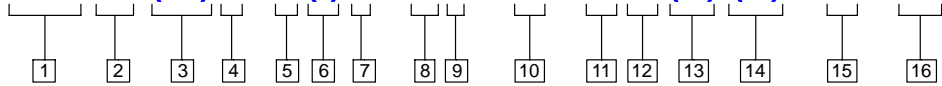


**PVH \*\*\* (QI) \* - \* (\*) \* - \*\* \* - 10 - \*\* \*\* (\*\*) (\*\*) - \*\* - \*\*\***



**1 Pump series**

**2 Maximum geometric displacement**

57 = 57,4 cm<sup>3</sup>/r (3.5 in<sup>3</sup>/r)  
 74 = 73,7 cm<sup>3</sup>/r (4.5 in<sup>3</sup>/r)  
 98 = 98,3 cm<sup>3</sup>/r (6.0 in<sup>3</sup>/r)  
 131 = 131,1 cm<sup>3</sup>/r (8.0 in<sup>3</sup>/r)

**3 Design/application**

Blank = Design for mobile applications  
 QI = Quiet design for industrial applications

**4 Mounting flange, prime mover end**

C = SAE "C" 4-bolt type (SAE J744-127-4)  
 M = ISO 3019/2-125B4HW (Option for PVH57 and PVH only. Must use "N" shaft.)

**5 Shaft rotation, viewed at prime mover end**

R = Right hand (clockwise)  
 L = Left hand (counterclockwise)

**6 Configuration**

Blank = Non-thru-drive (single pump)  
 A = Thru-drive pump with SAE "A" 2-bolt rear flange mounting (SAE J744-82-2)  
 B = Thru-drive pump with SAE "B" 2- and 4-bolt rear flange mountings † (SAEJ744-101-2/4)  
 C = Thru-drive pump with SAE "C" 2- and 4-bolt rear flange mountings † (SAEJ744-127-2/4)  
 S = Adjustable maximum volume stop (non-thru-drive and non-torque-control models only)

† Built from pump with SAE "A" rear pad to which suitable flange adapter is bolted. For best availability and flexibility, order PVH SAE "A" thru-drive pump and SAE "B" or "C" adapter kit separately. ( See page 23.)

**7 Main ports**

F = SAE 4-bolt flange ports  
 M = SAE 4-bolt flange ports with metric mounting bolt threads

**8 Shaft-end type, at prime mover end**

(See torque limits on page 14 and shaft dimensions on page 15.)

N = ISO 3019/2-E32N short straight keyed (Must use "M" mtg. flg.)  
 1 = SAE "C" straight keyed (J744-32-1)  
 2 = SAE "C" splined 14 tooth 12/24 D.P. (J744-32-4)  
 3 = SAE "CC" splined 17 tooth 12/24 D.P. (J744-38-4)  
 12 = SAE "D" splined 13 tooth 8/16 D.P. (J744-44-4)  
 13 = SAE "CC" straight keyed (J744-38-1)  
 16 = SAE "D" straight keyed (J744-44-1)

**9 Shaft seal, prime mover end**

S = Single, one-way.  
 D = Double, two-way. Recommended on second pump of tandem assembly (PVH\*\*/ PVH\*\*) and "wet mount" applications.

**10 Pump design number**

10 (Subject to change. Installation dimensions unaltered for design numbers 10 to 19 inclusive.)

**11 Pressure compensator and adjustment range**

C = 70-250 bar (1015-3625 psi)  
 CM = 40-130 bar ((580-1885 psi)  
 IC = Industrial control, 20 bar (290 psi) differential pressure setting (QI models only)

Note: Unloading valve controls for accumulator circuits are available. See your Vickers representative for circuit review and approval.

**12 Pressure compensator factory setting in tens of bar**

25 = Normal factory setting of 250 bar (3625 psi) for "C" models.  
 7 = Normal factory setting of 70 bar (1015 psi) for "CM" models.

**13 Additional control functions**

Blank = No additional controls  
 V = Load sensing, 20 bar (290 psi) differential pressure setting  
 T = Torque limiter  
 VT = Load sensing and torque limiter

**14 Torque limiter factory setting**

(Use with "T" and "VT" above)  
 \*\* = Customer desired torque limiter setting specified in ten bar (145 psi) increments, e.g.:  
 8 = 80 bar (1160 psi);  
 18 = 180 bar (2610 psi).

**15 Control design number**

31 = C, CM, C\*\*V, or IC controls  
 13 = C\*\*T controls  
 14 = C\*\*VT controls

**16 Special features suffix**

027 = Composite 2-bolt/4-bolt mounting conforming to SAE "C" (except PVH131)  
 031 = Thru-drive SAE "A" pad cover  
 041 = No case-to-inlet relief valve (for use with supercharged circuits). 3,4 bar (50 psi) maximum inlet pressure  
 057 = Shaft-up operation (vertical mount)

# Performance Data

Performance data is typical with SAE 10W anti-wear hydraulic oil at 50° C (120° F) and at zero pump inlet pressure, except where otherwise indicated.

## Rated Characteristics of PVH\*\*\*QI Industrial Pumps

Parameters	PVH57QI	PVH74QI	PVH98QI	PVH131QI
Geometric displacement, max.				
cm <sup>3</sup> /r	57,4	73,7	98,3	131,1
(in <sup>3</sup> /r)	(3.5)	(4.5)	(6.0)	(8.0)
Rated pressure				
bar (psi)	250 (3625) †	250 (3625) †	250 (3625) †	250 (3625) †
Rated speeds in r/min at various inlet pressures				
127 mm Hg (5" Hg)	1500	1500	1500	1200
Zero inlet pressure	1800	1800	1800	1500
0,48 bar (7 psi)	1800	1800	1800	1800
Typical effective flow in l/min (USgpm) at 250 bar (3625 psi)				
at 1500 r/min	83 (22)	102 (27)	140 (37)	186 (49)
at 1800 r/min	98 (26)	125 (33)	170 (45)	223 (59)

† In load sensing systems the compensator can be set at 280 bar (4060 psi).

## Ratings of PVH\*\*\*QI Industrial Pumps with Alternate Fluids

Parameters	Petroleum based	Polyol ester	Water glycol	HWBF(90–10) thickened
Max. pressure				
bar (psi)	250 (3625)	230 (3300)	172 (2500)	155 (2250)
Max. speed in r/min at:				
1,0 bar abs. (0 psi)	1800 ‡	1800	1800	1700
0,85 bar abs. (5" Hg)	1500 □	1500	1500	1500
Max. inlet temp.				
deg. C (deg. F)	93 (200)	65 (150)	50 (120)	50 (120)

‡ 1500 rpm for PVH131 only.

□ 1200 rpm for PVH131 only.

