

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



The HKU(S).../5(D)(T)(TU) range expands the steering units family of M+S Hydraulic with the "Closed Center - Non Reaction and Load Sensing Outlet" version (static and dynamic 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 to priority valves with built-in relief valves for rated flow up to 160 lpm [42 GPM] - PRT.../160.

The control hydraulic circuits of the HKU(S).../5(T) 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.

HKU.../5TU is a steering unit at which the ports R and L in neutral position are connected to the drain line T. This scheme contributes for the fast discharge of the residual pressure in lines L and R, that usually is "locked" when the steering wheel is jerky released at neutral position. These steering units do not drive directly the steering cylinders, but they are connected to hydraulic systems in which they drive the flow amplifiers or other devices.

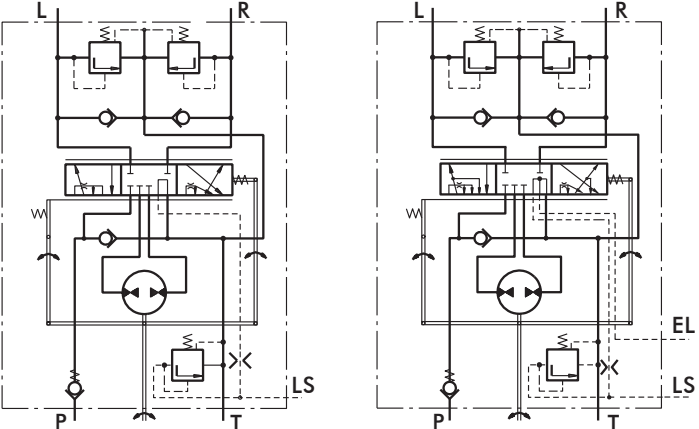
M+S Hydraulic produces steering units type HKUS.../5E(5TE) which have additional EL-port. An electro-hydraulic relay can be mounted on this port, providing control of the hydraulic system. The relay can be pre-set to normally - open (N.O) or normally - closed (N.C) contacts, with control range from 0,1 to 50 bars.

HKUS.../5D(DT)... is a new generation steering unit, where the dynamic flow to LS-line allows easy and smooth control when starting the steering. Main features are: Low torque of the steering wheel 0,5±2,0 Nm [4.5±18 lb-in] 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 0,45±0,9 lpm [.12±.24 GPM]. The unit works in a system with a dynamic priority valve and is appropriate for machines with increased energy saving requirements.

*For operation in condition of Thermal Shock see the notes on page 6.

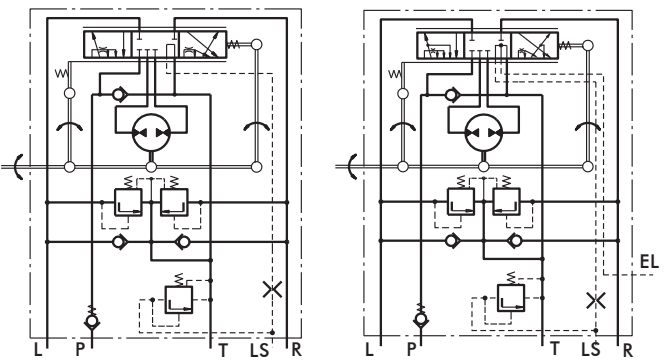
Pipe Mounting



Closed Center - Non Reaction
Static Signal - HKUS.../5T
Dynamic Signal - HKUS.../5DT

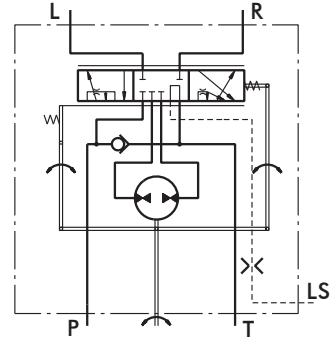
Closed Center - Non Reaction
Static Signal - HKUS.../5TE

