

# GEMÜ 410

## Pneumatically operated butterfly valve



### Features

- Low weight
- Corrosion resistant plastic body
- Simple installation with union nut
- Space-saving piston actuator made of plastic

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### Description

The GEMÜ 410 butterfly valve is pneumatically operated. Normally Closed and Normally Open control functions are available. The valve body is available in a plastic design.

### Technical specifications

- **Media temperature:** 0 to 60 °C
- **Ambient temperature:** -10 to 60 °C
- **Operating pressure:** 0 to 6 bar
- **Nominal sizes:** DN 15 to 50
- **Connection types:** Union end
- **Connection standards:** BS I DIN
- **Housing materials:** PVC-U, grey
- **Liner materials:** EPDM I FKM
- **Disc materials:** PVDF
- **Conformities:** EAC

Technical data depends on the respective configuration



## Product line

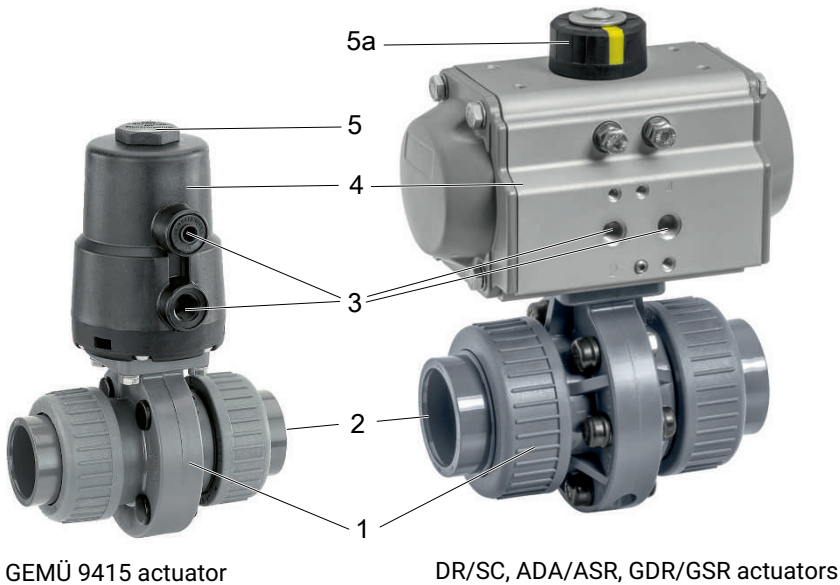


| <b>Operation</b>          |             |             |             |             |
|---------------------------|-------------|-------------|-------------|-------------|
| With bare shaft           | ●           | -           | -           | -           |
| Manual                    | -           | ●           | -           | -           |
| Pneumatic                 | -           | -           | ●           | -           |
| Motorized                 | -           | -           | -           | ●           |
| <b>Nominal sizes</b>      | DN 15 to 50 | DN 15 to 50 | DN 15 to 50 | DN 15 to 50 |
| <b>Media temperature</b>  | 0 to 60 °C  | 0 to 60 °C  | 0 to 60 °C  | 0 to 60 °C  |
| <b>Operating pressure</b> | 0 to 6 bar  | 0 to 6 bar  | 0 to 6 bar  | 0 to 6 bar  |
| <b>Connection types</b>   |             |             |             |             |
| Union end                 | ●           | ●           | ●           | ●           |
| <b>Conformities</b>       |             |             |             |             |
| CSA                       | -           | -           | -           | ●           |
| EAC                       | ●           | ●           | ●           | ●           |

## Comparison of actuator applications

|  | GEMÜ ADA/ASR | GEMÜ DR/SC | GEMÜ GDR/GSR | GEMÜ 9415 |
|--|--------------|------------|--------------|-----------|
| <b>Industrial sectors</b>                  |              |            |              |           |
| Chemical processes                         | ●            | ●          | ●            | ●         |
| Surface finishing                          | ●            | ●          | ●            | ●         |
| Water treatment                            | ●            | ●          | ●            | ●         |
| Mechanical engineering                     | ●            | ●          | ●            | ●         |
| Power generation and environmental systems | ●            | ●          | ●            | ●         |
| Food processing technology                 | ●            | ●          | ●            | ●         |
| Semiconductor                              | ●            | ●          | ●            | ●         |
| Medical systems                            | ●            | ●          | ●            | ●         |
| Pharmaceutical industry                    | ●            | ●          | ●            | ●         |

