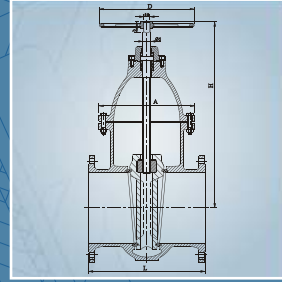
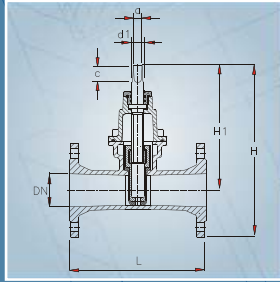
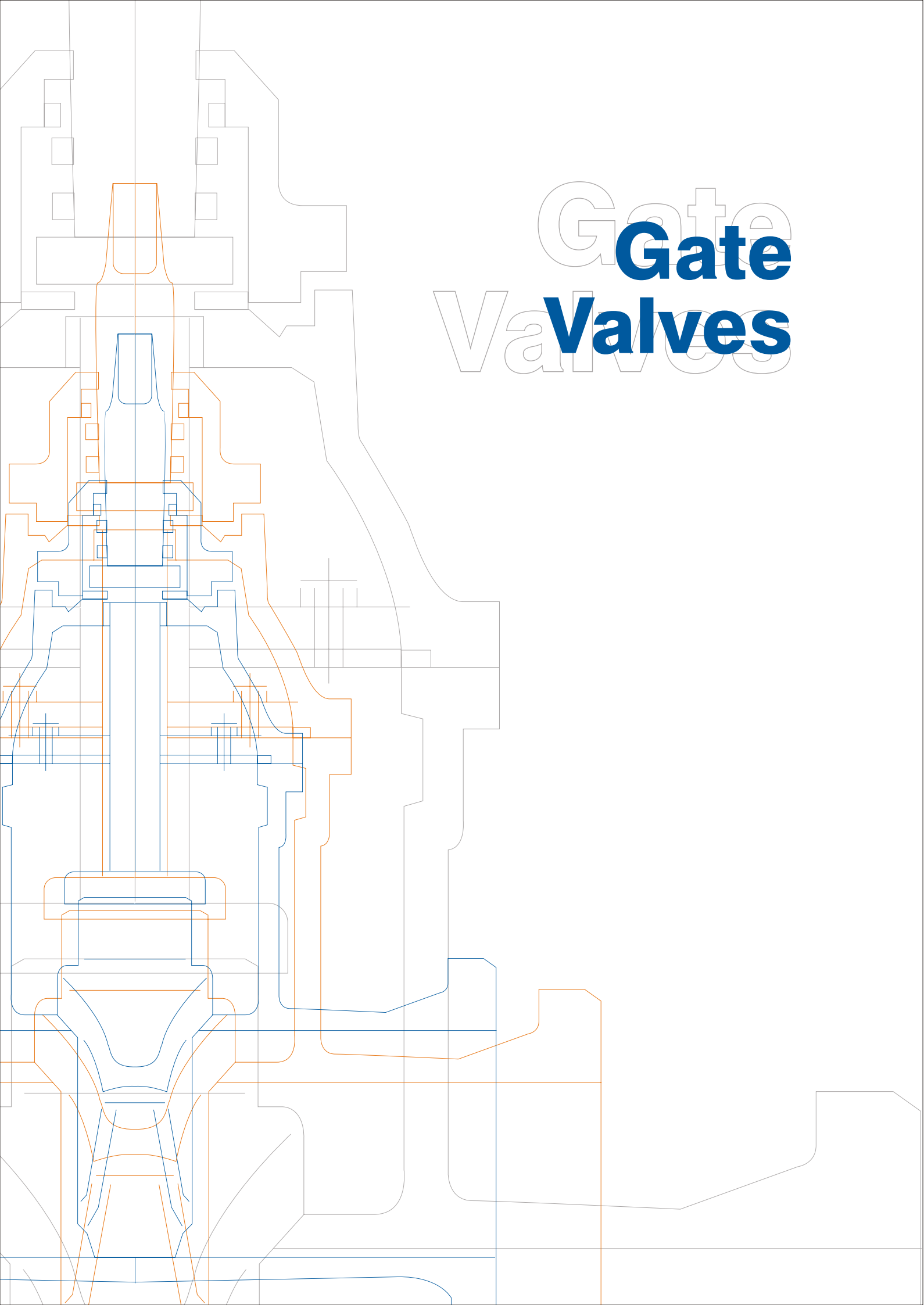


Gate Valves



SAMSUN MAKİNA SANAYİ

A detailed technical cross-section drawing of a gate valve assembly. The drawing shows the internal components, including the gate, stem, and body, with various parts highlighted in blue and orange lines. The background is a light gray with faint outlines of the valve's external structure.

Gate Valves

Contents

Samsun Makina Sanayi	4
SMS Resilient Seat Gate Valves - Properties	5
Resilient Seat Gate Valves - Dimensions	6
Resilient Seat Gate Valves - Specifications	7
Resilient Seat Gate Valves - Torque Values	8
Resilient Seat Gate Valve Head Loss Diagram	8
RSGV with Flange & Socket for D.I. Pipe	9
RSGV with Flange & Socket for PVC Pipe	9
RSGV with Double Socket for PVC Pipe	9
RSGV with Double Socket for D.I. Pipe	10
RSGV with Socket & Spigot for D.I. Pipe	10
RSGV with Double Spigot for D.I. Pipe	10
T-type Resilient Seat Gate Valve	11
RSGV with Screwed Connection (Horizontal)	11
RSGV with Screwed Connection (Vertical)	11
Metal Seated Gate Valves	12
Metal Seated Gate Valves	13
SMS Gate Valve Options	14
Advantages of Resilient Seat Gate Valves	15
Applications (Available for Both Resilient and Metal Seat Gate Valves)	15
Coating	15
Standard Hydraulic Test Pressures	16
Handling and Unpacking Instructions	16
Installation	16
Testing	17
Replacing Shaft O-Rings	17
Troubleshooting	18
Guarantee	18
Limitation of Liability	18





Samsun Makina Sanayi, SMS, is one of the main suppliers of irrigation, drinking water, waste water, and infrastructure equipment, with necessary services for design, production, commissioning and assembling since it was established in Samsun, in 1967.

SMS has one of the largest and best-equipped facilities in the manufacturing and casting industries. It is located in a 160 000 m² open, 70 000 m² closed area in the Samsun Industrial Zone, and has an annual casting capacity of 160 000 tons. In the manual, automatic and resin moulding lines, parts having weight between 1 kg to 15 tons can be molded and processed by modern machines.



