

HYDRAULIC MOTOR FAN DRIVEN PRODUCTS

HEAT EXCHANGERS

HEAT-EXCHANGERS



2000K & KBV SERIES

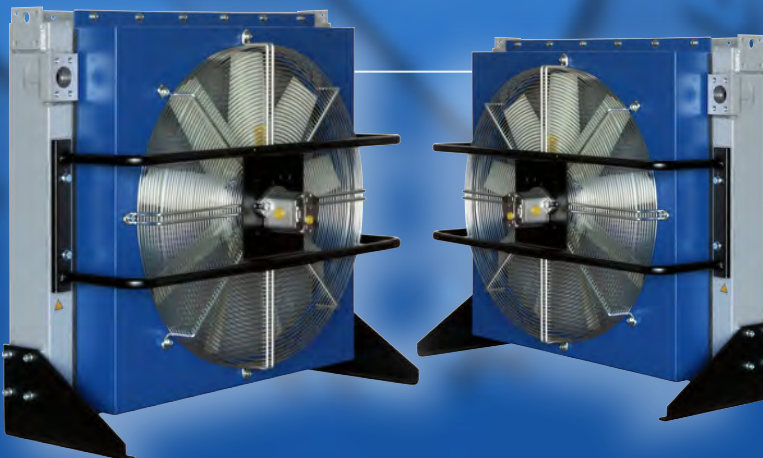
HPV SERIES I

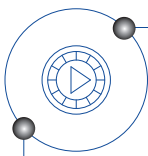


HPH SERIES I



HPV Series II

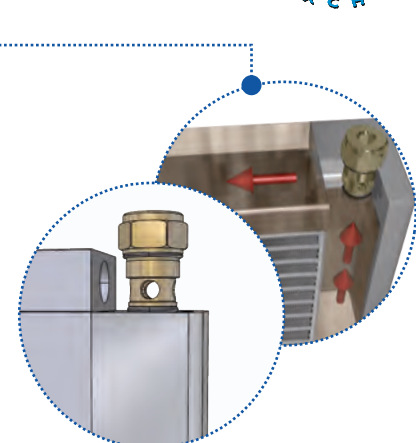
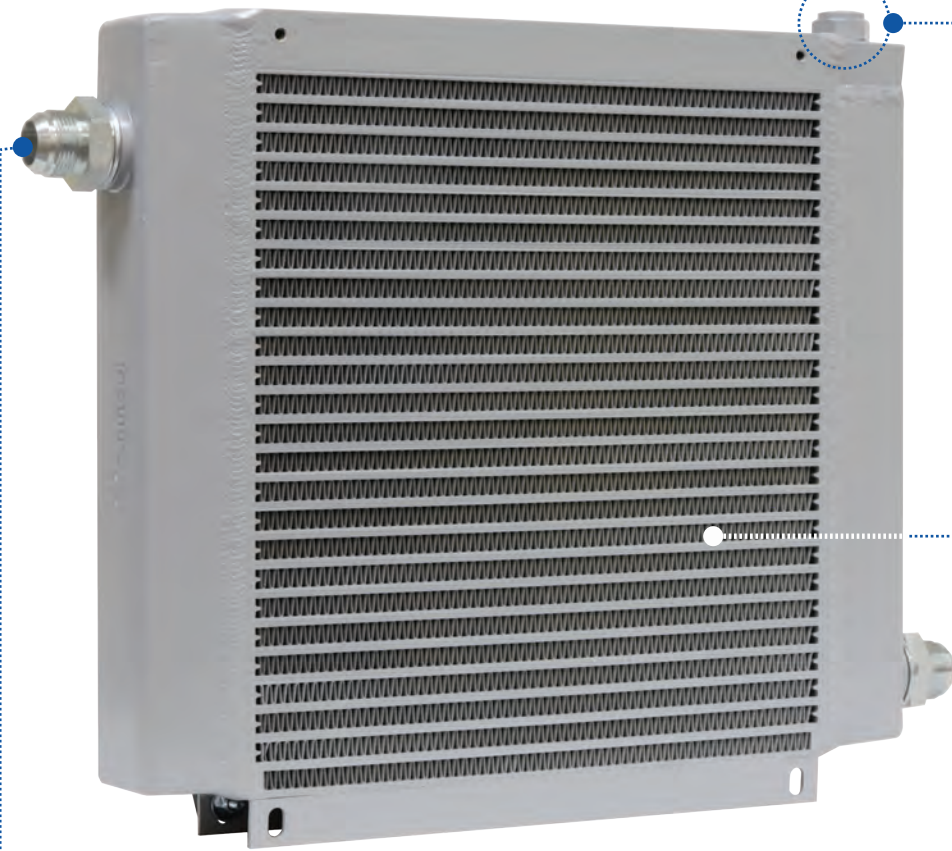




EMMEGI Heat Exchanger Features



HEAT-EXCHANGERS



Built-in Bypass Valve



Heavy Duty Construction



Oil Connections

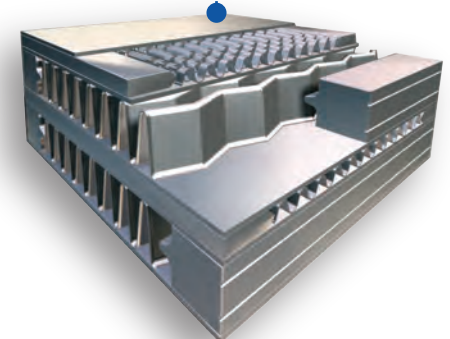
EMMEGI oil coolers are stocked with BSP Parallel thread oil connections. This allows us to draw inventory from our other Worldwide locations as needed. Product shipped from our US facility include SAE J514 37° flare adaptors. Both straight and 90° fittings are standard. A wide selection of optional types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



