

# IFP PVH57 / 74 / 98 / 131 VARIABLE AXIAL PISTON PUMPS



## Available sizes:

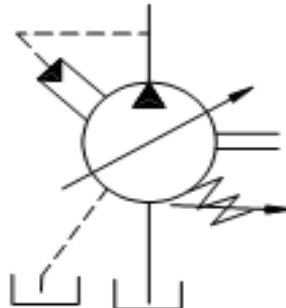
- 57 - 3.5 in<sup>3</sup>/rev [57.4 cm<sup>3</sup>/rev]
- 74 - 4.5 in<sup>3</sup>/rev [73.7 cm<sup>3</sup>/rev]
- 98 - 6.0 in<sup>3</sup>/rev [98.3 cm<sup>3</sup>/rev]
- 131 - 8.0 in<sup>3</sup>/rev [131.1 cm<sup>3</sup>/rev]

## Nominal Pressure:

3625 psi [250 bar]

## Peak Pressure:

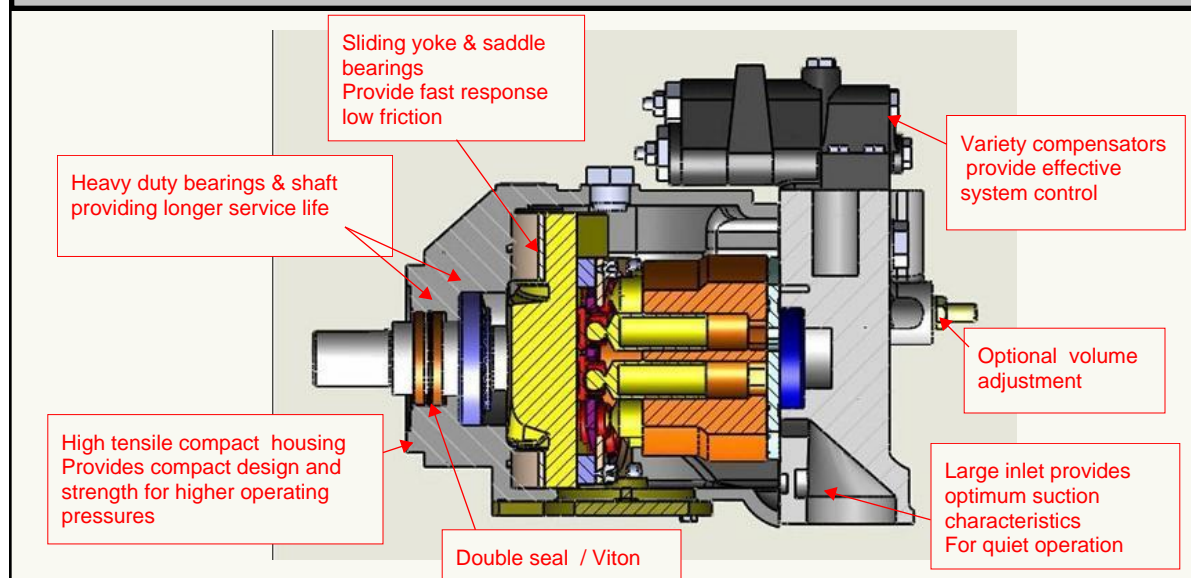
4050 psi [280 bar]



## FEATURES

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>* Variable volume piston pumps</li> <li>* Low noise level</li> <li>* Good suction characteristics</li> <li>* Industrial &amp; Mobile applications</li> <li>* Thru-drive available to adapt secondary pump</li> </ul> | <ul style="list-style-type: none"> <li>* Applied in open loop circuits</li> <li>* High Power / Weight ratio</li> <li>* Wide range of controls</li> <li>* Long service life</li> <li>* Units can be piggybacked for multiple section assemblies</li> </ul> |
|---|---|

