

GEMÜ 415

Pneumatically operated butterfly valve



Features

- Available in small nominal sizes
- Suitable for vacuum applications and low temperatures
- Corrosion-resistant and space-saving piston actuator made from plastic or metal
- High-quality butterfly valve in stainless steel
- Compact and robust body

Description

The GEMÜ 415 soft-seated, centric butterfly valve made of stainless steel is pneumatically operated via a space-saving piston actuator. The "Normally Closed", "Normally Open" and "Double Acting" control functions are available. A low-cost rack and pinion actuator can also be fitted. With its rounded and polished disc edges, the butterfly valve is optimized for frequent cycle duties. The surface of the butterfly valve can be further finished.

Technical specifications

- **Media temperature:** -20 to 160 °C
- **Ambient temperature:** 0 to 60 °C
- **Operating pressure:** 0 to 10 bar
- **Nominal sizes:** DN 15 to 50
- **Connection types:** Clamp | Spigot | thread
- **Connection standards:** ASME | DIN | EN | ISO | SMS
- **Housing materials:** 1.4408, investment casting material
- **Liner materials:** EPDM | FKM | Silicone
- **Disc materials:** 1.4408, investment casting material
- **Conformities:** ATEX | EAC | FDA

Technical data depends on the respective configuration







further information
webcode: GW-415



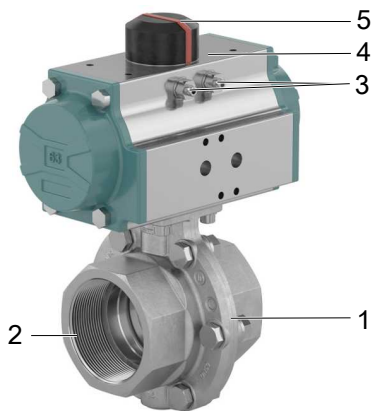
Product line**GEMÜ K415****GEMÜ 411****GEMÜ 415****GEMÜ 428****Operation**

With bare shaft	●	-	-	-
manually	-	●	-	-
Pneumatic	-	-	●	-
Motorized	-	-	-	●
Nominal sizes	DN 15 Up to 50	DN 15 Up to 50	DN 15 Up to 50	DN 15 Up to 50
Media temperature	-20 Up to 160 °C	-20 Up to 160 °C	-20 Up to 160 °C	-20 Up to 160 °C
Operating pressure	0 Up to 10 bar	0 Up to 10 bar	0 Up to 10 bar	0 Up to 10 bar
Connection types				
Clamp	●	●	●	●
Spigot	●	●	●	●
thread	●	●	●	●
Conformities				
ATEX	-	-	●	-
EAC	●	●	●	●
FDA	●	●	●	●
Functional safety	-	●	-	-

Comparison of actuator applications

				
	GEMÜ ADA/ASR	GEMÜ DR/SC	GEMÜ GDR/GSR/ GDL/GSL	GEMÜ 9415
Industrial sectors				
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	Investment casting (1.4408)
2	Pipe connections	Investment casting (1.4408)
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

Availability

Body

DN	NPS	Body material ¹⁾ : Investment casting code 37									
		Connection type code ²⁾									
		Threaded socket		Spigot						Clamp	
		1	31	0	16	17	37	59	60	86	88
15	1/2"	X	X	X	X	X	-	X	X	X	X
20	3/4"	X	X	X	X	X	-	X	X	X	X
25	1"	X	X	X	X	X	X	X	X	X	X
32	1 1/4"	X	X	X	X	X	X	-	X	X	-
40	1 1/2"	X	X	X	X	X	X	X	X	X	X
50	2"	X	X	X	X	X	X	X	X	X	X

1) **Body material**

Code 37: 1.4408, investment casting

2) **Connection type**

Code 0: Spigot DIN

Code 1: Threaded socket DIN ISO 228

Code 16: Spigot DIN EN 10357 series B (2014 edition; formerly DIN 11850 series 1)

Code 17: Spigot EN 10357 series A/DIN 11866 series A, formerly DIN 11850 series 2

Code 31: NPT female thread

Code 37: Spigot SMS 3008

Code 59: Spigot ASME BPE/DIN EN 10357 series C (from 2022 edition)/DIN 11866 series C

Code 60: Spigot ISO 1127/DIN EN 10357 series C (2014 edition)/DIN 11866 series B

Code 86: Clamp DIN 32676 series A, face-to-face dimension FTF EN 558 series 14

Code 88: Clamp ASME BPE, for pipe ASME BPE, face-to-face dimension FTF EN 558 series 14

Actuators

GEMÜ 9415 - plastic

DN	Size 0	Size 1
	Code ¹⁾	
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	415

