

HYDROSTATIC STEERING UNITS TYPE HKU(S).../5(T)(E)(TE)



The HKU(S).../5(T)(E)(TE) range expands the steering units family of M+S Hydraulic with the "Closed Center - Non Reaction and Load Sensing Outlet" version (static hydraulic connection to the priority valve).

This range is manufactured in two versions; for modularly and pipe mounting and therefore were developed the two versions of priority (tracing) valves: PRD... and PRT...

HKU.../5 is designed to be connected with priority valves with built-in relief valves for rated flow up to 42 GPM [160 lpm]: PR.../160.

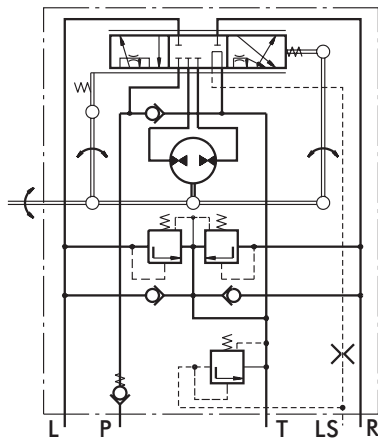
The control hydraulic circuits of the HKU(S).../5(T)(E)(TE) steering units were designed to ensure minimal energy consumption (energy losses) in various hydraulic systems such as those of: fork-lift trucks, agricultural and construction machines and others.

The HKUS.../5E and HKUS.../5TE are equipped with an electrohydraulic relay, mounted in the EL port, which supplies signal to the electric - control system. The relay can be pre-set to normally - open (N.O) or normally - closed (N.C) contacts, with control range from 1.45 to 725 PSI [0,1 to 50 bar]. Upon customer's request the relay could be supplied with another type of fixing thread.

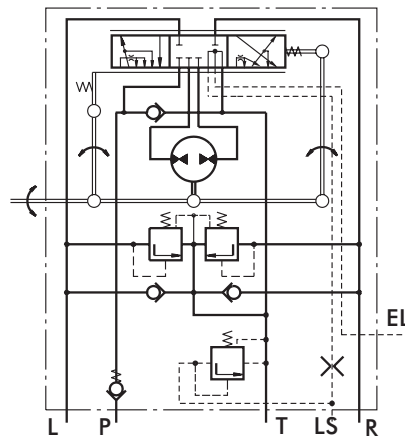
*For operation in condition of Thermal Shock see the notes on page 4.

HKUS.../5D... is a new generation steering unit, where the dynamic flow to LS-line allows easy and smooth control when starting steering. Main features are: Low torque of the steering wheel 4.5÷18 in-lb [0,5÷2,0 Nm] at normal operating conditions; High steering speed, limited only by the operating flow and the pressure of the supplying pump; Constant oil flow to LS-line at neutral position within .12÷.24 GPM [0,45÷0,9 lpm]. The unit works in a system with a dynamic priority valve and is appropriate for machines with increased energy saving requirements.

