

INDUSTRIAL COOLERS

OKC Series

AC E-Fans



Description

These coolers use a combination of high performance cooling elements and high capacity, compact AC electric powered fans to give long trouble-free operation in hydraulic applications.

The compact design allows the coolers to fit most equipment and provide the highest cooling performance in heat dissipation while minimizing space required.

Features

- Cooling Range: up to 23 HP
- AC Motors in 115/230/480 Volt 50/60 Hz
- Electrical connection box is included
- Coolers are designed with the inlet/outlet ports facing towards the back to help reduce fittings.
- Available with internal pressure or thermal bypass
- All coolers feature a built in thermostat port

Applications



Gearboxes



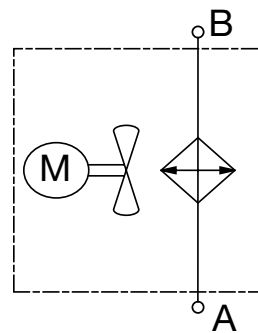
Industrial



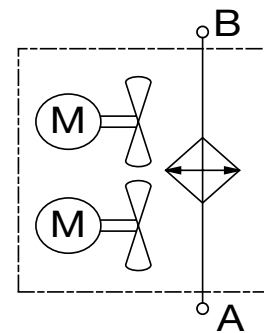
Power Generation

Hydraulic Symbol

Sizes 0 - 5



Sizes 6 - 7



General

Materials	Housing: welded steel Heat exchanger: aluminum, brazed bar-and-plate Fan: steel
Mounting Orientation	All positions
Max. Operating Pressure	230 psi (16 bar)
Fluids	Mineral oil to DIN 51524 Part 1 and 2 (contact factory for other fluid usages)
Ambient Temperature	50° – 104°F (10° – 40°C)
Max. Oil Temp.	266°F (130°C)
Std. Airflow Direction	Air pulled across heat exchanger
Filtration	ISO/DIS 4406 Code 19/16- Filtration grade B25>75
Environmental Protection Class	IP55

Model Code

	OKC	1H	1.5	115	S	X	X	X	X
Model _____									
OKC = Air Cooled Oil Cooler with AC Motor Drive									
Size _____									
0H, 1H, 2H, 3H, 4S, 5S, 6H, 7S (Note: H = 3600 RPM, S = 1800 RPM)									
Version Number _____									
Motor Drive Voltage _____									
115 = 115 Volts 50/60 Hz, 1ph 230 = 230 Volts 50/60 Hz, 1ph 480 = 480 Volts 60 Hz, 3ph									
Air Flow Direction _____									
S = Suction (through heat exchanger, exhausting through fan)									
Accessories _____									
IBT = Internal Temperature Bypass Valve IBP = Internal Pressure Bypass Valve									
Opening Temperature (IBT only) _____									
45 = 113°F (45°C) (closes at 131°F) 50 = 130°F (50°C) (closes at 150°F) 60 = 140°F (60°C) (closes at 158°F)									
Opening Pressure (IBT & IBP) _____									
2 = 29 psi (2 bar) 3 = 45 psi (3 bar) 4 = 58 psi (4 bar)									
Temperature Switch _____									
(omit) = None TS-120 = Inline Switch, Fixed 120°F TS-140 = Inline Switch, Fixed 140°F TS-160 = Inline Switch, Fixed 160°F									

Model Codes Containing RED are Options – Contact HYDAC Cooling Division for information and availability

