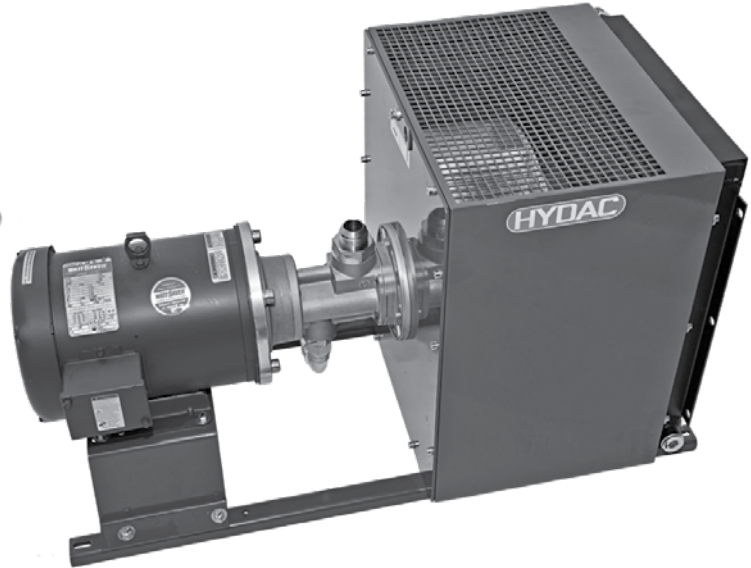


INDUSTRIAL COOLERS

SC Series - AC Motor Drive

Air Cooled Oil Coolers



Features

The SC Series cooler design uses a radial blower wheel to pull air through the heat exchanger and then exit from the top. This allows for excellent cooling capacity as well as low noise.

- Up to 16 HP cooling capacity
- Highly efficient and rugged bar-and-plate style heat exchangers
- Externally mounted heat exchangers for easy maintenance and cleaning
- Modular pump and filter options for a plug and play fluid conditioning system
- Available with HYDAC MF, LPF and FLND series filters
- Accessories include: Thermostats (*adjustable and fixed*), Integrated Thermostatic bypass valves and pressure bypass valves.
- Packaged systems with pump flows ranging from 3.1 gpm to 12.75 gpm

Applications



Gearboxes



Industrial



Elevators



Power Generation



Pulp & Paper



Railways

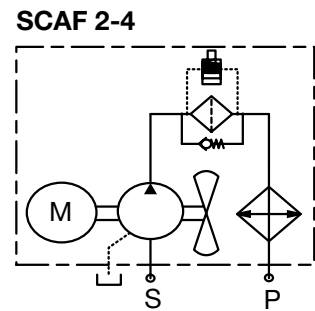
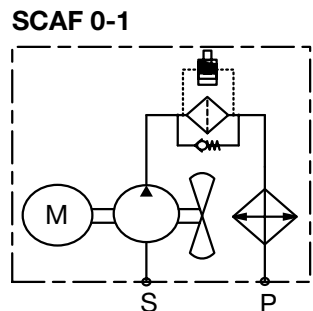
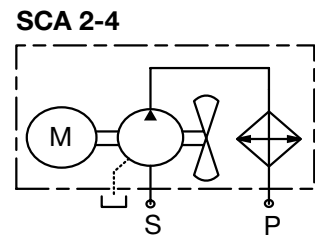
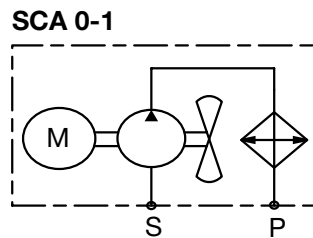
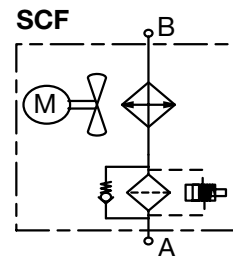
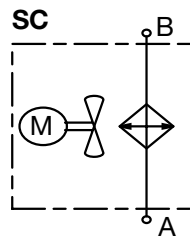


Shipbuilding



Steel / Heavy Industry

Hydraulic Symbol



General

Materials	Housing: Welded steel housing, steel filter bracket, steel legs, steel blower wheel Heat Exchanger: Aluminum Heavy duty bar and plate Motors: TEFC, IEC Frame B5 Flange or NEMA frame style TEFC
Mounting Position	Horizontal, motor shaft
Maximum Pressure	w/o Pump: 230 psi (16 bar) Dynamic 290 psi (20 bar) Static with Pump: 90 psi (6 BAR)*
Fluids	Mineral oil to DIN 51524 Part 1 and 2 <i>(Contact factory for other fluid usages)</i>
Contamination Limit	Permissible contamination < NAS 12
Max Viscosity	w/o Pump: 2000 cst with Pump: 180 cst
Ambient Temperature	50°F (10°C) to 104°F (40°C)
Maximum Oil Temperature	w/o Pump: 266°F (130°C) with Pump: 175°F (80°C)
Air Flow Direction	Pulled across Heat Exchanger

