AKG Green
Thermal Solutions.

CooL-Line
DCSB
for Electronics Cooling

DCSB SERIES FEATURES

- Cooling for inverters, converters, chargers, e-motors, etc.
- Competitive pricing and assemblies from stock
- Long-life, brushless fans in 12 or 24 VDC
- Product option–internal pressure bypass

GLOBAL STANDARD COOLING SYSTEMS (DCSB SERIES)

AIR COOLING SYSTEMS WITH BRUSHLESS DC-FAN DRIVE

Product Information

AKG CooL-Line is 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, reliable product quality and very competitive prices.

The **CooL-Line** models are designed for rugged environmental operating conditions.

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.

Benefits

- Largest and most comprehensive series of coolers for power electronics and electric motors
- 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 lead-time
- Standard equipped with anti-clogging cooling air fins

Features

- Cooling for inverters, converters, chargers, e-motors, etc.
- Brushless fans eliminate commutation noise and reduce EMI risk.
- Stable performance under vibration, dust, and harsh industrial duty.
- Cooler can be universally used in circuits using water/glycol or oil.

Specifications	
Maximum Working Pressure	250 psi
Maximum Working Temperature	250 °F

Materials	
Cooler	Aluminum
Fan Blade	Nylon / GF
Shroud	Steel

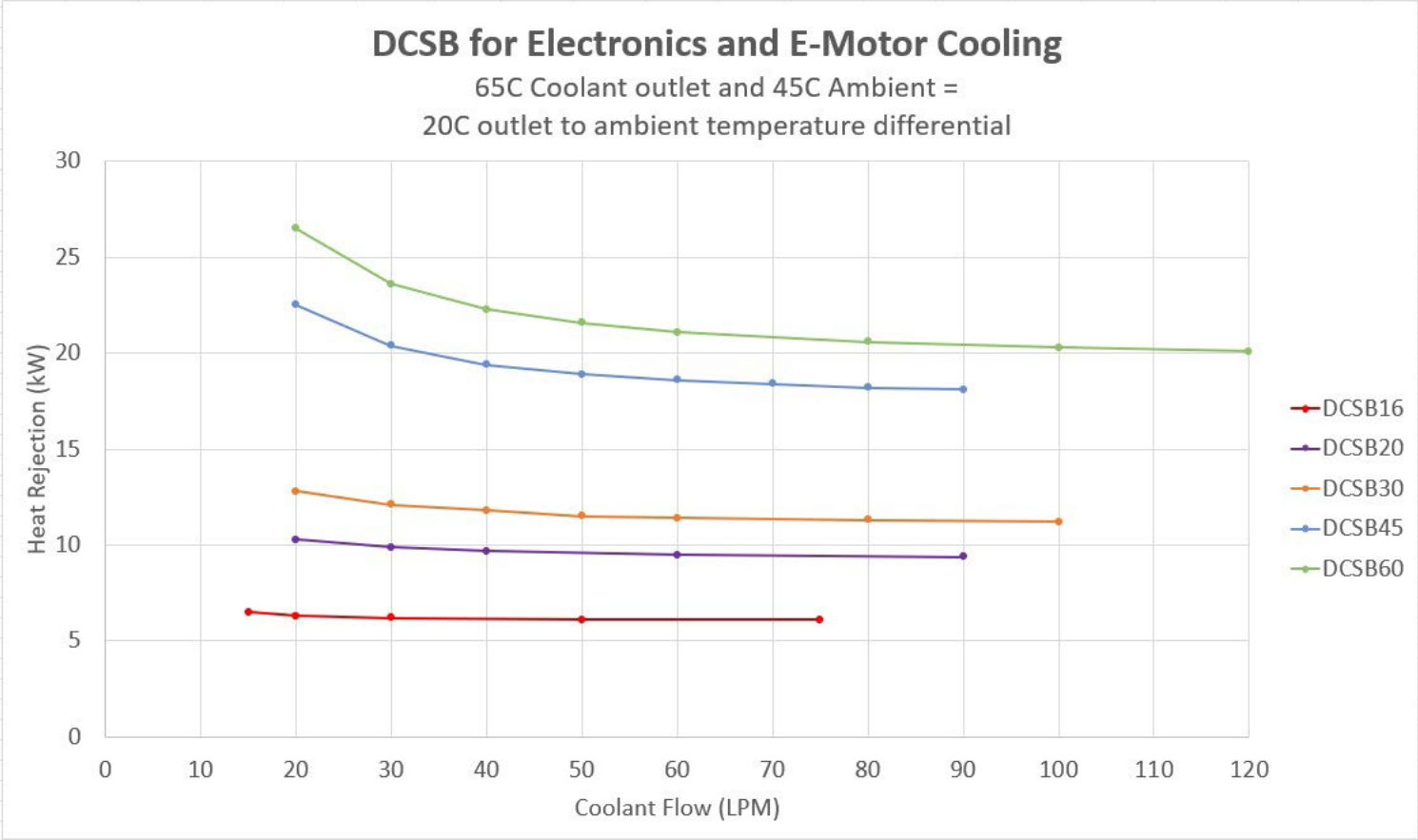
Figure 1. DCSB20

Figure 2. DCSB60

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.akgts.com

GLOBAL STANDARD COOLING SYSTEMS (DCSB SERIES)

STANDARD MODELS PERFORMANCE DATA



SELECTION PROCEDURES

THE PERFORMANCE CURVES ARE BASED ON THE FOLLOWING:

- 50/50 Water/Glycol mixture with 65 °C cooler outlet temperature, and 45 °C ambient temperature entering cooler.