## Product description



| Item                                     | Name                                       | Material                   |
|--|--|----------------------------|
| 1  | Butterfly valve body                       | PVC-U, grey                |
| 2  | Pipe connections                           | PVC-U, grey                |
| <b>GEMÜ 9415 actuator</b>                |  |                            |
| 3  | Control air connectors                     | PP, glass fibre reinforced |
| 4  | Actuator housing                           | PP, glass fibre reinforced |
| 5  | Connection facility for position indicator | PP, glass fibre reinforced |
| <b>DR/SC, ADA/ASR, GDR/GSR actuators</b> |  |                            |
| 3  | Control air connectors                     | Aluminium                  |
| 4  | Actuator housing                           | Aluminium                  |

Product description

| Item | Name               | Material      |
|------|--------------------|---------------|
| 5a   | Position indicator | Polypropylene |

## Actuator assignment

### GEMÜ 9415 - plastic

| DN | Size 0             | Size 1 |
|----|--------------------|--------|
|    | Code <sup>1)</sup> |        |
| 15 | 0                  | -      |
| 20 | 0                  | -      |
| 25 | 0                  | -      |
| 32 | -                  | 1      |
| 40 | -                  | 1      |
| 50 | -                  | 1      |

#### 1) Actuator version

Code 0: GEMÜ actuator, pneumatic, size 0, piston diameter 50 mm

Code 1: GEMÜ actuator, pneumatic, size 1, piston diameter 70 mm

### GEMÜ ADA/ASR - metal

| DN | Double acting ADA | Code   | Single acting ASR         | Code   |
|----|-------------------|--------|---------------------------|--------|
| 15 | ADA0020U F05YS14A | BU02AB | ASR0020U S08 F05YS14/S11A | AU02FB |
| 20 | ADA0020U F05YS14A | BU02AB | ASR0020U S08 F05YS14/S11A | AU02FB |
| 25 | ADA0020U F05YS14A | BU02AB | ASR0020U S08 F05YS14/S11A | AU02FB |
| 32 | ADA0020U F05YS14A | BU02AB | ASR0040U S14 F05YS14/S11A | AU04KB |
|    | ADA0040U F05YS14A | BU04AB |                           |        |
| 40 | ADA0040U F05YS14A | BU04AB | ASR0040U S14 F05YS14/S11A | AU04KB |
| 50 | ADA0040U F05YS14A | BU04AB | ASR0040U S14 F05YS14/S11A | AU04KB |

### GEMÜ DR/SC - metal

| DN | Double acting DR    | Code   | Single acting SC      | Code   |
|----|---------------------|--------|-----------------------|--------|
| 15 | DR0015U F03F05NS11A | DU01AW | SC0015U 6 F03F05NS11A | SU01KW |
|    |                     |        | SC0030U 6 F05F07NS14A | SU03KP |
| 20 | DR0015U F03F05NS11A | DU01AW | SC0015U 6 F03F05NS11A | SU01KW |
|    |                     |        | SC0030U 6 F05F07NS14A | SU03KP |
| 25 | DR0015U F03F05NS11A | DU01AW | SC0015U 6 F03F05NS11A | SU01KW |
|    |                     |        | SC0030U 6 F05F07NS14A | SU03KP |
| 32 | DR0015U F03F05NS11A | DU01AW | SC0030U 6 F05F07NS14A | SU03KP |
|    | DR0030U F05F07NS14A |        | SC0060U 6 F05F07NS14A | SU06KP |
| 40 | DR0030U F05F07NS14A | DU03AP | SC0060U 6 F05F07NS14A | SU06KP |
| 50 | DR0030U F05F07NS14A | DU03AP | SC0060U 6 F05F07NS14A | SU06KP |

### GEMÜ GDR/GSR - metal

| DN | Double acting GDR   | Code   | Single acting GSR      | Code   |
|----|---------------------|--------|------------------------|--------|
| 15 | GDR0050 F03/05 S11A | HR05AW | GSR0050 SC5F03/05 S11  | GR05SW |
| 20 | GDR0050 F03/05 S11A | HR05AW | GSR0050 SC5F03/05 S11  | GR05SW |
| 25 | GDR0050 F03/05 S11A | HR05AW | GSR0050 SC5F03/05 S11  | GR05SW |
| 32 | GDR0050 F03/05 S11A | HR05AW | GSR0065 SC5F05/07 S14A | GR06SP |
| 40 | GDR0050 F03/05 S11A | HR05AW | GSR0065 SC5F05/07 S14A | GR06SP |
| 50 | GDR0050 F03/05 S11A | HR05AW | GSR0065 SC5F05/07 S14A | GR06SP |

## Order data

The order data provide an overview of standard configurations.

