FLOWSERVE

FlowPro™

High Performance Valve

DN 25 - 300, PN 63 - 160

Experience In Motion

Application

Control of neutral and aggressive gases, vapours and liquids in industry such as air, water, steam, gas oil, etc.

Flow in piping systems are controlled, mixed, distri-buted or shut off using a pneumatic SCHMIDT actuator, an electric linear actuator, a SCHMIDT thrust unit and electric rotary actuator in conjunction with the valve.

Due to its simple design and adaptabillity to different plant systems, the valve has a wide range of appli-cation.

Product features

Body shape for optimum flow characteristics

- favourable flow dynamics when correctly selected
- solid top or top and bottom guided plug

Long service life and operational reliability

- with aggressive or evaporating media due to sturdy design
- strong guides, thus minimal vibrations and wear

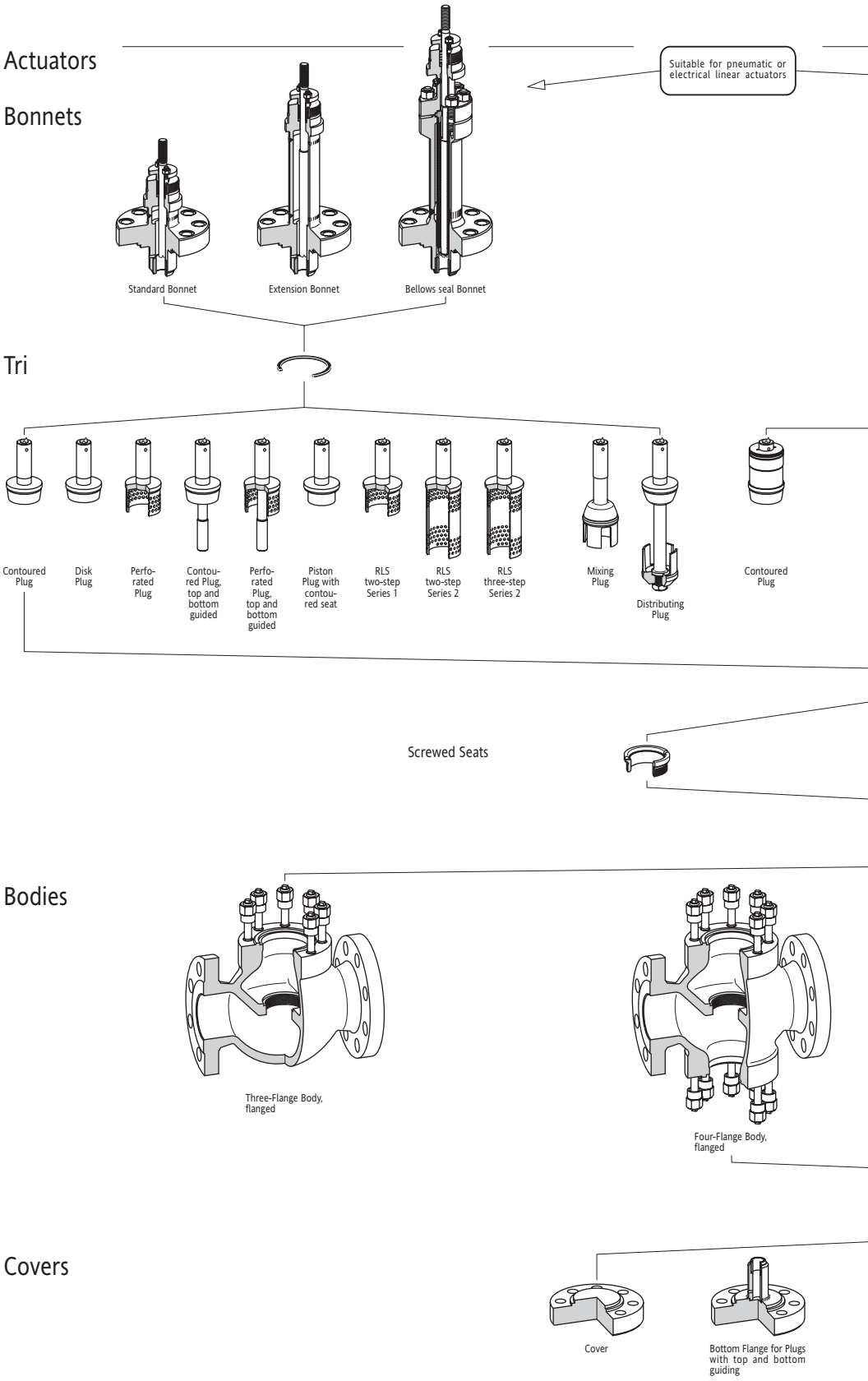
Replaceable trim

- simple maintenance since the valve body can remain in the piping when trim is replaced
- seat screwed

Wide range of application

- up to 8 kvs values are available per size
- trims are partially exchangeable

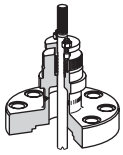
Quality assurance system certificated acc. ISO 9001/EN 29001.

