HYDRAULIC MOTOR FAN DRIVEN PRODUCTS

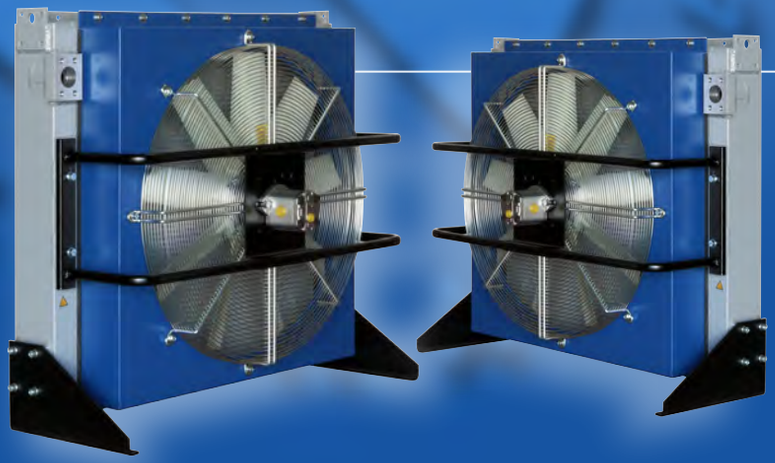
HEAT EXCHANGERS

HEAT-EXCHANGERS

2000K & KBV SERIES

HPV SERIES I

HPH SERIES I

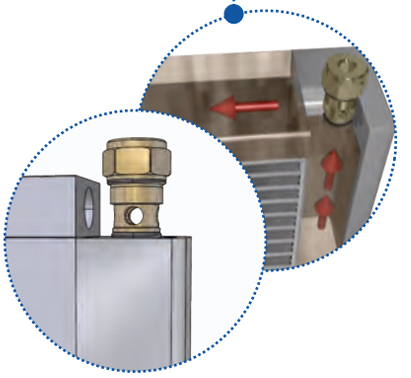


HPV Series II

EMMEGI HEAT-EXCHANGERS

EMMEGI Heat Exchanger Features

HEAT-EXCHANGERS



Built-in Bypass Valve

Heavy Duty Construction

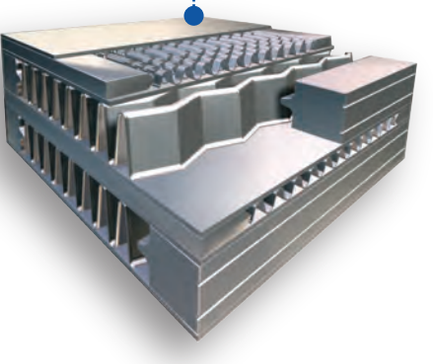
Oil Connections

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

Small to Medium Sizes
Single and Double Fan
Configurations Available

2000KBV Series
With 22 or 44 PSI Bypass Valve

HPH & HPV Series

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
Vertical Mounting

Large Size
Available from stock

Motor Options

GEROTOR MOTORS

- *Stock Displacements: 0.218, 0.372, 0.580 cu-in*

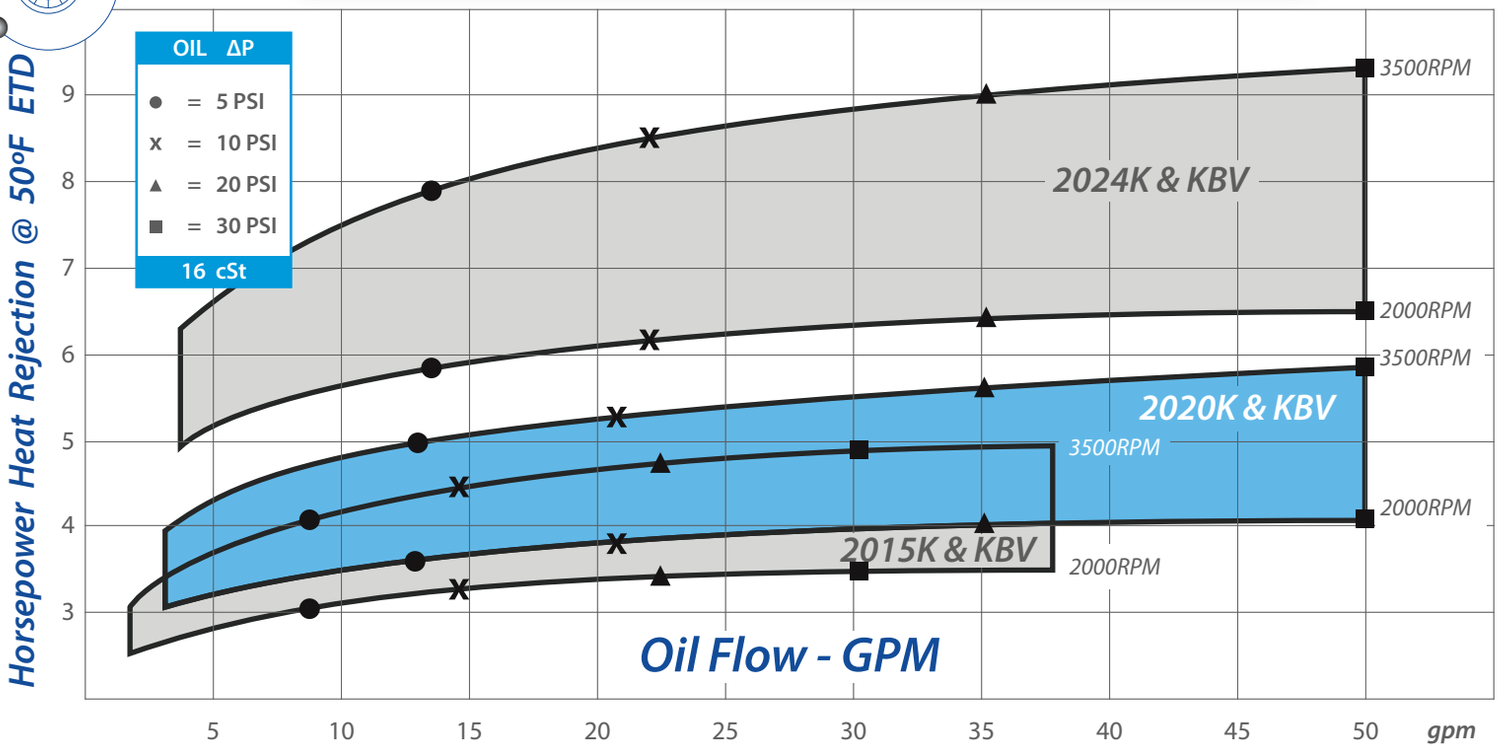
GEAR MOTORS

- *Stock Displacements: 0.513, 0.879, 1.171, 1.538 cu-in*

VARIABLE SPEED & REVERSING MOTORS

- *Special Order*
- *Motors with integrated valves for variable speed and/or reversing airflow for cooler clean-out.*