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
Spigot	
Spigot DIN	0
Spigot DIN EN 10357 series B (2014 edition; formerly DIN 11850 series 1)	16
Spigot EN 10357 series A/DIN 11866 series A, formerly DIN 11850 series 2	17
Spigot SMS 3008	37
Spigot ASME BPE/DIN EN 10357 series C (from 2022 edition)/DIN 11866 series C	59
Spigot ISO 1127/DIN EN 10357 series C (2014 edition)/DIN 11866 series B	60
Threaded socket	
Threaded socket DIN ISO 228	1
NPT female thread	31
Clamp	
Clamp DIN 32676 series A, face-to-face dimension FTF EN 558 series 14	86
Clamp ASME BPE, for pipe ASME BPE, face-to-face dimension FTF EN 558 series 14	88

5 Body material	Code
1.4408, investment casting	37

6 Shut-off seal material	Code
FKM	4
Silicone (MVQ)	9
EPDM	14

7 Control function	Code
Actuator GEMÜ 9415	
Normally closed (NC)	1
Normally open (NO)	2
Double acting (DA)	3
GEMÜ ADA/ASR, DR/SC, GDR/GSR actuators	
Normally closed (NC)	1

7 Control function	Code
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
Actuator GEMÜ 9415	
GEMÜ actuator, pneumatic, size 0, piston diameter 50 mm	0
GEMÜ actuator, pneumatic, size 1, piston diameter 70 mm	1
Actuator GEMÜ DR and SC	
Actuator, pneumatic, DA – at 6 bar, 19.9 Nm, 2.5–8.0 bar DR0015U F03/05 S11	DU01AW
Actuator, pneumatic, DA – at 6 bar, 35.2 Nm, 2.5–8.0 bar DR0030U F05/07 S14	DU03AP
Actuator, pneumatic, single acting, clockwise rotation, spring closing, SC0015U 6F03/05 S11	SU01KW
Actuator, pneumatic, SA – at 0°, 13.3 Nm, 5.5–8.0 bar SC0030U 6F05/07 S14	SU03KP
Actuator, pneumatic, SA – at 0°, 26.5 Nm, 5.5–8.0 bar SC0060U 6F05/07 S14	SU06KP
Actuator GEMÜ ADA and ASR	
Actuator, pneumatic, DA – at 6 bar, 19.5 Nm, 3.0–10 bar ADA0020U F05 S14S11	BU02AB
Actuator, pneumatic, DA – at 6 bar, 41.0 Nm, 3.0–10 bar ADA0040U F05 S14S11	BU04AB
Actuator, pneumatic, SA – 0°, 9.0 Nm, 5.5–8.0 bar ASR0020US08F05 S14S11	AU02FB
Actuator, pneumatic, SA – 0°, 17.0 Nm, 5.5–8.0 bar ASR0040US14F05 S14S11	AU04KB
Actuator GEMÜ GDR and GSR	
Actuator, pneumatic, DA – at 6 bar, 20.6 Nm GDR0050 F03/05 S11 2.5–8.0 bar	HR05AW
Actuator, pneumatic, SA – at 0°, 7.9 Nm GSR0050 SC5F03/05 S11 4.5–8.0 bar	GR05SW
Actuator, pneumatic, SA – at 0°, 20.2 Nm GSR0075 SC5F05/07 S14 4.5–8.0 bar	GR07SP

9 Type of design	Code
Without	

9 Type of design	Code
Media-wetted area cleaned to ensure suitability for paint applications, parts sealed in plastic bag	0101
Valve free of oil and grease, media-wetted area cleaned and packed in PE bag	0107

10 Special version	Code
Without	
ATEX certification	X

Order example

Ordering option	Code	Description
1 Type	415	Butterfly valve, pneumatically operated
2 DN	25	DN 25
3 Body configuration	D	2/2-way body
4 Connection type	1	Threaded socket DIN ISO 228
5 Body material	37	1.4408, investment casting
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
9 Type of design		Without
10 Special version		Without

Technical data

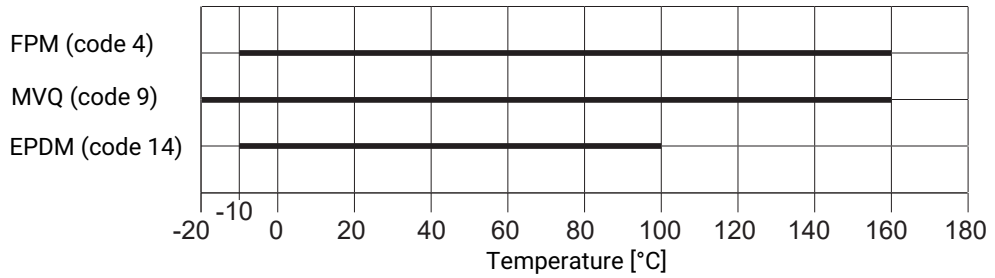
Medium

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: Shut-off seal



For media temperatures above 100 °C additionally use mounting kit GEMÜ MSC (see accessories).

