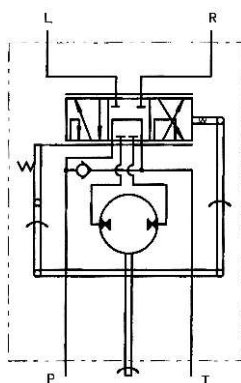


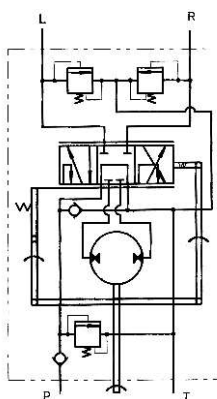


DESCRIPTION OF UNIT HSUM :

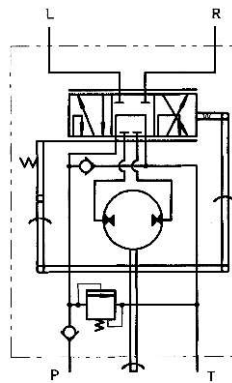
- Series HSUM hydraulic steering unit is the integrated orbital steering with unit 4/5 tooth structure.
- This kind of steering can have check valve, relief valve and chock valve, the structure is small and exquisite, mounting data corresponds to international standard.
- This kind of steering unit is widely used mini vehicles, such as mini forklift mini tractor (and other agricultural machinery), mini earthmoving machinery, mini municipal vehicle, etc.
- It can obtain more steering output torque through input of less power, with features of easy, flexible and reliable operation.



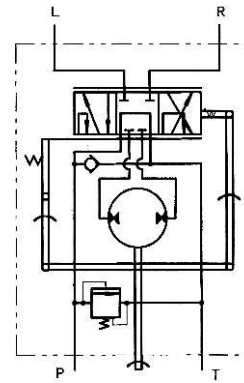
HSUM.../1 Version -1
"Open Center"
Non-Load Reaction



HSUMS.../1 Version -1
"Open Center - Non Load Reaction"
With Built-in Valves



HSUMV.../1 Version -1
"Open Center - Non Load Reaction"
With Built-in Valves

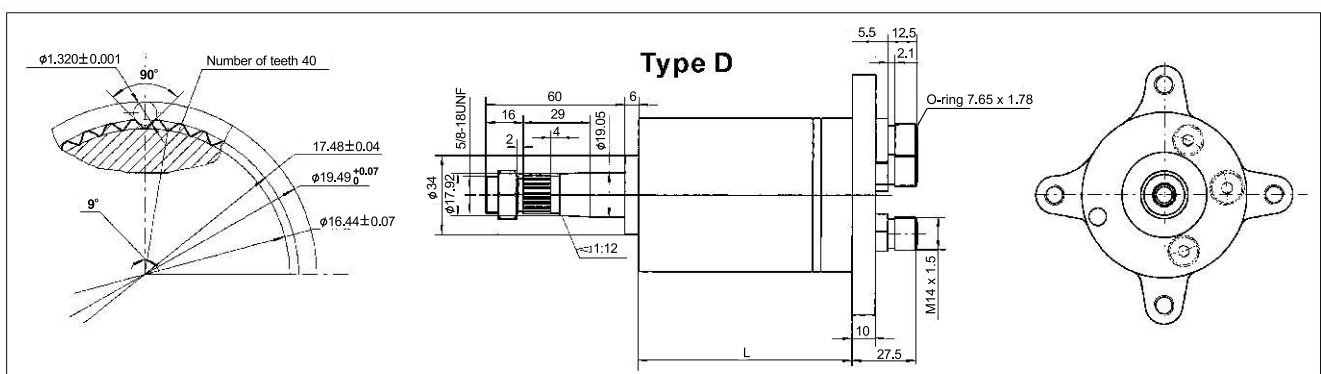
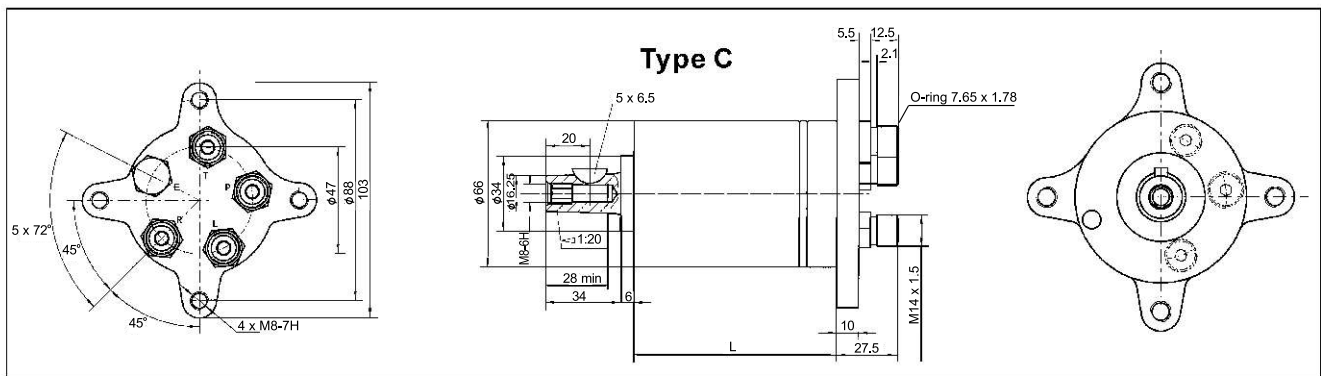
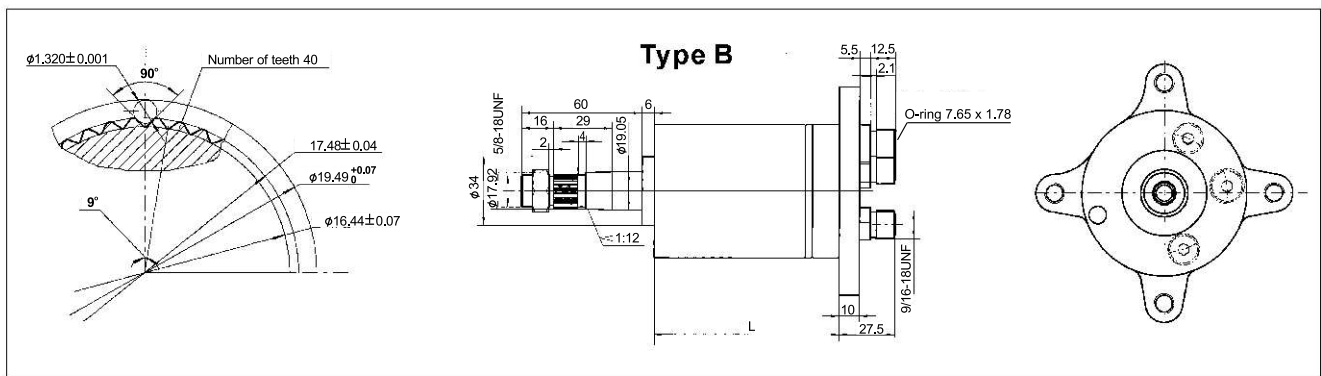
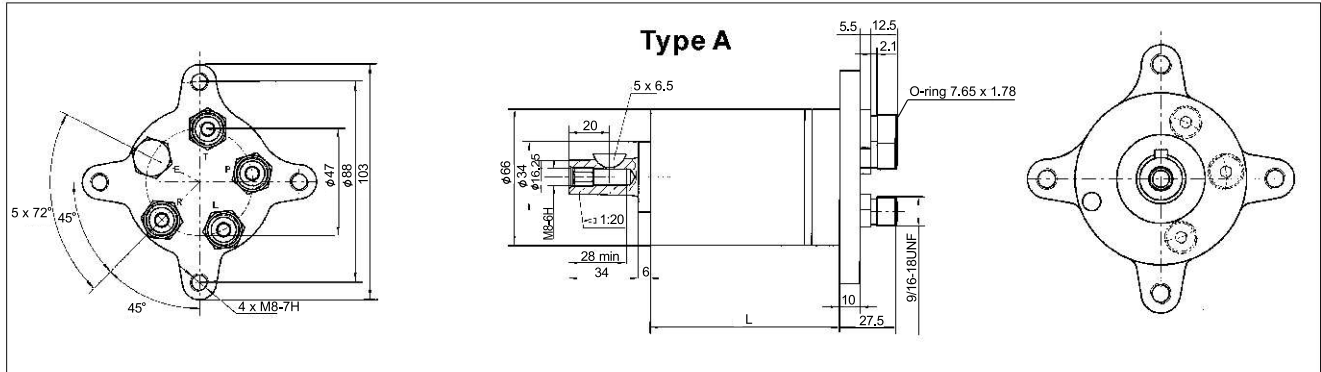


HSUMR.../1 Version -1
"Open Center - Non Load Reaction"
With Built-in Valves

Specifications

Parameters	Type					
	HSUM 20	HSUM 30	HSUM 40	HSUM 50	HSUM 63	HSUM 80
Integrated Valve	S / V / R	S / V / R	S / V / R	S / V / R	S / V / R	S / V / R
Version	1	1	1	1	1	1
Displacement cc/rev (cu.in)	20 (1.22)	32 (1.95)	40 (2.44)	50 (3.05)	63 (3.85)	80 (4.88)
Rated Flow l/min (gpm)	3-20 (.79~5.29)					
Rated Pressure bar (PSI)	125 (1800)					
Relief Valve Pressure Setting bar (PSI)	60 (860)	70 (1000)	80 (1150)	90 (1300)		
Shock Valve Pressure Setting bar (PSI)	120 (1720)	130 (1860)	140 (2000)	150 (2150)		
Max. Cont. Pressure in Line T bar (PSI)	10 (145)					
Max. Torque-Powered Nm (lb.-in.)	1.6 (142)					
D Type Weight kg (lb)	5.75 (12.68)	5.82 (12.83)	5.89 (12.99)	5.96 (13.14)	6.1 (13.45)	6.3 (13.89)
D Type Dimension L mm (in.)	87 (3.425)	92 (3.622)	96 (3.78)	100 (3.937)	105 (4.133)	113 (4.449)

