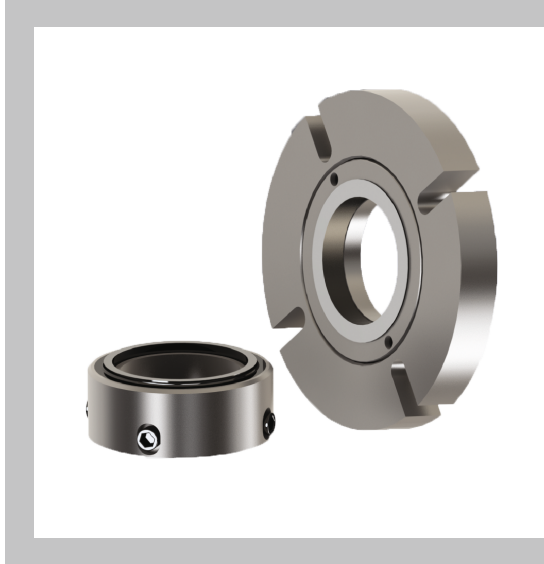


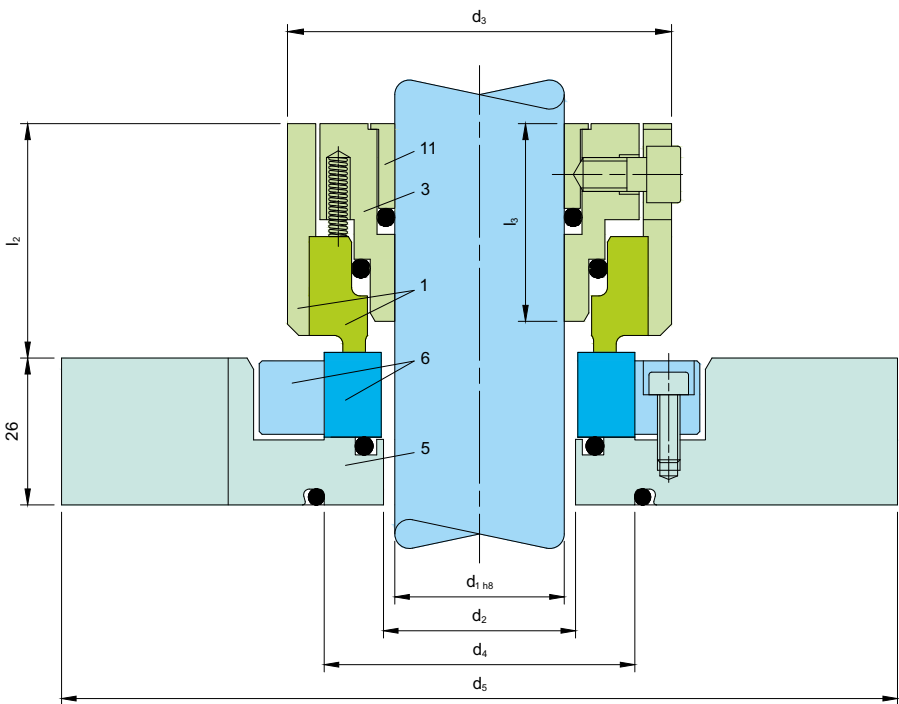


Product Description

- 1. Single and Dual seal configuration
- 2. Balanced design
- 3. Independent of direction of rotation
- 4. Cartridge construction
- 5. Designed for dry running applications
- 6. Designed for top entry vessels, side entry can be provided upon request
- 7. Rotary unit with multiple springs

Technical Features

- 1. Over all connecting dimensions are tailor made to customer's specifications
- 2. Can accommodate reverse pressure
- 3. The seal design is unique as it closes due to the hydraulic product pressure as well as overlaying barrier pressure
- 4. Rugged design to ensure long term reliability and operating life
- 5. Seals are assembled in cartridge construction for easy fitment and are also available in component design as per customer specification



Note: The item numbers as depicted above are based on our technical experience and knowledge and are placed in the chronological order of their assembly procedure.