ISO 9001 Certification



Product Certification



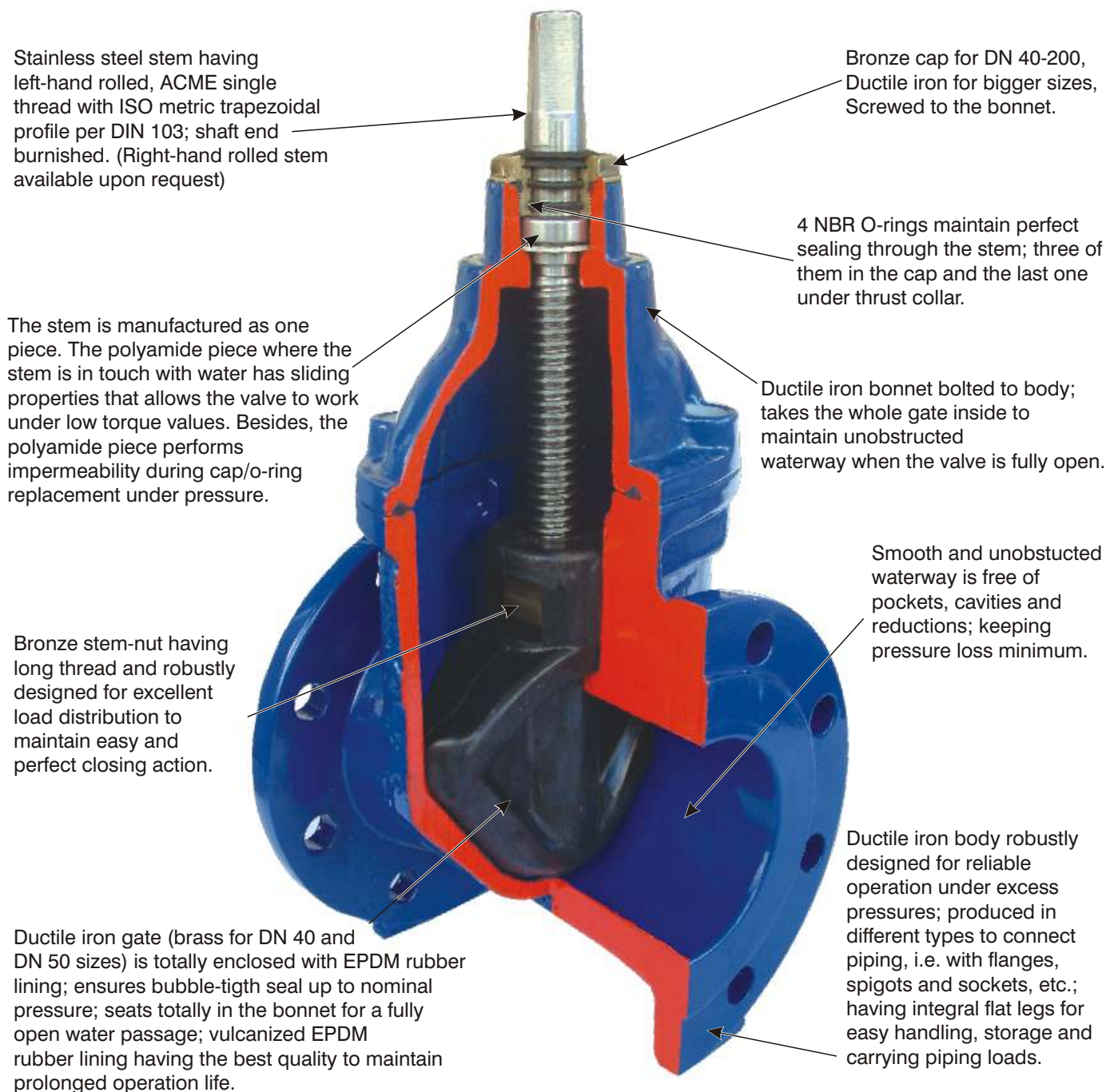
Depending on the standards, product range, application area, and customer requirements, different coating techniques that are suitable for drinking water and waste water are applied. Electrostatic epoxy powder paint, double component epoxy paint and bitumen paint applied by a spraying method on zinc coating are the most widespread applications.

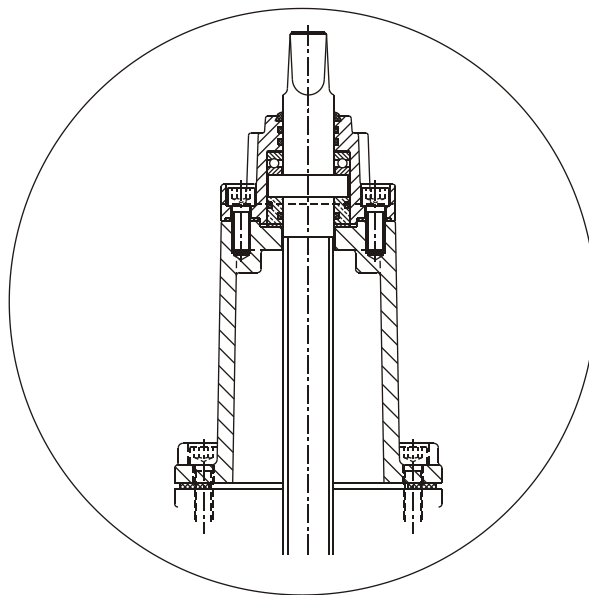
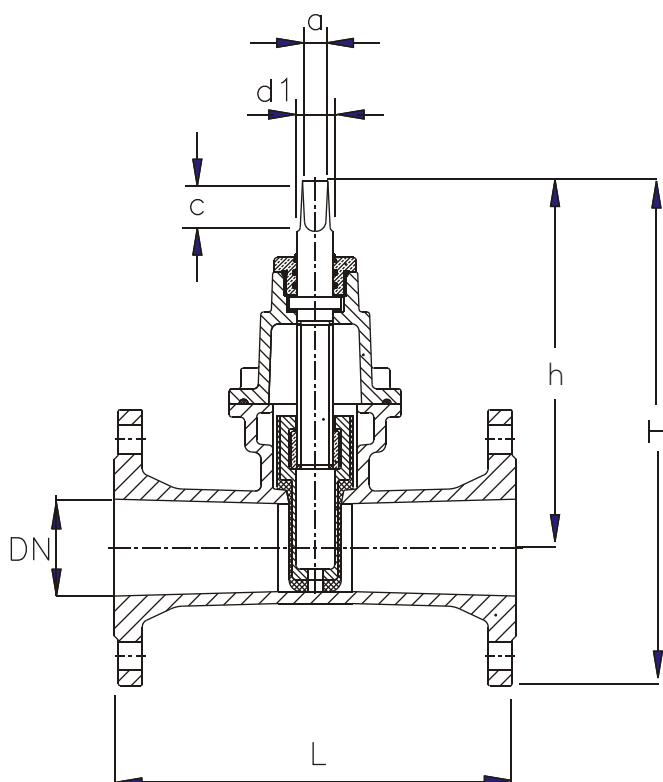
All products are hydrostatically tested. SMS has the highest capacity pump testing equipment in Turkey where pumps up to 8000 kW can be tested. All processes are managed according to ISO 9001: 2000 quality management system that is approved by Bureau Veritas (BV).



SMS Resilient Seat Gate Valves - Properties

Resilient seat gate valve has many advantages against old fashioned metal seated gate valve. Lack of valve pocket for gate seat maintains smooth and unobstructed waterway; eliminates depositing of impurities which may cause ineffective shut-off and leaking from metal to metal contact in time. Resilient seat contact is easily and perfectly maintained and this allows quick and perfect change of gate without dismantling the valve from pipeline when the rubber lining is worn out. In turn, when the metal-seated gate valve leaks, it should be returned to its factory for renewing and precise machining of metal seats, or it should be thrown away.





