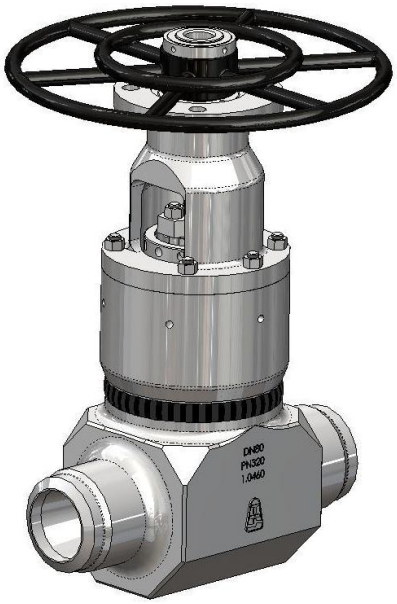
Forged Gate Valve S43

PN 160 – 320 (400) DN 50/50 – 350/275, T_{max}: 600°C

The closing gate valve either designed with welded connections or flanged connections; non-rotating rising stem; external thread of the stem; the stem is sealed with a gland in the self-sealing bonnet, flexible wedge.
Meets the requirements of **PED 97/23/EC.**
Design enabling full pressure gradient.



- **LONG SERVICE LIFE OF SEALING SURFACES** – SECURED BY STELLITE
- **IMPROVED CONTROL** – STEM NUT WITH BEARINGS
- **VARIABILITY** – DESIGN VERSIONS AT THE CUSTOMER´S REQUEST

BASIC PARAMETERS

TYPE DESIGNATION	S43 – Forged Gate Valve						
PN	160, 250, 320, (400 – 1.6368, 1.4903)						
DN/d	50/50, 65/50, 80/65, 100/80, 125/110, 150/125, 200/150, 250/200, 300/250, 350/275						
MEDIUM	water, water steam, gases and other substances used in power engineering, chemical industry and other industries						
OPERATING TEMPERATURES [°C]	max.450°C	max.600°C	max.570°C	max.530°C	max.570°C	max.600°C	max.450°C
BODY MATERIALS	C22.8 (1.0460)	11CrMo9-10 (1.7383)	14MoV6-3 (1.7715)	16Mo3 (1.5415)	13CrMo4-5 (1.7335)	X10CrMoVNb9-1 (1.4903)	15NiCuMoNb5-6-4 (1.6368)
OTHER MATERIALS ON REQUEST	to the customer´s requirements						
CONNECTIONS	welded, flanged						
FACE-TO-FACE DIMENSIONS	according to the Table – page 5 (or according to the customer´s requirements)						
CONTROL	handwheel, electric actuator, angle or spur transmission etc.						
DESIGN	**Closing yoke gate valve** ▪ non-rotating rising stem ▪ self-sealing bonnet ▪ stem external thread			▪ welded connections ▪ accurate lead of the wedge ▪ testing according to ČSN EN 12266-1			

** Any alterations of the above stated data are reserved. For current information please contact our selling agents. Use of better materials or their equivalents reserved.*

TECHNICAL DESCRIPTION

The body of the gate valve is a forging into which a flexible wedge is inserted through the self-sealing bonnet. The sealing surfaces of the seat rings, which are pressed into the body and secured with a weld, are furnished with cemented carbide. The wedge´s sealing surfaces are also welded on with cemented carbide. An accurate lead between the body and the wedge ensures perfect seating of the wedge in the body.
Gland set and sealing of the pressure bonnet is solved using a special graphite seals.
On request, we can supply a variant with a gland having a permanently pushed spring (Live Loading System).

At a possible customer´s request, the gate valves can be made with a protection of the space above the wedge against an extreme increase of pressure. Such a case may occur after the system shut-down when a certain amount of liquid in a central part of the closed gate valve cools down (space above the wedge). Then, after some time, if we start heating the gate valve up in the closed state (using bypass), the pressure of a media in the space above the wedge will increase remarkably due to the growing temperature.
If there is any risk of this situation occurrence during the operation the customer must state the requirement of having the gate valve supplied with this protection of the space above the wedge (internal part of the gate valve) in the purchase order.

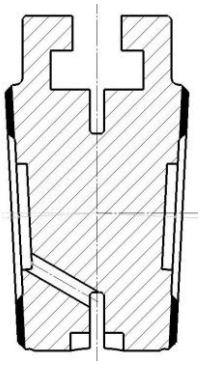
The protection can be done:

a) by drilling the wedge – input side
b) by using a membrane safety valve P10.01I
c) by external bypass

Although the application of the membrane safety valve is the most expensive option, it is a universal solution. It can be used with all gate valves and for all operating parameters. Whenever this membrane safety valve is used the gate valve is two-way. The safety device is mounted to a condensate loop running out of the gate valve body through its thermal insulation. To replace the membrane bolt while in operation a handwheel is included as a part of the safety valve by which the safety valve can be closed for the purpose of the replacement. To set the pressure relief the operating parameters of the gate valve must be stated in the purchase order.

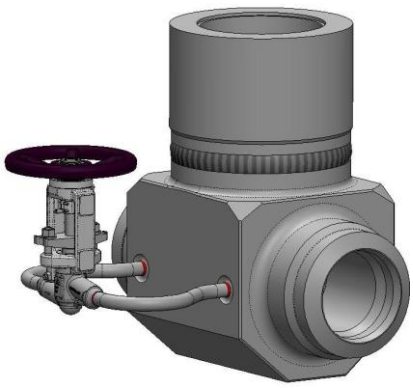
Example of membrane solution:
Operating parameters of the gate valve: operating pressure Pp = 23,5 MPa, operating temperature Tp 250°C.
Membrane rupture pressure 1.3 * Pp = 23,5 * 1,3 = 30,55 MPa at the temperature of 250°C.
Record in the purchase order:
Valve operating parameters: Pp = 23,5 MPa – Tp = 250°C
(rupture pressure 30,55 MPa at the temperature of 250°C).

When there are big pressure gradients and upon the customer´s requirements, the gate valves can be manufactured with bypass fittings.



a)

b)



c)

TESTING OF THE VALVES

The gate valves are tested according to the standard EN 12 266; i.e. strength, leakproofness, closure tightness and serviceability are tested with water.
Minimum testing pressure at the strength test is 1,5xPN.
Welds are inspected by a radiographic testing.

