

*advanced quality  
customized designs  
made in europe*

## Oil/Air heat exchangers



- Low noise level
- High performance
- Low cost

**UNIVERSAL  
HYDRAULIK**   
Your Partner for coolers and systems

## Series

# LKI

For industrial use

# LKI-HYD

For mobile use

**OIL-AIR  
COOLING**



## Product description

### Product description

With this new generation of Universal Hydraulik LKI oil-coolers, the manufacturers have succeeded in reducing the noise level. These coolers are ideally suited for stationary installations - for the cooling of hydraulic or lubricating oils. The range has been extended to include slow-running ventilators, and the housings have been optimised, in order to produce the very low noise level. In order to make the cooler range as comprehensive as possible, the smaller models are also available as single or dual versions, thus covering oil-cooling requirements for both low and high oil throughflow volumes. The max. oil flow is reduced by 50% in the dual version and the cooler gets a slightly higher performance by this. The oil flow through one half of the cooler and then through the other half in the dual version. The oil stays longer in the cooler, which results in higher performances. The single version is ideal for higher oil volumes, to avoid too big pressure drops on the oil side. You can also see the differences in the performance data and the oil connections on the cooler drawings.

### Product highlights

- Testing pressure: 363 psi static according to DIN 50104
- Operating pressure: 232 psi (min. 2 Mill. Cycles from 0-232 psi at 2 Hz and 140 °F)
- Compact oil-cooler
- High cooling performance
- Low pressure loss
- Max. operating temperature: 248 °F
- High flexibility
- 2" SAE flange from LKI 700 upward
- Cooling of: Oil, HFA, HFB, HFC, HFD-fluids up to  $v = 100 \times 10^{-6} \text{ m}^2/\text{s}$ , water/glycol min. 65:35 - under no circumstances water without corrosion prevention
- Coolant: air
- Variable motor; Hydro / 12/24V

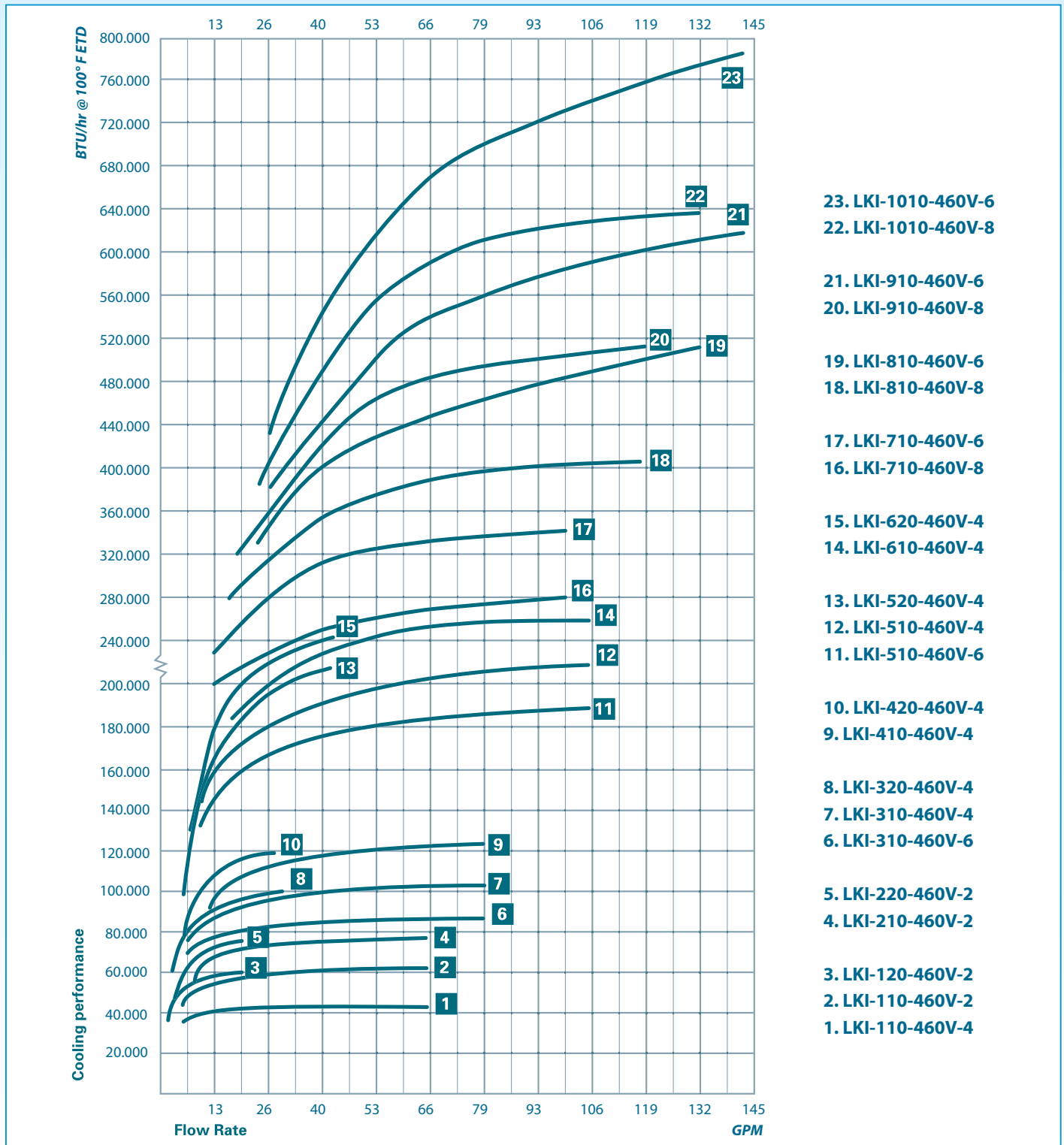
### Option

- Testing pressure 580 psi
- Filter pad available on request
- Thermo-bypass
- Thermo-switch
- Cooling block in stainless steel
- ATEX series for use in potentially explosive environments
- Seawater version also available (off-shore)