Technical Specifications

Model	Description	Max. Oil Flow Rate (gpm)	Fluid Specifications		Noise (dBa @ 1 m)	Motor Specifications		
			Pump Displacement - Flow Rate			Motor Spec Fan (hp)	Motor Spec Fan/Pump (hp)	Motor Spec (rpm)
SC 0, SCF 0	Fan	16	N/A		68	0.21 (kW)	N/A	1800
SCA 0, SCAF 0	Fan/Pump	N/A	10 cc/rev - 4.75 gpm		70	N/A	0.43 (kW)	1800
SC 1L, SCF 1L	Fan	32	N/A		64	0.29 (kW)	N/A	1200
SCA 1L, SCAF 1L	Fan/Pump	N/A	10 cc/rev - 3.1 gpm		68	N/A	0.29 (kW)	1200
SC 1S, SCF 1S	Fan	32	N/A		69	0.29 (kW)	N/A	1800
SCA 1S, SCAF1S	Fan/Pump	N/A	10 cc/rev - 4.75 gpm		71	N/A	0.43 (kW)	1800
SC 2L, SCF 2L	Fan	32	N/A		66	0.43 (kW)	N/A	1200
SCA 2L, SCAF 2L	Fan/Pump	N/A	28 cc/rev - 8.45 gpm	40 cc/rev - 12 gpm	68	N/A	2.0	1200
SC 2S, SCF2S	Fan	32	N/A		76	0.63 (kW)	N/A	1800
SCA 2S, SCAF2S	Fan/Pump	N/A	28 cc/rev - 12.75 gpm	40cc N/A	77	N/A	3.0	1800
SC 3L, SCF 3L	Fan	42	N/A		73	1.0	N/A	1200
SCA 3L, SCAF3L	Fan/Pump	N/A	28 cc/rev - 8.45 gpm	40 cc/rev - 12 gpm	73	N/A	2.0	1200
SC 3S, SCF 3S	Fan	42	N/A		82	1.5	N/A	1800
SCA 3S, SCAF3S	Fan/Pump	N/A	28 cc/rev - 12.75 gpm	40cc N/A	84	N/A	3.0	1800
SC 4L, SCF 4L	Fan	42	N/A		73	1.0	N/A	1200
SCA 4L, SCAF 4L	Fan/Pump	N/A	28 cc/rev - 8.45 gpm	40 cc/rev - 12 gpm	73	N/A	2.0	1200
SC 4S, SCF 4S	Fan	42	N/A		82	1.5	N/A	1800
SCA 4S, SCAF 4S	Fan/Pump	N/A	28 cc/rev - 12.75 gpm	40cc N/A	84	N/A	3.0	1800