Hydraulic Performance Data —— 2015-2024K & KBV



Hydraulic Motor Data

MODEL	RPM	Fan (HP)	Displacement (cu-in)	Oil Flow (GPM)	Minimum (psi)	Maximum (psi)	External (Case Drain)
2015K & KBV	2000	0.04	0.218	2.1	500	2000	no
			0.513	4.9		3625	yes
	3500	0.22	0.218	3.7		2000	no
			0.513	8.6		3625	yes
2020K & KBV	2000	0.04	0.218	2.1		2000	no
			0.513	4.9		3625	yes
	3500	0.22	0.218	3.7		2000	no
			0.513	8.6		3625	yes
2024K & KBV	2000	0.06	0.218	2.1		2000	no
			0.513	4.9		3625	yes
	3500	0.32	0.218	3.7		2000	no
			0.513	8.6		3625	yes

Typical hydraulic motor displacements listed. Other displacements available

Conversion Formulas

Correcting Heat Removal for Cooler Selection from Curve

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

Correcting Curve to Actual Heat Removal

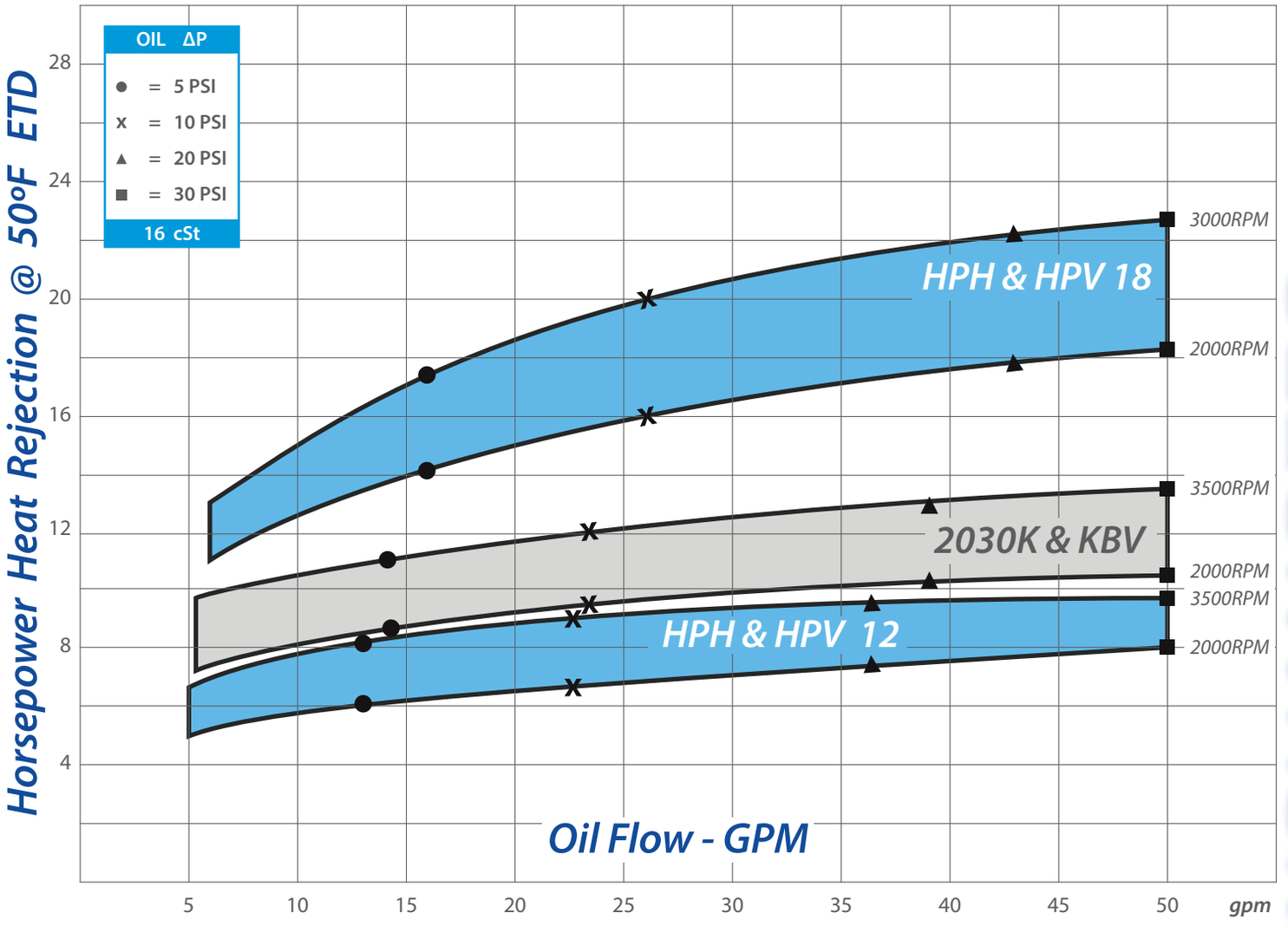
$$\text{Horsepower (FROM CURVE)} \times \frac{\text{Desired ETD °F}}{50°F} = \text{Corrected Horsepower Heat Removal}$$

Entering Temperature Difference

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

These correction formulas apply to all of the performance curves.