Ambient temperature: 0 – 60 °C

Storage temperature: -20 – 40 °C

Control medium temperature: max. 60 °C

Pressure

Operating pressure: 0 – 10 bar

Note: Cannot be used as an end-of-line valve

Control pressure: 4 Up to 6 bar

Pressure rating: PN 10

Kv values:

DN	Body material
	Code 37
15	7
20	15
25	20
32	55
40	90
50	140

Kv values in m³/h

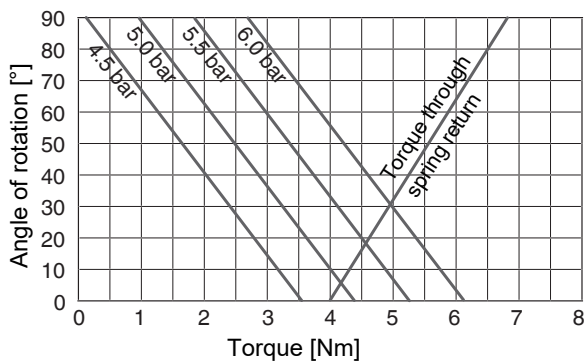
Filling volume: **GEMÜ 9415 actuator**

Actuator size 0: 0.05 NI

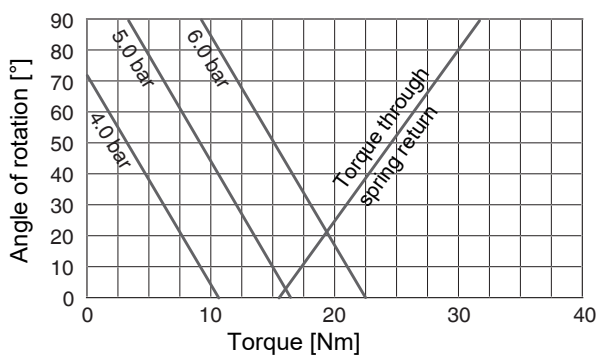
Actuator size 1: 0.20 NI

Control pressure-Torque diagram:

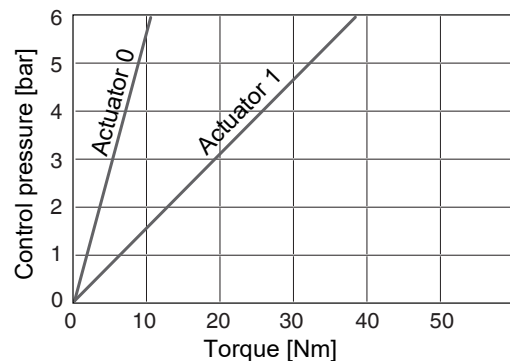
GEMÜ 9415 actuator
Actuator size 0, control function 1



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



Approvals: FDA

Explosion protection: ATEX (2014/34/EU) on request



ATEX marking: The product's ATEX marking is dependent on the respective product configuration. This can be found in the product-specific ATEX documentation and the ATEX product label.

ATEX marking:



Assessment of the body

Gas:  II -/2 G
 Ex h -/IIC T6 ... T3 -/Gb X
 II -/2 D
 Ex h -/IIIC T150°C -/Db X
 Dust:  II 2 G
 Ex h IIB T6 ... T3 GbX
 II -/2 D
 Ex h -/IIIC T150 °C -/Db X

Actuator type ADA/ASR

Gas:  II 2 G
 Ex h IIC T6 Gb
 Dust:  II 2 D
 Ex h IIIC T60°C Db

Actuator type DR/SC

Gas:  II 2 G
 Ex h IIC T6...T3 Gb X
 Dust:  II 2 D
 Ex h IIIC T85°C ... T165°C Db X

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	Body material
	Code 37
15	900
20	940
25	1020
32	1100
40	1500
50	1950

Weight in g

Actuator 9415

Actuator size 0: Control function 1: 435 g
 Control function 3: 325 g
Actuator size 1: Control function 1: 1470 g
 Control function 3: 1100 g

Weight:

Actuator ADA / ASR

Type	ADA	ASR
0020U	1.4	1.5
0040U	2.1	2.3

Weights in kg

Actuator DR/SC

Type	DR	SC
0015U	1.0	1.1
0030U	1.6	1.7
0060U	2.7	3.1

Weights in kg

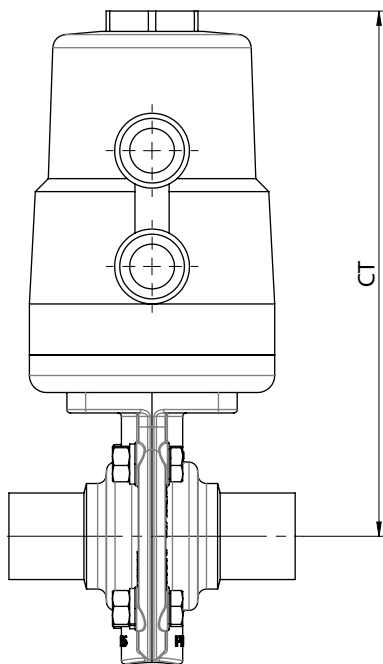
Actuator GDA/GSR

Type	GDA	GSR
0050	1.05	1.22
0065	1.50	1.80

Weights in kg

Dimensions

Mounting height

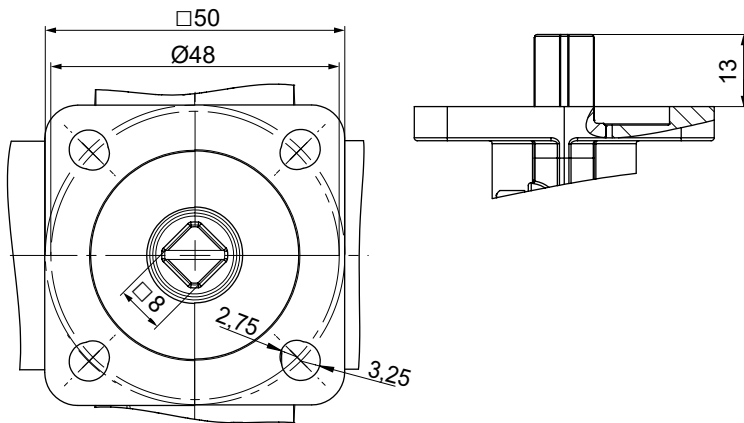


DN	CT	
	Actuator size	
	0	1
15	153.5	-
20	153.5	-
25	153.5	-
32	-	225.0
40	-	233.0
50	-	242.0