With ball bearing from DN 250

Resilient Seat Gate Valves - Dimensions

S i z e	Code		FFS		FFL		FFB		FFL		Square Top			Turns to open
	Body		DIN 3202 F4 EN 558-14		DIN 3202 F5 EN 558-15		BS 5163 EN 558-3		DIN 3202 F5					
D N	PN10-16								PN25		a	c	d1	
	H	h	L	kg	L	kg	L	kg	L	kg				
40	260	185	140	8	240	9	165	8	240	9	14	29	20	10
50	290	205	150	11	250	12	178	12	250	13	14	29	20	13
65	367	270	170	14	270	16	190	15	270	16	17	34	24	13
80	380	280	180	16	280	20	203	17	280	20	17	34	24	16
100	445	330	190	22	300	25	229	24	300	26	19	38	26	20
125	500	370	200	28	325	31	254	29	325	33	19	38	26	25
150	560	420	210	38	350	44	267	40	350	45	19	38	26	30
200	700	510	230	64	400	71	292	68	400	73	24	42	30	33
250	870	665	250	104	450	117	330	116	450	125	27	47	35	41
300	970	740	270	150	500	165	356	160	500	175	27	47	35	50
350*	1000	740	290	160	550	192	381	181	550	202	27	47	35	50
400	1270	975	310	265	600	307	406	301	600	325	32	55	45	57
450**	1300	975	330	290	650	325	432	315	650	345	32	55	45	57
500	1530	1165	350	458	700	520	457	500	700	550	36	66	50	63
600	1725	1305	390	684	800	812	508	770	800	845	36	66	50	75
700***	1775	1305	430	760	900	879	610	845	900	910	36	66	50	75

* Has a reduced bore to 300 mm

** Has a reduced bore to 400 mm

*** Has a reduced bore to 600 mm

-Dimensions in millimeters

-Subject to change without any notice

Resilient Seat Gate Valves - Specifications

Diameter range	: DN 40 - DN 700
Applied standards	
• General Design	: ISO 5996 - DIN 3352, BS 5163, EN 1171
• Face to face dimension	: EN 558 - 1 Series 14 (DIN 3202 F4) EN 558 - 1 Series 15 (DIN 3202 F5) EN 558 - 1 Series 3 (BS 5163)
• Flanges	: ISO 2531 - DIN 2501 - BS 4504 - EN 1092 - 2
Pressure class	: PN10, PN16 and PN25
Operating temperature	: 70°C max.
Hydraulic test	: According to BS 6755, EN 12266 - 1, EN 12266 - 2, DIN 3230 - 4, EN 1074 - 1, EN 1074 - 2
Test pressure (According to EN 1074 - 1)	
• Body	: PN10 - 17 bar, PN16 - 25 bar, PN25 - 37,5 bar
• Seat	: 1.1 times operating pressure
Driving method	
• Standard	: Manually operated by hand wheel, CW closing
• Optional	: Rising spindle, top cap, extension spindle, CCW closing, gearbox, electric actuator
Valve Materials	
• Body and bonnet	: Ductile cast iron, GJS 400 - 500, EN 1563 (GGG40 or GGG50, DIN 1693)
• Cover	: Ductile cast iron, GJS 400 - 500, EN 1563 (GGG40 or GGG50, DIN 1693)
• Cap	: Bronze, GCuSn5Zn5Pb5 for DN40-DN200 Ductile cast iron, GJS 400 - 500, EN 1563 (GGG40 or GGG50) for bigger sizes
• Gate	: Ductile cast iron, GJS 400 - 500, EN 1563 (GGG40, DIN 1693) Bronze, GCuSn5Zn5Pb5 for DN40-50 EPDM or NBR lined for all diameters (EN 681 - 1)
• Stem	: Stainless steel, X20Cr13 (DIN 17440, ASTM A 473 AISI420)
• Stem nut	: Bronze, GCuSn5Zn5Pb5, (integral part of gate for DN40-50)
• Stem sealing	: NBR wiper ring against dust, double NBR o-rings seated in cap
• Bonnet sealing	: EPDM o-ring between cap and bonnet, EPDM gasket between bonnet and body
• Cap and Bonnet bolts	: Zinc coated 8.8 quality steel, optional stainless steel
• Hand whell	: Pressed steel, cast iron
Painting	: Double fusion bonded, powder sprayed epoxy paint, suitable for potable water, min. 250 microns DFT
Packing	: In cartoon boxes (up to DN 200) Stretch - wrapping on wooden pallets (DN 250 to DN 700)
Properties	
• Water-tight sealing only by compression of the rubber without friction	
• No seat on the gate and body	
• Changing gate without removing the valve from the line	
• Stem o-rings can be changed under the pressure without removing the valve from pipeline on the condition that the valve is fully open position	



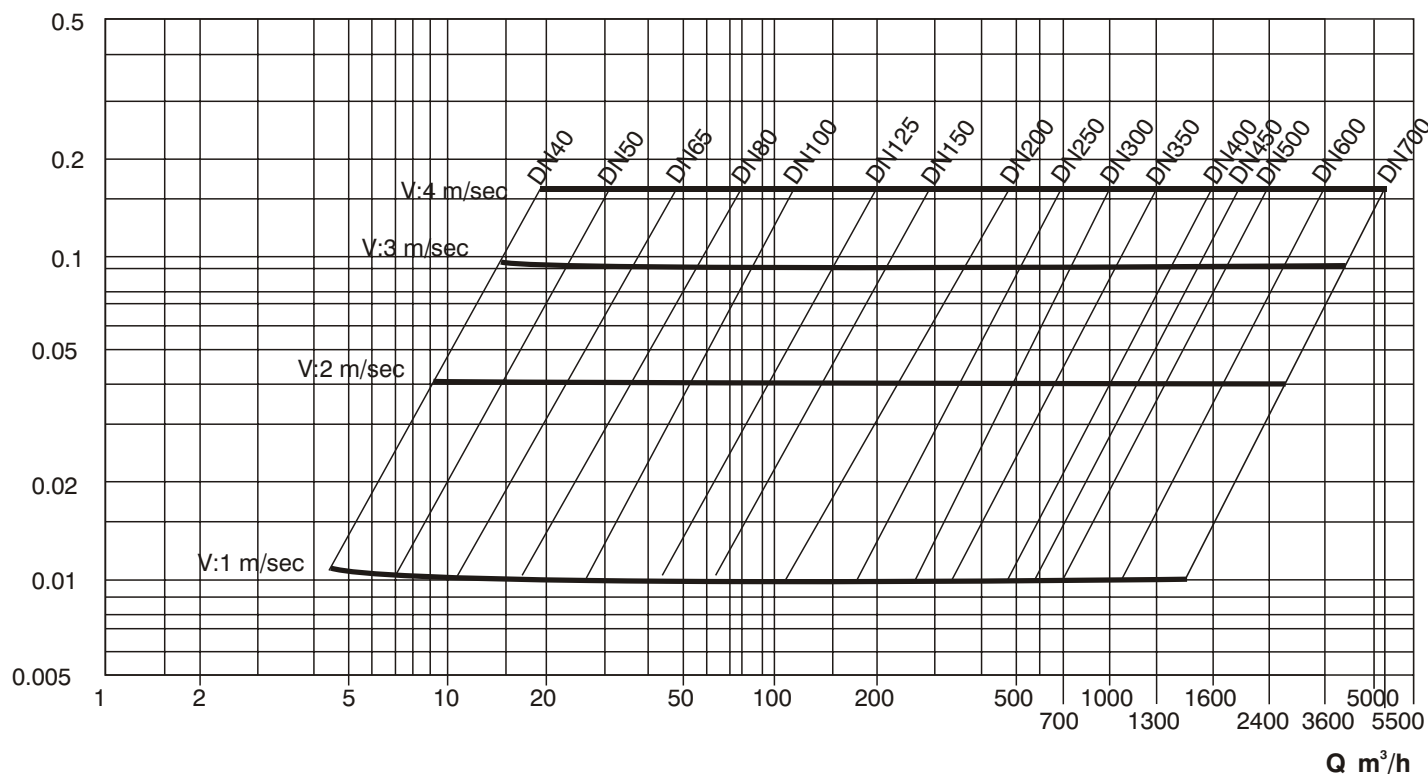
Resilient Seat Gate Valves - Torque Values

