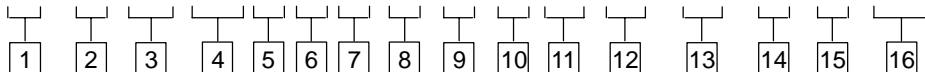


Model Codes

P * B ** - (F) - (M) * * (F)(X) (*) - ** - ** - (C) - (G) - (L) - ** - ****



1 Basic models

F = Fixed displacement type
V = Variable displacement type

2 Displacement

PFB and PVB models:

5 = 10,55 cm³/r (0.64 in³/r)
10 = 21,10 cm³/r (1.29 in³/r)
20 = 42,80 cm³/r (2.61 in³/r)

PVB models only:

6 = 13,81 cm³/r (0.84 in³/r)
15 = 33,00 cm³/r (2.01 in³/r)
29 = 61,60 cm³/r (3.76 in³/r)
45 = 94,50 cm³/r (5.76 in³/r)
90 = 197,50 cm³/r (12.0 in³/r)

3 Foot mounting option

F = Foot mounting option for PVB45 and PVB90 models.

Omit for flange mounting.

Note. For foot mounting brackets. for other models see bottom of page.

4 Mounting flange

M = Metric, to DIN/ISO 3019, Part 2 and VDMA 24560, Part 1

Omit for SAE mounting flange

5 Shaft rotation

Viewed at shaft end

R = Clockwise

L = Anticlockwise (not available for PFB10 and PFB20)

6 Displacement zone

PVB models only.

S = One side of center (pressure compensated models only)

D = Both sides of center (Handwheel and lever controlled models only)

Omit for PFB models.

7 Flanged main ports

F = PVB45 and PVB90 models only.
Omit for P*B5 to 29 inclusive.

8 Thru shaft option

PVB5 to 29 only:

X = Thru shaft (with side entry ports)
Omit for PVB45 and PVB 90, or if not required.

9 Shaft type

N = Metric, to DIN/ISO 3019, Part 2 and VDMA 24560, Part 1

Y = SAE models P*B5 to 15 only.

Omit for 20 thru 90 models

10 Pump design number

10 = PFB20

30 = PFB10

31 = PVB10 and PVB15

20 = all other models

11 Displacement control options

PVB models only.

C = Pressure compensator. Pressure adjustment range:

PVB90: 19 to 210 bar (275 to 3000 psi)

All other models: 17 to 210 bar (250 to 3000 psi)

Also used as prefix for item 12

Note. For PVB6, 15 and 29 models, the user must ensure that the max. pressure setting never exceeds 140 or 100 bar (2000 or 1500 psi) dependent on the type of fluid being used.

CM = Pressure compensator. Option for all sizes except PVB90.

Pressure adjustment range:
PVB45: 10 to 100 bar (150 to 1500 psi)

All other sizes: (17 to 100 bar (250 to 1500 psi)

CVP = Load sensing with pressure limiter.

PVB5 to 15 only:

H = Handwheel control

M = Lever control

V = No control (As for "M" type but without lever.)

Omit for PFB models.

12 Maximum displacement adjustment

PVB5 to 29 models only:

C = "C" or "CM" compensator, and with 12

Omit when not required.

13 Pressure compensator variations

PVB5 to 29 models only:

G = Remotely adjustable pressure setting.

Omit when not required.

14 Control location

PVB5 to 15 models with "H", "M" or "V" controls only:

L = Left hand, when viewed at shaft end.

Omit for right hand, or when a pressure compensator is fitted.

15 Control design number

PVB models only.

10 = "H" and "M" controls; also "C" control for PVB90

11 = "C" and "CM" controls.

12 = "CVP" control.

20 = "CG" control.

16 Special design options

For PFB5 and PVB5 to 29 only:

S.30 = Extra drain port to permit vertical "shaft-up" installation.

For PVB5 to PVB29 pressure compensated models only:

GE1 = 10% minimum displacement. when pressure compensated.

For all models:

GEVS = Pressure setting knob with key lock.

Omit when not required.

Foot bracket mounting kits

Order separately if required. Kits include pump fixing bolts.

Model code	Part number	For pump sizes:
------------	-------------	-----------------

FB-A-10	422582	P*B5/6
---------	--------	--------

FB-B-10	422583	P*B10/15 and PFB20
---------	--------	--------------------

FB-C-10	422584	PVB20/29
---------	--------	----------

Temperature Limits

Minimum ambient -20°C (-4°F)
 Maximum ambient. . . +70°C (+158°F)

** To obtain maximum service life from both fluid and hydraulic system, 65° C (150° F) normally is the maximum temperature except for water-containing fluids. Whatever the actual temperature range, ensure that viscosities stay within the limits specified in "Hydraulic Fluids" section.*

- Drive Methods

Direct co-axial drive through a suitable flexible coupling is preferred. If an indirect drive is to be used, first consult your Vickers representative.

Fluid Temperatures

	Mineral oil	Water-containing
Minimum	-20°C (-4°F)	+10°C (+50°F)
Maximum*	+80°C (+176°F)	+54°C (+129°F)

Filtration Requirements

20/18/14 or ISO 18/14..

Drive Requirements:

- Direction of Rotation

Clockwise or anti-clockwise (viewed at shaft end) to order; see also "Model Code", and "Installation Dimensions" sections.

Noise Levels

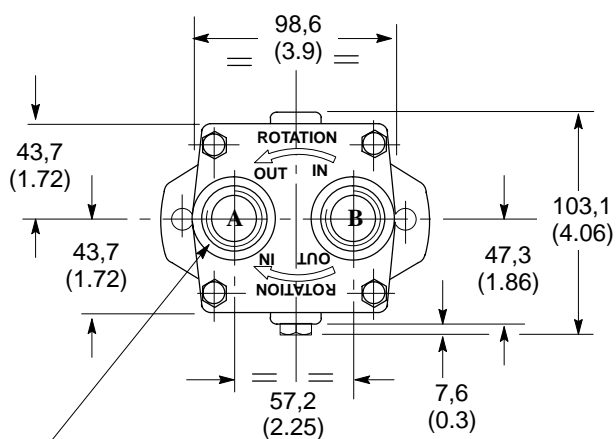
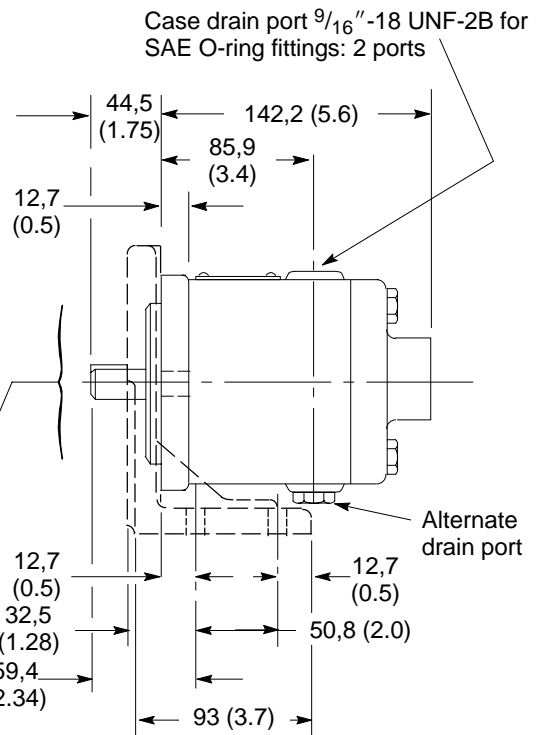
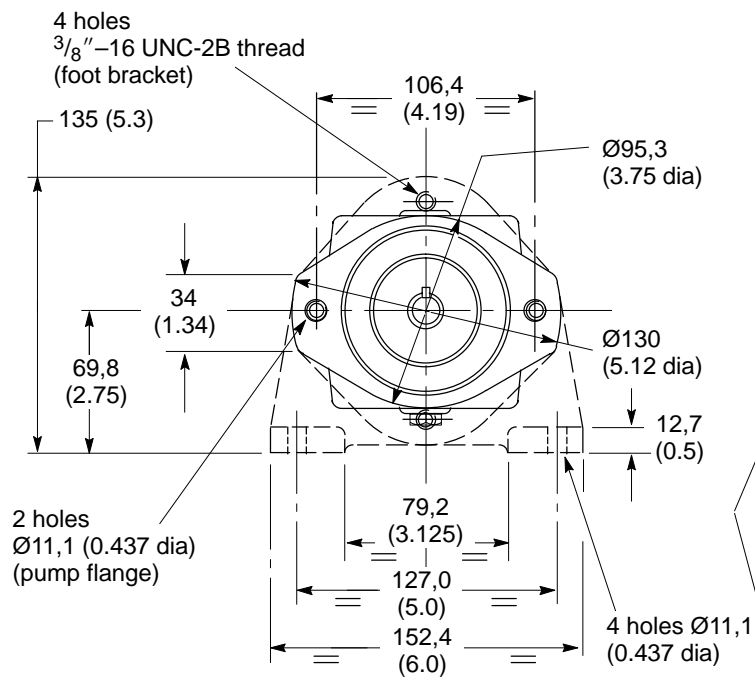
* Typical values equivalent to NFPA

Speed r/min	Pressure bar (psi)	Stroke	Noise level – dB(A)*						
			PVB5	PVB6	PVB10	PVB15	PVB20	PVB29	
1000	35 (500)	Full flow	51	52	54	58	–	–	
		Cutoff	51	51	44	47	–	–	
	70 (1000)	Full flow	54	55	56	60	–	–	
		Cutoff	52	54	49	54	–	–	
	140 (2000)	Full flow	56	57	60	62	–	–	
		Cutoff	58	56	55	59	–	–	
	210 (3000)	Full flow	60	–	61	–	–	–	
		Cutoff	59	–	59	–	–	–	
	1200	35 (500)	Full flow	50	51	55	60	–	–
			Cutoff	52	51	48	51	–	–
70 (1000)		Full flow	54	55	57	61	74	70	
		Cutoff	56	57	51	54	–	–	
140 (2000)		Full flow	59	59	60	63	74	73	
		Cutoff	59	60	54	58	69	76	
210 (3000)		Full flow	60	–	62	–	78	–	
		Cutoff	61	–	56	–	–	–	
1500		35 (500)	Full flow	54	54	58	63	–	–
			Cutoff	52	52	51	52	–	–
	70 (1000)	Full flow	58	58	60	64	–	–	
		Cutoff	57	57	55	55	–	–	
	140 (2000)	Full flow	61	62	62	66	–	–	
		Cutoff	62	59	62	59	–	–	
	210 (3000)	Full flow	64	–	65	–	–	–	
		Cutoff	62	–	63	–	–	–	
	1800	35 (500)	Full flow	57	58	61	64	–	–
			Cutoff	55	57	55	56	–	–
70 (1000)		Full flow	60	61	63	67	76	77	
		Cutoff	59	58	59	60	–	–	
140 (2000)		Full flow	63	66	65	69	81	81	
		Cutoff	62	63	62	64	75	81	
210 (3000)		Full flow	64	–	67	–	81	–	
		Cutoff	64	–	65	–	–	–	

PFB5 SAE Flange Mounting

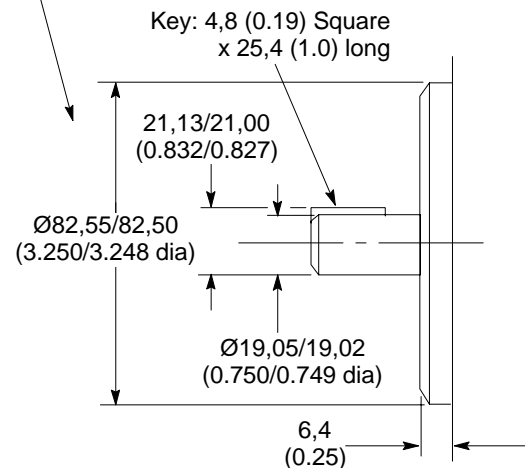
Installation Dimensions in mm (inches)

Optional foot bracket, shown in dashed outline; kit FB-A-10 comprises foot bracket and two pump fixing bolts. Order separately, if required.