Hydraulic Performance Data- 2030K & KBV, HPH & HPV 12 & 18



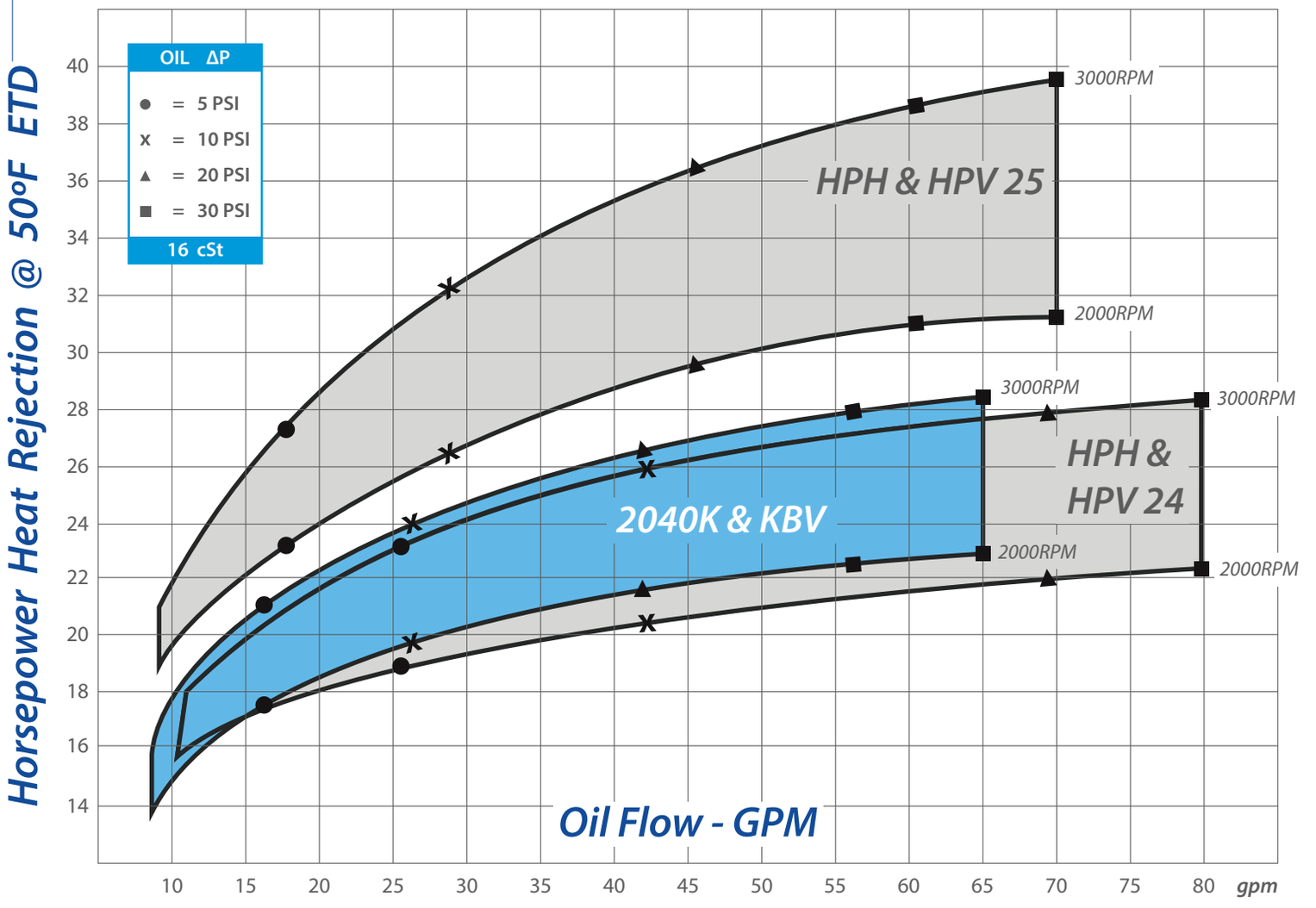
HEAT-EXCHANGERS

Hydraulic Motor Data

MODEL	RPM	Fan (HP)	Displacement (cu-in)	Oil Flow (GPM)	Minimum (psi)	Maximum (psi)	External (Case Drain)
2030K & KBV	2000	0.09	0.218	2.1	500	2000	no
			0.513	4.9		3625	yes
	3500	0.50	0.218	3.7		2000	no
			0.513	8.6		3625	yes
HPH & HPV 12	2000	0.06	0.218	2.1		2000	no
			0.513	4.9		3625	yes
	3500	0.30	0.218	3.7		2000	no
			0.513	8.6		3625	yes
HPH & HPV 18	2000	0.75	0.218	2.1	717	2000	no
			0.513	4.9	500	3625	yes
	3500	2.50	0.372	5.4	939	2000	no
			0.513	7.4	681	3625	yes