- If your application conditions are different, use the following selection procedure:

STEP 1: DETERMINE

BTU/HR x 0.000293 = kW

STEP 2: DETERMINE THE ACTUAL DESIRED TEMPERATURE DIFFERENTIAL (DTD)

Coolant Outlet temperature - entering air temperature = DTD

The coolant outlet temperature should be less than or equal to the maximum inlet temperature specified for your power electronics components.

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 for cooling is drawn from inside a vehicle compartment.

STEP 3: CALCULATE THE ADJUSTED COOLING POWER (KW) FOR SELECTION

$$\text{kW Cooling Power} \times \frac{20}{\text{Desired DTD}} = \text{kW For Use With Selection Chart}$$

STEP 4: SELECT THE MODEL FROM THE CURVES

Read up from the LPM to the required cooling power. Select any model on, or above this point.

GLOBAL STANDARD COOLING SYSTEMS (DCSB SERIES)

DCSB SERIES TECHNICAL DATA

Model Number	Motor Voltage (V)	Number of Fans	Approx. Noise Level (dB(A), 1M)	Recommended Fuse Value per Fan (A)	Approx. Shipping Weight (lbs)	Cooler Volume (gal.)
DCSB16	12/24	1	76	40	25	0.5
DCSB20	12/24	1	79	30	31	0.7
DCSB30	12/24	1	79	30	53	1.0
DCSB45	12/24	2	79	30	67	1.0
DCSB60	12/24	2	79	30	111	1.2

All data based at nominal speed

DCSB SERIES DIMENSIONS

Model Number	A	B	C	D	E	F	G	H	I	J	K	M	N
DCSB16	15,7	13,5	7,4	3,9	9,6	5,2	5,9	4,9	12,7	-	-	#16 SAE O-ring	5/16” x 1/2” slot
DCSB20	19,6	18,3	6.3	4,1	14,2	9,2	8,1	5,7	17,2	-	-	#20 SAE O-ring	5/16” x 1/2” slot
DCSB30	26,3	22,0	6,3	4,1	17,9	10,9	15,9	3,8	20,9	-	-	#20 SAE O-ring	7/16” x 3/4” slot
DCSB45	-	18,3	6,3	4,1	14,2	9,2	7,9	4,9	17,2	33,4	14,8	#20 SAE O-ring	7/16” x 3/4” slot
DCSB60	-	22,0	6,3	4,1	17,9	11,0	8,8	4,4	20,9	35,4	15,4	#20 SAE O-ring	7/16” x 3/4” slot