PRESSURE-TEMPERATURE SYSTEM S43 (PTS)

Material	PN	Permitted operating pressure PS [bar] for maximum operating temperature TS [°C]												
		-10	50	100	150	200	250	300	350	400	450	-	-	-
C22.8 (1.0460)	160	160	160	160	148	135	120	105	88	70	51	-	-	-
	250	250	250	250	230	211	188	164	137	109	80	-	-	-
	320	320	320	320	295	270	240	210	175	140	102	-	-	-

Material	PN	Permitted operating pressure PS [bar] for maximum operating temperature TS [°C]												
		-10	50	100	150	200	300	350	400	450	480	500	520	530
11CrMo9-10 (1.7383)	160	160	160	160	160	160	160	160	145	123	109	100	80	70
	250	250	250	250	250	250	250	250	227	191	170	156	125	109
	320	320	320	320	320	320	320	320	290	245	218	200	160	140

Material	PN	Permitted operating pressure PS [bar] for maximum operating temperature TS [°C]												
		540	550	560	570	580	590	600	-	-	-	-	-	-
11CrMo9-10 (1.7383)	160	60	50	45	40	35	30	25						
	250	94	78	70	63	55	47	39						
	320	120	100	90	80	70	60	50						

Material	PN	Permitted operating pressure PS [bar] for maximum operating temperature TS [°C]												
		-10	50	100	150	200	300	400	450	480	500	520	530	540
14MoV6-3 (1.7715)	160	160	160	160	160	160	160	160	154	150	147	117	101	86
	250	250	250	250	250	250	250	250	240	234	230	182	158	134
	320	320	320	320	320	320	320	320	307	299	294	233	202	172

Material	PN	Permitted operating pressure PS [bar] for maximum operating temperature TS [°C]												
		550	560	570										
14MoV6-3 (1.7715)	160	76	66	56										
	250	119	103	87										
	320	152	132	111										

Material	PN	Permitted operating pressure PS [bar] for maximum operating temperature TS [°C]												
		-10	50	100	150	200	250	300	350	400	450	500	520	530
16Mo3 (1.5415)	160	160	160	160	160	145	130	115	111	107	89	71	48	36
	250	250	250	250	250	227	203	179	173	166	139	111	74	56
	320	320	320	320	320	290	260	229	221	213	178	142	95	72

Material	PN	Permitted operating pressure PS [bar] for maximum operating temperature TS [°C]												
		-10	50	100	150	200	250	300	350	400	450	480	500	520
13CrMo4-5 (1.7335)	100	100	100	100	100	100	94	88	83	78	72	68	65	47
	160	160	160	160	160	160	151	141	133	126	115	109	105	76
	250	250	250	250	250	250	235	220	208	196	180	170	163	118
	320	320	320	320	320	320	301	282	266	251	230	217	209	151

Material	PN	Permitted operating pressure PS [bar] for maximum operating temperature TS [°C]												
		530	540	550	560	570	-	-	-	-	-	-	-	-
13CrMo4-5 (1.7335)	160	61	47	40	33	25								
	250	95	73	62	51	39								
	320	122	93	79	65	50								

Material	PN	Permitted operating pressure PS [bar] for maximum operating temperature TS [°C]												
		-10	50	100	150	200	250	300	350	400	450	-	-	-
15NiCuMoNb5-6-4 (1.6368)	160	160	160	160	160	160	160	154	151	148	145			
	250	250	250	250	250	250	250	241	236	231	227			
	320	320	320	320	320	320	320	308	302	296	290			
	400	400	400	400	400	400	400	385	378	370	363			

Material	PN	Permitted operating pressure PS [bar] for maximum operating temperature TS [°C]												
		-10	50	100	150	200	250	300	350	400	450	480	500	520
X10CrMoVNb9-1 (1.4903)	160	160	160	160	160	160	160	160	160	160	160	150	144	126
	250	250	250	250	250	250	250	250	250	250	250	235	225	198
	320	320	320	320	320	320	320	320	320	320	320	301	288	253
	400	400	400	400	400	400	400	400	400	400	400	376	360	316

Material	PN	Permitted operating pressure PS [bar] for maximum operating temperature TS [°C]												
		530	540	550	560	570	580	590	600					
X10CrMoVNb9-1 (1.4903)	160	118	109	100	91	82	74	65	56					
	250	184	170	156	143	129	115	101	88					
	320	235	218	200	182	165	147	130	112					
	400	294	272	250	228	206	184	162	140					

Material	PN	Permitted operating pressure PS [bar] for maximum operating temperature TS [°C]												
		20	100	150	200	250	300	350						
A350LF2	160	160	150	145	138	129	124	120						
	250	250	234	227	215	201	193	188						
	320	320	300	290	275	257	247	244						

Gate valve S43, PN 160-320 (400)/ DN 50/50-350/275

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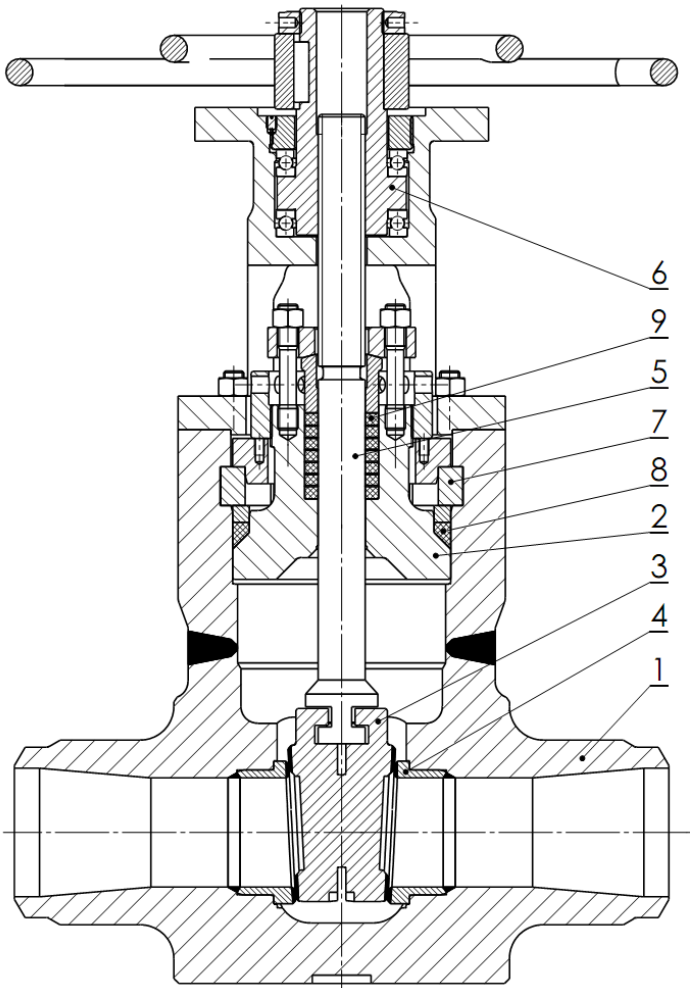
MATERIALS USED:

Pos.	Part	Materials							
		$T_{max.}$ 450°C	$T_{max.}$ 600°C	$T_{max.}$ 570°C	$T_{max.}$ 530°C	$T_{max.}$ 570°C	$T_{max.}$ 600°C	$T_{max.}$ 450°C	$T_{max.}$ 350°C
1	**Body**	C22.8 (1.0460)	11CrMo9-10 (1.7383)	14MoV6-3 (1.7715)	16Mo3 (1.5415)	13CrMo4-5 (1.7335)	X10CrMoVNb9-1 (1.4903)	15NiCuMoNb5-6-4 (1.6368)	A350LF2
2	**Pressure bonnet**	C22.8 (1.0460)	11CrMo9-10 (1.7383)	14MoV6-3 (1.7715)	16Mo3 (1.5415)	13CrMo4-5 (1.7335)	X10CrMoVNb9-1 (1.4903)	15NiCuMoNb5-6-4 (1.6368)	A350LF2
3	**Wedge + weld-on**	C22.8,P250GH (1.0460,1.0425) STELLIT	11CrMo9-10 (1.7383) + STELLIT	14MoV6-3 (1.7715) + STELLIT	16Mo3 (1.5415) + STELLIT	13CrMo4-5 (1.7335) + STELLIT	X10CrMoVNb9-1 (1.4903) + STELLIT	15NiCuMoNb5-6-4 (1.6368) + STELLIT	A350LF2 +STELLIT
4	**Seat + weld-on**	C22.8 (1.0460) + STELLIT	11CrMo9-10 (1.7383) + STELLIT	14MoV6-3 (1.7715) + STELLIT	16Mo3 (1.5415) + STELLIT	13CrMo4-5 (1.7335) + STELLIT	X10CrMoVNb9-1 (1.4903) + STELLIT	15NiCuMoNb5-6-4 (1.6368) + STELLIT	A350LF2 +STELLIT
5	**Stem**	1.4923+QT1	1.4923+QT1	1.4923+QT1	1.4923+QT1	1.4923+QT1	1.4980+P	1.4980+P	1.4006 + QT650
6	**Stem nut**	423046.01	423046.01	423046.01	423046.01	423046.01	423046.01	423046.01	423046.01
7	**Gasket ring**	14MoV6-3 (1.7715)	11CrMo9-10 (1.7383)	14MoV6-3 (1.7715)	14MoV6-3 (1.7715)	14MoV6-3 (1.7715)	X10CrMoVNb9-1 (1.4903)	15NiCuMoNb5-6-4 (1.6368)	A350LF2
8	**Bonnet sealing**	Pressed graphite	Pressed graphite	Pressed graphite	Pressed graphite	Pressed graphite	Pressed graphite	Pressed graphite	Pressed graphite
9	**Gland**	Graphite (knitted + pressed)	Graphite (knitted + pressed)	Graphite (knitted + pressed)	Graphite (knitted + pressed)	Graphite (knitted + pressed)	Graphite (knitted + pressed)	Graphite (knitted + pressed)	Graphite (knitted + pressed)



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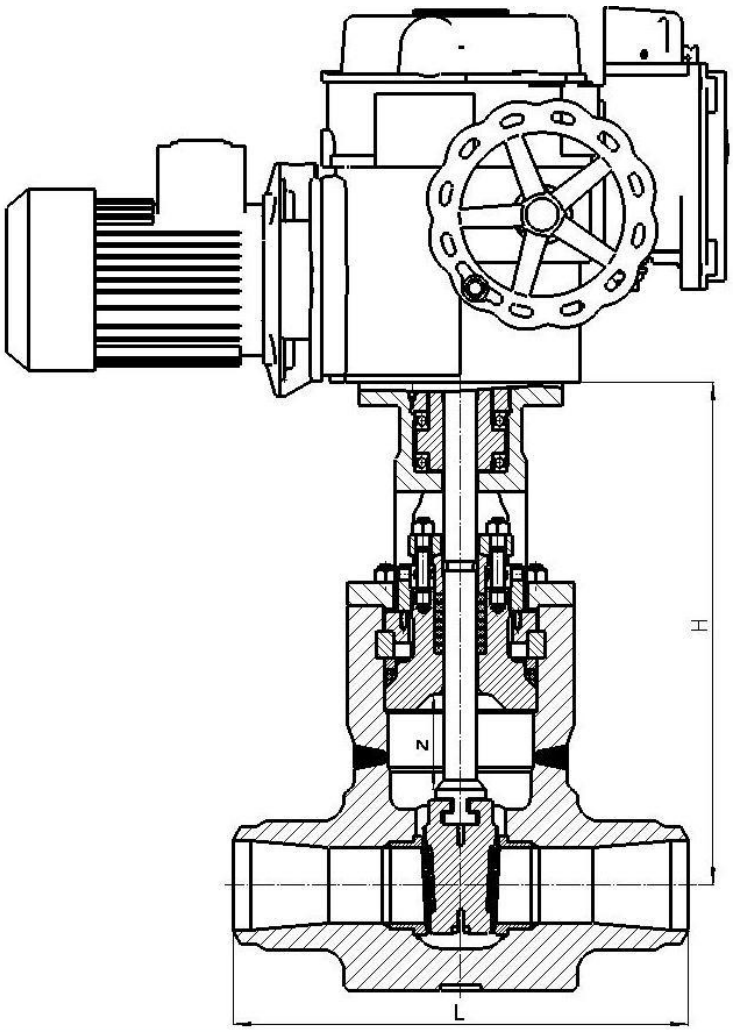
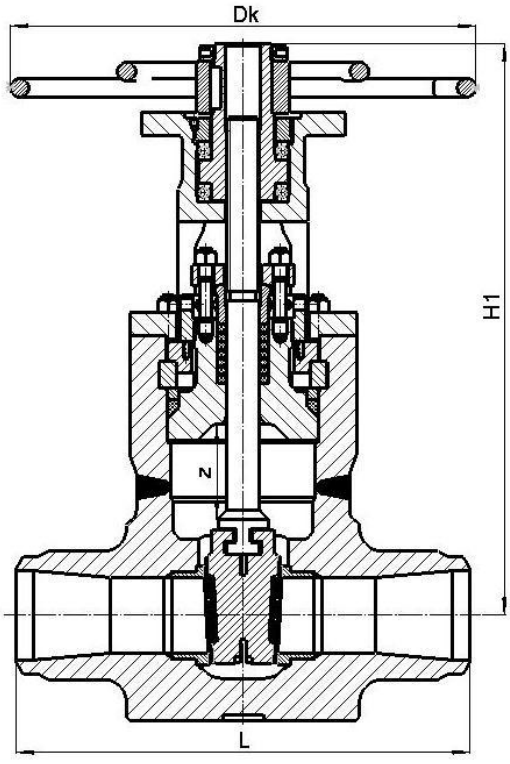
VALVES DIMENSIONS