DN (mm)	PN10				PN16				PN25			
	TORQUE (N.m.)		AUMA Actuator		TORQUE (N.m.)		AUMA Actuator		TORQUE (N.m.)		AUMA Actuator	
	w/o	with	w/o	with	w/o	with	w/o	with	w/o	with	w/o	with
	gearbox	gearbox	gearbox	gearbox	gearbox	gearbox	gearbox	gearbox	gearbox	gearbox	gearbox	gearbox
40	10	-	SA 07.1	-	15	-	SA 07.1	-	30	-	SA 07.5	-
50	13	-	SA 07.1	-	15	-	SA 07.1	-	35	-	SA 07.5	-
65	20	-	SA 07.1	-	25	-	SA 07.1	-	45	-	SA 07.5	-
80	25	-	SA 07.5	-	35	-	SA 07.5	-	65	-	SA 10.1	-
100	35	-	SA 07.5	-	45	-	SA 07.5	-	75	-	SA 10.1	-
125	40	-	SA 07.5	-	50	-	SA 07.5	-	80	-	SA 10.1	-
150	50	-	SA 07.5	-	70	-	SA 10.1	-	100	-	SA 10.1	-
200	80	24	SA 10.1	SA 07.1	120	36	SA 14.1	SA 07.5	170	55	SA 14.1	SA 07.5
250	150	45	SA 14.1	SA 07.5	160	48	SA 14.1	SA 07.5	185	57	SA 14.1	SA 07.5
300	180	55	SA 14.1	SA 07.5	200	61	SA 14.1	SA 10.1	270	80	SA 14.5	SA 10.1
350	190	58	SA 14.1	SA 10.1	220	67	SA 14.1	SA 10.1	280	84	SA 14.5	SA 10.1
400	250	76	SA 14.5	SA 10.1	280	85	SA 14.5	SA 10.1	320	95	SA 14.5	SA 10.1
450	280	85	SA 14.5	SA 10.1	320	97	SA 14.5	SA 10.1	330	100	SA 14.5	SA 10.1
500	290	88	SA 14.5	SA 10.1	350	106	SA 14.5	SA 10.1	390	120	SA 14.5	SA 14.1
600	380	115	SA 14.5	SA 14.1	440	133	SA 14.5	SA 14.1	470	140	SA 14.5	SA 14.1
700	500	150	SA 16.1	SA 14.1	550	166	SA 16.1	SA 14.1	560	180	SA 16.1	SA 14.1

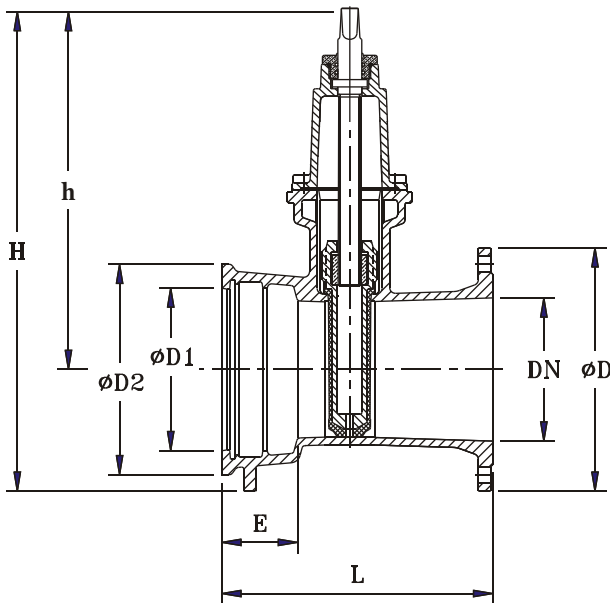
*Subject to change without any notice.

Resilient Seat Gate Valve Head Loss Diagram

$\Delta H(m.s.s.)$



RSGV with Flange & Socket for D.I. Pipe



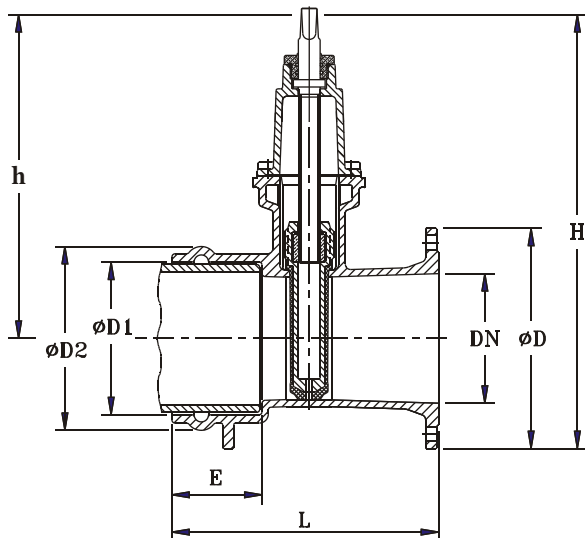
Code:FSD

Size		Body			Flange	Socket		Weight
DN	H	h	L	Ø D	Ø D1	Ø D2	E	kg
80	380	280	270	200	100.5	142	85	19
100	445	330	282	220	120.5	168	88	24
125	500	370	294	250	146.5	195	91	26
150	560	420	322	285	172.5	215	94	43
200	700	510	350	340	224.5	299	100	70
250	870	665	392	400	276.5	325	105	121
300	970	740	427	455	328.5	390	110	165

*Subject to change without any notice.

*Dimensions in millimeters.

RSGV with Flange & Socket for PVC Pipe



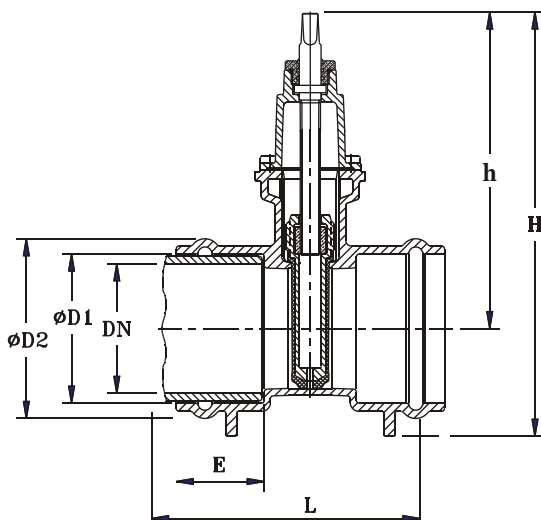
Code:FSP

Size		Body			Flange	Socket			Weight
DN	ø Pipe	H	h	L	ø D	ø D1	ø D2	E	kg
50	63	290	205	260	165	65	97	100	8
65	75	367	270	290	185	77	109	103	12
80	90	380	280	290	200	92	129	108	18
100	110	445	330	340	220	112	151	119	23
125	140	500	370	341	250	142	182	129	28
150	160	560	420	365	285	162	207	135	36
200	225	700	510	412	340	228	280	163	61

*Subject to change without any notice.

*Dimensions in millimeters.