Inlet/outlet ports:
1 1/16" -12 UNF-2B thread for SAE O-ring fittings.

View on rear end of pump

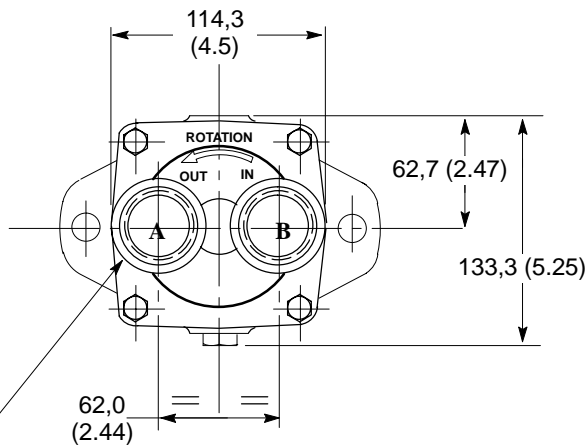
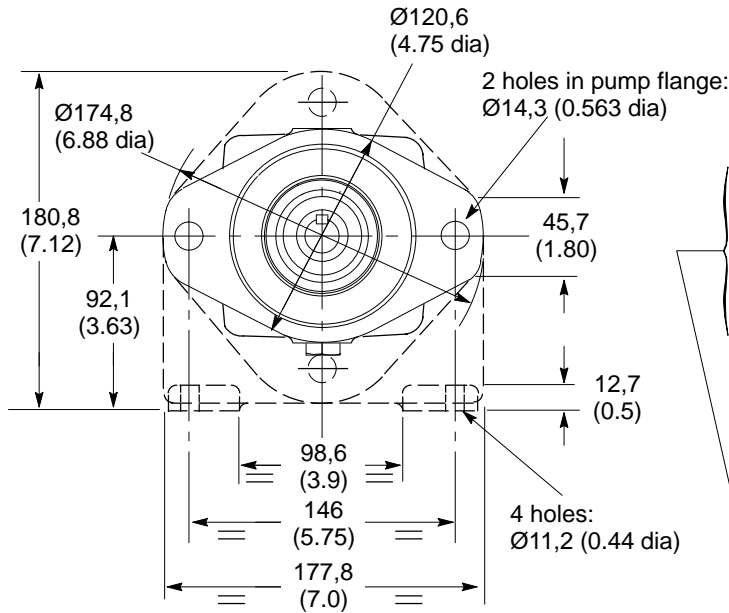


Detail of shaft, key and locating diameter

PFB10 SAE Flange Mounting

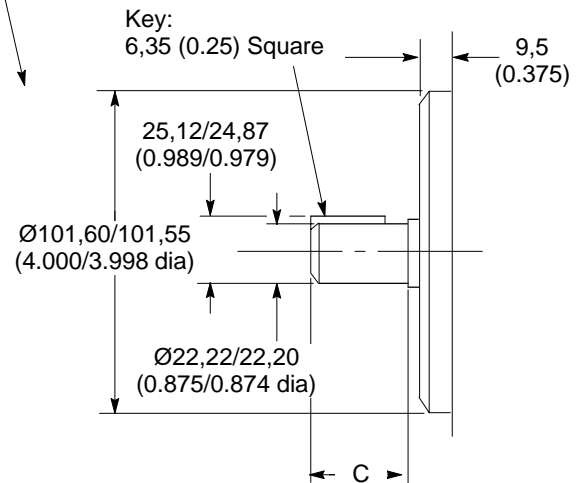
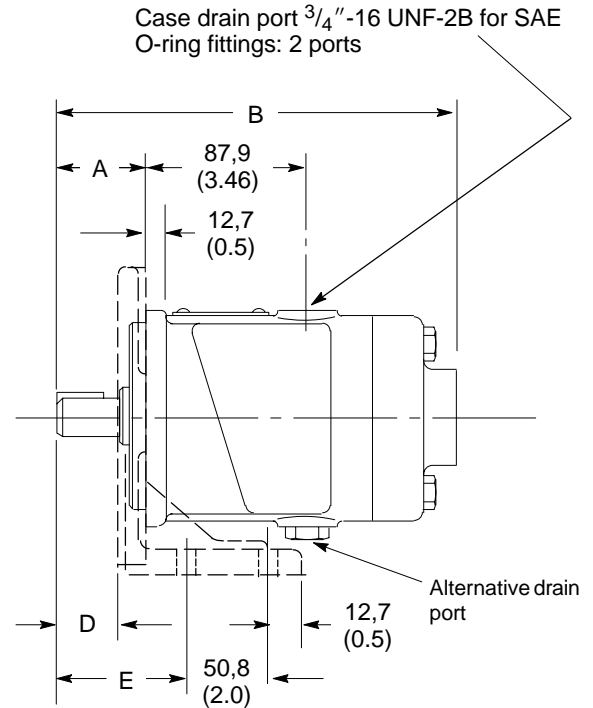
Installation Dimensions in mm (inches)

Optional foot bracket, shown in dashed outline; kit FB-B-10 comprises foot bracket and two pump fixing bolts. Order separately, if required.



Inlet/outlet ports:
1⁵/₈"-12 UNF-2B thread for SAE O-ring fittings.

View on rear end of pump



Detail of shaft, key and locating diameter

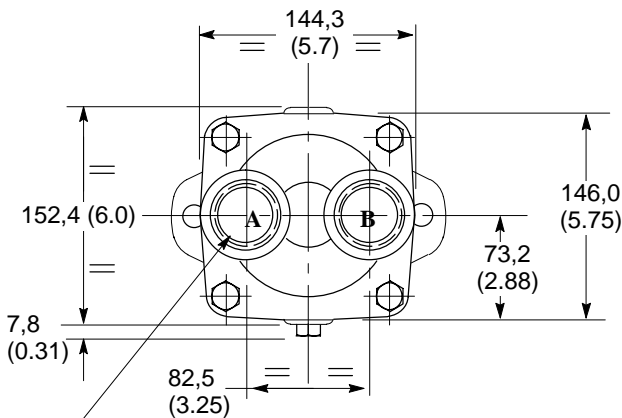
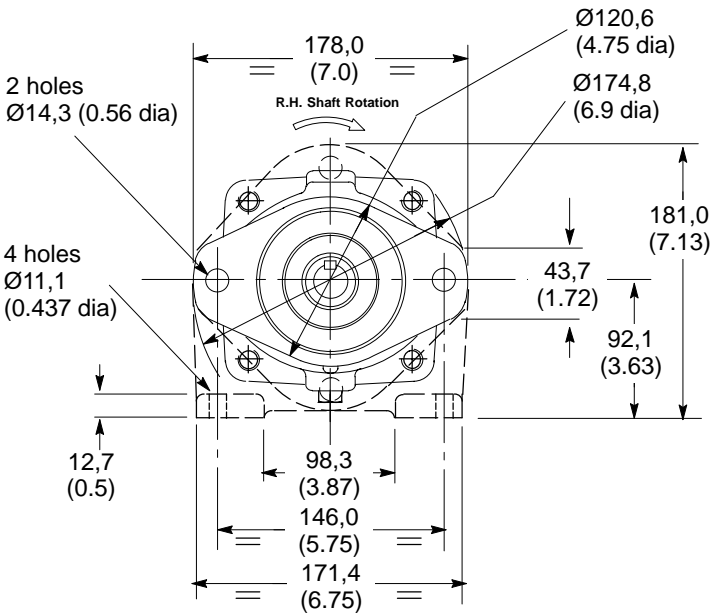
Pump type	A	B	C	D*	E*
PFB10-*-30	44,4 (1.75)	213,9 (8.42)	33,3 (1.31)	26,9 (1.06)	59,4 (2.34)
PFB10-*Y-30	58,7 (2.31)	228,1 (8.98)	47,6 (1.87)	41,1 (1.62)	73,7 (2.9)

*Omit for foot bracket models)

PFB20 SAE Flange Mounting

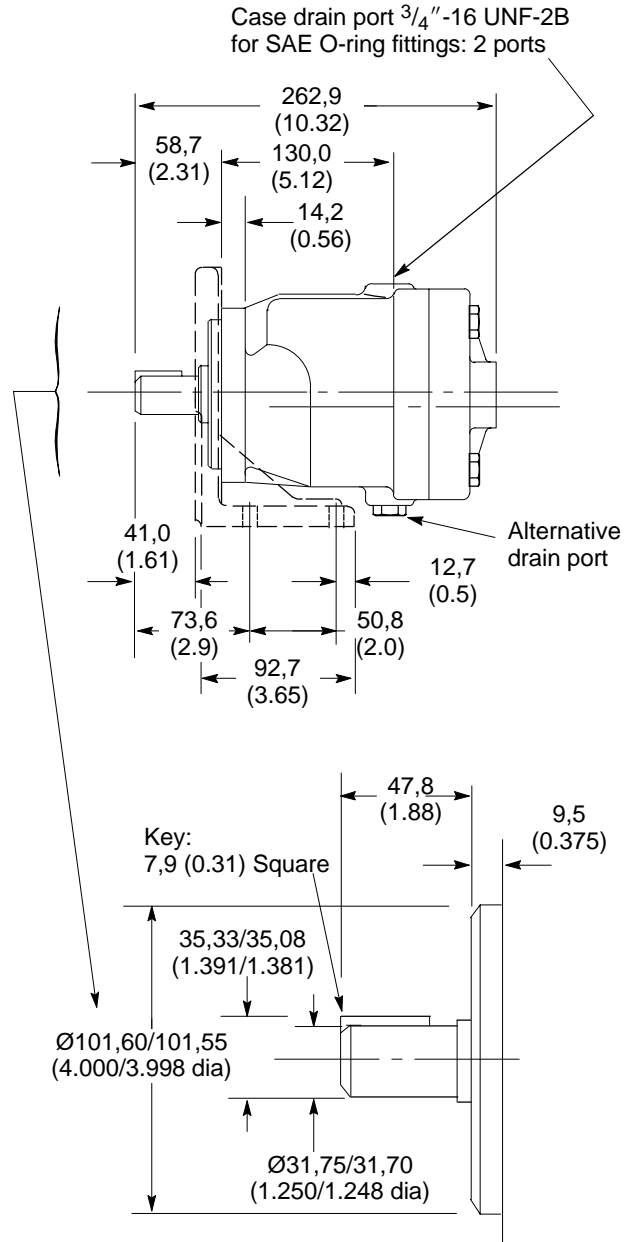
Installation Dimensions in mm (inches)

Optional foot bracket, shown in dashed outline; kit FB-B-10 comprises foot bracket and two pump fixing bolts. Order separately, if required.



