HPVR-29 AXIAL PISTON PUMPS

The HPVR series of inline axial piston variable displacement pumps, are available in five displacements and three compact frame sizes.

These pumps feature medium-high working pressure capabilities that will meet most applications.

The output flow and pressure is controlled by a variety of control options, and can easily work in conjunction with external control components making them the perfect choice for almost any application.

The HPVR series pumps are available in both SAE and ISO mounting 2 bolt patterns.

Porting is available in rear and side locations as well as thru-drive configurations.

TYPICAL PERFORMANCE SPECIFICATIONS			
VOLUMETRIC DISPLACEMENT		cu. In./rev.	3.97
		ml/rev.	65
PUMP DELIVERY @ 1750 RPM		GPM	29
		LPM	109.8
OPERATING PRESSURES	Intermittent*	PSI	4500
		BAR	310
	Continuous	PSI	4000
		BAR	275
	Minimum**	PSI	200
		BAR	14
OPERATING SPEEDS		Maximum RPM	3000
		Rated RPM	1750
		Minimum RPM	500
INPUT POWER @ 1750 RPM (Rated Flow and Pressure)		HP	82
		kW	62
CASE DRAIN FLOW @ Deadhead & Rated Pressure		GPM	1.9
		LPM	7.2
MOUNTING FLANGE		SAE Type	C 2-Bolt
DRIVE SHAFT		Keyed Shaft SAE J744 C	1.25 in.
		Spline Shaft SAE C	14 tooth
SHIPPING WEIGHTS	REAR PORTS	lbs.	75
		kg	34
	SIDE PORTS	lbs.	90
		kg	41
	SIDE PORTS TANDEM	lbs.	100
		kg	45.5

* This pressure should not exceed 10% of the duty cycle and not exceed 6 consecutive seconds.

** Pumps operating at less than 150 PSI (10 bar) may overheat and shorten pump life.

CASE AND INLET PORT SPECIFICATIONS

SPEED	Minimum Inlet Pressure						Maximum Case Pressure	
	Pressure Gauge				Absolute Pressure			
rpm	psi	bar	in.-Hg	mm-Hg	psi	bar	psi	bar
1800	-3	-0.21	-6.12	-155.46	11.7	0.8	10	0.69
2050	-3	-0.21	-6.12	-155.46	11.7	0.81	7	0.48
2100	-2.45	-0.17	-4.99	-126.72	12.25	0.8	5	0.34
2200	-1.25	-0.09	-2.55	-64.8	13.45	0.9	5	0.34
2300	0	0	0	0	14.7	1	5	0.34
2400	1.31	0.09	2.66	67.88	16.01	1.1	5	0.34

PRESSURE AND VOLUME ADJUSTMENT SENSITIVITY

Pressure Adjustment	Pressure Change / Turn	650 PSI	44.8 Bar
Volume Adjustment	Flow Change / Turn	2.8 GPM	10.6 LPM
	Maximum Torque	45 in.-lbs	5.1 Nm

