

Heat Exchanger

- Air Heat Exchanger
- Air Heat Exchanger for Mobile
- Oil Heat Exchanger



Air Heat Exchanger

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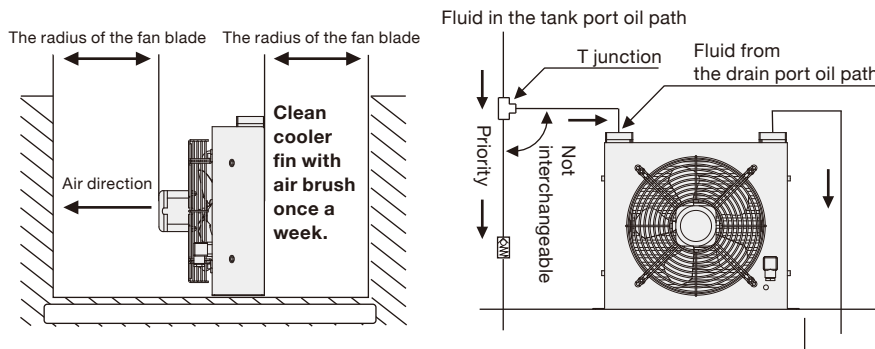
Technical Info.

FEATURES

- 1. Material:**
Aluminum alloy
- 2. Made in Taiwan:**
100% Made in Taiwan, included the aluminum element.
- 3. Max. operating pressure:**
20 kgf/cm²
- 4. Testing pressure:**
35 kgf/cm²
- 5. Fluid:**
Please choose the fluid which does not cause any chemical reaction with aluminum alloy.
- 6. Maintaining:**
Users should be particularly careful in cleaning the cooler element to guarantee a natural exchange of air, in order to prevent a reduction in thermal efficiency.
- 7. Notice:**
Air heat exchanger has to be put at places which are ventilated and clean.

MOUNTING RECOMMENDATION

Independent cooling circuit would provide you the best cooling performance. Otherwise, you may install a by-pass valve to protect the exchanger from over-pressure generated the plants is started up due to high oil viscosity.



ORDER CODES

OA217 - 4 N 4 A2

1
2
3
4
5

1	Model Name	OA000	
2	Conneciton Size	3	3/8"
		4	1/2"
		6	3/4"
		8	1"
		10	1 1/4"
3	Thread	B	BSPP
		N	NPT
		T	PT
4	Fan Motor Size	4, 6, etc. *	
5	Rated Voltage	A1	AC 110V
		A2	AC 220V
		A3	AC 380V
		D1	DC12V
		D2	DC24V

* We would choose the suitable fan motor in accordance with the dimension of the aluminum cool fin part.

HOW TO ORDER THE SUITABLE MODEL OF AIR HEAT EXCHANGER

1. Heat transfer rate formula:

$$Q = C_p * \rho * V * \Delta T / H$$

Q: Heat transfer C_p: specific heat of the operating fluid ρ: Density of the operating fluid

V: Tank capacity ΔT: temperature differential H: hour

2. Estimated heat productivity

Please consider 60% of the input power of the hydraulic power pack would be close to the estimated heat productivity.

If your power pack goes with hydraulic motor or fixed displacement pump, please increase the estimation to 100%.

Formula: Q = N * 860 * percentage

Q: Heat transfer N: Input power of hydraulic power unit

Joule's equivalent: 860kcal/h=1kw, 1HP=635kcal/h

Index

For these series of air heat exchangers, please make sure the input oil come from the drain port.

Page No.	Model	Connection Thread and Size	Flow (l/min)	Max. Pressure (kgf/cm ²)	Cooling capacity (kcal/h) ΔT = 30°C	Dimension W×H×D (mm)	Phase Number
6	OA153	3/8"	1 ~ 10	15	600	180*152*88.5	single phase
7	OA225	1/2"	1 ~ 15	15	850	250*198*105	single phase
8	OA225E	1/2"	1 ~ 15	15	850	250*198*95.6	single phase
9	OA217H-4C	3/8", 1/2"	1 ~ 15	15	1000	239*235*105	single phase
10	OA217H-6C	3/8", 1/2"	1 ~ 15	15	1150	239*235*120	single phase
11	OA217	3/8", 1/2"	1 ~ 15	15	-	244*202*60	without fan
12	OA217S	3/8", 1/2"	1 ~ 15	15	1100	244*202*110	single phase
13	OA217-4C	3/8", 1/2"	1 ~ 15	15	900	244*202*88	single phase
14	OA217-6C	3/8", 1/2"	1 ~ 15	15	1100	244*202*110	single phase
15	OA285	1/2"	1 ~ 20	15	1200	310*198*105	single phase
16	OA388	1/2"	1 ~ 20	15	1500	405*198*105	single phase

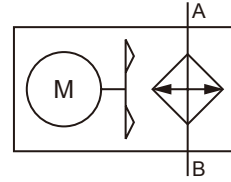
An independent cooling circuit are always recommended.

Page No.	Model	Connection Thread and Size	Flow (l/min)	Applicable Horsepower (Hp)	Cooling capacity (kcal/h) ΔT = 30°C	Dimension W×H×D (mm)	Phase Number
17	OA282	3/4"	3 ~ 60	1 ~ 2	1100	305*197.3*115	single phase
18	OA383	3/4"	3 ~ 60	2 ~ 3	2200	405*198*115	single phase
19	OA400P1	1"	20 ~ 100	3 ~ 5	5120	420*362*208	single phase
20	OA400P3	1"	20 ~ 100	3 ~ 5	5400	420*362*198	three phases
21	OA400DC	1"	20 ~ 100	3 ~ 5	5050	420*362*169	DC
22	OA485	1"	20 ~ 100	5 ~ 7.5	6000	510*395*223	three phases
23	OA540	1"	30 ~ 100	10 ~ 15	10200	570*424*286	three phases
24	OA540L	1 1/4"	30 ~ 150	15 ~ 20	12000	570*425*302	three phases
25	OA540C	1"	30 ~ 100	7.5 ~ 10	8200	570*425*169	single phase
					8700		DC
26	OA540LC	1 1/4"	30 ~ 150	7.5 ~ 10	10000	570*425*194	single phase
					10250		DC
27	OA460H	1 1/2"	30 ~ 200	20 ~ 25	16000	528*620*302	three phases
28	OA460HL	1 1/2"	30 ~ 250	25 ~ 40	21000	528*620*375	three phases
29	OA600H	1 1/2"	30 ~ 250	30 ~ 50	23400	648*800*347	three phases
30	OA780H	1 1/2"	30 ~ 250	50 ~ 75	37200	605*940*545	three phases

OA153



SYMBOLS

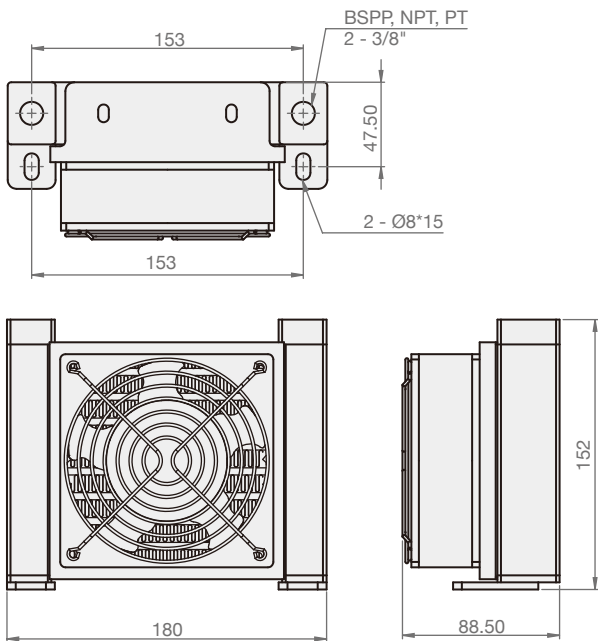


MODEL SPEC.

Model	Flow (l/min)	Rated Voltage	Frequency (Hz)	Rated Current (A)	Input (w)	Rated Speed (r/min)	Air Flow (CFM)	Noise (dB(A))	Weight (kg)
OA153-A1	1 ~ 10	1Ø110V	50/60	0.25/0.22	16.5/14.5	2600/3000	88/109	39	1.7
OA153-A2	1 ~ 10	1Ø220V	50/60	0.10/0.09	13.2/11.9	2600/3000	88/109	39	
OA153-A3	1 ~ 10	1Ø380V	50/60	0.08/0.07	18.2/16.0	2600/3000	88/109	39	
OA153-D1	1 ~ 10	DC12V	-	0.60	7.2	3000	130	45	
OA153-D2	1 ~ 10	DC24V	-	0.32	7.7	3000	130	51	

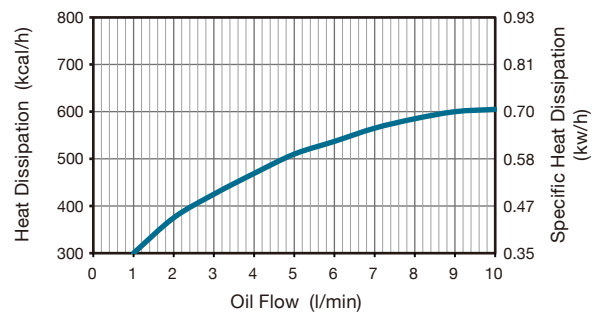
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(UNIT : mm)

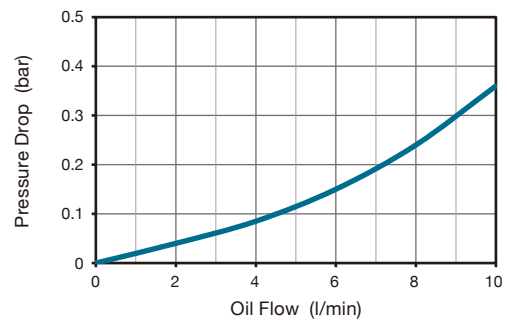


PERFORMANCE CURVES

► Cooling Capacity



► Pressure Differential Δp

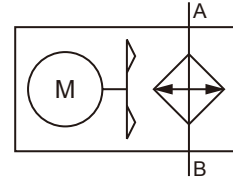


* On the condition of oil viscosity at 32 mm²/s.

OA225



SYMBOLS

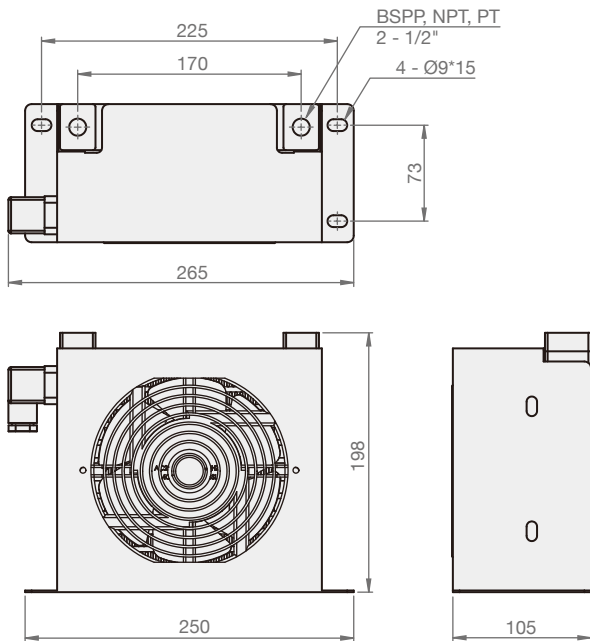


MODEL SPEC.

Model	Flow (l/min)	Rated Voltage	Frequency (Hz)	Rated Current (A)	Input (w)	Rated Speed (r/min)	Air Flow (CFM)	Noise (dB(A))	Weight (kg)
OA225-A1	1 ~ 15	1Ø110V	50/60	0.60/0.50	39.6/33.0	2600/3100	190/235	48	3.0
OA225-A2	1 ~ 15	1Ø220V	50/60	0.27/0.23	35.6/30.4	2600/3100	190/235	48	
OA225-A3	1 ~ 15	1Ø380V	50/60	0.16/0.14	36.5/31.9	2600/3100	190/235	48	
OA225-D1	1 ~ 15	DC12V	-	1.20	14.4	3000	235	51	
OA225-D2	1 ~ 15	DC24V	-	0.75	18.0	3400	258	51	

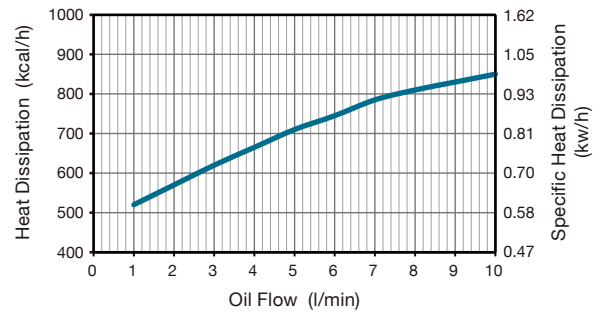
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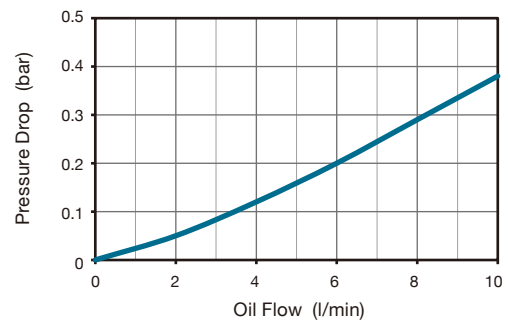


PERFORMANCE CURVES

► Cooling Capacity

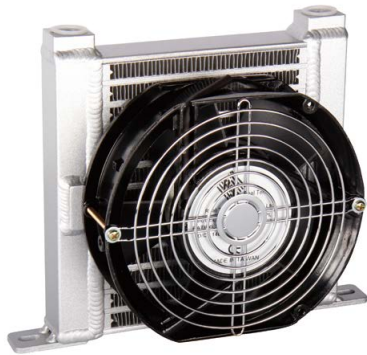


► Pressure Differential Δp

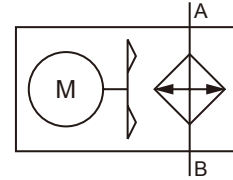


* On the condition of oil viscosity at 32 mm²/s.

OA225E



SYMBOLS

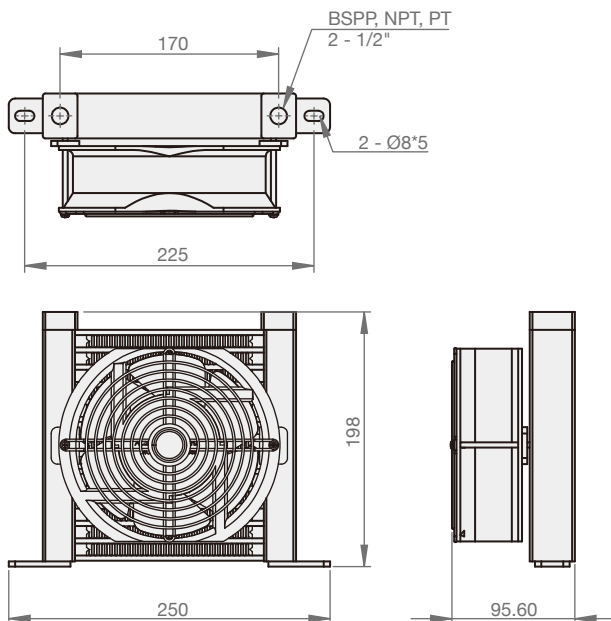


MODEL SPEC.

Model	Flow (l/min)	Rated Voltage	Frequency (Hz)	Rated Current (A)	Input (w)	Rated Speed (r/min)	Air Flow (CFM)	Noise (dB(A))	Weight (kg)
OA225E-A1	1 ~ 15	1Ø110V	50/60	0.60/0.50	39.6/33.0	2600/3100	190/235	48	1.9
OA225E-A2	1 ~ 15	1Ø220V	50/60	0.27/0.23	35.6/30.4	2600/3100	190/235	48	
OA225E-A3	1 ~ 15	1Ø380V	50/60	0.16/0.14	36.5/31.9	2600/3100	190/235	48	
OA225E-D1	1 ~ 15	DC12V	-	1.20	14.4	3000	235	51	
OA225E-D2	1 ~ 15	DC24V	-	0.75	18.0	3400	258	51	

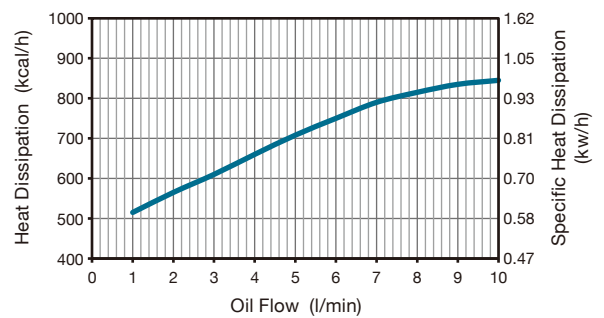
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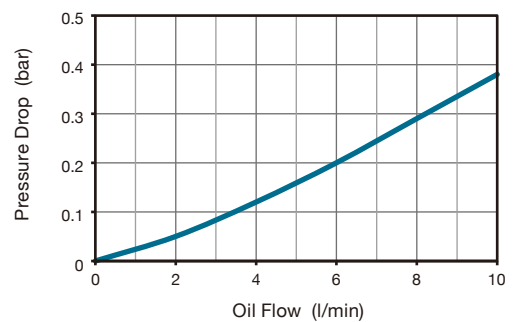


PERFORMANCE CURVES

► Cooling Capacity



► Pressure Differential Δp

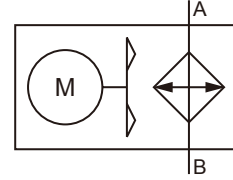


* On the condition of oil viscosity at 32 mm²/s.

OA217H-4C



SYMBOLS

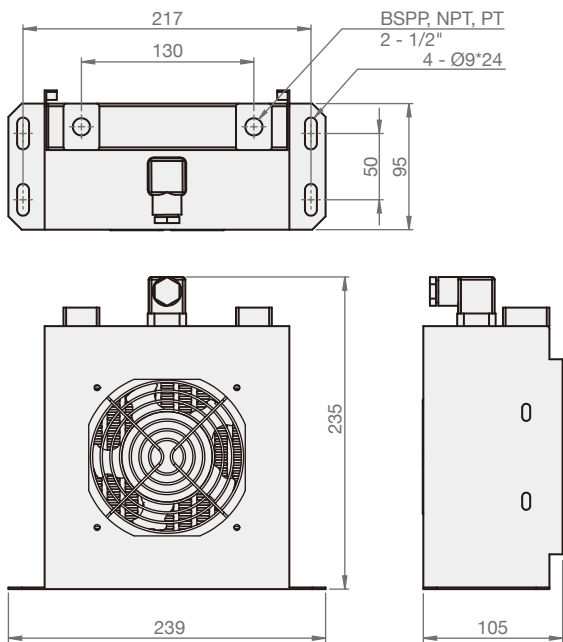


MODEL SPEC.

