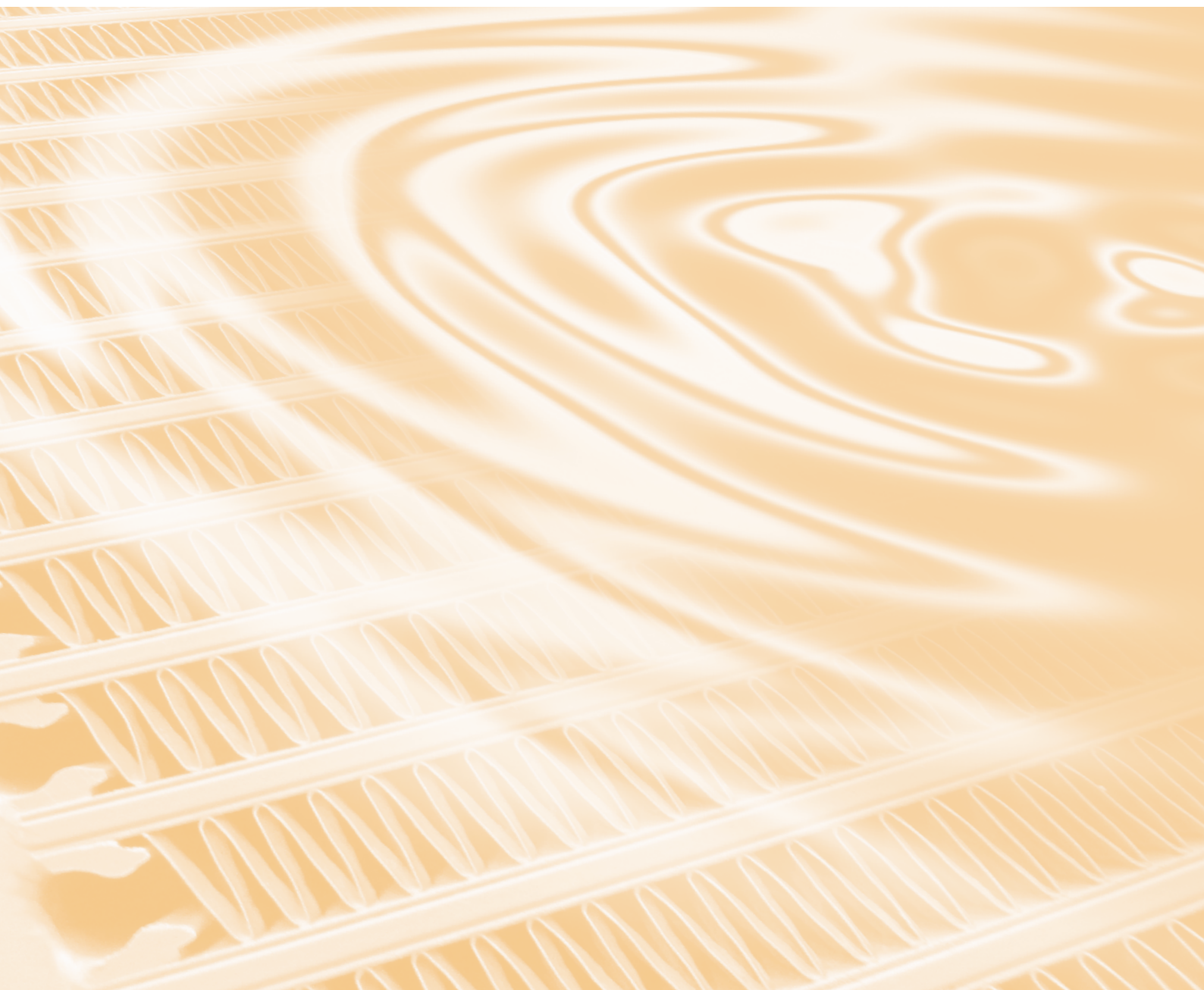




GLOBAL STANDARD COOLER  
**AKG-Line AR**



## RUGGED ENVIRONMENT COOLING SYSTEMS

### PRODUCT INFORMATION

**AKG-Line** is a standard line of products from the market leader in high performance aluminium cooling systems. AKG is best known for its world-wide presence, German engineering and extremely reliable product quality on the one hand and very competitive prices on the other hand.

