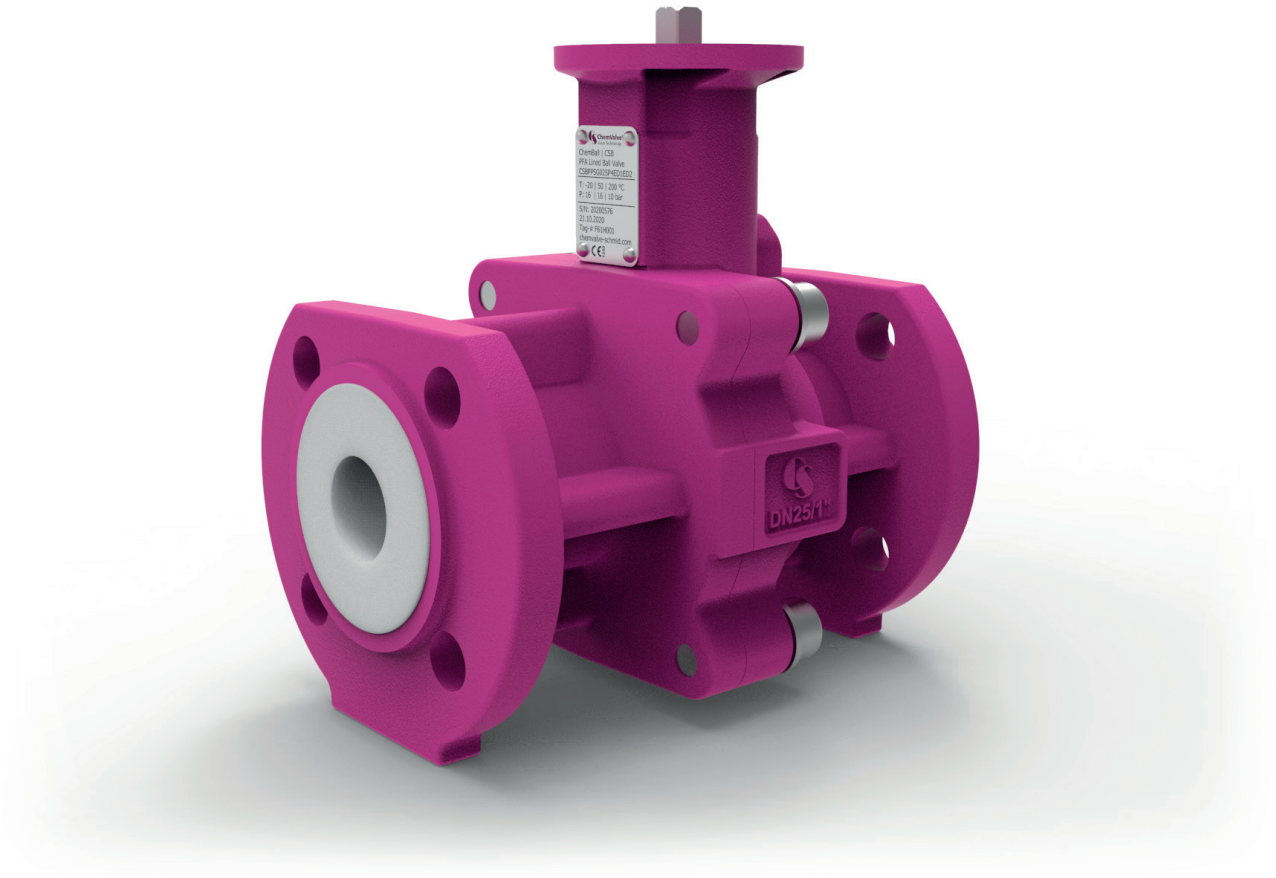
chemvalve-schmid.com

ChemValve®
Valve Technology



ChemBall | CSB

PFA Lined Ball Valve

Product Brochure

Company Overview

ChemValve-Schmid AG develops and manufactures high quality valves which are sold and distributed through a carefully developed network of long-standing partners in more than 50 countries all over the world.

We have been developing Check Valves and PTFE Lined Butterfly Valves in close cooperation with the most important European PTFE manufacturers since the 1980s. As a result, we have over 30 years of expertise in valve production. Our private and therefore independent company has shown consistent and healthy growth since then.

„Innovative – proficient – reliable", that's our motto. Thanks to years of investment in state-of-the-art production technologies and highly qualified employees, we offer unprecedented product and service quality in this sector. We creatively develop on-time solutions that are focused on our customers' needs. Thanks to our process reliability, which covers the entire value chain through to warehousing and has evolved over many years, standard products are delivered within only a few days in line with customer-controlled assembly requirements. Existing products are continuously improved and new products are developed based on customer requirements.

We deliver what we promise. And we naturally assume full responsibility for our orders and obligations.

Give us a try!