Model	Flow (l/min)	Rated Voltage	Frequency (Hz)	Rated Current (A)	Input (w)	Rated Speed (r/min)	Air Flow (CFM)	Noise (dB(A))	Weight (kg)
OA217H-4A1	1 ~ 15	1Ø110V	50/60	0.25/0.22	16.5/14.5	2600/3000	88/109	39	2.5
OA217H-4A2	1 ~ 15	1Ø220V	50/60	0.10/0.09	13.2/11.9	2600/3000	88/109	39	
OA217H-4A3	1 ~ 15	1Ø380V	50/60	0.08/0.07	18.2/16.0	2600/3000	88/109	39	
OA217H-4D1	1 ~ 15	DC12V	-	0.60	7.2	3000	130	45	
OA217H-4D2	1 ~ 15	DC24V	-	0.32	7.7	3000	130	51	

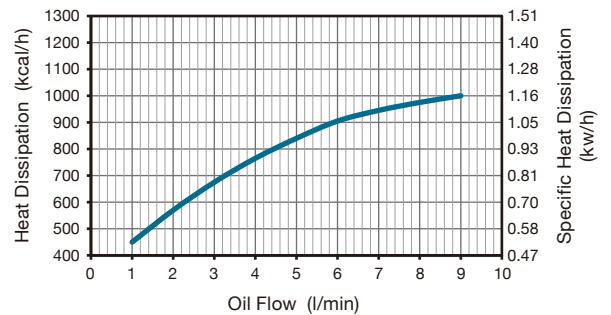
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(UNIT : mm)

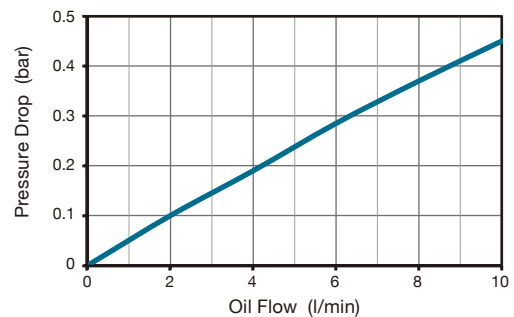


PERFORMANCE CURVES

► Cooling Capacity



► Pressure Differential Δp

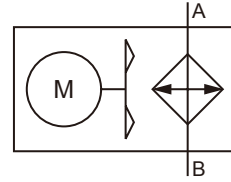


* On the condition of oil viscosity at 32 mm²/s.

OA217H-6C



SYMBOLS

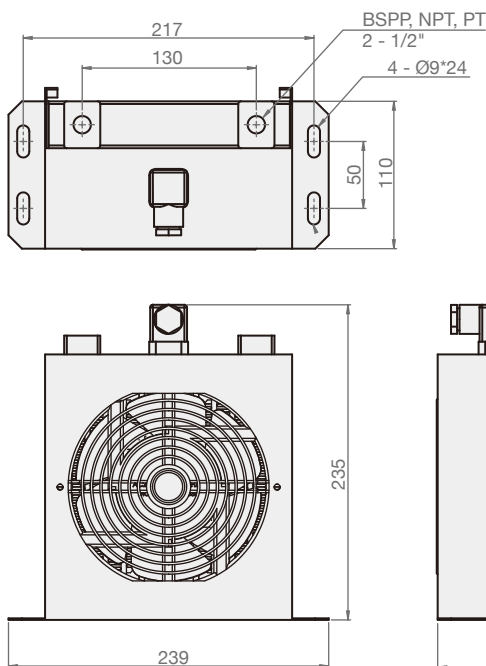


MODEL SPEC.

Model	Flow (l/min)	Rated Voltage	Frequency (Hz)	Rated Current (A)	Input (w)	Rated Speed (r/min)	Air Flow (CFM)	Noise (dB(A))	Weight (kg)
OA217H-6A1	1 ~ 15	1Ø110V	50/60	0.60/0.50	39.6/33.0	2600/3100	190/235	48	3.1
OA217H-6A2	1 ~ 15	1Ø220V	50/60	0.27/0.23	35.6/30.4	2600/3100	190/235	48	
OA217H-6A3	1 ~ 15	1Ø380V	50/60	0.16/0.14	36.5/31.9	2600/3100	190/235	48	
OA217H-6D1	1 ~ 15	DC12V	-	1.20	14.4	3000	235	51	
OA217H-6D2	1 ~ 15	DC24V	-	0.75	18.0	3400	258	51	

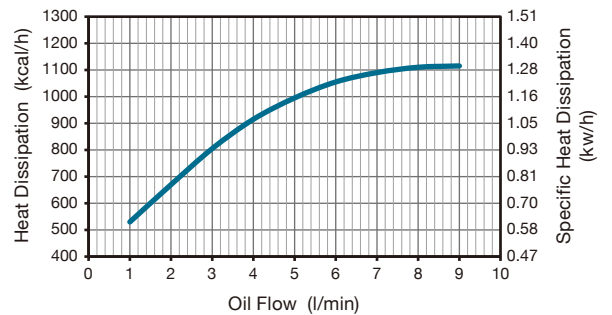
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(UNIT : mm)

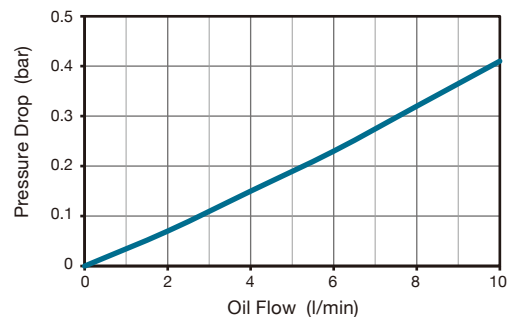


PERFORMANCE CURVES

► Cooling Capacity



► Pressure Differential Δp



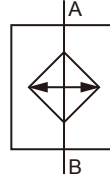
* On the condition of oil viscosity at 32 mm²/s.

OA217



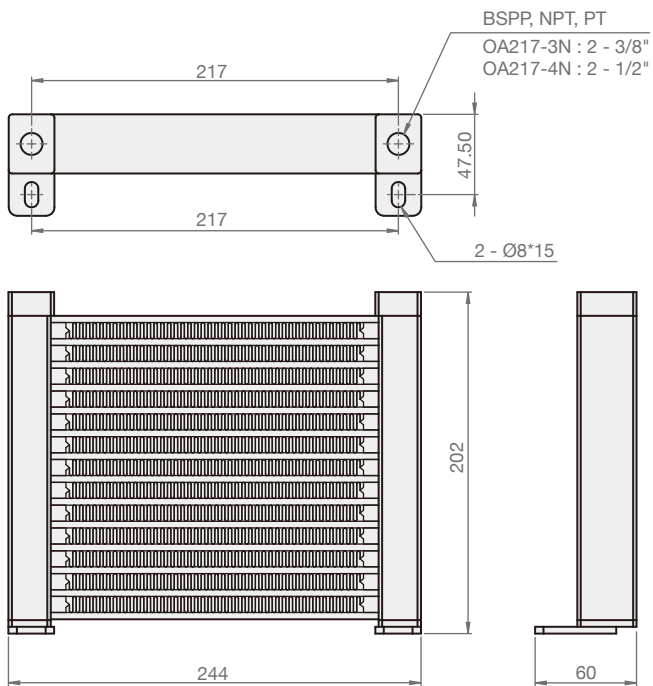
Weight : 1.6kg

SYMBOLS



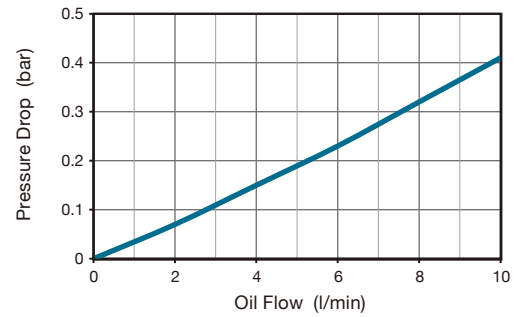
DIMENSION

(UNIT : mm)



PERFORMANCE CURVES

► Pressure Differential Δp

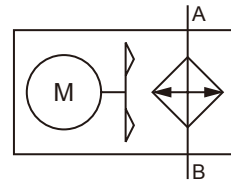


* On the condition of oil viscosity at 32 mm²/s.

OA217S



SYMBOLS

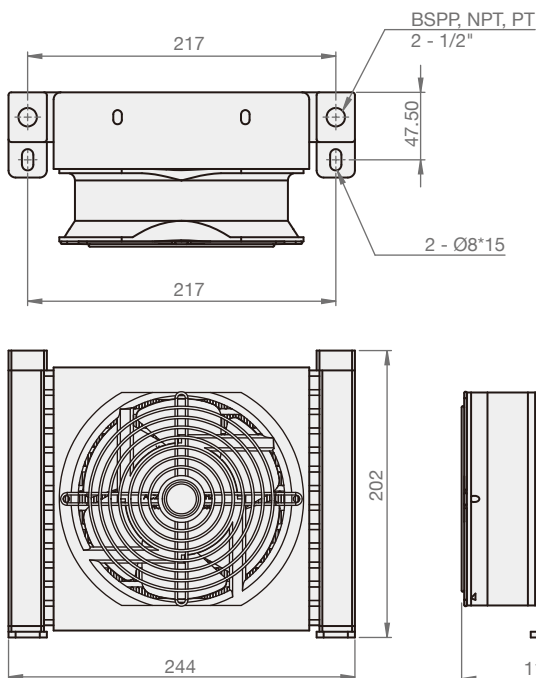


MODEL SPEC.

Model	Flow (l/min)	Rated Voltage	Frequency (Hz)	Rated Current (A)	Input (w)	Rated Speed (r/min)	Air Flow (CFM)	Noise (dB(A))	Weight (kg)
OA217S-A1	1 ~ 15	1Ø110V	50/60	0.60/0.50	39.6/33.0	2600/3100	190/235	48	2.7
OA217S-A2	1 ~ 15	1Ø220V	50/60	0.27/0.23	35.6/30.4	2600/3100	190/235	48	
OA217S-A3	1 ~ 15	1Ø380V	50/60	0.16/0.14	36.5/31.9	2600/3100	190/235	48	
OA217S-D1	1 ~ 15	DC12V	-	1.20	14.4	3000	235	51	
OA217S-D2	1 ~ 15	DC24V	-	0.75	18.0	3400	258	51	

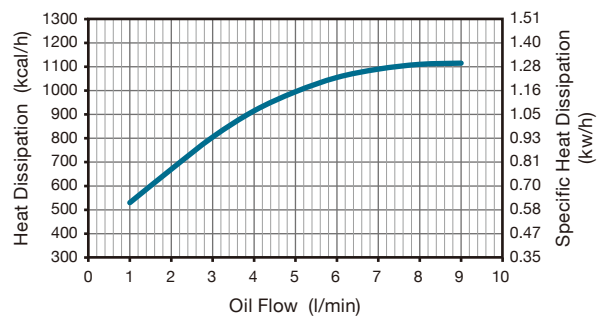
DIMENSION

(UNIT : mm)

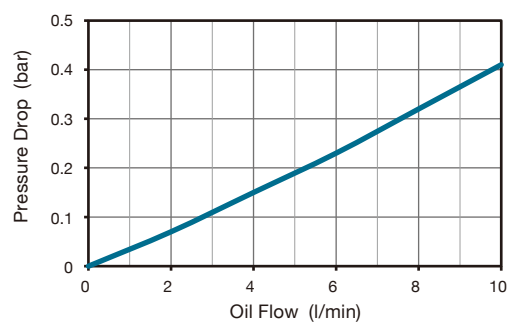


PERFORMANCE CURVES

► Cooling Capacity



► Pressure Differential Δp

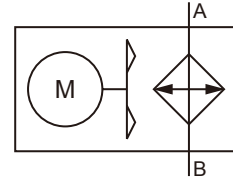


* On the condition of oil viscosity at 32 mm²/s.

OA217-4C



SYMBOLS

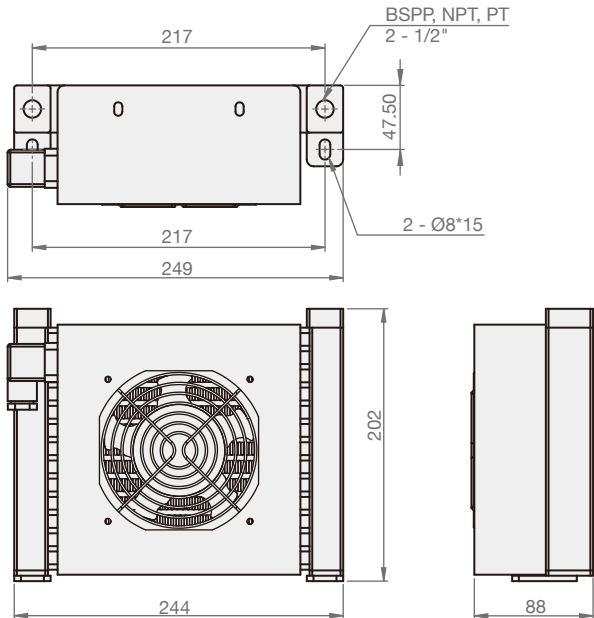


MODEL SPEC.

Model	Flow (l/min)	Rated Voltage	Frequency (Hz)	Rated Current (A)	Input (w)	Rated Speed (r/min)	Air Flow (CFM)	Noise (dB(A))	Weight (kg)
OA217-4A1	1 ~ 15	1Ø110V	50/60	0.25/0.22	16.5/14.5	2600/3000	88/109	39	2.5
OA217-4A2	1 ~ 15	1Ø220V	50/60	0.10/0.09	13.2/11.9	2600/3000	88/109	39	
OA217-4A3	1 ~ 15	1Ø380V	50/60	0.08/0.07	18.2/16.0	2600/3000	88/109	39	
OA217-4D1	1 ~ 15	DC12V	-	0.60	7.2	3000	130	45	
OA217-4D2	1 ~ 15	DC24V	-	0.32	7.7	3000	130	51	

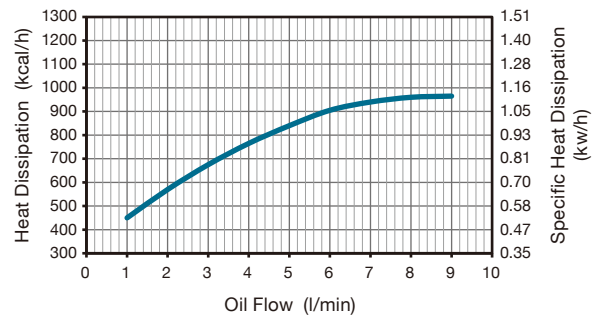
DIMENSION

(UNIT : mm)

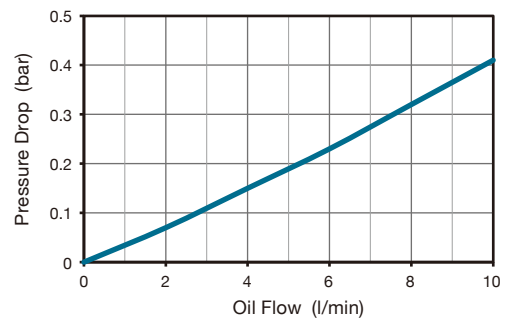


PERFORMANCE CURVES

► Cooling Capacity



► Pressure Differential Δp

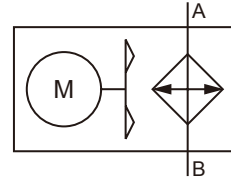


* On the condition of oil viscosity at 32 mm²/s.

OA217-6C



SYMBOLS

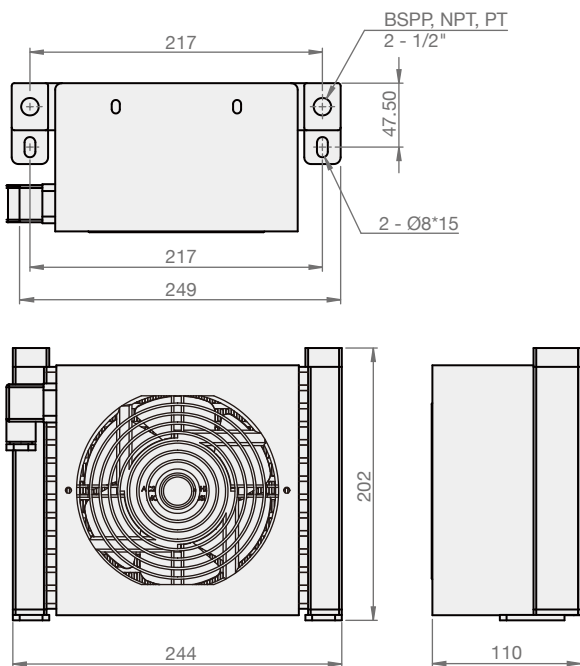


MODEL SPEC.

Model	Flow (l/min)	Rated Voltage	Frequency (Hz)	Rated Current (A)	Input (w)	Rated Speed (r/min)	Air Flow (CFM)	Noise (dB(A))	Weight (kg)
OA217-6A1	1 ~ 15	1Ø110V	50/60	0.60/0.50	39.6/33.0	2600/3100	190/235	48	3.1
OA217-6A2	1 ~ 15	1Ø220V	50/60	0.27/0.23	35.6/30.4	2600/3100	190/235	48	
OA217-6A3	1 ~ 15	1Ø380V	50/60	0.16/0.14	36.5/31.9	2600/3100	190/235	48	
OA217-6D1	1 ~ 15	DC12V	-	1.20	14.4	3000	235	51	
OA217-6D2	1 ~ 15	DC24V	-	0.75	18.0	3400	258	51	

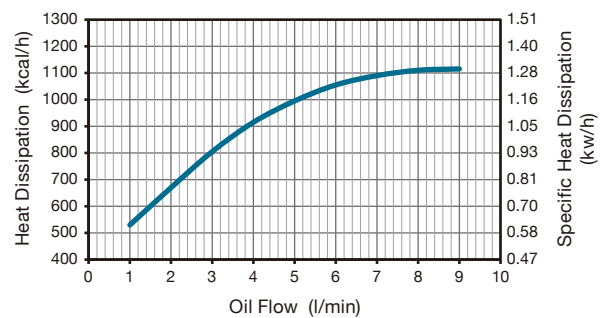
DIMENSION

(UNIT : mm)

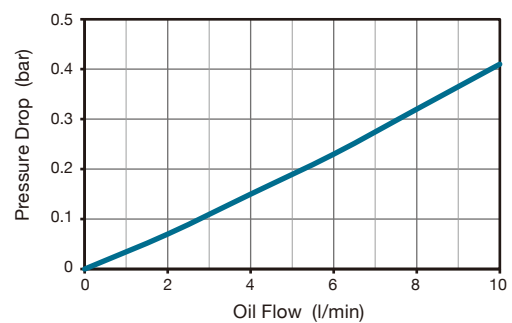


PERFORMANCE CURVES

► Cooling Capacity



► Pressure Differential Δp

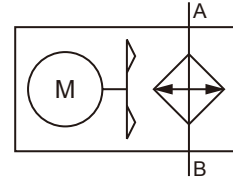


* On the condition of oil viscosity at 32 mm²/s.

OA285



SYMBOLS

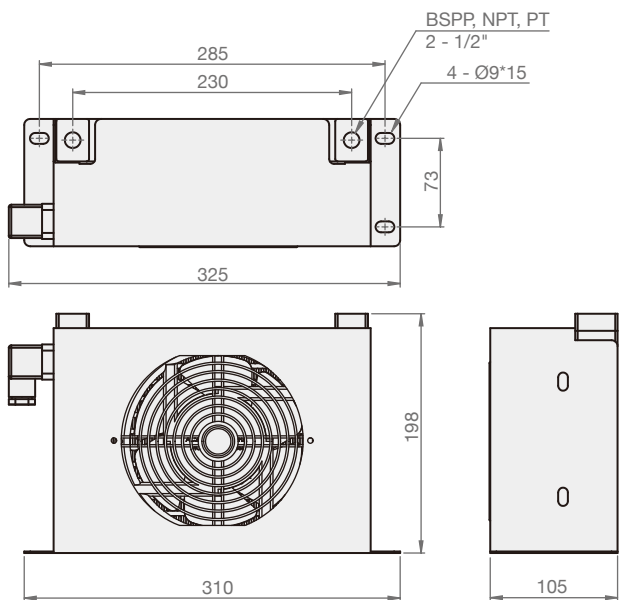


MODEL SPEC.

