

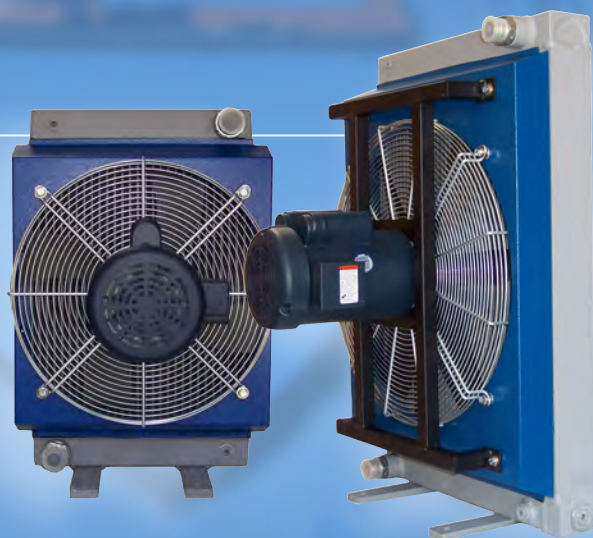
# AC MOTOR FAN DRIVEN PRODUCTS

## HEAT EXCHANGERS

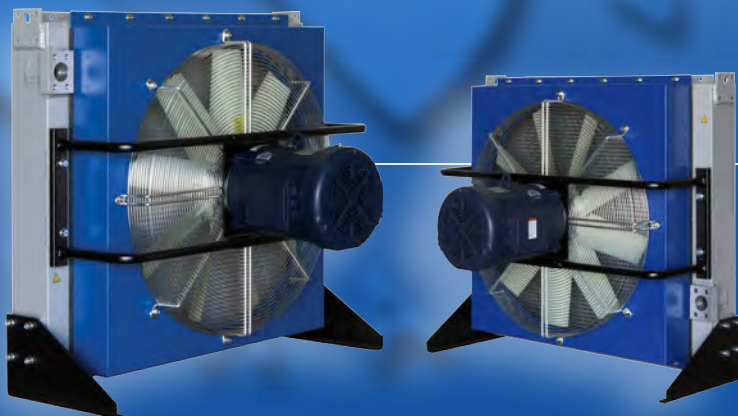
*2000K & KBV SERIES*



*HPV SERIES I*



*HPH SERIES I*

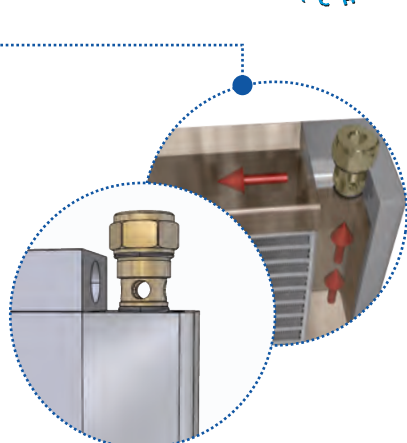


*HPV Series II*

HEAT-EXCHANGERS



# EMMEGI Heat Exchanger Features



Built-in Bypass Valve



Heavy Duty Construction



## Oil Connections

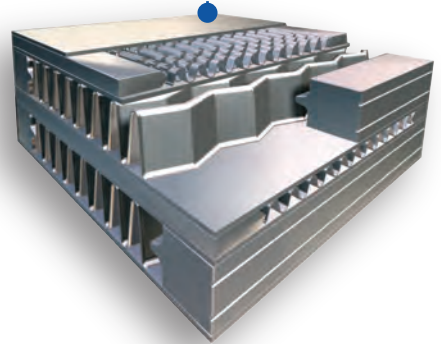
EMMEGI oil coolers are stocked with BSP Parallel thread oil connections. This allows us to draw inventory from our other Worldwide locations as needed. Product shipped from our US facility include SAE J514 37° flare adaptors. Both straight and 90° fittings are standard. A wide selection of optional types and sizes are available.

## Bar & Plate Technology

Aluminum Bar & Plate construction is the most advanced heavy duty technology available today. This design has several significant features:

- > **Compact Performance:** Up to 50% smaller than traditional fin & tube construction.
- > **Rugged Construction:** 1/4" Thick bars protect the fluid channels from damage.
- > **Serviceable:** Bars extend to fin edges allowing high pressure washing.
- > **Non-Louvered Air Fins :** Low fouling (9 Fins / inch).

Ultra-low fouling air fins optional (5 Fins / inch).



## 2000K & KBV Series

### 2000K Series

No Bypass Valve



### 2000KBV Series

With 22 or 44 PSI Bypass Valve



Small to Medium  
Sizes

## HPH & HPV Series I & II

### HPV Series I

Vertical Mounting



Medium Size  
22 or 44 PSI Bypass Valve  
Standard

### HPH Series I

Horizontal Mounting



Medium Size  
22 or 44 PSI Bypass Valve  
Standard

### HPV Series II



Large Sizes  
Available from stock

## Motor Options

### IEC MOTORS

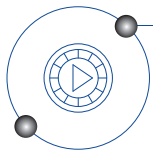
- Typically used on smaller sizes
- CE marked for export as well
- TEFC standard

