SEMPELL HIGH PRESSURE STOP VALVES

MODEL VA500 (DIN)

Designed for the isolation and control of high temperature and high pressure systems, this multipurpose globe valve can be used in a wide variety of applications

FEATURES

- Type tested (except for material specifications 19 and 34)
- T-pattern globe type
- One-piece die-forged body design
- Wear resistant stellite body seat
- Conical seat with line contact sealing
- Visual position indicator
- Non-rising hand wheel
- Prepared for later automation in service
- Low pressure loss due to optimized flow path
- Small driving forces
- Easy maintenance
- Code compliance with DIN EN and PED

GENERAL APPLICATION

These valves are designed for high pressure applications in process control industries such as power generation, hydrocarbon production, chemical processing, and refining. Applications include - vents, drains, bypass systems, warm-up lines, etc. wherever reliable leak tight performance is required.

TECHNICAL DATA

Size:	DN 10 - 65
Pressure rating:	PN100 - 630
Temperature rating:	Up to 625 °C
Body material:	1.0460, 1.5415, 1.7335, 1.7383, 1.6368, 1.4903, 1.4550, 1.4901

Large non-rising handwheel for easy operation.

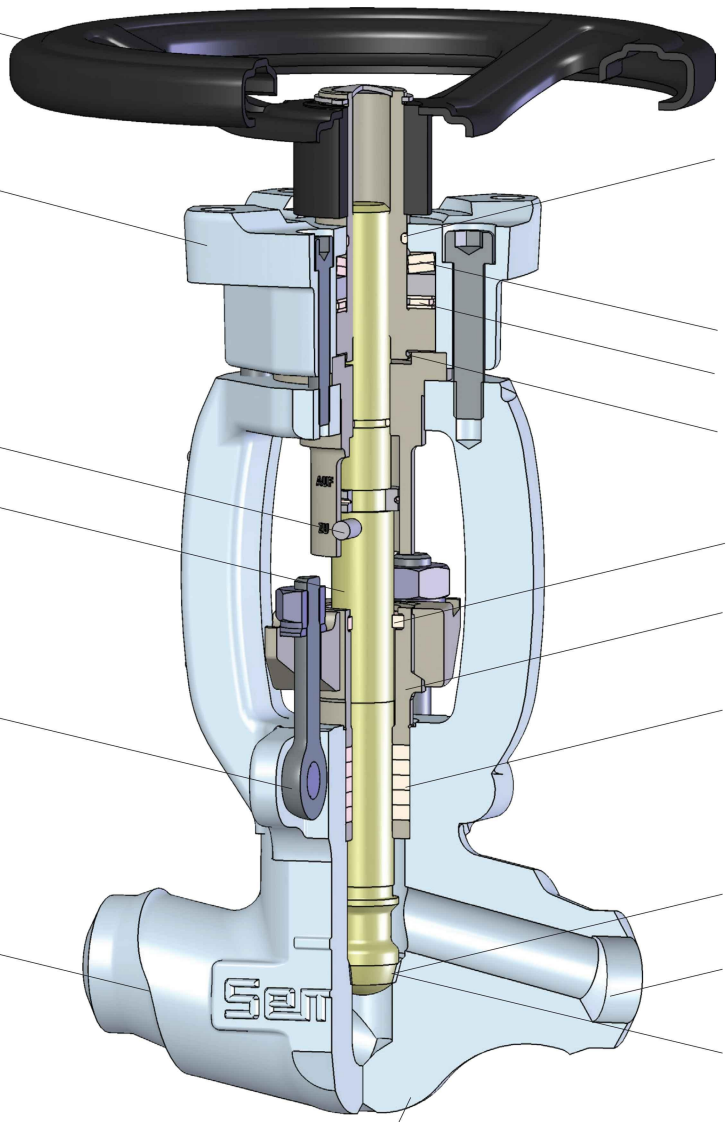
Equipped with a mounting flange acc. to ISO 5210. No additional adaptor needed. An electric actuator can be mounted during operation easily.

