GEMÜ®

FlexPort Valve®
Globe Valve, Metal

Construction

The GEMÜ 580, 582 and 584 pneumatically operated 2/2-way valve has a low maintenance piston actuator. The valve spindle is sealed by a self-adjusting gland packing providing low maintenance and reliable valve spindle sealing even after a long service life. The wiper ring fitted in front of the gland packing protects it against contamination and damage.

Features

- Suitable for inert liquid and gaseous media
- All standard connections and their combinations are possible such as butt weld spigots, threaded sockets, flanges and threaded spigots
- Customised control valve versions available
- Free from non-ferrous metals
- Versions according to ATEX on request

Advantages

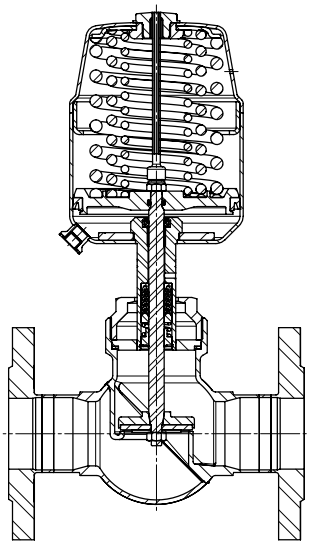
- Various angles between the valve body connections can be produced. This saves using angle fittings.
  Standard angles: D = 180°, E = 90°, R and L = 135°
- Substantially reduced installation dimensions with angled design
- Lightweight valve bodies, saves weight up to 50 % dependent on connection
- Less energy loss due to spherical valve bodies (small surface area) with low mass
- Stainless steel actuator and valve body for aggressive environment, simple cleanability due to smooth surfaces
- Multi-port design (several inlets and outlets) on request
- Accessories:
  - Stroke limiter
  - Electrical position indicators
  - Combi switchboxes
  - Electro-pneumatic positioners/process controllers

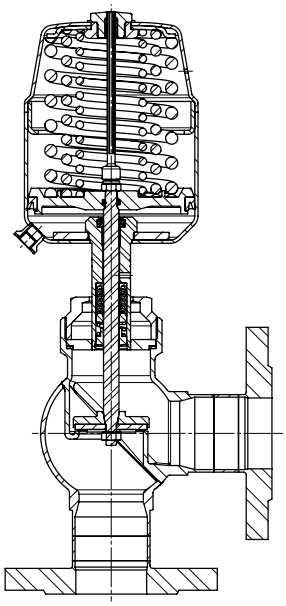
GEMÜ 580

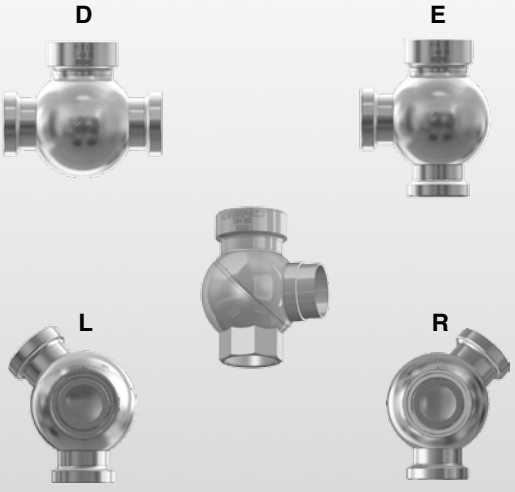
GEMÜ 582

GEMÜ 584

Sectional drawing







GEMÜ®

580, 582, 584

Technical data GEMÜ 580

Working medium

Inert, gaseous and liquid media which have no negative impact on the physical and chemical properties of the body and seal material.

Max. perm. pressure of working medium	see table
Media temperature	-10° to 180 °C
Max. permissible viscosity	600 mm^2/s (cSt)

Other versions for lower/higher temperatures and higher viscosities on request.

Control medium

Inert gases, filtered 50 µm

Max. perm. temperature of control medium:		60 °C
Control pressure range (for details see below)		4 - 8 bar
Filling volume	Actuator size 1:	0,025 dm^3
	Actuator size 2:	0,084 dm^3
	Actuator size 3:	0,245 dm^3
	Actuator size 4:	0,437 dm^3
	Actuator size 5:	0,798 dm^3

Leakage rate

Leakage rate A to P11/P12 EN 12266-1

Ambient conditions

Ambient temperature during operation at max. media temperature	-10 °C to 60 °C
Storage temperature	-30 °C to 85 °C

	Max. operating pressure [bar] Normally closed (NC) Flow direction under the seat					Kv value [m^3/h]		
DN	Actuator size 1G1 piston ø 42 mm	Actuator size 2G1 piston ø 60 mm	Actuator size 3G1 piston ø 80 mm	Actuator size 4G1 piston ø 100 mm	Actuator size 5G1 piston ø 130 mm	D	L / R	E
15	10	22	-	-	-	4.8	5.0	6.1
20	6	12	25	-	-	7.2	8.1	10.5
25	-	7	16	25	-	12.5	13.0	16.8
32	-	4	10	18	25	21.0	22.5	27.0
40	-	-	6	12	20	30.5	32.9	46.0
50	-	-	3	7	15	47.0	51.0	62.0

All pressures are gauge pressures. Please note that valve bodies DN 15 - DN 50 are suitable up to PN 25.
Kv values determined acc. to IEC 534 standard, valve body material 1.4408 stainless steel and threaded sockets DIN ISO 228.
The Kv value data refers to control function 1 (NC) and the largest actuator for each nominal size.
Kv values may be different for other combinations.

