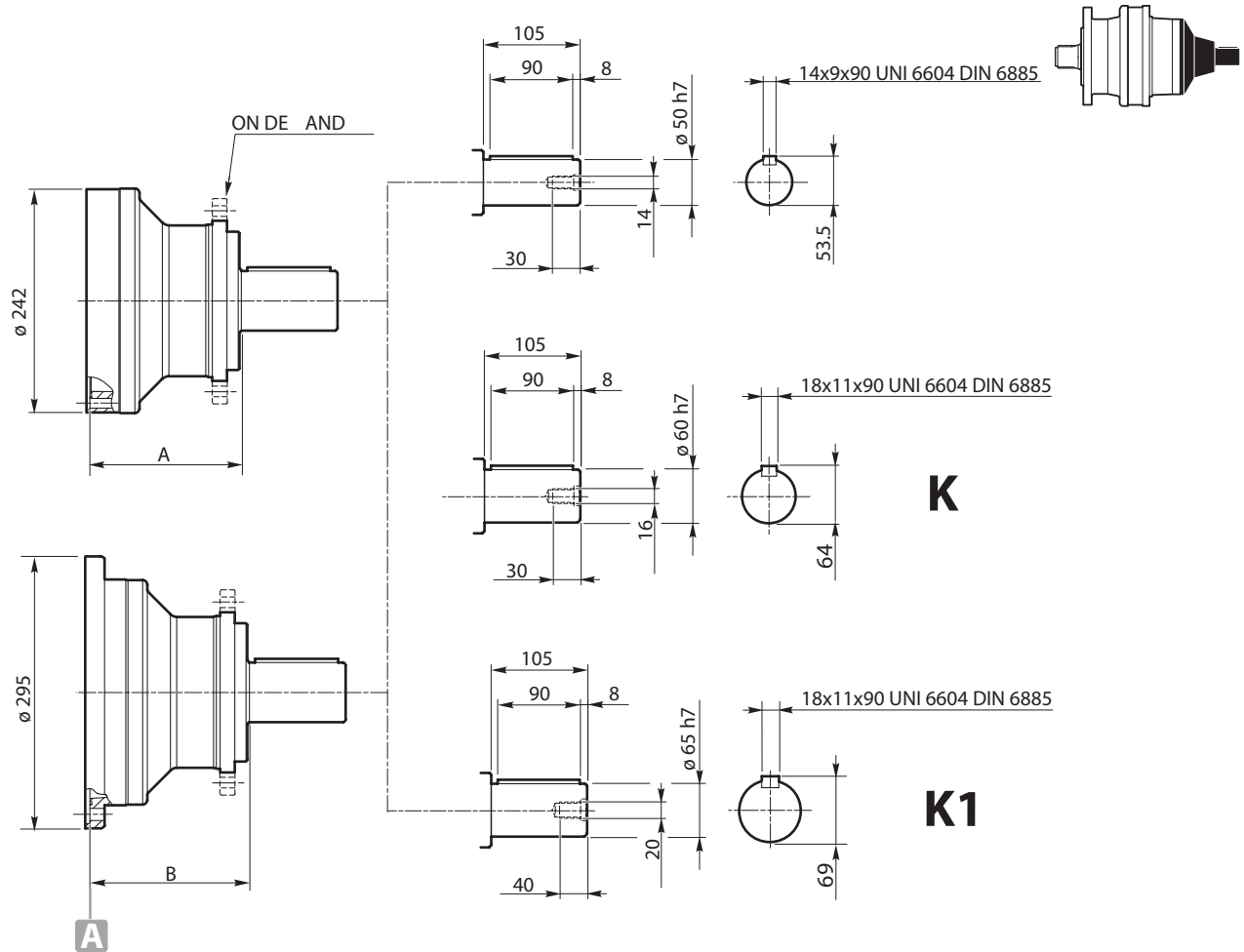
Code

K0700AY



n1 x h = 1 500 000 Fa1 max (Fr1 = 0)		
	Fa1 (+)	Fa1 (-)
AV110N	4 900	7 800
AV110NL	3 750	3 750

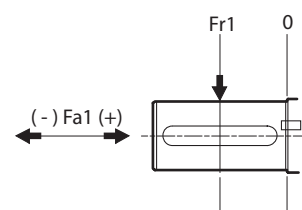
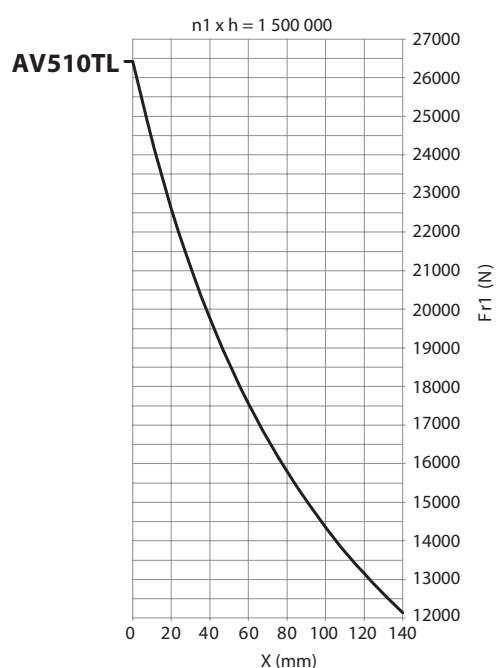
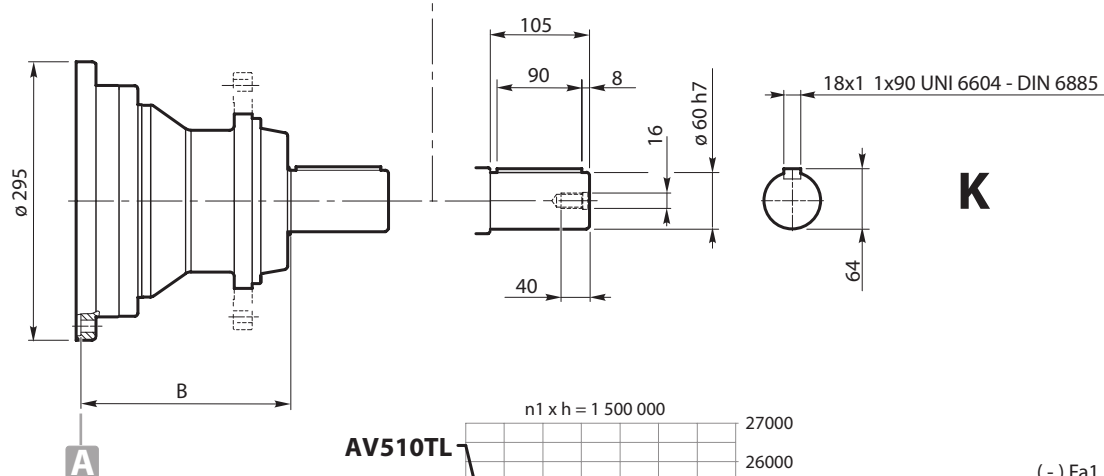
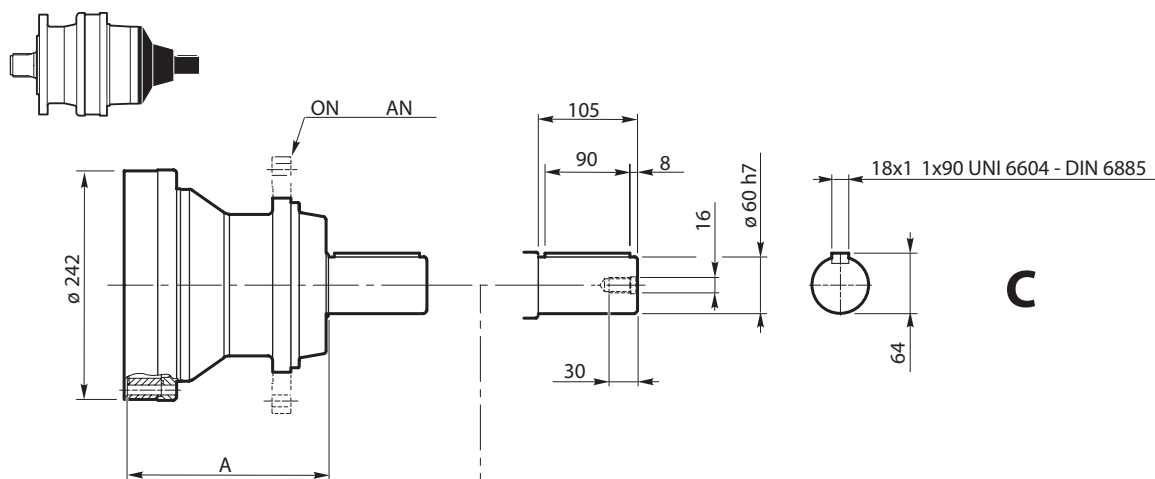
AVF-AV510N-NL



n1 x h = 1 500 000 Fa1 max (Fr1 = 0)		
	Fa1 (+)	Fa1 (-)
AV510NL	6 600	6 600
AV510N	15 250	15 250

	A	B
311-511-611-612-812-1022-1522-2003-2523-3003-3513-4803-6003-6003L	164	---
6004-6004L-8004-8004L-12014-12014L-16004-16004L-21004-21005-26005-31005-40005-45005	164	---
53005-61005	490	293
8001-26002-85003	490	385
12001-16001-31002-40002-45002-110003-130003-205004-235004	368	610

AVF-AV510TL

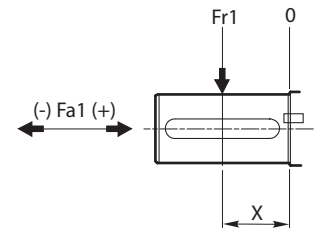
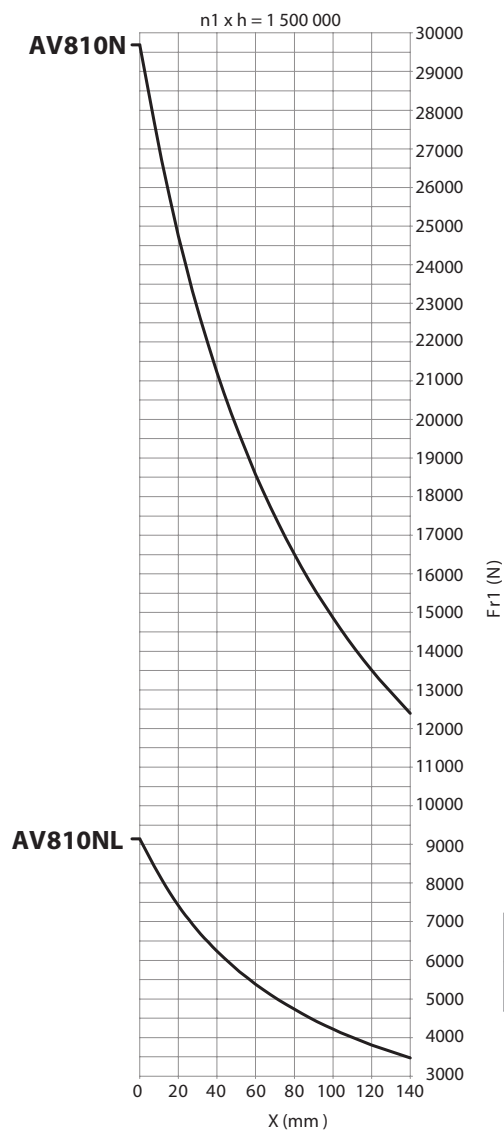
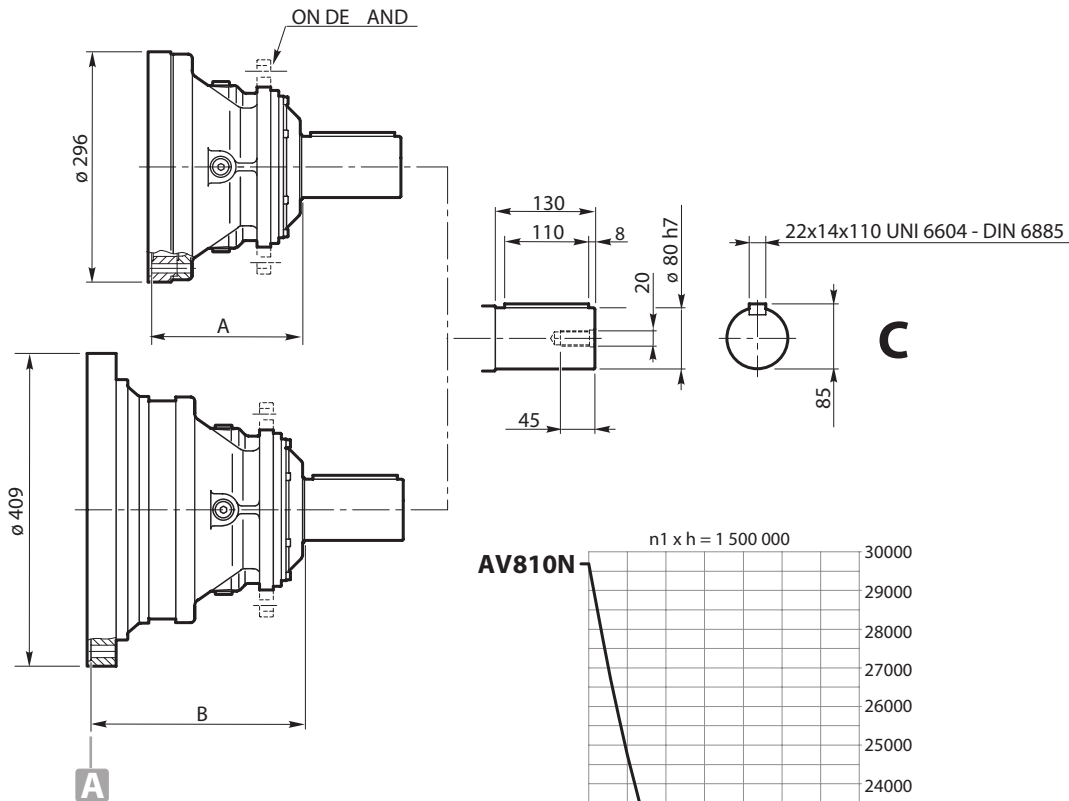
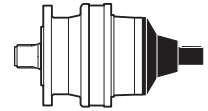


$n1 \times h = 1\,500\,000$ Fa1 max (Fr1 = 0)		
	Fa1 (+)	Fa1 (-)
AV510TL	21 600	21 600



	A	B
311-511-611-612-812-1022-1522-2003-2523-3003-3513-4803-6003-6003L-6004-6004L-8004-8004L	212	---
12014-12014L-16004-16004L-21004-21005-26005-31005-40005-45005-53005-61005	212	---
811-10212522-3002-3512-8003-8003L-12013-12013L-16003L-26004-31004-40004-85005-110005	---	221
CC350	176	---
CC600	---	201

AVF-AV810N-NL

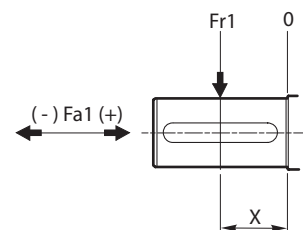
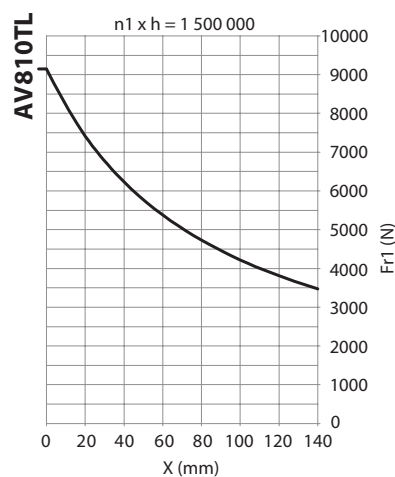
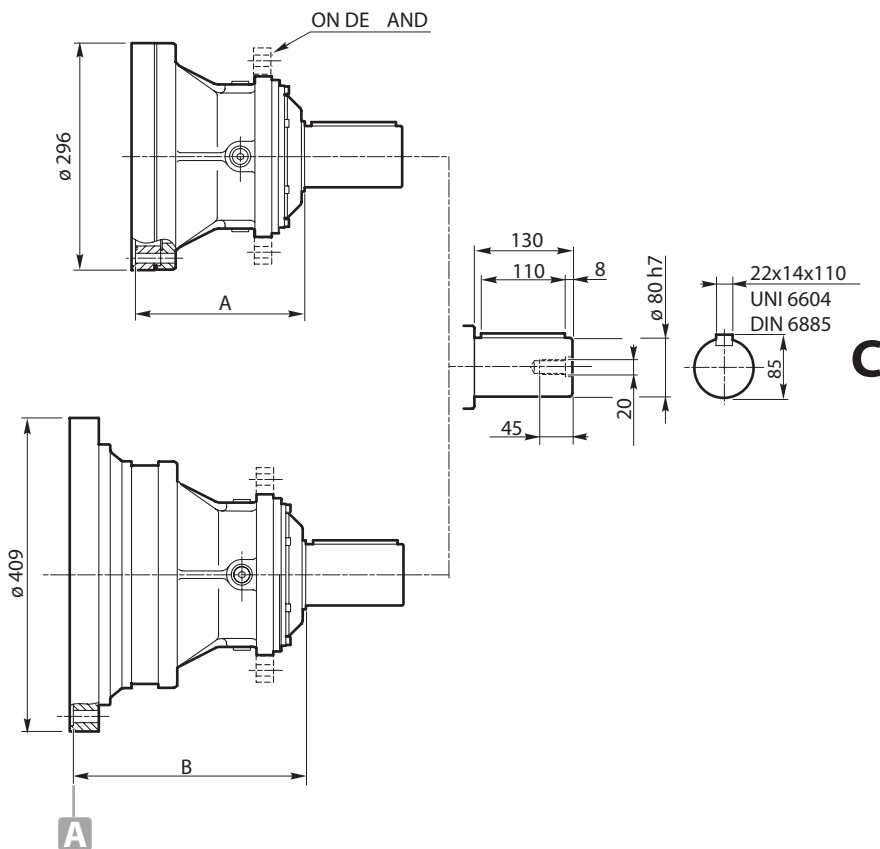
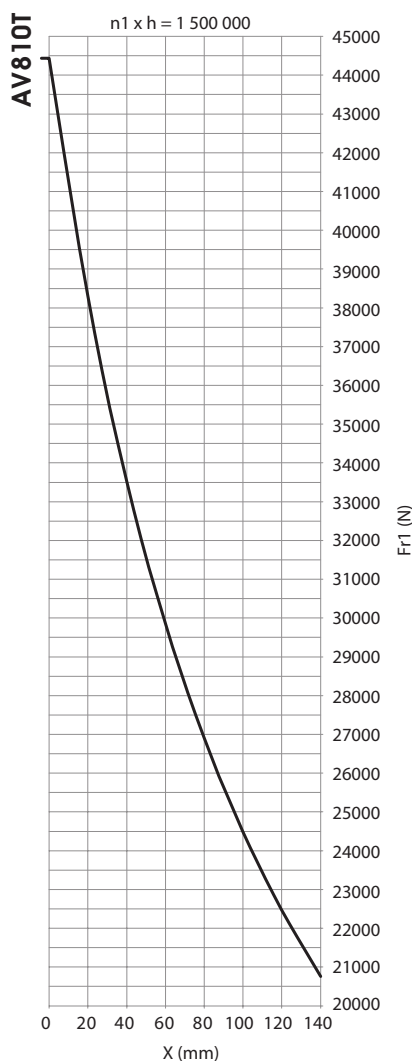


n1 x h = 1 500 000		
Fa1 max (Fr1 = 0)		
	Fa1 (+)	Fa1 (-)
AV810NL	14 800	14 800
AV810N	25 900	25 900



	A	B
811-1021-2522-3002-3512-8003-8003L-12013-12013L-16003L-26004-31004-40004-85005-110005	199,5	---
2521-3001-8002-8002L-12012-12012L-26003-31003-40003-85004-110004-205005-235005	---	278
CC600-CC1000	162,5	---

AVF-AV810T-TL

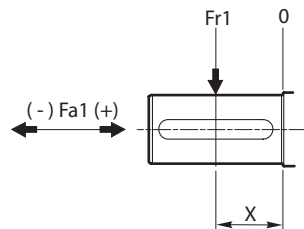
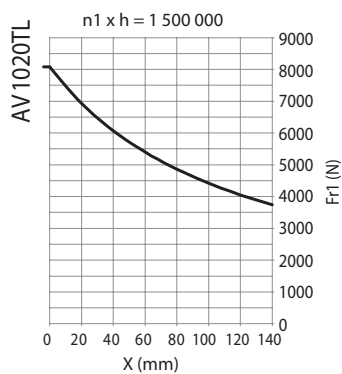
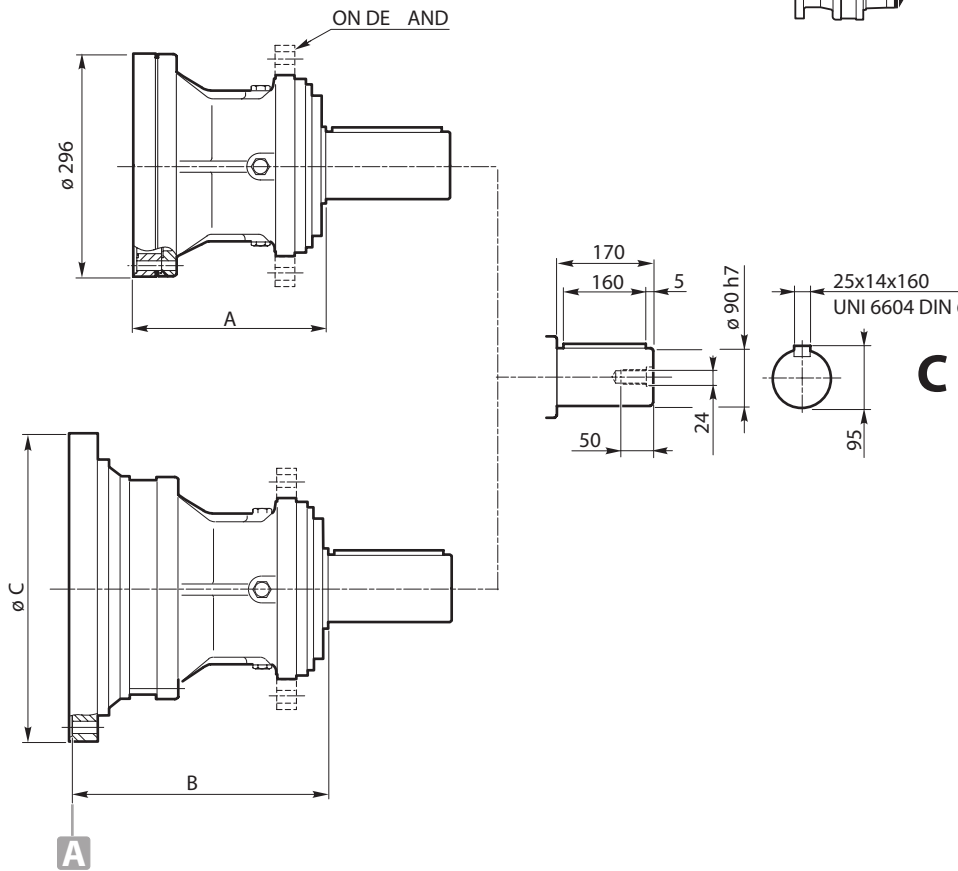
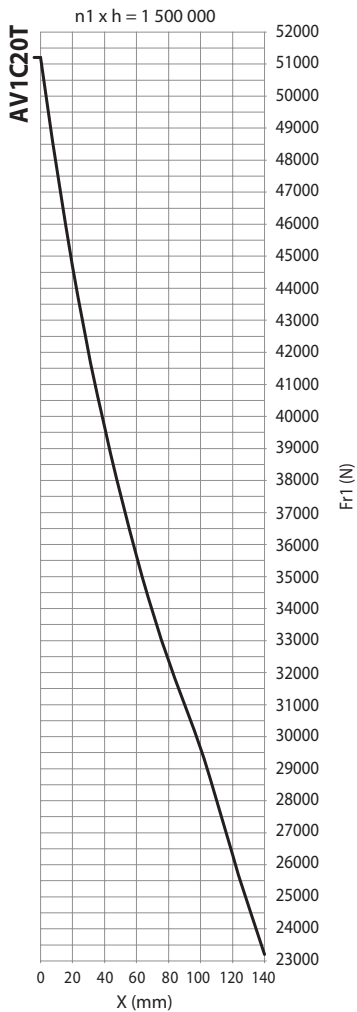