Modularity Mounting

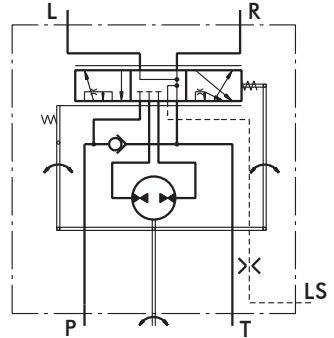


Closed Center - Non Reaction
Static Signal - HKUS.../5
Dynamic Signal - HKUS.../5D

Closed Center - Non Reaction
Static Signal - HKUS.../5E



Closed Center - Non Reaction
Static Signal - HKU.../5T



Closed Center - Non Reaction
Static Signal - HKU.../5TU

SPECIFICATION DATA

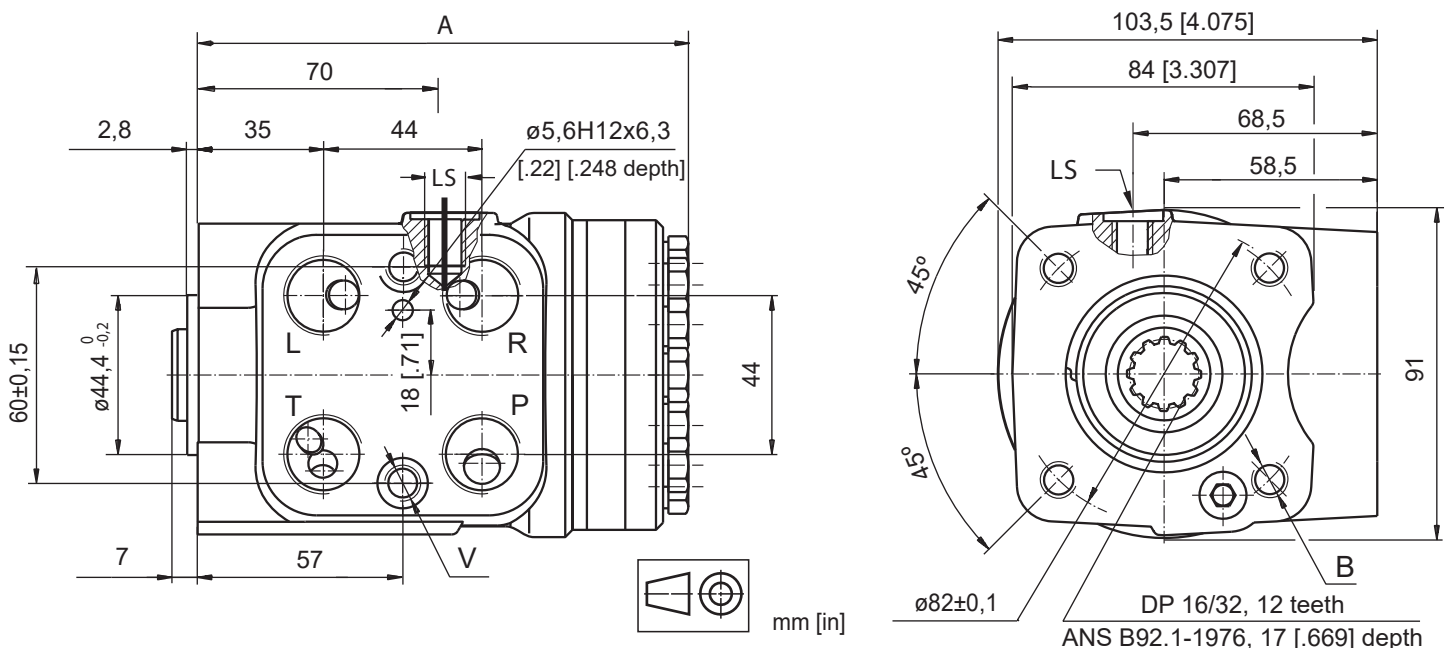
| Parameters | Type | | | | | | | |
|-----------------------------------|--|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--|
| | HKU 50/5T | HKU 80/5T | HKU 100/5T | HKU 125/5T | HKU 160/5T | HKU 200/5T | | |
| | HKUS 50/5... | HKUS 80/5... | HKUS 100/5... | HKUS 125/5... | HKUS 160/5... | HKUS 200/5... | | |
| Displacement | cm ³ /rev [in ³ /rev] | 49,5 [3.0] | 79,2 [4.83] | 99,0 [6.04] | 123,8 [7.56] | 158,4 [9.67] | 198 [12.1] | |
| Rated Flow* | lpm [GPM] | 5 [1.3] | 8 [2.1] | 10 [2.6] | 13 [3.4] | 16 [4.2] | 20 [5.3] | |
| Rated Pressure | bar [PSI] | 150 [2175] | 175 [2540] | | | | | |
| LS-Valve Pressure Settings** | bar [PSI] | 80 [1160] | | 100 [1450] | 125 [1810] | | | |
| Shock Valves Pressure Settings*** | bar [PSI] | 140 [2030] | | 160 [2320] | 180 [2610] | | | |
| Max. Cont. Pressure in Line T | bar [PSI] | | | | 20 [290] | | | |
| - standard | | | | | 40 [580] | | | |
| - high pressure (H option) | | | | | | | | |
| Max. Torque at Servoamplifying | Nm [lb-in] | | | | 3,0 [26] | | | |
| -with standard springs | | | | | 1,8 [16] | | | |
| -with soft springs (LT option) | | | | | | | | |
| Max. Torque w/o Servoamplifying | Nm [lb-in] | | | | 120 [1065] | | | |
| Weight | kg [lb] | 5,4 [11.9] | 5,6 [12.4] | 5,7 [12.6] | 5,8 [12.8] | 6,0 [13.2] | 6,3 [13.9] | |
| Dimension A | mm [in] | 132,2 [5.20] | 136,2 [5.36] | 138,8 [5.47] | 142,2 [5.60] | 146,8 [5.78] | 152,2 [5.99] | |

