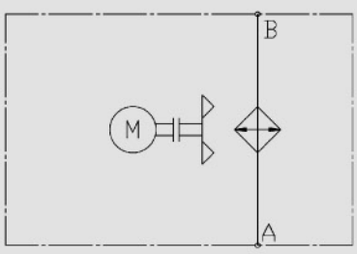
HYDAC INTERNATIONAL

Air Cooler Industry
AC-LN 1-7 / ACA-LN 2-7 / ACAF-LN 2-7

Symbol



General

The AC-LN 1-7 air cooler series can be used in all areas where either oil or water-glycol is to be cooled with air. The coolers with an axial fan can be used in the return line as well as in the bypass flow.

The wide range of accessories and optional versions mean that the coolers can be adapted flexibly to various applications.

Product Features

The cooler can also be used in the bypass flow by attaching a pump. An additional filter enables continuous filtration of the medium.

- Large product range
- Large cooling performance range
- Modular design

Operation Data

Fluids	Oils (mineral oils, synthetic oils, high viscosity oils, biological oils, phosphate ester) Water-glycol (cooling fluid) HFC pressure fluids
Viscosity	AC-LN: 2,000 mm²/s (standard) ACA-LN / ACAF-LN: see technical data
Temperature range	Minimum / maximum ambient temperature: -20 °C to +40 °C (standard) Minimum / maximum temperature of the medium: +130 °C Please contact the technical sales department in the event of deviating temperatures for applications with water-glycol. **Notice!** Fan switching frequency at max. fan speed (max. volume of air) must be avoided when operating a cooler at which the temperature difference between the medium inlet at the cooler and the ambient temperature can be greater than +50 °C. Quick changes in the temperature of the cooling element material can lead to a significant reduction in service life or to direct damage of the cooling element due to thermal shock. Please contact the technical sales department to receive information about controlled fan drives.
Pressure resistance of the cooling element	Dynamic operating pressure: 16 bar Static operating pressure: 21 bar
Fan	Axial fan in suction version (standard) Axial fan in pushing version on request (note: approx. 10 % less cooling capacity)
Motor	Three-phase motor Efficiency class IE2 (only ≥0.75 kW) Protection class IP55 Insulation class F Other versions on request.
ErP	The fan unit of the AC-LN corresponds to the minimum efficiency levels specified in the Ecodesign directive or ErP directive (Energy-related Products) 2009/125/EC.
Pump (only ACA-LN/ACAF-LN)	ACA-LN / ACAF-LN 2-3: screw pump ACA-LN / ACAF-LN 4-5-6: vane pump ACA-LN / ACAF-LN 7: screw pump with separate motor Operating pressure: max. 10 bar (screw pump) max. 6 bar (vane pump) Negative suction pressure of the pump: max. -0.4 bar Pump motor speed: 3,000 rpm
Noise levels	See technical data AC-LN and ACA-LN / ACAF-LN The noise levels are only reference values as the acoustic properties of a room, connections and reflection have an effect on the noise level.
Accessories	Integrated pressure bypass valve (IBP) or integrated thermal pressure bypass valve (IBT) (cannot be retrofitted, also see options) Thermostats Air filter grid or air filter mat Vibration damper

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Application Field

Systems with small and medium cooling requirements, such as:

- Hydraulic systems
- Lubrication systems
- Gears
- Motors
- Generators
- Converters
- Machine tools

Options

Integrated pressure bypass valve (IBP) / Integrated thermal pressure bypass valve (IBT)
The bypass channel is integrated in the cooling element. If a particular pressure is exceeded, the IBP opens the bypass channel, thereby protecting the cooling element from too high a pressure. Furthermore, the IBT only opens the cooling element path once a particular temperature has been reached.

ATEX
The AC-LN (without pump and filter) is also available for operation in gas and dust explosive areas. The ATEX certification applies for a frequency of 50 Hz and 60 Hz.

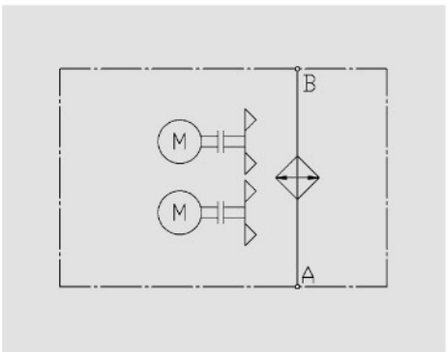
Marine
The MAR version is for aggressive ambient conditions, such as industrial atmospheres, high humidity or high salt content, which place great demands on the corrosion resistance and robustness of the materials used.

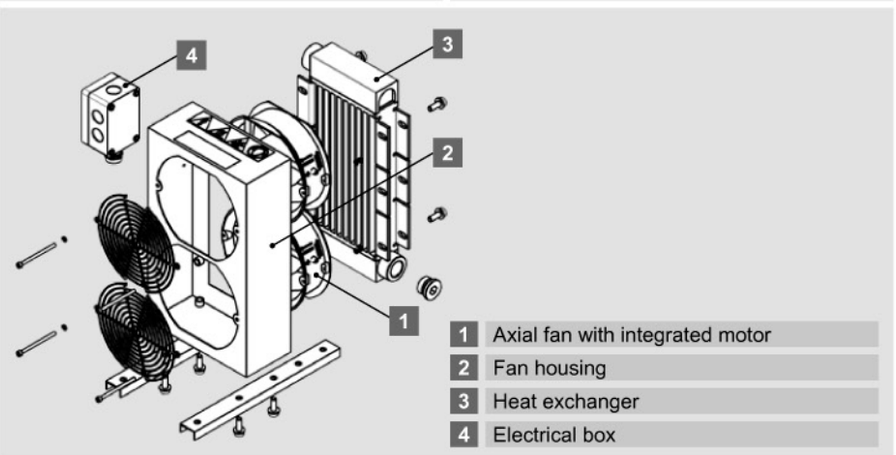
Cold Climate / Hot Climate
Use in extreme ambient conditions:
Cold Climate to -40 °C,
Hot Climate to +60 °C

The various versions can also be combined. Our technical sales department will be happy to assist you further.