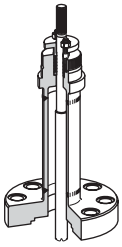


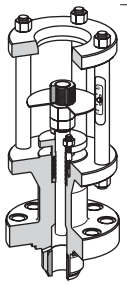
Within the series following combinations of bodies, trim, bonnets and actuators for each valve size are possible:

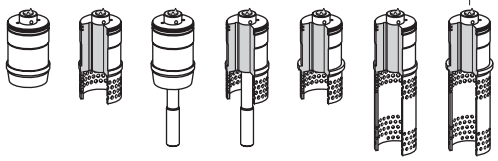
FlowPro™ - High Performance Valve

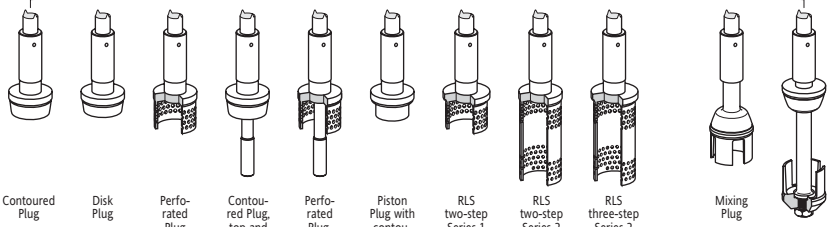
Suitable for linear thrust units and electric rotary actuators

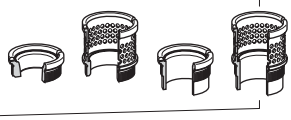

Standard Bonnet, pressure-balanced

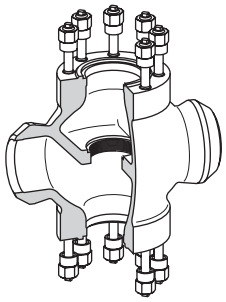

Extension Bonnet, pressure-balanced

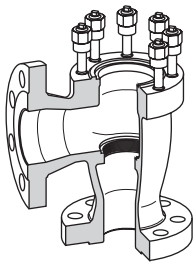

Bonnet (heavy duty design)

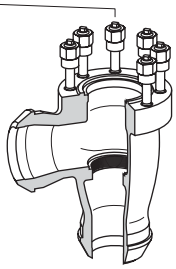

Disk Plug; Perfo-rated Plug; Contou-red Plug, top and bottom guided; Perfo-rated Plug, top and bottom guided; RLS two-step Series 1; RLS two-step Series 2; RLS three-step Series 2

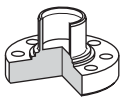

Contoured Plug; Disk Plug; Perfo-rated Plug; Contou-red Plug, top and bottom guided; Perfo-rated Plug, top and bottom guided; Piston Plug with contou-red seat; RLS two-step Series 1; RLS two-step Series 2; RLS three-step Series 2; Mixing Plug; Distributing Plug