Please check the availability before ordering. Other configurations available on request.

## Order codes

| 1 Type                                  | Code |
|---|------|
| Butterfly valve, pneumatically operated | 410  |

| 2 DN  | Code |
|-------|------|
| DN 15 | 15   |
| DN 20 | 20   |
| DN 25 | 25   |
| DN 32 | 32   |
| DN 40 | 40   |
| DN 50 | 50   |

| 3 Body configuration | Code |
|----------------------|------|
| 2/2-way body         | D    |

| 4 Connection type                        | Code |
|--|------|
| Union end with DIN insert (socket)       | 7    |
| Union end with inch insert - BS (socket) | 33   |

| 5 Body material | Code |
|-----------------|------|
| PVC-U, grey     | 1    |

| 6 Shut-off seal material | Code |
|--------------------------|------|
| FPM                      | 4    |
| EPDM                     | 14   |

| 7 Control function                                       | Code |
|--|------|
| <b>Actuator GEMÜ 9415</b>                                |      |
| Normally closed (NC)                                     | 1    |
| Normally open (NO)                                       | 2    |
| Double acting (DA)                                       | 3    |
| <b>GEMÜ ADA/ASR, DR/SC, GDR/GSR actuators</b>            |      |
| Normally closed (NC)                                     | 1    |
| Normally open (NO)                                       | 2    |
| Double acting (DA)                                       | 3    |
| Normally closed (NC), actuator mounted across the piping | Q    |
| Double acting (DA), actuator mounted across the piping   | T    |
| Normally open (NO), actuator mounted across the piping   | U    |

| 8 Actuator version  | Code   |
|---|--------|
| <b>Actuator GEMÜ 9415</b>   |        |
| GEMÜ actuator, pneumatic, size 0, piston diameter 50 mm                     | 0      |
| GEMÜ actuator, pneumatic, size 1, piston diameter 70 mm                     | 1      |
| <b>Actuator GEMÜ DR and SC</b>  |        |
| Actuator, pneumatic, double acting, clockwise rotation, DR0015U F03F05NS11A | DU01AW |
| Actuator, pneumatic, double acting, clockwise rotation, DR0030U F05F07NS14A | DU03AP |

| 8 Actuator version  | Code   |
|---|--------|
| Actuator, pneumatic, single acting, spring closing, clockwise rotation, SC0015U 6 F03F05NS11A     | SU01KW |
| Actuator, pneumatic, single acting, spring closing, clockwise rotation, SC0030U 6 F05F07NS14A     | SU03KP |
| Actuator, pneumatic, single acting, spring closing, clockwise rotation, SC0060U 6 F05F07NS14A     | SU06KP |
| <b>Actuator GEMÜ ADA and ASR</b>  |        |
| Actuator, pneumatic, double acting, clockwise rotation, ADA0020U F05YS14A                         | BU02AB |
| Actuator, pneumatic, double acting, clockwise rotation, ADA0040U F05YS14A                         | BU04AB |
| Actuator, pneumatic, single acting, spring closing, clockwise rotation, ASR0020U S08 F05YS14/S11A | AU02FB |
| Actuator, pneumatic, single acting, spring closing, clockwise rotation, ASR0040U S14 F05YS14/S11A | AU04KB |
| <b>Actuator GEMÜ GDR and GSR</b>  |        |
| Actuator, pneumatic, double acting, clockwise rotation, GDR0050 F03/05 S11A                       | HR05AW |
| Actuator, pneumatic, single acting, clockwise rotation, GSR0065 SC5F05/07 S14A                    | GR06SP |

**Order example**

| Ordering option          | Code | Description   |
|--------------------------|------|---|
| 1 Type                   | 410  | Butterfly valve, pneumatically operated                 |
| 2 DN                     | 25   | DN 25   |
| 3 Body configuration     | D    | 2/2-way body  |
| 4 Connection type        | 7    | Union end with DIN insert (socket)                      |
| 5 Body material          | 1    | PVC-U, grey   |
| 6 Shut-off seal material | 14   | EPDM  |
| 7 Control function       | 1    | Normally closed (NC)                                    |
| 8 Actuator version       | 0    | GEMÜ actuator, pneumatic, size 0, piston diameter 50 mm |

## Technical data

### Medium

**Working medium:** Corrosive, inert, gaseous and liquid media which have no negative impact on the physical and chemical properties of the body, disc and seal material. The product is only suitable for use with fluids of group 2 according to the Pressure Equipment Directive.