## Materials

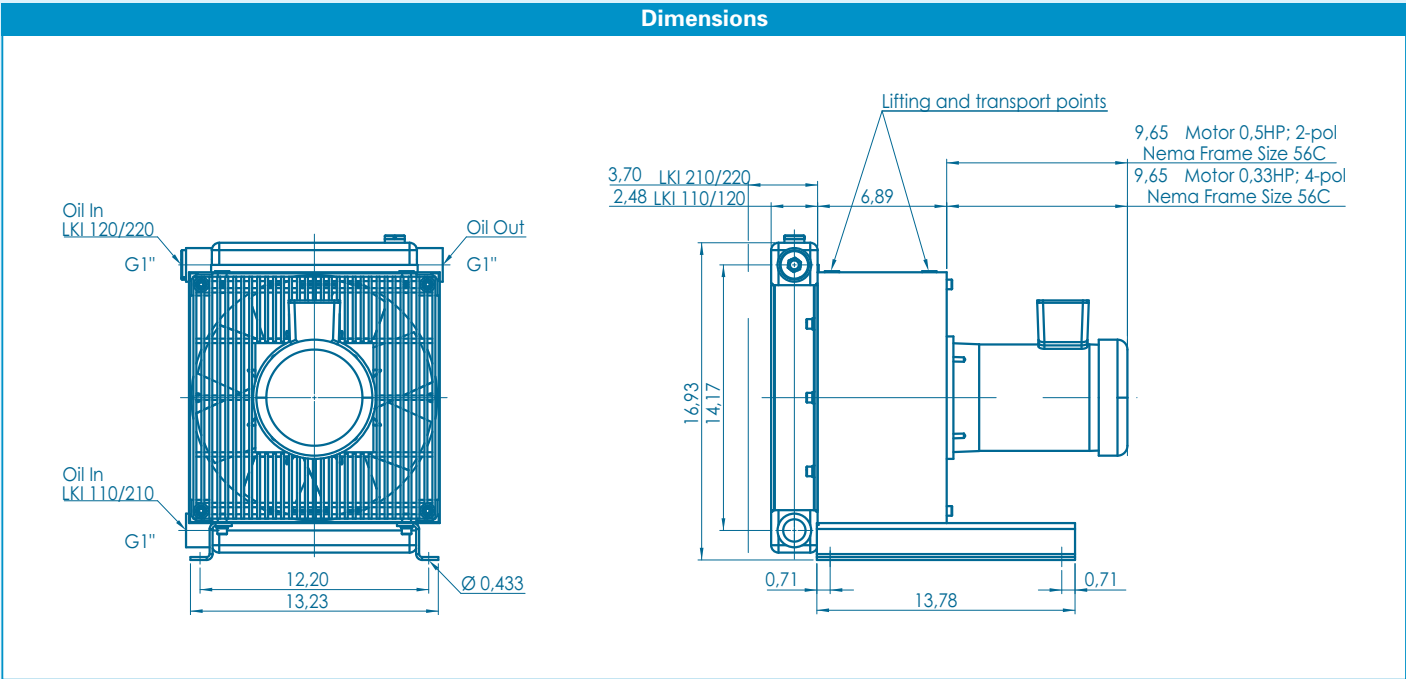
|                | STANDARD                      | SEAWATER          |
|----------------|-------------------------------|-------------------|
| COOLING BLOCK  | Aluminium, RAL 9006           | 2-component paint |
| HOUSING        | Steel, RAL 9006               | Electroplated     |
| FAN            | PPG                           |                   |
| SAFETY BARRIER | Steel with blue-chrome finish |                   |
| FEET           | Galvanized                    |                   |

## Performance Data LKI-110 - 1010



The calculation of the specific cooling performance is based on an oil temperature of 140° F, an ambient temperature of 68° F – and therefore a temperature difference of 72° F. The figures apply to ISO VG32 hydraulic oil with 30 cSt. For variances,  $\Delta p$  is multiplied by the correction factor  $f$  from the diagram on Page 3.