Four-Flange Body, with Welded Ends

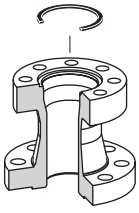

Angle Body, flanged


Angle Body, with Welded Ends


Bottom Flange with control edge for RLS, Series 2


Bottom Seat for Mixing Plug


Bottom Seat for Distributing Plug


Connection Piece for Three-Way Valve

Body with Flange Connection

Body	Material	Certificate without	Certificate with	Nominal Size DN 25	40	50	80	100	150	200	250	300
Three-Flange	1.0619			●	●	●	●	●				
	1.4581	Material certificate without	Material certificate acc. to EN 10 204 2.2 EN 10 204 3.1 EN 10 204 3.2	●	●	●	●	●				
	1.4308			●	●	●	●	●				
	1.5419	Pressure/leakage certificate without		●	●	●	●	●				
	1.6220		Pressure/leakage cert. acc. to EN 10 204 2.2 EN 10 204 3.1 EN 10 204 3.2	●	●	●	●	●				
	1.7357	Schmidt minimal Valve Standards acc. to PED 97/23EC Cat. III		●	●	●	●	●				
Four-Flange	1.0619			●	●	●	●	●	●	●	●	●
	1.4581		Schmidt valves acc. to AD - A4 TRB 801 TRD 110 Customer Standard PED 97/23EC Cat. IV	●	●	●	●	●	●	●	●	●
	1.4308			●	●	●	●	●	●	●	●	●
	1.5419			●	●	●	●	●	●	●	●	●
	1.6220			●	●	●	●	●	●	●	●	●
	1.7357			●	●	●	●	●	●	●	●	●
Angle	1.0619			●	●	●	●	●	●	●		
	1.4581			●	●	●	●	●	●	●		
	1.4308			●	●	●	●	●	●	●		
	1.5419			●	●	●	●	●	●	●		
	1.6220			●	●	●	●	●	●	●		
Three-Way	1.0619				●	●	●	●	●	●		
	1.5419				●	●	●	●	●	●		

Nominal Pressure Level, Form of Connection

Form of Connection		
Design	PN 63 - 100	PN 63 - 160
Standard	EN 1092-1, Form B2	DIN 2526, Form E
Recess	EN 1092-1, Form F	DIN 2526, Form R
Groove	EN 1092-1, Form D	DIN 2526, Form N
Lense	-	DIN 2526, Form L

PN	Nominal Size DN 25	40	50	80	100	150	200	250	300
63	●	●	●	●	●	●	●	●	●
100			●	●	●	●	●	●	●
160*						●	●	●	●

*) not allowed by Three-Way Valves !

Body with Welded End Connection

Body	Material	Certificate without	Certificate with	Nominal Size DN 25	40	50	80	100	150	200	250	300
Four-Flange	1.0619	Material resp. Pressure / leakage certificate	Material resp. Pressure / leakage certificate acc. to	●	●	●	●	●	●	●	●	●
	1.4581			●	●	●	●	●	●	●	●	●
	1.4308	Schmidt minimal Valve Standards acc. to	EN 10204 2.2, 3.1, 3.2	●	●	●	●	●	●	●	●	●
	1.5419	PED 97/23EC Kat. III	Schmidt valves acc. to	●	●	●	●	●	●	●	●	●
	1.7357		AD - A4, TRB 801, TRD 110, Customer Standard, PED 97/23EC Kat. IV	●	●	●	●	●	●	●	●	●
Angle	1.0619			●	●	●	●	●	●	●		
	1.5419			●	●	●	●	●	●	●		

Nominal Pressure Level, Form of Connection

Form of Connection	PN	Dimension	Nominal Size DN 25	40	50	80	100	150	200	250	300
Standard Welded Ends based on DIN 3239 Section 1, Table 1 (Special welded end dimensions available)	63	ød3	see PN 100					168,3	219,1	273,0	323,9
		s						5,6	7,1	8,8	11,0
	100	ød3	33,7	48,3	60,3	88,9	114,3	168,3	219,1	273,0	323,9
		s	2,6	2,6	3,2	4,0	5,0	7,1	10,0	12,5	14,2
	160	ød3	33,7	48,3	60,3	88,9	114,3	168,3	219,1	273,0	323,9
		s	3,2	3,6	4,0	6,3	8,0	12,5	16,0	20,0	22,2

Pressure-Temperature Ratings (acc. to EN 1092-1)

Body Material **W.Nr.: 1.0619, GP 240 GH**

PN (bar)	safe load operating pressure in bar at °C												
	-100	-60	-10	50	100	200	250	300	350	400	450	500	530
63			63	63	58,8	47,6	44,8	40,6	37,8	36,4			
100			100	100	93,3	75,6	71,1	64,4	60,0	57,8			
160			160	160	149,3	124,4	113,8	103,1	96,0	92,4			

Body Material **W.Nr.: 1.4581, GX 5CrNiMoNb 19-11-2**

PN (bar)	safe load operating pressure in bar at °C												
	-100	-60	-10	50	100	200	250	300	350	400	450	500	530
63		47,3	63	63	54,0	46,0	43,0	41,0	38,0	36,0			
100		75,0	100	100	86,0	83,0	69,0	65,0	61,0	57,0			
160		120,0	160	160	138,0	117,0	110,0	104,0	97,0	91,0			