Modulary Mounting

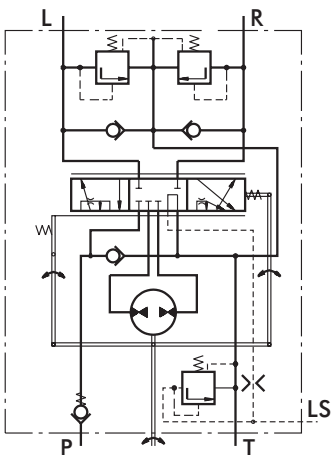


HKUS.../5

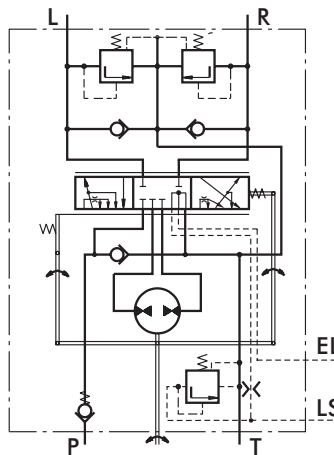


HKUS.../5E

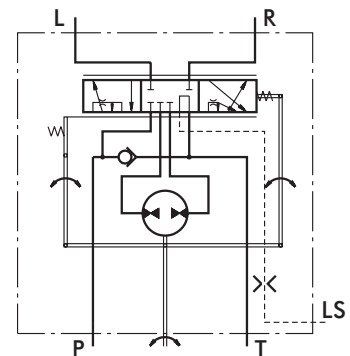
Pipe Mounting



HKUS.../5T



HKUS.../5TE



HKU.../5T

SPECIFICATION DATA

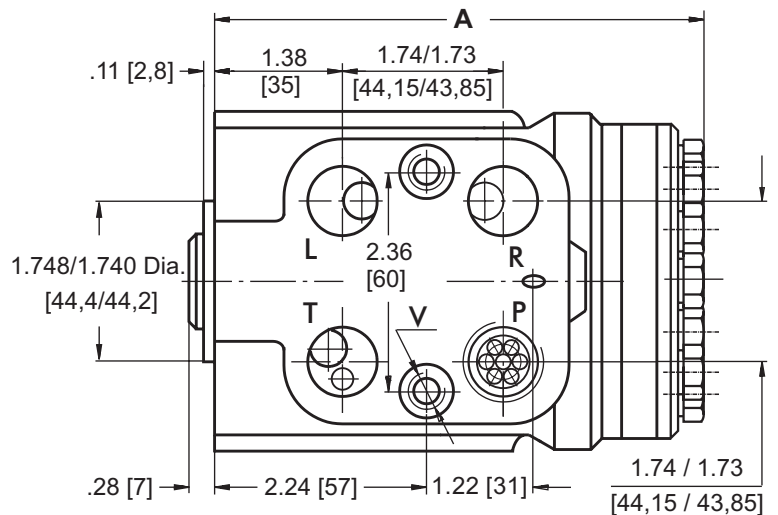
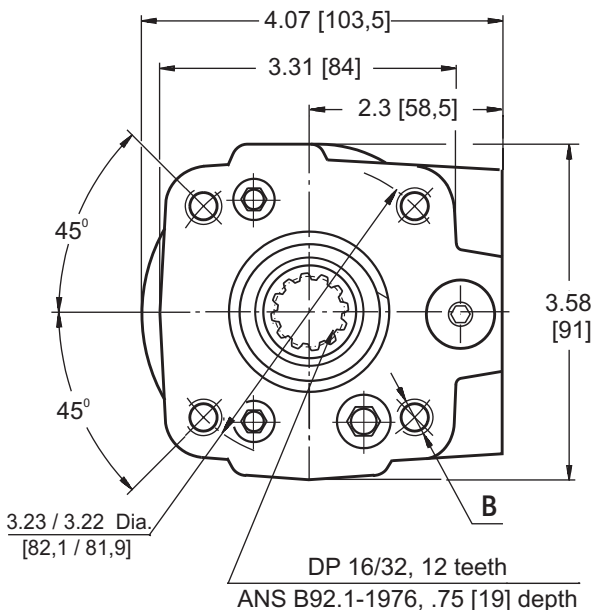
Parameters		Type												
		HKU 40/5T	HKU 50/5T	HKU 63/5T	HKU 80/5T	HKU 100/5T	HKU 125/5T	HKU 160/5T	HKU 200/5T	HKU 250/5T	HKU 320/5T	HKU 400/5T	HKU 500/5T	HKU 630/5T
		HKUS 40/5...	HKUS 50/5...	HKUS 63/5...	HKUS 80/5...	HKUS 100/5...	HKUS 125/5...	HKUS 160/5...	HKUS 200/5...	HKUS 250/5...	HKUS 320/5...	HKUS 400/5...		
Displacement	in. ³ /rev. [cm. ³ /rev.]	2.42 [39,6]	3.0 [49,5]	4.0 [65,6]	4.83 [79,2]	6.04 [99,0]	7.56 [123,8]	9.67 [158,4]	12.08 [198]	15.1 [247,5]	19.3 [316,8]	24.17 [396]	30.2 [495]	38.05 [623,6]
Rated Flow*	GPM [lpm]	1.1 [4]	1.3 [5]	1.6 [6]	2.1 [8]	2.6 [10]	3.4 [13]	4.2 [16]	5.3 [20]	6.6 [25]	8.4 [32]	10.6 [40]	13.2 [50]	16.6 [63]
Rated Pressure	PSI [bar]	1810 [125]	2175 [150]	2540 [175]										
LS-Valve Pressure Settings**	PSI [bar]				1160 [80]	1450 [100]	1810 [125]	2175 [150]	2540 [175]					
Shock Valves Pressure Settings***	PSI [bar]				2030 [140]	2320 [160]	2610 [180]	2900 [200]	3480 [240]					
Max. Cont. Pressure in Line	PSI [bar]								290 [20]					
- standard									290 [20]					
- high pressure (H option)									580 [40]					
Max. Torque at Servoamplifying in - lb [Nm]								26 [3,0]				26 [3,0]		
-with standard springs								26 [3,0]				-		
-with soft springs (LT option)								16 [1,8]				-		
Max. Torque w/o Servoamplifying in - lb [Nm]		1065 [120]												
Weight	lb [kg]	11.7 [5,3]	11.9 [5,4]	12.2 [5,5]	12.4 [5,6]	12.6 [5,7]	12.8 [5,8]	13.2 [6,0]	13.9 [6,3]	14.3 [6,5]	15.4 [7,0]	16.3 [7,4]	17.6 [8,0]	19.2 [8,7]
Dimension A	in. [mm]	5.15 [130,8]	5.20 [132,2]	5.27 [133,9]	5.36 [136,2]	5.47 [138,8]	5.60 [142,2]	5.78 [146,8]	5.99 [152,2]	6.25 [158,8]	6.62 [168,2]	7.04 [178,8]	7.56 [192]	8.24 [209,3]