Dimensions in mm

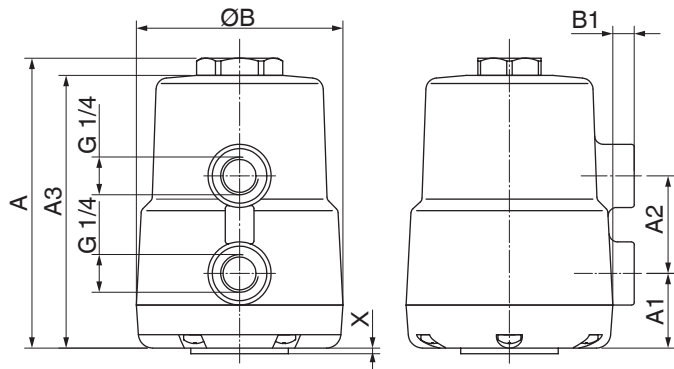
Actuator

Actuator flange F05/G05



Dimensions in mm

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

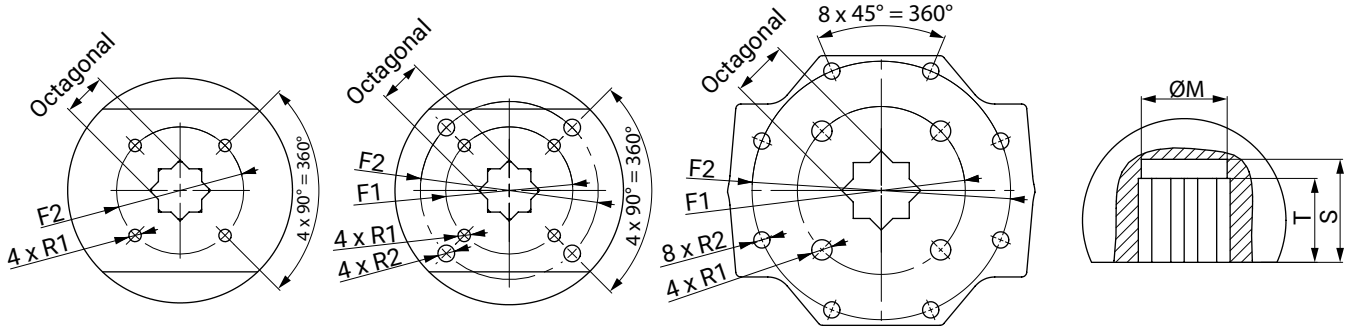
Actuator flange ISO5211

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

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

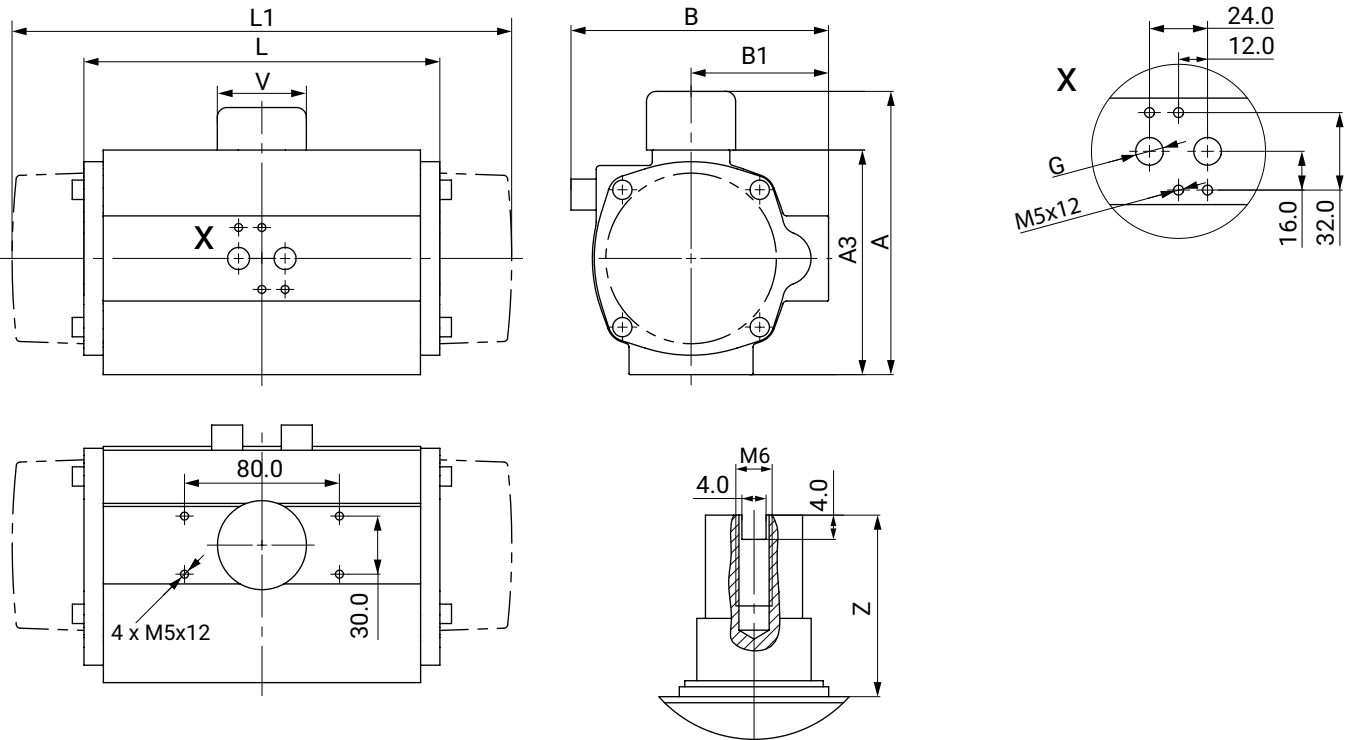
Type 4000U

Type 00010 - 4000U



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

Dimensions in mm

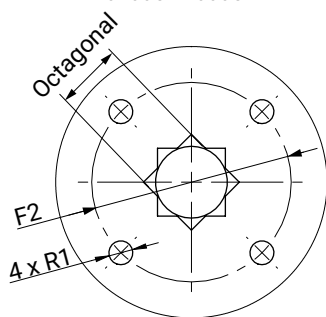


Type	A	A3	B	B1	G	L	L1	V	Z
0020U	96.0	66.0	76.0	48.0	G1/4"	145.0	163.0	40.0	30.0
0040U	115.0	85.0	91.0	56.0	G1/4"	158.0	195.0	40.0	30.0

