

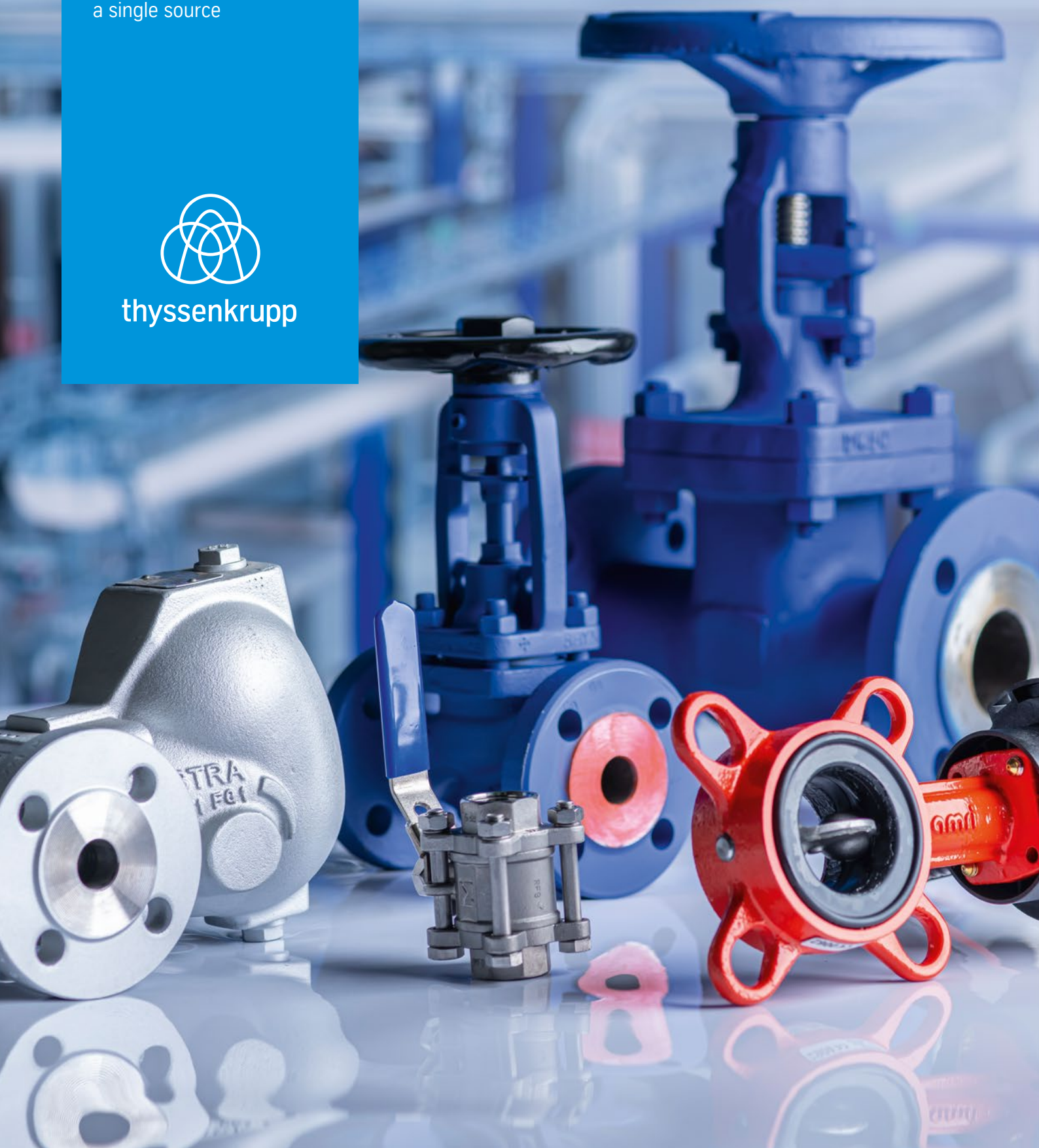
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Industrial valves

Valve expertise from
a single source



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With a wide stock range of valves and equipment and our global network we offer our customers not only fast delivery of standard products but also custom solutions. You can rely on competent technical support from our specialists to meet your requests.

Competent,
reliable, fast

Industrial valves for your applications

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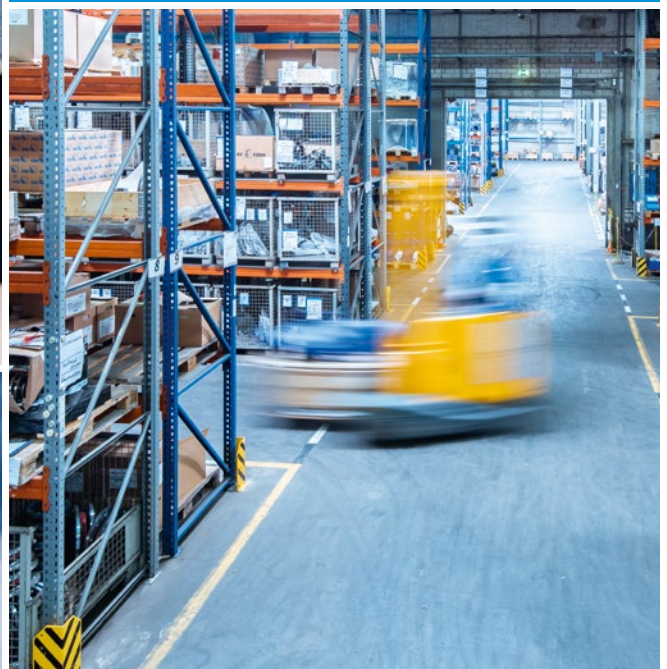
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- ⊕ Safety valves: Testing/adjustment of set pressure incl. TÜV approval
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Valves



