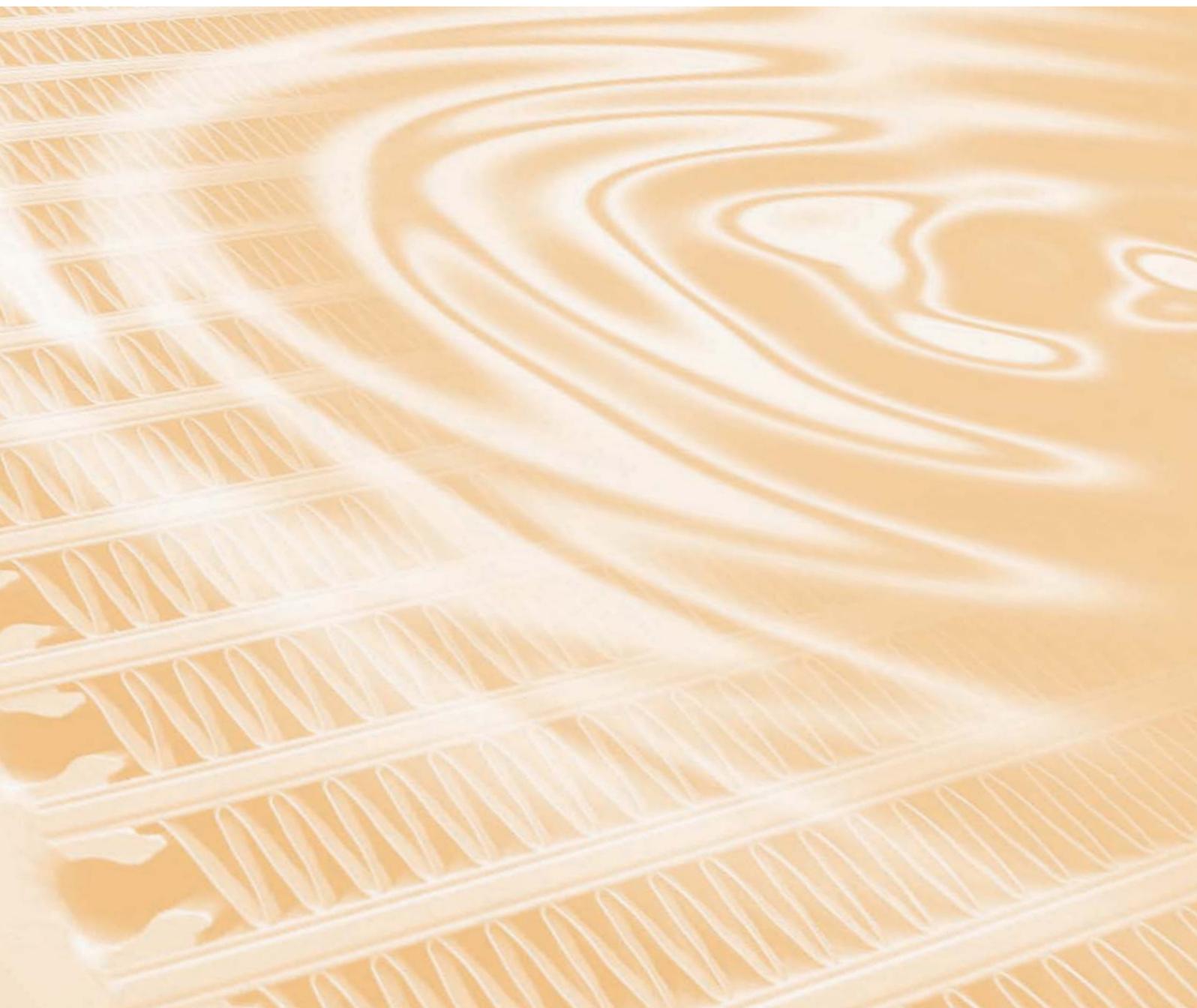




GLOBAL STANDARD COOLER

Cool-Line

AR



RUGGED ENVIRONMENT COOLING SYSTEMS

PRODUCT INFORMATION

AKG Cool-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 Cool-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** patented **double-life** hollow sections designed to increase cooler service life
- Noise-optimized models available (low-noise series)