View on rear end of pump

Shaft rotation	Inlet port	Outlet port
RH	B	A
LH	A	B



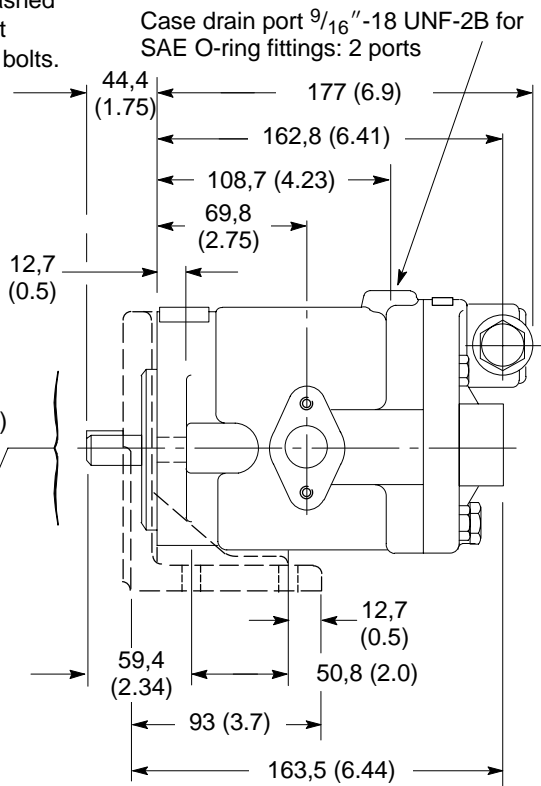
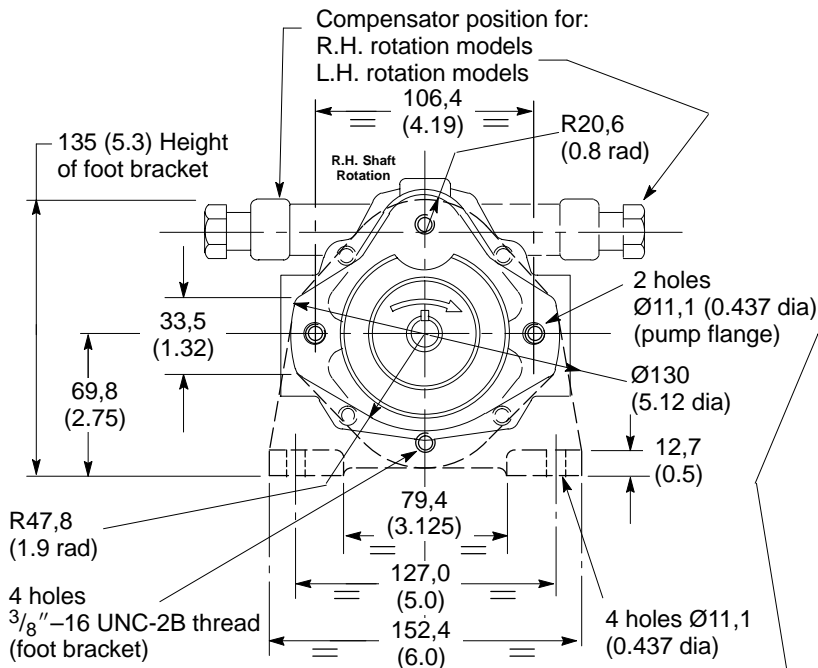
Detail of shaft, key and locating diameter

PVB5/6 SAE Flange Mounting: Pressure Compensator Control - "C" and "CM"

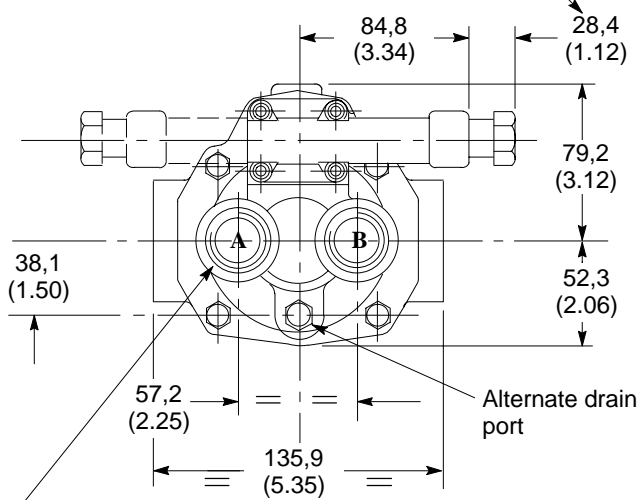
Installation Dimensions in mm (inches)

See also "Control Data" section, page A.15.

Optional foot bracket, shown in dashed outline; kit FB-A-10 comprises foot bracket and two pump fixing bolts. Order separately, if required.

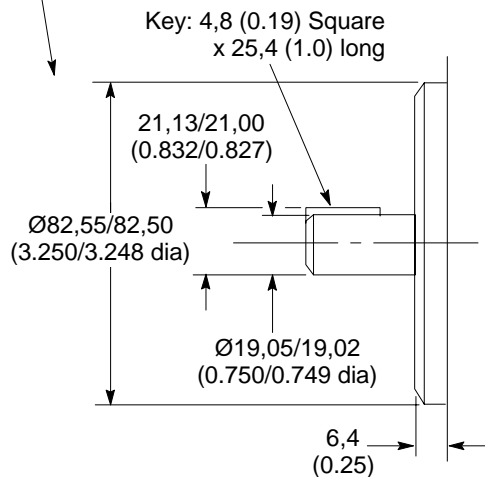


Caution: While pump is operating do not back compensator adjustment screw out beyond dimension shown.



Inlet/outlet ports (see table):
1 1/16" -12 UNF-2B thread for SAE O-ring fittings.

View on rear end of pump



Detail of shaft, key and locating diameter

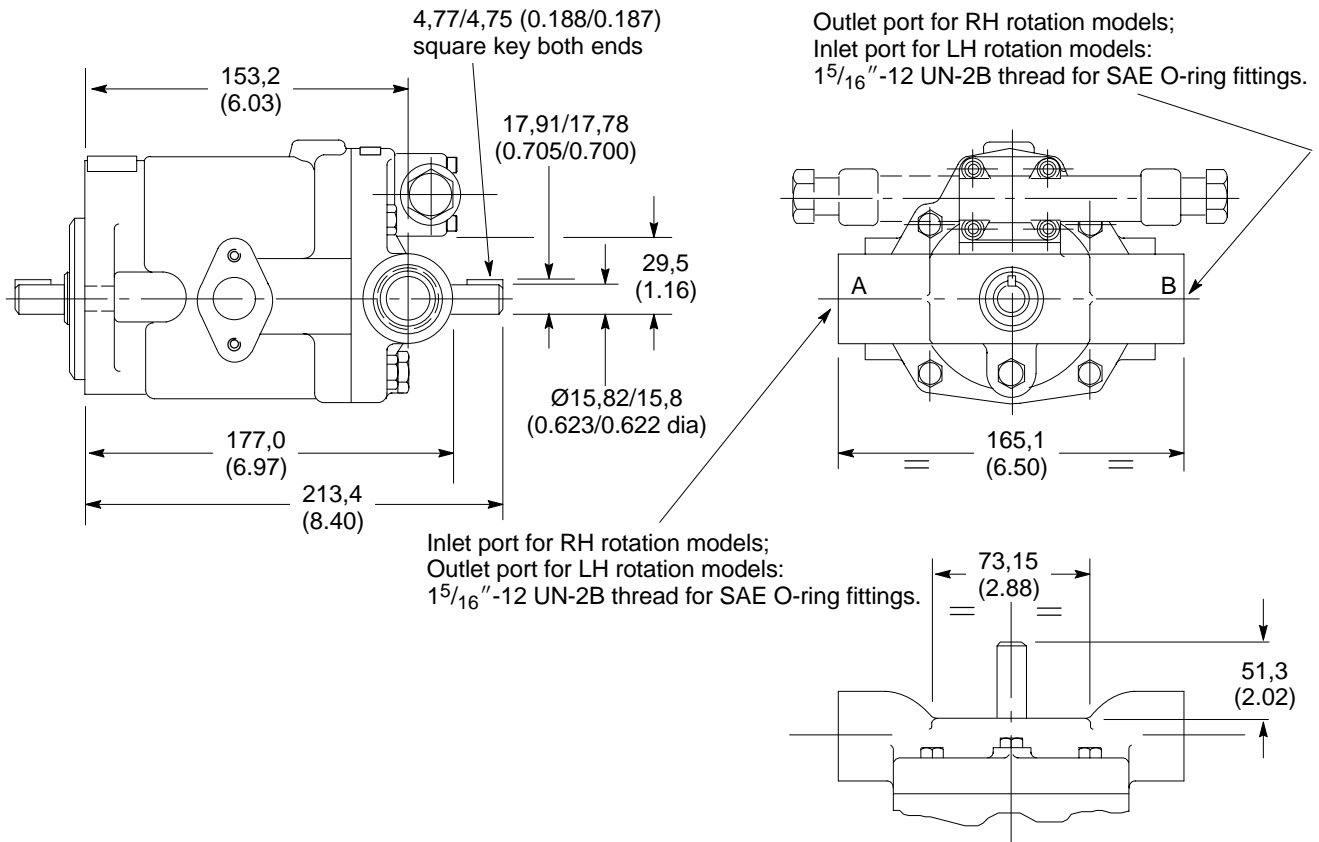
Shaft rotation	Inlet port	Outlet port
RH	A	B
LH	B	A

PVB5/6 Thru-Shaft Models (with Side Ports)

Installation Dimensions in mm (inches)

Maximum output torque is 40 Nm (354 lbf in), less unput torque at system pressure, see performance curves:
At 1500 r/min drive speed, page A.8.
At 1800 r/min drive speed, page A.12.

