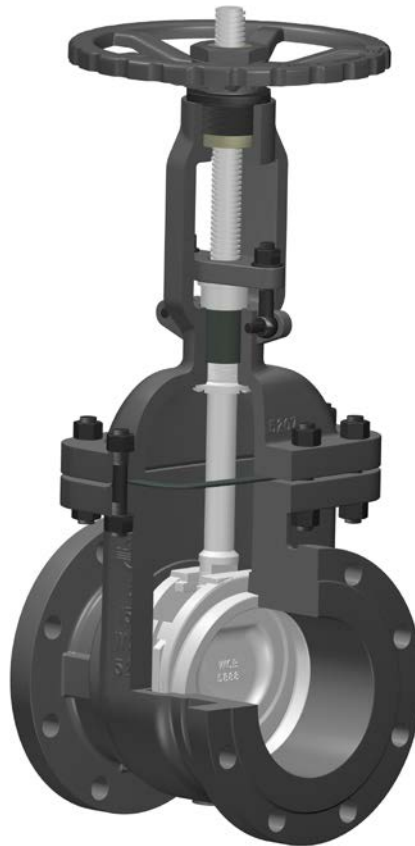


Series 90 DIN RANGE

Series 90 Gate Valves are linear motion valves devised for stopping the flow of the service fluid when necessary, not being suitable for regulating purpose. They are bolted bonnet, outside screw and yoke, rising stem, bidirectional, with metal sealing and full bore. The atmospheric sealing is achieved by flexible graphite rings. The two slightly sloped seats favor a tight shut off, being largely used in the power, chemical and oil industry sectors. The range is also comprehensive of a wide offer of different versions and options. The standard operation is achieved by handwheel or gear, depending on valve size and working pressure. Valves can also be arranged for automation with different kinds of actuators.



Precise machining of components for optimal performance

Ergonomic non-rising handwheel

Outside screw and yoke, rising stem

Marking for identification and full traceability purpose

Back Seat feature

Great versatility in end connections, materials and configurations

Seat surface can be hardened to increase wear resistance

Sloped valve seats, vertical shut off, flow assists closure

Flexible Wedge, favours the closure even at low pressures

Full bore, minimum pressure drop

Main Features / Reference Standards

Design: DIN EN 1984
 Pressure Rating: PN16-PN100
 Face to face length: DIN 3202 F5/F7
 Valve end connections: Flanged RF to EN 1092-1 Type 21
 Welded BW to EN12627
 Marking: MSS SP-25
 Inspections & Tests: EN12266-1/2
 Bidirectional design
 Primer painted grey color similar to RAL 7037 for protection during storage and transport (carbon steel body/bonnet)
 Product compliant with Pressure Equipment Directive PED, up to category III for European territory