### NEMA MOTORS

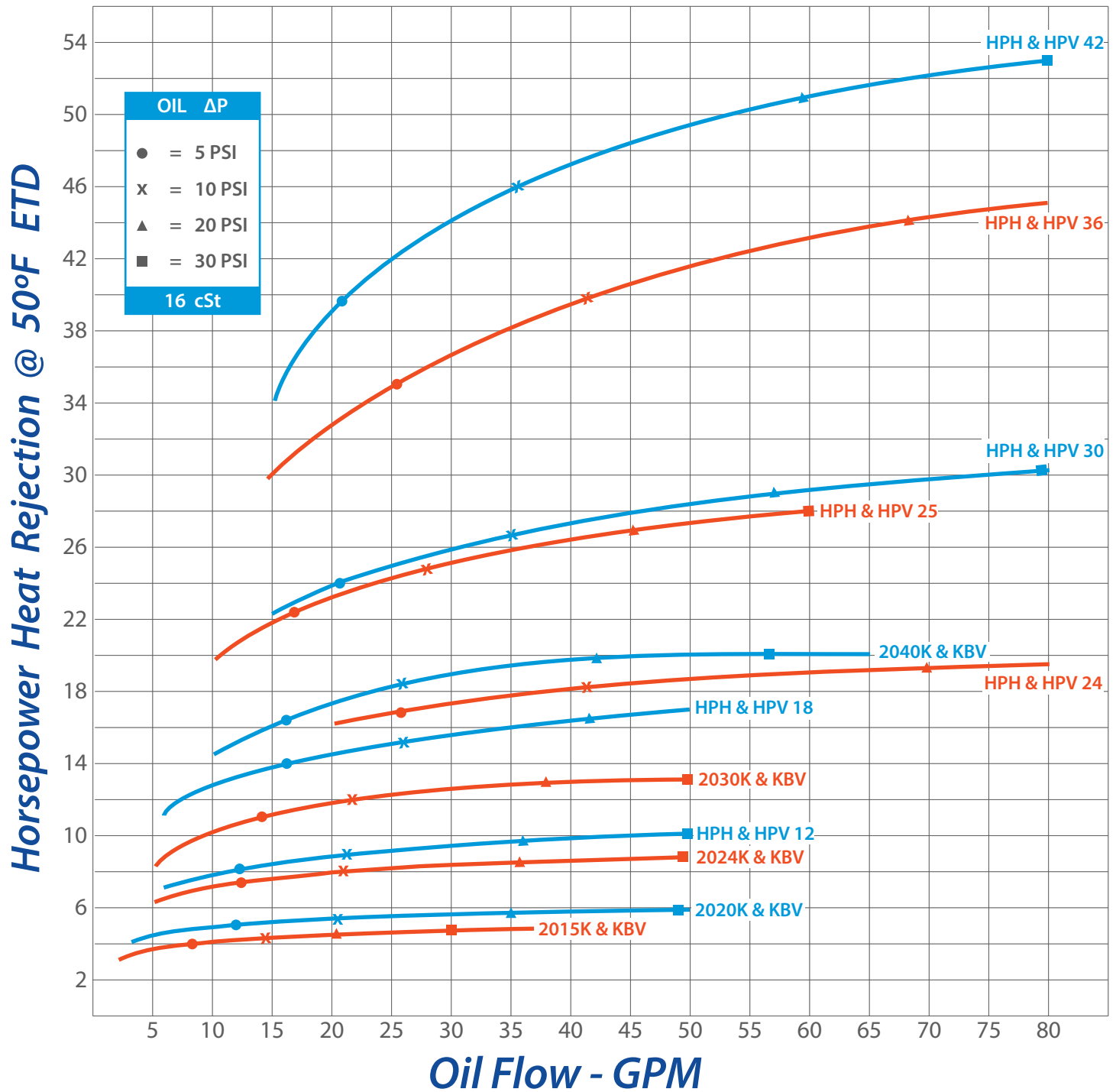
- Typically used on medium / large sizes
- TEFC standard

### OTHER MOTORS

- All models
- 575V, ATEX, and explosion proof are some examples

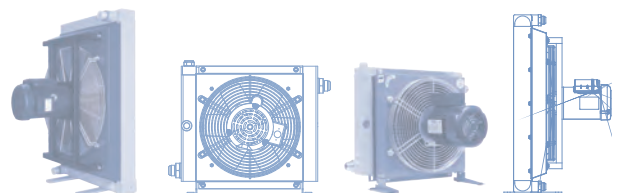


# Performance Data - AC 2000K, HPH & HPV Series I

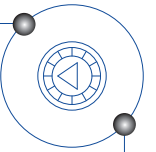


NOTES - Performance is reduced by 1/6 for 50Hz service.