For other dimensions and installation data see page A.20.

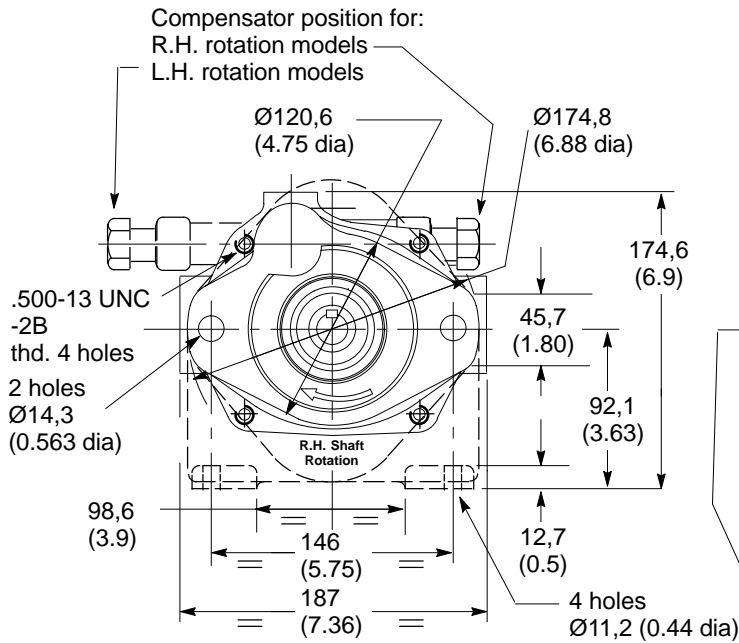


PVB10/15 SAE Flange Mounting Pressure Compensator Control - "C" and "CM"

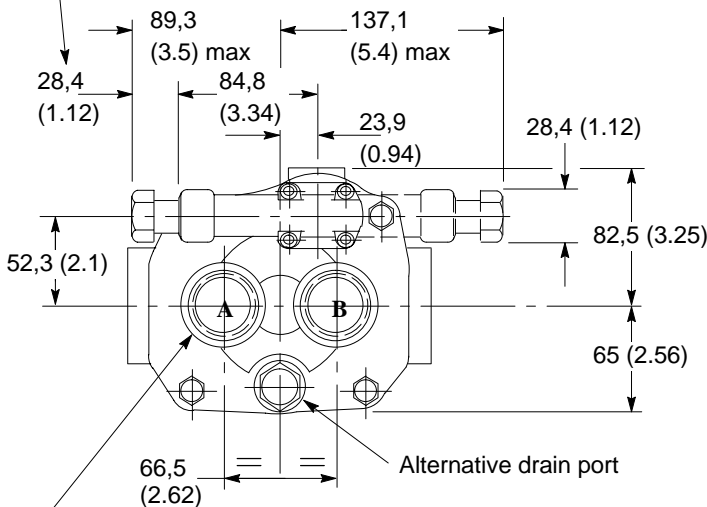
Installation Dimensions in mm (inches)
See also "Control Data" section, page A.15.

Optional foot bracket, shown in dashed outline; kit FB-B-10 comprises foot bracket and two pump fixing bolts.
Order separately, if required.

Case drain port .750-16 UNF-2B for SAE O-ring fittings: 2 ports



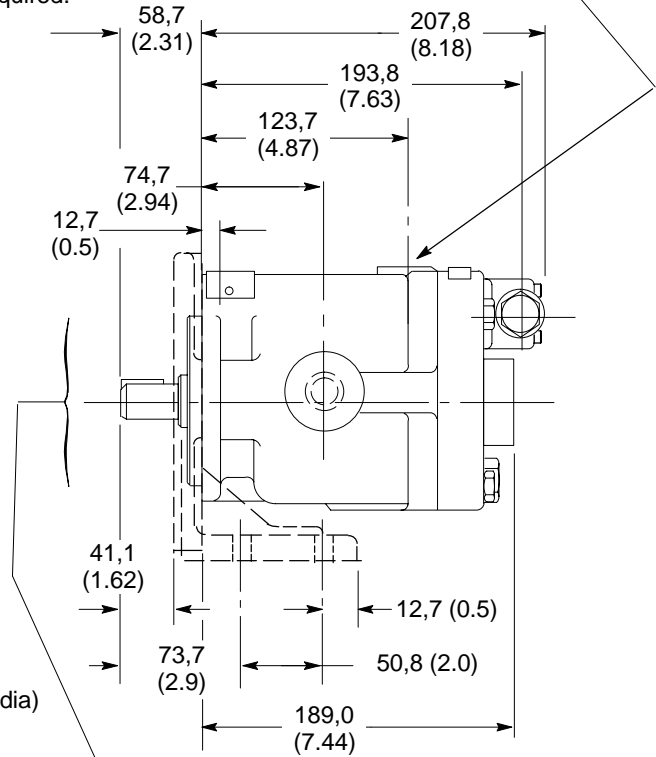
Caution: While pump is operating do not back compensator adjustment screw out beyond dimension shown.



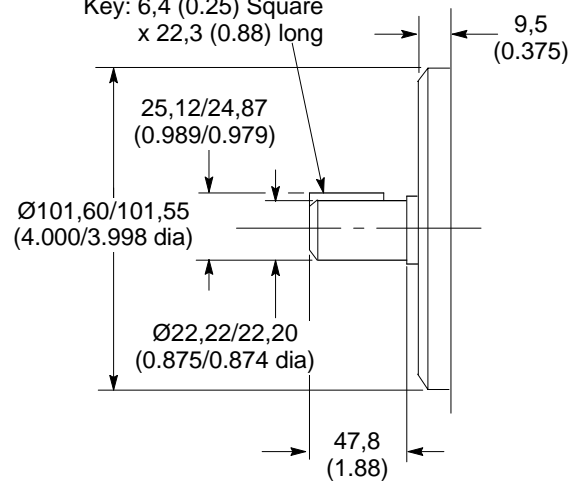
Inlet/outlet ports (see table):
1.625-12 UN-2B thread for SAE O-ring fittings.

View on rear end of pump

Shaft rotation	Inlet port	Outlet port
RH	A	B
LH	B	A



Key: 6,4 (0.25) Square x 22,3 (0.88) long



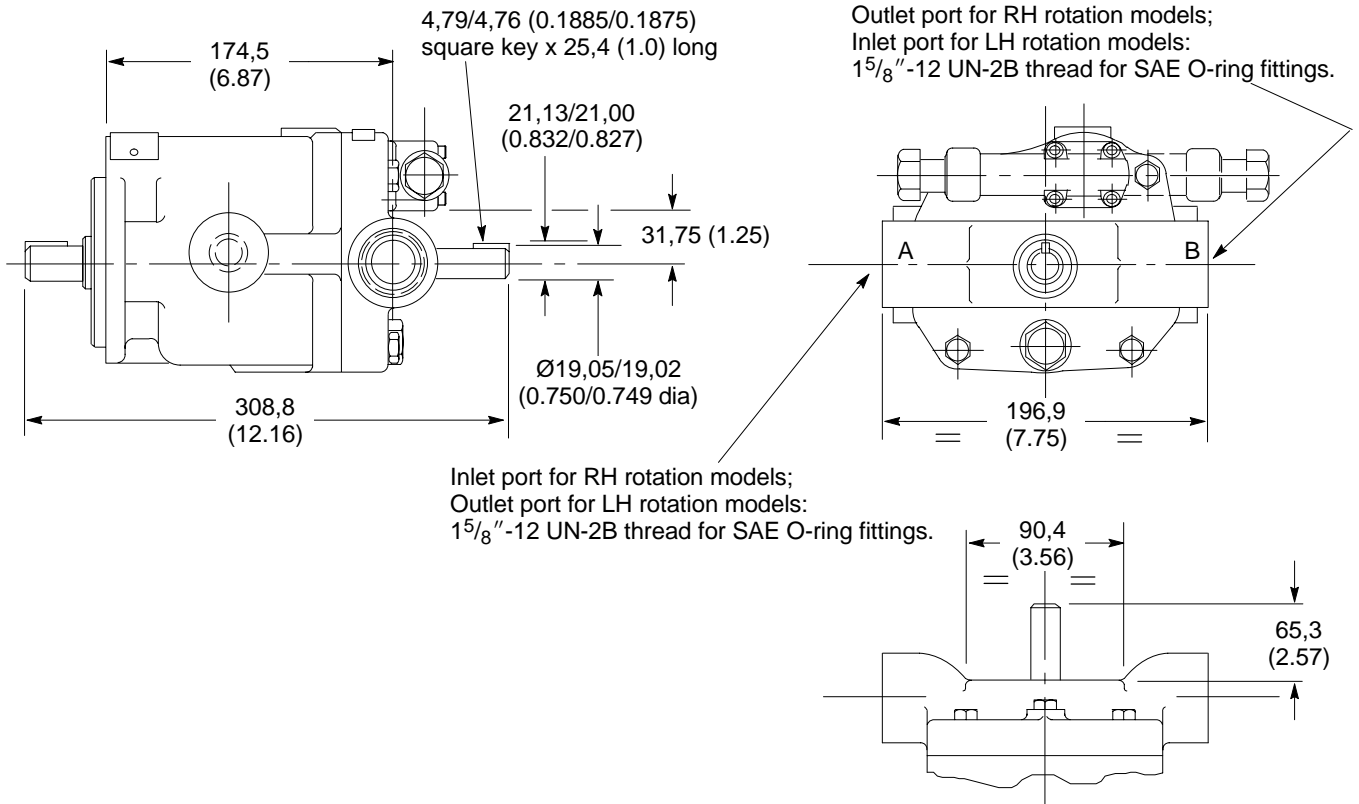
Detail of shaft, key and locating diameter

PVB10/15 Thru-Shaft Models (with Side Ports)

Maximum output torque is 83 Nm (735 lbf in), less unput torque at system pressure, see performance curves: For other dimensions and installation data see page A.22.

At 1500 r/min drive speed, pages A.8 & A.9.

