



GLOBAL STANDARD COOLER

# Cool-Line D



## OIL-TO-AIR COOLING SYSTEMS WITH DC-MOTOR

### PRODUCT INFORMATION

AKG Cool-Line is a standard line of products from the market leader in high performance aluminum 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 D SERIES:

- High-Performance cooling assemblies
- DC 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

### BENEFITS:

- Largest and most comprehensive series of mobile hydraulic coolers
- Highly flexible complete, ready-to-use cooling packages
- Compact and robust design, field-tested during many years of use in rugged real life conditions
- 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
- As a standard, equipped with anti-clogging cooling air fins

### D-SERIES FEATURES/BENEFITS

- All New D Series coolers are available with internal pressure BYPASS Option.
- New D series coolers provide the best HEAT TRANSFER per given cooler size in the industry.
- New D series coolers offer increased performance with lower pressure drop than current same size AKG THERMAL SYSTEMS DC/DCS SERIES COOLERS.
- New D series coolers have proprietary R & D designed, engineered and tested internal and external fins unique to AKG THERMAL SYSTEM coolers.
- New D series coolers have new proprietary custom designed DC FAN MOTORS unique to AKG THERMAL SYSTEM D COOLERS.
- New D SERIES series coolers offer the largest, most comprehensive DC COOLER size ranges with competitive pricing and deliveries from stock.

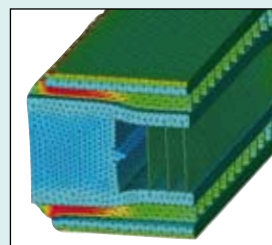
### PATENTED FLEXIBLE AKG HOLLOW PROFILE



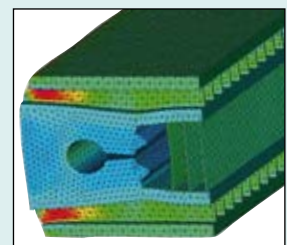
Cool-Line uses patented AKG hollow profiles to reduce local peak strains. This way the strength of heat exchangers is significantly increased and their service life time considerably prolonged.