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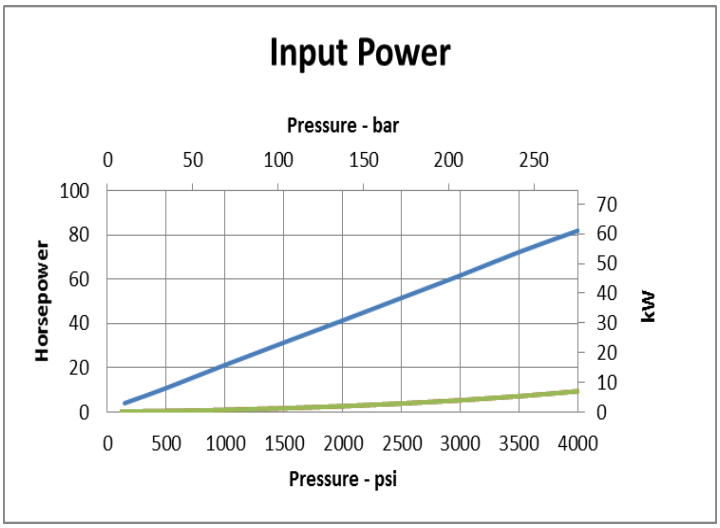
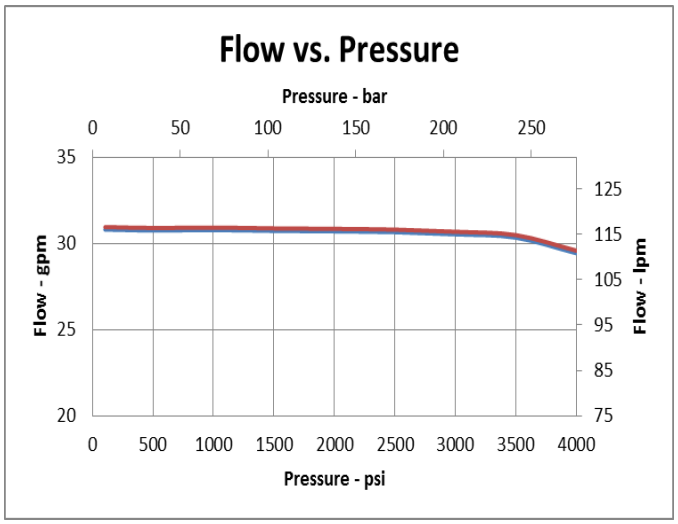
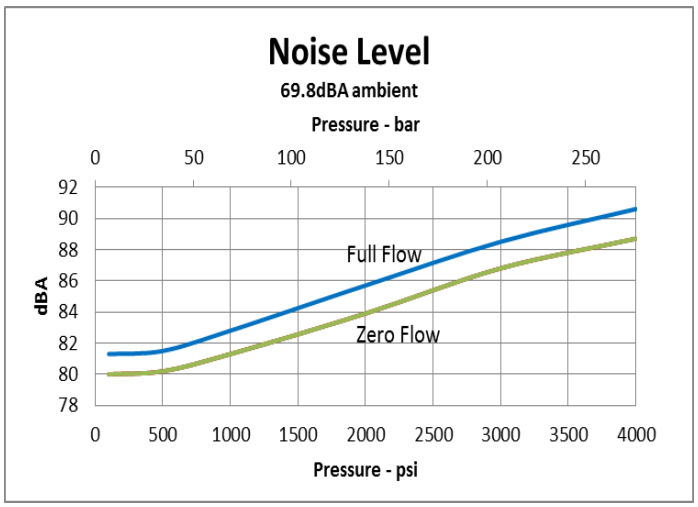
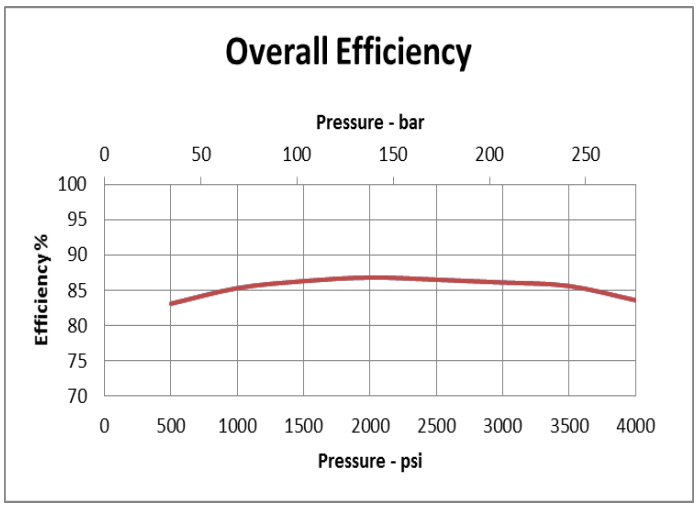
HPVR-29 AXIAL PISTON PUMPS