Zertifiziertes Managementsystem SQS ISO 9001

CE 1250

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Contents

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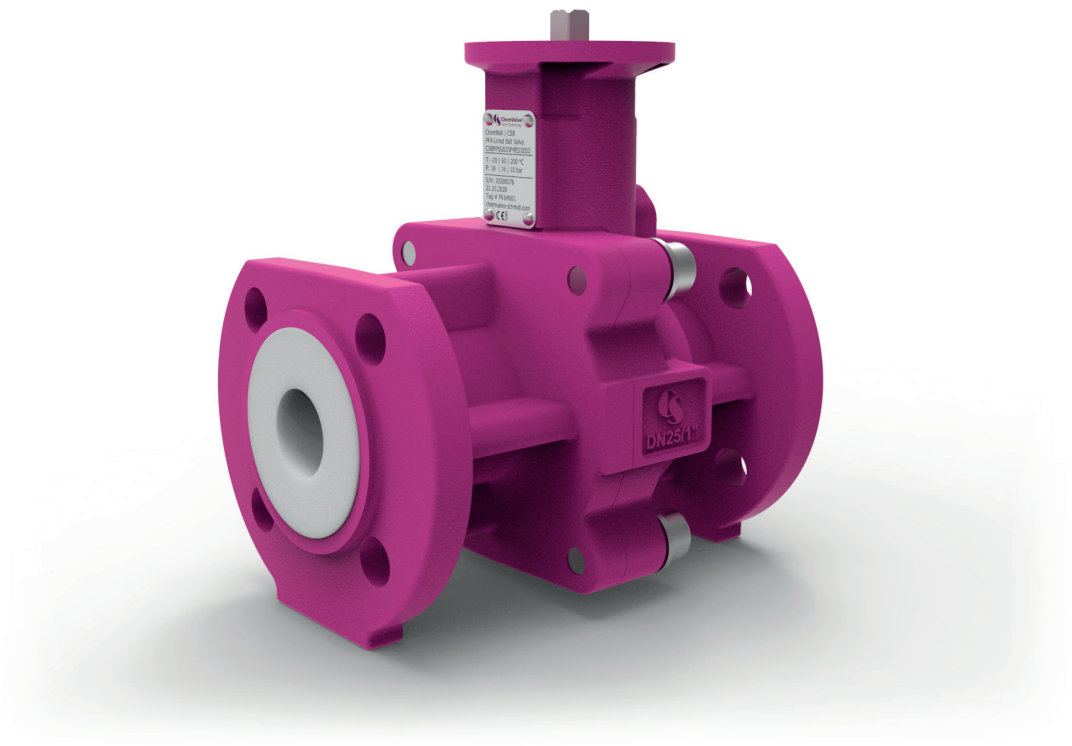
Features



Our patented TrueFloat® technology makes the **ChemBall | CSB** the most innovative PFA lined ball valve available on the valve market today, offering long service life while securely handling aggressive media

Patented TrueFloat® Technology

- Worldwide patented design combines the advantages of both floating and trunnion ball valves
- A single-piece PFA coating encloses the dynamic, metallic connection between ball and stem
- Reduced abrasion prevents age-related wear and tear

Security²

- For safety-critical applications, an optional, second chevron seal ensures increased security requirements are met
- An further optional leak detection port between the chevron seals offers integration with plant monitoring systems
- The sophisticated labyrinth seal tightly and reliably seals the two body halves for maximum security

Multicultural & flexible!

- Flange & face-to-face dimensions available in EN, ASME & JIS
- Three stem designs available for maximum actuator compatibility
- Head flange according to ISO 5211

Clever & Maintenance-friendly

- The bayonet mount makes replacing chevron seals effortless
- The integrated stand makes maintenance easier
- Maintenance-free bearings for uninterrupted operation

FFF — Form Follows Function

- Full bore design for maximum flow rate
- Axial grooves improve flow behaviour
- Capable of sustained operation in vacuum applications

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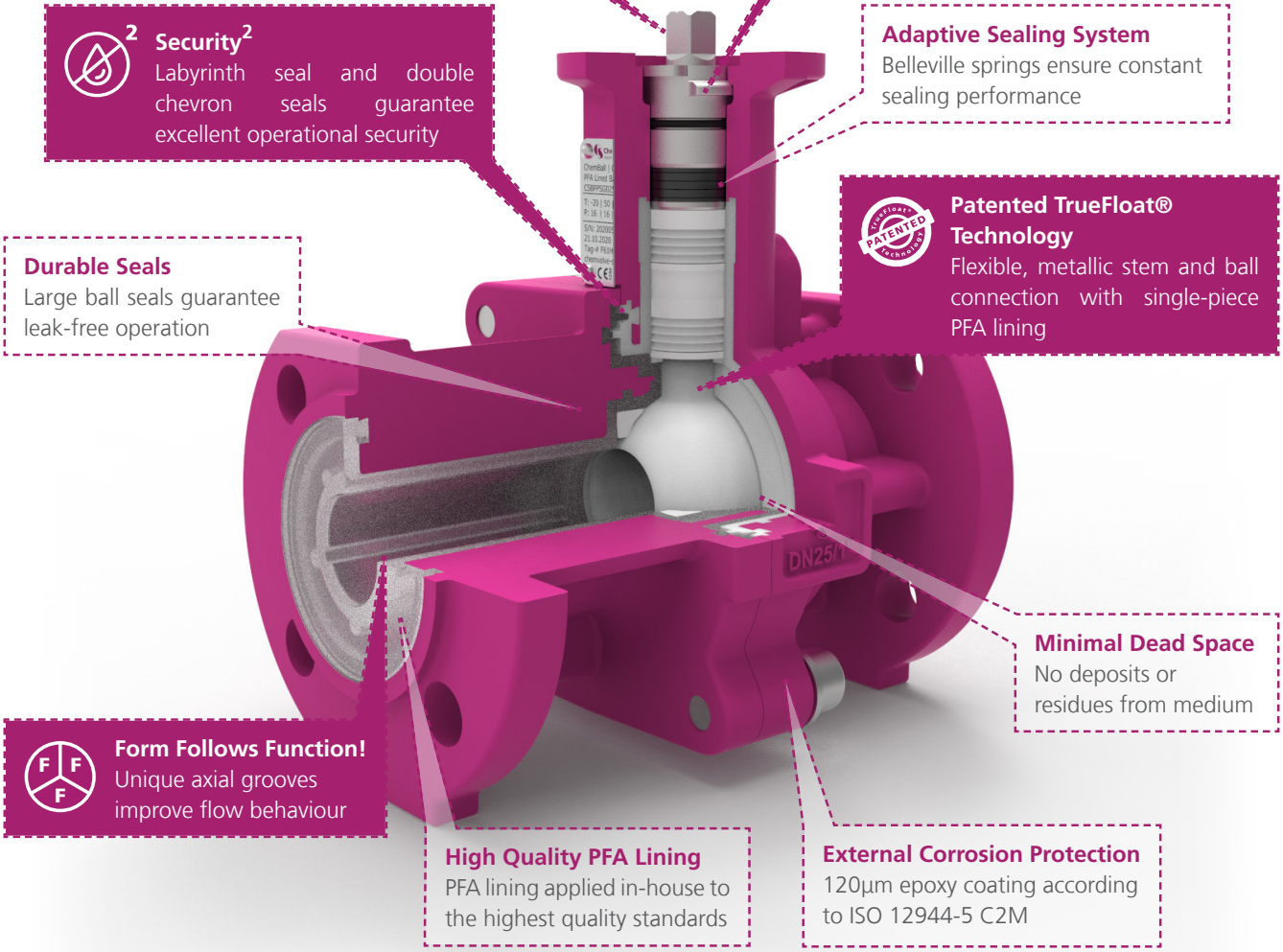
Features



