SEMPELL HIGH PRESSURE STOP VALVES

MODEL VA510 (DIN)

Designed for highest pressure and temperature applications using high alloy or stainless steels.

FEATURES

- T-pattern globe type
- Body made of forged steel
- 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 conventional power plants. 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:	Up to PN 630
Temperature rating:	20°C to 620°C
Body material:	1.4922, 1.4541, 1.4571, 1.4903, 1.4550, 1.4901, 1.4910 Other materials on request
Connection:	Butt weld ends acc. to DIN Socket weld ends acc. to DIN

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Large non-rising handwheel for easy operation.

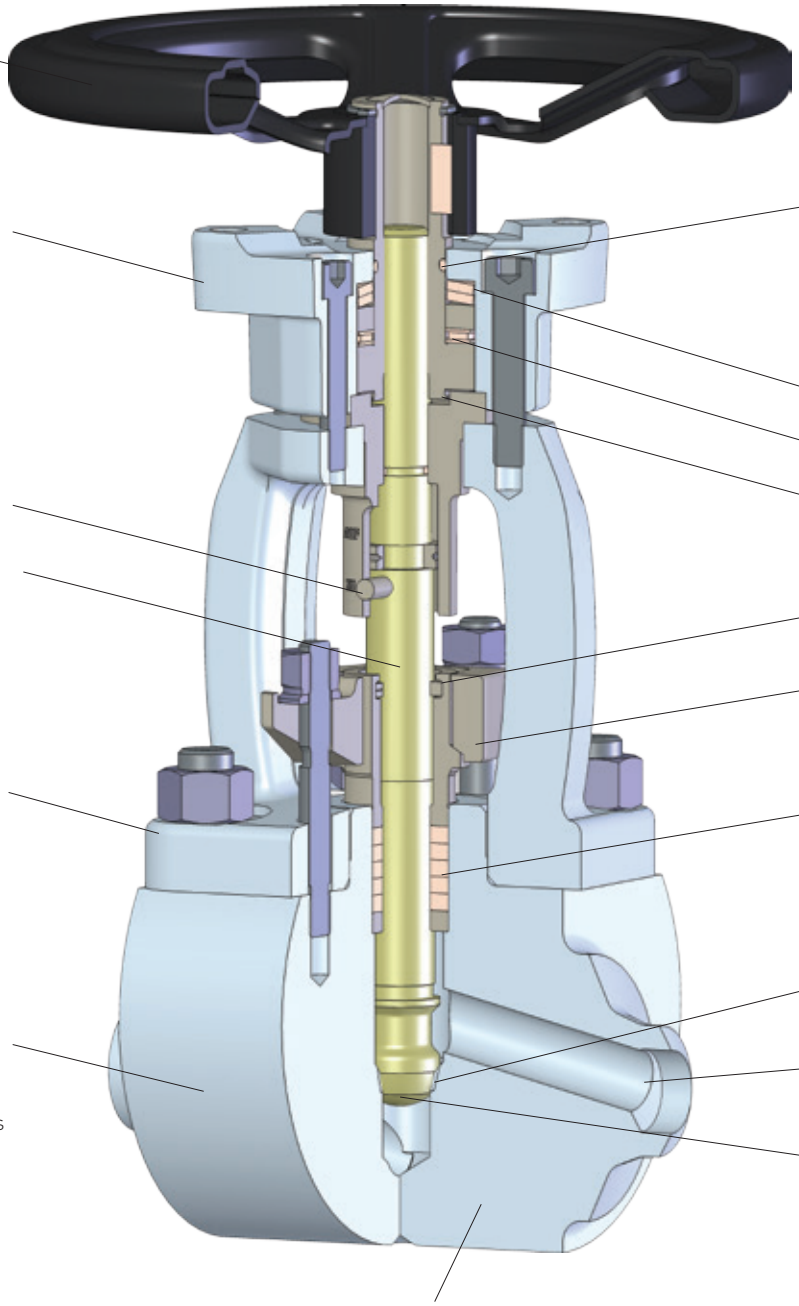
Equipped with a mounting flange acc. to ISO 5210. An electric actuator can be mounted during operation easily.