2000KBV Series

With 22 or 44 PSI Bypass Valve



Small to Medium Sizes
Single and Double Fan
Configurations Available

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

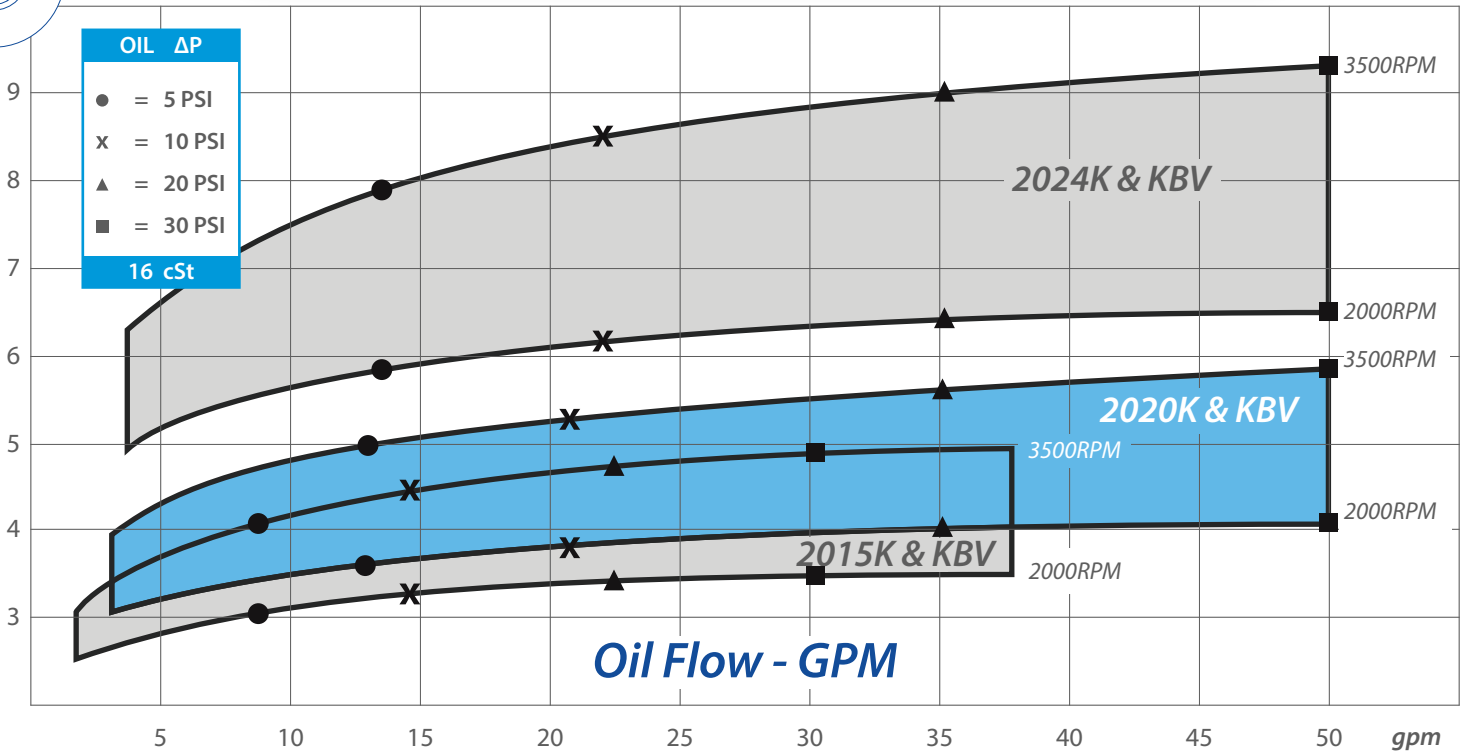


VARIABLE SPEED & REVERSING MOTORS

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

Hydraulic Performance Data — 2015-2024K & KBV

Horsepower Heat Rejection @ 50°F ETD



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

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

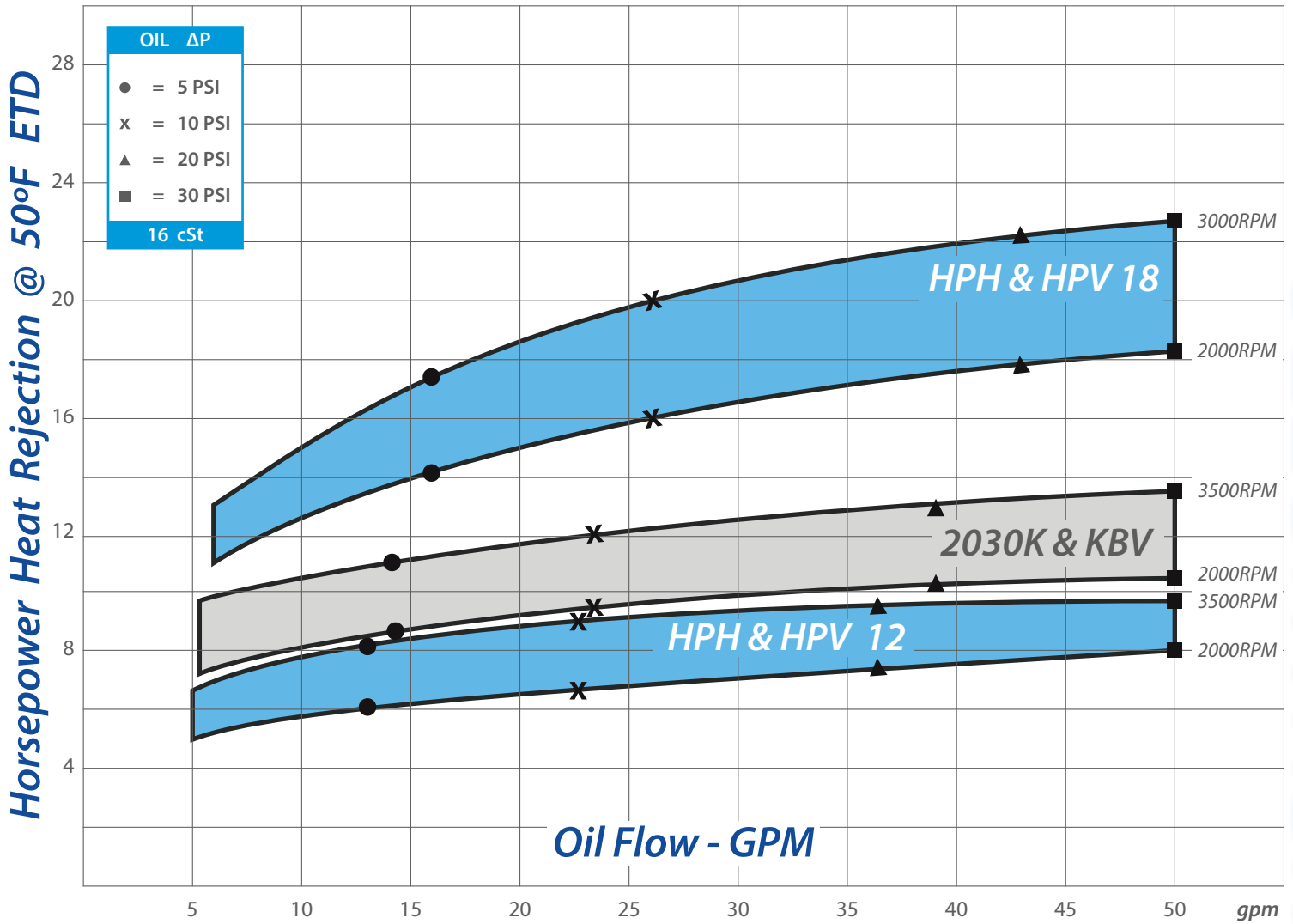
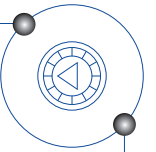
Correcting Curve to Actual Heat Removal