The **AKG-Line** type series consist of different models for mobile and stationary applications and are available through our global specialist dealer network. This line of products embraces all-purpose complete cooling systems that comply with European or American Standards, is suited for normal or rugged environmental operating conditions, is powered by AC-, DC- or hydraulic-motor-driven fans and is also available with noise-optimized models.

All of AKG's solutions have been developed with state-of-the-art technology, produced in compliance with the highest quality standards and are comprehensively tested in the company's own research and test facility.

### FEATURES OF THE AR SERIES

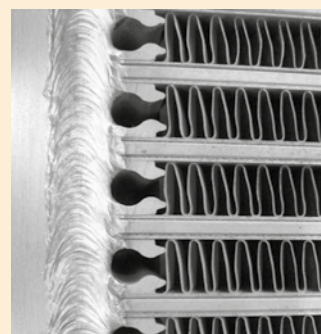
- The coolers are equipped with anti-clogging fins
- High-Performance cooling assemblies
- AC-motor powered fan
- The heat is transferred from the medium to be cooled to the ambient air
- Cooler can be universally used in hydraulic oil, transmission oil, engine oil, lubricating oil and coolant circuits
- For the cooling of mineral oil, synthetic oil, biological oil as well as of HFA, HFB, HFC and HFD liquids and water with at least 50 per cent of antifreeze and anticorrosive additives (other media available)
- Can be exposed to operating pressures of up to 26 bar or 17 bar, depending on model

### BENEFITS

- Especially suited for rugged environments. Fin system prevents clogging and is easy to clean
- Highly flexible complete, ready-to-use cooling packages
- Compact and robust design, field-tested during many years of use in rugged real life conditions

- Largest and most comprehensive series of industrial coolers
- Best heat transfer results per given cooler size due to comprehensive research and development
- Highest quality due to professional engineering and in-house manufacturing
- Available from stock or at short notice
- As a standard, equipped with **AKG's double-life** hollow sections designed to increase cooler service life
- Noise-optimized models available (low-noise series)

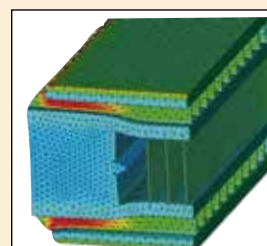
### FLEXIBLE AKG HOLLOW PROFILE



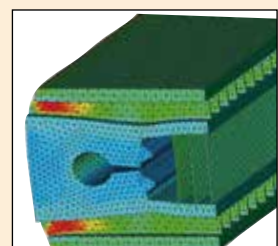
AKG-Line uses AKG hollow profiles to reduce local peak strains. This way the strength of heat exchangers is significantly increased and their service life time considerably prolonged.

### AKG HOLLOW PROFILE FEATURES:

- **Reduced Strain:**  
Strength calculations show that when using AKG hollow profiles maximum strain is reduced by a factor of 2
- **Prolonged Service Life Time:**  
Extensive rig tests have shown that service life time increases by a factor ranging from 3 to 5