LKI-100/200



LKI 100 - 600: lateral internal-thread oil connections

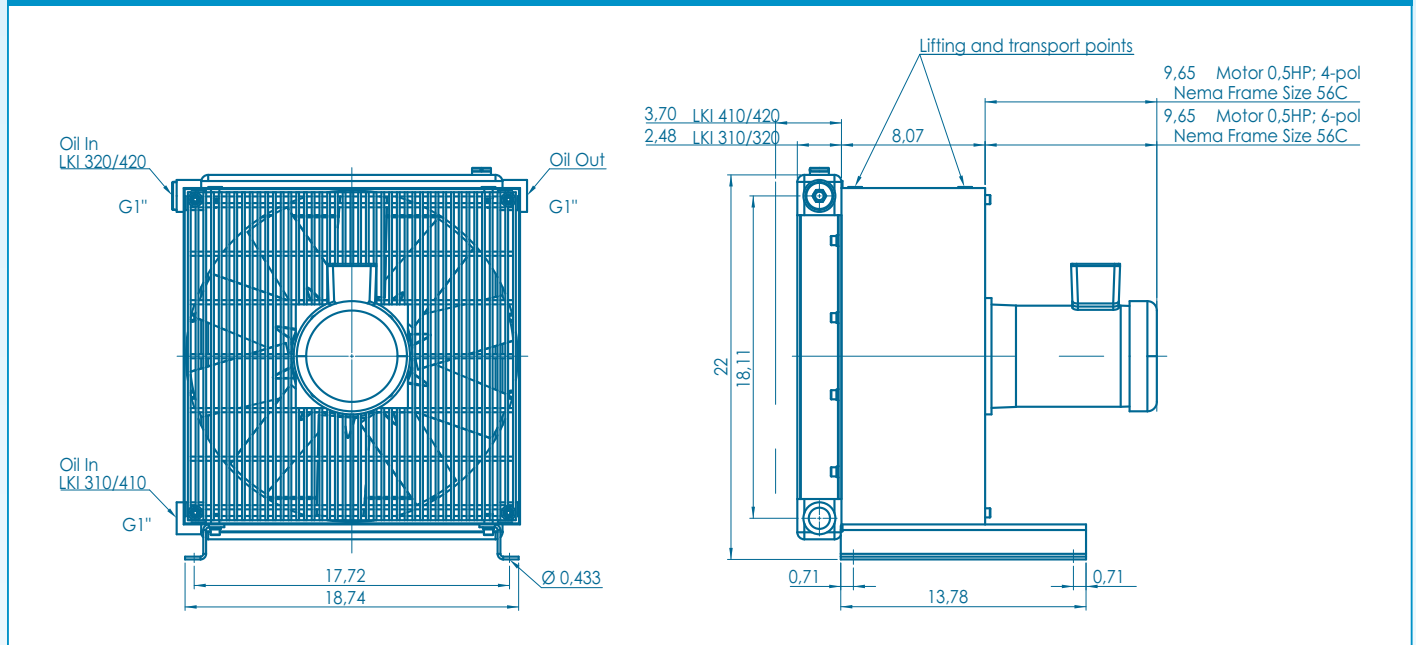
Technical data

| Model          | Motor performance | Power consumption | RPM               | Air throughflow | Noise level* | Weight |
|----------------|-------------------|-------------------|-------------------|-----------------|--------------|--------|
|                | HP                | KW                | min <sup>-1</sup> | CFM             | 1m/7m (dBA)  | lbs    |
| LKI-110-460V-2 | 0.5               | 1.33              | 3450              | 2733.35         | 77/62        | 37.5   |
| LKI-120-460V-2 | 0.5               | 1.33              | 3450              | 2733.35         | 77/62        | 37.5   |
| LKI-110-460V-4 | 0.33              | 1.0               | 1725              | 1038.25         | 64/50        | 37.5   |
| LKI-120-460V-4 | 0.33              | 1.0               | 1725              | 1038.25         | 64/50        | 37.5   |
| LKI-210-460V-2 | 0.5               | 1.33              | 3450              | 2500.28         | 79/64        | 44     |
| LKI-220-460V-2 | 0.5               | 1.33              | 3450              | 2500.28         | 79/64        | 44     |
| LKI-210-460V-4 | 0.33              | 1.0               | 1725              | 1059.44         | 64/50        | 44     |
| LKI-220-460V-4 | 0.33              | 1.0               | 1725              | 1059.44         | 64/50        | 44     |

\* may vary by ±3 dB(A) due to room characteristics, own frequencies, oil connections, viscosities etc.

