



SEMPPELL 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.



MODEL VA500

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.



MODEL VA500 WITH ELECTRIC ACTUATOR

TECHNICAL DATA

Size:	DN 10 - 65
Pressure rating:	PN100 - 630
Temperature rating:	Up to 625°C (1150°F)
Body material:	1.0460, 1.5415, 1.7335, 1.7383, 1.6368, 1.4903, 1.4550, 1.4901

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

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Large non-rising handwheel for easy operation.

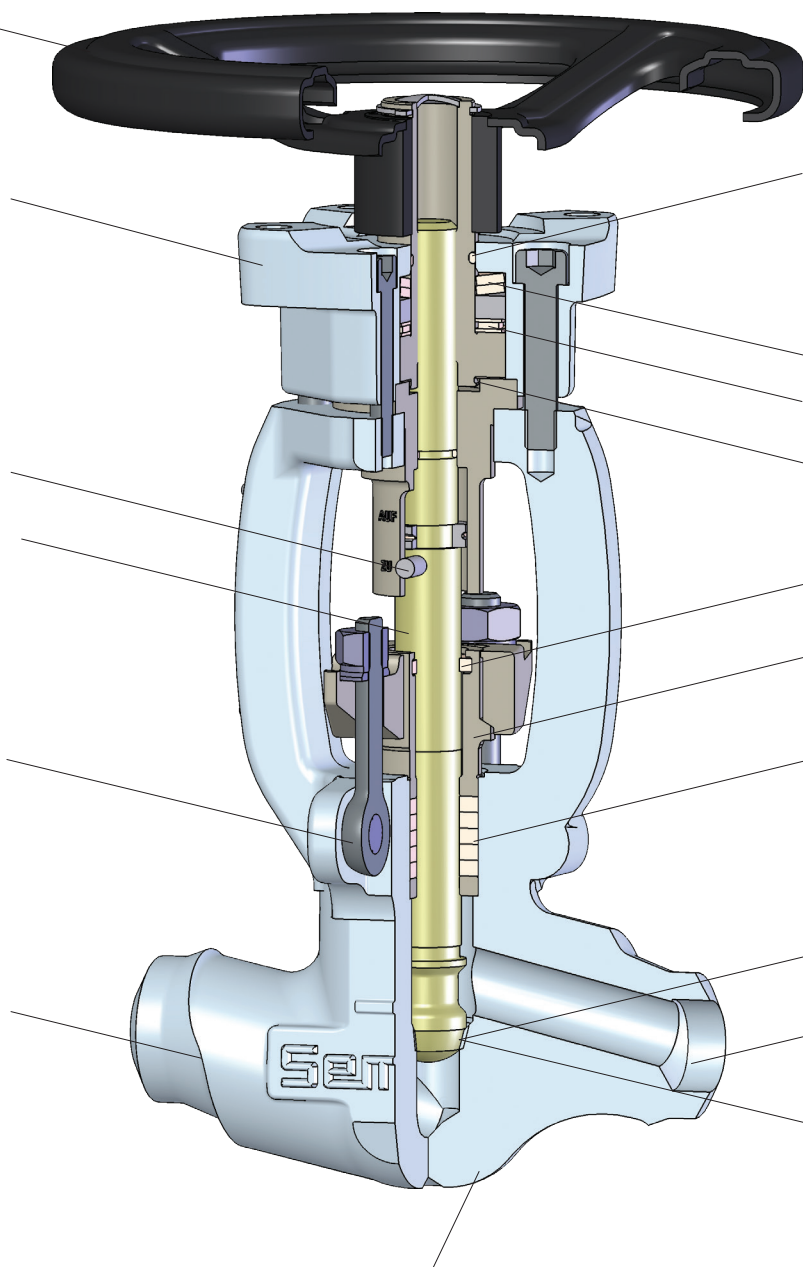
Equipped with a mounting flange acc. to ISO 5210. No additional adaptor needed. An electric actuator can be mounted during operation easily.

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.

