



Hydraulic Axial Piston Eaton Vickers PVB Pump

Vickers PVB pump PVB5 PVB6 PVB10 PVB15 PVB20 PVB29 PVB45



- Basic Characteristics

Type Axial piston pumps
 Operating pressure up to 210 bar (3000 psi)
 Displacement 10,5 to 197,5 cm³/r (0.64 to 12 in³/r)
 Drive speed up to 3600 r/min

- Typical Section

Variable displacement model with compensator control "C" or "CM"

- General Description

Both fixed and variable displacement models make up this range of axial piston pumps. Their high performance ratings and efficiencies are achieved with a variety of hydraulic fluids. Fixed displacement models are noted for their volumetric and mechanical efficiencies. Variable displacement models can closely match pressure and/or flow demand with a control selected from:

- Pressure compensator with or without a remote control facility.
- Pressure compensator with adjustable displacement control.
- Load sensing compensator.
- Mechanical (lever) control.
- Hand wheel control

Technical data:

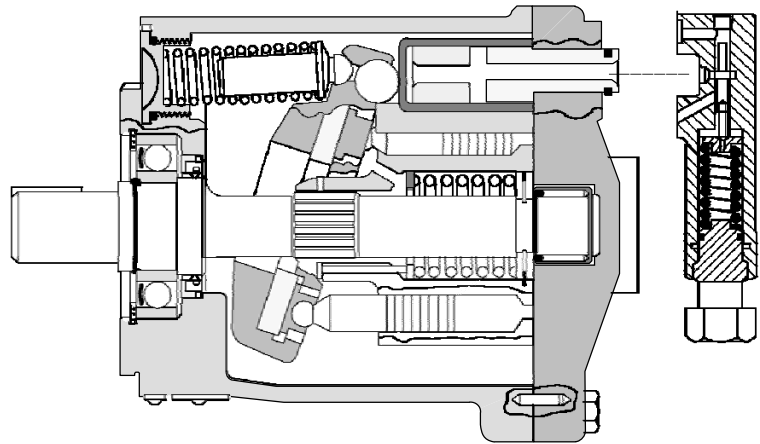
Model	Geometric displ. cm ³ /r [in ³ /rev]	Out flow LPM [gpm] @rpm	Speed rpm	Pressure bar [psi]	Input KW [hp] @high pressure & speed	Model	Geometric displ. cm ³ /r [in ³ /rev]	Out flow LPM [gpm] @rpm	Speed rpm	Pressure bar [psi]	Input KW [hp] @high pressure & speed
PVB5	10,55 [.64]	18,9 [5]	1800	210 [3000]	13,0 [17.5]	PFB5	10,55 [.64]	37,8 [10]	3600	210 [3000]	13,0 [17.5]
PVB6	13,81 [.084]	22,7 [6]	1800	140 [2000]	26,1 [35]	PFB10	21,10 [1.294]	68,1 [18]	3600	210 [3000]	26,1 [35]
PVB10	21,1 [1.29]	37,5 [10.0]	1800	210 [3000]	29,4 [39.5]	PFB20	42,80 [2.61]	102 [27]	3600	172 [2500]	29,4 [39.5]
PVB15	33,0 [2.01]	59,4 [15.7]	1800	141 [2000]	29,4 [39.5]	PFB45	94,4 [5.76]	208 [55]	2200	210 [3000]	71,7 [96.1]
PVB20	42,80 [2.61]	75,7 [20.0]	1800	210 [3000]	29,4 [39.5]						
PVB29	61,6 [3.76]	109,7 [29]	1800	140 [2000]	29,4 [39.5]						
PVB45	94,5 [5.76]	170,3 [45.0]	1800	210 [3000]	29,4 [39.5]						
PVB90	197,5 [12.0]	348 [91.9]	1800	210 [3000]	29,4 [39.5]						

Basic Characteristics

Type Axial piston pumps
 Operating pressure up to 210 bar
 (3000 psi)
 Displacement 10,5 to 197,5 cm³/r
 (0.64 to 12 in³/r)
 Drive speed up to 3600 r/min

Typical Section

Variable displacement model with compensator control "C" or "CM"



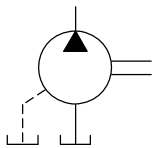
General Description

Both fixed and variable displacement models make up this range of axial piston pumps. Their high performance ratings and efficiencies are achieved with a variety of hydraulic fluids. Fixed displacement models are noted for their volumetric and mechanical efficiencies. Variable displacement models can closely match pressure and/or flow demand with a control selected from:

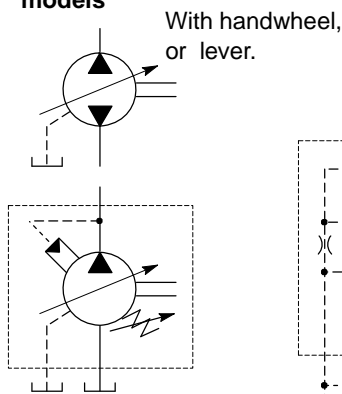
- Pressure compensator with or without a remote control facility.
- Pressure compensator with adjustable displacement control.
- Load sensing compensator.
- Mechanical (lever) control.
- Handwheel control

Functional Symbols

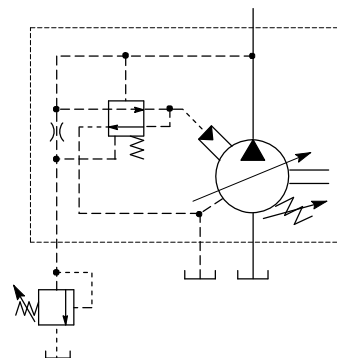
PFB
 Fixed displacement models



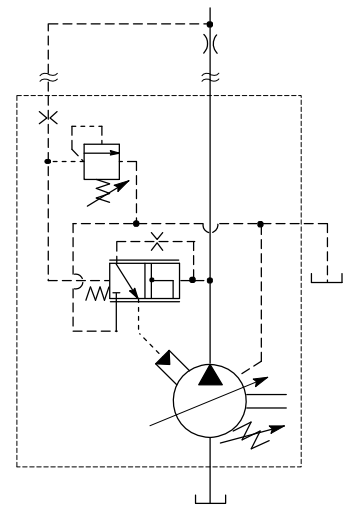
PVB
 Variable displacement models



With pressure compensator (C or CM) (simplified symbol)



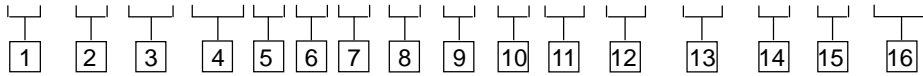
With pressure compensator arranged for remote control C(M)G (detailed symbol)



With CVP load sensing and pressure limiter

Model Codes

PVB 15-(F)-(M) R S (F)(X) Y-31 -** -(C)-(G)-(L)-11 -****



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
---------	--------	----------

Operating Data

Pressure and Speed Limits

Basic model designation	Geometric displacement, cm ³ /r (in ³ /r)	Maximum shaft speed (r/min)			Maximum outlet pressure, bar (psi)		
		Anti-wear hydraulic oil	Water-in-oil emulsion (40%/60%)	Water-glycol	Anti-wear hydraulic oil	Water glycol	Water-in-oil emulsion (40%/60%)
PFB5	10,55 (0.64)	3600			210 (3000)		
PFB10	21,10 (1.29)	3200	1800	1800	210 (3000)	175 (2500)	175 (2500)
PFB20	42,80 (2.61)	2400			175(2500)		
PVB5	10,55 (0.64)				210 (3000)	140 (2000)	140 (2000)
PVB6	13,81 (0.84)				140 (2000)	100 (1500)	100 (1500)
PVB10	21,10 (1.29)				210 (3000)	140 (2000)	140 (2000)
PVB15	33,00 (2.01)	1800	1800	1800	140 (2000)	100 (1500)	100 (1500)
PVB20	42,80 (2.61)				210 (3000)	140 (2000)	140 (2000)
PVB29	61,60 (3.76)				140 (2000)	100 (1500)	100 (1500)
PVB45	94,50 (5.76)				210 (3000)	140 (2000)	140 (2000)
PVB90	197,50 (12.0)	1800	1200	1200	210 (3000)	140 (2000)	140 (2000)

Maximum Inlet Pressure

All pumps except PVB5/6/10/15 with H, M or V controls 1,0 bar (15 psi)
 PVB5/6/10/15 with H, M or V controls As "Max. outlet pressure" above
 for appropriate size.

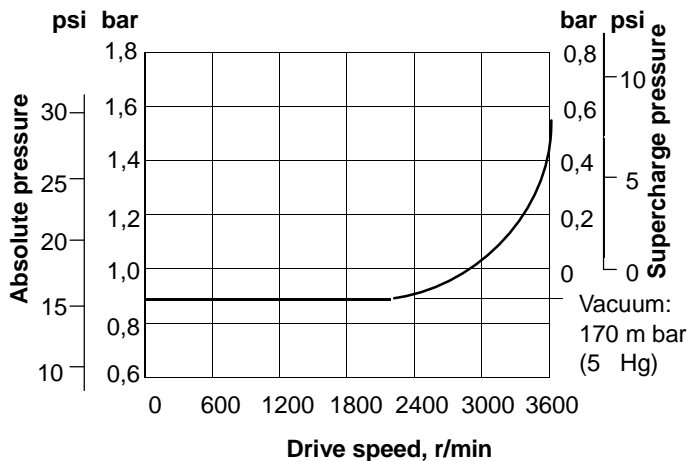
Case Drain Pressure

See "Installation data" section, on page A.33.

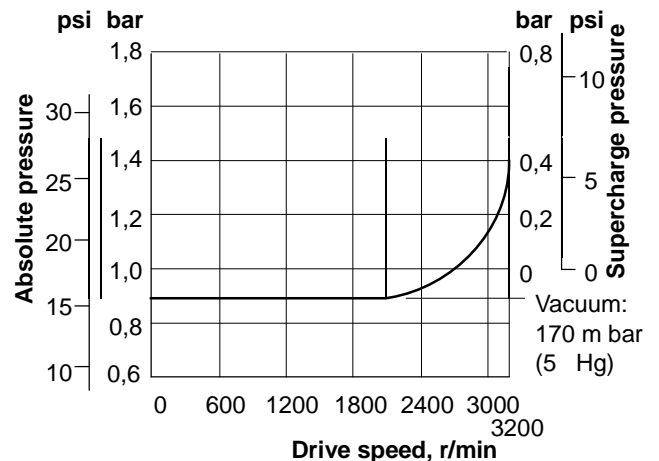
Minimum Inlet Pressure

See following graphs.
 Based on oil viscosity of 21 cSt (102 SUS) and at 50 C (120 F).

PFB5 and PVB5

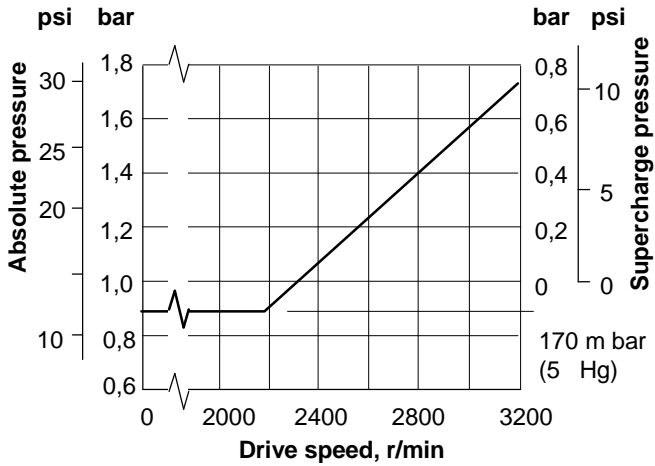


PVB6

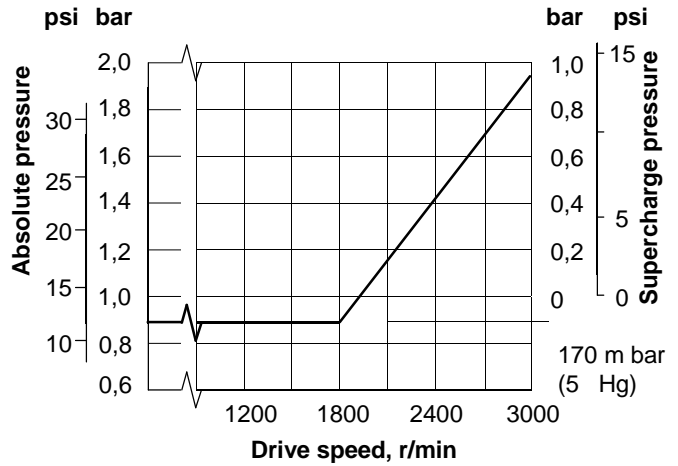


Operating Data Minimum Inlet Pressure (cont'd)