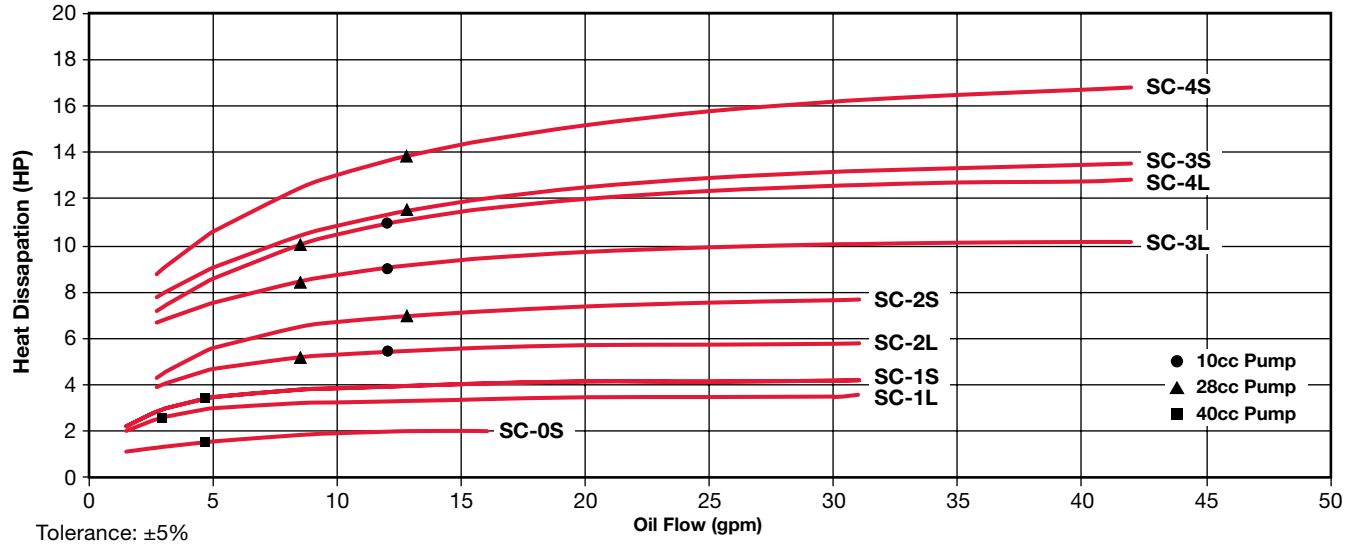
INDUSTRIAL COOLERS

Model Code

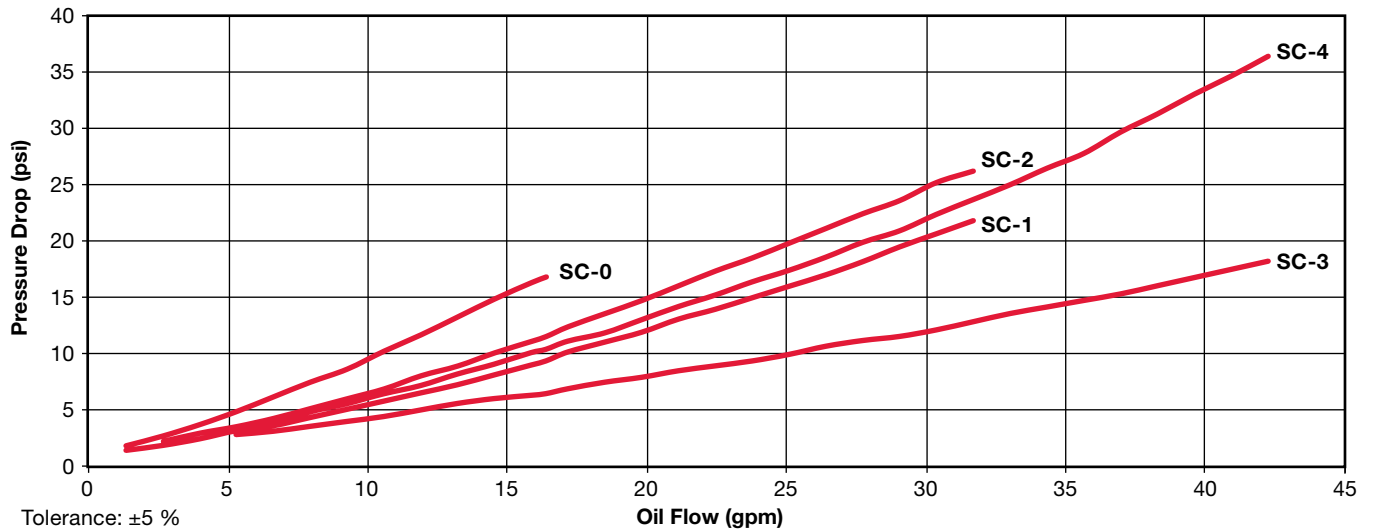
	SCAF	3L	1.6	B	28	MF190	3	B	IBP	2	TS120
Model											
SC	= Basic Cooler										
SCF	= Cooler with Filter										
SCA	= Cooler with Pump										
SCAF	= Cooler with Pump & Filter										
Size											
0S, 1L, 1S, 2L, 2S, 3L, 3S, 4L, 4S	(Note: S = 1800 RPM, L = 1200 RPM)										
Modification Number	(latest version supplied)										
Motor Voltage											
B	= 230/460 Volts, 3ph										
C	= 575 Volts, 3ph										
X	= No Motor										
Pump											
(omit)	= No Pump										
10	= 10 ccm/rev, L=3.1gpm, S=4.75gpm (sizes 0S, 1L 1S only)										
28	= 28 ccm/rev, L=8.4, S=12.75 (sizes 2L, 2S 3L, 3S, 4L 4S only)										
40	= 40 ccm/rev, L=12 gpm (sizes 2L, 3L, 4L only)										
Filter Type											
(omit)	= No Filter										
MF95	= Spin-On, 25 rated gpm										
MF190	= Spin-On, 30 rated gpm										
MF195	= Spin-On, 60 rated gpm										
LPF160	= Cartridge Filter, 43 rated gpm										
LPF240	= Cartridge Filter, 63 rated gpm										
FLND250	= Duplex Filter, 66 rated gpm (sizes 2-4 only)										
Micron Rating											
(omit)	= No Filter										
3	= 3 micron, Absolute										
5	= 5 micron, Absolute (MF, LPF only)										
6	= 6 micron, Absolute (FLND only)										
10	= 10 micron, Absolute										
20	= 20 micron, Absolute (MF, LPF only)										
25	= 25 micron, Absolute (FLND only)										
Filter Indicator											
(omit)	= No Filter										
B	= Visual										
C	= Electrical (AC/DC) (LPF + FLND filters only)										
D24	= 24 VDC Lamp/Switch (LPF + FLND filters only)										
D115	= 115 VAC Lamp/Switch (LPF + FLND filters only)										
D230	= 230 VAC Lamp/Switch (LPF + FLND filters only)										
Accessories											
(omit)	= None										
IBT	= Internal Thermostatic Bypass Valve										
IBP	= Internal Pressure Bypass Valve										
Opening Temperature	(IBT Only)										
45	= Opens 113°F (45°C) Closes at 131°F (55°C)										
50	= Opens 130°F (50°C) Closes at 150°F (65°C)										
60	= Opens 140°F (60°C) Closes at 158°F (70°C)										
Opening Pressure	(IBT & IBP)										
2	= 2 bar (29psi)										
3	= 3 bar (45psi)										
4	= 4 bar (58 psi)										
Temperature Switch											
TR1	= Reservoir Thermostat, adjustable 32° to 200°F (must be ordered as a separate line item)										
AITR	= Inline Thermostat, adjustable 32°F to 200°F										
TS-120	= Inline Temperature Switch, Fixed 120°F										
TS-140	= Inline Temperature Switch, Fixed 140°F										
TS-160	= Inline Temperature Switch, Fixed 160°F (All TS options are for SC or SCF coolers only)										