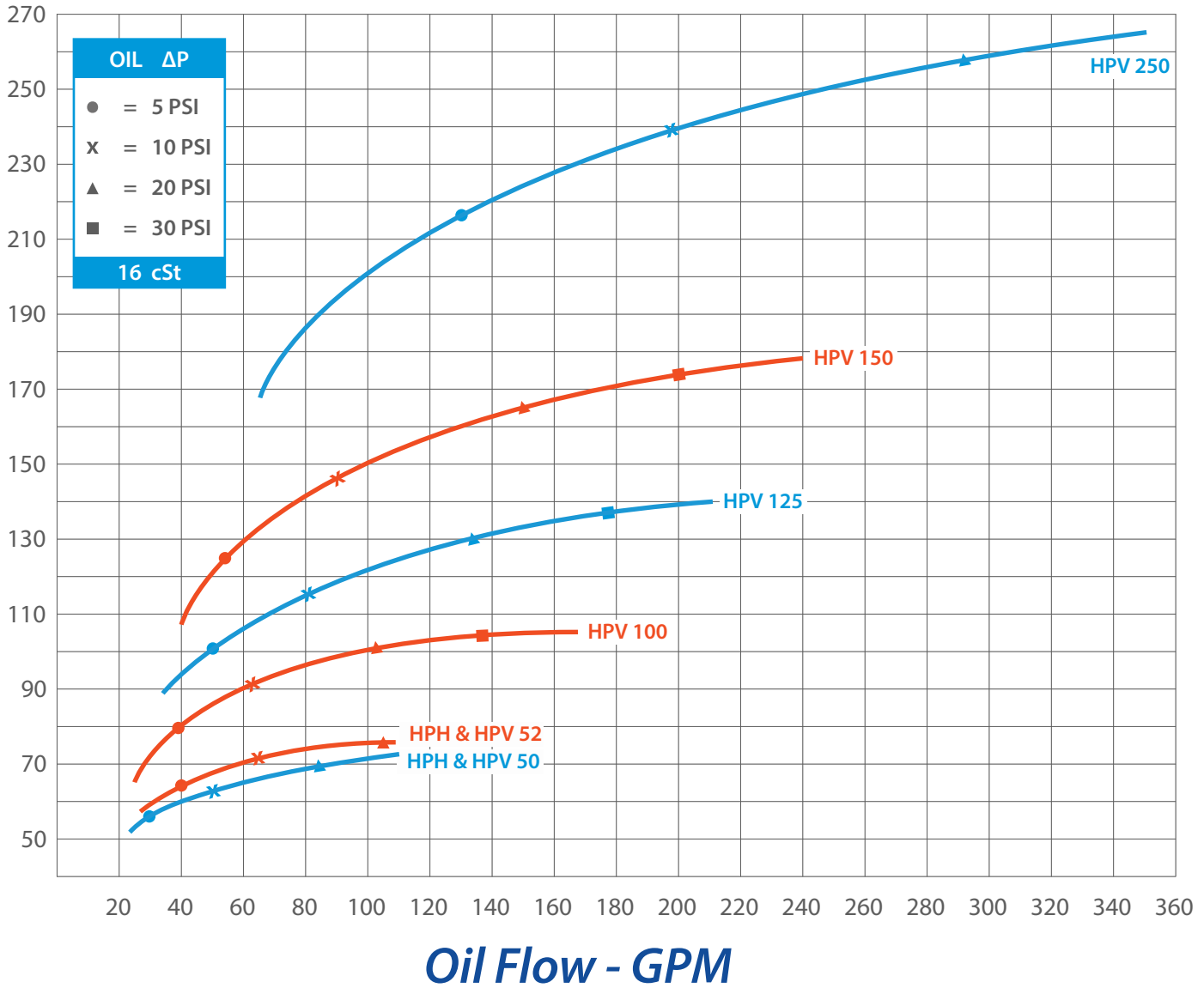
Pressure drop based on ISO VG 46 oil at typical operating temperature.



# Performance Data - AC HPH & HPV Series I, HPV Series II



Horsepower Heat Rejection @ 50°F ETD



HEAT-EXCHANGERS

## Correcting Heat Removal for Cooler Selection from Curve

$$\text{Horsepower Heat Load} \times \frac{50^\circ\text{F}}{\text{Desired ETD } ^\circ\text{F}} = \text{Corrected Horsepower Heat Removal for Curve Selection}$$

## Correcting Curve to Actual Heat Removal

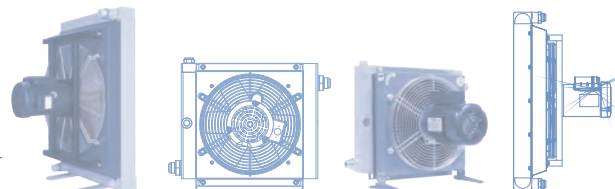
$$\text{Horsepower (FROM CURVE)} \times \frac{\text{Desired ETD } ^\circ\text{F}}{50^\circ\text{F}} = \text{Corrected Horsepower Heat Removal}$$

## Entering Temperature Difference

$$\text{ETD } ^\circ\text{F} = \text{Oil Inlet Temperature } ^\circ\text{F} - \text{Air Entering Temperature } ^\circ\text{F}$$



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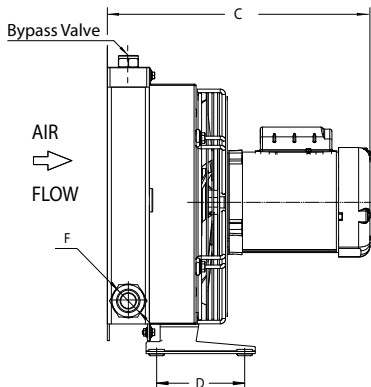
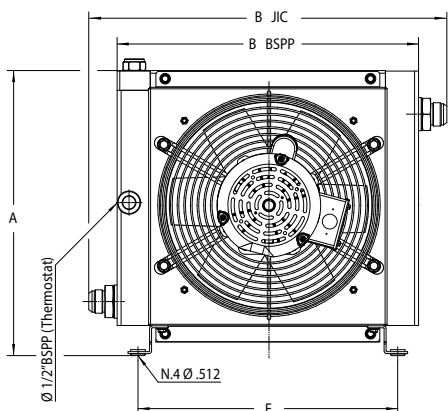