DIN/ANSI product range

Gate valve

Nominal sizes	DN10–DN3000 (3/8"–120")
Nominal pressures	PN 6–PN 500 (Class 150–2500)
Materials	Cast iron, steel, stainless steel, high temperature steel, low temperature steel, bronze, brass, special materials (duplex, super-duplex, Hastelloy)
Connections	Flanges, welding ends, screwed
Operation	Handwheel, gear, motor (electric, pneumatic, hydraulic)
Types	Small gate valve, flatbody gate valve, ovalbody gate valve, roundbody gate valve, knife gate valve



Globe valve

Nominal sizes	DN10–DN500 (3/8"–20")
Nominal pressures	PN 6–PN 500 (Class 150–2500)
Materials	Cast iron, steel, stainless steel, high temperature steel, low temperature steel, bronze, brass, special materials (duplex, super-duplex, Hastelloy)
Connections	Flanges, welding ends, screwed
Operation	Handwheel, gear, motor (electric, pneumatic, hydraulic)
Types	Stop valve, regulating valve, bellows valve, stuffing box valve



Butterfly valve

Nominal sizes	DN25–DN4000 (1"–160")
Nominal pressures	PN 6–PN 160 (Class 150–1500)
Materials	Cast iron, steel, stainless steel, high temperature steel, low temperature steel, bronze, brass, special materials (duplex, super-duplex, Hastelloy)
Connections	Flanges, welding ends, screwed
Operation	Hand lever, gear, motor (electric, pneumatic, hydraulic)
Types	Concentric, double eccentric, triple eccentric, PTFE valve, flue gas valve, valve for gas



Ball valve

Nominal sizes	DN10–DN1400 (3/8"–56")
Nominal pressures	PN 6–PN 800 (Class 150–2500)
Materials	Cast iron, steel, stainless steel, high temperature steel, low temperature steel, bronze, brass, special materials (duplex, super-duplex, Hastelloy)
Connections	Flanges, welding ends, screwed
Operation	Hand lever, gear, motor (electric, pneumatic, hydraulic)
Types	1-piece, 2-piece, 3-piece, floating ball, trunnion-mounted ball, fully welded for district heating, 3-way ball valve



Not all types available for every valve

Safety valve

Nominal sizes	DN15–DN400 (1/2"–16")
Nominal pressures	PN 6–PN 800 (Class 150–2500)
Materials	Cast iron, steel, stainless steel, high temperature steel, low temperature steel, bronze, brass, special materials (duplex, super-duplex, Hastelloy)
Connections	Flanges, welding ends, screwed
Types	Spring-loaded, weight-loaded, with pilot valve, PTFE safety valve, heating safety valve



Control valve

Nominal sizes	DN15–DN500 (1/2"–20")
Nominal pressures	PN 6–PN 500 (Class 150–2500)
Materials	Cast iron, steel, stainless steel, high temperature steel, low temperature steel, bronze, brass, special materials (duplex, super-duplex, Hastelloy)
Connections	Flanges, welding ends, screwed
Operation	Electric, pneumatic, hydraulic
Types	Stuffing box valves, bellows valve, PTFE plug, V-port plug, perforated plug, quick closing valve, response, potentiometer, 3-way, mixing function, diverting function



Steam trap

Nominal sizes	DN15–DN100 (1/2"–4")
Nominal pressures	PN 16–PN 160 (Class 150–2500)
Materials	Cast iron, steel, stainless steel, high temperature steel, low temperature steel, bronze, brass, special materials (duplex, super-duplex, Hastelloy)
Connections	Screwed, flanges, welding ends
Types	Bimetallic trap, Membrane capsule trap, float steam trap, high-pressure steam trap, drainer



We have much more to offer

- ⌚ Actuators (electric, pneumatic, hydraulic)
- ⌚ Air valves
- ⌚ Blowdown valves
- ⌚ Checkvalves
- ⌚ Compensators
- ⌚ Diaphragm valves
- ⌚ Filters
- ⌚ Flow measuring equipment
- ⌚ Flow regulating valves
- ⌚ Hydrants
- ⌚ Industrial electronics
- ⌚ Knife gate valves
- ⌚ Lift check valves
- ⌚ Nonferrous metal valves
- ⌚ Overflow valves
- ⌚ Pinch valves
- ⌚ Plunger valves
- ⌚ Pressure gauges
- ⌚ Pressure reducers
- ⌚ Pumps
- ⌚ Return temperature limiters
- ⌚ Seawater/bronze valves
- ⌚ Sight glasses
- ⌚ Solenoid valves
- ⌚ Start-up drain valves
- ⌚ Strainers
- ⌚ Suction basket and foot valves
- ⌚ Swing check valves
- ⌚ Temperature gauges



