

## 2.8 SWING CLAMP CYLINDERS SERIES MSR

Double acting, max 350 bar

Capacity: 56, 91 and 143 kN

Working pressure: 350 bar

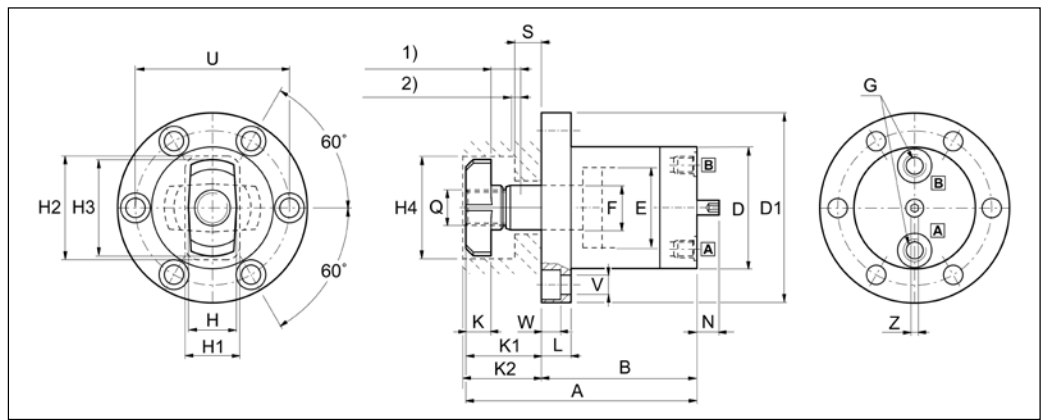
Double acting

Temperature range: 5°C till 60°C

### DESCRIPTION

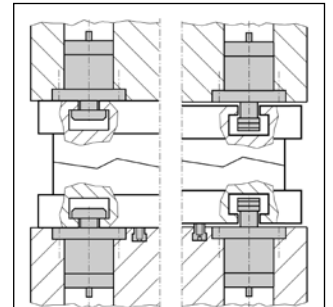
The EAS swing clamp arm swings 90 degrees and then clamps vertically. Ideal for mounting beneath the surface bed or bolster surface to allow unobstructed part or die loading and unloading. For the clamping arm it is required to mount flanges on the dies or to have T-slot openings.

In case two sensors are required to determine the extended and the clamped position add suffix 'P' behind the model number and order the inductive sensors and cables. For example MSR 51 P. These sensors are mounted at the bottom of the cylinders. Dimensions on request. For Viton seals (max 200°C) add V behind the model number like for example MSR-51-V. For flange mounted oil connections order model number with F. For example MSR-91-F. For F series dimensions on request.



### SELECTION CHART INDUCTIVE SENSOR AND CABLES

| EAS Model Number        | Thread                             | Specs               | Detection distance |  |
|-------------------------|------------------------------------|---------------------|--------------------|--|
| PSM8NO<br>Normally open | M8X1                               | 10-30V, DC<br>150mA | 3 mm               |  |
| SCEL5                   | 90 degree elbow with 5 meter cable |                     |                    |  |
| SCEL15                  |                                    |                     |                    | 90 degree elbow with 15 meter cable    |
| SCSL5                   |                                    |                     |                    | Straight connector with 5 meter cable  |
| SCSL15                  |                                    |                     |                    | Straight connector with 15 meter cable |



### SELECTION CHART

| EAS Model Number | Clamping force (kN) | Operating pressure (bar) | Stroke* total (mm) | Stroke clamp (mm) | Oil capacity (cm3) | Oil retract capacity (cm3) | Max flow (l/min) |
|------------------|---------------------|--------------------------|--------------------|-------------------|--------------------|----------------------------|------------------|
| MSR 51           | 56                  | 350                      | 20                 | 5                 | 32                 | 46                         | 1,5              |
| MSR 91           | 91                  | 350                      | 20                 | 5                 | 52                 | 76                         | 1,5              |
| MSR 141          | 143                 | 350                      | 30                 | 5                 | 123                | 183                        | 2,5              |

### SELECTION CHART (FOLLOW UP)

| EAS Model Number | Dimensions in mm |     |     |     |    |    |       |    |    |     |    |    |    |    |         |             |     |      |    |   |    |     |    |
|------------------|------------------|-----|-----|-----|----|----|-------|----|----|-----|----|----|----|----|---------|-------------|-----|------|----|---|----|-----|----|
|                  | A                | B   | D   | D1  | E  | F  | G     | H  | H1 | H2  | K  | K1 | K2 | L  | Q       | S           | U   | V    | W  | Z | H3 | H4  | N  |
| MSR 51           | 157              | 105 | 82  | 128 | 54 | 30 | G1/4" | 33 | 37 | 70  | 17 | 52 | 53 | 20 | M20X1,5 | 51S*=16-21  | 104 | 13   | 13 | 6 | 65 | 70  | 15 |
| MSR 91           | 178              | 115 | 104 | 160 | 70 | 40 | G3/8" | 40 | 46 | 86  | 24 | 63 | 66 | 28 | M30X1,5 | 91S*=20-25  | 130 | 18   | 17 | 6 | 80 | 86  | 8  |
| MSR 141          | 224              | 140 | 126 | 192 | 90 | 50 | G3/8" | 50 | 58 | 103 | 30 | 84 | 87 | 35 | M36X1,5 | 141S*=25-30 | 156 | 21,5 | 21 | 8 | 95 | 103 | 10 |