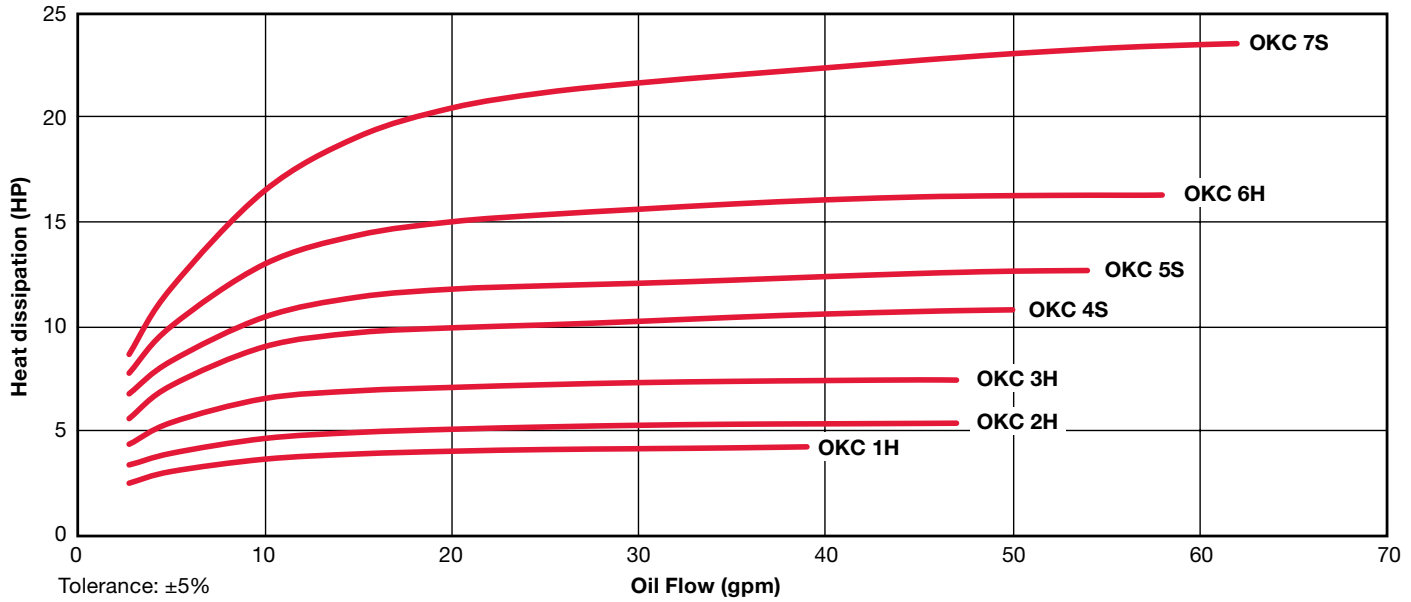
Technical Specifications

Size	Current Draw (amps)		Speed @ 60Hz (rpm)		Fan Diameter (mm) / (in)	Noise Level dBa* (1 Meter)	Weight (lbs.)
	115V	230V / 480V	115V	230V / 480V			
OKC 1H	1.1	0.54 / 0.34	3000	3000 / 2990	230 / 9.1	71	20
OKC 2H	1.1	0.5 / 0.37	3000	3100 / 2900	230 / 9.1 (115V)	71	27
					250 / 9.8 (230/460V)		
OKC 3H	1.55	0.75 / 0.56	2900	2640 / 2320	300 / 11.8	75	32
OKC 4S	2.2	0.92 / 0.4	1650	1600 / 1600	400 / 15.8	69	47
OKC 5S	1.1	0.92 / 0.4	1650	1600 / 1600	400 / 15.8	72	62
OKC 6H	1.1	0.75 / 0.56	2900	2640 / 2320	300 / 11.8	75	86
OKC 7S	2.2	0.92 / 0.4	1650	1600 / 1600	400 / 15.8	71	99

*The noise levels are only a guide as acoustic properties depend on the characteristics of the room, connections, viscosity and resonance.

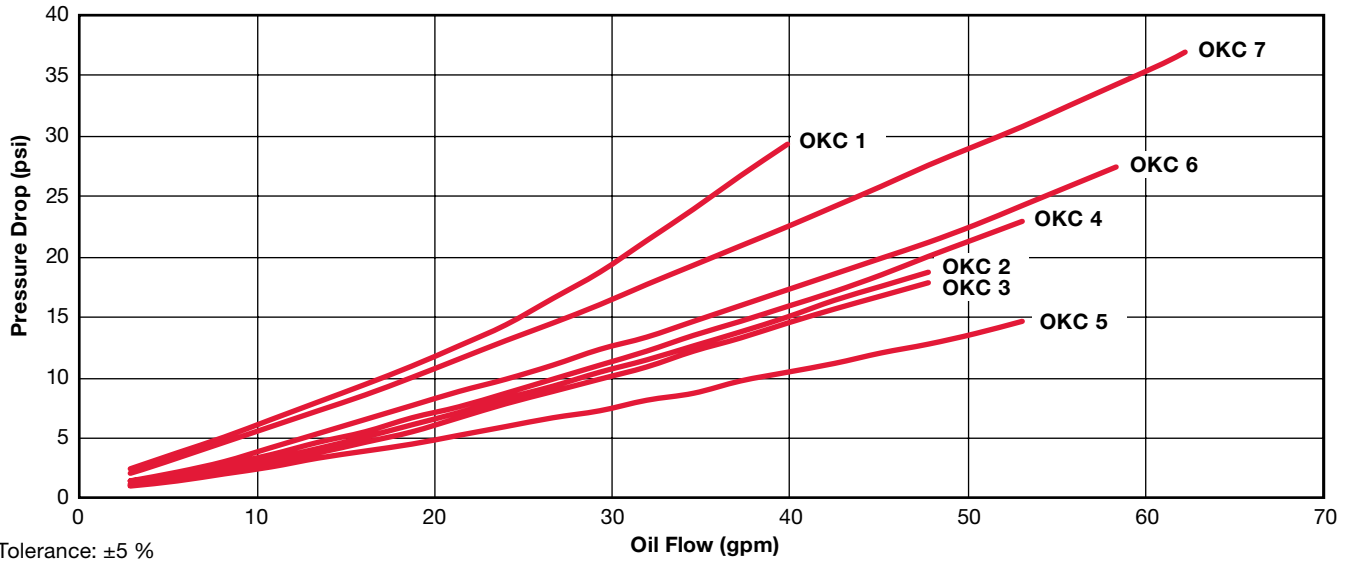
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Heat Dissipation @ $\Delta T = 40^{\circ}\text{F}$