## LKI-300/400

### Dimensions



LKI 100 - 600: lateral internal-thread oil connections

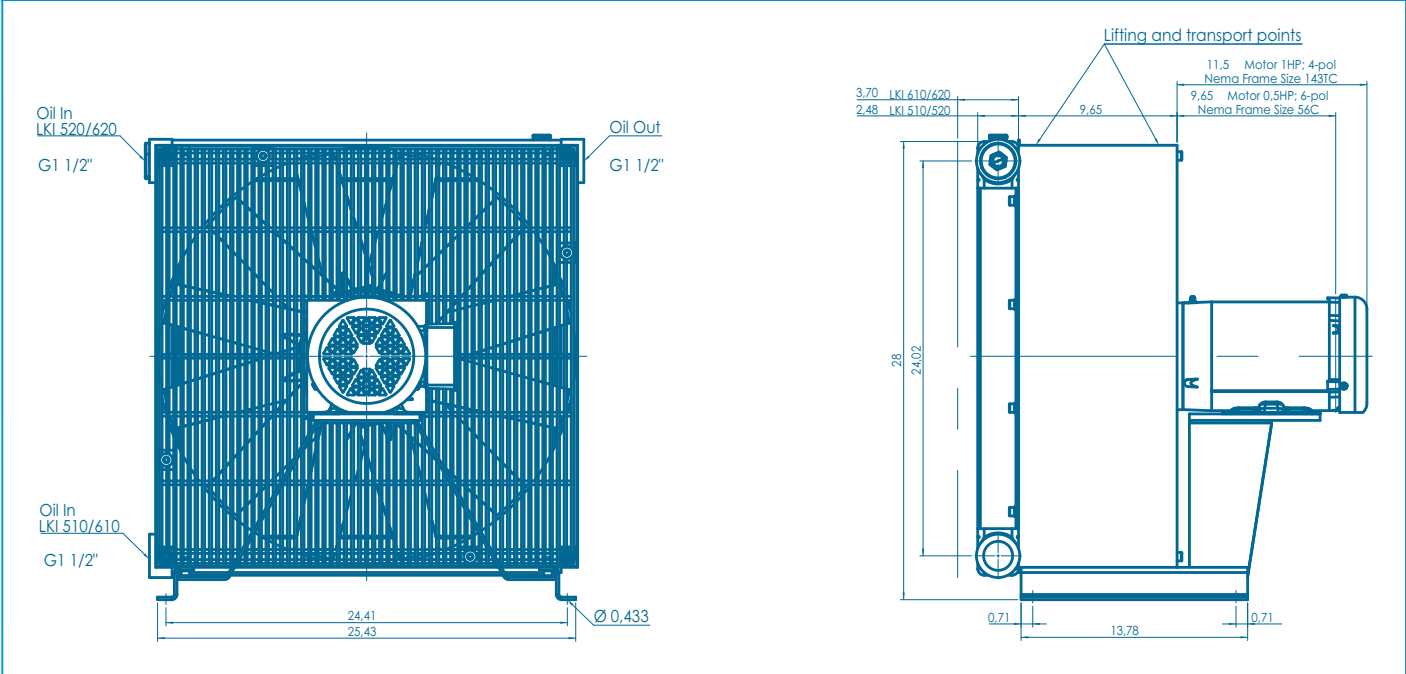
### Technical data

| Model                 | Motor performance | Power consumption | RPM               | Air throughflow | Noise level* | Weight |
|-----------------------|-------------------|-------------------|-------------------|-----------------|--------------|--------|
|                       | HP                | KW                | min <sup>-1</sup> | CFM             | 1m/7m (dBA)  | lbs    |
| <b>LKI-310-460V-4</b> | 0.5               | 0.89              | 1725              | 1567.97         | 73/58        | 55     |
| <b>LKI-320-460V-4</b> | 0.5               | 0.89              | 1725              | 1567.97         | 73/58        | 55     |
| <b>LKI-410-460V-4</b> | 0.5               | 0.48              | 1725              | 1610.35         | 75/63        | 70.5   |
| <b>LKI-420-460V-4</b> | 0.5               | 0.48              | 1725              | 1610.35         | 75/63        | 70.5   |

\* may vary by  $\pm 3$  dB(A) due to room characteristics, own frequencies, oil connections, viscosities etc.