## Rated Characteristics of PVH\*\*\* Mobile Pumps ◇

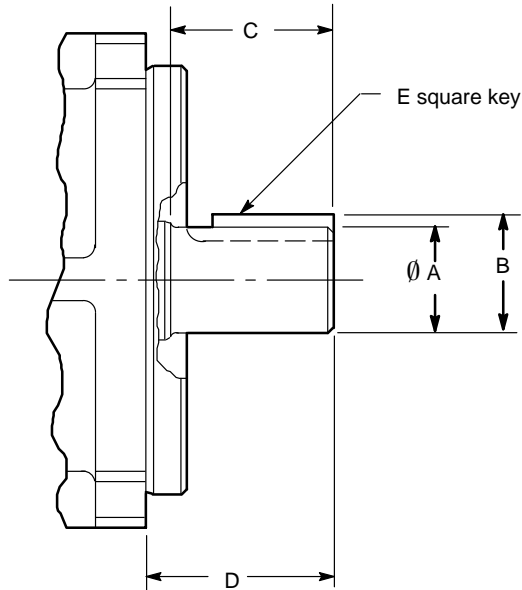
Parameters	PVH57	PVH74	PVH98	PVH131
Rated speeds in r/min at various inlet pressures				
127 mm Hg (5" Hg)	2000	1850	1750	1650
Zero inlet pressure	2400	2200	2100	2000
0,48 bar (7 psi)	3000	2750	2600	2500
Typical effective flow in l/min (USgpm) at 250 bar (3625 psi) and rated speed @				
zero inlet pressure	134 (35)	156 (41)	202 (53)	249 (66)

◇ Displacements & rated pressure are same as for PVH\*\*\*QI industrial pumps.

# Input Shaft Selection Data

Shaft code	Shaft designation	Basic pump series	Thru-drive pump series	Maximum input torque Nm (lb. in.)	Maximum thru-drive output torque Nm (lb. in.)
N	ISO 3019/2–E32N short straight keyed	PVH57	–	450 (3,980)	–
		PVH74	–	450 (3,980)	–
1	SAE “C” (J744-32-1) straight keyed	PVH57	PVH57	450 (3,980)	335 (2,965)
		PVH74	–	450 (3,980)	–
		PVH98	–	450 (3,980)	–
2	SAE “C” (J744-32-4) 14T 12/24 DP FRSF spline	PVH57	PVH57	640 (5,660)	335 (2,965)
		PVH74	–	640 (5,660)	–
		PVH98	–	640 (5,660)	–
3	SAE “CC” (J744-38-4) 17T 12/24 DP FRSF spline	–	PVH74	1215 (10,750)	460 (4,070)
		–	PVH98	1215 (10,750)	640 (5,660)
		PVH131	PVH131	1215 (10,750)	640 (5,660)
12	SAE “D” (J744-44-4) 13T 8/16 DP FRSF spline	PVH131	PVH131	1215 (10,750)	640 (5,660)
13	SAE “CC” (J744-38-1) straight keyed	–	PVH74	765 (6,770)	460 (4,070)
		–	PVH98	765 (6,770)	460 (4,070)
		PVH131	–	765 (6,770)	–
16	SAE “D” (J744-44-1) straight keyed	–	PVH131	1200 (10,620)	640 (5,660)

# Input Shaft Dimensions



## Straight Keyed Shafts\*

Shaft code	Shaft designation	A	B	C	D	E
1	SAE "C" (J744-32-1)	31,75 (1.25)	35,32 (1.38)	48,0 (1.89)	56,0 (2.20)	7,93 (.312)
13	SAE "CC" (J744-38-1)	38,10 (1.50)	42,39 (1.67)	54,0 (2.12)	62,0 (2.44)	9,52 (.375)
16	SAE "D" (J744-44-1)	44,45 (1.75)	49,46 (1.95)	67,0 (2.64)	75,0 (2.95)	11,11 (.438)
N	ISO 3019/2-E32N	32,00 (1.26)	35,00 (1.38)	58,0 (2.28)	68,1 (2.68)	10,00 (.393)

\* See torque limits on previous page.

## Spline Shafts\*

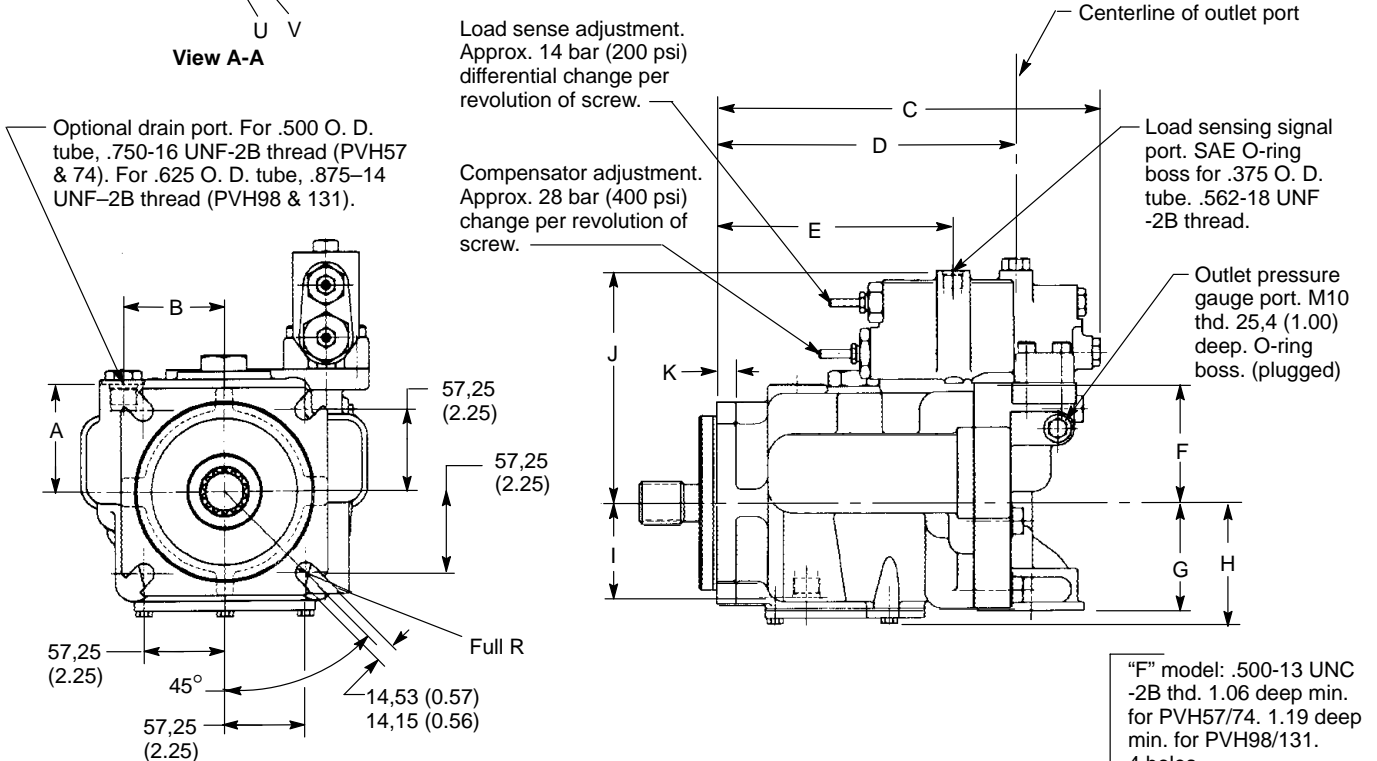
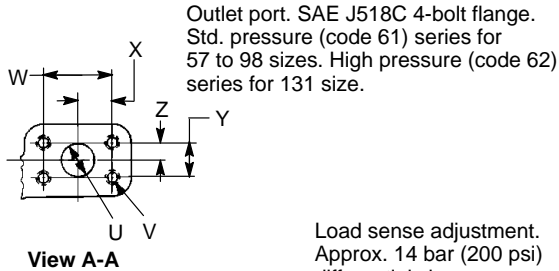
Shaft code	Shaft designation	Number of teeth	C	D
2	SAE "C" (J744-32-4)	14	48,0 (1.89)	56,0 (2.20)
3	SAE "CC" (J744-38-4)	17	54,0 (2.13)	62,0 (2.44)
12	SAE "D" (J744-44-4)	13	67,0 (2.64)	75,0 (2.95)