## SECTIONAL VIEW



# IFP PVH PISTON PUMP ORDERING CODE



## IFP PVH ORDERING CODE OPTIONS

SAMPLE CODE:	IFP	PVH	131	C	R	*	F	1	S	10	C	25	*	*	31
Legend	( 1 )	( 2 )	( 3 )	( 4 )	( 5 )	( 6 )	( 7 )	( 8 )	( 9 )	(10)	(11)	(12)	(13)	(14)	(15)
( 1 )	<b>IFP</b> - INTERNATIONAL FLUID POWER PRODUCTION														
( 2 )	<b>PVH</b> - HIGH PRESSURE / VARIABLE VOLUME AXIAL PISTON PUMP														
( 3 )	<b>FRAME SIZE - 57 / 74 / 98 / 131</b>														
( 4 )	<b>MOUNTING FLANGE - C</b> SAE "C" 4 BOLT TYPE														
( 5 )	<b>ROTATION: R</b> - RIGHT HAND / <b>L</b> - LEFT HAND														
( 6 )	<b>THROUGH DRIVE OPTIONS:</b> ( <b>BLANK</b> ) - NO THROUGH DRIVE ( <b>A</b> ) SAE-A 2 BOLT REAR FLANGE MOUNT ( <b>B</b> ) SAE-B 2 & 4 BOLT REAR FLANGED MOUNTING ( <b>C</b> ) SAE-C 2 & 4 BOLT REAR FLANGED MOUNTING ( <b>S</b> ) ADJUSTABLE MAXIMUM STOP ( NON THROUGH DRIVE UNITS ONLY )														
( 7 )	<b>CONNECTING PORTS:</b> ( <b>F</b> ) SAE 4-BOLT FLANGED PORTS ( <b>M</b> ) 4 BOLT FLANGED PORTS / WITH METRIC BOLT THREADS														
( 8 )	<b>DRIVE SHAFTS:</b> ( <b>N</b> ) SHORT STRAIGHT KEYED ( <b>1</b> ) SAE-C STRAIGHT KEYED ( <b>2</b> ) SAE-C SPLINED 14 TOOTH ( <b>3</b> ) SAE-CC SPLINED 17 TOOTH ( <b>12</b> ) SAE-D SPLINED 13 TOOTH ( <b>13</b> ) SAE-CC STRAIGHT KEYED ( <b>16</b> ) SAE-D STRAIGHT KEYED														
( 9 )	<b>SHAFT SEAL:</b> ( <b>S</b> ) SINGLE ( <b>D</b> ) DOUBLE														
( 10 )	<b>ROTATION: R</b> - RIGHT HAND / <b>L</b> - LEFT HAND														
( 11 )	<b>PRESSURE ADJUSTMENT RANGE:</b> ( <b>C</b> ) 1015 - 3625 PSI ( 70-250 BAR) ( <b>CM</b> ) 580 - 1885 PSI ( 40-130 BAR)														
( 12 )	<b>PRESSURE SETTINGS FACTORY:</b> ( <b>25</b> ) 3625 PSI ( 250 BAR) FOR MODEL "C" ( <b>7</b> ) 1015 PSI ( 70 BAR) FOR MODEL "CM"														
( 13 )	<b>ADDITIONAL CONTROL FUNCTIONS:</b> ( <b>BLANK</b> ) - NO ADDITIONAL CONTROL ( <b>V</b> ) LOAD SENCING ( <b>T</b> ) TORQUE LIMITER ( <b>VT</b> ) LOAD SENCING AND TORQUE LIMITER														
( 14 )	<b>TORQUE LIMITER FACTORY SETTINGS:</b> ( <b>BLANK</b> ) NO TORQUE LIMITER CONTROL ( <b>**</b> ) CUSTOMERS TORQUE LIMITER SETTING IN 145 PSI (10 BAR) INCREMENTS														
( 15 )	<b>CONTROL DESIGN NUMBER:</b> ( <b>31</b> ) C, CM, C**V OR IC CONTROL ( <b>13</b> ) C**T CONTROLS ( <b>14</b> ) C**VT CONTROLS														

# IFP PVH PISTON PUMP OPERATING SPECIFICATIONS



## Application Guidelines

### SHAFT ALIGNMENT:

IFP PVH Piston Pumps are designed for “inline drive” with a flexible coupling. Side loading of shaft is possible, contact the factory for applications other than direct drive.

### FILLING PUMP CASING:

Before operating fill pump casing with clean system fluid through upper most drain port. Drain line hose and piping must be installed in such a way as that the case is always full of oil during operation  
(Note: Maximum case pressure 5 PSI / .5 BAR)

### STARTING:

During initial starting it may be necessary to bleed air from outlet. IFP ABT20S air bleed valves are available for this purpose.

### SYSTEM RELIEF VALVE:

Although the PVH series of pumps have compensator controls to limit maximum pressure a system relief adjusted 200 PSI higher than the compensator pressure is recommended for safety considerations.

IFP PVH PISTON PUMP OPERATING SPECIFICATIONS								
Based on using oil at 120 F (49 C) viscosity 150 SUS at 100 F (32 cSt at 38 C) and 0 psi inlet pressure								
IFP MODEL SERIES	DISPLACEMENT in <sup>3</sup> /rev (cm <sup>3</sup> /rev)	DELIVERY GPM (LPM)		MAX. SPEED RPM	RATED PRESSURE PSI (BAR)	FLUID CONNECTIONS SAE-4 BOLT FLANGE		WEIGHT LBS (KG)
		1800 RPM	MAX. SPEED			PRESSURE PORT	SUCTION PORT	
IFP PVH57	3.5 ( 57.4)	26 (98)	35 (134)	2400	3625 (250)	1" S.Fl <sub>g</sub> (code 61)	2" S.Fl <sub>g</sub> (code 61)	79 (36)
IFP PVH74	4.5 ( 73.7)	33 (125)	41 (156)	2200	3625 (250))	1" S.Fl <sub>g</sub> (code 61)	2" S.Fl <sub>g</sub> (code 61)	99 (45)
IFP PVH98	6.0 ( 98.3)	45 (170)	53 (202)	2100	3625 (250)	1" S.Fl <sub>g</sub> (code 61)	2 1/2" S.Fl <sub>g</sub> (code 61)	108 (49)
IFP PVH131	8.0 (131.1)	59 (223)	66 (249)	2000	3625 (250)	1 1/4" S.Fl <sub>g</sub> (code 62)	2 1/2" S.Fl <sub>g</sub> (code 61)	145 (66)