Stock range

Valve	Type	Materials	Nominal pressure
Butterfly valve	Centric/wafer type	Ductile iron/VA/EPDM	PN 16
	Centric/wafer type/gear	Ductile iron/VA/EPDM	PN 16
	Centric/lug type	Ductile iron/VA/EPDM	PN 16
	Centric/lug type/gear	Ductile iron/VA/EPDM	PN 16
	Centric/wafer type/DVGW Gas	Ductile iron/VA/NBR	PN 16
Gate valve	Flange	Steel	PN 16
	Flange	Steel	PN 25
	Flange	Steel	PN 40
	Female thread	Stainless steel	PN 16
Globe valve	Flange/bellows	Gray cast iron	PN 16
	Flange/bellows	Ductile iron	PN 16
	Flange/bellows	Ductile iron	PN 25
	Flange/bellows	Steel	PN 40
	Flange/stuffing box	Gray cast iron	PN 16
	Flange/stuffing box	Steel	PN 40
	Flange/high pressure	Steel	PN 40
	Welding ends/high pressure	Steel	PN 40
	Flange/high pressure	Steel	PN 160
	Welding ends/high pressure	Steel	PN 160
	Flange/soft sealing	Gray cast iron	PN 6–16
	Wafer type/soft sealing	Gray cast iron	PN 16
	Female thread	Stainless steel	PN 16
Ball valve	1-piece/female thread	Stainless steel	PN 63
	2-piece/female thread	Stainless steel	PN 63
	2-piece/female thread	Stainless steel	PN 40
	2-piece/female thread/M3	Stainless steel	PN 63
	2-piece/female thread/high temperature	Stainless steel	PN 63
	3-piece/female thread	Stainless steel	PN 63
	3-piece/female thread	Stainless steel	PN 40
	3-piece/female thread/ISO flange	Stainless steel	PN 63
	3-piece/welding ends	Stainless steel	PN 63
	3-piece/welding ends	Stainless steel	PN 40
	3-piece/female thread/ISO flange	Stainless steel	PN 63
	2-piece/flange/ISO flange	Stainless steel	PN 40
	2-piece/flange/ISO flange	Stainless steel	PN 16
	Wafer type	Stainless steel	PN 40
	Wafer type	Stainless steel	PN 16
	3-way/T bore/female thread	Stainless steel	PN 63
	3-way/L bore/female thread	Stainless steel	PN 63
	Female thread/heating	Brass	PN 30
	Female thread/heating	Brass	PN 25
	Welding ends/reduced bore/fully welded	Steel	PN 40
	Welding ends/reduced bore/fully welded	Steel	PN 25
	Welding ends/reduced bore/fully welded/gear	Steel	PN 25
	Welding ends/reduced bore/fully welded	Steel	PN 40
	Female thread and welding end/reduced bore/fully welded	Steel	PN 40
	Male thread with chain and welding end/reduced bore/fully welded	Steel	PN 40
	Flange/reduced bore/fully welded	Steel	PN 40
	Flange/reduced bore/fully welded	Steel	PN 16
	Flange/reduced bore/fully welded/gear	Steel	PN 40
	Branching valve/fully welded	Steel	PN 40
	Branching valve/fully welded	Steel	PN 25
	Hot tap ball valve/fully welded	Steel	PN 40
	Hot tap ball valve/fully welded	Steel	PN 25
Steam trap and accessories	Bimetallic/flange	Steel	PN 40
	Membrane capsule/flange	Steel	PN 40
	Floating ball/flange	Ductile iron	PN 40
	Floating ball/flange	Steel	PN 40
	Blowdown valve/flange	Steel	PN 40
Swing checkvalves	Wafer type	Steel	PN 40
	Wafer type	Stainless steel	PN 40
	Female thread	Stainless steel	PN 16
Lift checkvalves	Wafer type	Brass	PN 16
	Wafer type	Steel	PN 40
	Wafer type	Steel	PN 16
	Wafer type	Stainless steel	PN 40
	Wafer type	Stainless steel	PN 16
	Wafer type	Bronze	PN 16
Strainers	Female thread	Stainless steel	PN 50
	Flange/single screen	Gray cast iron	PN 6
	Flange/single screen	Gray cast iron	PN 16
	Fine screen	Stainless steel	PN 6–16
Compensator	Female thread	Stainless steel	PN 50
	Rubber expansion joints /EPDM	EPDM/polyamide/EPDM	PN 16
	Rubber expansion joints /EPDM	EPDM/polyamide/EPDM	PN 10

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Everything from one source thanks to a global network



Technical annex

- ➞ Face-to-face dimensions
- ➞ Flange dimensions
- ➞ Welding end dimensions
- ➞ Material overview
- ➞ Plastics in valve technology
- ➞ Pressure-temperature diagram

