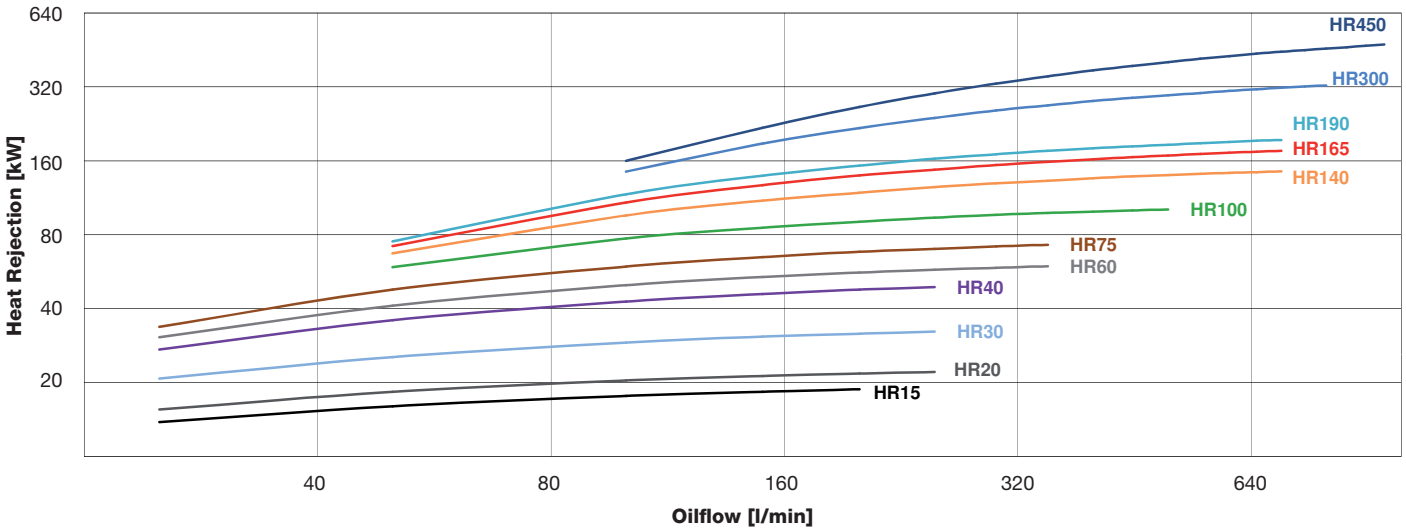
GLOBAL STANDARD COOLER

CooL-Line HR

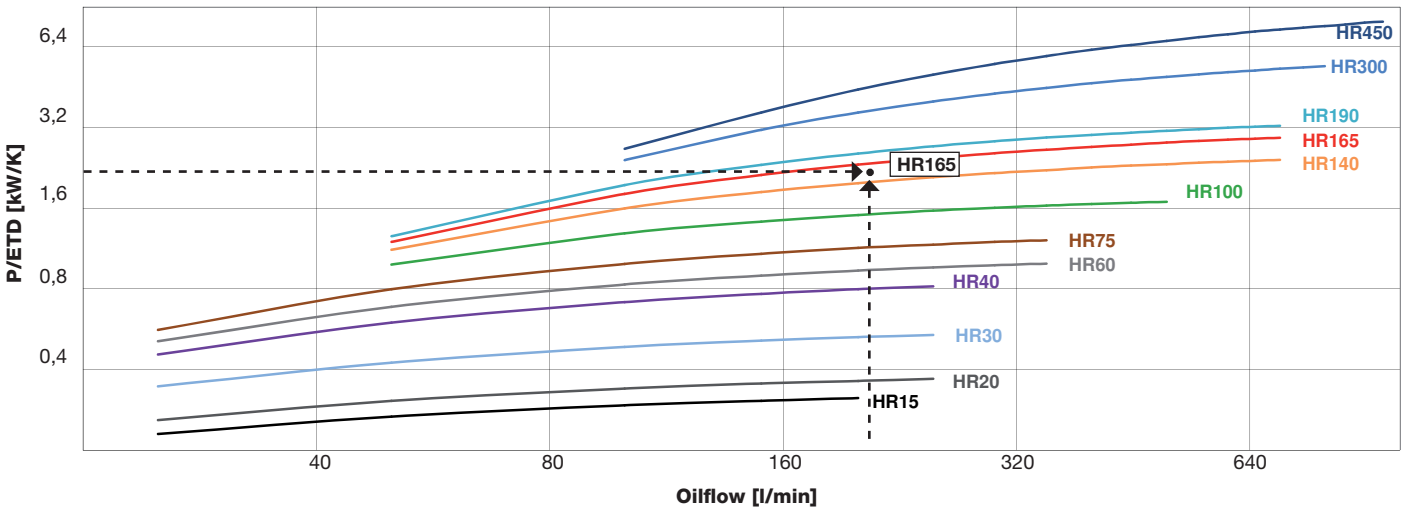
EASY SIZING DIAGRAM

FOR ENTRANCE-TEMPERATURE-DIFFERENCE 60 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	90 °C
Cooling Airflow Temperature	T_CAF	30 °C
2. Determination of Specific Heat Rejection:		
Entering-Temperature-Difference	ETD =	90 °C - 30 °C = 60 K
Required Specific Heat Rejection	P/ETD	130 kW/60 K = 2,2 kW/K
3. Select According to Diagram and Result:		Next higher curve **HR 165**

SPECIFIC HEAT REJECTION



A CooL-Line Selection Software, which is available free of charge will guide you through the cooler model selection process in simple steps and will recommend the optimal AKG cooling package for your application: www.akg-group.com

TECHNICAL DATA

Model Size	Motor Size (cm^3)	Max. Speed (rpm)	Nominal Speed (rpm)	Max. Motor Pressure (bar)	Approx. Noise level (dB(A), 1m)	Approx. Net Weight of Assembly (kg)	Volume (l)	Working Pressure (bar)
HR15	11	3500	3000	250	80	17	2,3	26
HR20	11	3500	3000	250	83	21	3,5	26
HR30	11	3500	1500	250	81	26	4,5	26
HR40	11	3500	1500	250	80	35	5	26
HR60	11	3000	1500	250	81	53	7,5	26
