



## 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.



### 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 - 50
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



# SEMPELL HIGH PRESSURE STOP VALVES

## MODEL VA500 (DIN)

Large non-rising handwheel for easy operation.

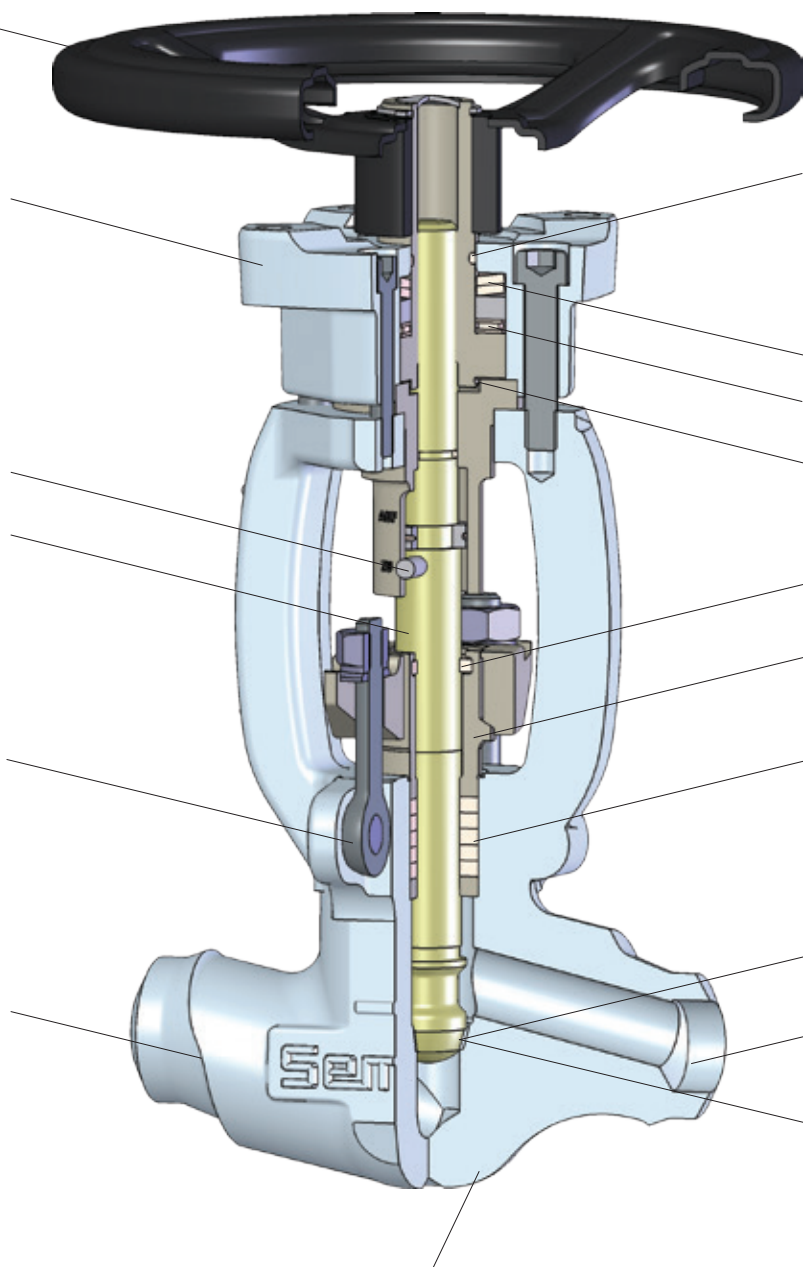
Equipped with a mounting flange acc. to ISO 5210. No additional adaptor needed. An electric actuator can be mounted during operation easily.