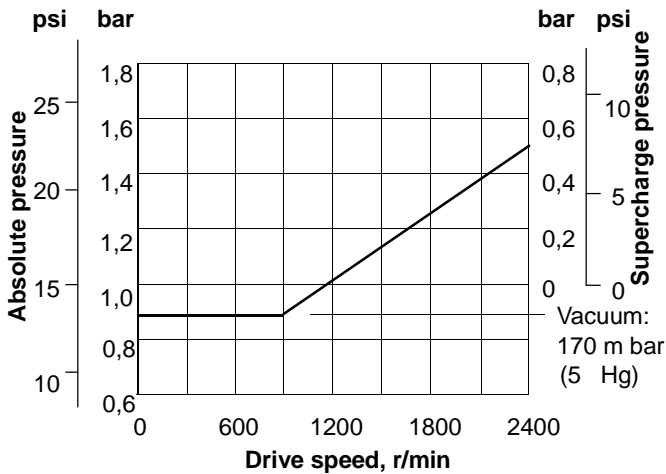
PFB10 and PVB10



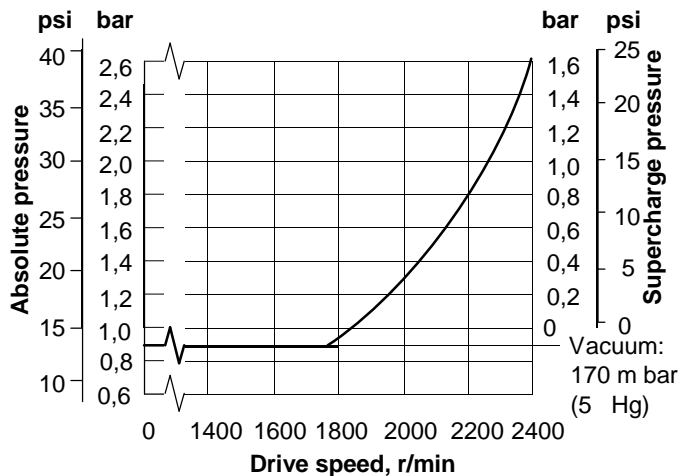
PVB15



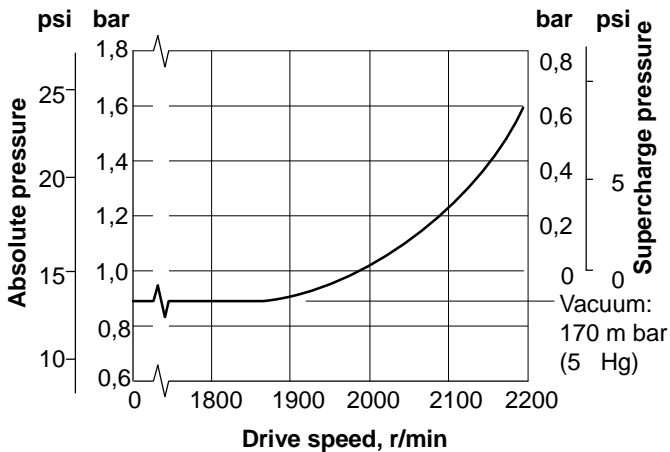
PFB20



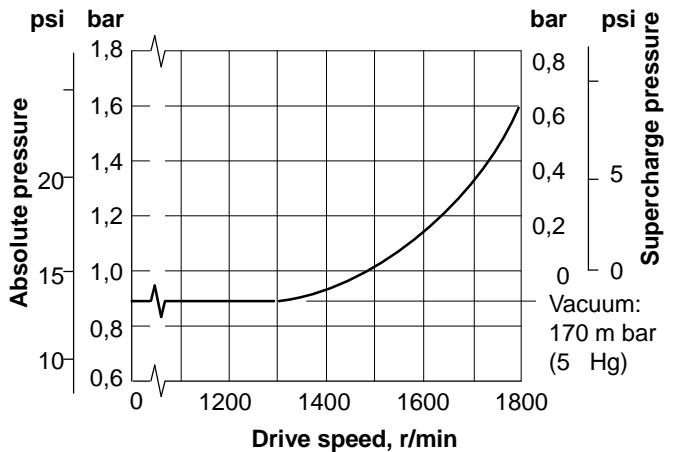
PVB20 and PVB29



PVB45



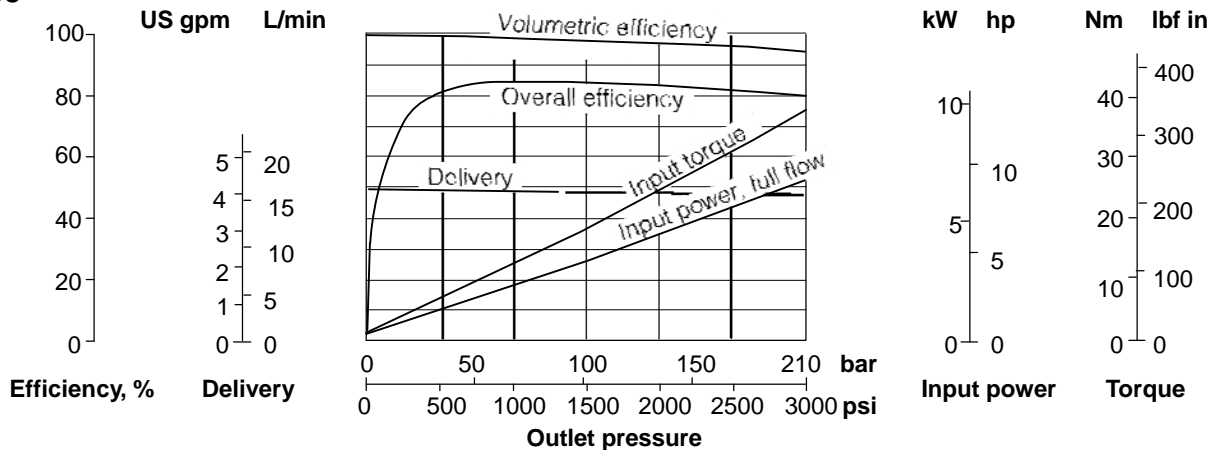
PVB90



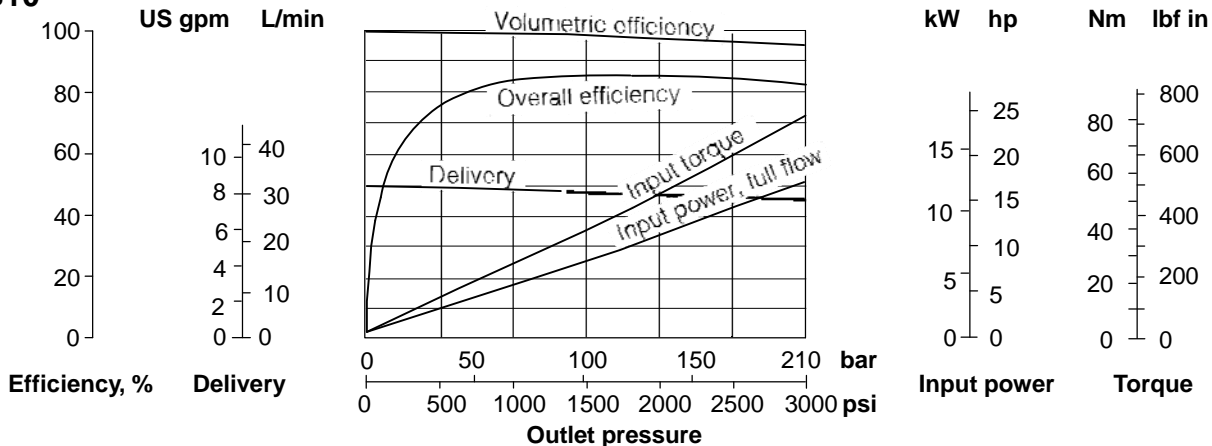
Performance Data at 1500 r/min Drive Speed

With oil at 21cSt (102 SUS) and at 49 C (120 F): Atmospheric inlet
 For data at drive speed of 1800 r/min, see pages A.11 to A.14

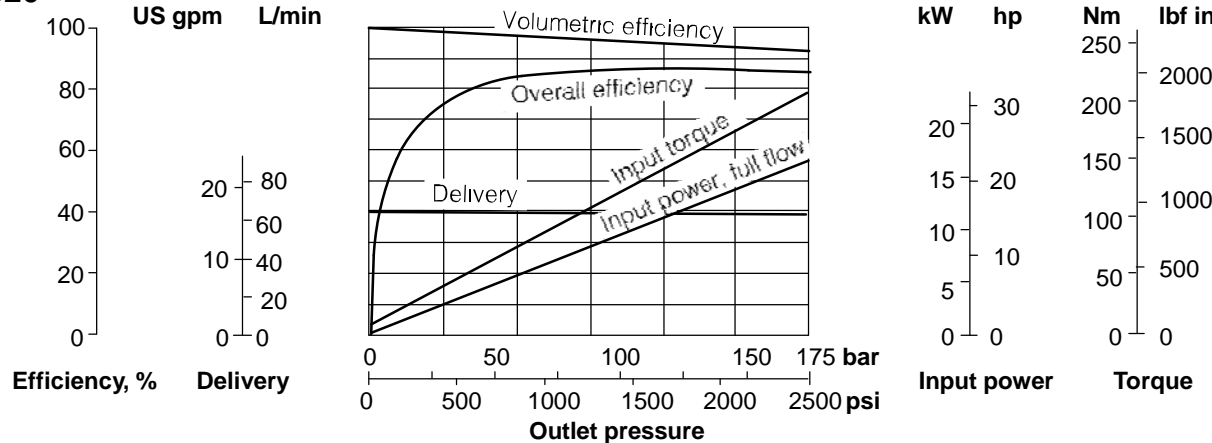
PFB5



PFB10



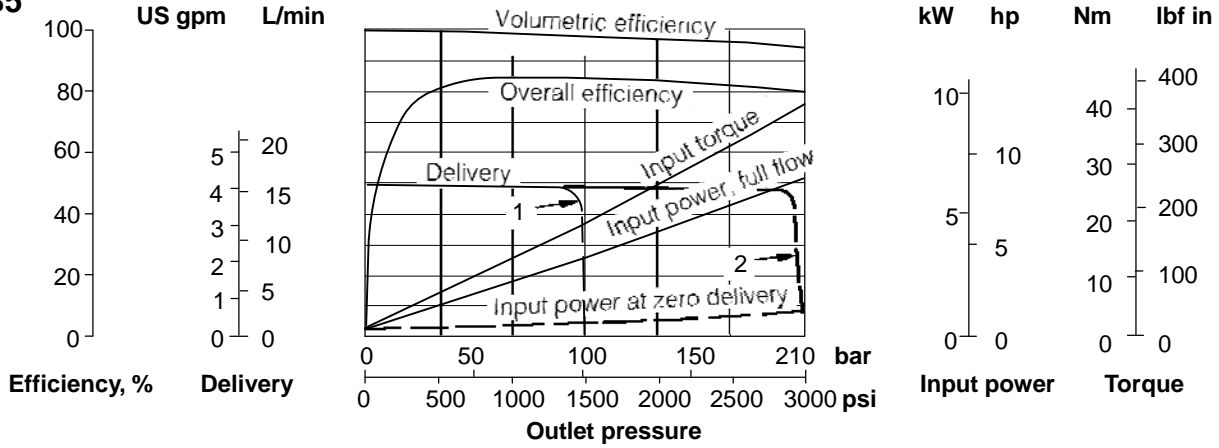
PFB20



Performance Data at 1500 r/min Drive Speed (cont'd)

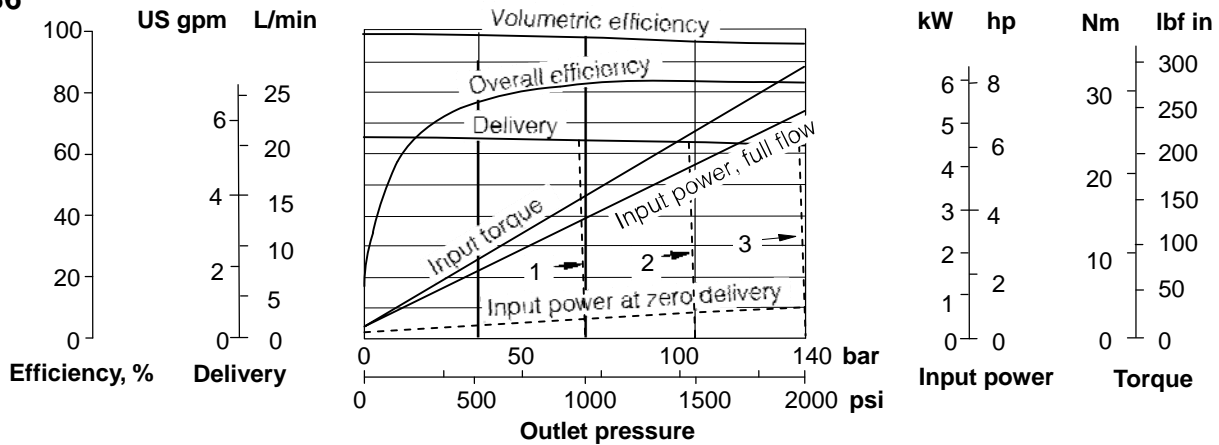
With oil at 21cSt (102 SUS) and at 49 C (120 F): Atmospheric inlet
 For data at drive speed of 1800 r/min, see pages A.11 to A.14

PVB5



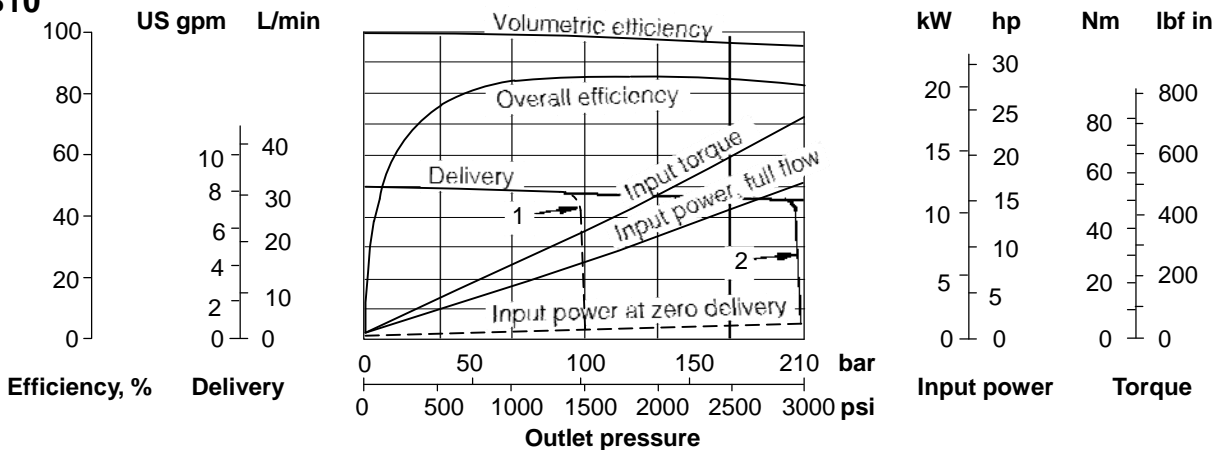
1 = Delivery with compensator setting of 100 bar (1500 psi)
 2 = Delivery with compensator setting of 200 bar (3000 psi)

PVB6



1 = Delivery with compensator setting of 70 bar (1000 psi)
 2 = Delivery with compensator setting of 100 bar (1500 psi)
 3 = Delivery with compensator setting of 140 bar (2000 psi)

PVB10

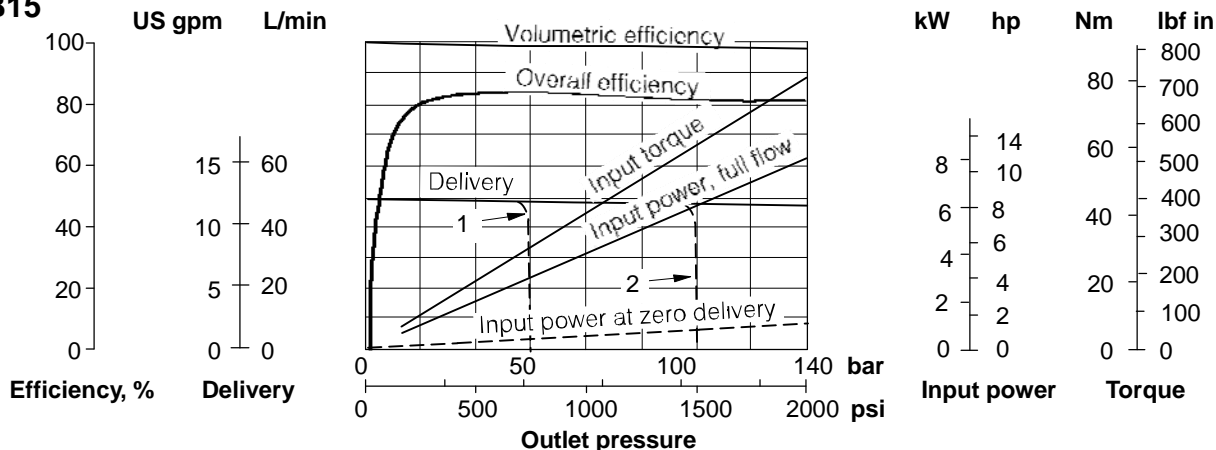


1 = Delivery with compensator setting of 100 bar (1500 psi)
 2 = Delivery with compensator setting of 200 bar (3000 psi)

Performance Data at 1500 r/min Drive Speed (cont'd)

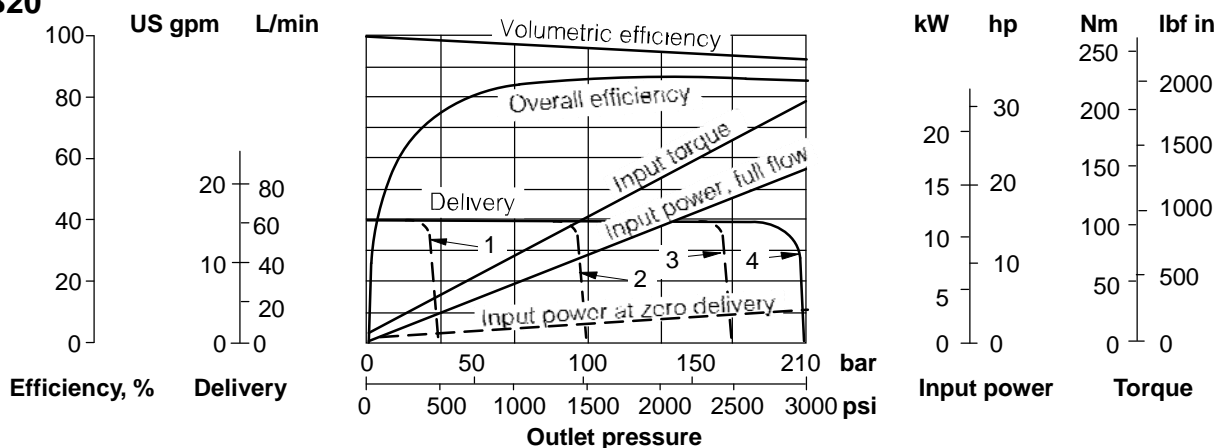
With oil at 21cSt (102 SUS) and at 49 C (120 F): Atmospheric inlet
 For data at drive speed of 1800 r/min, see pages A.11 to A.14

PVB15



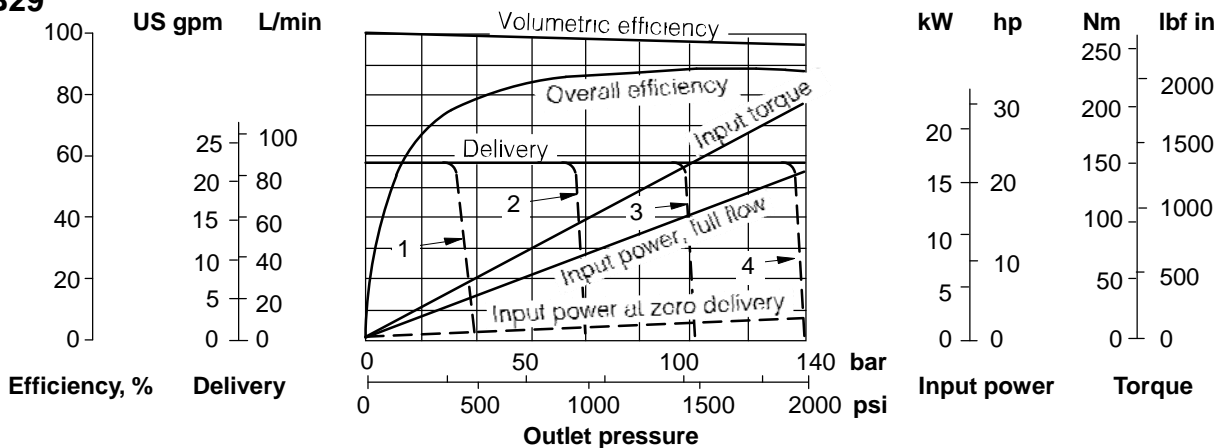
1 = Delivery with compensator setting of 50 bar (750 psi)
 2 = Delivery with compensator setting of 100 bar (1500 psi)

PVB20



1 = Delivery with compensator setting of 35 bar (500 psi) 3 = Delivery with compensator setting of 175 bar (2500 psi)
 2 = Delivery with compensator setting of 100 bar (1500 psi) 4 = Delivery with compensator setting of 200 bar (3000 psi)

PVB29

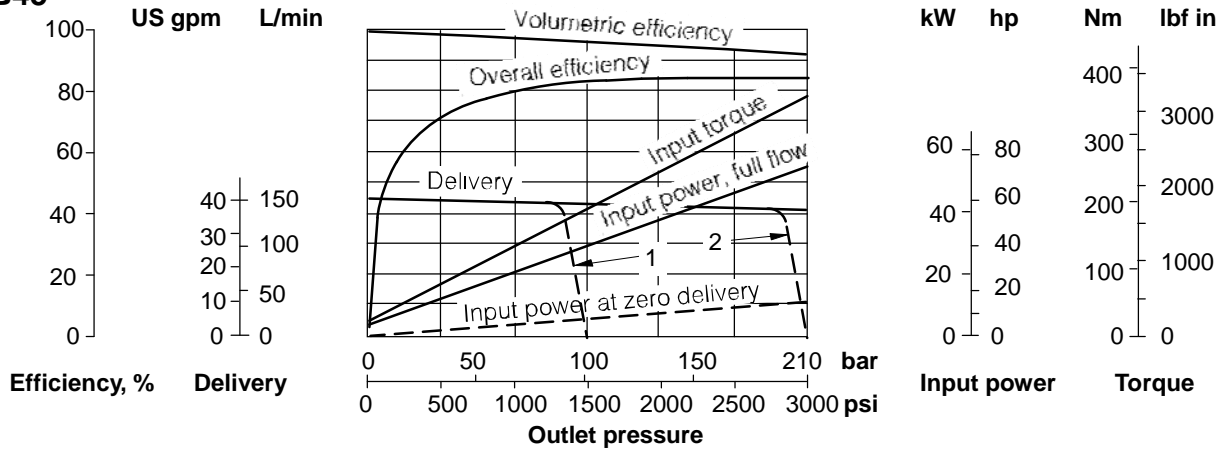


1 = Delivery with compensator setting of 35 bar (500 psi) 3 = Delivery with compensator setting of 175 bar (2500 psi)
 2 = Delivery with compensator setting of 100 bar (1500 psi) 4 = Delivery with compensator setting of 200 bar (3000 psi)