Model	Flow (l/min)	Rated Voltage	Frequency (Hz)	Rated Current (A)	Input (w)	Rated Speed (r/min)	Air Flow (CFM)	Noise (dB(A))	Weight (kg)
OA285-A1	1 ~ 20	1Ø110V	50/60	0.50/0.44	33.0/29.0	2600/3000	176/218	39	3.5
OA285-A2	1 ~ 20	1Ø220V	50/60	0.20/0.18	26.4/23.8	2600/3000	176/218	39	
OA285-A3	1 ~ 20	1Ø380V	50/60	0.16/0.14	36.4/32.0	2600/3000	176/218	39	
OA285-D1	1 ~ 20	DC12V	-	1.20	14.4	3000	260	45	
OA285-D2	1 ~ 20	DC24V	-	0.64	15.4	3000	260	51	

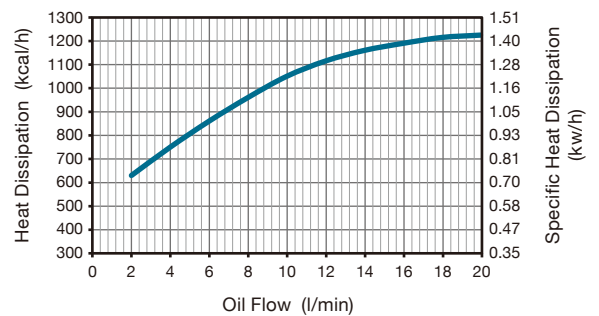
DIMENSION

(UNIT : mm)

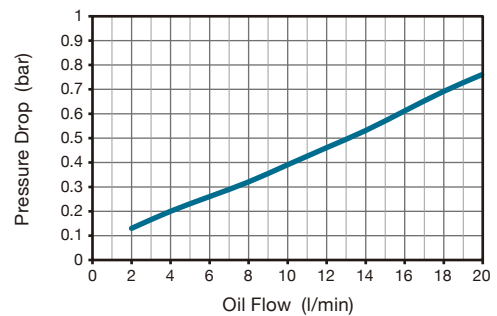


PERFORMANCE CURVES

► Cooling Capacity



► Pressure Differential Δp

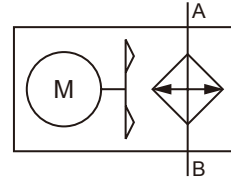


* On the condition of oil viscosity at 32 mm²/s.

OA388



SYMBOLS

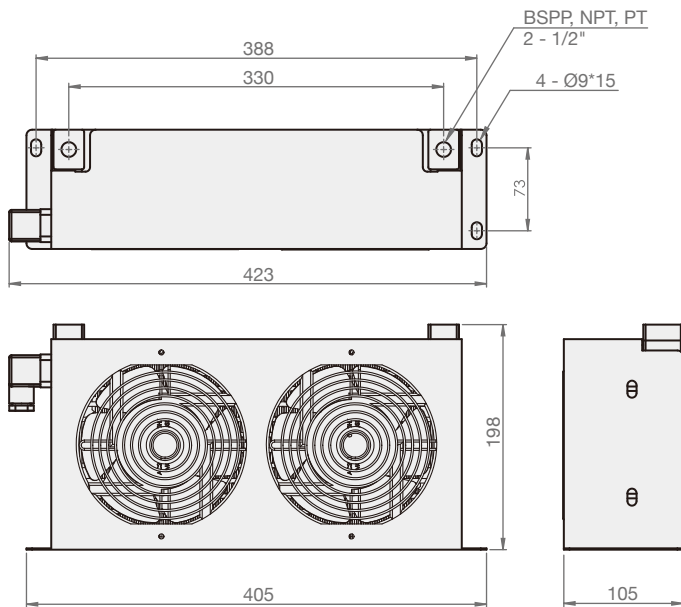


MODEL SPEC.

Model	Flow (l/min)	Rated Voltage	Frequency (Hz)	Rated Current (A)	Input (w)	Rated Speed (r/min)	Air Flow (CFM)	Noise (dB(A))	Weight (kg)
OA388-A1	1 ~ 20	1Ø110V	50/60	1.20/1.00	79.2/66.0	2600/3100	380/470	48	4.7
OA388-A2	1 ~ 20	1Ø220V	50/60	0.54/0.46	71.2/60.8	2600/3100	380/470	48	
OA388-A3	1 ~ 20	1Ø380V	50/60	0.32/0.28	73.0/63.8	2600/3100	380/470	48	
OA388-D1	1 ~ 20	DC12V	-	2.40	28.8	3000	470	51	
OA388-D2	1 ~ 20	DC24V	-	1.5	36.0	3400	516	51	

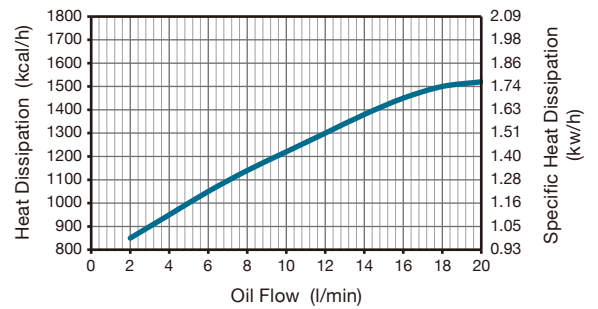
DIMENSION

(UNIT : mm)

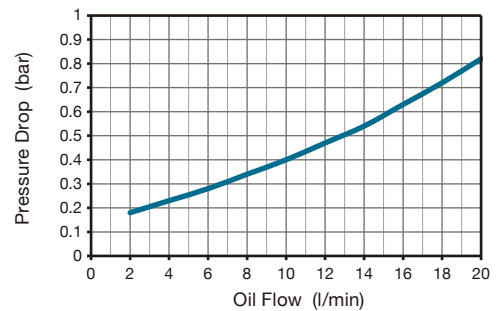


PERFORMANCE CURVES

► Cooling Capacity



► Pressure Differential Δp

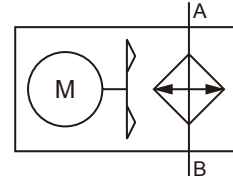


* On the condition of oil viscosity at 32 mm²/s.

OA282



SYMBOLS

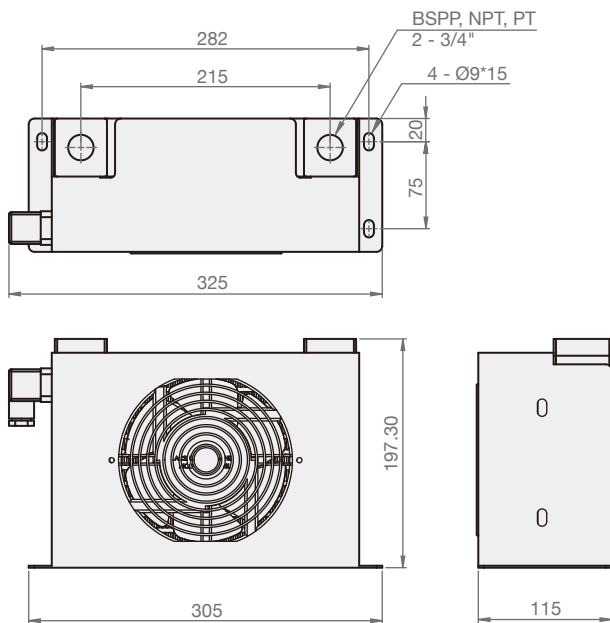


MODEL SPEC.

Model	Flow (l/min)	Rated Voltage	Frequency (Hz)	Rated Current (A)	Input (w)	Rated Speed (r/min)	Air Flow (CFM)	Noise (dB(A))	Weight (kg)
OA282-A1	3 ~ 60	1Ø110V	50/60	0.60/0.50	39.6/33.0	2600/3100	190/235	48	4.6
OA282-A2	3 ~ 60	1Ø220V	50/60	0.27/0.23	35.6/30.4	2600/3100	190/235	48	
OA282-A3	3 ~ 60	1Ø380V	50/60	0.16/0.14	36.5/31.9	2600/3100	190/235	48	
OA282-D1	3 ~ 60	DC12V	-	1.20	14.4	3000	235	51	
OA282-D2	3 ~ 60	DC24V	-	0.75	18.0	3400	258	51	

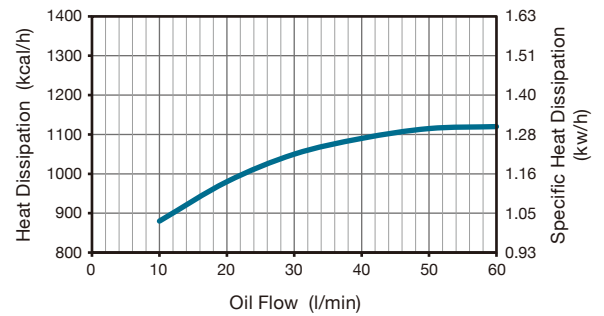
DIMENSION

(UNIT : mm)

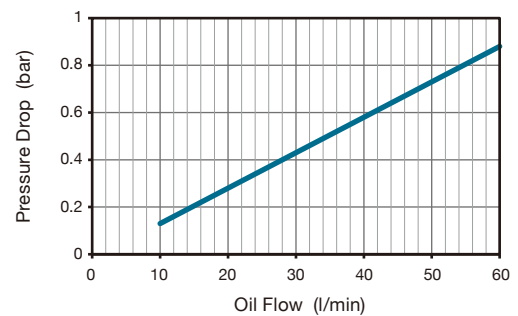


PERFORMANCE CURVES

► Cooling Capacity



► Pressure Differential Δp

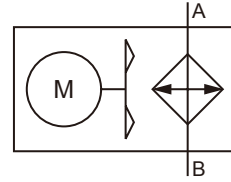


* On the condition of oil viscosity at 32 mm²/s.

OA383



SYMBOLS

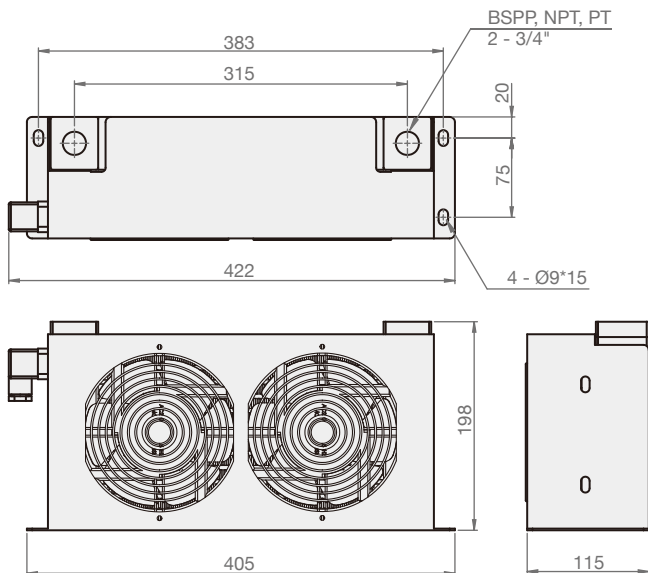


MODEL SPEC.

Model	Flow (l/min)	Rated Voltage	Frequency (Hz)	Rated Current (A)	Input (w)	Rated Speed (r/min)	Air Flow (CFM)	Noise (dB(A))	Weight (kg)
OA383-A1	3 ~ 60	1Ø110V	50/60	1.20/1.00	79.2/66.0	2600/3100	380/470	48	6.2
OA383-A2	3 ~ 60	1Ø220V	50/60	0.54/0.46	71.2/60.8	2600/3100	380/470	48	
OA383-A3	3 ~ 60	1Ø380V	50/60	0.32/0.28	73.0/63.8	2600/3100	380/470	48	
OA383-D1	3 ~ 60	DC12V	-	2.40	28.8	3000	470	51	
OA383-D2	3 ~ 60	DC24V	-	1.5	36.0	3400	516	51	

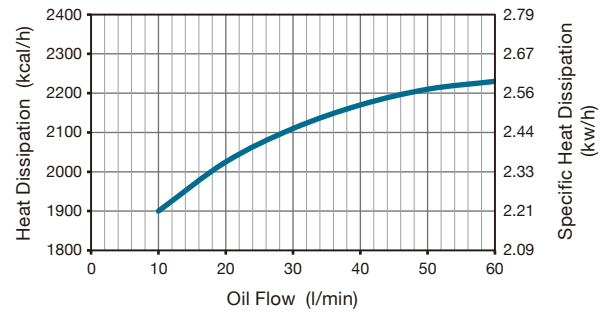
DIMENSION

(UNIT : mm)

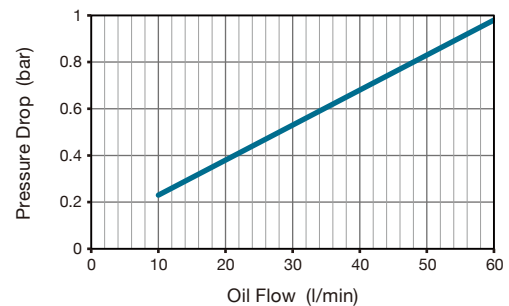


PERFORMANCE CURVES

► Cooling Capacity



► Pressure Differential Δp

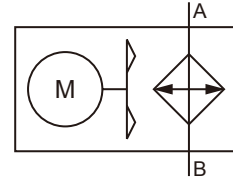


* On the condition of oil viscosity at 32 mm²/s.

OA400P1



SYMBOLS

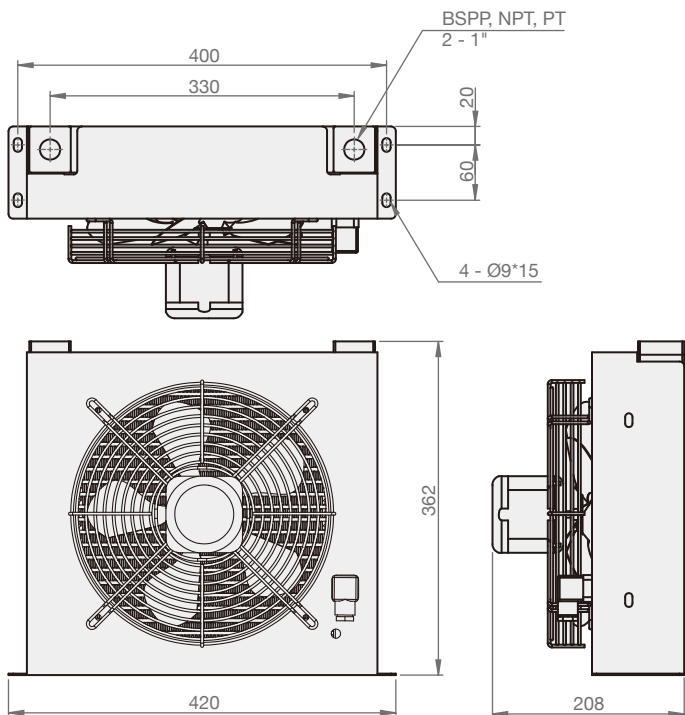


MODEL SPEC.

Model	Flow (l/min)	Rated Voltage	Frequency (Hz)	Rated Current (A)	Input (w)	Rated Speed (r/min)	Air Flow (CFM)	Noise (dB(A))	Weight (kg)
OA400P1-A1	20 ~ 100	1Ø110V	50/60	0.52/0.51	56/56	1300/1550	1000/1100	50	11.5
OA400P1-A2	20 ~ 100	1Ø220V	50/60	0.30/0.26	60/60	1400/1600	900/1070	55	

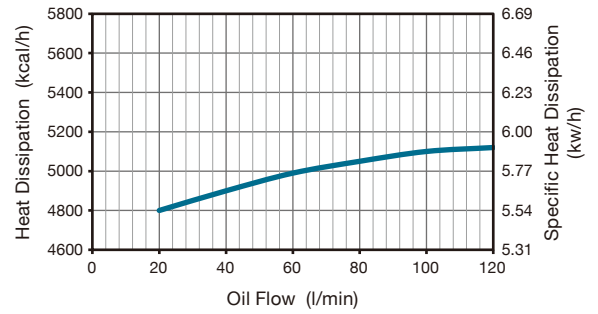
DIMENSION

(UNIT : mm)

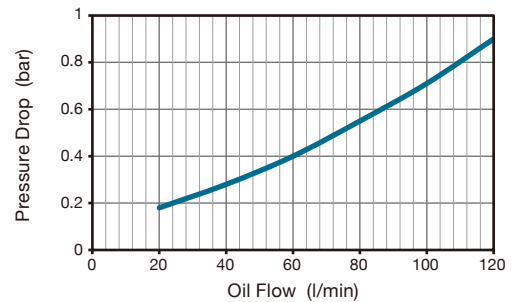


PERFORMANCE CURVES

► Cooling Capacity



► Pressure Differential Δp

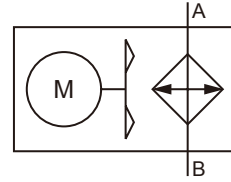


* On the condition of oil viscosity at 32 mm²/s.

OA400P3



SYMBOLS

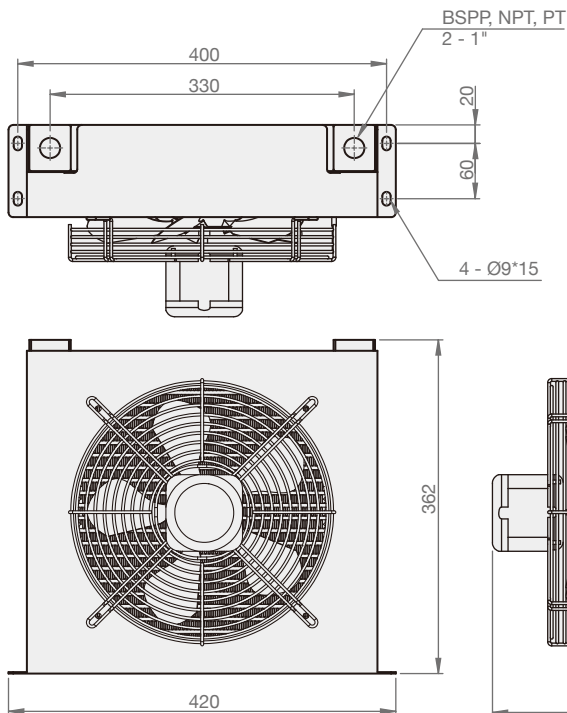


MODEL SPEC.

Model	Flow (l/min)	Rated Voltage	Frequency (Hz)	Rated Current (A)	Input (w)	Rated Speed (r/min)	Air Flow (CFM)	Noise (dB(A))	Weight (kg)
OA400P3-A2	20 ~ 100	3Ø220V	50/60	0.35/0.32	60/60	1400/1600	900/1070	55	11.5
OA400P3-A3	20 ~ 100	3Ø380V	50/60	0.17/0.15	60/60	1400/1600	900/1070	55	

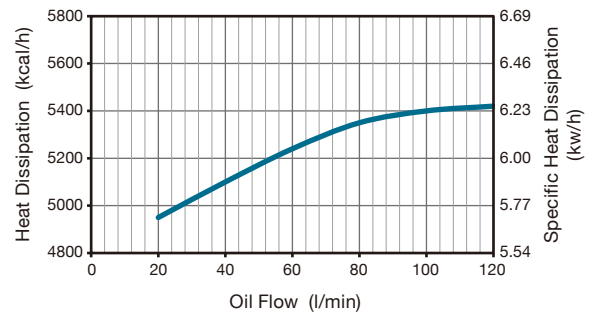
DIMENSION

(UNIT : mm)

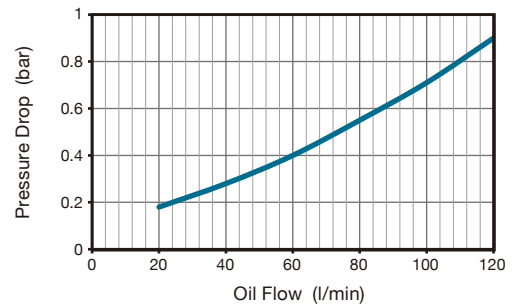


PERFORMANCE CURVES

► Cooling Capacity



► Pressure Differential Δp

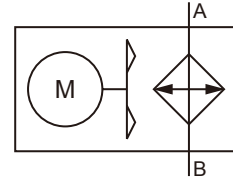


* On the condition of oil viscosity at 32 mm²/s.

