

GEMÜ SU40 SUMONDO

Pneumatic actuator for single-use valves



Features

- Impact resistant, corrosion resistant
- Integral optical position indicator
- Wide range of adaptation options for add-on components and accessories
- Tried-and-tested, reliable actuator design (remains in system)
- Hermetic separation between medium and actuator
- Autoclavable actuator

Description

The pneumatically operated GEMÜ SU40 actuator guarantees a high level of performance and a long service life thanks to its high-quality stainless steel components. The actuator is joined to the media wetted GEMÜ SUB unit, comprising a valve body and welded sealing diaphragm, by means of a clamp connection.

After use, the media wetted GEMÜ SUB unit can easily be disconnected from the actuator and replaced. The actuator remains in the plant.

Technical specifications

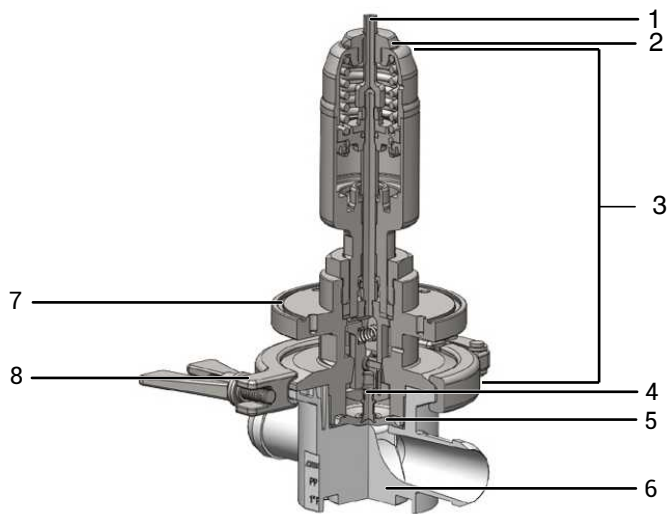
- **Media temperature:** 5 to 40 °C
- **Ambient temperature:** 0 to 40 °C
- **Operating pressure:** 0 to 4,9 bar
- **Nominal sizes:** DN 8 to 25
- **Connection types:** Clamp | Hose barb
- **Body materials:** PP-R, natural
- **Diaphragm materials:** TPE
- **Conformities:** EAC | USP

Technical data depends on the respective configuration



Product description

Construction



Item	Name	Materials
1	Optical position indicator	PP (red)
2	Sealing plug	PP
3	Actuator with distance piece	Stainless steel
4	Diaphragm pin	PP-R
5	Diaphragm	TPE
6	Body	PP-R
7	O-ring	EPDM
8	Clamping device	Stainless steel

Availability

Diaphragm size Code	2/2-way body		T body		Angle valve body, right
	Hose barb	Clamp connection	Hose barb	Clamp connection	Hose barb
B	1/4"	-	-	-	-
	3/8"	-	3/8"	-	3/8"
	1/2"	-	1/2"	-	1/2"
C	1/2"	-	-	-	-
	3/4"	3/4"	3/4"	3/4"	-
	1"	1"	1"	1"	-
D	3/4"	3/4"	-	-	-
	1"	1"	-	-	-

Order data

The order data provide an overview of standard configurations.

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

Because the actuator remains in the plant, there is a complete SUMONDO valve consisting of the SU40 pneumatic actuator (with distance piece and clamping device) and the SUB diaphragm valve body (with a fixed internally welded diaphragm).

SU40 pneumatic actuator

Order codes

1 Type	Code
Pneumatically operated actuator metal version	SU40

2 Diaphragm size	Code
Diaphragm size B	B
Diaphragm size C	C
Diaphragm size D	D

3 Diaphragm mounting	Code
Pin	G

4 Control function	Code
Normally closed (NC)	1

5 Actuator size	Code
Actuator size 1G1	1G1

Order example SU40

Ordering option	Code	Description
1 Type	SU40	Pneumatically operated actuator metal version
2 Diaphragm size	B	Diaphragm size B
3 Diaphragm mounting	G	Pin
4 Control function	1	Normally closed (NC)
5 Actuator size	1G1	Actuator size 1G1