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

Entering Temperature Difference

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

These correction formulas apply to all of the performance curves.



Hydraulic Motor Data

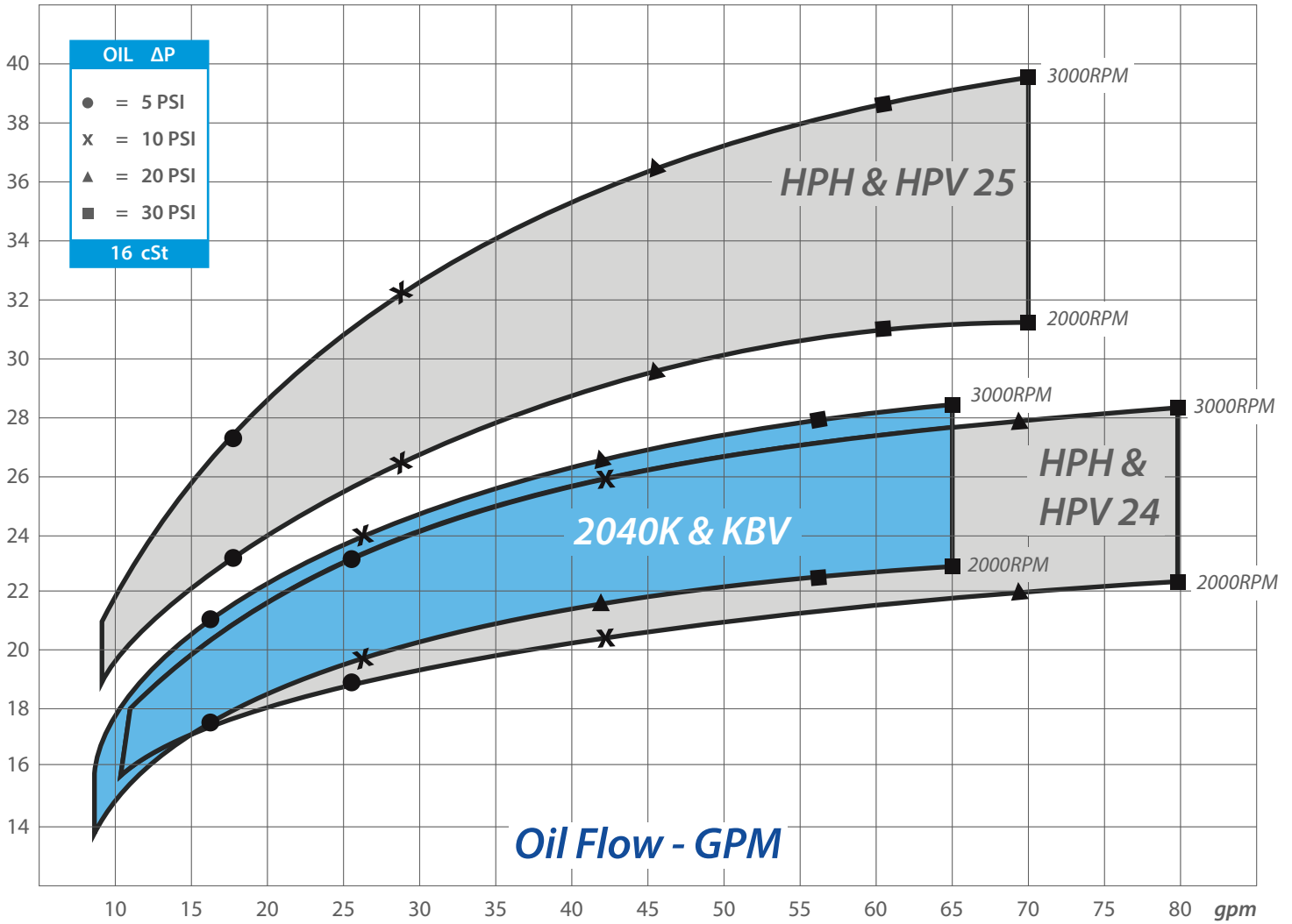
MODEL	RPM	Fan (HP)	Displacement (cu-in)	Oil Flow (GPM)	Minimum (psi)	Maximum (psi)	External (Case Drain)
2030K & KBV	2000	0.09	0.218	2.1	500	2000	no
			0.513	4.9		3625	yes
	3500	0.50	0.218	3.7		2000	no
			0.513	8.6		3625	yes
HPH & HPV 12	2000	0.06	0.218	2.1	500	2000	no
			0.513	4.9		3625	yes
	3500	0.30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