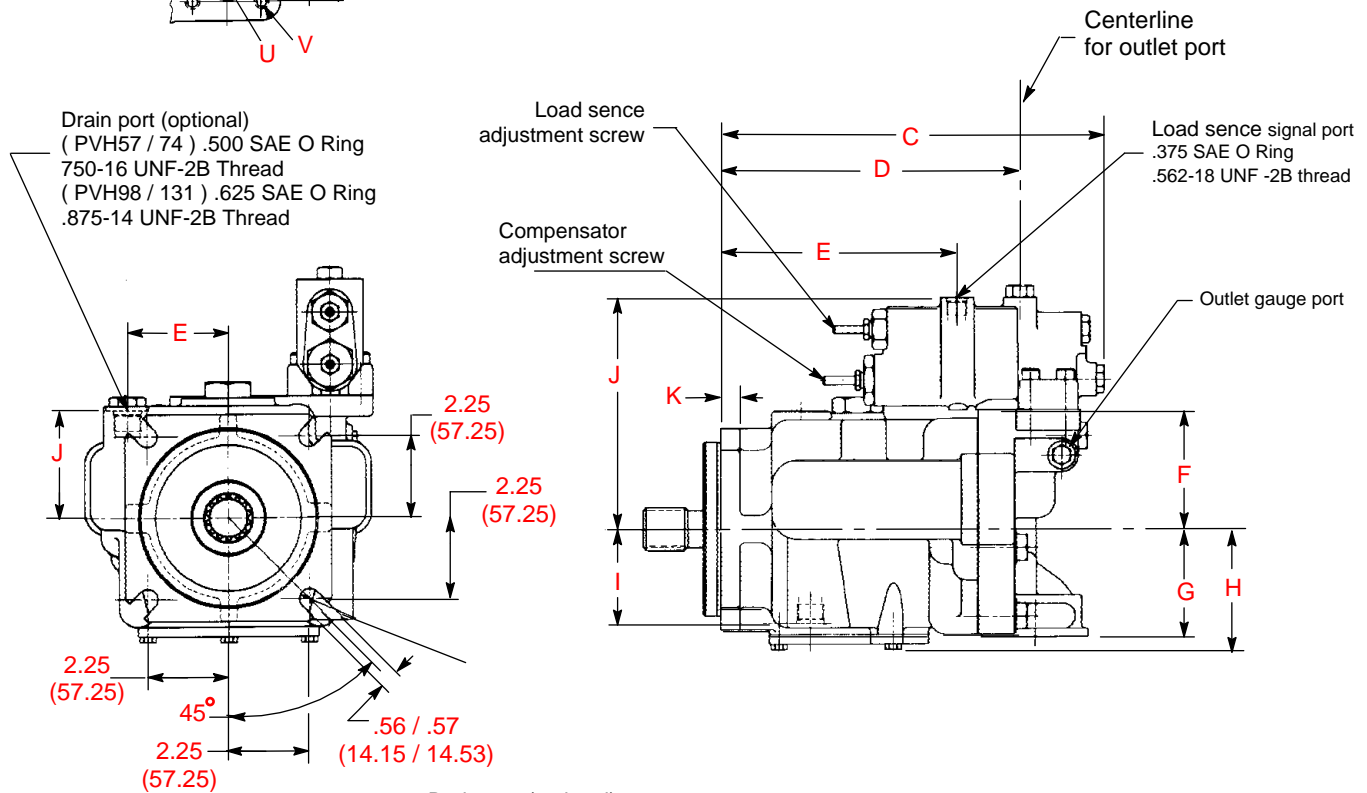
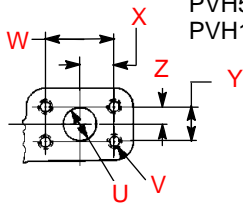
SOUND LEVEL dB PER ISO 4412					
MODEL	RPM	dB @ 1015 PSI (70 BAR)	dB @ 2030 PSI (140 BAR)	dB @ 3025 PSI (210 BAR)	dB @ 3625 PSI (250 BAR)
IFP PVH57	1200	69 dB	74 dB	75 dB	75 dB
	1800	75 dB	76 dB	79 dB	79 dB
IFP PVH74	1200	69 dB	74 dB	75 dB	75 dB
	1800	74 dB	76 dB	79 dB	79 dB
IFP PVH98	1200	69 dB	71 dB	75 dB	76 dB
	1800	73 dB	76 dB	80 dB	82 dB
IFP PVH131	1200	74 dB	79 dB	81 dB	81 dB
	1800	78 dB	85 dB	87 dB	88 dB

# IFP PVH PISTON PUMP DIMENSIONAL DRAWINGS

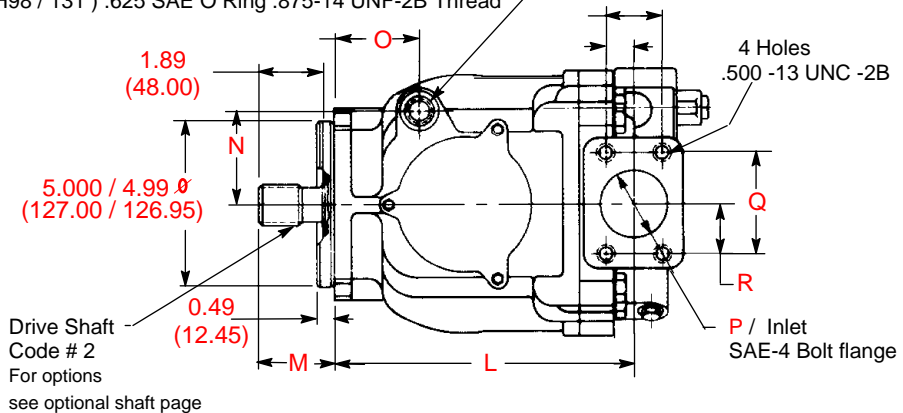


Dimensions shown for PVH Pump with a "C\*V"  
Pressure Compensated and Load Sense Control

**Outlet Port:**  
PVH57 / 74 / 98 - Code 61  
PVH131 - Code 62



Drain port (optional)  
( PVH57 / 74 ) .500 SAE O Ring 750-16 UNF-2B Thread  
( PVH98 / 131 ) .625 SAE O Ring .875-14 UNF-2B Thread



Drive Shaft  
Code # 2  
For options  
see optional shaft page

Dimensions shown - inch (mm)