$n1 \times h = 1\,500\,000$ $Fa1 \text{ max (Fr1 = 0)}$		
	$Fa1 (+)$	$Fa1 (-)$
AV810T	39 200	25 900



	A	B
811-1021-2522-3002-3512-8003-8003L-12013-12013L-16003L-26004-31004-40004-85005-110005	218	---
2521-3001-8002-8002L-12012-12012L-26003-31003-40003-85004-110004-205005-235005	---	296
CC600-CC1000	185	---

AVF-AV1020T-TL

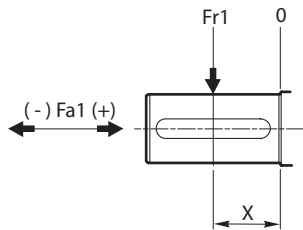
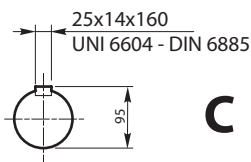
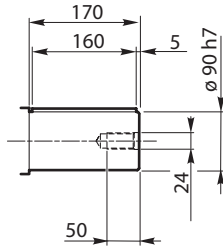
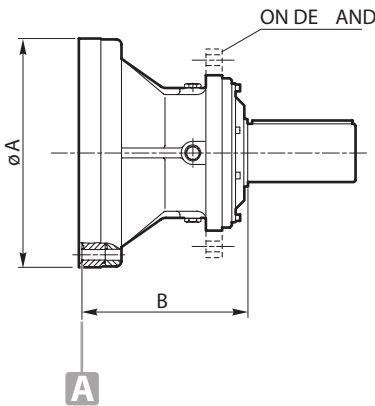
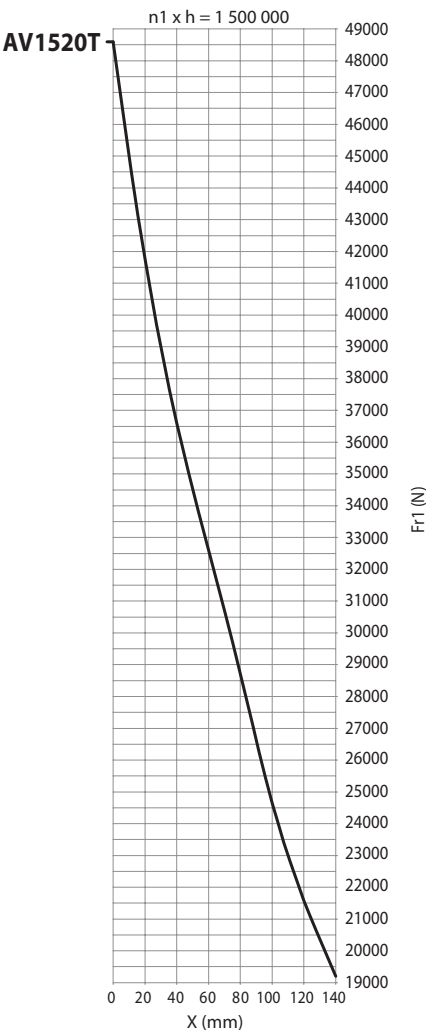


$n1 \times h = 1\,500\,000$ Fa1 max (Fr1 = 0)		
	Fa1 (+)	Fa1 (-)
AV1020T	46 450	26 850

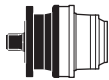


	A	B	C
811-1021-2522-3002-3512-8003-8003L-12013-12013L-16003L-26004-31004-40004-85005-110005	249	---	---
2521-3001-8002-8002L-12012-12012L-26003-31003-40003-85004-110004	---	327	409
3511-4801-16002-16002L-45003-130004	---	348	452
CC1000	216	---	---

AVF-AV1520T

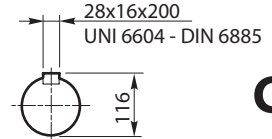
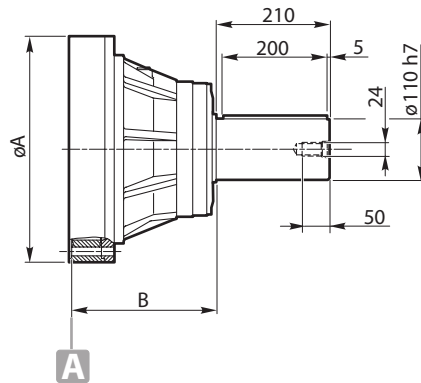
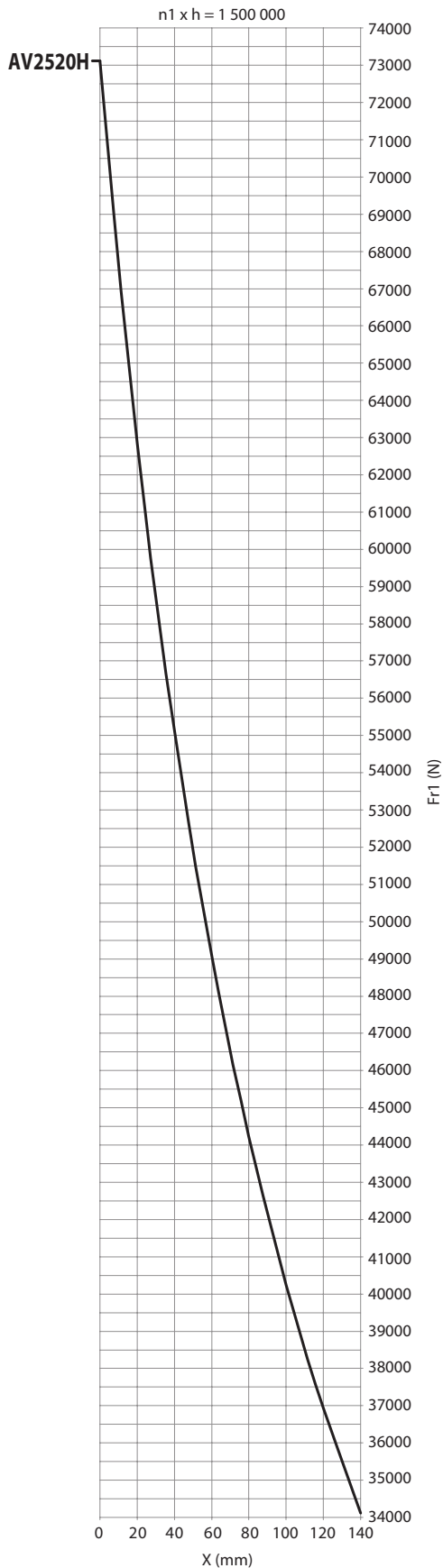


$n1 \times h = 1\,500\,000$ Fa1 max (Fr1 = 0)		
	Fa1 (+)	Fa1 (-)
AV1520T	26 000	8 500

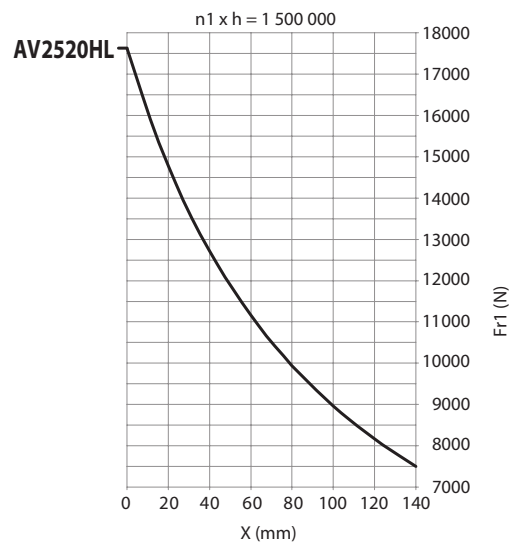
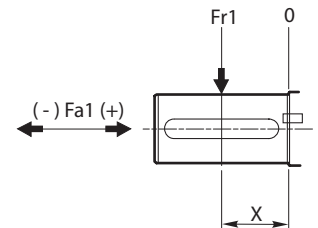


	A	B
1521-2001-6002-6002L-21003-45004-53004-61004-130005	353	252
6001-21002-53003-61003-150004	490	321

AV2520H-HL

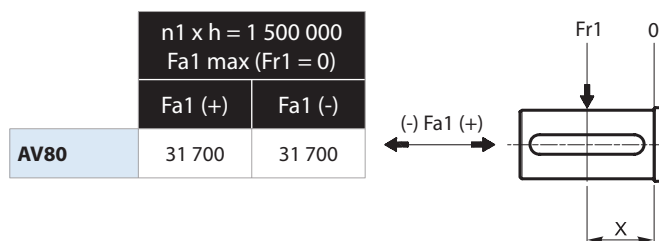
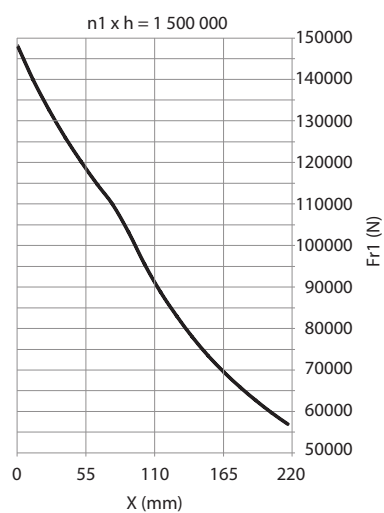
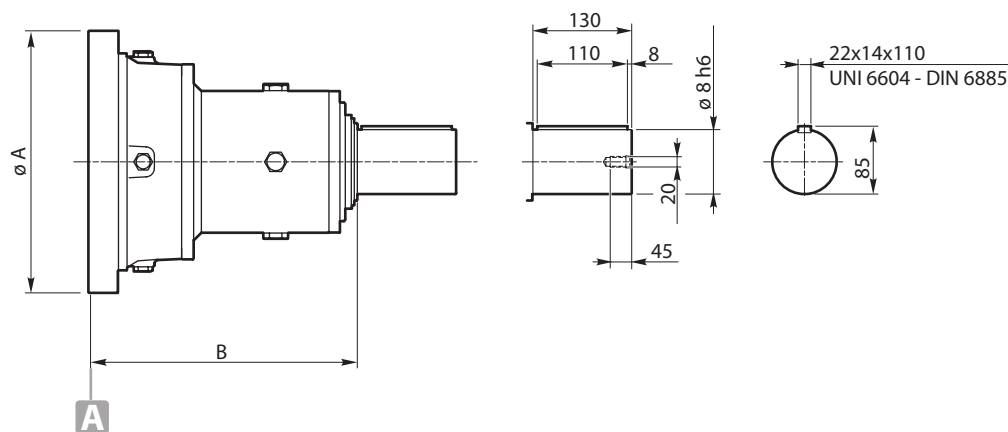


	$n1 \times h = 1\,500\,000$ Fa1 max (Fr1 = 0)	
	Fa1 (+)	Fa1 (-)
AV2520H	66 000	50 000
AV2520HL	29 700	29 700



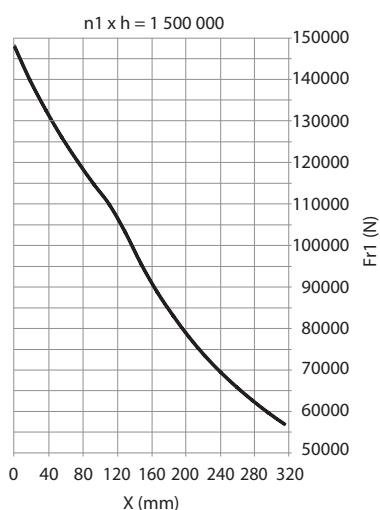
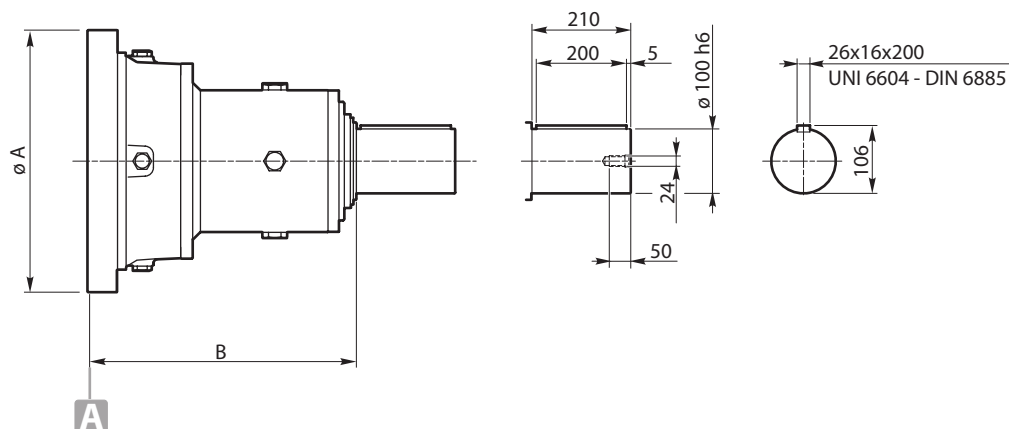
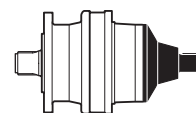
	A	B
2521-3001-8002-8002L-12012-12012L-26003-31003-40003-85004-110004-205005-235005	409	257
3511-4801-16002-16002L-45003-130004	452	320
6001-21002-53003-61003-150004	490	293
8001-26002-85003	490	385
12001-16001-31002-40002-45002-110003-130003-205004-235004	368	610

AV80

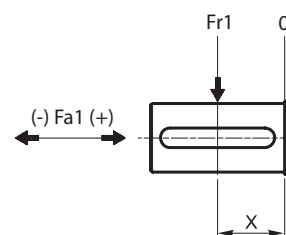


	A	B
811-1021-2522-3002-3512-8003-8003L	295	187,5
12013-12013L-16003L-26004-31004-40004-85005-110005	295	187,5
2521-3001-8002-8002L	409	298
12012-12012L-26003-31003-40003-85004-110004-205003	409	298

AV100

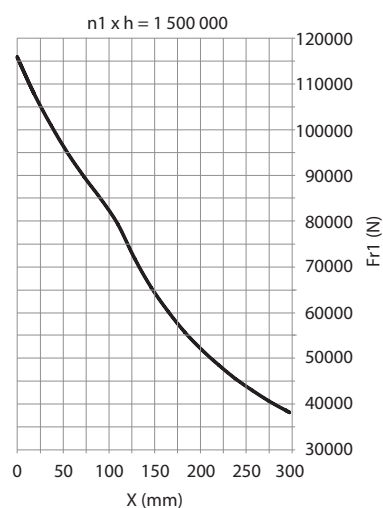
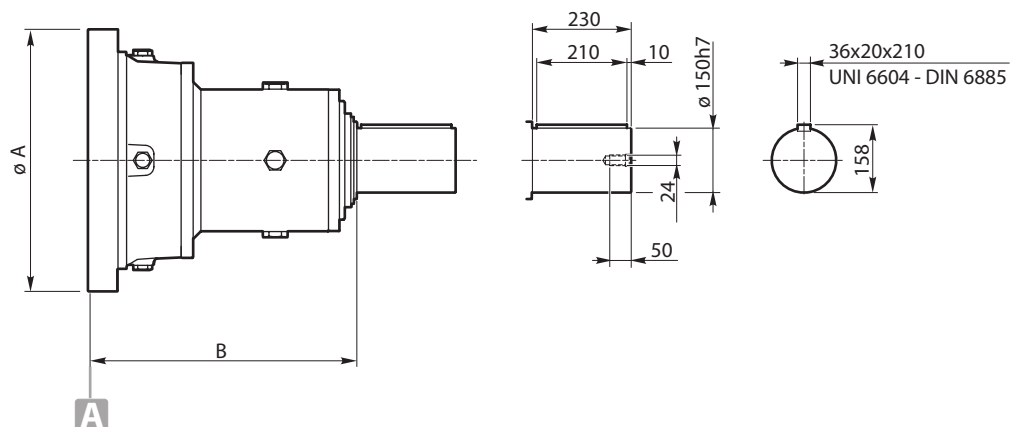


$n1 \times h = 1\,500\,000$ $Fa1 \max (Fr1 = 0)$		
	$Fa1 (+)$	$Fa1 (-)$
AV100	52 000	-

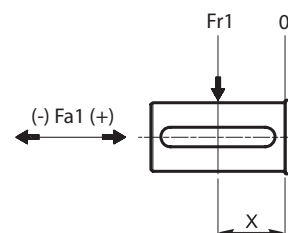


	A	B
3511-4801	452	464,5
16002-45003-130004	452	464,5
6001-8001	490	437
21002-26002-53003-61003-85003-150004	490	437
12011-16001	610	550
31002-40002-45002-110003-130003-150003-205004-235004	610	550

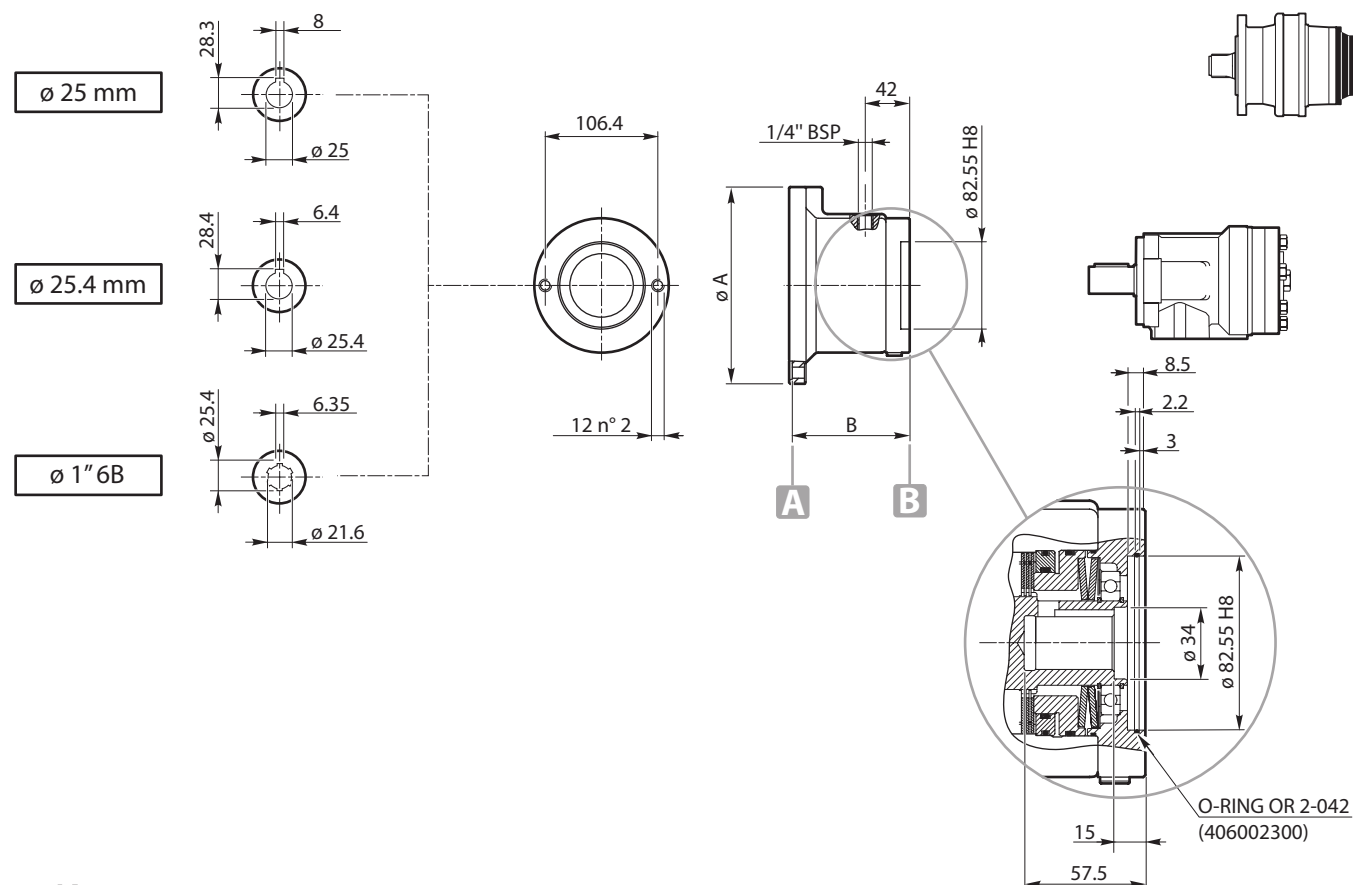
AV150



$n1 \times h = 1\,500\,000$ $F_{a1 \max} (F_{r1} = 0)$		
	$F_{a1} (+)$	$F_{a1} (-)$
AV150	63 000	-