Horsepower Heat Rejection @ 50°F ETD

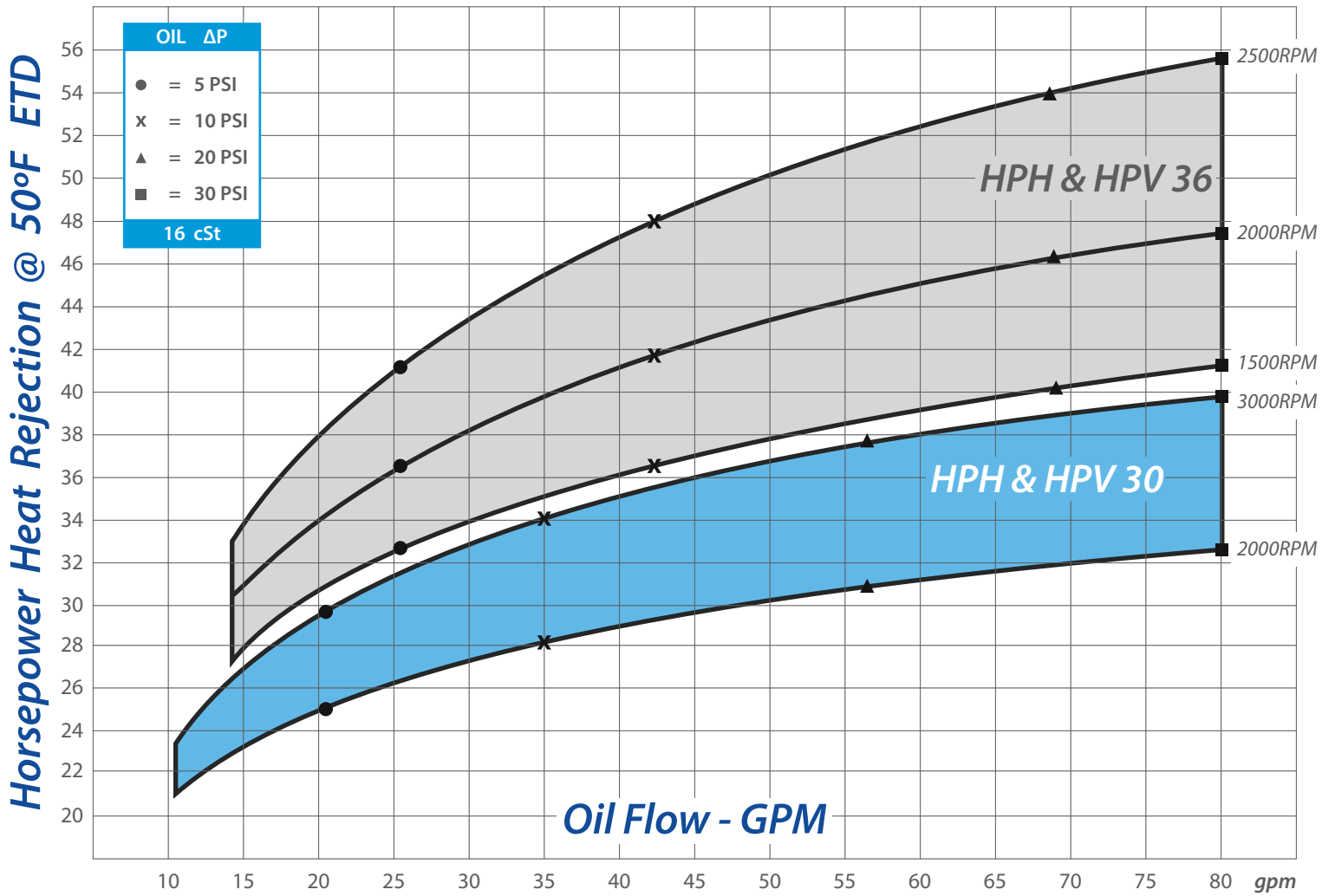
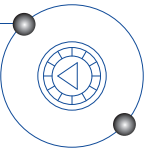


Hydraulic Motor Data

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



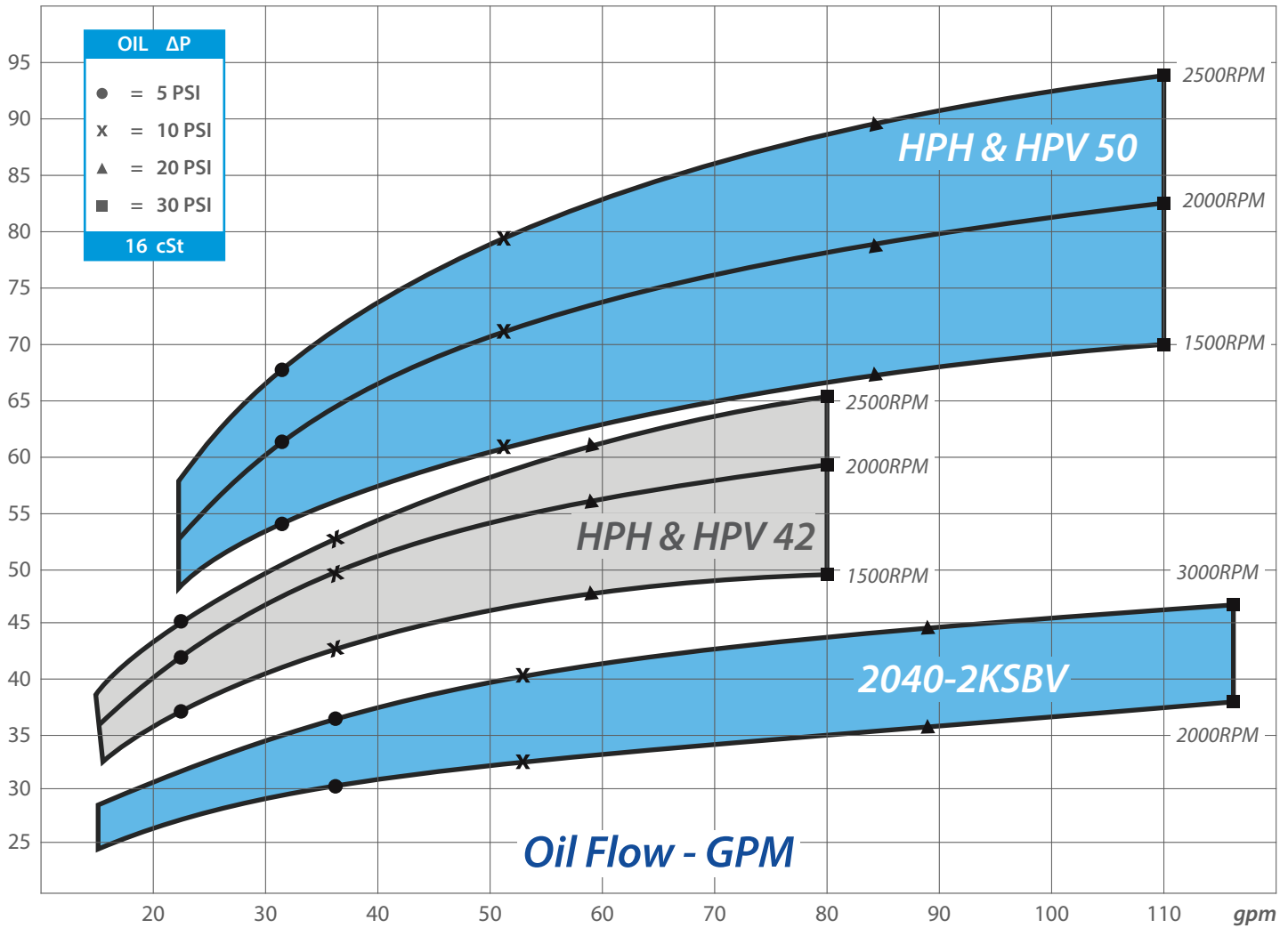
Hydraulic Motor Data

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.