Diaphragm valve body SUB

Order codes

1 Type	Code
Single-use body	SUB

2 Diaphragm size	Code
Diaphragm size B	B
Diaphragm size C	C
Diaphragm size D	D

3 Connection size 1	Code
1/4" (DN 8)	8
3/8" (DN 10)	10
1/2" (DN 15)	15
3/4" (DN 20)	20
1" (DN 25)	25

4 Body configuration	Code
2/2-way body	D
Angle valve body, right	R
T body	T

5 Connection	Code
Clamp connection similar to ASME-BPE	CA
Hose barb	HB

6 Body material	Code
PP-R, natural	B8

7 Diaphragm material	Code
TPE	K8

8 Connection size 2	Code
1/4" (DN 8)	8
3/8" (DN 10)	10
1/2" (DN 15)	15
3/4" (DN 20)	20
1" (DN 25)	25

9 Connection of spigot 2	Code
Clamp connection similar to ASME-BPE	CA
Hose barb	HB

Order example SUB

Ordering option	Code	Description
1 Type	SUB	Single-use body
2 Diaphragm size	B	Diaphragm size B
3 Connection size 1	10	3/8" (DN 10)
4 Body configuration	T	T body
5 Connection	HB	Hose barb
6 Body material	B8	PP-R, natural
7 Diaphragm material	K8	TPE
8 Connection size 2	10	3/8" (DN 10)
9 Connection of spigot 2	HB	Hose barb

Technical data

Medium

Working medium: Corrosive, inert, liquid media which have no negative impact on the physical and chemical properties of the body and diaphragm material.

Control medium: Inert gases
Class 4, max. oil concentration 25 mg/m³

Temperature

Media temperature: 5 – 40 °C

Ambient temperature: 0 – 40 °C

Control medium temperature: max. 40 °C

Storage temperature: 0 – 40 °C

Pressure

Operating pressure: 0 – 4.9 bar (Diaphragm size code B, C),
0 – 4.5 bar (Diaphragm size code D)

Control pressure: Control function 1 = 4.5–7.0 bar

Filling volume: Control function 1 = 0.03 dm³

Kv values

AG	MG	Connection code ¹⁾	Body configuration code ²⁾	Kv value [m ³ /h]	Cv value [US-gpm]
1/4"	B	HB	D	0.47	0.55
3/8"	B	HB	D	1.08	1.26
			T	1.03	1.21
			R	1.02	1.19
1/2"	B	HB	D	1.59	1.86
			T	1.47	1.72
			R	1.44	1.68
1/2"	C	HB	D	2.17	2.54
3/4"	C	HB	D	3.29	3.85
			T	2.15	2.52
		CA	D	3.29	3.85
			T	2.15	2.52
1"	C	HB	D	4.55	5.32
			T	3.81	4.46
		CA	D	4.55	5.32
			T	3.81	4.46
3/4"	D	CA, HB	D	9.21	10.78

AG	MG	Connection code ¹⁾	Body configuration code ²⁾	Kv value [m ³ /h]	Cv value [US-gpm]
1"	D	CA, HB	D	12.19	14.26

MG = diaphragm size

AG = connection size

Kv values determined based on standard DIN EN 60534-2-3:1998, inlet pressure 4 bar, Δp 1 bar

The Kv values for other product configurations may deviate. In general, all diaphragms are subject to the influences of pressure, temperature, the process and their tightening torques. Therefore the Kv values may exceed the tolerance limits of the standard.

1) **Connection**

Code CA: Clamp connection similar to ASME-BPE

Code HB: Hose barb

2) **Body configuration**

Code D: 2/2-way body

Code R: Angle valve body, right

Code T: T body

Product conformities valve body SUB

Certifications:

- USP Bacterial Endotoxins Test, USP <85>
- USP Biological Reactivity Test in vitro, USP <87>
- USP Biological Reactivity Tests in vivo for Class VI, USP <88>
- USP Physicochemical Tests for Plastics, USP <661>
- USP Particulate Matter in Injections, USP <788>, USP <790>
- Validation guide on request

Mechanical data

Service life:

Diaphragm valve body (SUB):

1000 switching cycles (according to GEMÜ product validation) or max. 4.5 years from production date (1.5 years before sterilization/3 years after sterilization)

Weight:

Valve body

Type	Con- nec- tion type Code 1)	Body con- fig- ur- ation Code 2)	MG B			MG C			MG D	
			1/4" (DN 8)	3/8" (DN 10)	1/2" (DN 15)	1/2" (DN 15)	3/4" (DN 20)	1" (DN 25)	3/4" (DN 20)	1" (DN 25)
SUB	HB	D	36	40	42	91	94	99	80	80
		T	-	44	47	-	108	113	-	-
		R	-	43	46	-	-	-	-	-
	CA	D	-	-	-	-	97	100	99	100
		T	-	-	-	-	111	112	-	-

Weight in g, MG = diaphragm size

1) **Connection**

Code CA: Clamp connection similar to ASME-BPE
Code HB: Hose barb

2) **Body configuration**

Code D: 2/2-way body
Code R: Angle valve body, right
Code T: T body

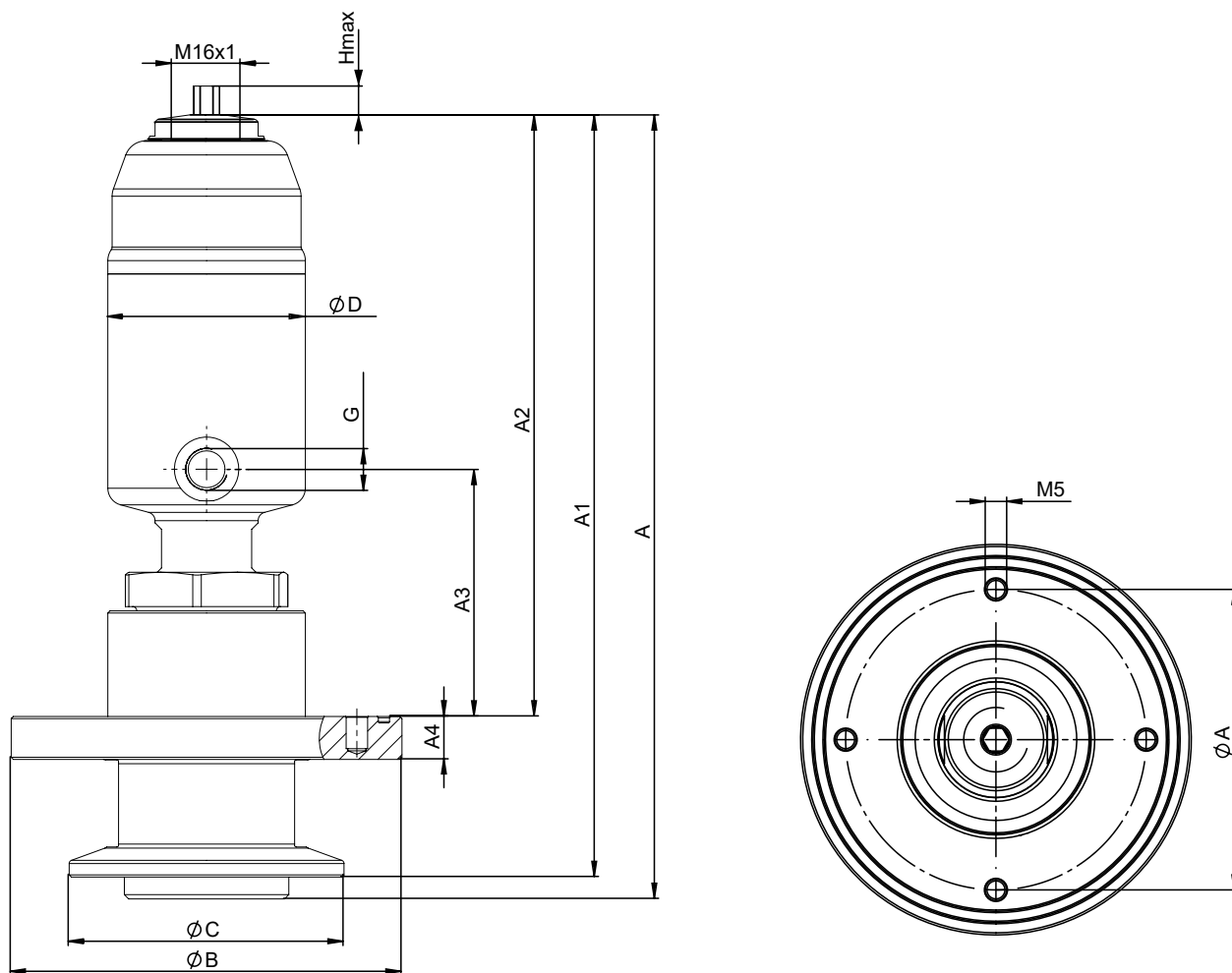
Actuator with distance piece

MG	Weights
B	2.4
C	2.5
D	2.6

Weights in kg

Dimensions

Actuator dimensions

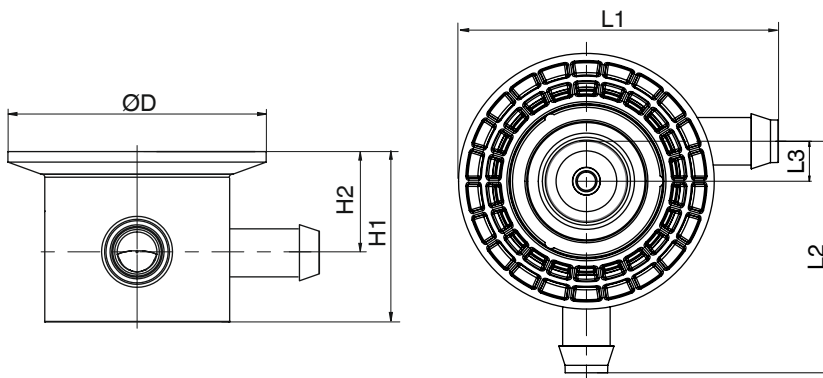


MG	DN	A	A1	A2	A3	A4	G	ϕB	ϕC	ϕD	ϕA	H_{max}