RSGV with Double Socket for PVC Pipe



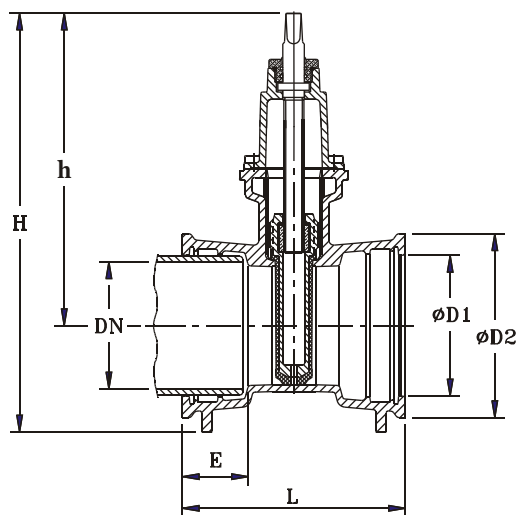
Code:SSP

Size		Body			Socket			Weight
DN	ø Pipe	H	h	L	ø D1	ø D2	E	kg
50	63	290	205	270	65	97	100	8
65	75	367	270	310	77	109	103	12
80	90	380	280	300	92	129	108	17
100	110	445	330	380	112	151	119	22
125	140	500	370	356	142	182	129	26
150	160	560	420	380	162	207	135	33
200	225	700	510	424	228	280	163	58

*Subject to change without any notice.

*Dimensions in millimeters.

RSGV with Double Socket for D.I. Pipe



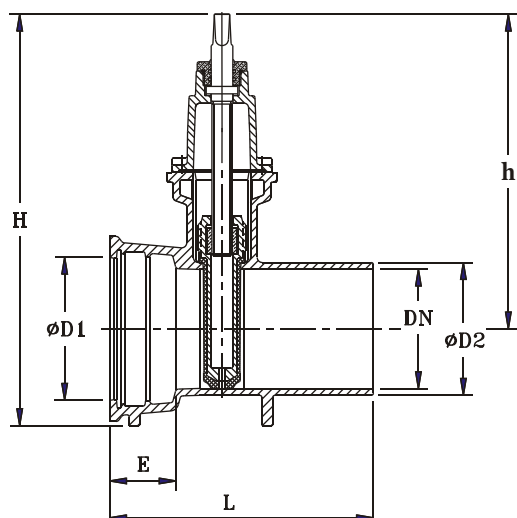
Code:SSD

Size	Body			Socket			Weight
DN	H	h	L	Ø D1	Ø D2	E	kg
80	380	280	260	100.5	142	85	19
100	445	330	264	120.5	168	88	24
125	500	370	273	146.5	195	91	25
150	560	420	294	172.5	215	94	41
200	700	510	300	224.5	299	100	67
250	870	665	334	276.5	325	105	118
300	970	740	354	328.5	390	110	161

*Subject to change without any notice.

*Dimensions in millimeters.

RSGV with Socket & Spigot for D.I. Pipe



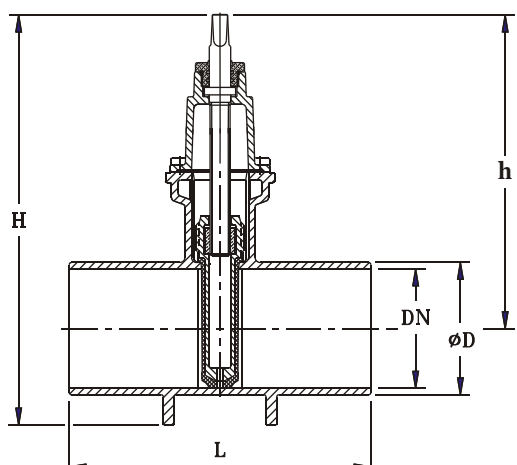
Code:SPD

Size	Body			Socket / Spigot			Weight
DN	H	h	L	Ø D1	Ø D2	E	kg
80	380	280	270	100.5	98	85	17
100	445	330	282	120.5	118	88	20
125	500	370	294	146.5	144	91	25
150	560	420	322	172.5	170	94	36
200	700	510	350	224.5	222	100	61
250	870	665	380	276.5	274	105	115
300	970	740	400	328.5	326	110	150

*Subject to change without any notice.

*Dimensions in millimeters.

RSGV with Double Spigot for D.I. Pipe



Code:PPD

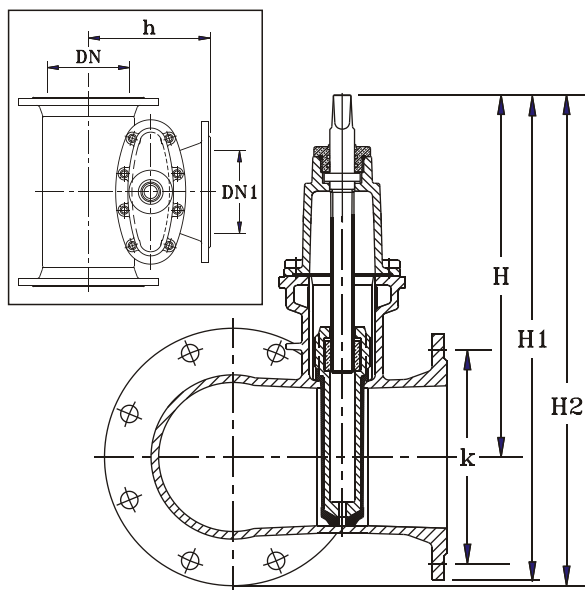
Size	Body			Spigot	Weight
DN	H	h	L	Ø D	kg
80	380	280	280	98	15
100	445	330	290	118	18
125	500	370	300	144	24
150	560	420	350	170	34
200	700	510	400	222	59
250	870	665	450	274	110
300	970	740	500	326	145

*Subject to change without any notice.

*Dimensions in millimeters.

T-type Resilient Seat Gate Valve

Code:FFF

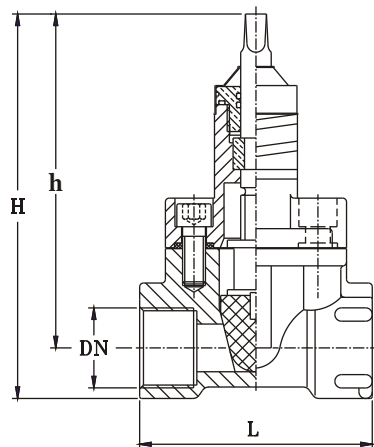


Size		Body					Weight
DN	DN1	H	H1	L	H2	h	kg
100	65	245	338	260	355	180	22
100	80	288	388	280	398	200	25
100	100	334	444	310	444	200	29
150	65	245	338	260	388	210	34
150	80	288	388	280	431	220	37
150	100	334	444	310	477	220	40
150	125	403	528	350	546	250	45
150	150	466	608	400	608	250	53
200	65	245	338	260	415	250	42
200	80	288	388	280	458	250	47
200	100	334	444	310	504	250	51
200	125	403	528	350	573	260	58
200	150	455	608	400	635	275	64

*Subject to change without any notice.

*Dimensions in millimeters.

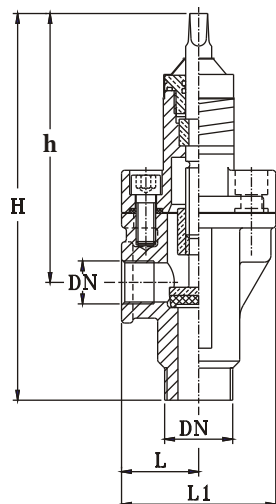
RSGV with Screwed Connection (Horizontal)



Size	Body			Weight
DN	H	h	L	kg
3/4"	198	175	122	2.80
1"	198	175	122	2.90
1 1/4"	198	175	122	2.90
1 1/2"	262	225	150	5.40
2"	262	225	150	5.00
2 1/2"	315	270	170	10.00

*Subject to change without any notice. *Dimensions in millimeters.