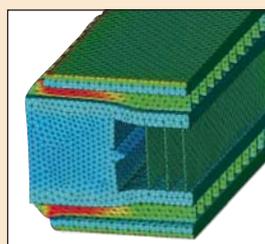
PATENTED FLEXIBLE AKG HOLLOW PROFILE



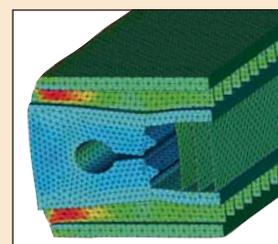
Cool-Line uses patented AKG hollow profiles to reduce local peak strains. This way the strength of heat exchangers is significantly increased and their service life time considerably prolonged.

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



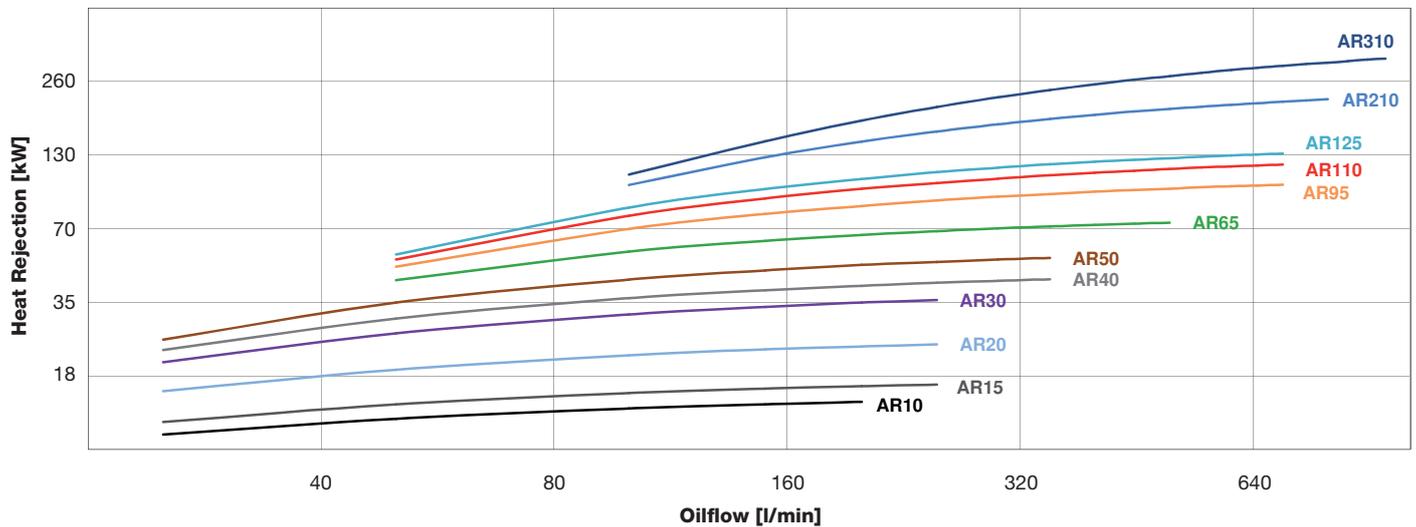
with standard profile



with hollow profile

EASY SIZING DIAGRAM

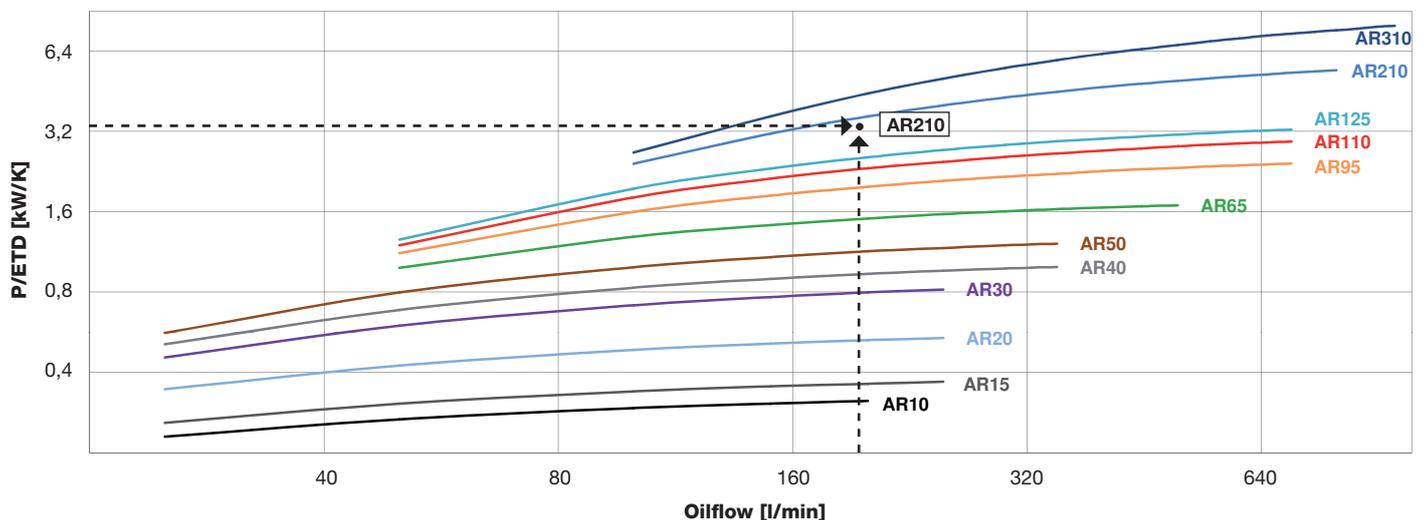
FOR ENTRANCE-TEMPERATURE-DIFFERENCE 40 K



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 210

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)
AR10	230/400	0,37	3000	80	20	2,3	50	26
AR15	230/400	0,37	3000	83	24	3,5	50	26
AR20	230/400	0,55	1500	81	32	4,5	50	26
AR30	230/400	0,75	1500	80	43	5	50	26
AR40	230/400	0,75	1500	81	60	7,5	50	26
AR50	230/400	0,75	1500	83	69	9	50	26
AR65	230/400	0,75	1500	82	81	13,5	50	26
AR95	230/400	2,2	1500	80	100	15	50	26
AR110	230/400	2,2	1500	86	128	21	50	26
AR125	230/400	2,2	1500	88	148	26	50	17