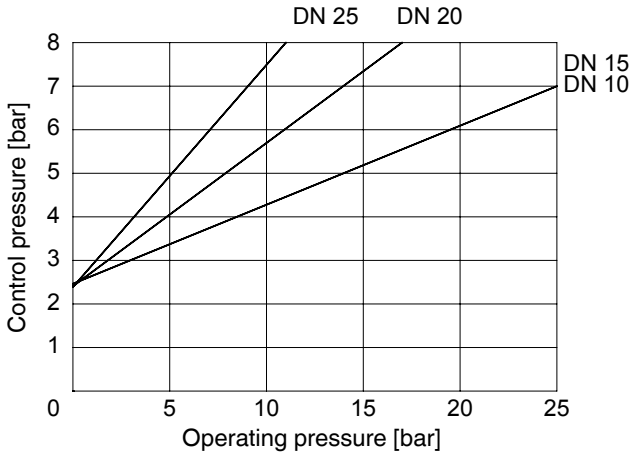
	Control pressure [bar] Normally closed (NC) Flow direction under the seat				
DN	Actuator size 1G1 piston ø 42 mm	Actuator size 2G1 piston ø 60 mm	Actuator size 3G1 piston ø 80 mm	Actuator size 4G1 piston ø 100 mm	Actuator size 5G1 piston ø 130 mm
15	4 - 8	4 - 8	-	-	-
20	4 - 8	4 - 8	4 - 8	-	-
25	-	4 - 8	4 - 8	4 - 8	-
32	-	4 - 8	4 - 8	4 - 8	5 - 8
40	-	-	4 - 8	4 - 8	5 - 8
50	-	-	4 - 8	4 - 8	5 - 8

Higher control pressures on request.

Operating pressure / Control pressure characteristics
Control function 2: normally open (NO) / Control function 3: double acting (DA)
Flow direction: under the seat

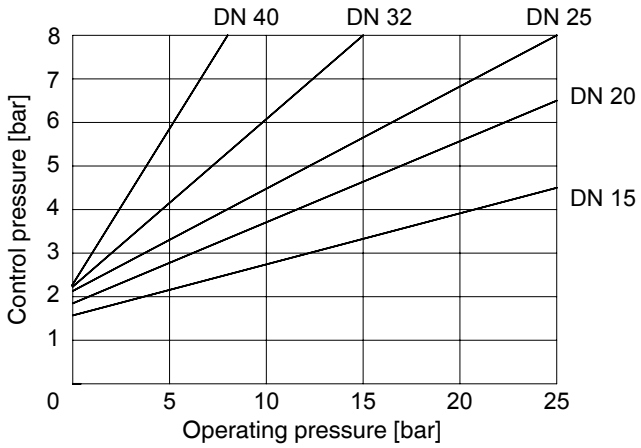
Actuator size 1G1

Min. control pressure dependent on operating pressure



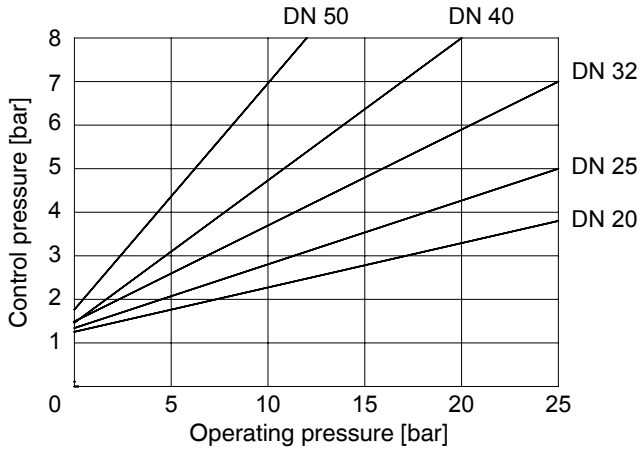
Actuator size 2G1

Min. control pressure dependent on operating pressure



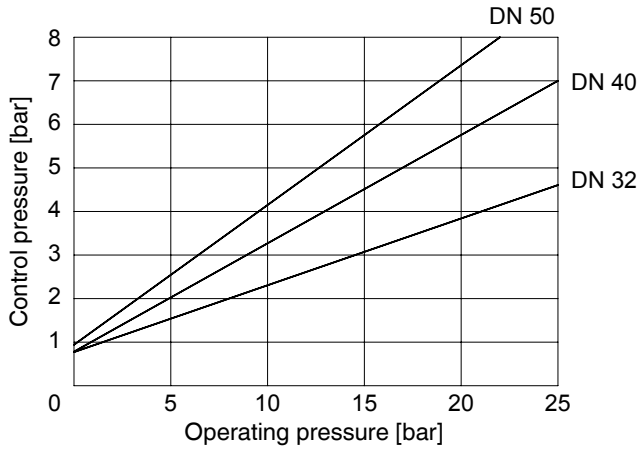
Actuator size 3G1

Min. control pressure dependent on operating pressure



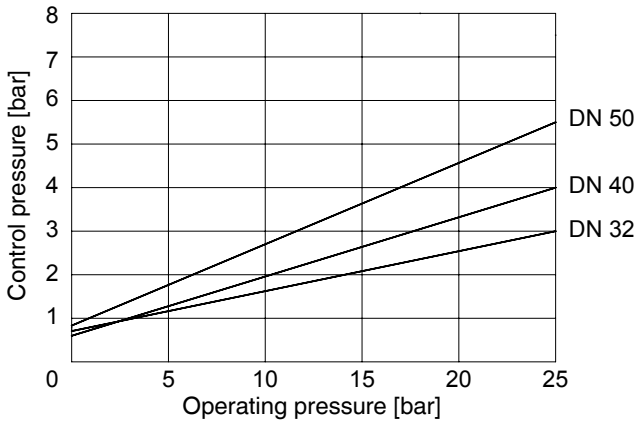
Actuator size 4G1

Min. control pressure dependent on operating pressure



Actuator size 5G1

Min. control pressure dependent on operating pressure



Order data GEMÜ 580

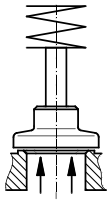
Body configuration		Code
Straight through	(pipe angle 180°)	D
Angle	(pipe angle 90°)	E
Outlet on left	(pipe angle L135°)	L
Outlet on right	(pipe angle R135°)	R
Other L and R pipe angles on request		

Actuator size			Code
Actuator 1	piston ø	42 mm	1
Actuator 2	piston ø	60 mm	2
Actuator 3	piston ø	80 mm	3
Actuator 4	piston ø	100 mm	4
Actuator 5	piston ø	130 mm	5