Face-to-face dimensions of flanged valves

EN 558	Series 1	Series 2	Series 14	Series 15	Series 48	Series 26	Series 8	Series 9
formerly DIN 3202-1	F1	F2	F4	F5	F6	F7	Corner F32	Corner F33
DN	L*	L*	L*	L*	L*	L*	L*	L*
10	130	210	115				90	105
15	130	210	115				90	105
20	150	230	120				95	115
25	160	230	125	120			100	115
32	180	260	130	140			105	130
40	200	260	140	240	180	240	115	130
50	230	300	150	250	200	250	125	150
65	290	340	170	270	240	290	145	170
80	310	380	180	280	260	310	155	190
100	350	430	190	300	300	350	175	215
125	400	500	200	325	350	400	200	250
150	480	550	210	350	400	450	225	275
200	600	650	230	400	500	550	275	325
250	730	775	250	450	600	650	325	
300	850	900	270	500	700	750	375	
350	980	1025	290	550	800	850	425	
400	1100	1150	310	600	900	950	475	
450	1200	1275	330	650	1000	1050	500	
500	1250	1400	350	700	1100	1150		
600	1450	1600	390	800	1300	1350		
700	1650		430	900	1500	1550		
800	1850		470	1000	1700	1750		
900	2050		510	1100	1900	1950		
1000	2250		550	1200	2100	2150		
1200			630					

* Figures in mm

Face-to-face dimensions of welding end valves

EN 12982	Series 64	Series 65	Series 66	Series 1	Series 15	Series 26	Series 67	Series 68
formerly DIN 3202-2	S2	S3	S5	S7	S8	S9	S13	S14
DN	L*	L*	L*	L*	L*	L*	L*	L*
10	130	150	65	130			70	270
15	130	150	65	130			75	270
20	130	150	75	150			90	270
25	130	160	85	160	120		100	270
32	160	180	100	180	140		110	270
40	180	210	140	200	240	240	125	270
50	210	250	150	230	250	250	150	300
65	290	340	170	290	270	290	190	360
80	310	380	180	310	280	310	220	390
100	350	430	190	350	300	350	270	450
125	400	500	200	400	325	400	330	525
150	480	550	210	480	350	450	430	600
200	600	650	430	600	400	550	460	600
250	730	775	450	730	450	650		730
300	850	900	470	850	500	750		850
350		1025	490	980	550	850		980
400		1150	510	1100	600	950		1100
450					650	1050		
500		1400	550	1250	700	1150		1250
600			590	1450	800	1350		
700			630		900	1550		
800			670		1000	1750		
900			710		1100	1950		
1000			750		1200	2150		
1200			830		1400			

* Figures in mm

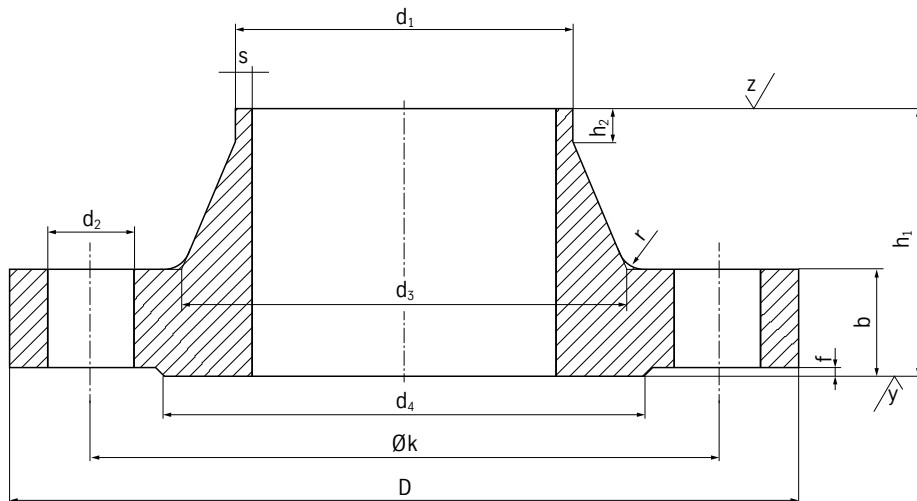
Face-to-face dimensions of wafer-type valves

EN 558	Series 20	Series 16	Series 49	Series 52
formerly DIN 3202-1	K1	K3	K4	K5
DN	L*	L*	L*	L*
15			16	25
20	33		19	31,5
25	33		22	35,5
32	33		28	40
40	33	33	31,5	45
50	43	43	40	56
65	46	46	46	63
80	46	64	50	71
100	52	64	60	80
125	56	70	90	110
150	56	76	106	125
200	60	89	140	160
250	68	114		200
300	78	114		250
350	78 (92)**	127		280
400	102	140		
450	114	152		
500	127	152		
600	154	178		
700	165	229		
800	190	241		
900	203	241		
1000	216	300		
1200	254			

* Figures in mm

** Face-to-face dimension according to EN 558 series 20, 78 mm
Face-to-face dimension according to EN 558 series 25, 92 mm

Flange dimensions



Legend

D = Flange diameter
 d4 = Flange sealing strip
 k = Bolt circle
 Number = Number of holes
 d2 = Hole diameter

Flange dimensions according to EN 1092-1 (formerly DIN 2501) – PN 6

DN	D*	d4*	k*	Number	Thread	d2*
15	80	40	55	4	M10	11
20	90	50	65	4	M10	11
25	100	60	75	4	M10	11
32	120	70	90	4	M12	14
40	130	80	100	4	M12	14
50	140	90	110	4	M12	14
65	160	110	130	4	M12	14
80	190	128	150	4	M16	18
100	210	148	170	4	M16	18
125	240	178	200	8	M16	18
150	265	202	225	8	M16	18
200	320	258	280	8	M16	18
250	375	312	335	12	M16	18
300	440	365	395	12	M20	22
350	490	415	445	12	M20	22
400	540	465	495	16	M20	22
450	595	520	550	16	M20	22
500	645	570	600	20	M20	22
600	755	670	705	20	M24	26
700	860	775	810	24	M24	26
800	975	880	920	24	M27	30
900	1075	980	1020	24	M27	30
1000	1175	1080	1120	28	M27	30