Typical hydraulic motor displacements listed. Other displacements available

Hydraulic Performance Data - 2040K & KBV, HPH & HPV 24 & 25

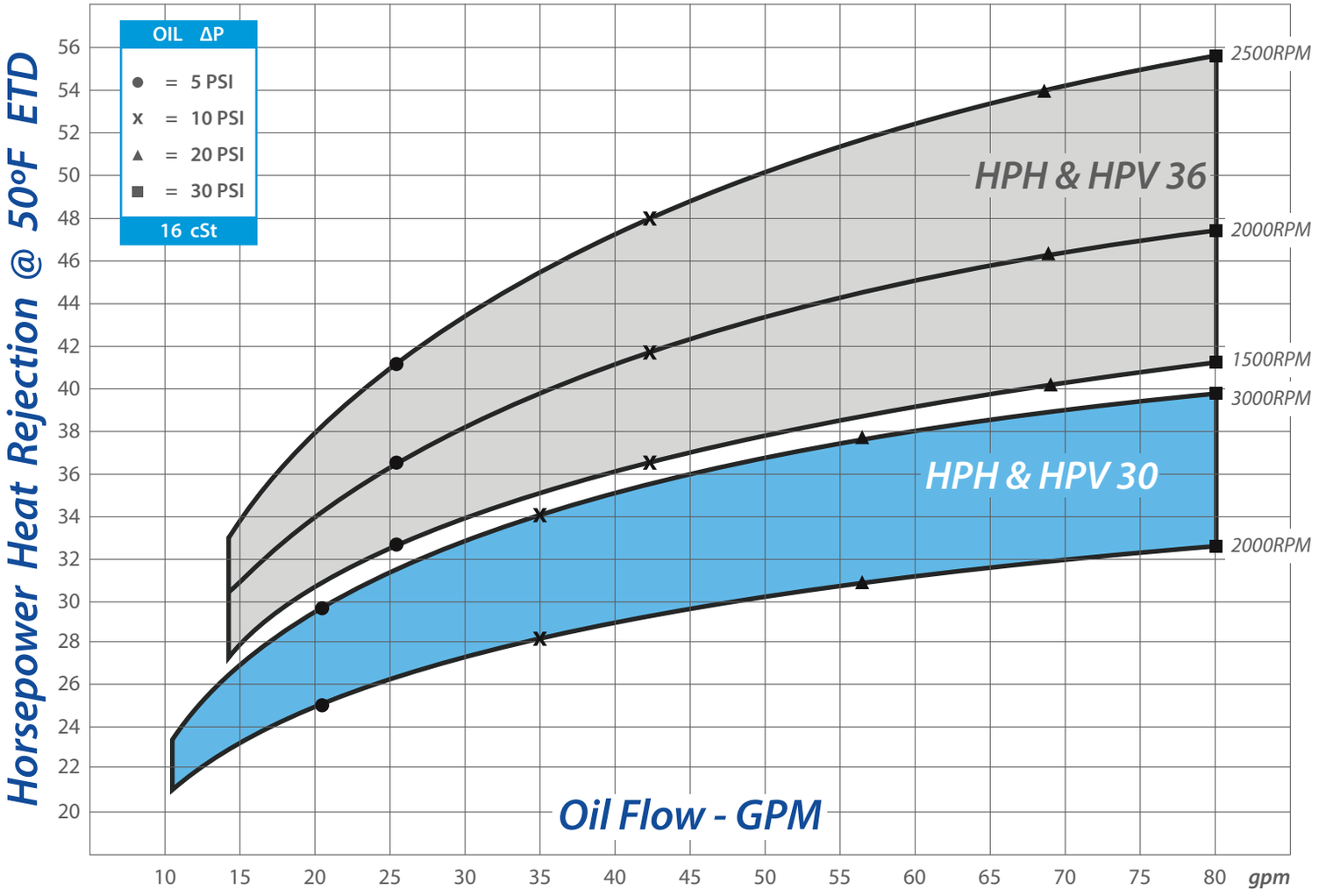


Hydraulic Motor Data

MODEL	RPM	Fan (HP)	Displacement (cu-in)	Oil Flow (GPM)	Minimum (psi)	Maximum (psi)	External Case Drain
2040K & KBV	2000	0.75	0.218	2.1	721	2000	no
			0.513	4.9	500	3625	yes
	3000	2.53	0.372	5.4	950	2000	no
			0.513	7.4	690	3625	yes
HPH & HPV 24	2000	0.76	0.218	2.1	731	2000	no
			0.513	4.9	500	3625	yes
	3000	2.6	0.372	5.4	977	2000	no
			0.513	7.4	708	3625	yes
HPH & HPV 25	2000	1.2	0.218	2.1	1154	2000	no
			0.513	4.9	500	3625	yes
	3000	3.9	0.372	5.4	1465	2000	no
			0.513	7.4	1062	3625	yes

Typical hydraulic motor displacements listed. Other displacements available

Hydraulic Performance Data - HPH & HPV 30 & 36

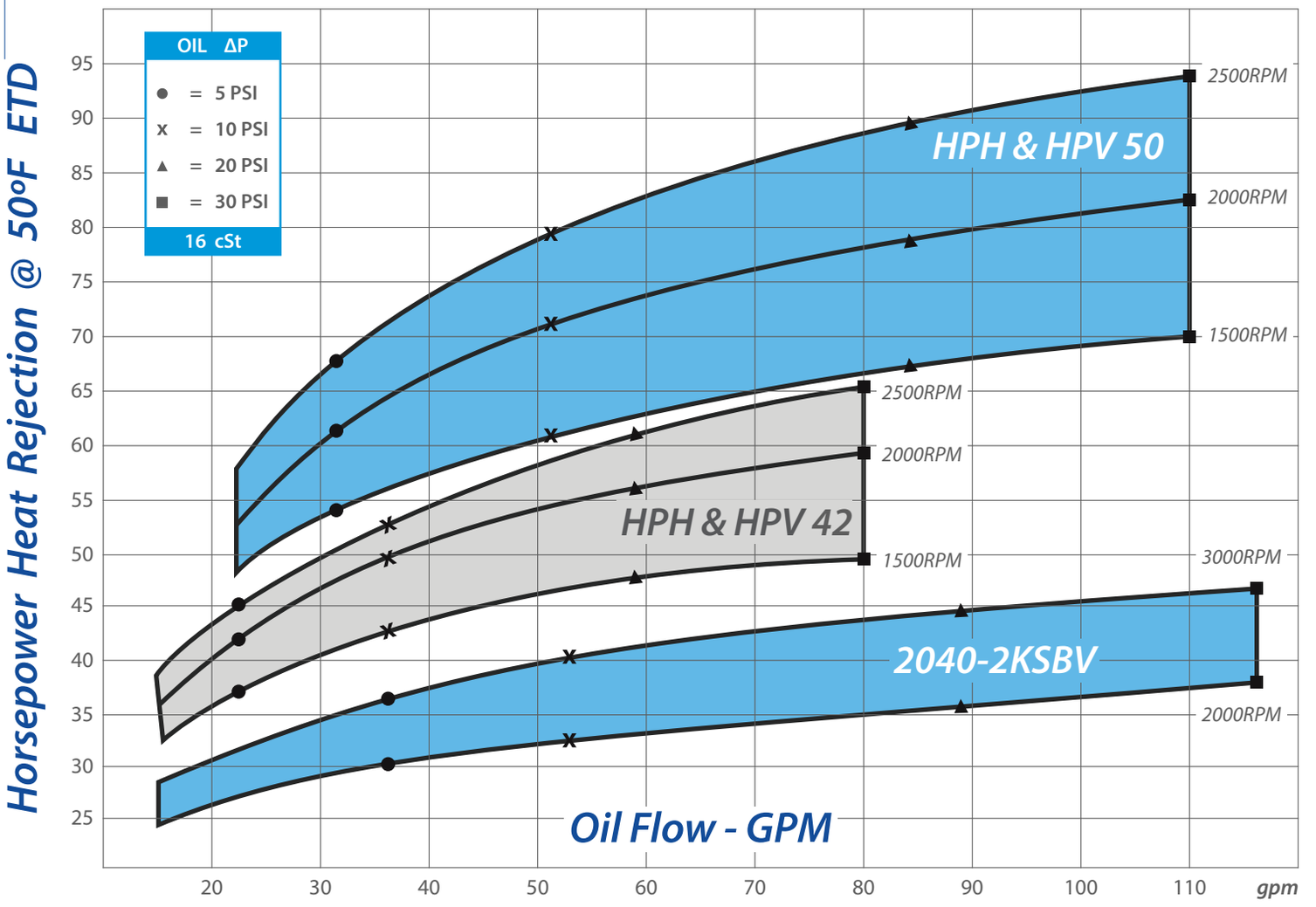


Hydraulic Motor Data

MODEL	RPM	Fan (HP)	Displacement (cu-in)	Oil Flow (GPM)	Minimum (psi)	Maximum (psi)	External (Case Drain)
HPH & HPV 30	2000	1.2	0.218	2.1	1154	2000	no
			0.513	4.9	500	3625	yes
	3000	3.9	0.372	5.4	1465	2000	no
			0.513	7.4	1062	3625	yes
HPH & HPV 36	1500	0.93	0.218	1.6	1192	2000	no
			0.513	3.7	507	3625	yes
	2000	2.2	0.372	3.6	1240	2000	no
			0.513	4.9	899	3625	yes
	2500	4.3	0.58	7	1243	2000	no
			0.513	6.2	1406	3625	yes

Typical hydraulic motor displacements listed. Other displacements available.