Horsepower Heat Rejection @ 50°F ETD

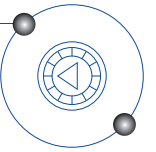


Hydraulic Motor Data

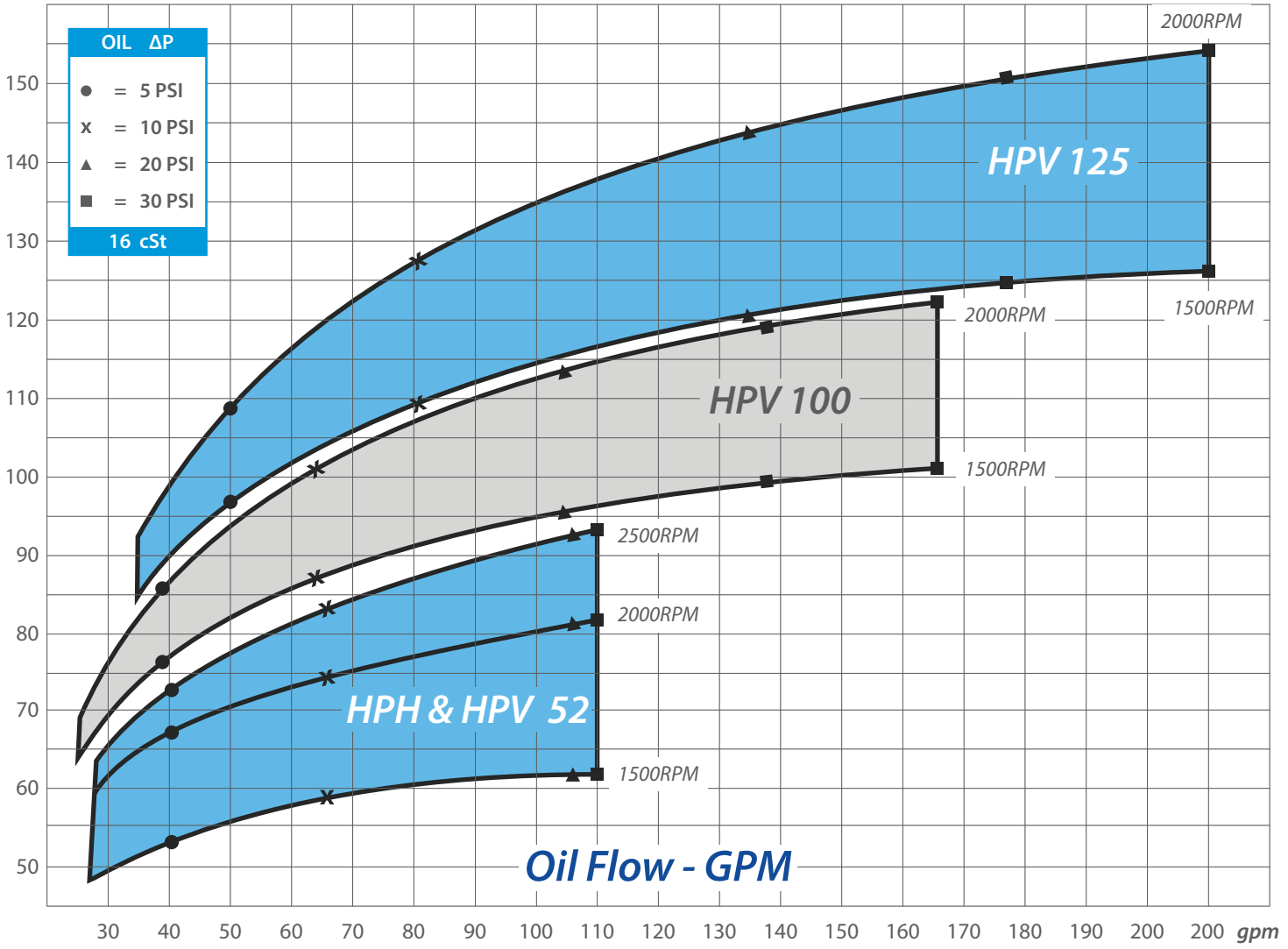
MODEL	RPM	Fan (HP)	Displacement (cu-in)	Oil Flow (GPM)	Minimum (psi)	Maximum (psi)	External Case Drain
2040-2KSBV	2000	0.42/fan plumbed in parallel	0.218	2.1	500	2000	no
		0.84 plumbed in series	0.218	2.1	808	2000	no
	3000	1.42/fan plumbed in parallel	0.372	5.4	533	2000	no
		2.84 plumbed in series	0.372	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