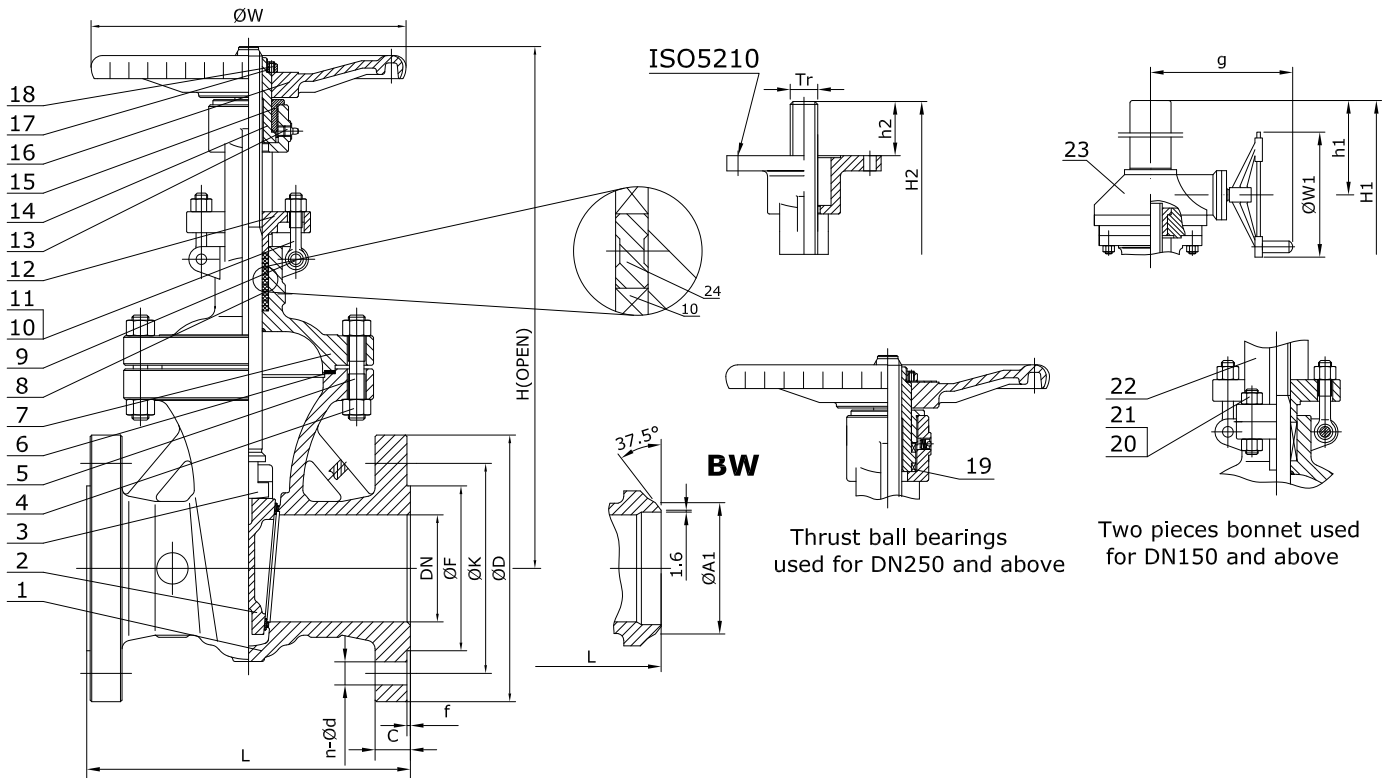
Main Duties / Limits of use

Fluids compatible with materials of construction
 Pressure / Temperature Rating to EN 1092-1.
 For PED compliant products, limits also acc. to PED Annex II Tables 6, 7, 8 & 9, gases and liquids of fluid groups 1 & 2, up to category III
 Questions referring to chemical resistance, please consult us
 For installation in horizontal pipelines with stem pointing upwards. For other positions, please consult us.

Options

Different body materials and trim combinations, different valve connections, extended bonnet, bellow seal, pressure seal, welded bonnet, lantern ring with double packing, live loaded packing, chained hand wheel, manual gear, pneumatic, electric or hydraulic actuation, limit switches, execution for aggressive atmosphere, etc. Please consult us

Main Parts and Materials



Thrust ball bearings used for DN250 and above

Two pieces bonnet used for DN150 and above

N°	Part name	Material
1	Body	1.0619+N
2	Wedge	1.0619+N
3	Stem	A182 F6a
4	Nut	A194 2H
5	Bolt	A193 B7
6	Gasket	St. Steel 304 + Graphite
7	Bonnet	1.0619+N
8	Packing	Flexible Graphite
9	Pin	Carbon Steel
10	Gland Eyebolt	A193 B7
11	Nut	A194 2H
12	Gland	1.0619+N

N°	Part name	Material
13	Grease Injector	Brass
14	Stem Nut	A439 D2
15	Retaining Nut	Carbon Steel
16	Handwheel	ASTM A536
17	Handwheel Nut	Carbon Steel
18	Screw	Carbon Steel
19	Bearings	Alloy Steel
20	Yoke Nut	A194 2H
21	Yoke Bolt	A193 B7
22	Yoke	1.0619+N
23	Gear box	Assembly
24	Lantern ring	ASTM A276 410