Visual position indicator. Clearly indicates valve position at all times.

One-piece, non-rotating stem made of 17% Cr steel to ensure long life time of packing and easy mounting of a multiturn actuator without changing any parts.

Gland screws designed as eye bolts fixed to the valve, i.e. they cannot get lost during disassembly as they remain at the valve body.

One-piece die-forged body. The bonnet is an integral part of the body (bonnet less design) without any additional cover seal.



Capsuled valve yoke for protection against environmental influences.

Cup springs allowing the compensation of thermal stem extension to keep valve closed even at variations in temperature.

Low friction roller bearings for small driving forces.

Capsuled valve yoke for protection against environmental influences.

Stripper-ring sealing of packing protects the stem/packing area against dirt and avoids leakage.

Two-piece gland for quick disassembly and repacking.

Pure graphite packing with non-extrusion ring prevents packing migration and ensures long service life.

Conical disc with line contact sealing for a defined seating for a tight shut off.

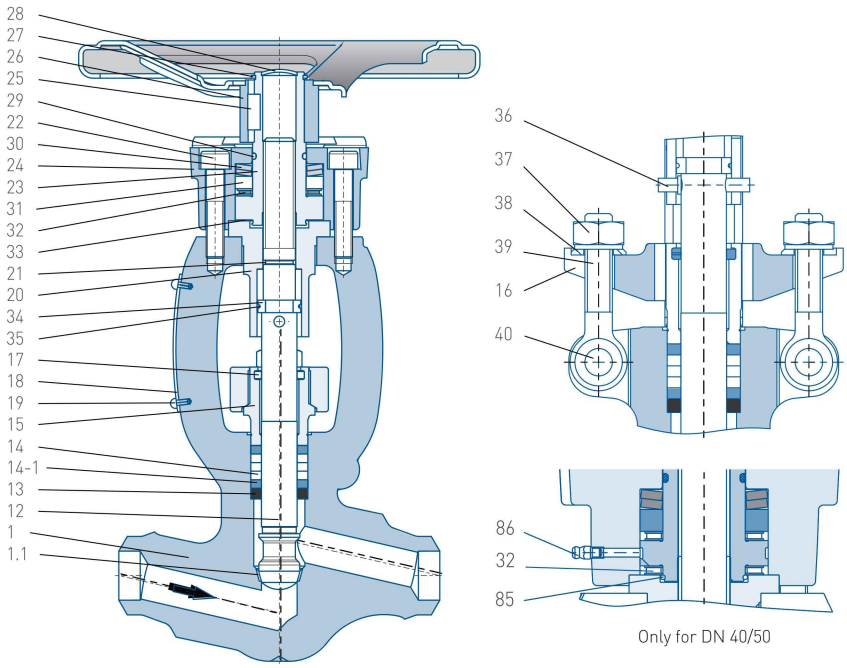
Sufficiency long cylindrical connections for heat treatment and UT- testing.

Wear resistant stellite seat ring welded and repairable. A special tool kit for lapping the seat is available.

Low pressure loss due to optimized flow path and large channel borings.

SEMPELL HIGH PRESSURE STOP VALVES

MODEL VA500 (DIN)



Only for DN 40/50

PARTS KIT

Order ready-to-use and easy to select kit, with several parts under one single reference. Each set contains the necessary parts for one valve including parts listed below.