Horsepower Heat Rejection @ 50°F ETD



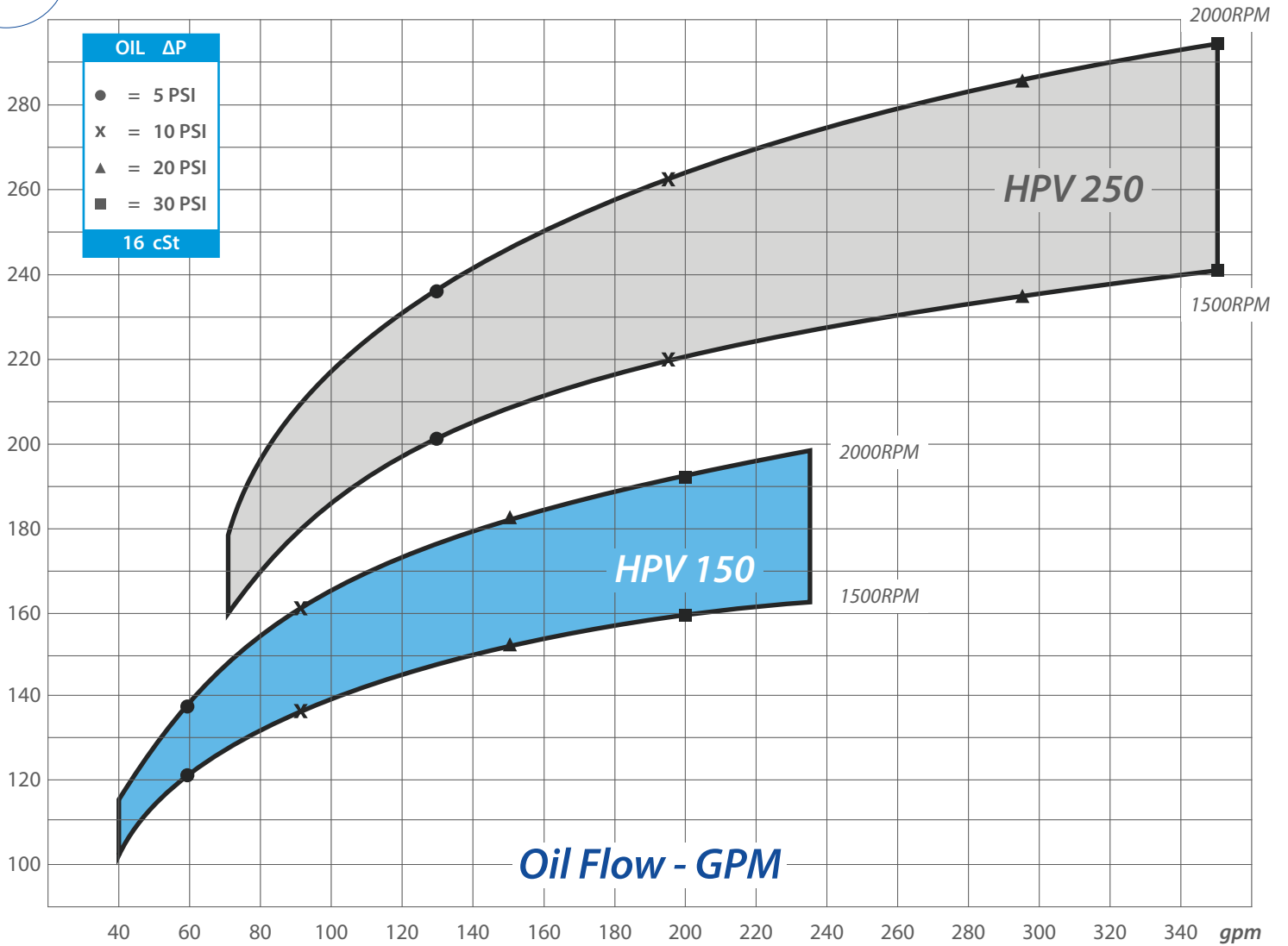
Hydraulic Motor Data

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
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	yes
			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

Horsepower Heat Rejection @ 50°F ETD

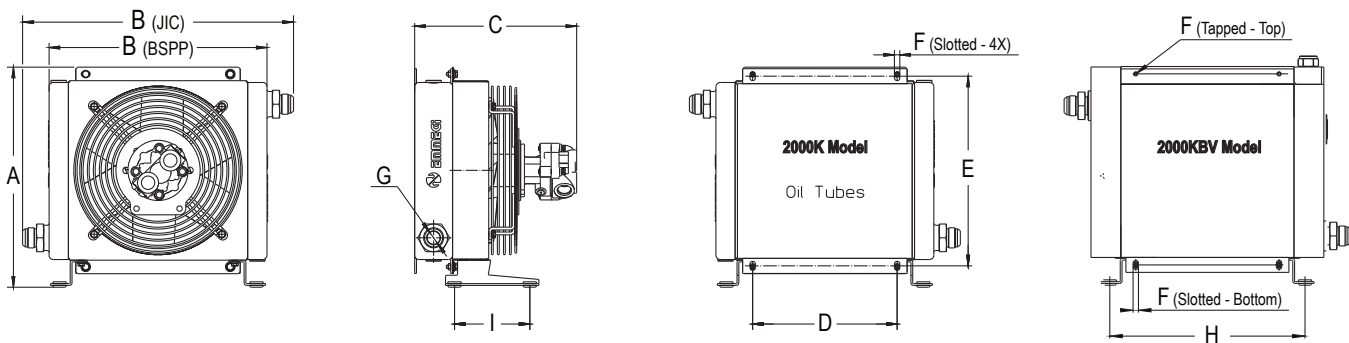


Hydraulic Motor Data

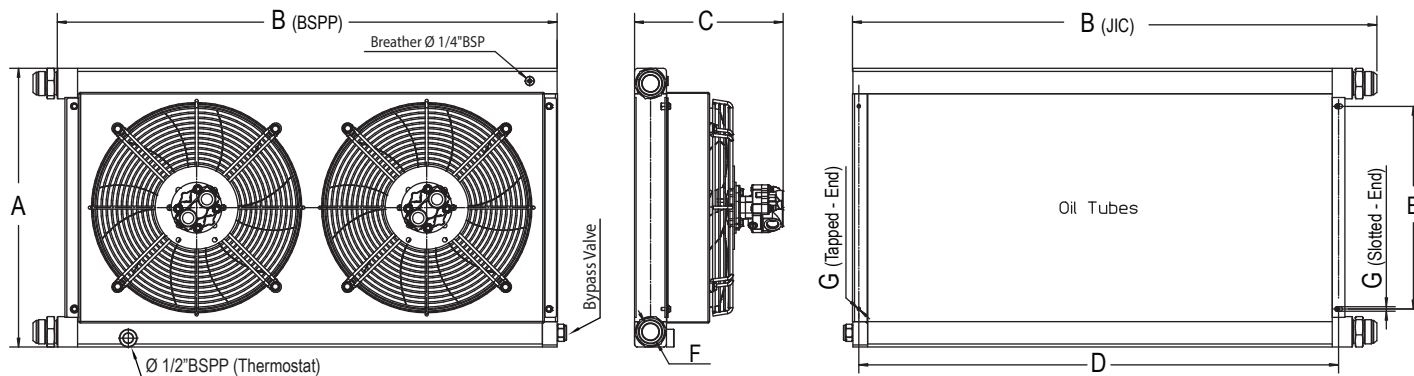
MODEL	RPM	Fan (HP)	Displacement (cu-in)	Oil Flow (GPM)	Minimum (psi)	Maximum (psi)	External Case Drain
HPV150	1500	3.8	0.879	6.3	1208	3625	Yes
			1.171	8.4	907	3045	
	2000	9	1.171	11.3	1611	3045	
			1.538	14.8	1227	2320	
HPV250	1500	5.7	0.879	6.3	1812	3625	
			1.171	8.4	1360	3045	
	2000	13.5	1.171	11.3	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*	D	E		F		G	H	I		K	KBV				
			BSPP	JIC	Approx.		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	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	40	46				
	(mm)	533	560	640	293	400	486	482					487	125	1.25" Internal	# 20 External				