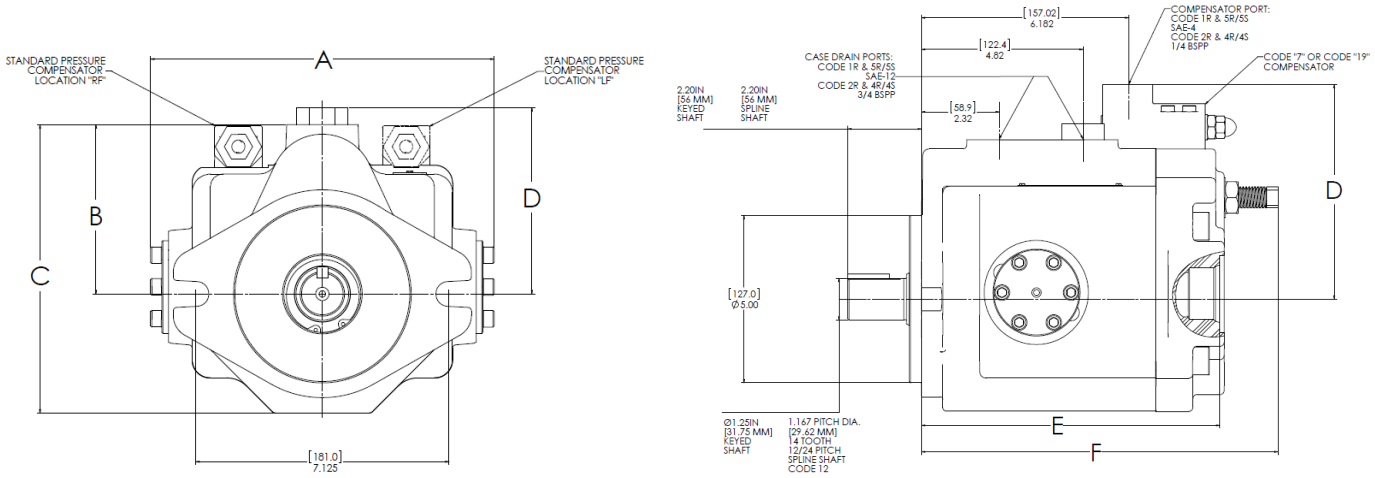




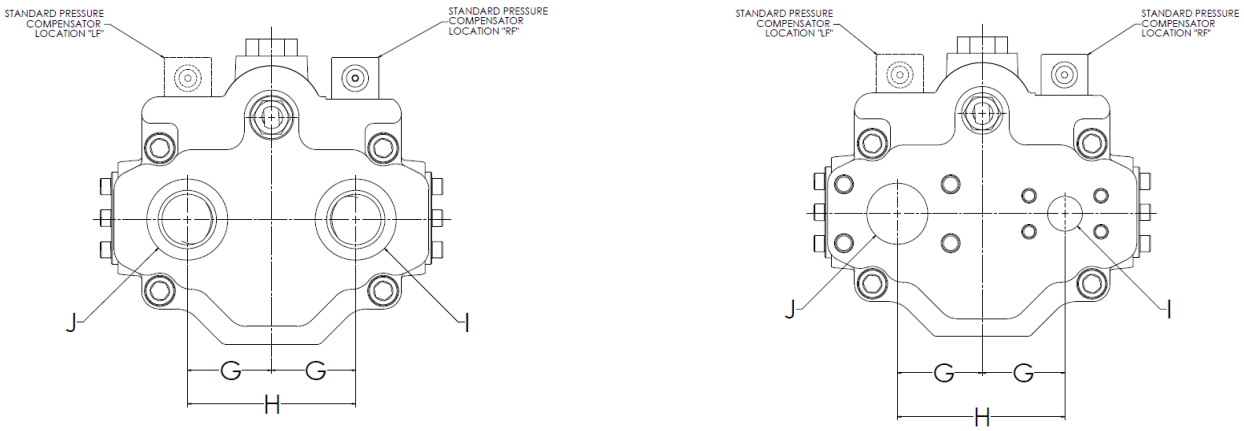
Data taken at 1800 RPM

HPVR-29 AXIAL PISTON PUMPS

Rear Port Dimension Data



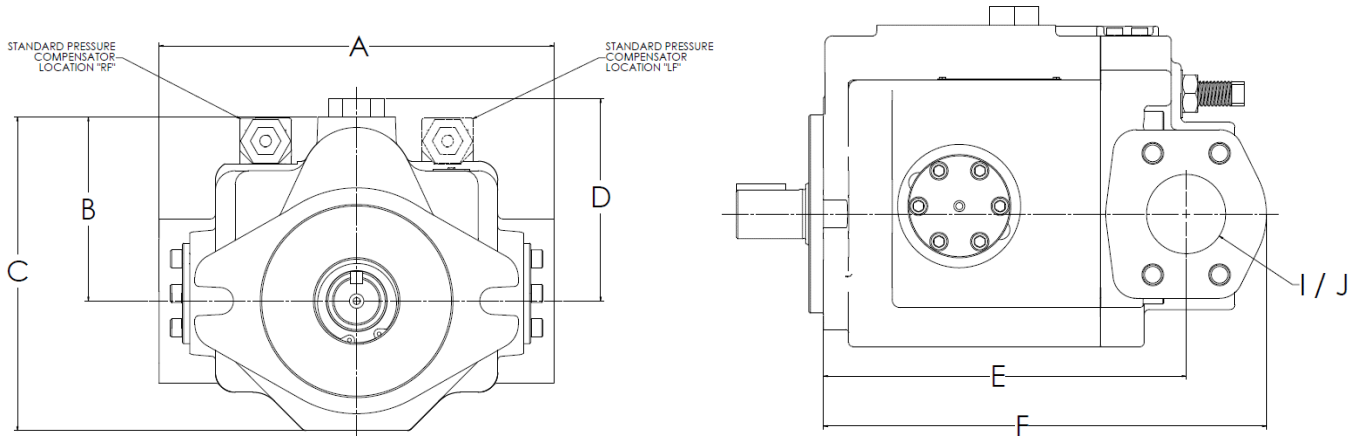
Dimensional Reference Data	Inch (mm)
A	9.66 (245.4)
B	4.76 (120.9)
C	8.11 (206)
D (STD Pressure Compensator)	5.24 (133)
D (Code 7 Remote & Code 19 Load Sense)	6.41 (162.8)
D (Code 26 Torque Limit)	9.52 (241.8)
E	8.90 (226)
F	10.64 (270.3)



Dimensional Reference Data	Inch (mm)
G	2.375 (60.3)
H	4.75 (120.6)
I Code 1R - Rear SAE Porting	SAE-20
I Code 2R- Rear BSPP Porting	1-1/4 BSPP
I Code 4R- Rear 4 Bolt Flange (Metric Threads)	1 SF
I Code 5R- Rear 4 Bolt Flange (UNC Threads)	1 SF
J Code 1R - Rear SAE Porting	SAE-20
J Code 2R- Rear BSPP Porting	1-1/4 BSPP
J Code 4R- Rear 4 Bolt Flange (Metric Threads)	2 SF
J Code 5R- Rear 4 Bolt Flange (UNC Threads)	2 SF
Note: REAR Port Flange are code 61, Both Pressure and Suction	

