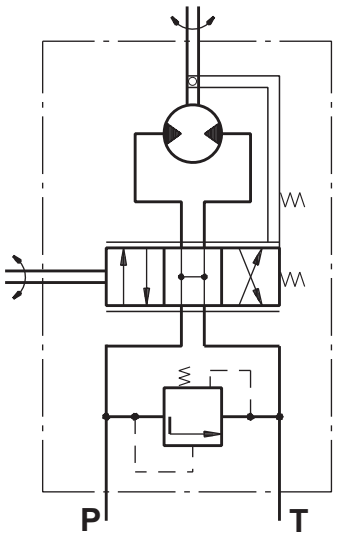
# TORQUE AMPLIFIERS TYPE UVM...

The M+S Hydraulic UVM Torque Amplifiers amplify the applied torque to the control shaft and thus ease the running of various transport vehicles such as:

- agricultural and wood working machines;
- road rollers and road cleaning machines;
- fork-lift trucks and construction machinery.



UVM...

The totally transferred power in terms of output torque is up to 1,1 kW [1.47 HP].

The UVM torque amplifiers with their simple design, consisted of a pump and an amplifier, ensure 40 times higher output torque than the applied one. The amplifying is achieved as follows; by rotating the input shaft to the left or right, the spool and the bushing are displaced, and the hydraulic flow enters the system turning the gerotor set, which transfers the already amplified torque to the output shaft.

One advantage of the UVM torque amplifier is that it allows manual steering in case of engine (pump) failure.

