

## Swivel Joints

### Applications/possible uses

STENFLEX® Swivel Joints are used as rotating pipe connection elements and installed in flexible pressurised pipeline systems. They are the ideal connection element under rough operating conditions and at high pressures.

They are suitable for liquid and gaseous media at temperatures from -50°C to +250°C.

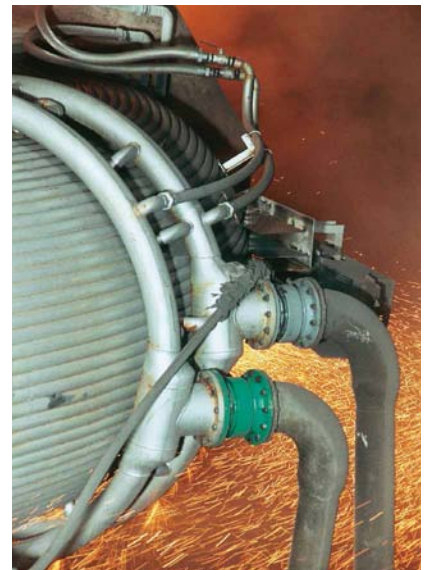
Swivel Joints are suitable for absorbing torsion movements. They allow not only for swivelling movements but also for complete rotations at low speed.

Frequently, Swivel Joints are used in a 2- or 3-joint system to absorb larger movements. Large angular or lateral movements are also possible when the joints are arranged accordingly.

STENFLEX® Swivel Joints in pipeline systems allow for the media to be conveyed from a fixed point to any required flexible point.

Swivel Joints give scope for many versatile design possibilities and are used, among others,

- in loading and swivelling arms
- in pipe joint shears
- in hydraulic flow pipes
- at roll stands
- at sewage activation basins
- for filling processes on open terrain
- in steel, rolling and foundry mills



## Possible uses

| Swivel Joint types                            | DG-01           | DG-02L          | DG-02S          | DK-01           | DK-02           |
|-----------------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Sewage plant                                  | Standard design | Standard design | Standard design |                 |                 |
| Foundry mills                                 | Standard design | Standard design | Standard design | Standard design | Standard design |
| Steel mills                                   | Standard design | Standard design | Standard design | Standard design | Standard design |
| Rolling mills                                 | Standard design | Standard design | Standard design | Standard design | Standard design |
| Test facilities                               | Standard design | Standard design | Standard design | Standard design | Standard design |
| Hydraulic pipes                               | Standard design | Standard design | Standard design | Standard design | Standard design |
| Filling systems                               | Standard design | Standard design | Standard design | Standard design | Standard design |
| Hose drums                                    | Standard design | Standard design | Standard design | Standard design | Standard design |
| Pipe joint shears                             | Standard design | Standard design | Standard design | Standard design | Standard design |
| Loading and swivelling arms                   | Standard design | Standard design | Standard design | Standard design | Standard design |
| Special desings for food product applications | Standard design | Standard design | Standard design | Standard design | Standard design |

## Applications

|                                                                         |                 |                 |                 |                 |                 |
|-------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Absorption of thermal pipeline expansion via flexible lines with joints | Standard design | Standard design | Standard design | Standard design | Standard design |
| 2- or 3-joint system for absorption of large lateral movements          | Standard design | Standard design | Standard design | Standard design | Standard design |
| Rotary movements 360°                                                   | Standard design | Standard design | Standard design | Standard design | Standard design |
| Swivel movements                                                        | Standard design | Standard design | Standard design | Standard design | Standard design |
| for high temperatures                                                   | Standard design | Standard design | Standard design | Standard design | Standard design |
| for particularly high pressures                                         |                 |                 | Standard design |                 | Standard design |
| for rough operating conditions                                          | Standard design | Standard design | Standard design | Standard design | Standard design |
| for liquid and gaseous media                                            | Standard design | Standard design | Standard design | Standard design | Standard design |

## Technical Data

|                                                     |                 |                 |                 |                 |                 |
|-----------------------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Design 11: straight                                 | Standard design | Standard design | Standard design | Standard design | Standard design |
| Design 12: angled on one side                       | Standard design | Standard design | Standard design | Standard design | Standard design |
| Design 13: angled both sides                        | Standard design | Standard design | Standard design | Standard design | Standard design |
| Flange connection                                   | Standard design | Standard design | Standard design |                 |                 |
| Welded end                                          | Standard design | Standard design | Standard design |                 |                 |
| Threaded connection                                 | Special design  |                 | Special design  | Standard design | Standard design |
| Material: 1.7225 (42CrMo4)                          | Standard design | Standard design | Standard design | Standard design | Standard design |
| Material: 1.4571 (X6CrNiMoTi17122)                  | Standard design | Standard design | Standard design | Standard design | Standard design |
| Smallest dimension DN                               | 20              | 125             | 20              | 8               | 8               |
| Largest dimension DN                                | 100             | 700             | 300             | 50              | 50              |
| max. operating pressure 1.4571/1.7225 in bar        | 40/100          | 16/40           | 100/350         | 40/100          | 100/350         |
| max. operating temperature in °C                    | 260             | 260             | 260             | 260             | 260             |
| Ball rows                                           | 1               | 2               | 2               | 1               | 2               |
| Inner sealing for polluted media                    | Special design  | Special design  | Special design  | Special design  | Special design  |
| Hermetic external sealing                           |                 | Special design  | ab DN 65        |                 |                 |
| Special sealing for oxygen, steam and food products | Special design  | Special design  | Special design  | Special design  | Special design  |

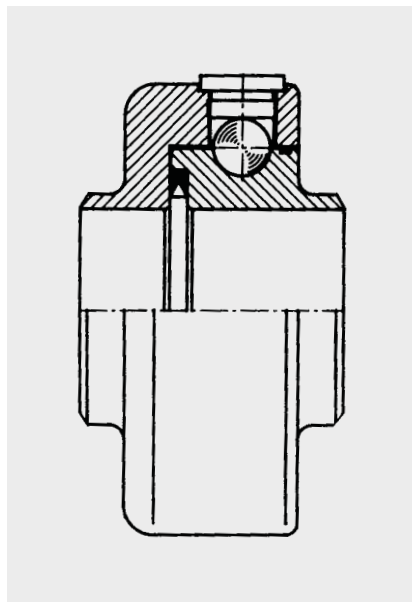
Standard design

Special design

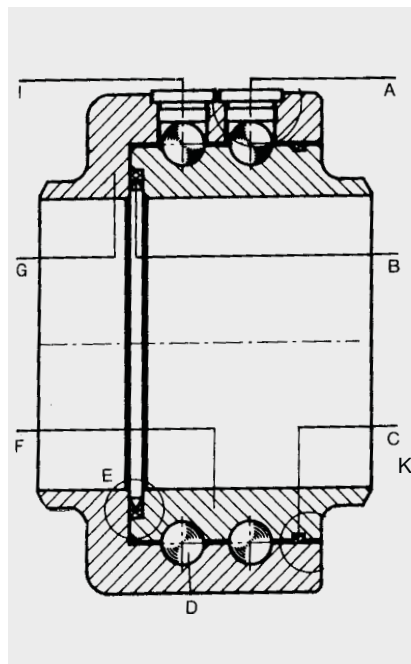
## Swivel Joints

### Structure

#### Basic unit



**Type DG-01 PN 100**  
with single-row ball bearing



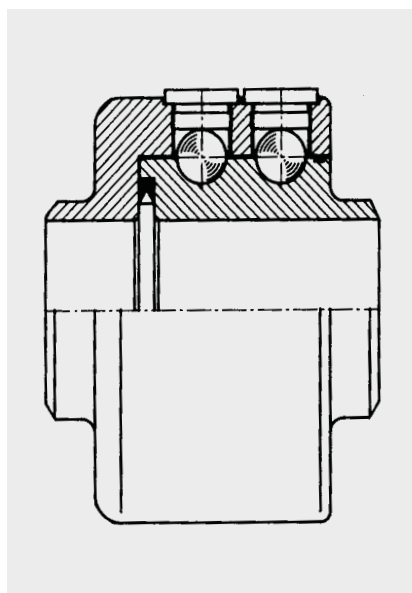
The basic unit of all Swivel Joints is the joint head. It consists of an outer part (stator) and an inner part (rotor). These are joined positively by a single- or two-row bearing (see illustration). For mantling/dismantling the balls special bungs are used to safeguard the balls and prevent any impurities from penetrating the bearing.

- A** for-life lubrication provided in the factory
- B** medium sealing
- C** external dust sealing
- D** ball
- E** inner sealing
- F** inner part (rotor)
- G** outer part (stator)
- I** thread plug



lubricating nipple, only on request

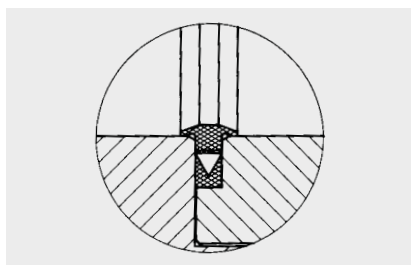
The ball bearing is provided with for-life lubrication in the factory. A lubricating nipple is possible on request.



**Type DG-02 PN 350**  
with two-row ball bearing

#### Standard sealings

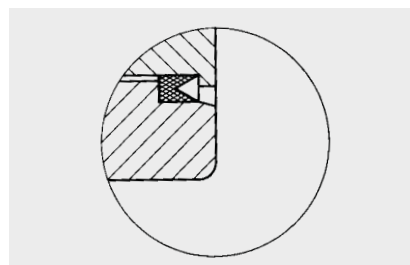
The axial working sealing B (PTFE) between stator and rotor seals off against the medium. It is installed with pre-tension and is geometrically designed in such a way that the inner pressure of the medium increases the axial pressing force of the sealing ring. The outer radial sealing C protects the swivel joint from external influences.



**E** Additional inner sealing for polluted media (special design)

#### Special sealings

A special hermetic sealing K is available for underwater applications. For heavily polluted media an additional inner sealing can be fitted. Further special sealings are available for oxygen, steam and food products.