### 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

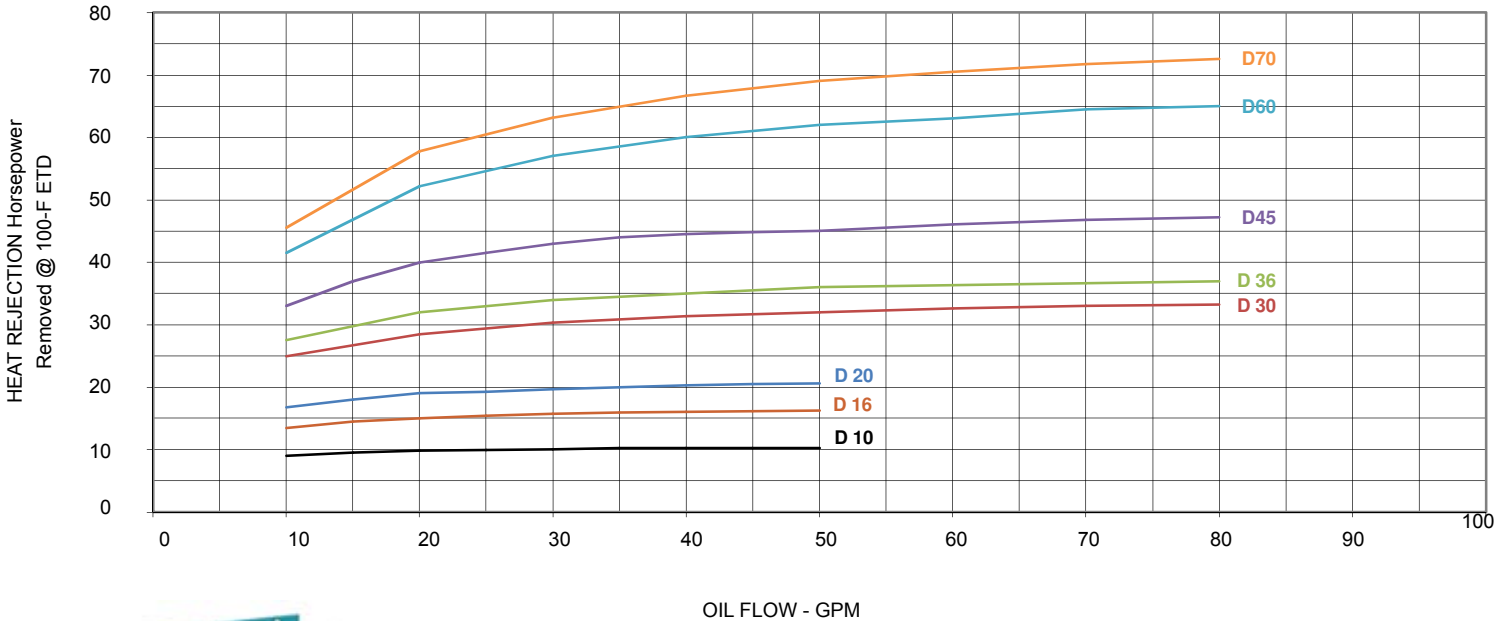


with standard profile



with hollow profile

## STANDARD MODELS PERFORMANCE DATA (D SERIES)



Specifications:	
Maximum Working Pressure	377 PSI
Maximum Working Temperature	250 °F

Materials:	
Cooler	Aluminum
Fan Guard	Plastic
Shroud	Plastic
Fan Blade	Plastic
Motor	Painted Steel

## SELECTION PROCEDURES

The performance curves are based on the following:

- 50 SUS Oil
- 100 °F Entering Temperature Difference (ETD)

If your application conditions are different, use the following selection procedure:

### STEP 1. DETERMINE THE HEAT LOAD

Horsepower Heat x 2545 = BTU/hr

### STEP 2. DETERMINE THE ACTUAL ETD DESIRED

Entering OIL Temperature - Entering AIR Temperature = ETD.

The entering oil temperature is the highest desired oil temperature.

The entering air temperature is the highest anticipated ambient air temperature, plus any pre-heating of the air prior to its entering the cooler. This is especially important if air is drawn from the engine compartment for cooling.

### STEP 3. CALCULATE THE ADJUSTED BTU/HR FOR SELECTION

$$\text{BTU/hr} \times \frac{100}{\text{Desired ETD}} = \text{BTU/hr For Use With Selection Chart}$$

### STEP 4. SELECT THE MODEL FROM THE CURVES

Read up from the GPM to the required heat rejection. Select any model on, or above this point.

## D SERIES TECHNICAL DATA

Model Size	Motor Voltage (V)	Number of Fans	Approx. Current Draw per Fan (A)	Approx. Noise Level (dB(A), 1 m)	Recommended Fuse Value per Fan (A)	Working Pressure (psi)	Approx. Shipping Weight (lbs)
D10	12/24	1	5/3	75	20	377	20
D16	12/24	1	17/10	79	50	377	23
D20	12/24	1	17/10	79	50	377	26
D30	12/24	1	29/20	76	35/25	377	32
D36	12/24	1	29/20	76	35/25	377	47
D45	12/24	2	17/10	79	50	377	62
D60	12/24	2	29/20	76	35/25	377	70
D70	12/24	2	29/20	76	35/25	377	84

D10 Cooler has Weather Pak connector.  
D16 to D70 has MetriPak 630 connector.

All data based at nominal speed

## D10 TO D36 SERIES DIMENSIONS

Model Size	A	B	C	D	E	F	G	H	K	L
D10	13.78	11.46	6.02	5.73	5.73	10.58	4.96	4.41	#12 SAE O-Ring	5/16 x 1/2" slot
D16	15.75	13.63	6.52	6.81	6.81	12.79	8.66	3.54	#16 SAE O-Ring	5/16 x 1/2" slot
D20	15.75	13.63	7.23	6.81	6.81	12.79	8.66	3.54	#16 SAE O-Ring	5/16 x 1/2" slot
D30	19.69	17.63	8.70	3.70	13.93	16.76	12.60	3.54	#20 SAE O-Ring	5/16 x 5/8" slot
D36	20.47	18.03	9.96	4.35	13.60	17.08	12.60	3.94	#20 SAE O-Ring	5/16 x 5/8" slot