* Rated Flow at 100 RPM.

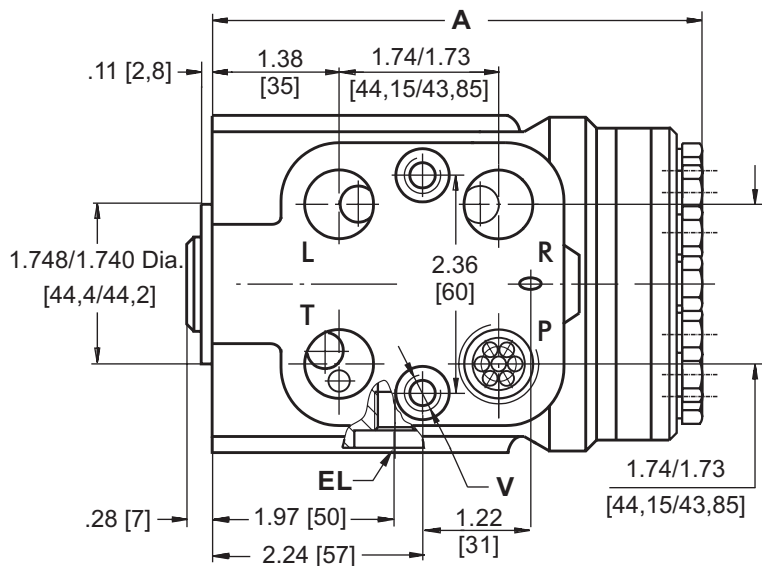
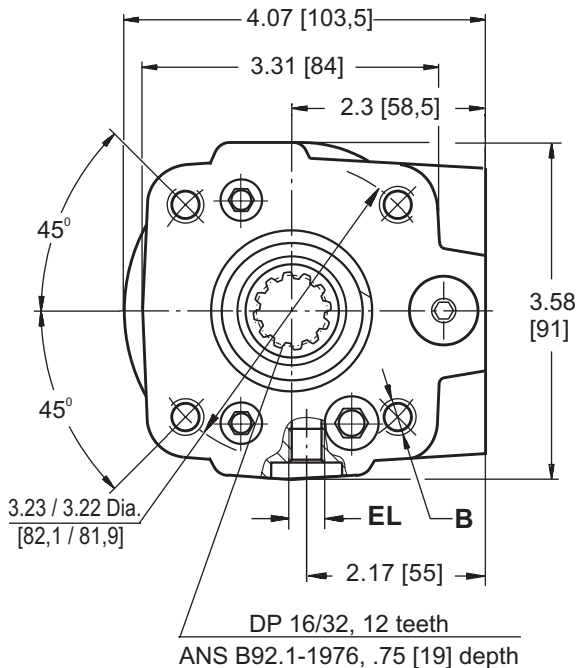
** Pressure Settings are at flow rate of 1.59 GPM [6 lpm] and viscosity 105 SUS [21 mm²/s] at 122°F [50° C].