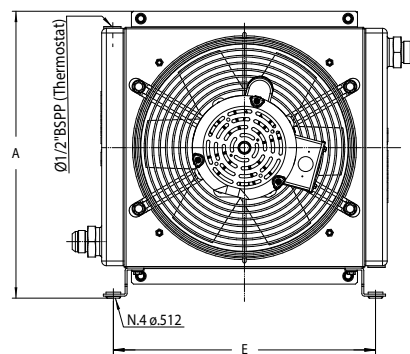
# 2000K & KBV Series Heat Exchangers



**2000 KBV**  
(WITH BYPASS)



**2000 K**  
(WITHOUT BYPASS)



HEAT-EXCHANGERS

MODEL	Unit of Measure	Overall Dimensions					Mounting		Oil Connections		Tech Data				
		A	B*		C Approx.		D	E	F		dB(A)	Net Weight. Lbs.			
			BSPP	JIC	Single Phase 1NS	Three Phase 3IS			BSPP	JIC		1 Phase K	3 Phase K	1 Phase KBV	3 Phase KBV
2015 K/KBV	(inch) (mm)	11.98 304	12.60 320	15.36 390	13.61 346	13.74 349	4.92 125	10.90 277	1" Internal	# 16 External	78	35	25	37	27
2020 K/KBV	(inch) (mm)	11.98 304	12.60 320	15.36 390	14.32 364	14.45 367	4.92 125	10.90 277			78	36	26	38	28
2024 K/KBV	(inch) (mm)	14.40 366	14.96 380	18.51 470	14.32 364	14.45 367	4.92 125	12.87 327			78	42	32	45	35
2030 K/KBV	(inch) (mm)	16.91 430	17.51 445	21.08 535	15.08 383	15.34 390	4.92 125	15.43 392			85	46	45	49	48
2040 K/KBV	(inch) (mm)	21.00 526	21.25 540	24.41 620	16.38 416	15.88 403	4.92 125	19.17 487	1.25" Internal	# 20 External	79	59	61	63	65

## Ordering Code

**Model**      **Voltage / Airflow**      **Temp. Switch (optional)**      **Oil Connection / Thread Type**      **Relief Bypass**

**2015KBV**      **3IS**      **3**      **JE**      **22**

Model Size      Leave blank for no temp. switch      KBV Only

2015K - 2040K (No Bypass)      **3I** 3 Phase IEC Motor      **2** TM45-A1 (122°F - 100°F)      **3** TM46-A1 (140°F - 118°F)      **JE** JIC (External Thread)      **22** 22 psi

2015KBV - 2040KBV (With Bypass)      **1N** 1 Phase NEMA Motor      **BP** BSPP (Internal Thread)      **44** 44 psi

**S** Suction      **JE90** JIC 90° (External Thread)

**B** Blowing

Indicates Standard Selection

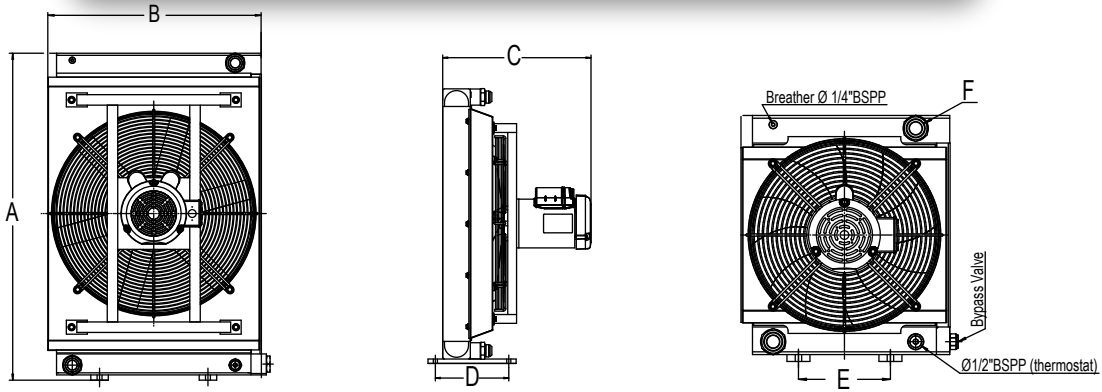
Emmegi stocks most adaptors to increase or reduce the fittings by one size. Additional cost may apply, consult factory. *Examples:*