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

One-piece, non-rotating stem made of 17% Cr steel with high surface quality to ensure long life time of packing.

Bonnet is not a pressure retaining part and has no contact to the media, no additional cover sealing is needed.

Valve body made from bar materiel allowing a wide variety of materials to be used – even special materials acc. to customer's requirement.



Capsuled valve yoke for protection against environmental influences.

Cup springs allowing the compensation of thermal stem extension to keep the 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 ensure 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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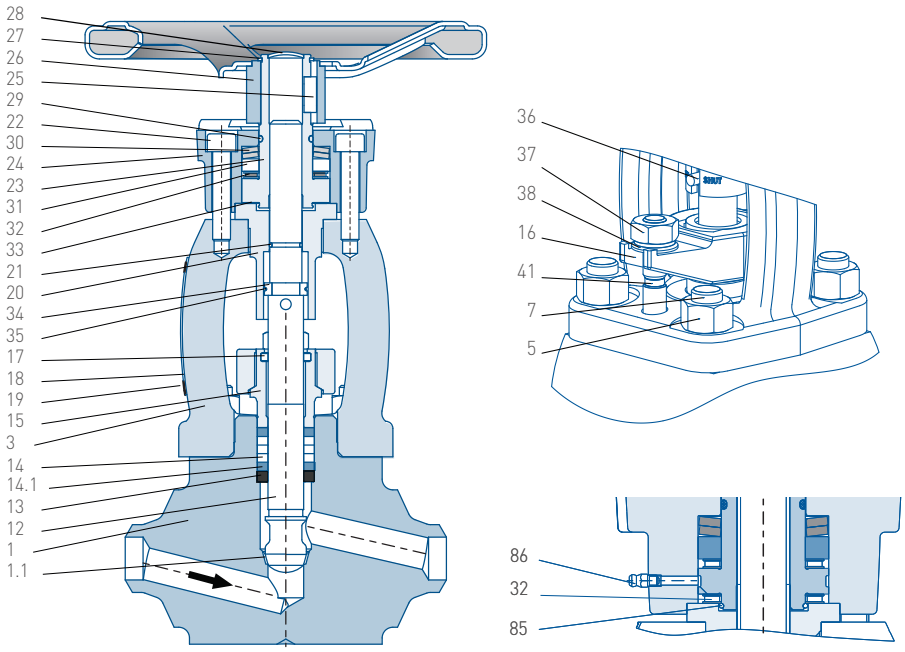
MODEL VA510 (DIN)



Only for DN 40/50

PART LIST

Material Specification		15	17	18	30	31	34	35
Part	**Description**				**Material**			
1	Body	1.4922	1.4541	1.4571	1.4903	1.4550	1.4901	1.4910
1.1	Body seat				Stellite			
1.2	Welding neck flange	1.4922	1.4541	1.4571	1.4903	1.4550	1.4901	1.4910
1.3	Welding neck flange	1.4922	1.4541	1.4571	1.4903	1.4550	1.4901	1.4910
3	Bonnet				Steel			
5	Hexagonal nut				Steel			
7	Stud				17 % Cr			
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			
41	Stud				Steel			
85**	Snap ring				Steel			
86**	Lubrication nipple				Steel			

NOTES:

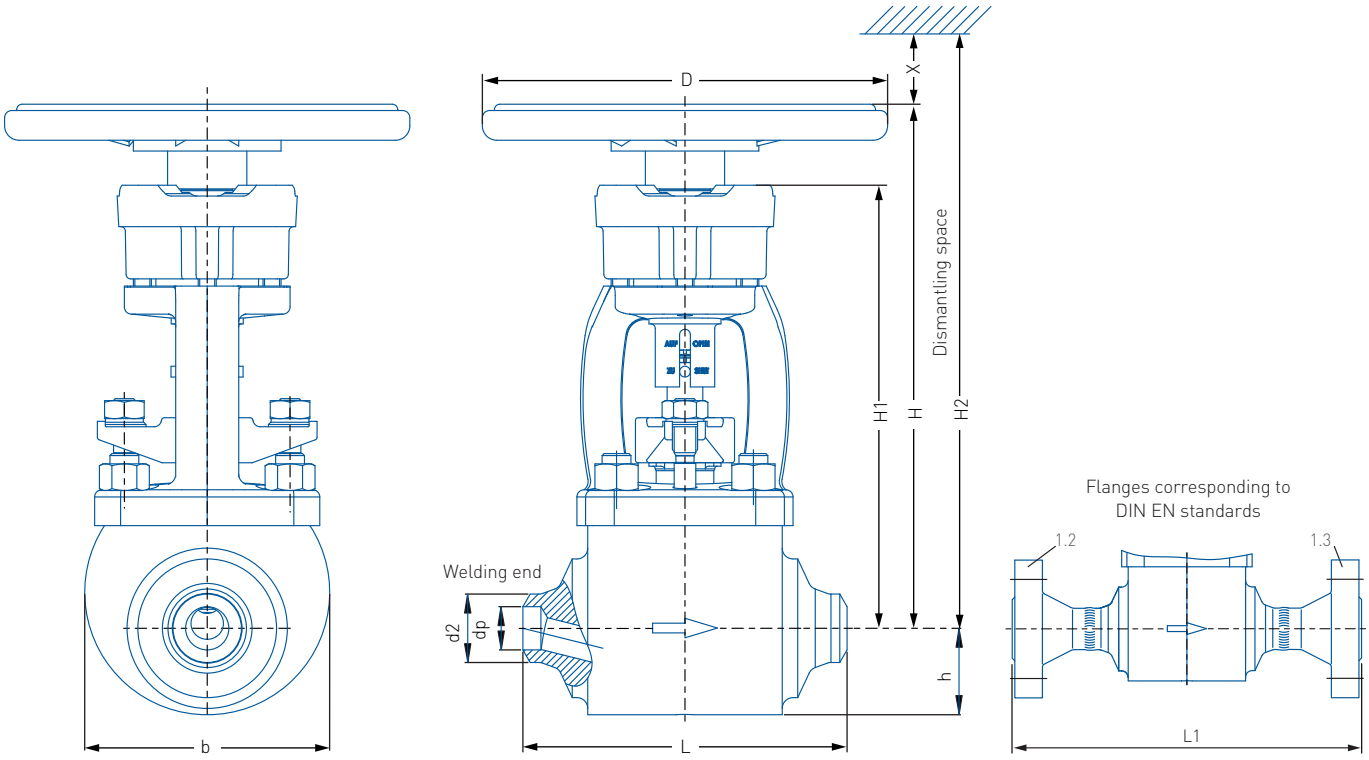
* Commissioning parts

** DN 40/50

Screws and nuts corrosion protected

SEMPELL HIGH PRESSURE STOP VALVES

MODEL VA510 (DIN)

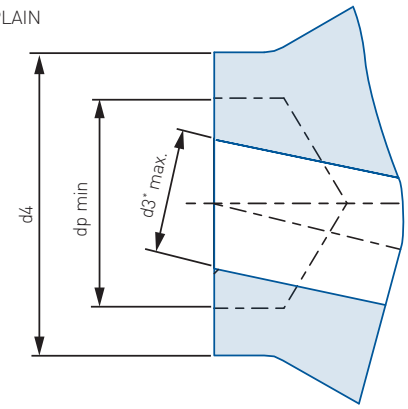


DIMENSIONS (mm)