***Pressure Settings are at flow rate of .53 GPM [2 lpm] and viscosity 105 SUS [21 mm²/s] at 122°F [50° C].

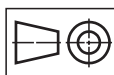
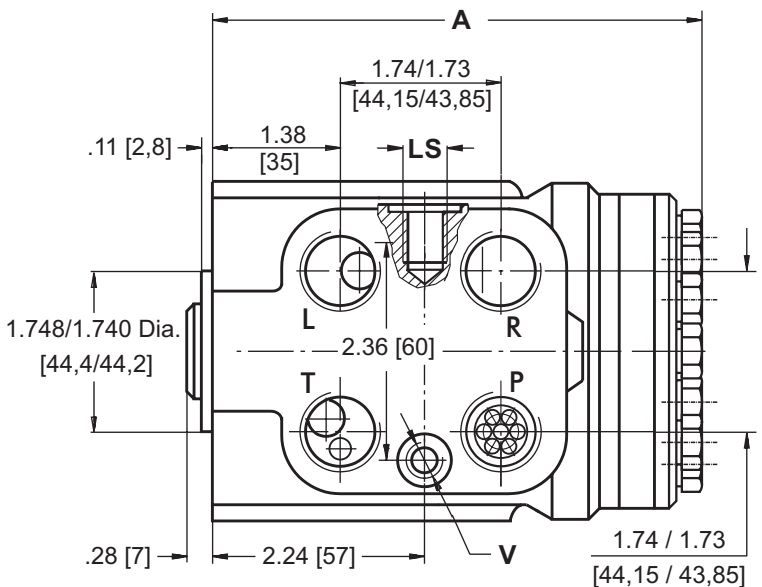
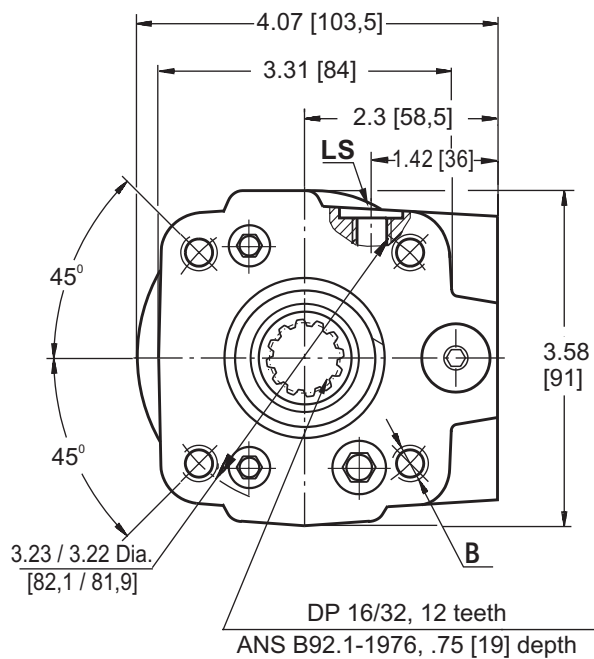
DIMENSIONS AND MOUNTING DATA - HKUS.../5