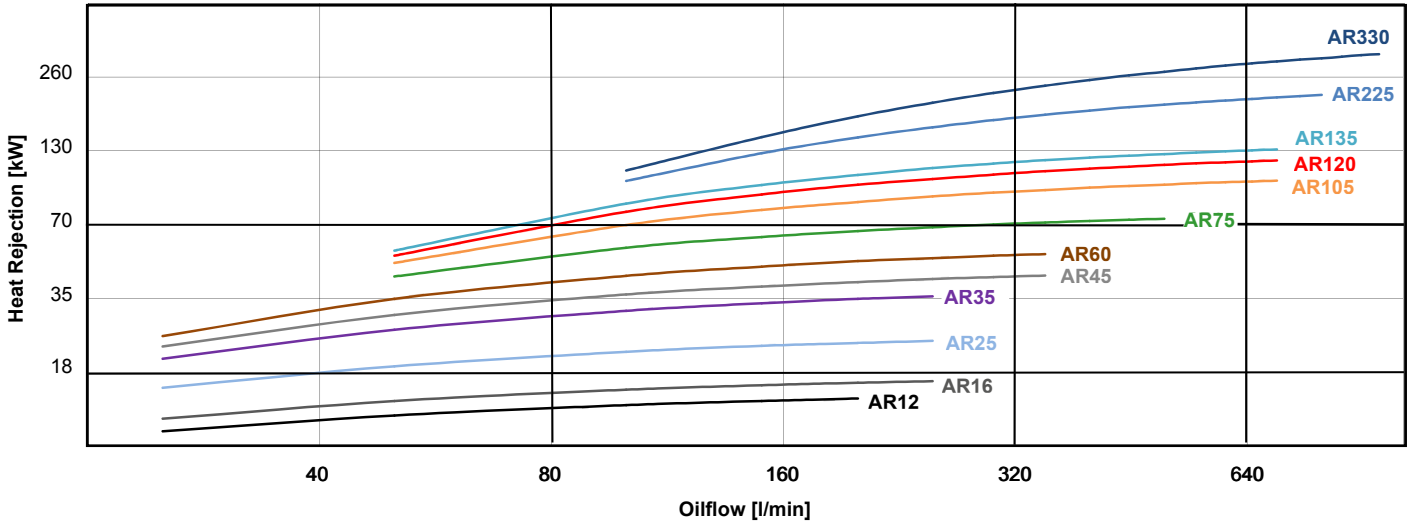
with standard profile



with hollow profile

## EASY SIZING DIAGRAM

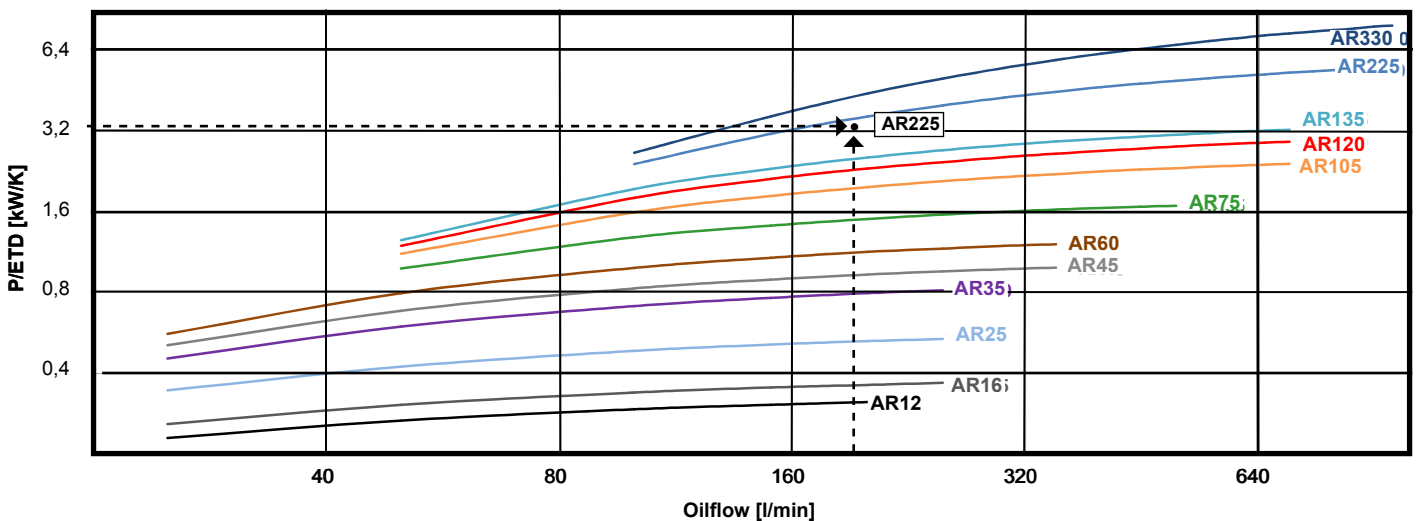
FOR ENTRANCE-TEMPERATURE-DIFFERENCE 40 K



### Selection by Specific Heat Rejection

1. Input Data:		Example
Required Heat Rejection	P =	130 kW
Oilflow through Cooler	V =	200 l/min
Oil Inlet Temperature	T_Oil	70 °C
Cooling Airflow Temperature	T_CAF	30 °C
2. Determination of Specific Heat Rejection:		
Entering-Temperature-Difference	ETD =	70 °C - 30 °C = 40 K
Required Specific Heat Rejection	P/ETD	130 kW/40 K = 3,25 kW/K
3. Select According to Diagram and Result:		Next higher curve AR 225