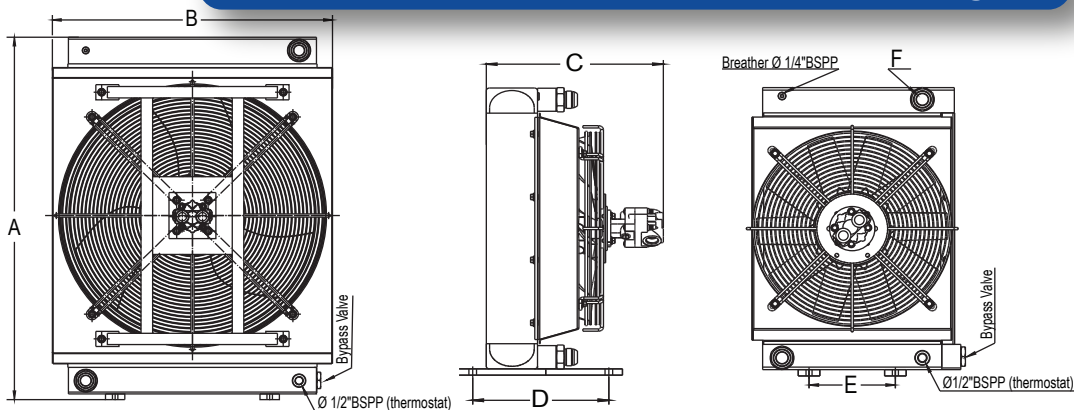
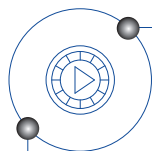


MODEL	UNIT OF MEASURE	OVERALL DIMENSIONS				MOUNTING				OIL CONNECTIONS		G		NET WEIGHT LBS	
		A	B		C*	D	E		F		K	KBV	K	KBV	
			BSPP	JIC	Approx.		K	KBV	BSPP	JIC					
2040-2KSBV	(inch)	21.65	38.25	40.63	11.53	36.93	15.75	15.75	1.5" Internal	# 24 External	0.35 x .59 (4) Slotted Holes	M6 Helicoil (2) Tapped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

* C Dimension varies with motor type and displacement

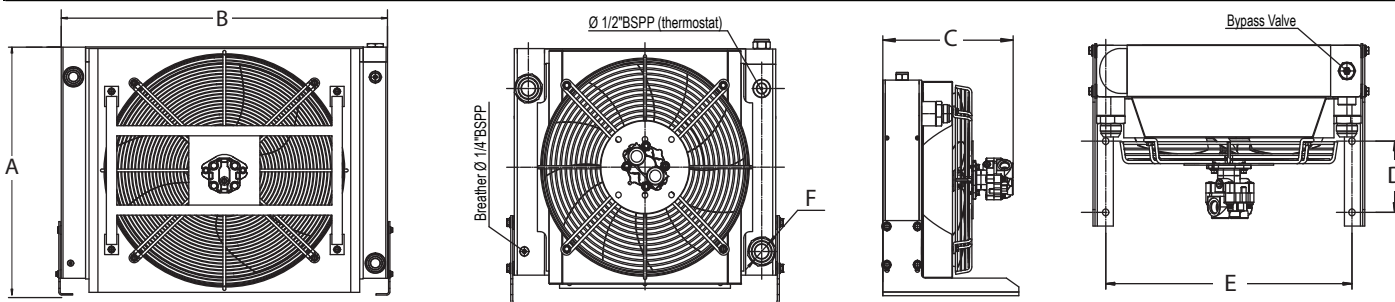
HEAT-EXCHANGERS

HPH & HPV 12 - 52 Series I Heat Exchangers



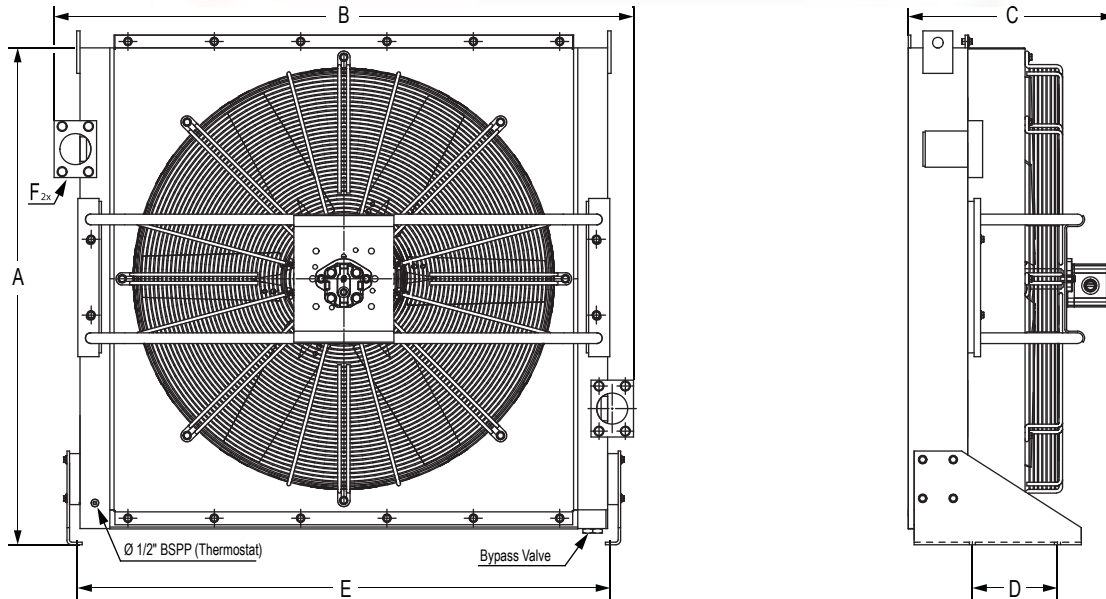
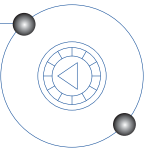
HEAT-EXCHANGERS

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



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

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	2" SAE Flange	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	3" SAE Flange	646
	(mm)	1692	1330	522	254	1254		

* C dimension varies with motor type and displacement.