HR75	11	3000	1500	250	83	61	9	26
HR100	11	2500	1500	250	82	73	13,5	26
HR140	11	2500	1500	250	80	87	15	26
HR165	21	2500	1500	200	86	115	21	26
HR190	21	2500	1500	200	88	135	26	17
HR300	21	2000	1500	200	94	180	37	17
HR450	21	2000	1500	200	98	232	51	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
HR15	391	450	300	324	107	40	G1	392	180	220	M8	ø14
HR20	402	440	330	328	123	49	G1	382	240	280	M8	ø14
HR30	496	600	355	427	105	36	G1 1/4	571	180	220	M8	ø14
HR40	601	700	365	532	104	36	G1 1/4	642	180	220	M8	ø14
HR60	613	690	395	538	123	48	G1 1/4	632	240	280	M10	ø14
HR75	666	790	460	583	123	43	G1 1/4	732	240	280	M10	ø14
HR100	791	940	615	668	205	83	G1 1/2	882	340	380	M10	ø14
HR140	884	990	490	715	255	85	SAE 2"	932	340	380	M10	ø14
HR165	992	1040	650	820	255	82	SAE 2"	982	340	380	M10	ø14
HR190	989	1090	540	806	261	79	SAE 2"	1032	410	450	M12	ø14
HR300	1220	1240	560	1001	296	77	SAE 3"	1182	410	450	M12	ø14
HR450	1532	1340	560	1306	296	78	SAE 3"	1282	410	450	M12	ø14

All dimensions in mm

ORDERING INFORMATION

Serial Code: HR **Model Size:**

Optional Custom Features:

with:

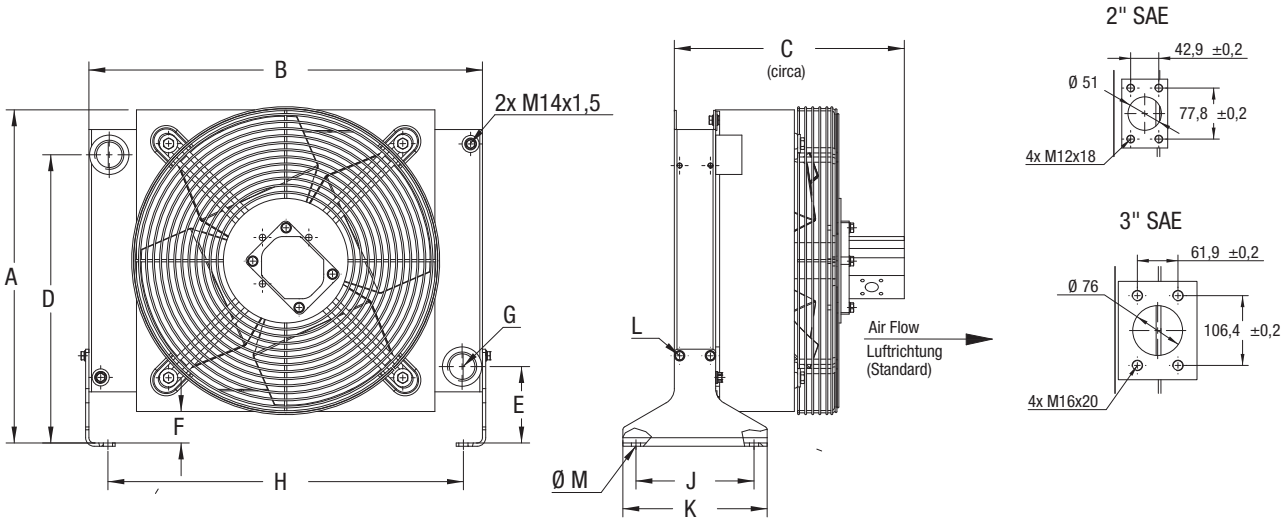
Blower Fan	[B]
Resistplast Coating	[+R]
Teflon Coating	[+T]