Connection	Code
Butt weld spigots Spigots EN ISO 1127	60
Threaded connections Threaded sockets DIN ISO 228 Threaded spigots DIN ISO 228	1 9
Flanges Flanges EN 1092 / PN25 / form B	10
Weld neck flanges with rotatable flange ring: Flanges EN 1092 / PN25 / form B length EN 558, series 1 for D; series 8 for E, L and R ISO 5752, basic series 1 for D; series 8 for E, L and R	L2
Other connections on request	

Flow direction	Code
Under the seat	G

G



Valve body material	Code
1.4408, cast stainless steel	37

Spring set	Code
Standard	1

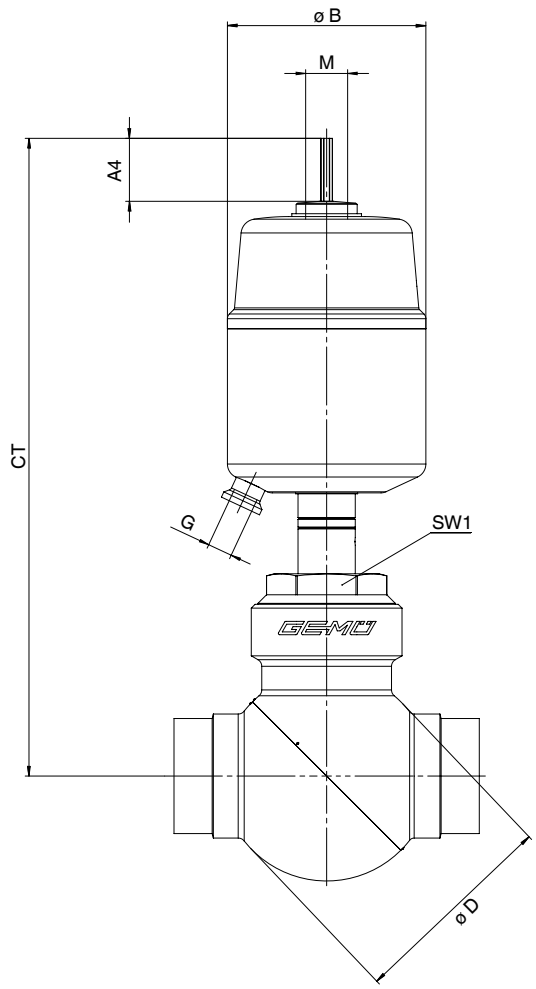
Seat seal	Code
PTFE	5
PTFE, glass reinforced	5G

Special versions	Code
Special bleed system in the actuator	K-Nr. 6996
All special versions only available ex works	

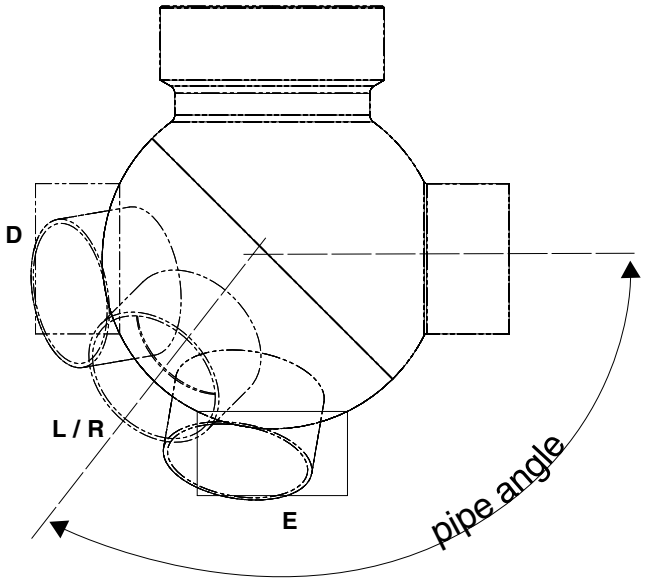
Control function		Code
Normally closed	(NC)	1
Normally open	(NO)	2
Double acting	(DA)	3

Order example	580	15	R	1	37	5	1	1	G	1			-
Type	580												
Nominal size		15											
Body configuration (code)			R										
Connection (code)				1									
Valve body material (code)					37								
Seat seal (code)						5							
Control function (code)							1						
Actuator size (code)								1					
Flow direction (Code)									G				
Spring set (code)										1			
Special versions (code)													-

Dimensions GEMÜ 580 [mm]



Actuator dimensions				
Actuator size	**ø B**	**M**	**A4**	**G**
1	46	M16x1	12	G 1/8
2	63	M16x1	22	G 1/8
3	84	M16x1	28	G 1/4
4	104	M22x1.5	32	G 1/4
5	135	M22x1.5	41	G 1/4



Installation dimensions										
		Actuator size 1			**Actuator size 2**			**Actuator size 3**		
DN	**Wrench size SW1**	**CT**	**ø D**	**Weight [kg] (actuator only)**	**CT**	**ø D**	**Weight [kg] (actuator only)**	**CT**	**ø D**	**Weight [kg] (actuator only)**
15	36	175	50	0.65	222	50	0.96	-	-	-
20	41	180	60	0.72	233	60	0.99	247	60	1.71
25	46	-	-	-	242	70	1.06	256	70	1.78
32	55	-	-	-	248	80	1.23	269	80	1.95
40	60	-	-	-	-	-	-	284	95	2.06
50	55	-	-	-	-	-	-	289	110	2.23

Installation dimensions							
		Actuator size 4			**Actuator size 5**		
DN	**Wrench size SW1**	**CT**	**ø D**	**Weight [kg] (actuator only)**	**CT**	**ø D**	**Weight [kg] (actuator only)**
15	36	-	-	-	-	-	-
20	41	-	-	-	-	-	-
25	46	306	70	3.15	-	-	-
32	55	313	80	3.34	336	80	6.49
40	60	328	95	3.44	351	95	6.56
50	55	333	110	3.55	365	110	6.79

Technical data GEMÜ 582

Working medium

Inert, gaseous and liquid media which have no negative impact on the physical and chemical properties of the body and seal material.

Max. perm. pressure of working medium	see table
Media temperature	-10° to 180 °C
Max. permissible viscosity	600 mm^2/s (cSt)

Other versions for lower/higher temperatures and higher viscosities on request.