* Rated Flow at 100 RPM.

** Pressure Settings are at flow rate of 25 lpm [6.6 GPM] and viscosity 21 mm²/s [105 SUS] at 50° C [122°F], supplied through priority valve.

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

DIMENSIONS AND MOUNTING DATA - HKU.../5T(TU)



STEERING UNITS

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

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

Pos.1 - Displacement code (see Specification Data)

| | |
|-----|---|
| 40 | - 39,6 cm ³ /rev [2.42 in ³ /rev] |
| 50 | - 49,5 cm ³ /rev [3.00 in ³ /rev] |
| 63 | - 65,6 cm ³ /rev [4.00 in ³ /rev] |
| 80 | - 79,2 cm ³ /rev [4.83 in ³ /rev] |
| 100 | - 99,0 cm ³ /rev [6.04 in ³ /rev] |
| 125 | - 123,8 cm ³ /rev [7.56 in ³ /rev] |
| 160 | - 158,4 cm ³ /rev [9.67 in ³ /rev] |
| 200 | - 198,0 cm ³ /rev [12.10 in ³ /rev] |
| 250 | - 247,5 cm ³ /rev [15.10 in ³ /rev] |
| 320 | - 316,8 cm ³ /rev [19.30 in ³ /rev] |
| 400 | - 396,0 cm ³ /rev [24.20 in ³ /rev] |
| 500 | - 495,0 cm ³ /rev [30.20 in ³ /rev] |
| 630 | - 623,6 cm ³ /rev [38.05 in 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) |
| TU | - Pipe Mounting (ports R and L in neutral position are connected to the drain line T) |

Pos.4 - Ports

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

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 |
| PC | - Corrosion Protected Paint |
| PS | - Special Paint*** |
| PCS | - Special Corrosion Protected Paint*** |

Pos.8 - Design Series

| | |
|------|---------------------|
| omit | - Factory specified |
|------|---------------------|

Notes:

* Available only for displacement from 40 to 200.

** Colour at customer's request.

*** Non painted feeding surfaces, colour at customer's request. The steering units are mangano-phosphatized as standard.