DN (Seat Ø)	PN	Welding ends dp	d2	dp min [1]	d2 max [1]	L [2]	L1 [2]	b	H approx	H1 [3]	H2 [4] approx	x approx	h	D	U/Hub	Weight approx (kg) S	F
10 (Ø13)	100	13	18	6	38	160	300	140	300	246	850	550	45	225	7.5	21	23
	160	13	18														23
	250	12	18														25
	320	12	18														25
	400	10	18														25
	500 - 630 [5]	11.5 [5]	22 [5]														-
15 (Ø13)	100	17	22	6	38	160	300	140	300	246	850	550	45	225	7.5	21	23
	160	17	22														23
	250	16	22														25
	320	15	22														25
	400	17	28														25
	500 - 630 [5]	16.5 [5]	32 [5]														–
25 (Ø20)	100	28.5	35	18	54	180	360	140	300	246	650	550	45	225	7.5	21	29
	160	27	35														29
	250	26.5	35														31
	320	24	35														33
	400	29	44														37
	500 - 630 [5]	23.5 [5]	47 [5]														–
40 (Ø40)	100	43	49	27	94	300	530	220	455	385	1205	750	75	350	10	75	87
	160	41	49														87
	250	38.5	49														91
	320	36	49														91
	400	40	61														104
	500 - 630 [5]	33,5 [5]	66 [5]														–
50 (Ø40)	100	54	61	27	94	300	530	220	455	385	1205	750	75	350	10	75	93
	160	52.5	61														93
	250	45	61														97
	320	59.5	77														100
	400	49.5	77														115
	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

PLAIN



DIMENSIONS (mm)

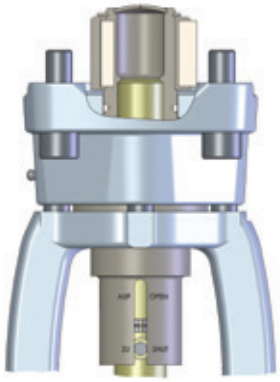
DN	d3* max.	d3*	dp min.	d4
10/15	13	6	8.0	40.5
10/15	13	10	11.8	40.5
10/15	13	13	15.0	40.5
25	20	14	17.0	56.5
25	20	18	20.7	56.5
25	20	20	22.8	56.5
40/50	40	20	24.0	97.0
40/50	40	30	34.0	97.0
40/50	40	40	44.0	97.0

* corresponding to customer's request

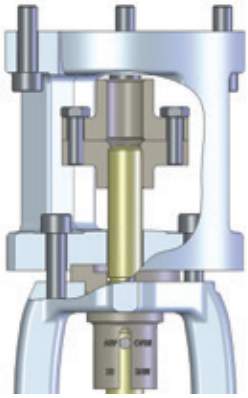
APPLICATION RANGES - DIN-MATERIALS (FOR WELDING ENDS). FOR FLANGED VALVES SEE VALUES ACCORDING TO EN 1092.

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																				
X20CrMoV121	1.4922	-	-	-	-	-	584	565	559	553	544	536	527	508	442	384	328	280	238	204	176	149
X6CrNiMoTi1810	1.4541	668	612	577	556	539	527	520	517	515	515	515	515	515	510	-	-	-	-	-	-	-
X6CrNiMoTi17122	1.4571	668	642	605	584	567	556	550	548	546	544	536	527	519	510	-	-	-	-	-	-	-
X10CrMoVNb91	1.4903	-	-	-	-	-	584	565	559	553	544	536	527	519	510	502	463	415	366	325	287	252
X6CrNiNb1810	1.4550	668	612	577	556	539	527	520	517	515	515	515	515	515	510	-	-	-	-	-	-	-
X10CrWMoVNb92	1.4901	-	-	-	-	-	584	565	559	553	544	536	527	519	510	502	493	483	439	390	346	301
X3CrNiMoBN17133	1.4910	-	-	-	-	-	555	548	545	543	541	536	527	519	510	502	493	483	474	442	410	378