Dimensions and Mounting Data



Ordering Information

1	2	3	4	5	6
HSUM		/	1	-	

Pos.1 Integrated Valve

Omit	- Without Valve
S	- With Relief Valve, Check Valve, Shock Valve
V	- With Relief Valve, Check Valve
R	- With Relief Valve

Pos.2 Displacement Code

20	- 20cc / 1.22 [in.3/r]
32	- 32cc / 1.95 [in.3/r]
40	- 40cc / 2.44 [in.3/r]
50	- 50cc / 3.05 [in.3/r]
63	- 63cc / 3.85 [in.3/r]
80	- 80cc / 4.88 [in.3/r]

Pos.3 Version Code

1	- Open Center - Non Load Reaction
---	-----------------------------------

Pos.4 Relief Valve Pressure Settings, bar(Psi)

60	- 60 [860]
70	- 70 [1000]
80	- 80 [1150]
90	- 90 [1300]

Pos.5 Mounting Data

A	- Tapered 1:20, key 5 x 6.5 Ports:9/16-18UNF
B	- Tapered 1:12 with 11/16 in-40 Serrations Ports:9/16-18UNF
C	- Tapered 1:20, key 5 x 6.5 Ports:M14x1.5
D	- Tapered 1:12 with 11/16 in-40 Serrations Ports:M14 x 1.5

Pos.6 Design Series

Omit	- Factory Only
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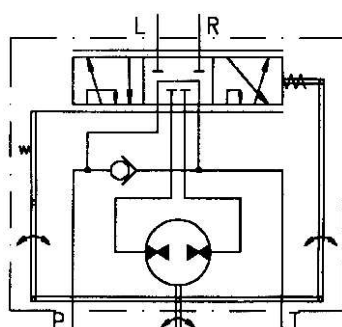


APPLICATION :

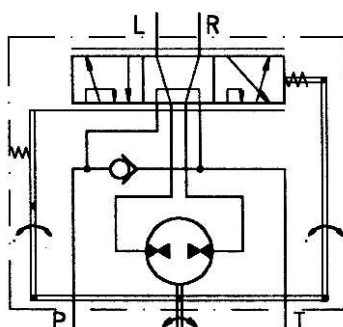
For use on steering of low speed vehicles, extensively used on such as forklifts, tractors, construction equipment, rudder of ship , mowers, mining and industrial positioning requirement.

DESCRIPTION OF UNIT HSU :

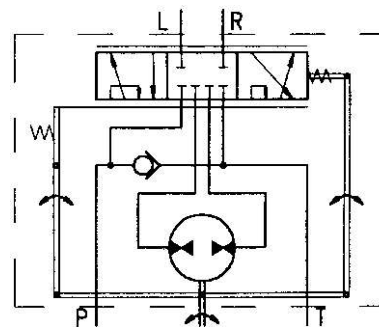
It can be used to control power steering force with light operating force. It is safe, reliable and smooth in the function and operation. This is achieved with hydraulic power from vehicle system entering the pressure port (P) of HSU unit and being directed to steering cylinders through tank posts L (left) and R (right) by turning input shaft either direction. Return flow from each cylinder is through tank port (T). The HSU unit is complete with metering pump and rotary positioning valve (see above hydraulic circuit diagrams).



HSU.../1 Version -1
Non-Load Reaction
"Open Center"



HSU.../2 Version -2
Load Reaction
"Open Center"



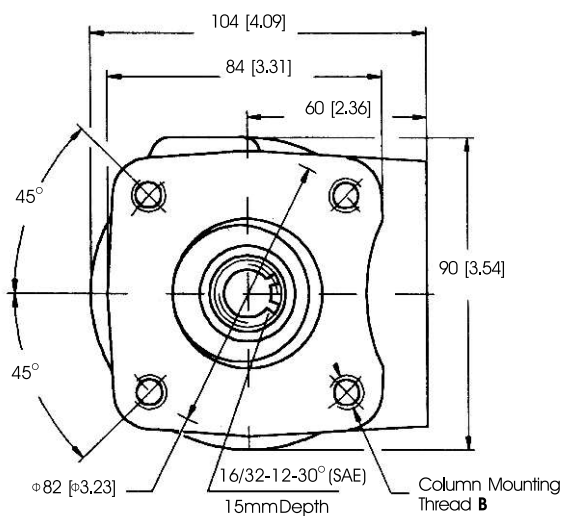
HSU.../3 Version -3
Non-Load Reaction
"Closed Center"

Specifications

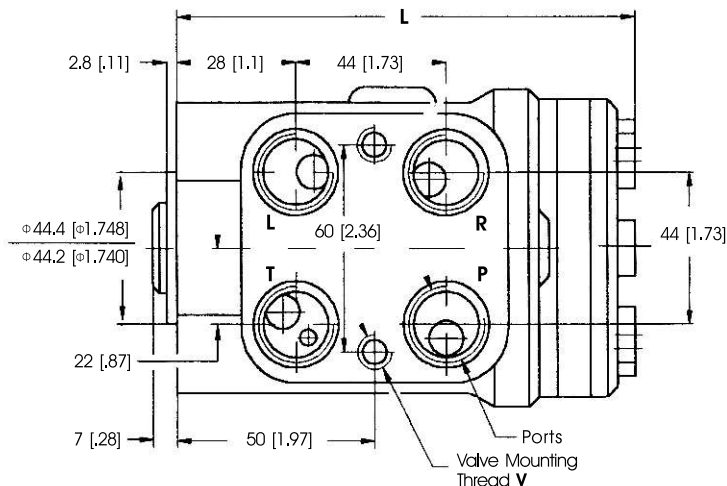
Parameters		Type												
		HSU 50	HSU 63	HSU 80	HSU 100	HSU 125	HSU 160	HSU 200	HSU 250	HSU 315	HSU 400	HSU 500	HSU 630	HSU 800
Version		1 / 2 / 3	1 / 2 / 3	1 / 2 / 3	1 / 2 / 3	1 / 2 / 3	1 / 2 / 3	1 / 2 / 3	1 / 2 / 3	1 / 2 / 3	1 / 2 / 3	1 / 3	1 / 3	1 / 3
Displacement	cc/rev (cu. in)	50.8 (3.1)	62.9 (3.8)	79.8 (4.9)	99.6 (6.1)	124.5 (7.6)	159.6 (9.8)	199.4 (12.2)	249.2 (15.2)	316.5 (19.4)	399.7 (24.4)	499.0 (30.6)	629.5 (38.5)	799.2 (48.9)
Rated Flow	l/min (gpm)	5 (1.3)	6 (1.6)	8 (2.1)	9 (2.4)	11 (2.9)	15 (4)	17 (4.5)	24 (6.3)	30 (7.9)	40 (10.6)	50 (13.3)	63 (16.8)	80 (21.3)
Rated Pressure bar (PSI)		160 (2320)											140 (2030)	
Max. Pressure in Line T bar (PSI)		20 (290)												
Max. Torque-Powered Nm (lb.-in.)		5 (44)							8 (70)					
D Type Weight	kg (lb)	5.75 (12.68)	5.82 (12.83)	5.89 (12.99)	5.96 (13.14)	6.1 (13.45)	6.3 (13.89)	6.5 (14.33)	6.73 (14.98)	7.1 (15.65)	7.5 (16.53)	8.38 (18.47)	9.43 (20.79)	10.89 (24.01)
E Type Weight	kg (lb)	6.04 (13.31)	6.11 (13.47)	6.18 (13.62)	6.27 (13.82)	6.4 (14.11)	6.6 (14.55)	6.79 (14.97)	7.02 (15.48)	7.39 (16.29)	7.79 (17.17)	8.67 (19.11)	9.72 (21.43)	11.18 (24.65)
D Type Dimension L	mm (in.)	130 (5.12)	132 (5.2)	134 (5.28)	137 (5.39)	140 (5.51)	145 (5.71)	150 (5.91)	156 (6.14)	166 (6.54)	176 (6.93)	189 (7.44)	208 (8.19)	228 (8.98)
E Type Dimension L	mm (in.)	140 (5.51)	142 (5.59)	144 (5.67)	146 (5.75)	149 (5.87)	154 (6.06)	159 (6.26)	165 (6.5)	175 (6.89)	185 (7.28)	198 (7.80)	217 (8.54)	237 (9.33)

D Type

Dimensions and Mounting Data



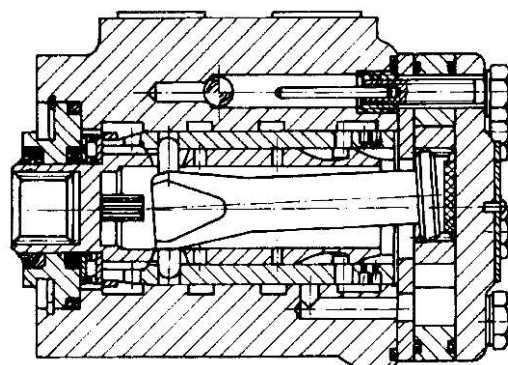
(Inch) show in brackets []