Fig. 90A0	Seat Surface	Wedge Surface	Stem
TRIM #1 (90A01)	+13Cr	+13Cr	A182 F6a
TRIM #5 (90A05)	+HF	+HF	A182 F6a
TRIM #8 (90A08)	+HF	+13Cr	A182 F6a

Series 90 DIN RANGE

Main Valve Parameters - PN16

Nominal Size	DN	50	65	80	100	125	150	200	250		
End connection	RF	L	250	270	280	300	325	350	400	450	
		ØD	165	185	200	220	250	285	340	405	
		ØK	125	145	160	180	210	240	295	355	
		ØF	102	122	138	158	188	212	268	320	
		C	18	18	20	20	22	22	24	26	
		f	3	3	3	3	3	3	3	3	
		n-Ød	4-18	8-18	8-18	8-18	8-18	8-18	8-22	12-22	12-26
End connection	BW	ØA1	62	77	91	117	144	172	223	278	
		H (open)	393	430	500	580	655	795	950	1141	
Top works/operation	Hand-wheel	H (close)	340	360	415	475	525	599	740	857	
		ØW	200	200	220	250	280	300	350	400	
		H1	-	-	-	-	-	-	-	1180	
	Gear with handwheel	h1	-	-	-	-	-	-	-	335	
		g	-	-	-	-	-	-	-	262	
		ØW1	-	-	-	-	-	-	-	310	
		With ISO 5210 mounting pad	H2 (open)	405	460	516	611	658	765	970	1114
			H2 (close)	340	380	425	498	520	607	755	860
	h2		45	45	60	60	60	60	80	80	
	ISO		F07	F07	F10	F10	F10	F10	F14	F14	
	Tr		Tr20x4LH	Tr22x5LH	Tr24x5LH	Tr26x5LH	Tr28x5LH	Tr30x6LH	Tr32x6LH	Tr36x6LH	
	Stroke		65	80	91	113	138	158	215	254	
	No. of turns		16	16	18	23	28	26	36	42	
	Torque	32	35	42	77	88	98	172	227		
	Kvs-value		168	413	595	1089	1956	2597	4791	7488	
	Approx. Weight RF		20	28	32	45	62	85	125	190	

(1) To be specified by the purchaser

Dimensions in mm subject to manufacturing tolerance / Kvs-values in m³/h / Torques in Nm / Weights in kg

Nominal Size	DN	300	350	400	450	500	600	700		
End connection	RF	L	500	550	600	650	700	800	900	
		ØD	460	520	580	640	715	840	910	
		ØK	410	470	525	585	650	770	840	
		ØF	378	438	490	550	610	725	795	
		C	28	30	32	40	44	54	(1)	
		f	4	4	4	4	4	5	5	
		n-Ød	12-26	16-26	16-30	20-30	20-33	20-36	24-36	
End connection	BW	ØA1	329	362	413	464	516	619	721	
		H (open)	1335	1535	1670	1620	2135	2325	(2)	
Top works/operation	Hand-wheel	H (close)	1025	1175	1260	1420	1620	1825	(2)	
		ØW	450	500	500	600	600	700	(2)	
		H1	1320	1523	1770	1640	2189	2410	2865	
	Gear with handwheel	h1	385	443	493	525	598	630	788	
		g	262	340	340	340	340	413	413	
		ØW1	310	460	460	460	460	530	530	
		With ISO 5210 mounting pad	H2 (open)	1353	1465	1741	-	2132	2550	-
			H2 (close)	1045	1125	1335	-	1625	1940	-
	h2		80	100	100	120	120	140	180	
	ISO		F14	F16	F16	F25	F25	F30	F35	
	Tr		Tr38x6LH	Tr42x8LH	Tr46x8LH	Tr50x8LH	Tr50x8LH	Tr55x8LH	Tr65x10LH	
	Stroke		308	340	406	-	507	610	-	
	No. of turns		51	43	51	-	63	76	-	
	Torque	298	410	550	650	864	1528	2105		
	Kvs-value		11182	13632	18059	24056	29953	43694	62653	
	Approx. Weight RF		270	390	460	650	850	1450	2320	