Performance Data at 1500 r/min Drive Speed (cont'd)

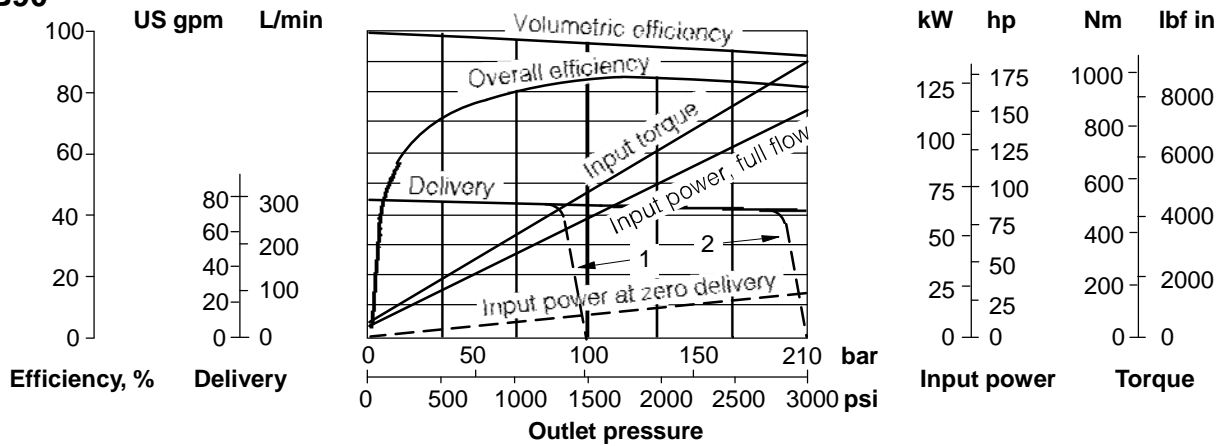
With oil at 21cSt (102 SUS) and at 49 C (120 F): Atmospheric inlet
 For data at drive speed of 1800 r/min, see pages A.11 to A.14

PVB45



1 = Delivery with compensator setting of 100 bar (1500 psi)
 2 = Delivery with compensator setting of 200 bar (3000 psi)

PVB90

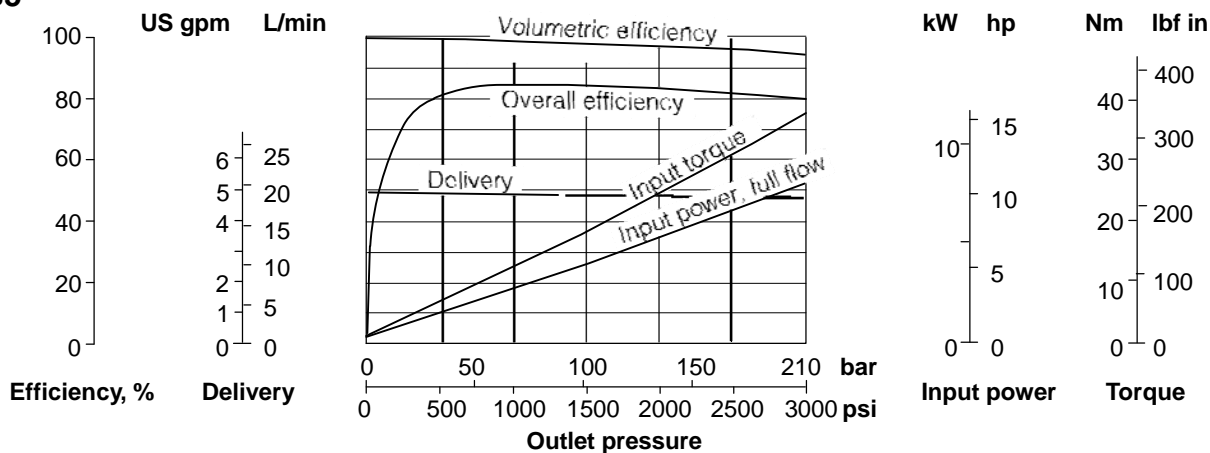


1 = Delivery with compensator setting of 100 bar (1500 psi)
 2 = Delivery with compensator setting of 200 bar (3000 psi)

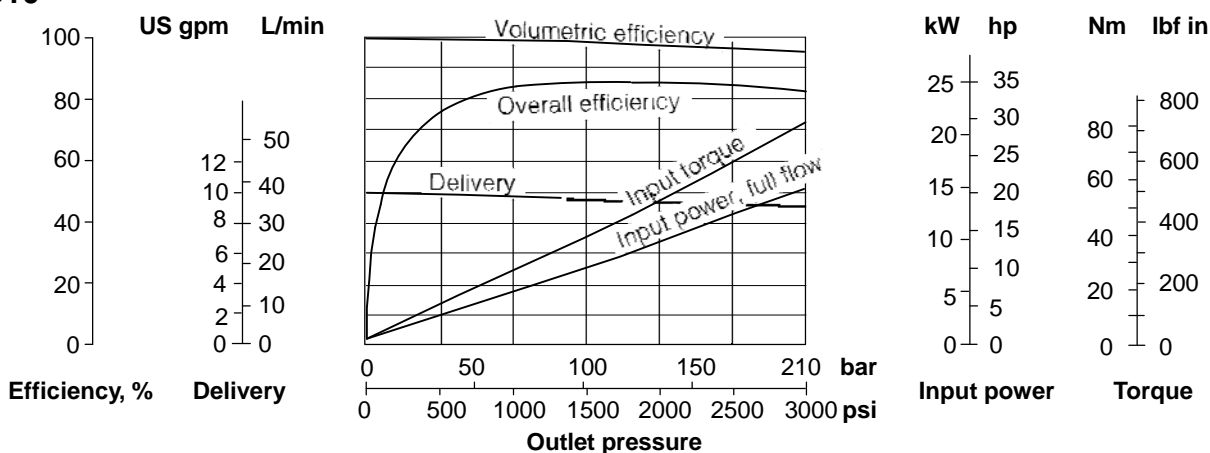
Performance Data at 1800 r/min Drive Speed

With oil at 21cSt (102 SUS) and at 49 C (120 F): Atmospheric inlet
 For data at drive speed of 1500 r/min, see pages A.7 to A.10

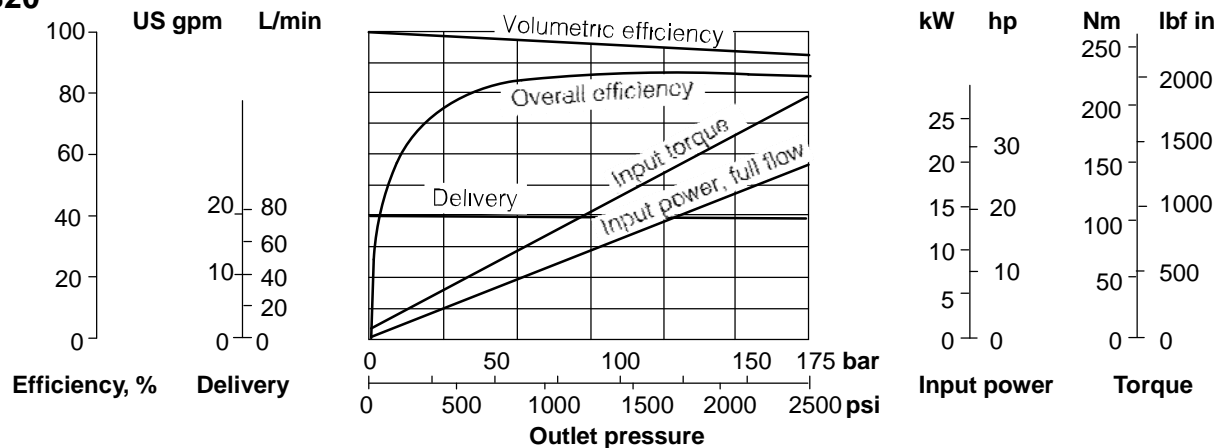
PFB5



PFB10



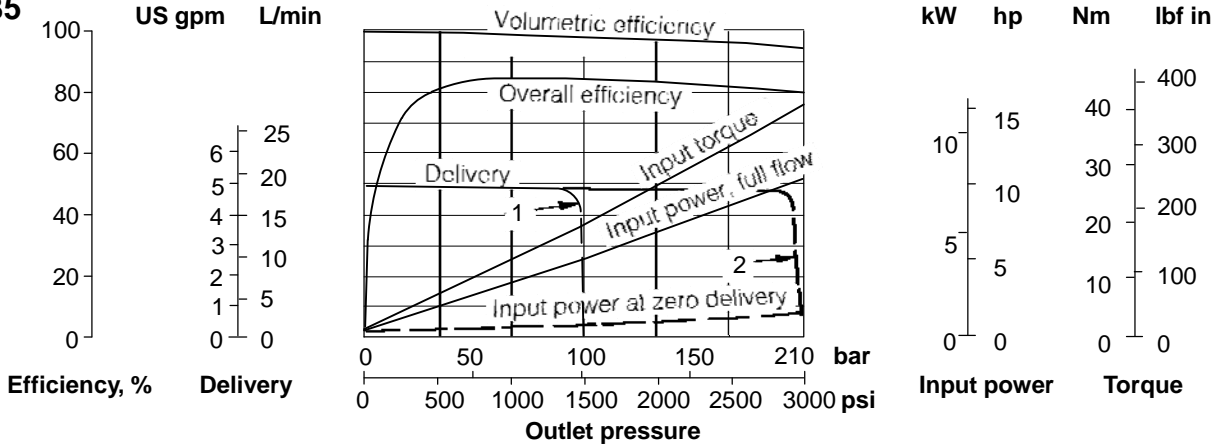
PFB20



Performance Data at 1800 r/min Drive Speed (cont'd)

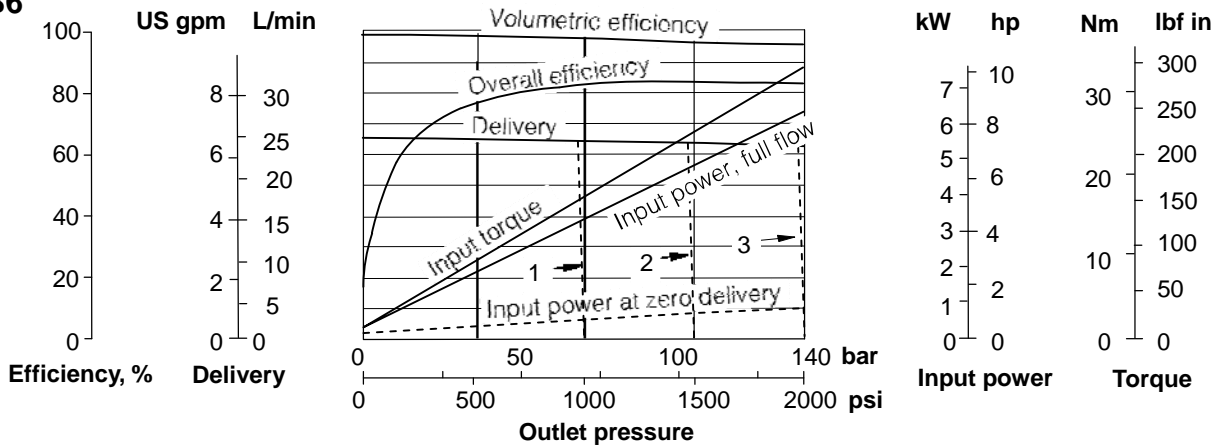
With oil at 21cSt (102 SUS) and at 49 C (120 F): Atmospheric inlet
 For data at drive speed of 1500 r/min, see pages A.7 to A.10

PVB5



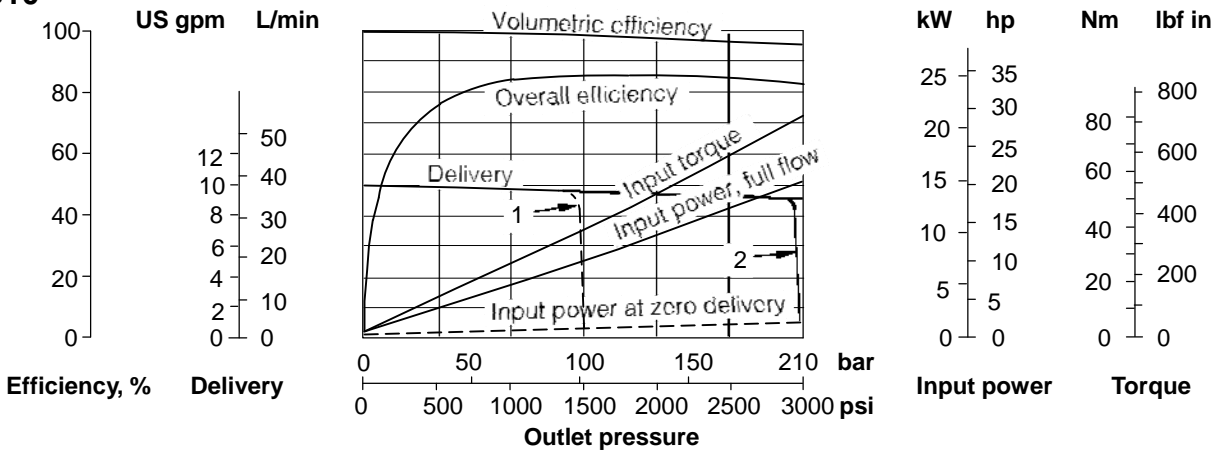
1 = Delivery with compensator setting of 100 bar (1500 psi)
 2 = Delivery with compensator setting of 200 bar (3000 psi)

PVB6



1 = Delivery with compensator setting of 70 bar (1000 psi)
 2 = Delivery with compensator setting of 100 bar (1500 psi)
 3 = Delivery with compensator setting of 140 bar (2000 psi)

PVB10

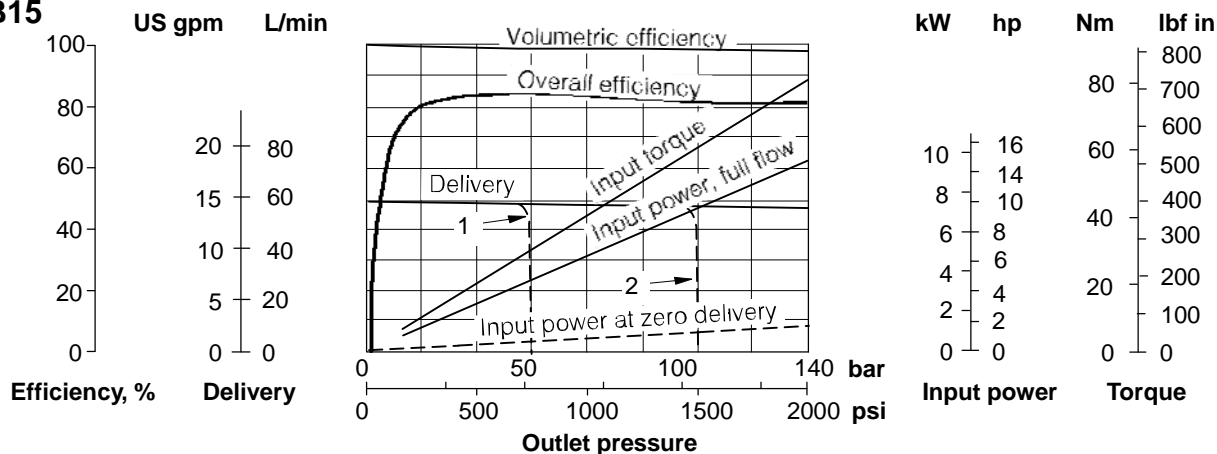


1 = Delivery with compensator setting of 100 bar (1500 psi)
 2 = Delivery with compensator setting of 200 bar (3000 psi)

Performance Data at 1800 r/min Drive Speed (cont'd)

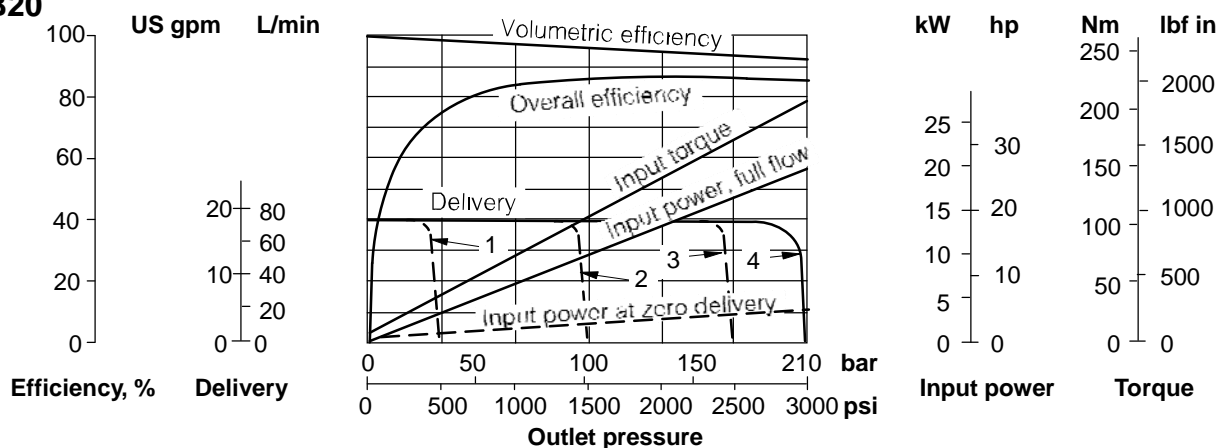
With oil at 21cSt (102 SUS) and at 49 C (120 F): Atmospheric inlet
 For data at drive speed of 1500 r/min, see pages A.7 to A.10