Cooling capacity is dependent on the oil flow rate and the temperature difference ΔT between oil inlet and air inlet.

Pressure Drop @ 30cSt

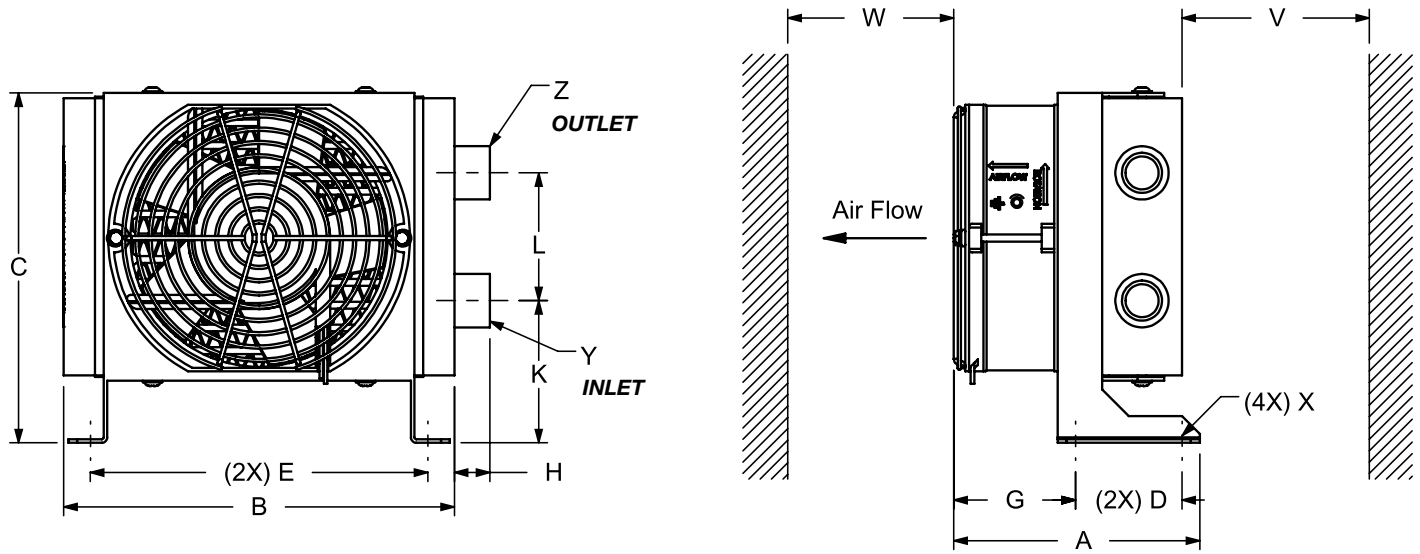


Pressure differential Δp depending on flow rate Q and the viscosity of the oil. For other viscosities the result must be multiplied by the K factors below.