Multiculti & flexible!
Standardised connections and F2F lengths

Clever & Maintenance-friendly
User-friendly design, including maintenance-free shaft bearing and integrated stand

Security²
Labyrinth seal and double chevron seals guarantee excellent operational security

Adaptive Sealing System
Belleville springs ensure constant sealing performance

Durable Seals
Large ball seals guarantee leak-free operation

Patented TrueFloat® Technology
Flexible, metallic stem and ball connection with single-piece PFA lining

Minimal Dead Space
No deposits or residues from medium

Form Follows Function!
Unique axial grooves improve flow behaviour

High Quality PFA Lining
PFA lining applied in-house to the highest quality standards

External Corrosion Protection
120µm epoxy coating according to ISO 12944-5 C2M

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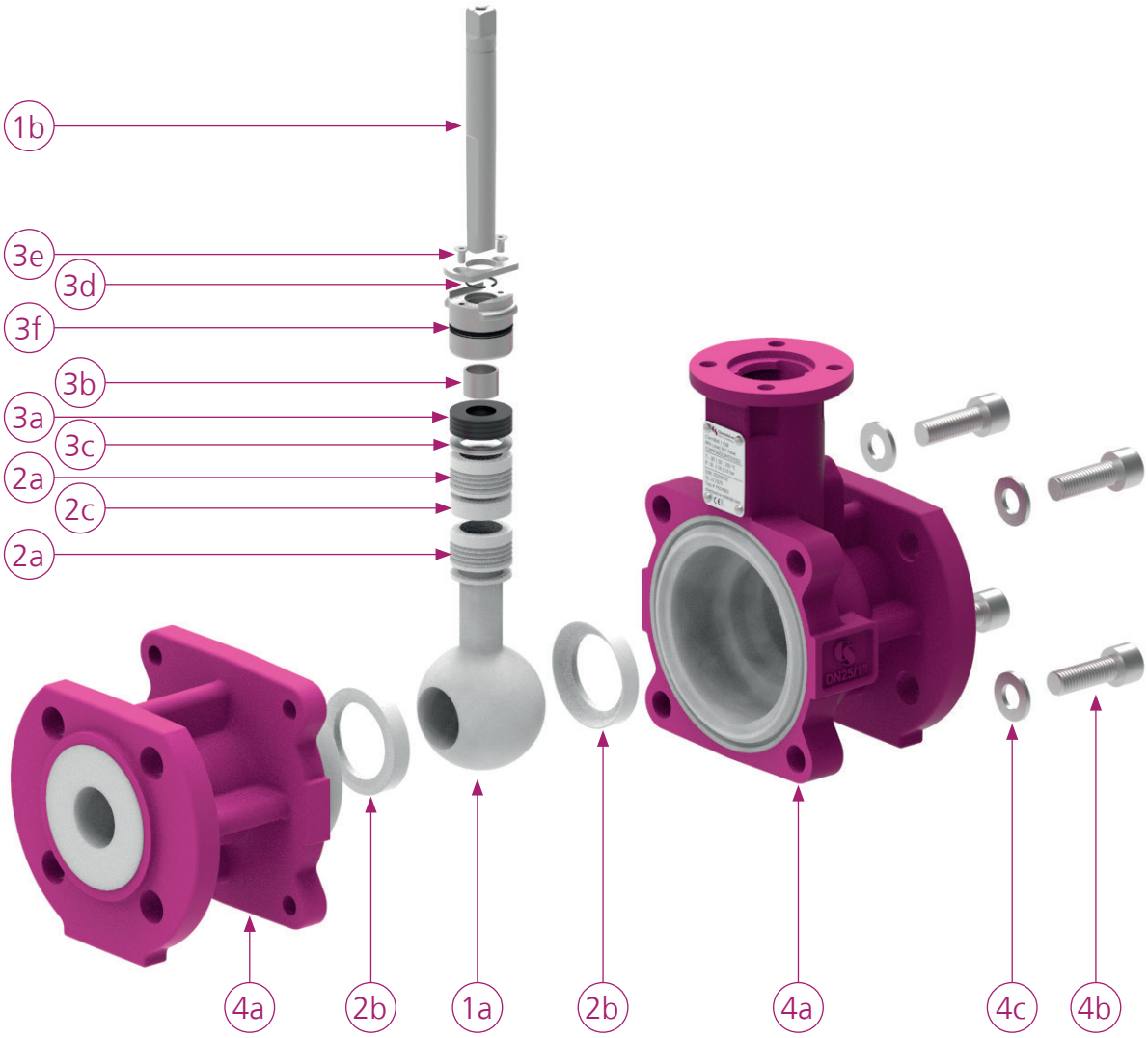
Components