PVB15



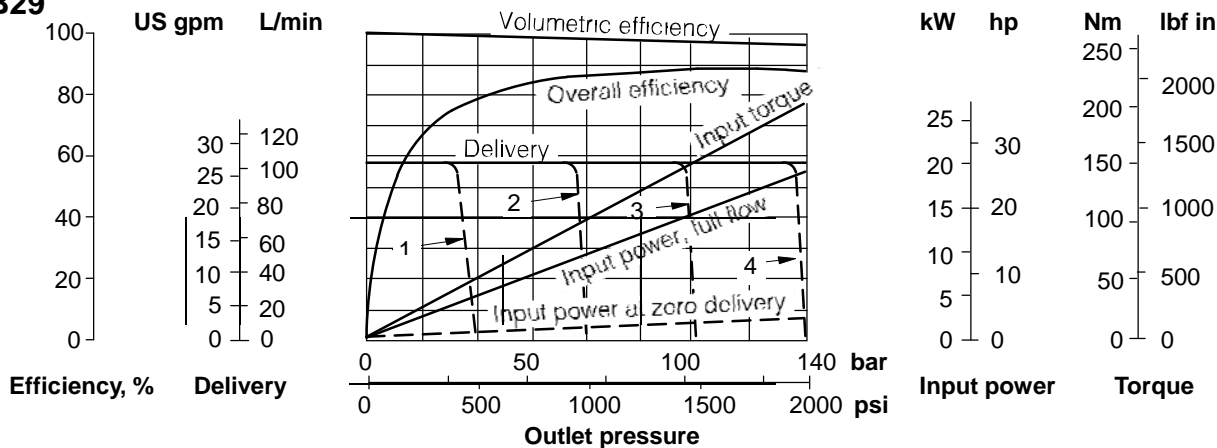
1 = Delivery with compensator setting of 50 bar (750 psi)
 2 = Delivery with compensator setting of 100 bar (1500 psi)

PVB20



1 = Delivery with compensator setting of 35 bar (500 psi) 3 = Delivery with compensator setting of 175 bar (2500 psi)
 2 = Delivery with compensator setting of 100 bar (1500 psi) 4 = Delivery with compensator setting of 200 bar (3000 psi)

PVB29



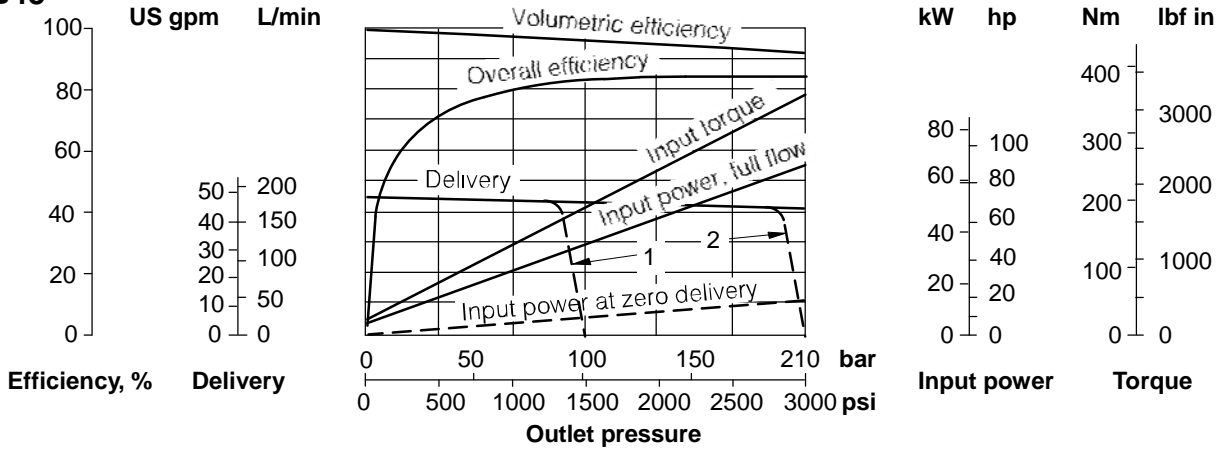
1 = Delivery with compensator setting of 35 bar (500 psi) 3 = Delivery with compensator setting of 175 bar (2500 psi)
 2 = Delivery with compensator setting of 100 bar (1500 psi) 4 = Delivery with compensator setting of 200 bar (3000 psi)

Performance Data at 1800 r/min Drive Speed (cont'd)

With oil at 21cSt (102 SUS) and at 49 C (120 F): Atmospheric inlet

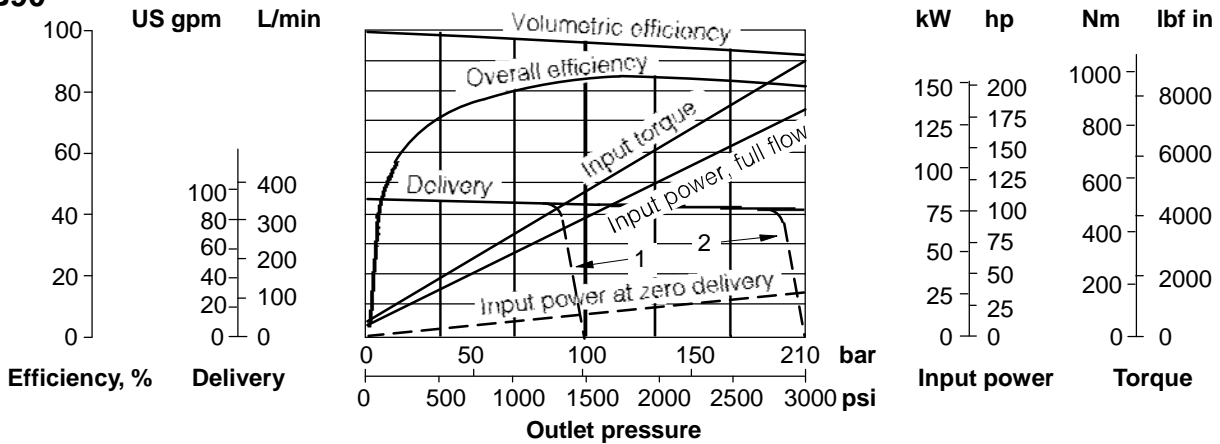
For data at drive speed of 1500 r/min, see pages A.7 to A.10

PVB45



1 = Delivery with compensator setting of 100 bar (1500 psi)
 2 = Delivery with compensator setting of 200 bar (3000 psi)

PVB90



1 = Delivery with compensator setting of 100 bar (1500 psi)
 2 = Delivery with compensator setting of 200 bar (3000 psi)

Control Data for PVB Pumps

Controls available as indicated in "Model Code" section.

"C" and "CM" Pressure Compensators

Automatically adjusts pump delivery at pre-adjusted pressure to match system demand. Delivery can decrease rapidly from maximum to zero through a pressure gradient typically 4 to 6 bar (60 to 90 psi) with normal circuit volumes.

For pressure adjustment ranges see "Model Code".

Note:

1. When using PVB6, 15 or 29 pumps with "C" type compensators the user must ensure that the maximum pressure setting never exceeds 140 or 100 bar (2000 or 1500 psi) dependent on the type of fluid being used.



Caution. It is possible to mechanically adjust the compensator up to 210 bar (3000 psi).

2. It is recommended that, as for other types of positive pump, a relief valve should be fitted externally as protection against overloads. Where a relatively large amount of fluid is directly subject to compensator pressure, it may be possible to omit the relief valve. Consult your Vickers representative.

"CC" and "CMC" Pressure Compensators with Adjustable Max. Displacement Stop

The pressure compensator section performs as described above. The adjustable stop allows the maximum pump delivery to be adjusted between 25 to 100%. To assist priming, adjust the stop setting to provide at least 40% of the maximum displacement.

"CG" Pressure Compensator, Remotely Controlled

Same as the "C" compensator, but arranged for remote pressure adjustment by suitable pilot controls. One or more pilot relief valves (e.g. C-175-*) and/or pilot directional valves, in series or in parallel, can provide many varied remote pilot systems.

Your Vickers representative will be pleased to advise on optimum arrangements for individual applications.

"CV" Load Sensing Comensator, Remotely Controlled

Automatically matches pump delivery to system demand at a pressure approximately 17 bar (250 psi) above load pressure. This pressure difference can be created by:

- a variable flow restrictor (non-compensated flow control) or the spool opening of a directional control valve.

Both forms can be used with fixed and variable speed pump drives. In the latter case a fixed restrictor can provide pre-set, near-constant pump flow independent of drive speed, provided that the speed exceeds that which gives the required flow at full displacement. An external pressure limiter must be added to prevent overloading the pump; see "Functional Symbols" page A.3.

The matching of pump pressure and delivery to system demands provides power matching and conservation by minimizing system power wastage.

"H" Handwheel Control

Provides manual variation or selection of pump delivery. The control can be operated on both sides of center permitting bi-directional flow characteristics.

Approximate change of displacement per one turn of handwheel is:

PVB5	2,6 cm ³ (0.16 in ³)
PVB6	3,4 cm ³ (0.21 in ³)
PVB10	5,2 cm ³ (0.32 in ³)
PVB15	8,2 cm ³ (0.5 in ³)

"M" Lever Control

Provides mechanical or manual variation of pump delivery in approximate proportion to the angular movement from the center position. This control may be operated on both sides of center permitting bi-directional flow characteristics. The pintle-mounted lever control must be secured by suitable linkage to maintain desired settings; both extremes of pintle travel are limited by internal stops to approx. 17.5 from center.

Control torques (approx. at 1500 r/min).	
PVB5	3,8 Nm @ 210 bar (33 lbf in at 3000 psi)
PVB6	2,7 Nm @ 138 bar (24 lbf in at 2000 psi)
PVB10 and PVB15	7,5 Nm @ 70 bar (66 lbf in at 1000 psi)

Note: Torque varies with pressure and speed.

"GE1" Minimum Displacement Control

Option for C(M)(C) and CG(C) compensators to limit the minimum displacement, in the fully compensated mode, to nominally 10% of full displacement.

Hydraulic Fluids

All pumps can be used with anti-wear hydraulic oils, water glycols and water-in-oil (invert) emulsions. It is possible to use these pumps with high water base fluids (e.g. 5%/95% oil-in-water emulsion) at pressures up to 70 bar (1000 psi). However, first consult your Vickers representative.

The extreme operating viscosity range is from 220 to 13 cSt (1020 to 70 SUS) for all pumps (except where 5%/95% emulsions are used). The recommended running range is 54 to 13 cSt. (245 to 70 SUS)

The viscosity of 5%/95% emulsions is near-constant at about 1 or 2 cSt (<35 SUS).

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)

Drive Requirements:

- Direction of Rotation

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

Filtration Requirements

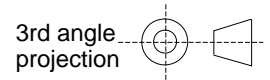
20/18/14 or ISO 18/14..

Noise Levels

* Typical values equivalent to NFPA

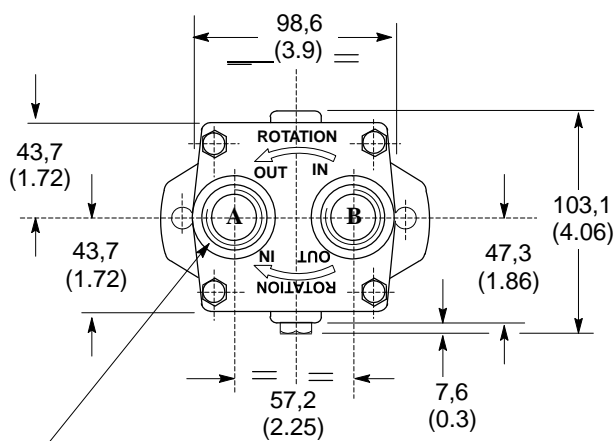
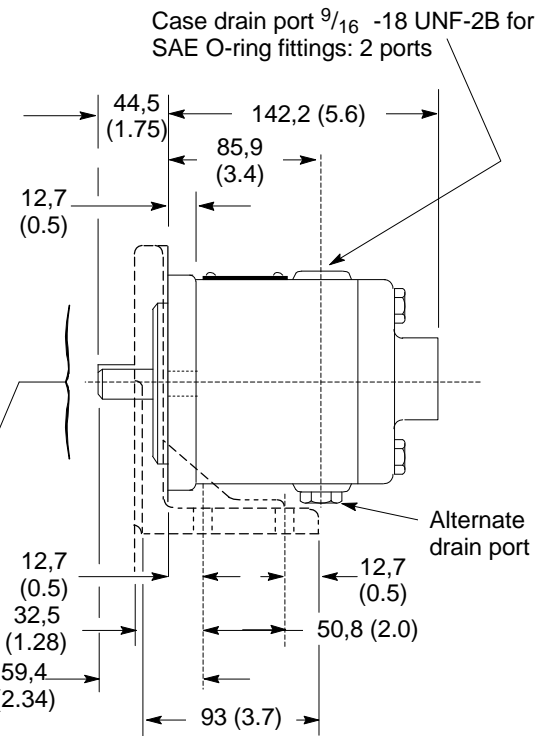
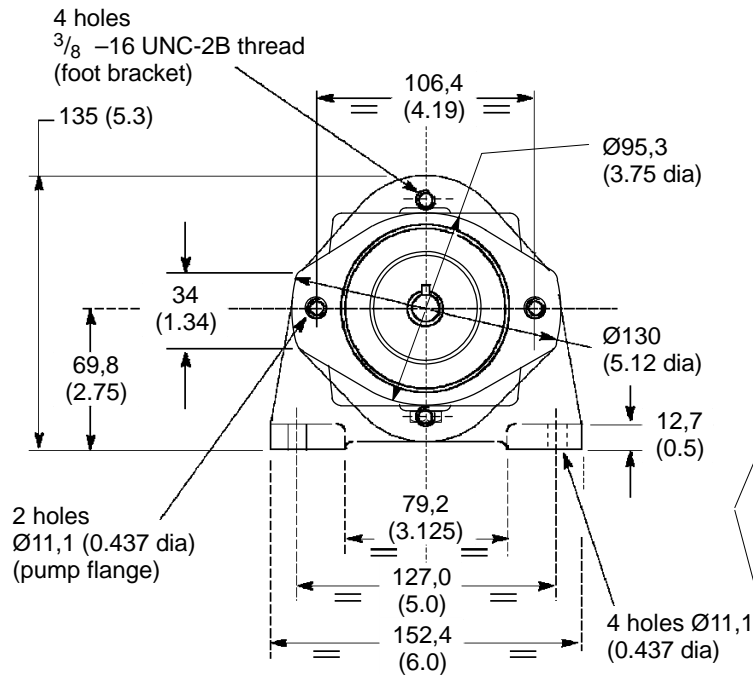
Speed r/min	Pressure bar (psi)	Stroke	Noise level – dB(A)*						
			PVB5	PVB6	PVB10	PVB15	PVB20	PVB29	
1000	35 (500)	Full flow	51	52	54	58	–	–	
		Cutoff	51	51	44	47	–	–	
	70 (1000)	Full flow	54	55	56	60	–	–	
		Cutoff	52	54	49	54	–	–	
	140 (2000)	Full flow	56	57	60	62	–	–	
		Cutoff	58	56	55	59	–	–	
	210 (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



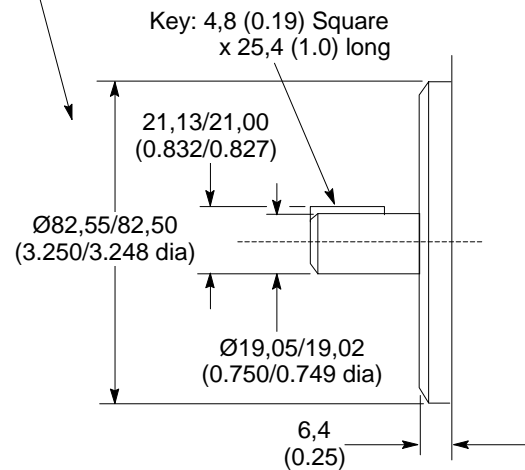
Installation Dimensions in mm (inches)

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: $\frac{11}{16}$ -12 UNF-2B thread for SAE O-ring fittings.