PART LIST

		01	11	10	13	19[1]	30	31	34[1]
Part	**Description**	**Material specification**							
1	Body	1.0460	1.5415	1.7335	1.7383	1.6368	1.4903	1.4550	1.4901
1.1	Body seat	Stellite							
1.2	Welding neck flange	1.0460	1.5415	1.7335	1.7383	1.6368	1.4903	1.4550	1.4901
1.3	Welding neck flange	1.0460	1.5415	1.7335	1.7383	1.6368	1.4903	1.4550	1.4901
12	Stem	17% Cr							
13	Base ring	13% Cr							
14*	Packing	Graphite							
14.1*	Packing	Graphite-Austenite							
15	Gland shaft	13 % Cr							
16	Gland flange	13 % Cr							
17*	Wiper ring	Graphite							
18	Nameplate	Austenite							
19	Grooved pin	Austenite							
20	Guide bush	13% Cr							
21*	O-ring	FKM							
22	Allen bolt	Steel							
23	Threaded bush	Brass							
24	Cover	Steel							
25	Parallel key	Steel							
26	Handwheel	Steel							
27	Retaining ring	Spring steel							
28	Washer	Steel							
29	O-ring	FKM							
30	Disc spring	Spring steel							
31	Disc ring	13% Cr							
32	Axial needle bearing	Steel							
33	Slide ring	PTFE							
34	Split ring	17% Cr							
35	Ring	Austenite							
36	Guide bolt	17% Cr							
37	Hexagonal nut	Steel							
38	Washer	Steel							
39	Eye bolt	Steel							
40	Slotted pin	Austenite							
85**	Snap ring	Steel							
86**	Lubrication nipple	Steel							

PARTS KIT TABLE

Sealing Set			
DN	10/15	25	40-65
Ref	50200096	50200099	50200100
Parts	14, 14-1, 17, 21, 29		
Drive Set - Basic			
DN	10/15	25	40-65*
Ref	50232850	50232851	50232852
Parts	12, 13, 23, 25, 27, 28, 29, 32, 33		
Drive Set - Plus			
DN	10/15	25	40-65*
Ref	50232854	50232855	50232856
Parts	12, 13, 20, 23, 25, 27, 28, 29, 32, 33, 34, 35, 36		
Yoke Set			
DN	10/15	25	40-65*
Ref	50232857	50232858	50232859
Parts	23, 25, 27, 28, 29, 32, 33		

* Part 33 not included in DN 40-65, replaced by two part 32 axial bearings.