Hydraulic Performance Data - 2040-2KSBV, HPH & HPV 42 & 50

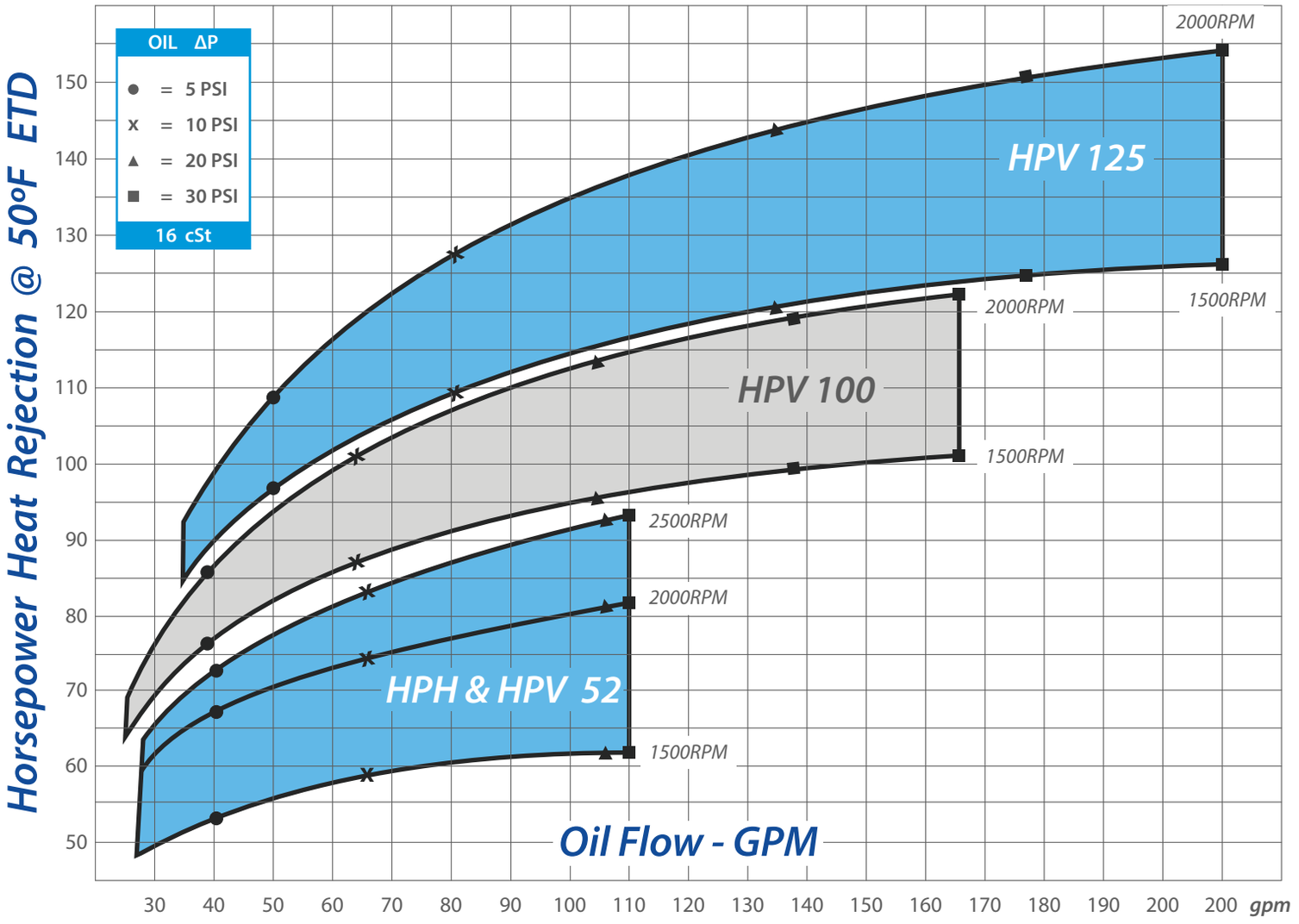


Hydraulic Motor Data

MODEL	RPM	Fan (HP)	Displacement (cu-in)	Oil Flow (GPM)	Minimum (psi)	Maximum (psi)	External Case Drain
2040-2KSBV	2000	0.42/fan plumbed in parallel	0.218	2.1	500	2000	no
		0.84 plumbed in series	0.218	2.1	808	2000	no
	3000	1.42/fan plumbed in parallel	0.372	5.4	533	2000	no
		2.84 plumbed in series	0.372	5.4	1066	2000	no
HPH & HPV 42	1500	0.94	0.372	2.7	706	2000	no
			0.513	3.7	512	3625	yes
	2000	2.30	0.372	3.6	1296	2000	no
			0.513	4.9	940	3625	yes
	2500	4.40	0.580	5.6	1590	2000	no
			0.513	4.9	1798	3625	yes
HPH & HPV 50	1500	1.30	0.372	2.7	977	2000	no
			0.513	3.7	708	3625	yes
	2000	3.00	0.580	5.6	1084	2000	no
			0.879	8.5	715	3625	yes
	2500	5.80	0.580	7.0	1677	2000	no
			0.879	10.6	1106	3625	yes

Typical hydraulic motor displacements listed. Other displacements available.