Item #	Description	Materials
1a	Ball	PFA/1.4404
1b	Stem	1.4404
2a	Chevron Seals	PTFE
2b	Ball Seals	PTFE
2c	Spacer	PTFE
3a	Belleville Springs	Carbon Steel
3b	Shaft Bushing	PTFE/Steel

Item #	Description	Materials
3c	Pusher	1.4301
3d	Spring-lock Washer	1.4301
3e	Locking Plate & Screws	1.4404
3f	Bayonet Coupling	1.4404
4a	Valve Body	PFA/5.3103
4b	Body Bolts	Stainless Steel
4c	Washers	Stainless Steel

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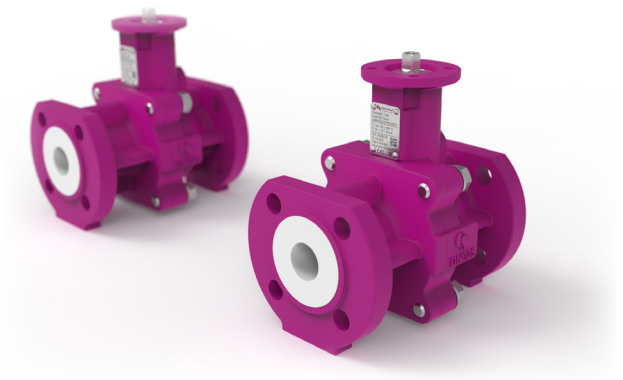
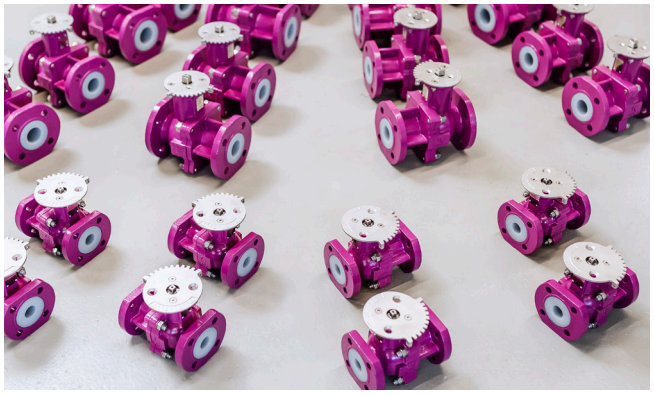
Specifications & Industry Standards

Nominal Diameter	• DN 15–200 | 1/2"–8"
Flange Connection	• EN 1092-1, PN 10–16 • ASME B16.5, Class 150 • JIS 10K
Top Flange	• ISO 5211
Maximum Working Pressure	• 16 bar
Operating Temperature	• -20° C to 200° C
Face-to-Face Length	• EN 558, Row 1 • ASME B16.10, Class 150, Row 19
Conformity	• PED 2014/68/EU • ATEX 2014/34/EU • Food (EC) Nr. 1935/2004 | FDA • TA-Luft | ISO 15848-1
Pressure Test	• EN 12266-1





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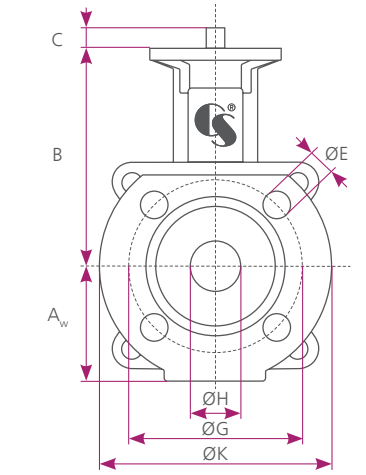
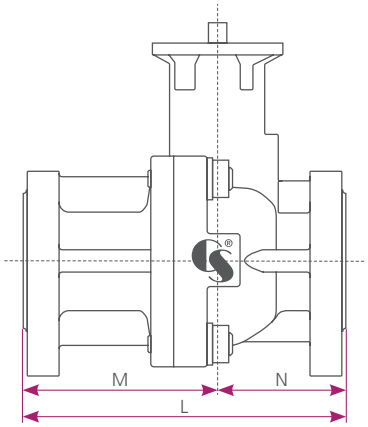
Dimensions | ANSI