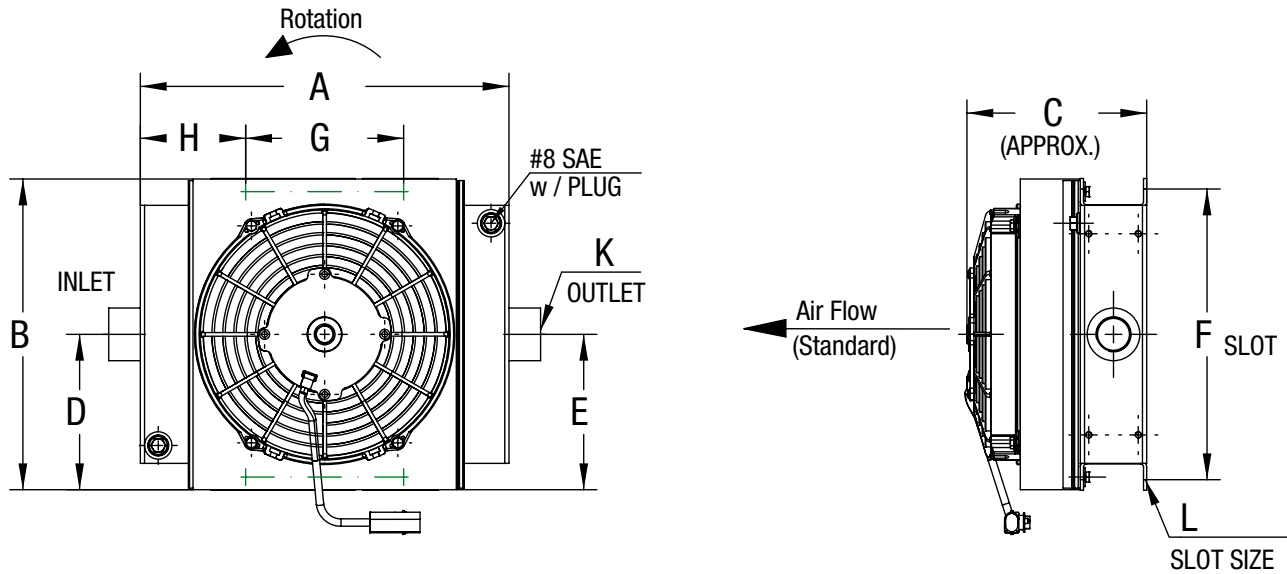
All dimensions in inch

## D45 TO D70 SERIES DIMENSIONS

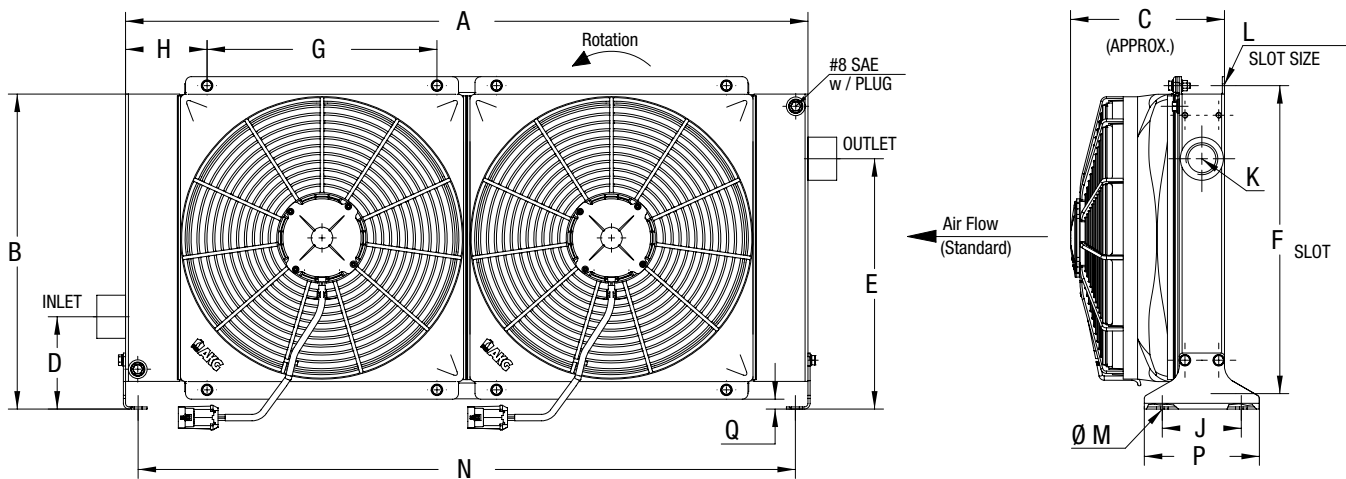
Model Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
D45	28.35	16.56	8.45	6.81	12.29	12.92	11.81	8.27	7.09	#20 SAE O-Ring	7/16 x 3/4" slot	Ø 0.55	26.46	8.66	2.54
D60	35.63	20.29	8.70	6.36	16.60	16.77	12.60	3.64	7.09	#20 SAE O-Ring	5/16 x 5/8" slot	Ø 0.55	33.54	8.66	2.67
D70	36.22	20.29	9.96	6.81	16.14	16.77	12.60	3.94	7.09	#20 SAE O-Ring	5/16 x 5/8" slot	Ø 0.55	34.33	8.66	2.66

All dimensions in inch

## COOLER DIMENSIONS D10 TO D36



## COOLER DIMENSIONS D45 TO D70



## ORDERING INFORMATION

SERIES CODE: MODEL SIZE:

D	
---	--

MOTOR CODE:

--

BYPASS DATA:

--

CUSTOM FEATURE CODE:

--

SERIES:

D = Standard

MODEL SIZE:

Selected

MOTOR CODE:

12 = 12 Volt; 24 = 24 Volt

BYPASS DATA:

BP25 = 25 PSI Internal Bypass, BP30 = 30 PSI Internal Bypass, BP60 = 60 PSI Internal Bypass, BP65 = 65 PSI Internal Bypass