B	1/4" (DN 8), 1/2" (DN 15)	182.7	177.6	140.2	57.6	10.0	G1/8	91.0	64.0	46.0	70.0	8,0
C	3/4" (DN 20), 1" (DN 25)	184.0	164.4	130.0	47.4	10.0	G1/8	91.0	91.0	46.0	70.0	9,0
D	3/4" (DN 20), 1" (DN 25)	183.1	157.2	118.4	35.8	10.0	G1/8	91.0	91.0	46.0	70.0	12,0

Dimensions in mm, MG = diaphragm size

Body dimensions

Angle valve body, right (code R)

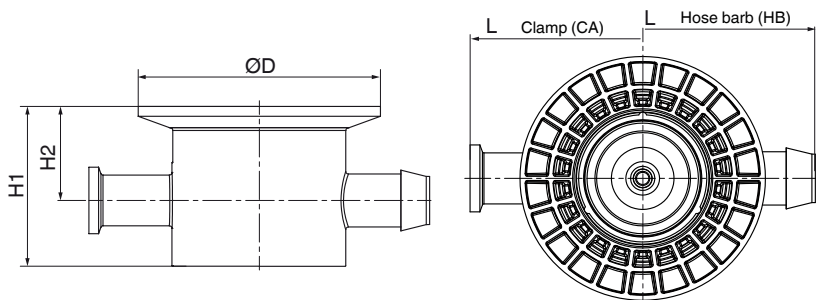


Connection type hose barb (code HB)

MG	DN	$\varnothing D$	H1	H2	L1	L2	L3
B	3/8" (DN 10)	64.0	33.3	22.3	48.0	58.0	10.0
	1/2" (DN 15)	64.0	33.3	22.3	55.8	66.8	10.0

Dimensions in mm, MG = diaphragm size

2/2-way body (code D)



Connection type clamp (code CA) ¹⁾

MG	DN	øD	H1	H2	L
C	3/4" (DN 20)	91.0	60.0	35.3	128.0
	1" (DN 25)	91.0	60.0	35.3	137.4
D	3/4" (DN 20)	91.6	58.5	38.0	134.6
	1" (DN 25)	91.6	58.5	39.5	134.6