JE90 = 90° Adaptors

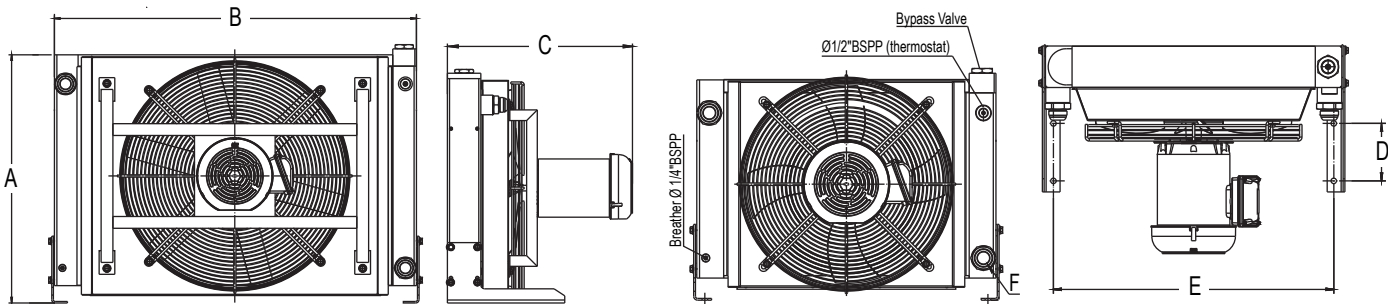
JE12 = JIC #12 Adaptors



# HPH & HPV 12 - 52 Series I Heat Exchangers



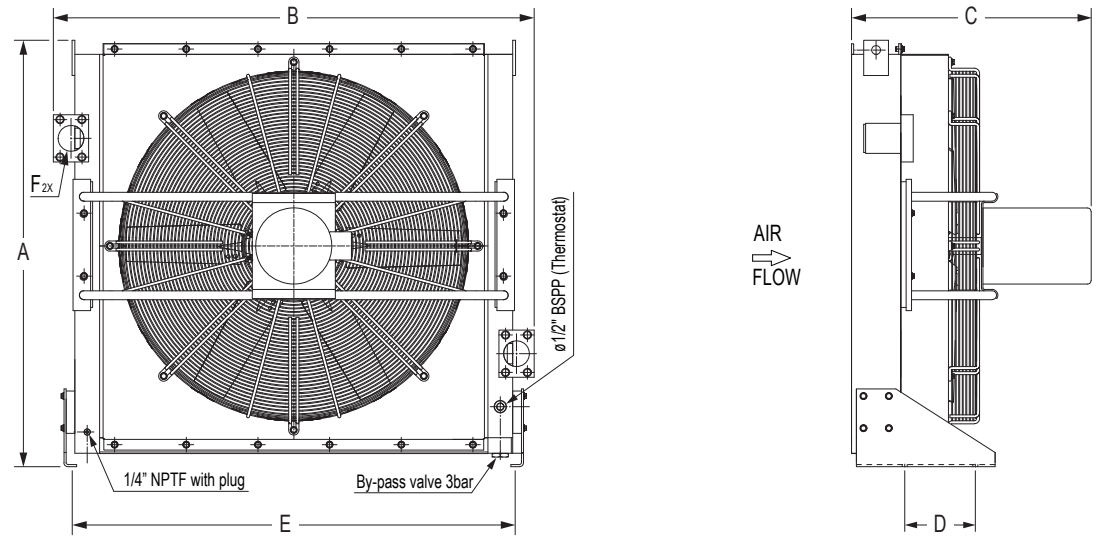
MODEL	UNIT OF MEASURE	Overall Dimensions			Mounting		Oil Connections		Tech. Data		
		A	B	C* Approx.	D	E	F		dB(A)	NET WEIGHT LBS	
							BSPP	JIC		1 Phase	3 Phase
HPV 12	(inch) (mm)	15.74 400	14.05 357	15.19 386	7.87 200	5.90 150	1" Internal	# 16 External	75	41	42
HPV 18	(inch) (mm)	20.07 510	17.91 455	16.00 406	7.87 200	7.87 200			78	59	57
HPV 24	(inch) (mm)	21.06 535	17.91 455	17.29 439	9.84 250	7.87 200	1.25" Internal	# 20 External	78	74	71
HPV 25	(inch) (mm)	25.59 650	23.82 605	15.95 405	7.87 200	15.74 400			79	84	80
HPV 30	(inch) (mm)	26.97 685	18.46 469	17.09 434	9.84 250	7.87 200			80	94	89
HPV 36	(inch) (mm)	30.90 785	24.17 614	18.20 462	9.84 250	12.20 310			85	134	129
HPV 42	(inch) (mm)	36.81 935	24.02 610	18.60 472	9.84 250	12.20 310			85	174	166
HPV 50	(inch) (mm)	37.59 955	28.64 727	21.59 548	9.84 250	15.74 400			1.50" Internal	# 24 External	85
HPV 52	(inch) (mm)	37.59 955	28.67 728	22.44 570	9.84 250	15.74 400	85	245			240



MODEL	UNIT OF MEASURE	Overall Dimensions			Mounting		Oil Connections		Tech. Data		
		A	B	C* Approx.	D	E	F		dB(A)	NET WEIGHT LBS	
							BSPP	JIC		1 Phase	3 Phase
HPH 12	(inch) (mm)	14.58 370	15.35 390	15.35 390	5.79 147	17.03 433	1" Internal	# 16 External	75	41	42
HPH 18	(inch) (mm)	18.30 465	19.68 500	17.20 437	5.79 147	21.36 543			78	59	57
HPH 24	(inch) (mm)	19.21 488	20.47 520	18.42 468	5.11 130	19.05 484	1.25" Internal	# 20 External	78	74	71
HPH 25	(inch) (mm)	24.09 612	25.59 650	18.61 473	5.79 147	27.27 693			79	84	80
HPH 30	(inch) (mm)	19.42 493	26.37 670	17.71 450	5.11 130	24.96 634			80	94	89
HPH 36	(inch) (mm)	24.40 620	30.31 770	21.56 545	5.11 130	34.84 884			85	134	129
HPH 42	(inch) (mm)	24.84 631	36.22 920	20.45 520	5.11 130	34.84 884			85	174	166
HPH 50	(inch) (mm)	29.86 758	37.00 940	23.62 600	5.90 150	35.59 904			1.50" Internal	# 24 External	85
HPH 52	(inch) (mm)	29.01 737	37.00 940	24.58 624	5.90 150	35.59 904	85	245			240