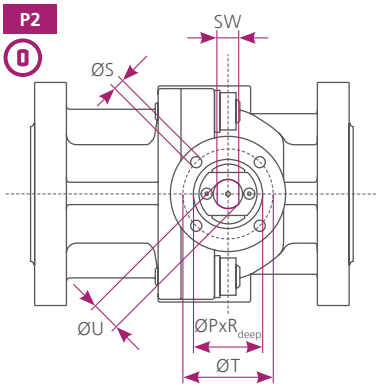




DN [Inch]	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	4"	5"	6"	8"
ØH [mm]	15	20	25	32	40	40	65	80	100	125	150	200
L [mm][1]	108	117	127	140	165	165	190	203	229	210	267	457
ØG	60.3	69.9	79.4	88.9	98.4	98.4	139.7	152.4	190.5	215.9	241.3	298.4
ØE	4x 15.9	4x 16	4x 15.9	4x 15.9	4x 15.9	4x 15.9	4x 19	4x 19	8x 19	8x 22.2	8x 22.2	8x 22.2
ØK	90	100	110	115	125	125	180	190	230	255	280	345
M	58.5	62	66.5	73	86	86	100	104.5	117.5	109	129.5	152
N	49.5	55	60.5	67	79	79	90	98.5	111.5	101	137.5	140
A	49	52.5	57.5	61	75	75	95	105	121	135	157	182
B	102.5	105	107.5	115	151	151	182	197	214	239	281.5	285
C_{P2}	16	16	16	16	30	30	39	39	39	39	48	48
$C_{D4/P4}$	10	10	10	10	19	19	24	24	24	24	29	29
MOT [Nm][3]	18	18	18	22	78	78	80	120	168	170	240	360
$MAST_{P2}$ [Nm][4]	40	40	40	32.5	208	208	447	447	447	447	878	878
$MAST_{D4/P4}$ [Nm][4]	50	50	50	24.6	166	166	359	359	359	359	665	665
kg	3.5	4.1	4.8	-	9.9	13.5	-	25.1	35.9	-	59.9	-

1) Acc. to ASME B16.10 Class 150 Row 19 "Short Pattern"
2) Acc. to ASME B16.10 Class 150 Row 18 "Long Pattern"
3) Maximum Occuring Torque
4) Maxium Allowable Stem Torque: 1.4404, inc. 1.2 Safety Factor

P2



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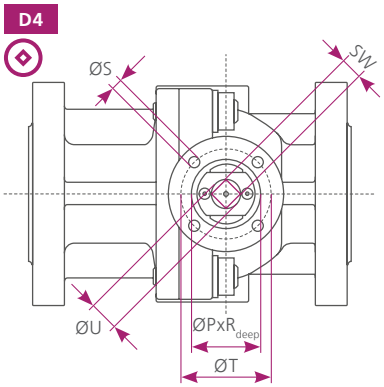

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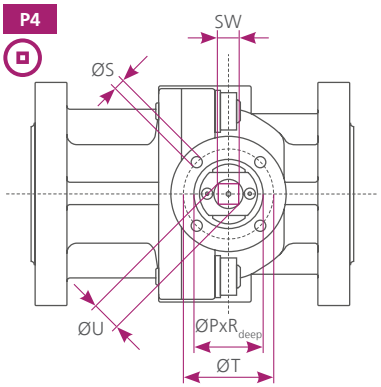

DN [inch]	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	4"	6"	8"
SW	9	9	9	9	17	17	22	22	22	27	27
ØU	12	12	12	12	22	22	28	28	28	36	36
ISO_{5211}	F05	F05	F05	F05	F07	F07	F10	F10	F10	F12	F12
ØT	50	50	50	50	70	70	102	102	102	125	125
ØS	4x7	4x7	4x7	4x7	4x9	4x9	4x11	4x11	4x11	4x13	4x13
ØP x R_{DEEP}	36x3.5	36x3.5	36x3.5	36x3.5	56x3.5	56x3.5	71x3.5	71x3.5	71x3.5	86x3.5	86x3.5

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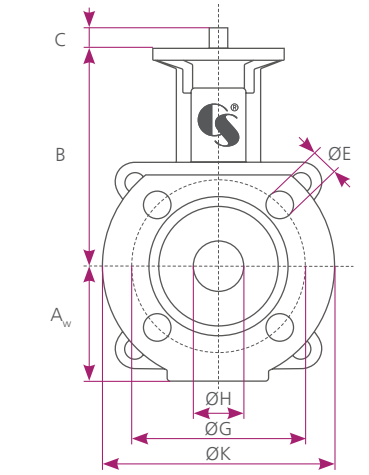
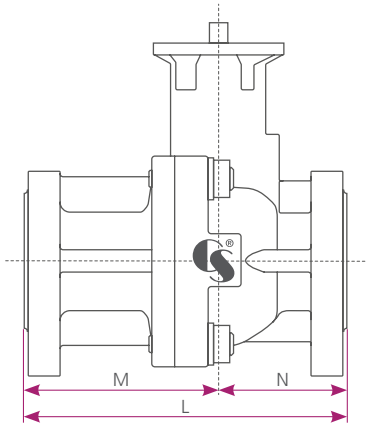
Dimensions | EN