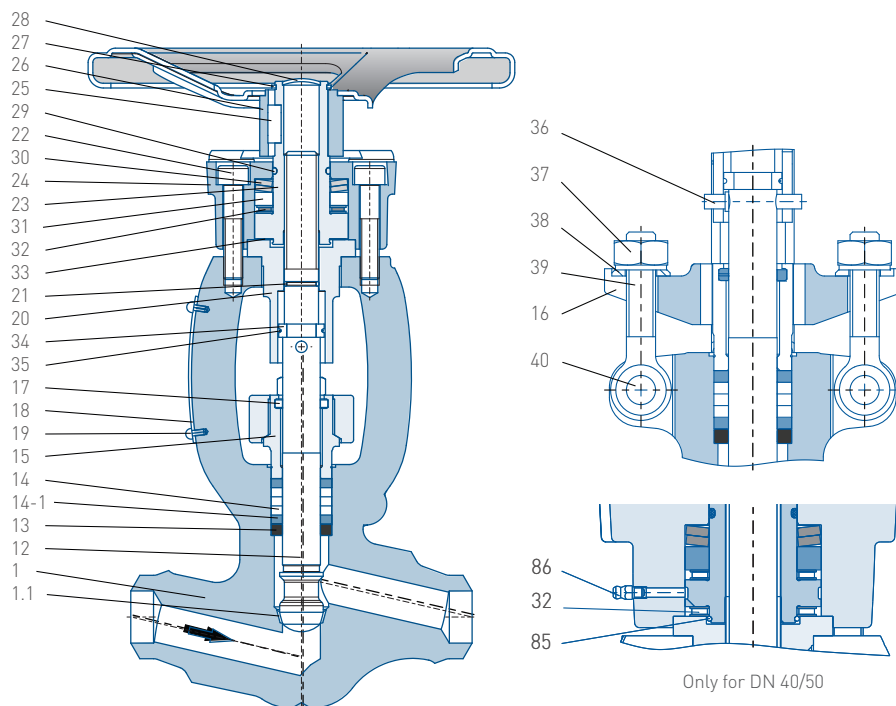
Sufficiency long cylindrical connections for heat treatment and UT- testing.

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.

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PART LIST

Part	Description	Material specification							
		01	11	10	13	19 ^[1]	30	31	34 ^[1]
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

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.