K Factor Chart

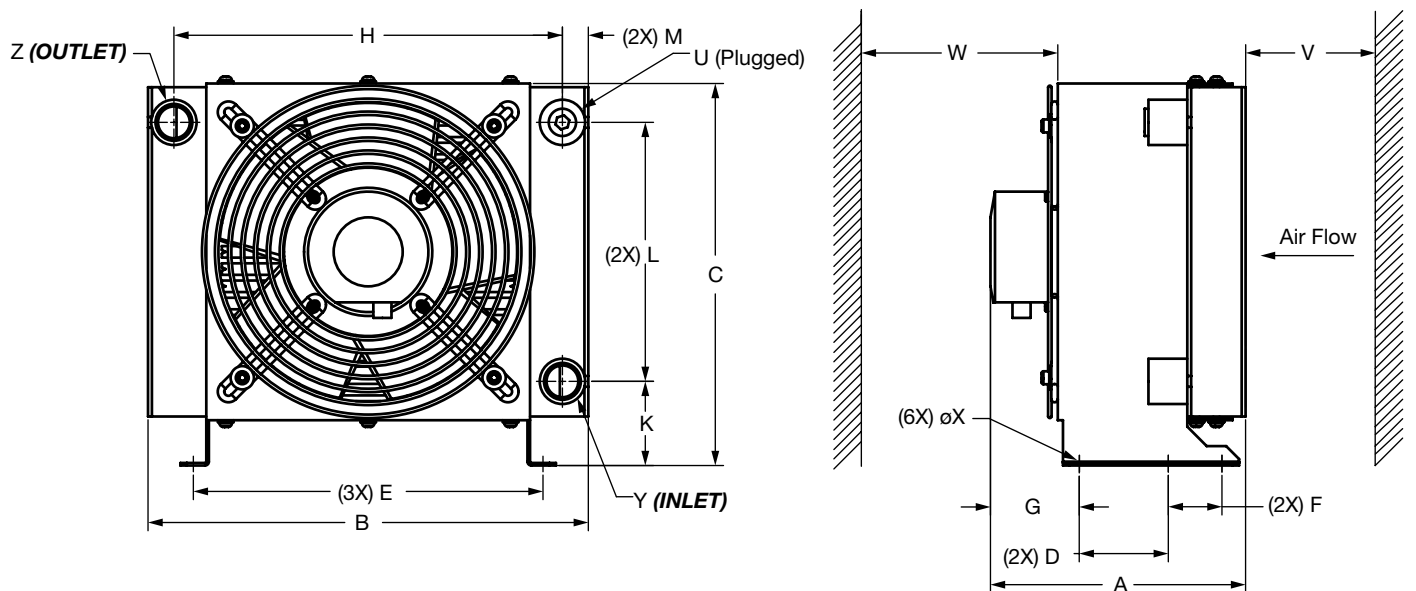
K Factor	0.5	0.65	0.77	1	1.3	1.52	1.9	2.8	5.3
Viscosity (SSU)	46	70	102	150	213	250	315	464	695
Viscosity (cSt)	10	15	22	32	46	54	68	100	150

Dimensions OKC Size 0



Size	A	B	C	D	E	F	G	H	K	L	M	V	W	U	X	Y	Z
0	5.31 [135]	8.66 [220]	7.87 [200]	2.36 [60]	7.48 [190]	N/A	3.15 [80]	9.45 [240]	3.11 [79]	2.83 [72]	N/A	3.94 [100]	3.94 [100]	N/A	ø0.28 [ø7]	G 1/2"	G 1/2"