Thread Ports

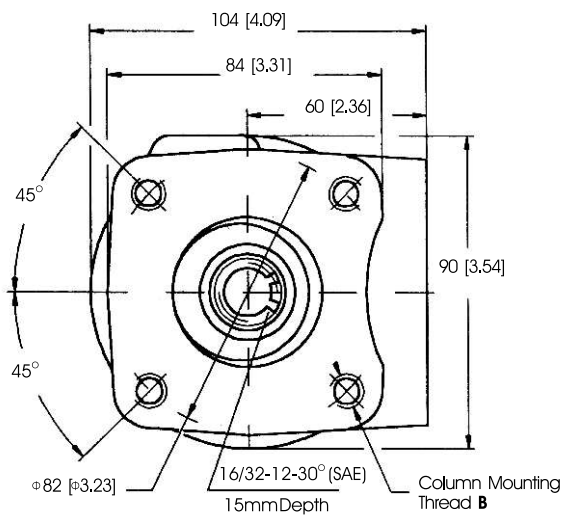
Code	Ports – P, T, R, L Thread	Column Mounting Thread - B	Valve Mounting Thread - V
-	G 1/2 14 mm depth	4 x M10 x 1.5 16 mm depth	2 x M10 x 1 16 mm depth
GA*	G 3/8 14 mm depth	4 x M10 x 1.5 16 mm depth	2 x M10 x 1 16 mm depth
U	3/4 – 16UNF O-ring 14 mm depth	4 x 3/8 – 16UNC 0.63 [16] depth	2 x 3/8 – 24UNF 0.63 [16] depth
UA*	9/16 – 18UNF O-ring 14 mm depth	4 x 3/8 – 16UNC 0.63 [16] depth	2 x 3/8 – 24UNF 0.63 [16] depth
M	M22 x 1.5 14 mm depth	4 x M10 x 1.5 16 mm depth	2 x M10 x 1 16 mm depth

* These threads are for displacements from HSU50 to HSU125 only.

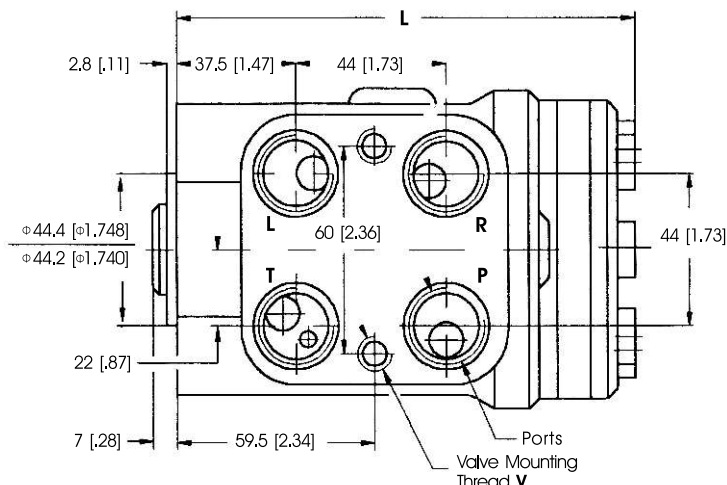


E Type

Dimensions and Mounting Data



(Inch) show in brackets []



Ordering Information

	1	2	3	4	5
HSU		/	-		

Pos.1 Displacement Code

50	-	50.8cc / 3.1 [in.3/r]
63	-	62.9cc / 3.8 [in.3/r]
80	-	79.8cc / 4.9 [in.3/r]
100	-	99.6cc / 6.1 [in.3/r]
125	-	124.5cc / 7.6 [in.3/r]
160	-	159.6cc / 9.8 [in.3/r]
200	-	199.4cc / 12.2 [in.3/r]
250	-	249.2cc / 15.2 [in.3/r]
315	-	316.5cc / 19.4 [in.3/r]
400	-	399.7cc / 24.4 [in.3/r]
500	-	499.0cc / 30.6 [in.3/r]
630	-	629.5cc / 38.5 [in.3/r]
800	-	799.2cc / 48.9 [in.3/r]

Pos.2 Versions Code

1	-	"Open Center - Non Load Reaction"
2	-	"Open Center - Load Reaction"
3	-	"Closed Center - Non Load Reaction"

Pos.3 Ports Code

Omit	-	G 1/2
GA	-	G 3/8
U	-	3/4 - 16 UNF "O" Ring
UA	-	9/16-18 UNF "O" Ring
M	-	Metric

Pos.4 Type Code

Omit	-	D Type
E	-	E Type

Pos.5 Design Series

Omit	-	Factory use only
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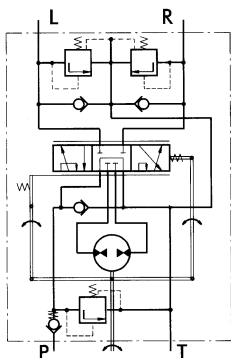


APPLICATION :

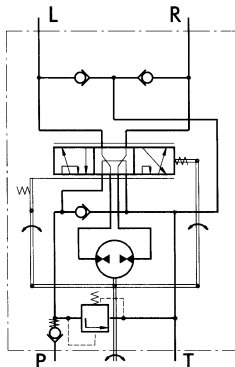
For use on steering of low speed vehicles, extensively used on such as forklifts, tractors, construction equipment, rudder of ship , mowers, mining and industrial positioning requirement.

DESCRIPTION OF UNIT HSUS :

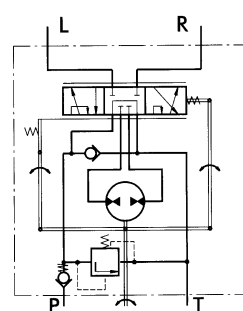
It can be used to control power steering force with light operating force. It is safe, reliable and smooth in the function and operation. This is achieved with hydraulic power from vehicle system entering the pressure port (P) of HSUS unit and being directed to steering cylinders through tank posts L (left) and R (right) by turning input shaft either direction. Return flow from each cylinder is through tank port (T). The HSUS unit is complete with metering pump and rotary positioning valves and integral relief valves and check valves.(see above hydraulic circuit diagrams)..



HSUS.../1 Version -1
"Open Center - Non Load Reaction"
With Built-in Valves



HSUS.../2 Version -2
"Open Center - Load Reaction"
With Built-in Valves



HSUS.../4 Version -4
"Open Center - Non Load Reaction"
With Built-in Valves

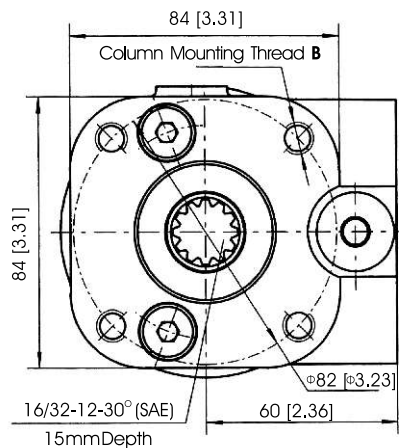
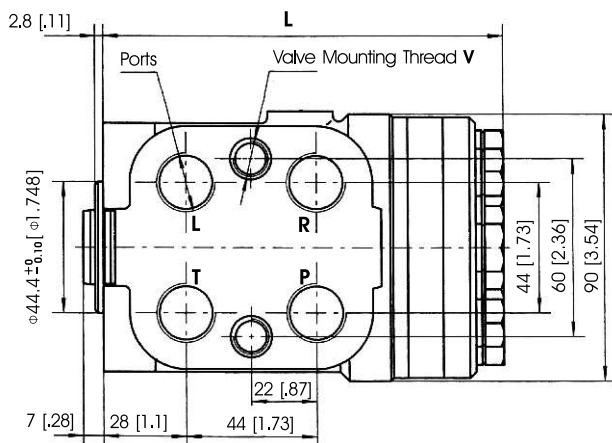
Specifications

Parameters		Type									
		HSUS 50	HSUS 63	HSUS 80	HSUS 100	HSUS 125	HSUS 160	HSUS 200	HSUS 250	HSUS 315	HSUS 400
Version		1 / 2 / 4	1 / 2 / 4	1 / 2 / 4	1 / 2 / 4	1 / 2 / 4	1 / 2 / 4	1 / 2 / 4	1 / 2 / 4	1 / 2 / 4	1 / 2 / 4
Displacement	cc/rev (cu.in)	50.8 (3.1)	62.9 (3.8)	79.8 (4.9)	99.6 (6.1)	124.5 (7.6)	159.6 (9.8)	199.4 (12.2)	249.2 (15.2)	316.5 (19.4)	399.7 (24.4)
Rated Flow	l/min (gpm)	5 (1.3)	6 (1.6)	8 (2.1)	9 (2.4)	11 (2.9)	15 (4)	17 (4.5)	24 (6.3)	30 (7.9)	40 (10.6)
Rated Pressure	bar (PSI)	160 (2320)									
Relief Valve Pressure Setting	bar (PSI)	80 (1160)		100 (1450)		120 (1740)		140 (2030)		160 (2320)	
Shock Valve Pressure Setting	bar (PSI)	140 (2030)		160 (2320)		180 (2610)		200 (2900)		220 (3190)	
Max. Cont. Pressure in Line T	bar (PSI)	20 (290)									
Max. Torque-Powered	Nm (lb.-in.)	5(44)									
D Type Weight	kg (lb)	5.75 (12.68)	5.82 (12.83)	5.89 (12.99)	5.96 (13.14)	6.1 (13.45)	6.3 (13.89)	6.5 (14.33)	6.73 (14.98)	7.1 (15.65)	7.5 (16.53)
E Type Weight	kg (lb)	6.04 (13.31)	6.11 (13.47)	6.18 (13.62)	6.27 (13.82)	6.4 (14.11)	6.6 (14.55)	6.79 (14.97)	7.02 (15.48)	7.39 (16.29)	7.79 (17.17)
D Type Dimension L	mm (in.)	130 (5.12)	132 (5.2)	134 (5.28)	137 (5.39)	140 (5.51)	145 (5.71)	150 (5.91)	156 (6.14)	166 (6.54)	176 (6.93)
E Type Dimension L	mm (in.)	140 (5.51)	142 (5.59)	144 (5.67)	146 (5.75)	149 (5.87)	154 (6.06)	159 (6.26)	165 (6.5)	175 (6.89)	185 (7.28)