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

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



Pressure Drop @ 30cSt



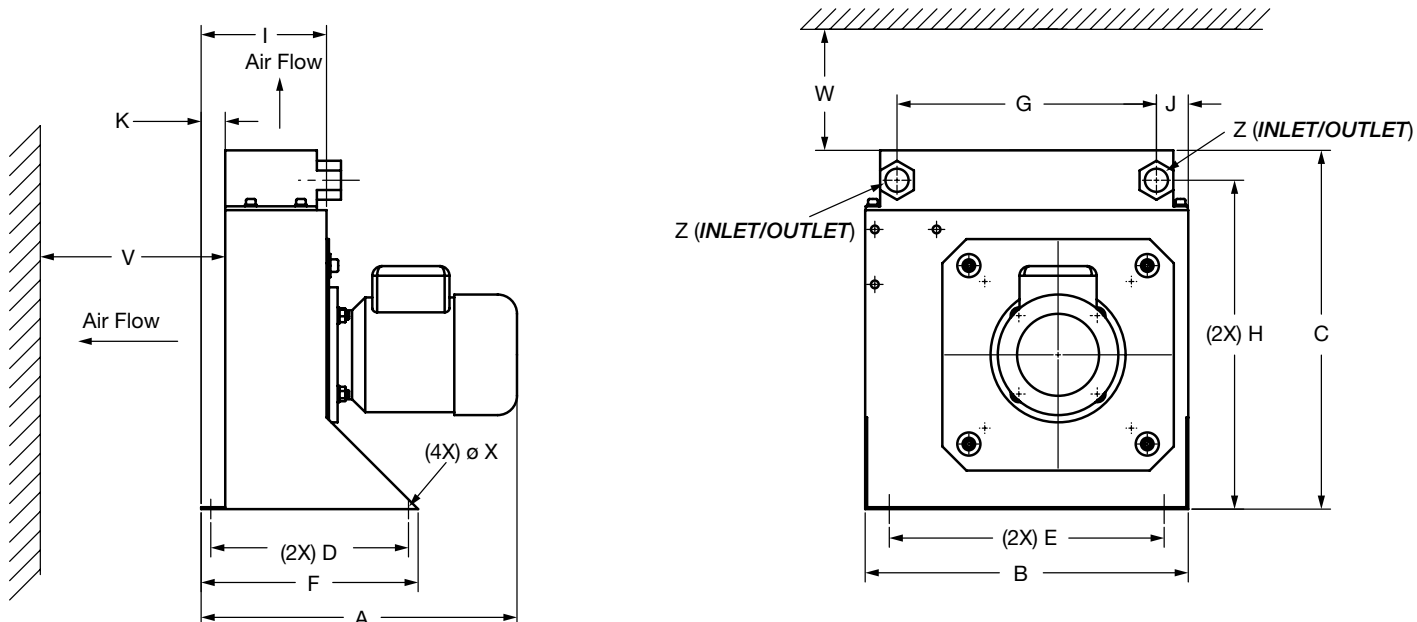
Note: Values measured at ΔT of $40^\circ F$, may vary at lower ΔT .
 Pressure drop curves above use fluid viscosity of 30 cSt. For other viscosities the result must be multiplied by the K factors below.