OA400DC



SYMBOLS

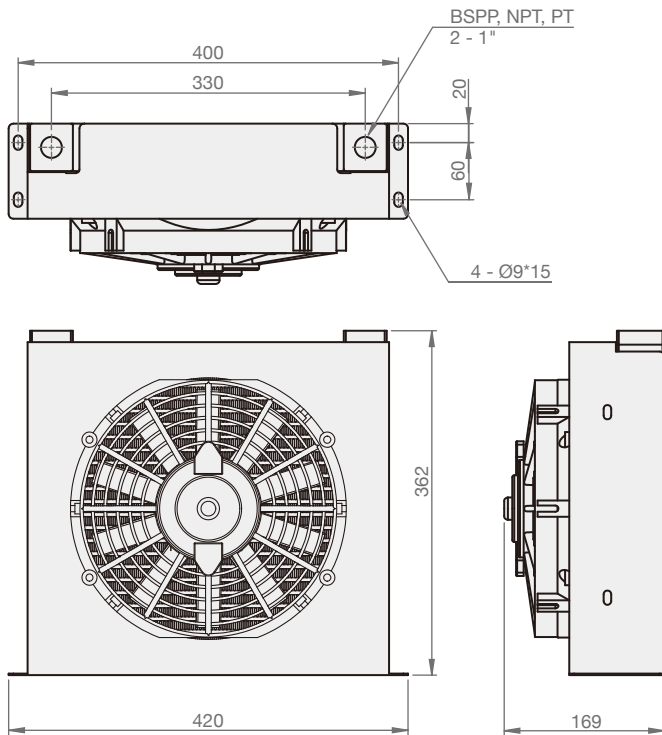


MODEL SPEC.

Model	Flow (l/min)	Rated Voltage	Frequency (Hz)	Rated Current (A)	Input (w)	Rated Speed (r/min)	Air Flow (CFM)	Noise (dB(A))	Weight (kg)
OA400-D1	20 ~ 100	DC12V	-	2.752	56.8	2363	2000	56	10.1
OA400-D2	20 ~ 100	DC24V	-	1.364	56.8	2363	2000	56	

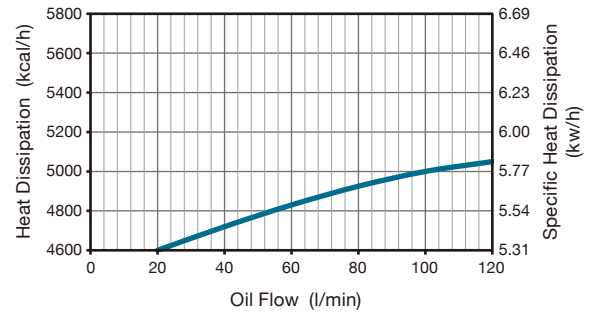
DIMENSION

(UNIT : mm)

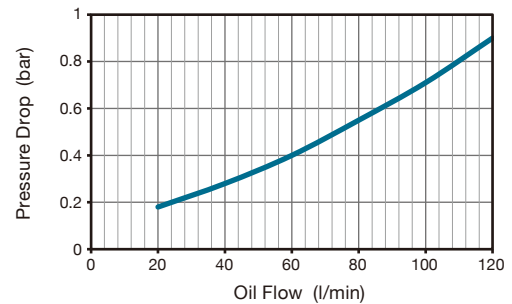


PERFORMANCE CURVES

► Cooling Capacity



► Pressure Differential Δp



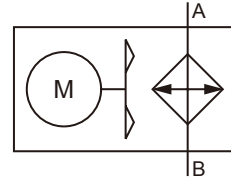
* On the condition of oil viscosity at 32 mm²/s.

OA485



With dust filter

SYMBOLS

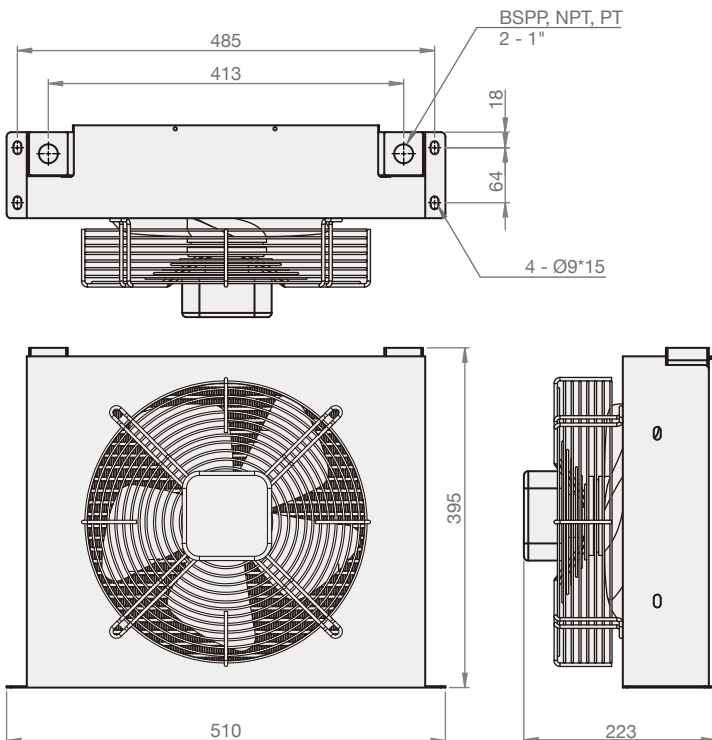


MODEL SPEC.

Model	Flow (l/min)	Rated Voltage	Frequency (Hz)	Rated Current (A)	Input (w)	Rated Speed (r/min)	Air Flow (CFM)	Noise (dB(A))	Weight (kg)
OA485-A2	20 ~ 100	3Ø220V	50/60	0.45/0.40	80/100	1380/1550	1563/1876	58	15.0
OA485-A3	20 ~ 100	3Ø380V	50/60	0.25/0.23	80/100	1380/1550	1664/1997	58	
OA485-D1	20 ~ 100	DC12V	-	2.752	32.9	2363	2000	56	
OA485-D2	20 ~ 100	DC24V	-	1.364	32.9	2514	2600	60	

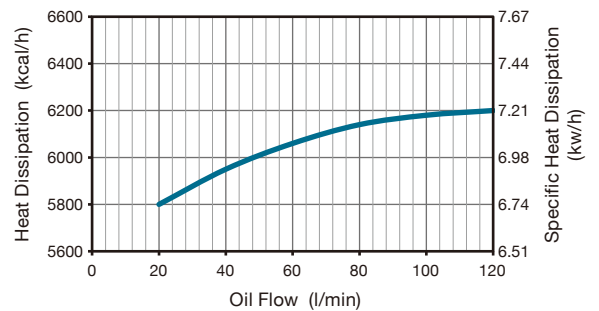
DIMENSION

(UNIT : mm)

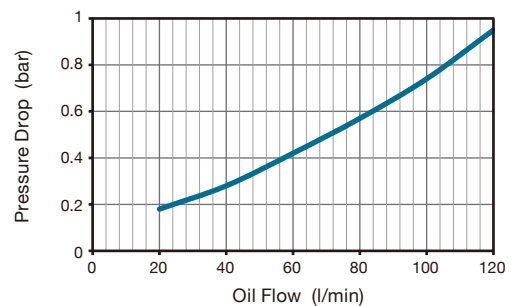


PERFORMANCE CURVES

► Cooling Capacity



► Pressure Differential Δp



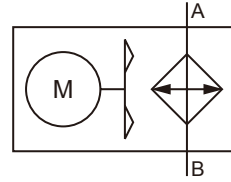
* On the condition of oil viscosity at 32 mm²/s.

OA540



With dust filter

SYMBOLS

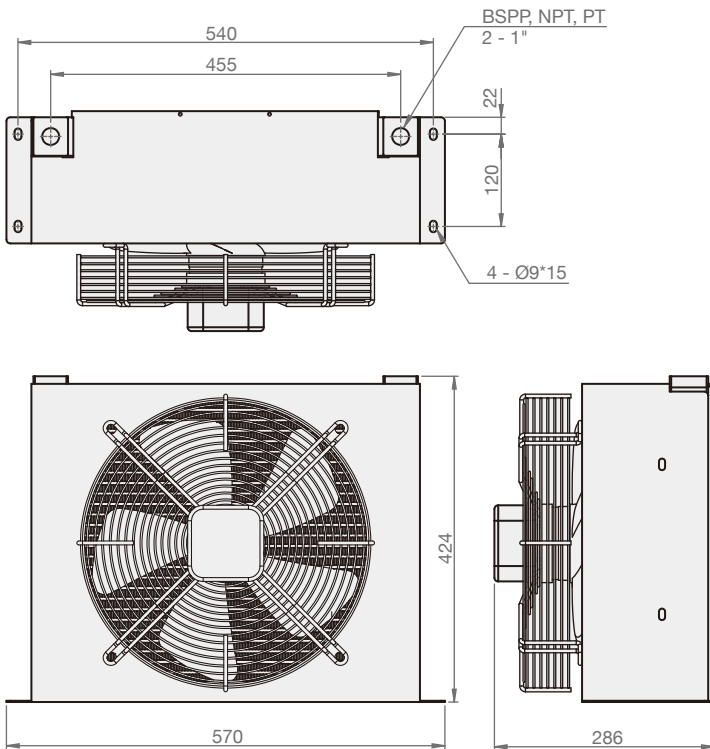


MODEL SPEC.

Model	Flow (l/min)	Rated Voltage	Frequency (Hz)	Rated Current (A)	Input (w)	Rated Speed (r/min)	Air Flow (CFM)	Noise (dB(A))	Weight (kg)
OA540-A2	30 ~ 100	3Ø220V	50/60	0.80/0.70	150/180	1380/1550	2270/2730	62	18.1
OA540-A3	30 ~ 100	3Ø380V	50/60	0.40/0.36	150/180	1380/1550	2290/2750	62	

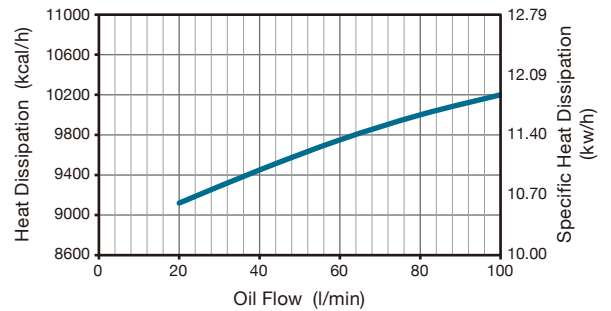
DIMENSION

(UNIT : mm)

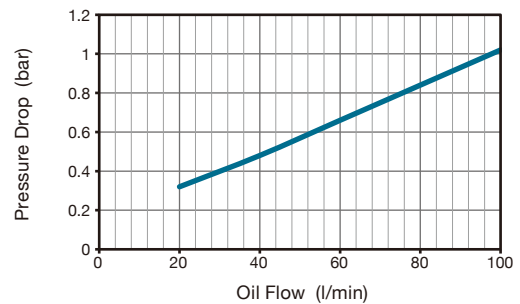


PERFORMANCE CURVES

► Cooling Capacity



► Pressure Differential Δp



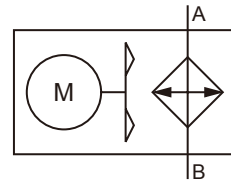
* On the condition of oil viscosity at 32 mm²/s.

OA540L



With dust filter

SYMBOLS

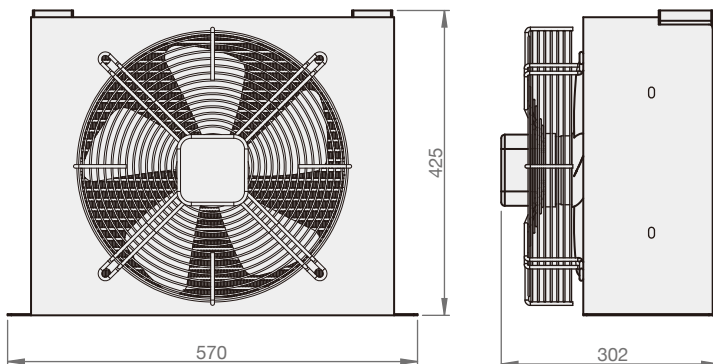
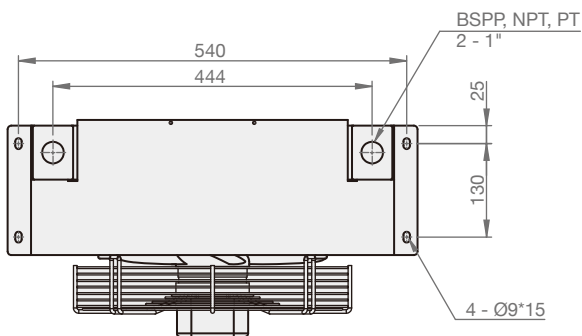


MODEL SPEC.

Model	Flow (l/min)	Rated Voltage	Frequency (Hz)	Rated Current (A)	Input (w)	Rated Speed (r/min)	Air Flow (CFM)	Noise (dB(A))	Weight (kg)
OA540L-A2	30 ~ 150	3Ø220V	50/60	0.80/0.70	150/180	1380/1550	2270/2730	62	23.1
OA540L-A3	30 ~ 150	3Ø380V	50/60	0.40/0.36	150/180	1380/1550	2290/2750	62	

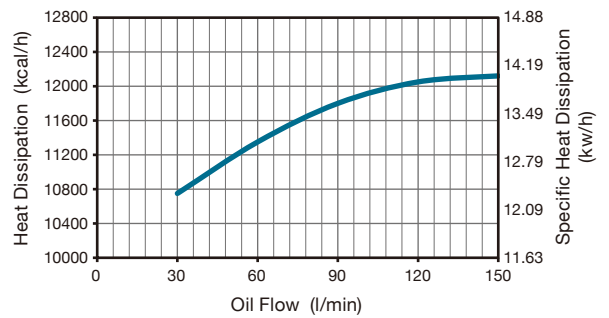
DIMENSION

(UNIT : mm)

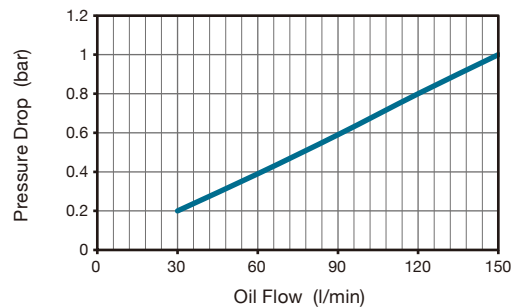


PERFORMANCE CURVES

► Cooling Capacity



► Pressure Differential Δp

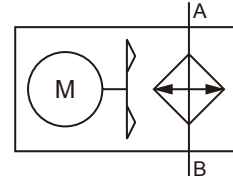


* On the condition of oil viscosity at 32 mm²/s.

OA540C



SYMBOLS

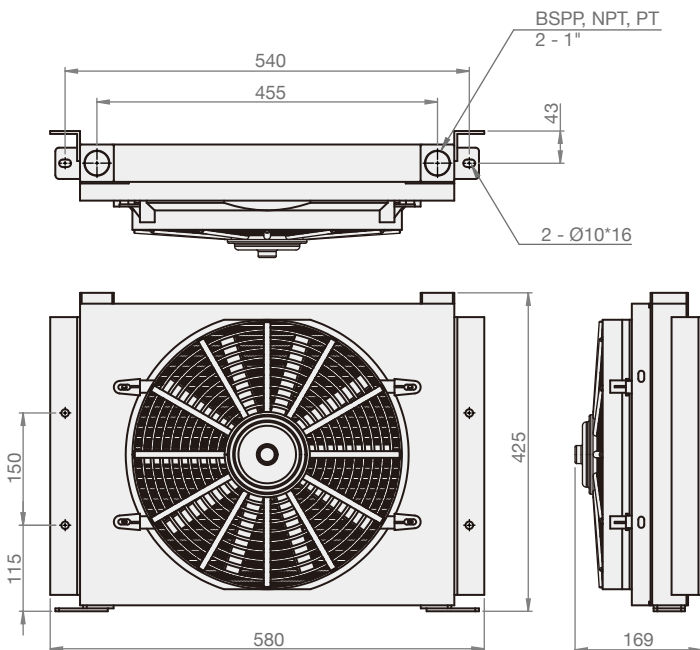


MODEL SPEC.

Model	Flow (l/min)	Rated Voltage	Frequency (Hz)	Rated Current (A)	Input (w)	Rated Speed (r/min)	Air Flow (CFM)	Noise (dB(A))	Weight (kg)
OA540C-A1	30 ~ 100	1Ø110V	50/60	0.52/0.48	60/60	1450/1650	2200/2550	50	12.2
OA540C-A2	30 ~ 100	1Ø220V	50/60	0.30/0.26	60/60	1500/1700	2200/2550	55	
OA540C-D1	30 ~ 100	DC12V	-	3.124	35.5	2672	3000	64	
OA540C-D2	30 ~ 100	DC24V	-	1.485	36.1	2672	3000	64	

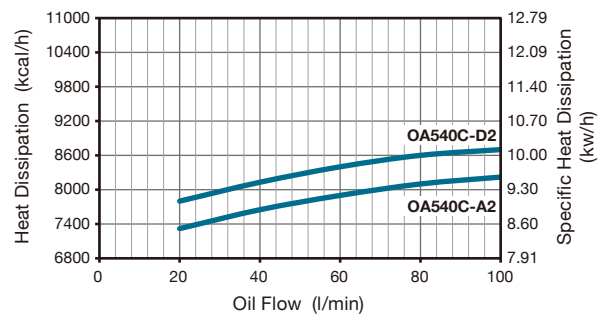
DIMENSION

(UNIT : mm)

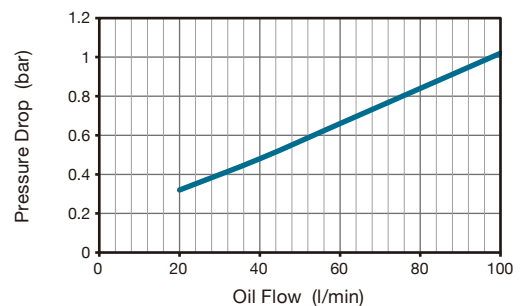


PERFORMANCE CURVES

► Cooling Capacity



► Pressure Differential Δp

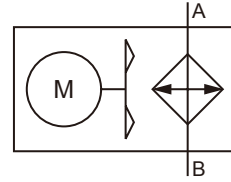


* On the condition of oil viscosity at 32 mm²/s.

OA540LC



SYMBOLS

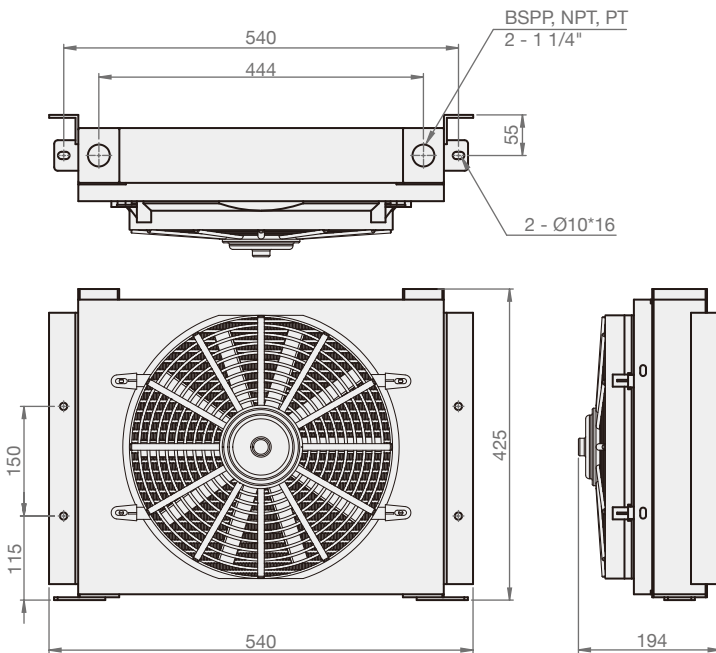


MODEL SPEC.