LKI-500/600

Dimensions



LKI 100 - 600: lateral internal-thread oil connections

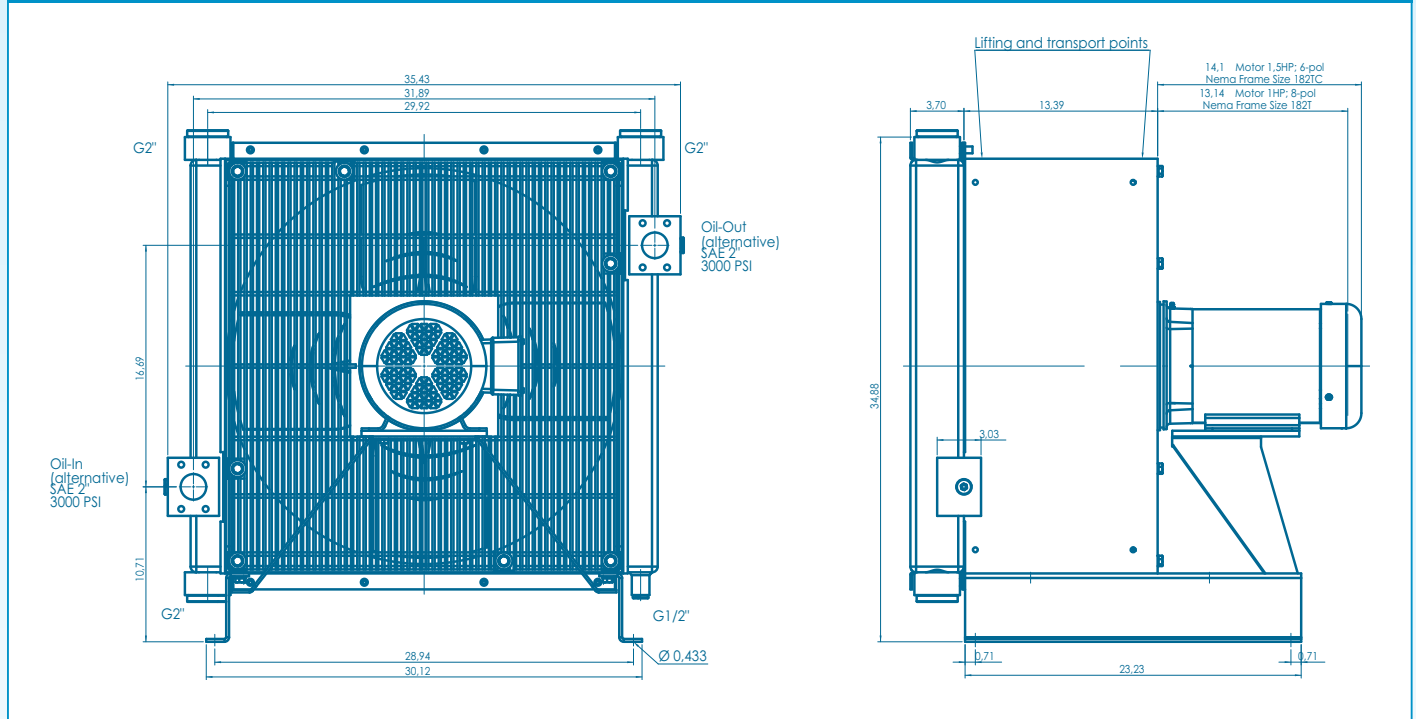
Technical data

| Model          | Motor performance | Power consumption | RPM               | Air throughflow | Noise level* | Weight |
|----------------|-------------------|-------------------|-------------------|-----------------|--------------|--------|
|                | HP                | KW                | min <sup>-1</sup> | CFM             | 1m/7m (dBA)  | lbs    |
| LKI-510-460V-4 | 1                 | 1.33              | 1760              | 3602.09         | 80/70        | 88     |
| LKI-520-460V-4 | 1                 | 1.33              | 1760              | 3602.09         | 80/70        | 88     |
| LKI-510-460V-6 | 0.5               | 1.0               | 1140              | 2246.01         | 70/57        | 81.5   |
| LKI-520-460V-6 | 0.5               | 1.0               | 1140              | 2246.01         | 70/57        | 81.5   |
| LKI-610-460V-4 | 1                 | 1.33              | 1760              | 3178.32         | 80/70        | 108    |
| LKI-620-460V-4 | 1                 | 1.33              | 1760              | 3178.32         | 80/70        | 108    |
| LKI-610-460V-6 | 0.5               | 1.0               | 1140              | 2012.94         | 70/57        | 108    |
| LKI-620-460V-6 | 0.5               | 1.0               | 1140              | 2012.94         | 70/57        | 108    |

\* may vary by ±3 dB(A) due to room characteristics, own frequencies, oil connections, viscosities etc.

## LKI-700

### Dimensions



LKI 700 - 1000: lateral internal-thread oil connections and SAE flange at front or rear