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

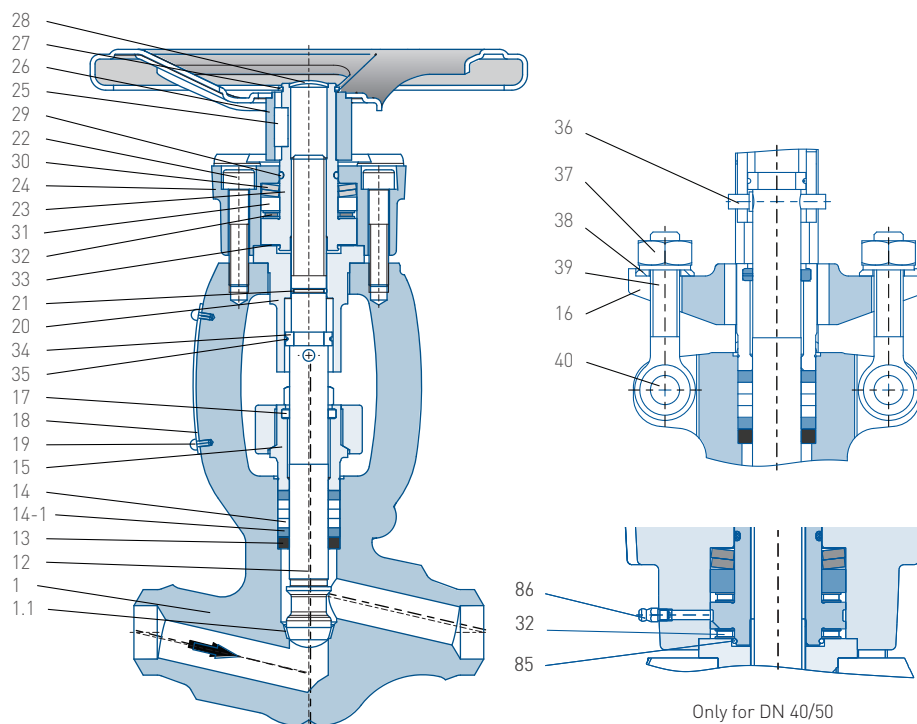
Sufficiency long cylindrical connections for heat treatment and UT- testing.

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.

# SEPELL HIGH PRESSURE STOP VALVES

## MODEL VA500 (DIN)



### PART LIST

Material Specification	01	11	10	13	19 <sup>1</sup>	30	31	34 <sup>1</sup>
Part Description	Material							
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							