RSGV with Screwed Connection (Vertical)



Size		Body				Weight
DN	DN1	H	h	L	L1	kg
3/4"	1 1/4"	238	165	47	94	2.80
1"	1 1/4"	238	165	47	94	2.70
1 1/4"	1 1/4"	238	165	47	94	2.70
1 1/4"	2"	304	210	60	118	5.00
1 1/2"	2"	304	210	60	118	5.00
2"	2"	304	210	60	118	4.80

*Subject to change without any notice.

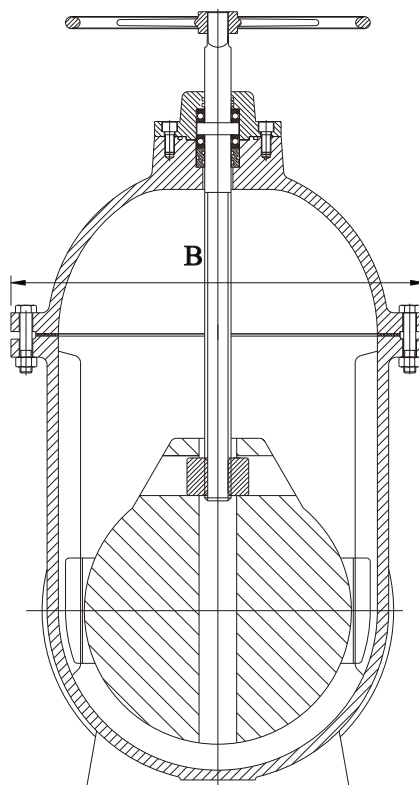
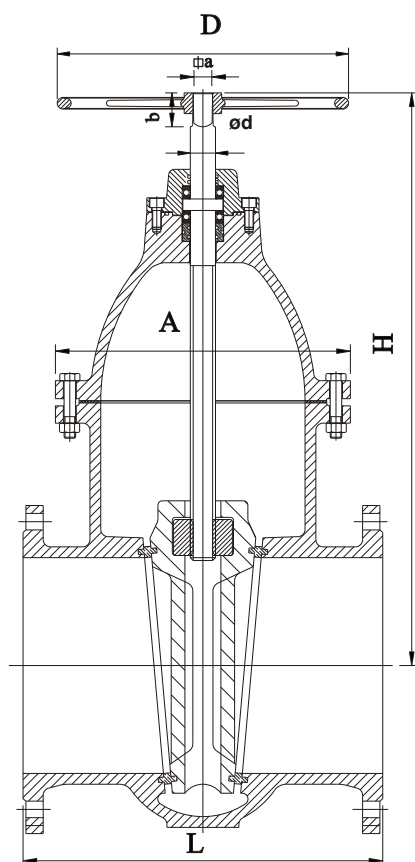
*Dimensions in millimeters.

Metal Seated Gate Valves

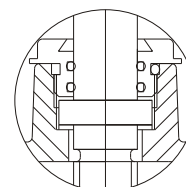
Dimensions	: According to DIN 3225
Face to face dimension	: DIN 3202 F5 / EN 558 - 1 Series 15
Optional	: Rising spindle, gearbox, electric actuator, position indicator, extension spindle, headstock
Operating pressure	: PN10-16-25
Operating temperature	: Between - 10 and 110 °C
Flanges	: Per DIN 2501, ISO2531, BS4504
Seats	: Bronze, GCuSn5ZnPb5 on gate and on body
Body and bonnet	: Ductile iron, GJS 400 - 500, EN 1563 (GGG 40 or 50, DIN 1693)
Cap	: Ductile iron, GJS 400 - 500, EN 1563 (GGG 40 or 50, DIN 1693)
Gate	: Ductile iron, GJS 400 - 500, EN 1563 (GGG 40 or 50, DIN 1693)
Stem	: Stainless steel, X20Cr13
Stem-nut	: Bronze, GCuSn5ZnPb5, inserted to gate
Stem sealing	: NBR wiper ring against dust Triple NBR o-rings seated in cap
Bonnet sealing	: EPDM o-ring between cap and bonnet EPDM gasket between bonnet and body
Cap and Bonnet bolts	: Zinc coated 8.8 quality steel



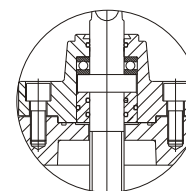
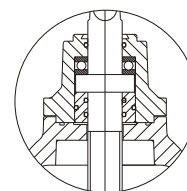
Metal Seated Gate Valves



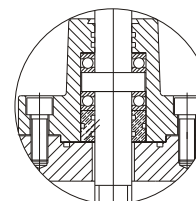
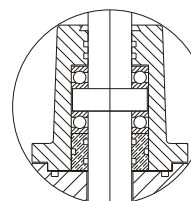
DN100-DN200



DN250



DN300-DN1500

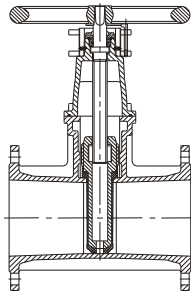


DN	L	H	A	B	Ød	φa	b	D	Weight/kg
65	270	255	144	172	24	17	34	225	20
80	280	260	144	172	24	17	34	225	23
100	300	320	154	195	26	19	38	280	29
150	350	405	205	280	26	19	38	320	52
200	400	510	265	355	30	24	42	360	98
250	450	665	348	460	35	27	47	400	202
300	500	800	410	550	35	27	47	500	306
350	550	890	440	585	40	27	47	500	375
400	600	1000	500	670	45	32	55	640	495
450	600	1000	500	670	45	32	55	640	652
500	700	1170	421	746	50	36	66	720	715
600	800	1360	500	840	50	36	66	720	1195
700	900	1550	560	975	55	41	74	800	1520
800	1000	1730	640	1070	60	41	74	800	1975
900	1100	1950	625	1290	65	46	80	800	3115
1000	1200	2170	1110	1514	70	50	88	900	4285
1200	1400	2455	1275	1675	85	60	96	1000	6730
1400	1600	2960	1545	1990	100	70	110	1200	10100
1500	1700	2960	1545	1990	100	70	110	1200	10335

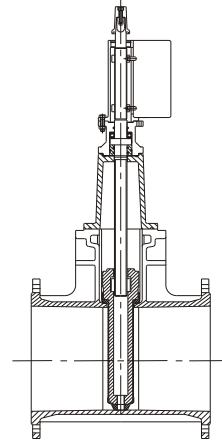
*Subject to change without any notice.

*Dimensions in millimeters.