CUSTOM FEATURE CODE:

B = Blowing Fan, AD = SAE to NPT Adaptors shipped w/Cooler; TC115 = TC115 Shipped w/Cooler; TC140 = TC140 Shipped w/Cooler; M404 = M404 Shipped w/Cooler; MTG = Feet Mounting Bracket Set (Included on Models D45/60/70)

ORDER EXAMPLE:

Heat Exchanger, 30 HP, 12 Volt, SAE to NPT Adaptors, TC115 Shipped w/Cooler

D30-12-AD-TC115



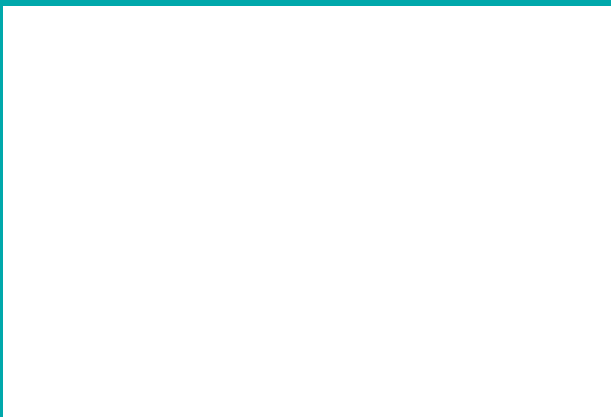
AKG Thermal Systems, Inc.  
809 Mattress factory Road  
P.O. Box 189  
Mebane, NC 27302-0189  
USA  
Tel: +1 919-563-48-71  
Fax: +1 919-563-49-17  
E-Mail: [sales@akgts.com](mailto:sales@akgts.com)  
Internet: [www.akgts.com](http://www.akgts.com)

## 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.

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.

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

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