### NOTES:

\* Commissioning parts

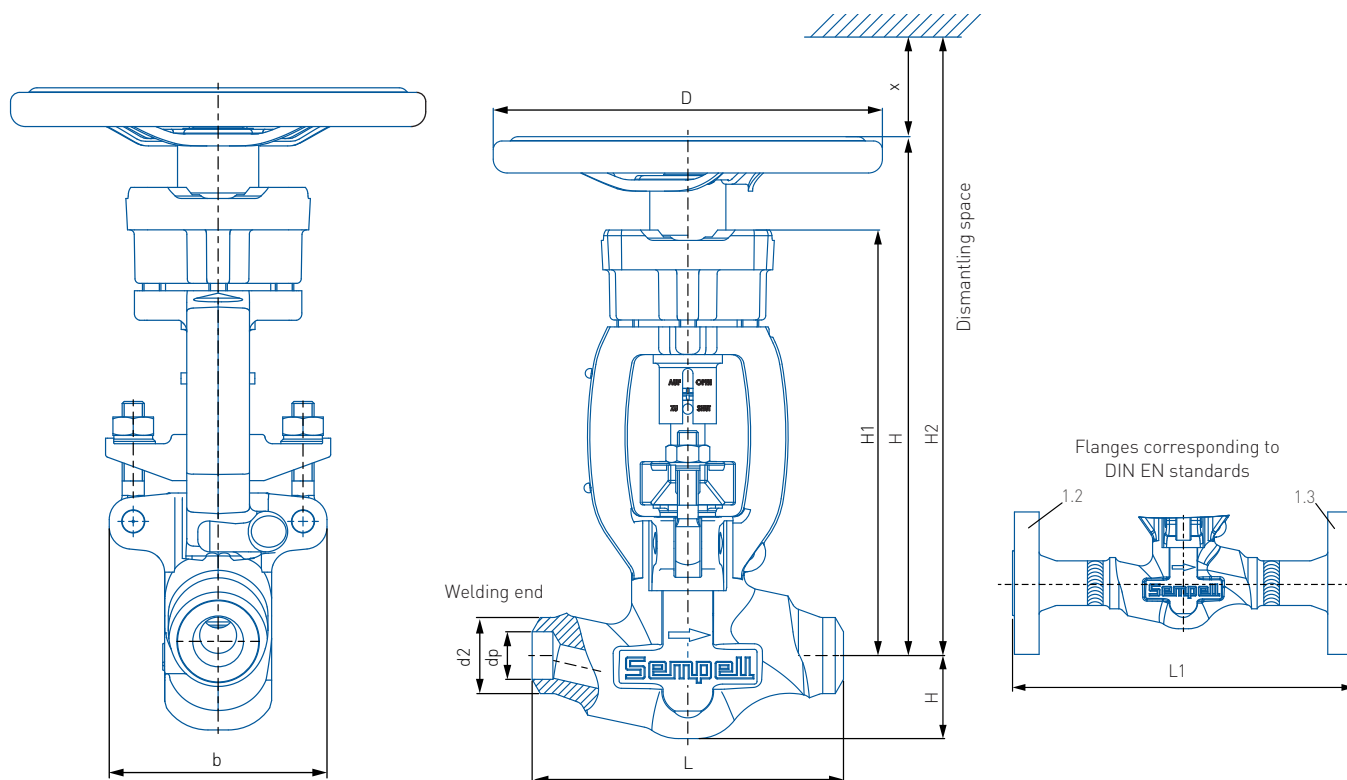
\*\* DN 40/50

<sup>1</sup> not type tested

Screws and nuts corrosion protected

# SEMPELL HIGH PRESSURE STOP VALVES

## MODEL VA500 (DIN)



### DIMENSIONS (mm)

DN (Seat Ø)	PN	Welding ends				L <sup>2)</sup>	L1 <sup>2)</sup>	b	H approx	H1 <sup>3)</sup>	H2 <sup>4)</sup> approx	x approx	h	D	U/ Stroke	Weight approx (kg)	
		dp	d2	dp min	d2 max											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 <sup>5)</sup>	11,5 <sup>5)</sup>	22 <sup>5)</sup>	-														
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 <sup>5)</sup>	16,5 <sup>5)</sup>	32 <sup>5)</sup>	-														
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 <sup>5)</sup>	23,5 <sup>5)</sup>	47 <sup>5)</sup>	-														
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 <sup>5)</sup>	33,5 <sup>5)</sup>	66 <sup>5)</sup>	-														
50 (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 <sup>5)</sup>	45 <sup>5)</sup>	86 <sup>5)</sup>	-														

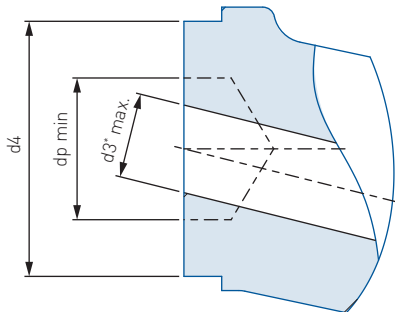
1. Different welding ends up to d2 max. / dp min acc. to customer's request
2. Other end-to-end dimension on request
3. Base line E-actuator