Leakage rate

Leakage rate A to P11/P12 EN 12266-1

Control medium

Inert gases

Max. perm. temperature of control medium:		60 °C
Filling volume:	Actuator size 0:	0.05 dm^3
	Actuator size 1:	0.125 dm^3
	Actuator size 2:	0.625 dm^3

Ambient conditions

Max. ambient temperature	60 °C

Nom. size	Max. operating pressure [bar] Normally closed (NC)* Flow direction under the seat			Min. control pressure [bar] Normally closed (NC) Flow direction under the seat			Kv values [m^3/h]		
DN	Actuator size 0 piston ø 50 mm	Actuator size 1 piston ø 70 mm	Actuator size 2 piston ø 120 mm	Actuator size 0	Actuator size 1	Actuator size 2	D	L / R	E
15	12.0	25.0	-	4.7 - 10	5.5 - 10	-	4.8	5.0	6.1
20	6.0	20.0	25	4.7 - 10	5.5 - 10	4.0 - 8	7.2	8.1	10.5
25	2.5	10.0	25	4.7 - 10	5.5 - 10	4.0 - 8	12.5	13.0	16.8
32	-	7.0	22	-	5.5 - 10	4.0 - 8	21.0	22.5	27.0
40	-	4.5	12	-	5.5 - 10	4.0 - 8	30.5	32.9	46.0
50	-	3.0	10	-	5.5 - 10	5.5 - 8	47.0	51.0	62.0

Please note that valve bodies DN 15 - DN 50 are suitable up to PN 25.
Kv values determined acc. to IEC 534 standard, valve body material 1.4408 stainless steel and threaded sockets DIN ISO 228.
The Kv value data refers to control function 1 (NC) and the largest actuator for each nominal size.
Kv values may be different for other combinations.

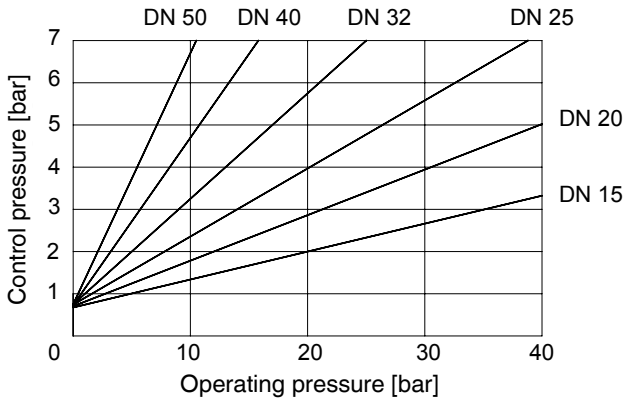
Nominal size	Max. operating pressure [bar] Normally open/ Double acting		Control pressure [bar] Normally open/ Double acting	
DN	Actuator size 1 piston ø 70 mm	Actuator size 2 piston ø 120 mm	Actuator size 1	Actuator size 2
15	25	-	max. 7 bar for values see diagram	max. 7 bar for values see diagram
20	25	25		
25	25	25		
32	20	25		
40	12	25		
50	8	25		

All pressures are gauge pressures.

Operating pressure / Control pressure characteristics
Control function 2: normally open (NO) / Control function 3: double acting (DA)
Flow direction: under the seat

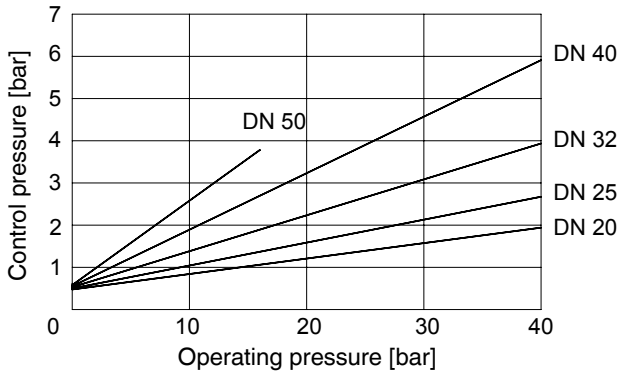
Actuator size 1

min. control pressure dependent on operating pressure



Actuator size 2

min. control pressure dependent on operating pressure



Order data GEMÜ 582

Body configuration		Code
Straight through	(pipe angle 180°)	D
Angle	(pipe angle 90°)	E
Outlet on left	(pipe angle L135°)	L
Outlet on right	(pipe angle R135°)	R
Other L and R pipe angles on request		

Connection	Code
Butt weld spigots	
Spigots EN ISO 1127	60
Threaded connections	
Threaded sockets DIN ISO 228	1
Threaded spigots DIN ISO 228	9
Flanges	
Flanges EN 1092 / PN25 / form B	10
Weld neck flanges with rotatable flange ring: Flanges EN 1092 / PN25 / form B length EN 558, series 1 for D; series 8 for E, L and R ISO 5752, basic series 1 for D; series 8 for E, L and R	L2
Other connections on request	

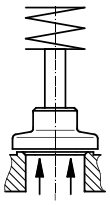
Valve body material	Code
1.4408, cast stainless steel	37

Seat seal	Code
PTFE	5
PTFE, glass reinforced	5G

Control function		Code
Normally closed	(NC)	1
Normally open	(NO)	2
Double acting	(DA)	3

Actuator size			Code
Actuator 0	piston ø	50 mm	0
Actuator 1	piston ø	70 mm	1
Actuator 2	piston ø	120 mm	2