* Figures in mm

Flange dimensions according to EN 1092-1 (formerly DIN 2501) – PN 10

DN	D*	d4*	k*	Number	Thread	d2*
15	95	45	65	4	M12	14
20	105	58	75	4	M12	14
25	115	68	85	4	M12	14
32	140	78	100	4	M16	18
40	150	88	110	4	M16	18
50	165	102	125	4	M16	18
65	185	122	145	8 (4)**	M16	18
80	200	138	160	8	M16	18
100	220	158	180	8	M16	18
125	250	188	210	8	M16	18
150	285	212	240	8	M20	22
200	340	268	295	8	M20	22
250	395	320	350	12	M20	22
300	445	370	400	12	M20	22
350	505	430	460	16	M20	22
400	565	482	515	16	M24	26
450	615	532	565	20	M24	26
500	670	585	620	20	M24	26
600	780	685	725	20	M27	30
700	895	800	840	24	M27	30
800	1015	905	950	24	M30	33
900	1115	1005	1050	28	M30	33
1000	1230	1110	1160	28	M33	36

* Figures in mm

** Clamping value according to old DIN 2632/2633

**Flange dimensions according to EN 1092-1 (formerly DIN 2501)
– PN 16**

DN	D*	d4*	k*	Number	Thread	d2*
15	95	45	65	4	M12	14
20	105	58	75	4	M12	14
25	115	68	85	4	M12	14
32	140	78	100	4	M12	18
40	150	88	110	4	M16	18
50	165	102	125	4	M16	18
65	185	122	145	8 (4)**	M16	18
80	200	138	160	8	M16	18
100	220	158	180	8	M16	18
125	250	188	210	8	M16	18
150	285	212	240	8	M20	22
200	340	268	295	12	M20	22
250	405	320	355	12	M24	26
300	460	378	410	12	M24	26
350	520	438	470	16	M24	26
400	580	490	525	16	M27	30
450	640	550	585	20	M27	30
500	715	610	650	20	M30	33
600	840	725	770	20	M33	36
700	910	795	840	24	M33	36
800	1025	900	950	24	M36	39
900	1125	1000	1050	28	M36	39
1000	1255	1115	1170	28	M39	42

* Figures in mm

** Clamping value according to old DIN 2632/2633

**Flange dimensions according to EN 1092-1 (formerly DIN 2501)
– PN 25**

DN	D*	d4*	k*	Number	Thread	d2*
15	95	45	65	4	M12	14
20	105	58	75	4	M12	14
25	115	68	85	4	M12	14
32	140	78	100	4	M16	18
40	150	88	110	4	M16	18
50	165	102	125	4	M16	18
65	185	122	145	8	M16	18
80	200	138	160	8	M16	18
100	235	162	190	8	M20	22
125	270	188	220	8	M24	26
150	300	218	250	8	M24	26
200	360	278	310	12	M24	26
250	425	335	370	12	M27	30
300	485	395	430	16	M27	30
350	555	450	490	16	M30	33
400	620	505	550	16	M33	36
500	730	615	660	20	M33	36
600	845	720	770	20	M36	39
700	960	820	875	24	M39	42
800	1085	930	990	24	M45	48
900	1185	1030	1090	28	M45	48
1000	1320	1140	1210	28	M52	56

* Figures in mm

**Flange dimensions according to EN 1092-1 (formerly DIN 2501)
– PN 40**

DN	D*	d4*	k*	Number	Thread	d2*
15	95	45	65	4	M12	14
20	105	58	75	4	M12	14
25	115	68	85	4	M12	14
32	140	78	100	4	M16	18
40	150	88	110	4	M16	18
50	165	102	125	4	M16	18
65	185	122	145	4	M16	18
80	200	138	160	8	M16	18
100	235	162	190	8	M20	22
125	270	188	220	8	M24	26
150	300	218	250	8	M24	26
200	375	285	320	12	M27	30
250	450	345	385	12	M30	33
300	515	410	450	16	M30	33
350	580	465	510	16	M33	36
400	660	535	585	16	M36	39
500	755	615	670	20	M39	42
600	890	735	795	20	M45	48
700	995	840	900	24	M45	48
800	1140	960	1030	24	M52	56

* Figures in mm

**Flange dimensions according to EN 1092-1 (formerly DIN 2501)
– PN 63**

DN	D*	d4*	k*	Number	Thread	d2*
15	105	45	75	4	M12	14
20	130	60	90	4	M16	18
25	140	68	100	4	M16	18
32	155	78	110	4	M20	22
40	170	88	125	4	M20	22
50	180	102	135	4	M20	22
65	205	122	160	8	M20	22
80	215	138	170	8	M20	22
100	250	162	200	8	M24	26
125	295	188	240	8	M27	30
150	345	218	280	8	M30	33
200	415	285	345	12	M33	36
250	470	345	400	12	M33	36
300	530	410	460	16	M33	36