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

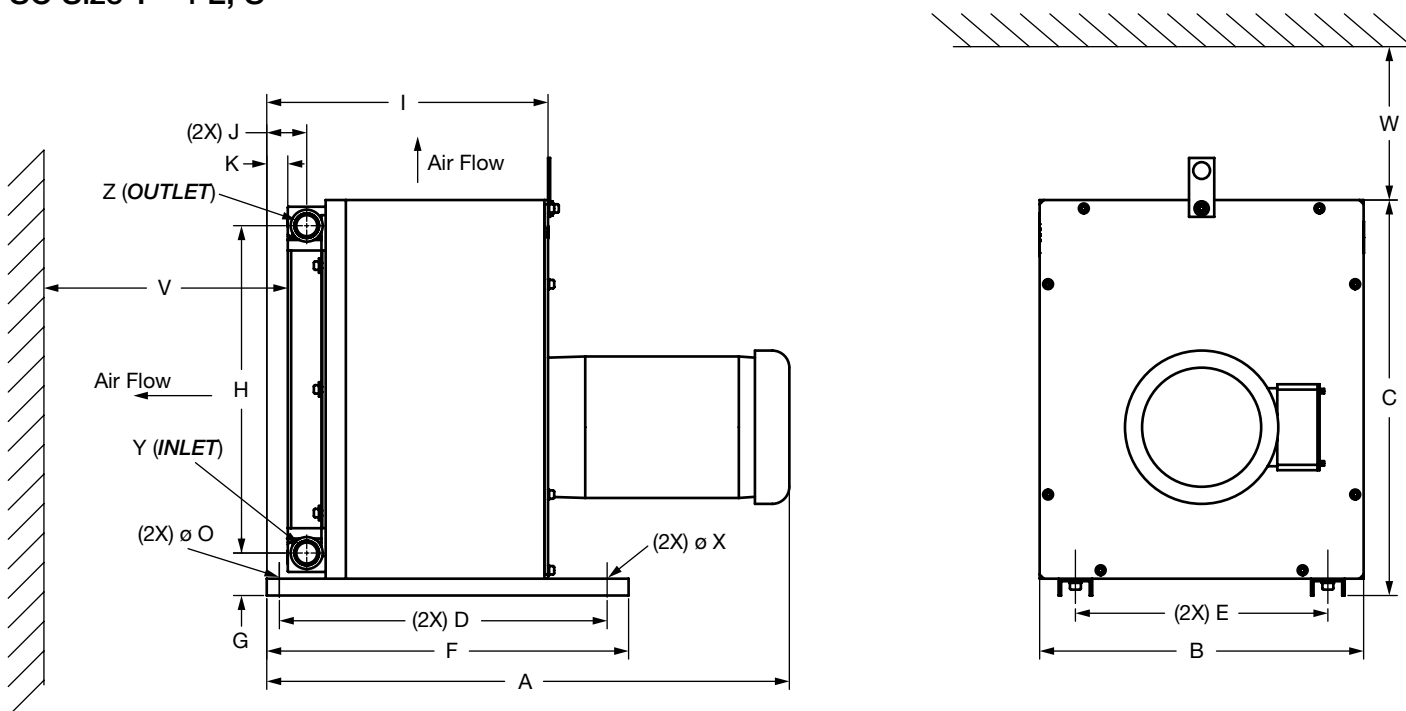
INDUSTRIAL COOLERS

Dimensions SC Size 0S



A	B	C	D	E	F	G	H	I	J	K	V	W	X	Z
12.89	13.19	14.65	8.07	11.22	8.86	10.59	13.43	5.12	1.30	0.98	7.87	31.50	ø0.35	SAE 12

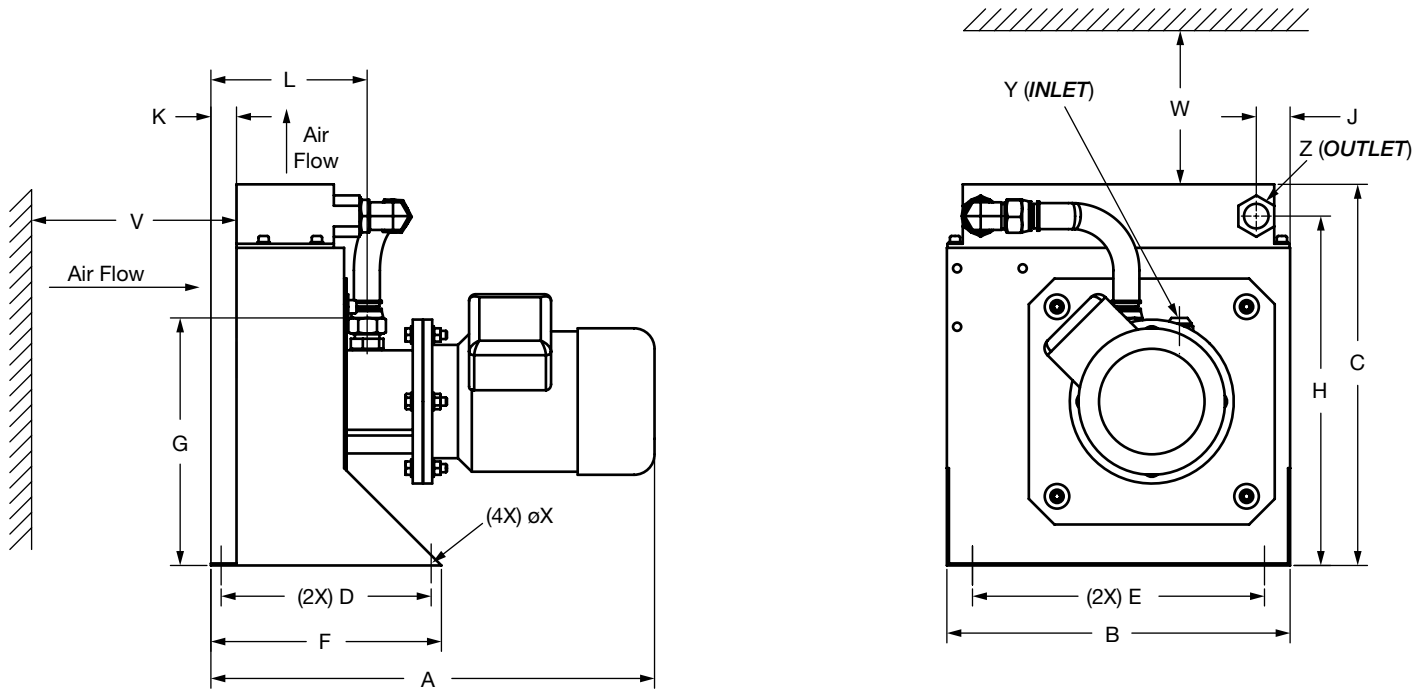
Dimensions SC Size 1 - 4 L, S



Size	A	B	C	D	E	F	G	H	I	J	K	O	V	W	X	Y	Z
SC1L,S	20.47	13.58	14.76	12.60	11.22	14.17	1.99	11.38	11.57	1.87	0.98	0.35	39.37	11.81	ø0.35x1.2 Slot	1-1/16"-12 (F)	SAE 12
SC2L,S	24.45	15.16	18.50	15.33	11.81	16.93	1.99	15.31	13.16	1.87	0.98	0.35	59.06	15.75	ø0.35x1.2 Slot	1-1/16"-12 (F)	SAE 12
SC3L,S	28.39	17.72	20.87	18.50	14.17	19.69	2.23	17.28	17.10	2.46	1.57	0.35	78.74	19.69	ø0.35x1.2 Slot	1-1/16"-12 (F)	SAE 12
SC4L,S	28.39	17.72	20.87	18.50	14.17	19.69	2.32	17.28	17.10	2.11	1.02	0.35	78.74	19.69	ø0.35x1.2 Slot	1-5/16"-12 (F)	SAE 16