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

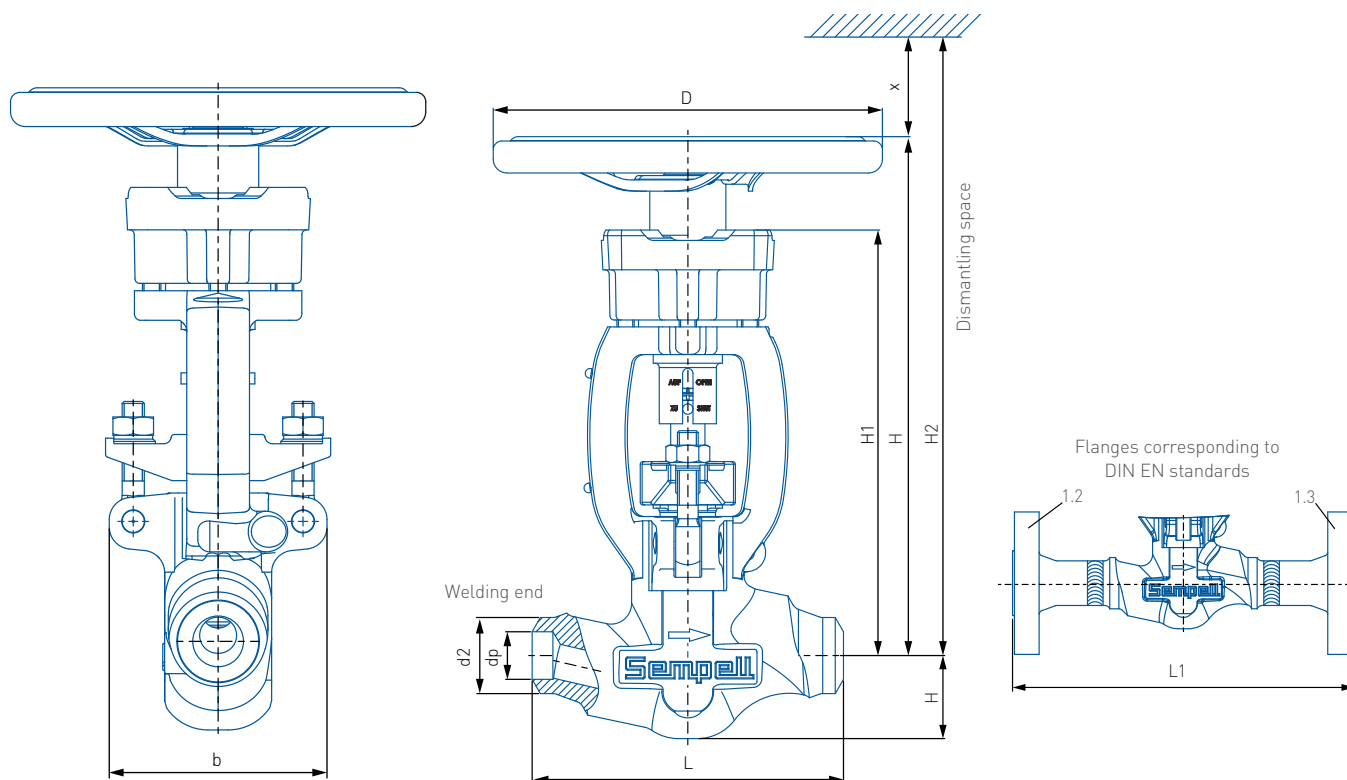
** DN 40/50

1. Not type tested

Screws and nuts corrosion protected

SEPELL HIGH PRESSURE STOP VALVES

MODEL VA500 (DIN)



DIMENSIONS mm (in.)

DN (Seat Ø)	PN	Welding ends		dp min	d2 max	L ^[2]	L1 ^[2]	b	H		H2 ^[4] approx.	x approx.	h	D	U/ Stroke	Weight approx. kg (lbs)	
		dp	d2						approx.	H1 ^[3]						S	F
10 (Ø13)	100	18 (0.71)	18 (0.71)	6 (0.24)	38 (1.49)	160 (6.3)	300 (11.8)	120 (4.7)	250 (9.8)	195 (7.7)	750 (29.5)	500 (19.7)	35 (1.4)	200 (7.9)	5	8 (18)	11 (24)
	160	18 (0.71)	18 (0.71)														11 (24)
	250	18 (0.71)	18 (0.71)														13 (29)
	320	18 (0.71)	18 (0.71)														13 (29)
	400	18 (0.71)	18 (0.71)														13 (29)
500 - 630 ^[5]	11.5 (0.45) ^[5]	22 (0.87) ^[5]	-														
15 (Ø13)	100	17 (0.67)	22 (0.87)	6 (0.24)	38 (1.49)	160 (6.3)	300 (11.8)	120 (4.7)	250 (9.8)	195 (7.7)	750 (29.5)	500 (19.7)	35 (1.4)	200 (7.9)	5	8 (18)	11 (24)
	160	17 (0.67)	22 (0.87)														11 (24)
	250	16 (0.63)	22 (0.87)														14 (31)
	320	15 (0.59)	22 (0.87)														14 (31)
	400	17 (0.67)	28 (1.10)														16 (35)
500 - 630 ^[5]	16.5 (0.65) ^[5]	32 (1.26) ^[5]	-														
25 (Ø20)	100	28.5 (1.12)	35 (1.38)	18 (0.71)	54 (2.1)	180 (7.0)	360 (14.1)	130 (5.1)	300 (11.8)	245 (9.6)	850 (33.5)	550 (21.6)	45 (1.8)	225 (8.8)	7.5	12 (26)	20 (44)
	160	27 (1.06)	35 (1.38)														20 (44)
	250	26.5 (1.04)	35 (1.38)														22 (49)
	320	24 (0.94)	35 (1.38)														24 (53)
	400	29 (1.14)	44 (1.73)														28 (62)
500 - 630 ^[5]	23.5 (0.93) ^[5]	47 (1.85) ^[5]	-														
40 (Ø40)	100	43 (1.69)	49 (1.93)	27 (1.06)	94 (3.7)	300 (11.8)	530 (20.8)	170 (6.7)	455 (17.9)	385 (15.1)	1205 (47.4)	750 (29.5)	75 (3)	350 (13.9)	10	40 (88)	52 (115)
	160	41 (1.61)	49 (1.93)														52 (115)
	250	38.5 (1.52)	49 (1.93)														56 (123)
	320	36 (1.42)	49 (1.93)														56 (123)
	400	40 (1.57)	61 (2.40)														69 (152)
500 - 630 ^[5]	33.5 (1.32) ^[5]	66 (2.60) ^[5]	-														
50 ^[4] (Ø40)	100	54 (2.13)	61 (2.40)	27 (1.06)	94 (3.7)	300 (11.8)	530 (20.8)	170 (6.7)	455 (17.9)	385 (15.1)	1205 (47.4)	750 (29.5)	75 (3)	350 (13.9)	10	40 (88)	58 (128)
	160	52.5 (2.07)	61 (2.40)														58 (128)
	250	45 (1.77)	61 (2.40)														62 (137)
	320	59.5 (2.34)	77 (3.03)														65 (143)
	400	49.5 (1.95)	77 (3.03)														83 (183)
500 - 630 ^[5]	45 (1.77) ^[5]	86 (3.39) ^[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