\* See torque limits on previous page.

# Installation Dimensions

## Basic Pump with Pressure Compensator and Load Sense Controls

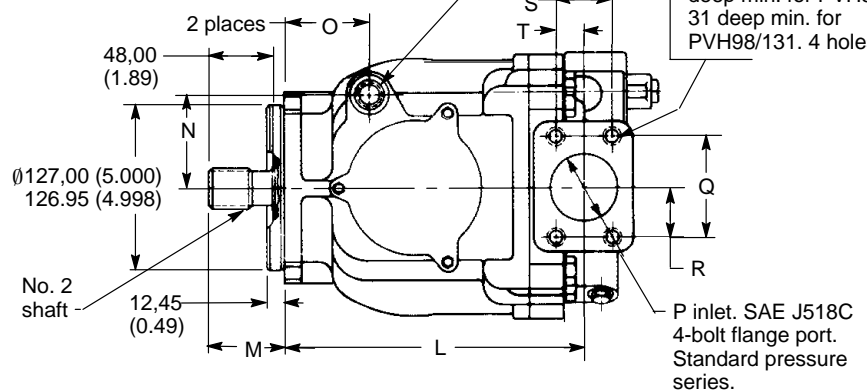
Dimensions shown in mm (in.)



Drain port. SAE O-ring boss.  
.500 O. D. tube, .750-16 UNF-2B thread (PVH57 & 74).  
.626 O. D. tube, .875-14 UNF-2B thread (PVH98 & 131).

"F" model: .500-13 UNC -2B thd. 1.06 deep min. for PVH57/74. 1.19 deep min. for PVH98/131. 4 holes.

"M" model: M12 thd. 29 deep min. for PVH57/74. 31 deep min. for PVH98/131. 4 holes.



For shaft options and dimensions, see pages 14 and 15. Standard SAE pump mounting flange shown; see page 24 for optional SAE 2-bolt/4-bolt and ISO flanges. See page 25 for shaft-up mounting option.

# Installation Dimensions

## Basic Pump with Pressure Compensator and Load Sense Controls

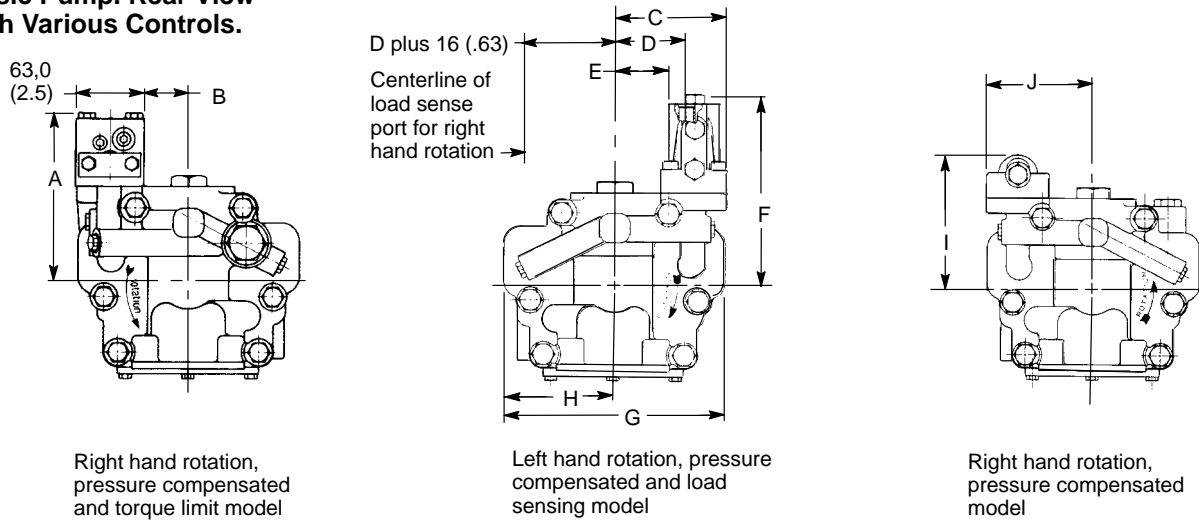
	A	B	C	D	E	F	G	H	I
PVH57	76,0 (2.99)	71,0 (2.79)	293,0 (11.54)	216,5 (8.52)	171,3 (6.74)	86,0 (3.39)	79,0 (3.11)	88,0 (3.46)	69,0 (2.71)
PVH74	88,0 (3.46)	70,0 (2.75)	306,6 (12.07)	241,2 (9.50)	194,3 (7.65)	92,0 (3.62)	94,0 (3.70)	95,0 (3.74)	81,0 (3.19)
PVH98	93,1 (3.67)	85,0 (3.35)	323,5 (12.74)	251,3 (9.89)	206,1 (8.11)	94,5 (3.72)	87,5 (3.44)	97,1 (3.82)	80,1 (3.15)
PVH131	109,4 (4.31)	88,8 (3.50)	377,0 (14.84)	280,4 (11.04)	230,4 (9.07)	120,0 (4.72)	109,0 (4.29)	107,4 (4.23)	84,8 (3.34)