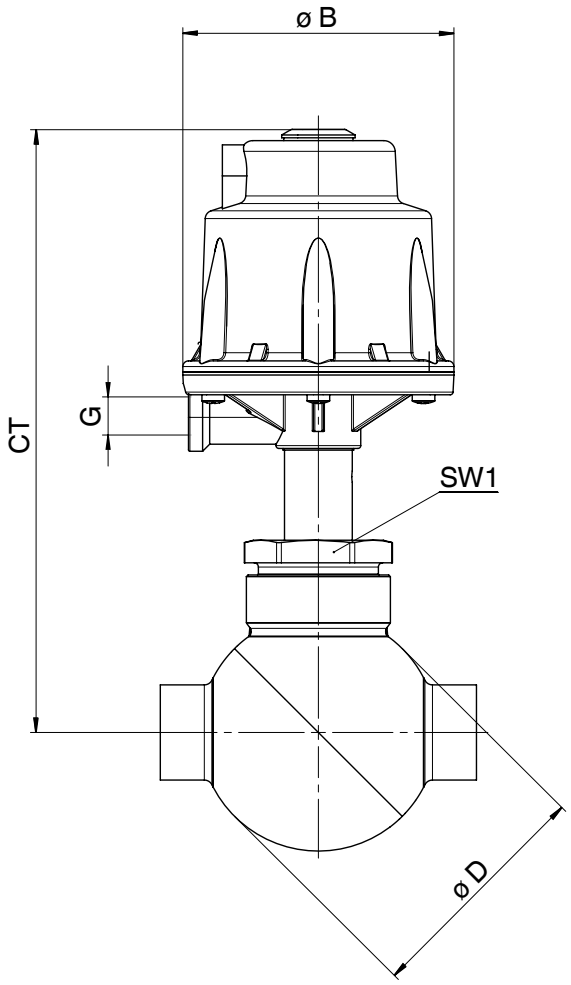
GEMÜ 582
Actuators 0, 1, 2,



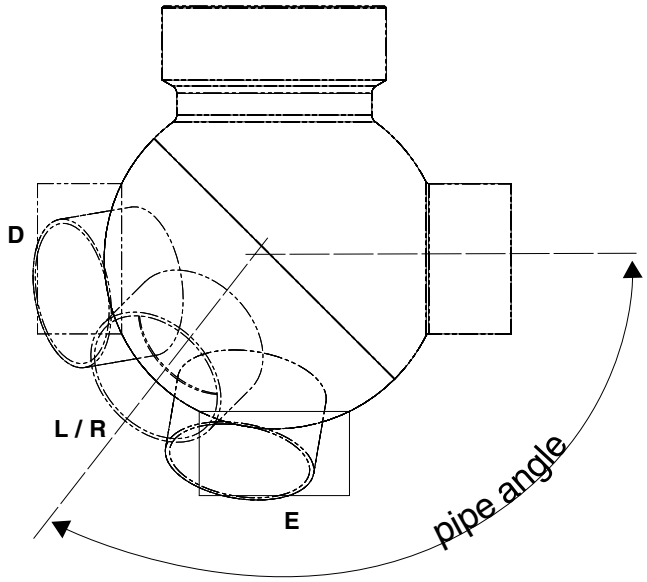
Flow
under the seat

Order example	582	15	R	1	37	5	1	1
Type	582							
Nominal size		15						
Body configuration (code)			R					
Connection (code)				1				
Valve body material (code)					37			
Seat seal (code)						5		
Control function (code)							1	
Actuator size (code)								1

Dimensions GEMÜ 582 [mm]



Actuator dimensions		
Actuator size	**ø B**	**G**
0	70	G 1/4
1	95	G 1/4
2	165	G 1/4



Installation dimensions										
		Actuator size 0			Actuator size 1			Actuator size 2		
DN	**Wrench size SW1**	**CT**	**ø D**	**Weight [kg] (actuator only)**	**CT**	**ø D**	**Weight [kg] (actuator only)**	**CT**	**ø D**	**Weight [kg] (actuator only)**
15	36	187	50	0.9	198	50	1.4	-	-	-
20	41	193	60	1.1	204	60	1.6	277	60	3.8
25	46	199	70	1.3	210	70	1.8	283	70	4.0
32	55	-	-	-	218	80	2.4	291	80	4.6
40	60	-	-	-	228	95	2.7	300	95	5.5
50	55	-	-	-	238	110	3.4	311	110	6.4

Technical data GEMÜ 584

Working medium

Inert, gaseous and liquid media which have no negative impact on the physical and chemical properties of the body and seal material.

Max. perm. pressure of working medium	see table
Media temperature	-10° to 180 °C
Max. permissible viscosity	600 mm^2/s (cSt)

Other versions for higher viscosities on request

Leakage rate

Leakage rate A to P11/P12 EN 12266-1

Control medium

Inert gases

Max. perm. temperature of control medium:		60 °C
Filling volume	Actuator size 0:	0.05 dm^3
	Actuator size 1:	0.125 dm^3
	Actuator size 2:	0.625 dm^3

Ambient conditions

Max. ambient temperature	60 °C

	Max. operating pressure [bar] Normally closed (NC)* Flow direction under the seat			Min. control pressure [bar] Normally closed (NC) Flow direction under the seat			Kv values [m^3/h]		
DN	Actuator size 0 piston ø 50 mm	Actuator size 1 piston ø 70 mm	Actuator size 2 piston ø 120 mm	Actuator size 0	Actuator size 1	Actuator size 2	D	L / R	E
15	12.0	25.0	-	4.8 - 7.0	5.5 - 7.0	-	4.5	5.0	6.1
20	6.0	20.0	25	4.8 - 7.0	5.5 - 7.0	4 - 7	7.2	8.1	10.5
25	2.5	10.0	25	4.8 - 7.0	5.5 - 7.0	4 - 7	12.5	13.0	16.8
32	-	7.0	20	-	5.5 - 7.0	4 - 7	21.0	22.5	27.0
40	-	4.5	12	-	5.5 - 7.0	4 - 7	30.5	32.9	46.0
50	-	3.0	10	-	5.5 - 7.0	5 - 7	47.0	51.0	62.0

Please note that valve bodies DN 15 - DN 50 are suitable up to PN 25.
Kv values determined acc. to IEC 534 standard, valve body material 1.4408 stainless steel and threaded sockets DIN ISO 228.
The Kv value data refers to control function 1 (NC) and the largest actuator for each nominal size.
Kv values may be different for other combinations.