**K** Hermetic sealing for underwater applications (special design)

#### Materials

| Basic unit                    | Welding end                   | Flange                        |
|-------------------------------|-------------------------------|-------------------------------|
| 1.7225<br>(42 CrMo 4)         | 1.0305<br>(St 35.8l)          | 1.0460<br>(C 22.8)            |
| 1.4571<br>(X6 CrNiMoTi 17122) | 1.4571<br>(X6 CrNiMoTi 17122) | 1.4571<br>(X6 CrNiMoTi 17122) |

#### Surface protection

After the welding process, the Swivel Joints of material 1.7225 are gas nitrided. The influence of nitrogen increases wear resistance and corrosion protection.

In addition, all Swivel Joints are provided with a corrosion-protection primer.

## Connections/Interpretation/Tests

### Connections

The Swivel Joint is supplied in the combination joint head (basic unit) with the corresponding connections.

Connection types include for example flange, welding end or threaded connection. The connections are permanently attached to the basic unit.

There are three different forms for Swivel Joints:

- Form **11**: Straight version
- Form **12**: Version angled on one side with a 90° elbow
- Form **13**: Version angled on two sides with two 90° elbows

The series are given an additional identification suffix depending on the connection type:

- Index **F**: flange
- Index **S**: welding end
- Index **IG**: female thread
- Index **AG**: male thread

### Temperature range

-50°C to +260°C

### Pressure ratings

Single-row ball bearing:

adm. operating pressure max. 100 bar

Two-row ball bearing:

adm. operating pressure max. 350 bar, 420 bar on request

Vacuum to 0.1 bar (abs.)

The max. operating pressure applies to the basic unit only and is limited to ambient temperature 20°C.

The operating pressures are to be reduced accordingly depending on materials, operating pressure and pressure stage of the corresponding connections.

Please ask for reduction factors to be taken into consideration.

### Tolerances

The tolerances of the tubular axle distances  $L_1$  up to  $L_7$  in the data sheets should be requested.

### Tests

In order to safeguard a constantly high quality of STENFLEX® Swivel Joints, specially trained staff are responsible for on-going in-process monitoring throughout the production process.

The standard tests include:

- visual tests
- dimension checks of the individual components or groups

In addition, we use the services of experts and classification societies for acceptance testing including corresponding documentation.

These acceptance tests refer essentially to:

- completeness checks
- visual and dimension checks
- leak and/or pressure tests
- checking the compiled documentation

### Notes

STENFLEX® Swivel Joints are designed for slow swivel or rotation movements (max. 10 rpm) and are therefore not suitable for fast-running rotations, e.g. feed heads at rollers etc.

STENFLEX® Swivel Joints DV-02 (rotation screwed unions) are suitable for rotation movements up to max. 40 rpm.

Swivel Joints which deviate from the standard design are manufactured as special models and adjusted specially to customer requirements,

e.g. higher operating pressure  
other connections  
piggable design  
oxygen operation  
toxic media  
high and low temperatures  
rotation movements (over 10 rpm)

### Symbols for fast product selection

Sought and quickly found – icons and their meanings.

Small symbols are illustrated on the colour bar which show the specialities of each individual type, in the interests of uncomplicated preliminary selection.



Swivel Joint rotating through 360° without limit



Single-row ball bearing



Two-row ball bearing



Pressure stage



Maximum or minimum temperature



Threaded connection to DIN ISO



Suitable for use in seawater



Suitable for gaseous media



Suitable for dirty and briny water with solid matter



Suitable for drinking water and food products



Resistant to aggressive media such as acids, lyes, etc.



Resistant to aggressive media such as acids, lyes, etc.

## Swivel Joints

### Planes of rotation

Before stipulating the Swivel Joint type, it is important to decide how the movement is to be effected in the pipeline system. The type is selected essentially depending on the routing of the pipeline, required movement, space available and type of pipeline connections.

A differentiation is made between rotating and swivelling movements when positioning the joints in the pipeline system. The joints can be integrated in the line by means of flanges, welded connections or threaded connections.

#### Type 11S



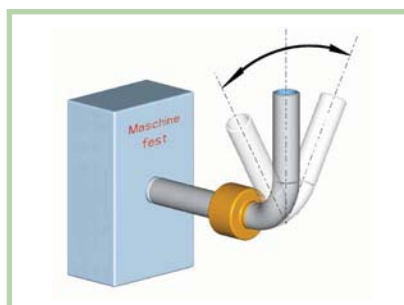
Slow rotary movement with type 11S  
(1 fixed point, 1 side flexible)

#### Type 11F



Slow rotary movement with type 11F  
(1 fixed point, 1 side flexible)

#### Type 12S



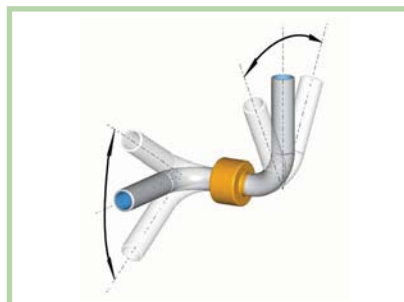
Swivel movement with type 12S  
(1 fixed point, 1 side flexible)

#### Type 12F



Swivel movement with type 12F  
(1 fixed point, 1 side flexible)

#### Type 13S



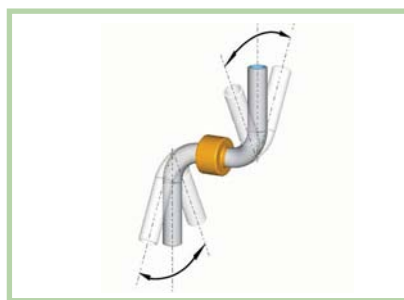
Swivel movement on both sides  
with type 13S in angled pipe piece

#### Type 13F



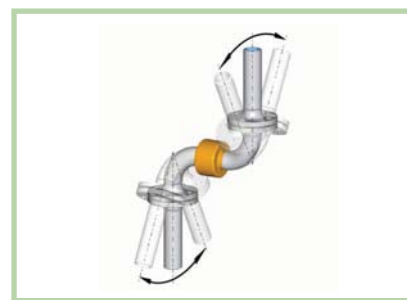
Swivel movement on both sides  
with type 13F in angled pipe piece

#### Type 13S



Swivel movement on both sides  
with type 13S in straight pipe piece

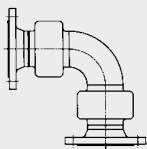
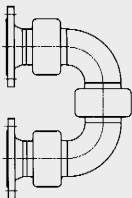
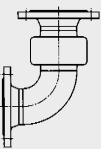
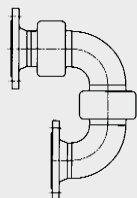
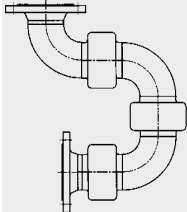
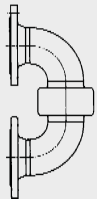
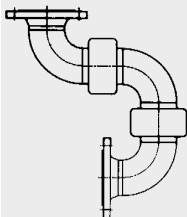
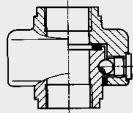
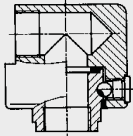
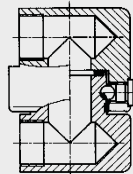
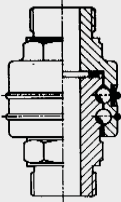
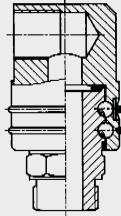
#### Type 13F



Swivel movement on both sides  
with type 13F in straight pipe piece

## Forms

STENFLEX® Swivel Joints are produced in three type series.

| Swivel Joints                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Rotating head joints                                                                                                                                                                                                                                                                                                                                                                          | Rotating screwed unions*                                                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Types</b><br>DG-01<br>DG-02L (light-weight design)<br>DG-02S (heavy-duty design)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Types</b><br>DK-01<br>DK-02                                                                                                                                                                                                                                                                                                                                                                | <b>Type</b> DV-02                                                                                                                                                                                                                                                           |
| Forms DG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Forms DK                                                                                                                                                                                                                                                                                                                                                                                      | Forms DV                                                                                                                                                                                                                                                                    |
| <div> <div>one plane of rotation</div> <div>form 11</div>  </div> <div> <div>two planes of rotation</div> <div>form 24</div>  </div> <div> <div>three planes of rotation</div> <div>form 37</div>  </div> <div> <div>form 12</div>  </div> <div> <div>form 25</div>  </div> <div> <div>form 38</div>  </div> <div> <div>form 13</div>  </div> <div> <div>form 26</div>  </div> | <div> <div>one plane of rotation</div> <div>form 11</div>  </div> <div> <div>form 12</div>  </div> <div> <div>form 13</div>  </div> | <div> <div>one plane of rotation</div> <div>form 11</div>  </div> <div> <div>form 12</div>  </div> |
| Connections DG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Connections DK                                                                                                                                                                                                                                                                                                                                                                                | Connections DV                                                                                                                                                                                                                                                              |
| DG-01: flange<br>welding end<br>male thread (special design)<br>female thread (special design)<br>DG-02L: flange<br>welding end<br>DG-02S: flange<br>welding end<br>male thread (special design)<br>female thread (special design)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | DK-01: female thread<br>DK-02: female thread                                                                                                                                                                                                                                                                                                                                                  | DV-02: male thread<br>female thread                                                                                                                                                                                                                                         |

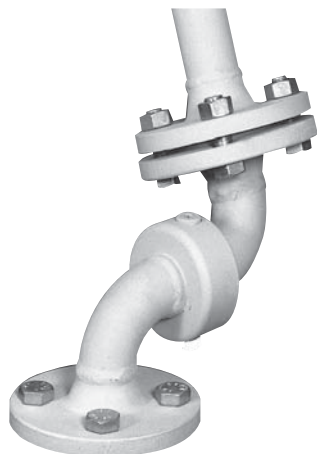
Special connections (combinations of different connections) possible

\*please request for details



## Swivel Joint - Type DG-01

DN 20 - DN 100



### Swivel Joint

#### Structure

- ☐ stator (outer part) and rotor (inner part) joined by a single-row ball bearing
- ☐ for-life lubrication provided in the factory
- ☐ welded connection parts: welding ends, pipe bends or flanges