DN/d	L [mm]	H1 [mm]	H [mm]	Z [mm]	Connection to electric actuator (EN ISO 5210)	Dk [mm]	ζ	Weight [kg]
50/50	300	470	420	65	F14 B2	400	0,27	74
65/50	340	470	420	65	F14 B2	400	0,96	77
80/65	390	495	435	80	F14 B2	400	0,63	94
100/80	450	570	505	105	F14 B2, F16 B2	500	0,59	147
125/110	550	670	595	130	F16 B2	630	0,42	253
150/125	550	790	745	140	F16 B1	710	0,39	348
200/150	700	920	840	180	F16 B1, F25 B2	710	0,97	610
250/200	850	1125	995	245	F30 B2	800	0,47	1130
300/250	1000	1065	1065	300	F30 A, F35 A	gear	0,23	1715
350/275	1200	1190	1190	310	F35 A	gear	0,45	2645

- Total loss coefficient ζ of the gate valves is calculated for the DN/d dimensions.
- L can be adjusted according to the customer´s requirements.



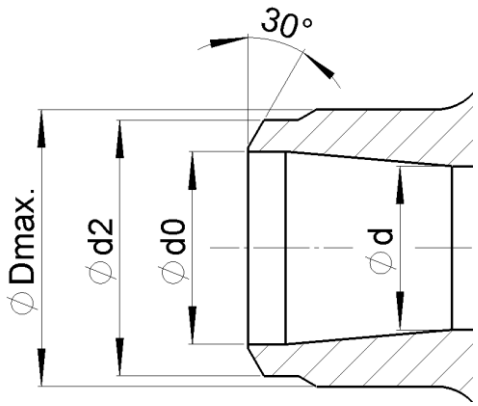


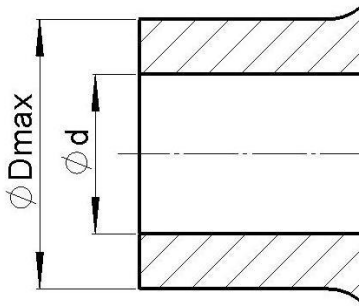
WELDED CONNECTION VERSION

Face-to-face dimensions: as per the Table (possible adjustments according to the customer´s requirements)
Welded connection: as per the Table (d_2, d_0 comply with the pressure-temperature system S43)
Shape of interstice: DIN 2559-Sheet 1 - Shape 22
Options on request: put a query

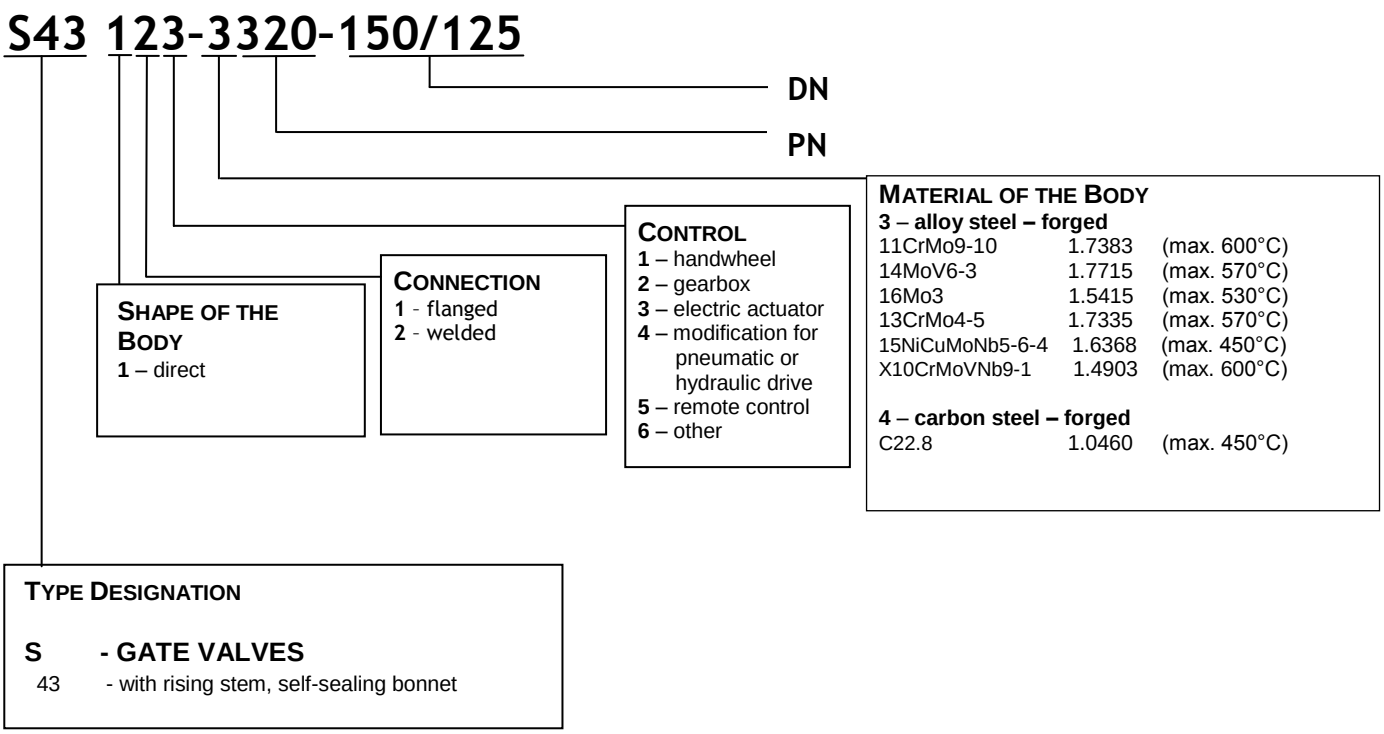
DN/d	PN	D_{max}/d	d_2	d_0
50/50	160	92/50	60,3	50,3
	250		63,5	47,5
	320		70	50
65/50	160	92/50	76,1	63,5
	250		76,1	58,5
	320		88,9	63,9
80/65	160	110/65	88,9	74,7
	250		101,6	76,6
	320		101,6	73,2
100/80	160	136/80	114,3	96,7
	250		127	98,6
	320		133	98
125/110	160	184/110	139,7	117,7
	250		152,4	117,4
	320		168,3	123,9