4. Required dimension for disassembly with handwheel for rework
5. not acc. to DIN

# 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

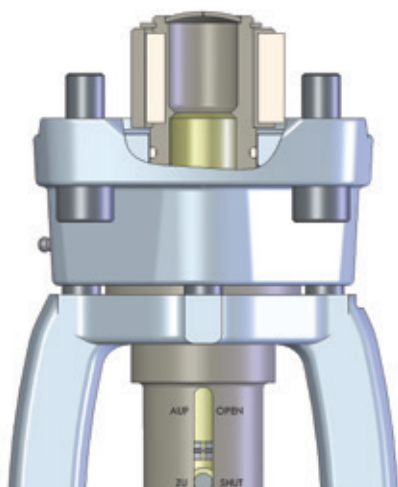
### APPLICATION RANGES - FOR WELDING ENDS. FOR FLANGED VALVES SEE VALUES ACCORDING TO EN 1092.

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

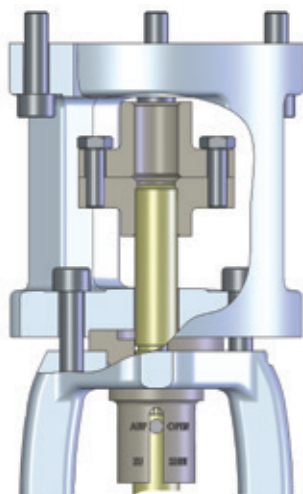
# SEPELL HIGH PRESSURE STOP VALVES

MODEL VA500 (DIN)

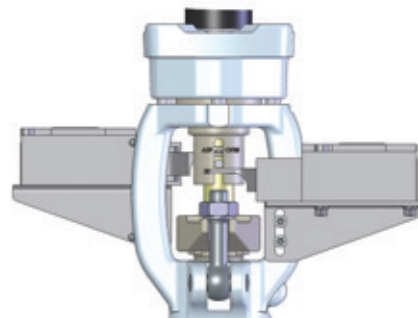
## ACCESSORIES



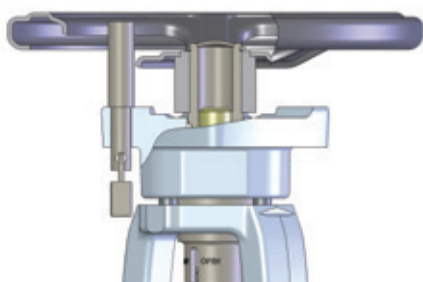
**SN33** Valve yoke with connection for an electrical actuator acc. to ISO 5210



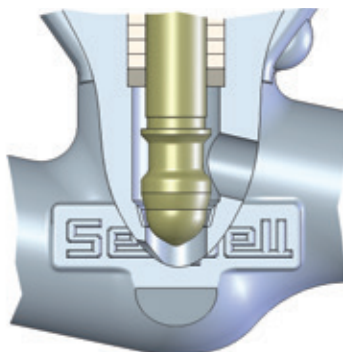
**SN34** Valve yoke with connection for a linear actuator acc. to DIN 3358  
(other connections available on request)



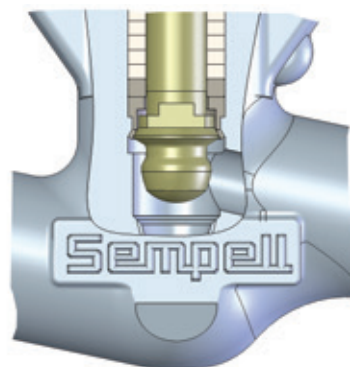
**SN36/37** Electrical limit switches "Closed/Open"



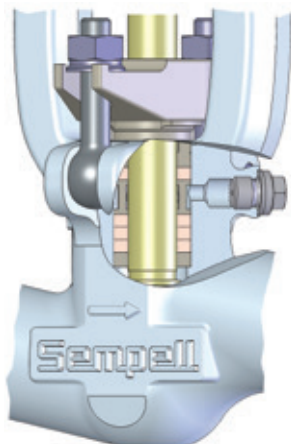
**SN38.1** Handwheel locking with pad lock