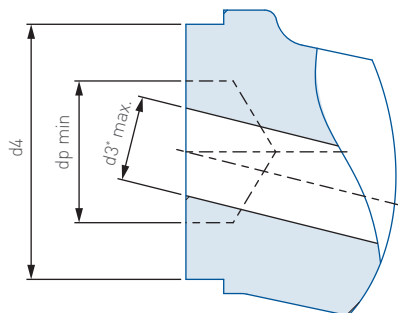
5. Not acc. to DIN

6. DN 65 (Ø 40) on request

SEMPELL HIGH PRESSURE STOP VALVES

MODEL VA500 (DIN)

PLAIN



DIMENSIONS mm (in.)

DN	d3* max.	d3*	dp min.	d4
10/15	13 [0.51]	6 [0.24]	8.0 [0.31]	40.5 [1.59]
10/15	13 [0.51]	10 [0.38]	11.8 [0.46]	40.5 [1.59]
10/15	13 [0.51]	13 [0.51]	15.0 [0.59]	40.5 [1.59]
25	20 [0.79]	14 [0.55]	17.0 [0.67]	56.5 [2.22]
25	20 [0.79]	18 [0.71]	20.7 [0.81]	56.5 [2.22]
25	20 [0.79]	20 [0.79]	22.8 [0.90]	56.5 [2.22]
40/50	40 [1.57]	20 [0.79]	24.0 [0.94]	97.0 [3.81]
40/50	40 [1.57]	30 [1.18]	34.0 [1.34]	97.0 [3.81]
40/50	40 [1.57]	40 [1.57]	44.0 [1.73]	97.0 [3.81]

* corresponding to customer's request

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

Body material	DIN	Calculating temperature [°C]																				
		100	250	300	350	400	450	480	490	500	510	520	530	540	550	560	570	580	590	600	610	620
		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

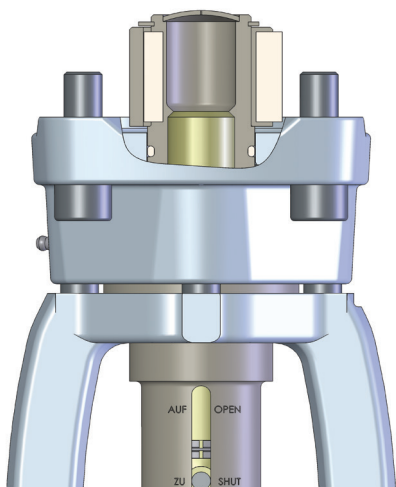
APPLICATION RANGES - FOR WELDING ENDS. FOR FLANGED VALVES SEE VALUES ACCORDING TO EN 1092

Body material	DIN	Calculating temperature [°F]																				
		212	482	572	662	752	842	896	914	932	950	968	986	1004	1022	1040	1058	1076	1094	1112	1130	1148
		Max. permissible operating pressure in psi																				
P250GH	1.0460	9601	8267	7266	6266	5018	3452	2103	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16Mo3	1.5415	9601	9253	8021	7774	7266	7020	6860	5860	4656	3698	2944	2350	-	-	-	-	-	-	-	-	-
15NiCuMoNb5-6-4	1.6368	9601	9137	8992	8847	8702	8557	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13CrMo4-5	1.7335	9601	9253	9123	8992	8528	8021	7876	7818	6860	5816	4714	3916	3060	2451	2002	1653	-	-	-	-	-
11CrMo9-10	1.7383	9601	9253	9123	8992	8847	8673	8528	7614	6773	5918	5163	4511	3902	3408	2901	2553	2205	1900	1697	-	-
X6CrNiNb18-10	1.4550	9601	8876	8369	8064	7818	7643	7542	7498	7469	7469	7469	7469	7469	-	-	-	-	-	-	-	-
X10CrMoVNb9-1	1.4903	-	-	-	-	-	8673	8572	8543	8499	8470	8427	8398	8354	8325	7527	6715	6019	5308	4714	4163	3655
X10CrWMoVNb9-2	1.4901	-	-	-	-	-	8673	8572	8543	8499	8470	8427	8398	8354	8325	8282	7876	7121	6367	5656	5018	4366