NOTES

* Commissioning part

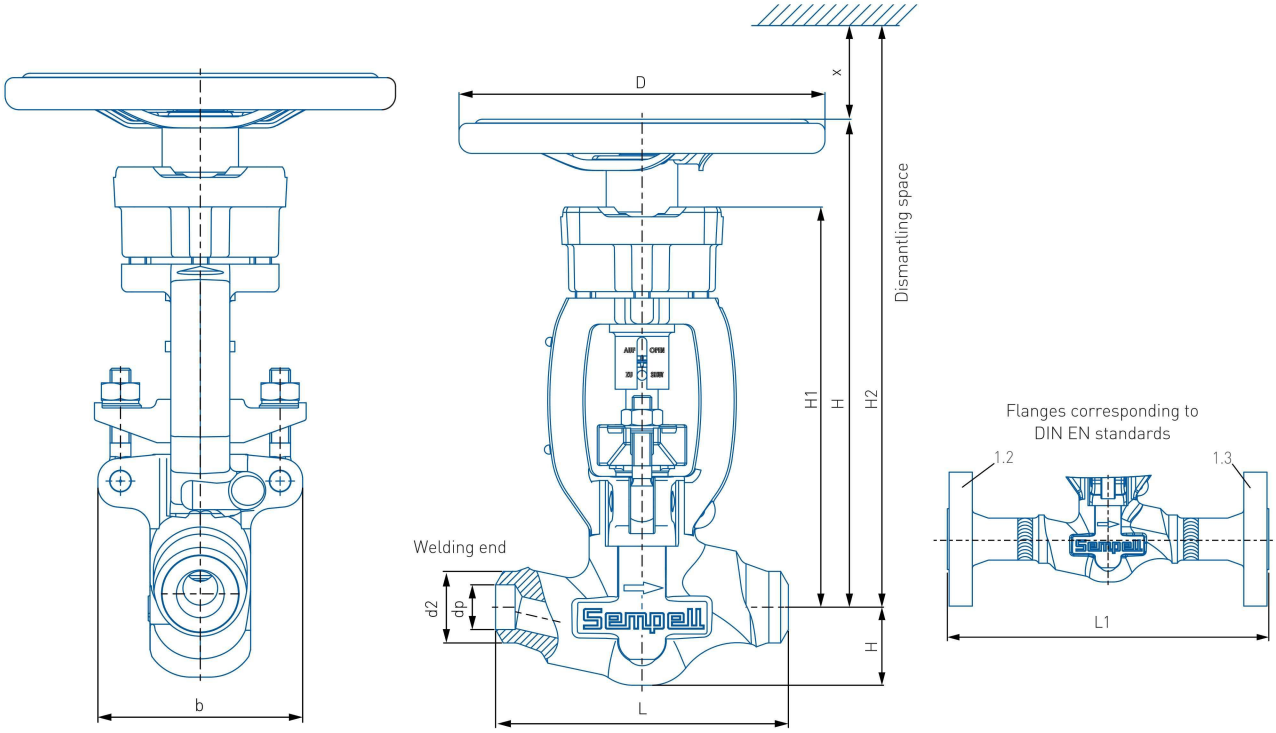
** DN 40/50

1. Not type tested

Screws and nuts corrosion protected

SEMPELL HIGH PRESSURE STOP VALVES

MODEL VA500 (DIN)



DIMENSIONS (mm)

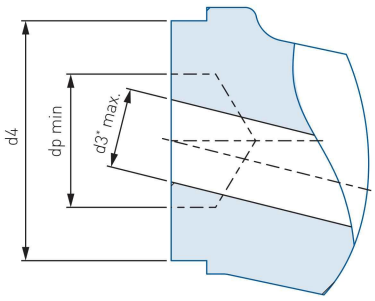
DN		Welding ends							H		H2[4]	x			U/	Weight approx (kg)	
(Seat Ø)	PN	dp	d2	dp min	d2 max	L[2]	L1[2]	b	approx	H1[3]	approx	approx	h	D	Stroke	S	F
10 (Ø13)	100	18	18	6	38	160	300	120	250	195	750	500	35	200	5	8	11
	160	18	18														11
	250	18	18														13
	320	18	18														13
	400	18	18														13
	500 - 630[5]	11.5[5]	22[5]														-
15 (Ø13)	100	17	22	6	38	160	300	120	250	195	750	500	35	200	5	8	11
	160	17	22														11
	250	16	22														14
	320	15	22														14
	400	17	28														16
	500 - 630[5]	16.5[5]	32[5]														-
25 (Ø20)	100	28.5	35	18	54	180	360	130	300	245	850	550	45	225	7.5	12	20
	160	27	35														20
	250	26.5	35														22
	320	24	35														24
	400	29	44														28
	500 - 630[5]	23.5[5]	47[5]														-
40 (Ø40)	100	43	49	27	94	300	530	170	455	385	1205	750	75	350	10	40	52
	160	41	49														52
	250	38.5	49														56
	320	36	49														56
	400	40	61														69
	500 - 630[5]	33.5[5]	66[5]														-
50[6] (Ø40)	100	54	61	27	94	300	530	170	455	385	1205	750	75	350	10	40	58
	160	52.5	61														58
	250	45	61														62
	320	59.5	77														65
	400	49.5	77														83
	500 - 630[5]	45[5]	86[5]														-

1. Different welding ends up to d2 max. / dp min acc. to customer's request
2. Other end-to-end dimension on request
3. Base line E-actuator
4. Required dimension for disassembly with handwheel for rework
5. Not acc. to DIN
6. DN 65 (ø 40) on request

SEMPELL HIGH PRESSURE STOP VALVES

MODEL VA500 (DIN)

PLAIN



DIMENSIONS (mm)