All dimensions in inches

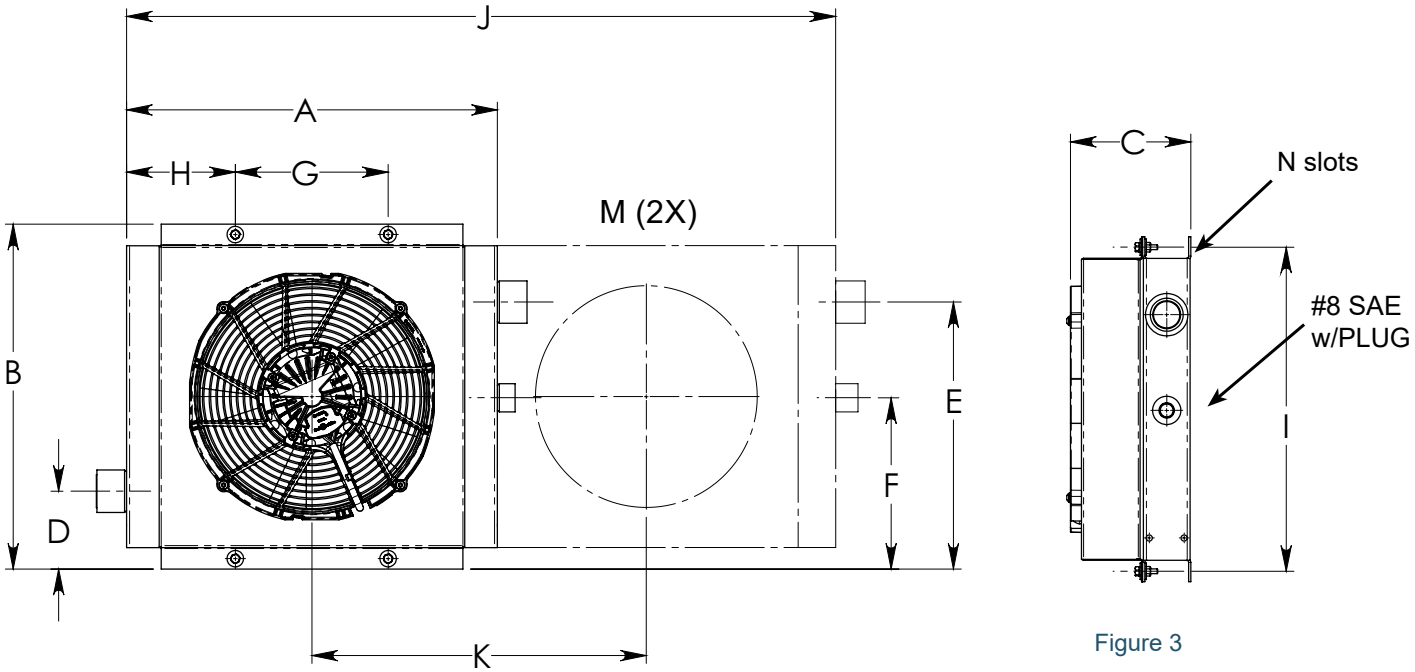


Figure 3

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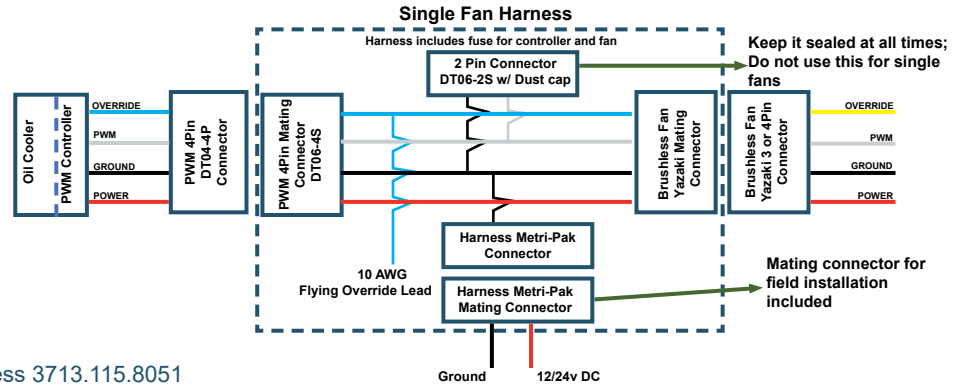