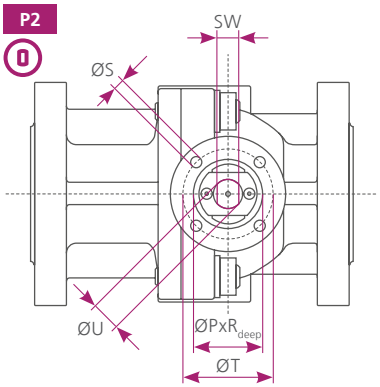




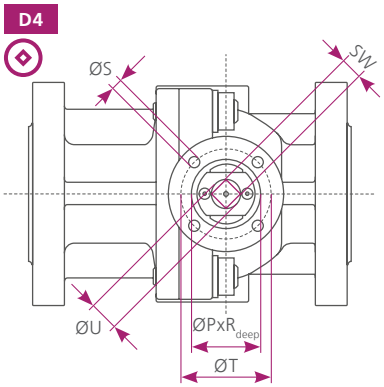
DN [mm]	15	20	25	32	40	50	65	80	100	125	150	200
ØH [mm]	15	20	25	32	40	50	65	80	100	125	150	200
L [mm][1]	130	150	160	180	200	230	290	310	350	400	480	600
ØG	65	75	85	100	110	125	145	160	180	210	240	295
ØE	4x 14	4x 14	4x 18	4x 18	4x 18	4x 18	8x 18	8x 18	8x 18	8x 18	8x 22	8x22 (PN10) 12x22 (PN16)
ØK	95	105	115	140	150	165	185	200	220	250	285	340
M	76	91	98.5	-	121	144	-	185	205	-	270	-
N	54	59	61.5	-	79	86	-	125	145	-	210	-
A	49	52.5	57.5	-	75	82.5	-	105	122	-	157	-
B	102.5	105	107.5	-	151.5	156	-	197	214	-	281.5	-
C_{P2}	16	16	16	16	30	30	39	39	39	39	48	48
$C_{D4/P4}$	10	10	10	10	19	19	24	24	24	24	29	29
MOT [Nm][2]	18	18	18	18	78	78	120	120	168	204	240	360
$MAST_{P2}$ [Nm][3]	40	40	40	40	208	208	447	447	447	447	878	878
$MAST_{D4/P4}$ [Nm][3]	50	50	50	50	166	166	359	359	359	359	665	665
kg	3.9	4.8	5.4	-	11.8	15.2	-	28	39.7	-	76.7	-

1) Acc. to EN 558, Row 1
2) Maximum Occuring Torque
3) Maxium Allowable Stem Torque: 1.4404, inc. 1.2 Safety Factor

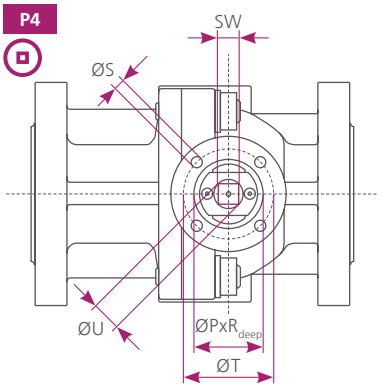
P2



D4



P4



DN [mm]	15	20	25	32	40	50	65	80	100	150	200
SW	9	9	9	9	17	17	22	22	22	27	27
ØU	12	12	12	12	22	22	28	28	28	36	36
ISO_{5211}	F05	F05	F05	F05	F07	F07	F10	F10	F10	F12	F12
ØT	50	50	50	50	70	70	102	102	102	125	125
ØS	4x7	4x7	4x7	4x7	4x9	4x9	4x11	4x11	4x11	4x13	4x13
ØP x R_{DEEP}	36x3.5	36x3.5	36x3.5	36x3.5	56x3.5	56x3.5	71x3.5	71x3.5	71x3.5	86x3.5	86x3.5

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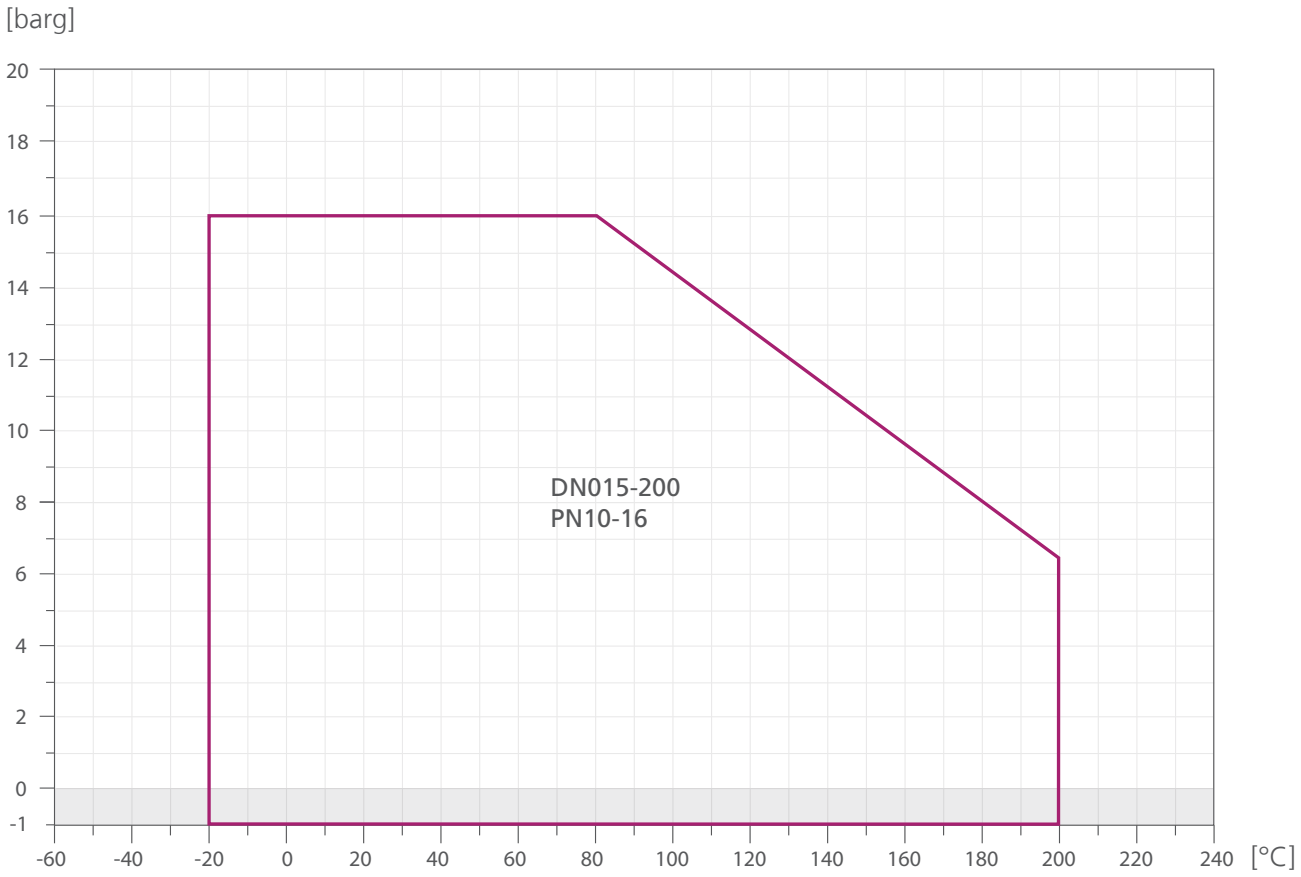
Pressure/Temperature Diagram | Flow Rate