Model	Flow (l/min)	Rated Voltage	Frequency (Hz)	Rated Current (A)	Input (w)	Rated Speed (r/min)	Air Flow (CFM)	Noise (dB(A))	Weight (kg)
OA540LC-A1	30 ~ 100	1Ø110V	50/60	0.52/0.48	60/60	1450/1650	2200/2550	50	14.1
OA540LC-A2	30 ~ 100	1Ø220V	50/60	0.30/0.26	60/60	1500/1700	2200/2550	55	
OA540LC-D1	30 ~ 100	DC12V	-	3.124	35.5	2672	3000	64	
OA540LC-D2	30 ~ 150	DC24V	-	1.485	36.1	2672	3000	64	

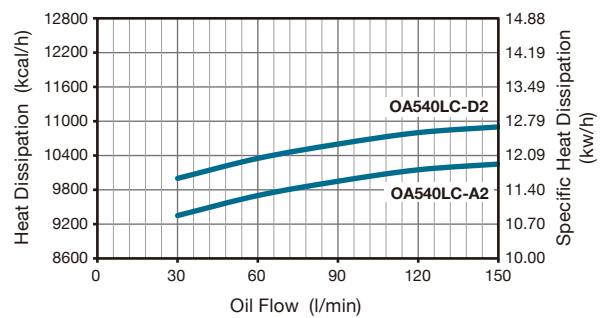
DIMENSION

(UNIT : mm)

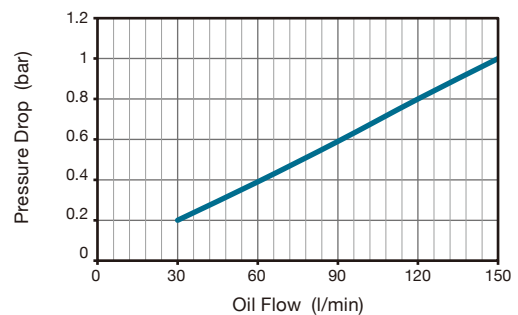


PERFORMANCE CURVES

► Cooling Capacity



► Pressure Differential Δp



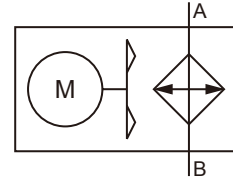
* On the condition of oil viscosity at 32 mm²/s.

OA460H



With dust filter

SYMBOLS

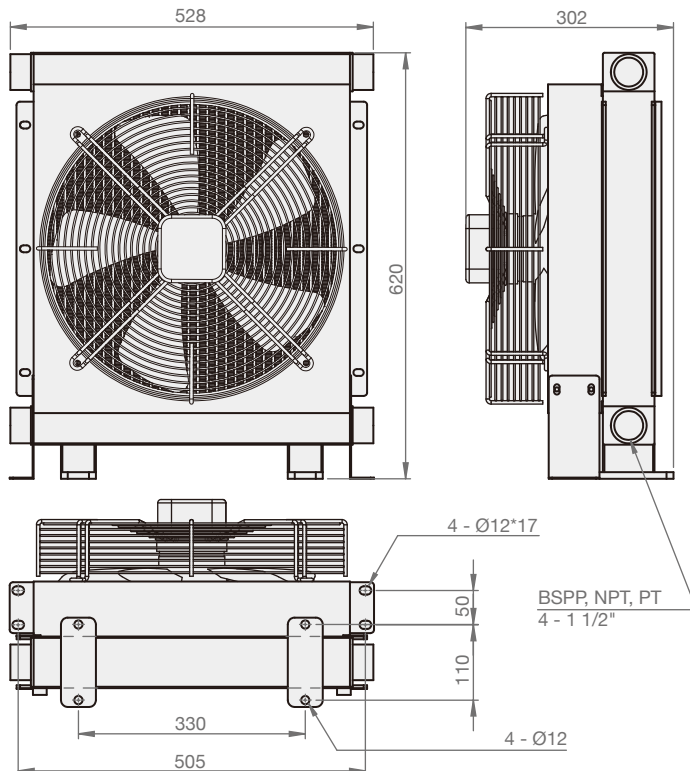


MODEL SPEC.

Model	Flow (l/min)	Rated Voltage	Frequency (Hz)	Rated Current (A)	Input (w)	Rated Speed (r/min)	Air Flow (CFM)	Noise (dB(A))	Weight (kg)
OA460H-A2	30 ~ 200	3Ø220V	50/60	0.82/0.70	180/250	1380/1550	3400/3541	68	33.5
OA460H-A3	30 ~ 200	3Ø380V	50/60	0.47/0.36	180/250	1380/1550	3400/3541	68	

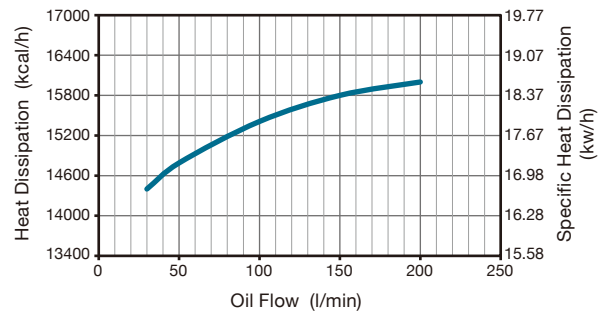
DIMENSION

(UNIT : mm)

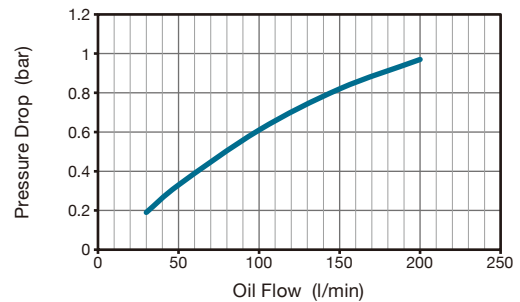


PERFORMANCE CURVES

► Cooling Capacity

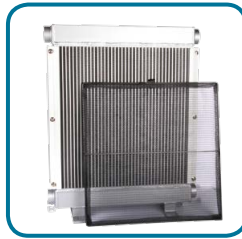


► Pressure Differential Δp



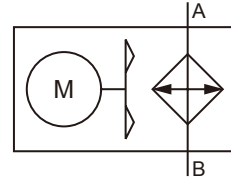
* On the condition of oil viscosity at 32 mm²/s.

OA460HL



With dust filter

SYMBOLS

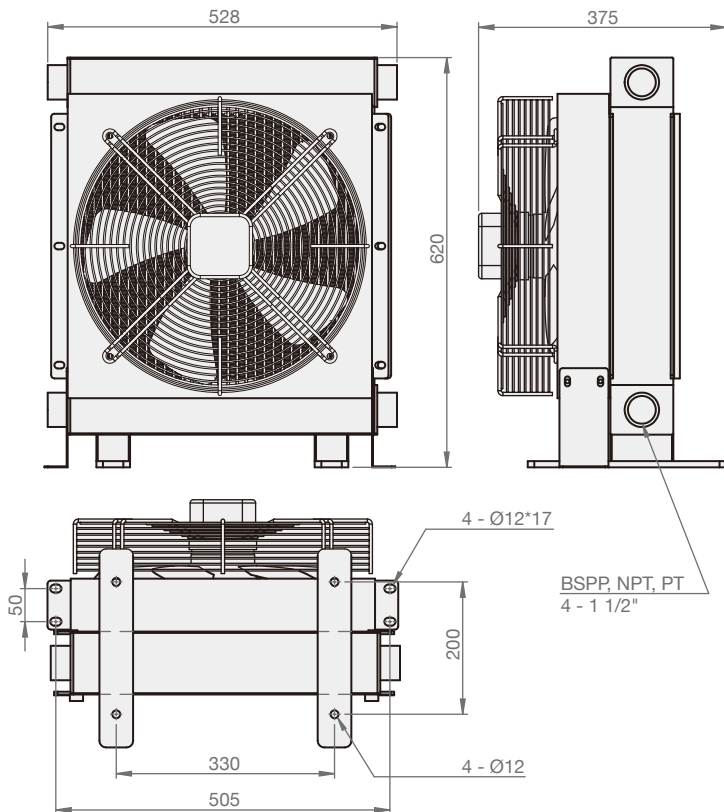


MODEL SPEC.

Model	Flow (l/min)	Rated Voltage	Frequency (Hz)	Rated Current (A)	Input (w)	Rated Speed (r/min)	Air Flow (CFM)	Noise (dB(A))	Weight (kg)
OA460HL-A2	30 ~ 250	3Ø220V	50/60	0.82/0.70	180/250	1380/1550	3400/3541	68	38.2
OA460HL-A3	30 ~ 250	3Ø380V	50/60	0.47/0.36	180/250	1380/1550	3400/3541	68	

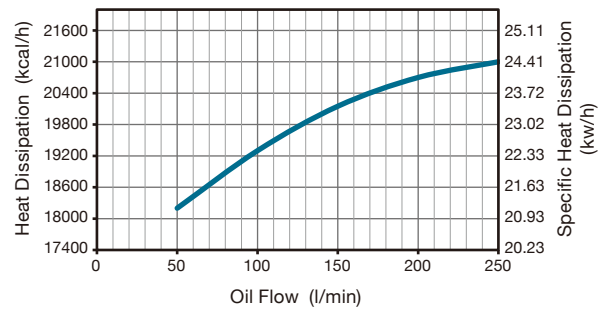
DIMENSION

(UNIT : mm)

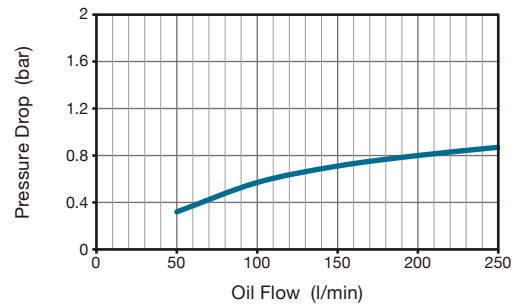


PERFORMANCE CURVES

► Cooling Capacity

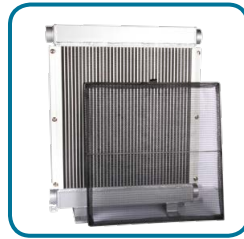


► Pressure Differential Δp



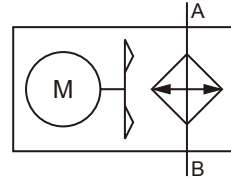
* On the condition of oil viscosity at 32 mm²/s.

OA600H



With dust filter

SYMBOLS

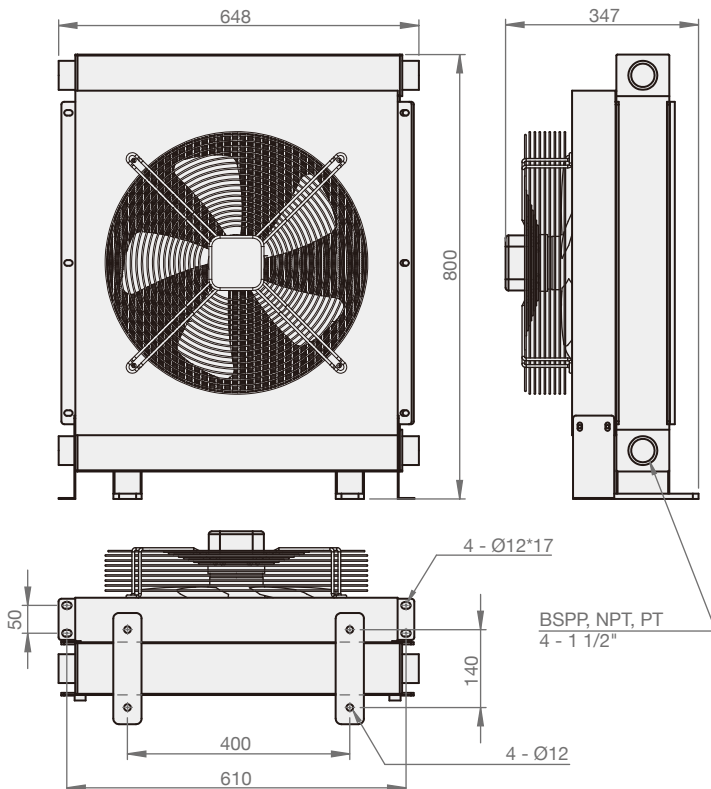


MODEL SPEC.

Model	Flow (l/min)	Rated Voltage	Frequency (Hz)	Rated Current (A)	Input (w)	Rated Speed (r/min)	Air Flow (CFM)	Noise (dB(A))	Weight (kg)
OA600H-A2	30 ~ 250	3Ø220V	50/60	1.20/0.97	250/300	1380/1550	4620/5200	68	57.1
OA600H-A3	30 ~ 250	3Ø380V	50/60	0.60/0.47	250/300	1380/1550	4620/5200	68	

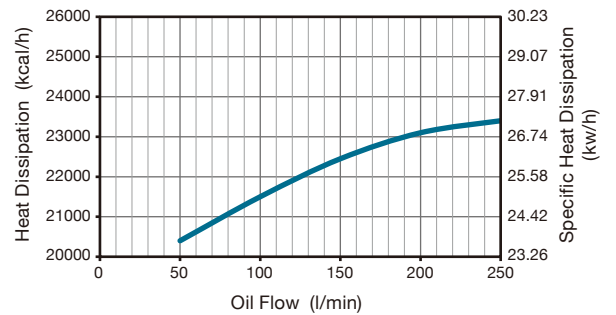
DIMENSION

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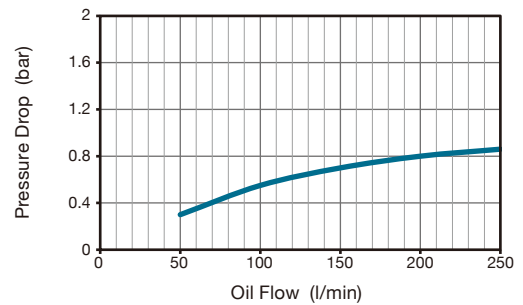


PERFORMANCE CURVES

► Cooling Capacity



► Pressure Differential Δp



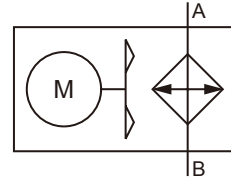
* On the condition of oil viscosity at 32 mm²/s.

OA780H



With dust filter

SYMBOLS

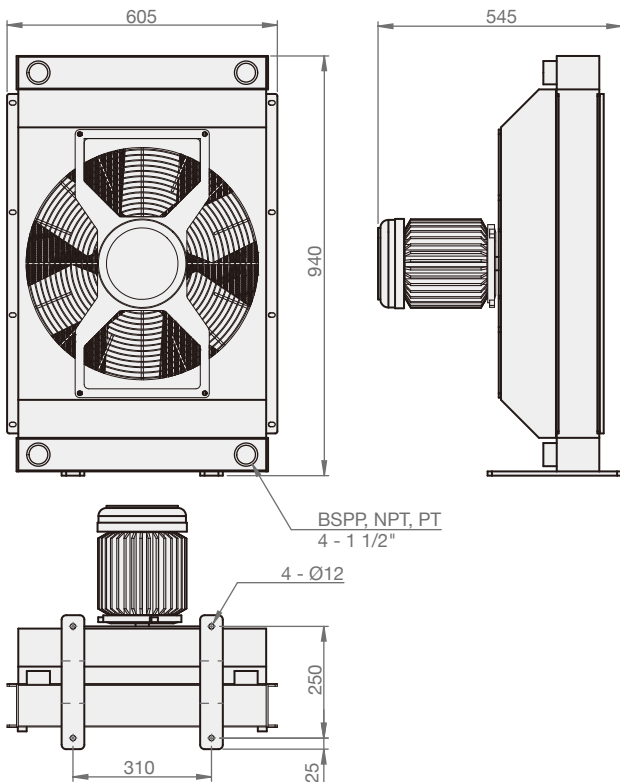


MODEL SPEC.

Model	Flow (l/min)	Rated Voltage	Frequency (Hz)	Rated Current (A)	Input (kw)	Rated Speed (r/min)	Air Flow (CFM)	Noise (dB(A))	Weight (kg)
OA780H-A2	30 ~ 250	3Ø220V	50/60	3.4	0.75	1750	9600	72	87.5
OA780H-A3	30 ~ 250	3Ø380V	50/60	1.9	0.75	1450	8000	72	

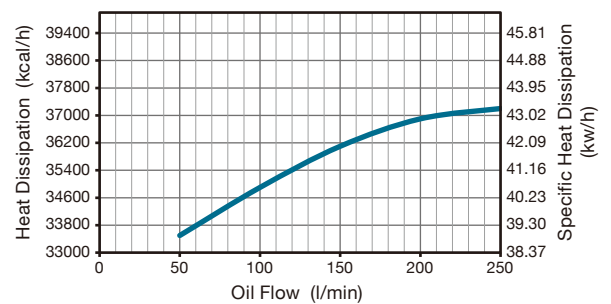
DIMENSION

(UNIT : mm)

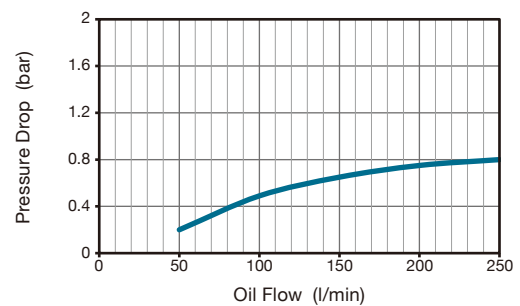


PERFORMANCE CURVES

► Cooling Capacity



► Pressure Differential Δp



* On the condition of oil viscosity at 32 mm²/s.

Customization

Features

We provide customized service for different dimensions, cooling capacity, connecting thread, or location of mounting ports which can meet your needs.



CR50C



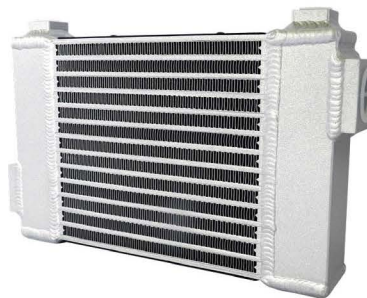
Taylor-made product for Japanese clients



OA282D



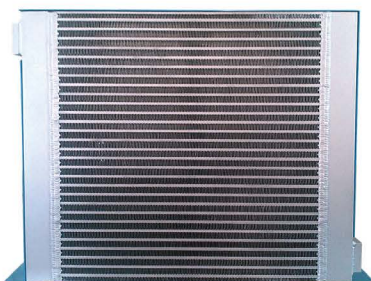
OA640



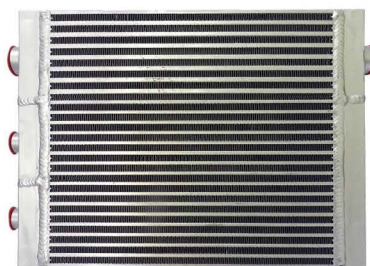
OA630



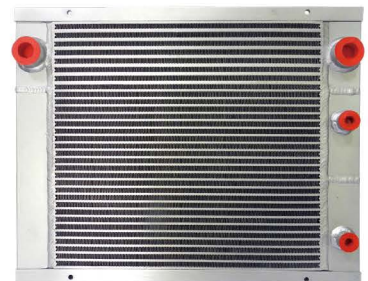
OA225W



Taylor-made product for India clients



Pneumatic 10 HP



Pneumatic 15 HP

Index

ORDER CODES

CR35C - **4** **N** **8** **D2**

① ② ③ ④ ⑤

① ▶	Model Name	CR00C	
② ▶	Conneciton Size	3	3/8"
		4	1/2"
		6	3/4"
		8	1"
		10	1 1/4"
		12	1 1/2"

③ ▶	Thread	B	BSPP
		N	NPT
		T	PT
④ ▶	Fan Motor Size	4, 6, etc. *	
⑤ ▶	Rated Voltage	D1	DC12V
		D2	DC24V

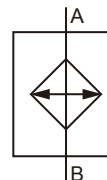
* We would choose the suitable fan motor in accordance with the dimension of the aluminum cool fin part.