(1) To be specified by the purchaser

Dimensions in mm subject to manufacturing tolerance / Kvs-values in m³/h / Torques in Nm / Weights in kg

(2) It works with gear with handwheel

Series 90 DIN RANGE

Main Valve Parameters - PN25

Nominal Size	DN	50	65	80	100	125	150	200	250	
End connection	RF	L	250	270	280	300	325	350	400	450
		ØD	165	185	200	235	270	300	360	425
		ØK	125	145	160	190	220	250	310	370
		ØF	102	122	138	162	188	218	278	335
		C	20	22	24	24	26	28	30	32
		f	3	3	3	3	3	3	3	3
		n-Ød	4-18	8-18	8-18	8-22	8-26	8-26	12-26	12-30
End connection	BW	ØA1	62	77	91	117	144	172	223	278
		Top works/operation	Hand-wheel	H (open)	393	430	500	580	655	795
H (close)	340			360	415	475	525	599	740	857
ØW	200			200	220	250	280	300	350	400
Gear with handwheel	H1		-	-	-	-	-	-	-	1180
	h1		-	-	-	-	-	-	-	335
	g		-	-	-	-	-	-	-	262
	ØW1		-	-	-	-	-	-	-	310
	With ISO 5210 mounting pad		H2 (open)	405	460	516	611	658	765	970
H2 (close)			340	380	425	498	520	607	755	860
h2			45	45	60	60	60	60	80	80
ISO			F07	F07	F10	F10	F10	F10	F14	F14
Tr			Tr20x4LH	Tr22x5LH	Tr24x5LH	Tr26x5LH	Tr28x5LH	Tr30x6LH	Tr32x6LH	Tr36x6LH
Stroke			65	80	91	113	138	158	215	254
No. of turns		16	16	18	23	28	26	36	42	
Torque		32	35	42	77	88	98	172	227	
Kvs-value	168	413	595	1089	1956	2597	4791	7450		
Approx. Weight RF	20	29	33	48	65	90	132	225		

(1) To be specified by the purchaser

Dimensions in mm subject to manufacturing tolerance / Kvs-values in m³/h / Torques in Nm / Weights in kg

Nominal Size	DN	300	350	400	450	500	600	700	
End connection	RF	L	500	550	600	650	700	800	900
		ØD	485	555	620	670	730	845	960
		ØK	430	490	550	600	660	770	875
		ØF	395	450	505	555	615	720	820
		C	34	38	40	46	48	58	(1)
		f	4	4	4	4	4	5	5
		n-Ød	16-30	16-33	16-36	20-36	20-36	20-39	24-42
End connection	BW	ØA1	329	362	413	464	516	619	721
		Top works/operation	Hand-wheel	H (open)	1335	1535	1670	1620	2135
H (close)	1025			1175	1260	1420	1620	1825	(2)
ØW	450			500	500	600	600	700	(2)
Gear with handwheel	H1		1320	1523	1770	1640	2189	2410	2865
	h1		385	443	493	525	598	630	788
	g		262	340	340	340	340	413	413
	ØW1		310	460	460	460	460	530	530
	With ISO 5210 mounting pad		H2 (open)	1353	1465	1741	-	2132	2550
H2 (close)			1045	1125	1335	-	1625	1940	-
h2			80	100	100	120	120	140	180
ISO			F14	F16	F16	F25	F25	F30	F35
Tr			Tr38x6LH	Tr42x8LH	Tr46x8LH	Tr50x8LH	Tr50x8LH	Tr55x8LH	Tr65x10LH
Stroke			308	340	406	-	507	610	-
No. of turns		51	43	51	-	63	76	-	
Torque		298	410	550	650	864	1528	2105	
Kvs-value	11125	13563	17967	23933	29800	43471	62333		
Approx. Weight RF	285	420	490	690	900	1580	2500		

(1) To be specified by the purchaser

Dimensions in mm subject to manufacturing tolerance / Kvs-values in m³/h / Torques in Nm / Weights in kg