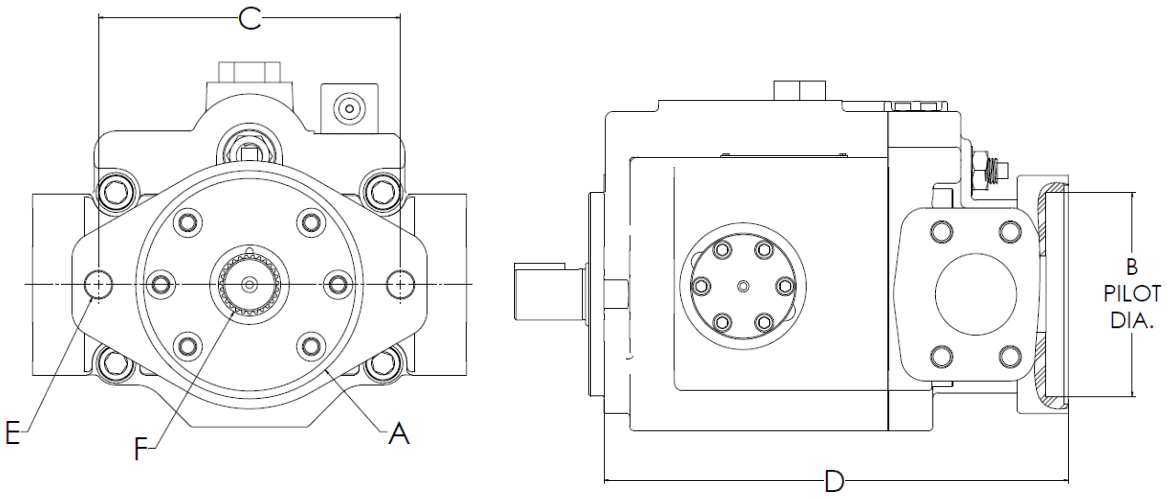
HPVR-29 AXIAL PISTON PUMPS

Side Port Dimension Data



Dimensional Reference Data	Inch (mm)
A	10.24 (260.1)
B	4.76 (120.9)
C	8.11 (206)
D (STD Pressure Compensator)	5.24 (133)
D (Code 7 Remote & Code 19 Load Sense)	6.41 (162.8)
D (Code 26 Torque Limit)	9.52 (241.8)
E	9.16 (232.7)
F	11.12 (282.5)
I Code 4S- Side 4 Bolt Flange (Metric Threads)	1 SF
I Code 5S- Side 4 Bolt Flange (UNC Threads)	1 SF
J Code 4S- Side 4 Bolt Flange (Metric Threads)	2 SF
J Code 5S- Side 4 Bolt Flange (UNC Threads)	2 SF
Note: Suction Flange are code 61 and Pressure Flange are code 62	

HPVR-29 AXIAL PISTON PUMPS



CODE	MOUNTING PAD	DIMENSIONS Inches (mm)			Thread	30° Involute Internal Spline	Maximum H.P. Ratting* (at 1750 RPM)	Maximum Torque Rating* (in-lbs)
	A	B	C	D	E	F		
21	SAE "A"	3.25 (82.6)	4.19 (106.4)	11.27 (86.26)	3/8-16 UNC	9 Tooth 16/32 Pitch 0.5625 Dia.	8.5	306
22	SAE "B"	4.00 (101.6)	5.75 (146.1)	11.43 (290.3)	1/2-13 UNC	13 Tooth 16/32 Pitch 0.8125 Dia.	28.1	1012
23	SAE "C"	5.00 (127.0)	7.13 (181.1)	11.55 (293.4)	5/8-11 UNC	14 Tooth 12/24 Pitch 1.1667 Dia.	43.8	1577
31	SAE "A"	3.25 (82.6)	4.19 (106.4)	11.27 (86.26)	3/8-16 UNC	13 Tooth 16/32 Pitch 0.8125 Dia.	28.1	1012
21D	SAE "A"	3.25 (82.6)	4.19 (106.4)	11.27 (86.26)	M10	9 Tooth 16/32 Pitch 0.5625 Dia.	8.5	306
22D	SAE "B"	4.00 (101.6)	5.75 (146.1)	11.43 (290.3)	M12	13 Tooth 16/32 Pitch 0.8125 Dia.	28.1	1012
23D	SAE "C"	5.00 (127.0)	7.13 (181.1)	11.55 (293.4)	M16	14 Tooth 12/24 Pitch 1.1667 Dia.	43.8	1577
31D	SAE "A"	3.25 (82.6)	4.19 (106.4)	11.27 (86.26)	M10	13 Tooth 16/32 Pitch 0.8125 Dia.	28.1	1012