D Type

Dimensions and Mounting Data

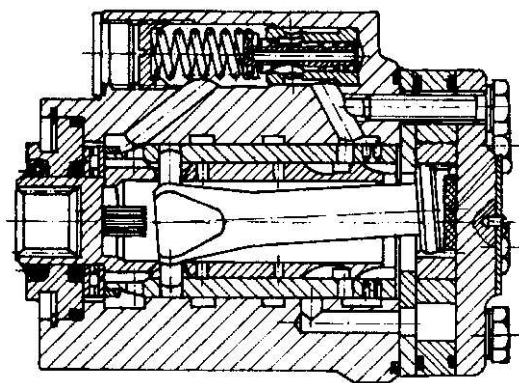
(Inch) show in brackets[]



Thread Ports

Code	Ports – P, T, R, L Thread	Column Mounting Thread - B	Valve Mounting Thread - V
-	G 1/2 14 mm depth	4 x M10 x 1.5 16 mm depth	2 x M10 x 1 16 mm depth
GA*	G 3/8 14 mm depth	4 x M10 x 1.5 16 mm depth	2 x M10 x 1 16 mm depth
U	3/4 – 16UNF O-ring 14 mm depth	4 x 3/8 – 16UNC 0.63 [16] depth	2 x 3/8 – 24UNF 0.63 [16] depth
UA*	9/16 – 18UNF O-ring 14 mm depth	4 x 3/8 – 16UNC 0.63 [16] depth	2 x 3/8 – 24UNF 0.63 [16] depth
M	M22 x 1.5 14 mm depth	4 x M10 x 1.5 16 mm depth	2 x M10 x 1 16 mm depth

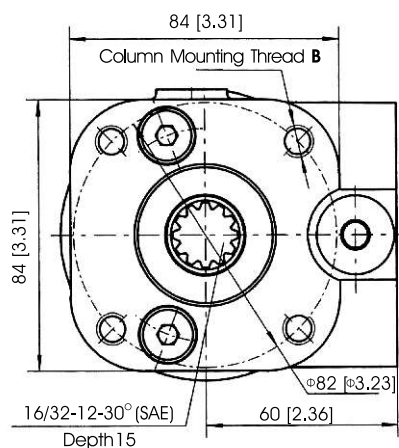
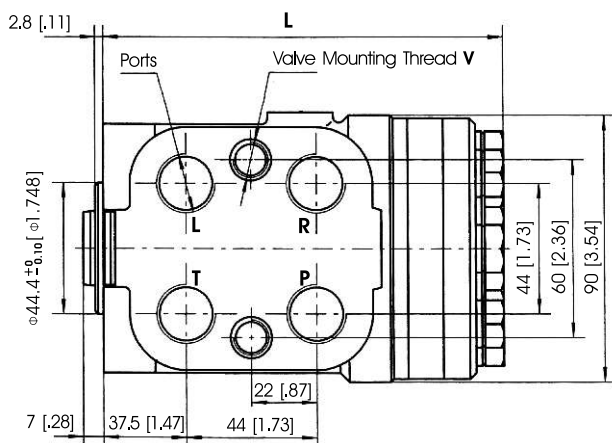
* These threads are for displacements from HSUS50 to HSUS125 only.



E Type

Dimensions and Mounting Data

(Inch) show in brackets[]



Ordering Information

	1	2	3	4	5	6
HSUS		/	-			

Pos.1 Displacement Code

50	-	50.8cc / 3.1 [in.3/r]
63	-	62.9cc / 3.8 [in.3/r]
80	-	79.8cc / 4.9 [in.3/r]
100	-	99.6cc / 6.1 [in.3/r]
125	-	124.5cc / 7.6 [in.3/r]
160	-	159.6cc / 9.8 [in.3/r]
200	-	199.4cc / 12.2 [in.3/r]
250	-	249.2cc / 15.2 [in.3/r]
315	-	316.5cc / 19.4 [in.3/r]
400	-	399.7cc / 24.4 [in.3/r]

Pos.2 Versions Code

1	-	"Open Center - Non Load Reaction"
2	-	"Open Center - Load Reaction"
4	-	"Open Center - Non Load Reaction"

Pos.3 Relief Valve Pressure Settings, bar(PSI)

80	-	80 [1160]
100	-	100 [1450]
120	-	120 [1740]
140	-	140 [2030]
160	-	160 [2320]

Pos.4 Ports Code

Omit	-	G 1/2
GA	-	G 3/8
U	-	3/4 - 16 UNF "O" Ring
UA	-	9/16-18 UNF "O" Ring
M	-	Metric

Pos.5 Type Code

Omit	-	D Type
E	-	E Type

Pos.6 Design Series

Omit	-	Factory use only
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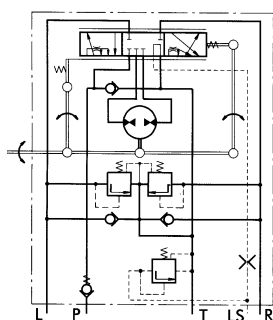
APPLICATION :

For use on steering of low speed vehicles, extensively used on such as forklifts, tractors, construction equipment, rudder of ship , mowers, mining and industrial positioning requirement.

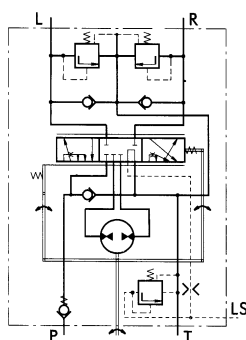
DESCRIPTION OF UNIT HSU(S) :

In load sensing steering system, the oil for steering system and working circuit may be supplied by pump via a priority valve of which can support extra amount of steering system oil into operating system. In addition when uses a pump with which is connected load reaction, energy of system will be saved.

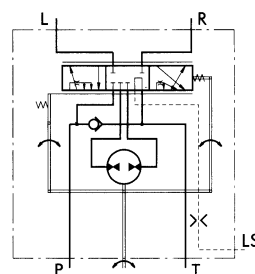
A LS inlet of load sensing steering unit is connected with a priority valve or with a LS inlet of pump with load reaction. Via the oil hose the pressure signal of the steering load transfers from the steering unit to the priority valve or the pump with load reaction, so as to control the oil volume which is supplied to steering unit. In the neutral position of load sensing steering unit, only less than 2L/min oil of steering system direct to flow back to the tank.



HSUS.../5. "Close Center"
Non-Load Reaction - Load Sensing
Manifold Mount



HSUS.../5T. "Close Center"
Non-Load Reaction - Load Sensing
Threaded Ports



HSU.../5T. "Close Center"
Non-Load Reaction - Load Sensing
Threaded Ports

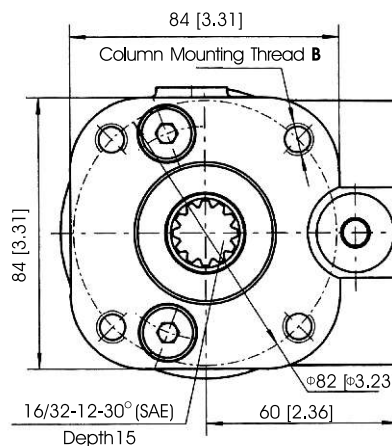
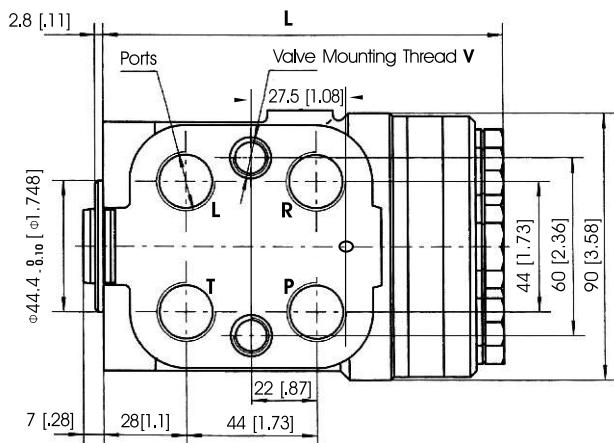
Specifications