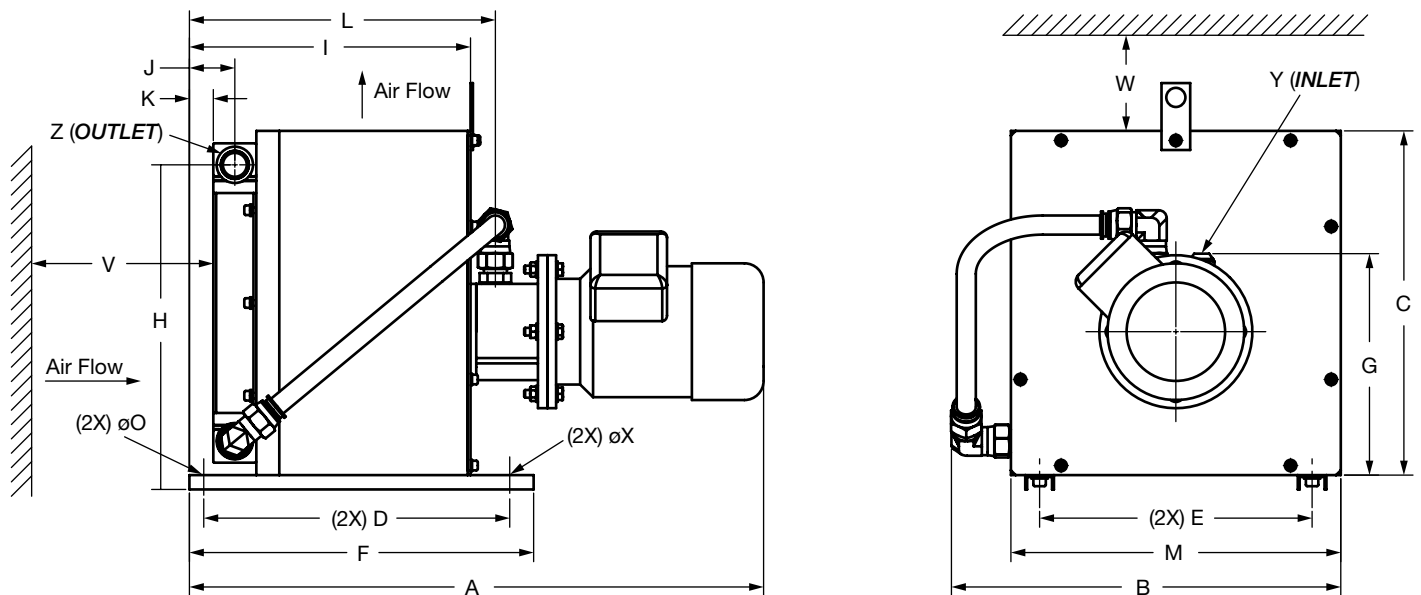
Dimensions are for general information only, all critical dimensions should be verified by requesting a certified print. Dimensions are in inches.

Dimensions SCA Size 0S



A	B	C	D	E	F	G	H	J	K	L	V	W	X	Y	Z
17.05	13.19	14.65	8.07	11.22	8.86	9.51	13.43	1.30	0.98	6.00	7.87	31.50	ø0.35	1 1/16"-12 JIC-12 (M)	SAE 12

Dimensions SCA Size 1 L, S



A	B	C	D	E	F	G	H	I	J
23.64	16.03	14.76	12.6	11.22	14.17	9.71	13.37	11.57	1.87

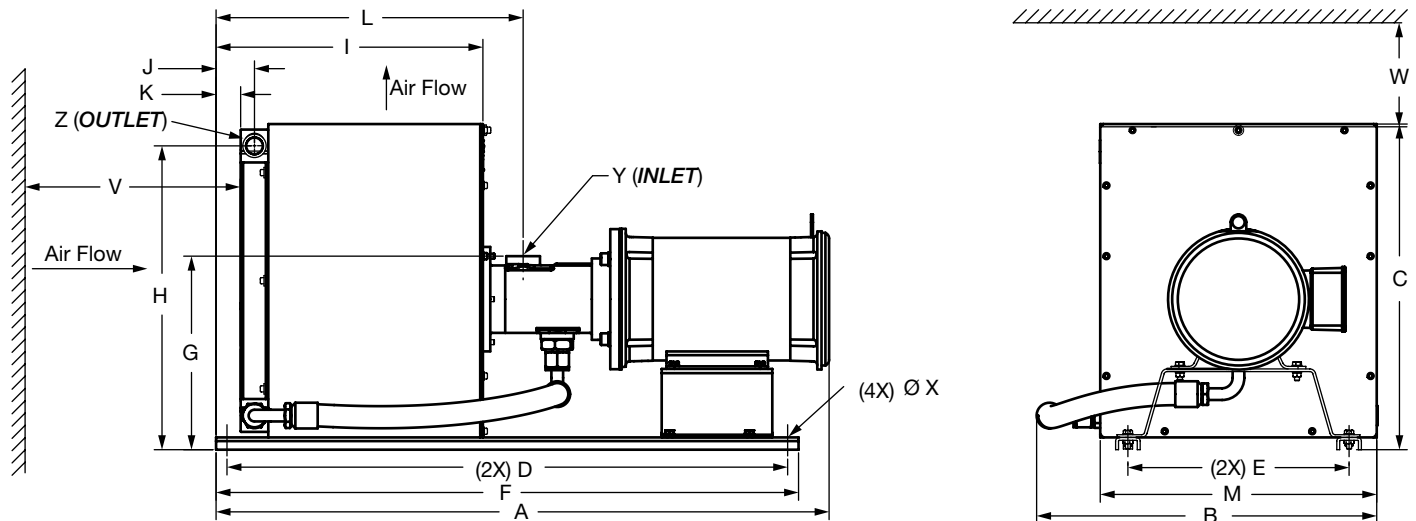
K	L	M	O	V	W	X	Y	Z
0.98	12.6	13.58	ø0.35	11.81	39.37	ø0.35x1.18 slot	1 1/16"-12 JIC-12 (M)	SAE 12