Typical Industrial Applications

|                 |                |
|-----------------|----------------|
| Agitators       | Pharmaceutical |
| Chemical        | Reactors       |
| Food & beverage | Toxic media    |
| Non-toxic media |                |

Standards

|                                                         |
|---------------------------------------------------------|
| FDA                                                     |
| ATEX                                                    |
| DIN 28136 T2 (for steel vessels)                        |
| DIN 28141 (flange connection for steel vessels)         |
| DIN 28154 (shaft end for steel vessels)                 |
| DIN 28136 T3 (for glass-lined vessels)                  |
| DIN 28137 T2 (flange connection for glasslined vessels) |
| DIN 28159 (shaft end for glass-lined vessels)           |

Materials

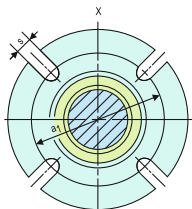
|            |                              |
|------------|------------------------------|
| Seal face: | Carbon graphite, FDA conform |
| Seat:      | Silicon carbide (Q1)         |

Secondary seals and metal parts according to application and customer's specifications

Notes

|                                         |
|-----------------------------------------|
| Seat alternatives available on request. |
| Options:                                |
| Cooling or heating flange               |
| Flush                                   |
| Polymerization barrier                  |

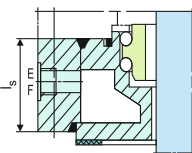
Installation, Details, Options



Seal flange

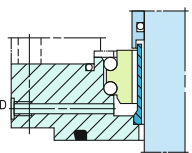
Option

Cooling flange, can be used alternatively as a heating flange ( $t_{max} = 350^{\circ}C$  (662 °F)).



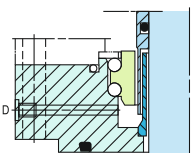
Option

Leakage drain, can be used alternatively as a flush.



Option

Polymerization barrier, can be used alternatively as a leakage drain or a flush.



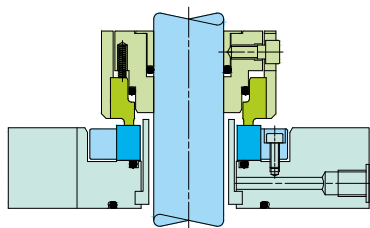
| Item | Description                      |
|------|----------------------------------|
| 1    | Seal face with seal face housing |
| 3    | Drive collar                     |
| 5    | Flange                           |
| 6    | Seat with seat housing           |
| 11   | Clamping                         |

| Radial movement:     |
|----------------------|
| $\pm 1.5 \text{ mm}$ |

| Performance Capabilities |                                                                                                    |
|--------------------------|----------------------------------------------------------------------------------------------------|
| Sizes:                   | $d_1 = \text{Upto } 160 \text{ mm (Upto } 6.500\text{'})$                                          |
| Pressure:                | $p_1 = \text{vacuum ... } 6 \text{ bar (87 PSI)}$                                                  |
| Temperature:             | $t_1 = -20^{\circ}C \text{ ... } +150 (250)^{\circ}C (-4^{\circ}F \text{ ... } 302 (482)^{\circ}F$ |
| Speed:                   | $0 \text{ ... } 2 \text{ m/s (0 ... 6 ft/s)}$                                                      |

| Permissible axial movement: |
|-----------------------------|
| $\pm 1.5 \text{ mm}$        |

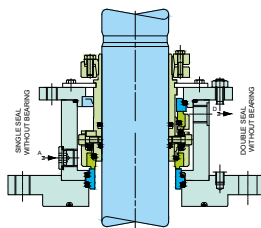
## Design Variations



### MXS-110

The MXS-110 is equipped in addition with a sleeve for trapping any abrasive particles from the seal face. Contamination of the medium in the container is thus ruled out. The sleeve can be cleaned through a flushing bore.

Please note: diameters ( $d_2$  to  $d_5$ ) increase to the next possible design size.



### Single Seal Variants

#### MXS184

Single seal

#### MXS184L

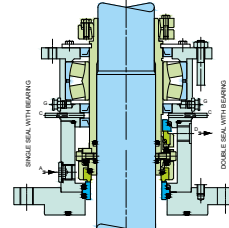
Single seal with integrated floating bearing.

#### MXS154

All types of the MXS184 range available for unstepped shafts (all diameters). Seal identification: MXS154 ... Customized design or e.g. different drives (torque transmissions) are available.