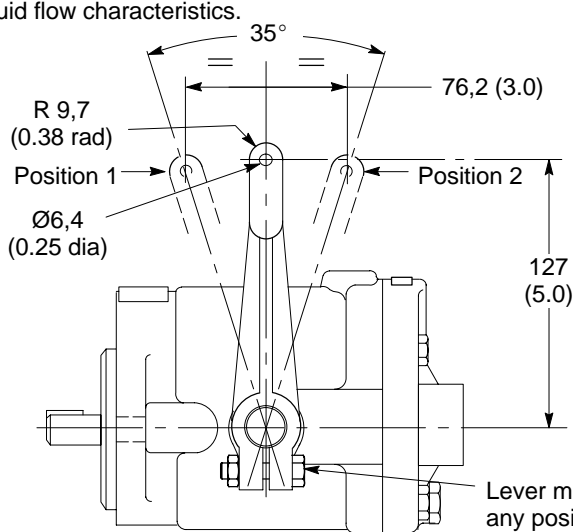
At 1800 r/min drive speed, page A.12 & A.13.



PVB5/6 and PVB10/15 Manual/Mechanical Controls

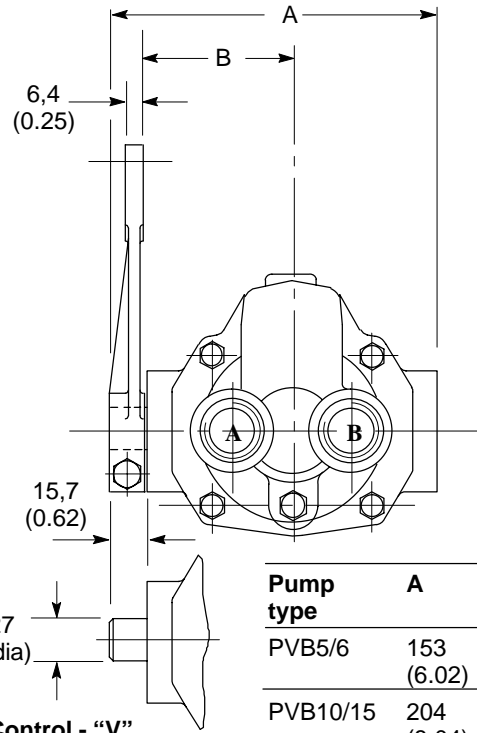
Lever Control - "M" and No Control - "V"

Units with this control may be operated on both sides of center permitting bi-directional fluid flow characteristics.



Lever may be set at any position in 360° circle. Ensure clamp bolt is fully tightened.

Shaft rotation	Lever position	Outlet port
RH	1	A
	2	B
LH	1	B
	2	A



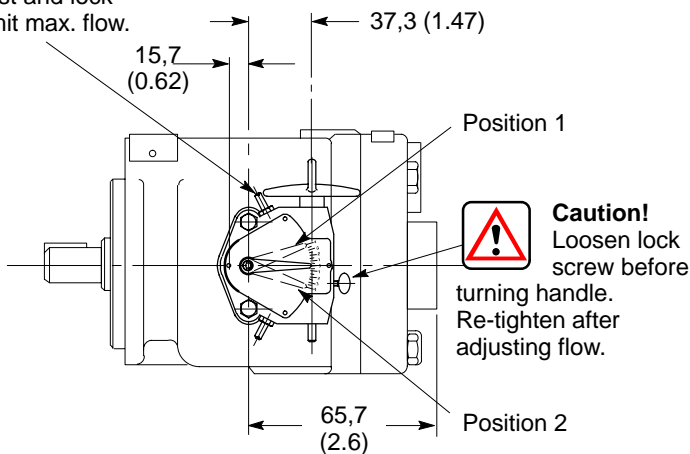
No Control - "V"

Pump type	A	B
PVB5/6	153 (6.02)	68,9 (2.7)
PVB10/15	204 (8.04)	99,9 (3.93)

Handwheel Control - "H"

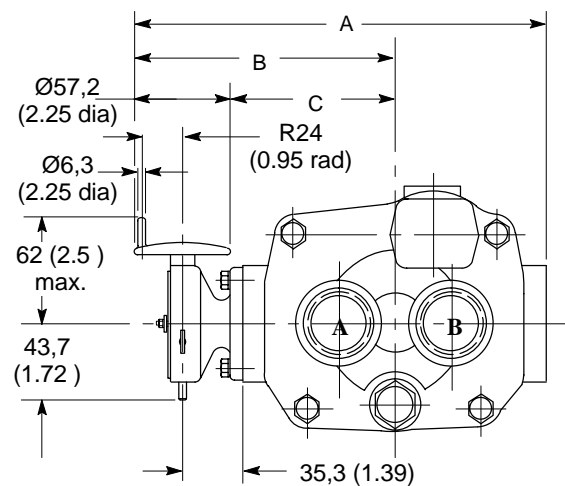
Units with this control may be operated on both sides of center permitting bi-directional fluid flow characteristics.

Max. flow adjustment.
Adjust and lock
to limit max. flow.



Caution!
Loosen lock screw before turning handle. Re-tighten after adjusting flow.

Shaft rotation	Pointer position	Handwheel rotation from zero	Outlet port
RH	1	Clockwise	A
	2	Counter-clockwise	B
LH	1	Clockwise	B
	2	Counter-clockwise	A

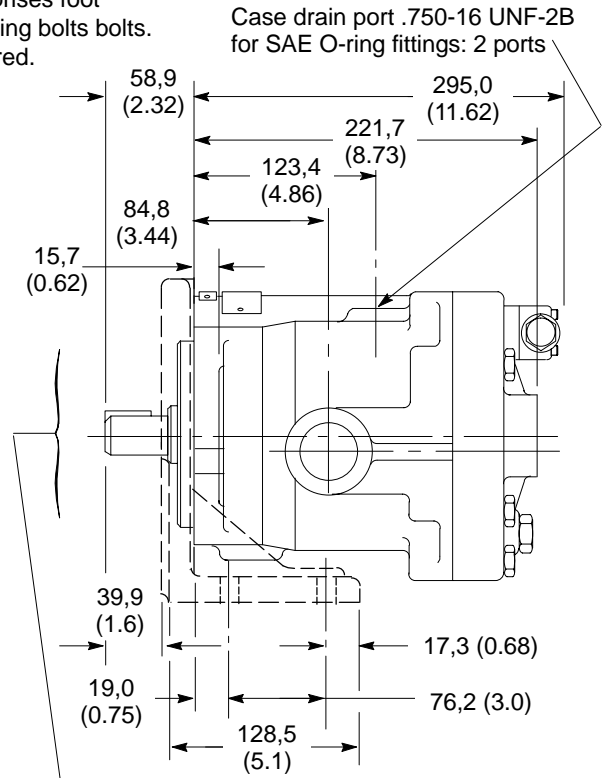
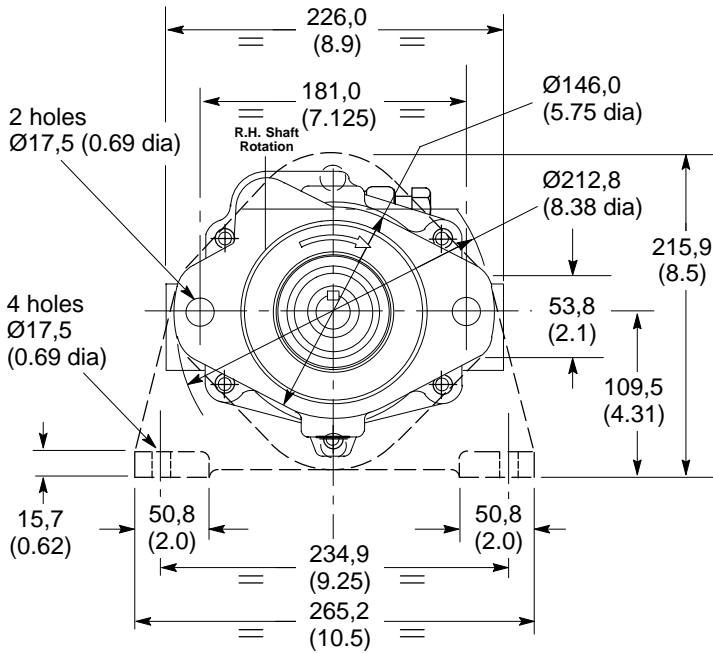



Pump type	A	B	C
PVB5/6	200 (7.87)	129 (5.08)	70,6 (2.78)
PVB10/15	250 (9.84)	140 (5.51)	93,5 (3.68)

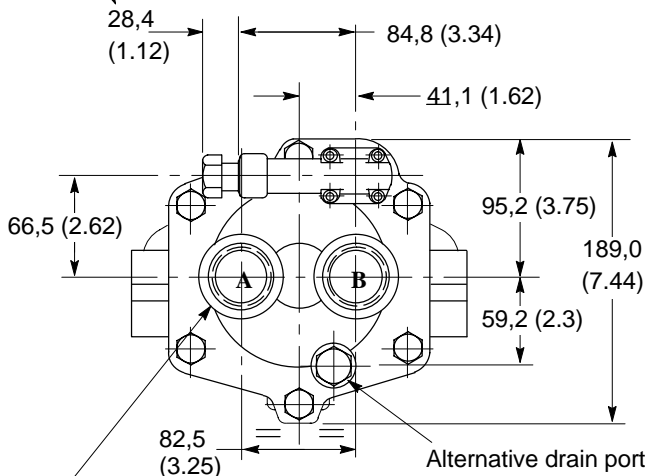
PVB20/29 SAE Flange Mounting Pressure Compensator Control - "C" and "CM"

Installation Dimensions in mm (inches)
See also "Control Data" section, page A.15.

Optional foot bracket, shown in dashed outline; kit FB-C-10 comprises foot bracket and two pump fixing bolts. Order separately, if required.



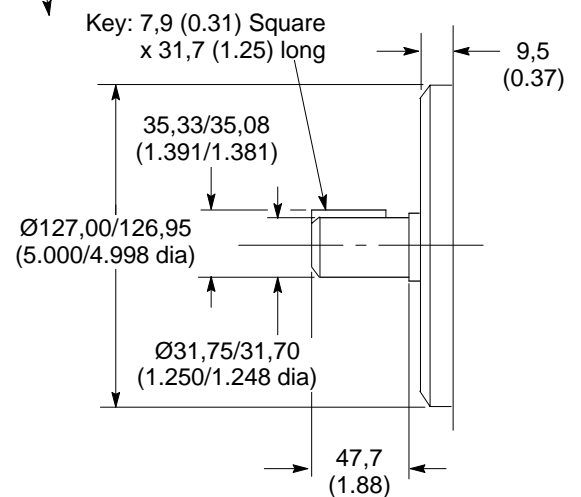
 Caution: While pump is operating do not back compensator adjustment screw out beyond dimension shown.