(2) It works with gear with handwheel

Series 90 DIN RANGE

Main Valve Parameters - PN40

Nominal Size	DN	50	65	80	100	125	150	200	
End connection	RF	L	250	290	310	350	400	450	550
		ØD	165	185	200	235	270	300	375
		ØK	125	145	160	190	220	250	320
		ØF	102	122	138	162	188	218	285
		C	20	22	24	24	26	28	34
		f	3	3	3	3	3	3	3
		n-Ød	4-18	8-18	8-18	8-22	8-26	8-26	12-30
End connection	BW	ØA1	62	77	91	117	144	172	223
		Top works/operation	Hand-wheel	H (open)	405	430	500	575	640
H (close)	350			360	415	470	510	585	790
ØW	200			200	220	250	280	300	400
Gear with handwheel	H1		-	-	-	-	-	-	-
	h1		-	-	-	-	-	-	-
	g		-	-	-	-	-	-	-
	ØW1		-	-	-	-	-	-	-
With ISO 5210 mounting pad	H2 (open)		405	460	516	611	658	765	998
	H2 (close)		340	380	425	498	520	607	788
	h2		60	60	60	80	80	80	80
	ISO	F10	F10	F10	F14	F14	F14	F14	
	Tr	Tr20x4LH	Tr22x5LH	Tr24x5LH	Tr26x5LH	Tr28x5LH	Tr30x6LH	Tr36x6LH	
	Stroke	65	80	91	113	138	158	215	
	No. of turns	16	16	18	23	28	26	36	
	Torque	47	53	61	121	182	205	342	
Kvs-value	168	413	595	1089	1956	2597	4791		
Approx. Weight RF	20	29	35	50	72	105	189		

(1) To be specified by the purchaser

Dimensions in mm subject to manufacturing tolerance / Kvs-values in m³/h / Torques in Nm / Weights in kg

Nominal Size	DN	250	300	350	400	450	500	600	
End connection	RF	L	650	750	850	950	1050	1150	1350
		ØD	450	515	580	660	685	755	890
		ØK	385	450	510	585	610	670	795
		ØF	345	410	465	535	560	615	735
		C	38	42	46	50	57	57	72
		f	3	4	4	4	4	4	5
		n-Ød	12-33	16-33	16-36	16-39	20-39	20-42	20-48
End connection	BW	ØA1	278	329	362	413	464	516	619
		Top works/operation	Hand-wheel	H (open)	1278	1510	1670	1898	
H (close)	1006			1201	1308	1483	(2)	(2)	(2)
ØW	450			500	550	600			
Gear with handwheel	H1		1274	1620	1791	2092	2192	2257	2724
	h1		355	392	445	498	570	632	730
	g		340	340	340	340	413	413	413
	ØW1		460	460	460	460	530	530	530
With ISO 5210 mounting pad	H2 (open)		1161	1365	1541	1801	-	2315	2762
	H2 (close)		900	105	1185	1395	-	1768	2140
	h2		80	80	100	100	120	120	140
	ISO	F16	F25	F25	F30	F30	F30	F35	
	Tr	Tr38x6LH	Tr42x8LH	Tr46x8LH	Tr48x8LH	Tr52x8LH	Tr52x8LH	Tr60x8LH	
	Stroke	261	315	356	406	-	547	622	
No. of turns	44	39	45	51	-	68	77.75		
Torque	579	786	1139	1448	1945	2483	3910		
Kvs-value	7450	11125	13563	17782	23688	29494	43025		
Approx. Weight RF	345	460	650	980	1330	1865	2470		

(1) To be specified by the purchaser

Dimensions in mm subject to manufacturing tolerance / Kvs-values in m³/h / Torques in Nm / Weights in kg