View on rear end of pump

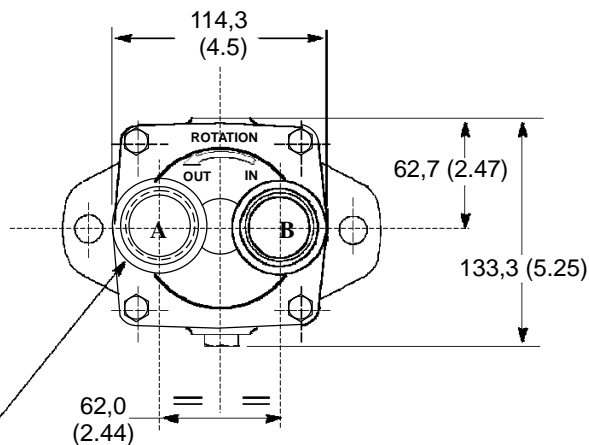
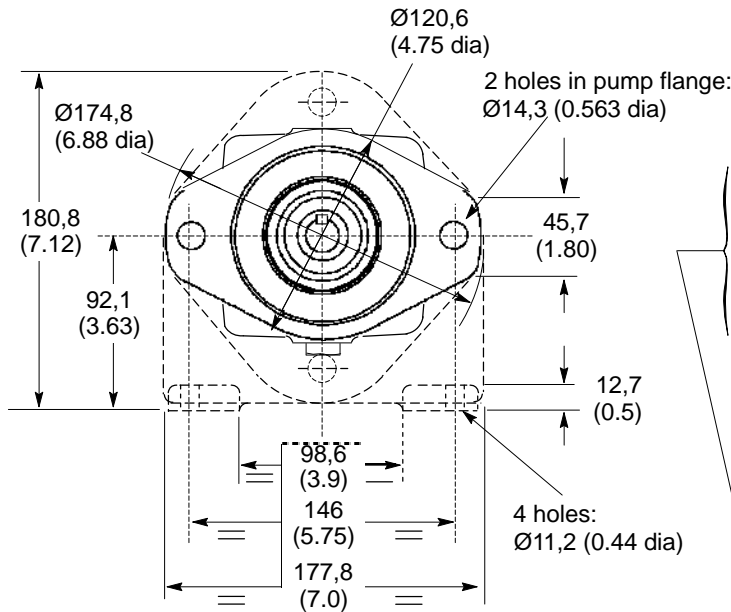


Detail of shaft, key and locating diameter

PFB10 SAE Flange Mounting

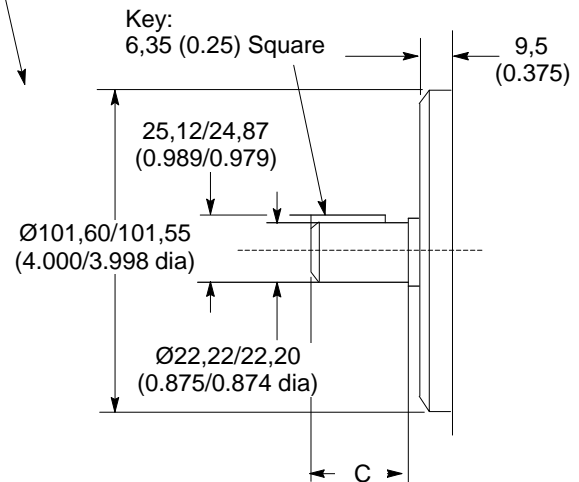
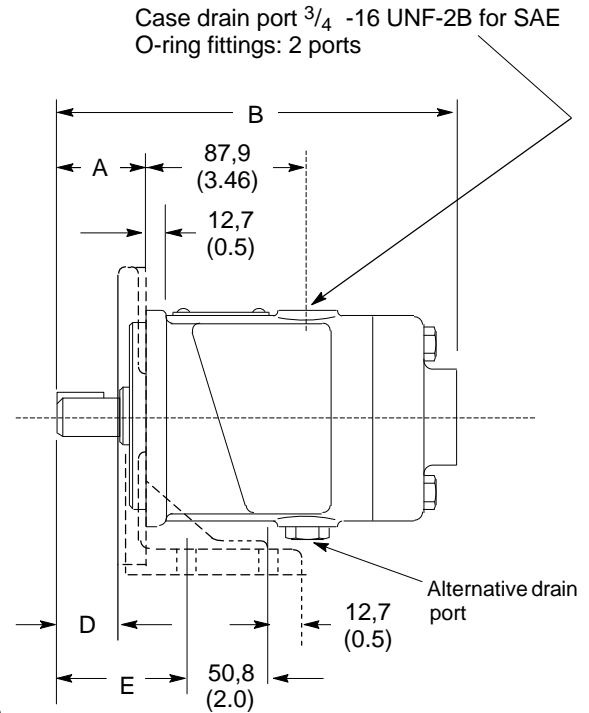
Installation Dimensions in mm (inches)

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:
 $1\frac{5}{8}$ -12 UNF-2B thread for SAE O-ring fittings.

View on rear end of pump



Detail of shaft, key and locating diameter

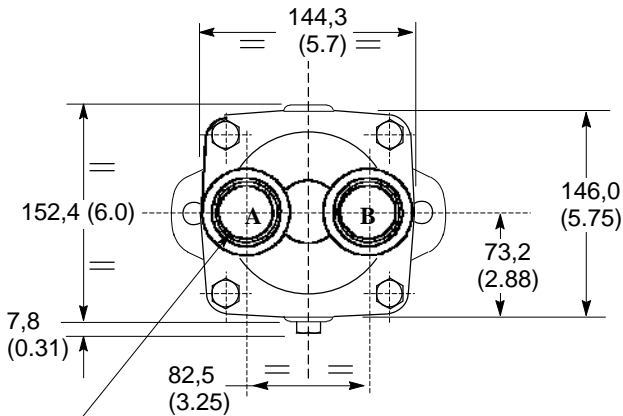
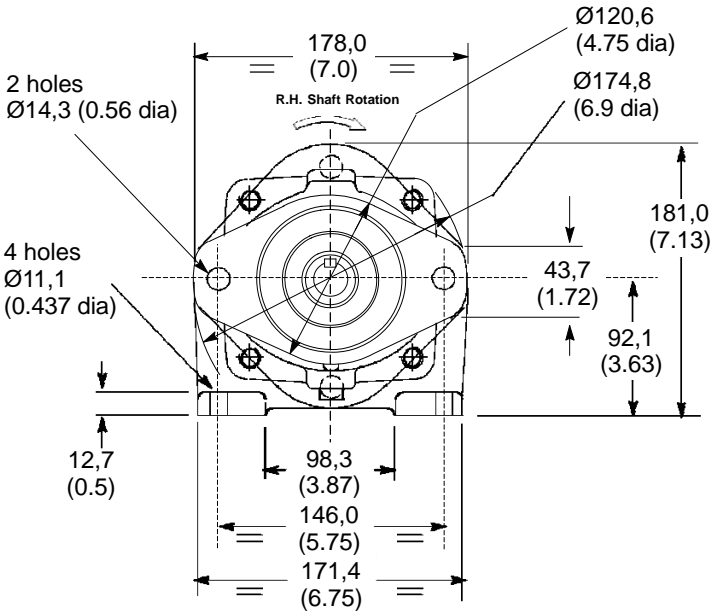
Pump type	A	B	C	D*	E*
PFB10*-30	44,4 (1.75)	213,9 (8.42)	33,3 (1.31)	26,9 (1.06)	59,4 (2.34)
PFB10*-Y-30	58,7 (2.31)	228,1 (8.98)	47,6 (1.87)	41,1 (1.62)	73,7 (2.9)

*Omit for foot bracket models)

PFB20 SAE Flange Mounting

Installation Dimensions in mm (inches)

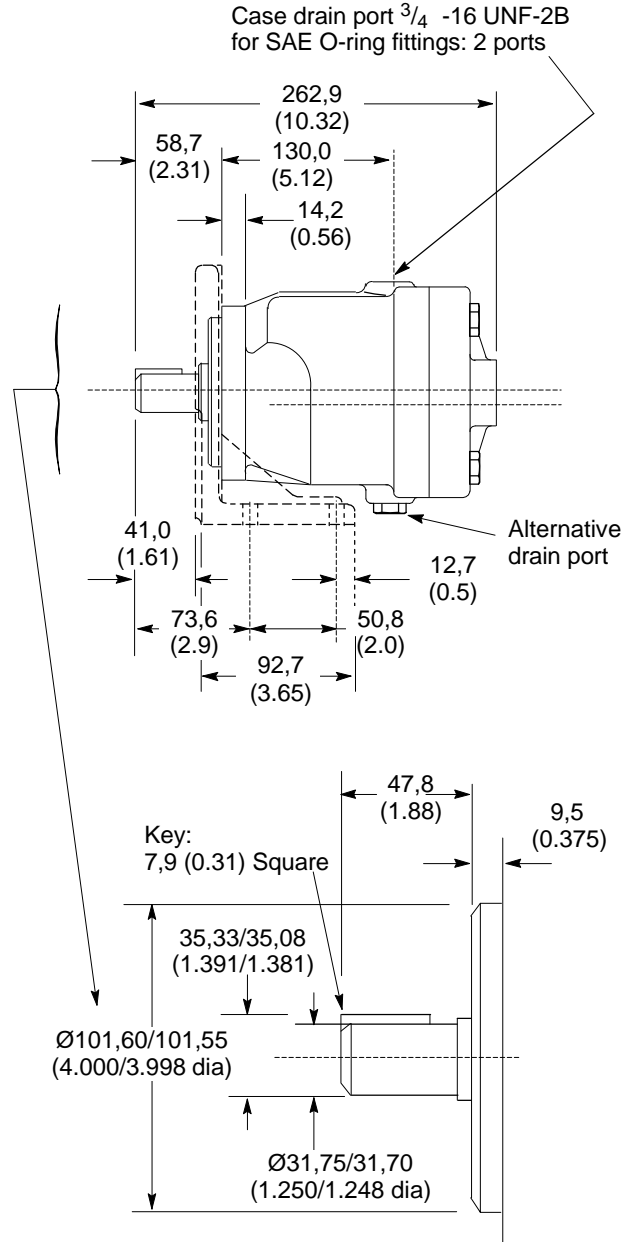
Optional foot bracket, shown in dashed outline; kit FB-B-10 comprises foot bracket and two pump fixing bolts. Order separately, if required.



Inlet/outlet ports (see table):
 $1\frac{5}{8}$ -12 UNF-2B thread for SAE O-ring fittings.

View on rear end of pump

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



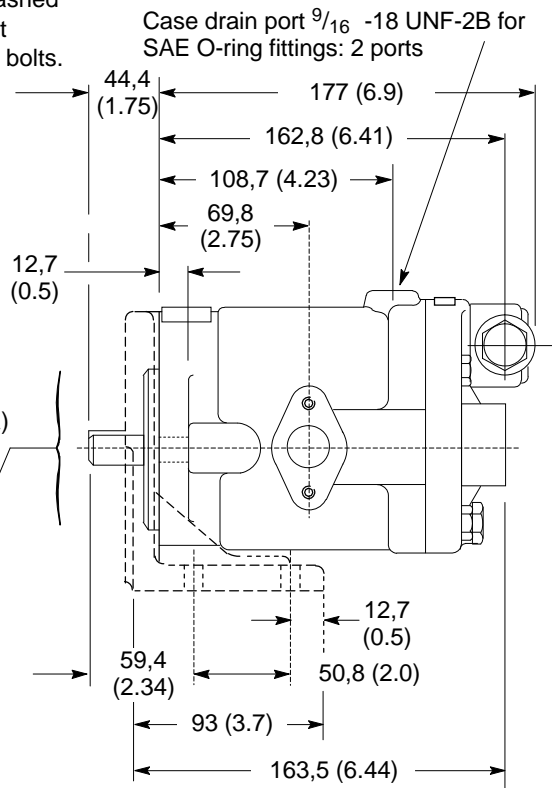
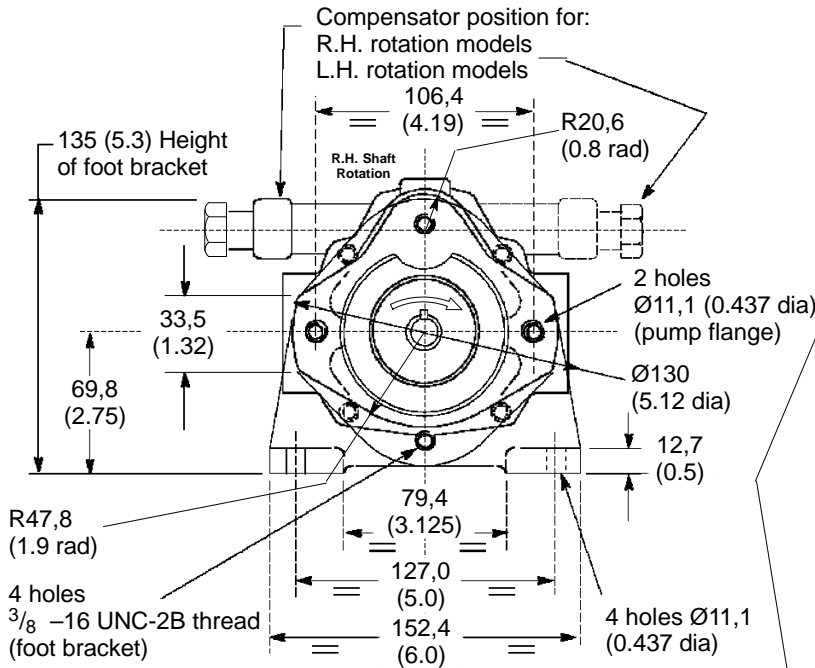
Detail of shaft, key and locating diameter

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

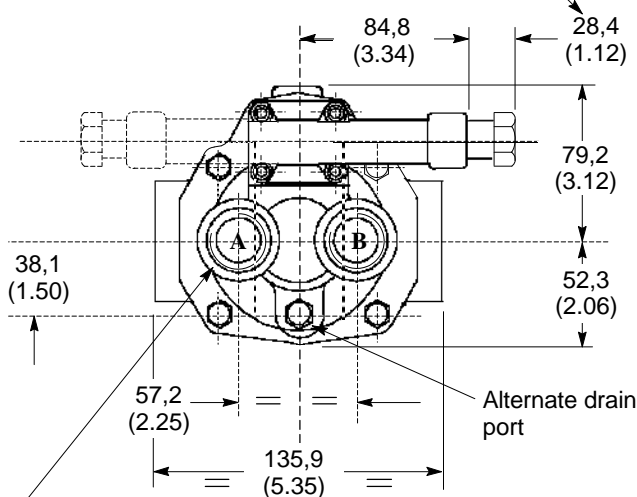
Installation Dimensions in mm (inches)

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.

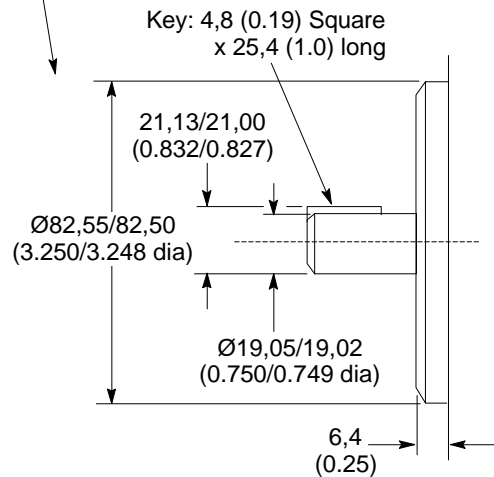


Caution: While pump is operating do not back compensator adjustment screw out beyond dimension shown.



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

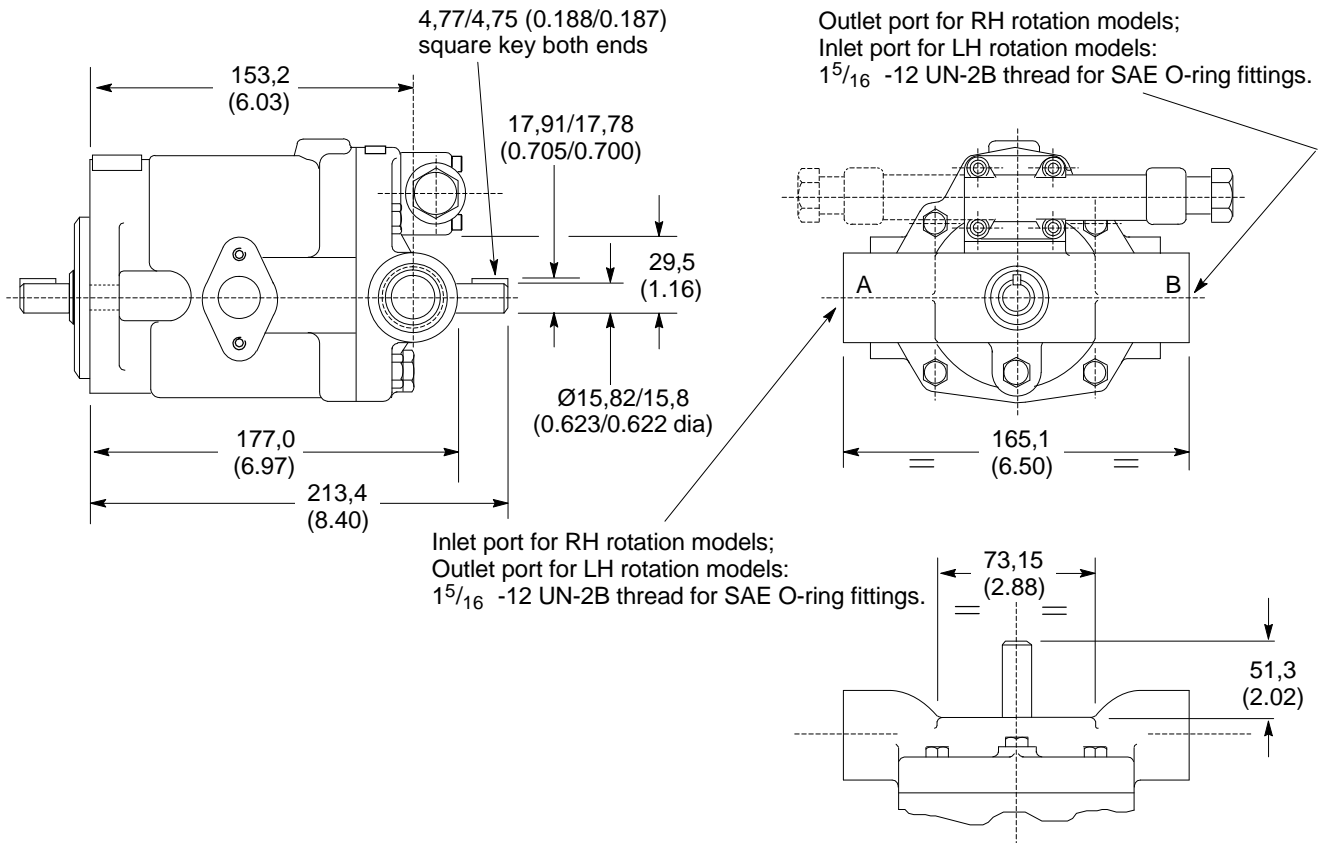
Shaft rotation	Inlet port	Outlet port
RH	A	B
LH	B	A

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.



