

Model Number System

PVQ20 and PVQ32

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

P V Q 2 0 A 2 R A 9 S E 1 S 2 1 C * 2 1 V * 1 1 B D 1 2 S *

Nos	Feature	Code	Description	Nos	Feature	Code	Description
1,2,3	Series PVQ	P V Q	Inline piston pump Variable volume Quiet series			CM**	Low pressure compensator. Standard model is CM7, indicating factory setting of 70 bar (1000 psi); range is 02-10 in tens of bar (350-2000 psi).
4,5	Displacement in cc/rev and pressure ratings	20 32	21,1 cc/rev (1.29 cir), 210 bar (3000 psi) 32,9 cc/rev (2.01 cir), 140 bar (2000 psi)			C**V**B	Pressure compensator C**, as above with load-sensing. Standard load-sensing setting is 11 bar (160 psi); range 10-17 bar (150-250 psi); with bleed-down orifice. Example: C21V11B indicates PVQ20 compensator with 210 bar pressure setting and 11 bar load-sense differential.
6,7	Mounting flange specifications	B2 MB	Flange SAE J744 101-2 (SAE B) Flange ISO 3019/2-100A2HW (available with N" drive shaft only)				
8	Rotation viewed from shaft end	R L	Right hand (cw), standard Left hand (ccw), optional				
9,10	Thru-drive without coupling (available)	Blank A9 A11	No thru-drive SAE J744 82-2 (SAE A) w/9T spline with side ports only SAE J744 82-2 (SAE A) w/11T spline			C**V**P	Pressure compensator with load-sensing as C**V**B above, but with bleed-down orifice plugged.
11,12	Ports, type and location	SE SS	SAE O-ring rear port, 1.625" inlet and outlet (standard) SAE O-ring side port, 1.625" inlet and outlet (optional)			C**VC**B	Pressure compensator with load-sensing. Compensator same as C** above. Standard load-sensing setting is 24 bar (350 psi), range 17-31 bar (250-450 psi). With bleed-down orifice.
13	Shafts, input	1 3 N 28	Straight keyed SAE "B" modified, 2.31" long Splined SAE "B" modified, 13T 16/32 DP major dia. fit Shaft end ISO 3019/2 E25N (available with "MB" mount only) 26-tooth splined shaft (Eaton). Used in PVQ20/32 single to mount on PVQ40/45 "B26" thru-drive.			C**VC**P CG CD**	Pressure compensator with load-sensing. Same as C**VC**B above, but with bleed-down orifice plugged. Pressure compensator modified for hydraulic remote control. Electric dual range compensator. PVQ20: CD21 is standard 210 bar setting of high range (24-210 bar). PVQ32: CD14 is standard 140 bar setting of high range (24-140 bar). Both units require low range to be set by customer (20-100 bar).
14	Seals	S F	Buna N, standard Fluorocarbon, optional				
15,16	Pump design number	21	Design number subject to change. Installation dimensions remain unchanged for designs 10-19.				
17,18	Control type	C**	Pressure compensator. PVQ20: Standard model is C21, indicating setting of 210 bar (3000 psi); range is 02-21 in tens of bar (350-3000 psi). PVQ32: Standard model is C14, indicating factory setting of 138 bar (2000 psi); range is 02-14 in tens of bar (350-2000 psi).			UV	Unloading Valve for accumulator circuits. See installation details.

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PVQ20 and PVQ32

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
P	V	Q	2	0	A	2	R	A	9	S	E	1	S	2	1	C	*	2	1	V	*	1	1	B	D	1	2	S	*

Nos	Feature	Code	Description	Nos	Feature	Code	Description
19,20	Pressure setting	21 14	210 bar (3000 psi) PVQ20 140 bar (2000 psi) PVQ32	27,28	Control design	12 12 13 21	C** and CM** C**D and CM**D C**V(C)**B and C**V(C)**P UV, CD** CG 30
21,22	Flow control option	Blank V VC	No flow control	29,30	Special pump option suffixes	S2 S3	Shaft up mounting British Standard Parallel Threads Counterbore Ports (ISO R288 threads). Contact Eaton for available configurations.
23,24	Load sense differential pressure setting	Blank	No flow control				Special CG compensator for use with electronically modulated relief valves
25	Flow control optional features	Blank B P	No flow control			S9	
26	Control option	Blank D	Without adjustable maximum displacement stop (standard) Adjustable maximum displacement stop (optional)				

RATINGS

Model Number System	Maximum Geometric Displacement cm ³ /r (in ³ /r)	Rated Speed r/min	Maximum Pressure bar (psi)	Input Power at Max. Pressure and Rated Speed kW (hp)	Approx. Weight kg (lb)
PVQ20	21,1 (1.290)	1800	210 (3000)	14,9 (20)	14 (31)
PVQ32	32,9 (2.010)	1800	140 (2000)	15,6 (21)	14 (31)

Pressure Limits:

Case pressure – 0,35 bar (5 psig) maximum
Inlet pressure – 0,2 bar (5 in. Hg) vacuum to 2 bar (30 psig)

Controls

Pressure Compensator Controls

The pressure compensator control automatically adjusts pump delivery to maintain volume requirements of the system at a preselected operating pressure. Maximum pump delivery is maintained to approximately 75 psi (PVQ20) or 100 psi (PVQ32) below the pressure setting before being reduced. The pressure compensator control operates on one side of center and has an adjustment range as designated in the model numbering system.