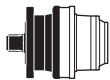
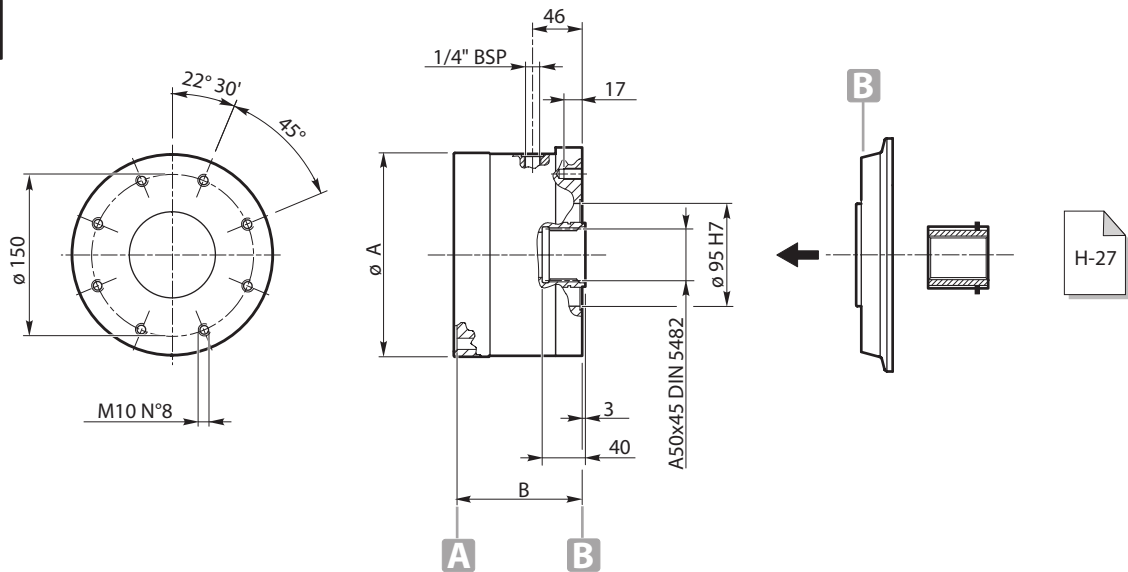
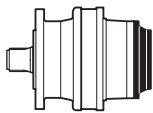
	A	B
6001-8001	490	634
21002-26002-53003-61003-150004	490	634
12011-16001	610	626
31002-40002-45002-110003-130003-15000-205004-235004	610	626



	Ø A	B		F 01	F 10	F 11	F 12	F 13	F 14	F 05	F 16		
 111 - 112 - 113 - 114 211 - 212 - 213 - 214 241 - 242 - 243 - 244 312 - 313 - 314 512 - 513 - 514 613 - 614 813 - 814 1023 - 1024 1523 - 1524 2004 2524 3004 3514-4804 6004L 8005 - 8005L 12015 - 12015L 16005 - 16005L CC30-CC120	186	109.5	Tb (Nm)	132	133	182	235	332	468	530	608	±5%	
			pb (bar)	23	29	34	26	30	36	39	42		
			p max (bar)	300									
			n1 max (RPM)	700									

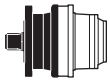
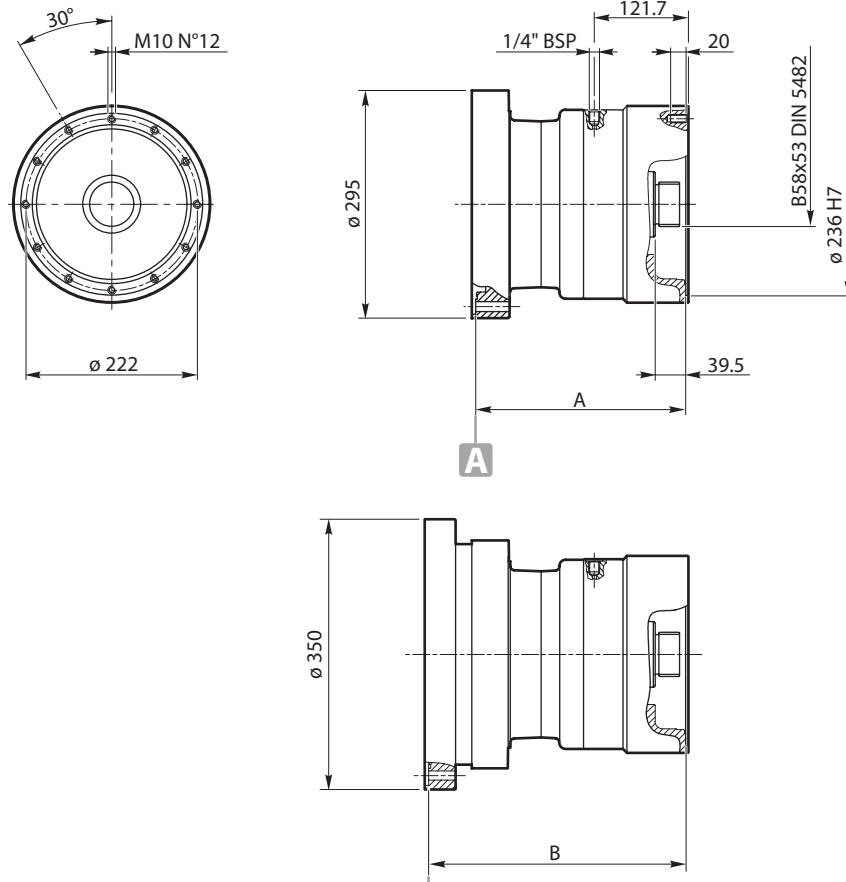
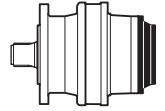
	Ø A	B		F 02	F 20	F 21	F 22	F 23	F 24	F 25	F 26		
311-511 611 - 612 812-1022 1522-2003 2523-3003 3513-4803 6003 - 6003L 6004 - 6004L 8004 - 8004L 12014 - 12014L 16004 - 16004L 21004 - 21005 26005-31005 40005-45005 53005 CC350	244	118.5	Tb (Nm)	132	133	182	235	332	468	530	608	±5%	
			pb (bar)	23	29	34	26	30	36	39	42		
			p max (bar)	300									
			n1 max (RPM)	700									

F5-F6



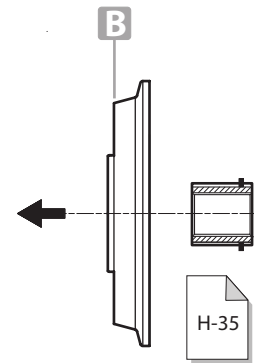
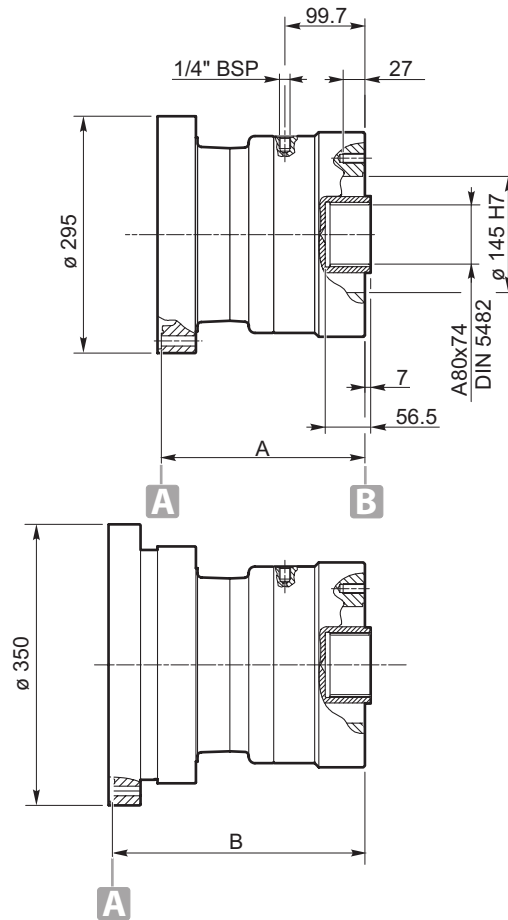
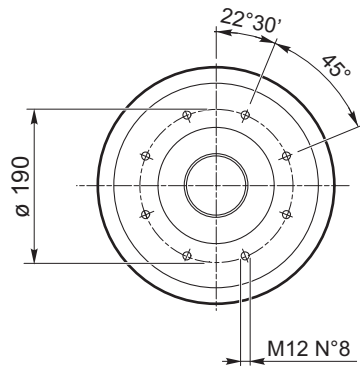
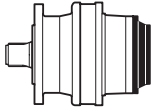
	Ø A	B		F 501	F 502	F 503	F504	F505	F506	F 508		
111 - 112 - 113 - 114 211 - 212 - 213 - 214 241 - 242 - 243 - 244 312 - 313 - 314 512 - 513 - 514 613 - 614 813 - 814 1023 - 1024 1523 - 1524 2004 2524 3004 3514-4804 6004L 8005 - 8005L 12015 - 12015L 16005 - 16005L CC30 CC120	186	115	Tb (Nm)	110	215	325	405	500	630	818	±5%	
			pb (bar)	10	20	30	38	28	35	33		
			p max (bar)	300								
			n1 max (RPM)	1500 (standard)								
				3500 (special)								

	ø A	B		F 601	F 602	F 603	F 604	F 605	F 606	F 608	F 610	F 612		
311-511 611 - 612 812-1022 1522-2003 2523-3003 3513-4803 6003 - 6003L 6004 - 6004L 8004 - 8004L 12014 - 12014L 16004 - 16004L 21004 - 21005 26005-31005 40005-45005 53005 CC350	244	125	Tb (Nm)	110	215	325	405	500	630	818	1005	1150	±5%	
			pb (bar)	10	20	30	38	28	35	33	40	40		
			p max (bar)	300										
			n1 max (RPM)	1500 (standard)										
				3500 (special)										



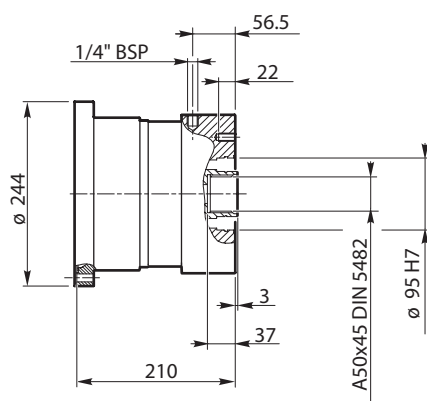
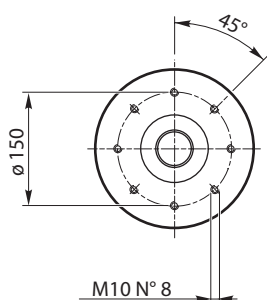
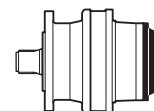
	A	B		F 813	F 815	F 818	F 820	F 823	F 827	F 830	
 811 1021 1521-2001 2522-3002 3512-4801 6002-6002L 8003-8003L 12013-12013L 16003L 16003 21003 26004 31004 40004 45004 53004 61004 85005 110005 130005 150005 CC600 CC1000	272.5	-	Tb (Nm)	1271	1525	1780	2034	2288	2670	3051	±5%
	272.5	-									
	-	314.5									
	272.5	-	pb (bar)	54	65	76	58	65	76	87	
	272.5	-									
	272.5	-									
	272.5	-									
	-	314.5									
	-	314.5									
	272.5	-									
	272.5	-	p max (bar)	300							
	-	314.5									
	-	314.5									
	272.5	-	n1 max (RPM)	1500 (standard)							
	272.5	-									
	-	314.5									
	272.5	-	n1 max (RPM)	3500 (special)							
	272.5	-									
	292.5	-									
	292.5	-									

F8-MU

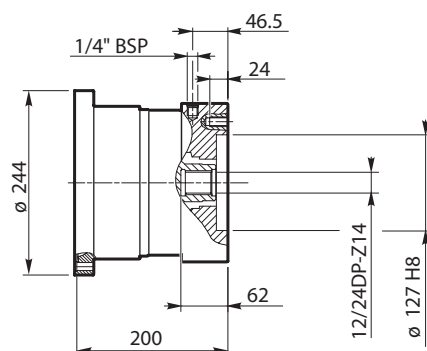
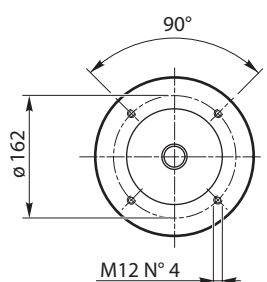




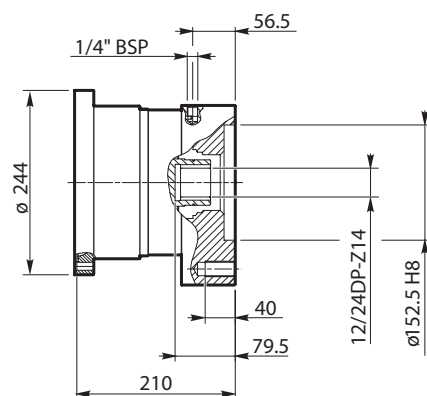
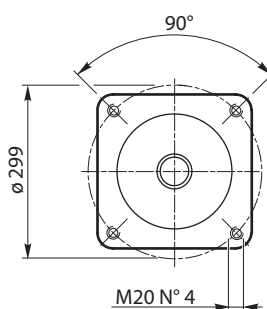
	A	B		F 813	F 815	F 818	F 820	F 823	F 827	F 830		
811 1021 1521-2001 2522-3002 3512-4801 6002-6002L 8003-8003L 12013-12013L 16003L 16003 21003 26004 31004 40004 45004 53004 61004 85005 110005 130005 150005 CC600 CC1000	253.5	-	Tb (Nm)	1271	1525	1780	2034	2288	2670	3051	±5%	
	253.5	-										
	-	314.5										
	253.5	-										
	253.5	-	pb (bar)	54	65	76	58	65	76	87		
	253.5	-										
	-	314.5										
	253.5	-										
	253.5	-	p max (bar)	300								
	-	314.5										
	-	314.5										
	-	314.5										
	253.5	-	n1 max (RPM)	1500 (standard)								
	253.5	-										
	-	314.5		3500 (special)								
	-	314.5										
	253.5	-										
	253.5	-										
	253.5	-										
	253.5	-										



ST



SAE "C"



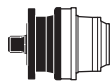
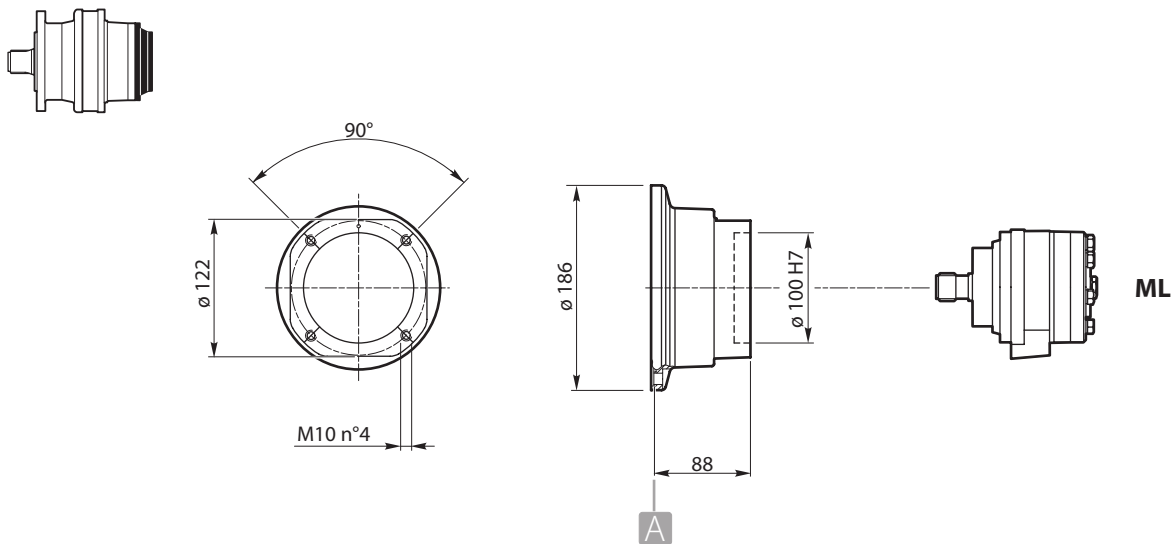
SAE "D"



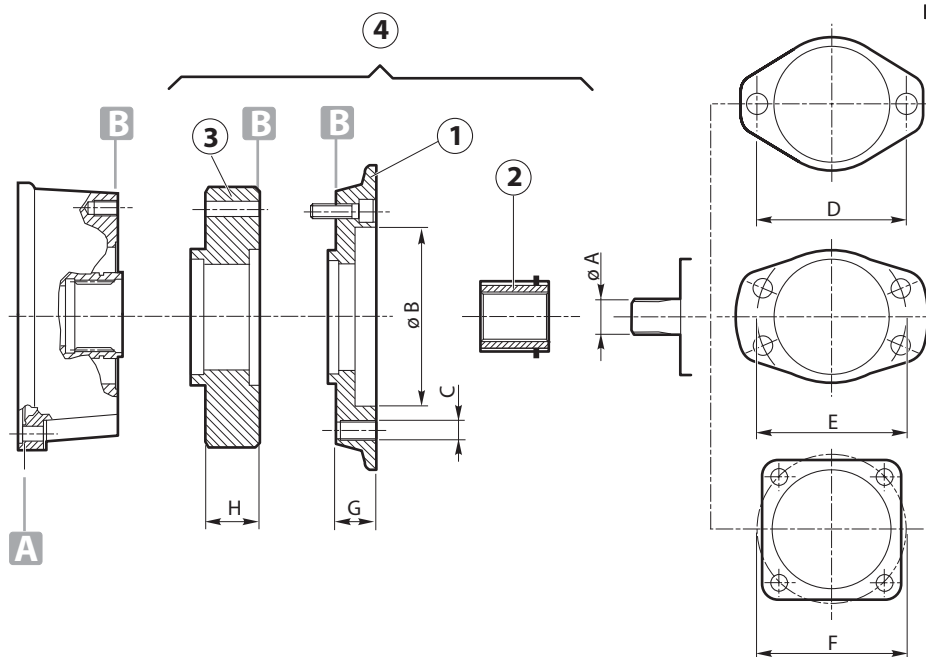
311-511 611 - 612 812-1022 1522-2003 2523-3003 3513-4803 6003 - 6003L 6004 - 6004L 8004 - 8004L 12014 - 12014L 16004 - 16004L 21004 - 21005 26005-31005 40005-45005 53005 CC350	Tb (Nm)	244	317	439	488	683	854	976	1120	1465	±5%
	pb (bar)	16	21	20	16	23	23	26	32	39	
	p max (bar)	300									
	n1 max (RPM)	1500 (standard)									
		3500 (special)									

Upon request, brakes up to size F912 can be equipped with freewheeling clutch.

MD



		20	30	40	45	+5%
111 - 112 - 113 - 114 211 - 212 - 213 - 214 241 - 242 - 243 - 244 312 - 313 - 314 512 - 513 - 514 613 - 614 813 - 814 1023 - 1024 1523 - 1524 2004 2524 3004 3514-4804 6004L 8005 - 8005L 12015 - 12015L 16005 - 16005L	Tb (Nm)	220	308	396	459	
	pb (bar)	24	24	24	26	
	p max (bar)	150				
	n1 max (RPM)	700				



AXIAL PUMP	ϕA	ϕB	ϕC	ϕD	E	F	G	H	1	2	3	4
M1 15-21	$\phi 19$	82.55	M12	106.4	—	—	26	—	20300047	40000659	—	AQ
M2 24-50	16/32-13	101.6	M14	146	—	—	20	—	40000635	40000657	—	AZ
M2 24-50	16/32-15	101.6	M14	146	—	—	20	—	40000635	40000671	—	BB
M3 40-65	16/32-13	101.6	M14	146	—	—	20	—	40000635	40000657	—	AZ
M3 40-65	16/32-15	101.6	M14	146	—	—	20	—	40000635	40000671	—	BB

DANFOSS	ϕA	ϕB	ϕC	ϕD	E	F	G	H	1	2	3	4
OMM	$\phi 16$	63	M8	80	—	—	14	—	40000698	40000694	—	CE
OMP 25-400	$\phi 25$	82.55	M12	106.4	—	—	26	—	20300047	40000649	—	AN
OMP 25-400	$\phi 25.4$	82.55	M12	106.4	—	—	26	—	20300047	40000645	—	AI
OMP 25-400	1" B6	82.55	M12	106.4	—	—	26	—	20300047	40000648	—	AM
OMP 25-400	$\phi 32$	82.55	M12	106.4	—	—	38	—	2511001	40000665	—	AD
OMR 50-375	$\phi 25$	82.55	M12	106.4	—	—	26	—	20300047	40000649	—	AN
OMR 50-375	$\phi 25.4$	82.55	M12	106.4	—	—	26	—	20300047	40000645	—	AI
OMR 50-375	1" B6	82.55	M12	106.4	—	—	26	—	20300047	40000648	—	AM
OMR 50-375	$\phi 32$	82.55	M12	106.4	—	—	38	—	02511001	40000665	—	AD
OMH 200-500	$\phi 32$	82.55	M12	106.4	—	—	38	—	02511001	40000665	—	AD
OMH 200-500	12/24-14	82.55	M12	106.4	—	—	38	—	02511001	40000672	—	AE
OMS 80-400	$\phi 31.75$	82.55	M12	106.4	—	—	38	—	02511001	40000664	—	UL
OMS 80-400	$\phi 32$	82.55	M12	106.4	—	—	38	—	02511001	40000665	—	AD
OMS 80-400	12/24-14	82.55	M12	106.4	—	—	38	—	02511001	40000672	—	AE
OMS 80-400 SPEC.	12/24-14	82.55	M10	106.4	—	—	30	—	40000681	40000672	—	CV
OMSS 80-400	12/24-12	100	M10	—	—	125	21	—	02511017	02241030	—	TR
OMTS 160-500	12/24-16	125	M12	160	—	—	42	—	02511081	02241082	—	UR
OMT 160-500	12/24-17	125	M12	—	—	160	86	—	40001833	40000674	—	CI
OMT 160-500	$\phi 40$	125	M12	—	—	160	78	—	02511041	02241051	—	TW
OMT 160-500(US)	12/24-17	127	M12	—	—	150	79.5	—	02511166	40000674	—	DF
OMV 315-800	$\phi 50$	160	M16	—	—	200	140	—	02511006	02591003	—	VM
OMVS 315-800	10/20-16	125	M12	—	—	160	42	—	02511085	02241086	—	US
MTM	12/24-17	127	M12	—	—	162	29	38	02511108	40000674	02731111	UY