(2) It works with gear with handwheel

Series 90 DIN RANGE

Main Valve Parameters - PN63

Nominal Size		DN	50	65	80	100	125	150	200	250	300	350	400	
End connection	RF	L	250	290	310	350	400	450	550	650	750	850	950	
		ØD	180	205	215	250	295	345	415	470	530	600	670	
		ØK	135	160	170	200	240	280	345	400	460	525	585	
		ØF	102	122	138	162	188	218	285	345	410	465	535	
		C	26	26	28	30	34	36	42	46	52	56	60	
		f	3	3	3	3	3	3	3	3	3	4	4	4
		n-Ød	4-M22	8-M22	8-M22	8-M26	8-M30	8-M33	12-M36	12-M36	12-M36	16-M36	16-M39	16-M42
Top works/operation	Hand-wheel	H (open)	426	463	530	611	725	833	1038	(2)	(2)	(2)	(2)	
		H (close)	371	393	442	496	588	668	823					
		ØW	200	200	220	250	350	350	450					
	Gear with handwheel	H1	-	-	-	-	-	-	-	1765	2135	2575	2838	
		h1	-	-	-	-	-	-	-	348	398	448	523	
		g	-	-	-	-	-	-	-	340	340	340	413	
		ØW1	-	-	-	-	-	-	-	460	460	460	530	
		With ISO 5210 mounting pad	H2 (open)	426	463	545	622	725	833	1035	1750	2125	2562	2810
	H2 (close)		371	393	460	507	588	668	820	1490	1810	2197	2395	
	h2		60	60	60	80	80	100	110	120	120	140	140	
	ISO		F10	F10	F10	F12	F12	F14	F16	F25	F25	F30	F30	
	Tr		Tr20x4-LH	Tr22x5-LH	Tr24x5-LH	Tr26x5-LH	Tr32x6-LH	Tr32x6-LH	Tr38x6-LH	Tr42x8-LH	Tr46x8-LH	Tr52x8-LH	Tr55x8-LH	
	Stroke		55	60	72	135	200	232	400	605	818	1305	1660	
	No. of turns		14	12	15	27	34	39	67	76	103	164	208	
	Torque	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)		
	Kvs-value		(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	
	Approx. Weight RF		92	108	120	156	290	389	558	801	1148	1543	2214	

- (1) To be specified by the purchaser
 (2) It works with gear with handwheel
 (3) Under request
- Dimensions in mm subject to manufacturing tolerance / Torques in Nm / Weights in kg

Main Valve Parameters - PN100

Nominal Size		DN	50	65	80	100	125	150	200	250	300	350
End connection	RF	L	250	270	280	300	325	350	400	450	500	550
		ØD	ØB	50	65	80	100	125	150	200	250	300
		ØK	ØD	195	220	230	265	315	355	430	505	585
		ØF	ØK	145	170	180	210	250	290	360	430	500
		C	ØF	102	122	138	162	188	218	285	345	410
		f	C	30	34	36	40	40	44	52	60	68
		n-Ød	f	3	3	3	3	3	3	3	3	3
Top works/operation	Hand-wheel	H (open)	440	470	538	617	720	855	(2)	(2)	(2)	(2)
		H (close)	385	396	450	507	585	695				
		ØW	220	250	350	350	400	450				
	Gear with handwheel	H1	-	-	-	-	-	-	1260	1655	1985	2195
		h1	-	-	-	-	-	-	293	348	418	473
		g	-	-	-	-	-	-	340	340	413	413
		ØW1	-	-	-	-	-	-	460	460	530	530
		With ISO 5210 mounting pad	H2 (open)	440	470	538	610	727	850	1185	1565	1876
	H2 (close)		385	396	450	510	592	690	970	1300	1561	1560
	h2		60	60	80	80	100	110	110	120	140	140
	ISO		F10	F10	F12	F12	F14	F16	F16	F25	F30	F30
	Tr		Tr20x4-LH	Tr22x5-LH	Tr26x5-LH	Tr30x6-LH	Tr36x6-LH	Tr38x6-LH	Tr42x8-LH	Tr48x8-LH	Tr52x8-LH	Tr58x8-LH
	Stroke		60	65	135	196	312	410	505	918	1375	1860
	No. Of turns		15	13	27	32,5	52	68,25	63	114,75	171,75	232,5
	Torque	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	
	Kvs-value		(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)
	Approx. Weight RF		98	130	154	231	410	542	778	1321	2015	2676

- (1) To be specified by the purchaser
 (2) It works with gear with handwheel
 (3) Under request
- Dimensions in mm subject to manufacturing tolerance / Torques in Nm / Weights in kg