	J	K	L	M	N	O	P	Q	R
PVH57	168,0 (6.6)	14,0 (0.55)	227,4 (8.95)	56,1 (2.21)	71,0 (2.80)	64,8 (2.55)	50,8 (2.0)	77,77 (3.06)	38,88 (1.53)
PVH74	174,0 (6.85)	15,0 (0.59)	250,1 (9.85)	56,0 (2.20)	70,0 (2.75)	68,0 (2.68)	50,8 (2.0)	77,77 (3.06)	38,88 (1.53)
PVH98	176,5 (6.95)	16,0 (0.63)	269,3 (10.60)	55,5 (2.18)	85,0 (3.35)	74,2 (2.92)	63,5 (2.5)	88,9 (3.50)	44,45 (1.75)
PVH131	202,0 (7.95)	15,0 (0.59)	298,6 (11.75)	62,0 (2.44)	88,8 (3.50)	70,6 (2.78)	63,5 (2.5)	88,9 (3.50)	44,45 (1.75)

	S	T	U	V	W	X	Y	Z
PVH57	42,88 (1.69)	21,44 (0.84)	25,4 (1.0)	M10x1,5 (.375-16)	52,37 (2.06)	26,18 (1.03)	26,19 (1.03)	13,10 (0.52)
PVH74	42,88 (1.69)	21,44 (0.84)	25,4 (1.0)	M10x1,5 (.375-16)	52,37 (2.06)	26,18 (1.03)	26,19 (1.03)	13,10 (0.52)
PVH98	50,8 (2.0)	25,4 (1.0)	25,4 (1.0)	M10x15 (.375-16)	52,37 (2.06)	26,19 (1.03)	26,19 (1.03)	13,10 (0.52)
PVH131	50,8 (2.0)	25,4 (1.0)	31,75 (1.25)	M14x2,0 (.500-13)	66,68 (2.63)	33,34 (1.31)	31,75 (1.25)	15,88 (0.63)

# Installation Dimensions

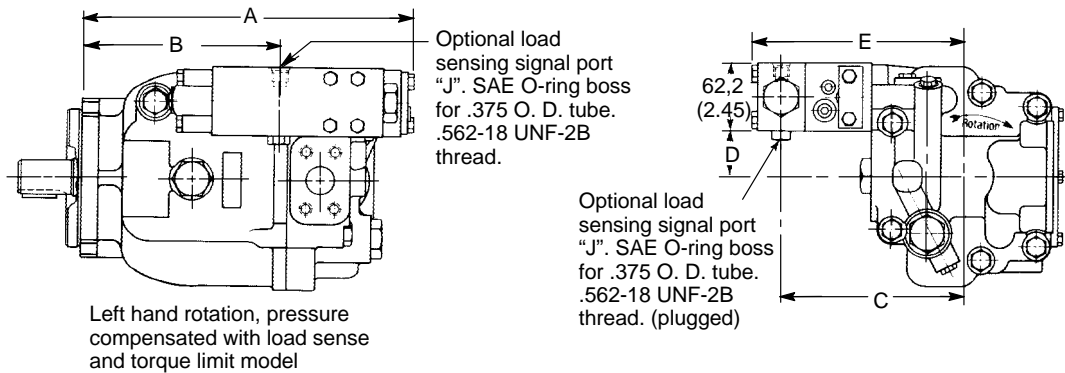
## Basic Pump. Rear View with Various Controls.



	A	B	C	D*	E	F	G	H	I	J
PVH57	176,45 (6.95)	41,0 (1.61)	102,7 (4.04)	64,5 (2.54)	49,0 (1.93)	176,6 (6.95)	203,0 (7.99)	101,5 (4.00)	127,0 (5.00)	102,7 (4.04)
PVH74	182,45 (7.18)	47,5 (1.87)	109,2 (4.30)	71,0 (2.79)	55,5 (2.19)	182,6 (7.18)	224,0 (8.82)	112,0 (4.41)	133,0 (5.23)	109,2 (4.30)
PVH98	195,45 (7.69)	41,0 (1.61)	102,7 (4.04)	65,5 (2.54)	49,0 (1.93)	185,1 (7.280)	233,0 (9.17)	116,5 (4.59)	135,5 (5.33)	102,7 (4.04)
PVH131	210,50 (8.29)	63,6 (2.50)	125,2 (4.92)	87,0 (3.42)	71,5 (2.81)	210,6 (8.29)	254,2 (10.00)	127,1 (5.00)	161,0 (6.37)	125,2 (4.92)

\*Add 16,0 (.63) to dimension D for right hand rotation model.

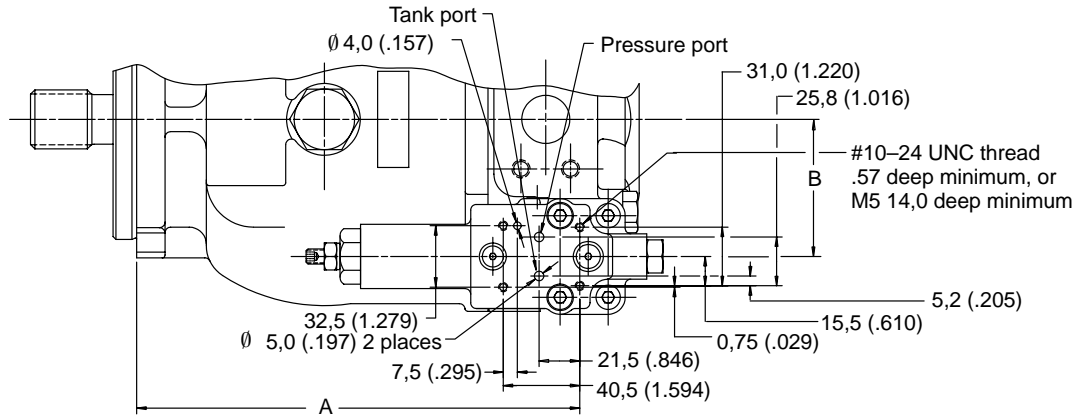
## Pump with Pressure Compensation, Load Sense and Torque Limit Controls