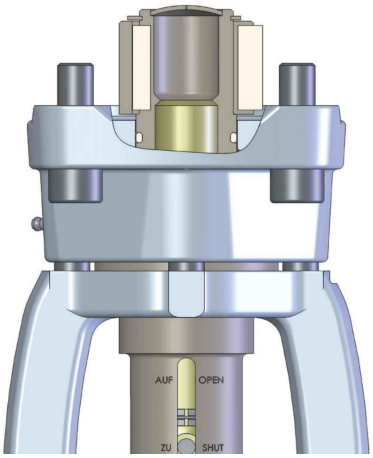
DN	d3* max.	d3*	dp min.	d4
10/15	13	6	8.0	40.5
10/15	13	10	11.8	40.5
10/15	13	13	15.0	40.5
25	20	14	17.0	56.5
25	20	18	20.7	56.5
25	20	20	22.8	56.5
40/50	40	20	24.0	97.0
40/50	40	30	34.0	97.0
40/50	40	40	44.0	97.0

* corresponding to customer's request

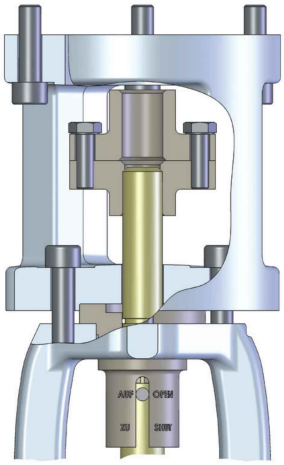
APPLICATION RANGES - FOR WELDING ENDS. FOR FLANGED VALVES SEE VALUES ACCORDING TO EN 1092.

		Calculating temperature (°C)																				
		100	250	300	350	400	450	480	490	500	510	520	530	540	550	560	570	580	590	600	610	620
Body material	**DIN**	**Max. permissible operating pressure in bar**																				
P250GH	1.0460	662	570	501	432	346	238	145	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16Mo3	1.5415	662	638	553	536	501	484	473	404	321	255	203	162	-	-	-	-	-	-	-	-	-
15NiCuMoNb5-6-4	1.6368	662	630	620	610	600	590	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13CrMo4-5	1.7335	662	638	629	620	588	553	543	539	473	401	325	270	211	169	138	114	-	-	-	-	-
11CrMo9-10	1.7383	662	638	629	620	610	598	588	525	467	408	356	311	269	235	200	176	152	131	117	-	-
X6CrNiNb18-10	1.4550	662	612	577	556	539	527	520	517	515	515	515	515	515	-	-	-	-	-	-	-	-
X10CrMoVNb9-1	1.4903	-	-	-	-	-	598	591	589	586	584	581	579	576	574	519	463	415	366	325	287	252
X10CrWMoVNb9-2	1.4901	-	-	-	-	-	598	591	589	586	584	581	579	576	574	571	543	491	439	390	346	301

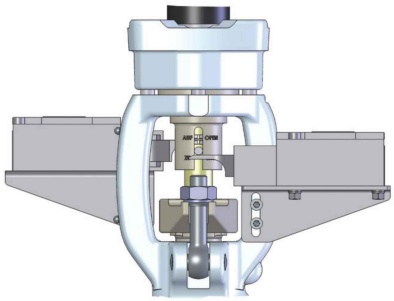
ACCESSORIES



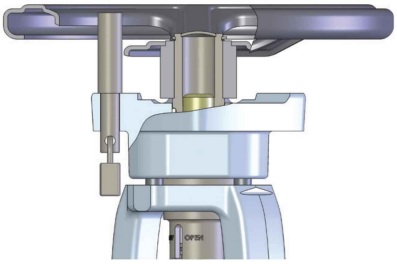
SN33 Valve yoke with connection for an electrical actuator acc. to ISO 5210



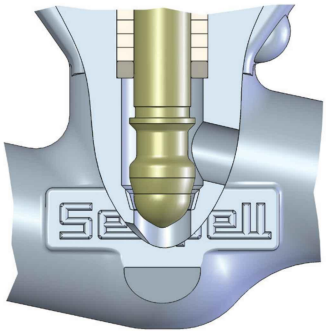
SN34 Valve yoke with connection for a linear actuator acc. to DIN 3358
(other connections available on request)



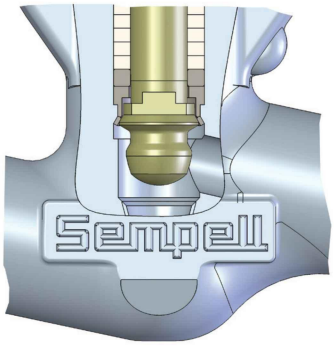
SN36/37 Electrical limit switches "Closed/Open"