Inlet/outlet ports (see table):
1.625-12 UNF-2B thread for SAE O-ring fittings.

View on rear end of pump

Shaft rotation	Inlet port	Outlet port
RH	A	B
LH	B	A



Detail of shaft, key and locating diameter

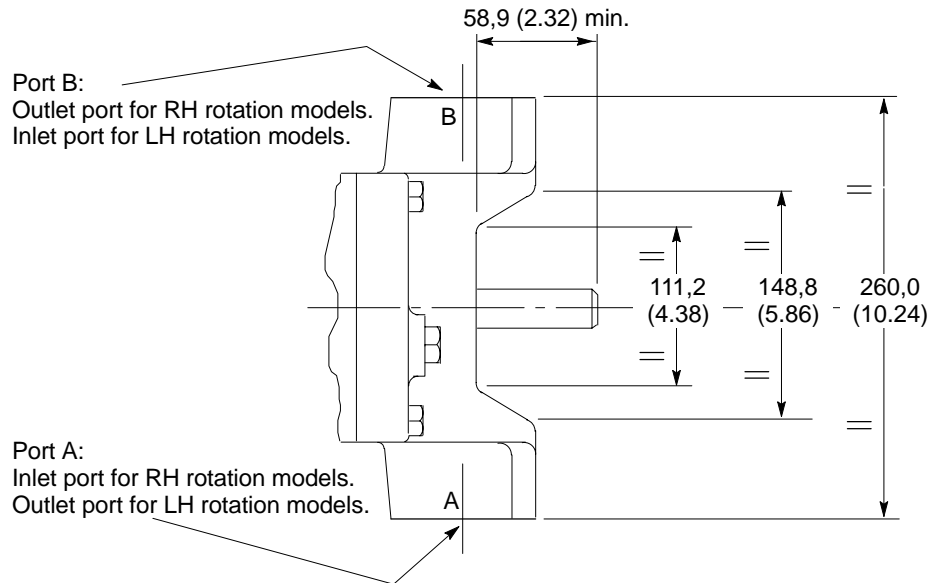
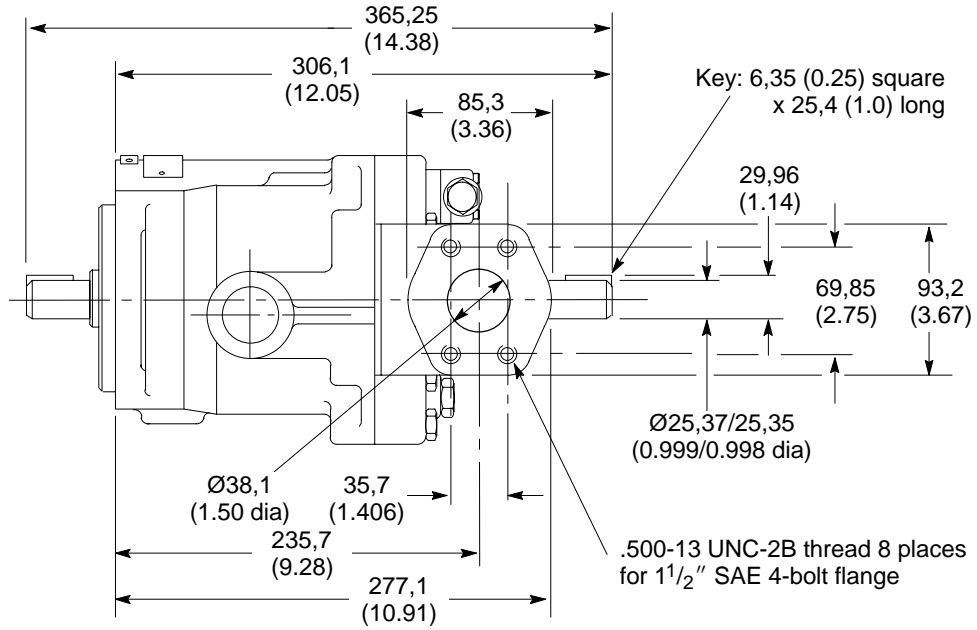
PVB20/29 Thru-Shaft Models (with Side Ports)

Maximum output torque is 159 Nm (1408 lbf in), less unput torque at system pressure, see performance curves:

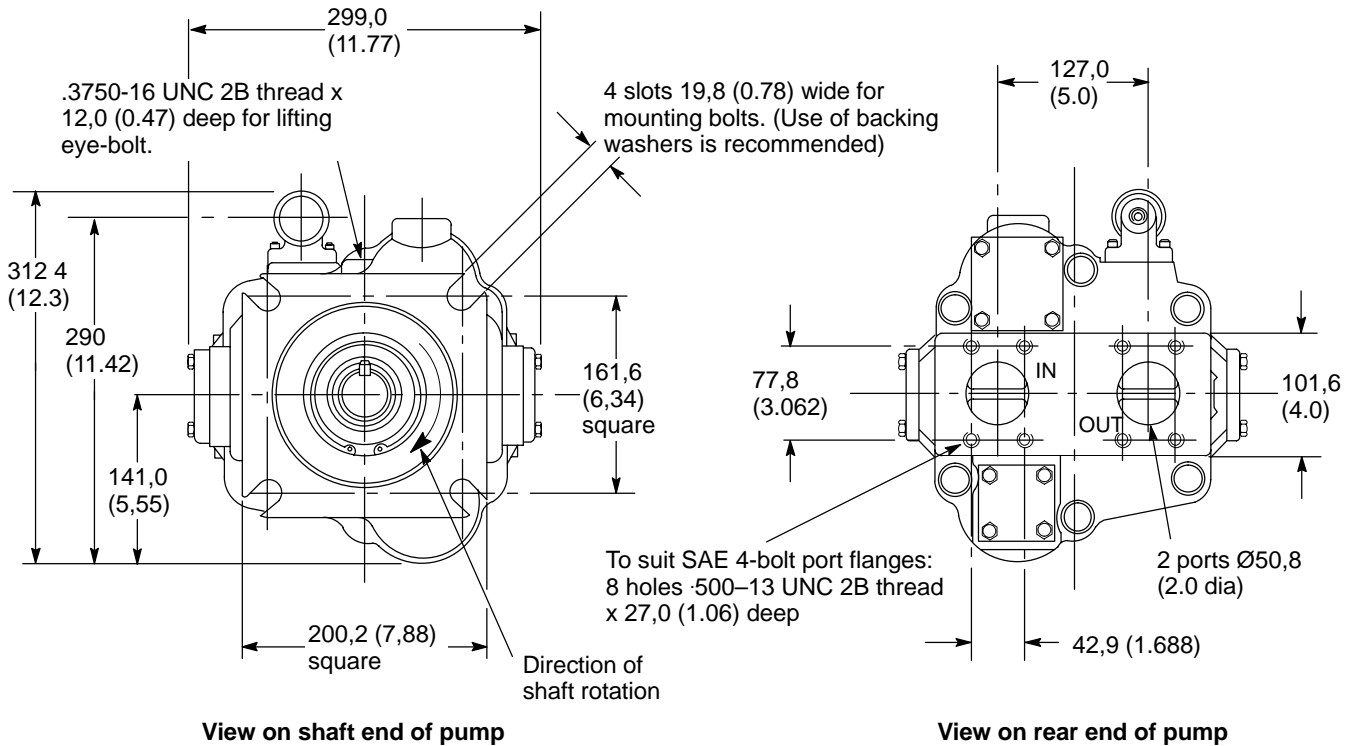
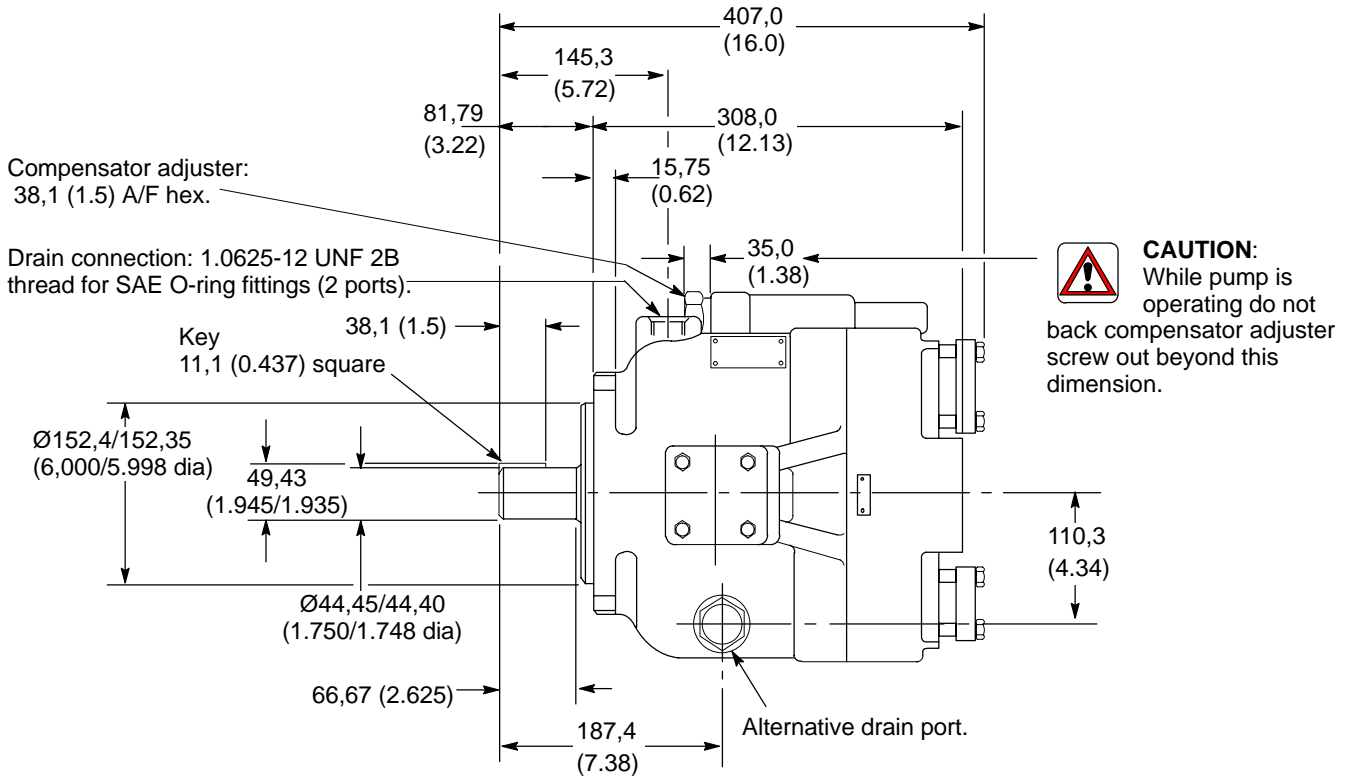
At 1500 r/min drive speed, page A.9

At 1800 r/min drive speed, page A.13

For other dimensions and installation data see page A.25.