* This is the maximum horsepower or torque that can be transmitted through the shaft coupling to the rear pump

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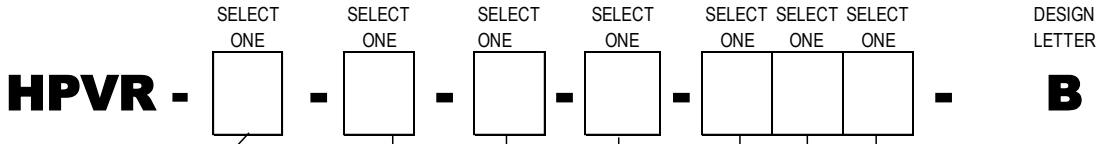

SIZE			
CODE	FLOW AT 1750 RPM	MAXIMUM PRESSURE	DISPLACEMENT
29B40	29 GPM	4000 PSI	in^3/rev 3.78 cm^3/rev 61.9

ROTATION	
CODE	**DESCRIPTION**
RF	CW ROTATION (STD)
LF	CCW ROTATION

SEALS	
CODE	**DESCRIPTION**
O	BUNA-N (STD)
P	VITON

PORT OPTIONS	
CODE	**DESCRIPTION**
1R	SAE C 2 BOLT MOUNTING FLANGE (STD) SAE O-RING THREAD CASE DRAIN REAR SAE O-RING THREAD PORTS
2R	SAE C 2 BOLT MOUNTING FLANGE BRITISH STD PIPE (BSPP) THREAD CASE DRAIN REAR BSPP THREAD PORTS
4R	SAE C 2 BOLT MOUNTING FLANGE BSPP THREAD CASE DRAIN REAR SAE 4 BOLT FLANGE (METRIC THREADS)
5R	SAE C 2 BOLT MOUNTING FLANGE SAE O-RING THREAD CASE DRAIN REAR SAE 4 BOLT FLANGE (UNC THREADS)
4S	SAE C 2 BOLT MOUNTING FLANGE BSPP THREAD CASE DRAIN SIDE SAE 4 BOLT FLANGE (METRIC THREADS)
5S	SAE C 2 BOLT MOUNTING FLANGE SAE O-RING THREAD CASE DRAIN SIDE SAE 4 BOLT FLANGE (UNC THREADS)

See Dimensional Pages for Port Size and Code Type

CONTROL OPTIONS	
CODE	**DESCRIPTION**
OMIT	PRESSURE COMPENSATOR (STD)
7	REMOTE COMPENSATOR
19	LOAD SENSING COMPENSATOR
26	H.P. LIMITING

TANDEM	
CODE	**DESCRIPTION**
OMIT	NO TANDEM OPTION (STD)
21	SAE "A" FLANGE PUMP MOUNT (UNC THREADS) SAE A SPLINE SHAFT COUPLING
22	SAE "B" FLANGE PUMP MOUNT (UNC THREADS) SAE B SPLINE SHAFT COUPLING
23	SAE "C" FLANGE PUMP MOUNT (UNC THREADS) SAE C SPLINE SHAFT COUPLING
31	SAE "A" FLANGE PUMP MOUNT (UNC THREADS) SAE B SPLINE SHAFT COUPLING
21D	SAE "A" FLANGE PUMP MOUNT (METRIC THREADS) SAE A SPLINE SHAFT COUPLING
22D	SAE "B" FLANGE PUMP MOUNT (METRIC THREADS) SAE B SPLINE SHAFT COUPLING
23D	SAE "C" FLANGE PUMP MOUNT (METRIC THREADS) SAE C SPLINE SHAFT COUPLING
31D	SAE "A" FLANGE PUMP MOUNT (METRIC THREADS) SAE B SPLINE SHAFT COUPLING

SHAFT	
CODE	**DESCRIPTION**
OMIT	STRAIGHT KEY (STD) SAE J744 C 1.25inch SHAFT
12	FRONT MALE SPLINE SAE C: 14 TOOTH 12/24 Pitch

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