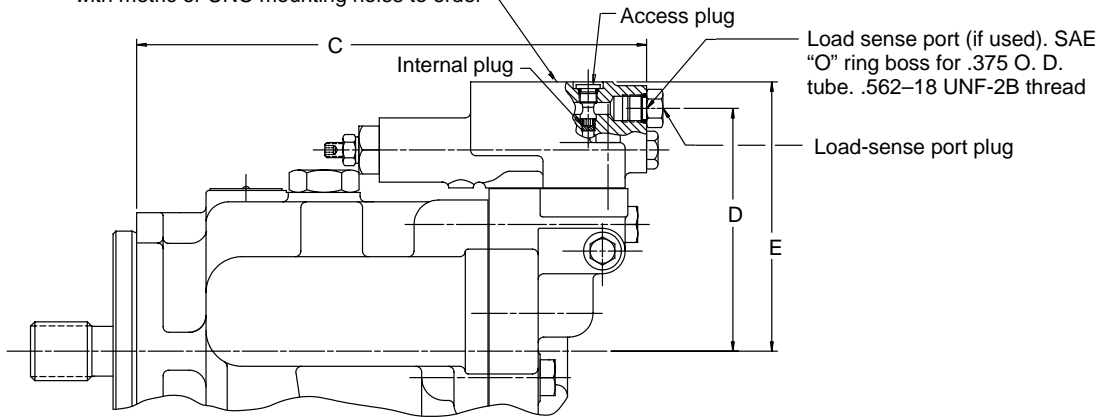
	A	B	C	D	E
PVH57	300,2 (11.82)	177,4 (6.98)	168,1 (6.62)	41,4 (1.63)	195,4 (7.69)
PVH74	322,9 (12.71)	200,1 (7.88)	174,1 (6.85)	47,9 (1.86)	201,4 (7.93)
PVH98	335,1 (13.19)	212,3 (8.36)	187,1 (7.37)	41,4 (1.63)	214,4 (8.44)
PVH131	359,5 (14.15)	236,6 (9.31)	202,2 (7.96)	63,8 (2.51)	229,5 (9.04)

# Installation Dimensions

## Pump with IC Compensator (Remotely Controllable Pressure Compensator, and Optional Load Sensing)



Control surface, ISO4401 size 03. Available with metric or UNC mounting holes to order



### Pressure compensator:

Remove access plug, using 1/8 inch hex wrench. Remove internal plug, using 5/32 inch hex wrench. Replace access plug and torque to 12,1-12,4 Nm (107-110 lb. in.). Attach relief valve hardware (not supplied) to control surface. See page 11 for more details.

### Pressure compensator with load sensing:

Remove load-sense port plug. (Internal plug must remain in place.) Attach line to load-sense port. Pressure decay rate of this line must not exceed 11 kbar/second (160 kpsi/second). Attach relief valve hardware (not supplied) to control surface. See page 11 for more details.

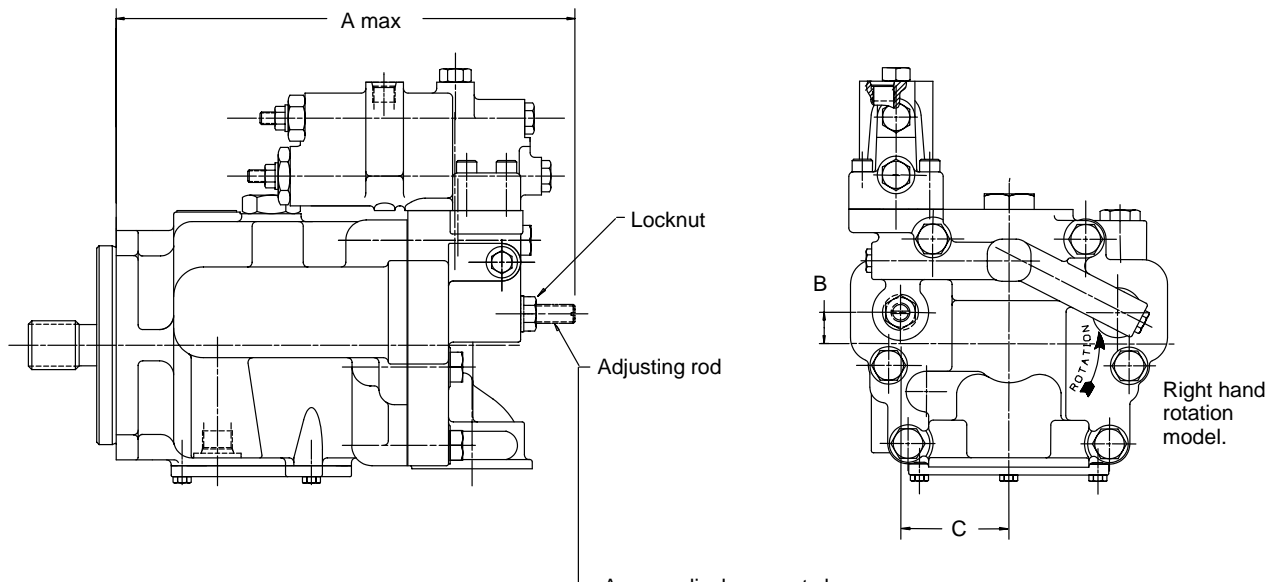
	A	B	C	D	E
PVH57	234,5 (9.23)	72,5 (2.85)	269,9 (10.62)	128,0 (5.04)	142,0 (5.59)
PVH74	257,2 (10.12)	79,0 (3.11)	292,6 (11.52)	134,0 (5.27)	148,0 (5.83)
PVH98	269,3 (10.60)	72,5 (2.85)	304,7 (12.00)	136,5 (5.37)	150,5 (5.92)
PVH131	293,6 (11.56)	95,0 (3.74)	329,0 (12.95)	162,0 (6.38)	176,0 (6.93)



# Installation Dimensions

## Pump with Adjustable Maximum Volume Stop

This option allows maximum pump delivery to be externally adjusted from 25 to 100 percent. To assist initial priming, adjust stop to allow at least 40 percent of maximum delivery. Adjust by loosening locknut and turning adjusting rod clockwise to decrease maximum delivery, or counterclockwise to increase maximum delivery. When desired setting is obtained, torque locknut to 25-50 Nm (18-36 lb. ft.).