* Figures in mm

**Flange dimensions according to EN 1092-1 (formerly DIN 2501)
– PN 100**

DN	D*	d4*	k*	Number	Thread	d2*
15	105	45	75	4	M12	14
20	130	60	90	4	M16	18
25	140	68	100	4	M16	18
32	155	78	110	4	M20	22
40	170	88	125	4	M20	22
50	195	102	145	4	M24	26
65	220	122	170	8	M24	26
80	230	138	180	8	M24	26
100	265	162	210	8	M27	30
125	315	188	250	8	M30	33
150	355	218	290	12	M30	33
200	430	285	360	12	M33	36
250	505	345	430	12	M36	39
300	585	410	500	16	M39	42

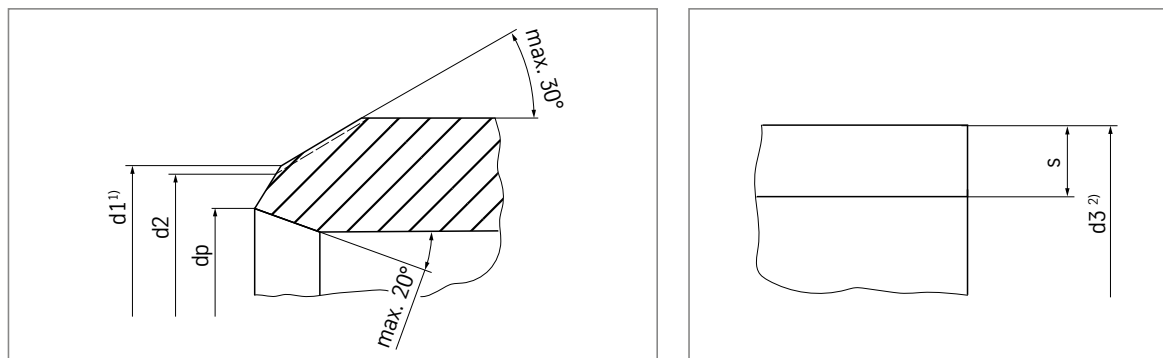
* Figures in mm

**Flange dimensions according to EN 1092-1 (formerly DIN 2501)
– PN 160**

DN	D*	d4*	k*	Number	Thread	d2*
15	105	45	75	4	M12	14
20	130	60	90	4	M16	18
25	140	68	100	4	M16	18
32	155	78	110	4	M20	22
40	170	88	125	4	M20	22
50	195	102	145	4	M24	26
65	220	122	170	8	M24	26
80	230	138	180	8	M24	26
100	265	162	210	8	M27	30
125	315	188	250	8	M30	33
150	355	218	290	12	M30	33
200	430	285	360	12	M33	36
250	515	345	430	12	M39	42
300	585	410	500	16	M39	42

* Figures in mm

Welding end dimensions



- 1) d1 is the maximum permissible enlargement of the outside diameter; it generally applies to cast steel and malleable iron suitable for welding.
 2) d3 is the outside diameter of the corresponding steel pipe series 1 according to ISO 4200-1985

Welding end dimensions according to EN 12627 (formerly DIN 3239, part 1)

DN	Series 1 to PN 40	Series 2 to PN 63	Series 3 to PN 100	Series 4 to PN 160
(mm)				
d1	20.0	20.0	20.0	20.0
d2	18.0	18.0	18.0	18.0
dp (DIN 2559)	13.0	13.0	13.0	13.0
d3	17.2	17.2	17.2	17.2
s	2.0	2.0	2.0	2.0
d1	24.0	24.0	24.0	24.0
d2	22.0	22.0	22.0	22.0
dp (DIN 2559)	17.0	17.0	17.0	17.0
d3	21.3	21.3	21.3	21.3
s	2.0	2.0	2.0	2.0
d1	31.0			
d2	28.0			
dp (DIN 2559)	22.0			
d3	26.9			
s	2.3			
d1	37.0	37.0	37.0	37.0
d2	34.0	34.0	34.0	34.0
dp (DIN 2559)	28.5	28.5	28.5	27.0
d3	33.7	33.7	33.7	33.7
s	2.6	2.6	2.6	3.2
d1	54.0	54.0	54.0	54.0
d2	49.0	49.0	49.0	49.0
dp (DIN 2559)	43.0	43.0	43.0	41.0
d3	48.3	48.3	48.3	48.3
s	2.6	2.6	2.6	3.6
d1	67.0	67.0	67.0	67.0
d2	61.0	61.0	61.0	61.0
dp (DIN 2559)	54.0	54.0	54.0	52.5
d3	60.3	60.3	60.3	60.3
s	3.2	3.2	3.2	4.0