### Materials

| basic unit | welding end | flange |
|------------|-------------|--------|
| 1.7225     | 1.0305      | 1.0460 |
| 1.4571     | 1.4571      | 1.4571 |

### Standard sealings

- ☐ PTFE compound sealings

### Special sealings

- ☐ additional inner sealing for heavily polluted media
- ☐ medium sealings for oxygen, steam and food products

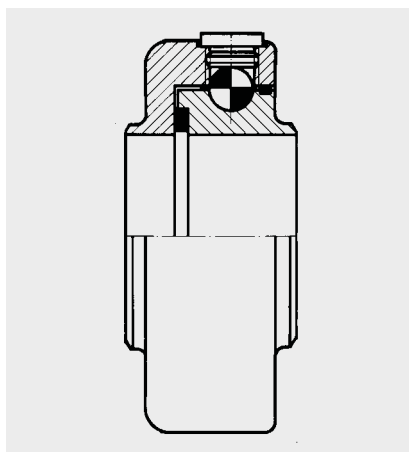
#### Pressure rating

- ☐ PN 16 (1.7225) with flanges
- ☐ PN 100 (1.7225) with welding ends
- ☐ PN 16 (1.4571) with flanges
- ☐ PN 40 (1.4571) with welding ends

#### Surface protection

- ☐ Gas nitration
- ☐ Corrosion-protection primer

### Design



**Type DG-01 basic unit**  
with single-row ball bearing

### Dimensions

Standard: DN 20 to DN 100  
 Flanges: PN 16 to EN 1092  
 Others: possible to ANSI (ASA), BS etc.  
 Welding end: to ISO recommendations

### Notes

General technical instructions must be observed. Subject to technical alterations and fluctuations caused by the production process.  
 Number of revolutions for swivel and rotation movements ≤ 10 rpm.  
 Swivel movements in several planes see catalogue page 5/5.  
 Sets of sealings and balls available individually as spare parts.

### Application

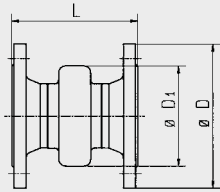
- for liquid or gaseous media at high temperatures and pressures
- for slow swivel and rotation movements through 360°
- for rough operating conditions
  - in hydraulic flow pipes
  - at roll stands
  - in sewage plant
  - in steel mills
  - at hose drums
- for installation in flexible pipeline systems, for conveying media from a fixed point to any required flexible point
  - filling systems
  - loading and swivel arms
  - pipe joint shears
- use at test facilities
- special designs suitable for food products



STENFLEX® Swivel Joint type DG-01  
installed in a pump test facility

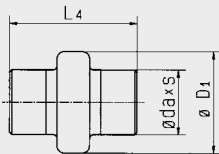


## Form 11 F / flange connection\*



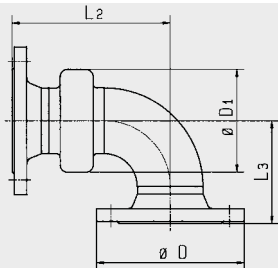
| DN  | ø D1<br>mm | 1.7225/1.4571/PN 16 |         |
|-----|------------|---------------------|---------|
|     |            | ø D<br>mm           | L<br>mm |
| 20  | 72         | 105                 | 139     |
| 25  | 78         | 115                 | 144     |
| 32  | 88         | 140                 | 148     |
| 40  | 96         | 150                 | 154     |
| 50  | 118        | 165                 | 164     |
| 65  | 133        | 185                 | 169     |
| 80  | 139        | 200                 | 179     |
| 100 | 164        | 220                 | 183     |

## Form 11 S / welding ends



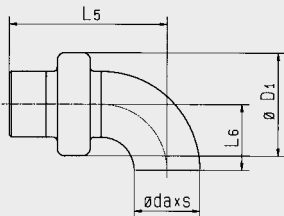
| DN  | ø D1<br>mm | 1.7225/PN 100 |         |          | 1.4571/PN 40 |         |          |
|-----|------------|---------------|---------|----------|--------------|---------|----------|
|     |            | ø da<br>mm    | s<br>mm | L4<br>mm | ø da<br>mm   | s<br>mm | L4<br>mm |
| 20  | 72         | 26.9          | 2.9     | 159      | 26.9         | 2.9     | 159      |
| 25  | 78         | 33.7          | 3.4     | 164      | 33.7         | 3.4     | 164      |
| 32  | 88         | 42.4          | 3.6     | 164      | 42.4         | 3.6     | 164      |
| 40  | 96         | 48.3          | 3.7     | 164      | 48.3         | 3.7     | 164      |
| 50  | 118        | 60.3          | 3.9     | 174      | 60.3         | 3.9     | 174      |
| 65  | 133        | 73.0          | 5.2     | 179      | 73.0         | 5.2     | 179      |
| 80  | 139        | 88.9          | 5.5     | 179      | 88.9         | 5.5     | 179      |
| 100 | 164        | 114.3         | 6.0     | 179      | 114.3        | 6.0     | 179      |

## Form 12 F / flange connection\*



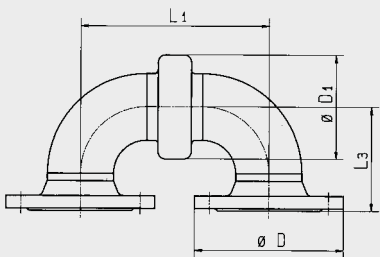
| DN  | ø D1<br>mm | 1.7225/PN 16 |          |          | 1.4571/PN 16 |          |          |
|-----|------------|--------------|----------|----------|--------------|----------|----------|
|     |            | ø D<br>mm    | L2<br>mm | L3<br>mm | ø D<br>mm    | L2<br>mm | L3<br>mm |
| 20  | 72         | 105          | 124      | 67       | 105          | 137      | 80       |
| 25  | 78         | 115          | 129      | 67       | 115          | 142      | 80       |
| 32  | 88         | 140          | 138      | 76       | 140          | 154      | 92       |
| 40  | 96         | 150          | 147      | 85       | 150          | 166      | 104      |
| 50  | 118        | 165          | 170      | 98       | 165          | 195      | 123      |
| 65  | 133        | 185          | 187      | 110      | 185          | 219      | 142      |
| 80  | 139        | 200          | 205      | 128      | 200          | 243      | 166      |
| 100 | 164        | 220          | 233      | 156      | 220          | 283      | 206      |

## Form 12 S / welding ends



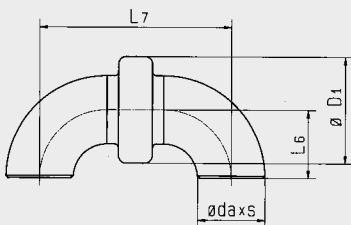
| DN  | ø D1<br>mm | 1.7225/PN 100 |         |          |          | 1.4571/PN 40 |         |          |          |
|-----|------------|---------------|---------|----------|----------|--------------|---------|----------|----------|
|     |            | ø da<br>mm    | s<br>mm | L5<br>mm | L6<br>mm | ø da<br>mm   | s<br>mm | L5<br>mm | L6<br>mm |
| 20  | 72         | 26.9          | 2.9     | 134      | 25       | 26.9         | 2.9     | 138      | 29       |
| 25  | 78         | 33.7          | 3.4     | 139      | 25       | 33.7         | 3.4     | 152      | 38       |
| 32  | 88         | 42.4          | 3.6     | 146      | 32       | 42.4         | 3.6     | 162      | 48       |
| 40  | 96         | 48.3          | 3.7     | 152      | 38       | 48.3         | 3.7     | 171      | 57       |
| 50  | 118        | 60.3          | 3.9     | 175      | 51       | 60.3         | 3.9     | 200      | 76       |
| 65  | 133        | 76.1          | 5.2     | 192      | 63       | 73.0         | 5.2     | 224      | 95       |
| 80  | 139        | 88.9          | 5.5     | 205      | 76       | 88.9         | 5.5     | 243      | 114      |
| 100 | 164        | 114.3         | 6.0     | 231      | 102      | 114.3        | 6.0     | 281      | 152      |

## Form 13 F / flange connection\*



| DN  | ø D1<br>mm | 1.7225/PN 16 |          |          | 1.4571/PN 16 |          |          |
|-----|------------|--------------|----------|----------|--------------|----------|----------|
|     |            | ø D<br>mm    | L1<br>mm | L3<br>mm | ø D<br>mm    | L1<br>mm | L3<br>mm |
| 20  | 72         | 105          | 109      | 67       | 105          | 135      | 80       |
| 25  | 78         | 115          | 114      | 67       | 115          | 140      | 80       |
| 32  | 88         | 140          | 128      | 76       | 140          | 160      | 92       |
| 40  | 96         | 150          | 140      | 85       | 150          | 178      | 104      |
| 50  | 118        | 165          | 176      | 98       | 165          | 226      | 123      |
| 65  | 133        | 185          | 205      | 110      | 185          | 269      | 142      |
| 80  | 139        | 200          | 231      | 128      | 200          | 307      | 166      |
| 100 | 164        | 220          | 283      | 156      | 220          | 383      | 206      |

## Form 13 S / welding ends



| DN  | ø D1<br>mm | 1.7225/PN 100 |         |          |          | 1.4571/PN 40 |         |          |          |
|-----|------------|---------------|---------|----------|----------|--------------|---------|----------|----------|
|     |            | ø da<br>mm    | s<br>mm | L6<br>mm | L7<br>mm | ø da<br>mm   | s<br>mm | L6<br>mm | L7<br>mm |
| 20  | 72         | 26.9          | 2.9     | 25       | 109      | 26.9         | 2.9     | 29       | 117      |
| 25  | 78         | 33.7          | 3.4     | 25       | 114      | 33.7         | 3.4     | 38       | 140      |
| 32  | 88         | 42.4          | 3.6     | 32       | 128      | 42.4         | 3.6     | 48       | 160      |
| 40  | 96         | 48.3          | 3.7     | 38       | 140      | 48.3         | 3.7     | 57       | 178      |
| 50  | 118        | 60.3          | 3.9     | 51       | 176      | 60.3         | 3.9     | 76       | 226      |
| 65  | 133        | 76.1          | 5.2     | 63       | 205      | 73.0         | 5.2     | 95       | 269      |
| 80  | 139        | 88.9          | 5.5     | 76       | 231      | 88.9         | 5.5     | 114      | 307      |
| 100 | 164        | 114.3         | 6.0     | 102      | 283      | 114.3        | 6.0     | 152      | 383      |

\*PN 40 flange connection possible on request. Materials data stated for basic units.