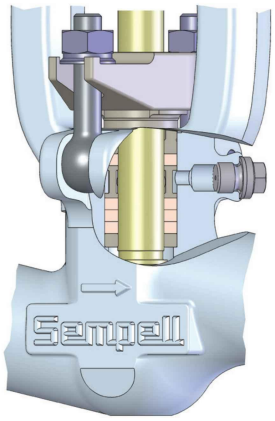
SN38.1 Handwheel locking with pad lock



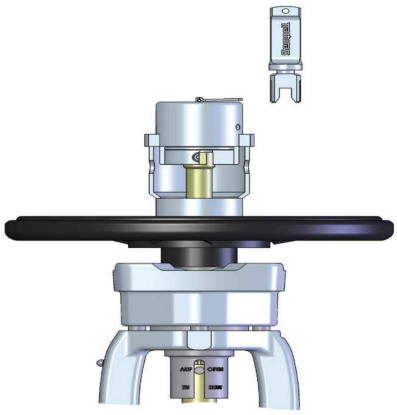
SN45.1 Throttling disc
(inlet below the disc only)



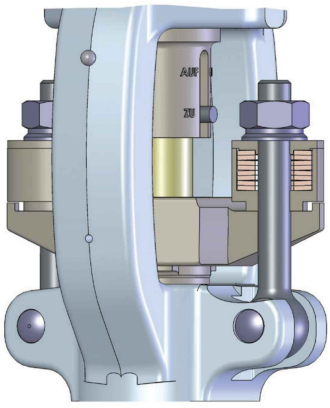
SN53 Back seat arrangement



SN30 Sealing water gland (lantern ring) for vacuum service



SN371/2/3 Preparation for a Sempell valve lock. Different interlocking positions can be provided. The unique valve lock allows the layout of a locking system with certain operation sequences.



SN160 Spring loaded gland for extended maintenance periods

SELECTION GUIDE

Example:			VA500	01	500	25	G	S	25
Valve type									
VA500	Stop valve								
Material specification									
01	1.4060	P250GH							
10	1.7335	13CrMo45							
11	1.5415	16Mo3							
13	1.7383	11CrMo910							
19	1.6368	15NiCuMoNb564							
30	1.4903	X10CrMoVNb91							
31	1.4550	X6CrNiNb1810							
34	1.4901	X10CrWMoVNb92							
Pressure rating									
(... designed acc. to operating pressure/temperature)									
100	PN 100								
160	PN 160								
250	PN 250								
320	PN 320								
400	PN 400								
500	PN 500								
630	PN 630								
Nominal size									
10	DN 10								
15	DN 15								
25	DN 25								
40	DN 40								
50	DN 50								
65	DN 65								
Body design									
G	Globe type (T-pattern)								
Pipe connection									
S	Welding ends acc. to DIN								
F	Flanges acc. to DIN								
U	Plain ends								

SN Designation

25	Copper free materials
30	Sealing water gland (lantern ring)
33A/B	Valve yoke with connection acc. to ISO 5210 size F10/F14
34A-C	Connection for linear actuator acc. to DIN 3358
34F	Connection for linear actuator special design
36/37	Electrical limit switches for position indicator
38.1	Handwheel with pad lock
41	Stellited disc seat
41.5	Stem and threaded bush nitrided
43.0	Welding rings inlet and outlet side
43.2	Welding ring inlet side
43.3	Welding ring outlet side
45.1	Throttling disc, inlet below disc
53	Back seat
160.1	Spring-loaded gland
177	Nameplate, operating pressure in MPa
178	Nameplate, foreign language
182	Lubrication of stem thread
183	Inlet above disc
371	Valve lock A4-A5, Locking position OPEN
372	Valve lock A4-A5, Locking position SHUT
373	Valve lock A3, Locking position OPEN or SHUT