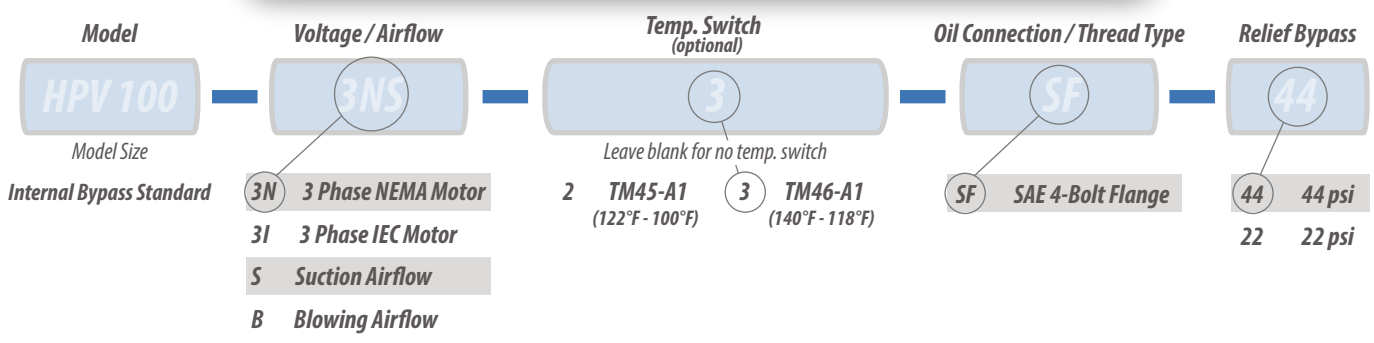
\* C dimension varies with motor type and displacement.

## HPV 100 - 250 Series II Heat Exchangers



MODEL	Unit of Measure	Overall Dimensions				Mounting		Oil Connections	Tech Data	
		A	B	C Approx.		D	E	F	dB(A)	Net Weight Lbs. 3 Phase AC Fan Motor
				Three Phase 3NS	Three Phase 3IS					
HPV 100	(inch)	39.13	43.70	24.00	26.45	7.87	41.65	2" SAE Flange	94	370
	(mm)	994	1110	864	672	200	1058			
HPV 125	(inch)	40.20	44.88	29.50	30.00	7.87	43.62	3" SAE Flange	98	450
	(mm)	1021	1140	749	762	200	1108			
HPV 150	(inch)	47.56	53.62	29.12	29.66	7.87	49.53	3" SAE Flange	99	555
	(mm)	1208	1362	740	753	200	1258			
HPV 250	(inch)	66.61	52.36	32.96	-	10.00	49.37	3" SAE Flange	101	800
	(mm)	1692	1330	837	-	254	1254			

### Ordering Code



Indicates Standard Selection

## TECHNICAL DATA FOR ALL 2000 K/KBV & HPV MODELS

### Compatible fluids

- Mineral Oils : HL & HLP.
- Water - Oil Emulsion.
- Water - Glycol.
- Consult Factory for other fluids.

### Ratings

- Operating Pressure : 280 PSI
- Test Pressure: 500 PSI
- Maximum Operating Temperature: 248°F





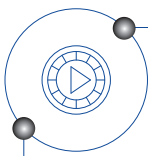
# ACM SERIES MOTOR DATA



HEAT-EXCHANGERS

EMMEGI Model	Catalog Motor Code	HP KW @ 50Hz	RPM	Motor Frame	Operating Voltage - Frequency	Phase	Thermal Protection	Full Load Amps
2015K & KBV 2020K & KBV	1NS	0.33	3450	NEMA 56SC	115-208-230V 60Hz	1	No	5.2 / 2.87-2.60
	1IS	0.33	3400	IEC 63	115-208/230V 60Hz		No	3.1 / 1.40-1.55
	3IS	0.25	3430	IEC D63C	230/460V 60Hz	3	No	0.84 / 0.42
		0.187	2760		200/400V 50Hz			1.0 / 0.5
2024K & KBV HPH & HPV 12	1NS	0.33	3450	NEMA 56SC	115-208/230V 60Hz	1	No	5.2 / 2.87-2.60
	1IS	0.33	3400	IEC 63	115-208-230V 60Hz		No	3.1 / 1.40-1.55
	3IS	0.33	3430	IEC D63C	230/460V 60Hz	3	No	1.1 / 0.55
		0.25	2760		200/400V 50Hz			1.3 / 0.65
2030K & KBV	1NS	0.5	3450	NEMA S56C	115-208-230V 60Hz	1	No	7.0 / 3.87-3.5
	1IS	0.5	3440	IEC 71	115-208/230V 60Hz		No	5.26 / 2.37-2.63
	3IS	0.5	3425	IEC D71C	230/460V 60Hz	3	No	1.8 / 0.9
		0.37	2790		200/400V 50Hz			1.8 / 0.95
2040K & KBV HPH & HPV 18 HPH & HPV 24	1NS	0.5	1725	NEMA S56C	115-208-230V 60Hz	1	No	7.0 / 3.87-3.5
	1IS	0.5	3440	IEC 71	115-208/230V 60Hz		No	5.26 / 2.37-2.63
	3NS	0.5	1725	NEMA S56C	208-230/460V 60Hz	3	No	1.86-1.69 / 0.84
	3IS	0.5	1695	IEC D71C	230/460V 60Hz	3	No	1.8 / 0.9
0.370		1380	200/400V 50Hz		1.8 / 0.95			
HPH & HPV 25	1NS	0.75	1725	NEMA 56C	115-208-230V 60Hz	1	Auto	10.65 / 5.86-5.3
	3NS	0.75	1725	NEMA 56C	208-230/460V 60Hz	3	No	2.7-2.4 / 1.22
HPH & HPV 30	3IS	0.75	1690	IEC D71C	230/460V 60Hz	3	No	2.5 / 1.25
		0.56	1390		200/400V 50Hz			2.9 / 1.45
HPH & HPV 36	1NS	1.5	1725	NEMA 56C	115-208-230V 60Hz	1	No	15.8 / 7.88
	3NS	1.5	1740	NEMA 56C	208-230/460V 60Hz	3	No	4.47-4.04 / 2.02
1.12		1450	190/380V 50Hz		4.8 / 2.4			
HPH & HPV 42	3IS	1.5	1725	IEC D90SC	230/460V 60Hz	3	No	4.2 / 2.1
		1.12	1450		200/400V 50Hz			5.0 / 2.5
HPH & HPV 50	1NS	2.0	1725	NEMA 56C	115-230V 60Hz	1	No	15.8 / 7.88
	3NS	2.0	1725	NEMA 56C	208-230/460V 60Hz	3	No	5.44 / 2.7
HPH & HPV 52	3IS	2.0	1710	IEC D90C	230/460V 60Hz	3	No	5.4 / 2.7
		1.49	1425		380V 50Hz			3.16
HPV 100	3NS	5.0	1750	NEMA 184C	230/460V 60Hz	3	No	14.4-13.0 / 6.49
		3.7	1470		190/380V 50Hz			15.8 / 7.88
	3IS	5.5	1750	IEC DF112MC	230/460V 60Hz	3	No	14.0 / 7.0
		4.1	1470		200/400V 50Hz			12.6 / 6.3
HPV 125	3NS	7.5	1760	NEMA 213TC	208-230/460V 60Hz	3	No	18.1 / 9.07
			1470		190/380V 50Hz			19.4 / 10.3
HPV 150	3IS	7.5	1760	IEC DF132SC	230/460V 60Hz	3	No	18.4 / 9.2
			1470		200/400V 50Hz			16.8 / 8.4
HPV 250	3NS	10	1765	NEMA 215TC	208-230/460V 60Hz	3	Auto	27.0-24.4 / 12.2
			1470		190/380V 50Hz			22.4 / 11.2