without:

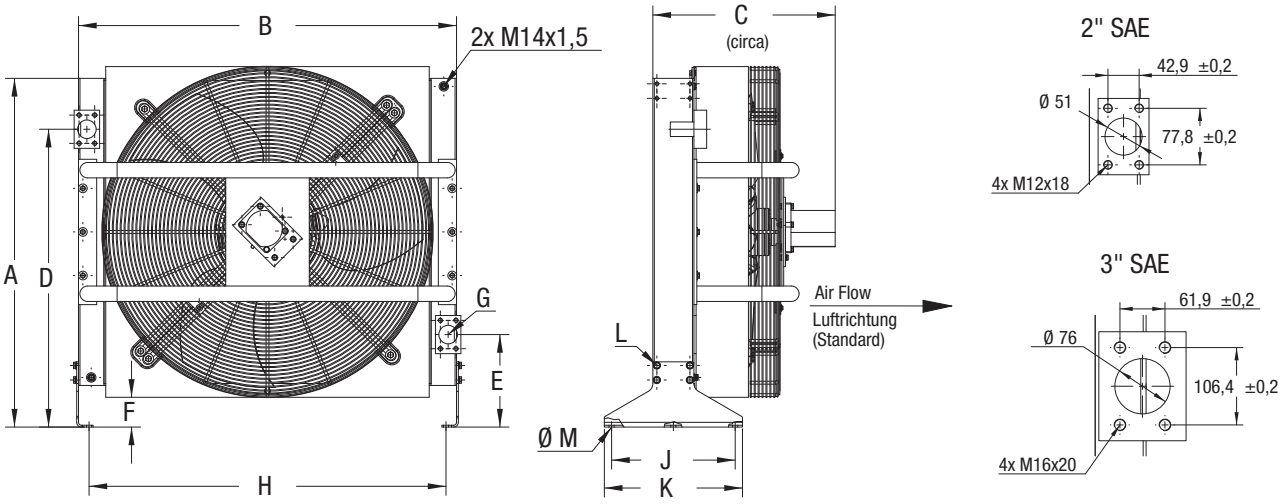
without Motor	[-M]
without Motor, without Fan	[-FM]
Cooler Only	[C]
Cooler without Paint	[-P]
without Support Feet	[-F]

Order Code Example: Rugged Environment Heat Exchanger, 100 KW, sucking Hydraulic fan -> **HR 100**
Rugged Environment Heat Exchanger, 190 KW, blowing Hydraulic fan -> **HR 190 B**

COOLER DIMENSIONS HR15 TO HR140



COOLER DIMENSIONS HR165 TO HR450



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)
Hydraulic motor

GLOBAL STANDARD CooL-Line HR

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 HR SERIES:

- The coolers are equipped with anti-clogging fins
- High-Performance cooling assemblies
- Hydraulic 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:

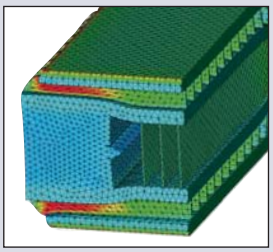
- Especially suited for rugged environments. Fin system prevents clogging and is easy to clean
- Highly flexible complete, ready-to-use cooling packages
- Compact and robust design, field-tested during many years of use in rugged real life conditions
- Largest and most comprehensive series of industrial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

PATENTED FLEXIBLE AKG HOLLOW PROFILE

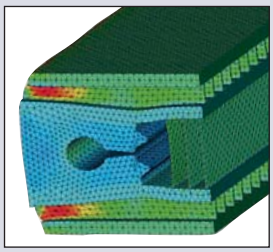
CooL-Line uses patented AKG hollow profiles to reduce local peak strains. This way the strength of heat exchangers is significantly increased and their service life time considerably prolonged.

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

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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

TÜV CERT

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