## Swivel Joint - Type DG-02L

DN 125 - DN 700



### Swivel Joint

#### Structure

- ☐ stator (outer part) and rotor (inner part) joined by a two-row ball bearing
- ☐ for-life lubrication provided in the factory
- ☐ welded connection parts: welding ends, pipe bends or flanges

### Materials

| basic unit | welding end | flange |
|------------|-------------|--------|
| 1.7225     | 1.0305      | 1.0460 |
| 1.4571     | 1.4571      | 1.4571 |

### Standard sealings

- ☐ PTFE compound sealings

### Special sealings

- ☐ additional inner sealing for heavily polluted media
- ☐ hermetic radial sealing for underwater applications (from DN 65)
- ☐ medium sealings for oxygen, steam and food products

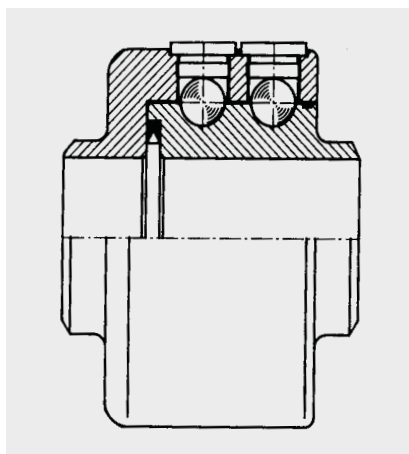
#### Pressure rating

- ☐ PN 10, PN 16 (1.7225) with flanges
- ☐ PN 16, PN 40 (1.7225) with welding ends
- ☐ PN 10, PN 16 (1.4571) with flanges
- ☐ PN 6, PN 16 (1.4571) with welding ends

#### Surface protection

- ☐ Gas nitration
- ☐ Corrosion-protection primer

### Design



Type DG-02L basic unit with two-row ball bearing

### Dimensions

Standard: DN 125 to DN 700  
 Flanges: PN 10/16 to EN 1092  
 Others: possible to ANSI (ASA), BS etc.  
 Welding end: to ISO recommendations

### Notes

General technical instructions must be observed. Subject to technical alterations and fluctuations caused by the production process.  
 Number of revolutions for swivel and rotation movements ≤ 10 rpm.  
 Swivel movements in several planes see catalogue page 5/5.  
 Sets of sealings and balls available individually as spare parts.

### Application

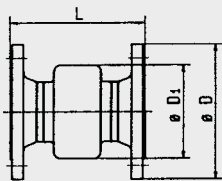
- for liquid or gaseous media at high temperatures and pressures
- for slow swivel and rotation movements through 360°
- for rough operating conditions
  - in hydraulic flow pipes
  - at roll stands
  - in sewage plant
  - in steel mills
  - at hose drums
- for installation in flexible pipeline systems, for conveying media from a fixed point to any required flexible point
  - filling systems
  - loading and swivel arms
  - pipe joint shears
- use at test facilities
- special designs suitable for food products



STENFLEX® Swivel Joint type DG-02L in cooling water line of exhaust pipe of furnace in a steel mill

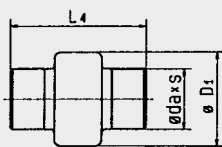


## Form 11 F / flange connection\*



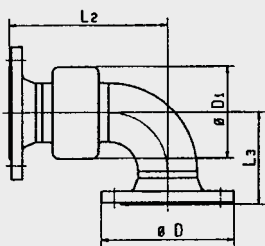
| DN  | ø D1<br>mm | 1.7225    |         |           |         | 1.4571    |         |           |         |
|-----|------------|-----------|---------|-----------|---------|-----------|---------|-----------|---------|
|     |            | PN 10     |         | PN 16     |         | PN 10     |         | PN 16     |         |
|     |            | ø D<br>mm | L<br>mm | ø D<br>mm | L<br>mm | ø D<br>mm | L<br>mm | ø D<br>mm | L<br>mm |
| 125 | 197        |           |         | 250       | 241     |           |         | 250       | 241     |
| 150 | 223        |           |         | 285       | 251     |           |         | 285       | 251     |
| 200 | 277        | 340       | 263     | 340       | 263     | 340       | 265     | 340       | 263     |
| 250 | 325        | 395       | 277     | 405       | 281     | 395       | 277     | 405       | 281     |
| 300 | 390        | 445       | 282     | 460       | 302     | 445       | 282     | 460       | 302     |
| 350 | 420        | 505       | 282     | 520       | 310     | 505       | 282     | 520       | 310     |
| 400 | 470        | 565       | 290     | 580       | 316     | 565       | 290     | 580       | 316     |
| 500 | 590        | 670       | 296     | 715       | 326     | 670       | 296     | 715       | 326     |

## Form 11 S / welding ends



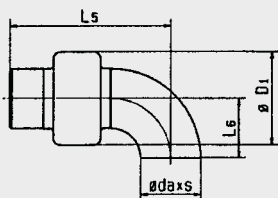
| DN  | ø D1<br>mm | ø d <sub>a</sub><br>mm | 1.7225  |                      |         |                      | 1.4571  |                      |         |                      |
|-----|------------|------------------------|---------|----------------------|---------|----------------------|---------|----------------------|---------|----------------------|
|     |            |                        | PN 16   |                      | PN 40   |                      | PN 6    |                      | PN 16   |                      |
|     |            |                        | s<br>mm | L <sub>1</sub><br>mm | s<br>mm | L <sub>1</sub><br>mm | s<br>mm | L <sub>1</sub><br>mm | s<br>mm | L <sub>1</sub><br>mm |
| 125 | 197        | 141.3                  | 6.6     | 229                  | 6.6     | 229                  | 6.6     | 229                  | 6.6     | 229                  |
| 150 | 223        | 168.3                  | 7.1     | 239                  | 7.1     | 229                  | 7.1     | 239                  | 7.1     | 239                  |
| 200 | 277        | 219.1                  | 8.2     | 239                  | 8.2     | 239                  | 8.2     | 239                  | 8.2     | 239                  |
| 250 | 325        | 273.0                  | 9.3     | 241                  | 9.3     | 214                  | 9.3     | 241                  | 9.3     | 241                  |
| 300 | 390        | 323.9                  | 11.5    | 246                  | 11.5    | 246                  | 11.5    | 246                  | 11.5    | 246                  |
| 350 | 420        | 355.6                  | 8.0     | 246                  |         |                      | 8.0     | 246                  |         |                      |
| 400 | 470        | 406.4                  | 8.8     | 246                  |         |                      | 8.8     | 246                  |         |                      |
| 500 | 590        | 508.0                  | 9.5     | 246                  |         |                      | 9.5     | 246                  |         |                      |

## Form 12 F / flange connection\*



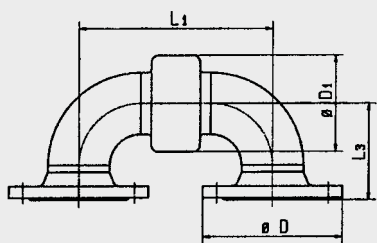
| DN  | ø D1<br>mm | 1.7225    |                      |                      |           |                      |                      | 1.4571    |                      |                      |           |                      |                      |
|-----|------------|-----------|----------------------|----------------------|-----------|----------------------|----------------------|-----------|----------------------|----------------------|-----------|----------------------|----------------------|
|     |            | PN 10     |                      |                      | PN 16     |                      |                      | PN 10     |                      |                      | PN 16     |                      |                      |
|     |            | ø D<br>mm | L <sub>2</sub><br>mm | L <sub>3</sub><br>mm | ø D<br>mm | L <sub>2</sub><br>mm | L <sub>3</sub><br>mm | ø D<br>mm | L <sub>2</sub><br>mm | L <sub>3</sub><br>mm | ø D<br>mm | L <sub>2</sub><br>mm | L <sub>3</sub><br>mm |
| 125 | 197        |           |                      |                      | 250       | 311                  | 184                  |           |                      |                      | 250       | 374                  | 247                  |
| 150 | 223        |           |                      |                      | 285       | 346                  | 209                  |           |                      |                      | 285       | 423                  | 286                  |
| 200 | 277        | 340       | 404                  | 267                  | 340       | 404                  | 267                  | 340       | 506                  | 369                  | 340       | 506                  | 369                  |
| 250 | 325        | 395       | 463                  | 325                  | 405       | 465                  | 327                  | 395       | 590                  | 454                  | 405       | 592                  | 454                  |
| 300 | 390        | 445       | 519                  | 376                  | 460       | 529                  | 386                  | 445       | 671                  | 538                  | 460       | 681                  | 538                  |
| 350 | 420        | 505       | 570                  | 427                  | 520       | 584                  | 441                  | 505       | 747                  | 618                  | 520       | 761                  | 618                  |
| 400 | 470        | 565       | 624                  | 481                  | 580       | 637                  | 494                  | 565       | 828                  | 698                  | 580       | 841                  | 698                  |
| 500 | 590        | 670       | 729                  | 586                  | 715       | 744                  | 601                  | 670       | 983                  | 855                  | 715       | 998                  | 855                  |