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

INDUSTRIAL COOLERS

Dimensions

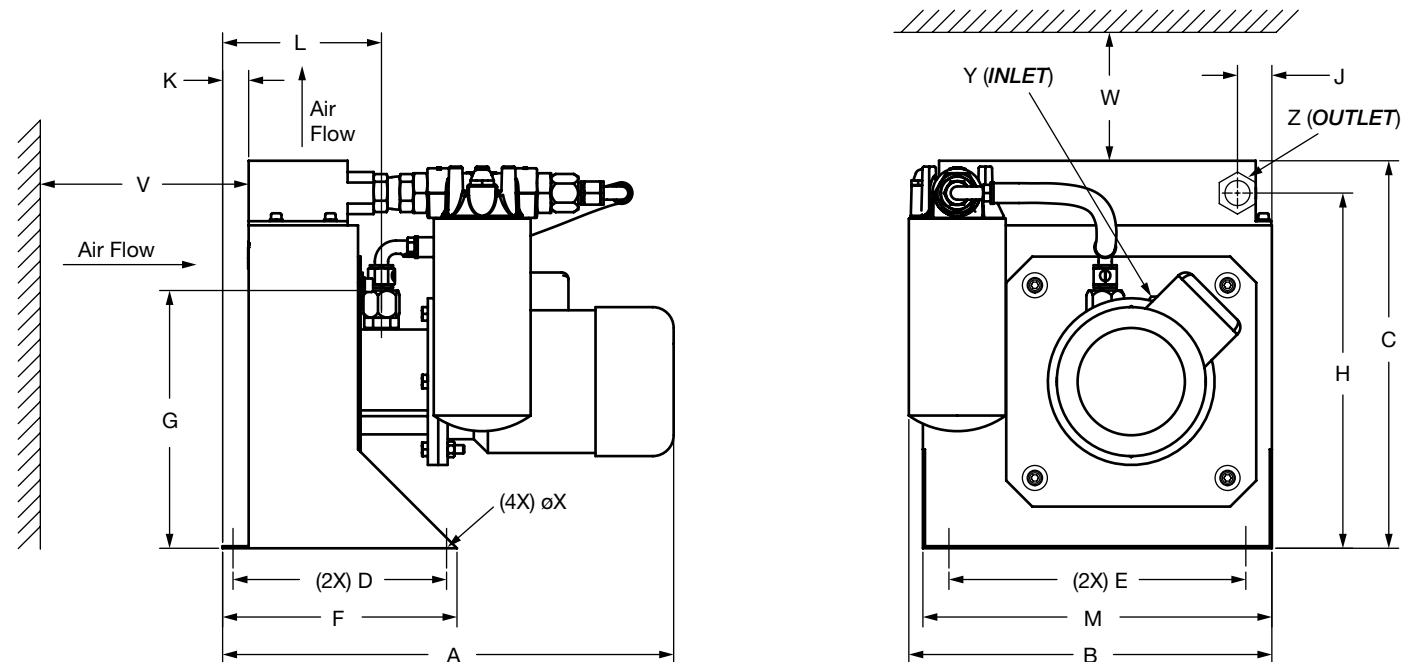
SCA Size 2 - 4 S



Size	A	B	C	D	E	F	G	H	I	J	K	L	M	V	W	X	Y	Z
SCA2L,SB28	36.76	19.04	18.50	32.31	11.81	33.92	9.84	17.30	14.31	2.99	2.10	16.36	15.16	15.75	59.06	ø0.35x1.18 Slot	SAE 16	SAE 12
SCA2LB40	38.27	19.04	18.50	32.31	11.81	33.92	10.63	17.30	14.31	2.99	2.10	16.89	15.16	15.75	59.06	ø0.35x1.18 Slot	SAE 24	SAE 12
SCA3L,SB28	40.12	21.73	20.87	35.94	14.17	37.92	11.61	19.45	17.69	3.05	2.17	19.74	17.72	19.69	78.74	ø0.35x1.56 Slot	SAE 16	SAE 12
SCA3LB40	41.63	21.73	20.87	35.94	14.17	37.92	12.40	19.45	17.69	3.05	2.17	20.27	17.72	19.69	78.74	ø0.35x1.56 Slot	SAE 24	SAE 12
SCA4L,SB28	40.12	21.73	20.87	35.94	14.17	37.92	11.61	19.61	17.69	2.70	1.46	19.74	17.72	19.69	78.74	ø0.35x1.56 Slot	SAE 16	SAE 16
SCA4LB40	41.63	21.73	20.87	35.94	14.17	37.92	12.40	19.61	17.69	2.70	1.46	20.27	17.72	19.69	78.74	ø0.35x1.56 Slot	SAE 24	SAE 16

Dimensions

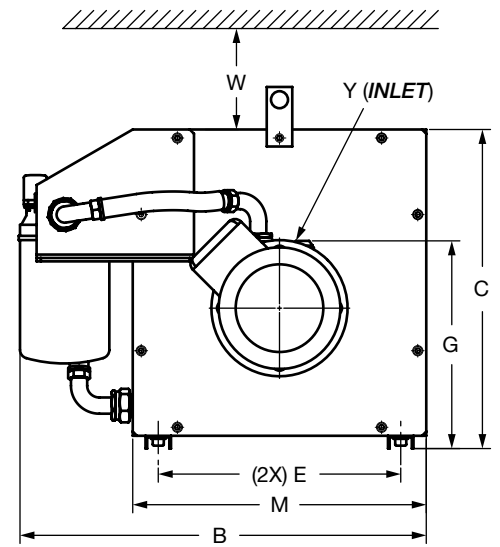
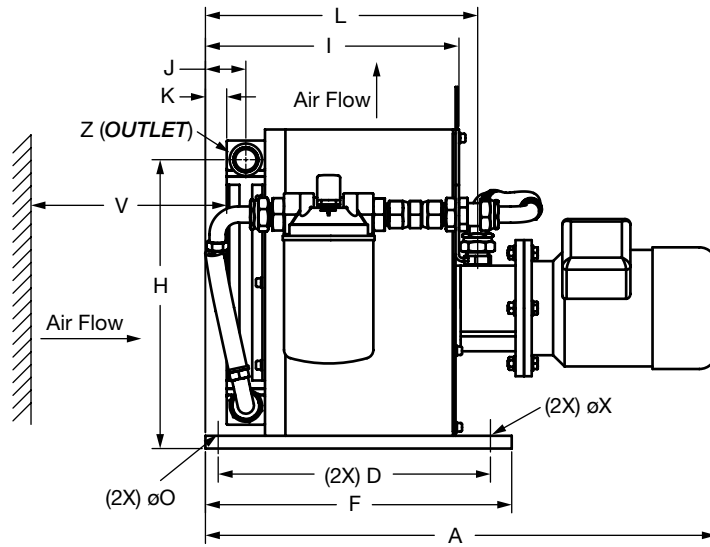
SCAF Size 0 S