EATON (CHAR-LYNN)	øA	øB	øC	øD	E	F	G	H	1	2	3	4
SERIE 2000	ø 25	82.55	M12	106.4	—	—	26	—	20300047	40000649	—	AN
SERIE 2000	Ø25	82.55	M12		106.4		26		40000680	40000649		BN
SERIE 2000	ø 25.4	82.55	M12	106.4	—	—	26	—	20300047	40000645	—	AI
SERIE 2000	ø 31.75	82.55	M12	106.4	—	—	26	—	20300047	40000664	—	AR
SERIE 2000	ø 32	82.55	M12	106.4	—	—	38	—	2511001	40000665	—	AD
SERIE 2000	1"6B	82.55	M12	106.4	—	—	26	—	20300047	40000648	—	AM
SERIE 2000	12/24-14	82.55	M12	106.4	—	—	26	—	20300047	40000672	—	AU
SERIE 4000	12/24-14	101.6	M12			127	20		40000635	40000672		EH
SERIE 4000	12/24-17	127	M12	—	—	162	29	—	02511108	40000674	—	BH
SERIE 6000	12/24-17	127	M12	—	—	162	29	14	02511108	02971179	02731096	CQ
SERIE 6000	ø 40	127	M12	—	—	162	29	38	02511108	02241057	02731111	TV
SERIE 6000	8.5/17	127	M12	—	—	162	29	38	02511108	02241076	02731111	UH

HP HYDRAULIC	øA	øB	øC	øD	E	F	G	H	1	2	3	4
M4PV21-28	ø 25.4	101.6	M14	146	—	—	20	—	40000635	40000645	—	AV
M4PV21-28	16/32-13	101.6	M14	146	—	—	20	—	40000635	40000657	—	AZ
M4PV21-28	16/32-15	101.6	M14	146	—	—	20	—	40000635	40000671	—	BB
M4MF 21-28	ø 25.4	82.55	M12	106.4	—	—	26	—	20300047	40000645	—	AI
M4MF 21-28	16/32- 1 3	82.55	M12	106.4	—	—	26	—	20300047	40000657	—	AP
M4MF 21-28	16/32-15	82.55	M12	106.4	—	—	26	—	20300047	40000671	—	AT
M4PV 34-65	ø 25.4	101.6	M14	146	—	—	20	—	40000635	40000645	—	AV
M4PV 34-65	16/32-13	101.6	M14	146	—	—	20	—	40000635	40000657	—	AZ
M4PV 34-65	16/32-15	101.6	M14	146	—	—	20	—	40000635	40000671	—	BB
M4MF 34-65	ø 25.4	101.6	M14	146	—	—	20	—	40000635	40000645	—	AV
M4MF 34-65	16/32-13	101.6	M14	146	—	—	20	—	40000635	40000657	—	AZ
M4MF 34-65	16/32-15	101.6	M14	146	—	—	20	—	40000635	40000671	—	BB
M4MV 34-65	ø 25.4	101.6	M14	146	—	—	20	—	40000635	40000645	—	AV
M4MV 34-65	16/32-13	101.6	M14	146	—	—	20	—	40000635	40000657	—	AZ
M4MV 34-65	16/32-15	101.6	M14	146	—	—	20	—	40000635	40000671	—	BB

LINDE	øA	øB	øC	øD	E	F	G	H	1	2	3	4
HMF 35	16/32-15	101.6	M14	146	—	—	20	—	40000635	40000671	—	BB
HMF 50-75	16/32-21	127	M16	181	—	—	34	—	02511108	40000654	—	CF
HMF 105	16/32-23	127	M16	181	—	—	34	—	40001811	40000686	—	CH
HMF 135	16/32-27	152.4	M20	228.5	—	—	35	—	40001844	02241123	—	CZ
HMR 135	16/32-27	152.4	M20	228.5	—	—	35	—	40001844	02241123	—	CZ
BPV 70	W35x2	127	M12	162	—	—	25	—	02511108	40000670	—	VK

M + S	øA	øB	øC	øD	E	F	G	H	1	2	3	4
EPMM 8-50	ø 14	63	M8	80	—	—	14	—	40000698	40000658	—	CD
EPM M 8-50	ø 16	63	M8	80	—	—	14	—	40000698	40000694	—	CE
EPM 40-630	ø 25	82.55	M12	106.4	—	—	26	—	20300047	40000649	—	AN
EPM 40-630	ø 25.4	82.55	M12	106.4	—	—	26	—	20300047	40000645	—	AI
EPM 40-630	1" 6B	82.55	M12	106.4	—	—	26	—	20300047	40000648	—	AM
EPM 40-630	25/22-14	82.55	M12	106.4	—	—	26	—	20300047	40000647	—	AL
EPM 40-630	12/24-14	82.55	M12	106.4	—	—	38	—	2511001	40000672	—	AE
EPM 40-630	ø 32	82.55	M12	106.4	—	—	38	—	2511001	40000665	—	AD
EPRM 50-400	ø 25	82.55	M12	106.4	—	—	26	—	20300047	40000649	—	AN
EPRM 50-400	ø 25.4	82.55	M12	106.4	—	—	26	—	20300047	40000645	—	AI
EPRM 50-400	1" 6B	82.55	M12	106.4	—	—	26	—	20300047	40000648	—	AM
EPRM 50-400	25/22-14	82.55	M12	106.4	—	—	26	—	20300047	40000647	—	AL
EPRM 50-400	12/24-14	82.55	M12	106.4	—	—	38	—	2511001	40000672	—	AE
EPRM 50-400	ø 32	82.55	M12	106.4	—	—	38	—	2511001	40000665	—	AD
EPMS 80-400	ø 31.75	82.55	M12	106.4	—	—	38	—	2511001	40000664	—	AG
EPMS 80-400	ø 32	82.55	M12	106.4	—	—	38	—	2511001	40000665	—	AD
EPMS 80-400	12/24-17	82.55	M12	106.4	—	—	38	—	2511001	40000674	—	AF
EPMT 160-500	12/24-17	125	M12	—	—	160	86	—	40001833	40000674	—	CI
MTS 250	12/24-16	125	M12	160			42		02511081	02241082		UR

REXROTH	øA	øB	øC	øD	E	F	G	H	1	2	3	4
A2FE 45	W30x2	160	M16	200			107.5		02511250	40000669		ER
A2FE 56	W30x2	160	M16	200			107.5		02511250	40000669		ER
A2FE 80	W35x3	190	M20	224			133		02511281	40000670		ES
A2FM 10-16	ø 25	80	M8	—	—	100	36.5	—	40001842	40000649	—	CL
A2FM 10-16	W25x1.25	80	M8	—	—	100	36.5	—	40001842	40000668	—	CM
A2FM 23-32	ø 25	100	M10	—	—	125	48	—	40000682	40000649	—	BS
A2FM 23-32	W25X1.25	100	M10	—	—	125	48	—	40000682	40000668	—	BT
A2FM 23-32	W30x2	100	M10	—	—	125	48	—	40000682	40000669	—	BU
A2FM 45-63	W30x2	125	M12	—	—	160	44	—	40000684	40000669	—	CA
A2FM 45-63	W35x2	125	M12	—	—	160	44	—	40000684	40000670	—	CB
A2FM 80-90	W35x2	140	M12	—	—	180	53	—	40001852	40000670	—	CN
A2FM 80-90	W40x2	140	M12	—	—	180	53	—	40001852	40001858	—	CP
A2FM 107	W40x2	160	M16	—	—	200	56.5	—	02511039	40001858	—	TP
A2FM 125	W40x2	160	M16	—	—	200	56.5	—	02511039	40001858	—	TP
A2FM 160	W50x2	180	M16	—	—	224	62	—	02511109	02591102	—	CT
A2FM 200	W50x2	200	M20	—	—	250	73	—	02511232	02591102	—	DB
A4FM 22-28	16/32-13	101.6	M14	146	—	—	20	—	40000635	40000657	—	AZ
A4FM 22-28	16/32-15	101.6	M14	146	—	—	20	—	40000635	40000671	—	BB
A4FM 40	W30x2	101.6	M14	146	—	—	20	—	40000635	40000669	—	BA
A4FM 56	W30x2	127	M16	181	—	—	34	—	40001811	40000669	—	CG
A10FM 23-28	16/32-13	101.6	M14	146	—	—	20	—	40000635	40000657	—	AZ
A10FM 37-45	16/32-15	101.6	M14	146	—	—	20	—	40000635	40000671	—	BB
A6VM 28	W25x1.25	100	M10	—	—	125	48	—	40000682	40000668	—	BT
A6VM 28	W30x2	100	M10	—	—	125	48	—	40000682	40000669	—	BU
A6VM 55	W30x2	125	M12	—	—	160	44	—	40000684	40000669	—	CA
A6VM 55	W35x2	125	M12	—	—	160	44	—	40000684	40000670	—	CB
A6VM 80	W35x2	140	M12	—	—	180	53	—	40001818	40000670	—	CN
A6VM 80	W40x2	140	M12	—	—	180	53	—	40001818	40001858	—	CP
A6VM 107	W45x2	160	M16	—	—	200	56.5	—	02511039	02591073	—	VN
A6VM 140	W45x2	180	M16	—	—	224	62	—	02511109	02591073	—	VQ
A6VM 160	W45x2	180	M16	—	—	224	62	—	02511109	02591073	—	VQ
A6VM 160	W50x2	180	M16	—	—	224	62	—	02511109	02591102	—	CT
A6VM 250	W50x2	200	M20	—	—	250	73	—	02511232	02591102	—	DB
AA6VM 55, 80	12/24-12	127	M14	—	—	162	29	—	02511108	40000672	—	BG
AA6VM 107, 160	8/16-13	152.4	M20	—	—	228.5	41	—	40001844	02241043	—	UX
AA2FM 10, 12, 16	16/32-13	101.6	M14	146	—	—	20	—	40000635	40000657	—	AZ
AA2FM 23, 28, 32	12/24-12	127	M14	—	—	—	29	—	02511108	40000672	—	BG
AA2FM 45, 56, 63	12/24-12	127	M14	—	—	162	29	—	02511108	40000672	—	BG
AA2FM 80, 90	12/24-12	127	M14	—	—	162	29	—	02511108	40000672	—	BG
AA2FM 56, 63	16/32-21	127	M14	—	—	162	29	—	02511108	40000654	—	BD
AA2FM 80, 90	16/32-21	127	M14	—	—	162	29	—	02511108	40000654	—	BD
AA2FM 107, 125	8/16-13	152.4	M20	—	—	228.5	41	—	40001844	02241043	—	UX
AA2FM 160, 180	8/16-13	152.4	M20	—	—	228.5	41	—	40001844	02241043	—	UX

SAE STANDARD	øA	øB	øC	øD	E	F	G	H	1	2	3	4
SAE A	ø 25	82.55	M12	106.4	—	—	26	—	20300047	40000649	—	—
	ø 25.4	82.55	M12	106.4	—	—	26	—	20300047	40000645	—	—
	ø 31.75	82.55	M12	106.4	—	—	26	—	20300047	40000664	—	—
	ø 32	82.55	M12	106.4	—	—	26	—	20300047	40000665	—	—
	1"6B	82.55	M12	106.4	—	—	26	—	20300047	40000648	—	—
	12/24-14	82.55	M12	106.4	—	—	26	—	20300047	40000672	—	—
SAE B	ø 25	101.6	M14	146	—	—	20	—	40000635	40000649	—	—
	ø 25.4	101.6	M14	148	—	—	20	—	40000635	40000645	—	—
	ø 31.75	101.6	M14	146	—	—	20	—	40000635	40000664	—	—
	ø 32	101.6	M14	146	—	—	20	—	40000635	40000665	—	—
	1" 6B	101.6	M14	146	—	—	20	—	40000635	40000648	—	—
	12/24-14	101.6	M14	146	—	—	20	—	40000635	40000672	—	—

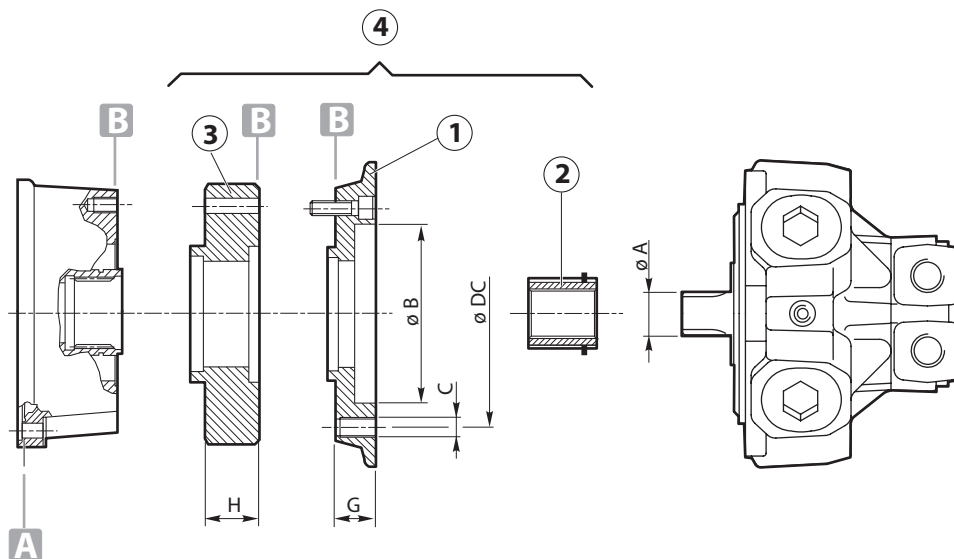
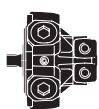
SAE STANDARD	øA	øB	øC	øD	E	F	G	H	1	2	3	4
MAGNETO	ø 25	82.55	M12	—	106.4	—	26	—	40000680	40000649	—	—
	ø 25.4	82.55	M12	—	106.4	—	26	—	40000680	40000645	—	—
	ø 31.75	82.55	M12	—	106.4	—	26	—	40000680	40000664	—	—
	ø 32	82.55	M12	—	106.4	—	26	—	40000680	40000665	—	—
	1" 6B	82.55	M12	—	106.4	—	26	—	40000680	40000648	—	—
SAE C	12/24-14	82.55	M12	—	106.4	—	26	—	40000680	40000672	—	—
	ø 31.75	127	M14	—	—	162	29	—	02511108	40000664	—	—
	12/24-14	127	M14	—	—	162	29	—	02511108	40000672	—	—
	12/24-17	127	M14	—	—	162	29	—	02511108	40000674	—	—

SAMHYDRAULIK	øA	øB	øC	øD	E	F	G	H	1	2	3	4
BGM 13-50	ø16	63	M8	80	—	—	14	—	40000698	40000694	—	CE
BG 40-400	ø25	82.55	M12	106.4	—	—	26	—	20300047	40000649	—	AN
BG 40-400	ø25.4	82.55	M12	106.4	—	—	26	—	20300047	40000645	—	AI
BG 40-400	1" 6B	82.55	M12	106.4	—	—	26	—	20300047	40000648	—	AM
AGF 50-400	ø25	82.55	M12	106.4	—	—	26	—	20300047	40000649	—	AN
ARF 50-400	ø25	82.55	M12	106.4	—	—	26	—	20300047	40000649	—	AN
BR 50-400	ø25	82.55	M12	106.4	—	—	26	—	20300047	40000649	—	AN
BR 50-400	ø25.4	82.55	M12	106.4	—	—	26	—	20300047	40000645	—	AI
BR 50-400	ø31.75	82.55	M12	106.4	—	—	26	—	20300047	40000664	—	AR
BR 50-400	ø 32	82.55	M12	106.4	—	—	38	—	20300047	40000665	—	AS
BR 50-400	1" 6B	82.55	M12	106.4	—	—	26	—	20300047	40000648	—	AM
H1C 12	Ø20	80	M8	—	—	100	36.5	—	02971201	02591008	—	CS
H1C 30	W25x1,25	100	M10	—	—	125	31	—	02511221	40000668	—	DW
H1C 55	12/24-17	127	M14	—	—	162	29	—	40000653	40000672	—	UT
H1C 55	W30x2	125	M12	—	—	160	44	—	40000684	40000669	—	CA
H1C 55	Ø30	125	M12	—	—	160	44	—	40000684	02591040	—	DU
H1C 75	W35x2	140	M12	—	—	180	53	—	40001818	40000670	—	TQ
H1C 90-108	W40x2	160	M16	—	—	200	57	—	02511039	40001858	—	TP
H1C 90-108	Ø40	160	M16	—	—	200	56.5	—	02511039	02241057	—	EF
H1C 160	W45x2	180	M16	—	—	224	62	—	02511109	02591073	—	VQ
HPR 80-400	ø31.75	82.55	M12	106.4	—	—	38	—	02511001	40000664	—	AG
HPR 80-400	ø 32	82.55	M12	106.4	—	—	38	—	02511001	40000665	—	AD
HPR 80-400	12/24-14	82.55	M12	106.4	—	—	38	—	02511001	40000672	—	AE
H2V 55	W30x2	125	M12	—	—	160	44	—	40000684	40000669	—	CA
H2V 160	W45x2	180	M16	—	—	224	62	—	02511109	02591073	—	VQ

SAUER	øA	øB	øC	øD	E	F	G	H	1	2	3	4
SMF2 033-070	16/32-21	127	M12	—	—	162	29	—	02511108	40000654	—	BD
SMF2 089	16/32-23	127	M14	—	—	162	29	—	40000653	40000686	—	BI
M25MF	16/32-13	101.6	M14	146	—	—	20	—	40000635	40000657	—	AZ
M35MF	16/32-13	101.6	M14	146	—	—	20	—	40000635	40000657	—	AZ
M35/M44 MF	16/32-15	101.6	M14	146	—	—	20	—	40000635	40000671	—	BB
M44MF	16/32-13	101.6	M14	146	—	—	20	—	40000635	40000657	—	AZ
M46MF	16/32-13	101.6	M14	146	—	—	20	—	40000635	40000657	—	AZ
51D 80	W40x2	140	M12	—	—	180	53	—	40001818	40001858	—	CP
51D 110	W40x3	160	M16	—	—	200	56.5	—	02511039	40001858	—	TP
51V 080	12/24-14	127	M12	—	—	162	29	—	02511108	40000672	—	BG
51V 080	16/32-23	127	M12	—	—	162	29	—	02511108	40000686	—	BI
51V 110/160A	8/16-13	152.4	M20	—	—	228.5	40	—	02511164	02631152	—	8X
51V 160/A	8/16-13	152.4	M20	—	—	228.5	40	—	40001844	02241043	—	UX
51V 250	16/32-27	161.5	M20	—	—	317.15	35	—	02511147	02241123	—	EJ
90M 030	16/32-13	101.6	M14	146	—	—	20	—	40000635	40000657	—	AZ
90M 030	16/32-15	101.6	M14	146	—	—	20	—	40000635	40000671	—	BB
90M 042	16/32-13	101.6	M14	146	—	—	20	—	40000635	40000657	—	AZ
90M 042	16/32-15	101.6	M14	146	—	—	20	—	40000635	40000671	—	BB
90M 055	16/32-21	127	M12	—	—	162	29	—	02511108	40000654	—	BD
90M 075	16/32-21	127	M12	—	—	162	29	—	02511108	40000654	—	BD
90M 100	16/32-23	127	M12	—	—	162	29	—	02511108	40000686	—	BI
90M 100	8/16-13	127	M12	—	—	162	29	—	02511108	02241013	—	EV
90M 130	8/16-Z13	152.4	M20	—	—	228.5	40	—	40001844	022411043	—	UX

VOAC	øA	øB	øC	øD	E	F	G	H	1	2	3	4
F11-150 SAE	8/16-13	152.4	M20	228.5	—	—	41	—	40001844	02241043	—	UX
F12-30 SAE	ø25.4	101.6	M14	146	—	—	20	—	40000635	40000645	—	AV
F12-30 SAE	16/32-13	101.6	M14	146	—	—	20	—	40000635	40000657	—	AZ
F12-40 SAE	ø31.75	127	M12	—	—	162	29	—	02511108	40000664	—	BF
F12-40 SAE	12/24-14	127	M12	—	—	162	29	—	02511108	40000672	—	BG
F12-60 SAE	ø31.75	127	M12	—	—	162	29	—	02511108	40000664	—	BF
F12-60 SAE	12/24-14	127	M12	—	—	162	29	—	02511108	40000672	—	BG
F12-80 SAE	12/24-17	127	M12	—	—	162	29	—	02511108	40000674	—	BH
V12-60 SAE	12/24-14	127	M12	—	—	162	29	—	02511108	40000672	—	BG
V12-80 SAE	12/24-14	127	M12	—	—	162	29	—	02511108	40000672	—	BG
F12-110 SAE	8/16-13	152.4	M20	228.5	—	—	41	—	40001844	02241043	—	UX
V14-160 ISO	W45x2	180	M16	224	—	—	62	—	02511109	02591073	—	VQ
F12-80 ISO	ø40	140	M12	—	—	180	53	38	40001852	02241057	2731111	UW
TK	12/24-17	127	M12	—	—	162	29	14	02511108	40000674	2731096	CQ
F12-30 ISO	W30x2	100	M10	—	—	125	48	—	40000682	40000669	—	BU
F12-40 MF-HI ISO	W30x2	125	M12	160	—	—	44	—	40000684	40000669	—	CA
F12-60 ISO	W35x2	125	M12	—	—	160	44	—	40000684	40000670	—	CB
F12-80 ISO	W40x2	140	M12	—	—	180	53	—	40001852	40001858	—	CP
F12-110 ISO	W45x2	160	M16	200	—	—	56.5	—	02511039	02591073	—	VN

WHITE	øA	øB	øC	øD	E	F	G	H	1	2	3	4
RS 03-24	ø25	82.55	M12	106.4	—	—	26	—	20300047	40000649	—	AN
RS 03-24	ø25.4	82.55	M12	106.4	—	—	26	—	20300047	40000645	—	AI
RS 03-24	1" 6B	82.55	M12	106.4	—	—	26	—	20300047	40000648	—	AM
HB 03-24	ø25	82.55	M12	106.4	—	—	26	—	20300047	40000649	—	AN
HB 03-24	ø25.4	82.55	M12	106.4	—	—	26	—	20300047	40000645	—	AI
HB 03-24	ø31.75	82.55	M12	106.4	—	—	26	—	20300047	40000664	—	AR
HB 03-24	ø32	82.55	M12	106.4	—	—	26	—	20300047	40000665	—	AS
HB 03-24	1" 6B	82.55	M12	106.4	—	—	26	—	20300047	40000648	—	AM
HB 03-24	12/24-14	82.55	M12	106.4	—	—	26	—	20300047	40000672	—	AU
HB 03-24	16/32-13	82.55	M12	106.4	—	—	26	—	20300047	40000657	—	AP
RE 07-45	ø25	82.55	M12	—	106.4	—	26	—	40000680	40000649	—	BN
RE 07-45	ø25.4	82.55	M12	—	106.4	—	26	—	40000680	40000645	—	BL
RE 07-45	ø31.75	82.55	M12	—	106.4	—	26	—	40000680	40000664	—	BP
RE 07-45	ø32	82.55	M12	—	106.4	—	26	—	40000680	40000665	—	BQ
RE 07-45	1" 6B	82.55	M12	—	106.4	—	26	—	40000680	40000648	—	BM
RE 07-45	12/24-14	82.55	M12	—	106.4	—	26	—	40000680	40000672	—	BR
DR 12-46	ø25	82.55	M12	—	106.4	—	26	—	40000680	40000649	—	BN
DR 12-46	ø25.4	82.55	M12	—	106.4	—	26	—	40000680	40000645	—	BL
DR 12-46	ø31.75	82.55	M12	—	106.4	—	26	—	40000680	40000664	—	BP
DR 12-46	ø32	82.55	M12	—	106.4	—	26	—	40000680	40000665	—	BQ
DR 12-46	1" 6B	82.55	M12	—	106.4	—	26	—	40000680	40000648	—	BM
DR 12-46	12/24-14	82.55	M12	—	106.4	—	26	—	40000680	40000672	—	BR