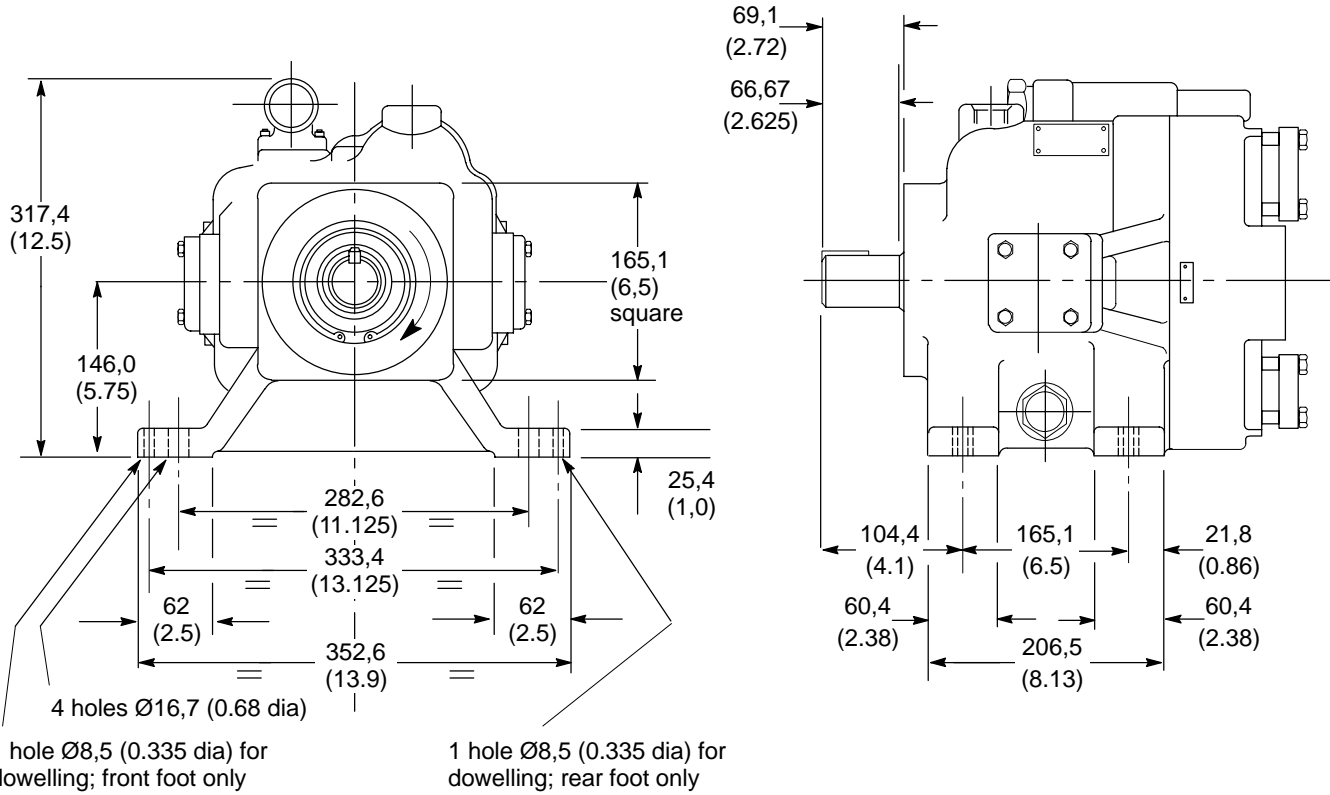


PVB45 Flange-Mounted Model



PVB45 Foot-Mounted Model

For other dimensions and installation data see page A.27 .



PVB90

Foot mounting option (designated by Model Code ③ = "F") is shown in dotted outline. An alternative base mounting facility is provided by four tapped holes in the bottom face of the pump - see page A.30.

Compensator adjuster:
38,1 (1.5) A/F hex.

Drain connection:
1.3125-12 UN 2B thread for SAE
O-ring fittings (2 ports).

Key 11,1 (0.437) square
x 44,5 (1.75) long

49,40/49,15
(1.945/1.935)

111,2 (4.38)

Ø152,4/152,35
(6.000/5.998 dia)

Ø44,45/44,40
(1.750/1.748 dia)

12,7
(0.5)

▼ Location of tappings for lifting
eye-bolts; 2 at shaft end; 1 at rear:
.3750-16 UNC 2B thread x 12,0 (0.47)
deep.

79,2
(3.12)

215,9
(8.5)

130,0
(5.12)

187,5
(7.38)

Drain connection:
1.3125-12 UN 2B thread
4 holes Ø16,7 (0.66 dia)



CAUTION:
While pump is
operating do not
back compensator
adjuster screw out beyond
this dimension.

127,0 (5.0)

68,25
(2.69)

396,7
(15.62)

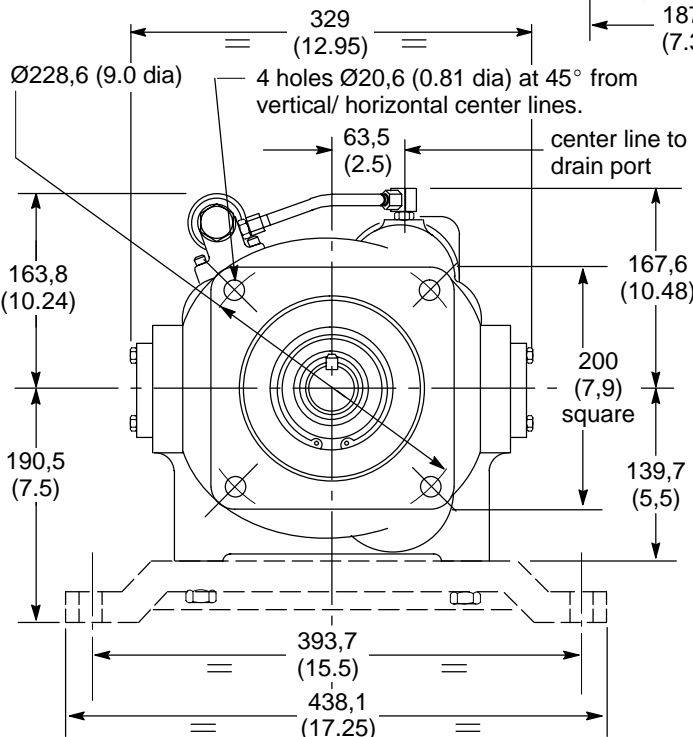
365
(14.4)

351,5
(13.84)

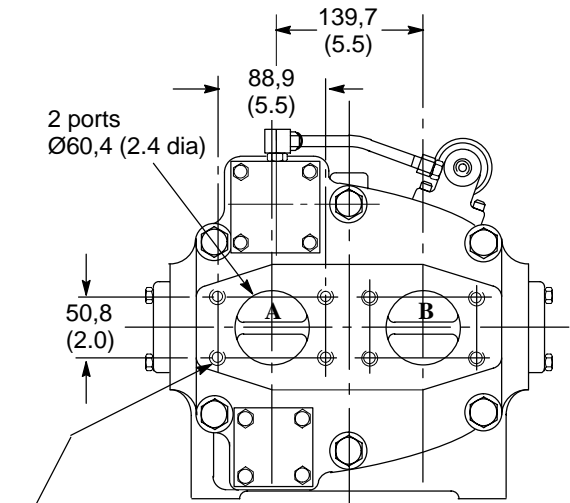
156,5
(6.16)

35,0
(1.38)

38,1
(1.5)



View on shaft end of pump



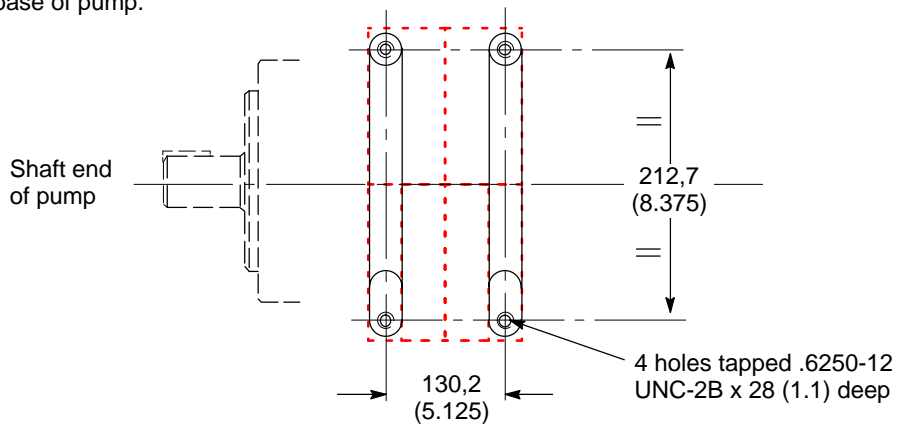
To suit SAE 4-bolt port flanges:
8 holes .500-13 UNC 2B thread x 27,0 (1.06) deep

View on rear end of pump

Shaft rotation	Inlet port	Outlet port
RH	A	B
LH	B	A

PVB90 cont'd

Detail of tappings in base of pump.