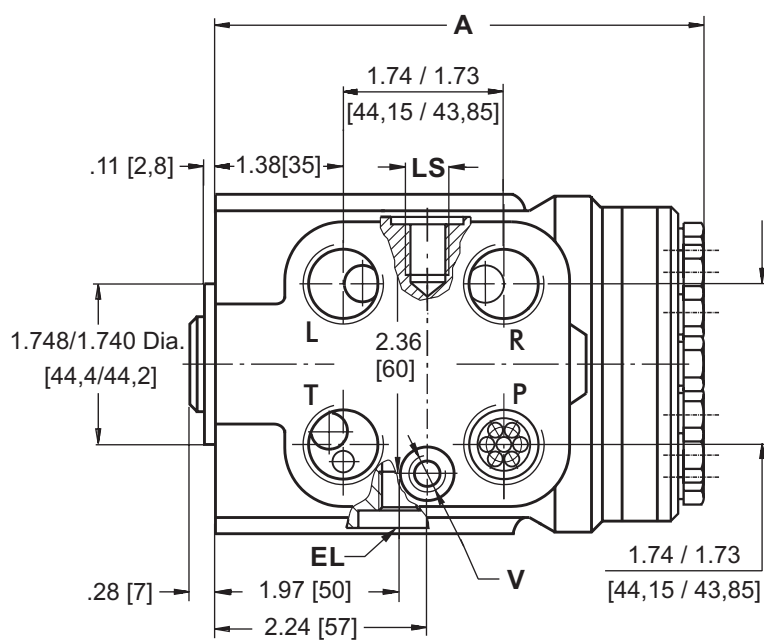
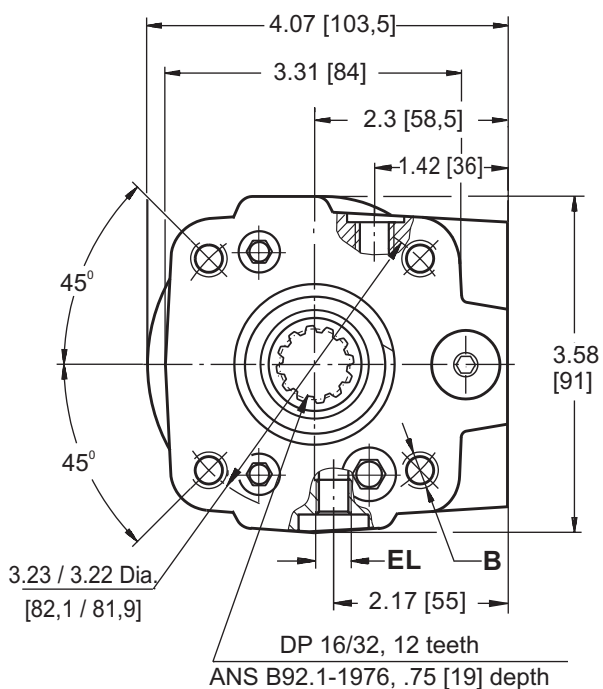
DIMENSIONS AND MOUNTING DATA - HKUS.../5E