# IFP PVH PISTON PUMP DIMENSIONS



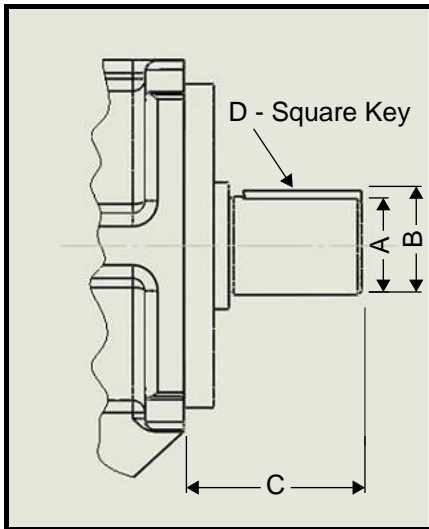
	A	B	C	D	E	F	G	H	I
<b>PVH57</b>	2.99 (76.0)	2.79 (71.0)	10.86 (275.8)	8.52 (216.4)	6.68 (169.6)	3.39 (86.0)	3.11 (79.0)	3.46 (88.0)	2.71 (69.0)
<b>PVH74</b>	3.46 (88.0)	2.75 (70.0)	11.83 (300.5)	9.50 (241.2)	7.65 (194.3)	3.62 (92.0)	3.70 (94.0)	3.74 (95.0)	3.19 (81.0)
<b>PVH98</b>	3.67 (93.1)	3.35 (85.0)	12.31 (312.7)	9.89 (251.3)	8.11 (206.1)	3.72 (94.5)	3.44 (87.5)	3.82 (97.1)	3.15 (80.1)
<b>PVH131</b>	4.31 (109.4)	3.50 (88.8)	13.27 (337.0)	11.04 (280.4)	9.07 (230.4)	4.72 (120.0)	4.29 (109.0)	4.29 (107.4)	3.34 (84.8)

	J	K	L	M	N	O	P	Q	R
<b>PVH57</b>	6.60 (168.0)	0.55 (14.0)	8.95 (227.4)	2.21 (56.1)	2.80 (71.0)	2.55 (71.0)	2.0 (50.8)	3.06 (77.76)	1.53 (38.88)
<b>PVH74</b>	6.85 (174.0)	0.59 (15.0)	9.85 (250.1)	2.44 (62.0)	2.75 (70.0)	2.68 (68.1)	2.0 (50.8)	3.06 (77.76)	1.53 (38.88)
<b>PVH98</b>	6.95 (176.5)	0.63 (16.0)	10.60 (269.3)	2.18 (55.5)	3.35 (55.5)	2.92 (74.2)	2.5 (63.5)	3.50 (88.9)	1.75 (44.45)
<b>PVH131</b>	7.83 (199.1)	0.59 (15.0)	11.75 (289.6)	2.44 (62.0)	3.50 (88.8)	2.78 (70.6)	2.5 (63.5)	3.50 (88.9)	1.75 (44.45)

	S	T	U	V	W	X	Y	Z
<b>PVH57</b>	1.69 (42.88)	0.84 (21.44)	1.0 (25.4)	3/8-16 (M10X1.5)	2.06 (52.37)	1.03 (26.19)	1.03 (26.19)	0.52 (13.10)
<b>PVH74</b>	1.69 (42.88)	0.84 (21.44)	1.0 (25.4)	3/8-16 (M10X1.5)	2.06 (52.37)	1.03 (26.19)	1.03 (26.19)	0.52 (13.10)
<b>PVH98</b>	2.0 (50.8)	1.0 (25.4)	1.0 (25.4)	3/8-16 (M10X1.5)	2.06 (52.37)	1.03 (26.19)	1.03 (26.19)	0.52 (13.10)
<b>PVH131</b>	1.75 (50.8)	1.0 (25.4)	1.25 (31.75)	1/2-13 (M14X2)	2.63 (66.68)	1.31 (33.34)	1.25 (31.75)	0.630 (15.88)

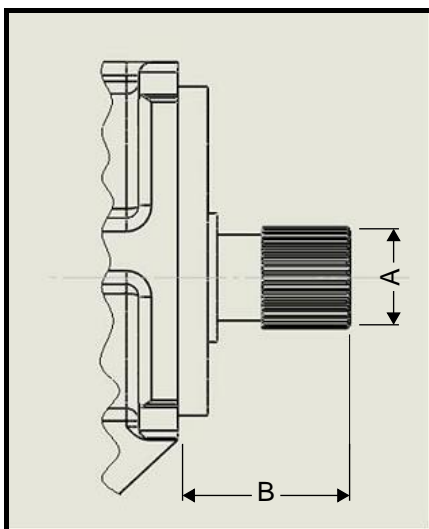
Dimensions: in. (mm)

# PVH57 / 74 / 98 / 131 DRIVE SHAFTS



## Straight Keyed Shafts

Shaft Code	Shaft Description	A	B	C	D
1	SAE "C" Straight Keyed	1.25 (31.75)	1.38 ( 35.32)	2.20 (56.0)	.312 (7.93)
13	SAE "CC" Straight Keyed	1.50 (38.1)	1.67 ( 42.39)	2.44 (62.0)	.375 (9.52)
16	SAE "D" Straight Keyed	1.75 (44.45)	1.95 ( 49.46)	2.95 (75.0)	.438 (11.11)
N	Short Straight Keyed	1.26 (32.00)	1.38 ( 35.00)	2.68 (68.1)	.393 (10.00)



## Spline Shafts

Shaft Code	Shaft Description	Number of teeth	A	B
2	SAE "C" 14 T 12/24 DP	14	1.25 (31.75)	2.18 (55.4)
3	SAE "CC" 17 T 12/24 DP	17	1.50 (31.75)	2.44 (38.10)
12	SAE "D" 13 T 8/16 DP	13	1.75 (31.75)	2.95 (44.45)

## Shafts torque limits

Shaft Code	Shaft description	Pump series no thru-drive	Pump series with thru-drive	Maximum input torque lb.in (Nm)	Maximum thru-drive output torque lb.in (Nm)
N	ISO 3019/2 Short Straight keyed	PVH57 PVH74	-- --	3,980 (450) 3,980 (450)	-- --
1	SAE "C" Straight keyed	PVH57 PVH74 PVH98	PVH57 -- --	3,980 (450) 3,980 (450) 3,980 (450)	2,965 (335) -- --
2	SAE "C" 14T 12/24 DP spline	PVH57 PVH74 PVH98	PVH57 -- --	5,660 (640) 5,660 (640) 5,660 (640)	2,965 (335) -- --
3	SAE "CC" 17T 12/24 DP spline	-- -- PVH131	PVH74 PVH98 PVH131	10,750 (1215) 10,750 (1215) 10,750 (1215)	4,070 (460) 5,660 (640) 5,660 (640)
12	SAE "D" 13T 8/16 DP Spline	PVH131	PVH131	10,750 (1215)	5,660 (640)
13	SAE "CC" Straight keyed	-- -- PVH131	PVH74 PVH74 --	6,770 (765) 6,770 (765) 6,770 (765)	4,070 (460) 4,070 (460) --
16	SAE "D" Straight keyed	--	PVH131	10,620 (1200)	5,660 (640)