Connection type hose barb (code HB) ¹⁾

MG	DN	øD	H1	H2	L
B	1/4" (DN 8)	64.0	33.3	22.3	80.6
	3/8" (DN 10)	64.0	33.3	22.3	95.9
	1/2" (DN 15)	64.0	33.3	22.3	111.5
C	1/2" (DN 15)	91.0	60.0	35.3	126.0
	3/4" (DN 20)	91.0	60.0	35.3	128.0
	1" (DN 25)	91.0	60.0	35.3	140.0
D	3/4" (DN 20)	91.6	58.5	38.0	139.0
	1" (DN 25)	91.6	58.5	39.5	139.0

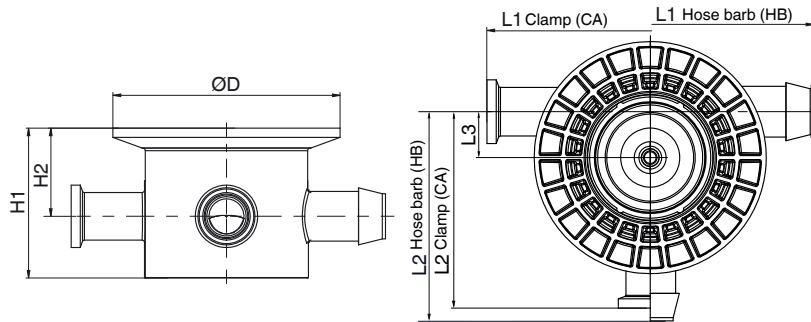
Dimensions in mm, MG = diaphragm size

1) Connection

Code CA: Clamp connection similar to ASME-BPE

Code HB: Hose barb

T valve body (Code T)



Connection type clamp (code CA) ¹⁾

MG	DN	ØD	H1	H2	L1	L2	L3
C	3/4" (DN 20)	91.0	60.0	35.3	128.0	82.0	18.0
	1" (DN 25)	91.0	60.0	35.3	137.4	82.0	18.0

Connection type hose barb (code HB) ¹⁾

MG	DN	ØD	H1	H2	L1	L2	L3
B	3/8" (DN 10)	64.0	33.3	22.3	96.0	58.0	10.0
	1/2" (DN 15)	64.0	33.3	22.3	111.5	65.8	10.0
C	3/4" (DN 20)	91.0	60.0	35.3	128.0	82.0	18.0
	1" (DN 25)	91.0	60.0	35.3	140.0	88.0	18.0

Dimensions in mm, MG = diaphragm size

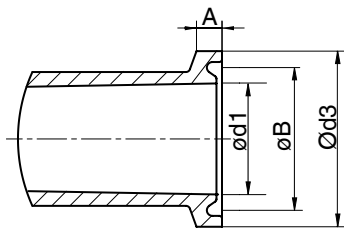
1) Connection

Code CA: Clamp connection similar to ASME-BPE

Code HB: Hose barb

Connection dimensions

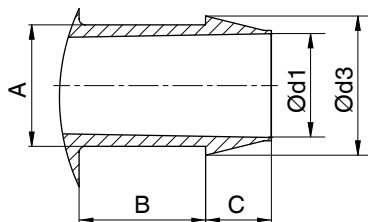
Clamp (code CA)



MG	DN	A	øB	ød1	ød3
C	3/4" (DN 20)	3.6	21.9	15.75	25.0
	1" (DN 25)	3.6	31.0	22.1	34.0
D	3/4" (DN 20)	2.85	43.4	19.05	50.5
	1" (DN 25)	2.85	43.4	25.4	50.5

Dimensions in mm, MG = diaphragm size
Tolerance ± 0.2 mm

Hose barb (code HB)



MG	DN	A	B	C	ød1	ød3
B	1/4" (DN 8)	7.9	10.6	4.5	5.9	9.3
	3/8" (DN 10)	11.9	16.0	6.7	9.4	13.8
	1/2" (DN 15)	15.9	21.4	9.1	12.6	18.8
C	1/2" (DN 15)	15.9	21.4	9.1	12.6	18.8
	3/4" (DN 20)	19.9	20.7	10.8	17.0	22.8
	1" (DN 25)	28.0	24.7	11.5	25.3	30.8
D	3/4" (DN 20)	22.0	21.4	7.5	19.0	25.0
	1" (DN 25)	28.0	22.2	11.5	25.4	30.8

Dimensions in mm, MG = diaphragm size
Tolerance ± 0.2 mm



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