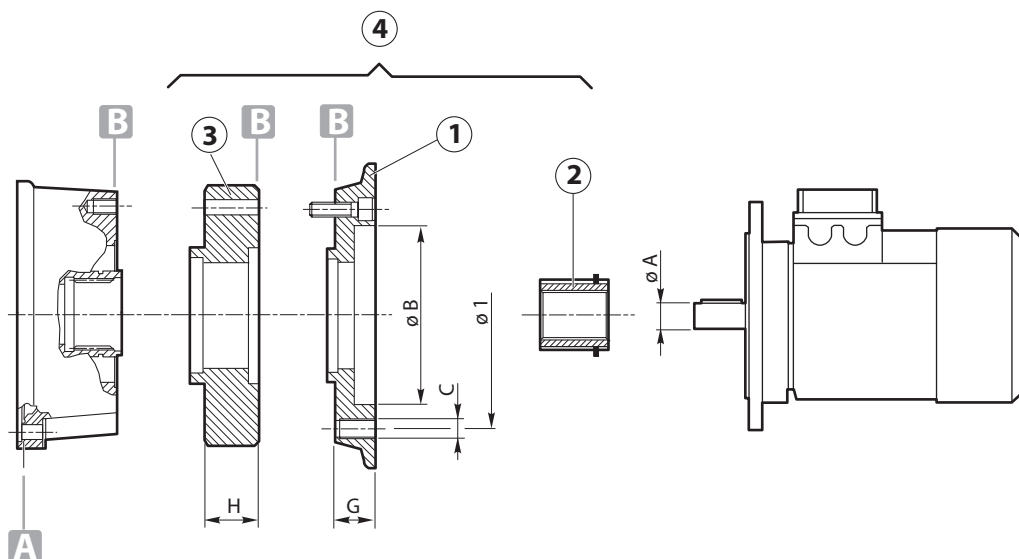


CALZONI	ØA	ØB	ØC	ØD1	E	F	G	H	1	2	3	4
MR 250-300	42x48x8	175	M10	232	---	---	92	---	02511030	02591016	---	FA

INTERMOT	ØA	ØB	ØC	ØD1	E	F	G	H	1	2	3	4
G34/A-AA	Ø30	82,55	M12	106,4	---	---	10,5	26	02511082	02591040	2511018	UM
G 100	W40x2	125	M8	175	---	---	44	---	02511282	40001858	---	EQ
G 100	A40x36	125	M8	175	---	---	44	---	02511282	40001858	---	ET
IAM 195	6x26x32	172	M10	190	---	---	39,5	---	02511170	40001829	---	DE

JAHNS	ØA	ØB	ØC	ØD1	E	F	G	H	1	2	3	4
HMF 1006-1030	28x34x6	125	M10	160	---	---	40	---	02511045	40000646	---	TZ
HMF 1006-1030	W35x2x16	125	M10	160	---	---	40	---	02511045	40000670	---	TT
HMF 1515-1549	28x34x6	175	M10	210	---	---	29	---	02971466	40000646	---	VB
HMF 1515-1549	W35x2x16	175	M10	210	---	---	29	---	02971466	40000670	---	TJ
HMF 2030-2097	W40x3x12	150	M12	250	---	---	38	---	02511070	02591044	---	UB
HMF 2030-2097	36x40x8	150	M12	250	---	---	38	---	02511070	02591063	---	VA
HMF 2555-2515	W40x3x12	265	M18	310	---	---	43,5	---	02511151	02591044	---	DS
HMT 1006-1017	W35x2x16	125	M10	160	---	---	40	---	02511045	40000670	---	TT
HMT 1515-1538	W35x2x16	175	M10	210	---	---	29	---	02971466	40000670	---	TJ
HMT 2030-2076	W40x3x12	150	M12	250	---	---	38	---	02511070	02591044	---	UB
HMT 2555-2512	W40x3x12	265	M18	310	---	---	43,5	---	02511151	02591044	---	DS

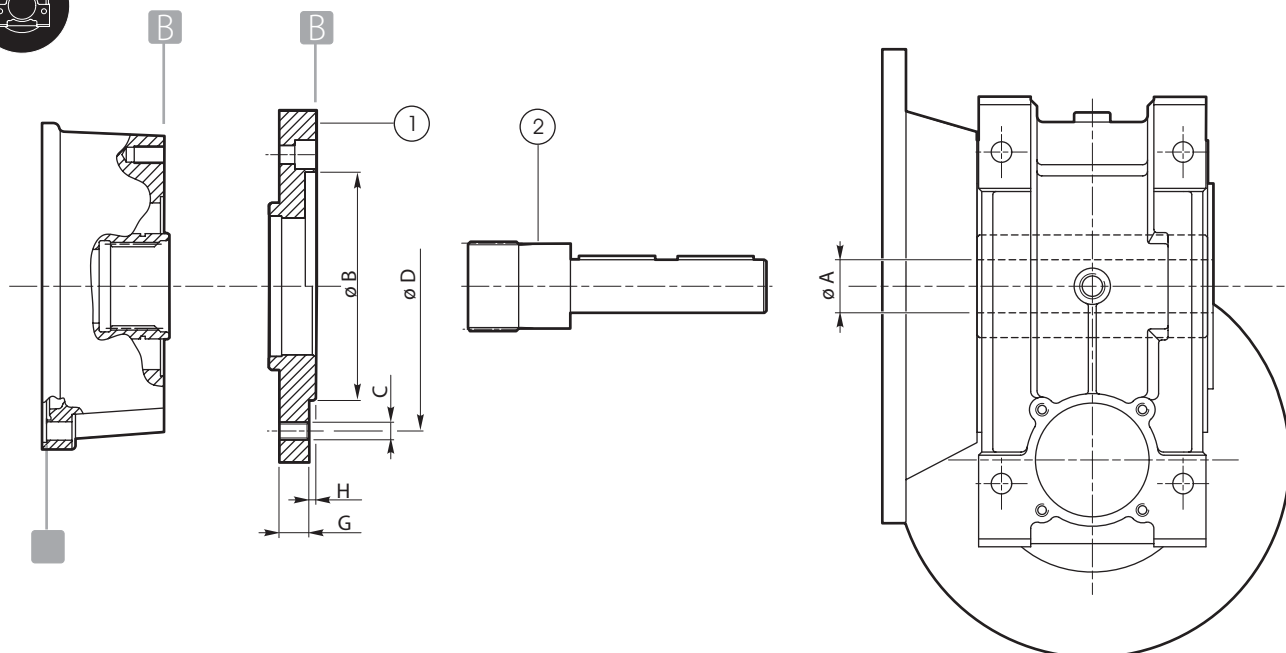
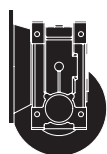
SAI	ØA	ØB	ØC	ØD1	E	F	G	H	1	2	3	4
BD2	40x36x20	150	M12	250	---	---	38	---	02511070	02591049	---	UE
BV2	40x36x20	150	M12	250	---	---	38	---	02511070	02591049	---	UE
GM05 40-200	28x34x6	125	M10	160	---	---	40	---	02511045	40000646	---	TZ
GM05 40-200	35x2x16	125	M10	160	---	---	40	---	02511045	40000670	---	TT
GM05 40-200	Ø30	125	M10	160	---	---	40	---	02511045	02591040	---	TM
GM1 100-320	28x34x6	175	M10	210	---	---	29	---	02971466	40000646	---	VB
GM1 100-320	35x2x16	175	M10	210	---	---	29	---	02971466	40000670	---	TJ
GM2 200-630	40x3x12	150	M12	250	---	---	38	---	02511070	02591044	---	UB
GM2 200-630	36x40	150	M12	250	---	---	38	---	02511070	02591063	---	VA
GM3	W40x3	265	M18	310	---	---	43,5	---	02511151	02591044	---	DS



IEC	øA	øB	C	øD	E	F	G	H	1	2	3	4
63 B5	ø11	95	M8	115	—	—	20	—	02511000	02591001	—	TL
71 B5	ø14	110	M8	130	—	—	16	—	40000690	40000658	—	CC
80 B5	ø19	130	M10	165	—	—	16	—	40000683	40000659	—	BV
90 B5	ø24	130	M10	165	—	—	16	—	40000683	40000660	—	BZ
100 B5 ø24	ø24	180	M12	215	—	—	16	—	02511018	40000660	—	UÀ
100/112 B5	ø28	180	M12	215	—	—	24.5	—	02511018	40000661	—	AH
112 B5	ø38	180	M12	215	—	—	24	38	02511018	02241029	02731111	UU
132 B5	ø38	230	M12	265	—	—	49	—	02511016	—	—	AG
132 B14	ø38	130	ø 11	165	—	—	69	—	02511076	—	—	UF
200 B5	ø55	300	M18	350	—	—	130	—	02511067	02241066	—	TX

NEMA	øA	øB	C	øD	E	F	G	H	1	2	3	4
56 H	ø15.88 (0.625)	114.3 (4.500)	Ø10 (0.394)	149.2 (5.874)	—	—	53 (2.087)	—	02511122	02591085	—	VX
143-145 TC	ø22.22 (0.875)	114.3 (4.500)	Ø10 (0.394)	149.2 (5.874)	—	—	53 (2.087)	—	02511122	02591084	—	VZ
182-184 TC	ø28.57 (1.125)	215.9 (8.500)	Ø14 (0.551)	206 (8.110)	—	—	38 (1.496)	—	02511073	02591045	—	UC
213-215 TC	ø34.925 (1.375)	215.9 (8.500)	Ø14 (0.551)	184.5 (7.264)	—	—	55.5 (2.185)	—	02511037	02241048	—	VT
254-256 TC	ø41.275 (1.625)	215.9 (8.500)	Ø14 (0.551)	150 (5.906)	—	—	70 (2.756)	—	02511141	02241131	—	VJ
284-286 TC	ø47.625 (1.875)	266.7 (10.500)	Ø14 (0.551)	228.6 (9.000)	—	—	86 (3.386)	—	02511142	02241132	—	CR

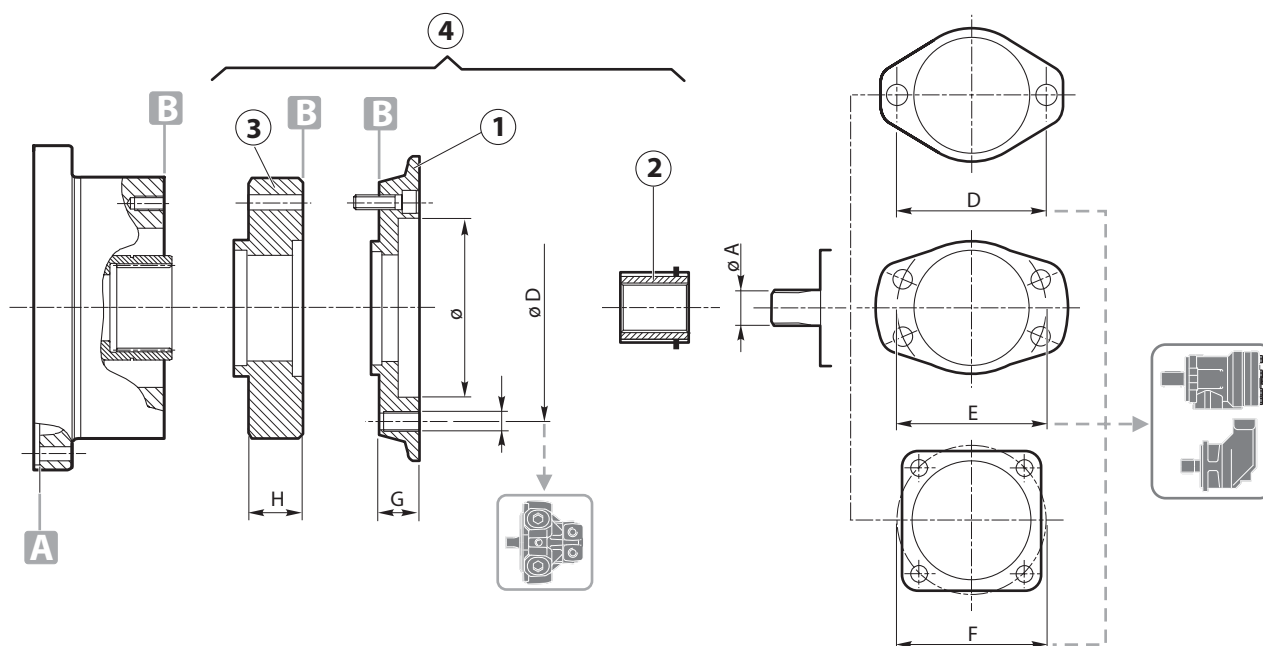
mm (inch)



VARVEL	øA	øB	øC	øD	E	F	G	H	1	2	3	4
FRS 50 FL	Ø24	110	M10	130	—	—	16	—	02511022	40000660	—	VR
FRS 60 FL	Ø25	115	M10	150	—	—	16	—	02511095	40000649	—	UZ
FRS 70 FL	Ø28	130	M12	165	—	—	13.5	—	40000644	40000650	—	TI
FRS 85 FL	Ø32	130	M12	165	—	—	13.5	—	40000644	40000655	—	TG
FRS 130 PC	Ø48	180	Ø13	215	—	—	20	—	40001804	40000652	—	VI

STM	øA	øB	øC	øD	E	F	G	H	1	2	3	4
RMI 50 FL	Ø24	110	M10	130	—	—	16	—	02511022	40000660	—	VR
RMI 60 FL	Ø25	115	M10	150	—	—	16	—	02511095	40000649	—	UZ
RMI 70 FL	Ø28	130	M12	165	—	—	13.5	—	40000644	40000650	—	TI
RMI 85 FL	Ø32	130	M12	165	—	—	13.5	—	40000644	40000655	—	TG
RMI 110 F1	Ø42	130	M10	165	—	—	17	—	40001810	40001809	—	VH
RMI 130 P	Ø48	180	Ø13	215	—	—	20	—	40001804	40000652	—	VI
RMI 150 P	Ø55	180	Ø13	215	—	—	20	—	40001804	40001808	—	EN

MOTOVARIO	øA	øB	øC	øD	E	F	G	H	1	2	3	4
NMRV 110	Ø42	180	M12	215	—	—	24.5	—	02511018	40001890	—	FE



CALZONI	ØA	ØB	ØC	ØD1	E	F	G	H	1	2	3	4
MR 700	8x52x60	220	M12	290	---	---	55,5	---	02511229	02591156	---	4J

DANFOSS	ØA	ØB	ØC	ØD1	E	F	G	H	1	2	3	4
OMV	16/32-16	160	M16	---	---	200	73	---	025110102	025910102	---	SU
OMT 160-500	12/24-17	125	M12	---	---	160	66,5	---	025110117	025910123	---	3I
OMT 160-500	Ø40	125	M12	---	---	160	66,5	---	025110117	025910109	---	7W

EATON	ØA	ØB	ØC	ØD1	E	F	G	H	1	2	3	4
SERIE 6000	12/24-17	127	M14	---	---	162	29	---	025111192	02591123	---	3Q
SERIE 6000	12/24-14	127	M12	---	---	162	37	---	025111192	02591163	---	2G

INTERMOT	ØA	ØB	ØC	ØD1	E	F	G	H	1	2	3	4
IAM H3 400-700	36x42x8	230	M14	254	---	---	43	---	025111197	02591128	---	8I
IAM 300	8x32x38	190	M12	210	---	---	38,5	---	02511248	02591166	---	4N

JAHS	ØA	ØB	ØC	ØD1	E	F	G	H	1	2	3	4
HMF 1515-1549	28x34x6	175	M12	210	---	---	29	---	02511263	02591176	---	6B
HMF 2030-2097	W40x3x12	150	M12	250	---	---	38	---	02511209	02591170	---	8B
HMF 2555-2515	W40x3x12	265	M18	310	---	---	43,5	---	02511151	02591044	---	4S
HMT 1515-1538	W35x2x16	175	M12	210	---	---	29	---	02511263	02591176	---	6B
HMT 2030-2076	W40x3x12	150	M12	250	---	---	38	---	02511209	02591170	---	8B
HMT 2555-2512	W40x3x12	265	M18	310	---	---	43,5	---	02511151	02591044	---	4S

LINDE	ØA	ØB	ØC	ØD1	E	F	G	H	1	2	3	4
HMF 135	16/32-27	152,4	M20	228,5	---	---	35	---	02511164	02631166	---	3Z
HMF 135	16/32-27	152,4	M20	228,5	---	---	35	---	02511164	02631166	---	3Z
HMF 105	16/32-23	127	M16	181	---	---	34	---	02511192	02631203	---	3H

M+S	ØA	ØB	ØC	ØD1	E	F	G	H	1	2	3	4
EPMT 160-500	12/24-17	125	M12	---	---	160	66,5	---	025110117	02591123	---	3I
EPMT 160-500	Ø40	125	M12	---	---	160	66,5	---	025110117	025910109	---	7W

REXROTH	ØA	ØB	ØC	ØD1	E	F	G	H	1	2	3	4
A2FM 107	W40x2	160	M16	---	---	200	51,5	---	02511230	02631193	---	3U
A2FM 160	W50x2	180	M16	---	---	224	62	---	02511163	02631150	---	3T
A2FM 200	W50x2	200	M20	---	---	250	73	---	02511165	02631150	---	4B
A6VM 107	W45x2	160	M16	---	---	200	53	---	02511167	02631160	---	9N
A6VM 160	W45x2	180	M16	---	---	224	62	---	02511163	02631151	---	9Q
A6VM 160	W50x2	180	M16	---	---	224	62	---	02511163	02631150	---	3T
A6VM 250	W50x2	200	M20	---	---	250	73	---	02511165	02631150	---	4B
A6VM 355	W60x2	280	M16	---	---	320	84,5	---	02511261	02631210	---	5L

REXROTH	ØA	ØB	ØC	ØD1	E	F	G	H	1	2	3	4
AA6VM 107, 160	8/16-13	152,4	M20	---	---	228,5	40	---	02511164	02531152	---	8X
AA2FM 107, 125	8/16-13	152,4	M20	---	---	228,5	40	---	02511164	02631152	---	8X
AA2FM 160, 180	8/16-13	152,4	M20	---	---	228,5	40	---	02511164	02631152	---	8X

SAI	ØA	ØB	ØC	ØD1	E	F	G	H	1	2	3	4
GM1	28x34x6	175	M12	210	---	---	29	---	02511263	02591176	---	6B
GM2	36x40	150	M12	250	---	---	38	---	02511209	02591141	---	9A
GM2	W40x3	150	M12	250	---	---	38	---	02511209	02591170	---	8B
GM3	W40x3	265	M18	310	---	---	43,5	---	02511151	02591044	---	4S

SAMHYDRAULIK	ØA	ØB	ØC	ØD1	E	F	G	H	1	2	3	4
H1C 160 M	W45x2	180	M16	---	---	224	62	---	02511039	02631151	---	9Q
H1C 226 M	W50x2	200	M20	---	---	250	73	---	02511165	02631150	---	4B
H2V 160 M	W45x2	180	M16	---	---	224	62	---	02511163	02631151	---	9Q

SAUER	ØA	ØB	ØC	ØD1	E	F	G	H	1	2	3	4
51 V 250	16/32-27	165,1	M20	---	---	317,5	38	---	02511201	02631166	---	5J
90 M 130	8/16-13	152,4	M20	---	---	228,5	40	---	02511164	02631152	---	8X

VOAC	ØA	ØB	ØC	ØD1	E	F	G	H	1	2	3	4
F11-50 CETOP	W45x2	200	M20	250	---	---	73	---	02511165	02631151	---	5P
F11-150 SAE	8/16-13	152,4	M20	---	---	228,5	40	---	02511164	02631152	---	8X
F12-110 SAE	8/16-13	152,4	M20	---	---	228,5	40	---	02511164	02631152	---	8X
V14-160 ISO	W45x2	180	M16	---	---	224	62	---	02511163	02631151	---	9Q
F12-110 ISO	W45x2	160	M16	---	---	200	53	---	02511167	02631160	---	9N

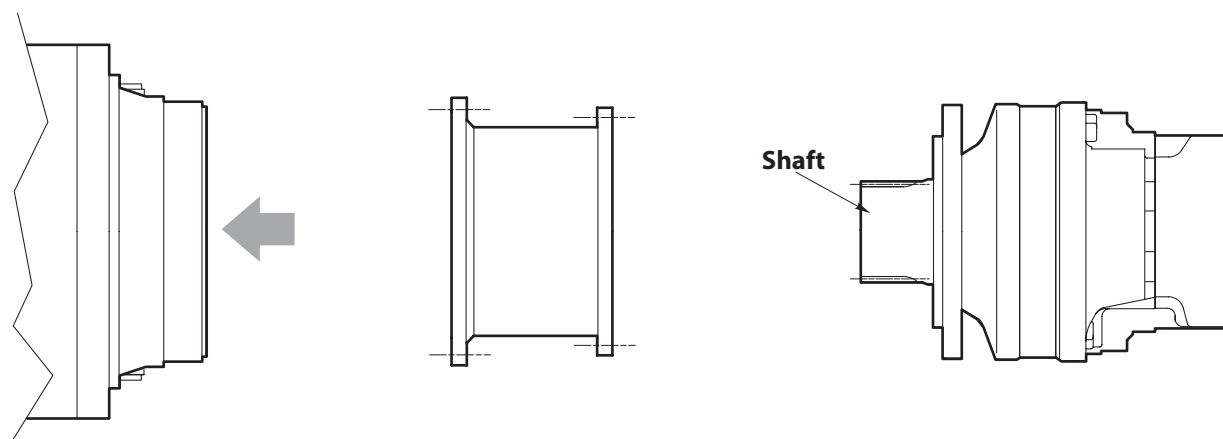
Direct motor adapters available for:

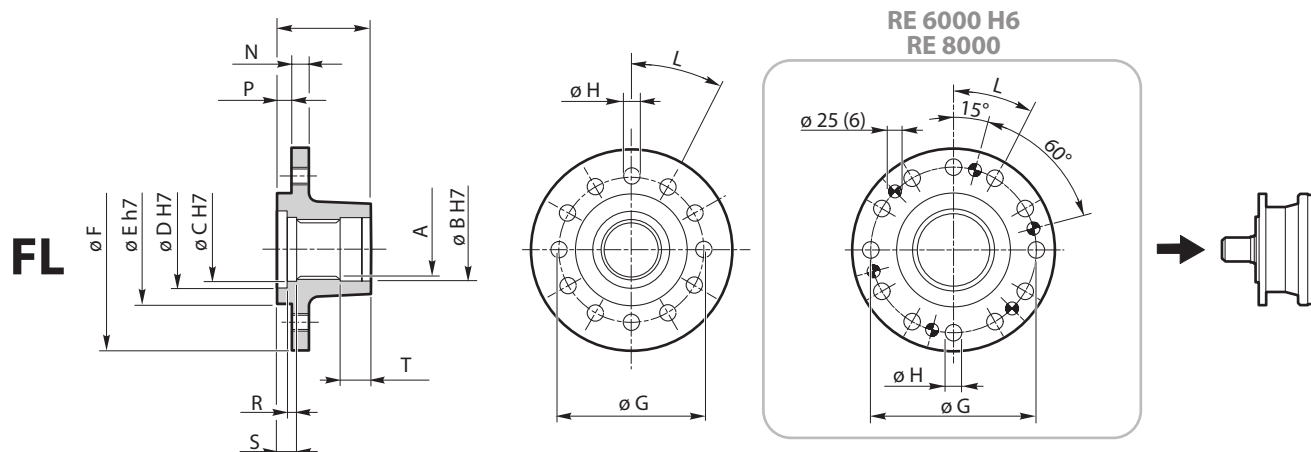
KAWASAKI	Shaft
KAWASAKI HMC 80	6/12-14
KAWASAKI HMC/HMB/HPC 125	6/12-20
KAWASAKI HMB 200	6/12 -14
KAWASAKI HMB 200	W85x3

SAI	Shaft
GM3	W40x3
GM3	8x46x54
GM4/5	8x56x65
GM4/5	W65x3
GM6	N80x3

POCLAIN	Shaft
MS08/MSE08	W70x3
MS18/MSE18	W90x3
MS18/MSE18	NF E-22 141 (m2.5 z34)
MS50	NF E-22 141 (m3.75 z33)
MS02/MSE02	W50x2

POCLAIN HYDROBASE	Shaft
MS18/MSE18	NF E-22 141 (m2.5 z34)
MS35	NF E-22 141 (m2.5 z34)
MS50	NF E-22 141 (m2.5 z38)



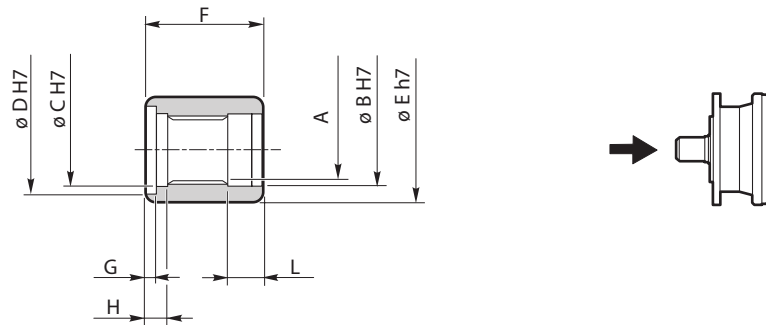


	VERSION	A	ø B	ø C	ø D	ø E	ø F	ø G	ø H	L
110-210	N-P-T-TR	A40x36 DIN 5482	42	42	52	75	135	98	M12x1.5 (4)	90°
240	T-TR	A58x53 DIN 5482	60	60	—	95	165	145	12.5 (12)	30°
310-510-610	N-P-T-TL	A58x53 DIN 5482	60	60	—	95	165	145	12.5 (12)	30°
810	N-P-T	A70x64 DIN 5482	72	72	—	125	208	175	19(12)	30°
1020-1050-2000	T-H	A80x74 DIN 5482	85	85	—	125	208	175	19(12)	30°
2520-3000	H	A100x94 DIN 5482	105	105	—	170	254	212	21 (12)	30°
3510-4800	H	N 120x3 DIN 5480	124	130	—	160	298	250	21 (12)	30°
6000	H	N 120x3 DIN 5480	120	120	—	200	308	260	25 (12)	30°
6000	H6	N 150x5 DIN 5480	151	151	—	240	385	320	32 (12)	30°
8000	H	N 150x5 DIN 5480	151	151	—	240	385	320	32 (12)	30°
12010-16000	H	N 170x5 DIN 5480	170	175	—	250	450	400	28 (18)	20°
21000	H	N220x5 DIN 5480	220	230	—	315	500	450	32 (18)	20°

	VERSION	M	N	P	R	S	T	CODE
110-210	N-P-T-TR	63	12	10	7.5	13.5	20.5	40000618
240	T-TR	74	14	10	8	—	24	02571148
310-510-610	N-P-T-TL	74	14	10	8	—	24	02571148
810	N-P-T	90	21	14	10	—	29	40001838
1020-1520-2000	T-H	90.5	21	14	9.5	—	30.5	40001848
2520-3000	H	110	24	20	12	—	37	40001851
3510-4800	H	150	30	20	28	—	29	02571068
6000	H	125	31	19	11	—	30	02571054
6000	H6	150	35	25	11	—	33	02571063
8000	H	150	35	25	11	—	33	02571063
12010-16000	H	163	42	48	14	—	42	02571048
21000	H	205	47	70	16	—	51.5	02571049

Andere Abmessungen auf Anfrage. On demand for different size.

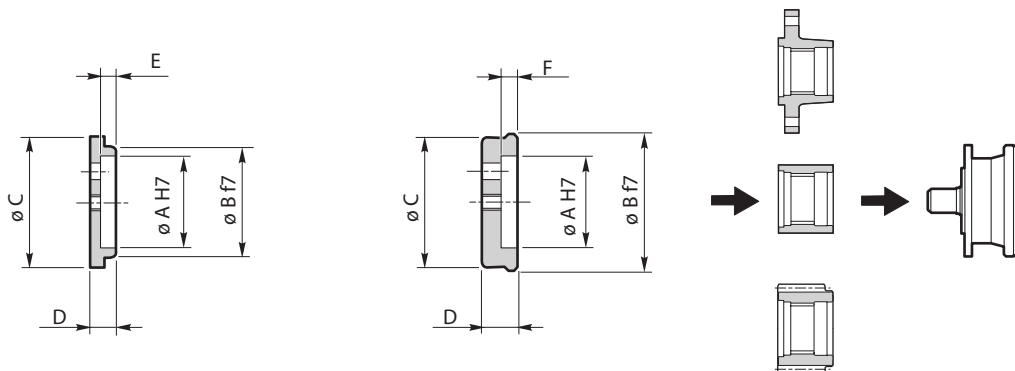
BS



	VERSION	A	ø B	ø C	ø D	ø E	F	G	H	L	CODE
110-210	N-P	A40x36 DIN 5482	42	42	—	60	55	—	7	20.5	40000608
110-210	T-TR	A40x36 DIN 5482	42	42	51	60	67.5	5	12	20.5	40000617
240	T-TR	A58x53 DIN 5482	60	60	72	94	85	16	23	25	40000642
310-510-610	N-P-T-TL	A58x53 DIN 5482	60	60	72	94	85	16	23	25	40000642
810	N-P-T	A70x64 DIN 5482	72	72	—	95	90	—	10	29	40001836
1020-1520-2000	T-H	A80x74 DIN 5482	85	85	—	108	90.5	—	10.5	30.5	40001847
2520-3000	H	A100x94 DIN 5482	105	105	—	136	110	—	12	33	40001850
3510-4800	H	N120x3x9H DIN 5480	124	130	—	175	150	—	28	29	02631054
6000	H	N120x3x9H DIN 5480	120	120	—	160	124.5	—	10.5	31	02631082
6000	H6	N150x5x9H DIN 5480	151	151	—	220	150	—	11	33	02631092
8000	H	N150x5x9H DIN 5480	151	151	—	220	150	—	11	33	02631092
12010-16000	H	N170x5x9H DIN 5480	170	175	—	235	163	—	14	42	02631026
21000	H	N220x5x9H DIN 5480	220	230	—	295	205	—	16	51.5	02631027

Andere Abmessungen auf Anfrage. On demand for different size.

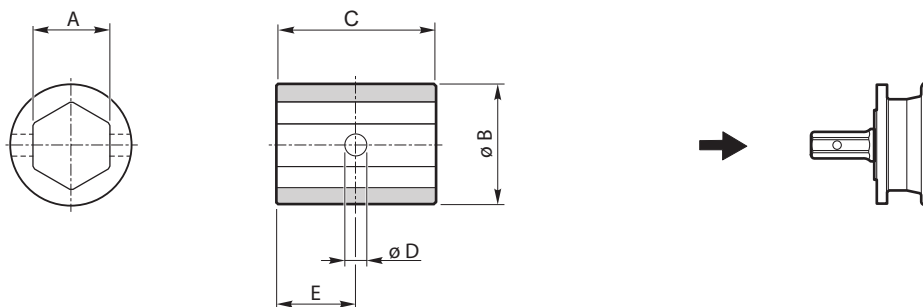
EP



	VERSION	ø A	ø B	ø C	D	E	F	CODE
110-210	N-P-T-TR	35	42	50	9.5	4.5	—	40000609
240	T-TR	50	60	70	13	5.5	—	40000613
310-510	N-P	50	60	70	13	5.5	—	40000613
310-510-610	T-TL	50	72	—	18	—	9	40000616
810	N-P-T	62	72	80	18	9.25	—	40001832
1020-1520-2000	T-H	70	85	98	19.5	8.5	—	40001840
2520-3000	H	85	105	114	20	10	—	40001849
3510-4800	H	90	130	—	26	—	14	02551072
6000	H	100	120	135	21	9.5	—	02551060
6000	H6	125	151	170	25	9	—	02551077
8000	H	125	151	170	25	9	—	02551077
12010-16000	H	150	175	198	31	13.5	—	02551044
21000	H	200	230	260	43.5	19	—	02551046

Andere Abmessungen auf Anfrage. On demand for different size.

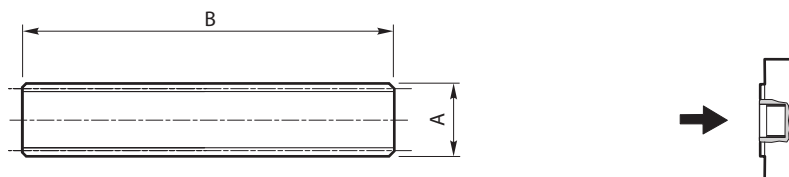
ES



	VERSION	A	ø B	C	ø D	E	CODE
110-210	NE	50	80	108	18	54	40001831
240	TE	50	80	108	18	54	40001831
310-510-610	NE	50	80	108	18	54	40001831
310-510-610	TE-TLE	70	100	115	—	—	40001813
810	TE	70	100	115	—	—	40001813
1020-1520-2000	TE	70	100	115	—	—	40001813

Andere Abmessungen auf Anfrage. On demand for different size.

BF

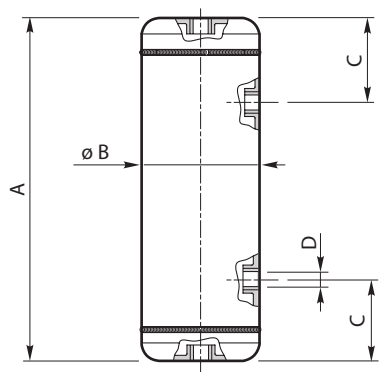


	VERSION	A	B	CODE	Tmax [Nm]
110-210	FS	B40x36 DIN 5482	250	40100901	2240
240	FS	B45x41 DIN 5482	250	02631093	3255
310-510-610	FS - NF	A58x53 DIN 5482	250	40100904	7055
810	FS - NF	A70x64 DIN 548	250	40001855	12600
1020-1520-2000	FS	A80x74 DIN 5482	250	40001856	19250
2520-3000	FS	A100x94 DIN 5482	250	02631012	39450
3510-4800	FS	W120x3x8f DIN 5480	250	02631086	97500
6000-8000	FS	W140x5x8f DIN 5480	250	02631134	146000

Andere Abmessungen auf Anfrage. On demand for different size.

VE - GA

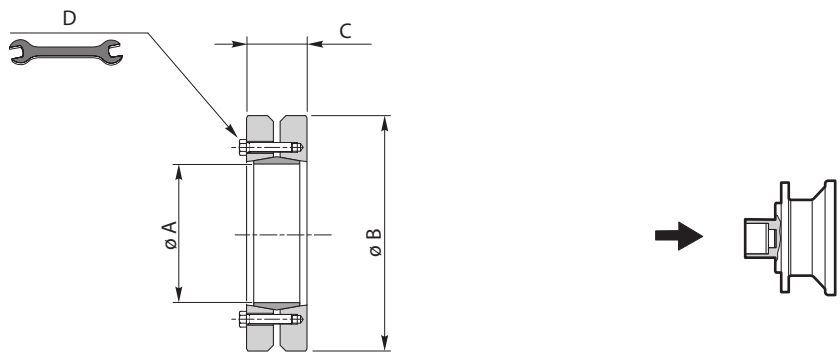
VE



A	ø B	C	D	Capacity [Liters]	CODE
230	80	55	1/4" GAS (4)	1.0	40000627
330	130	85	1/4" GAS (4)	3.8	40000702
330	160	85	1/4" GAS (4)	5.5	40000703
510	150	85	1/4" GAS (4)	7.7	40000704
690	150	85	1/4" GAS (4)	10.7	40000706

Andere Abmessungen auf Anfrage. On demand for different size.

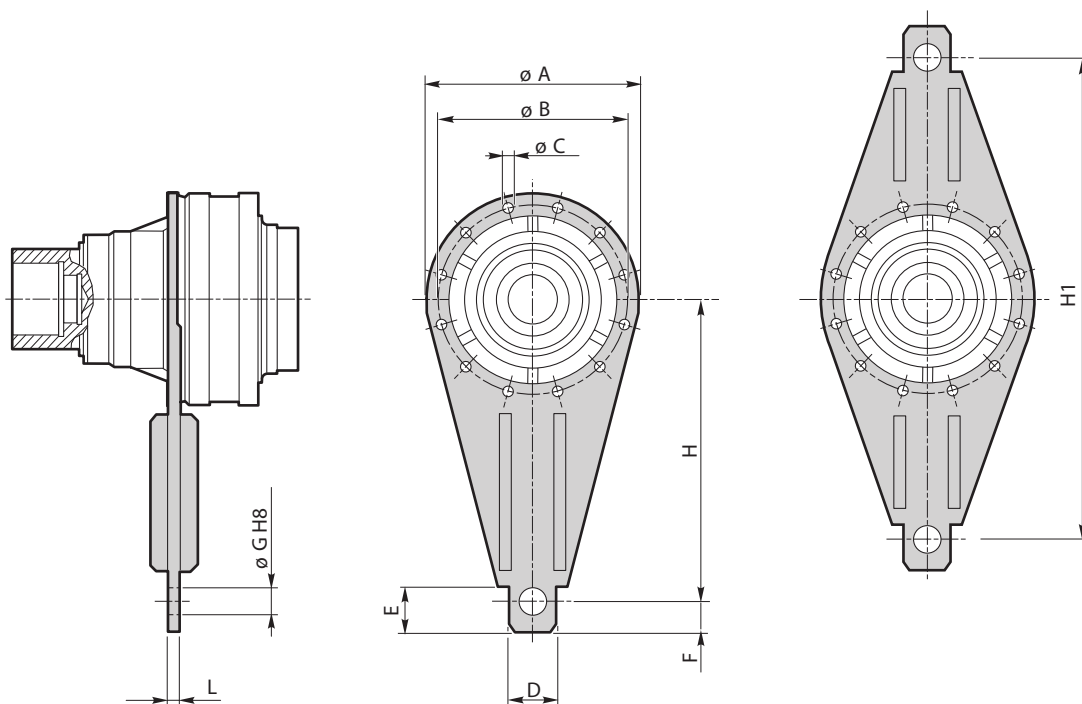
GA



	VERSION	ø A	ø B	C	D	 [Nm]	T max [Nm]
110-210	NQ	62	110	29	M6-10.9 (10)	12	3000
240-310-510-610	NQ-TQ	100	170	43	M8-10.9 (12)	30	9300
810	TQ	125	215	53	M10-10.9 (12)	59	15800
1020-1520-2000	HQ-TQ	165	290	68	M16-10.9 (8)	250	43600
2520-3000	HQ	175	300	88	M16-10.9 (10)	250	59400
3510-4800	HQ	185	330	85	M16-10.9 (10)	250	73100
4800	HQ1	200	350	85	M16-10.9 (12)	250	94800
6000-8000	HQ	195	350	112	M16-10.9 (15)	250	123000
6000-8000	HQ1	240	405	108	M20-10.9 (12)	490	168000
12010-16000	HQ	240	405	144	M20-10.9 (15)	490	236000
12010-16000	HQ1	260	430	160	M20-10.9 (18)	490	325000
21000-26000	HQ	280	460	172	M20-10.9 (20)	490	407000
31000-40000	HQ	360	590	204	M24-10.9 (20)	840	753000
45000	HQ	380	645	164	M24-10.9 (20)	840	739000
53000-61000	HQ	390	660	212	M24-10.9 (24)	840	986000
85000	HQ	460	770	252	M27-10.9 (28)	1250	1870000

Andere Abmessungen auf Anfrage. On demand for different size.

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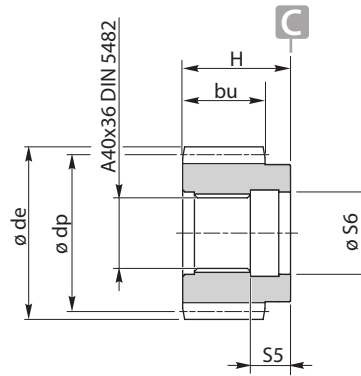


	VERSION	Ø A	Ø B	Ø C	D	E	F	Ø G	H	H1	L
110-210	N	185	165	11 (8)	60	50	35	25	300	450	15
110-210	T-TR	219	194	11 (10)	70	50	35	35	300	450	15
240	TR	219	194	11 (10)	70	50	35	35	300	450	15
240	T	219	195	13 (10)	60	50	35	30	350	500	15
310-510-610	N-NU*	222	195	13 (10)	70	60	40	35	350	500	15
810	T	280	250	15(12)	75	65	45	40	400	600	16
1020	T	325	295	17 (10)	80	75	50	45	500	800	17
1520-2000	T	325	295	17 (10)	80	75	50	45	500	800	17
1520-2000	H	350	314	17(16)	80	75	50	45	500	800	17
2520-3000	H	409	370	17(21)	95	125	60	50	700	1000	18
3510-4800	H	452	424	17 (24)	100	130	65	50	800	1100	20
6000-8000	H	490	445	19 (36)	110	140	70	55	900	1200	20
12010-16000	H	610	560	25 (36)	120	120	80	60	1100	1400	22
21000-26000	H	710	660	28 (36)	130	145	90	65	1300	1600	35
31000	H	870	810	32 (36)	140	160	100	70	1500	2000	40
40000-45000	H	870	810	32 (36)	140	160	100	70	1500	2000	40
53000-61000-85000	H	1090	1020	39 (36)	150	170	110	75	1500	2000	60
110000-130000	H	1540	1450	43 (40)	200	180	120	100	1800	2500	50

* NU Torque arm code 02531016

Andere Abmessungen auf Anfrage. On demand for different size.

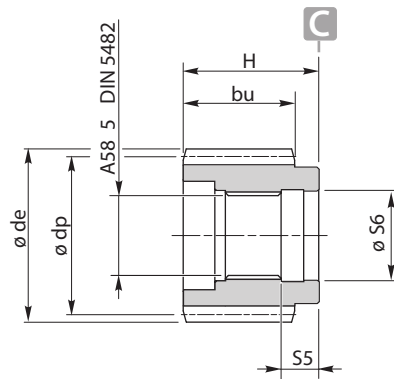
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110 210	4	20	0	88	80	42	55	20.5	$\varnothing 42 H7$	40100882
	4	24	0	104	96	45	57	20.5	$\varnothing 42 H7$	40100889
	4.5	14	0.5	76.5	63	55	55	20.5	$\varnothing 42 H7$	40100835
	4.5	16	0	81	72	70	80	20.5	$\varnothing 42 H7$	40100802
	4.5	16	0	81	72	45	55	20.5	$\varnothing 42 H7$	40100926
	4.5	16	0	81	72	45	75	20.5	$\varnothing 42 H7$	40100943
	5	14	0	80	70	60	60	20.5	$\varnothing 42 H7$	40100810
	5	14	0	80	70	70	80	20.5	$\varnothing 42 H7$	40100812
	5	14	0.5	85	70	65	65	20.5	$\varnothing 42 H7$	40100811
	5	14	0.5	85	70	60	90	20.5	$\varnothing 42 H7$	40100885
	5	14	0.5	85	70	55	78	20.5	$\varnothing 42 H7$	40100888
	5	14	0.5	84.5	70	47	55	20.5	$\varnothing 42 H7$	02571014
	5	16	0	90	80	70	80	20.5	$\varnothing 42 H7$	40100813
	5	17	0	95	85	70	80	20.5	$\varnothing 42 H7$	40100815
	5	18	0	100	90	70	80	20.5	$\varnothing 42 H7$	40100814
	5	20	0	109.5	100	45	74	20.5	$\varnothing 42 H7$	40100918
	5	22	0	120	110	50	76	20.5	$\varnothing 42 H7$	40100934
	6	12	0.5	89	72	70	80	20.5	$\varnothing 42 H7$	40100825
	6	13	0	90	78	60	85	20.5	$\varnothing 42 H7$	40100914
	6	13	0	90	78	50	80	20.5	$\varnothing 42 H7$	40100915
	6	13	0.5	95	78	61	97	20.5	$\varnothing 42 H7$	40100823
	6	14	0	96	84	50	60	20.5	$\varnothing 42 H7$	40100824
	6	14	0	96	84	70	80	20.5	$\varnothing 42 H7$	40100826
	6	14	0	96	84	70	100	20.5	$\varnothing 42 H7$	40100827
	6	15	0	102	90	60	82.5	20.5	$\varnothing 42 H7$	40100935
	6	15	0.5	108	90	40	73	20.5	$\varnothing 42 H7$	40100819
	6	17	0	114	102	80	110	20.5	$\varnothing 42 H7$	40100913
	6	18	0	120	108	70	80	20.5	$\varnothing 42 H7$	40100830
	6	20	0	132	120	60	85	20.5	$\varnothing 42 H7$	40100894
	8	12	0.5	118	96	60	65	20.5	$\varnothing 42 H7$	40100841
	8	14	0.5	136	112	80	110	20.5	$\varnothing 42 H7$	40100912
	8	15	0	136	120	70	80	20.5	$\varnothing 42 H7$	40100846

Andere Abmessungen auf Anfrage. On demand for different size.