## Form 12 S / welding ends



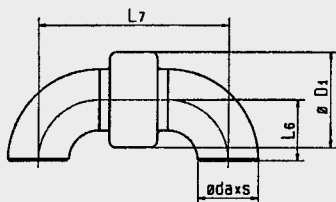
| DN  | ø D1<br>mm | ø d <sub>a</sub><br>mm | 1.7225  |                      |                      |         |                      |                      | 1.4571  |                      |                      |         |                      |                      |
|-----|------------|------------------------|---------|----------------------|----------------------|---------|----------------------|----------------------|---------|----------------------|----------------------|---------|----------------------|----------------------|
|     |            |                        | PN 16   |                      |                      | PN 40   |                      |                      | PN 6    |                      |                      | PN 16   |                      |                      |
|     |            |                        | s<br>mm | L <sub>6</sub><br>mm | L <sub>5</sub><br>mm | s<br>mm | L <sub>6</sub><br>mm | L <sub>5</sub><br>mm | s<br>mm | L <sub>6</sub><br>mm | L <sub>5</sub><br>mm | s<br>mm | L <sub>6</sub><br>mm | L <sub>5</sub><br>mm |
| 125 | 197        | 141.3                  | 6.6     | 306                  | 127                  | 6.6     | 306                  | 127                  | 6.6     | 369                  | 190                  | 6.6     | 369                  | 190                  |
| 150 | 223        | 168.3                  | 7.1     | 341                  | 152                  | 7.1     | 341                  | 152                  | 7.1     | 418                  | 229                  | 7.1     | 418                  | 229                  |
| 200 | 277        | 219.1                  | 8.2     | 392                  | 203                  | 8.2     | 392                  | 203                  | 8.2     | 494                  | 305                  | 8.2     | 494                  | 305                  |
| 250 | 325        | 273.0                  | 9.3     | 445                  | 254                  | 9.3     | 445                  | 254                  | 9.3     | 572                  | 381                  | 9.3     | 572                  | 381                  |
| 300 | 390        | 323.9                  | 11.5    | 501                  | 305                  | 11.5    | 501                  | 305                  | 11.5    | 653                  | 457                  | 11.5    | 653                  | 457                  |
| 350 | 420        | 355.6                  | 8.0     | 552                  | 356                  |         |                      |                      | 8.0     | 729                  | 533                  |         |                      |                      |
| 400 | 470        | 406.4                  | 8.8     | 602                  | 406                  |         |                      |                      | 8.8     | 806                  | 610                  |         |                      |                      |
| 500 | 590        | 508.0                  | 9.5     | 704                  | 508                  |         |                      |                      | 9.5     | 958                  | 762                  |         |                      |                      |

## Form 13 F / flange connection\*



| DN  | ø D1<br>mm | 1.7225    |                      |                      |           |                      |                      | 1.4571    |                      |                      |           |                      |                      |
|-----|------------|-----------|----------------------|----------------------|-----------|----------------------|----------------------|-----------|----------------------|----------------------|-----------|----------------------|----------------------|
|     |            | PN 10     |                      |                      | PN 16     |                      |                      | PN 10     |                      |                      | PN 16     |                      |                      |
|     |            | ø D<br>mm | L <sub>1</sub><br>mm | L <sub>3</sub><br>mm | ø D<br>mm | L <sub>1</sub><br>mm | L <sub>3</sub><br>mm | ø D<br>mm | L <sub>1</sub><br>mm | L <sub>3</sub><br>mm | ø D<br>mm | L <sub>1</sub><br>mm | L <sub>3</sub><br>mm |
| 125 | 197        |           |                      |                      | 250       | 383                  | 184                  |           |                      |                      | 250       | 509                  | 247                  |
| 150 | 223        |           |                      |                      | 285       | 443                  | 209                  |           |                      |                      | 285       | 597                  | 286                  |
| 200 | 277        | 340       | 545                  | 267                  | 340       | 545                  | 267                  | 340       | 749                  | 369                  | 340       | 749                  | 369                  |
| 250 | 325        | 395       | 649                  | 325                  | 405       | 649                  | 327                  | 395       | 903                  | 454                  | 405       | 903                  | 454                  |
| 300 | 390        | 445       | 756                  | 376                  | 460       | 756                  | 386                  | 445       | 1060                 | 538                  | 460       | 1060                 | 538                  |
| 350 | 420        | 505       | 858                  | 427                  | 520       | 858                  | 441                  | 505       | 1212                 | 618                  | 520       | 1212                 | 618                  |
| 400 | 470        | 565       | 958                  | 481                  | 580       | 958                  | 494                  | 565       | 1366                 | 698                  | 580       | 1366                 | 698                  |
| 500 | 590        | 670       | 1162                 | 586                  | 715       | 1162                 | 601                  | 670       | 1670                 | 855                  | 715       | 1670                 | 855                  |

## Form 13 S / welding ends



| DN  | ø D1<br>mm | ø d <sub>a</sub><br>mm | 1.7225  |                      |                      |         |                      |                      | 1.4571  |                      |                      |         |                      |                      |
|-----|------------|------------------------|---------|----------------------|----------------------|---------|----------------------|----------------------|---------|----------------------|----------------------|---------|----------------------|----------------------|
|     |            |                        | PN 16   |                      |                      | PN 40   |                      |                      | PN 6    |                      |                      | PN 16   |                      |                      |
|     |            |                        | s<br>mm | L <sub>6</sub><br>mm | L <sub>7</sub><br>mm | s<br>mm | L <sub>6</sub><br>mm | L <sub>7</sub><br>mm | s<br>mm | L <sub>6</sub><br>mm | L <sub>7</sub><br>mm | s<br>mm | L <sub>6</sub><br>mm | L <sub>7</sub><br>mm |
| 125 | 197        | 141.3                  | 6.6     | 127                  | 383                  | 6.6     | 127                  | 383                  | 6.6     | 190                  | 509                  | 6.6     | 190                  | 509                  |
| 150 | 223        | 168.3                  | 7.1     | 152                  | 443                  | 7.1     | 152                  | 443                  | 7.1     | 229                  | 597                  | 7.1     | 229                  | 597                  |
| 200 | 277        | 219.1                  | 8.2     | 203                  | 545                  | 8.2     | 203                  | 545                  | 8.2     | 305                  | 749                  | 8.2     | 305                  | 749                  |
| 250 | 325        | 273.0                  | 9.3     | 254                  | 649                  | 9.3     | 254                  | 649                  | 9.3     | 381                  | 903                  | 9.3     | 381                  | 903                  |
| 300 | 390        | 323.9                  | 11.5    | 305                  | 756                  | 11.5    | 305                  | 756                  | 11.5    | 457                  | 1060                 | 11.5    | 457                  | 1060                 |
| 350 | 420        | 355.6                  | 8.0     | 356                  | 858                  |         |                      |                      | 8.0     | 533                  | 1212                 |         |                      |                      |
| 400 | 470        | 406.4                  | 8.8     | 406                  | 958                  |         |                      |                      | 8.8     | 610                  | 1366                 |         |                      |                      |
| 500 | 590        | 508.0                  | 9.5     | 508                  | 1162                 |         |                      |                      | 9.5     | 762                  | 1670                 |         |                      |                      |

\*PN 40 flange connection possible on request. Materials data stated for basic units.



## Swivel Joint - Type DG-02S

DN 20 - DN 150



### Swivel Joint

#### Structure

- ☐ stator (outer part) and rotor (inner part) joined by a two-row ball bearing
- ☐ for-life lubrication provided in the factory
- ☐ welded connection parts: welding ends, pipe bends or flanges

### Materials

| basic unit | welding end | flange |
|------------|-------------|--------|
| 1.7225     | 1.0305      | 1.0460 |
| 1.4571     | 1.4571      | 1.4571 |

### Standard sealings

- ☐ PTFE compound sealings

### Special sealings

- ☐ additional inner sealing for heavily polluted media
- ☐ hermetic radial sealing for underwater applications (from DN 65)
- ☐ medium sealings for oxygen, steam and food products

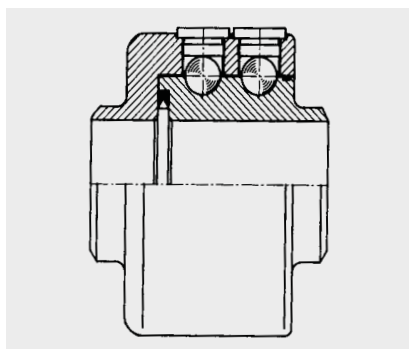
### Pressure rating

- ☐ PN 16, PN 40 (1.7225) with flanges
- ☐ PN 250, PN 350 (1.7225) with welding ends
- ☐ PN 16, PN 40 (1.4571) with flanges
- ☐ PN 100 (1.4571) with welding ends
- ☐ higher pressures possible to max. PN 420

### Surface protection

- ☐ Gas nitration
- ☐ Corrosion-protection primer

### Design



Type DG-02S basic unit  
with two-row ball bearing

### Dimensions

Standard: DN 20 to DN 150  
 Flanges: PN 16/PN 40 to EN 1092  
 Others: possible to ANSI (ASA), BS etc.  
 Welding end: to ISO recommendations

### Notes

General technical instructions must be observed. Subject to technical alterations and fluctuations caused by the production process.  
 Number of revolutions for swivel and rotation movements ≤ 10 rpm.  
 Swivel movements in several planes see catalogue page 5/5.  
 Sets of sealings and balls available individually as spare parts.