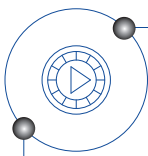
Hydraulic Motor Data- Stock Motors

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							
Gear	0.513	8.40	500	3625	700	4000	SAE 10	Facing Back of Motor, Right Port Inlet	#4 SAE ORB
	0.879	14.40							
	1.171	19.20		2320	500	3500			SAE 12
	1.538	25.20							

Important Note About Fan Speeds:

The horsepower goes up at the cube of the RPM fan speed.

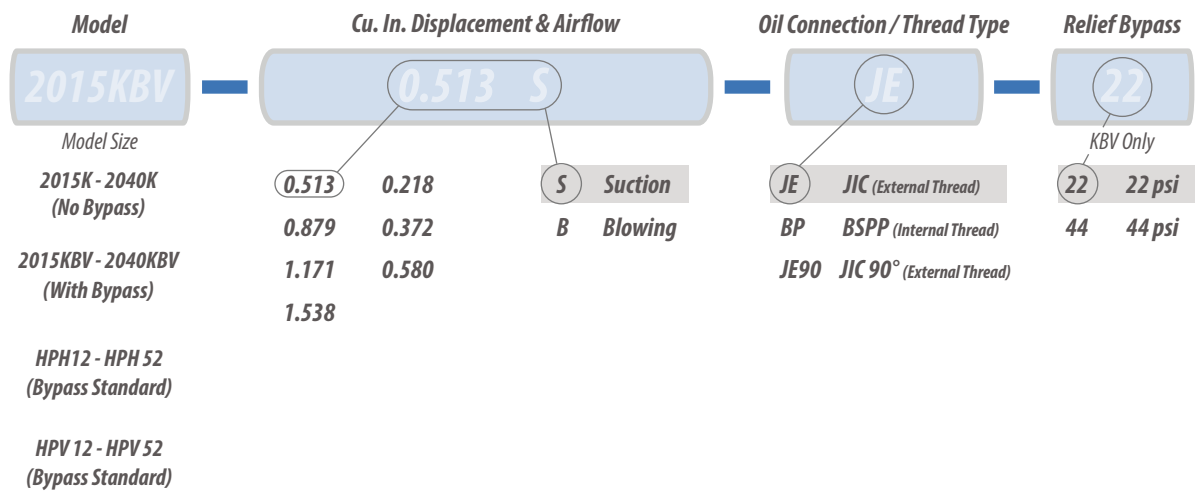
A nominal change in RPM has a significant effect on the horsepower required by the fan blade.



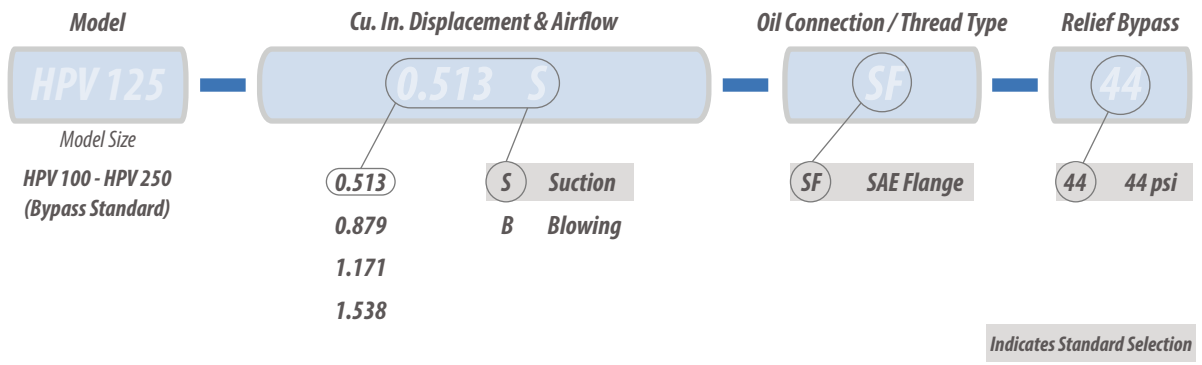
2000K & KBV, HPH & HPV Series I Ordering Code



HEAT-EXCHANGERS



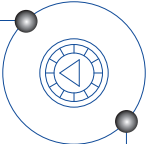
HPV Series II Ordering Code



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.

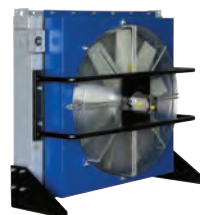
Hydraulic Fan Driven



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 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



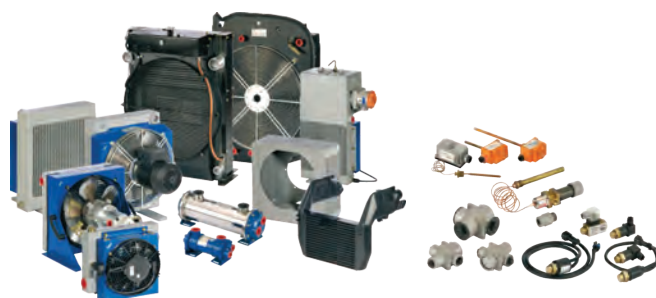
AC Temperature Switches
Cycle cooling fan to maintain desired temperatures.
Fixed & adjustable designs available.



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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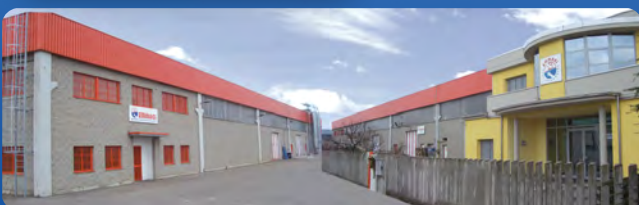


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