A	B	C	D	E	F	G	H	J	K	L	M	V	W	X	Y	Z
17.05	13.72	14.65	8.07	11.22	8.86	9.51	13.43	1.30	0.98	6.00	13.19	7.87	31.50	ø0.35	1 1/16"-12 JIC-12 (M)	SAE 12

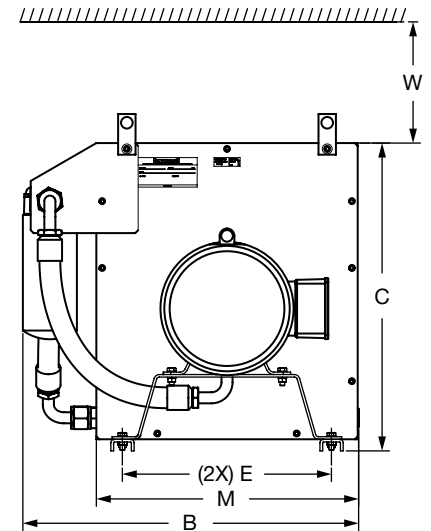
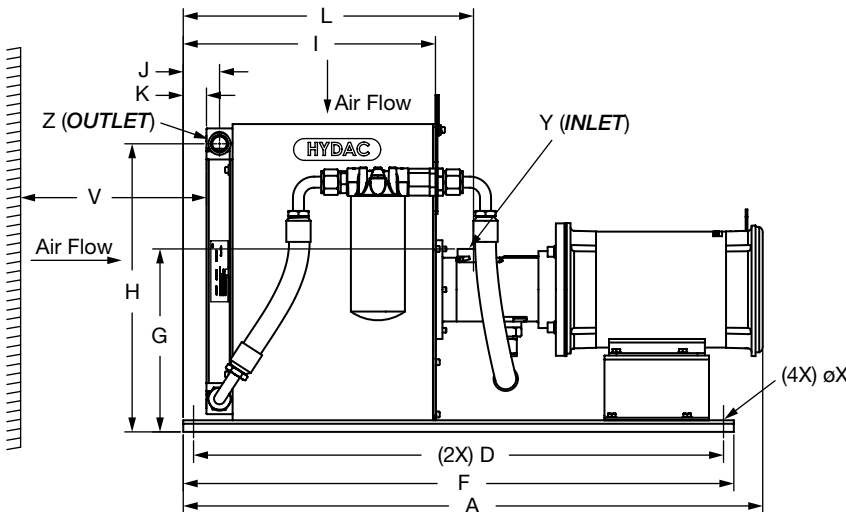
Dimensions are for general information only, all critical dimensions should be verified by requesting a certified print. Dimensions are in inches.

Dimensions SCAF Size 1 L, S



A	B	C	D	E	F	G	H	I	J	K	L	M	O	V	W	X	Y	Z
23.64	18.80	14.76	12.60	11.22	14.17	9.71	13.37	11.57	1.87	0.98	12.60	13.58	ø0.35	11.81	39.37	ø0.35x1.18 slot	1 1/16"-12 JIC-12 (M)	SAE 12

Dimensions SCAF Size 2 - 4 S



Size	A	B	C	D	E	F	G	H	I	J	K	L	M	V	W	X	Y	Z
SCAF2L, SB28	36.76	20.14	18.50	32.31	11.81	33.92	9.84	17.30	14.31	2.99	2.10	16.36	15.16	15.75	59.06	ø0.35x1.18 Slot	SAE 16	SAE 12
SCAF2LB40	38.27	20.14	18.50	32.31	11.81	33.92	10.63	17.30	14.31	2.99	2.10	16.89	15.16	15.75	59.06	ø0.35x1.18 Slot	SAE 24	SAE 12
SCAF3L, SB28	40.12	23.37	20.87	35.94	14.17	37.92	11.61	19.45	17.69	3.05	2.17	19.74	17.72	19.69	78.70	ø0.35x1.56 Slot	SAE 16	SAE 12
SCAF3LB40	41.63	23.37	20.87	35.94	14.17	37.92	12.40	19.45	17.69	3.05	2.17	20.27	17.72	19.69	78.70	ø0.35x1.56 Slot	SAE 24	SAE 12
SCAF4L, SB28	40.12	23.37	20.87	35.94	14.17	37.92	11.61	19.61	17.69	2.70	1.46	19.74	17.72	19.69	78.70	ø0.35x1.56 Slot	SAE 16	SAE 16
SCAF4LB40	41.63	23.37	20.87	35.94	14.17	37.92	12.40	19.61	17.69	2.70	1.46	20.27	17.72	19.69	78.70	ø0.35x1.56 Slot	SAE 24	SAE 16

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