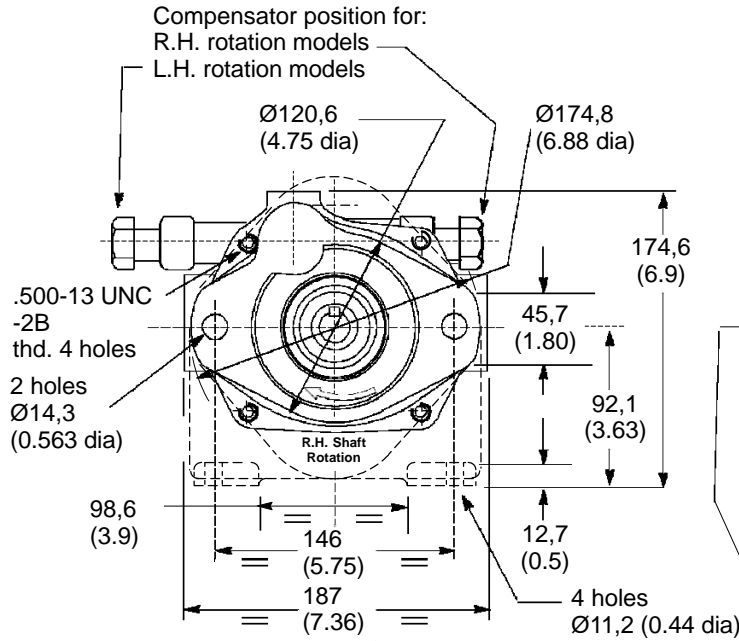
PVB10/15 SAE Flange Mounting Pressure Compensator Control - "C" and "CM"

Installation Dimensions in mm (inches)

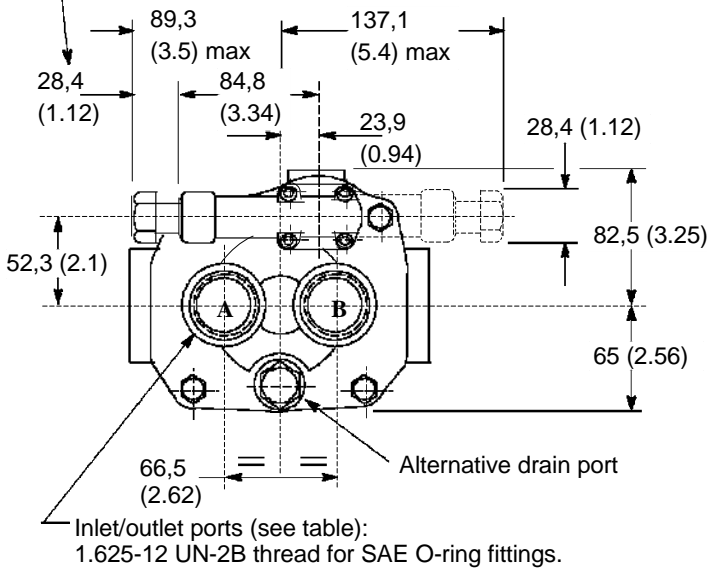
See also "Control Data" section, page A.15.

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

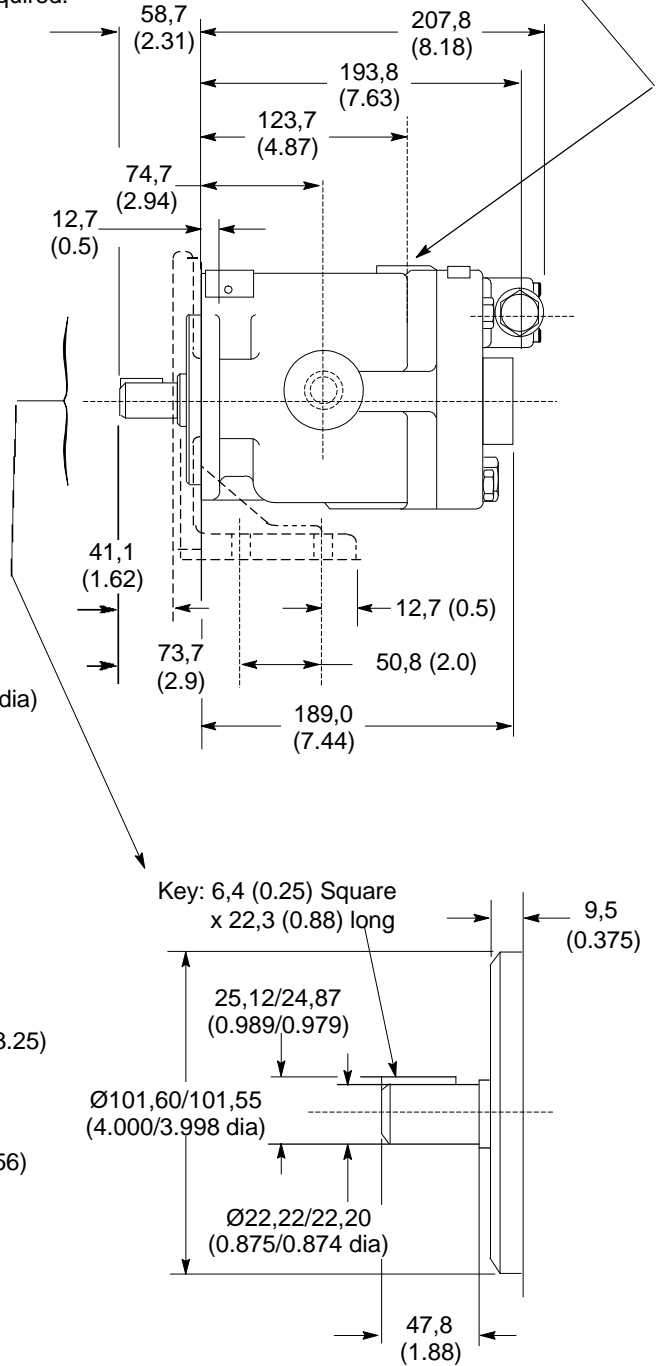


Caution: While pump is operating do not back compensator adjustment screw out beyond dimension shown.



View on rear end of pump

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

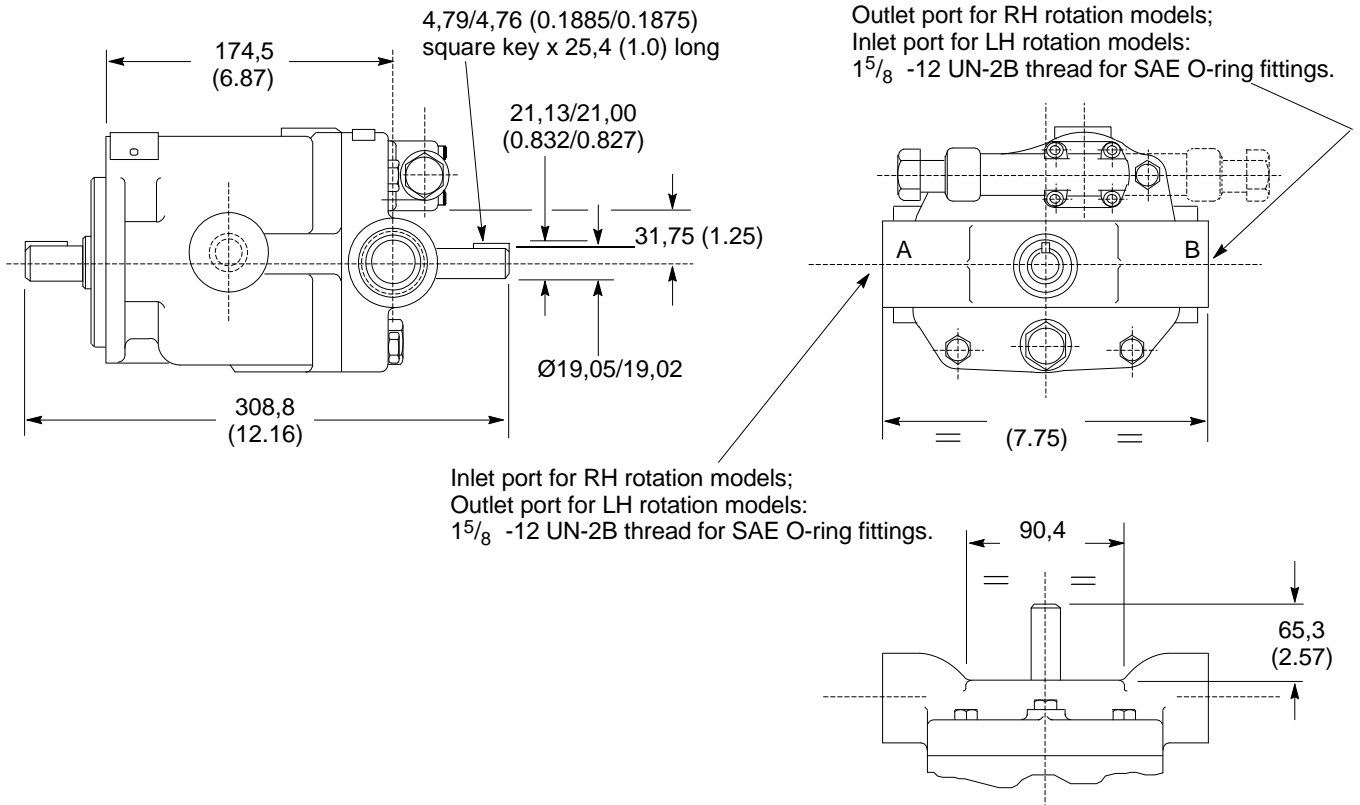


Detail of shaft, key and locating diameter

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:
 At 1500 r/min drive speed, pages A.8 & A.9.
 At 1800 r/min drive speed, page A.12 & A.13.

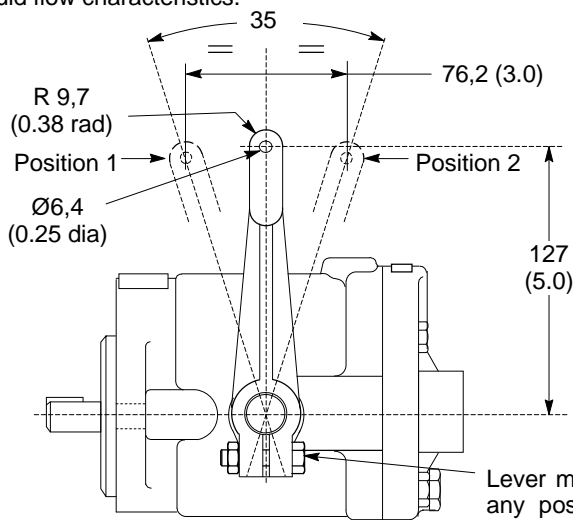
For other dimensions and installation data see page A.22.



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.

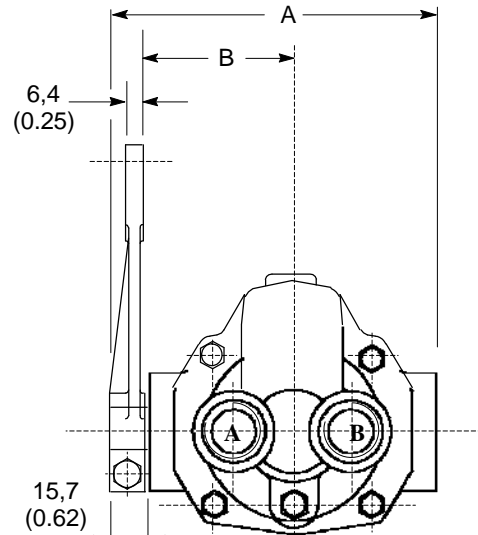


Lever may be set at any position in 360 degree circle. Ensure clamp bolt is fully tightened.

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

Ø17,40/17,27
(0.685/0.680 dia)

No Control - "V"

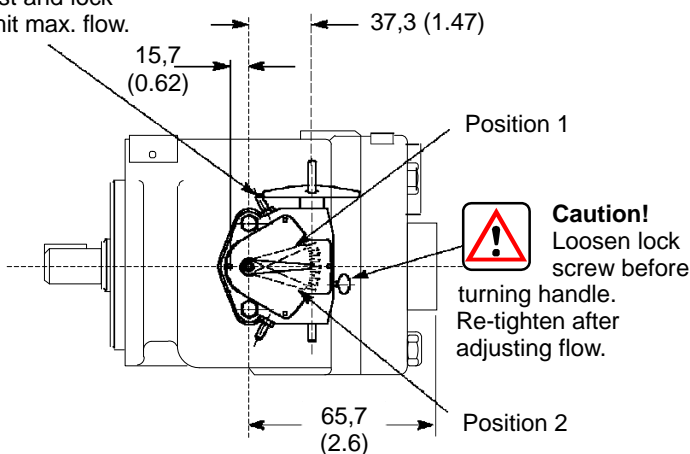


Pump type	A	B
PVB5/6	153 (6.02)	68,9 (2.7)
PVB10/15	204 (8.04)	99,9 (3.93)

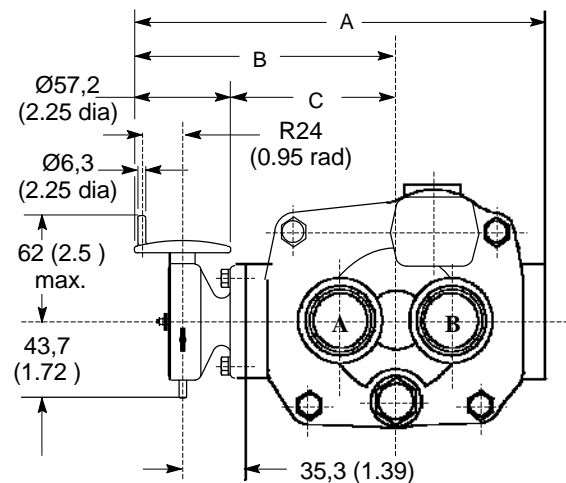
Handwheel Control - "H"

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.



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



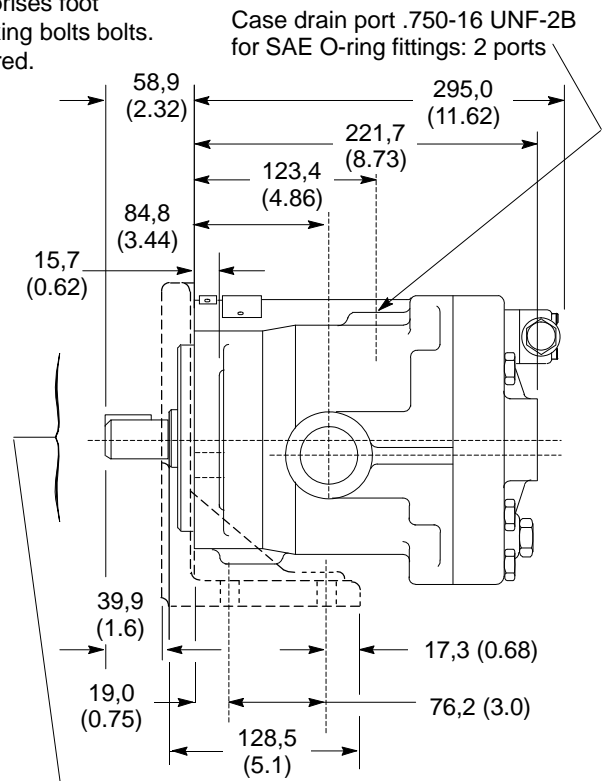
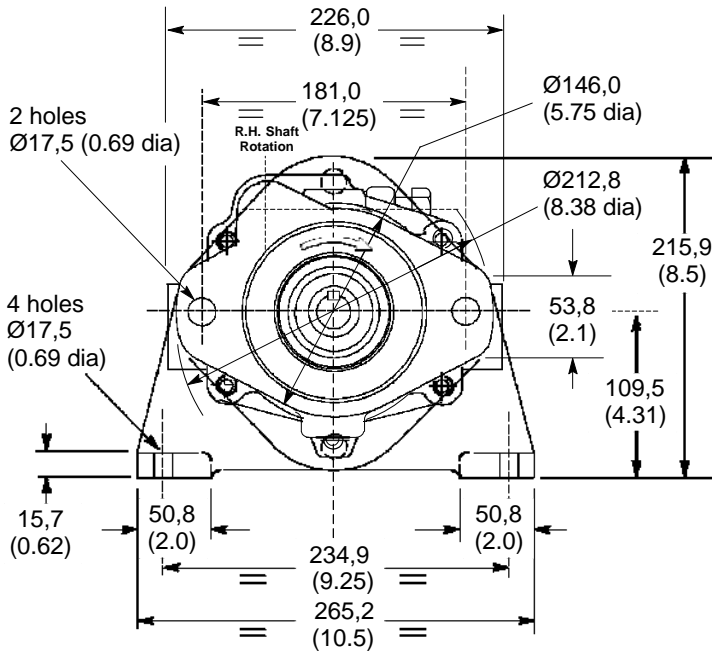
Pump type	A	B	C
PVB5/6	200 (7.87)	129 (5.08)	70,6 (2.78)
PVB10/15	250 (9.84)	140 (5.51)	93,5 (3.68)

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

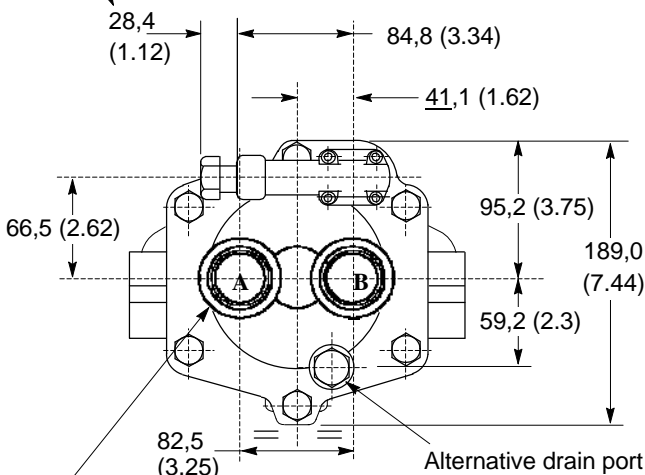
Installation Dimensions in mm (inches)

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.