Parameters		Type									
		HSU HSUS 50/5(T)	HSU HSUS 63/5(T)	HSU HSUS 80/5(T)	HSU HSUS 100/5(T)	HSU HSUS 125/5(T)	HSU HSUS 160/5(T)	HSU HSUS 200/5(T)	HSU HSUS 250/5(T)	HSU HSUS 315/5(T)	HSU HSUS 400/5(T)
Displacement	cc/rev (cu.in)	50.8 (3.1)	62.9 (3.8)	79.8 (4.9)	99.6 (6.1)	124.5 (7.6)	159.6 (9.8)	199.4 (12.2)	249.2 (15.2)	316.5 (19.4)	399.7 (24.4)
Rated Flow	l/min (gpm)	5 (1.3)	6 (1.6)	8 (2.1)	9 (2.4)	11 (2.9)	15 (4)	17 (4.5)	24 (6.3)	30 (7.9)	40 (10.6)
Rated Pressure	bar (PSI)	160 (2320)									
Relief Valve Pressure Setting	bar (PSI)	80 (1160)		100 (1450)		120 (1740)		140 (2030)		160 (2320)	
Shock Valve Pressure Setting	bar (PSI)	140 (2030)		160 (2320)		180 (2610)		200 (2900)		220 (3190)	
Max. Cont. Pressure in Line T	bar (PSI)	20 (290)									
Max. Torque-Powered	Nm (lb.-in.)	5 (44)									
D Type Weight	kg (lb)	5.75 (12.68)	5.82 (12.83)	5.89 (12.99)	5.96 (13.14)	6.1 (13.45)	6.3 (13.89)	6.5 (14.33)	6.73 (14.98)	7.1 (15.65)	7.5 (16.53)
E Type Weight	kg (lb)	5.94 (13.31)	6.00 (13.47)	6.08 (13.62)	6.14 (13.82)	6.3 (14.11)	6.5 (14.55)	6.7 (14.97)	6.9 (15.48)	7.29 (16.29)	7.79 (17.17)
D Type Dimension L	mm (in.)	130 (5.12)	132 (5.2)	134 (5.28)	137 (5.39)	140 (5.51)	145 (5.71)	150 (5.91)	156 (6.14)	166 (6.54)	176 (6.93)
E Type Dimension L	mm (in.)	140 (5.51)	142 (5.59)	144 (5.67)	146 (5.75)	149 (5.87)	154 (6.06)	159 (6.26)	165 (6.5)	175 (6.89)	185 (7.28)

D Type

Dimensions and Mounting Data HSUS.../5

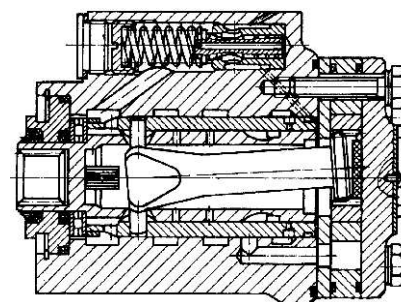
(Inch) show in brackets[]



Thread Ports

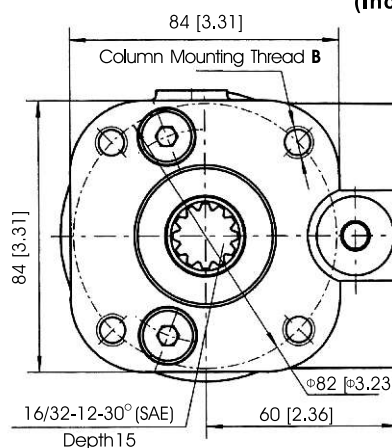
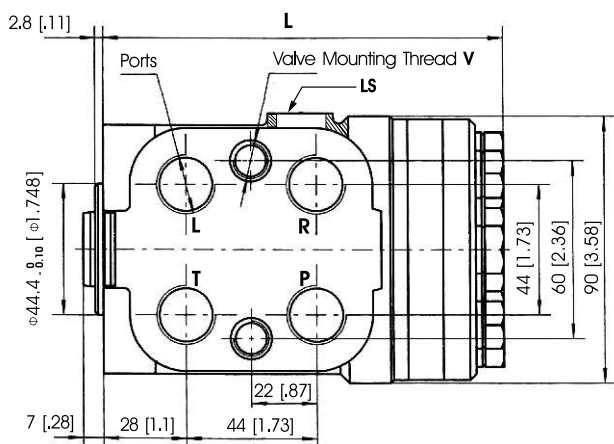
Code	Ports – P, T, R, L Thread	Column Mounting Thread - B	Valve Mounting Thread - V	LS-Port
-	G 1/2 14 mm depth	4 x M10 x 1.5 16 mm depth	2 x M10 x 1 16 mm depth	G 1/4 12 mm depth
GA*	G 3/8 14 mm depth	4 x M10 x 1.5 16 mm depth	2 x M10 x 1 16 mm depth	G 1/4 12 mm depth
U	3/4 – 16UNF O-ring 14 mm depth	4 x 3/8 – 16UNC 0.63 [16] depth	2 x 3/8 – 24UNF 0.63 [16] depth	7/16 -20UNF 12 [0.55] depth
UA*	9/16 – 18UNF O-ring 14 mm depth	4 x 3/8 – 16UNC 0.63 [16] depth	2 x 3/8 – 24UNF 0.63 [16] depth	7/16 -20UNF 12 [0.55] depth
M	M22 - x 1.5 14 mm depth	4 x M10 x 1.5 16 mm depth	2 x M10 x 1 16 mm depth	G 1/4 12 mm depth

* These threads are for displacements from HSUS50 to HSUS125 only.



Dimensions and Mounting Data HSUS.../5T

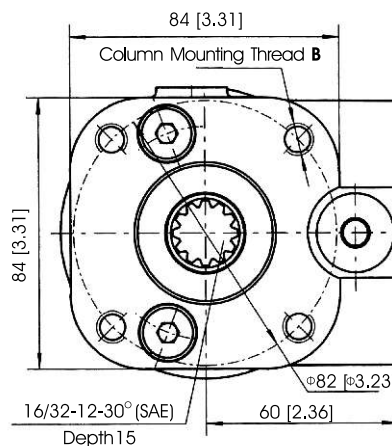
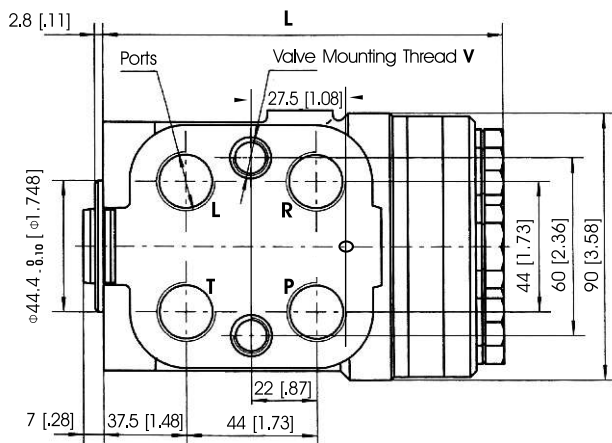
(Inch) show in brackets[]



E Type

Dimensions and Mounting Data HSUS.../5

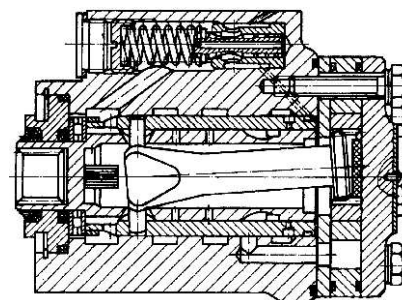
(Inch) show in brackets[]



Thread Ports

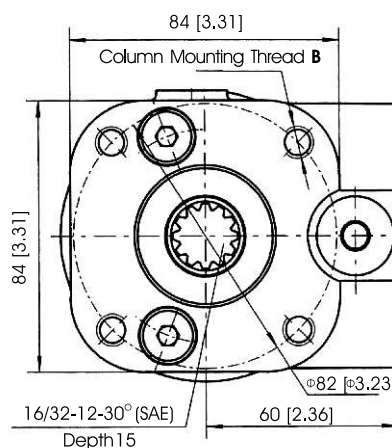
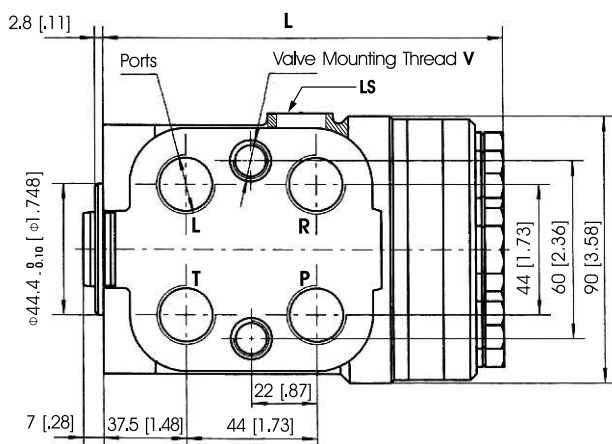
Code	Ports – P, T, R, L Thread	Column Mounting Thread - B	Valve Mounting Thread - V	LS-Port
-	G 1/2 14 mm depth	4 x M10 x 1.5 16 mm depth	2 x M10 x 1 16 mm depth	G 1/4 12 mm depth
GA*	G 3/8 14 mm depth	4 x M10 x 1.5 16 mm depth	2 x M10 x 1 16 mm depth	G 1/4 12 mm depth
U	3/4 – 16UNF O-ring 14 mm depth	4 x 3/8 – 16UNC 0.63 [16] depth	2 x 3/8 – 24UNF 0.63 [16] depth	7/16 -20UNF 12 [0.55] depth
UA*	9/16 – 18UNF O-ring 14 mm depth	4 x 3/8 – 16UNC 0.63 [16] depth	2 x 3/8 – 24UNF 0.63 [16] depth	7/16 -20UNF 12 [0.55] depth
M	M22 - x 1.5 14 mm depth	4 x M10 x 1.5 16 mm depth	2 x M10 x 1 16 mm depth	G 1/4 12 mm depth

* These threads are for displacements from HSUS50 to HSUS160 only.