DN	Series 1 to PN 40	Series 2 to PN 63	Series 3 to PN 100	Series 4 to PN 160
(mm)				
d1	83.0	83.0	83.0	83.0
d2	77.0	77.0	77.0	77.0
dp (DIN 2559)	69.0	69.0	69.0	65.0
d3	76.1	76.1	76.1	76.1
s	3.6	3.6	3.6	5.6
d1	96.0	96.0	96.0	96.0
d2	90.0	90.0	90.0	90.0
dp (DIN 2559)	81.0	81.0	81.0	76.5
d3	88.9	88.9	88.9	88.9
s	4.0	4.0	4.0	6.3
d1	121.0	121.0	121.0	121.0
d2	115.0	115.0	115.0	115.0
dp (DIN 2559)	104.0	104.0	104.0	98.5
d3	114.3	114.3	114.3	114.3
s	5.0	5.0	5.0	8.0
d1	147.0	147.0	147.0	147.0
d2	141.0	141.0	141.0	141.0
dp (DIN 2559)	130.5	130.5	127.0	120.5
d3	139.7	139.7	139.7	139.7
s	4.5	4.5	6.3	10.0
d1	176.0	176.0	176.0	176.0
d2	170.0	170.0	170.0	170.0
dp (DIN 2559)	156.5	156.5	154.0	144.5
d3	168.3	168.3	168.3	168.3
s	5.6	5.6	7.1	12.5
d1	228.0	228.0	228.0	228.0
d2	222.0	222.0	222.0	222.0
dp (DIN 2559)	204.5	204.5	199.5	189.0
d3	219.1	219.1	219.1	219.1
s	7.1	7.1	10.0	16.0

Material overview

EN name Number	Short name	Old material name (DIN)		ASTM Comparable material ¹⁾	Category
		Number	Short name		
1.0460	P250GH	1.0460	C22.8	A105	Forged steel, unalloyed (carbon steel)
1.0619	GP240GH	1.0619	GS-C 25	A216-WCB	Cast steel (carbon steel)
1.4006	X12Cr13	1.4006	X10 Cr 13	A182-F6A	Chromium steel
1.4021	X20Cr13	1.4021	X20 Cr 13	AISI 420	Chromium steel
1.4301	X5CrNi18-10	1.4301	X5 CrNi 18 10	A182-F304	Stainless steel (forged), austenitic
1.4308	GX5CrNi19-10	1.4308	G-X 6CrNi 18 9	A351-CF8	Stainless steel (cast), austenitic
1.4404	X2CrNiMo17-12-2	1.4404	X2 CrNiMo 17 13 2	A182 F316L	Stainless steel (forged), austenitic
1.4408	GX5CrNiMo19-11-2	1.4408	G-X 6CrNiMo 18 10	A351-CF8M	Stainless steel (cast), austenitic
1.4541	X6CrNiTi18-10	1.4541	X6 CrNiTi 18 10	–	Stainless steel (forged), austenitic
1.4571	X6CrNiMoTi17-12-2	1.4571	X6 CrNiMoTi 17 12 2	AISI 316Ti	Stainless steel (forged), austenitic
1.5415	16Mo3	1.5415	15 Mo 3	A182-F1	Forged steel, high-temperature
1.7335	13CrMo4-5	1.7335	13 CrMo 4 4	A182-F12-2	Forged steel, high-temperature
1.7357	G17CrMo5-5	1.7357	GS-17 CrMo 5 5	A217-WC6	Cast steel, high-temperature
1.7380	10CrMo9-10	1.7380	10 CrMo 9 10	A182 F22-3	Forged steel, high-temperature
5.1301 (EN-JL1040)	EN-GJL-250	0.6025	GG-25	A126-B	Gray cast iron
5.3103 (EN-JS1025)	EN-GJS-400-18-LT	0.7043	GGG-40.3	–	Ductile iron
5.3106 (EN-JS1030)	EN-GJS-400-15	0.7040	GGG-40	A536 60-40-18	Ductile iron

¹⁾ Note differences in chemical and physical properties!

Plastics in valve technology

Short name	Materials	Application	Temperature range
EPDM	Ethylene propylene caoutchouc	Cold and hot water/steam/glycol	-10 °C to +120 °C
EPDM W270	Ethylene propylene caoutchouc	Drinking water – DVGW	-10 °C to +90 °C
NBR	Acrylonitrile butadiene caoutchouc	Mineral oils/gases/oil-containing compressed air/ gasoline	-20 °C to +90 °C
CSM	Chlorosulfonated polyethylene	Chlorine	-10 °C to +100 °C
FKM	Fluorocarbon caoutchouc	Hydrocarbons	-20 °C to +200 °C
PTFE	Polytetrafluoroethylene	Chemically almost universal uses	-50 °C to +200 °C
IIR	Butyl	Acids/alkalis/abrasive media	-10 °C to +120 °C
ECTFE	Halar	Acids/alkalis – high chemical exposure	-10 °C to +90 °C

Pressure-temperature diagram according to EN 1092-1/-2 and works standards

Gray cast iron, ductile iron, cast steel, forged steel, stainless steel, high-temperature steel