### Anwendung

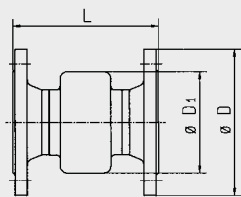
- robust design for liquid or gaseous media at high temperatures and particularly high pressures
- ideal for loads with high bending moments
- for slow swivel and rotation movements through 360°
- for rough operating conditions
  - in hydraulic flow pipes
  - at roll stands
  - in sewage plant
  - in steel mills
  - at hose drums
- for installation in flexible pipeline systems, for conveying media from a fixed point to any required flexible point
  - filling systems
  - loading and swivel arms
  - pipe joint shears
- use at test facilities
- special designs suitable for food products



STENFLEX® Swivel Joints type DG-02S  
installed at loading arms

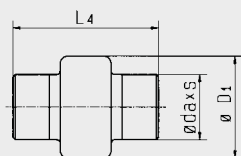


## Form 11 F / flange connection\*



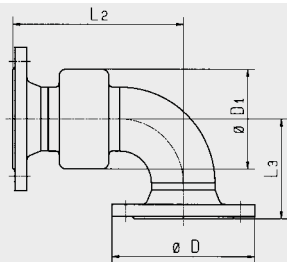
| DN  | ø D1<br>mm | 1.7225    |         |           |         | 1.4571    |         |           |         |
|-----|------------|-----------|---------|-----------|---------|-----------|---------|-----------|---------|
|     |            | PN 16     |         | PN 40     |         | PN 16     |         | PN 40     |         |
|     |            | ø D<br>mm | L<br>mm | ø D<br>mm | L<br>mm | ø D<br>mm | L<br>mm | ø D<br>mm | L<br>mm |
| 20  | 72         | 105       | 174     | 105       | 174     | 105       | 174     | 105       | 174     |
| 25  | 78         | 115       | 174     | 115       | 174     | 115       | 174     | 115       | 174     |
| 32  | 88         | 140       | 178     | 140       | 178     | 140       | 178     | 140       | 178     |
| 40  | 104        | 150       | 184     | 150       | 184     | 150       | 184     | 150       | 184     |
| 50  | 118        | 165       | 194     | 165       | 200     | 165       | 194     | 165       | 200     |
| 65  | 133        | 185       | 204     | 185       | 218     | 185       | 204     | 185       | 218     |
| 80  | 139        | 200       | 214     | 200       | 230     | 200       | 214     | 200       | 230     |
| 100 | 175        | 220       | 218     | 235       | 244     | 220       | 218     | 235       | 244     |
| 125 | 218        | 250       | 254     | 270       | 280     | 250       | 254     | 270       | 280     |

## Form 11 S / welding ends



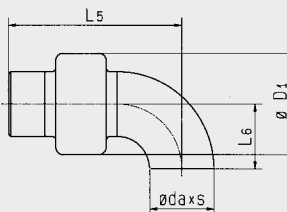
| DN  | ø D1<br>mm | ø d <sub>a</sub><br>mm | 1.7225  |                      |         |                      | 1.4571  |                      |         |                      |
|-----|------------|------------------------|---------|----------------------|---------|----------------------|---------|----------------------|---------|----------------------|
|     |            |                        | PN 250  |                      | PN 350  |                      | PN 100  |                      |         |                      |
|     |            |                        | s<br>mm | L <sub>4</sub><br>mm | s<br>mm | L <sub>4</sub><br>mm | s<br>mm | L <sub>4</sub><br>mm | s<br>mm | L <sub>4</sub><br>mm |
| 20  | 72         | 26.9                   | 3.9     | 194                  | 3.9     | 194                  | 3.9     | 194                  | 3.9     | 194                  |
| 25  | 78         | 33.7                   | 4.6     | 194                  | 4.6     | 194                  | 4.6     | 194                  | 4.6     | 194                  |
| 32  | 88         | 42.4                   | 4.9     | 194                  | 4.9     | 194                  | 4.9     | 194                  | 4.9     | 194                  |
| 40  | 104        | 48.3                   | 5.1     | 194                  | 5.1     | 194                  | 5.1     | 194                  | 5.1     | 194                  |
| 50  | 118        | 60.3                   | 5.5     | 204                  | 5.5     | 204                  | 5.5     | 204                  | 5.5     | 204                  |
| 65  | 133        | 73.0                   | 7.0     | 214                  |         |                      | 7.0     | 214                  |         |                      |
| 80  | 139        | 88.9                   | 7.6     | 214                  |         |                      | 7.6     | 214                  |         |                      |
| 100 | 175        | 114.3                  | 8.6     | 214                  |         |                      | 8.6     | 214                  |         |                      |
| 125 | 218        | 141.3                  | 9.5     | 244                  |         |                      | 9.5     | 244                  |         |                      |

## Form 12 F / flange connection\*



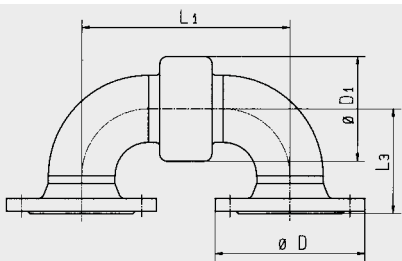
| DN  | ø D1<br>mm | 1.7225    |                      |                      |           |                      |                      | 1.4571    |                      |                      |           |                      |                      |
|-----|------------|-----------|----------------------|----------------------|-----------|----------------------|----------------------|-----------|----------------------|----------------------|-----------|----------------------|----------------------|
|     |            | PN 16     |                      |                      | PN 40     |                      |                      | PN 16     |                      |                      | PN 40     |                      |                      |
|     |            | ø D<br>mm | L <sub>2</sub><br>mm | L <sub>3</sub><br>mm | ø D<br>mm | L <sub>2</sub><br>mm | L <sub>3</sub><br>mm | ø D<br>mm | L <sub>2</sub><br>mm | L <sub>3</sub><br>mm | ø D<br>mm | L <sub>2</sub><br>mm | L <sub>3</sub><br>mm |
| 20  | 72         | 105       | 159                  | 67                   | 105       | 159                  | 67                   | 105       | 172                  | 80                   | 105       | 163                  | 71                   |
| 25  | 78         | 115       | 159                  | 67                   | 115       | 159                  | 67                   | 115       | 172                  | 80                   | 115       | 172                  | 80                   |
| 32  | 88         | 140       | 168                  | 76                   | 140       | 168                  | 76                   | 140       | 184                  | 92                   | 140       | 184                  | 92                   |
| 40  | 104        | 150       | 177                  | 85                   | 150       | 177                  | 85                   | 150       | 196                  | 104                  | 150       | 196                  | 104                  |
| 50  | 118        | 165       | 200                  | 98                   | 165       | 203                  | 101                  | 165       | 225                  | 123                  | 165       | 228                  | 126                  |
| 65  | 133        | 185       | 222                  | 110                  | 185       | 229                  | 117                  | 185       | 254                  | 142                  | 185       | 261                  | 149                  |
| 80  | 139        | 200       | 240                  | 128                  | 200       | 248                  | 136                  | 200       | 278                  | 166                  | 200       | 286                  | 174                  |
| 100 | 175        | 220       | 268                  | 156                  | 235       | 281                  | 169                  | 220       | 318                  | 206                  | 235       | 331                  | 219                  |
| 125 | 218        | 250       | 326                  | 184                  | 270       | 339                  | 197                  | 250       | 389                  | 247                  | 270       | 402                  | 260                  |

## Form 12 S / welding ends



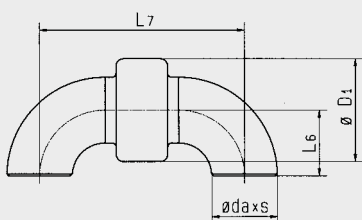
| DN  | ø D1<br>mm | ø d <sub>a</sub><br>mm | 1.7225  |                      |                      |         |                      |                      | 1.4571  |                      |                      |         |                      |                      |
|-----|------------|------------------------|---------|----------------------|----------------------|---------|----------------------|----------------------|---------|----------------------|----------------------|---------|----------------------|----------------------|
|     |            |                        | PN 250  |                      |                      | PN 350  |                      |                      | PN 100  |                      |                      |         |                      |                      |
|     |            |                        | s<br>mm | L <sub>5</sub><br>mm | L <sub>6</sub><br>mm | s<br>mm | L <sub>5</sub><br>mm | L <sub>6</sub><br>mm | s<br>mm | L <sub>5</sub><br>mm | L <sub>6</sub><br>mm | s<br>mm | L <sub>5</sub><br>mm | L <sub>6</sub><br>mm |
| 20  | 72         | 26.9                   | 3.9     | 169                  | 25                   | 3.9     | 169                  | 25                   | 3.9     | 173                  | 29                   | 3.9     | 173                  | 29                   |
| 25  | 78         | 33.7                   | 4.6     | 169                  | 25                   | 4.6     | 169                  | 25                   | 4.6     | 182                  | 38                   | 4.6     | 182                  | 38                   |
| 32  | 88         | 42.4                   | 4.9     | 176                  | 32                   | 4.9     | 176                  | 32                   | 4.9     | 192                  | 48                   | 4.9     | 192                  | 48                   |
| 40  | 104        | 48.3                   | 5.1     | 182                  | 38                   | 5.1     | 182                  | 38                   | 5.1     | 201                  | 57                   | 5.1     | 201                  | 57                   |
| 50  | 118        | 60.3                   | 5.5     | 205                  | 51                   | 5.5     | 205                  | 51                   | 5.5     | 230                  | 76                   | 5.5     | 230                  | 76                   |
| 65  | 133        | 73.0                   | 7.0     | 227                  | 63                   |         |                      |                      | 7.0     | 259                  | 95                   | 7.0     | 259                  | 95                   |
| 80  | 139        | 88.9                   | 7.6     | 240                  | 76                   |         |                      |                      | 7.6     | 278                  | 114                  | 7.6     | 278                  | 114                  |
| 100 | 175        | 114.3                  | 8.6     | 266                  | 102                  |         |                      |                      | 8.6     | 316                  | 152                  | 8.6     | 316                  | 152                  |
| 125 | 218        | 141.3                  | 9.5     | 321                  | 127                  |         |                      |                      | 9.5     | 384                  | 190                  | 9.5     | 384                  | 190                  |