INDEX

Page No.	Model	Connection Thread and Size	Flow (l/min)	Max. Pressure (kgf/cm ²)	Rated Voltage	Dimension W×H×D (mm)	Fan Motor Size (inch)
33	CR217C-3N	3/8"	1~15	15	without fan	294*198*35	without fan
34	CR388C-3N	3/8"	1~15	15	without fan	407*100*35	without fan
35	CR35C-4N8D	1/2"	1~15	15	DC12V, DC24V	260*274*103	8"
36	CR35C-4N10D	1/2"	1~25	15	DC12V, DC24V	325*339*114	10"
37	CR35C-4N12D	1/2"	1~35	15	DC12V, DC24V	365*379*114	12"
38	CR50C-8N14D	1"	1~60	15	DC12V, DC24V	463*472.5*129	14"
39	CR50C-8N16D	1"	1~80	15	DC12V, DC24V	520*534.5*129	16"
40	CR75C-10N16D	1 1/4"	1~120	15	DC12V, DC24V	542*556.5*154	16"
41	CR600HC-12N104D	1 1/2"	1~250	15	DC12V, DC24V	648*797.5*236	10" X 4

CR217C-3N

SYMBOLS

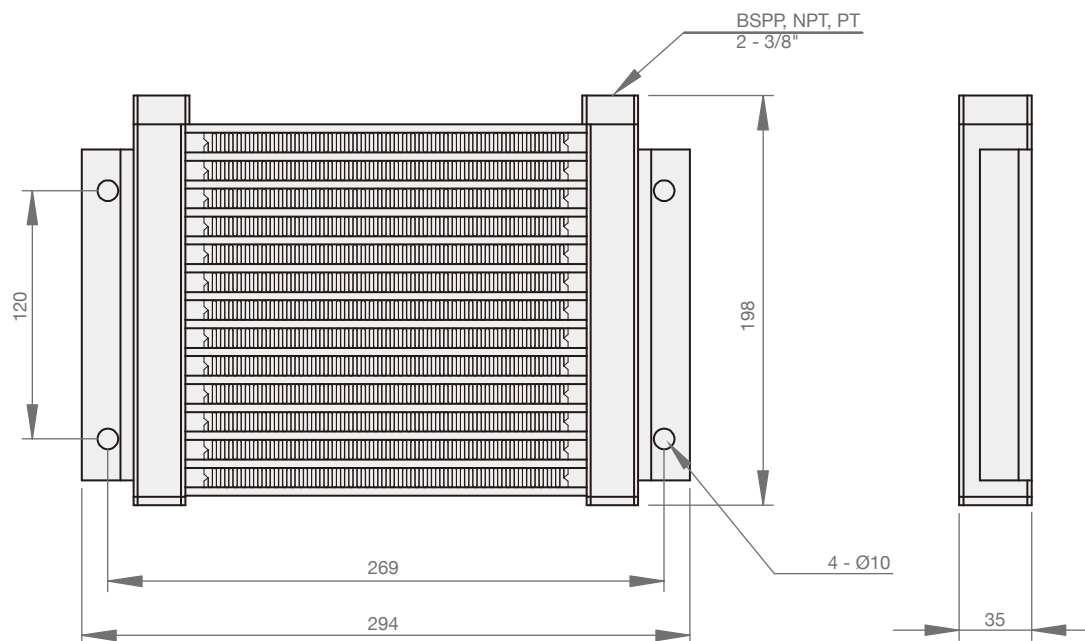


MODEL SPEC.

Model	Connection Thread and Size	Flow (l/min)	Max. Pressure (kgf/cm ²)	Weight (kg)
CR217C-3N	3/8"	1~15	15	1.8

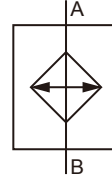
DIMENSION

(UNIT : mm)



CR388C-3N

SYMBOLS

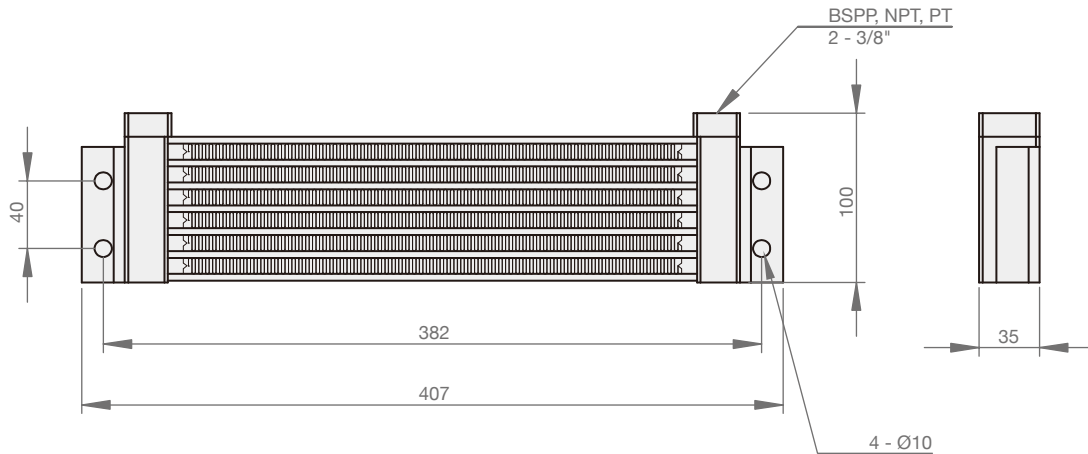


MODEL SPEC.

Model	Connection Thread and Size	Flow (l/min)	Max. Pressure (kgf/cm ²)	Weight (kg)
CR388C-3N	3/8"	1~15	15	1.3

DIMENSION

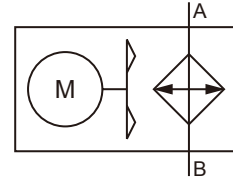
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CR35C-4T8N



SYMBOLS

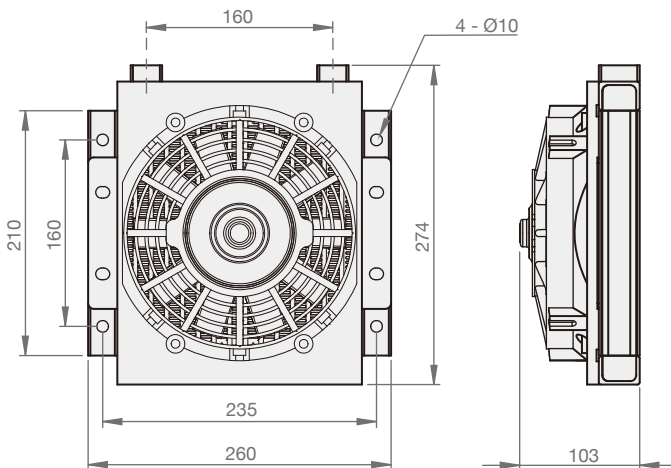


MODEL SPEC.

Model	Connection Thread and Size	Flow (l/min)	Max. Pressure (kgf/cm ²)	Rated Voltage	Rated Current (A)	Input (W)	Fan Motor Size (inch)	Weight (kg)
CR35C-4N8D1	1/2"	1~15	15	DC12V	4.12	50.0	8"	3.2
CR35C-4N8D2	1/2"	1~15	15	DC24V	2.08	50.0	8"	

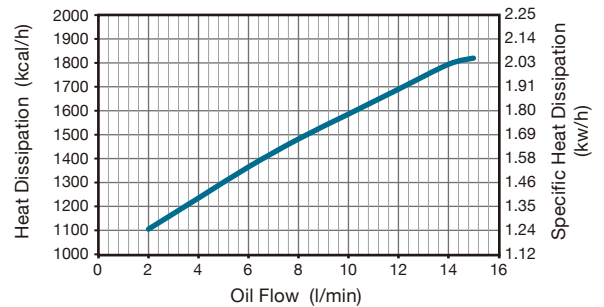
DIMENSION

(UNIT : mm)

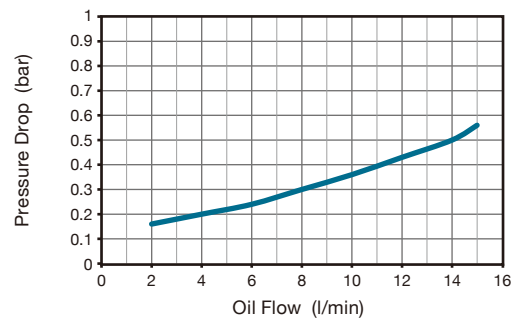


PERFORMANCE CURVES

► Cooling Capacity



► Pressure Differential Δp

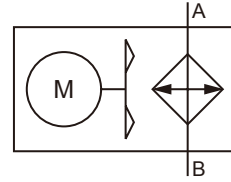


* On the condition of oil viscosity at 32 mm²/s.

CR35C-4N10D



SYMBOLS

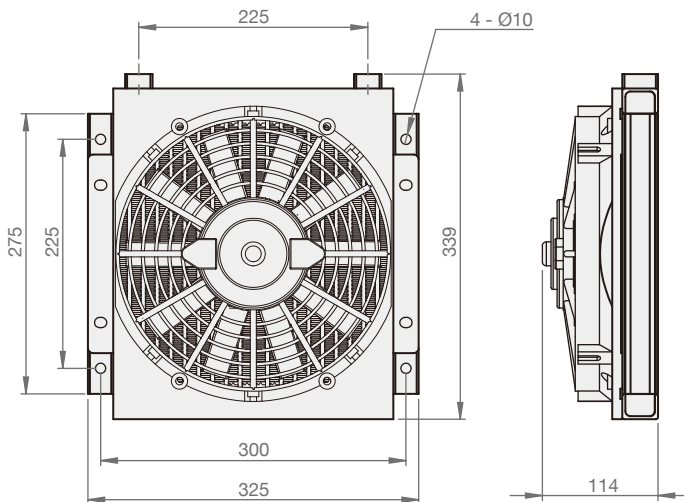


MODEL SPEC.

Model	Connection Thread and Size	Flow (l/min)	Max. Pressure (kgf/cm ²)	Rated Voltage	Rated Current (A)	Input (W)	Fan Motor Size (inch)	Weight (kg)
CR35C-4N10D1	1/2"	1~25	15	DC12V	5.83	70.0	10"	4.6
CR35C-4N10D2	1/2"	1~25	15	DC24V	2.92	70.0	10"	

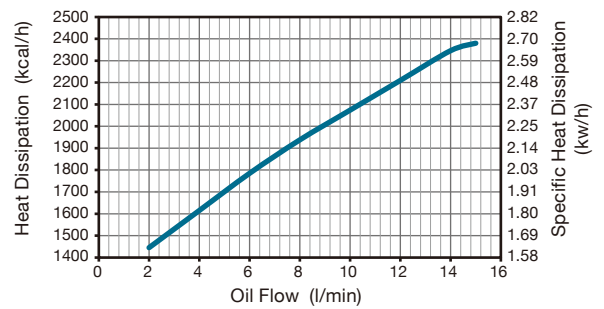
DIMENSION

(UNIT : mm)

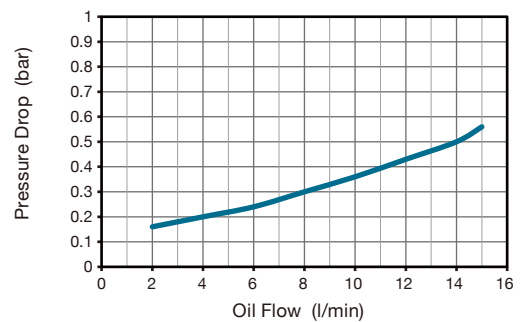


PERFORMANCE CURVES

► Cooling Capacity



► Pressure Differential Δp

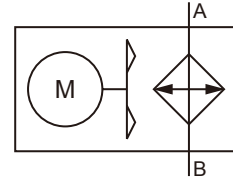


* On the condition of oil viscosity at 32 mm²/s.

CR35C-4N12D



SYMBOLS

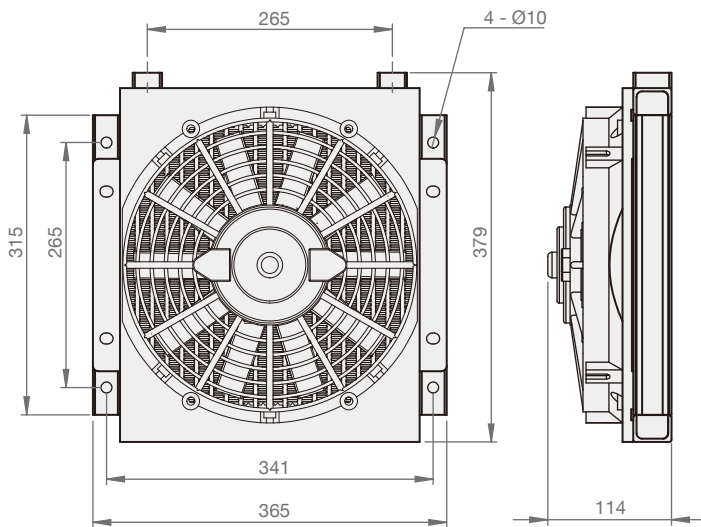


MODEL SPEC.

Model	Connection Thread and Size	Flow (l/min)	Max. Pressure (kgf/cm ²)	Rated Voltage	Rated Current (A)	Input (W)	Fan Motor Size (inch)	Weight (kg)
CR35C-4N12D1	1/2"	1~35	15	DC12V	6.25	75.0	12"	5.6
CR35C-4N12D2	1/2"	1~35	15	DC24V	3.125	75.0	12"	

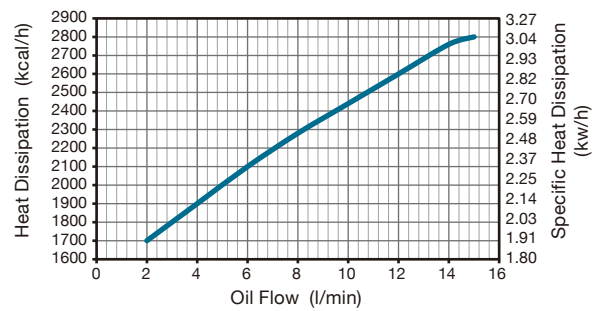
DIMENSION

(UNIT : mm)

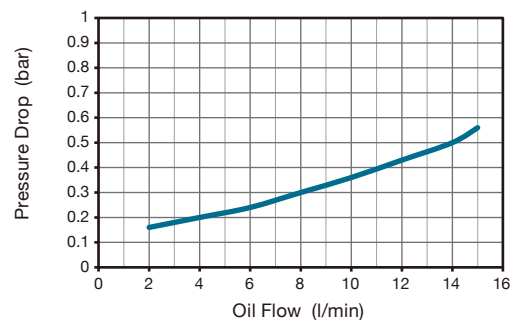


PERFORMANCE CURVES

► Cooling Capacity



► Pressure Differential Δp

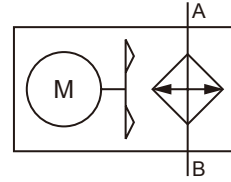


* On the condition of oil viscosity at 32 mm²/s.

CR50C-8N14D



SYMBOLS

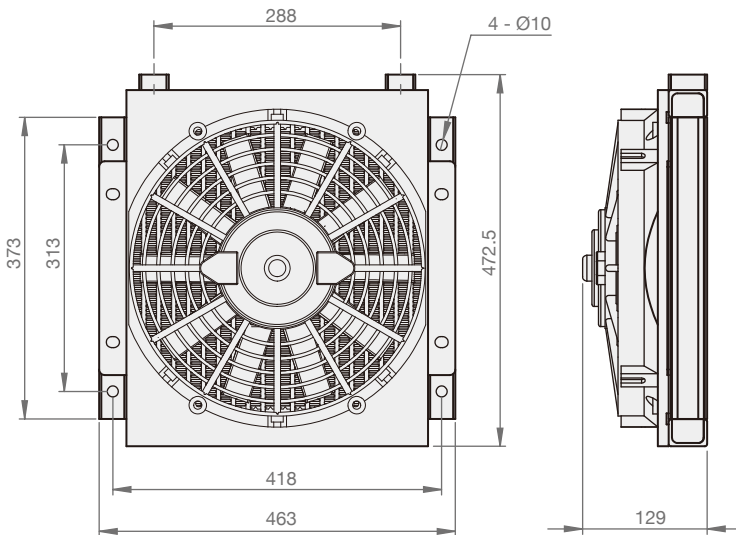


MODEL SPEC.

Model	Connection Thread and Size	Flow (l/min)	Max. Pressure (kgf/cm ²)	Rated Voltage	Rated Current (A)	Input (W)	Fan Motor Size (inch)	Weight (kg)
CR50C-8N14D1	1"	1~60	15	DC12V	7.92	95.0	14"	10.1
CR50C-8N14D2	1"	1~60	15	DC24V	3.96	95.0	14"	

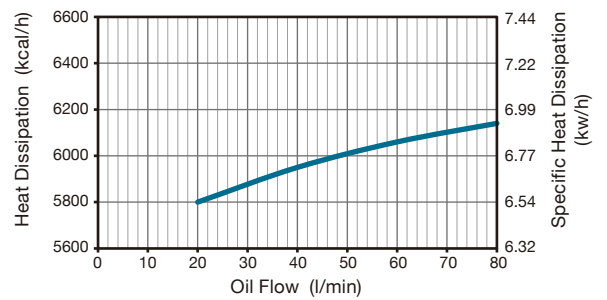
DIMENSION

(UNIT : mm)

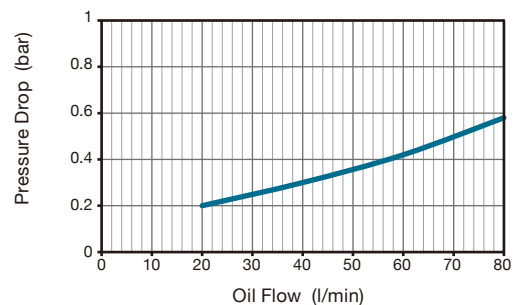


PERFORMANCE CURVES

► Cooling Capacity



► Pressure Differential Δp

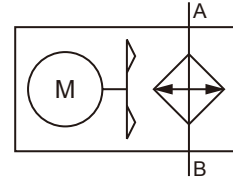


* On the condition of oil viscosity at 32 mm²/s.

CR50C-8N16D



SYMBOLS

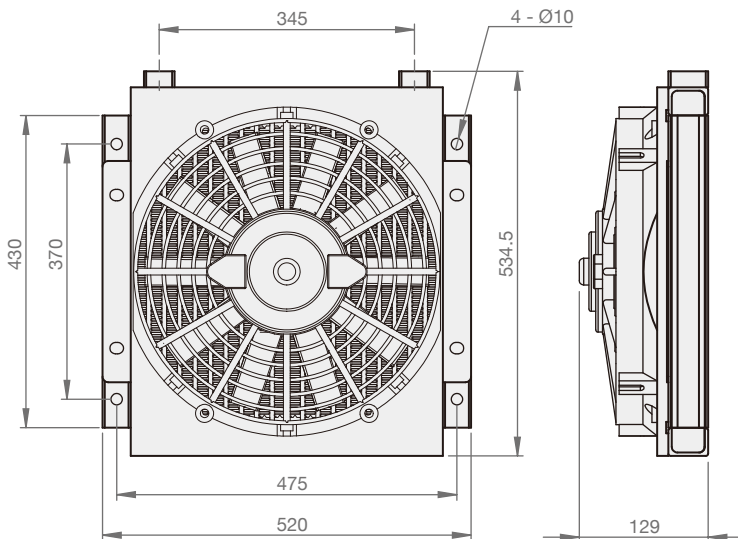


MODEL SPEC.

Model	Connection Thread and Size	Flow (l/min)	Max. Pressure (kgf/cm ²)	Rated Voltage	Rated Current (A)	Input (W)	Fan Motor Size (inch)	Weight (kg)
CR50C-8N16D1	1"	1~80	15	DC12V	9.58	115.0	16"	12.2
CR50C-8N16D2	1"	1~80	15	DC24V	4.79	115.0	16"	

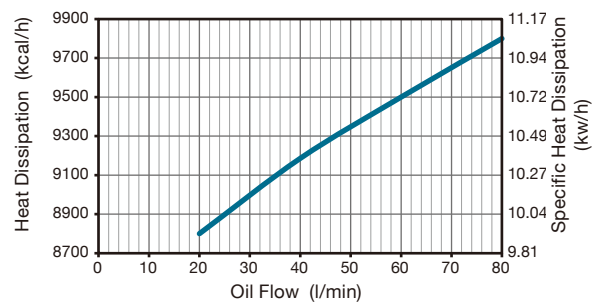
DIMENSION

(UNIT : mm)

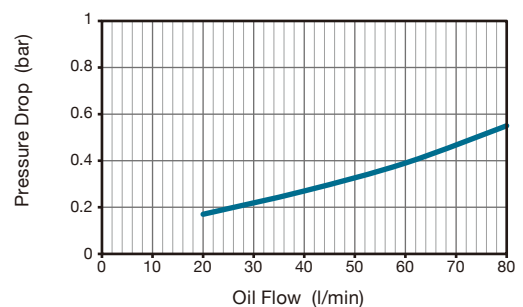


PERFORMANCE CURVES

► Cooling Capacity



► Pressure Differential Δp

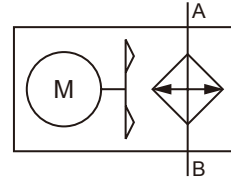


* On the condition of oil viscosity at 32 mm²/s.