Dimensions OKC Size 1



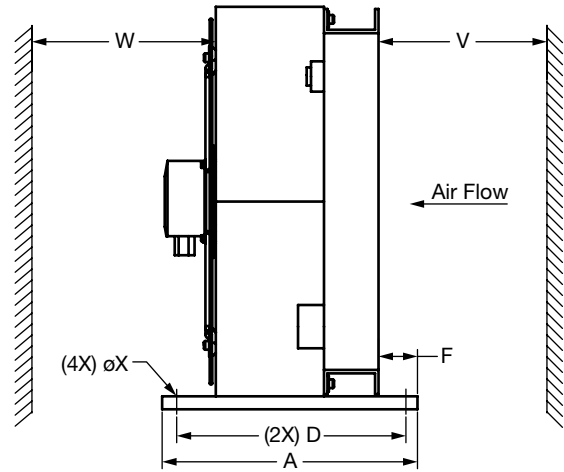
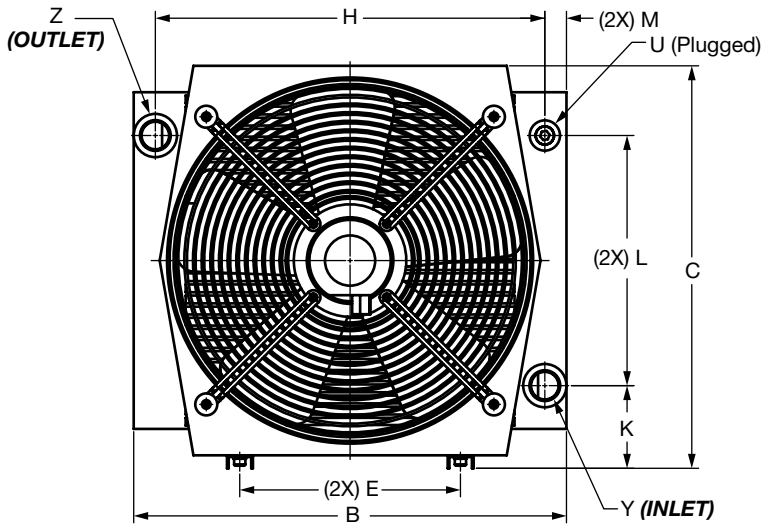
Size	A	B	C	D	E	F	G	H	K	L	M	V	W	U	X	Y	Z
1	7.76 [197]	13.39 [340]	11.61 [295]	1.97 [50]	10.63 [270]	2.36 [60]	2.64 [67]	11.81 [300]	2.56 [65]	7.87 [200]	0.79 [20]	2.76 [70]	7.87 [200]	1/2" NPT	ø0.33 [ø8]	SAE-12	SAE-12

Dimensions are for general information only, all critical dimensions should be verified by requesting a certified print. Dimensions are in inches [mm].

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Dimensions

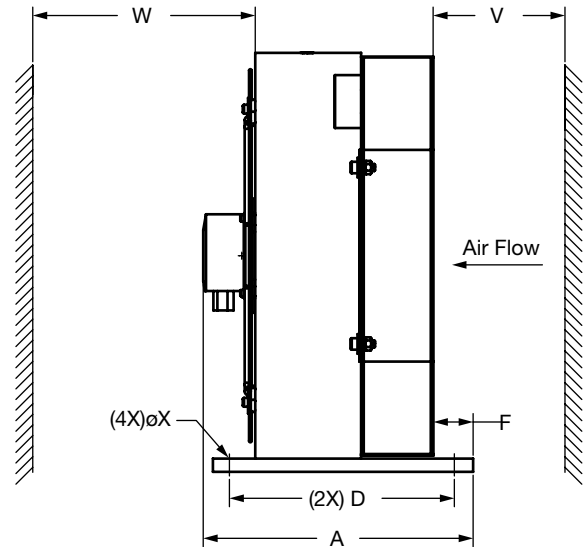
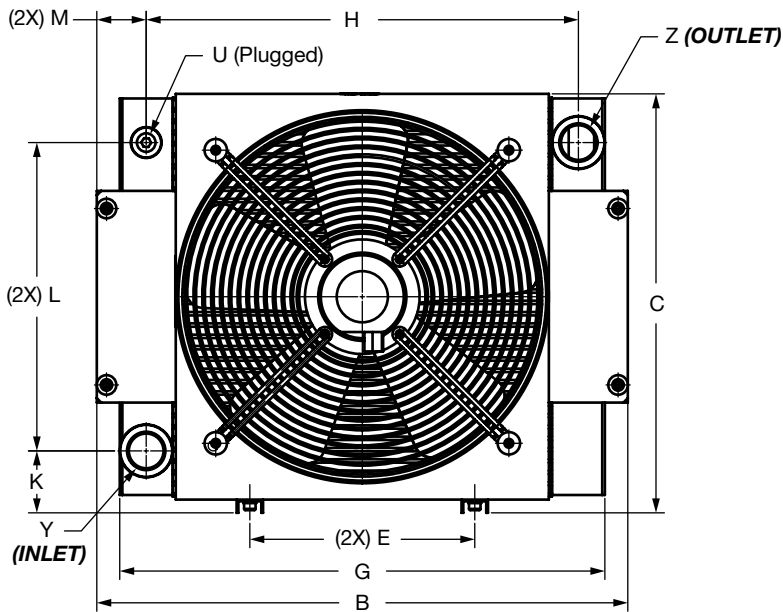
OKC Size 2 - 4