Body material	Nominal pressure	Pressure in bar at temperature of									
		-60°C to <-10°C*	-10°C to +120°C	150°C	200°C	250°C	300°C	350°C	400°C	450°C	
EN-JL1040 (GG-25)	PN 6	–	6.0	5.4	4.8	4.2	3.6	–	–	–	
	PN 16	–	16.0	14.4	12.8	11.2	9.6	–	–	–	
EN-JS1049 (GGG-40.3)	PN 10	on request	10.0	9.7	9.2	8.7	8.0	7.0	–	–	
	PN 16	on request	16.0	15.5	14.7	13.9	12.8	11.2	–	–	
	PN 25	on request	25.0	24.3	23.0	21.8	20.0	17.5	–	–	
	PN 40	on request	40.0	38.8	36.8	34.8	32.0	28.0	–	–	
Body material	Nominal pressure	Pressure in bar at temperature of									
		-60°C to <-10°C*	-10°C to +120°C	120°C	150°C	200°C	250°C	300°C	350°C	400°C	450°C
1.0619+N (GS-C25N)	PN 6	–	6.0	5.4	5.2	5.0	4.5	4.1	3.8	3.5	1.9
	PN 10	–	10.0	9.2	8.8	8.3	7.6	6.9	6.4	5.9	3.2
	PN 16	12.0	16.0	16.0	15.3	14.0	13.0	11.0	10.2	9.5	5.2
	PN 25	18.7	25.0	25.0	23.9	22.0	20.0	17.2	16.0	14.8	8.2
	PN 40	30.0	40.0	40.0	38.1	35.0	32.0	28.0	25.7	23.8	13.1
Body material	Nominal pressure	Pressure in bar at temperature of									
		-10°C to +50°C	100°C	150°C	200°C	250°C	300°C	350°C	400°C		
1.0619+N (GS-C25N)	PN 63	63.0	59.0	56.0	53.0	48.0	44.0	41.0	38.0		
	PN 100	100.0	93.0	88.0	83.0	76.0	69.0	64.0	60.0		
	PN 160	160.0	149.0	141.0	133.0	122.0	110.0	103.0	95.0		
Body material	Nominal pressure	Pressure in bar at temperature of									
		-60°C to <-10°C*	-10°C to +120°C	150°C	200°C	250°C	300°C	350°C	400°C	450°C	
1.0460 (C22.8)	PN 25	18.7	25.0	23.9	22.0	20.0	17.2	16.0	14.8	10.0	
	PN 40	30.0	40.0	38.1	35.0	32.0	28.0	25.7	23.8	16.0	
	PN 63	–	63.0	58.0	50.0	45.0	40.0	36.0	32.0	24.0	
	PN 100	–	100.0	90.0	80.0	70.0	60.0	56.0	50.0	38.0	
	PN 160	–	160.0	145.0	130.0	112.0	96.0	90.0	80.0	60.0	
Body material	Nominal pressure	Pressure in bar at temperature of									
		-60°C to <-10°C*	-10°C to +120°C	150°C	200°C	250°C	300°C	350°C	400°C	450°C	
1.4408	PN 6	–	6.0	5.4	5.0	4.7	4.4	4.2	4.1	–	
	PN 10	–	10.0	9.0	8.4	7.9	7.4	7.1	6.8	–	
	PN 16	16.0	16.0	14.5	13.4	12.7	11.8	11.4	10.9	–	
	PN 25	25.0	25.0	22.7	21.0	19.8	18.5	17.8	17.1	–	
	PN 40	40.0	40.0	36.3	33.7	31.8	29.7	28.5	27.4	–	
1.4581	PN 16	8.0	16.0	15.6	14.9	14.1	13.3	12.8	12.4	–	
	PN 25	12.5	25.0	24.5	23.3	22.1	20.8	20.1	19.5	–	
	PN 40	20.0	40.0	39.2	37.3	35.4	33.3	32.1	31.2	–	
	PN 100	50.0	100.0	98.0	93.3	88.5	83.3	80.4	78.0	–	
Body material	Nominal pressure	Pressure in bar at temperature of									
		-10°C to +250°C	300°C	350°C	400°C	450°C	500°C	520°C	530°C	540°C	550°C
1.5415	PN 63	63.0	56.0	50.0	47.0	45.0	29.0	16.0	14.0	–	–
	PN 100	100.0	87.0	78.0	74.0	70.0	45.0	27.0	22.0	–	–
	PN 160	160.0	139.0	125.0	118.0	112.0	72.0	43.0	35.0	–	–
1.7335	PN 63	63.0	63.0	61.0	58.0	56.0	47.0	32.0	25.0	20.0	15.0
	PN 100	100.0	100.0	95.0	91.0	87.0	74.0	49.0	38.0	31.0	24.0
	PN 160	160.0	160.0	153.0	146.0	139.0	118.0	79.0	62.0	46.0	35.0
1.7357	PN 63	63.0	63.0	60.0	57.0	53.0	41.0	28.0	23.0	–	–
	PN 100	100.0	100.0	95.0	90.0	84.0	65.0	45.0	37.0	–	–
	PN 160	160.0	160.0	152.0	144.0	135.0	104.0	72.0	59.0	–	–
Body material	Nominal pressure	Pressure in bar at temperature of									
		-10°C to +400°C	450°C	500°C	520°C	530°C	540°C	550°C			
1.7379	PN 63	63.0	57.2	35.7	28.4	24.7	21.0	17.3			
	PN 100	100.0	90.8	56.7	45.0	39.2	33.3	27.5			
	PN 160	160.0	145.3	90.7	72.0	62.7	53.3	44.0			

*) Bolts and nuts of A4-70 (at temperatures below -10 °C)

Please note that the values in the table are approximate values. The actual values for operating pressure and operating temperature may vary depending on the exact design of the valve. Please refer to the data sheet of the valve. Intermediate values of the max. permissible operating pressures may be calculated by linear interpolation between the next lower and higher temperature values.



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