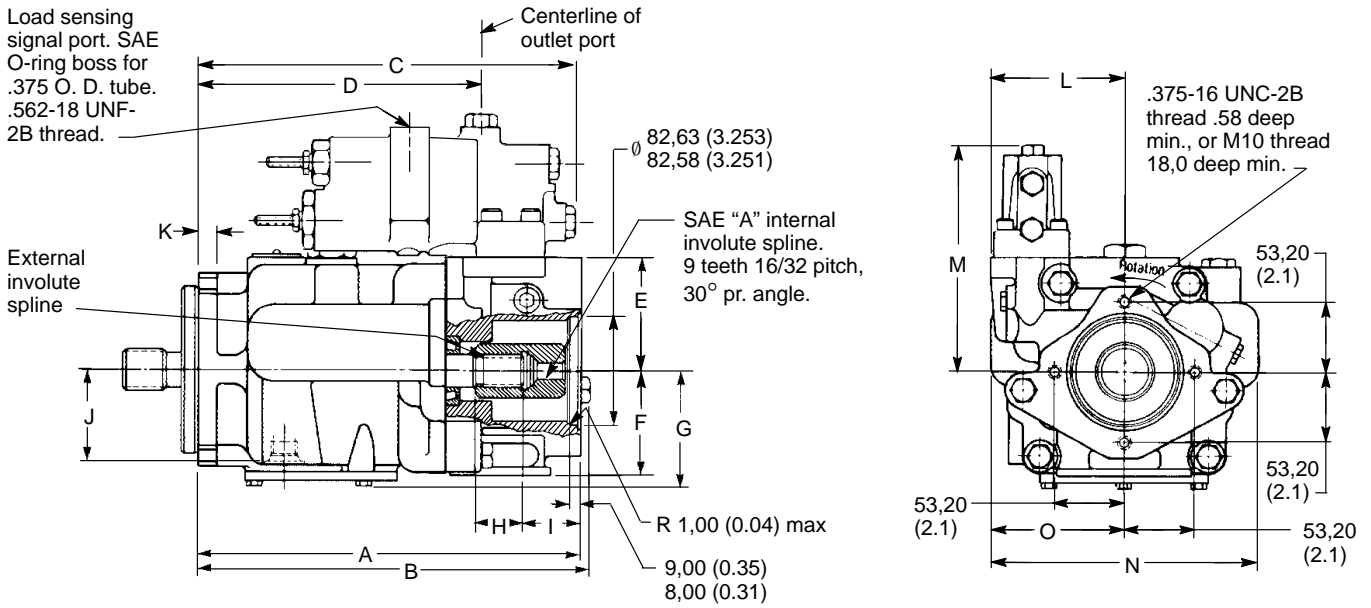


Approx. displacement change per revolution of rod:  
 PVH57 – 4,25 cm<sup>3</sup> (0.259 in<sup>3</sup>)  
 PVH74 – 5,00 cm<sup>3</sup> (0.305 in<sup>3</sup>)  
 PVH98 – 6,25 cm<sup>3</sup> (0.381 in<sup>3</sup>)  
 PVH131 – 8,50 cm<sup>3</sup> (0.519 in<sup>3</sup>)

	<b>A</b>	<b>B</b>	<b>C</b>
PVH57	293,0 (11.53)	20,0 (.79)	69.5 (2.74)
PVH74	306,6 (12.07)	22,0 (.87)	76,0 (2.99)
PVH98	323,5 (12.74)	27,5 (1.08)	81,0 (3.19)
PVH131	377,0 (14.84)	37,5 (1.48)	88,8 (3.50)

# Installation Dimensions

## Thru-drive Pumps with SAE "A" Rear Pad



For shaft options and dimensions, see pages 14 and 15. See page 24 for optional cover for rear pad.

Note: The O-ring for sealing the rear mounting pad is furnished with the pump. The rear drive coupling shown must be ordered separately; see page 23

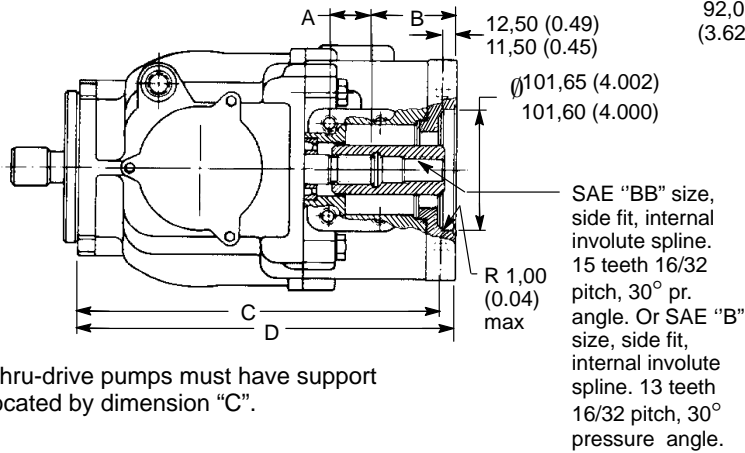
Right hand rotation, pressure compensated and load sensing model.

	A	B	C	D	E	F	G	H
PVH57	287,9 (11.3)	295,4 (11.6)	275.8 (10.86)	216,4 (8.52)	86,0 (3.38)	79,0 (3.11)	88,0 (3.46)	36,4 (1.43)
PVH74	310.6 (12.23)	318,1 (12.52)	300,5 (11.83)	241,2 (9.50)	92,0 (3.62)	94,0 (3.70)	95,0 (3.74)	38,5 (1.51)
PVH98	322,8 (12.71)	N/A	312,7 (12.31)	251,3 (9.89)	94,5 (3.72)	87,5 (3.44)	97,1 (3.82)	33,0 (1.30)
PVH131	347,1 (13.660)	N/A	337,0 (13.27)	280,4 (11.04)	120,0 (4.72)	109,0 (4.29)	107,4 (4.23)	35,3 (1.39)

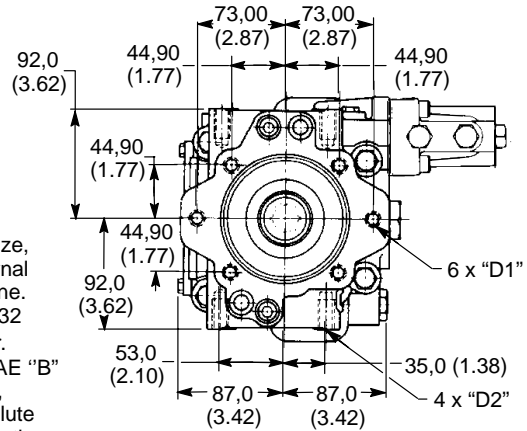
	I	J	K	L	M	N	O
PVH57	43,6 (1.72)	69,0 (2.71)	14,0 (0.55)	102,7 (4.04)	176,6 (6.95)	203,0 (7.99)	101,5 (4.00)
PVH74	43,8 (1.72)	81,0 (3.19)	15,0 (0.59)	109,2 (4.30)	182,6 (7.18)	224,0 (8.82)	112,0 (4.41)
PVH98	44,6 (1.75)	80,1 (3.15)	16,0 (6.30)	102,7 (4.04)	185,1 (7.28)	233,0 (9.17)	116,5 (4.59)
PVH131	44,7 (1.76)	84,8 (3.34)	15,0 (0.59)	125,2 (4.93)	210,6 (8.29)	254,2 (10.0)	127,1 (5.00)