**Control medium:** Inert gases

### Temperature

**Media temperature:** 0 – 60 °C

**Ambient temperature:** -10 – 60 °C

**Storage temperature:** 0 – 40 °C

**Control medium temperature:** max. 60 °C

### Pressure

**Operating pressure:** 0 – 6 bar

**Kv values:**

| DN | Kv values |
|----|-----------|
| 15 | 7         |
| 20 | 13        |
| 25 | 17        |
| 32 | 33        |
| 40 | 53        |
| 50 | 74        |

Kv values in m<sup>3</sup>/h

**Pressure/temperature correlation:**

| Material | Code | Temperature in °C (valve body) |     |     |     |     |     |     |
|----------|------|--------------------------------|-----|-----|-----|-----|-----|-----|
|          |      | 10                             | 20  | 25  | 30  | 40  | 50  | 60  |
| PVC-U    | 1    | 6.0                            | 6.0 | 6.0 | 6.0 | 6.0 | 3.5 | 1.5 |

All pressures are gauge pressures.

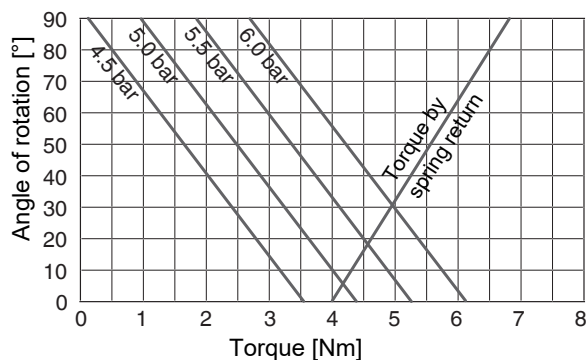
The permissible operating pressure depends on the working medium temperature.

**Filling volume:**  
 Actuator size 0: 0.05 NI  
 Actuator size 1: 0.20 NI

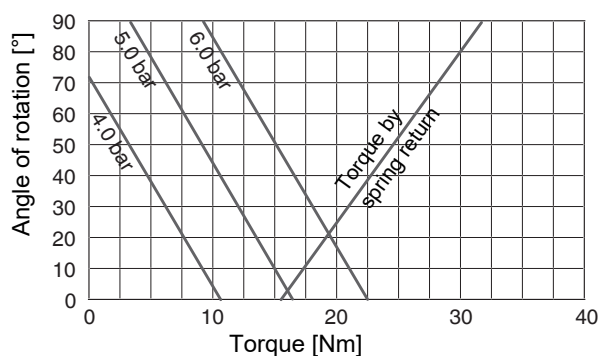
**Control pressure:** 4 to 6 bar



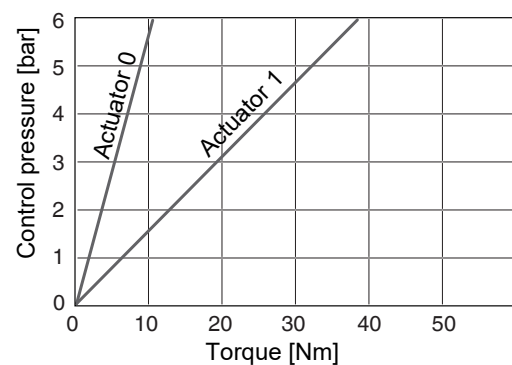
**Control pressure-Torque diagram:** **Actuator size 0, control function 1**



**Actuator size 1, control function 1**



**Actuator size 0 and 1, control function 3**



**Product compliance**

Machinery Directive: 2006/42/EC

Pressure Equipment Directive: 2014/68/EU

## Mechanical data

### Torques:

| DN | Torques |
|----|---------|
| 15 | 6.0     |
| 20 | 6.0     |
| 25 | 6.0     |
| 32 | 8.0     |
| 40 | 20.0    |
| 50 | 21.0    |