Hydraulic Performance Data - HPV 52 & 125

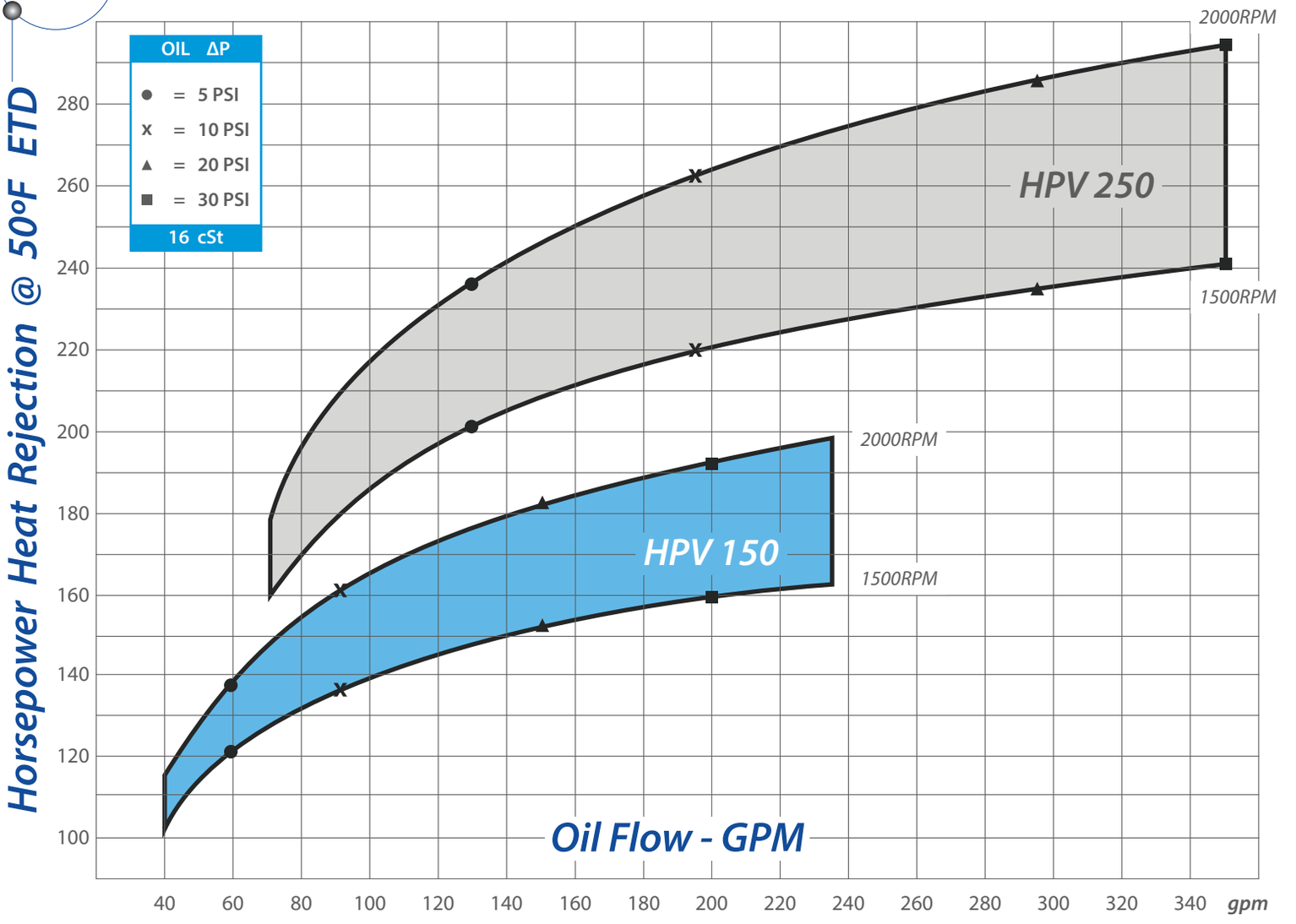


Hydraulic Motor Data

MODEL	RPM	Fan (HP)	Displacement (cu-in)	Oil Flow (GPM)	Minimum (psi)	Maximum (psi)	External Case Drain
HPH & HPV 52	1500	1.3	0.372	2.7	977	2000	no
			0.513	3.7	708	3625	yes
	2000	3.1	0.58	5.6	1120	2000	no
			0.513	4.9	1267	3625	yes
	2500	6	0.879	10.6	1145	3625	
			1.171	14.1	859	3045	
HPV 100	1500	3.2	0.58	4.2	1542	2000	no
			0.879	6.3	1017	3625	yes
	2000	7.4	1.171	11.3	1325	3045	
			1.538	14.8	1009	2320	
	2500	13.6	1.171	13.6	1948	3045	
			1.538	18.5	1483	2320	
HPV 125	1500	4.7	0.879	6.3	1494	3625	
			1.171	8.4	1122	3045	
	2000	11.1	1.171	11.3	1987	3045	
			1.538	14.8	1513	2320	

Typical hydraulic motor displacements listed. Other displacements available.

Hydraulic Performance Data —— HPV 150 & 250

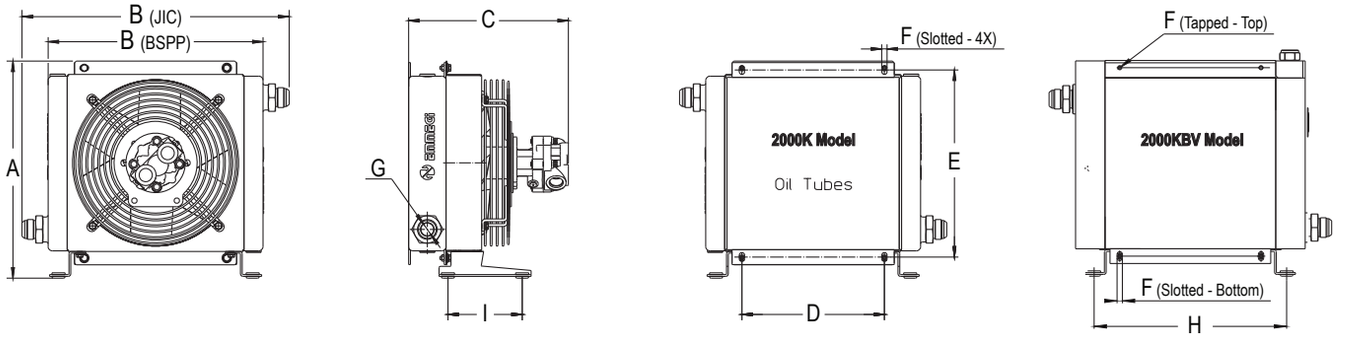


Hydraulic Motor Data

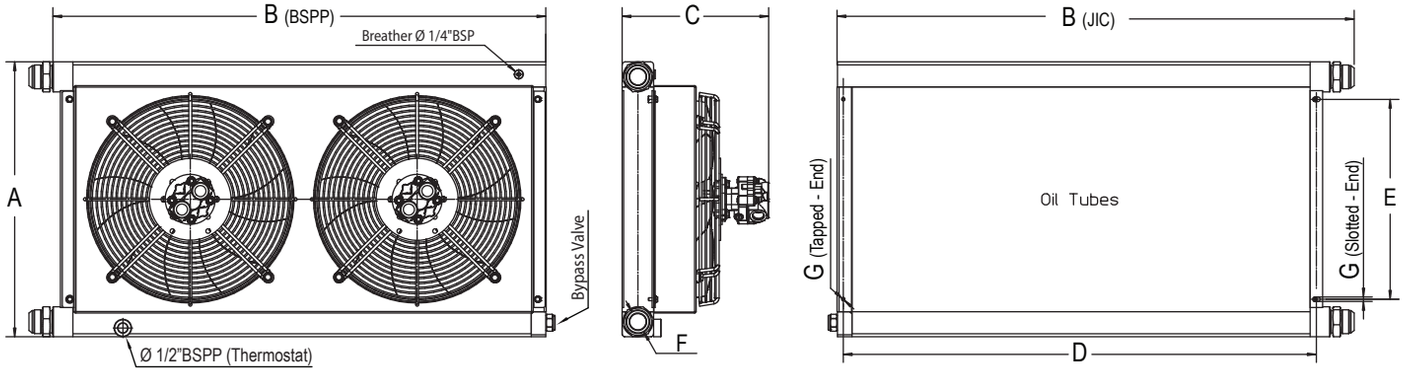
MODEL	RPM	Fan (HP)	Displacement (cu-in)	Oil Flow (GPM)	Minimum (psi)	Maximum (psi)	External Case Drain
HPV150	1500	3.8	0.879	6.3	1208	3625	Yes
			1.171	8.4	907	3045	
	2000	9	1.171	11.3	1611	3045	
			1.538	14.8	1227	2320	
HPV250	1500	5.7	0.879	6.3	1812	3625	
			1.171	8.4	1360	3045	
	2000	13.5	1.171	11.3	2417	3045	
			1.538	14.8	1840	2320	

Typical hydraulic motor displacements listed. Other displacements available.