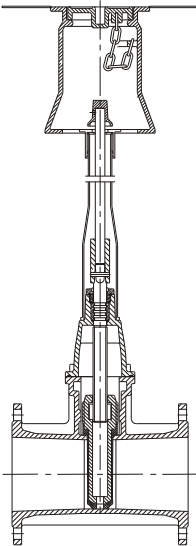
SMS Gate Valve Options



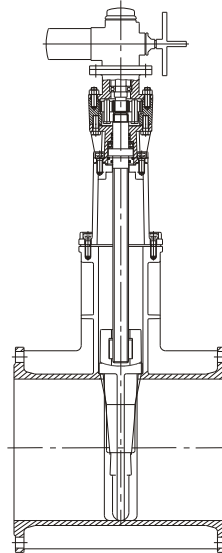
WITH POSITION INDICATOR
(DN 50 - DN 200)



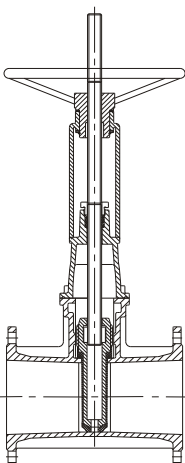
WITH POSITION INDICATOR
(DN 250 - DN 700)



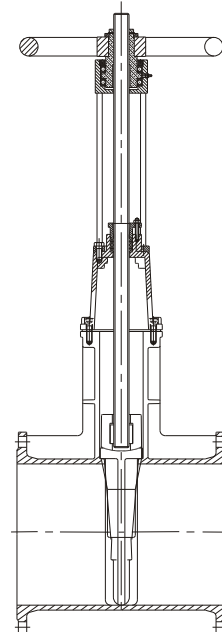
ACCESSORIES FOR BURIED INSTALLATION
(EXTENSION SPINDLE, PVC PROTECTION TUBE,
STREET BOX AND CAP)



WITH GEARBOX AND ELECTRIC ACTUATOR



WITH RISING STEM (DN 50 - DN 200)



WITH RISING STEM (DN 250 - DN 700)

Advantages of Resilient Seat Gate Valves

- ◆ Different face to face dimensions available for double flanged valve body in accordance with different standards such as BS 5163, DIN 3352 4A and 4B, etc.
- ◆ Different types of valve body design maintain so many applications for steel, cast iron, ductile iron, PVC piping and even connecting/converting different types of pipes with:
 - valve with double flange
 - valve with double socket
 - valve with flange and socket
 - valve with socket and spigot
 - valve with double spigot
 - valve with screwed connection
- ◆ The gate is completely coated with EPDM rubber by vulcanizing
- ◆ Water-tightness maintained only by compression of the vulcanized rubber lining to the valve body without friction.
- ◆ No seat for the body and the gate inserted; the waterway in the seat area shall be smooth, unobstructed and free of cavities.
- ◆ Very low pressure losses, no debris trap due to smooth water passage.
- ◆ All internal parts, especially the gate can be replaced without dismantling the valve body from pipeline.
- ◆ Stem O-ring seals can easily be replaced while the valve is open under service.
- ◆ Valve can be installed in any position.

Applications (Available for both resilient and metal seat gate valves)

- ◆ Drinking water
- ◆ Sewage
- ◆ Air conditioning
- ◆ Heating systems (up to 70°C)
- ◆ Food industry
- ◆ Fire fighting
- ◆ Natural and inert gas
- ◆ Irrigation
- ◆ Waste water

Coating

Inside and outside of resilient seat gate valves are coated by double fusion bonded epoxy powder, standard paint blue in color (RAL 5010). Suitable for drinking water. Other types of paint and any color are available upon request. Inside enamel coated valves available upon request.

Inside and outside of metal seated gate valves are coated by coal tar epoxy as standard.

Other epoxy colors and fusion bonded epoxy powder coatings are on request.

Both resilient and metal seated SMS gate valves have been cycletested thousands of times in excess of the required standard and has still maintained a bubble tight seal and easy closing/opening action. Applied standard tests are hydraulic tests for body and seat. Operating torque test is on request.

Standard Hydraulic Test Pressures

Hydraulic test to: BS 6755, EN 12266 - 1, EN 12266 - 2, DIN 3230 - 4, EN 1074 - 1, EN 1074 - 2

- ◆ Working Pressure : 10 - 16 - 25
- ◆ Body Test Pressure : PN 10 - 17 bar, PN 16 - 25 bar, PN 25 - 37,5 bar
- ◆ Seat Test Pressure : 1,1 times operating pressure

These instructions provide information about SMS gate valves. They are for use by personnel who are responsible for installation, operation and maintenance of SMS gate valves.

All safety messages in the instructions are flagged with an exclamation symbol and the word **Caution**, **Warning** or **Danger**. These messages must be followed exactly to avoid equipment damage, personal injury or death.

Safety label(s) on the product indicate hazards that can cause equipment damage, personal injury or death. If a safety label becomes difficult to see, or if a label has been removed, please contact SMS for replacement label(s).

Handling and Unpacking Instructions

- ◆ SMS gate valves have been packaged to provide protection during shipment, however, it can be damaged in transport. Carefully inspect the valve for damage upon arrival and file a claim with the carrier if damage is apparent.
- ◆ Check the packing list against the valve received to verify that the quantities, sizes and materials are correct.
- ◆ If the valve is to be stored before being installed, it should be protected from dirt, debris and corrosive materials and should be kept in dry, dark and cool conditions, preferably indoors, out of direct sunlight. If outdoors storage is unavoidable, support the valves off the ground and protect the valves with a watertight cover. Do not remove the valve packaging, until necessary for inspection or installation.
- ◆ Store the valve with the gate in the slightly closed position to protect the sealing edge.
- ◆ Handling : Failure to lift the valve properly may cause damage. Lift the valve assembly with slings, chains or cables fastened around the valve body. Lifting devices may be fastened to rods running through bolt holes in the flanges. Do not fasten lifting devices to the gearbox or the actuator or the gate and never put any lifting devices through the seat opening.
- ◆ Take care in handling the valve not to damage the parts and painting of valve.

Installation

- ◆ Carefully unpack the valve and inspect visually for damage during transport, handling and storage as this could adversely affect valve performance.
- ◆ Inspect the valve interior and rubber sealing. It should be clean, free from foreign matter or damage.
- ◆ Be sure the line is depressurized and drained.
- ◆ Be sure of the pipeline media. Proper care should be taken for protection against toxic and/or flammable fluids.
- ◆ Check that the installation length between the pipe flanges is enough to position the valve without damaging.
- ◆ Check the flange connection bolts-nuts and gaskets for proper size and length and be sure enough quantity.
- ◆ Always be sure that the gate is in the full-closed position before installing the valve.
- ◆ If practical, actuate the valve through close/open and open/close cycles to check the correct function.
- ◆ Immediately prior to installation, check the flanges to which the valve is to be fastened. The flanges shall have a raised face or a flat face. The sealing face shall be flat, without burrs, grooves, weld spatters, sharp edges and free from oil. Check that the inside diameter of the flange or pipe bore is not too large as this will reduce the flange to valve sealing of the gasket face.
- ◆ Tighten the bolts in a crisscross fashion until the valve body (metal) touches the flange face.
- ◆ Do not weld a connecting flange to the pipe with the valve installed in order to avoid overheating of the rubber sealing.

Testing

- ◆ Open and close the valve (if possible by hand).
- ◆ Clean the pipe interior with a rinsing fluid compatible with the rubber lining and process.
- ◆ Connect the actuator (if applicable) to the power supply in accordance with the user manual of the actuator.
- ◆ Check the operation and tightness when the system is under (working) pressure.

Replacing Shaft O-Rings

Although SMS Resilient Seat Gate Valves are generally maintenance free valves, water leakage may be occurred from shaft o-rings occasionally. Such a situation the o-rings should be replaced. The replacements of those are very simple and could be performed without dismantling the valve from the pipe line and under the pressure. The order of this process is as follows:

- ◆ Open the valve till the end and make sure it is fully open position.
- ◆ Remove the bronze (DN 40 - DN 200) or ductile cast iron (DN 250 - DN 700) cap over the valve shaft by loosening it
- ◆ Replace the gasket and o-rings
- ◆ Mount the cap to its place and check the full tightness of screw

WARNING: Before start to o-ring replacement process make sure that the valve is in full open position. Otherwise, when the cap is opened the shaft may move upwards and harm the person performing the process.