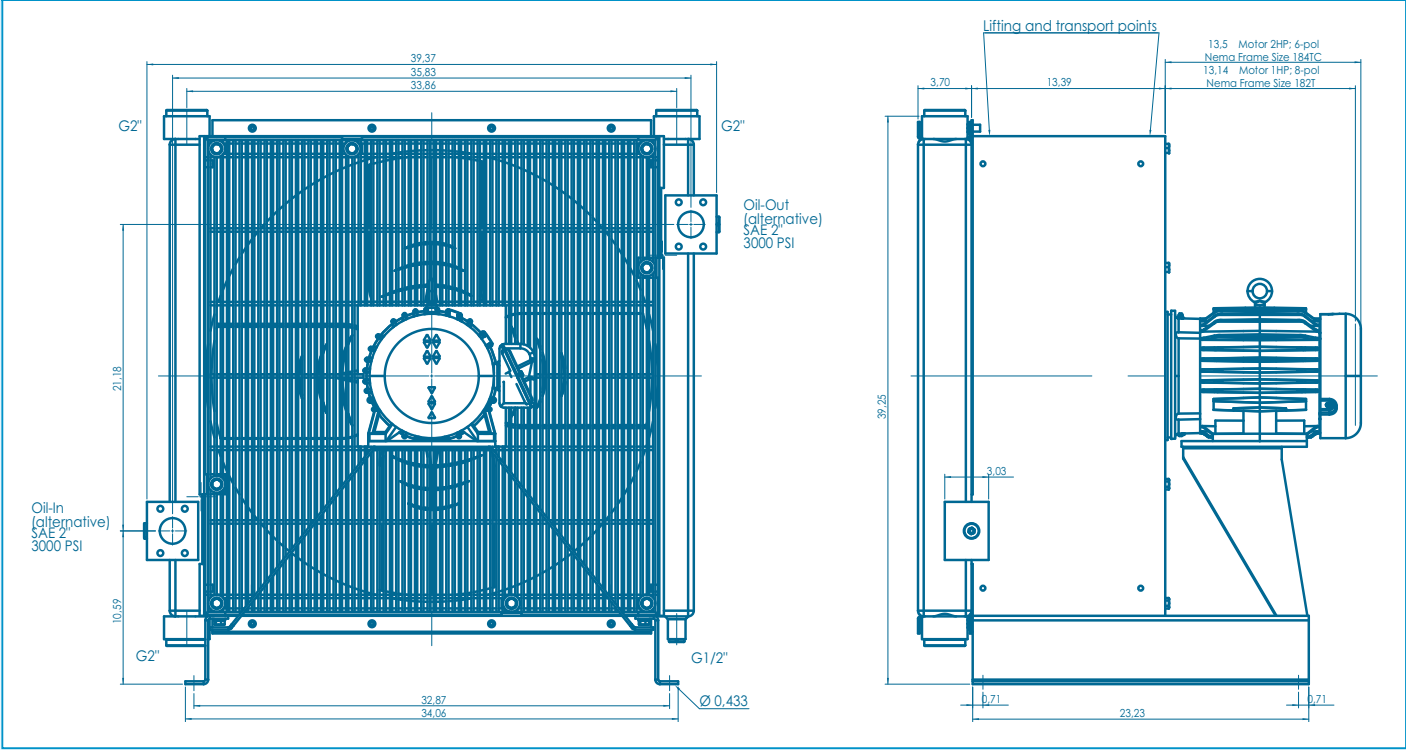
### Technical data

| Model                 | Motor performance | Power consumption | RPM               | Air throughflow | Noise level* | Weight |
|-----------------------|-------------------|-------------------|-------------------|-----------------|--------------|--------|
|                       | HP                | KW                | min <sup>-1</sup> | CFM             | 1m/7m (dBA)  | lbs    |
| <b>LKI-710-460V-6</b> | 1.5               | 0.89              | 1140              | 4534.40         | 77/64        | 200.5  |
| <b>LKI-710-460V-8</b> | 1                 | 0.89              | 1725              | 3305.45         | 69/56        | 200.5  |

\* may vary by  $\pm 3$  dB(A) due to room characteristics, own frequencies, oil connections, viscosities etc.

LKI-800

Dimensions



LKI 700 - 1000: lateral internal-thread oil connections and SAE flange at front or rear

Technical data

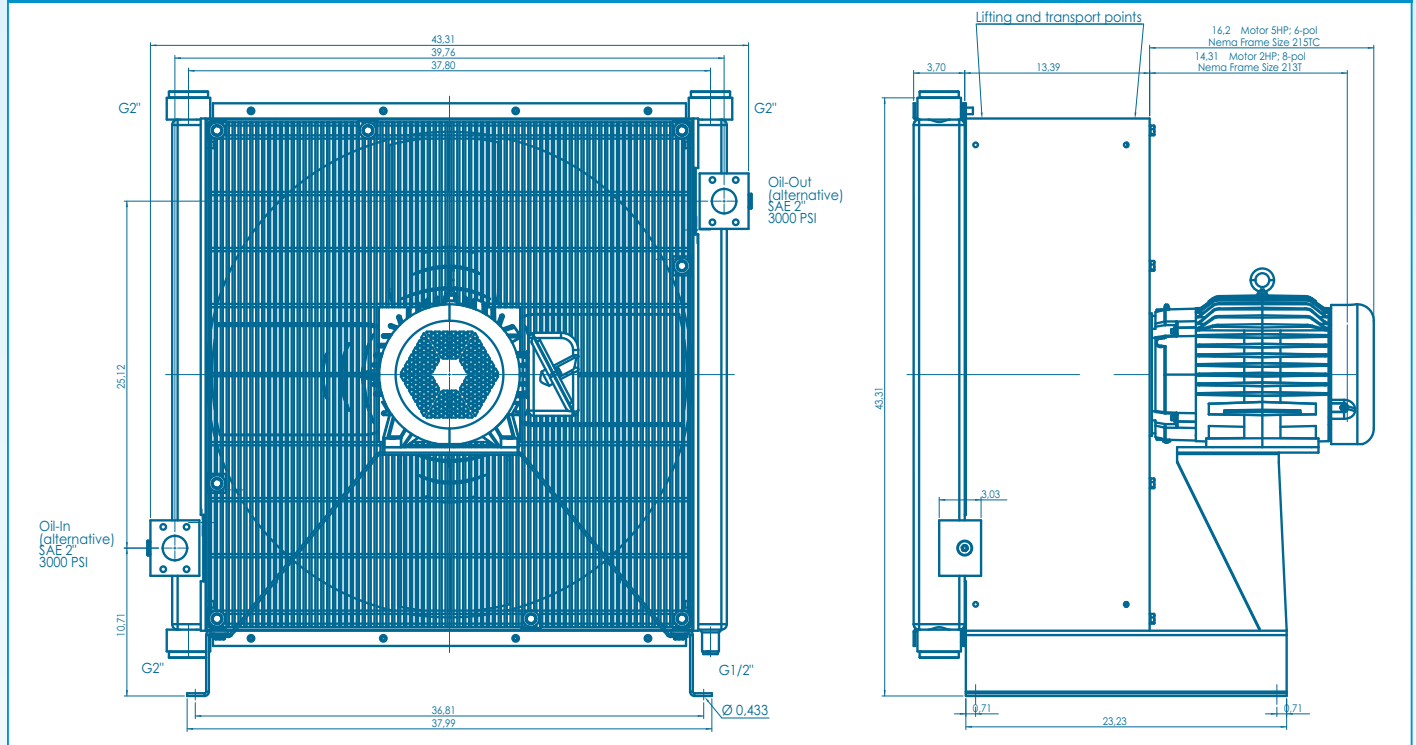
| Model          | Motor performance | Power consumption | RPM               | Air throughflow | Noise level* | Weight |
|----------------|-------------------|-------------------|-------------------|-----------------|--------------|--------|
|                | HP                | KW                | min <sup>-1</sup> | CFM             | 1m/7m (dBA)  | lbs    |
| LKI-810-460V-6 | 2                 | 3.78              | 1165              | 7119.44         | 79/68        | 244.5  |
| LKI-810-460V-8 | 1                 | 2.42              | 750               | 5593.84         | 72/60        | 244.5  |

\* may vary by ±3 dB(A) due to room characteristics, own frequencies, oil connections, viscosities etc.