# IFP PVH PISTON PUMP PRESSURE CONTROLS



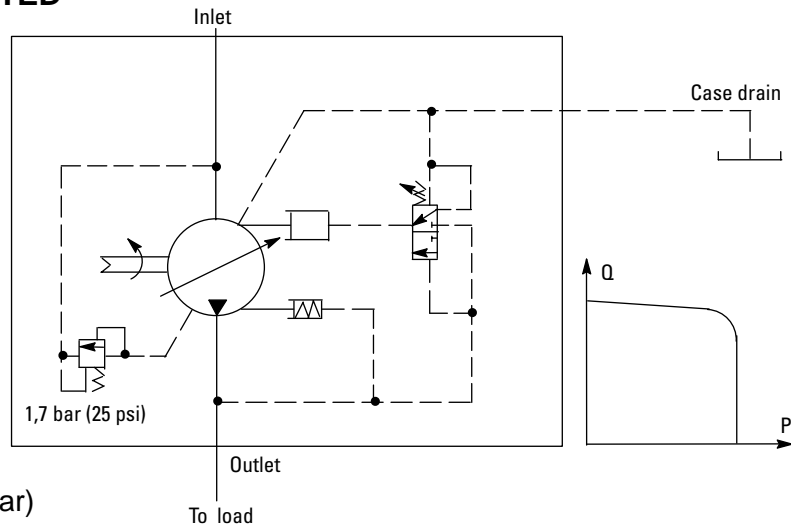
## C\*CM - PRESSURE COMPENSATED

C / CM pressure control maintains a constant system pressure at the outlet of the pump. The pump supplies flow at maximum displacement until the preset adjustment pressure setting is reached. Pressure setting may be steplessly set at the pilot valve. The compensator is available in two pressure ranges

### Setting range:

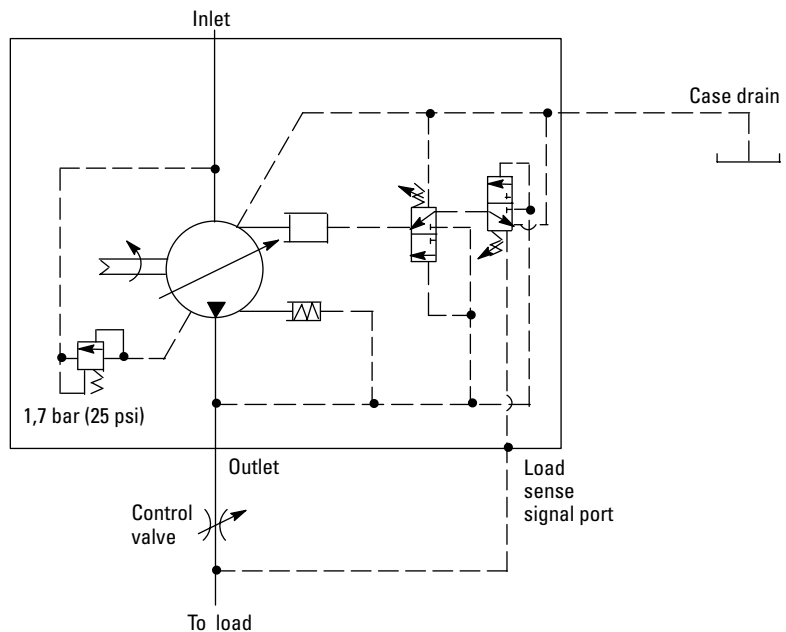
**C** = 1015 PSI ~ 3625 PSI (70 - 250 bar)

**CM** = 580 PSI ~ 1885 PSI (40 - 135 bar)



## C\*V - LOAD SENSING AND PRESSURE COMPENSATED

C\*V pressure control provides power matching of the pump pressure and output flow to the systems load demand. Load sensing ensures the pump always provides only the amount of flow required by the load. The pump operating pressure adjusts to the actual load pressure demand plus a pressure differential required for the control action. If the load pressure exceeds the system pressure setting, the pressure compensator de-strokes the pump. When system is not demanding power, the load sense control will operate in an energy saving stand-by mode.