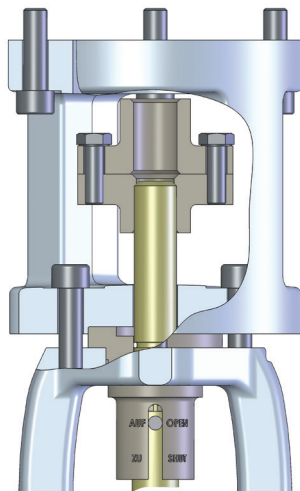
SEPELL HIGH PRESSURE STOP VALVES

MODEL VA500 (DIN)

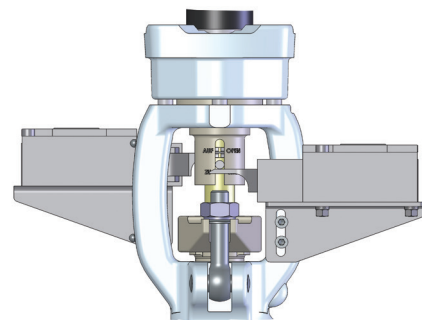
ACCESSORIES



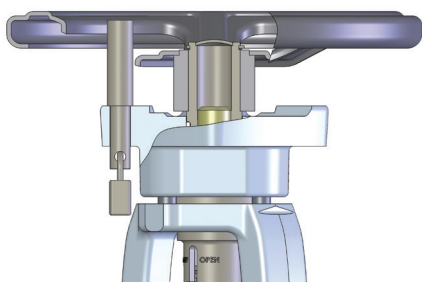
SN33 Valve yoke with connection for an electrical actuator acc. to ISO 5210



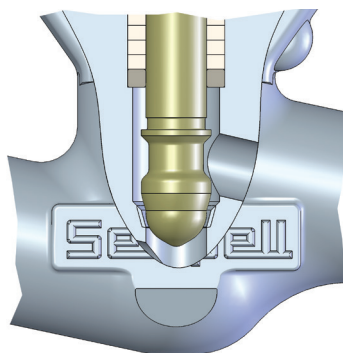
SN34 Valve yoke with connection for a linear actuator acc. to DIN 3358 (other connections available on request)



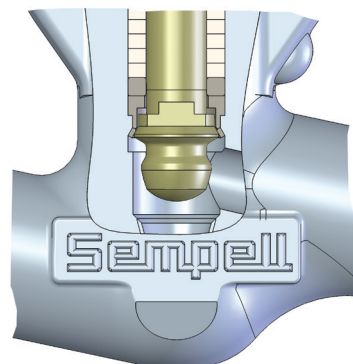
SN36/37 Electrical limit switches "Closed/Open"



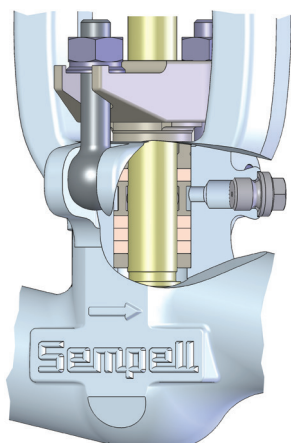
SN38.1 Handwheel locking with pad lock



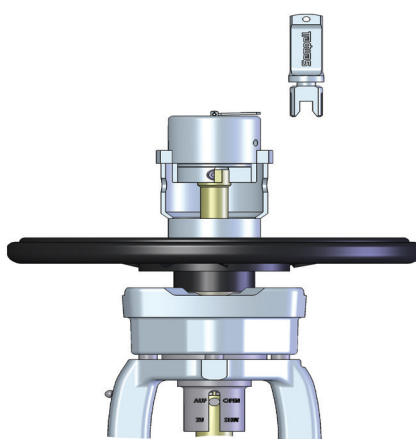
SN45.1 Throttling disc (inlet below the disc only)



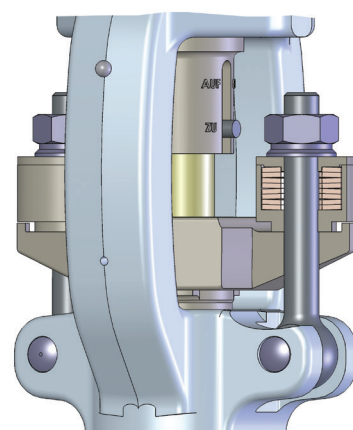
SN53 Back seat arrangement



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

SEPELL HIGH PRESSURE STOP VALVES

MODEL VA500 (DIN)

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						

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