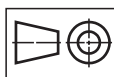
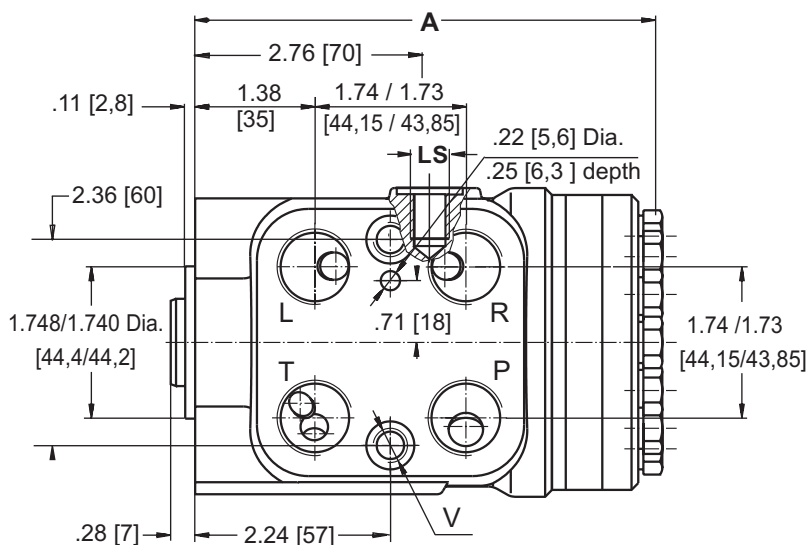
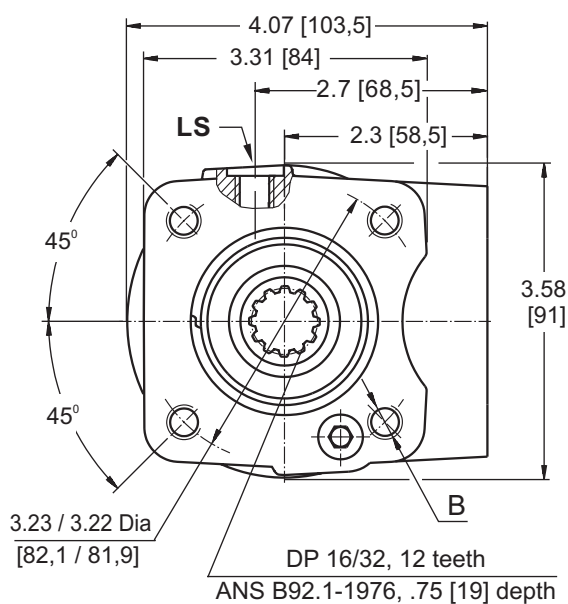
DIMENSIONS AND MOUNTING DATA - HKUS.../5T



DIMENSIONS AND MOUNTING DATA - HKUS.../5TE



DIMENSIONS AND MOUNTING DATA - HKU.../5T



Code	Ports - P*, T, R, L Thread	Column Mounting Thread - B	Valve Mounting Thread - V	LS - Port	EL - Port
A	3/4 - 16 UNF O-ring .67 [17] depth	4 x 3/8 - 16 UNC .62 [15,7] depth	2 x 3/8 - 24 UNF .56 [14,2] depth	7/16 - 20 UNF O-ring .50 [12,7] depth	7/16 - 20 UNF O-ring .50 [12,7] depth
-	G1/2 .67 [17] depth	4 x M10 .71 [18] depth	2 x M10x1 .63 [16] depth	G1/4 .55 [14] depth	M10x1 .39 [10] depth
M	M22x1,5 .67 [17] depth	4 x M10 .71 [18] depth	2 x M10x1 .63 [16] depth	G1/4 .55 [14] depth	M10x1 .39 [10] depth

*Threaded Ports P min.63 [16] depth for pipe mounting.

ORDER CODE for HKUS.../5...