DN/d	PN	D_{max}/d	d_2	d_0
150/125	160	210/125	168,3	143,3
	250		177,8	137,8
	320		193,7	143,7
200/150	160	245/150	219,1	183,1
	250		244,5	188,5
	320		244,5	180,5
250/200	160	325/200	273	229
	250		298,5	234,5
	320		323,9	233,9
300/250	160	372/250	323,9	273,9
	250		355,6	283,6
	320		355,6	265,6
350/275	160	420/275	355,6	299,6
	250		406,4	316,4
	320		406,4	296,4





PRODUCT CODE



ASSEMBLY AND OPERATION OF THE VALVE:

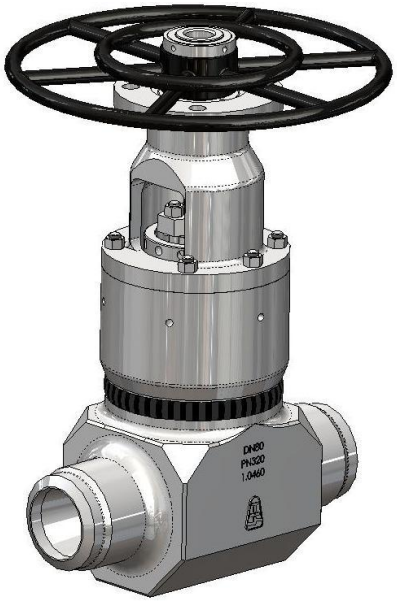
The gate valves are assembled in any position, irrespective of a medium flow direction.
The gate valves of higher clearance (DN150) are recommended to be mounted into a horizontal piping with a vertical stem with the control device above it.
In any position other than horizontal the gate valve with the actuator must be supported at the flange for connecting the electric actuator.
An assembly if the stem is hanging is not allowed.
At the assembly and operation it is necessary to respect these aspects:

- Service parameters must be in accordance with the operating parameters of the valve.
- Correct function of the valve is affected by the presence of impurities in the piping and flowing medium. Thus, please, keep the medium and piping clean (e.g. using filters).
- Media used in the valve must comply with the requirement of corrosion resistance (immunity) of the valve material.
- The valve may not be damaged mechanically during its operation.

Service life of the valve can be significantly extended by a regular maintenance and servicing performed by duly trained personnel.

Forged Gate Valve S43

PN 400,500, (630) DN 100/80, 200/150 T_{max}: 600°C



The closing gate valve either designed with welded connections or flanged connections; non-rotating rising stem; external thread of the stem; the stem is sealed with a gland in the self-sealing bonnet, flexible wedge.
Meets the requirements of **PED 97/23/EC.**
Design enabling full pressure gradient.

- **LONG SERVICE LIFE OF SEALING SURFACES** – SECURED BY STELLITE
- **IMPROVED CONTROL** – STEM NUT WITH BEARINGS
- **VARIABILITY** – DESIGN VERSIONS AT THE CUSTOMER´S REQUEST

BASIC PARAMETERS

TYPE DESIGNATION	S43 – Forged Gate Valve						
PN	400,500 (630)						
DN/d	100/80, 200/150						
MEDIUM	water, water steam, gases and other substances used in power engineering, chemical industry and other industries						
OPERATING TEMPERATURES [°C]	max.450°C	max.600°C	max.570°C	max.530°C	max.570°C	max.600°C	max.450°C
BODY MATERIALS	C22.8 (1.0460)	11CrMo9-10 (1.7383)	14MoV6-3 (1.7715)	16Mo3 (1.5415)	13CrMo4-5 (1.7335)	X10CrMoVNb9-1 (1.4903)	15NiCuMoNb5-6-4 (1.6368)
OTHER MATERIALS ON REQUEST	according to the customer´s requirements						
CONNECTIONS	welded, flanged						
FACE-TO-FACE DIMENSIONS	according to the Table – page 5 (or according to the customer´s requirements)						
CONTROL	handwheel, electric actuator, angle or spur transmission etc.						
DESIGN	**Closing yoke gate valve** ▪ non-rotating rising stem ▪ self-sealing bonnet ▪ stem external thread			▪ welded connections ▪ accurate lead of the wedge ▪ testing according to ČSN EN 12266-1			

** Any alterations of the above stated data are reserved. For current information please contact our selling agents. Use of better materials or their equivalents reserved.*

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TECHNICAL DESCRIPTION

The body of the gate valve is a forging into which a flexible wedge is inserted through the self-sealing bonnet. The sealing surfaces of the seat rings, which are pressed into the body and secured with a weld, are furnished with cemented carbide. The wedge´s sealing surfaces are also welded on with cemented carbide. An accurate lead between the body and the wedge ensures perfect seating of the wedge in the body.
Gland set and sealing of the pressure bonnet is solved using a special graphite seals.
On request, we can supply a variant with a gland having a permanently pushed spring (Live Loading System).

At a possible customer´s request, the gate valves can be made with a protection of the space above the wedge against an extreme increase of pressure. Such a case may occur after the system shut-down when a certain amount of liquid in a central part of the closed gate valve cools down (space above the wedge). Then, after some time, if we start heating the gate valve up in the closed state (using bypass), the pressure of a media in the space above the wedge will increase remarkably due to the growing temperature.
If there is any risk of this situation occurrence during the operation the customer must state the requirement of having the gate valve supplied with this protection of the space above the wedge (internal part of the gate valve) in the purchase order.

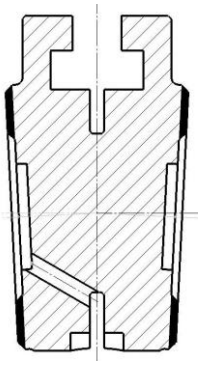
The protection can be done:

a) by drilling the wedge – input side
b) by using a membrane safety valve P10.01I
c) by external bypass

Although the application of the membrane safety valve is the most expensive option, it is a universal solution. It can be used with all gate valves and for all operating parameters. Whenever this membrane safety valve is used the gate valve is two-way. The safety device is mounted to a condensate loop running out of the gate valve body through its thermal insulation. To replace the membrane bolt while in operation a handwheel is included as a part of the safety valve by which the safety valve can be closed for the purpose of the replacement. To set the pressure relief the operating parameters of the gate valve must be stated in the purchase order.