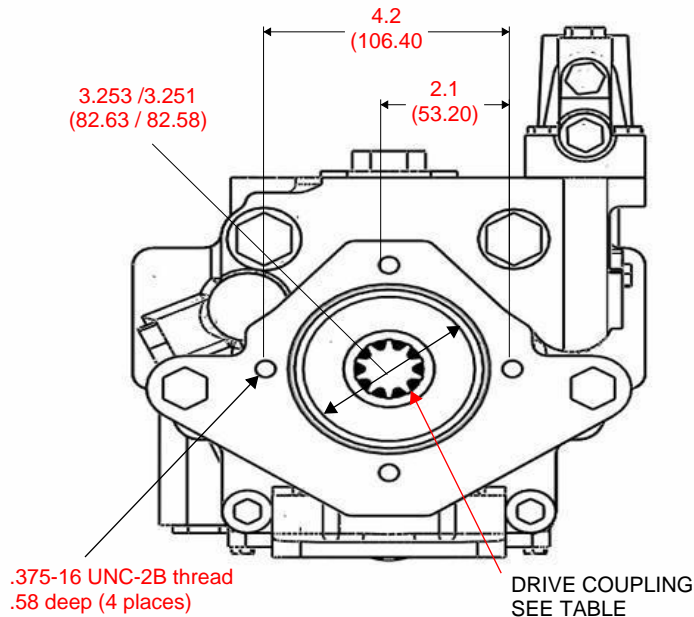


Note contact factory for  
other compensator controls

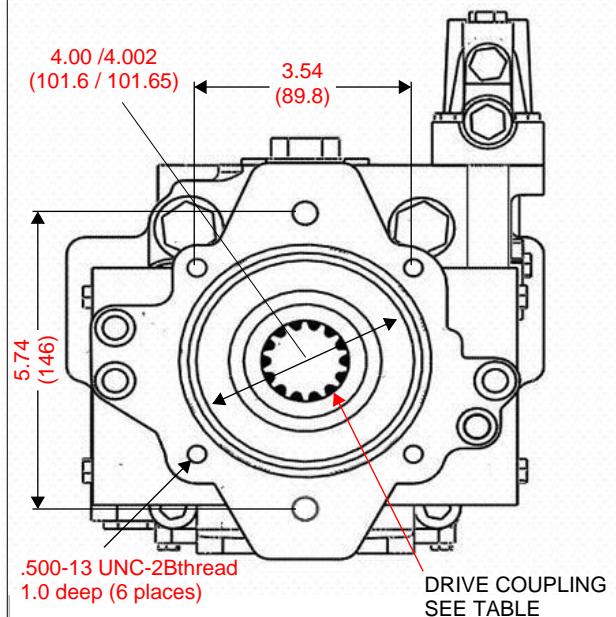
# IFP PVH PISTON PUMPS THROUGH DRIVE SPECIFICATIONS



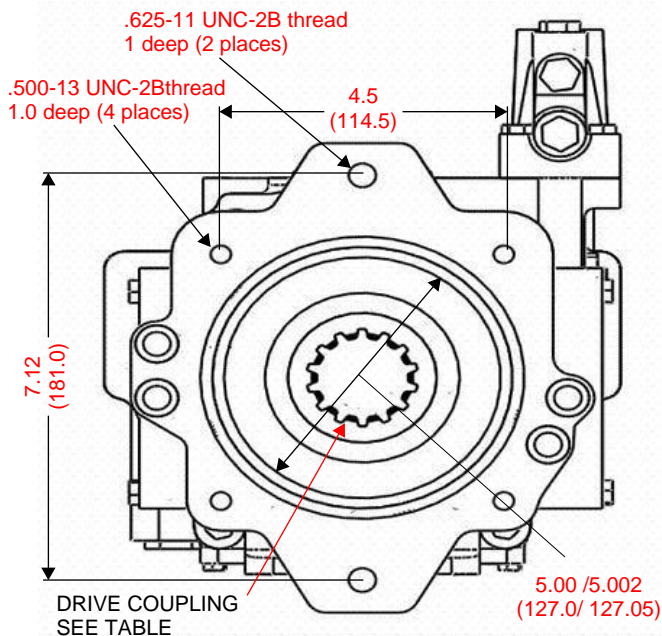
## THRU-DRIVE WITH SAE "A" REAR PAD



## THRU-DRIVE WITH SAE "B" REAR PAD



## THRU-DRIVE WITH SAE "C" REAR PAD



## OPTIONAL COUPLINGS

### PUMP SERIES WITH SAE-A PAD

PVH57 PVH74 PVH98 PVH131  
COUPLING - 526682 864460 877039 877039  
( SAE "A " Internal spline 9 Teeth 16/32 pitch )

### PUMP SERIES WITH SAE-B PAD

PVH57 PVH74 PVH98 PVH131  
COUPLING - 526694 864457 877040 877040  
( SAE "B " Internal spline 13 Teeth 16/32 pitch )  
COUPLING - 526695 864459 877044 877044  
( SAE "BB" Internal spline 15 Teeth 16/32 pitch )

### PUMP SERIES WITH SAE-C PAD

PVH57 PVH74 PVH98 PVH131  
COUPLING - 526696 864458 877045 877045  
( SAE "C " Internal spline 14 Teeth 12/24 pitch )  
COUPLING - 526695 864461 877046 877046  
( SAE "CC" Internal spline 17 Teeth 12/24 pitch )