	1		2		3		4		5		6		7		8		9		10		11
HKUS		/	5					-		-											

Pos.1 - Displacement code (see Specification Data)

40	-	2.42	[39,6] in. ³ /rev. [cm ³ /rev.]
50	-	3.00	[49,5] in. ³ /rev. [cm ³ /rev.]
63	-	4.00	[65,6] in. ³ /rev. [cm ³ /rev.]
80	-	4.83	[79,2] in. ³ /rev. [cm ³ /rev.]
100	-	6.04	[99,0] in. ³ /rev. [cm ³ /rev.]
125	-	7.56	[123,8] in. ³ /rev. [cm ³ /rev.]
160	-	9.67	[158,4] in. ³ /rev. [cm ³ /rev.]
200	-	12.08	[198,0] in. ³ /rev. [cm ³ /rev.]
250	-	15.10	[247,5] in. ³ /rev. [cm ³ /rev.]
320	-	19.30	[316,8] in. ³ /rev. [cm ³ /rev.]
400	-	24.17	[396,0] in. ³ /rev. [cm ³ /rev.]

Pos.2 - Versions

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

Pos.3 - Signal Type

omit - Static Load Signal
D - Dynamic Load Signal

Pos.4 - Priority Valve Connection

omit - Modular Mounting
T - Pipe Mounting

Pos.5 - Electric Signal Connection

omit - without electric signal connection
E - with electric signal connection

Pos.6 - LS - Valve Pressure Settings, bar

80	100	125	150	175
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Pos.7 - Ports

omit - BSPP (ISO 228)
A - SAE (ANSI B 1.1 - 1982)
M - Metric (ISO 262)

Pos.8 - Max. Cont. Pressure in line T

omit - Standard
H - High pressure

Pos.9 - Input torque

omit - Standard
LT* - Low

Pos.10 - Option (Paint)**

omit - No Paint
P - Painted Low Gloss Color
PC - Corrosion Protected Paint

Pos.11 - Design Series

omit - Factory specified

Notes: * Available only for displacement from 40 to 200.
** Colour at customer's request.

The steering units are mangano-phosphatized as standard.

ORDER CODE for HKU.../5T...

	1		2		3		4		5		6		7		8
HKU		/	5	T	-										

Pos.1 - Displacement code (see Specification Data)

40	-	2.42	[39,6] in. ³ /rev. [cm ³ /rev.]
50	-	3.00	[49,5] in. ³ /rev. [cm ³ /rev.]
63	-	4.00	[65,6] in. ³ /rev. [cm ³ /rev.]
80	-	4.83	[79,2] in. ³ /rev. [cm ³ /rev.]
100	-	6.04	[99,0] in. ³ /rev. [cm ³ /rev.]
125	-	7.56	[123,8] in. ³ /rev. [cm ³ /rev.]
160	-	9.67	[158,4] in. ³ /rev. [cm ³ /rev.]
200	-	12.08	[198,0] in. ³ /rev. [cm ³ /rev.]
250	-	15.10	[247,5] in. ³ /rev. [cm ³ /rev.]
320	-	19.30	[316,8] in. ³ /rev. [cm ³ /rev.]
400	-	24.17	[396,0] in. ³ /rev. [cm ³ /rev.]
500	-	30.20	[495,0] in. ³ /rev. [cm ³ /rev.]
630	-	38.05	[623,6] in. ³ /rev. [cm ³ /rev.]

Pos.2 - Versions

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

Pos.3 - Priority Valve Connection

T - Pipe Mounting (only)

Pos.4 - Ports

omit - BSPP (ISO 228)
A - SAE (ANSI B 1.1 - 1982)
M - Metric (ISO 262)

Pos.5 - Max. Cont. Pressure in line T

omit - Standard
H - High pressure

Pos.6 - Input torque

omit - Standard
LT* - Low

Pos.7 - Option (Paint)**

omit - No Paint
P - Painted Low Gloss Color
PC - Corrosion Protected Paint

Pos.8 - Design Series

omit - Factory specified

Notes: * Available only for displacement from 40 to 200.
** Colour at customer's request.

The steering units are mangano-phosphatized as standard.