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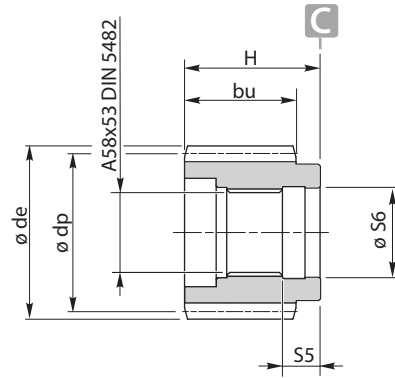


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240 310 510 610	5	21	0	115	105	60	76	25	$\varnothing 60 H7$	40100883
	5	22	0	120	110	50	76	25	$\varnothing 60 H7$	02571051
	6	14	0.5	101.5	90	65	78	25	$\varnothing 60 H7$	40100923
	6	16	0	108	96	70	80	25	$\varnothing 60 H7$	40100867
	6	18	0	120	108	70	80	25	$\varnothing 60 H7$	40100831
	6	20	0	132	120	75	80	25	$\varnothing 60 H7$	40100873
	6	24	0	156	144	68	77.5	25	$\varnothing 60 H7$	40100808
	7	14	0	112	98	78.5	78.5	25	$\varnothing 60 H7$	40100874
	8	12	0.5	120	96	80	100	25	$\varnothing 60 H7$	40100818
	8	13	0	120	104	68	78	25	$\varnothing 60 H7$	02571111
	8	14	0	128	112	65	68	25	$\varnothing 60 H7$	40100844
	8	14	0	128	112	75	85	25	$\varnothing 60 H7$	40100845
	8	15	0	136	120	75	85	25	$\varnothing 60 H7$	40100848
	8	16	0	144	128	75	85	25	$\varnothing 60 H7$	40100849
	8	16	0.5	152	128	75	85	25	$\varnothing 60 H7$	40100893
	8	17	0	149	136	78	110	25	$\varnothing 60 H7$	40100937
	8	18	0	160	144	76	78	25	$\varnothing 60 H7$	40100850
	8	18	0	160	144	96	98	25	$\varnothing 60 H7$	40100898
	8	19	0	174	152	85	102	25	$\varnothing 60 H7$	02571055
	10	11	0.5	136	110	80	96.5	25	$\varnothing 60 H7$	40100807
	10	11	0.5	136	110	100	120.5	25	$\varnothing 60 H7$	40100938
	10	12	0.5	149	120	80	96.5	25	$\varnothing 60 H7$	40100820
	10	12	0.35	143	120	80	100	25	$\varnothing 60 H7$	40100838
	10	13	0	150	130	80	80	25	$\varnothing 60 H7$	40100929
	10	13	0	150	130	90	105	25	$\varnothing 60 H7$	40100942
	10	14	0	160	140	80	80	25	$\varnothing 60 H7$	40100866
	10	14	0	160	140	90	105	25	$\varnothing 60 H7$	40100868
	10	15	0	170	150	80	80	25	$\varnothing 60 H7$	40100839

	M	z	x	$\varnothing de$	$\varnothing dp$	bu	H	S5	$\varnothing S6$	Code
810	8	15	0.3	140.8	120	67	96	29	$\varnothing 72 H7$	02571235
	8	17	0	152	136	80	99	29	$\varnothing 72 H7$	02571121
	8	20	0	176	160	115	124	29	$\varnothing 72 H7$	025710101
	8	23	0.5	208	184	86	131	29	$\varnothing 72 H7$	40100853
	10	11	0.5	136	110	80	90	29	$\varnothing 72 H7$	40100857
	10	12	0.5	150	120	90	90	29	$\varnothing 72 H7$	02571110
	10	13	0.5	160	130	90	90	29	$\varnothing 72 H7$	40100852
	10	13	0.5	160	130	99	99	29	$\varnothing 72 H7$	02571000
	10	14	0	160	140	99	99	29	$\varnothing 72 H7$	02571024
	10	14	0.5	170	140	67	96	29	$\varnothing 72 H7$	02571236
	10	15	0	170	150	98	112	29	$\varnothing 72 H7$	02571037
	10	15	0.5	180	150	98	112	29	$\varnothing 72 H7$	02571183
	10	17	0.48	198	170	80	90	29	$\varnothing 72 H7$	02571013
	12	11	0.5	167	132	90	120	29	$\varnothing 72 H7$	40100821
	12	13	0.5	192	156	118	126	29	$\varnothing 72 H7$	40100840
	12	13	0.3	187	156	75	90	29	$\varnothing 72 H7$	02571019
	12	14	0.5	199	168	90	100	29	$\varnothing 72 H7$	02571101
	14	12	0.3	205	168	80	110	29	$\varnothing 72 H7$	02571102

Andere Abmessungen auf Anfrage. On demand for different size.

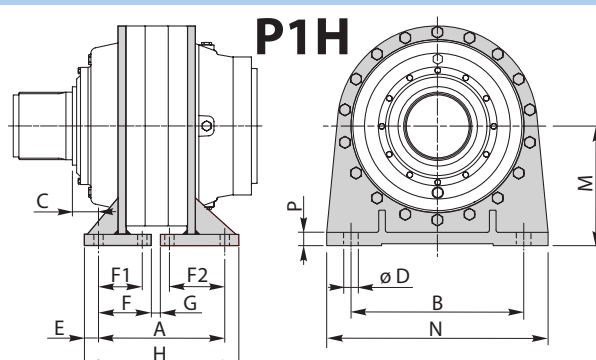
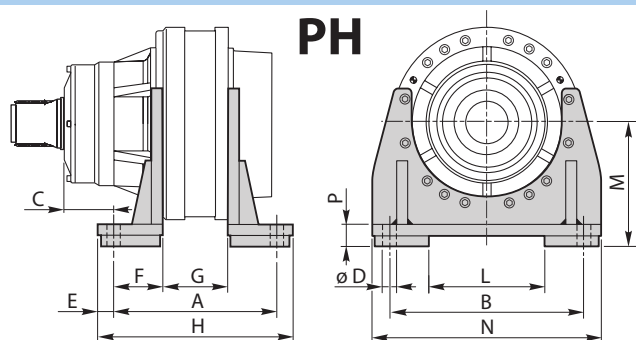
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	M	z	x	$\varnothing de$	$\varnothing dp$	bu	H	S5	$\varnothing S6$	Code
1020 1520 2000	10	14	0.32	162.4	140	103	116	30.5	$\varnothing 85 H7$	02571001
	10	15	0	170	150	90	115	30.5	$\varnothing 85 H7$	40100940
	10	18	0	198	180	87	116	30.5	$\varnothing 85 H7$	40100822
	12	11	0.5	167	132	100	120	30.5	$\varnothing 85 H7$	02571136
	12	13	0.5	192	156	120	120	30.5	$\varnothing 85 H7$	02571173
	12	14	0.5	199	168	90.5	90.5	30.5	$\varnothing 85 H7$	40100856
	12	16	0	214	192	90	95	30.5	$\varnothing 85 H7$	40100850
	14	11	0.5	192.36	154	97	97	30.5	$\varnothing 85 H7$	025710113
	14	12	0.5	210	168	135	135	30.5	$\varnothing 85 H7$	02571182
	14	14	0.5	233.8	196	105	105	30.5	$\varnothing 85 H7$	02571103
	16	10	0.5	208	160	115	115	30.5	$\varnothing 85 H7$	025710126
	16	19	0	336	304	120	120	30.5	$\varnothing 85 H7$	02571006
	18	10	0.5	234	180	157	157	30.5	$\varnothing 85 H7$	02571152
	18	13	0.5	288	234	100	100	30.5	$\varnothing 85 H7$	02571208
	20	14	0.5	340	280	125	140	30.5	$\varnothing 85 H7$	025710102

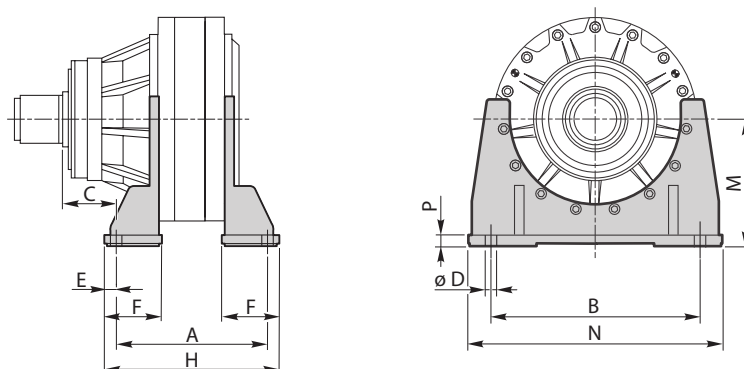
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2520 3000	12	16	0.5	228.4	192	120	130	34	$\varnothing 105 H7$	02571044
	14	14	0	224	196	110	110	34	$\varnothing 105 H7$	02571030
	14	15	0.5	250.6	210	110	120	34	$\varnothing 105 H7$	02571221
	16	13	0.5	256	208	145	145	34	$\varnothing 105 H7$	02571201
	16	17	0.5	320	272	140	150	34	$\varnothing 105 H7$	02571159
	16	19	0.5	352	304	140	150	34	$\varnothing 105 H7$	02571167
	20	12	0.5	299	240	150	150	34	$\varnothing 105 H7$	02571176

Andere Abmessungen auf Anfrage. On demand for different size.



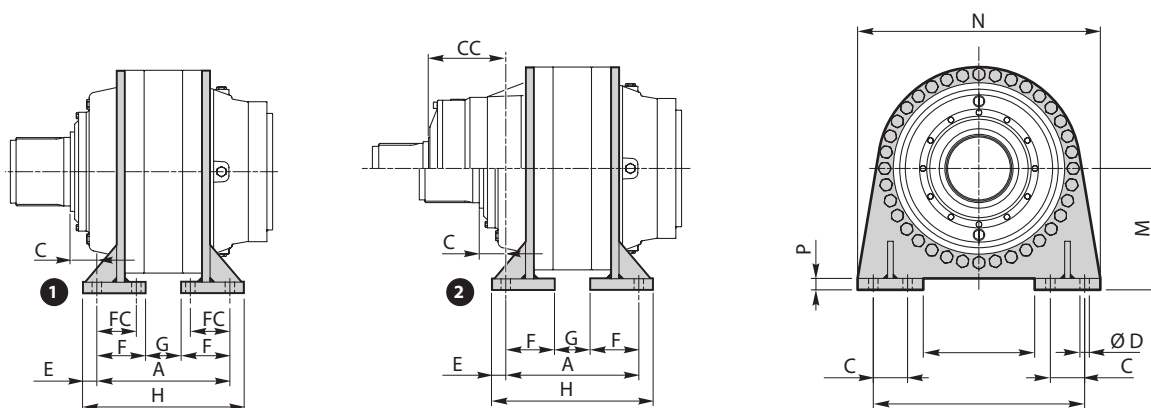
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1520-2000 (PH)	310	356	80.5	25(4)	29.5	90.5	—	—	129	369	210	230	420	40	99119300
3510-4800 (PH)	334	457	2	33(4)	36	120	—	—	94	406	—	280	547	28	99119700
3510-4800 (P1H)	300	390	50	33 (8)	35	116.5	92	154	5	370	—	270	500	30.5	99382000

PH



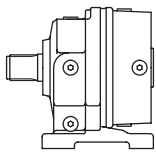
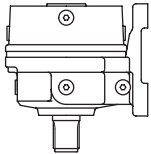
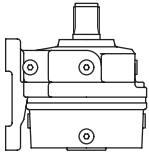
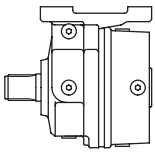
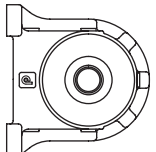
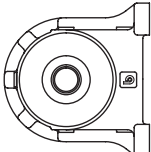
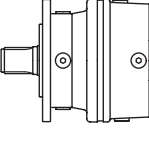
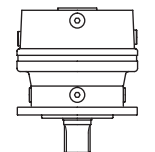
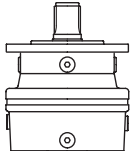
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2520-3000	334	457	78.5	32(4)	36	150	406	280	550	34	99115000

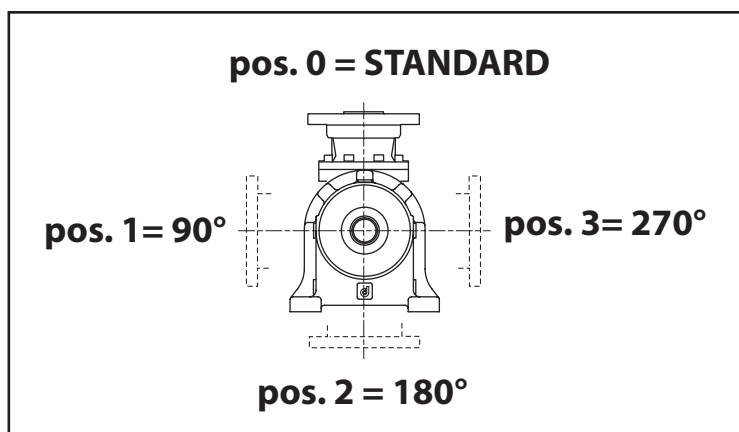
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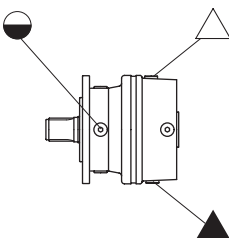
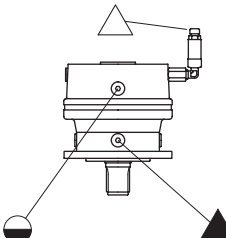
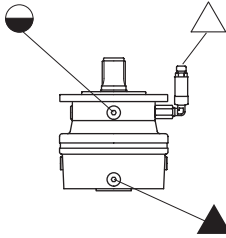
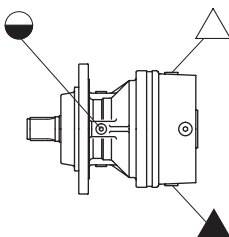
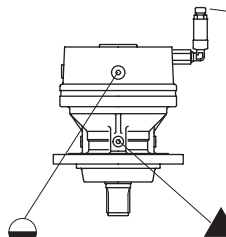
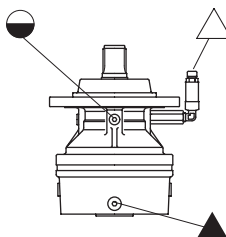
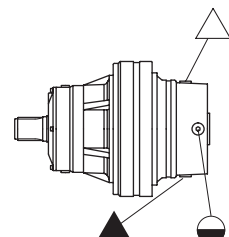
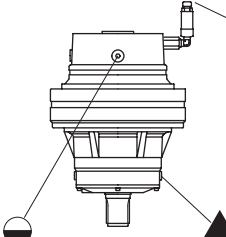
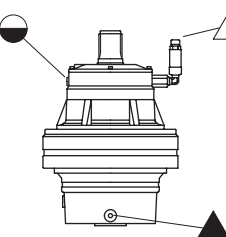
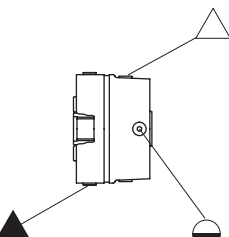
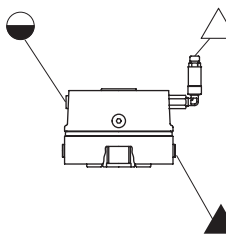
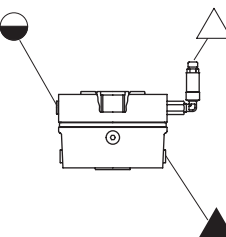
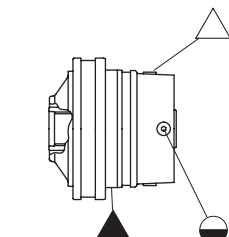
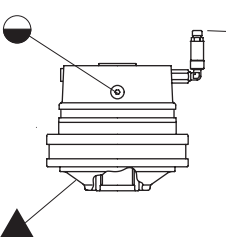
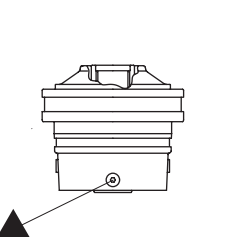


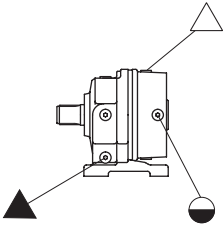
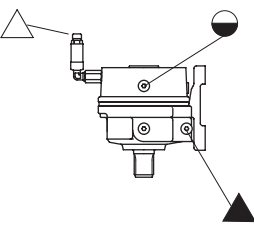
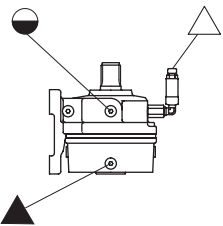
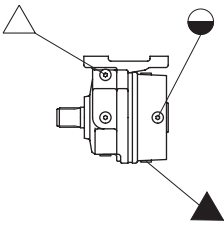
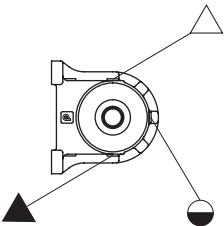
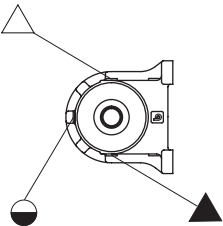
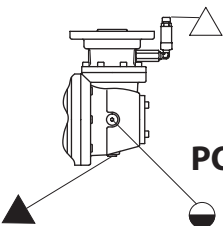
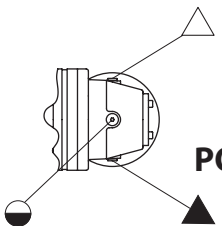
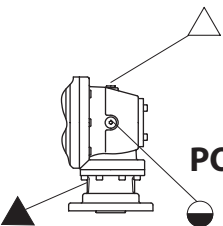
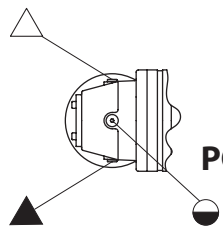
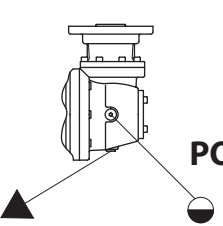
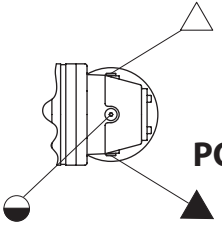
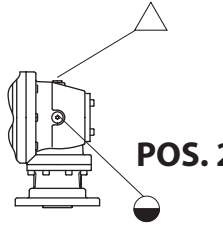
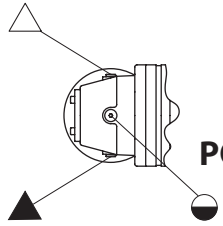
		A	B	B1	C	C1	øD	E	F	F1	G	H	L	M	N	P	Code
6000	②	410	508	—	—	114.5	33(4)	43.5	126.5	—	157	497	360	315	610	35	99341500
6000 H6	②	410	508	—	14.5	—	33(4)	43.5	126.5	—	157	497	360	315	610	35	99341500
8000	②	404.5	508	—	14.5	—	33(4)	43.5	126.5	—	151.5	491.5	360	315	610	35	99341500
12010-16000	①	416	630	100	52	—	32(12)	40	145	100	46	720	340	360	720	43	99335300
21000	②	432	740	120	62	—	33(8)	50	150	—	132	532	390	425	850	40	99171100
26000	②	452	740	120	62	—	33(8)	50	150	—	152	552	390	425	850	40	99171200
31000	②	550	900	150	75	—	45(8)	75	185	—	180	700	480	530	1020	50	99171300
40000-45000	②	590	900	150	75	—	45(8)	75	185	—	220	740	480	530	1020	50	99171400
53000-61000	②	645	1100	200	81	—	52(8)	80	200	—	245	805	550	640	1250	60	99180000
85000	②	693	1100	200	81	—	52(8)	80	200	—	293	853	550	640	1250	60	99180100
110000-130000 150000	②	865	1520	380	68	—	60(8)	72.5	245.5	—	354	1110	610	950	1750	80	—
205000-235000	②	1090	1770	380	176	—	85(8)	99	326	—	438	1288	780	1050	2000	110	—

Andere Abmessungen auf Anfrage. On demand for different size.