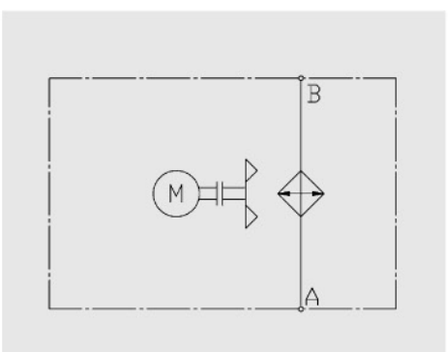
Design

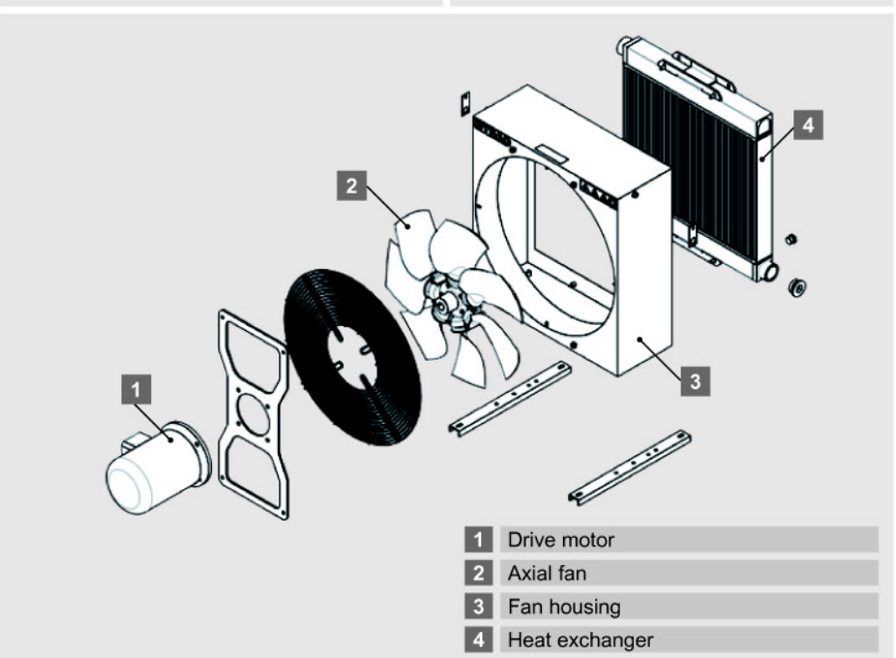
AC-LN 1





AC-LN 2-3-4-5-6





Technical Data

AC-LN

Type of cooler	P/N	Fluid [-][1]	Fluid flow [l/min][2]	Air flow [m³/h][3]	Fan motor: Poles / size / flange	Fan motor 50 Hz: Power / current absorption [kW / A][4]		Fan motor 60 Hz: Power / current absorption [kW / A][4]		Noise level (at 1m distance, 50 Hz) [dB(A)]	Volume [l][5]	Weight [kg][6]
						kW	A	kW	A			
AC-LN1H	3849085	F	120	650	-	0.03	0.23	0.03	0.21	60	0.3	7
AC-LN2S	3860765	F	180	900	4/63/B5	0.18	0.66	0.20	0.75	64	0.7	14
AC-LN2H	3860702	F	180	1,850	2/63/B5	0.25	0.76	0.30	0.76	80	0.7	14
AC-LN3S	3860382	F	180	1,400	4/63/B5	0.18	0.66	0.20	0.75	66	1.0	20
AC-LN3H	3860308	F	180	2,900	2/71/B14	0.55	1.21	0.66	1.50	85	1.0	20
AC-LN4L	3859982	F	200	1,600	6/71/B5	0.25	0.90	0.28	0.80	63	2.3	32
AC-LN4S	3860090	F	200	2,250	4/71/B5	0.37	1.20	0.40	1.10	72	2.3	32
AC-LN5L	3860913	F	250	2,050	6/80/B5	0.37	1.25	0.41	1.15	65	2.8	42
AC-LN5S	3860907	F	250	3,200	4/90/B5	1.10	2.60	1.30	2.20	75	2.8	45
AC-LN6L	3856579	F	250	2,800	6/80/B5	0.37	1.25	0.41	1.15	67	4.6	52
AC-LN6S	3859080	F	250	4,250	4/90/B5	1.10	2.60	1.30	2.20	77	4.6	52
AC-LN7L	3909026	F	300	4,800	6/90/B14	1.10	2.70	1.30	2.70	76	5.2	58
AC-LN7S	3909027	F	300	8,200	4/100/B14	3.00	6.00	3.60	7.20	84	5.2	63

[1] Medium: F = mineral oil or water-glycol, M = mineral oil
[2] Max. flow rate
[3] Air flow data at 50 Hz
[4] AC-LN1: each motor
[5] Fluid in cooling element
[6] Unfilled