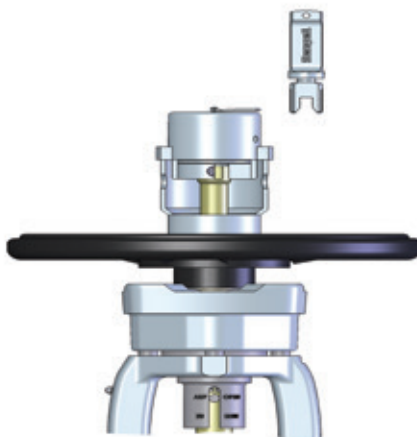
**SN45.1** Throttling disc  
(inlet below the disc only)



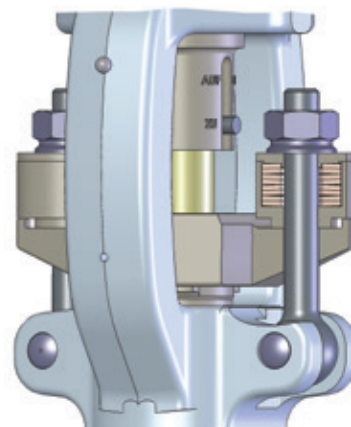
**SN53** Back seat arrangement



**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
<b>Valve type</b>							
<b>VA500</b>	Stop valve						
<b>Material specification</b>							
<b>01</b>	1.4060	P250GH					
<b>10</b>	1.7335	13CrMo45					
<b>11</b>	1.5415	16Mo3					
<b>13</b>	1.7383	11CrMo910					
<b>19</b>	1.6368	15NiCuMoNb564					
<b>30</b>	1.4903	X10CrMoVNb91					
<b>31</b>	1.4550	X6CrNiNb1810					
<b>34</b>	1.4901	X10CrWMoVNb92					
<b>Pressure rating</b>							
(... designed acc. to operating pressure/temperature)							
<b>100</b>	PN 100						
<b>160</b>	PN 160						
<b>250</b>	PN 250						
<b>320</b>	PN 320						
<b>400</b>	PN 400						
<b>500</b>	PN 500						
<b>630</b>	PN 630						
<b>Nominal size</b>							
<b>10</b>	DN 10						
<b>15</b>	DN 15						
<b>25</b>	DN 25						
<b>40</b>	DN 40						
<b>50</b>	DN 50						
<b>Body design</b>							
<b>G</b>	Globe type (T-pattern)						
<b>Pipe connection</b>							
<b>S</b>	Welding ends acc. to DIN						
<b>F</b>	Flanges acc. to DIN						
<b>U</b>	Plain ends						
<b>SN</b>	<b>Designation</b>						
<b>25</b>	Copper free materials						
<b>30</b>	Sealing water gland (lantern ring)						
<b>33A/B</b>	Valve yoke with connection acc. to ISO 5210 size F10/F14						
<b>34A-C</b>	Connection for linear actuator acc. to DIN 3358						
<b>34F</b>	Connection for linear actuator special design						
<b>36/37</b>	Electrical limit switches for position indicator						
<b>38.1</b>	Handwheel with pad lock						
<b>41</b>	Stellited disc seat						
<b>41.5</b>	Stem and threaded bush nitrided						
<b>43.0</b>	Welding rings inlet and outlet side						
<b>43.2</b>	Welding ring inlet side						
<b>43.3</b>	Welding ring outlet side						
<b>45.1</b>	Throttling disc, inlet below disc						
<b>53</b>	Back seat						
<b>160.1</b>	Spring-loaded gland						
<b>177</b>	Nameplate, operating pressure in MPa						
<b>178</b>	Nameplate, foreign language						
<b>182</b>	Lubrication of stem thread						
<b>183</b>	Inlet above disc						
<b>371</b>	Valve lock A4-A5, Locking position OPEN						
<b>372</b>	Valve lock A4-A5, Locking position SHUT						
<b>373</b>	Valve lock A3, Locking position OPEN or SHUT						