#### MXS164 / 194

For glass-lined vessels. Dimensions as U164



### Double Seal Variants

#### MXS184-D

Double seal

#### MXS184L-D

Double seal with integrated floating bearing

These seals are designed to be self-closing on the product side, i.e. they will remain closed even with pressure variations or a pressure reversal. Operation is optionally the same as for the single version. In view of the mechanical seal on the atmosphere side it can be used as a Barrier pressurized double seal. The barrier pressure should be 0.5 ... 1.0 bar (7.25 ... 15 PSI) above pressure to be sealed.

## Dimensional Data

### Dimensions in millimeter

| $d_1$ (mm) | $d_1$ (inch) | $d_2$ | $d_3$ | $d_4$ | $d_5$ | $l_2$ | $l_3$ | $a_1$ (min) | $a_1$ (max) | s  |
|------------|--------------|-------|-------|-------|-------|-------|-------|-------------|-------------|----|
| 25         | 1.000        | 34    | 68    | -     | 148   | 41.5  | 40.5  | 100         | 132         | 11 |
| 28         | 1.125        | 34    | 68    | 55    | 148   | 41.5  | 40.5  | 100         | 132         | 11 |
| 30         | -            | 34    | 68    | 55    | 148   | 41.5  | 40.5  | 100         | 132         | 11 |
| 32         | 1.250        | 39    | 73    | 60    | 153   | 41.5  | 40.5  | 105         | 137         | 11 |
| 35         | 1.375        | 39    | 73    | 60    | 153   | 41.5  | 40.5  | 105         | 137         | 11 |
| 38         | 1.500        | 44    | 78    | 65    | 158   | 41.5  | 40.5  | 110         | 142         | 11 |
| 40         | -            | 44    | 78    | 65    | 158   | 41.5  | 40.5  | 110         | 142         | 11 |
| 45         | 1.625        | 49    | 83    | 68    | 163   | 41.5  | 40.5  | 115         | 152         | 11 |
| -          | 1.750        | 49    | 83    | 68    | 163   | 41.5  | 40.5  | 115         | 152         | 11 |
| 48         | 1.875        | 54    | 88    | 73    | 178   | 41.5  | 40.5  | 125         | 160         | 14 |
| 50         | -            | 54    | 88    | 75    | 178   | 41.5  | 40.5  | 125         | 160         | 14 |
| 55         | 2.000        | 59    | 93    | 78    | 183   | 41.5  | 40.5  | 130         | 165         | 14 |
| -          | 2.125        | 59    | 93    | 78    | 183   | 41.5  | 40.5  | 130         | 165         | 14 |
| 60         | 2.250        | 64    | 98    | 85    | 183   | 41.5  | 40.5  | 135         | 170         | 14 |
| 65         | 2.375        | 69    | 103   | 90    | 193   | 44.5  | 40.5  | 140         | 175         | 14 |
| -          | 2.500        | 69    | 103   | 90    | 193   | 44.5  | 40.5  | 140         | 175         | 14 |
| 70         | 2.625        | 74    | 108   | 95    | 198   | 44.5  | 43.5  | 145         | 180         | 14 |
| -          | 2.750        | 74    | 108   | 95    | 198   | 44.5  | 43.5  | 145         | 180         | 14 |
| 75         | 2.875        | 79    | 113   | 100   | 203   | 44.5  | 43.5  | 150         | 185         | 14 |
| 80         | 3.000        | 84    | 118   | 105   | 208   | 44.5  | 43.5  | 155         | 190         | 14 |
| 85         | 3.250        | 89    | 123   | 110   | 213   | 44.5  | 43.5  | 160         | 195         | 14 |
| 90         | 3.500        | 94    | 128   | 115   | 218   | 44.5  | 43.5  | 165         | 200         | 14 |
| 95         | 3.750        | 99    | 133   | 120   | 223   | 44.5  | 43.5  | 170         | 205         | 14 |
| 100        | -            | 104   | 138   | 125   | 228   | 44.5  | 43.5  | 175         | 210         | 14 |
| 105        | 4.000        | 109   | 143   | 130   | 233   | 44.5  | 43.5  | 180         | 215         | 14 |
| 110        | 4.250        | 114   | 148   | 135   | 238   | 44.5  | 43.5  | 185         | 220         | 14 |
| 115        | 4.500        | 119   | 153   | 140   | 267   | 44.5  | 43.5  | 196         | 243         | 18 |
| 125        | 4.750        | 129   | 163   | 150   | 277   | 44.5  | 43.5  | 206         | 253         | 18 |
| 140        | 5.000        | 144   | 178   | 165   | 297   | 44.5  | 43.5  | 221         | 273         | 18 |
| -          | 5.250        | 144   | 178   | 165   | 297   | 44.5  | 43.5  | 221         | 273         | 18 |
| -          | 5.500        | 144   | 178   | 165   | 297   | 44.5  | 43.5  | 221         | 273         | 18 |
| 150        | 5.750        | 154   | 188   | 175   | 307   | 44.5  | 43.5  | 231         | 283         | 18 |
| 160        | 6.000        | 164   | 198   | 185   | 317   | 44.5  | 43.5  | 241         | 293         | 18 |
| -          | 6.250        | 164   | 198   | 185   | 317   | 44.5  | 43.5  | 241         | 293         | 18 |