Flow Rate/Kv Values [m³/h]												
Opening Angle	DN [mm]											
	15	20	25	32*	40	50	65*	80	100	125*	150	200*
0°	0	0	0	-	0	0	-	0	0	-	0	-
10°	0	0	0	-	0	0	-	0.7	0.8	-	8.2	-
20°	0	0	0	-	0	1.3	-	5.4	11.8	-	38.7	-
30°	0	0	0.5	-	1.5	5.4	-	18.3	303	-	87.8	-
40°	0.05	0.2	1.6	-	5.2	12.2	-	37	61.3	-	158.6	-
50°	0.2	0.8	3.9	-	11.4	23.3	-	66.7	107.2	-	267.6	-
60°	0.7	2	7.9	-	22.2	40.8	-	112	182.7	-	429.6	-
70°	1.8	4	13.9	-	38	65	-	170.8	284.4	-	651.2	-
80°	3.4	6.1	19.2	-	51.6	85.8	-	218.4	386	-	782.6	-
90°	3.8	7	20.8	-	57.3	93	-	237.3	392	-	847.2	-

*Calculations for these flow rates are pending

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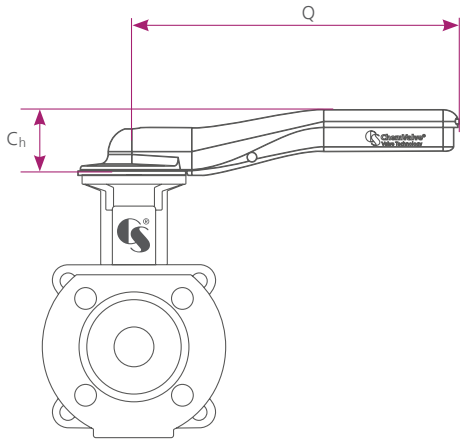
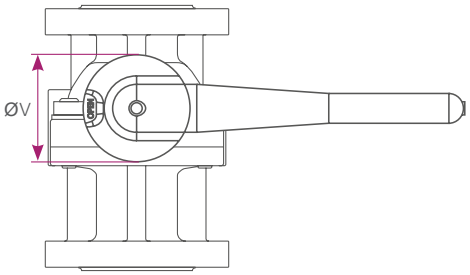
Actuation | Handlever





Material	
Grip	Stainless Steel
Ratchet Disc	Stainless Steel

DN [mm]	15	20	25	32	40	50	65	80	100	125	150	200
DN [inch]	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	4"	5"	6"	8"
C_h	46	46	46	46	55	55	55	55	55	55	64.5	64.5
Q	232.5	232.5	232.5	232.5	272.5	272.5	350	350	350	350	700	700
V	65	65	65	65	90	90	125	125	125	125	186	186
kg	1	1	1	1	1.5	1.5	2.7	2.7	2.7	2.7	6.6	6.6

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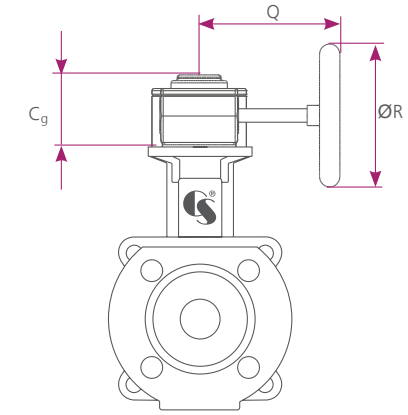
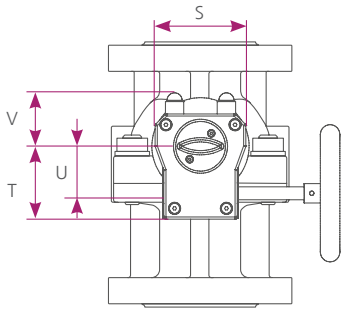
Actuation | Manual Gearbox | Standard





Configuration	
Valve Size	DN025–700
Protection Rating	IP67
Stem Connection	P4

Materials	
Gearcase and Cover	Cast Iron
Quadrant	Ductile Iron
Worm	Carbon Steel
Input Shaft	Carbon Steel
Seals	Nitrile Rubber
Fasteners	Zinc Plated Alloy Steel
Indicator	Stainless Steel
Handwheel | DN025–300	Cast Iron
Handwheel | DN350–700	Carbon Steel