## SPECIFIC HEAT REJECTION



## TECHNICAL DATA

Model Size	Voltage of 3 Phase-Motor (V)	Motor Power Consumption (kW)	Nominal Speed (rpm)	Approx. Noise Level (dB(A), 1m)	Approx. Net Weight of Assembly (kg)	Volume (l)	Frequency (Hz)	Working Pressure (bar)
AR12	230/400	0,37	3000	80	20	2,3	50	26
AR16	230/400	0,37	3000	83	24	3,5	50	26
AR25	230/400	0,55	1500	81	32	4,5	50	26
AR35	230/400	0,75	1500	80	43	5	50	26
AR45	230/400	0,75	1500	81	60	7,5	50	26
AR60	230/400	0,75	1500	83	69	9	50	26
AR75	230/400	0,75	1500	82	81	13,5	50	26
AR105	230/400	2,2	1500	80	100	15	50	26
AR120	230/400	2,2	1500	86	128	21	50	26
AR135	230/400	2,2	1500	88	148	26	50	17
AR225	400/690	5,5	1500	94	217	37	50	17
AR330	400/690	11	1500	98	343	51	50	17

All data based on nominal fan speed conditions

## DIMENSIONS

Model Size	A	B	C (approx.)	D	E	F	G	H	J	K	L	M
AR12	391	450	410	324	107	40	G1	392	180	220	M8	ø14
AR16	402	440	440	328	123	49	G1	382	240	280	M8	ø14
AR25	496	600	520	427	105	36	G1 1/4	542	180	220	M8	ø14
AR35	601	700	510	532	104	36	G1 1/4	638	180	220	M8	ø14
AR45	613	690	540	538	123	48	G1 1/4	632	240	280	M10	ø14
AR60	666	790	515	583	123	43	G1 1/4	732	240	280	M10	ø14
AR75	791	940	625	668	205	83	G1 1/2	882	340	380	M10	ø14
AR105	884	990	670	715	255	85	SAE 2"	932	340	380	M10	ø14
AR120	992	1040	650	820	255	82	SAE 2"	982	340	380	M10	ø14
AR135	989	1090	680	806	261	79	SAE 2"	1032	410	450	M12	ø14
AR225	1220	1240	810	1001	296	77	SAE 3"	1182	410	450	M12	ø14
AR330	1524	1340	885	1306	296	78	SAE 3"	1282	410	450	M12	ø14

All dimensions in mm

## ORDERING INFORMATION

Serial Code:    Model Size:

<b>AR</b>	
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Optional Custom Features:

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with:

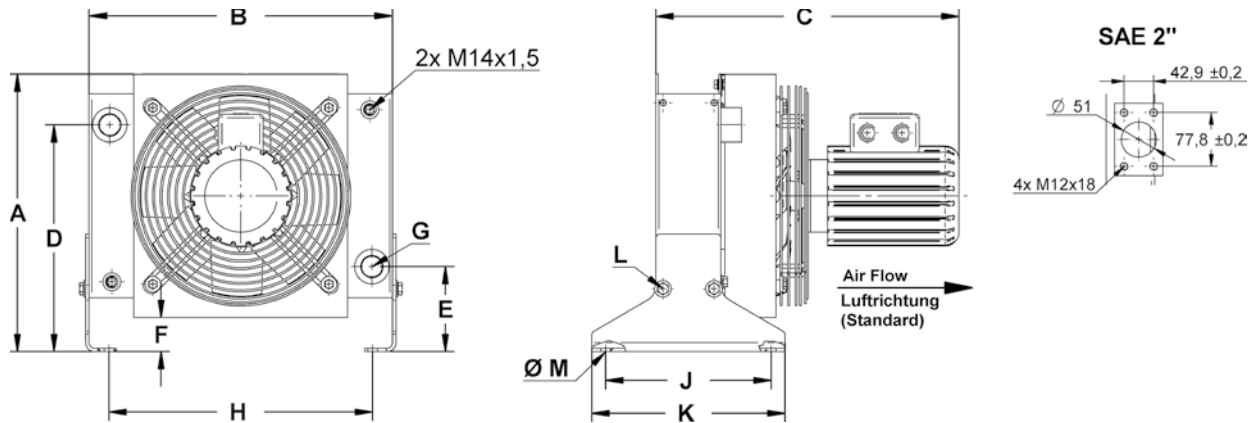
with Blower Fan [B]  
 with Resistplast Coating [+R]  
 PTFE Based Coating [+T]  
 with Motor Frequency 60 Hz [+60 Hz]  
 with large Support Feet [+LF]

without:

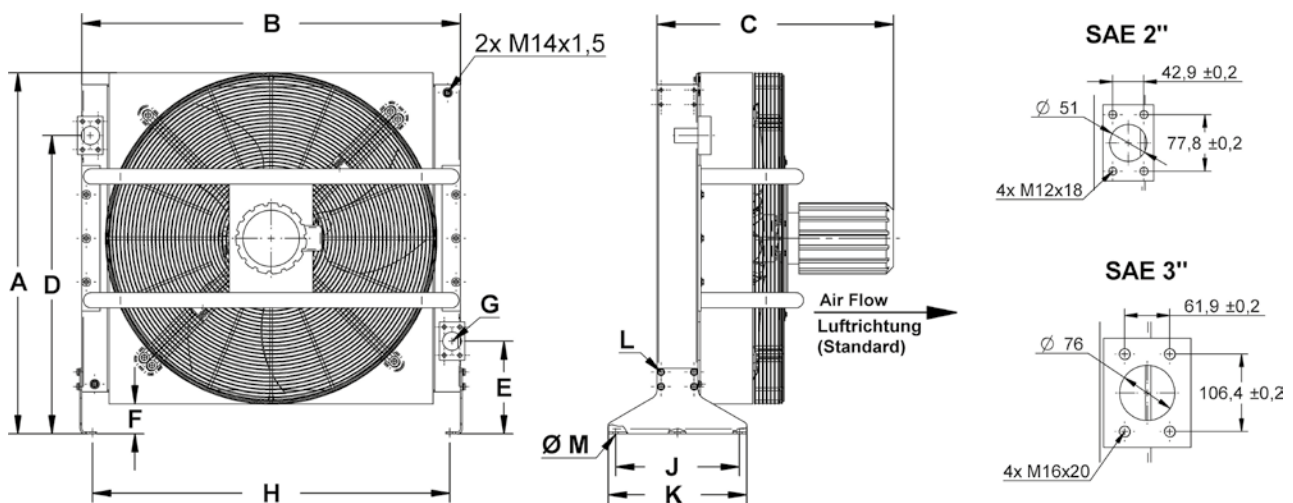
without Motor [-M]  
 without Motor, without Fan [-FM]  
 Cooler Only [C]  
 Cooler without Paint [-P]  
 without Support Feet [-F]

**Order Code Example:** Rugged Environment Heat Exchanger, 110 KW, sucking AC-driven fan -> **AR120**  
 Rugged Environment Heat Exchanger, 210 KW, blowing AC-driven fan -> **AR225B**

COOLER DIMENSIONS AR12 TO AR105



COOLER DIMENSIONS AR120 TO AR330



STANDARD SCOPE OF SUPPLY OF OIL-TO-AIR COOLING SYSTEM

- Cooler made of painted aluminium
- Plastic fan
- Fan-shroud, fingerguard, support feet and motorholder all made of steel (chromated or powder coated)
- Motor



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## AKG – A STRONG GLOBALLY INTEGRATED GROUP OF COMPANIES

AKG is a globally leading supplier of high-performance coolers and heat exchangers as well as customised system solutions that comply with the highest quality standards.

On a world-wide scale 2,500 employees work at 12 manufacturing facilities located in Germany, France, Latvia, Turkey, the U.S.A., Brasil, China and India. Together with a number of additional oversea sales companies they are on duty around the clock.

### Your AKG-Partner



The longstanding and competent partnership with global OEM customers from 22 lines of business such as construction machinery, compressed-air systems, agricultural and forestry machines, vehicle construction and many other fields of application give fresh and innovative impetus to the mobile and industrial standard type series.

AKG operates one of the world's largest research, development, measurement and validation centres for cooling solutions and customised applications.

AKG's heat exchangers have stood for innovative solutions as well as highest engineering and manufacturing competence for more than 95 years.

Aluminium Coolers – Made by AKG  
DIN EN ISO 9001