Figure 4.
Single Fan Harness 3713.115.8051
for DCSB16, DCSB20 & DCSB30

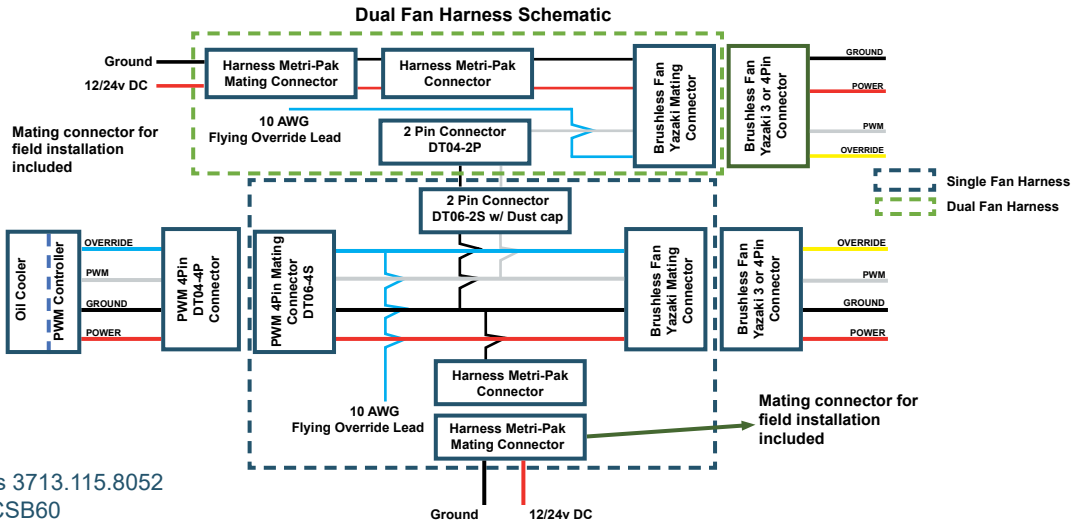

Figure 5.
Dual Fan Harness 3713.115.8052
for DCSB45 & DCSB60

Rated Voltage: 9-16 for 12VDC// 16-32 for 24VDC	Hardware: Low Side Drive / Software: Active High
Maximum temperature Rating 250° F	Manual Override Option Included (Blue wire) Allows The Fan To Run Constantly. Leave Override Disconnected While Using PWM.
Yazaki Female Housing Connector - Supplied	Do not remove dust caps from fuse: Splice box in harness
Yazaki Mating Connector: #30130628 - Not Included	PWM Controller Part No: 3713 115 8050
Wire: Red+, Black-, White PWM Input; Blue Override	Consult Factory For Other Configurations

ORDERING INFORMATION

DCSB				
DCS SERIES: Standard	**MODEL SIZE:** Selected -16 -20 -30 -45 -60	**MOTOR CODE:** 12=12 Volt 24=24 Volt	**FEATURE OPTIONS:** X = No Harness or PMW Controller 1 = Wiring Harness 2 = PWM Controller 3 = Wiring Harness and PWM Controller A = (2x) SAE-20 to 1" Hose barb adapters B = (2x) SAE-16 to ¾" Hose barb adapters	**CUSTOM FEATURE:** H = Heresite Coated Core

ORDER EXAMPLE: 10 kW cooling power with 12 VDC Brushless fan drive with (2x) SAE-20 to 1" Hose barb adapters and including wiring harness and PWM controller **DCSB20-12-3A**

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AKG – A STRONG, GLOBALLY INTEGRATED, GROUP OF COMPANIES

AKG is a leading supplier of high performance coolers and heat exchangers. We also provide a customized system solutions, which comply with the highest quality standards.

On a world-wide scale, 3,000 employees work at 12 manufacturing facilities located in Germany, France, United Kingdom, Latvia, the U.S.A., China and India. Together with many new oversea sales companies they are on duty around the clock.

AKG‘s longstanding partnership with global OEM customers from 26 markets supports the mobile and industrial pre-engineered solutions. AKG products are found globally in a variety of markets including construction machinery, compressed-air systems, agricultural and forestry machines, vehicle construction and many more.

AKG operates one of the world’s most extensive research, development, measurement and validation centers for cooling solutions and customized applications.

For 100 years AKG has been a symbol of innovation, engineering excellence and manufacturing competence. This makes a winning combination that raises the bar for our competition and keeps us pushing forward.