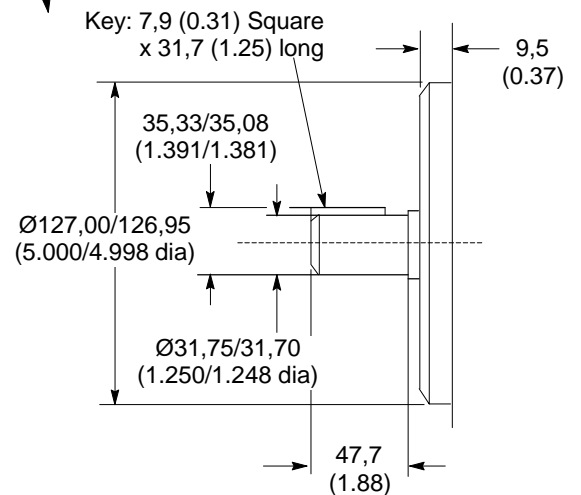
Caution: While pump is operating do not back compensator adjustment screw out beyond dimension shown.



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

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

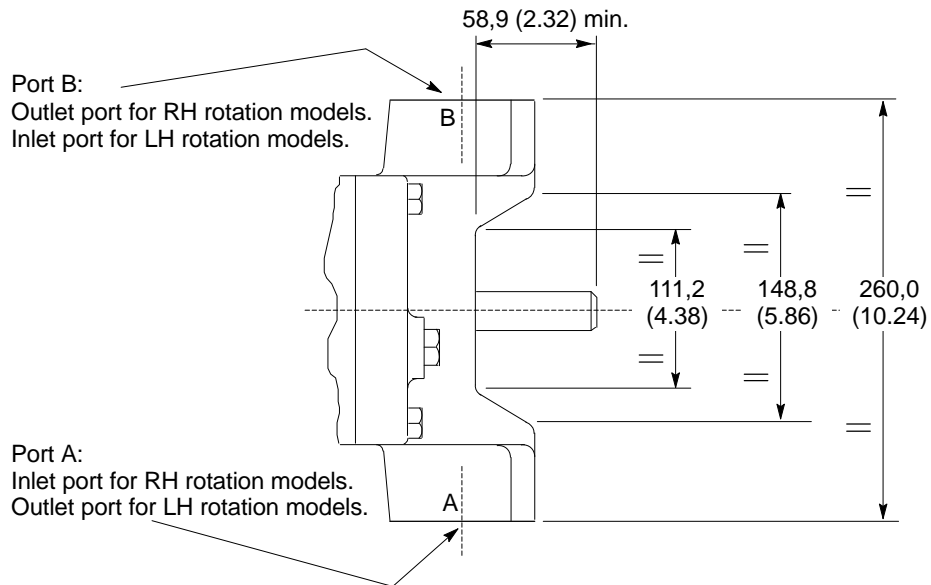
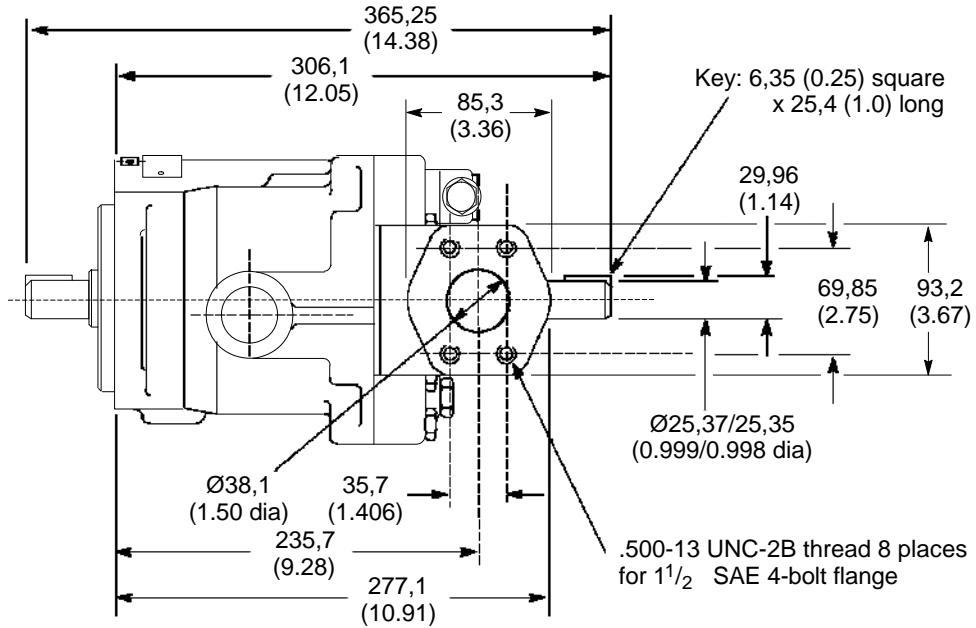
PVB20/29 Thru-Shaft Models (with Side Ports)

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

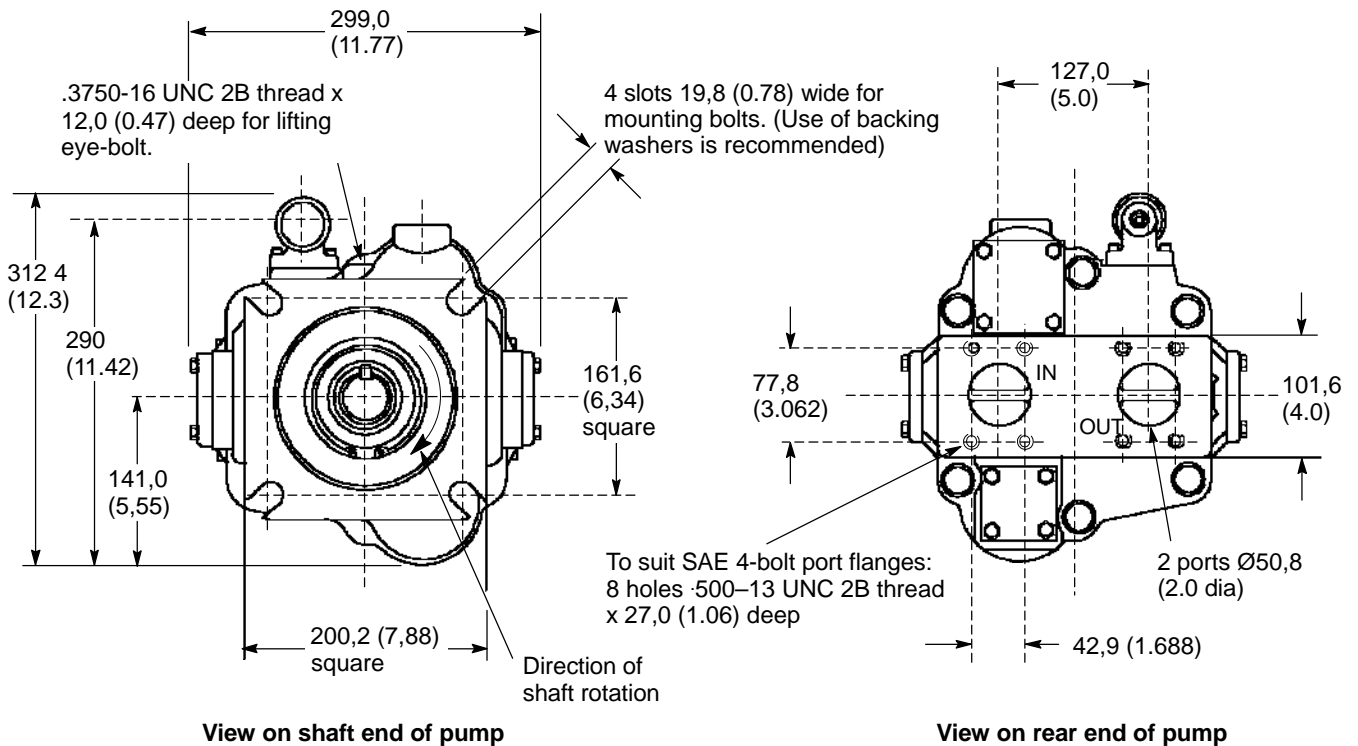
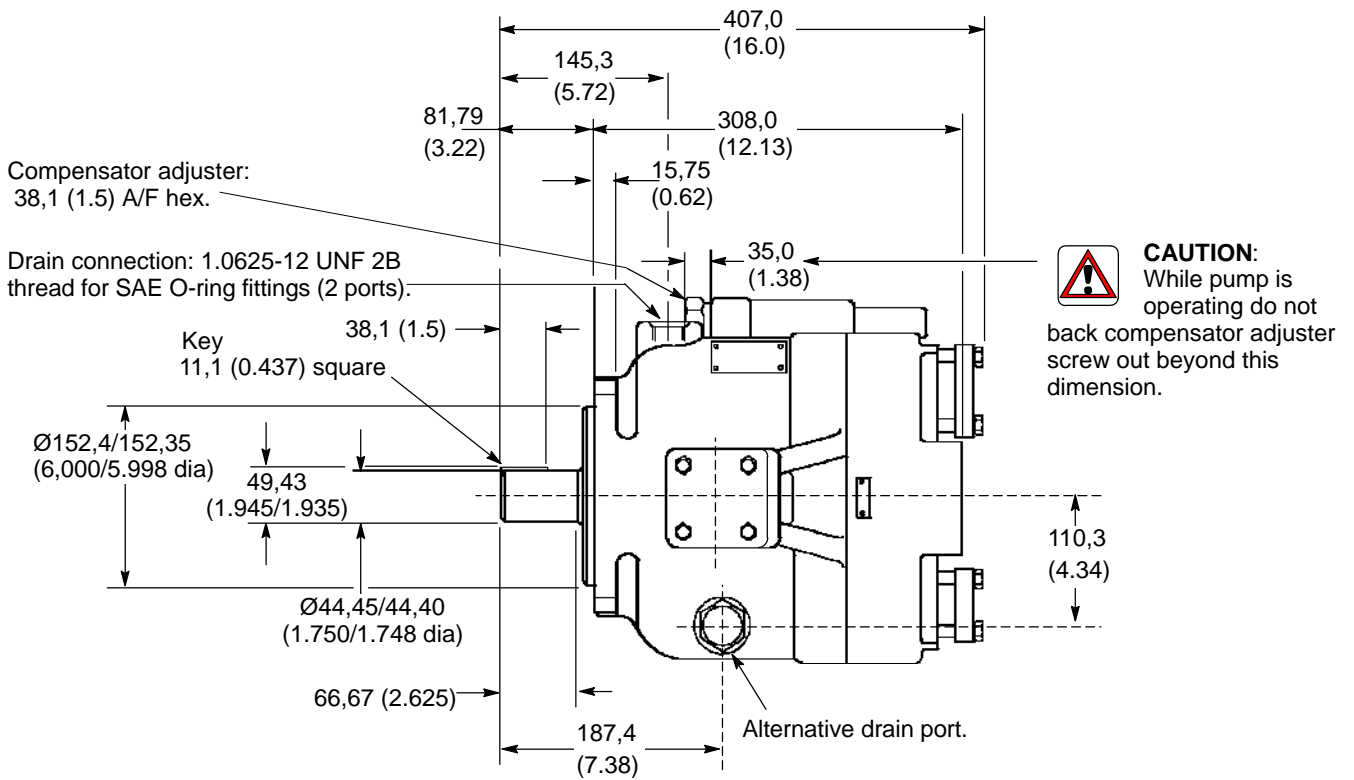
At 1500 r/min drive speed, page A.9

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

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

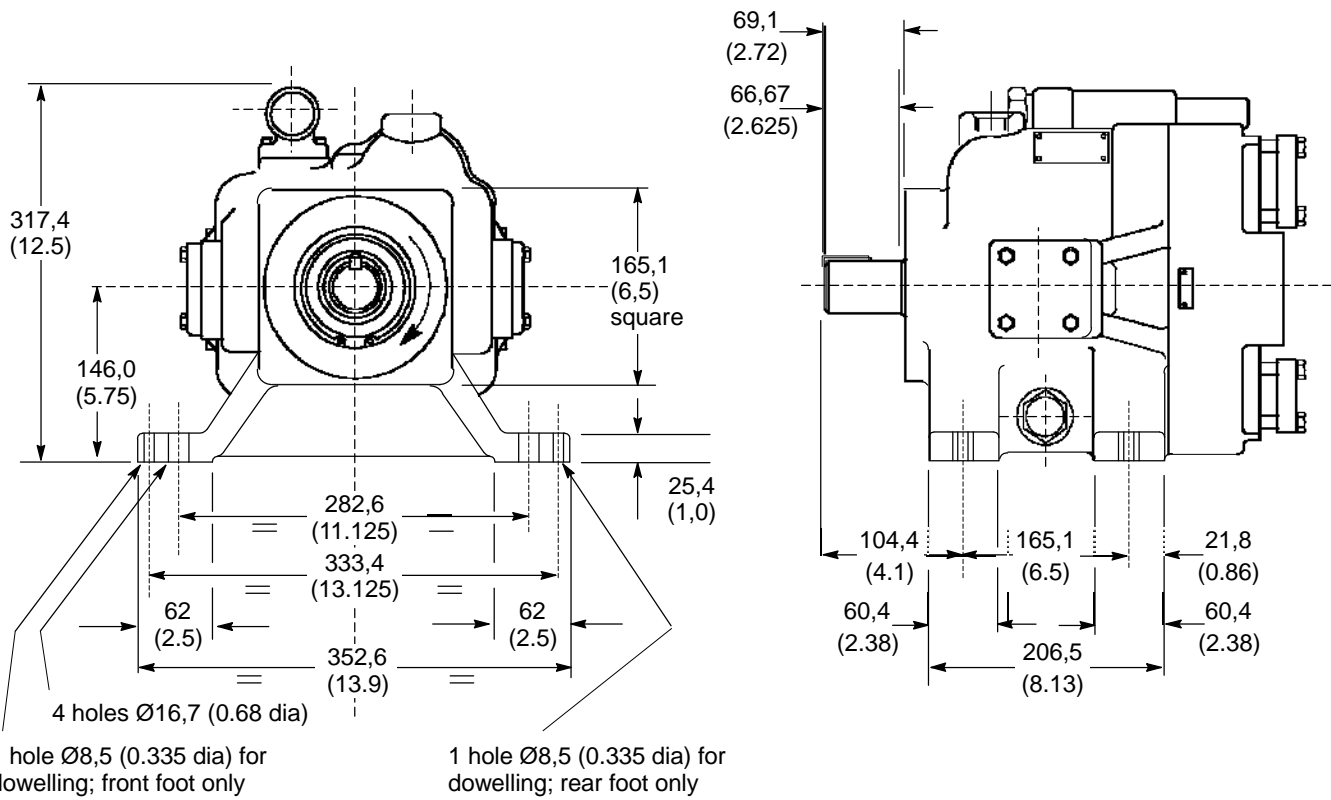


PVB45 Flange-Mounted Model



PVB45 Foot-Mounted Model

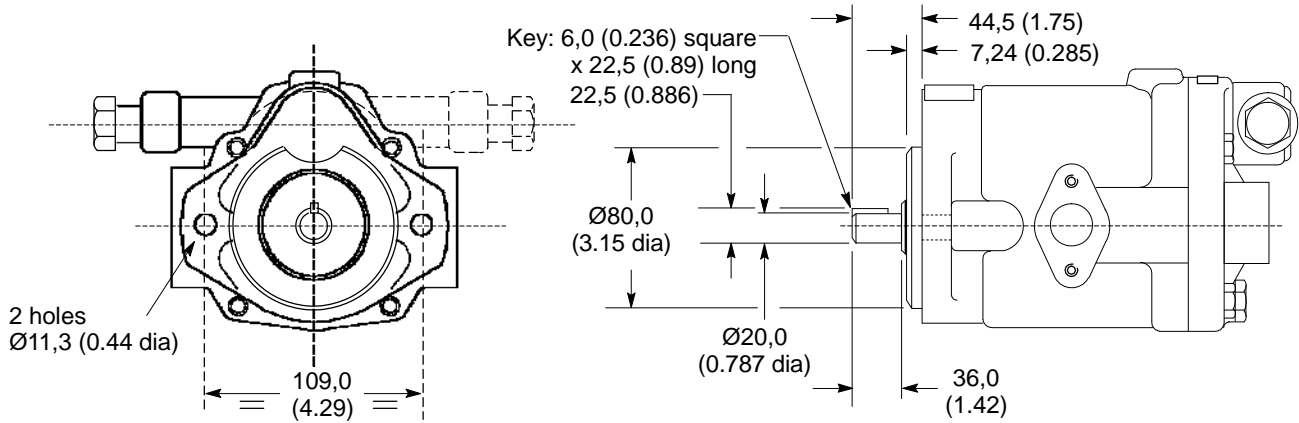
For other dimensions and installation data see page A.27 .