Torques in Nm

### Weight:

#### Body

| DN | Weight |
|----|--------|
| 15 | 360    |
| 20 | 390    |
| 25 | 400    |
| 32 | 700    |
| 40 | 1072   |
| 50 | 1200   |

Weight in g

#### Actuator 9415

|                         |                     |        |
|-------------------------|---------------------|--------|
| <b>Actuator size 0:</b> | Control function 1: | 435 g  |
|                         | Control function 3: | 325 g  |
| <b>Actuator size 1:</b> | Control function 1: | 1470 g |
|                         | Control function 3: | 1100 g |

#### Actuator ADA / ASR

| Type         | ADA | ASR |
|--------------|-----|-----|
| <b>0020U</b> | 1.4 | 1.5 |
| <b>0040U</b> | 2.1 | 2.3 |

Weights in kg

#### Actuator DR/SC

| Type         | DR  | SC  |
|--------------|-----|-----|
| <b>0015U</b> | 1.0 | 1.1 |
| <b>0030U</b> | 1.6 | 1.7 |
| <b>0060U</b> | 2.7 | 3.1 |

Weights in kg

#### Actuator GDA/GSR

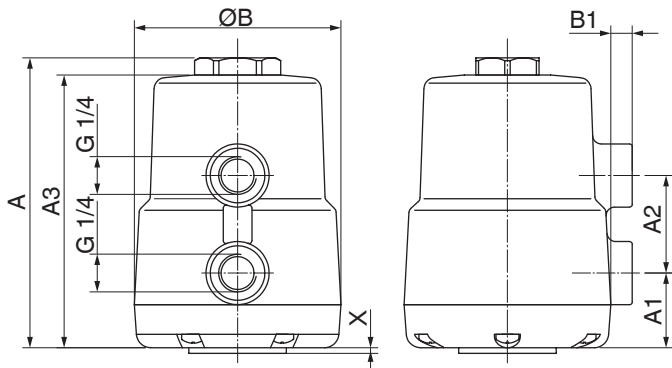
| Type        | GDA | GSR |
|-------------|-----|-----|
| <b>0050</b> | 1.1 | 1.2 |
| <b>0065</b> | 1.5 | 1.8 |

Weights in kg

## Dimensions

### Actuator

#### GEMÜ 9415



| Actuator size | A     | A1   | A2   | A3    | ØB   | B1  | X   |
|---------------|-------|------|------|-------|------|-----|-----|
| 0             | 112.0 | 37.0 | 34.0 | 106.0 | 72.0 | 7.0 | 2.0 |
| 1             | 177.0 | 41.0 | 65.0 | 171.0 | 97.0 | 3.0 | 2.0 |