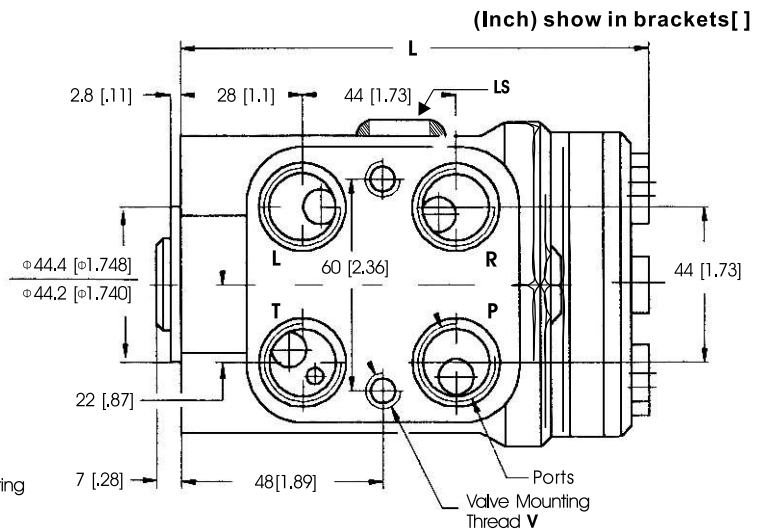
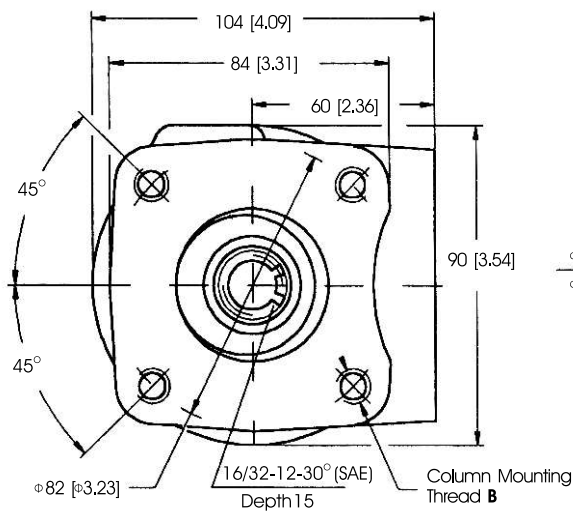
Dimensions and Mounting Data HSUS.../5T

(Inch) show in brackets[]



D Type

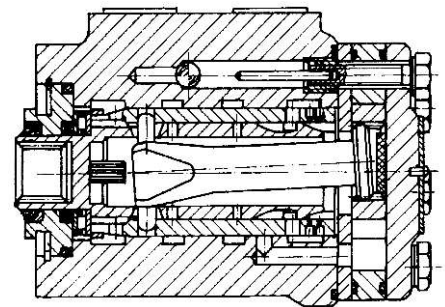
Dimensions and Mounting Data HSU.../5T



Thread Ports

Code	Ports – P, T, R, L Thread	Column Mounting Thread - B	Valve Mounting Thread - V	LS-Port
-	G 1/2 14 mm depth	4 x M10 x 1.5 16 mm depth	2 x M10 x 1 16 mm depth	G 1/4 12 mm depth
GA*	G 3/8 14 mm depth	4 x M10 x 1.5 16 mm depth	2 x M10 x 1 16 mm depth	G 1/4 12 mm depth
U	3/4 – 16UNF O-ring 14 mm depth	4 x 3/8 – 16UNC 0.63 [16] depth	2 x 3/8 – 24UNF 0.63 [16] depth	7/16 -20UNF 12 [0.55] depth
UA*	9/16 – 18UNF O-ring 14 mm depth	4 x 3/8 – 16UNC 0.63 [16] depth	2 x 3/8 – 24UNF 0.63 [16] depth	7/16 -20UNF 12 [0.55] depth
M	M22 – x 1.5 14 mm depth	4 x M10 x 1.5 16 mm depth	2 x M10 x 1 16 mm depth	G 1/4 12 mm depth

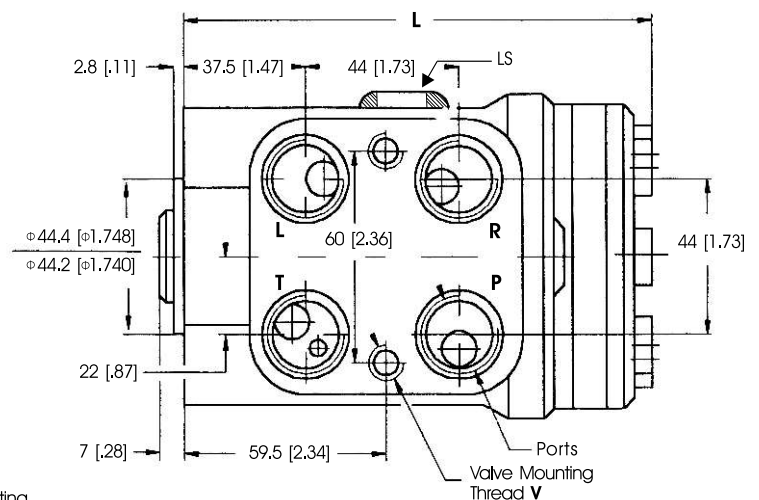
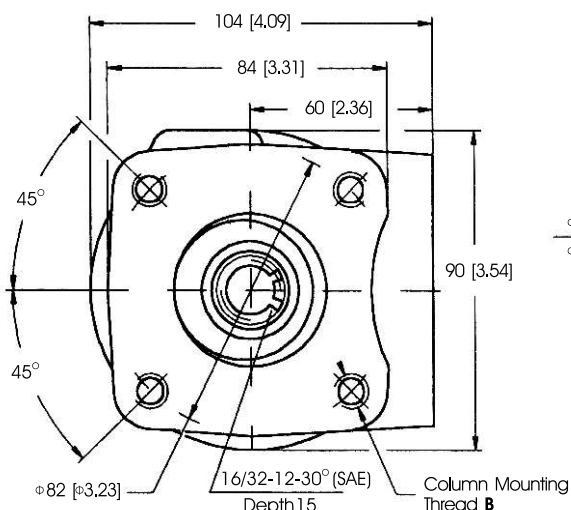
* These threads are for displacements from HSU50 to HSU125 only.



E Type

Dimensions and Mounting Data HSU.../5T

(Inch) show in brackets[]



Ordering Information

	1	2	3	4	5	6	7
HSUS		/	5	-	-		

Pos.1 Displacement Code

50	-	50.8cc / 3.1 [in.3/r]
63	-	62.9cc / 3.8 [in.3/r]
80	-	79.8cc / 4.9 [in.3/r]
100	-	99.6cc / 6.1 [in.3/r]
125	-	124.5cc / 7.6 [in.3/r]
160	-	159.6cc / 9.8 [in.3/r]
200	-	199.4cc / 12.2 [in.3/r]
250	-	249.2cc / 15.2 [in.3/r]
315	-	316.5cc / 19.4 [in.3/r]
400	-	399.7cc / 24.4 [in.3/r]

Pos.2 Versions Code

5	-	Version 5 "Cloas Cneter - Non Reaction and Load Sensing Outlet"
---	---	---

Pos.3 Priority Valves Connection

Omit	-	Modulary Mounting
T	-	Pipe Mounting

Pos.4 LS - Valve Pressure Settings, bar(Psi)

80	-	80 [1160]
100	-	100 [1450]
120	-	120 [1740]
140	-	140 [2030]
160	-	160 [2320]

Pos.5 Ports Code

Omit	-	G 1/2
GA	-	G 3/8
U	-	3/4 - 16 UNF "O" Ring
UA	-	9/16-18 UNF "O" Ring
M	-	Metric

Pos.6 Type Code

Omit	-	D Type
E	-	E Type

Pos.7 Design Series

Omit	-	Factory specified
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	1	2	3	4	5	6
HSU		/	5	T	-	

Pos.1 Displacement Code

50	-	50.8cc / 3.1 [in.3/r]
63	-	62.9cc / 3.8 [in.3/r]
80	-	79.8cc / 4.9 [in.3/r]
100	-	99.6cc / 6.1 [in.3/r]
125	-	124.5cc / 7.6 [in.3/r]
160	-	159.6cc / 9.8 [in.3/r]
200	-	199.4cc / 12.2 [in.3/r]
250	-	249.2cc / 15.2 [in.3/r]
315	-	316.5cc / 19.4 [in.3/r]
400	-	399.7cc / 24.4 [in.3/r]

Pos.2 Versions Code

5	-	Version 5 "Closed Center - Non Reaction and Load Sensing Outlet"
---	---	--

Pos.3 Priority Valves Connection

T	-	Pipe Mounting
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Pos.4 Ports Code

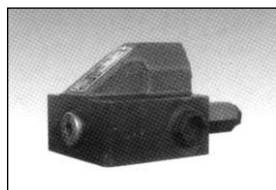
Omit	-	G 1/2
GA	-	G 3/8
U	-	3/4 - 16 UNF "O" Ring
UA	-	9/16-18 UNF "O" Ring
M	-	Metric

Pos.5 Type Code

Omit	-	D Type
E	-	E Type

Pos.6 Design Series

Omit	-	Factory specified
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The Priority Valves distribute and trace the hydraulic flow from the supply pump of the hydraulic system to the hydraulic components which control and run the vehicle.