# Installation Dimensions

## Thru-drive Pumps with SAE "B" Rear Pad Adapter

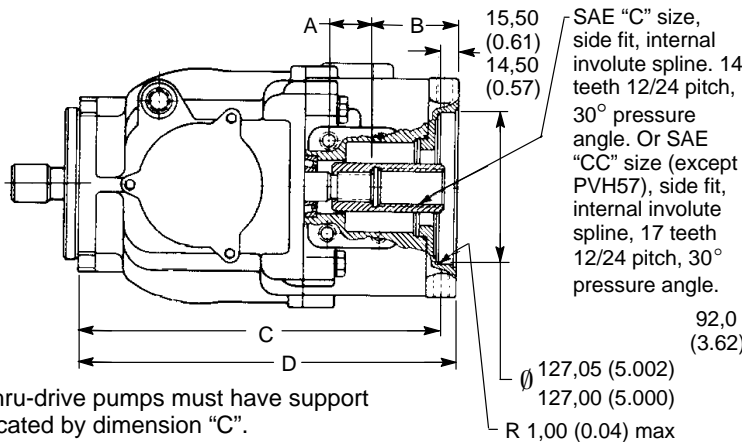


Thru-drive pumps must have support located by dimension "C".

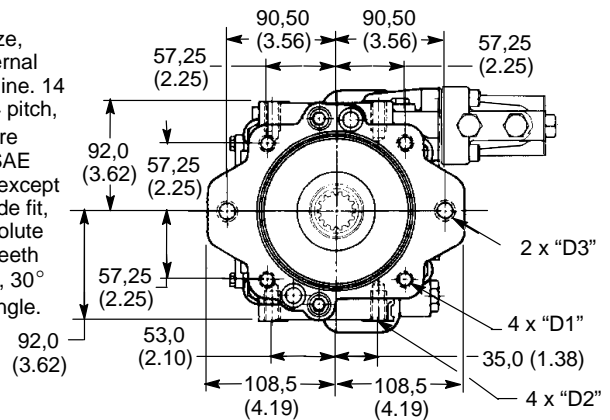


SAE "B" rear mounting. Mounting pad is machined to accept AS568-155 O-ring. Mounting pad is connected to pump case and must be sealed.

## Thru-drive Pumps with SAE "C" Rear Pad Adapter



Thru-drive pumps must have support located by dimension "C".



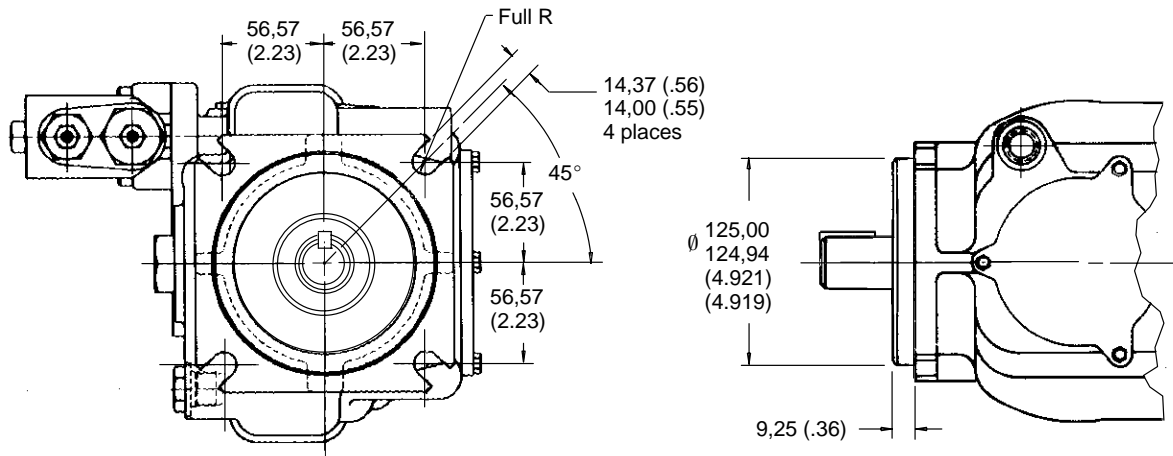
SAE "C" rear mounting. Mounting pad is machined to accept AS568-159 O-ring. Mounting pad is connected to pump case and must be sealed.

Note: The O-ring for sealing the rear mounting pad is furnished with the pump. The rear drive couplings shown must be ordered separately; see following page.

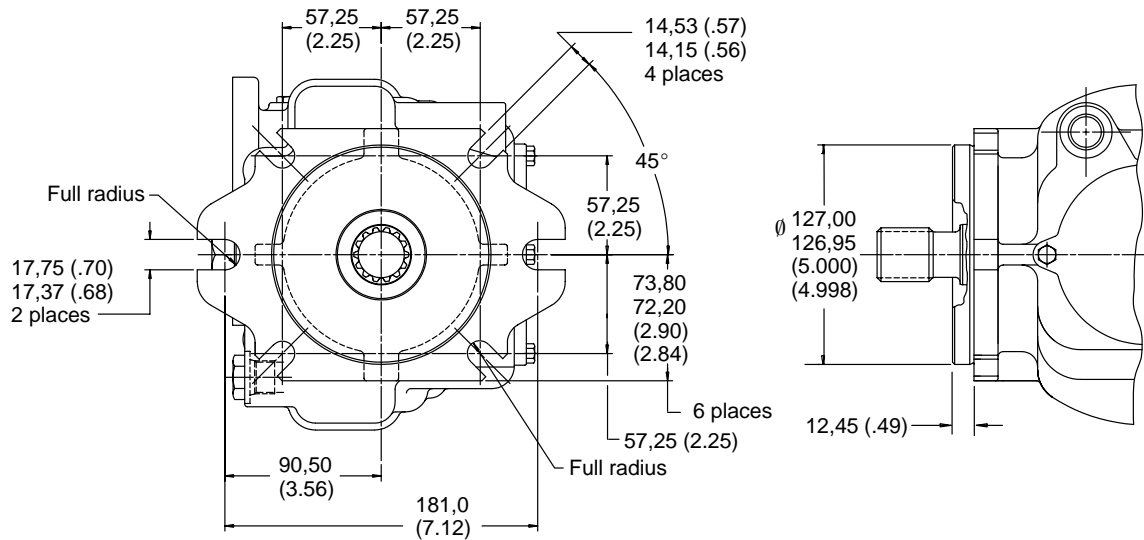
Pump Model	A	B	C	D
PVH57	36,4 (1.43)	68,8 (2.71)	300,4 (11.82)	312,9 (12.32)
PVH74	33,5 (1.32)	68,3 (2.69)	323,1 (12.72)	335,6 (13.21)
PVH98	33,0 (1.30)	69,8 (2.75)	335,3 (13.20)	347,7 (13.69)
PVH131	35,3 (1.39)	69,7 (2.74)	359,6 (14.16)	372,1 (14.65)