Dimensions in mm

**ADA/ASR**

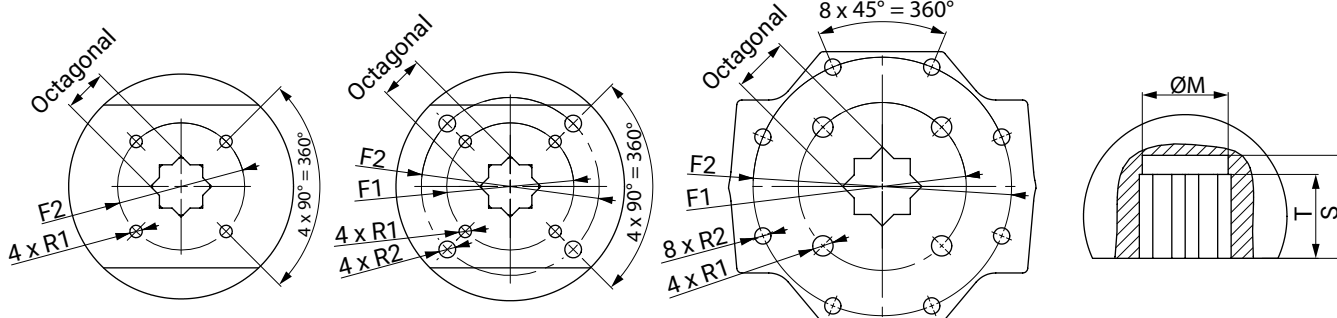
**Actuator flange ISO5211**

Type 00010, 0020U, 0040U,  
0500U, 0750U, 2100U, 2500U

Type 0020U, 0080U, 0130U,  
0300U, 0850U, 1200U

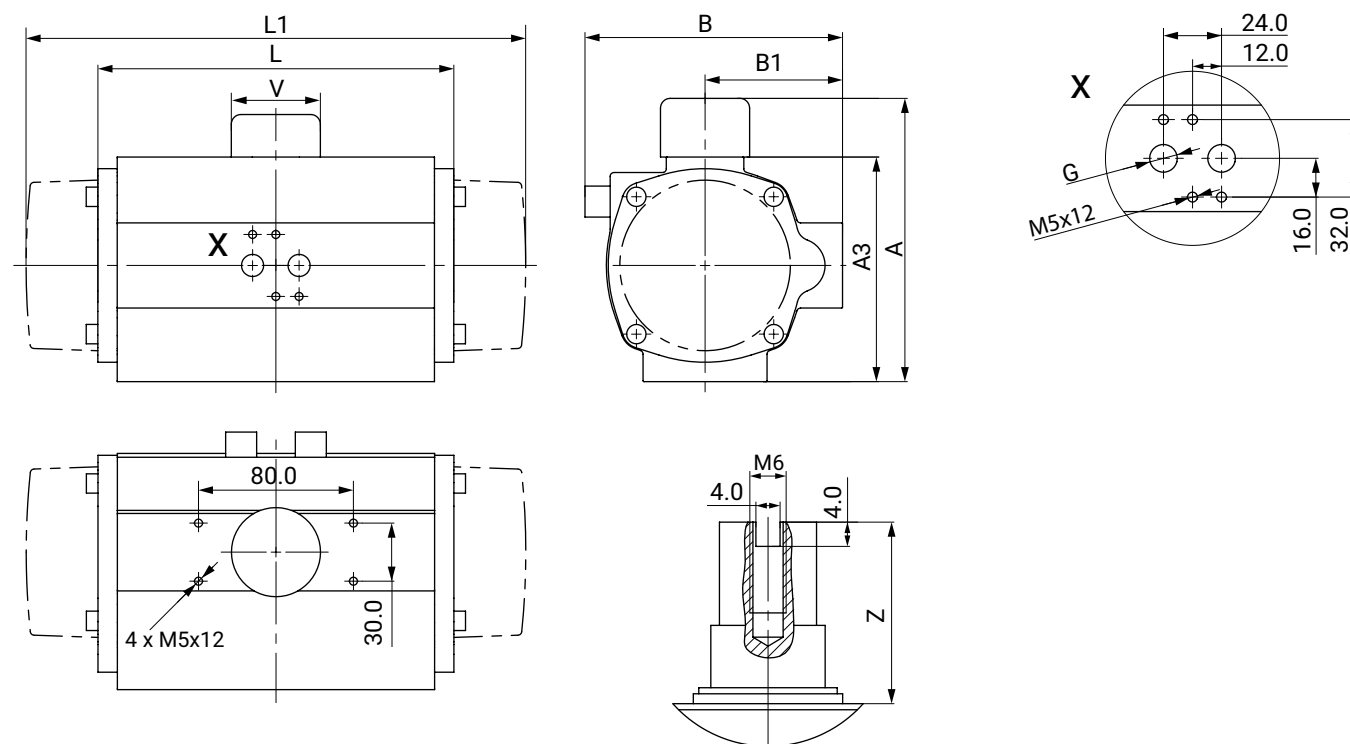
Type 4000U

Type 00010 - 4000U



| Type         | Actuator flange | Octagonal | M    | T    | S    | F1   | R1        | F2 | R2 |
|--------------|-----------------|-----------|------|------|------|------|-----------|----|----|
| <b>0020U</b> | F05             | 14.0      | 18.1 | 12.0 | 16.0 | 50.0 | M6 x 10.0 | -  | -  |
| <b>0040U</b> | F05             | 14.0      | 18.1 | 12.0 | 16.0 | 50.0 | M6 x 10.0 | -  | -  |