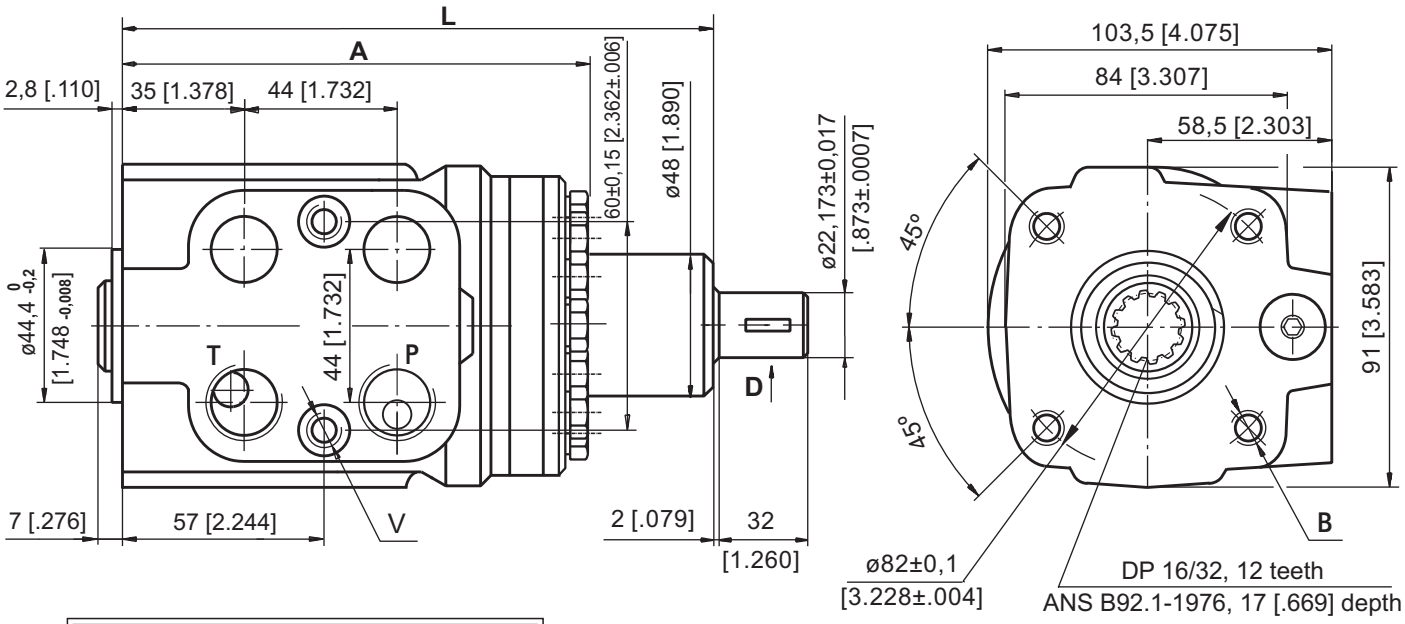
## SPECIFICATION DATA

| Parameters | | Type | |
|---|---|---|---|
| | | **UVM 100** | **UVM 160** |
| Displacement | $cm^3/rev$ [$in^3/rev$] | 99,0 [6.04] | 158,4 [9.67] |
| Rated Flow* | lpm [GPM] | 10 [2.6] | 16 [4.2] |
| Rated Pressure** | bar [PSI] | 70 [1015] | 70 [1015] |
| Input Torque | daNm [lb-in] | 0,35...0,5 [31...44] | 0,35...0,5 [31...44] |
| Max. Input Torque | daNm [lb-in] | 20 [178] | 20 [178] |
| Torque Output at 70 bar [1015 PSI] | Nm [lb-in] | 80 [708] | 120 [1062] |
| Pressure Drop between P and T at Rated Flow | bar [PSI] | 1... 2 [14.5...29] | 1,6...2,5 [23.2...36.3] |
| Max. Speed of Rotation at Rated Flow and Pressure | RPM | 100 | 100 |
| Max. Continuous Pressure in Line T | bar [PSI] | 20 [290] | 20 [290] |
| Weight | kg [lb] | 5,8 [12.8] | 6,2 [13.7] |

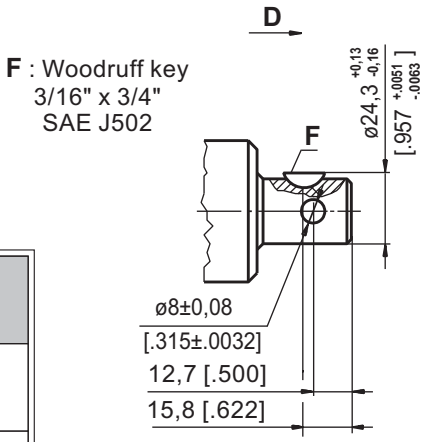
* Rated Flow at 100 RPM

** Pressure Settings are at Rated Flow (as in the table ) and viscosity 21 $mm^2/s$ [105 SUS] at 50° C [122°F].

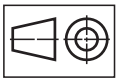
## DIMENSIONS AND MOUNTING DATA




| Dimensions | | Type | |
|---|---|---|---|
| | | **UVM 100** | **UVM 160** |
| A | mm | 143,3 | 151,3 |
| | [in] | [5.64] | [5.96] |
| L | mm | 181,2 | 189,2 |
| | [in] | [7.13] | [7.45] |




| code | Ports - P, T Thread | Column Mounting Thread - B | Port Mounting Thread - V |
|---|---|---|---|
| - | G1/2<br>17 [.67] depth | 4 x M10<br>18 [.71] depth | 2 x M10x1<br>16 [.63] depth |
| **M** | M22x1,5<br>17 [.67] depth | 4 x M10<br>18 [.71] depth | 2 x M10x1<br>16 [.63] depth |
| **A** | 3/4 - 16 UNF<br>O-ring 17 [.67] depth | 4 x 3/8 - 16 UNC<br>15,7 [.62] depth | 2 x 3/8 - 24 UNF<br>14,2 [.56] depth |



mm [in]

## ORDER CODE

| | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| **U V M** | | | | |

**Pos.1 - Displacement code**

| | |
|---|---|
| **100** | - 99,0 [6.04] $cm^3$/rev [$in^3$/rev] |
| **160** | - 158,4 [9.67] $cm^3$/rev [$in^3$/rev] |

**Pos.2 - Ports**

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

**Pos.3 - Option (Paint)***

| | |
|---|---|
| omit | - No Paint |
| **P** | - Painted |
| **PC** | - Corrosion Protected Paint |
| **PS** | - Special Paint** |
| **PCS** | - Special Corrosion Protected Paint** |

**Pos.4 - Design Series**

omit - Factory specified

**Notes**: * Colour at customer's request.
** Non painted feeding surfaces, colour at customer's request.

The steering units are mangano-phosphatized as standard.