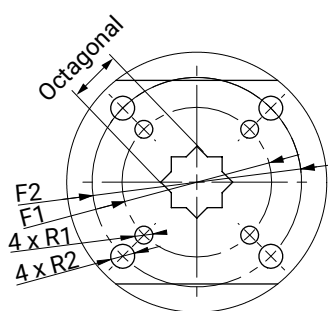
Dimensions in mm

DR/SC

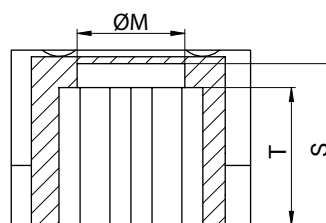
Type 0010U - 0030U
0900U - 4000U



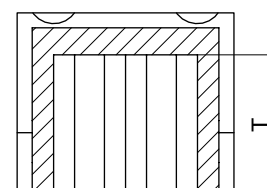
Type 0030U - 1200U, 5000U



Type 0010U - 1200U, 5000U

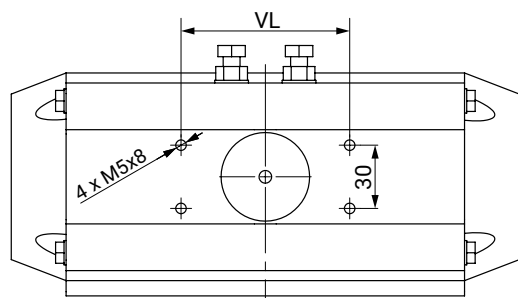
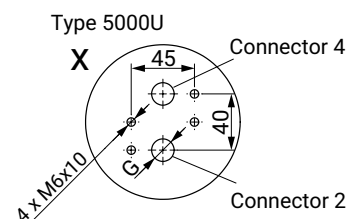
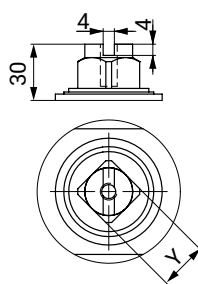
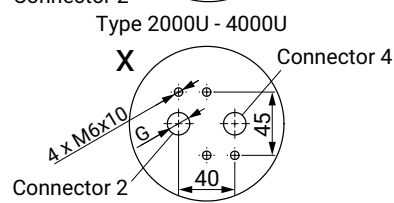
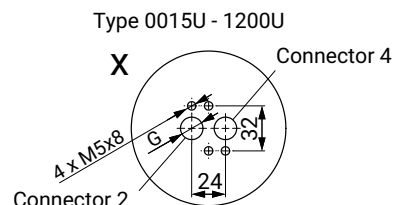
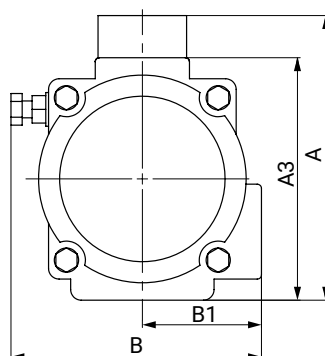
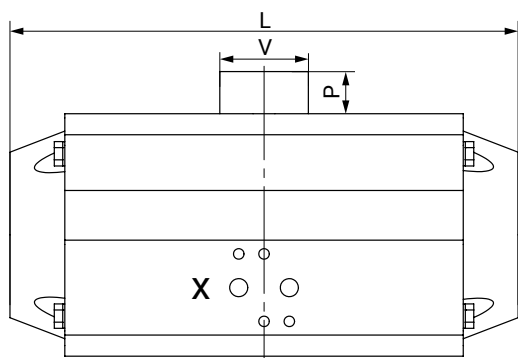


Type 2000U - 4000U



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

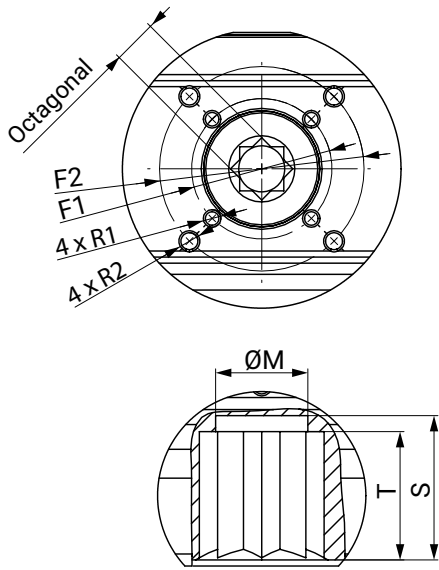


Type	A	A3	B	B1	V	VL	G	P	L	Y
0015U	89.0	69.0	72.0	43.0	42.0	80.0	G1/8"	20.0	136.0	11.0
0030U	105.0	85.0	84.5	48.5	42.0	80.0	G1/8"	20.0	153.5	11.0
0060U	122.0	102.0	93.0	50.5	42.0	80.0	G1/8"	20.0	203.5	17.0