### Note:

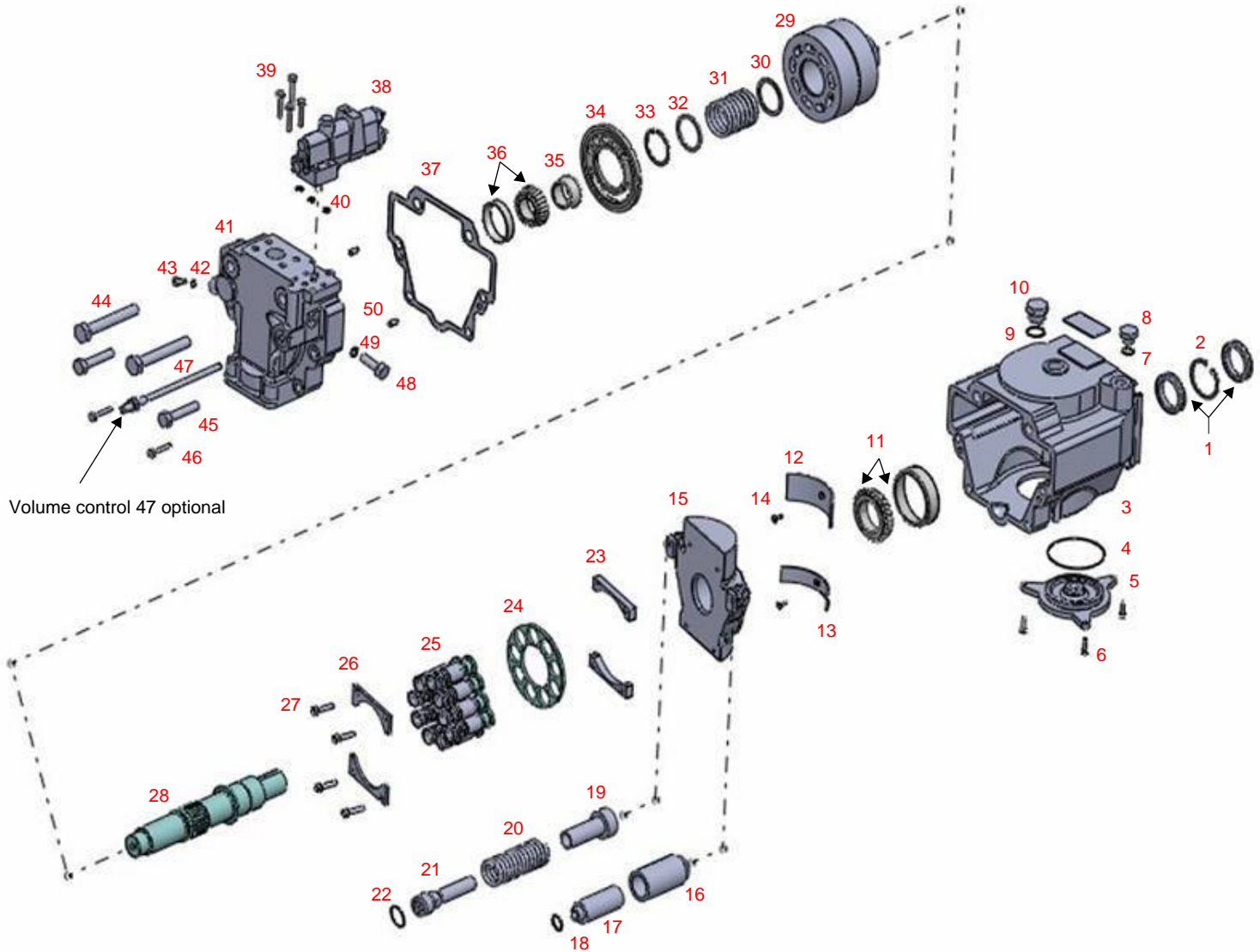
PVH thru-drive pumps have an SAE-A pad mount  
SAE- B & SAE-C pad mounts require a flange  
adapter to be mounted to the SAE-A pad of the  
PVH thru-drive pump

### FLANGE ADAPTERS

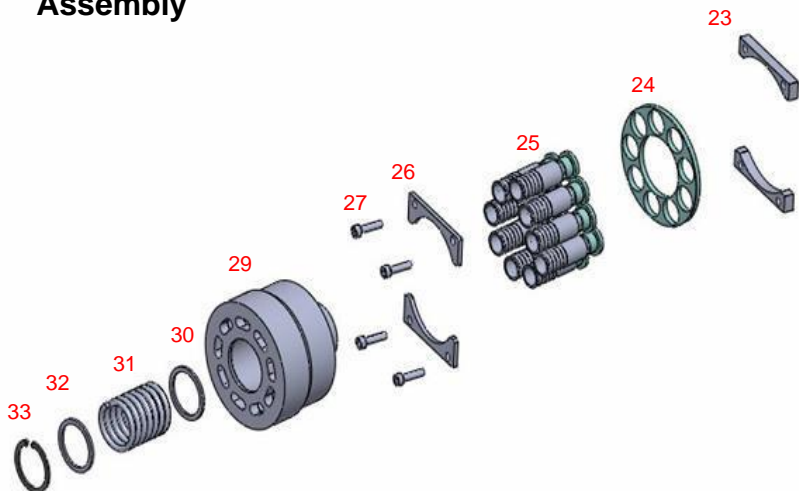
SAE-B 4" PILOT - 876390  
SAE-C 5" PILOT - 876389

Dimensions - inch (mm)