Dimensions in mm

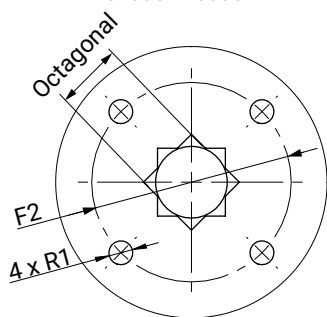


| Type         | A     | A3   | B    | B1   | G     | L     | L1    | V    | Z    |
|--------------|-------|------|------|------|-------|-------|-------|------|------|
| <b>0020U</b> | 96.0  | 66.0 | 76.0 | 48.0 | G1/4" | 145.0 | 163.0 | 40.0 | 30.0 |
| <b>0040U</b> | 115.0 | 85.0 | 91.0 | 56.0 | G1/4" | 158.0 | 195.0 | 40.0 | 30.0 |

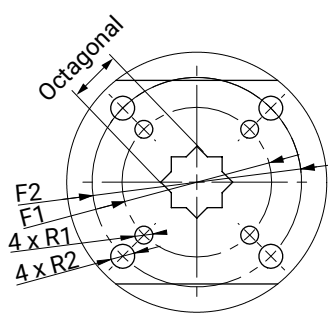
Dimensions in mm

**DR/SC**

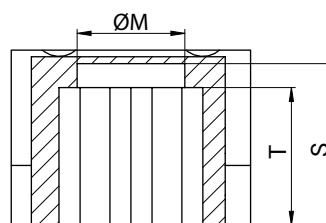
Type 0010U - 0030U  
0900U - 4000U



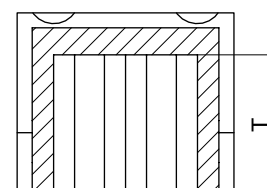
Type 0030U - 1200U, 5000U



Type 0010U - 1200U, 5000U

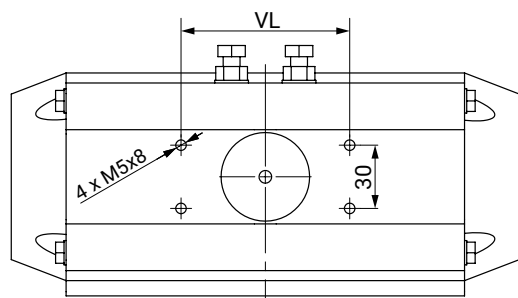
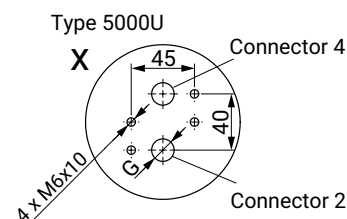
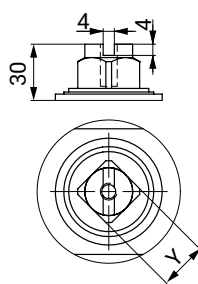
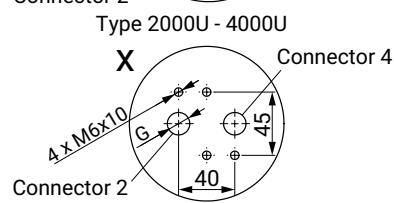
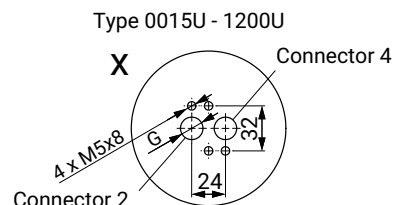
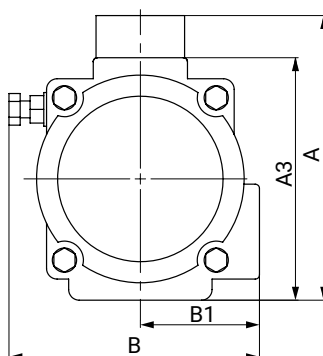
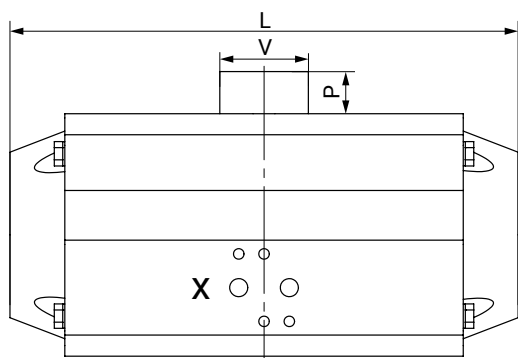