## LKI-900

### Dimensions



LKI 700 - 1000: lateral internal-thread oil connections and SAE flange at front or rear

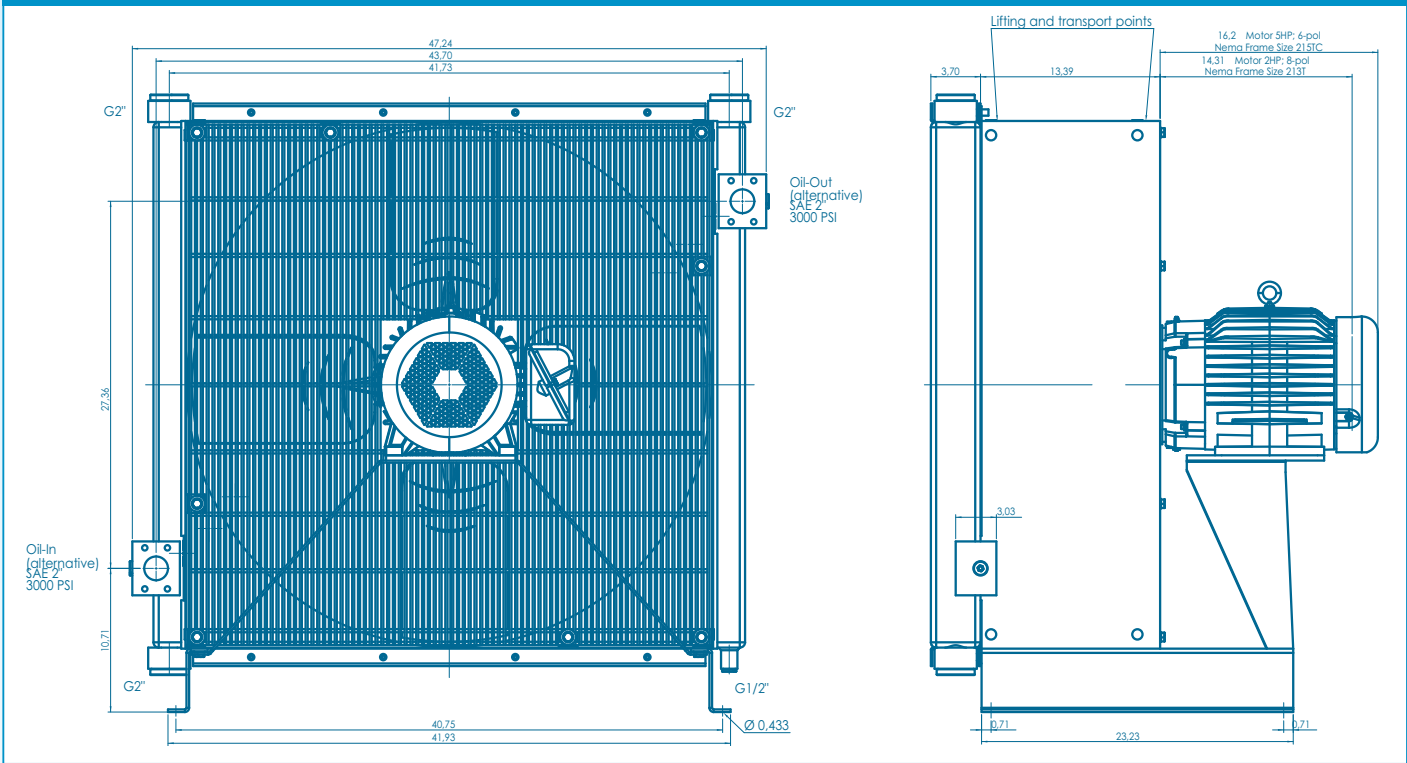
### Technical data

| Model                 | Motor performance | Power consumption | RPM               | Air throughflow | Noise level* | Weight |
|-----------------------|-------------------|-------------------|-------------------|-----------------|--------------|--------|
|                       | HP                | KW                | min <sup>-1</sup> | CFM             | 1m/7m (dBA)  | lbs    |
| <b>LKI-910-460V-6</b> | 5                 | 7.2               | 1165              | 8962.86         | 85/72        | 302    |
| <b>LKI-910-460V-8</b> | 1.1               | 3.78              | 750               | 6504.96         | 76/64        | 289    |

\* may vary by  $\pm 3$  dB(A) due to room characteristics, own frequencies, oil connections, viscosities etc.

LKI-1000

Dimensions



LKI 700 - 1000: lateral internal-thread oil connections and SAE flange at front or rear

Technical data

| Model           | Motor performance | Power consumption | RPM               | Air throughflow | Noise level* | Weight |
|-----------------|-------------------|-------------------|-------------------|-----------------|--------------|--------|
|                 | HP                | KW                | min <sup>-1</sup> | CFM             | 1m/7m (dBA)  | lbs    |
| LKI-1010-460V-6 | 5                 | 7.2               | 1165              | 11399.57        | 84/71        | 346    |
| LKI-1010-460V-8 | 1.5               | 3.78              | 750               | 8136.50         | 76/64        | 333    |

\* may vary by ±3 dB(A) due to room characteristics, own frequencies, oil connections, viscosities etc.