CR75C-10N16D



SYMBOLS

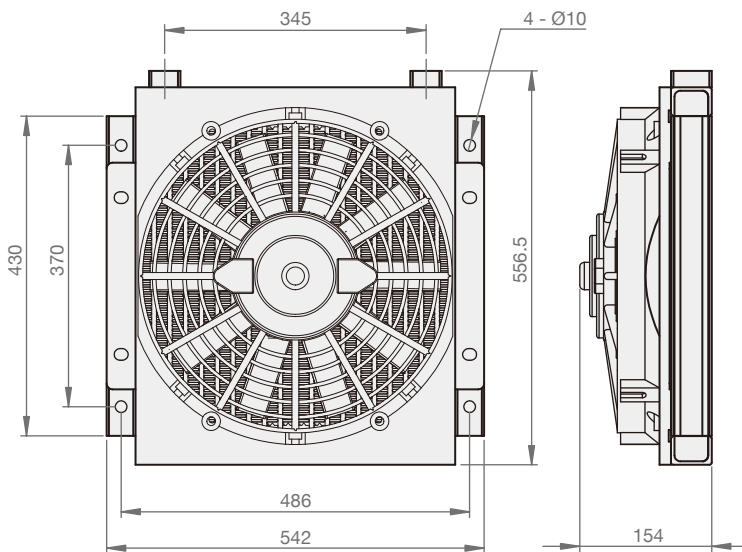


MODEL SPEC.

Model	Connection Thread and Size	Flow (l/min)	Max. Pressure (kgf/cm ²)	Rated Voltage	Rated Current (A)	Input (W)	Fan Motor Size (inch)	Weight (kg)
CR75C-10N16D1	1 1/4"	1~120	15	DC12V	9.58	115.0	16"	17.1
CR75C-10N16D2	1 1/4"	1~120	15	DC24V	4.79	115.0	16"	

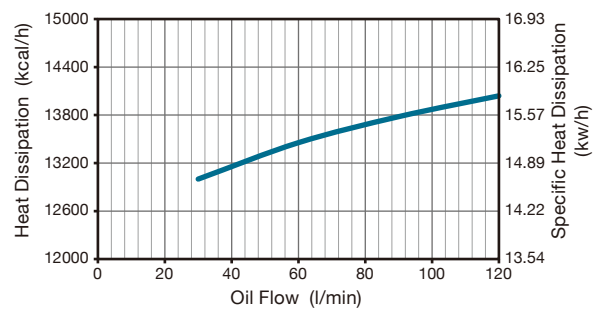
DIMENSION

(UNIT : mm)

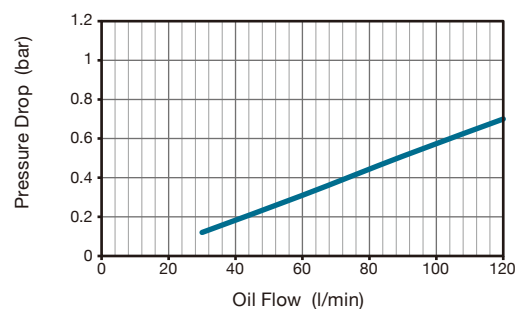


PERFORMANCE CURVES

► Cooling Capacity



► Pressure Differential Δp

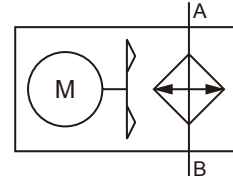


* On the condition of oil viscosity at 32 mm²/s.

CR600HC-12N104D



SYMBOLS

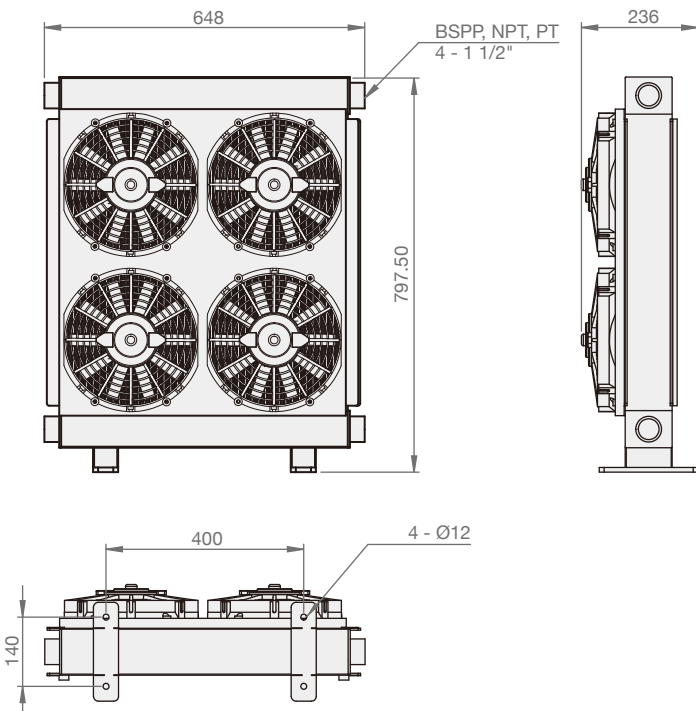


MODEL SPEC.

Model	Connection Thread and Size	Flow (l/min)	Max. Pressure (kgf/cm ²)	Rated Voltage	Rated Current (A)	Input (W)	Fan Motor Size (inch)	Weight (kg)
CR600HC-12N104D1	1 1/2"	1-250	15	DC12V	23.33	280.0	10" X 4	38.2
CR600HC-12N104D2	1 1/2"	1-250	15	DC24V	11.67	280.0	10" X 4	

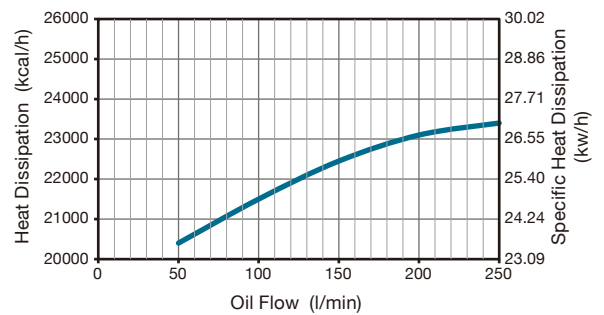
DIMENSION

(UNIT : mm)

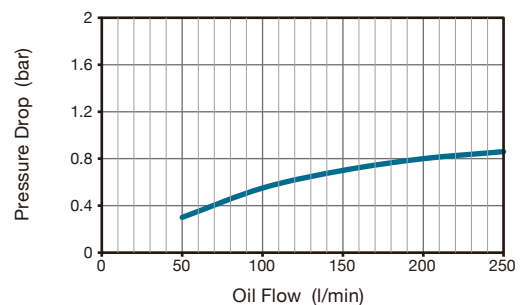


PERFORMANCE CURVES

► Cooling Capacity

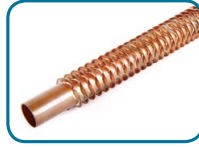


► Pressure Differential Δp

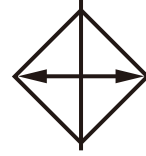


* On the condition of oil viscosity at 32 mm²/s.

TJ (Hydraulic High Efficiency Type)



SYMBOLS



MODEL SPEC.

Model	Oil Ports (PT)	Water Ports (PT)	Heat Trans. Area (m ²)	Flow (l/min)	Weight (kg)
TJ-0905	3/4"	3/4"	0.41	60	10
TJ-0908	3/4"	3/4"	0.7	100	14
TJ-1405	1 1/4"	1 1/4"	1.1	150	20
TJ-1408	1 1/4"	1 1/4"	1.9	250	25
TJ-1412	1 1/2"	1 1/4"	2.9	350	37
TJ-1712	2"	1 1/4"	4.6	600	48
TJ-1716	2"	1 1/4"	6.5	840	56
TJ-1722	2"	1 1/4"	7.2	1000	72

Model	Oil Ports (PT)	Water Ports (PT)	Heat Trans. Area (m ²)	Flow (l/min)	Weight (kg)
TJF-2208	2" ~ 2 1/2"	1 1/2" ~ 2"	5.6	800	72
TJF-2212	2" ~ 2 1/2"	1 1/2" ~ 2"	8.6	1200	93
TJF-2216	2" ~ 2 1/2"	1 1/2" ~ 2"	11.6	1500	118
TJF-2222	2" ~ 2 1/2"	1 1/2" ~ 2"	14.6	1800	145
TJF-2508	2" ~ 3"	2"	8.0	1000	100
TJF-2512	2" ~ 3"	2"	12.2	1600	146
TJF-2516	2" ~ 3"	2"	16.4	1800	168
TJF-2522	2" ~ 3"	2"	20.8	2200	206

Model	Oil Ports (PT)	Water Ports (PT)	Heat Trans. Area (m ²)	Flow (l/min)	Weight (kg)
TJF-3208	3" ~ 4"	3" ~ 4"	13.3	1400	167
TJF-3212	3" ~ 4"	3" ~ 4"	20	2100	204
TJF-3216	3" ~ 4"	3" ~ 4"	26.6	2800	241
TJF-3222	3" ~ 4"	3" ~ 4"	33.4	3500	280
TJF-3508	3" ~ 4"	3" ~ 4"	15.5	1640	222
TJF-3512	3" ~ 4"	3" ~ 4"	23.6	2500	264
TJF-3516	3" ~ 4"	3" ~ 4"	31.5	3300	306
TJF-3522	3" ~ 4"	3" ~ 4"	39.6	4400	340

CAUTION

1. Inlet or outlet oil mouth on both side of cooling pipe may be optionally made directions of oil flow are not limited. However, water shall enter into the system from the water inlet underneath and come out from the outlet in the upper part.
 2. Only the fresh water can be used.
 3. Max. pressure used: Oil side 10 kgf/cm², water side 7 kgf/cm².
 4. Foodstuffs and chemicals are absolutely not allowed.
- In the application of high-density oil fluid, it is imperative to maintain the oil and water in equal volume.

THE CALCULATION FOR THE HEAT TRANSFER RATE

$$Q = UA \Delta T_M$$

$$Q = C_{so} * 60 * W_T * f_v * (T_1 - T_2)$$

$$Q_r = Q / (f_w * f_t)$$

Q : Heat transfer

Q_r : Actual heat transfer

C_{so} : Specific heat of oil

f_t : Correction factor of temperature difference
Please refer to the oil temperature correction factor graph.

f_v : Correction factor of oil viscosity variation
Please refer to the oil viscosity correction factor graph.

f_w : Correction factor of flow rate

Please refer to the oil flow correction factor graph.

W_T : Flow rate of oil

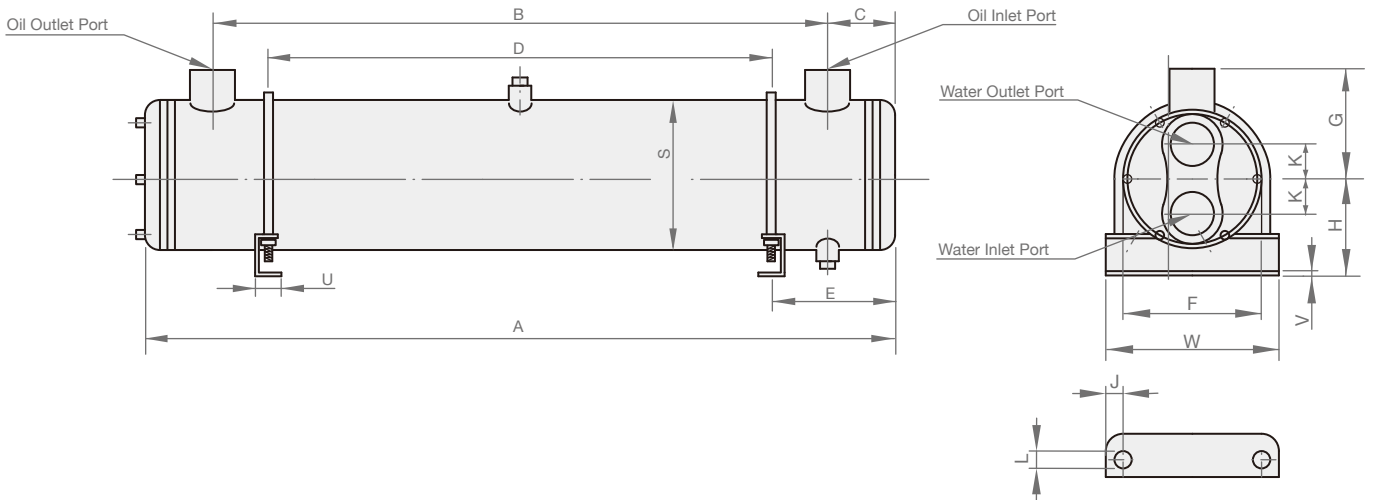
T₁ : Outlet temperature of oil

T₂ : inlet temperature of oil

DIMENSION

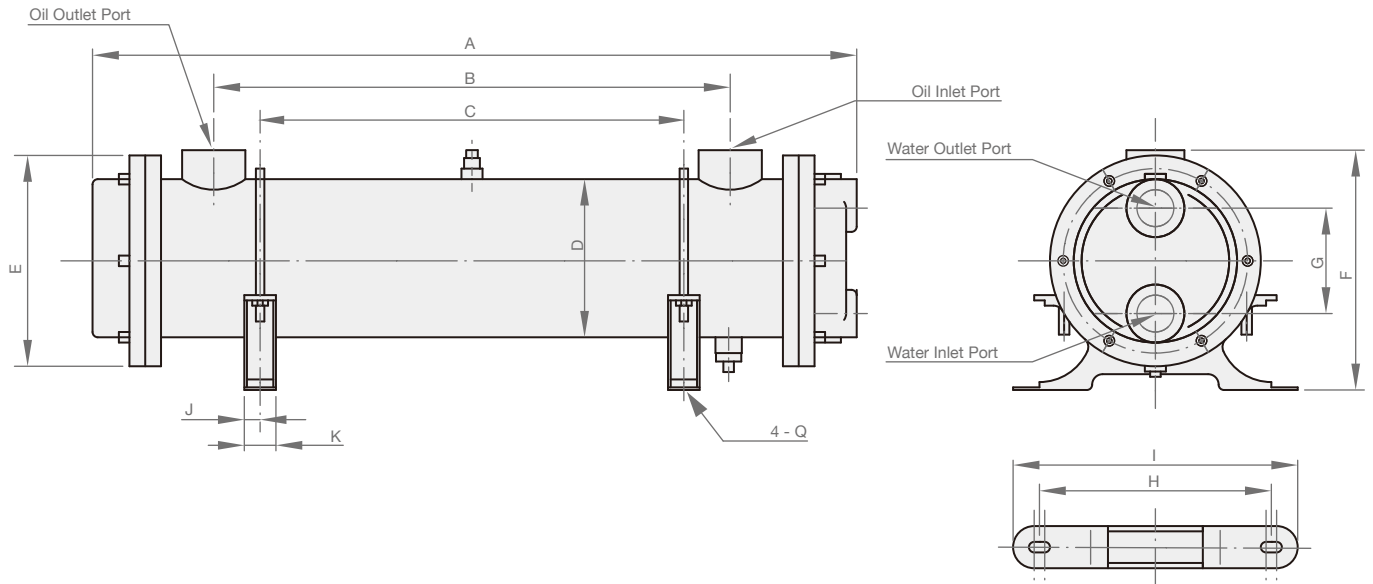
(UNIT : mm)

► TJ-0905, 0908, 1405, 1408, 1412, 1712, 1716, 1722



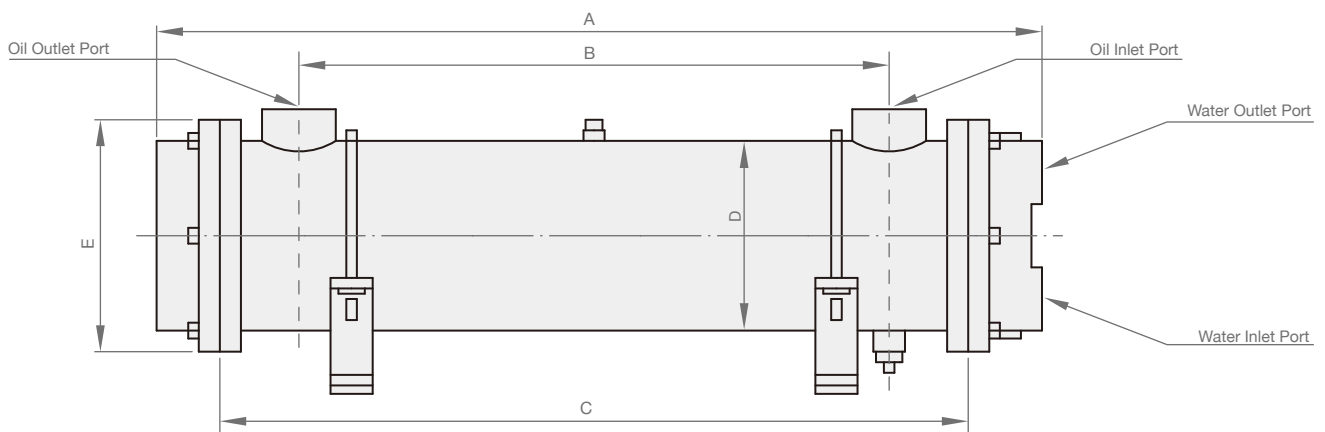
Model	A	B	C	D	E	F	G	H	J	K	L	S	U	V	W
TJ-0905	590	408	88	270	150	80	25	63	80	22	10	89.5	30	2.3	115
TJ-0908	880	720	78	500	190	80	25	63	80	22	10	89.5	30	2.3	115
TJ-1405	600	398	100	270	162	140	32	90	110	28	12	140.8	40	3.2	176
TJ-1408	890	710	85	500	202	140	32	90	110	28	12	140.8	40	3.2	176
TJ-1412	1310	1110	100	700	303	140	32	90	110	28	12	140.8	40	3.2	176
TJ-1712	1335	1060	138	700	310	145	32	115	125	32	12	166.5	40	3.2	200
TJ-1716	1745	1510	118	850	460	145	32	115	125	32	12	166.5	40	3.2	200
TJ-1722	2200	1850	160	1650	270	145	32	115	125	32	12	166.5	40	3.2	200

► TJJ-2208, 2212, 2216, 2222, 2508, 2512, 2516, 2522



Model	A	B	C	D	E	F	G	H	I	J	K	Q
TJJ-2208	950	640	Adjustable	219	265	323	137	290	360	38	50	5/8
TJJ-2212	1370	1060	Adjustable	219	265	323	137	290	360	38	50	5/8
TJJ-2216	1780	1490	Adjustable	219	265	323	137	290	360	38	50	5/8
TJJ-2222	2210	1860	Adjustable	219	265	323	137	290	360	38	50	5/8
TJJ-2508	980	640	Adjustable	270	325	385	160	345	405	38	50	5/8
TJJ-2512	1400	1060	Adjustable	270	325	385	160	345	405	38	50	5/8
TJJ-2516	1810	1470	Adjustable	270	325	385	160	345	405	38	50	5/8
TJJ-2522	2240	1860	Adjustable	270	325	385	160	345	405	38	50	5/8

► TJJ-3208, 3212, 3216, 3222, 3508, 3512, 3516, 3522



Model	A	B	C	D	E
TJJ-3208	975	635	810	12"	390
TJJ-3212	1400	1060	1235	12"	390
TJJ-3216	1810	1470	1645	12"	390
TJJ-3222	2235	1895	2070	12"	390
TJJ-3508	975	635	810	12"	448
TJJ-3512	1400	1060	1235	12"	448
TJJ-3516	1810	1470	1645	12"	448
TJJ-3522	2235	1895	2070	12"	448

PERFORMANCE CURVES

The following graphs were based on the tests performed by The Energy & Resources Laboratories, Industrial Technology Research Institute, Taiwan.