Dimensions in mm

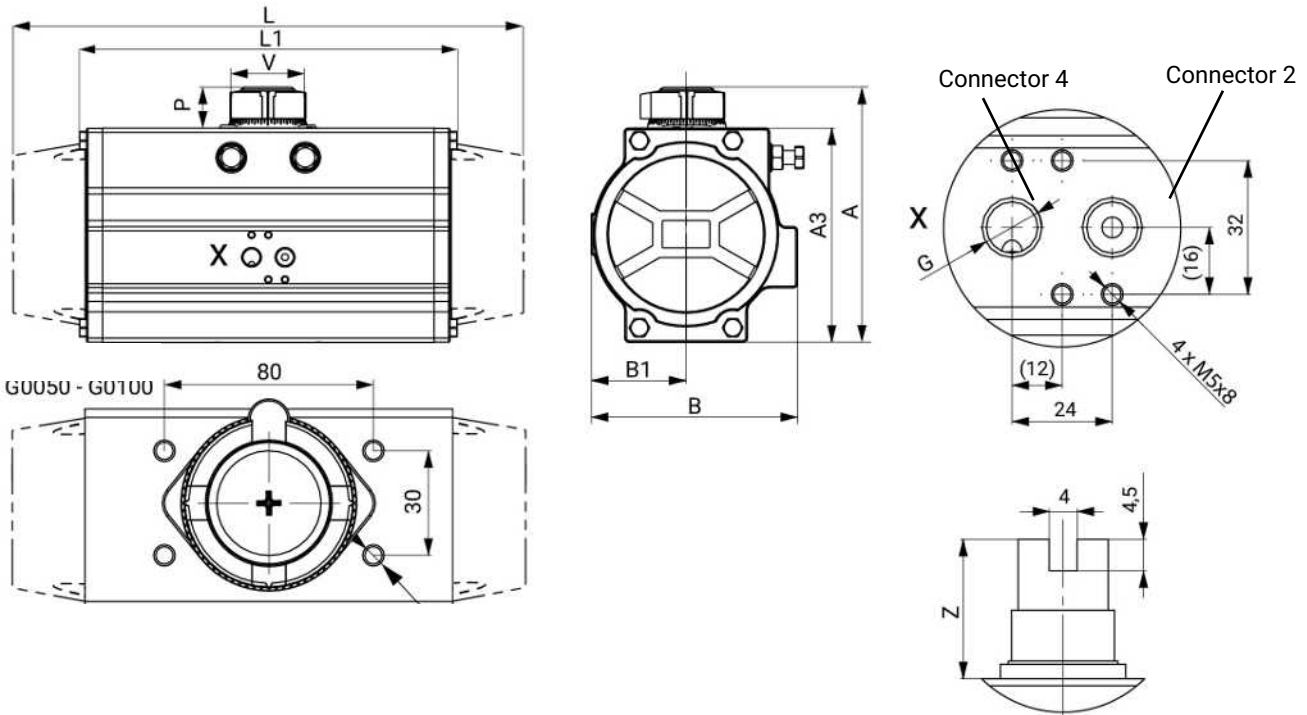
Dimensions

GDR/GSR



Type	Actuator flange	Octagonal	M	T	S	F1	R1	F2	R2
G0050	F03/F05	11.0	11.8	12.0	20.0	36.0	M5 x 7,5	50.0	M6 x 8
G0065	F05/F07	14.0	14.5	16.0	20.0	50.0	M6 x 8	70.0	M8 x 12

Dimensions in mm

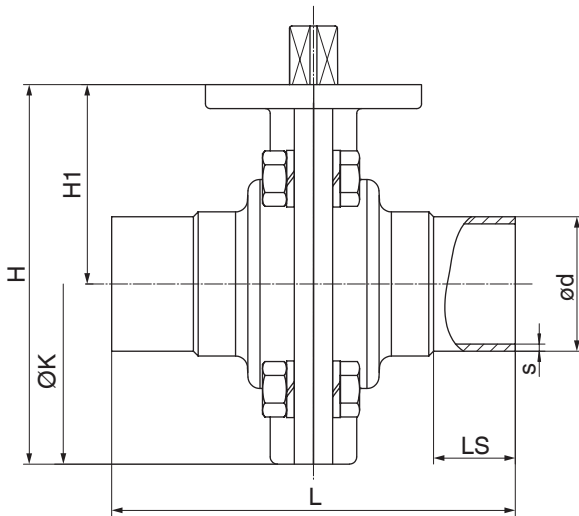


Type	A	A3	B	B1	V	G	P	VL	Z	L
G0050	92.00	70.00	71.00	30.00	40.00	G1/8"	22.00	80.00	20.00	142.00
G0065	102.50	80.50	80.50	35.50	40.00	G1/8"	22.00	80.00	20.00	162.00

Dimensions in mm

Body

Butt weld spigot (connection type code 0, 16, 17, 37, 59, 60)

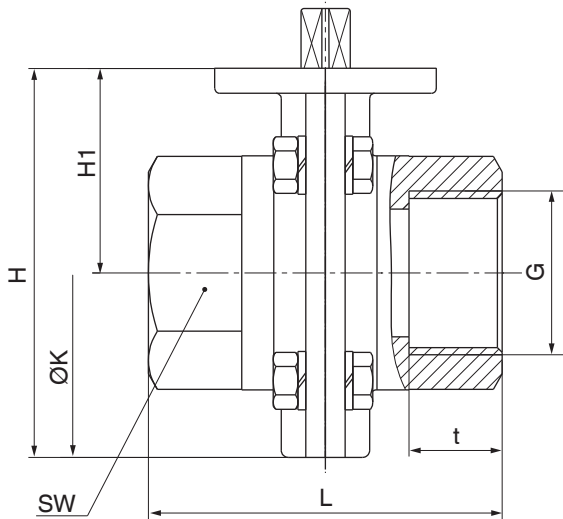


DN	NPS	L	H	H1	ØK	LS	DIN		EN 10357			
							Code 0		Code 16		Code 17	
							ød	s	ød	s	ød	s
15	1/2"	80.0	79.0	41.5	75.0	20.0	18.0	1.5	18.0	1.0	19.0	1.5
20	3/4"	84.0	79.0	41.5	75.0	22.0	22.0	1.5	22.0	1.0	23.0	1.5
25	1"	84.0	79.0	41.5	75.0	22.0	28.0	1.5	28.0	1.0	29.0	1.5
32	1¼"	88.0	91.0	48.0	85.0	25.0	34.0	1.5	34.0	1.0	35.0	1.5
40	1½"	96.0	108.0	56.0	103.0	25.0	40.0	1.5	40.0	1.0	41.0	1.5
50	2"	110.0	123.0	65.0	116.0	30.0	52.0	1.5	52.0	1.0	53.0	1.5