The Priority Valves are used only with the HSUS.../5(T) hydrostatic steering units. When connected, the steering unit and the priority valve represent sophisticated hydraulic tracing system that controls the flow in both main pipelines of the hydraulic system (the working and control one) at any time of its operation.

As a static signal, the "LS" signal must be used in systems with circuit stability. The connection between the priority valves and the HSUS.../5T steering units has to be as short as possible, but should not exceed 1.5m (for iron pipe with 4).

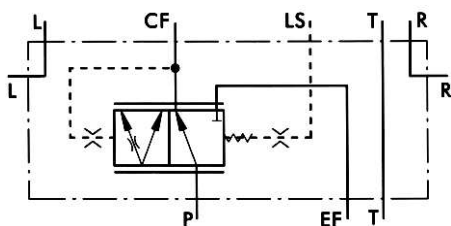
Specifications

Parameters		Type					
		PVF(D), PVT(D)			PVTA(D)		
Rate Flow (l/min)		40, 80					
Control Spring Pressure (bar)		4.5	7	10.5	4.5	7	10.5
Max. Pressure in Oil Ports (bar)	P, EF, R, L	200					
	LS, CF	175					
	T	20					
Weight, avg. (Kg)		2.7			1.2		

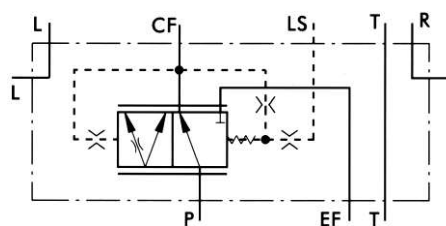
P- Pump, EF- Excess Flow, CF- Control Flow(first priority flow),

L- Left , R- Right, LS- Load Sensing, T- Tank

Modular Mounting

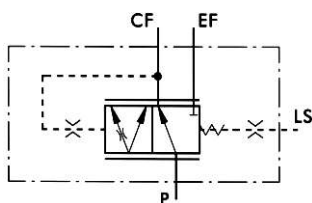


Static Signal
PVF ...40, 80/...

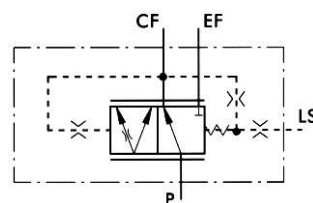


Dynamic Signal
PVFD... 40, 80/...

Pipe Mounting

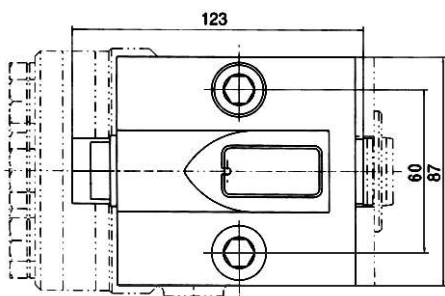
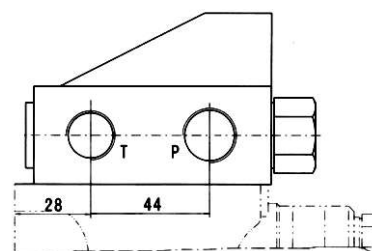
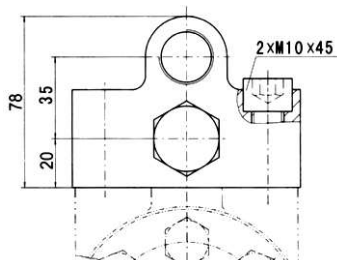
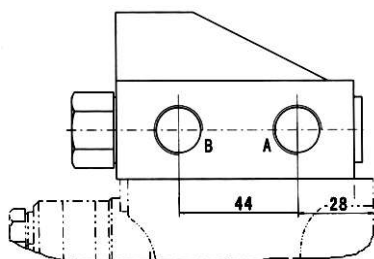


Static Signal
PVT40, 80, PVTA 40/80



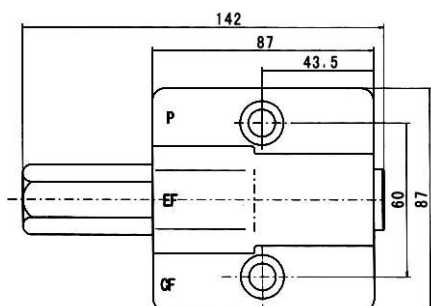
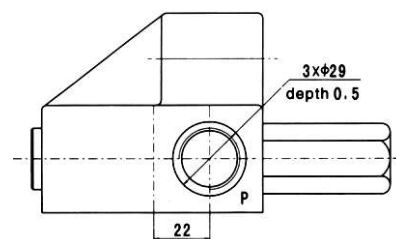
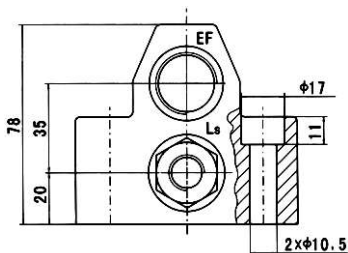
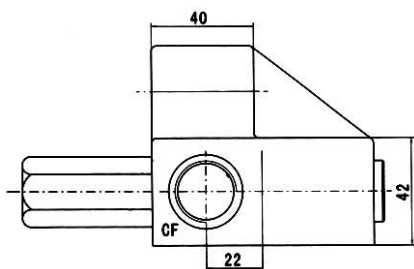
Dynamic Signal
PVT40, 80, PVTAD40,80

Dimensions and Mounting Data for PVF(D) 40,80/...



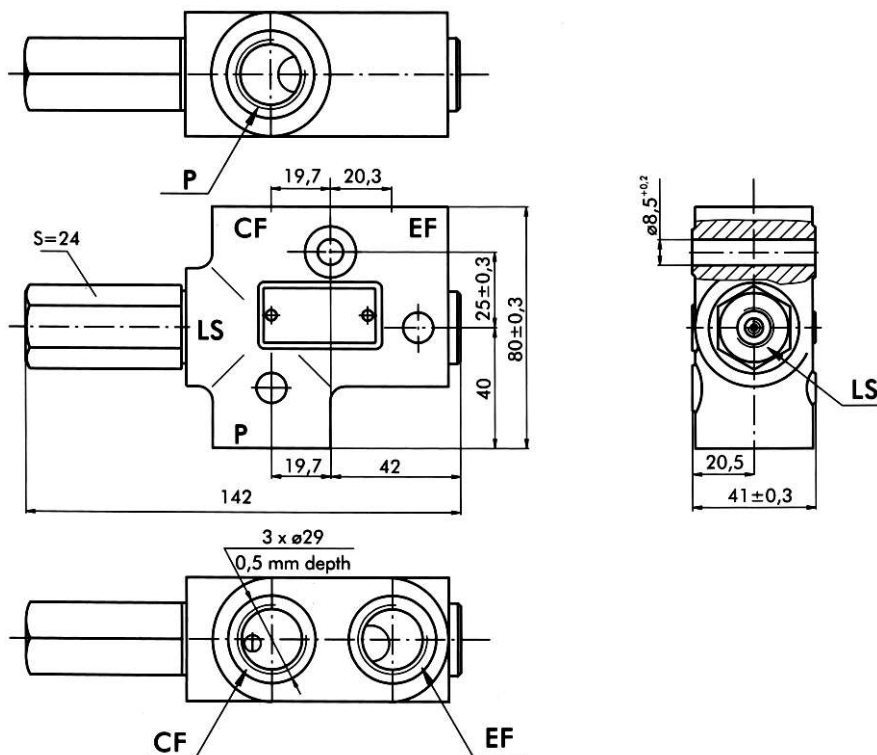
Code	Ports – P, EF Thread	Ports – T, RL Thread
-	G 1/2 14 mm depth	G 3/8 14 mm depth
M	M22 x 1.5 14 mm depth	M18 x 1.5 14 mm depth
U	7/8 – 14UNF O-ring 14 mm depth	3/4 – 16UNF O-ring 14 mm depth

Dimensions and Mounting Data for PVT(D) 40,80/...

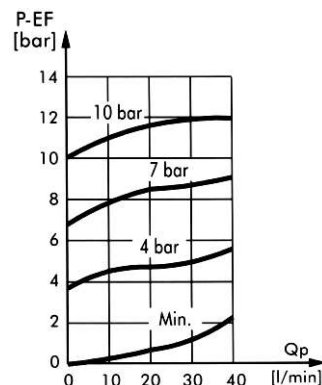


Code	Ports – P, EF Thread	Ports – CF Thread	LS - Ports
-	G 1/2 14 mm depth	G 1/2 14 mm depth	G 1/4 14 mm depth
M	M22 x 1.5 14 mm depth	M22 x 1.5 14 mm depth	G1/4 14 mm depth
U	7/8 – 14UNF O-ring 14 mm depth	3/4 – 16UNF O-ring 14 mm depth	7/8 – 20UNF O-ring 12,7 mm depth

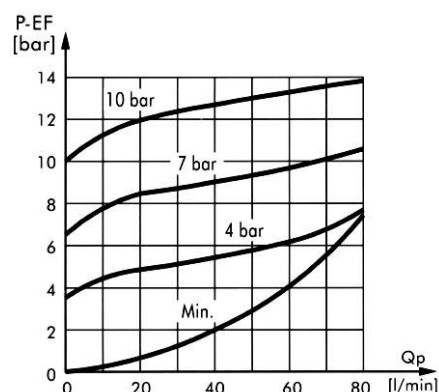
Dimensions and Mounting Data for PVTA 40,80/...