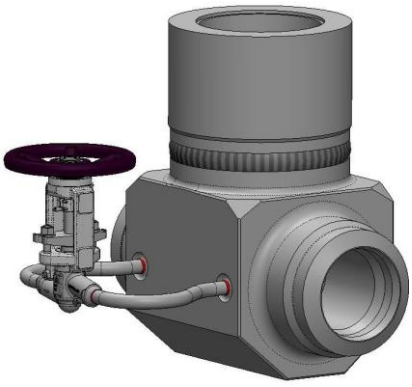
Example of membrane solution:
Operating parameters of the gate valve: operating pressure Pp = 23,5 MPa, operating temperature Tp 250°C.
Membrane rupture pressure 1.3 * Pp = 23,5 * 1,3 = 30,55 MPa at the temperature of 250°C.
Record in the purchase order:
Valve operating parameters: Pp = 23,5 MPa – Tp = 250°C
(rupture pressure 30,55 MPa at the temperature of 250°C).

When there are big pressure gradients and upon the customer´s requirements, the gate valves can be manufactured with bypass fittings.



a)

b)



c)

TESTING OF THE VALVES

The gate valves are tested according to the standard EN 12 266; i.e. strength, leakproofness, closure tightness and serviceability are tested with water.
Minimum testing pressure at the strength test is 1,5xPN.
Welds are inspected by a radiographic testing.

PRESSURE-TEMPERATURE SYSTEM S43 (PTS)

Material	PN	Permitted operating pressure PS [bar] for maximum operating temperature TS [°C]											
		20	100	150	200	250	300	350	400	425	450	-	-	-
C22.8 (1.0460)	400	400	400	368	357	316	276	230	172	152	132	-	-	-

Material	PN	Permitted operating pressure PS [bar] for maximum operating temperature TS [°C]														
		20	300	350	400	480	500	520	530	540	550	560	570	580	590	600
11CrMo9-10 (1.7383)	400	400	400	400	400	400	355	271	237	205	179	156	134	115	100	80

Material	PN	Permitted operating pressure PS [bar] for maximum operating temperature TS [°C]												
		20	300	350	400	450	500	520	530	540	550	560	570	-
14MoV6-3 (1.7715)	400	400	400	400	400	400	400	314	274	238	208	181	154	-
	500	500	500	500	500	500	500	392	342	297	260	226	192	-

Material	PN	Permitted operating pressure PS [bar] for maximum operating temperature TS [°C]												
		20	150	200	250	300	350	400	450	480	500	530	-	-
16Mo3 (1.5415)	400	400	400	362	324	286	277	267	222	200	177	90	-	-

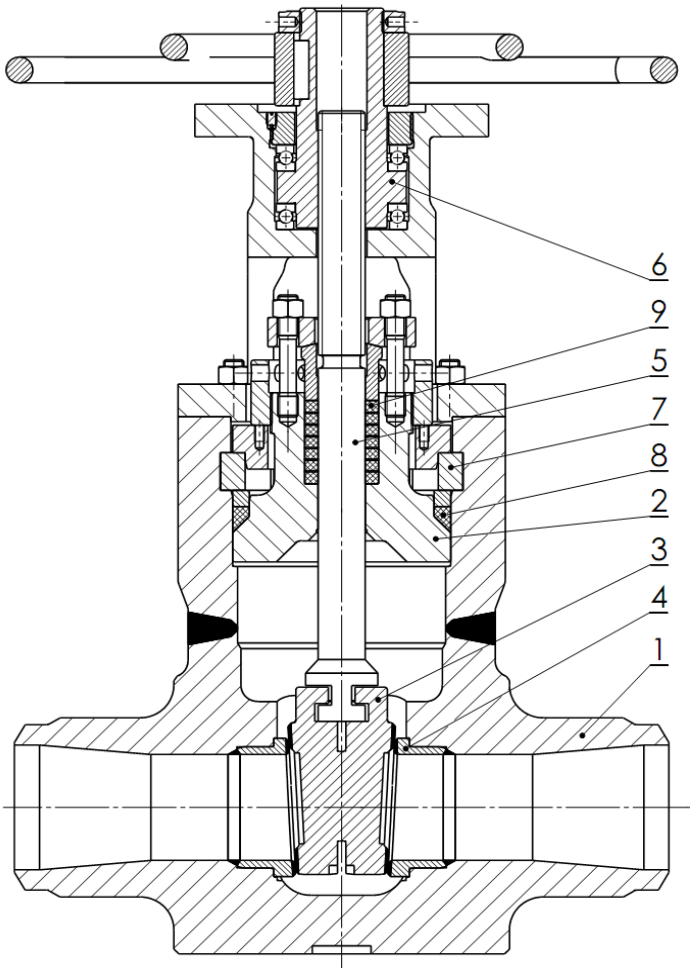
Material	PN	Permitted operating pressure PS [bar] for maximum operating temperature TS [°C]													
		20	250	300	350	400	450	480	500	520	530	540	550	560	570
13CrMo4-5 (1.7335)	400	400	400	389	352	314	288	270	261	189	165	129	103	84	69

Material	PN	Permitted operating pressure PS [bar] for maximum operating temperature TS [°C]												
		20	200	250	300	350	400	450	-	-	-	-	-	-
15NiCuMoNb5-6 (1.6368)	500	500	500	500	462	437	405	403	-	-	-	-	-	-
	630	630	630	630	582	550	510	508	-	-	-	-	-	-

Material	PN	Permitted operating pressure PS [bar] for maximum operating temperature TS [°C]																
		20	250	300	350	400	450	480	500	520	530	540	550	560	570	580	590	600
X10CrMoVNb9-1 (1.4903)	500	500	500	471	452	432	412	402	393	369	337	307	279	252	225	202	178	158
	630	630	630	594	569	544	519	507	495	465	425	387	351	317	283	254	224	199

MATERIALS USED:

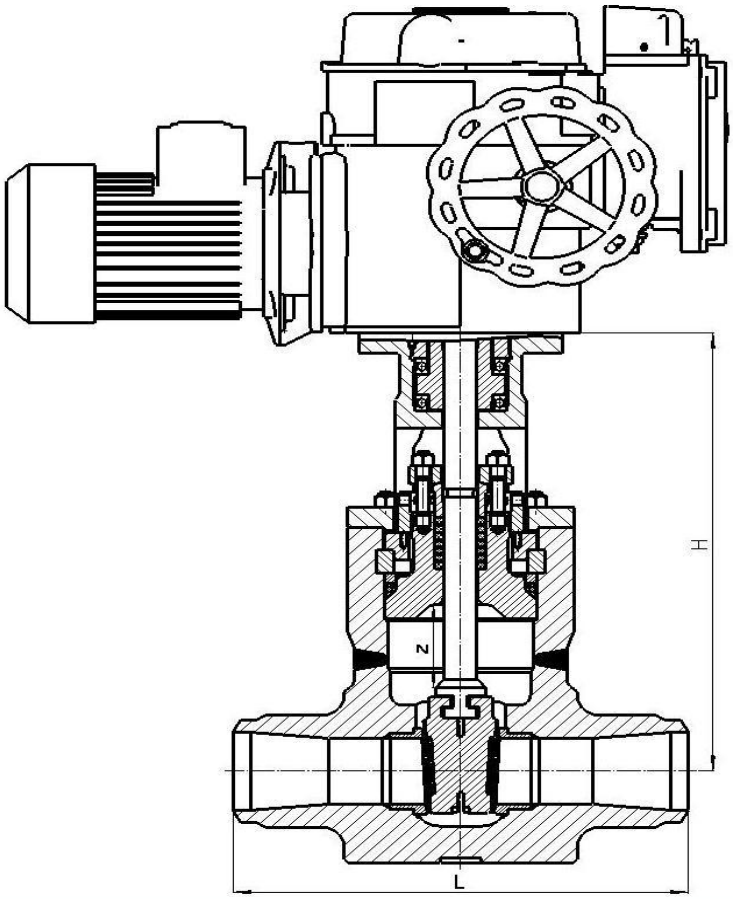
Posit.	Part	Materials						
		$T_{max.}$ 450°C	$T_{max.}$ 600°C	$T_{max.}$ 570°C	$T_{max.}$ 530°C	$T_{max.}$ 570°C	$T_{max.}$ 600°C	$T_{max.}$ 450°C
1	**Body**	C22.8 (1.0460)	11CrMo9-10 (1.7383)	14MoV6-3 (1.7715)	16Mo3 (1.5415)	13CrMo4-5 (1.7335)	X10CrMoVNb9-1 (1.4903)	15NiCuMoNb5-6-4 (1.6368)
2	**Pressure bonnet**	C22.8 (1.0460)	11CrMo9-10 (1.7383)	14MoV6-3 (1.7715)	16Mo3 (1.5415)	13CrMo4-5 (1.7335)	X10CrMoVNb9-1 (1.4903)	15NiCuMoNb5-6-4 (1.6368)
3	**Wedge + weld-on**	C22.8,P250GH (1.0460,1.0425 STELLIT	11CrMo9-10 (1.7383) + STELLIT	14MoV6-3 (1.7715) + STELLIT	16Mo3 (1.5415) + STELLIT	13CrMo4-5 (1.7335) + STELLIT	X10CrMoVNb9-1 (1.4903) + STELLIT	15NiCuMoNb5-6-4 (1.6368) + STELLIT
4	**Seat + weld-on**	C22.8 (1.0460,) + STELLIT	11CrMo9-10 (1.7383) + STELLIT	14MoV6-3 (1.7715) + STELLIT	16Mo3 (1.5415) + STELLIT	13CrMo4-5 (1.7335) + STELLIT	X10CrMoVNb9-1 (1.4903) + STELLIT	15NiCuMoNb5-6-4 (1.6368) + STELLIT
5	**Stem**	1.4923+QT1	1.4923+QT1	1.4923+QT1	1.4923+QT1	1.4923+QT1	1.4980+P	1.4980+P
6	**Stem nut**	423046.01	423046.01	423046.01	423046.01	423046.01	423046.01	423046.01
7	**Gasket ring**	14MoV6-3 (1.4903)	11CrMo9-10 (1.4903)	14MoV6-3 (1.4903)	14MoV6-3 (1.4903)	14MoV6-3 (1.4903)	X10CrMoVNb9-1 (1.4903)	15NiCuMoNb5-6-4 (1.6368)
8	**Bonnet sealing**	Pressed graphite	Pressed graphite	Pressed graphite	Pressed graphite	Pressed graphite	Pressed graphite	Pressed graphite
9	**Gland**	Graphite (knitted + pressed)	Graphite (knitted + pressed)	Graphite (knitted + pressed)	Graphite (knitted + pressed)	Graphite (knitted + pressed)	Graphite (knitted + pressed)	Graphite (knitted + pressed)

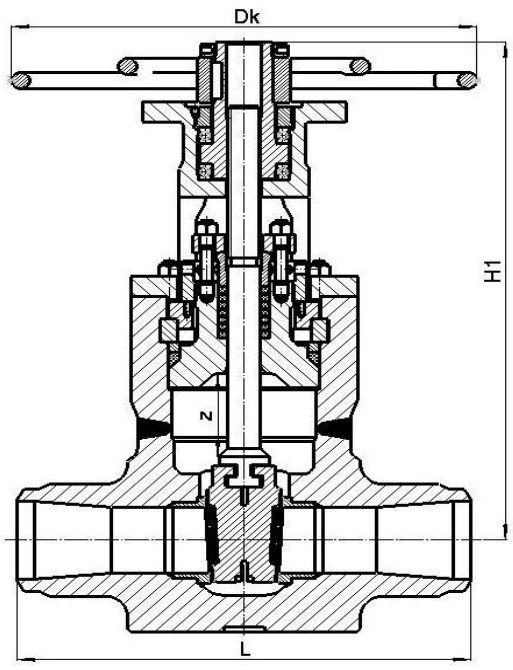


VALVES DIMENSIONS

DN/d	L [mm]	H1 [mm]	H [mm]	Z [mm]	Connection to electric actuator (EN ISO 5210)	Dk [mm]
50/50	300	510	450	60	F14 B2	400
65/50	340	510	450	60	F14 B2	400
80/65	390	570	500	80	F14 B2	500
100/80	450	610	535	93	F16 B2	630
125/110	550	795	710	125	F25 B2	710
150/125	550	890	790	145	F25 B2	-
200/150	750	-	795	170	F25 A	-
250/200	900	-	953	225	F30 A, F35 A	-
300/250	1100	-	1125	275	F35 A	-
350/275	1200	-	1205	300	F35 A	-

- Total loss coefficient ζ of the gate valves is calculated for the DN/d dimensions.
- L can be adjusted according to the customer´s requirements.