			
B3	V5	V6	B8
			
B6	B7	B5	V1
			
V3			



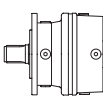
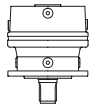
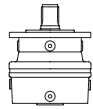
N	 B5	 V1	 V3
110÷1520			
T-TL-TR	 B5	 V1	 V3
110÷810			
H	 B5	 V1	 V3
1520÷130000			
F	 B5	 V1	 V3
110÷810			
F	 B5	 V1	 V3
1020÷1520			

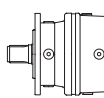
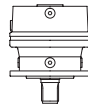
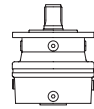
P			
			
	110÷810		
RAS			
			
	110÷510		
RAD			
			
	110÷510		

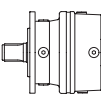
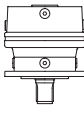
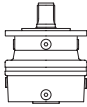
[Liters]

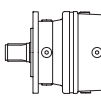
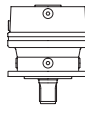
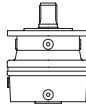


	B3	V5	V6	B6	B7	B8	B5	V1	V3
111	0.7	1.4	1.4	0.7	1.4	1.4	0.4	0.8	0.8
112	0.9	1.8	1.8	0.9	1.8	1.8	0.5	1	1
113	1.1	2.2	2.2	1.1	2.2	2.2	0.7	1.4	1.4
114	1.3	2.6	2.6	1.3	2.6	2.6	0.8	1.6	1.6
211	0.8	1.6	1.6	0.8	1.6	1.6	0.5	1	1
212	1	2	2	1	2	2	0.6	1.2	1.2
213	1.2	2.4	2.4	1.2	2.4	2.4	0.7	1.4	1.4
214	1.4	2.8	2.8	1.4	2.8	2.8	0.9	1.8	1.8
241	0.8	1.6	1.6	0.8	1.6	1.6	0.5	1	1
242	1	2	2	1	2	2	0.6	1.2	1.2
243	1.2	2.4	2.4	1.2	2.4	2.4	0.7	1.4	1.4
244	1.4	2.8	2.8	1.4	2.8	2.8	0.9	1.8	1.8
311	1.4	2.8	2.8	1.4	2.8	2.8	1	2	2
312	1.6	3.2	3.2	1.6	3.2	3.2	1.2	2.4	2.4
313	1.7	3.4	3.4	1.7	3.4	3.4	1.3	2.6	2.6
314	1.8	3.6	3.6	1.8	3.6	3.6	1.4	2.8	2.8
511	1.5	3	3	1.5	3	3	1.1	2.2	2.2
512	1.7	3.4	3.4	1.7	3.4	3.4	1.3	2.6	2.6
513	1.8	3.6	3.6	1.8	3.6	3.6	1.5	3	3
514	1.9	3.8	3.8	1.9	3.8	3.8	1.6	3.2	3.2
611	1.6	3.2	3.2	1.6	3.2	3.2	1.2	2.4	2.4
612	1.8	3.6	3.6	1.8	3.6	3.6	1.4	2.8	2.8
613	1.9	3.8	3.8	1.9	3.8	3.8	1.6	3.2	3.2
614	20	40	40	20	40	40	1.7	3.4	3.4
811	1.8	3.6	3.6	1.8	3.6	3.6	1.5	3	3
812	2	4	4	2	4	4	1.7	3.4	3.4
813	2.2	4.4	4.4	2.2	4.4	4.4	1.9	3.8	3.8
814	2.3	4.6	4.6	2.3	4.6	4.6	2	4	4
1021	2.4	4.8	4.8	2.4	4.8	4.8	2.1	4.2	4.2
1022	2.6	5.2	5.2	2.6	5.2	5.2	2.3	4.6	4.6
1023	2.7	5.4	5.4	2.7	5.4	5.4	2.4	4.8	4.8
1024	2.9	5.8	5.8	2.9	5.8	5.8	2.6	5.2	5.2

[Liters]	B5	V1	V3
			
1521	2.7	5.4	5.4
1522	3	6	6
1523	3.2	6.4	6.4
1524	3.4	6.8	6.8
2001	2.7	5.4	5.4
2002	3	6	6
2003	3.3	6.6	6.6
2004	3.4	6.8	6.8
2002L	3	6	6
2003L	3.1	6.2	6.2
2004L	3.2	6.4	6.4
2521	7.7	15.4	15.4
2522	9	18	18
2523	9.4	18.8	18.8
2524	9.9	19.8	19.8
3001	7.6	15.2	15.2
3002	9.1	18.2	18.2
3003	9.5	19	19
3004	10	20	20
3511	4.9	9.8	9.8
3512	5.7	11.4	11.4
3513	6	12	12
3514	6.2	12.4	12.4
4801	4.7	9.4	9.4
4802	6.8	13.6	13.6
4803	7.2	14.4	14.4
4804	7.4	14.8	14.8
6001	7.5	15	15
6002	8.5	17	17
6003	9	18	18
6004	9.3	18.6	18.6
6002L	8.5	17	17
6003L	9	18	18

[Liters]	B5	V1	V3
			
6004L	9.2	18.4	18.4
8001	8.3	16.6	16.6
8002	10.2	20.4	20.4
8003	11	22	22
8004	11.5	23	23
8005	11.7	23.4	23.4
8002L	10.2	20.4	20.4
8003L	10.8	21.6	21.6
8004L	11.4	22.8	22.8
8005L	11.6	23.2	23.2
12011	13.5	27	27
12012	15.5	31	31
12013	16.5	33	33
12014	16.8	33.6	33.6
12015	17	34	34
12012L	15.5	31	31
12013L	16.3	32.6	32.6
12014L	16.7	33.4	33.4
12015L	17	34	34
16001	14.5	29	29
16002	18	36	36
16003	19.2	38.4	38.4
16004	19.6	39.2	39.2
16005	19.8	39.6	39.6
16002L	17	34	34
16003L	18	36	36
16004L	18.5	37	37
16005L	18.7	37.4	37.4
21001	20	40	40
21002	23.5	47	47
21003	24.5	49	49
21004	25	50	50
21005	25.5	51	51

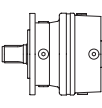
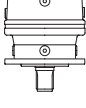
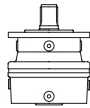
[Liters]	B5	V1	V3
			
26001	20	40	40
26002	25.5	51	51
26003	27.5	55	55
26004	28.5	57	57
26005	29	58	58
31001	38	76	76
31002	46.5	93	93
31003	48.5	97	97
31004	49.5	99	99
31005	50	100	100
40001	41	82	82
40002	49	98	98
40003	51	102	102
40004	52	104	104
40005	52	104	104
45001	41	82	82
45002	50	100	100
45003	53.5	107	107
45004	55	110	110
45005	55.5	111	111
53001	70	140	140
53002	80	160	160
53003	85	170	170
53004	86.5	173	173
53005	87	174	174
61001	70	140	140
61002	80	160	160
61003	85	170	170
61004	86.5	173	173
61005	87	174	174
85001	75	150	150
85002	87.5	175	175
85003	93	186	186

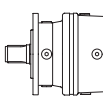
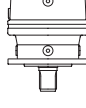
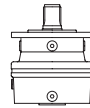
[Liters]	B5	V1	V3
			
85004	95	190	190
85005	95.5	191	191
110001	145	290	290
110002	170	340	340
110003	180	360	360
110004	183	366	366
110005	185	370	370
130001	144	288	288
130002	172	344	344
130003	181	362	362
130004	185	370	370
130005	186	372	372
150001	143	286	286
150002	172	344	344
150003	185	370	370
150004	187	374	374
150005	188	376	376
205001	255	510	510
205002	300	600	600
205003	318	636	636
205004	326	652	652
205005	329	658	658
235001	255	510	510
235002	300	600	600
235003	335	670	670
235004	345	690	690
235005	247	494	494

[Liters]

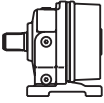
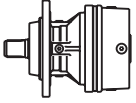
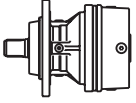
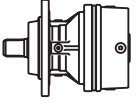
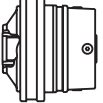
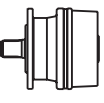
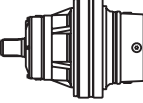


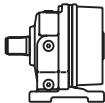
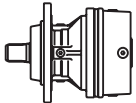
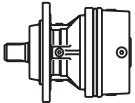
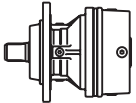
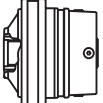
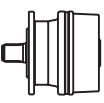
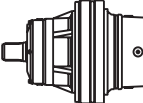
	B3-1	V5	V6	B6-1	B7	B8	B5-1	V1	V3
112	1.5	3	3	1.5	3	3	1.2	2.4	2.4
113	1.7	3.4	3.4	1.7	3.4	3.4	1.3	2.6	2.6
114	1.9	3.8	3.8	1.9	3.8	3.8	1.5	3	3
212	1.6	3.2	3.2	1.6	3.2	3.2	1.3	2.6	2.6
213	1.8	3.6	3.6	1.8	3.6	3.6	1.4	2.8	2.8
214	2	4	4	2	4	4	1.5	3	3
242	1.6	3.2	3.2	1.6	3.2	3.2	1.3	2.6	2.6
243	1.8	3.6	3.6	1.8	3.6	3.6	1.4	2.8	2.8
244	2	4	4	2	4	4	1.5	3	3
312	2.5	5	5	2.5	5	5	2.1	4.2	4.2
313	2.4	4.8	4.8	2.4	4.8	4.8	2	4	4
314	2.5	5	5	2.5	5	5	2.1	4.2	4.2
512	2.6	5.2	5.2	2.6	5.2	5.2	2.2	4.4	4.4
513	2.5	5	5	2.5	5	5	2.1	4.2	4.2
514	2.6	5.2	5.2	2.6	5.2	5.2	2.3	4.6	4.6
612	2.7	5.4	5.4	2.7	5.4	5.4	2.3	4.6	4.6
613	2.9	5.8	5.8	2.9	5.8	5.8	2.5	5	5
614	2.7	5.4	5.4	2.7	5.4	5.4	2.4	4.8	4.8
812	3.8	7.6	7.6	3.8	7.6	7.6	3.5	7	7
813	3.1	6.2	6.2	3.1	6.2	6.2	2.8	5.6	5.6
814	3	6	6	3	6	6	2.7	5.4	5.4
1022	4.4	8.8	8.8	4.4	8.8	8.8	4.1	8.2	8.2
1023	3.7	7.4	7.4	3.7	7.4	7.4	3.4	6.8	6.8
1024	3.5	7	7	3.5	7	7	3.2	6.4	6.4

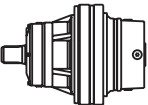
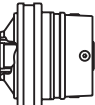
[Liters]	B5-1	V1	V3
			
1522	5.7	11.4	11.4
1523	4.1	8.2	8.2
1524	4	8	8
2002	5.7	11.4	11.4
2003	4.1	8.2	8.2
2004	4.1	8.2	8.2
2003L	4.1	8.2	8.2
2004L	3.9	7.8	7.8
2522	10.7	21.4	21.4
2523	11	22	22
2524	10.5	21	21
3002	10.6	21.2	21.2
3003	11.1	22.2	22.2
3004	10.6	21.2	21.2
3512	14.9	29.8	29.8
3513	7.7	15.4	15.4
3514	7.1	14.2	14.2
4802	14.7	29.4	29.4
4803	9.8	19.6	19.6
4804	8.3	16.6	16.6
6002	17.5	35	35
6003	11.5	23	23
6004	10.1	20.2	20.2
6003L	11.5	23	23
6004L	10.1	20.2	20.2
8002	18.3	36.6	36.6
8003	13.2	26.4	26.4
8004	13	26	26
8003L	13.2	26.4	26.4
8004L	12.8	25.6	25.6
12013	18.5	37	37
12014	18.5	37	37
12015	17.9	35.8	35.8
12013L	18.5	37	37
12014L	18.3	36.6	36.6
12015L	18	36	36
16003	28	56	56
16004	22.2	44.4	44.4
16005	20.7	41.4	41.4

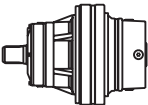
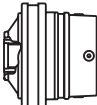
[Liters]	B5-1	V1	V3
			
16003L	27	54	54
16004L	21	42	42
16005L	19.6	39.2	39.2
21003	33.5	67	67
21004	27.5	55	55
21005	26.1	52.2	52.2
26003	35.5	71	71
26004	30.5	61	61
26005	30.5	61	61
31004	51.5	103	103
31005	51.5	103	103
40004	54	108	108
40005	54	108	108
45004	63.5	127	127
45005	58.5	117	117
53004	96.5	193	193
53005	90	180	180
61004	95	190	190
61005	89.5	179	179
61006	88	176	176
85004	103	206	206
85005	98	196	196
85006	97	194	194
110005	186	372	372
110006	187	374	374
130005	380	760	388
130006	189	378	378

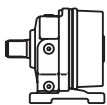
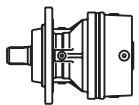
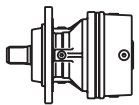
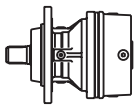
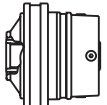
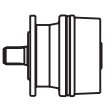
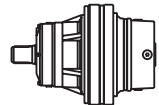
CC		
[Liters]		
		
CC30	1.6	Complete filling
CC120	2.2	
CC350	4	
CC600	6	
CC1000	16	

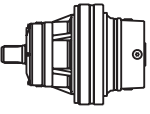
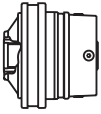
	P	T	TL	TR	F	N	H
							
111	23	20	—	20	14	17	—
112	29.5	26.5	—	26.5	21	24	—
113	36.5	33.5	—	33.5	27.5	30.5	—
114	43	40	—	40	34	37	—
211	25	22	—	22	16	19	—
212	32	29	—	29	23	26	—
213	38	35	—	35	30	32	—
214	45	42	—	42	37	39	—
241	25	—	—	22	—	—	—
242	32	—	—	29	—	—	—
243	38	—	—	35	—	—	—
244	45	—	—	42	—	—	—
311	52	47	47	—	24	35	—
312	59	54	54	—	31	42	—
313	66	61	61	—	38	49	—
314	72	67	66	—	45	56	—
511	57	52	52	—	29	40	—
512	66	61	61	—	38	49	—
513	73	68	68	—	45	56	—
514	80	75	75	—	52	63	—
611	58	53	53	—	30	41	—
612	72	67	67	—	44	55	—
613	79	74	74	—	51	62	—
614	86	81	81	—	58	69	—
811	80	70	—	—	—	67	—
812	94	84	—	—	—	80	—
813	100	90	—	—	—	87	—
814	107	97	—	—	—	94	—
1021	100	90	—	—	60	—	—
1022	117	107	—	—	77	—	—

	P	T	TL	TR	F	N	H
							
1023	126	116	—	—	86	—	—
1024	133	123	—	—	93	—	—
1521	—	123	—	—	84	—	130
1522	—	141	—	—	102	—	148
1523	—	149	—	—	110	—	156
1524	—	156	—	—	117	—	163
2001	—	124	—	—	85	—	131
2002	—	142	—	—	104	—	150
2003	—	156	—	—	118	—	163
2004	—	163	—	—	125	—	170
2002L	—	137	—	—	99	—	145
2003L	—	149	—	—	111	—	156
2004L	—	153	—	—	115	—	160
2521	—	—	—	—	151	—	185
2522	—	—	—	—	180	—	214
2523	—	—	—	—	194	—	228
2524	—	—	—	—	201	—	235
3001	—	—	—	—	152	—	186
3002	—	—	—	—	199	—	233
3003	—	—	—	—	207	—	241
3004	—	—	—	—	216	—	250
3511	—	—	—	—	225	—	239
3512	—	—	—	—	260	—	274
3513	—	—	—	—	278	—	292
3514	—	—	—	—	287	—	301
4801	—	—	—	—	226	—	240
4802	—	—	—	—	311	—	325
4803	—	—	—	—	330	—	344
4804	—	—	—	—	339	—	353

	H	F
		
6002L	365	340
6003L	375	350
6004L	382	357
6001	315	290
6002	370	345
6003	390	365
6004	395	370
8001	410	380
8002	500	470
8003	540	510
8004	555	525
8005	560	530
8002L	485	455
8003L	520	490
8004L	530	500
8005L	535	505
12011	650	615
12012	750	715
12013	785	750
12014	800	765
12015	810	775
12012L	700	665
12013L	745	710
12014L	750	715
12015L	757	722
16001	690	655
16002	860	825
16003	915	880
16004	935	900
16005	940	905
16002L	860	825
16003L	865	830
16004L	885	850
16005L	890	855
21001	930	880
21002	1115	1065
21003	1165	1115
21004	1190	1140
21005	1205	1155
26001	980	920
26002	1230	1170
26003	1330	1270
26004	1360	1300
26005	1380	1320
31001	1900	1750
31002	2280	2130
31003	2375	2225
31004	2410	2260
31005	2425	2275
40001	2030	1880

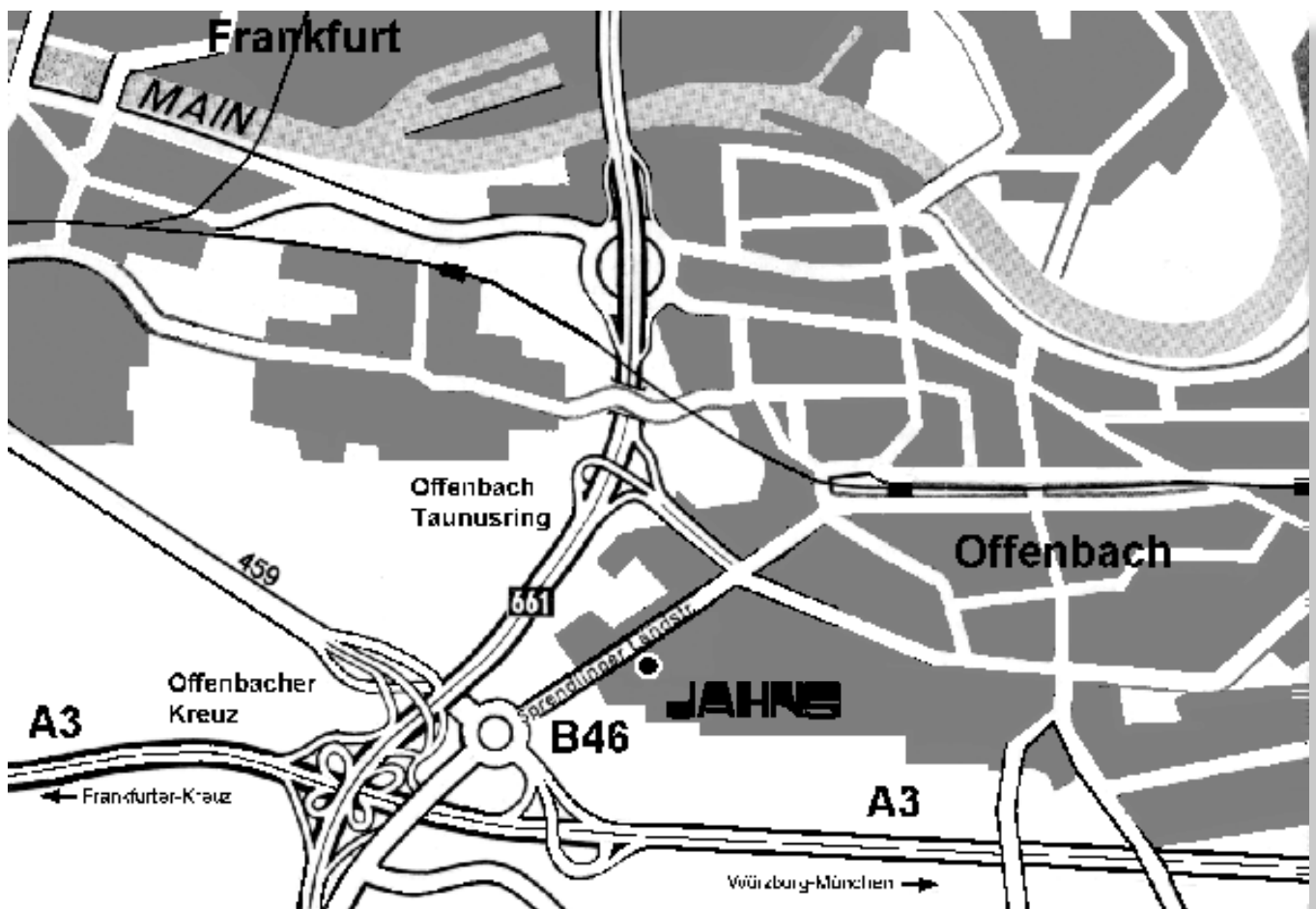
	H	F
		
40002	2400	2250
40003	2500	2350
40004	2530	2380
40005	2540	2390
45001	2030	1880
45002	2435	2285
45003	2610	2460
45004	2665	2515
45005	2682	2532
53001	3550	3200
53002	4060	3710
53003	4250	3900
53004	4350	4000
53005	4370	4020
61001	3550	3200
61002	4060	3710
61003	4250	3900
61004	4350	4000
61005	4370	4020
85001	3850	3450
85002	4410	4010
85003	4650	4250
85004	4750	4350
85005	4785	4385
110001	7520	6620
110002	8780	7880
110003	9155	8255
110004	9250	8350
110005	9285	8385
130001	7535	6635
130002	8800	7900
130003	9210	8310
130004	9380	8480
130005	9430	8530
150001	7550	6650
150002	8795	7895
150003	9280	8380
150004	9460	8560
150005	9500	8600
205001	12240	11790
205002	14330	13880
205003	15040	14590
205004	15410	14960
205005	15500	15050
235001	12250	11800
235002	14580	14130
235003	15830	15380
235004	16200	15750
235005	16300	15850

	P	T	TL	TR	F	N	H
							
112	43	40	—	40	34	37	—
113	49.5	46.5	—	46.5	41	44	—
114	56.5	53.5	—	53.5	47.5	50.5	—
212	45	42	—	42	36	39	—
213	52	49	—	49	43	46	—
214	58	55	—	55	50	52	—
242	45	—	—	42	—	—	—
243	52	—	—	49	—	—	—
244	58	—	—	55	—	—	—
312	102	97	97	—	74	85	—
313	—	74	74	—	51	62	—
314	86	81	81	—	58	69	—
512	107	102	102	—	79	90	—
513	86	81	81	—	58	69	—
514	93	88	88	—	65	76	—
612	108	103	103	—	80	91	—
613	122	117	117	—	94	105	—
614	99	94	94	—	71	82	—
812	170	160	—	—	—	157	—
813	144	134	—	—	—	130	—
814	120	110	—	—	—	107	—
1022	190	180	—	—	150	—	—
1023	167	157	—	—	127	—	—
1024	146	136	—	—	106	—	—
1522	—	258	—	—	219	—	265
1523	—	191	—	—	152	—	198
1524	—	169	—	—	130	—	176
2002	—	259	—	—	220	—	266
2003	—	192	—	—	154	—	200
2004	—	176	—	—	138	—	183
2003L	—	187	—	—	149	—	195
2004L	—	169	—	—	131	—	176
2522	—	—	—	—	286	—	320
2523	—	—	—	—	270	—	304
2524	—	—	—	—	214	—	248
3002	—	—	—	—	287	—	321
3003	—	—	—	—	289	—	323
3004	—	—	—	—	257	—	291
3512	—	—	—	—	575	—	589
3513	—	—	—	—	350	—	364
3514	—	—	—	—	398	—	412
4802	—	—	—	—	576	—	590
4803	—	—	—	—	446	—	460
4804	—	—	—	—	380	—	394

	H	F
		
6002	665	640
6003	505	480
6004	440	415
6003L	500	475
6004L	425	400
8002	760	730
8003	635	605
8004	630	600
8003L	620	590
8004L	610	580
12013	885	850
12014	875	840
12015	850	815
12013L	835	800
12014L	835	800
12015L	800	765
16003	1210	1175
16004	1050	1015
16005	985	950
16003L	1210	1175
16004L	1000	965
16005L	935	900
21003	1465	1415
21004	1300	1250
21005	1240	1190
26003	1580	1520
26004	1465	1405
26005	1450	1390
31004	2510	2360
31005	2500	2350
40004	2635	2485
40005	2620	2470
45004	2960	2810
45005	2800	2650
53004	4600	4250
53005	4485	4135
61004	4600	4250
61005	4485	4135
61006	4420	4070
85004	5000	4600
85005	4885	4485
85006	4875	4475
110005	9385	8485
110006	9375	8475
135005	9730	8830
135006	9365	8665

	CC
	
CC30	35
CC120	50
CC350	90
CC600	135
CC1000	350

Components for hydraulics and process technology



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