Pressure Compensator Control with Adjustable Maximum Displacement Stop

The adjustable maximum stop pressure control enables the maximum pump delivery to be externally adjusted from 25% to 100% while maintaining all of the standard features of a pressure compensated pump. To assist initial priming, manual adjustment control setting must be at least 40% of maximum flow position.

Remote Control Pressure Compensator

Exactly the same as the "C" (pressure compensation option) except the machine operator is able to change the compensator setting through the use of a remote pilot relief valve, such as Eaton C-175.

Electric Dual Range Pressure Compensator Control

The dual range pressure compensator control automatically adjusts pump delivery to maintain volume requirements of the system at either of two preselected operating pressures.

Maximum pump delivery is maintained to approximately 75 psi (PVQ20) or 100 psi (PVQ32) below either pressure control setting before being reduced.

Control type and pressure range are designated in the model number system.

Note: Graphic symbols shown with external valve(s) and cylinder to illustrate typical usage.

Load-sensing and Pressure Limiter Compensator Control

This compensator provides load-sensing control under all pressure conditions up to the desired maximum. It automatically adjusts pump flow in response to a remote pressure signal and maintains outlet pressure at a level slightly above load pressure. The integral pressure limiter overrides the load-sensing control, reducing pump displacement as the preset maximum operating pressure is reached.

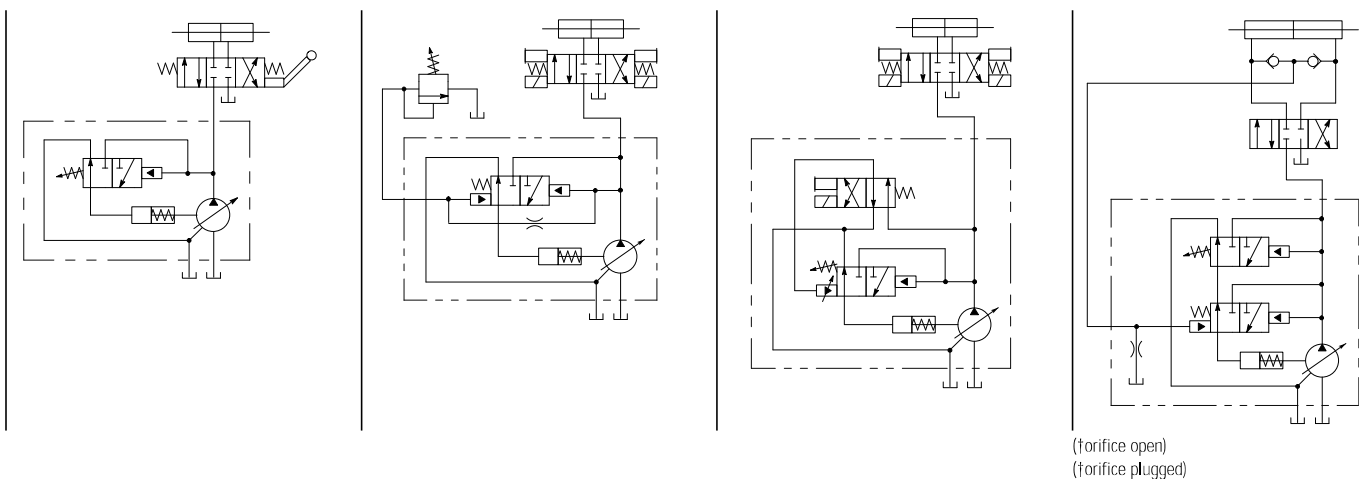
Standard load-sense differential pressure settings, by control type, follow. See model number system for setting range.

Standard load-sensing and pressure limiting control with 11 bar differential pressure (standard factory setting). Includes bleed-down orifice to exhaust load-sense signal for low-pressure standby condition.

Same as C**V11B above, but with bleed-down orifice plugged.