### MXS164 - Dimensions in millimeter

| $d_3^{1)}$ | $d_7^{1)}$ | $d_1$ | $n \times d_2$ | $d_4$ | $d_0$ | k   | $L_1$ | $L_2$ | $L_w^{2)}$ | $l_1$ | $l_2$ | A   | M <sub>1</sub> | M <sub>1</sub> | A, B |
|------------|------------|-------|----------------|-------|-------|-----|-------|-------|------------|-------|-------|-----|----------------|----------------|------|
| 40         | 38         | 175   | 4x18           | 110   | 90    | 145 | 87    | 136   | 143        | 15    | 28    | 122 | M12            | M16            | G3/8 |
| 50         | 48         | 240   | 8x18           | 176   | 135   | 210 | 89    | 149   | 148        | 17    | 28    | 157 | M12            | M16            | G3/8 |
| 60         | 58         | 240   | 8x18           | 176   | 135   | 210 | 93.5  | 156   | 158        | 17    | 28    | 168 | M12            | M16            | G3/8 |
| 80         | 78         | 275   | 8x22           | 204   | 155   | 240 | 104.5 | 189   | 168        | 20    | 34    | 203 | M16            | M20            | G1/2 |
| 100        | 98         | 305   | 8x22           | 234   | 190   | 270 | 109   | 190   | 178        | 20    | 34    | 228 | M16            | M20            | G1/2 |
| 125        | 120        | 330   | 8x22           | 260   | 215   | 295 | 110   | 205   | 203        | 20    | 40    | 268 | M20            | M20            | G1/2 |
| 140        | 135        | 395   | 12x22          | 313   | 250   | 350 | 124   | 222   | 208        | 20    | 40    | 285 | M20            | M20            | G1/2 |
| 160        | 150        | 395   | 12x22          | 313   | 265   | 350 | 127.5 | 219.5 | 213        | 25    | 40    | 297 | M20            | M20            | G1/2 |
| 180        | 170        | 445   | 12x22          | 364   | 310   | 400 | 132.5 | 230   | 233        | 25    | 45    | 332 | M24            | M20            | G1/2 |
| 200        | 190        | 445   | 12x22          | 364   | 310   | 400 | 137.5 | 237.5 | 243        | 25    | 45    | 352 | M24            | M20            | G1/2 |
| 220        | 210        | 505   | 16x22          | 422   | 340   | 460 | 149.5 | 249.5 | 263        | 25    | 50    | 381 | M24            | M20            | G1/2 |

1) Shaft diameters  $d_1$  and  $d_7$  to DIN 28154

2) Shaft step to DIN 28154

inch size available from size 1.500 to 6.500

Note: Additional technical & dimensional information will be provided on request.

The specifications, drawings, images etc included in this catalogue are intended to be generic and must be interpreted as equivalent or functionally equivalent, more specifically the performance capabilities mentioned in this catalogue is based on optimum values, however the performance of the product is dependent on size, material of construction, media, pressure, temperature, sliding velocity etc and it shall vary from size to size or application to application. Customers are requested to consult with Sealmatic before employing the product from this catalogue for any application.