Type 2000U - 4000U



| Type  | ISO flange | Octagonal | M    | T    | S    | F1   | R1 | F2   | R2 |
|-------|------------|-----------|------|------|------|------|----|------|----|
| 0015U | F04        | 11.0      | 15.5 | 11.5 | 13.5 | 42.0 | M5 | -    | -  |
| 0030U | F05/F07    | 14.0      | 18.6 | 14.5 | 16.5 | 50.0 | M6 | 70.0 | M8 |
| 0060U | F05/F07    | 17.0      | 22.7 | 17.5 | 20.0 | 50.0 | M6 | 70.0 | M8 |

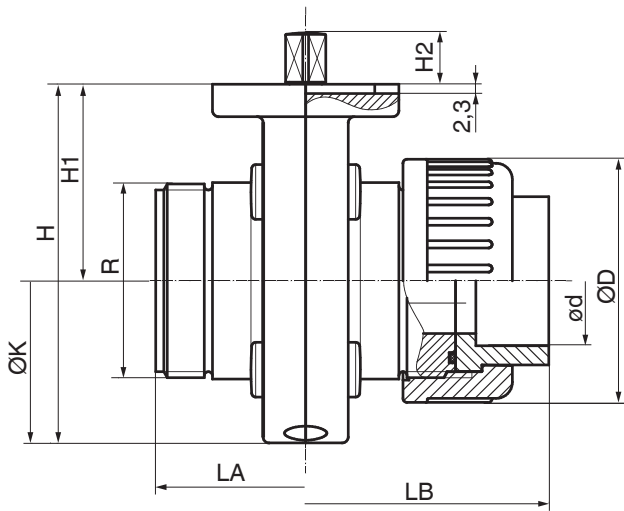
Dimensions in mm



| Type  | A     | A3    | B    | B1   | V    | VL   | G     | P    | L     | Y    |
|-------|-------|-------|------|------|------|------|-------|------|-------|------|
| 0015U | 89.0  | 69.0  | 72.0 | 43.0 | 42.0 | 80.0 | G1/8" | 20.0 | 136.0 | 11.0 |
| 0030U | 105.0 | 85.0  | 84.5 | 48.5 | 42.0 | 80.0 | G1/8" | 20.0 | 153.5 | 11.0 |
| 0060U | 122.0 | 102.0 | 93.0 | 50.5 | 42.0 | 80.0 | G1/8" | 20.0 | 203.5 | 17.0 |

Dimensions in mm

**Body**



| DN | LA    | LB    | H     | H1   | H2   | øD    | ød   | R       | øK    |
|----|-------|-------|-------|------|------|-------|------|---------|-------|
| 15 | 74.0  | 114.0 | 89.0  | 48.5 | 13.0 | 60.0  | 20.0 | G 1 1/2 | 80.0  |
| 20 | 74.0  | 118.0 | 89.0  | 48.5 | 13.0 | 60.0  | 25.0 | G 1 1/2 | 80.0  |
| 25 | 74.0  | 124.0 | 89.0  | 48.5 | 13.0 | 60.0  | 32.0 | G 1 1/2 | 80.0  |
| 32 | 80.0  | 138.0 | 106.0 | 57.5 | 13.0 | 74.0  | 40.0 | G 2     | 96.0  |
| 40 | 94.0  | 162.0 | 112.0 | 58.0 | 13.0 | 83.0  | 50.0 | G 2 1/4 | 108.0 |
| 50 | 106.0 | 188.0 | 137.0 | 74.0 | 13.0 | 103.0 | 63.0 | G 2 3/4 | 126.0 |

Dimensions in mm

**Add-on components**



**GEMÜ LSF**

**Inductive dual sensor for quarter turn valves**

The GEMÜ LSF inductive dual sensor is suitable for mounting to manually and pneumatically operated quarter turn valves. It is also fitted with an optical position indicator for visual confirmation of position.



**GEMÜ LSC**

**Limit switch box for quarter turn actuators**

The GEMÜ LSC limit switch box is suitable for mounting to manually and pneumatically operated quarter turn valves. It is also fitted with an optical position indicator for visual confirmation of position.



**GEMÜ 1225**

**Electrical position indicator**

The GEMÜ 1225 electrical position indicator for GEMÜ butterfly valves 410, 411, 415, 417, 423 and 428 has two adjustable trip cams which are non-positively operated by the switching shaft.



GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG  
Fritz-Müller-Straße 6-8, 74653 Ingelfingen-Criesbach, Germany  
Phone +49 (0) 7940 1230 · info@gemu.de  
www.gemu-group.com