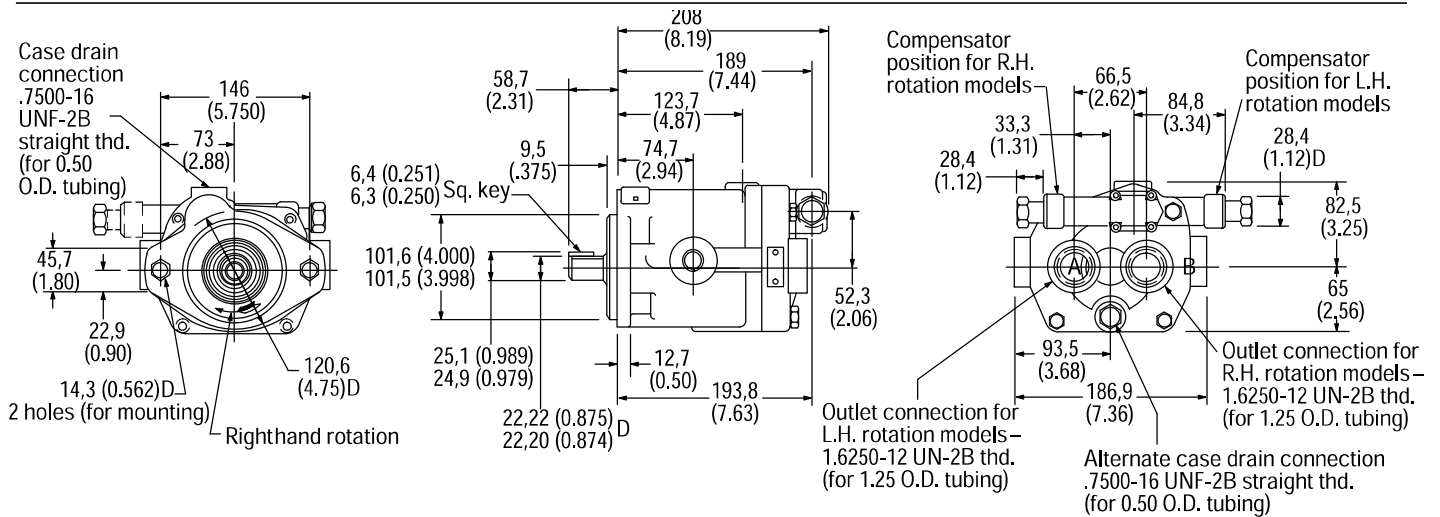
Same as C**V11B, but with factory differential pressure setting of 24 bar.

Same as C**V11P, but with factory differential pressure setting of 24 bar.



Installation Dimensions

Rear Ports, "C" and "CM" Controls, No. 1 Shaft



Caution – while pump is operating do not back compensator adjustment screw out beyond dimension shown.

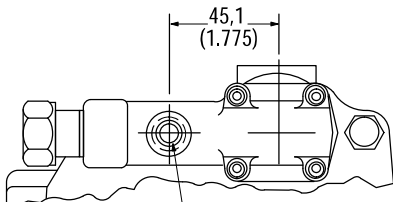
Controls

Remote Compensator

Adjustment

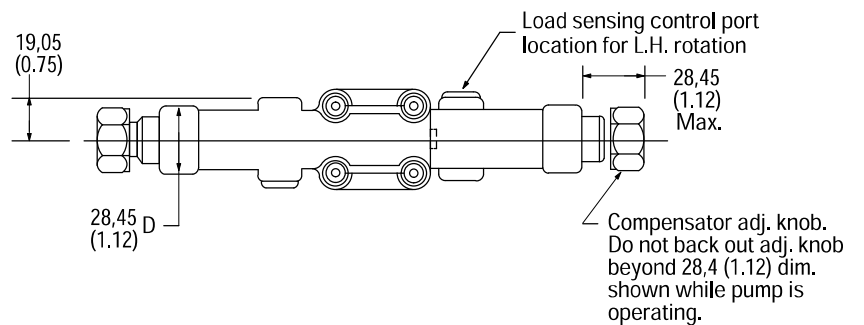
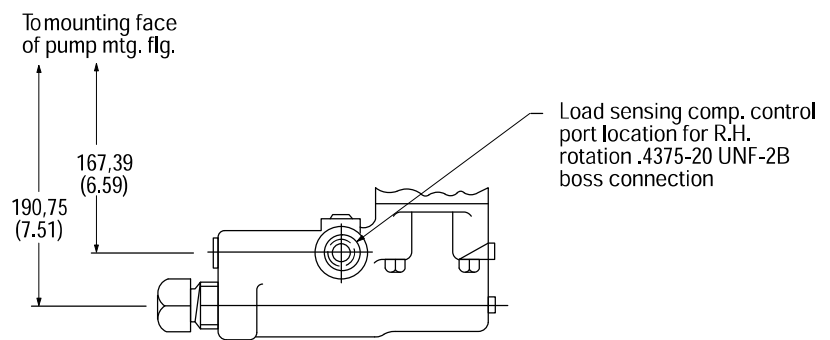
1. Turn pressure control (such as C-175) CCW to minimum setting.
2. Turn compensator adjustment plug to desired minimum pressure (17 bar, 250 psi or higher).
3. Full pressure range can now be obtained with pressure control.

Caution: Effective compensator pressure will be compensator control setting (17-69 bar, 250-1000 psig) plus remote relief valve setting.



.4375-20 UNF-2B thread for "CG" control models. Do not operate pump with this port plugged. Connect to pressure control, such as C-175. SAE O-ring boss connection .250 O.D. tubing

Load-sensing with Pressure Limiter



Pressure Compensator Control with Adjustable Max. Displacement Stop

Adjustment

Loosen locknut on adjusting rod. Turn adjusting rod clockwise (CW) to decrease maximum pump delivery or counter-clockwise (CCW) to increase maximum pump delivery until desired setting is obtained. Secure this setting by tightening locknut.