AR210	230/400	5,5	1500	94	217	37	50	17
AR310	230/400	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
AR10	391	450	410	324	107	40	G1	392	180	220	M8	ø14
AR15	402	440	440	328	123	49	G1	382	240	280	M8	ø14
AR20	496	600	500	427	105	36	G1 1/4	571	180	220	M8	ø14
AR30	601	700	510	532	104	36	G1 1/4	642	180	220	M8	ø14
AR40	613	690	540	538	123	48	G1 1/4	632	240	280	M10	ø14
AR50	666	790	605	583	123	43	G1 1/4	732	240	280	M10	ø14
AR65	791	940	760	668	205	83	G1 1/2	882	340	380	M10	ø14
AR95	884	990	630	715	255	85	SAE 2"	932	340	380	M10	ø14
AR110	992	1040	650	820	255	82	SAE 2"	982	340	380	M10	ø14
AR125	989	1090	680	806	261	79	SAE 2"	1032	410	450	M12	ø14
AR210	1220	1240	810	1001	296	77	SAE 3"	1182	410	450	M12	ø14
AR310	1532	1340	885	1306	296	78	SAE 3"	1282	410	450	M12	ø14

All dimensions in mm

ORDERING INFORMATION

Serial Code: Model Size:

AR	
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Optional Custom Features:

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with:

Blower Fan [B]
Resistplast Coating [+R]
Teflon Coating [+T]