DN [mm]	15	20	25	32	40	50	65	80	100	125	150	200
DN [inch]	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	4"	5"	6"	8"
C_g	40	40	40	40	40	40	50	50	50	50	60	60
Q	9	9	9	9	9	9	139	139	139	139	212	212
ØR	101	102	103	104	105	106	200	201	202	203	300	301
S	66	66	66	66	66	66	92	92	92	92	115	115
T	52	52	52	52	52	52	63	63	63	63	84	84
U	34	34	34	34	34	34	41	41	41	41	55	55
V	30	30	30	30	30	30	38	38	38	38	48	48
kg	1.3	1.3	1.3	1.3	1.3	1.3	2.4	2.4	2.4	2.4	4.7	4.7

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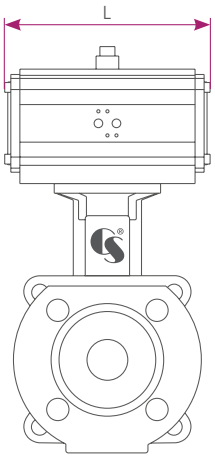
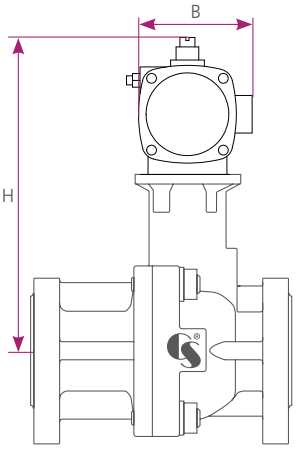
Actuation | Pneumatic Actuator





Double-acting pneumatic actuator*						
DN [mm]	DN [inch]	Code	L [mm]	B [mm]	H [mm]	W [kg]
15	½"	ADA40	158	91	217.5	2.1
20	¾"	ADA40	158	91	220	2.1
25	1"	ADA40	158	91	222.5	2.1
32	1¼"	ADA40	158	91	230	2.1
40	1½"	ADA80	177	111	288	3
50	2"	ADA80	177	111	293	3
65	2½"	ADA130	196	122	349	3.8
80	3"	ADA130	196	122	349	3.5
100	4"	ADA300	273	153	396	8.5
125	5"	ADA300	273	153	421	8.5
150	6"	ADA850	372	191.5	481	16.9
200	8"	ADA850	372	191.5	506	16.9

***Control Pressure** 6.0 bar

Single-acting pneumatic actuator*						
DN [mm]	DN [inch]	Code	L [mm]	B [mm]	H [mm]	W [kg]
15	½"	ADA40	158	91	217.5	2.1
20	¾"	ADA40	158	91	220	2.1
25	1"	ADA40	158	91	222.5	2.1
32	1¼"	ADA40	158	91	230	2.1
40	1½"	ADA80	177	111	288	3
50	2"	ADA80	177	111	293	3
65	2½"	ADA130	196	122	349	3.8
80	3"	ADA130	196	122	349	3.5
100	4"	ADA300	273	153	396	8.5
125	5"	ADA300	273	153	421	8.5
150	6"	ADA850	372	191.5	481	16.9
200	8"	ADA850	372	191.5	506	16.9

***Control Pressure** 6.0 bar

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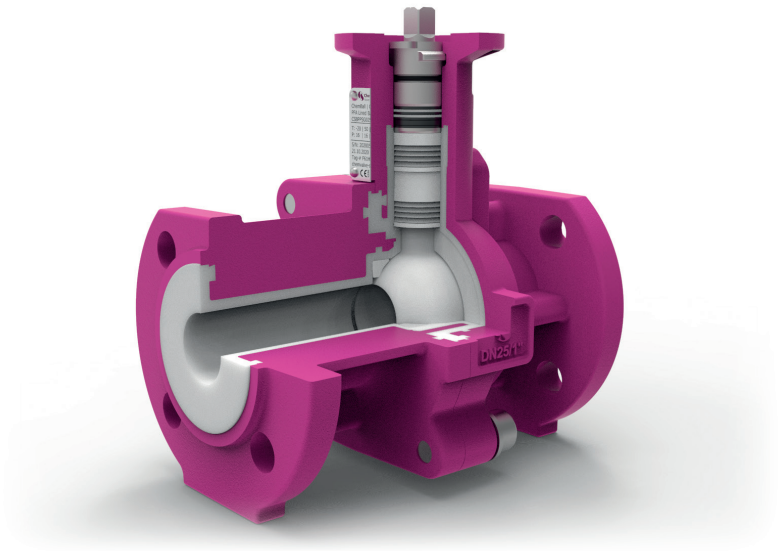
Order Code



Order Code

Code Example: CSBPBSPPSI----25P4F05EEA

Design		Actuation		Ball		Chevrons & Ball Seals		Pressure Package		Body		Size	Stem End		F2F Length		Flange	
Code	Model	Code	Device	Code	Material	Code	Material	Code	Material	Code	Material	mm/ inch	Code	Shape	Code	Standard	Code	Pressure Class
P	Premium	BS	Bare Shaft	P	PFA/ 1.4404	P	PTFE	S	PTFE/ Steel	I	PFA/ 5.3103	015-200 / ½"-8"	P4	Square Parallel	E	EN	E1	PN10
S	Standard	HP	Hand Lever										P2	Double D	A	ANSI	E2	PN16
		GP	Gearbox Premium										D4	Square Diagonal			EA	PN 10-16
		GS	Gearbox Standard														A1	ANSI 150
																	J0	JIS10K

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Valve Technology

PTFE Lined Butterfly Valve

For advanced chemical applications
DN 25–1200
PN 10–16 | Class 150 | JIS 10K
EN 558, Series 20

ChemFlyer | CST

Xtreme Disc Check Valve

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EN 558, Series 52

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