SMS GATE VALVES

Troubleshooting

Condition	Possible Cause	Corrective Action
* The valve does not close	- Piece under the gate - Gear stripped because of over stress (in gearbox valves)	- Clean the gate working place by cutting the water in the line - Replace the defective gear in the gearbox with the new one
* The valve does not close / open	- The shaft nut is stripped because of over stress	- Replace the defective shaft nut with the new one by cutting the water in the line
* The shaft is leaking from its impermeability place	- O - rings are worn	- Replace the o-rings

Guarantee

Products, auxiliaries and parts thereof, of SMS valves, are guaranteed for a period of one year from date of shipment against defective workmanship and material only, when properly installed, operated and serviced in accordance with SMS's recommendations. Replacement for items of SMS valves will be made free of charge if proved to be defective within such time. No claim for special or consequential damages, transportation, or labor shall be allowed. Purchaser shall be solely responsible for determining suitability for use and in no event shall SMS be liable in this respect. Equipment or parts manufactured by others but furnished by SMS will be repaired or replaced, only to the extent provided in the original manufacturer's warranty to SMS. SMS does not guarantee resistance to corrosion, erosion, abrasion or other sources of failure, nor does SMS guarantee a minimum length of service. Failure of the purchaser to give prompt written notice of any alleged defect under this guarantee forthwith upon its discovery, or use and possession thereof after an attempt has been made and completed by someone other than SMS or an authorized representative to remedy defects therein, or failure to return products or parts for replacement as herein provided, of failure to install, operate and maintain said products or parts according to instructions provided by SMS, of failure to pay the entire contract price when due, shall be a waiver of all rights under these representations. The foregoing guarantee shall be null and void, if, after shipment from our factory, the item is modified in any way or a component of another manufacturer, such as, but not limited to, an actuator is attached to the item by valves & controls other than an SMS Factory Service Personnel. All orders accepted shall be deemed accepted subject to this guarantee, which shall be exclusive of any other previous guarantee, and this shall be the only effective guarantee or warranty binding on SMS, anything to the contrary contained in the purchase order, or represented by any agent or employee of SMS, in writing or otherwise, notwithstanding, including but not limited to implied warranties.

THE FOREGOING OBLIGATIONS ARE IN LIEU OF ALL OTHER OBLIGATIONS AND LIABILITIES INCLUDING WARRANTIES OF FITNESS OR OF MERCHANTABILITY OR OTHERWISE, EXPRESSED OR IMPLIED IN FACT OR BY LAW, AND STATE SMS ENTIRE AND EXCLUSIVE LIABILITY AND PURCHASER'S EXCLUSIVE REMEDY FOR ANY CLAIM IN CONNECTION WITH THIS SALE OR FURNISHING OF SERVICES, GOODS, OR PARTS, THEIR DESIGN, SUITABILITY FOR USE, INSTALLATION OR OPERATION.

Limitation of Liability

In no event shall SMS be liable for any direct, indirect, special or consequential damages whatsoever, and SMS's liability, under no circumstances, will exceed the contract price for the goods and/or services for which liability is claimed. Any action for breach of contract, must be commenced within 1 year after the cause of the action has occurred.

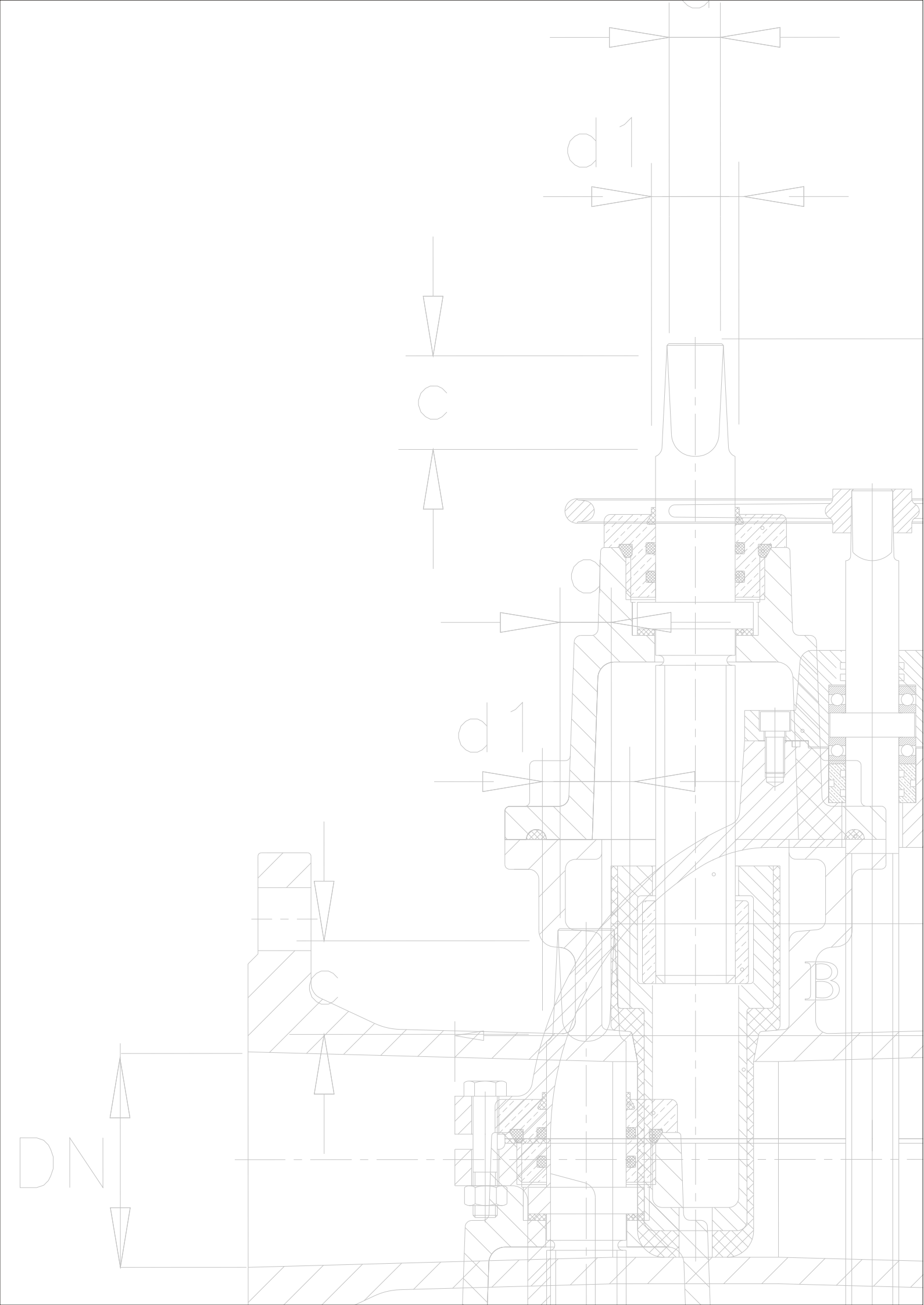
DN

C

B

d₁

d₁





SAMSUN MAKİNA SANAYİ A.Ş.

Head office

Yeni Foça Sok. No: 2, 06660
Gaziosmanpaşa, ANKARA / TÜRKİYE
Tel: (90 312) 446 33 50
Fax: (90 312) 447 42 91

Factory

Organize Sanayi Bölgesi
Yaşar Doğu Caddesi, No: 33, P.K. 186
55060 Kutlukent, SAMSUN / TÜRKİYE
Tel: (90 362) 266 51 60
Fax: (90 362) 266 51 62

www.samsunmakina.com.tr
info@samsunmakina.com.tr
export@samsunmakina.com.tr