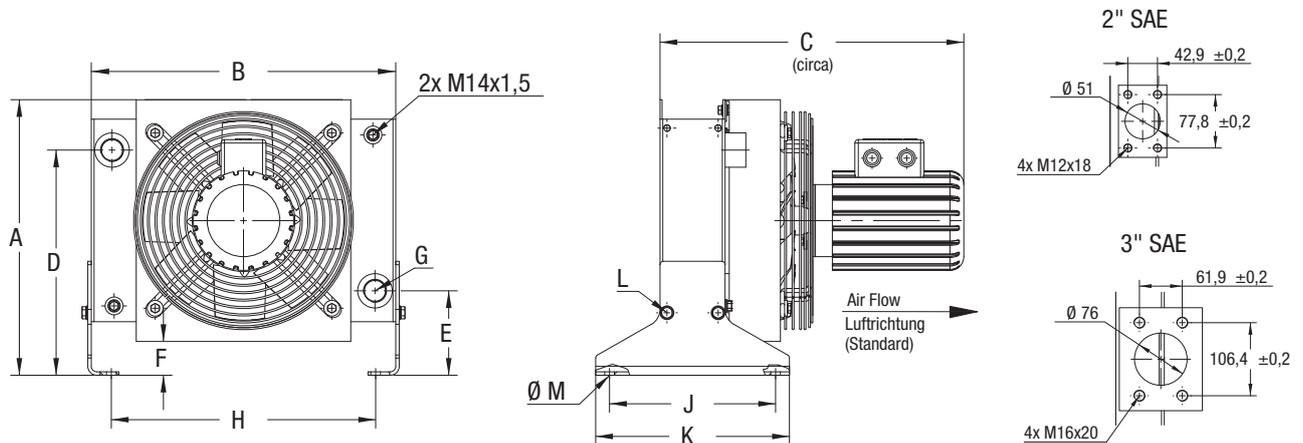
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without:

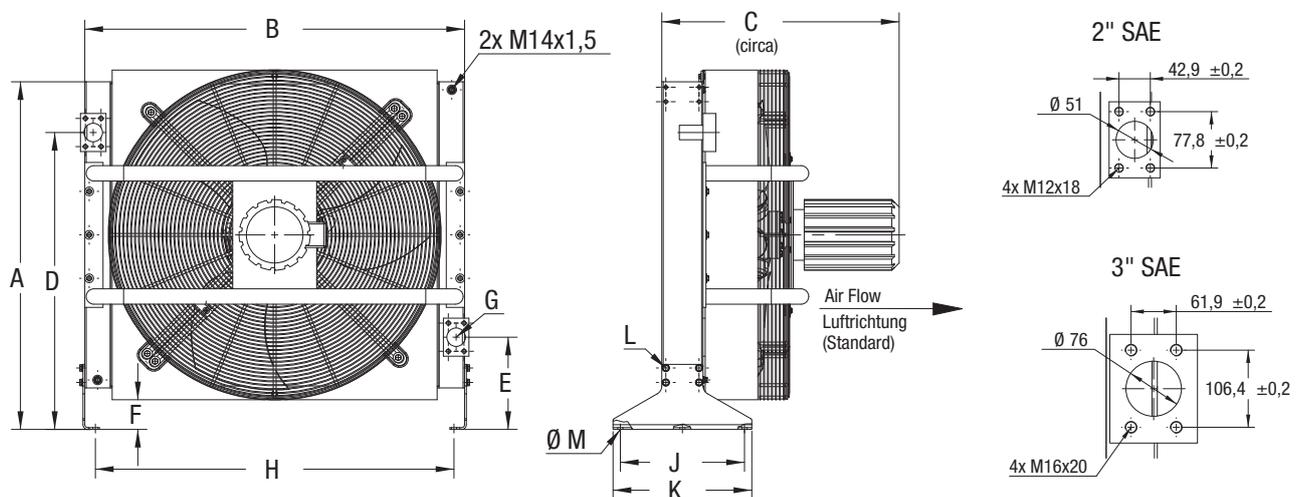
without Motor [-M]
without Motor, without Fan [-FM]
Cooler Only [C]
Cooler without Paint [-P]
without Support Feet [-F]

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

COOLER DIMENSIONS AR10 TO AR95



COOLER DIMENSIONS AR110 TO AR310



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 (zinc plated 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, 2,800 employees work at 12 manufacturing facilities located in Germany, France, United Kingdom, Latvia, the U.S.A., China and India. Together with a number of additional oversea sales companies they are on duty around the clock.

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.

For 90 years AKG's heat exchangers have stood for innovative solutions as well as highest engineering and manufacturing competence.

Your AKG-Partner



Aluminium Coolers – Made by AKG
DIN EN ISO 9001 : 2000