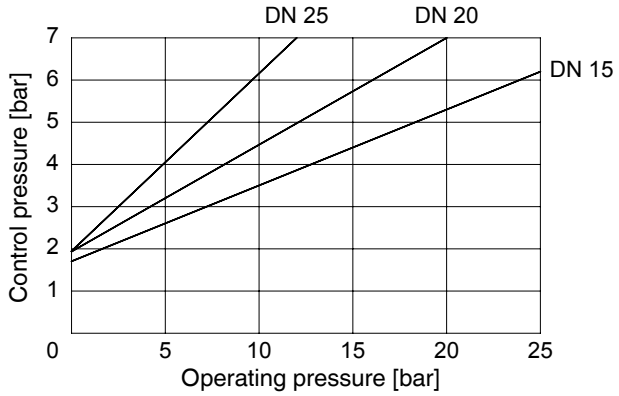
	Max. operating pressure [bar] Normally open/ Double acting			Control pressure [bar] Normally open/ Double acting		
DN	Actuator size 0 piston ø 50 mm	Actuator size 1 piston ø 70 mm	Actuator size 2 piston ø 120 mm	Actuator size 0	Actuator size 1	Actuator size 2
15	25	25	-	max. 7 bar for values see diagram	max. 7 bar for values see diagram	max. 7 bar for values see diagram
20	20	25	25			
25	12	25	25			
32	-	20	25			
40	-	12	25			
50	-	8	25			

All pressures are gauge pressures.

Operating pressure / Control pressure characteristics
Control function 2: normally open (NO) / Control function 3: double acting (DA)
Flow direction: under the seat

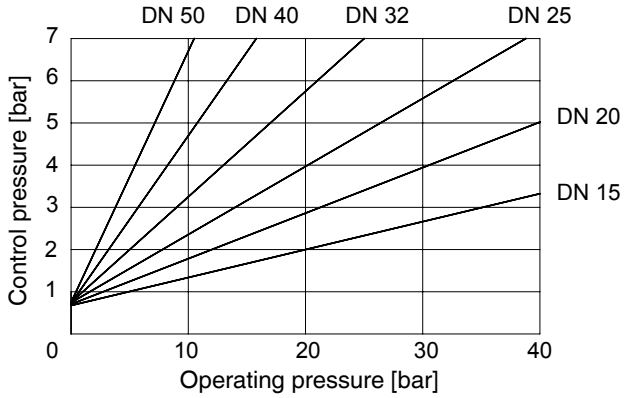
Actuator size 0

min. control pressure dependent on operating pressure



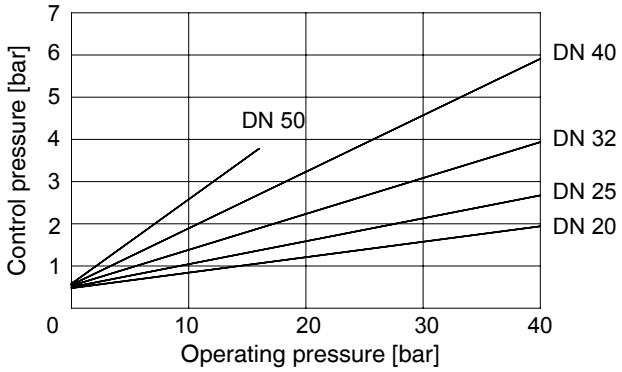
Actuator size 1

min. control pressure dependent on operating pressure



Actuator size 2

min. control pressure dependent on operating pressure



Order data GEMÜ 584

Body configuration		Code
Straight through	(pipe angle 180°)	D
Angle	(pipe angle 90°)	E
Outlet on left	(pipe angle L135°)	L
Outlet on right	(pipe angle R135°)	R
Other L and R pipe angles on request		

Connection	Code
Butt weld spigots Spigots EN ISO 1127	60
Threaded connections Threaded sockets DIN ISO 228 Threaded spigots DIN ISO 228	1 9
Flanges Flanges EN 1092 / PN25 / form B	10
Weld neck flanges with rotatable flange ring: Flanges EN 1092 / PN25 / form B length EN 558, series 1 for D; series 8 for E, L and R ISO 5752, basic series 1 for D; series 8 for E, L and R	L2
Other connections on request	

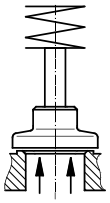
Valve body material	Code
1.4408, cast stainless steel	37

Seat seal	Code
PTFE	5
PTFE, glass reinforced	5G

Control function		Code
Normally closed	(NC)	1
Normally open	(NO)	2
Double acting	(DA)	3

Actuator size			Code
Actuator 0	piston ø	50 mm	0
Actuator 1	piston ø	70 mm	1
Actuator 2	piston ø	120 mm	2