## Hydraulic Motor Information

| Model          | Motor performance<br><i>HP</i> | RPM<br><i>min<sup>-1</sup></i> | 11 ccm         |                | 22 ccm         |                |
|----------------|--------------------------------|--------------------------------|----------------|----------------|----------------|----------------|
|                |                                |                                | <i>P (PSI)</i> | <i>V (GPM)</i> | <i>P (PSI)</i> | <i>V (GPM)</i> |
| LKHYD-110-X-2  | 0.5                            | 3450                           | 61             | 11             | 31             | 22             |
| LKHYD-120-X-2  | 0.5                            | 3450                           | 61             | 11             | 31             | 22             |
| LKHYD-110-X-4  | 0.33                           | 1760                           | 58             | 6              | 29             | 11             |
| LKHYD-120-X-4  | 0.33                           | 1760                           | 58             | 6              | 29             | 11             |
| LKHYD-210-X-2  | 0.5                            | 3450                           | 61             | 11             | 31             | 22             |
| LKHYD-220-X-2  | 0.5                            | 3450                           | 61             | 11             | 31             | 22             |
| LKHYD-210-X-4  | 0.37                           | 1760                           | 58             | 6              | 29             | 11             |
| LKHYD-220-X-4  | 0.37                           | 1760                           | 58             | 6              | 29             | 11             |
| LKHYD-310-X-4  | 0.5                            | 1760                           | 120            | 6              | 60             | 11             |
| LKHYD-320-X-4  | 0.5                            | 1760                           | 120            | 6              | 60             | 11             |
| LKHYD-310-X-6  | 0.5                            | 1165                           | 59             | 4              | 29             | 8              |
| LKHYD-320-X-6  | 0.5                            | 1165                           | 59             | 4              | 29             | 8              |
| LKHYD-410-X-4  | 0.5                            | 1760                           | 120            | 6              | 60             | 11             |
| LKHYD-420-X-4  | 0.5                            | 1760                           | 120            | 6              | 60             | 11             |
| LKHYD-410-X-6  | 0.5                            | 1165                           | 59             | 4              | 29             | 8              |
| LKHYD-420-X-6  | 0.5                            | 1165                           | 59             | 4              | 29             | 8              |
| LKHYD-510-X-4  | 1                              | 1760                           | 243            | 6              | 121            | 11             |
| LKHYD-520-X-4  | 1                              | 1760                           | 243            | 6              | 121            | 11             |
| LKHYD-510-X-6  | 0.5                            | 1165                           | 122            | 4              | 61             | 8              |
| LKHYD-520-X-6  | 0.5                            | 1165                           | 122            | 4              | 61             | 8              |
| LKHYD-610-X-4  | 1                              | 1760                           | 243            | 6              | 121            | 11             |
| LKHYD-620-X-4  | 1                              | 1760                           | 243            | 6              | 121            | 11             |
| LKHYD-610-X-6  | 0.5                            | 1165                           | 122            | 4              | 61             | 8              |
| LKHYD-620-X-6  | 0.5                            | 1165                           | 122            | 4              | 61             | 8              |
| LKHYD-710-X-6  | 1.5                            | 1165                           | 538            | 4              | 269            | 8              |
| LKHYD-710-X-8  | 1                              | 860                            | 364            | 3              | 182            | 6              |
| LKHYD-810-X-6  | 2                              | 1165                           | 733            | 4              | 367            | 8              |
| LKHYD-810-X-8  | 2                              | 860                            | 497            | 3              | 248            | 6              |
| LKHYD-910-X-6  | 5                              | 1165                           | 1466           | 4              | 733            | 8              |
| LKHYD-910-X-8  | 2                              | 860                            | 728            | 3              | 364            | 6              |
| LKHYD-1010-X-6 | 5                              | 1165                           | 1466           | 4              | 733            | 8              |
| LKHYD-1010-X-8 | 3                              | 860                            | 993            | 3              | 497            | 6              |

\* may vary by  $\pm 3$  dB(A) due to room characteristics, own frequencies, oil connections, viscosities etc.

advanced quality  
customized designs  
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## Ordering code

**LKI - 110 - 460V - 2 - G - L**

**Application**  
Cooler for industrial use = **LKI**  
Mobile cooler \* = **LKM**  
Cooler with hydraulic motor = **LKHYD**  
\* (on request)

### Unit Size

1  
2  
3  
4  
5  
6  
7  
8  
9  
10

### Version

1 Way = **10**  
2 Way = **20**

- = Standard  
**L** = flat version,  
no feet,  
with mounting

- = Standard  
**G 90** = Cooling block  
turned 90°  
**G 180** = Cooling block  
turned 180° /

### Revolutions per minute (60Hz)

**2** = 2 pole / 3600 RPM  
**4** = 4 pole / 1800 RPM  
**6** = 6 pole / 1200 RPM  
**8** = 8 pole / 850/860 RPM

### Motor type

**460 V** = 208-230/460 V or 230/460 V  
**115 V** = 115/208-230 V  
**HYD 11** = 11 ccm Hydraulic motor  
**HYD 22** = 22 ccm Hydraulic motor

Motors with special voltages, hydraulic and explosion  
protection available on request.  
All motors comply with EISA regulations.

The technical data of this sheet is depending on the described operational conditions and individual cases. At different operational conditions and differing individual cases contact UniversalHydraulik.

Technical modifications reserved. Please also pay attention to our operation manuals and maintenance documentations.

## Sales

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