2000K & KBV Series Heat Exchangers



MODEL	UNIT OF MEASURE	OVERALL DIMENSIONS				MOUNTING (NO FEET)					MOUNTING (WITH FEET)		OIL CONNECTIONS		NET WEIGHT LBS	
		A	B		C* Approx.	D	E		F		G	H	I		K	KBV
			BSPP	JIC			K	KBV	K	KBV			BSPP	JIC		
2015K & KBV	(inch)	12.12	13.38	16.54	9.88	7.09	10.04	10.20	0.35 x .59 (4) Slotted Holes	0.35 x .59 (2) Slotted Holes & M6 Helicoil (2) Tapped Holes	10.91	4.92	1" Internal	# 16 External	18	20
	(mm)	308	340	420	251	180	255	259			277	125				
2020K & KBV	(inch)	12.09	13.38	16.54	10.59	7.09	10.04	10.24			10.91	4.92			20	24
	(mm)	307	340	420	269	180	255	260			277	125				
2024K & KBV	(inch)	14.39	15.75	18.90	10.59	9.45	12.41	12.6			12.87	4.92			24	29
	(mm)	366	400	480	269	240	315	320			327	125				
2030K & KBV	(inch)	16.91	18.31	21.46	10.86	12.20	14.96	15.16			15.43	4.92			33	38
	(mm)	430	465	545	276	310	380	385			392	125				
2040K & KBV	(inch)	20.98	22.05	25.20	11.53	15.75	19.13	18.98			19.17	4.92	1.25" Internal	# 20 External	40	46
	(mm)	533	560	640	293	400	486	482			487	125				

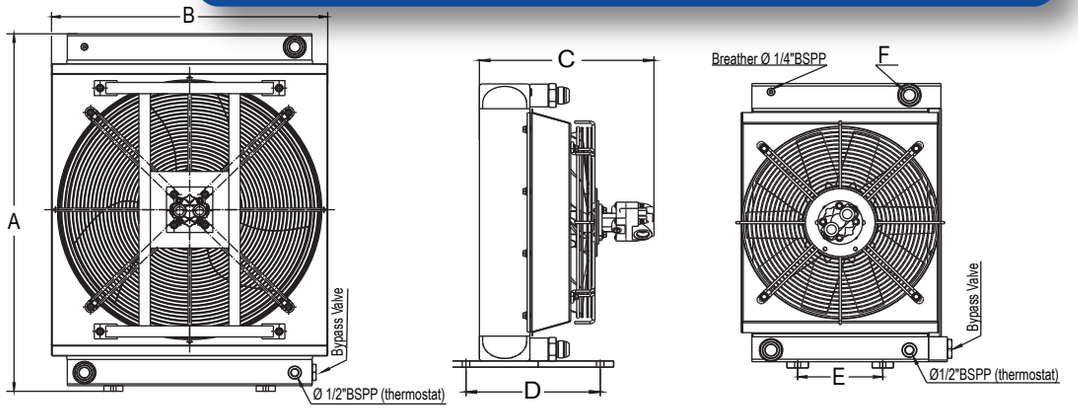


MODEL	UNIT OF MEASURE	OVERALL DIMENSIONS				MOUNTING			OIL CONNECTIONS		G		NET WEIGHT LBS	
		A	B		C* Approx.	D	E		F				K	KBV
			BSPP	JIC			K	KBV	BSPP	JIC	K	KBV		
2040-2KSBV	(inch)	21.65	38.25	40.63	11.53	36.93	15.75	15.75	1.5" Internal	# 24 External	0.35 x .59 (4) Slotted Holes	M6 Helicoil (2) Tapped Holes	78	90
	(mm)	550	972	1033	293	938	400	400						

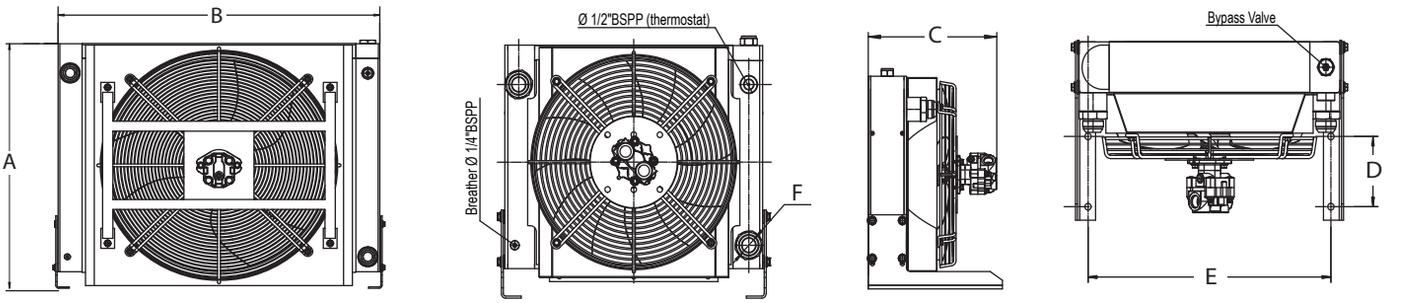
** C Dimension varies with motor type and displacement*

HEAT-EXCHANGERS

HPH & HPV 12 - 52 Series I Heat Exchangers



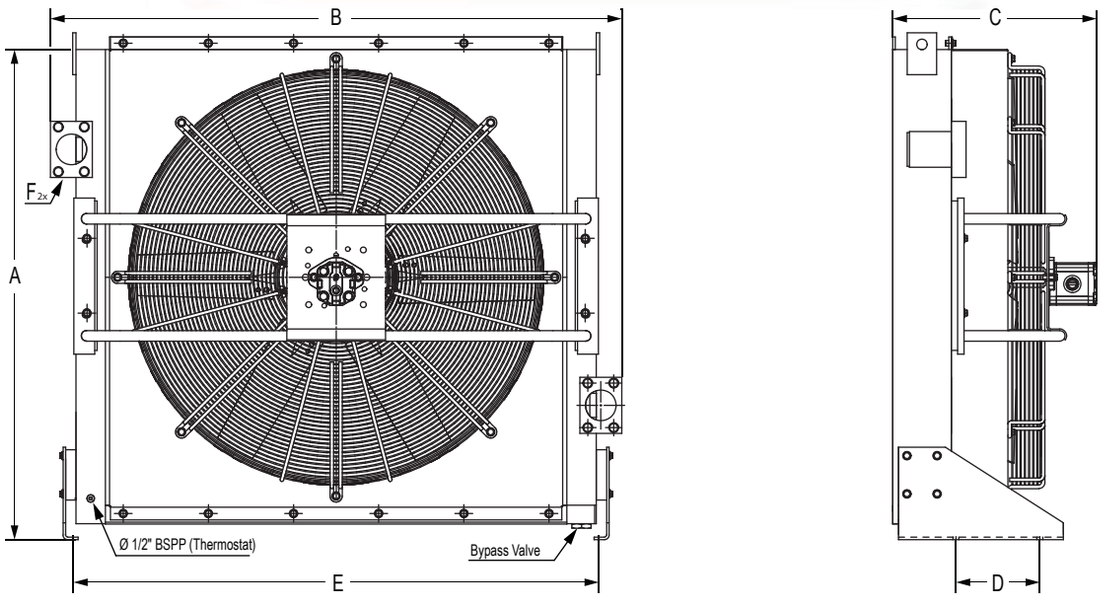
MODEL	UNIT OF MEASURE	OVERALL DIMENSIONS			MOUNTING		OIL CONNECTIONS F		NET WEIGHT LBS
		A	B	C* Approx.	D	E	BSPP	JIC	
HPV 12	(inch)	15.74	14.05	11.81	7.87	5.90	1" Internal	# 16 External	34
	(mm)	400	357	300	200	150			
HPV 18	(inch)	20.07	17.91	11.57	7.87	7.87			45
	(mm)	510	455	294	200	200			
HPV 24	(inch)	21.06	17.91	12.83	9.84	7.87	1.25" Internal	# 20 External	60
	(mm)	535	455	326	250	200			
HPV 25	(inch)	25.59	23.82	11.69	7.87	15.74			73
	(mm)	650	605	297	200	400			
HPV 30	(inch)	26.97	18.46	12.76	9.84	7.87			81
	(mm)	685	469	324	250	200			
HPV 36	(inch)	30.90	24.17	12.72	9.84	12.20			107
	(mm)	785	614	323	250	310			
HPV 42	(inch)	36.81	24.02	12.95	9.84	12.20			128
	(mm)	935	610	329	250	310			
HPV 50	(inch)	37.59	28.64	14.57	9.84	15.74	1.50" Internal	# 24 External	191
	(mm)	955	727	370	250	400			
HPV 52	(inch)	37.59	28.67	15.67	9.84	15.74			219
	(mm)	955	728	398	250	400			