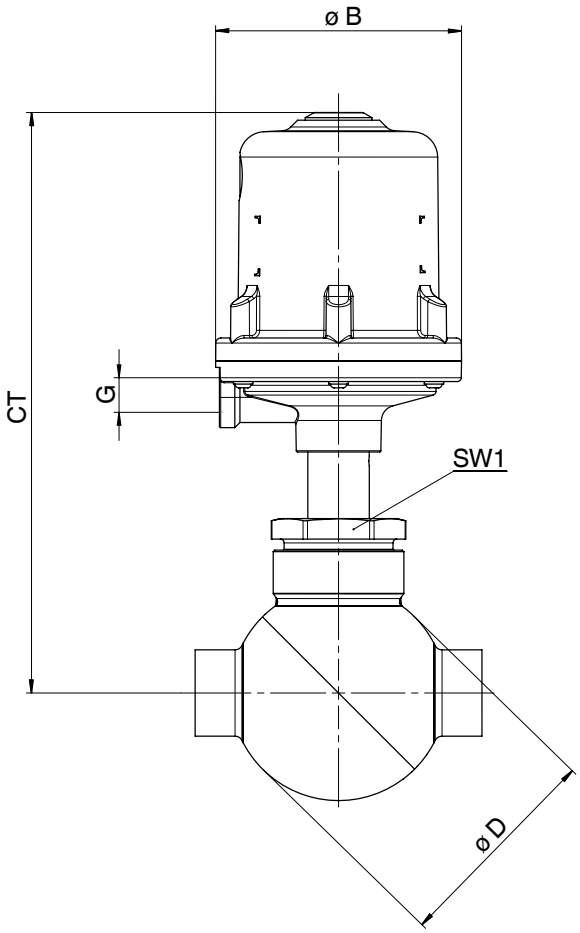
GEMÜ 584
Actuators 0, 1, 2,



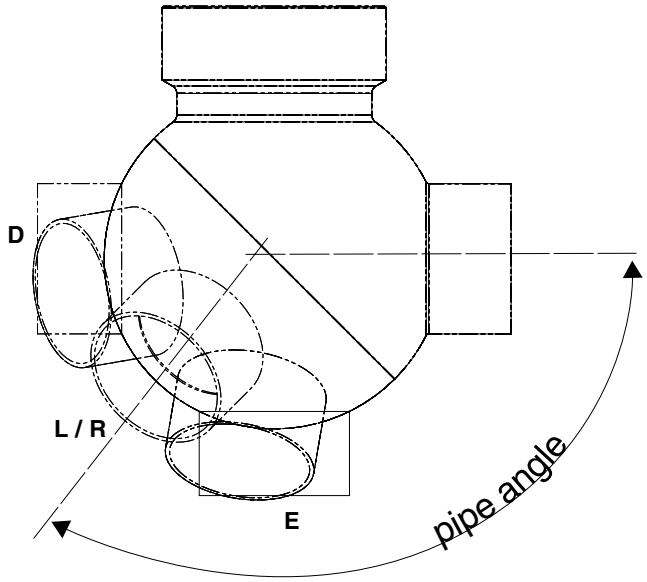
Flow
under the seat

Order example	584	15	R	1	37	5	1	1
Type	584							
Nominal size		15						
Body configuration (code)			R					
Connection (code)				1				
Valve body material (code)					37			
Seat seal (code)						5		
Control function (code)							1	
Actuator size (code)								1

Dimensions GEMÜ 584 [mm]



Actuator dimensions		
Actuator size	**ø B**	**G**
0	72	G 1/4
1	96	G 1/4
2	169	G 1/4



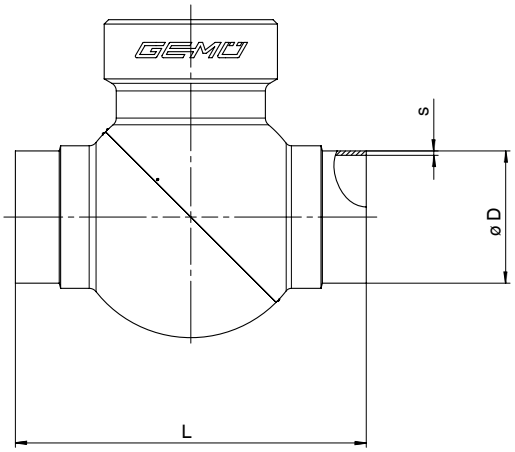
Installation dimensions										
		Actuator size 0			Actuator size 1			Actuator size 2		
DN	**Wrench size SW1**	**CT**	**ø D**	**Weight [kg] (actuator only)**	**CT**	**ø D**	**Weight [kg] (actuator only)**	**CT**	**ø D**	**Weight [kg] (actuator only)**
15	36	188	50	0.9	210	50	1.4	-	-	-
20	41	194	60	1.1	216	60	1.6	310	60	4.3
25	46	200	70	1.3	222	70	1.8	316	70	4.5
32	55	-	-	-	230	80	2.4	324	80	5.1
40	60	-	-	-	240	95	2.7	334	95	6.0
50	55	-	-	-	250	110	3.4	344	110	6.9

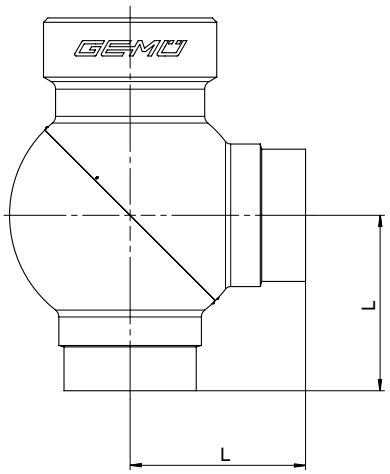
Body dimensions GEMÜ 580, 582, 584 [mm]

Pressure / temperature correlation for globe valve bodies						
Connection code	Material code	Max. allowable pressure (barg) at temperature °C*				
		RT	50	100	150	200
10	37	25	23.7	21.2	19.2	17.6
L2	37	25	23.7	21.2	19.2	17.6
1	37	25	23.7	21.2	19.2	17.6
9	37	25	23.7	21.2	19.2	17.6
60	37	25	23.7	21.2	19.2	17.6

* The valves can be used down to -10 °C RT= Room Temperature

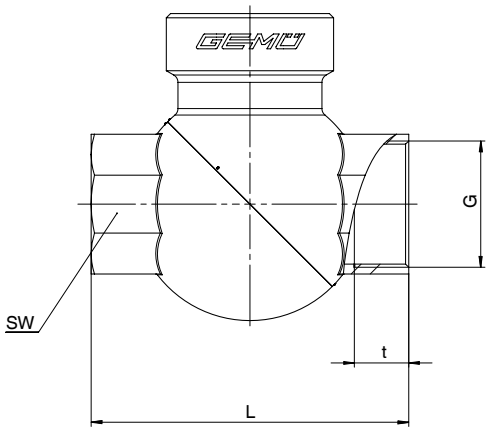
Butt weld spigots, connection code 60 Valve body material: 1.4408 (code 37)					
DN	ø D	s	L		Weight [kg]
			Straight through body	Angle body	
15	21.3	1.6	100	50.0	0.31
20	26.9	1.6	108	54.0	0.46
25	33.7	2.0	112	56.0	0.60
32	42.4	2.0	137	68.5	0.99
40	48.3	2.0	146	73.0	1.37
50	60.3	2.0	160	80.0	1.76

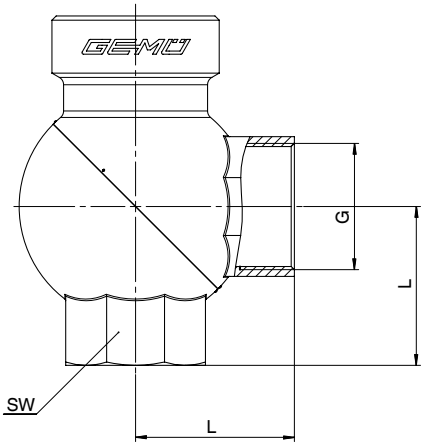




Body dimensions GEMÜ 580, 582, 584 [mm]