DN	NPS	L	H	H1	ØK	LS	SMS 3008		EN ISO 1127		ASME BPE	
							Code 37		Code 60		Code 59	
							ød	s	ød	s	ød	s
15	1/2"	80.0	79.0	41.5	75.0	20.0	-	-	21.3	1.6	12.7	1.65
20	3/4"	84.0	79.0	41.5	75.0	22.0	-	-	26.9	1.6	19.1	1.65
25	1"	84.0	79.0	41.5	75.0	22.0	25.0	1.2	33.7	2.0	25.4	1.65
32	1¼"	88.0	91.0	48.0	85.0	25.0	33.7	1.2	42.4	2.0	-	-
40	1½"	96.0	108.0	56.0	103.0	25.0	38.0	1.2	48.3	2.0	38.1	1.65
50	2"	110.0	123.0	65.0	116.0	30.0	51.0	1.2	60.3	2.0	50.8	1.65

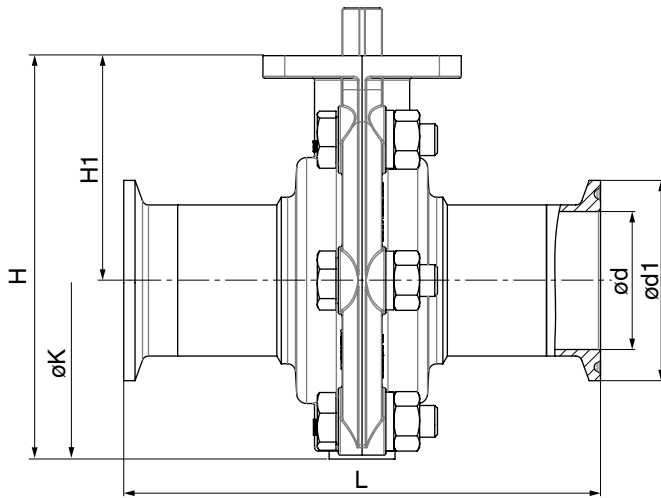
Dimensions in mm

Threaded socket (connection type code 1, 31)



DN	G/NPT	L	H	H1	t	$\varnothing K$	SW	n
15	1/2"	72.0	79.0	41.5	15.0	75.0	27.0	6
20	3/4"	72.0	79.0	41.5	16.0	75.0	32.0	6
25	1"	72.0	79.0	41.5	19.0	75.0	41.0	6
32	1¼"	72.0	91.0	48.0	21.4	85.0	50.0	8
40	1½"	83.0	108.0	56.0	21.4	103.0	55.0	8
50	2"	88.0	123.0	65.0	25.7	116.0	70.0	8

Dimensions in mm
n = number of flats

Clamp (connection type code 86, 88)

DN	NPS	L	H	H1	øK	DIN 32676 series A		ASME BPE	
						Code 86		Code 88	
						ød	ød1	ød	ød1
15	1/2"	115.0	79.0	41.5	75.0	16.0	34.0	9.4	25.0
20	3/4"	120.0	79.0	41.5	75.0	20.0	34.0	15.8	25.0
25	1"	125.0	79.0	41.5	75.0	26.0	50.5	22.1	50.5
32	1¼"	130.0	91.0	48.0	85.0	32.0	50.5	-	-
40	1½"	140.0	108.0	56.0	103.0	38.0	50.5	34.8	50.5
50	2"	150.0	123.0	65.0	116.0	50.0	50.5	47.5	64.0

Dimensions in mm

Accessories



GEMÜ MSC

Mounting kit

The MSC mounting kit is an interface, for the same and different ends, to join flange designs according to ISO 5211. This mounting kit ensures thermal separation of actuator and valve body. It can also be used as height compensation for insulated pipelines. The mounting kit is available in steel, electrogalvanized and stainless steel in an open or closed design.

Add-on components



GEMÜ 12A0 Rotary

Intelligent electrical position indicator

The GEMÜ 12A0 product is suitable for installation on compatible pneumatic actuators of the latest generation. The position of the valve spindle is reliably electronically detected and evaluated using a position sensor system that is contactless and consequently not subject to wear. Intelligent microprocessor controlled functions facilitate commissioning and support during operation. The current position of the valve is displayed via high visibility LEDs, fed back via electrical signals and additionally shown by a mechanical position indicator.



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.



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