## Form 13 F / flange connection\*



| DN  | ø D1<br>mm | 1.7225    |                      |                      |           |                      |                      | 1.4571    |                      |                      |           |                      |                      |
|-----|------------|-----------|----------------------|----------------------|-----------|----------------------|----------------------|-----------|----------------------|----------------------|-----------|----------------------|----------------------|
|     |            | PN 16     |                      |                      | PN 40     |                      |                      | PN 16     |                      |                      | PN 40     |                      |                      |
|     |            | ø D<br>mm | L <sub>1</sub><br>mm | L <sub>3</sub><br>mm | ø D<br>mm | L <sub>1</sub><br>mm | L <sub>3</sub><br>mm | ø D<br>mm | L <sub>1</sub><br>mm | L <sub>3</sub><br>mm | ø D<br>mm | L <sub>1</sub><br>mm | L <sub>3</sub><br>mm |
| 20  | 72         | 105       | 144                  | 67                   | 105       | 144                  | 67                   | 105       | 170                  | 80                   | 105       | 152                  | 71                   |
| 25  | 78         | 115       | 144                  | 67                   | 115       | 144                  | 67                   | 115       | 170                  | 80                   | 115       | 170                  | 80                   |
| 32  | 88         | 140       | 158                  | 76                   | 140       | 158                  | 76                   | 140       | 190                  | 92                   | 140       | 190                  | 92                   |
| 40  | 104        | 150       | 170                  | 85                   | 150       | 170                  | 85                   | 150       | 208                  | 104                  | 150       | 208                  | 104                  |
| 50  | 118        | 165       | 206                  | 98                   | 165       | 206                  | 101                  | 165       | 256                  | 123                  | 165       | 256                  | 126                  |
| 65  | 133        | 185       | 240                  | 110                  | 185       | 240                  | 117                  | 185       | 304                  | 142                  | 185       | 304                  | 149                  |
| 80  | 139        | 200       | 266                  | 128                  | 200       | 266                  | 136                  | 200       | 342                  | 166                  | 200       | 342                  | 174                  |
| 100 | 175        | 220       | 318                  | 156                  | 235       | 318                  | 169                  | 220       | 418                  | 206                  | 235       | 418                  | 219                  |
| 125 | 218        | 250       | 398                  | 184                  | 270       | 398                  | 197                  | 250       | 524                  | 247                  | 270       | 524                  | 260                  |

## Form 13 S / welding ends



| DN  | ø D1<br>mm | ø d <sub>a</sub><br>mm | 1.7225  |                      |                      |         |                      |                      | 1.4571  |                      |                      |         |                      |                      |
|-----|------------|------------------------|---------|----------------------|----------------------|---------|----------------------|----------------------|---------|----------------------|----------------------|---------|----------------------|----------------------|
|     |            |                        | PN 250  |                      |                      | PN 350  |                      |                      | PN 100  |                      |                      |         |                      |                      |
|     |            |                        | s<br>mm | L <sub>6</sub><br>mm | L <sub>7</sub><br>mm | s<br>mm | L <sub>6</sub><br>mm | L <sub>7</sub><br>mm | s<br>mm | L <sub>6</sub><br>mm | L <sub>7</sub><br>mm | s<br>mm | L <sub>6</sub><br>mm | L <sub>7</sub><br>mm |
| 20  | 72         | 26.9                   | 3.9     | 25                   | 144                  | 3.9     | 25                   | 144                  | 3.9     | 29                   | 152                  | 3.9     | 29                   | 152                  |
| 25  | 78         | 33.7                   | 4.6     | 25                   | 144                  | 4.6     | 25                   | 144                  | 4.6     | 38                   | 170                  | 4.6     | 38                   | 170                  |
| 32  | 88         | 42.4                   | 4.9     | 32                   | 158                  | 4.9     | 32                   | 158                  | 4.9     | 48                   | 190                  | 4.9     | 48                   | 190                  |
| 40  | 104        | 48.3                   | 5.1     | 38                   | 170                  | 5.1     | 38                   | 170                  | 5.1     | 57                   | 208                  | 5.1     | 57                   | 208                  |
| 50  | 118        | 60.3                   | 5.5     | 51                   | 206                  | 5.5     | 51                   | 206                  | 5.5     | 76                   | 256                  | 5.5     | 76                   | 256                  |
| 65  | 133        | 73.0                   | 7.0     | 63                   | 240                  |         |                      |                      | 7.0     | 95                   | 304                  | 7.0     | 95                   | 304                  |
| 80  | 139        | 88.9                   | 7.6     | 76                   | 266                  |         |                      |                      | 7.6     | 114                  | 342                  | 7.6     | 114                  | 342                  |
| 100 | 175        | 114.3                  | 8.6     | 102                  | 318                  |         |                      |                      | 8.6     | 152                  | 418                  | 8.6     | 152                  | 418                  |
| 125 | 218        | 141.3                  | 9.5     | 127                  | 398                  |         |                      |                      | 9.5     | 190                  | 524                  | 9.5     | 190                  | 524                  |



## Swivel Joint (rotating head joint) Type DK-01

DN 8 - DN 50



### Rotating head joint

#### Structure

- ☐ stator (outer part) and rotor (inner part) joined by a single-row ball bearing
- ☐ for-life lubrication provided in the factory
- ☐ female thread according to ISO 7-1 (DIN 2999)

#### Materials

| Basic unit with threaded connection |        |
|-------------------------------------|--------|
|                                     | 1.7225 |
|                                     | 1.4571 |

#### Standard sealings

- ☐ PTFE-Compounddichtung

#### Special sealings

- ☐ additional inner sealing for heavily polluted media
- ☐ medium sealings for oxygen, steam and food products

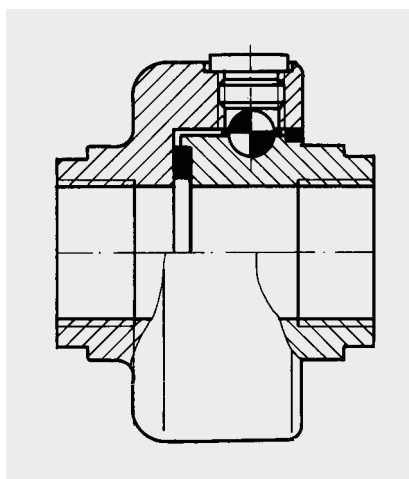
#### Pressure rating

- ☐ PN 100 (1.7225)
- ☐ PN 40 (1.4571)

#### Surface protection

- ☐ Gas nitration
- ☐ Corrosion-protection primer

### Design



**Type DK-01**  
with one-row ball bearing

### Dimensions

DN 8 to DN 50

### Notes

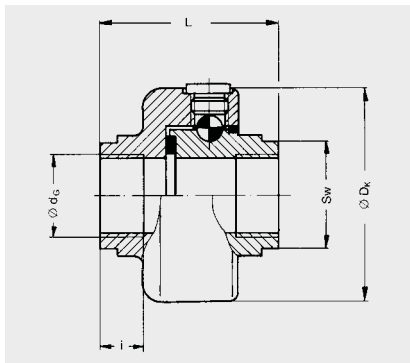
General technical instructions must be observed. Subject to technical alterations and fluctuations caused by the production process.  
Number of revolutions for swivel and rotation movements ≤ 10 rpm.  
Swivel movements in several planes see catalogue page 5/5.  
Sets of sealings and balls available individually as spare parts.

### Application

- for liquid or gaseous media at high temperatures and pressures
- for slow swivel and rotation movements through 360°
- fast installation with threaded connection
- for rough operating conditions
  - in hydraulic flow pipes
  - at roll stands
  - at hose drums
- for installation in flexible pipeline systems, for conveying media from a fixed point to any required flexible point
  - filling systems
  - loading and swivel arms
  - pipe joint shears
- use at test facilities
- special designs suitable for food products

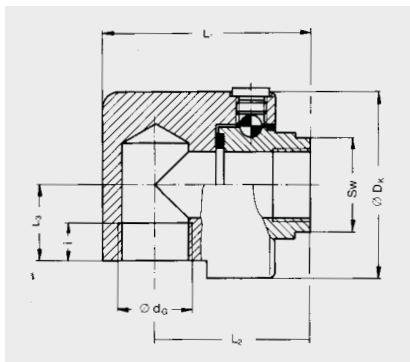


## Form 11IG / threaded connection



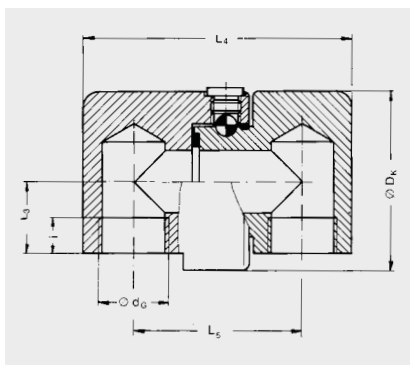
| DN | ø d <sub>G</sub><br>Zoll | i<br>mm | ø D <sub>k</sub><br>mm | S <sub>w</sub><br>mm | L<br>mm | weight<br>approx. kg |
|----|--------------------------|---------|------------------------|----------------------|---------|----------------------|
| 8  | Rp 1/4"                  | 12      | 72                     | 32                   | 78      | 1.2                  |
| 10 | Rp 3/8"                  | 12      | 72                     | 32                   | 78      | 1.2                  |
| 15 | Rp 1/2"                  | 14      | 72                     | 32                   | 78      | 1.3                  |
| 20 | Rp 3/4"                  | 16      | 72                     | 32                   | 78      | 1.3                  |
| 25 | Rp 1"                    | 18      | 78                     | 41                   | 85      | 1.6                  |
| 32 | Rp 1 1/4"                | 20      | 88                     | 55                   | 85      | 2.2                  |
| 40 | Rp 1 1/2"                | 22      | 96                     | 60                   | 90      | 2.2                  |
| 50 | Rp 2"                    | 24      | 118                    | 70                   | 100     | 4.1                  |

## Form 12IG / threaded connection



| DN | ø d <sub>G</sub><br>Zoll | i<br>mm | ø D <sub>k</sub><br>mm | S <sub>w</sub><br>mm | L <sub>1</sub><br>mm | L <sub>2</sub><br>mm | L <sub>3</sub><br>mm | weight<br>approx. kg |
|----|--------------------------|---------|------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 8  | Rp 1/4"                  | 12      | 72                     | 32                   | 92                   | 75                   | 30                   | 1.8                  |
| 10 | Rp 3/8"                  | 12      | 72                     | 32                   | 92                   | 75                   | 30                   | 1.85                 |
| 15 | Rp 1/2"                  | 14      | 72                     | 32                   | 92                   | 75                   | 30                   | 1.9                  |
| 20 | Rp 3/4"                  | 16      | 72                     | 32                   | 92                   | 75                   | 30                   | 2.0                  |
| 25 | Rp 1"                    | 18      | 78                     | 41                   | 107                  | 85                   | 32                   | 2.6                  |
| 32 | Rp 1 1/4"                | 20      | 88                     | 55                   | 115                  | 90                   | 33                   | 3.5                  |
| 40 | Rp 1 1/2"                | 22      | 96                     | 60                   | 132                  | 100                  | 35                   | 4.3                  |
| 50 | Rp 2"                    | 24      | 118                    | 70                   | 150                  | 110                  | 42                   | 7.4                  |