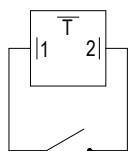
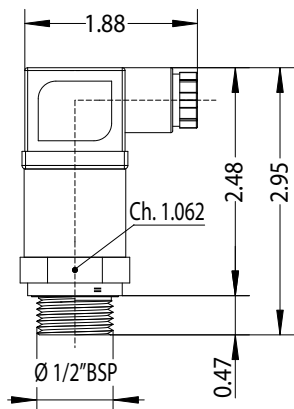
Electrical rating may vary with motor manufacturer. Motor nameplates have actual ratings.  
All standard models = Totally Enclosed Fan Cooled (TEFC)



## Optional Temperature Controls



### Bimetallic monocontact thermo-switch series TM4/A1



TM4/A1 Series temperature switches are normally open. They close on rise when the fluid temperature: exceeds the higher set point ( turning the fan on ). They re-open at the lower set point ( Turning the fan off ). The 22° F hysteresis prevents the fan from over-cycling. The top of the switch may be rotated in 90° increments for ease of wiring.



#### Technical Data

**Working temperature :** from -68°F to 248°F  
**Commutation frequency :** 20 cycles/min  
**Switching accuracy :** +/-7°F  
**Fixed hysteresis value :** about 22°F  
**Body material :** brass  
**Thread connection :** ½ BSSP ( seal included )  
**Max pressure :** 2900 PSI  
**Mounting :** in any position  
**Weight :** 2.5 oz.

Part Number	Temperature Range	Model Code Feature Adder
TM 44 / A1	104 - 82°F	- 1
TM 45 / A1	122 - 100°F	- 2
TM 46 / A1	140 - 118°F	- 3
TM 47 / A1	158 - 136°F	- 4
TM 48 / A1	176 - 154°F	- 5
TM 49 / A1	194 - 172°F	- 6

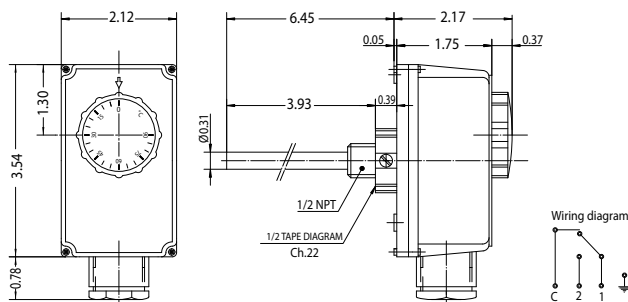
Normally closed switches are available: Consult factory.

#### Electrical Data

**Electrical connections :** DIN 43650  
**Electrical protection :** DIN 40050 IP65  
**Maximum contact load** 230V -10A & DC12V - 10A & DC24V - 5A  
 Normally closed switches are available: Consult factory

## Optional Temperature Controls

### Adjustable Thermostat TC2



Part Number	Temperature range	Model Code Feature Adder
TC2 L100	0 - 194°F	- 8

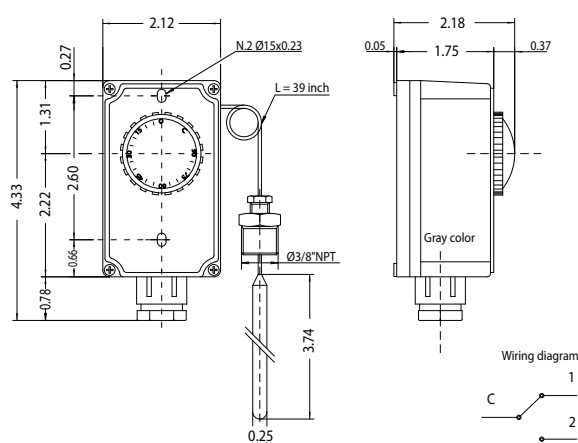
Unipolar, liquid filled, encased, switch contacts, immersion thermostat, bulbwell included.