Size	A	B	C	D	E	F	G	H	K	L	M	V	W	U	X	Y	Z
2	11.61 [295]	15.12 [384]	12.91 [328]	10.04 [255]	6.30 [160]	2.95 [75]	N/A	12.76 [324]	2.76 [70]	7.87 [200]	1.18 [30]	5.91 [150]	9.84 [250]	1/2" NPT	ø0.35 [ø9]	SAE-16	SAE-16
3	11.61 [295]	16.54 [420]	14.61 [371]	10.04 [255]	9.54 [242]	2.17 [55]	N/A	14.57 [370]	3.09 [78]	9.06 [230]	0.98 [25]	7.09 [180]	11.81 [300]	1/2" NPT	ø0.35 [ø9]	SAE-16	SAE-16
4	11.61 [295]	19.69 [500]	18.31 [465]	10.04 [255]	10.04 [255]	1.77 [45]	N/A	17.72 [450]	3.76 [95]	11.39 [289]	0.98 [25]	7.87 [200]	15.75 [400]	1/2" NPT	ø0.35 [ø9]	SAE-16	SAE-16

Dimensions

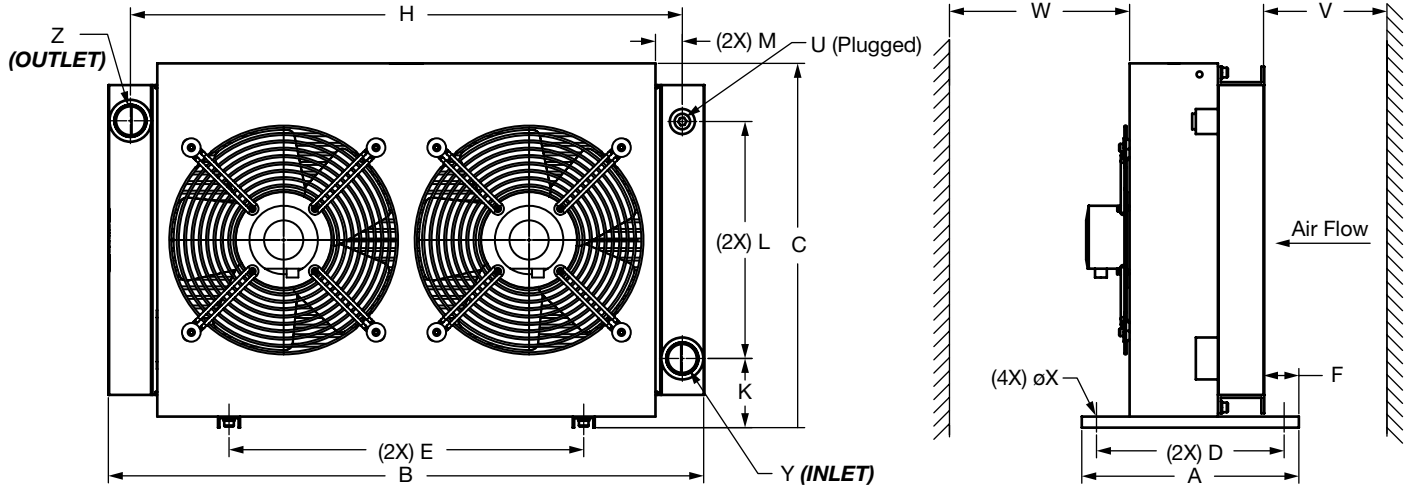
OKC Size 5



Size	A	B	C	D	E	F	G	H	K	L	M	V	W	U	X	Y	Z
5	12.05 [306]	23.70 [602]	18.70 [475]	10.04 [255]	10.04 [255]	N/A	21.65 [550]	19.30 [490]	2.76 [70]	13.76 [350]	2.20 [56]	N/A	N/A	1/2" NPT	ø0.35 [ø9]	SAE-20	SAE-20

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Dimensions OKC Size 6 - 7



Size	A	B	C	D	E	F	G	H	K	L	M	V	W	U	X	Y	Z
6	11.61 [295]	31.89 [810]	19.49 [495]	10.04 [255]	18.98 [482]	1.85 [47]	N/A	29.53 [750]	3.70 [94]	12.68 [322]	1.18 [30]	7.78 [198]	15.75 [400]	1/2" NPT	ø0.35 [ø9]	SAE-20	SAE-20
7	11.61 [295]	37.40 [950]	21.54 [547]	10.04 [255]	18.98 [482]	1.85 [47]	N/A	35.04 [890]	3.70 [94]	14.69 [373]	1.18 [30]	9.84 [250]	19.80 [503]	1/2" NPT	ø0.35 [ø9]	SAE-20	SAE-20