MODEL	UNIT OF MEASURE	OVERALL DIMENSIONS			MOUNTING		OIL CONNECTIONS F		NET WEIGHT LBS
		A	B	C* Approx.	D	E	BSPP	JIC	
HPH 12	(inch)	14.58	15.35	11.35	5.79	17.03	1" Internal	# 16 External	34
	(mm)	370	390	288	147	433			
HPH 18	(inch)	20.02	17.91	11.35	5.79	7.87			45
	(mm)	509	455	288	149	200			
HPH 24	(inch)	21.06	17.95	16.67	5.11	7.87	1.25" Internal	# 20 External	60
	(mm)	535	456	423	130	200			
HPH 25	(inch)	24.09	25.59	11.57	5.79	27.27			73
	(mm)	612	650	294	147	693			
HPH 30	(inch)	19.46	26.37	12.59	5.11	24.95			81
	(mm)	494	670	320	130	634			
HPH 36	(inch)	24.40	30.31	13.43	5.11	28.89			107
	(mm)	620	770	341	130	734			
HPH 42	(inch)	24.84	36.22	12.38	5.12	34.80			128
	(mm)	631	990	315	130	884			
HPH 50	(inch)	29.86	37.00	14.88	5.90	35.59	1.50" Internal	# 24 External	191
	(mm)	758	940	378	150	904			
HPH 52	(inch)	29.01	37.00	16.31	5.90	35.59			219
	(mm)	737	940	415	150	904			

** 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	NET WEIGHT LBS.
HPV 100	(inch)	39.13	43.70	16.46	7.87	41.65	2" SAE Flange	285
	(mm)	994	1110	418	200	1058		
HPV 125	(inch)	40.20	44.88	18.90	7.87	43.62		333
	(mm)	1021	1140	480	200	1108		
HPV 150	(inch)	47.56	53.62	19.13	7.87	49.53	3" SAE Flange	438
	(mm)	1208	1362	486	200	1258		
HPV 250	(inch)	66.61	52.36	20.55	10.00	49.37		646
	(mm)	1692	1330	522	254	1254		

** C dimension varies with motor type and displacement.*

Hydraulic Motor Data- Stock Motors

MOTOR TYPE	DISPLACEMENT		PRESSURE		SPEED		Port Size	Inlet Port Suction Standard	CASE DRAIN
	IN^3	CM^3	MIN	MAX	MIN	MAX			
Gerotor	0.218	3.57	500	2000	1000	5000	SAE 8	B Port = Inlet	None - Back pressure not to exceed 1000 PSI
	0.372	6.10							
	0.580	9.51					SAE 10		
Gear	0.513	8.40		3625	700	4000	SAE 10	Facing Back of Motor, Right Port Inlet	#4 SAE ORB
	0.879	14.40							
	1.171	19.20		3045	500	3500	SAE 12		7/16-20 UNF - 2B
	1.538	25.20		2320					

Important Note About Fan Speeds:

The horsepower goes up at the cube of the RPM fan speed.
A nominal change in RPM has a significant effect on the horsepower required by the fan blade.

2000K & KBV, HPH & HPV Series I Ordering Code

Model	Cu. In. Displacement & Airflow		Oil Connection / Thread Type		Relief Bypass	
2015KBV	0.513	S	JE		22	
Model Size					KBV Only	
2015K - 2040K (No Bypass)	0.513	0.218	S	Suction	JE	JIC (External Thread)
2015KBV - 2040KBV (With Bypass)	0.879	0.372	B	Blowing	BP	BSPP (Internal Thread)
HPH12 - HPH 52 (Bypass Standard)	1.171	0.580			JE90	JIC 90° (External Thread)
HPV 12 - HPV 52 (Bypass Standard)	1.538				22	22 psi
					44	44 psi

HPV Series II Ordering Code

Model	Cu. In. Displacement & Airflow		Oil Connection / Thread Type		Relief Bypass	
HPV 125	0.513	S	SF		44	
Model Size						
HPV 100 - HPV 250 (Bypass Standard)	0.513	S	SF	SAE Flange	44	44 psi
	0.879	B	Blowing			
	1.171					
	1.538					

Indicates Standard Selection

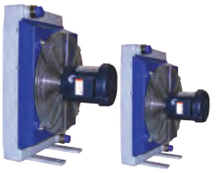
Custom Designs / Worldwide Support

EMMEGI has manufacturing facilities and sales support worldwide. In today's global marketplace, EMMEGI can provide seamless support to our Products. With reasonable quantity, product can be designed to specific customer specifications.

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 GMP.

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

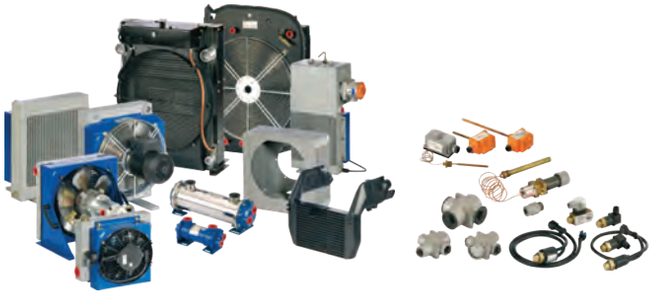
Water Modulating Valves
Control water flow through Water/Oil heat exchangers to maintain desired oil temperatures.
No external input required.

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 oul during cold startup.
#8 through #24 sizes available.



HEAT-EXCHANGERS