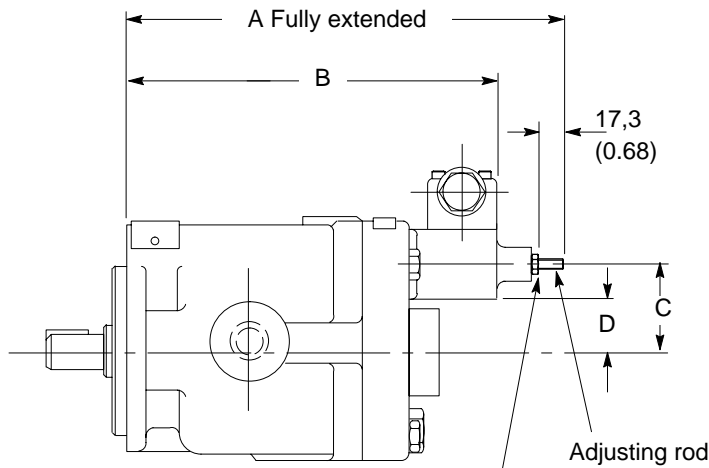


PVB5/6, PVB 10/15 and PVB20/29 with Pressure Compensator and Adjustable Maximum Displacement Stop: Control Types "CC" and "CMC"

For general dimensions and installation data of these pumps, see pages A.20, A.22 and A.25

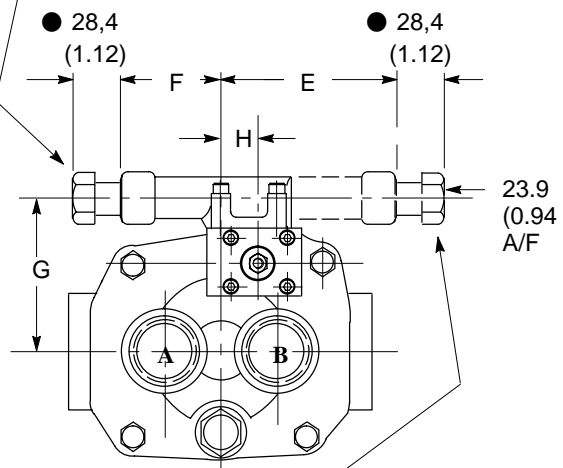


Caution: While pump is operating do not back compensator adjustment screw out beyond dimension ● shown.



Note.

Compensator position for:
 PVB5/6-*LSY (LH rotation models) and
 PVB10/15 -*RSY (RH rotation models)
 PVB20/29 -*SY (RH and LH rotation models)



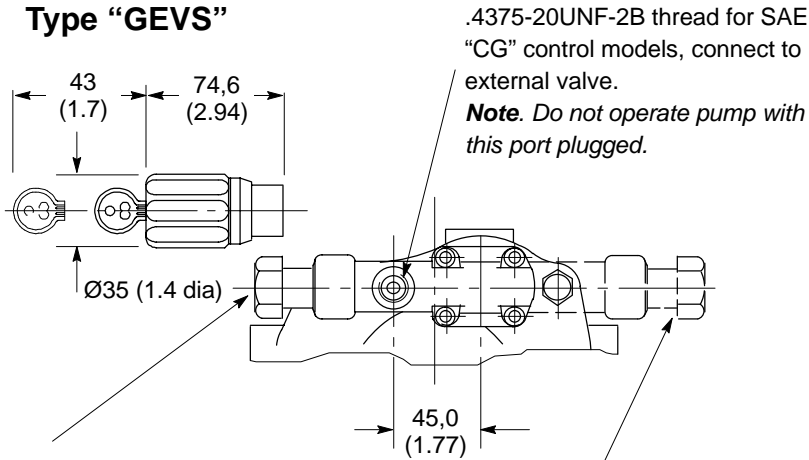
Note.

Compensator position for:
 PVB5/6-*RSY (RH rotation models) and
 PVB10/15 -*LSY (LH rotation models)

Pump type	A	B	C	D	E	F	G	H
PVB5/6	233 (9.17)	195 (7.68)	50 (1.97)	22,9 (0.9)	76,2 (3.0)	94,4 (3.72)	94,4 (3.72)	-
PVB10/15	266 (10.47)	226 (8.9)	52,3 (2.06)	25,1 (0.99)	118 (4.65)	70,8 (2.79)	90,2 (3.55)	23.8 (0.94)
PVB20/29	294 (11.56)	254 (10.0)	66,5 (2.62)	41,9 (1.65)	-	53,3 (2.1)	104,4 (4.11)	41,1 (1.62)

PVB5 to 29 with “CG” Remote Control of Compensator

Type “GEVS”



Caution: Effective compensator setting will be compensator control setting **plus** remote relief valve setting.

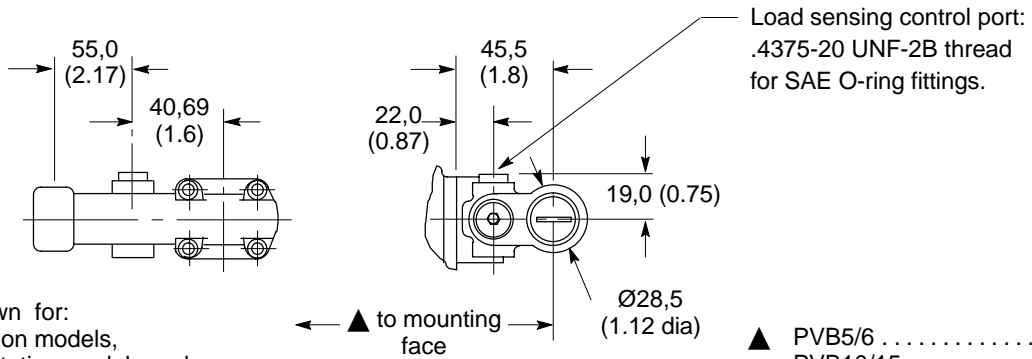
Adjustment procedure

1. Turn remote pressure control (such as C-175) anti-clockwise to minimum setting.
2. Turn compensator adjustment plug to desired minimum pressure - 17 bar (250 psi) or higher.
3. Full pressure range can now be obtained with remote pressure control.

Location as shown for:
 PVB5/6 LH rotation models,
 PVB10/15 RH rotation models and
 PVB20/29 LH and RH rotation models.

Location as shown in dotted outline for:
 PVB5/6 RH rotation models and
 PVB10/15 LH rotation models.

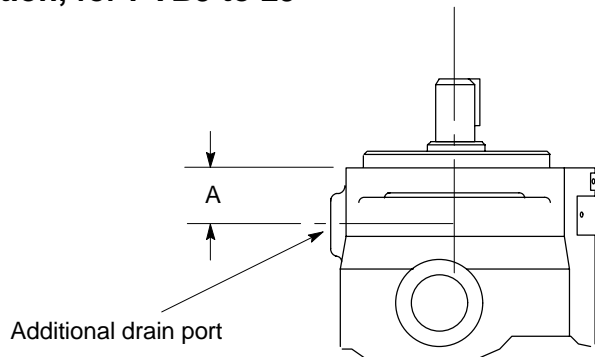
“CVP” Load Sensing with Pressure Limiter



Location as shown for:
 PVB5/6 LH rotation models,
 PVB10/15 RH rotation models and
 PVB20/29 LH and RH rotation models.

▲ PVB5/6	191 (7.51)
PVB10/15	222 (8.75)
PVB20/29	250 (9.84)

Vertical “Shaft-up” Installation - “S30” Drain Port Option, for PVB5 to 29

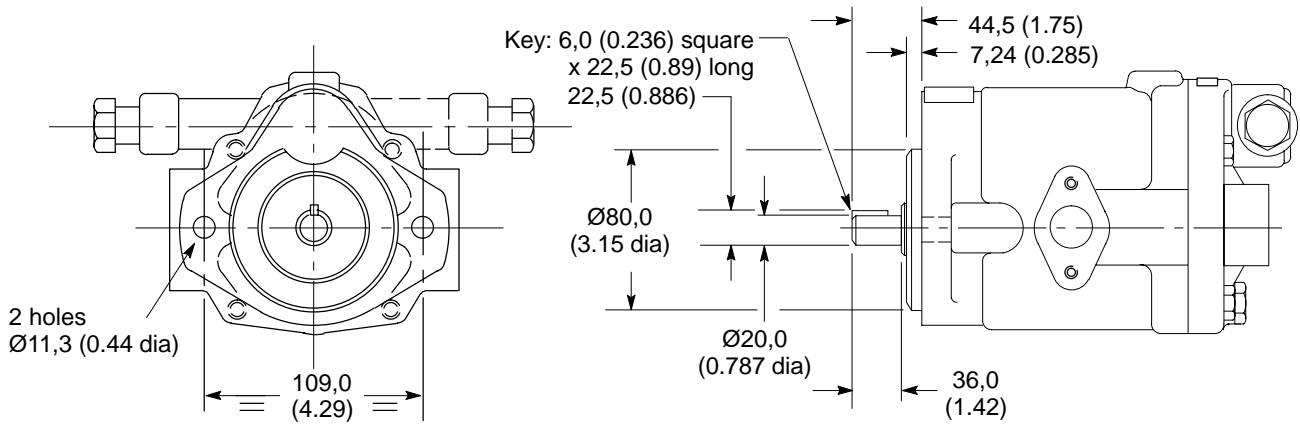


Pump type	Port tapping	A
PFB5	.562518UNF-2B	28,7 (3.85)
PVB5/6	.5625 18UNF-2B	19 (0.75)
PVB10/15	.7500 16UNF-2B	29,3 (1.15)
PVB20/29	.7500 16UNF-2B	38,9 (1.53)

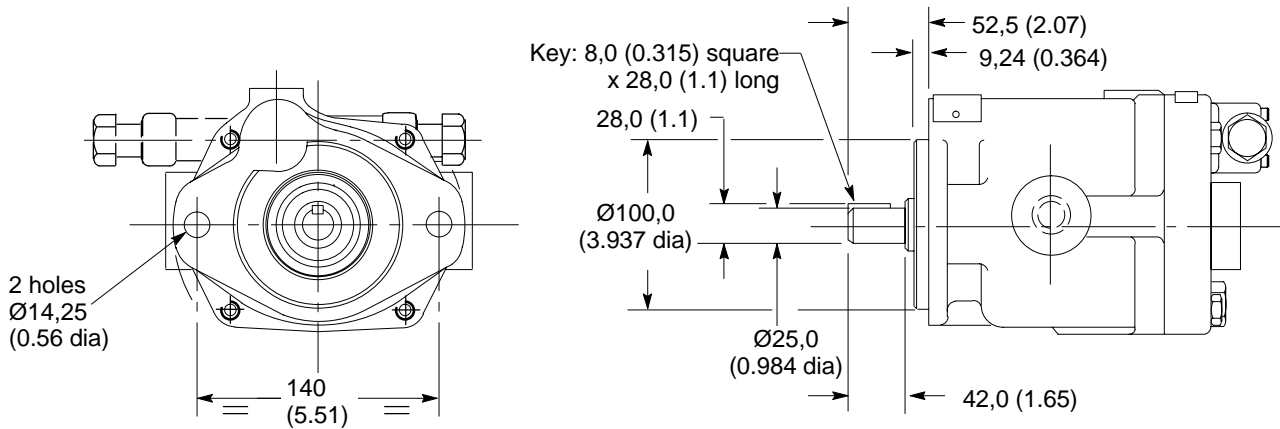
PVB5/6; PVB10/15; PVB20/29 – DIN/ISO Models

For dimensions/data not shown refer to corresponding SAE models.

PVB5/6 – Pressure Compensated Control – “C” and “CM”



PVB10/15 – Pressure Compensated Control – “C” and “CM”



PVB20/29 – Pressure Compensated Control – “C” and “CM”