► TJ series

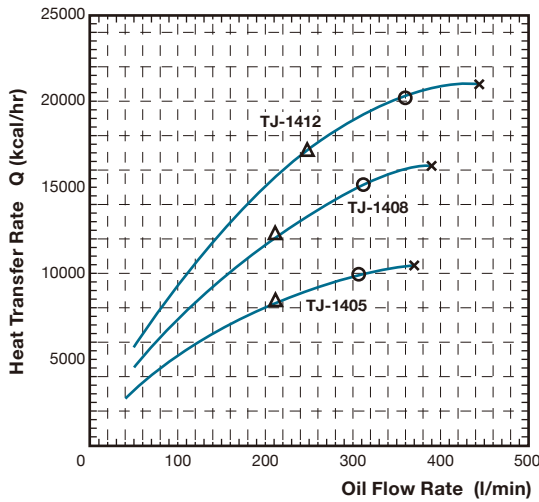


Figure-1 Performance Graphs for TJ-1405, TJ-1408 & TJ-1412

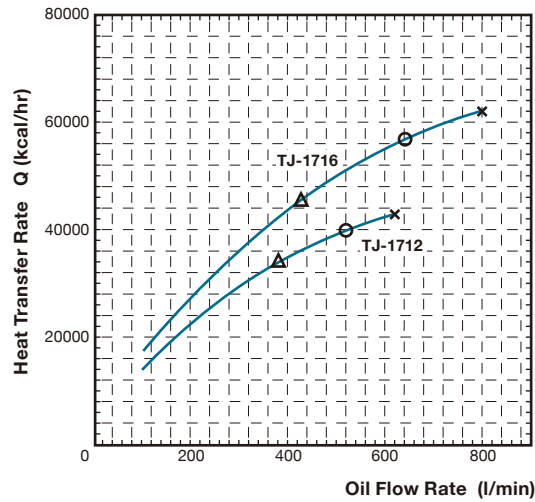


Figure-2 Performance Graphs for TJ-1712, TJ-1716

Pressure drop of oil

△ Δ P = 0.5 kgf/cm²

○ Δ P = 1.0 kgf/cm²

× Δ P = 1.5 kgf/cm²

Standard conditions for the performances:

1. The volume of oil flow rate is twice
2. The temperature of oil outlet is 50°C
3. The temperature of water inlet is 30°C
4. The viscosity of operational fluid is 68cSt

► TJF series

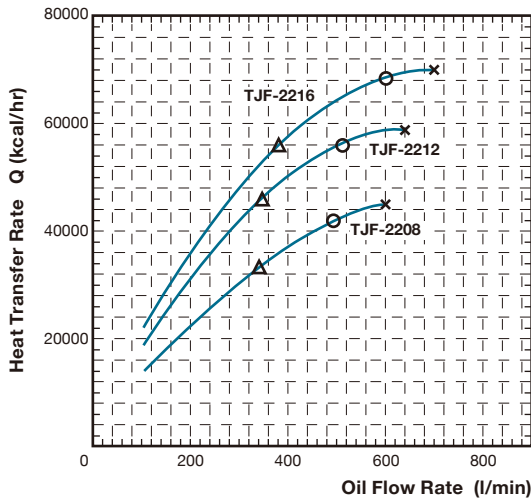


Figure-1 Performance Graphs for TJF-2208, TJF-2212 & TJF-2216

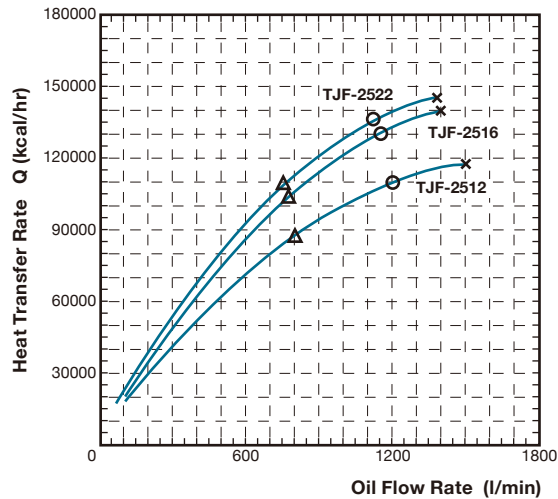


Figure-2 Performance Graphs for TJF-2512, TJF-2516 & TJF-2522

Pressure drop of oil

△ Δ P = 0.5 kgf/cm²

○ Δ P = 1.0 kgf/cm²

× Δ P = 1.5 kgf/cm²

Standard conditions for the performances:

1. The volume of oil flow rate is twice
2. The temperature of oil outlet is 50°C
3. The temperature of water inlet is 30°C
4. The viscosity of operational fluid is 68cSt

The following graphs were based on the tests performed by The Energy & Resources Laboratories, Industrial Technology Research Institute, Taiwan.

► **Oil Temperature Correction Factor Graphs**

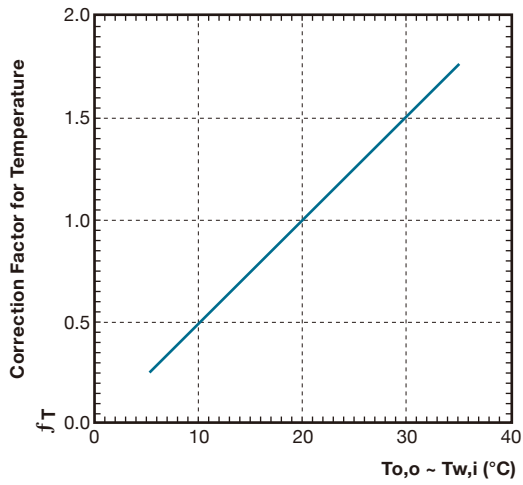


Figure-11 the heat transfer correction factor due to temperature difference

► **Oil Viscosity Correction Factor Graphs**

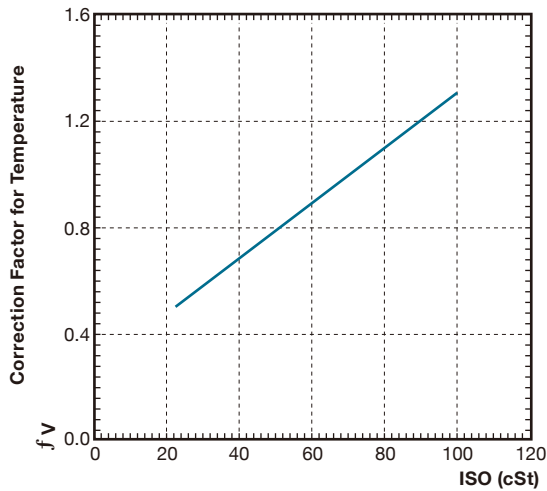


Figure-12 the oil-side pressure drop correction factor due to difference viscosity

► **Oil Flow Correction Factor Graphs**

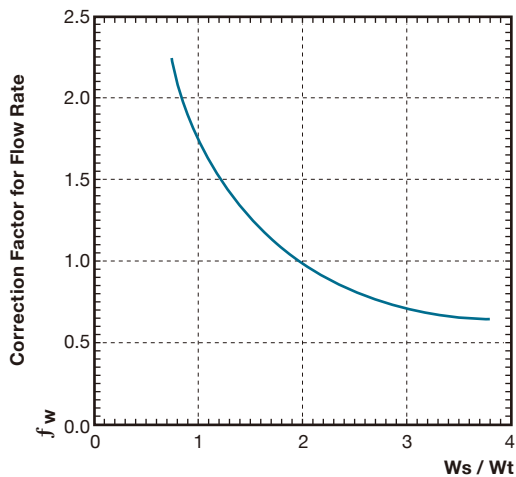
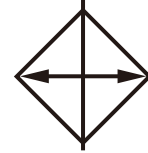


Figure-10 the heat transfer factor due to flow rate variation

HH (Standard Economic Type)



SYMBOLS



MODEL SPEC.

Model	Oil Ports (PT)	Water Ports (PT)	Heat Trans. Area (m ²)	Flow (l/min)	Weight (kg)
HH-0905	3/4"	3/4"	0.24	60	10
HH-0908	3/4"	3/4"	0.39	100	14
HH-1405	1 1/4"	1 1/4"	0.54	150	20
HH-1408	1 1/4"	1 1/4"	0.84	250	26
HH-1412	1 1/2"	1 1/4"	1.28	350	35
HH-1712	2"	1 1/4"	2.17	600	50
HH-1716	2"	1 1/4"	2.89	840	60
HH-1722	2"	1 1/4"	3.63	1000	72

Model	Oil Ports (PT)	Water Ports (PT)	Heat Trans. Area (m ²)	Flow (l/min)	Weight (kg)
HHF-2208	2" ~ 2 1/2"	1 1/2" ~ 2"	2.84	800	72
HHF-2212	2" ~ 2 1/2"	1 1/2" ~ 2"	4.33	1200	93
HHF-2216	2" ~ 2 1/2"	1 1/2" ~ 2"	5.77	1500	118
HHF-2222	2" ~ 2 1/2"	1 1/2" ~ 2"	7.26	1800	145
HHF-2508	2" ~ 3"	2"	5.038	1000	100
HHF-2512	2" ~ 3"	2"	7.68	1600	146
HHF-2516	2" ~ 3"	2"	10.23	1800	168
HHF-2522	2" ~ 3"	2"	12.87	2200	210

Model	Oil Ports (PT)	Water Ports (PT)	Heat Trans. Area (m ²)	Flow (l/min)	Weight (kg)
HHF-3208	3" ~ 4"	3" ~ 4"	7.3	1400	168
HHF-3212	3" ~ 4"	3" ~ 4"	11.0	2100	206
HHF-3216	3" ~ 4"	3" ~ 4"	14.7	2800	240
HHF-3222	3" ~ 4"	3" ~ 4"	18.5	3500	283
HHF-3508	3" ~ 4"	3" ~ 4"	9.0	1640	224
HHF-3512	3" ~ 4"	3" ~ 4"	13.7	2500	268
HHF-3516	3" ~ 4"	3" ~ 4"	18.1	3300	310
HHF-3522	3" ~ 4"	3" ~ 4"	22.8	4400	357

CAUTION

1. Inlet or outlet oil mouth on both side of cooling pipe may be optionally made directions of oil flow are not limited. However, water shall enter into the system from the water inlet underneath and come out from the outlet in the upper part.
 2. Only the fresh water can be used.
 3. Max. pressure used: Oil side 10 kgf/cm², water side 7 kgf/cm².
 4. Foodstuffs and chemicals are absolutely not allowed.
- In the application of high-density oil fluid, it is imperative to maintain the oil and water in equal volume.

THE CALCULATION FOR THE HEAT TRANSFER RATE

$$Q = UA \Delta T_M$$

$$Q = C_{SO} * 60 * W_T * f_v * (T_1 - T_2)$$

$$Q_r = Q / (f_w * f_t)$$

Q : Heat transfer

Q_r : Actual heat transfer

C_{so} : Specific heat of oil

f_t : Correction factor of temperature difference

Please refer to the oil temperature correction factor graph.

f_v : Correction factor of oil viscosity variation

Please refer to the oil viscosity correction factor graph.

f_w : Correction factor of flow rate

Please refer to the oil flow correction factor graph.

W_T : Flow rate of oil

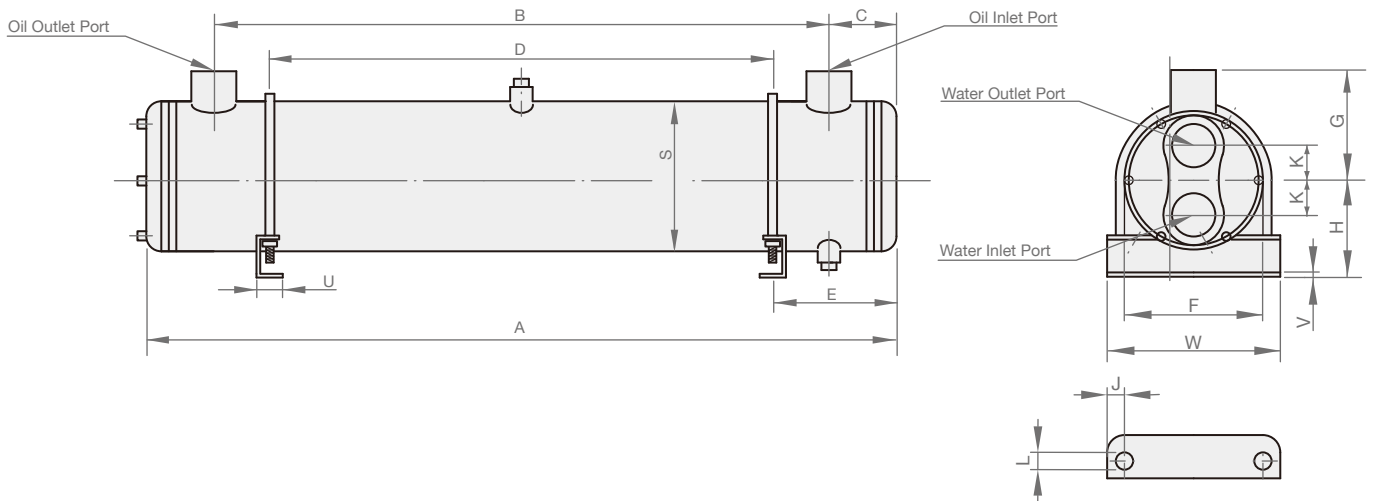
T₁ : Outlet temperature of oil

T₂ : inlet temperature of oil

DIMENSION

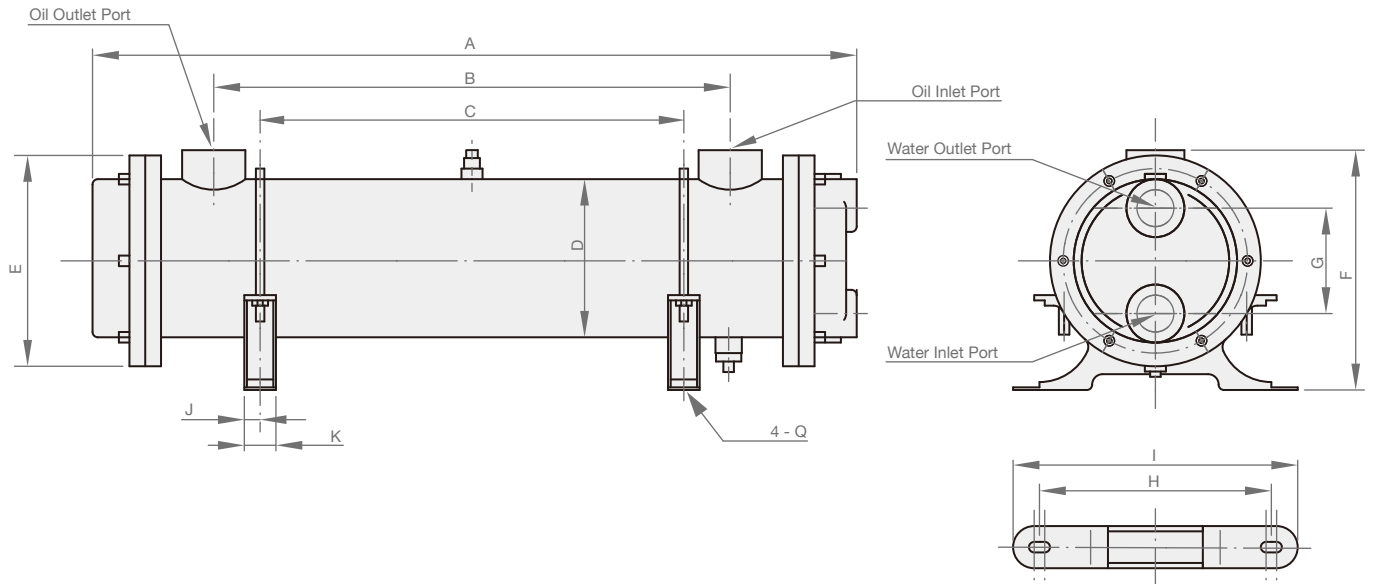
(UNIT : mm)

► HH-0905, 0908, 1405, 1408, 1412, 1712, 1716, 1722



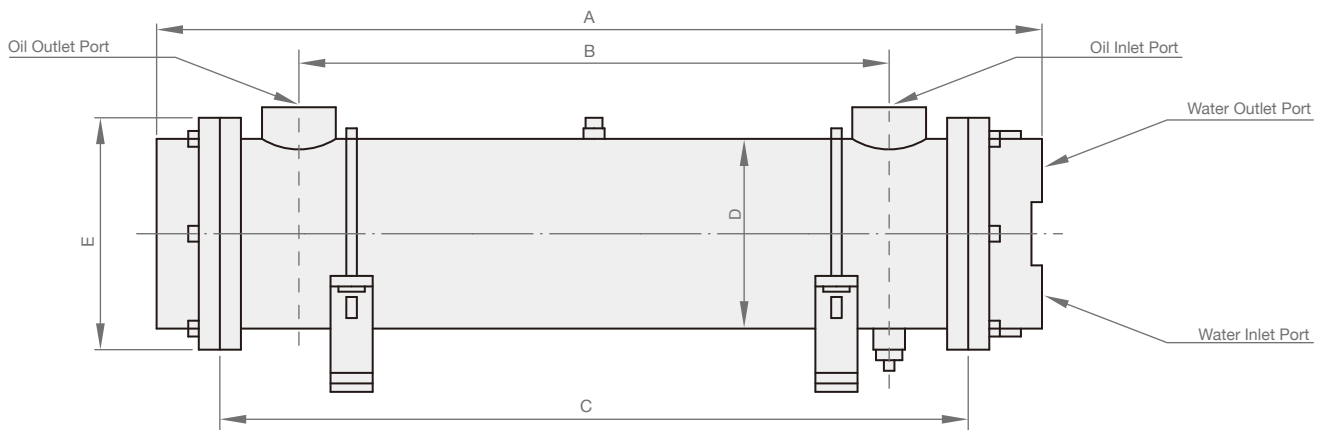
Model	A	B	C	D	E	F	G	H	J	K	L	S	U	V	W
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HH-1712	1335	1060	138	700	310	145	32	115	125	32	12	166.5	40	3.2	200
HH-1716	1745	1510	118	850	460	145	32	115	125	32	12	166.5	40	3.2	200
HH-1722	2200	1850	160	1650	270	145	32	115	125	32	12	166.5	40	3.2	200

► HHF-2208, 2212, 2216, 2222, 2508, 2512, 2516, 2522



Model	A	B	C	D	E	F	G	H	I	J	K	Q
HHF-2208	950	640	Adjustable	219	265	323	137	290	360	38	50	5/8
HHF-2212	1370	1060	Adjustable	219	265	323	137	290	360	38	50	5/8
HHF-2216	1780	1490	Adjustable	219	265	323	137	290	360	38	50	5/8
HHF-2222	2210	1860	Adjustable	219	265	323	137	290	360	38	50	5/8
HHF-2508	980	640	Adjustable	270	325	385	160	345	405	38	50	5/8
HHF-2512	1400	1060	Adjustable	270	325	385	160	345	405	38	50	5/8
HHF-2516	1810	1470	Adjustable	270	325	385	160	345	405	38	50	5/8
HHF-2522	2240	1860	Adjustable	270	325	385	160	345	405	38	50	5/8

► HHF-3208, 3212, 3216, 3222, 3508, 3512, 3516, 3522



Model	A	B	C	D	E
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HHF-3216	1810	1470	1645	12"	390
HHF-3222	2235	1895	2070	12"	390
HHF-3508	975	635	810	12"	448
HHF-3512	1400	1060	1235	12"	448
HHF-3516	1810	1470	1645	12"	448
HHF-3522	2235	1895	2070	12"	448

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