#### Technical Data

**Differential:** ΔT 5.4°F;  
**Contacts:** Ag 1000/1000;  
**Maximum contact load 230V:** 10A  
 Switch of cutoff contacts loading;  
**Fairlead:** PG9;  
**Max. head temperature:** 176°F  
**Max. sensing bulb temperature:** 266°F  
**Temperature rate of change:** 1 K/min  
**Degree of protection:** IP 40  
**Number of automatic cycles:** II (100.000)



### Adjustable Thermostat TC2 L= 39 inch



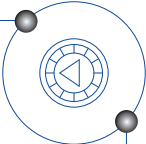
Part Number	Temperature range	Model Code Feature Adder
TC2 L39	0 - 194°F	- 9

#### Technical Data

**Temperature range:** 0 - 194°F  
**Differential:** ΔT 5.4°F;  
**Contacts rating:** 10(2.5)A/230V  
**Fairlead:** M20x1.5 mm;  
**Max. head temperature:** 176°F  
**Max. sensing bulb temperature:** 302°F  
**Temperature rate of change:** 1 K/min  
**Degree of protection:** IP 40  
 Silver contacts



# Product Lines



## AC Fan Driven



**2000K & KBV AC Motors**  
Heat Removals to 16 HP.  
Optional Internal Bypass Valve.  
Totally Enclosed Motors.  
Oil Flows to 50 GPM.



**HPV Series I AC Motors**  
Heat Removals to 70 HP.  
Internal Bypass Valve Standard.  
Totally Enclosed Motors.  
Oil Flows to 100 GPM.



**HPV Series II AC Motors**  
Heat Removals to 265 HP.  
Internal Bypass Valve Standard.  
Totally Enclosed Motors.  
Oil Flows to 350 GPM.

## DC Fan Driven



**2000K & KBV DC Motors**  
Heat Removals to 35 HP.  
Optional Internal Bypass Valve.  
Oil Flows to 125 GPM.



**HPV Series DC Motors**  
Heat Removals to 36 HP.  
Internal Bypass Valve Standard.  
Oil Flows to 80 GPM.



**S & SBV Series DC Motors**  
Heat Removals to 38 HP.  
Optional Internal Bypass Valve.  
Oil Flows to 100 GPM.

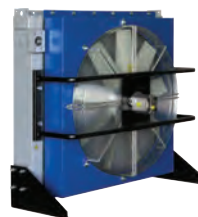
## Hydraulic Fan Driven



**2000K & KBV Hydraulic Motors**  
Heat Removals to 30 HP.  
Optional Internal Bypass Valve.  
Wide range of Hydraulic Motor Displacements available.  
Oil Flows to 50 GPM.



**HPV Series I Hydraulic Motors**  
Heat Removals to 130 HP.  
Internal Bypass Valve Standard.  
Oil Flows to 100 GPM.



**HPV Series II Hydraulic Motors**  
Heat Removals to 300 HP.  
Optional Internal Bypass Valve.  
Oil Flows to 350 GPM.

## Cooling Systems



**Silent Evo II**  
Off-line cooling systems with oil cooler & recirculation.  
Pump heat removals to 60 HP.



**RID Series**  
Gearbox cooling systems with oil cooler, recirculation pump & filter  
heat removals to 25 HP.



**HPA TK**  
Combination reservoir, oil cooler, & suction filter.  
Ideal for closed loop hydrostatic cooling.

## Water / Oil



**WB Series Water/Oil**  
Stainless steel Water/Oil Coolers.  
Compact water saving design.  
Heat Removals to 360 HP.  
Oil Flows to 200 GPM.



**MG Series Water/Oil**  
Sea Water duty shell & tube heat exchangers.  
Corrosion resistant copper-nickel cooling tubes & bronze end bonnets.



**Water Modulating Valves**  
Control water flow through Water/Oil heat exchangers to maintain desired oil temperatures.  
No external input required.

## Accessories



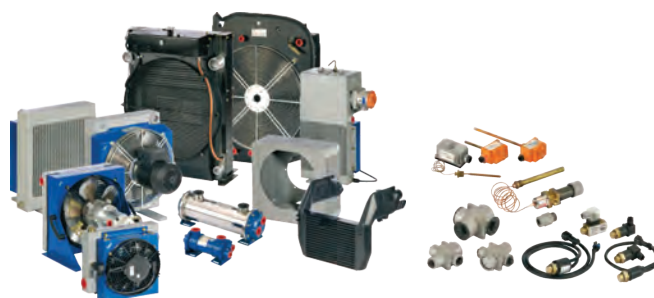
**AC Temperature Switches**  
Cycle cooling fan to maintain desired temperatures.  
Fixed & adjustable designs available.



**DC Temperature Switches**  
12v & 24v Models.  
TMR Switches are prewired & include relay for plug & play operation.



**Thermostatic Valves**  
Modulating valves bypass oil during cold startup.  
#8 through #24 sizes available.





## Sales Network



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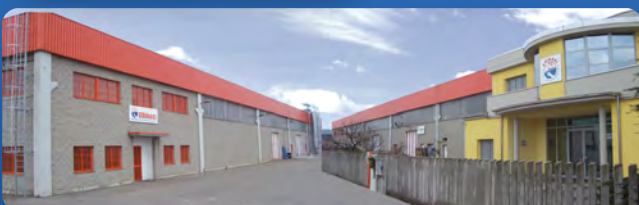


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