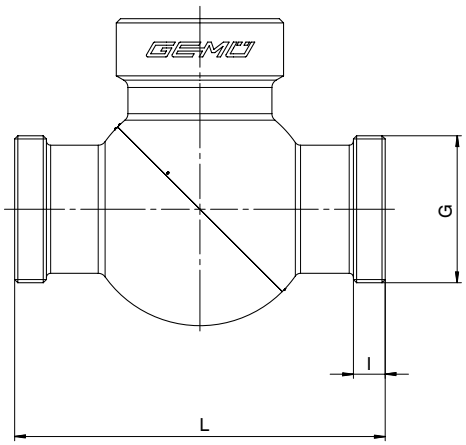
Threaded sockets, connection code 1 Valve body material: 1.4408 (code 37)							
DN	L		G	t	SW		Weight [kg]
	Straight through body	Angle body					
15	65	32.5	G 1/2	15.0	25	hexagonal	0.27
20	75	37.5	G 3/4	16.3	31	hexagonal	0.40
25	90	45.0	G 1	19.0	39	hexagonal	0.57
32	110	55.0	G 1 1/4	21.4	48	octagonal	0.90
40	120	60.0	G 1 1/2	21.4	55	octagonal	1.28
50	150	75.0	G 2	25.7	66	octagonal	1.75

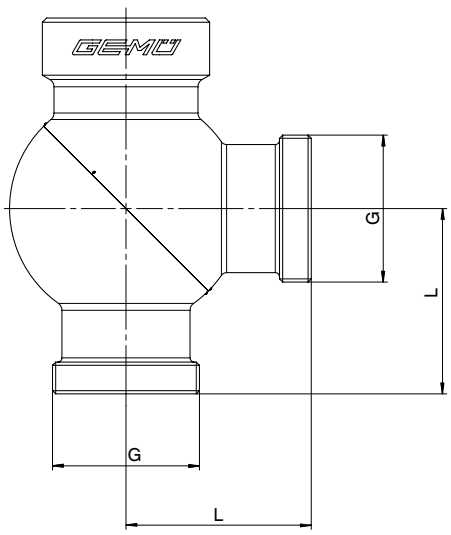




Threaded spigots, connection code 9* Valve body material: 1.4408 (code 37)					
DN	L		l	G	Weight [kg]
	Straight through body	Angle body			
15	90	45.0	12	G 3/4	0.33
20	110	55.0	15	G 1	0.55
25	118	59.0	15	G 1 1/4	0.76
32	130	65.0	13	G 1 1/2	1.06
40	140	70.0	13	G 1 3/4	1.49
50	175	87.5	15	G 2 3/8	2.19

* on request

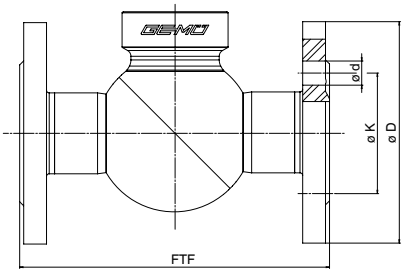




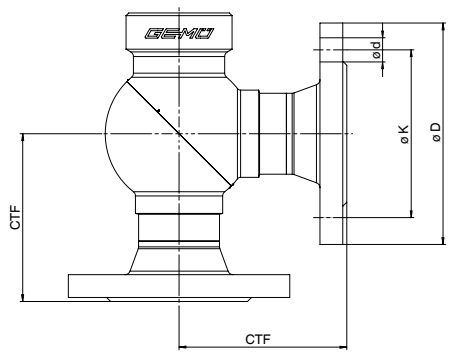
Body dimensions GEMÜ 580, 582, 584 [mm]

Flanges, connection code 10, L2 Valve body material: 1.4408 (code 37)										
							Weight [kg]			
DN	FTF	CFT	ø D	ø K	ø d	Number of bolts	Straight through body		Angle body	
							Connection code 10	Connection code L2	Connection code 10	Connection code L2
15	130	90	95	65	14	4	1.69	0.85	1.79	0.92
20	150	95	105	75	14	4	2.40	1.20	2.56	1.28
25	160	100	115	85	14	4	2.98	1.58	3.15	1.66
32	180	105	140	100	18	4	4.35	2.30	4.62	2.39
40	200	115	150	110	18	4	3.98	3.03	5.47	3.35
50	230	125	165	125	18	4	6.88	4.13	6.93	4.28

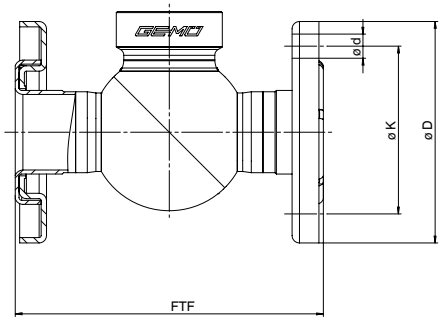
Code 10



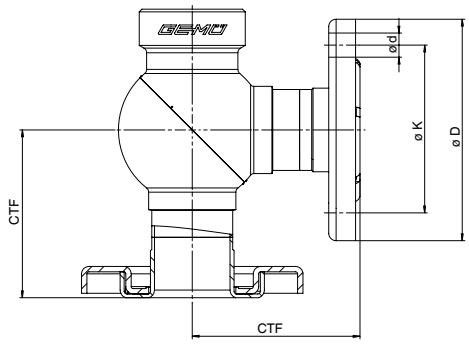
Code 10



Code L2



Code L2



Overview of metal bodies for GEMÜ 580, 582, 584					
	Threaded connections		Flanges	Weld neck flanges	Spigots
Connection code	1	9*	10	L2	60
Material code	37	37	37	37	37
DN 15	X	X	X	X	X
DN 20	X	X	X	X	X
DN 25	X	X	X	X	X
DN 32	X	X	X	X	X
DN 40	X	X	X	X	X
DN 50	X	X	X	X	X

* on request

For further globe valves, accessories and other products, please see our Product Range catalogue and Price List.
Contact GEMÜ.

GEMÜ® VALVES, MEASUREMENT AND CONTROL SYSTEMS

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Technical data sheet

Should there be any doubts or misunderstandings, the German version of this data sheet is the authoritative document!

Subject to alteration · 09/2015 · 88373930