## Form 13IG / threaded connection



| DN | ø d <sub>G</sub><br>Zoll | i<br>mm | ø D <sub>k</sub><br>mm | S <sub>w</sub><br>mm | L <sub>3</sub><br>mm | L <sub>4</sub><br>mm | L <sub>5</sub><br>mm | weight<br>approx. kg |
|----|--------------------------|---------|------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 8  | Rp 1/4"                  | 12      | 72                     | 30                   | 92                   | 110                  | 75                   | 2.5                  |
| 10 | Rp 3/8"                  | 12      | 72                     | 30                   | 92                   | 110                  | 75                   | 2.6                  |
| 15 | Rp 1/2"                  | 14      | 72                     | 30                   | 92                   | 110                  | 75                   | 2.7                  |
| 20 | Rp 3/4"                  | 16      | 72                     | 30                   | 92                   | 110                  | 75                   | 2.8                  |
| 25 | Rp 1"                    | 18      | 80                     | 32                   | 107                  | 130                  | 85                   | 3.8                  |
| 32 | Rp 1 1/4"                | 20      | 88                     | 33                   | 115                  | 152                  | 100                  | 5.8                  |
| 40 | Rp 1 1/2"                | 22      | 96                     | 35                   | 132                  | 175                  | 110                  | 6.4                  |
| 50 | Rp 2"                    | 24      | 118                    | 42                   | 150                  | 208                  | 128                  | 11.5                 |



## Swivel Joint (rotating head joint) Type DK-02

DN 8 - DN 50



### Rotating head joint

#### Structure

- ☐ stator (outer part) and rotor (inner part) joined by a two-row ball bearing
- ☐ for-life lubrication provided in the factory
- ☐ female thread according to ISO 7-1 (DIN 2999)

### Materials

| Basic unit with threaded connection |        |
|-------------------------------------|--------|
|                                     | 1.7225 |
|                                     | 1.4571 |

### Standard sealings

- ☐ PTFE compound

### Special sealings

- ☐ additional inner sealing for heavily polluted media
- ☐ medium sealings for oxygen, steam and food products

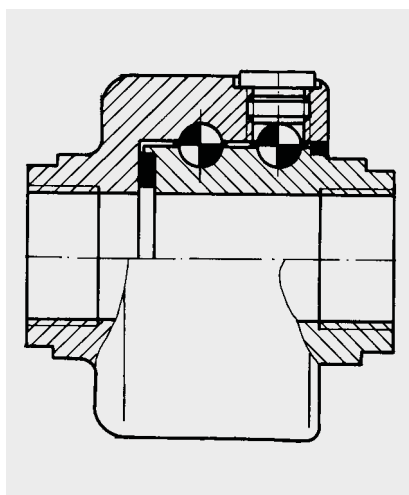
### Pressure rating

- ☐ PN 250, PN 350 (1.7225), PN 420 on request
- ☐ PN 100 (1.4571)

### Surface protection

- ☐ Gas nitration
- ☐ Corrosion-protection primer

### Design



**Type DK-02**  
with two-row ball bearing

### Dimensions

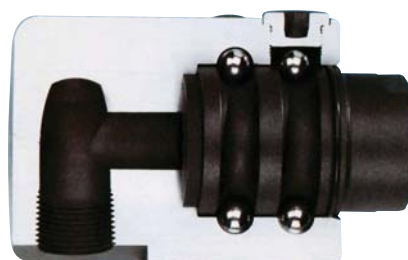
DN 8 to DN 50

### Notes

General technical instructions must be observed. Subject to technical alterations and fluctuations caused by the production process. Number of revolutions for swivel and rotation movements ≤ 10 rpm. Swivel movements in several planes see catalogue page 5/5. Sets of sealings and balls available individually as spare parts.

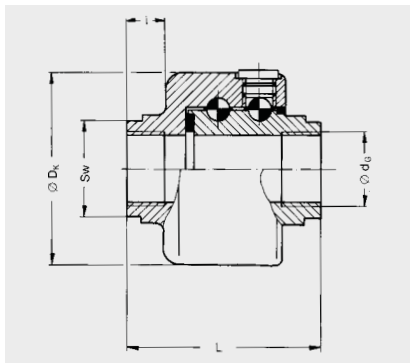
### Application

- for liquid or gaseous media at high temperatures and pressures
- suitable for loads with high bending moments
- for slow swivel and rotation movements through 360°
- fast installation with threaded connection
- for rough operating conditions
  - in hydraulic flow pipes
  - at roll stands
  - at hose drums
- for installation in flexible pipeline systems, for conveying media from a fixed point to any required flexible point
  - filling systems
  - loading and swivel arms
  - pipe joint shears
- use at test facilities
- special designs suitable for food products



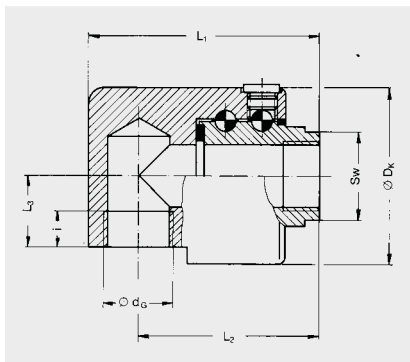


## Form 11IG / threaded connection



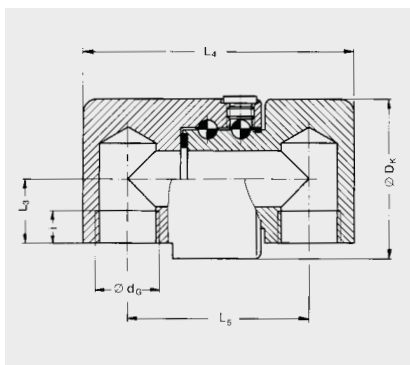
| DN | ø d <sub>G</sub><br>Zoll | i<br>mm | ø D <sub>k</sub><br>mm | S <sub>w</sub><br>mm | L<br>mm | weight<br>approx. kg |
|----|--------------------------|---------|------------------------|----------------------|---------|----------------------|
| 8  | Rp 1/4"                  | 12      | 72                     | 32                   | 110     | 2.7                  |
| 10 | Rp 3/8"                  | 12      | 72                     | 32                   | 110     | 2.7                  |
| 15 | Rp 1/2"                  | 14      | 72                     | 32                   | 110     | 2.8                  |
| 20 | Rp 3/4"                  | 16      | 72                     | 32                   | 110     | 2.8                  |
| 25 | Rp 1"                    | 18      | 78                     | 41                   | 110     | 2.9                  |
| 32 | Rp 1 1/4"                | 20      | 88                     | 55                   | 120     | 3.8                  |
| 40 | Rp 1 1/2"                | 22      | 104                    | 60                   | 120     | 3.9                  |
| 50 | Rp 2"                    | 24      | 118                    | 70                   | 145     | 5.4                  |

## Form 12IG / threaded connection



| DN | ø d <sub>G</sub><br>Zoll | i<br>mm | ø D <sub>k</sub><br>mm | S <sub>w</sub><br>mm | L <sub>1</sub><br>mm | L <sub>2</sub><br>mm | L <sub>3</sub><br>mm | weight<br>approx. kg |
|----|--------------------------|---------|------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 8  | Rp 1/4"                  | 12      | 72                     | 32                   | 132                  | 110                  | 30                   | 3.7                  |
| 10 | Rp 3/8"                  | 12      | 72                     | 32                   | 132                  | 110                  | 30                   | 3.7                  |
| 15 | Rp 1/2"                  | 14      | 72                     | 32                   | 132                  | 110                  | 30                   | 3.8                  |
| 20 | Rp 3/4"                  | 16      | 72                     | 32                   | 132                  | 110                  | 30                   | 3.8                  |
| 25 | Rp 1"                    | 18      | 78                     | 41                   | 132                  | 110                  | 32                   | 3.9                  |
| 32 | Rp 1 1/4"                | 20      | 88                     | 55                   | 158                  | 125                  | 34                   | 6.5                  |
| 40 | Rp 1 1/2"                | 22      | 104                    | 60                   | 158                  | 125                  | 40                   | 6.6                  |
| 50 | Rp 2"                    | 24      | 118                    | 70                   | 190                  | 150                  | 40                   | 9.0                  |

## Form 13IG / threaded connection



| DN | ø d <sub>G</sub><br>Zoll | i<br>mm | ø D <sub>k</sub><br>mm | L <sub>3</sub><br>mm | L <sub>4</sub><br>mm | L <sub>5</sub><br>mm | weight<br>approx. kg |
|----|--------------------------|---------|------------------------|----------------------|----------------------|----------------------|----------------------|
| 8  | Rp 1/4"                  | 12      | 72                     | 30                   | 154                  | 110                  | 5.0                  |
| 10 | Rp 3/8"                  | 12      | 72                     | 30                   | 154                  | 110                  | 5.0                  |
| 15 | Rp 1/2"                  | 14      | 72                     | 30                   | 154                  | 110                  | 5.1                  |
| 20 | Rp 3/4"                  | 16      | 72                     | 30                   | 154                  | 110                  | 5.1                  |
| 25 | Rp 1"                    | 18      | 78                     | 32                   | 160                  | 115                  | 5.2                  |
| 32 | Rp 1 1/4"                | 20      | 88                     | 34                   | 200                  | 132                  | 9.3                  |
| 40 | Rp 1 1/2"                | 22      | 104                    | 40                   | 200                  | 132                  | 9.5                  |
| 50 | Rp 2"                    | 24      | 118                    | 40                   | 235                  | 155                  | 11.9                 |