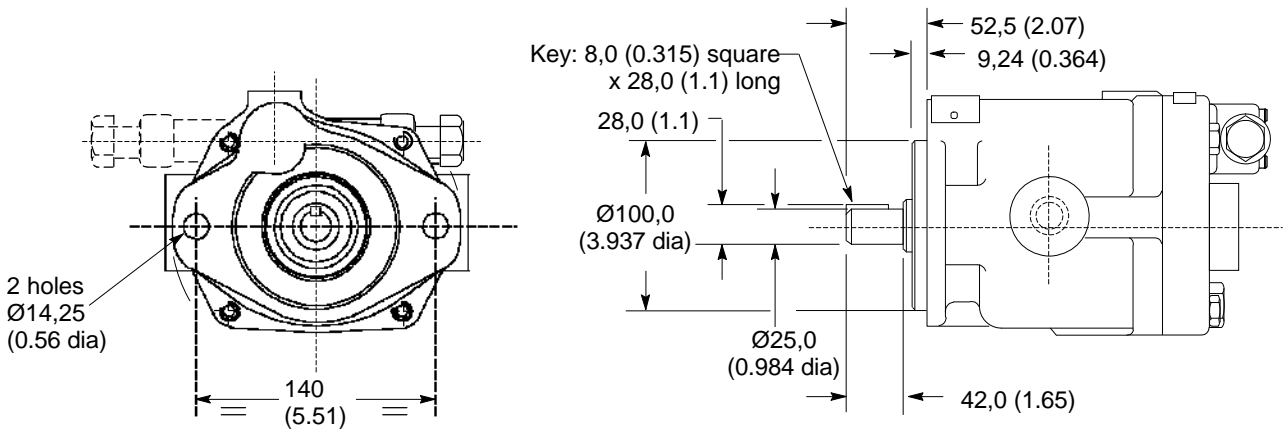
PVB5/6; PVB10/15; PVB20/29 – DIN/ISO Models

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

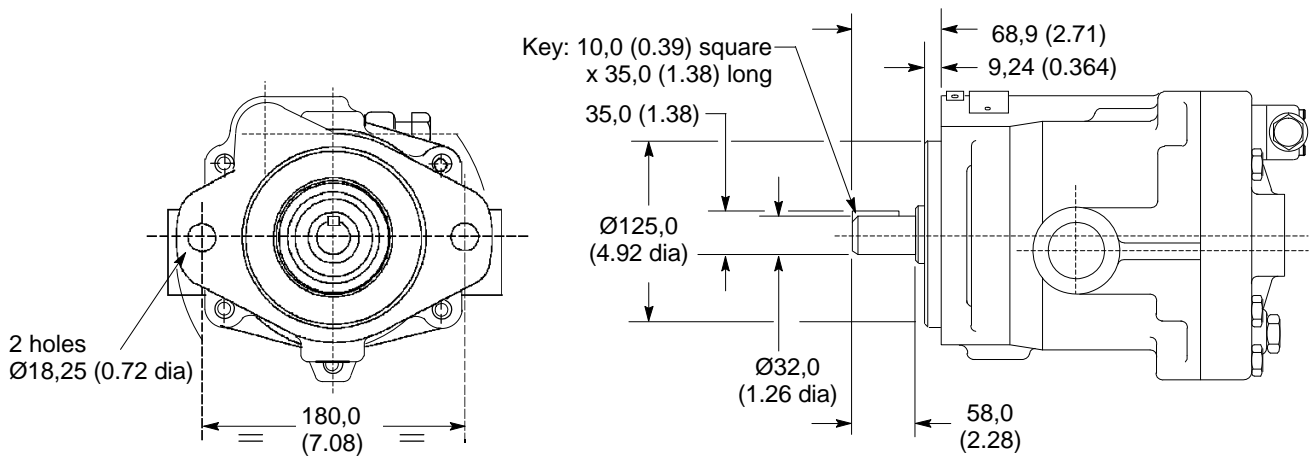
PVB5/6 – Pressure Compensated Control – “C” and “CM”



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



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



Eaton Vickers PVB pump							
02-102010	PVB15RSY31CCG20S185	394657	PVB45RSF20C11	02-341468	PVB6-RSY-40-CC-12	521953	PVB29LS20CVP12
02-102121	PVB10RDXY31M10S190	394658	PVB45LSF20C11	02-341502	PVB5FRSY40CC12	522283	PVB45RDF21RAA20S187
02-102122	PVB10RDY31M10S190	394865	F3PVB29RS20CCM11	02-341699	PVB10LSY41CM12	567644	PVB15RSY31CG20S185
02-102450	PVB5MRSN21CM11	396584	PVB29RSFX20CCM11	02-341701	PVB10LSY41C12	567768	PVB15RDXY31M10S190
02-102481	F3PVB5RSY21CVP12	400170	PLUGPVB20SFW	02-341702	PVB10LSY41CVP13	567769	PVB15RDY31M10S190
02-104017	PVB20RS20CM11GE38	405886	PVB29LSFW20C11	02-341711	PVB10RSY41CM12	568040	PVB15RS31CVP12S124
02-104390	PVB5MRSN21CM11GEVS	410199	PVB45RSF20CM11	02-341712	PVB10RSY41CC12	568083	PVB90RDF21DA11S194
02-104545	PVB5RSY21CC11GE38	411106	F3PVB20RS20CC11	02-341714	PVB10RS41C12S124	568090	PVB10RS41C12S124
02-125138	PVB5RSY21CMC11S30	413120	F3PVB5RDY20H10	02-341716	PVB10RSY41CVP13	677167	PVB20RS20CG20
02-126046	PVH98PVH98PVB5R02126046	416612	PVB29RS20CG20	02-341718	PVB10-RSY-41-C-12	679269	PVB29LSFW20CC11
02-136830	PVB90RDF21DA11S201	419051	PVB20RS20CC11S30	02-341719	PVB10RSXY41C12	763517	PVB29RS20CM11GEVS
02-136859	PVB5RS21CMC11S124	423637	PVB20RS20CG20S30	02-341720	PVB10RSWY41CM12	763518	PVB20RS20CM11GEVS
02-142620	PVB6RS21CVP12S124	425864	MPVB29LSG11C10228	02-341727	PVB15-RSY-41-CM-12	764122	PVB10RSY31CM11GEVS
02-142878	PVB20RS20CVP12S124	430466	PVB20RS20CCG20	02-341734	PVB15RSXY41CM12	764852	PVB10RSY31C11GEVS
02-151921	PVB5RSY21CVP12	430481	PVB10LSY31C11	02-341735	PVB15RSY41C12	814509	PVB15RSY31C11GEVS
02-157601	PVB5RSY20CG20T124	430487	PVB10RSY31C11	02-341745	PVB15LSY41CM12	857306	F3PVB5RSY21CC11
02-157838	PVB6RSY21C11GE25140	430494	PVB10RSY31CC11	02-341746	PVB15-LSY-41-C-12	857320	PVB5RS21C11
02-159992	PVB29MRSN20CMD20	430498	PVB10RSY31CCG20	02-345305	PVB15RS40CC11	857322	PVB5RSY21CCG20
02-306435	PVB5RS21CVP12S124	432001	PVB10RS31CG20S124	02-345498	PVB10RSY40C11S30	857342	PVB5LSY21C11
02-310649	PVB45ARSF10CA11F64	432003	F3PVB10RSY31CM11S15	02-346392	F3PVB15RS40CM11S124	857343	PVB5RSY21C11
02-310889	PVB5RSY21CC11S30F102	432011	PVB10RSY31CM11	02-346745	PVB10RDWY31HL10	857344	PVB5RSY21CM11
02-311555	PVB10RSY31CC11GEVS	432015	PVB10LSY31CM11	02-346849	PVB10RDWY40HL10	857345	PVB5LSY21CM11
02-312072	PVB29RS20CM11GEVS	432017	PVB10RSY31CCM11	02-347283	PVB15RSY41CG30185	857349	PVB20RS20CM11GEVS
02-312413	PVB20RS20CC11GEVS	432021	PVB10RDY31H10	02-347527	PVB45RDF21DA31S34	857350	PVB5RSY21CMC11
02-318469	PVB15RSY31C11GEVS	432022	PVB10LDY31H10	02-347975	PVB5RSY40C12S30	857352	PVB5RDY21ML10
02-319283	PVB5RSY21CM11GEVS	432025	PVB10RDY31M10	02-348219	PVB15RSY41CM12S30	857358	PVB5RS21CG20S124
02-319284	PVB5RSY21CMC11GEVS	432029	PVB15RSY31C11	02-348613	PVB10FRSY41C12	857365	F3PVB5RSY21CC11
02-319463	PVB10RSY31CM11GEVS	432030	PVB15LSY31C11	02-348661	PVB15RSY41CCG30S185	857366	PVB5RSY21CG20S30
02-323251	PVB5RSY21CC11GEVS	432042	PVB15LSY31CG20	02-348707	F3PVB5RSY40CCM12	857372	PVB5RSY21CVP12
02-328127	PVB10LSY40C11	432053	PVB15RSY31CM11	02-348747	PVB6RSXY40CM12	857373	PVB5LSY21CVP12
02-328128	PVB10RSY40C11	432055	PVB15LSY31CM11	02-348749	PVB15RSY41CG30	857376	PVB5RDY21HL10
02-328129	PVB10RS40C11	432066	PVB15RDY31H10	02-348757	PVB20RSFX20C11	857382	PVB5FLSWY21C
02-328130	PVB10RSY40CC11	432068	PVB15RDY31M10	02-348783	PVB10RSXY41CM12	857390	PVB5RDY21H10
02-328132	PVB10RSY40CM11	432069	PVB15LDY31M10	02-348786	PVB10RSY41CMC12	857393	PVB5LDY21M10
02-328133	PVB10LSY40CM11	432102	MPVB10RSG21C10	02-348918	PVB5LS40C12S124	857395	PVB5RDY21M10
02-328140	PVB15RSY40C11	432121	PVB15FLSWY31C11	02-348956	PVB10RS41C12S152	857397	PVB5FRSY21CM11
02-328141	PVB15LSY40C11	432209	PVB15RS31C11S124	02-348957	F3PVB5RSY40C12	857401	PVB5RSY21CC11
02-328143	PVB15RSY40CM11	432287	F3PVB29RS20CC11	02-466558	PVB5RSY40CM12S30	857408	F3PVB5RSY21C11
02-328144	PVB15LSY40CM11	436084	PVB10RSY31CM11S30	02-466559	PVB6LSWY40CM12	857411	PVB5LSWY21C11
02-328145	PVB15RSY40CC11	436085	PVB15RSY31CMC11	02-466630	PVB5FRSY40CM12	857412	PVB5RSWY21C11
02-328148	PVB15LSWY40CM11	436087	PVB15RSY31CC11	274565	PVB45RSF10H10	857414	PVB5LDY21H10
02-328217	PVB5RS21CM711S222	436088	PVB15LDY31H10	274569	PVB45FRSF10H10	857418	PVB5RSY21CM11S30
02-328218	PVB5LS21CM711S222	436092	PVB10RSY31CG20	282880	SHAFTPVB20/29/45AS124	857419	PVB5RSWY21CM11
02-328513	F3PVB10RSY40CM11S15	436095	PVB15RSWY31CM11	283233	BEARINGPVB5/6	857422	F3PVB5RSY21CMC11
02-328515	PVB10RSY40CCM11	436102	PVB10LDY31M10	283662	BEARINGPVB45	857425	PVB5LSY21CC11
02-328524	F3PVB15RSY40CM11	436107	PVB15RSXY31CM11	292631	PVB45FRSF10D10	857429	PVB5RSXY21CM11
02-328534	PVB10RSWY40CM11	436108	PVB10LSWY31CM11	292632	PVB45LSF10D10	857432	F3PVB5RSY21CM11
02-328543	PVB15RS40C11S124	436154	PVB15LS31C11S124	293625	PISTON-PVB45	857434	PVB5RS21C11S124
02-328676	PVB10LSWY40CM11	436178	PVB10RSXY31CM11	295082	PVB90RSF20C10	857458	PVB6RSY21CM11S30
02-328710	PVB10LSY40CVP12	436186	PVB15RSY31CM11S30	297423	PVB90FRSF20C10	857461	PVB6RSW21CG20S124
02-328729	F3PVB10RSY40C11	436191	PVB15RSY31CCM11S30	318251	PVB45FRDF20D30	857464	F3PVB6RSY21CM11
02-328732	PVB10RSY40CCM11	436243	PVB10RSWY31CM11	349966	PVB45FRSF20C11	857479	PVB6RSY21CG20
02-328733	PVB10RS40CC11S124	436274	MPVB29LSG11C10230	360997	PVB90FRDF21D11	857486	PVB6LDXY21M10
02-328755	PVB15LSY40CCM11	436329	PVB10RSY31CC11S30	361001	PVB90RDF21DA11	857506	PVB6LSY21C11
02-328805	PVB10RS40C11S124	436338	PVB45RSF20C811	362030	PVB20RS20C11	857507	PVB6RSY21C11
02-328818	PVB10RS40CG20S124	436346	PVB20RS20CM11S124	362031	PVB20LS20C11	857513	PVB6RSY21CM11
02-328899	PVB10RSY40CCG20	436369	PVB45FLDF21DA31	362032	PVB29RS20C11	857514	PVB6RDY21H10
02-328960	PVB10RS40CM11S124	436370	PVB45FRDF21DA31	362033	PVB29LS20C11	857518	PVB6LSY21CM11
02-328990	PVB10RS40CCG20S124	436379	PVB45RDF21DA31	374202	PVB45FRSF20CM11	857520	PVB6RDY21ML10
02-332735	PVB6RSY21C11GEVS	436380	PVB45LDF21DA31	375819	MPVB29RS11D10	857522	PVB6RSY21CM11
02-333114	PVB10RSY40CM11GEVS	436386	PVB45FRDF21DA31	375820	MPVB29LS11D10	857524	PVB6RDY21M10
02-333115	PVB10RSY40CC11GEVS	436404	PVB15RSXY31C11	375824	MPVB29LSG11D10	857527	PVB6LDY21M10
02-334028	PVB15RSY40CVP12	436484	PVB10RDY31ML10	377743	PVB45FLSF20CM11	857528	PVB6LSWY21CM11
02-334088	PVB15RS40CMC11S124	436486	PVB29RSFW20CCD20	378804	PVB29RS20CM11	857533	PVB6RSY21CC11
02-334101	PVB15RSY40CCG20	436560	PVB10RS31C11S124	378844	PVB45FRSF20C11S67	857538	PVB6LSY21CC11
02-334119	PVB10RSY40CM11S30	436588	PVB20RS20CC11S124	379739	PVB29LS20CM11	857540	PVB6RSXY21CM11
02-334243	F3PVB10RSY40CC11	436605	PVB45FRDF21DA31S34	380015	PVB29RS20CC11	857541	PVB6LSWY21C11
02-334269	PVB15RS40CM11S124	436608	PVB20RSFW20CCD20	380132	PVB20LS20CM11	857542	F3PVB6RSY21C11
02-334280	PVB10LSY40CM11	436795	PVB15RSY31CG20	380187	F3PVB20RS20C11	857544	F3PVB6RS21CM11
02-334303	PVB10RSY40CG20	436836	PVB20RS20C11S124	380673	PVB20RS20CM11	857546	PVB6RSY21C11S30
02-334304	PVB10RSY40CVP12	436837	PVB20LS20C11S124	381652	PVB29RS20CCM11	857547	PVB6RSY21CM11
02-334355	PVB15RSY40CG20	436840	PVB29RS20C11S124	382375	PVB29RSFW20CM11	857550	PVB6RS21C11
02-334527	PVB10RSY40CC11S30	436896	PVB29RS20CG20S30	382408	F3 PVB45FLSF20C11	857552	PVB6RS21CM11
02-335069	PVB15LSY40CG20	436905	PVB15RSY31C11S30	383624	PVB29LSFW20CM11	857561	PVB6RSY21CVP12
02-335830	PVB29RS20CVP12S30	436974	PVB29RS20CD20	385087	PVB6LSY20CM11	857707	PVB10RSY31CG20S185
02-341134	F3PVB10RSY40CM11	451570	PVB20LS20CCD20	386663	PVB29LSFW20CMC11	857743	PVB5RSY21CC11S30
02-341411	PVB5LSY40C12	451636	PVB15FRSWY31CMD20	387539	PVB45ARSF10CA11	862309	PVB6RSY21C11GEVS
02-341419	PVB5RSY40CC12	451981	PVB10RS31CC11S124	388706	PVB20RS20CM11S30	862334	PVB5RSY21CM11GEVS
02-341420	PVB5RSY40CG30	451995	PVB29RSFW20CC11	388708	PVB29RS20C11S30	862339	PVB5RSY21CM11GEVS
02-341422	PVB5-RSY-40-C-12	500721	PVB15RSY31CCG20	389117	PVB20RS20CC11	862342	PVB6RSY21CM11GEVS
02-341428	PVB5RSXY40C12	500724	PVB10RSY31CG20S30	389118	PVB20LS20CC11	864423	PVB10RSY31CVP12S30
02-341459	PVB5RSY40CM12	521946	PVB10RSY31CVP12	389151	PVB20RS20CCM11	875813	PVB5RSY21CCG20S30
02-341461	PVB6RSY40CM12	521947	PVB10LSY31CVP12	391846	PVB29RS20CM11S30	876060	PVB29RS20CCG20
02-341462	PVB6RSY40C12	521950	PVB20RS20CVP12	391893	PVB20RS20C11S30	876320	PVB5LSY21C11S30
02-341466	PVB6RS40CM12	521952	PVB29RS20CVP12	393258	PVB29LS20CC11	877084	F3PVB20RS20CG20
877362	PVB6LSY21CMC11	362031	PVB5RSY20CM11	394581	PVB20RSFX20CM11	877233	PVB5RSY21C11S30