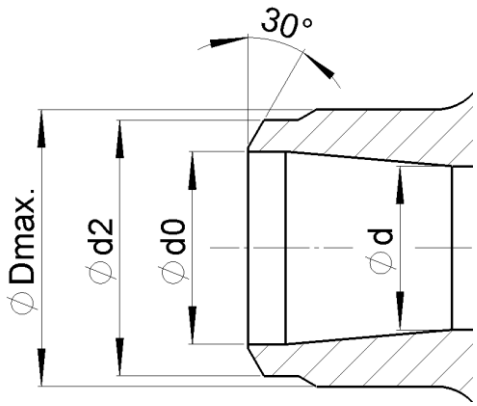


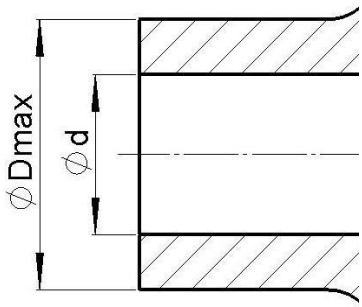
WELDED CONNECTION VERSION

Face-to-face dimensions: as per the Table (possible adjustments according to the customer´s requirements)
Welded connection: as per the Table (d_2, d_0 comply with the pressure-temperature system S43)
Shape of interstice: DIN 2559-Sheet 1 - Shape 22
Options on request: put a query

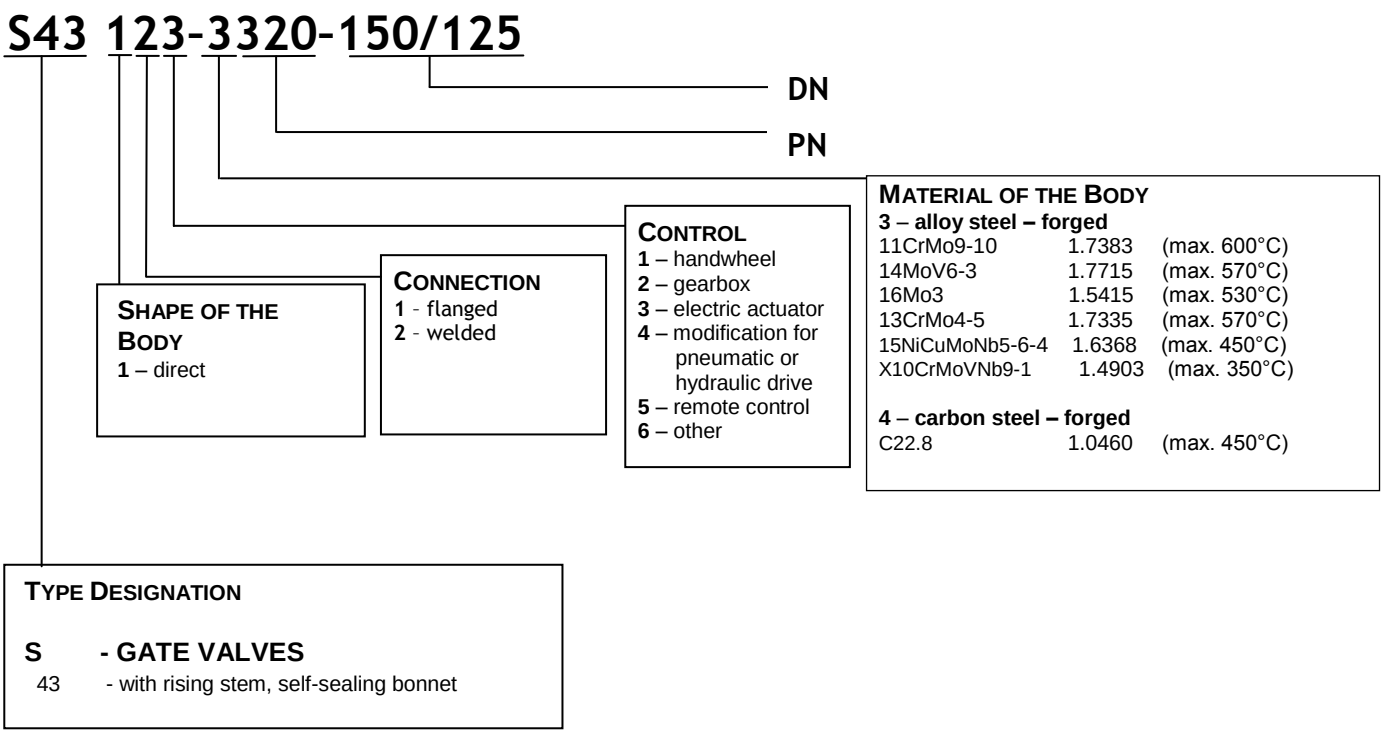
DN/d	PN	D_{max}/d	d_2	d_0
50/50	400	92/45	76,1	47,7
	500		82,5	47,5
65/50	400	92/45	82,5	50,5
	500		88,9	53,9
80/65	400	110/65	101,6	66,6
	500		108	68
100/80	400	145/80	133	83
	500		139,7	89,7
125/110	400	190/110	177,8	113,8
	500		177,8	113,8

DN/d	PN	D_{max}/d	d_2	d_0
150/125	400	222/125	219,1	139,1
	500		219,1	139,1
200/150	400	252/150	244,5	154,5
	500		244,5	154,5
250/200	400	344/200	323,9	203,9
	500		323,9	203,9
300/250	400	425/250	406,4	256,4
	500		406,4	256,4
350/275	400	450/275	457	297
	500		457	297





PRODUCT CODE



ASSEMBLY AND OPERATION OF THE VALVE:

The gate valves are assembled in any position, irrespective of a medium flow direction.
The gate valves of higher clearance (DN150) are recommended to be mounted into a horizontal piping with a vertical stem with the control device above it.
In any position other than horizontal the gate valve with the actuator must be supported at the flange for connecting the electric actuator.
An assembly if the stem is hanging is not allowed.
At the assembly and operation it is necessary to respect these aspects:

- Service parameters must be in accordance with the operating parameters of the valve.
- Correct function of the valve is affected by the presence of impurities in the piping and flowing medium. Thus, please, keep the medium and piping clean (e.g. using filters).
- Media used in the valve must comply with the requirement of corrosion resistance (immunity) of the valve material.
- The valve may not be damaged mechanically during its operation.

Service life of the valve can be significantly extended by a regular maintenance and servicing performed by duly trained personnel.