PV...40



PV...80



Code	Ports – P, EF Thread	Ports – CF Thread	LS - Ports
-	G 1/2 14 mm depth	G 1/2 14 mm depth	G 1/4 14 mm depth
M	M22 x 1.5 14 mm depth	M22 x 1.5 14 mm depth	G1/4 14 mm depth
U	7/8 – 14UNF O-ring 14 mm depth	3/4 – 16UNF O-ring 14 mm depth	7/8 – 20UNF O-ring 12.7 mm depth

Ordering Information

1	2	3	4	5	6	7
PV			/	-		

Pos.1 Mounting

- F** - Modularly Mounting
- T** - Pipe Mounting (Mode 1)
- TA** - Pipe Mounting (Mode 2)

Pos.2 Signal Type

- Omit** - With Static Signal
- D** - With Dynamic Signal

Pos.3 Rated Flow, l/min

40 80

Pos.4 Control Spring Pressure, bar

4.5 7 10.5

Pos.5 Ports

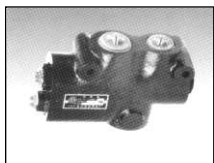
- Omit** - G 1/2
- U** - SAE (ANSI B1.1 - 1982)
- M** - Metric (ISO 262)

Pos.6 Option (Paint)

- Omit** - Grey
- B** - Black
- 00** - No Paint

Pos.7 Design Series

- Omit** - Factory specified



The Priority Valves PRT .../160 have built-in a pilot pressure relief valve, who protect the steering unit against excess pressure. The pilot pressure relief valve operates with the Shuttle of the Priority Valve to limit the maximum steering pressure P-T measured across the steering unit ports.

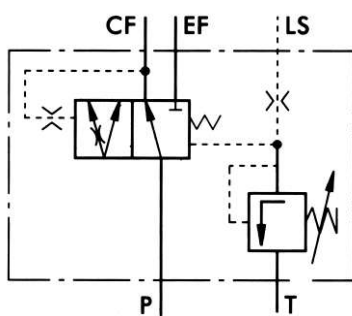
Specifications

Parameters		Type		
		PRT(E), PRTD(E)		
Rate Flow	(l/min)	40, 80, 160		
Control Spring Pressure	(bar)	4.5	7	10.5
Max. Pressure in Oil Ports (bar)	P, EF	200		
	LS, CF	175		
	T	15		
	PP	175		
Standard Relief Valve Pressure Settings (bar)		175*		
Weight, avg.	(Kg)	5.1		

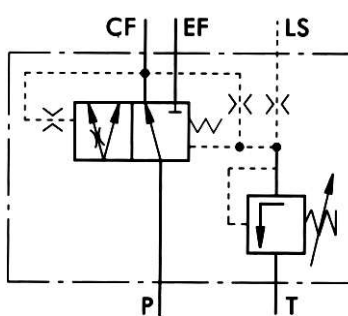
*- Adjusted valve pressure from 80 till 210 bar upon customer request.

P- Pump, **EF**- Excess Flow, **CF**- Control Flow(first priority oil flow),

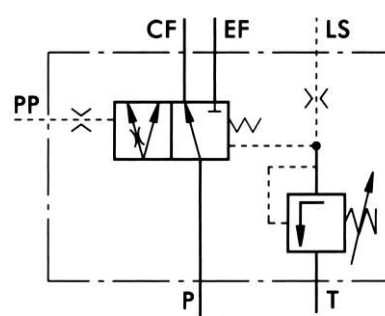
LS- Load Sensing, **T**- Tank, **PP**-Pilot Pressure



Static Signal
PRT 40, 80, 160/....

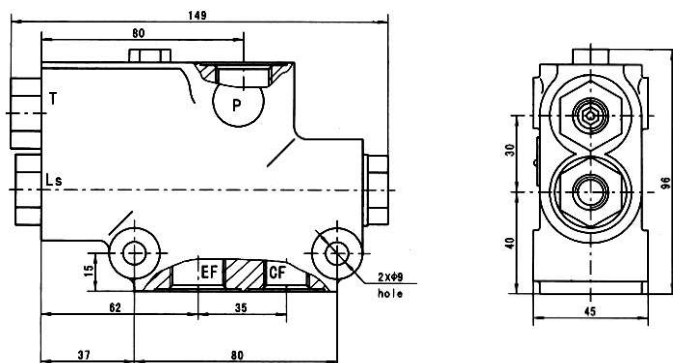


Dynamic Signal
PRTD 40, 80, 160/....



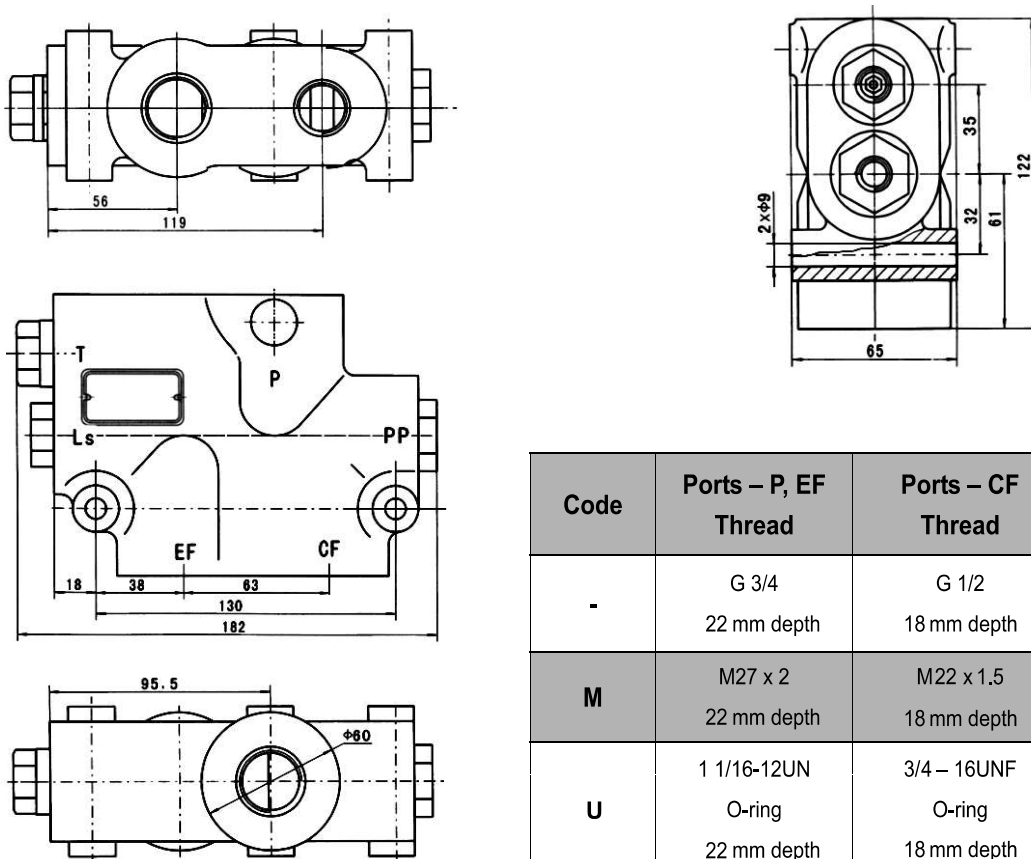
Static Signal with External Pilot
PRTE 160/....

Dimensions and Mounting Data for PRT(D) 40, 80/...



Code	Ports – P, EF Thread	Ports – CF Thread	LS - Ports
-	G 1/2 16 mm depth	G 3/8 16 mm depth	G 1/4 14 mm depth
M	M22 x 1.5 16 mm depth	M18 x 1.5 16 mm depth	M12 x 1.5 14 mm depth
U	7/8 – 14UNF O-ring 16 mm depth	3/4 – 16 UNF O-ring 16 mm depth	7/16 – 20UNF O-ring 14 mm depth

Dimensions and Mounting Data for PRT(D) 160/...



Code	Ports – P, EF Thread	Ports – CF Thread	LS, PP, T - Ports
-	G 3/4 22 mm depth	G 1/2 18 mm depth	G 1/4 14 mm depth
M	M27 x 2 22 mm depth	M22 x 1.5 18 mm depth	M12 x 1.5 14 mm depth
U	1 1/16-12UN O-ring 22 mm depth	3/4 – 16UNF O-ring 18 mm depth	7/16-20UN O-ring 14 mm depth

Ordering Information

	1	2	3	4	5	6
PRT		-	-			

Pos.1 Signal Type

- ☐ Omit - With Static Signal
☐ D - With Dynamic Signal
☐ E* - With Static Signal w/External Pilot

Pos.2 Rated Flow, l/min

40 80 160

Pos.3 Control Spring Pressure, bar

4.5 7 10.5

Pos.4 Ports

- ☐ Omit - G 1/2 for PRT(D)40, 80 G 3/4 for PRT160
☐ M - Metric (ISO 262)
☐ U - SAE (ANSI B1.1 - 1982)

Pos.5 Option (Paint)

- ☐ Omit - Grey
☐ B - Painted
☐ 00 - No Paint

Pos.6 Design Series

- ☐ Omit - Factory specified

Note: * Only for PRT 160/...

The priority valves are mangano-phosphatized as standard.