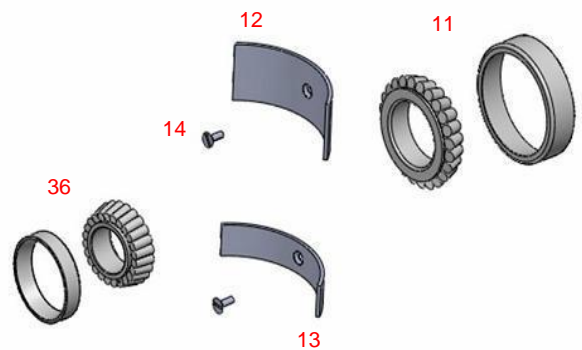
# PVH PISTON PUMP PARTS DRAWING



## Rotating Group Assembly



## Bearing Kit



# PVH PISTON PUMP PARTS LISTING



## PVH PARTS LIST

	PVH57	PVH74	PVH98	PVH131
Item #1 Shaft Seal	513439N	589332N	589332N	864200N
Item #2 Snap Ring	103834N	126911N	126911N	194030N
Item #3 Body Casting	864204N	864498N	864341N	692944N
Item #4 O Ring	576601N	411575N	335659N	335659N
Item #5 Cover	526616N	526637N	513347N	692946N
Item #6 Screws (3 pcs)	470793N	470794N	470793N	470794N
Item #7 O Ring	396098N	396098N	396100N	396100N
Item #8 Plug	186580N	186580N	181792N	181792N
Item #9 O Ring	396102N	396102N	396102N	396102N
Item #10 Plug	513602N	513602N	513602N	513602N
Item #11 Shaft Bearing	513433N	589093N	388154N	388206N
Item #12 Saddle Bearing	513886N	513927N	513912N	692949N
Item #13 Saddle Bearing	513885N	513926N	513911N	692948N
Item #14 Screws (2 pcs)	690339N	690339N	690339N	690339N
Item #15 Yoke Assembly	690832N	526651N	513629N	692941N
Item #16 Control Piston	690211N	690804N	526627N	526753N
Item #17 Control Rod	690210N	690805N	526628N	526754N
Item #18 O Ring	262355N	262355N	262355N	262355N
Item #19 Bias Piston	526668N	690816N	526689N	692152N
Item #20 Spring	526665N	526667N	526686N	526690N
Item #21 Bias Rod	526685N	690806N	513600N	526752N
Item #22 O Ring	262355N	262355N	262355N	262355N
Item #23 Spacers (2 pcs)	690801N	526639N	513625N	526757N
Item #24 Shoe Plate	584512N	584774N	584539N	683791N
Item #25 Piston Kit (9 pcs)	02-306362N	02-305857N	02-152400N	02-159749N
Item #26 Limiters (2 pcs)	690218N	690796N	513626N	526758N
Item #27 Screws (4 pcs)	473741N	473741N	473764N	473764N
Item #28 Drive Shaft for Pumps without thru-drive	114516N Code # 1 Keyed	692567N Code # 1 Keyed	527167N Code # 1 Keyed	860682N Code # 2 Splined
	513839N Code # 2 Splined	513865N Code # 2 Splined	513627N Code # 2 Splined	877042N Code # 3 Splined
	883083N Code # N Keyed	864344N Code # N Keyed		860593N Code #12 Splined
				876175N Code # 13 Keyed
Item #28 Drive Shaft for Pumps with thru-drive	864342N Code # 1 Keyed / Thru Drive	883229N Code # 2 Splined / Thru Drive	860679N Code # 2 Splined / Thru Drive	876177N Code # 3 Splined / Thru Drive
	526684N Code # 2 Splined / Thru Drive	864343N Code # 3 Splined / Thru Drive	864453N Code # 3 Splined / Thru Drive	860594N Code # 12 Splined / Thru Drive
		864344N Code # 13 Keyed / Thru Drive	864454N Code # 13 Keyed / Thru Drive	876176N Code # 16 Keyed / Thru Drive
Item #29 Cylinder Barrel	937023N	937025N	680627N	680628N
Item #30 Spring Guide	680624N	584483N	584546N	417667N
Item #31 Spring	627524N	584454N	627192N	626111N
Item #32 Spring Guide	584524N	631568N	584547N	581104N
Item #33 Retainer	85560N	91365N	102038N	135066N
Item #34 Valve Plate - RH	680630N	627438N	627371N	584540N
Item #34 Valve Plate Q - RH	"Q" 514128N	"Q" 513889N	"Q" 514122N	"Q" 514120N
Item #34 Valve Plate - LH	680631N	627437N	584540N	527163N
Item #34 Valve Plate Q- LH	"Q" 514121N	"Q" 513890N	"Q" 514120N	"Q" 876045N

# PVH PISTON PUMP PARTS LISTING



## PVH PARTS LIST

	PVH57	PVH74	PVH98	PVH131
Item #35 Shaft Spacer kit	926258N	941441N	924082N	02-142690N
Item #36 Valve block bearing	513436N	388153N	413603N	513433N
Item #37 Gasket	513846N	526631N	513631N	526760N
Item #38 Compensator "C"	02-125160N	02-125160N	02-125160N	02-125160N
Item #38 Compensator "CV"	02-125161N	02-125161N	02-125161N	02-125161N
Item #39 Screws (4 pcs)	473765N	473765N	473765N	473765N
Item #40 O Rings (3 pcs)	177969N	177969N	177969N	177969N
Item #41 Valve Block for pumps without tru-drive	928631N - RH	928633N - RH	928635N - RH	928637N - RH
	928679N - LH	928681N - LH	928684N - LH	928687N - LH
	628618N - RH c/w Volume adj.	628620N - RH c/w Volume adj.	628622N - RH c/w Volume adj.	928624N - RH c/w Volume Adj.
	628667N - LH c/w Volume adj.	628669N - LH c/w Volume adj.	628671N - LH c/w Volume adj.	928673N - LH c/w Volume Adj.
Item #41 Valve Block for pumps with "A" mount	928730N - RH	928732N - RH	928710N - RH	928736N
	928705N - LH	928707N - LH	928711N - LH	938713N
Item #41A Coupling 9 tooth SAE-A	526682N	864460N	877039N	877039N
Item 41B Adapter Pad SAE-B Mount	876390N	876390N	876390N	876390N
Item #41B Coupling 13 tooth SAE-B	526694N	864457N	877040N	877040N
Item 41C Adapter Pad SAE-C Mount	876389N	876389N	876389N	876389N
Item #41C Coupling 14 tooth SAE-C	526696N	864458N	877045N	877045N
Item #42 O Ring	396093N	396093N	396093N	396093N
Item #43 Plug	689461N	689461N	689461N	689461N
Item #44 Bolts	474753N 47 - 57 lb.ft.	474753N 47 - 57 lb.ft.	514574N 61 - 75 lb.ft.	473806N 76 - 94 lb.ft.
	470871N 47 - 57 lb.ft.	474746N 47 - 57 lb.ft.	690406N 61 - 75 lb.ft.	473833N 76 - 94 lb.ft.
Item #45 Bolts	470866N 47 - 57 lb.ft.		514573N 61 - 75 lb.ft.	
	860741N	860741N	860740N	860739N
Item #47 Lock Nut	913341N	913341N	913341N	913341N
Item #48 Plug	689461N	689461N	689461N	689461N
Item #49 O Ring	396093N	396093N	396093N	396093N
	PVH57	PVH74	PVH98	PVH131
Seal Kit Assembly Includes: #1 #4 #7 #9 #37 #40 #42 #49	02-102244N	02-1202262N	02-102264N	02-102266N
Rotating Group Assembly Includes: #23 #24 #25 #26 #27 #29 #30 #31 #32 #33	877420N	877421N	877422N	877419N
Bearing Kit Assembly Includes: #1 #4 #7	877423N	877424N	877425N	877426N