	D1	D2	D3
Metric	M14x2,00 25 deep	M12x1,75 25 deep	M16x2,00 25 deep
Inch	0.500-13 UNC-2B 1.0 deep	0.500-13 UNC-2B 1.0 deep	0.625-11 UNC-2B 1.0 deep

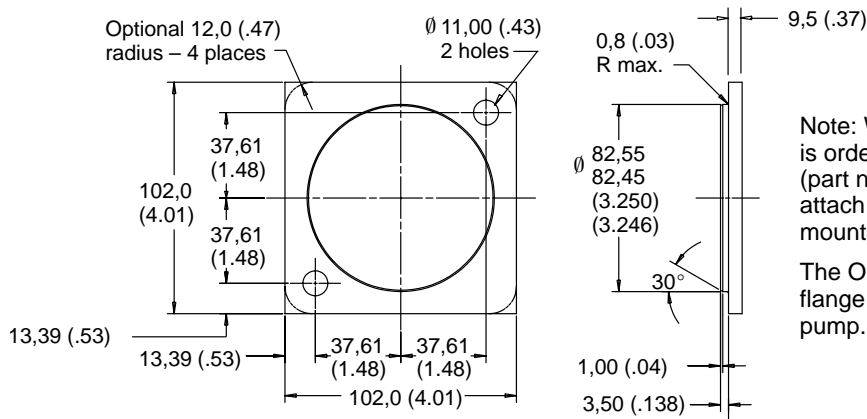
**ISO 3019/2-125B4HW Mounting Flange for PVH57 and PVH74 Pumps**



**SAE 2-bolt/4-bolt Mounting ("027" Option) for PVH57, PVH74 and PVH98 Pumps**



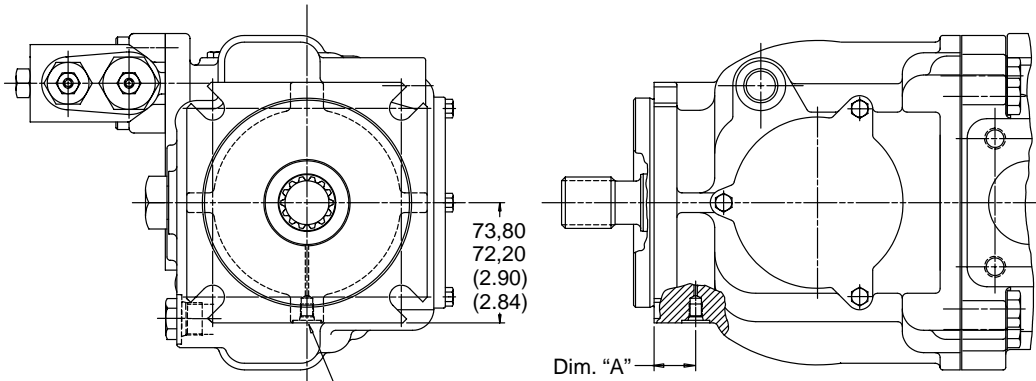
**Cover ("031" Option) for Thru-drive SAE "A" Rear Mounting Flange**



Note: When cover (part number 939790) is ordered as a separate part, two screws (part number 170177) are required to attach the cover to the pump's rear mounting flange.

The O-ring for sealing the rear mounting flange is furnished with each thru-drive pump.

**Pumps for Shaft-up Operation (Vertical Mount, "057" Option)**

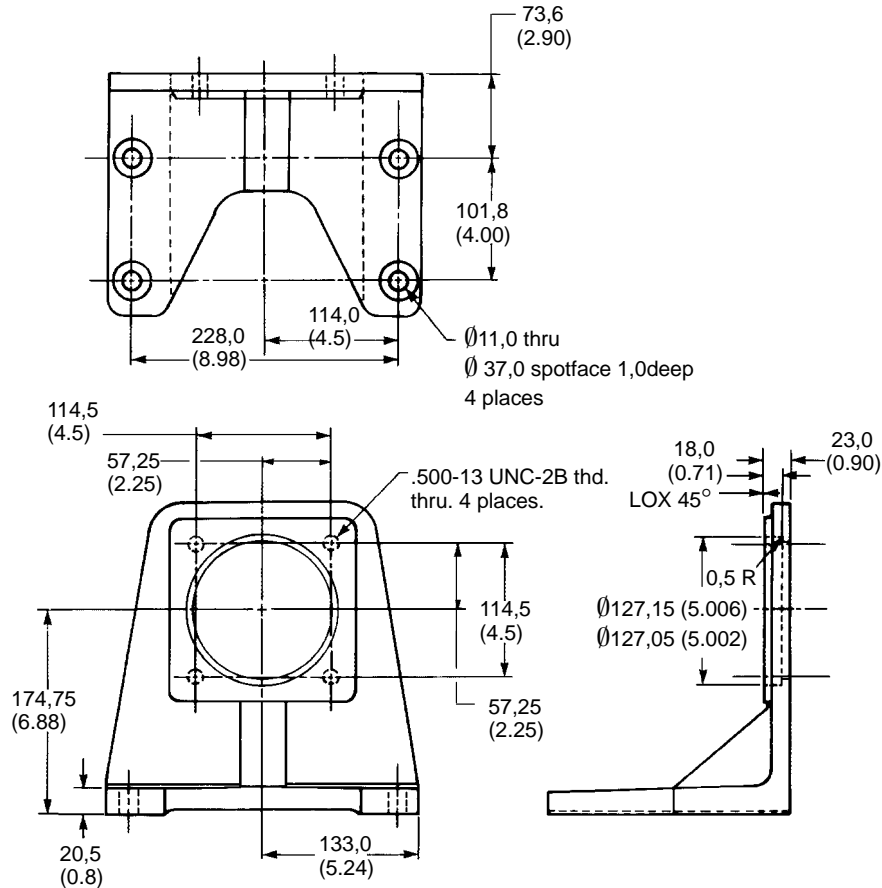


Model	Dim. "A"
PVH57	25,68/24,94 (1.01/0.98)
PVH74	26,64/25,90 (1.05/1.02)
PVH98	25,82/25,08 (1.02/0.99)
PVH131	25,12/24,38 (.99/0.96)

Vertical mount port.  
For .125 O. D. tube.  
.3125-24 UNF-2B thread.  
1,59 (.0625) maximum  
spotface depth

Attach line from this port to primary case drain line. Join these lines at a distance above the face of the mounting flange that equals, or is less than, dimension "A". Fill case with fluid up to this port prior to start-up.

**Model FB-C4-10 Foot Mounting Kit for All PVH Pumps**



Each kit (part no. 02-143419) includes bracket shown and four screws for mounting to the pump. Kits are not included with pumps and must be ordered separately by model number.