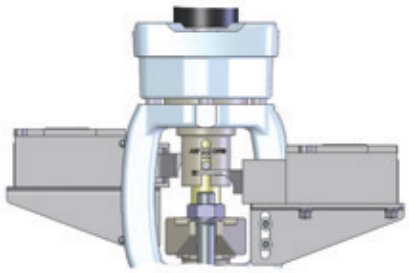
ACCESSORIES



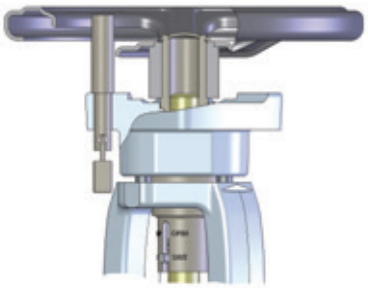
SN33 Valve yoke with connection for an electrical actuator acc. to ISO 5210



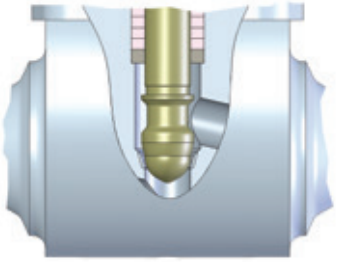
SN34 Valve yoke with connection for a linear actuator acc. to DIN 3358
(other connections available on request)



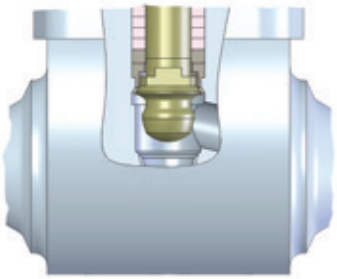
SN36/37 Electrical limit switches "Closed/Open"



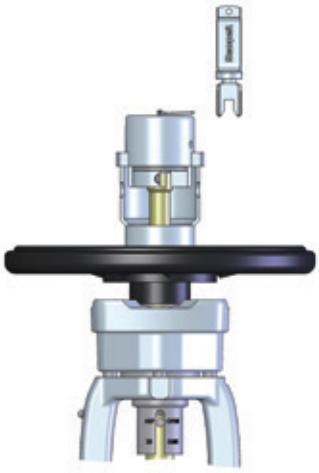
SN38 Handwheel locking with pad lock



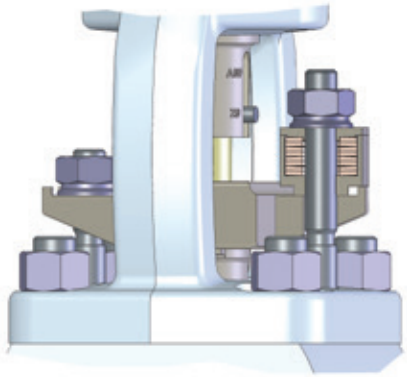
SN45 Throttling disc
(inlet below the disc only)



SN53 Back seat arrangement



SN 371/2/3 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:			VA510	15	500	25	G	S	25
Valve type									
VA510	Stop valve								
Material specification									
15	1.4922	X20CrMoV121							
17	1.4541	X6CrNiMoTi1810							
18	1.4571	X6CrNiMoTi17122							
30	1.4903	X10CrMoVNb91							
31	1.4550	X6CrNiNb1810							
34	1.4901	X10CrWMoVNb92							
35	1.4910	X3CrNiMoBN17133							
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								
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
33 A/B	Valve yoke with connection acc. to ISO 5210
34 A-C	with connection for linear actuator acc. to DIN 3358 size F10, F14, F16
34 F	with connection for linear actuator special design
36/37	Electrical limit switches for position indication
38.1	Handwheel with pad lock
41	Stellited disc seat
41.5	Stem and threaded bush nitrided
43.0	Welding ring 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
177.R	Nameplate control-isolation
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