Body Material **W.Nr.: 1.5419, G 20 Mo 5**

PN (bar)	safe load operating pressure in bar at °C												
	-100	-60	-10	50	100	200	250	300	350	400	450	500	530
63			63	63	63	60,2	56,0	47,6	44,8	42,0	40,6		
100			100	100	100	95,6	88,9	75,6	71,1	66,7	64,4		
160			160	160	160	135,0	126,0	117,0	110,0	107,0	103,0		

Body Material **W.Nr.: 1.7357, G 17 CrMo 5-5**

PN (bar)	safe load operating pressure in bar at °C												
	-100	-60	-10	50	100	200	250	300	350	400	450	500	530
63			63	63	63	63	61,6	57,4	53,2	50,4	47,6	38,4	21,8
100			100	100	100	100	97,8	91,1	84,4	80,0	75,6	60,9	34,7
160			160	160	160	160	156,0	146,0	135,0	128,0	121,0	97,0	56,0

Body Material **W.Nr.: 1.6220, G 20 Mn 5**

PN (bar)	safe load operating pressure in bar at °C											
	-200	-100	-60	-10	50	100	200	250	300	350	400	450	500
63			47,3	63	63	42,0	37,8	36,8	35,7				
100			75,0	100	100	66,7	60,0	58,3	56,7				
160			120,0	160	160	106,7	96,0	93,3	90,7				

Body Material **W.Nr.: 1.4308, GX 5 CrNi 19-10**

PN (bar)	safe load operating pressure in bar at °C												
	-200	-100	-60	-10	50	100	200	250	300	350	400	450	500
63	63	63	63	63	49,0	43,4	35,6	33,0	30,8				
100	100	100	100	100	77,8	68,9	56,4	52,4	48,9				
160	160	160	160	160	128,0	114,0	89,0	84,0	78,0				

Bonnet

[1] pressure balancing not possible by three-way valves, Silentpack, MultiStream, Disk Plug and Disk Plug with Contoured Seat !

Pressure Balancing	Body Material	Nominal Size	-Bonnet					
			Standard- Use: general -10 °C to +250 °C	Bellows seal- Use: toxic, smell strong, fleeting, costly media or vacuum -60 °C to +400 °C	HT Extension- Use: in case of possible overhating of packing and/or linear actuator >250 °C to +450 °C	LT Extension- Use: for reducing the danger of icing of the packing box -60 °C to +250 °C	Insulating- Use: for reducing the danger of icing of the packing box -200 °C to +250 °C	Heavy duty- Use: by rotary electric actuators and linear thrust units -10 °C to +530 °C
Unbalanced, shaft guided	1.0619	25 to 300	●	●	●	●		●
	1.4581		●	●	●	●		●
	1.5419		●		●			●
	1.7357				●			●
	1.6220					●		
	1.4308						●	
V-Ring balanced [1], suitable for Trim Material 1.4571 -60 °C up to +250 °C	1.0619	80 to 300	●			●		
	1.4581		●			●		
	1.5419		●					
	1.6220					●		
Piston-Ring balanced [1], s. f. Trim Material 1.4122 +250 °C up to +450 °C	1.0619	50 to 300			●			
	1.5419				●			

Packing Box

	Type of Packing		-Bonnet					
			Standard-	Bellows seal-	HT Extension-	LT Extension-	Insulating-	Heavy duty-
standard	PTFE-Rings	- 200 °C up to 250 °C, general use, BAM	●	●		●	●	●
	Pure Grafite-Rings	- 180 °C up to 530 °C, general use, BAM		●	●			●
loaded	PTFE-Rings	- 200 °C up to 250 °C, general use, BAM	●			●	●	
	Pure Grafite-Rings	- 180 °C up to 400 °C, general use, BAM			●			
	PTFE-Rings	- 200 °C up to 250 °C, "TA-Luft"	●			●	●	
	Pure Grafite-Rings	- 180 °C up to 400 °C, "TA-Luft"			●			

Plug

Plug Type	Characteristic	Design					Guide of Plug		Flow	
		standard	partial stellited	full stellited	hardened	tenifer treated	Top guided Seat 4 - 250	Top and bottom guided (only Four-Flange) Seat 34 - 250	Flow Action tends to open valve	Flow Action tends to close valve
Parabolic Plug general use	equal percentage	●	●	●	●		●	●	●	
	linear	●	●				●	●	●	
Disk Plug	on / off	●					●		●	●
Perforated Plug in case of cavitation, high differential pressure by gases, vapours, for reducing nois ≤ 15 dB(A)	equal percentage	●			●	●	●	●	●	●
	linear	●			●	●	●	●	●	●
Piston Plug with Contoured Seat in case of cavitation, steaming	equal percentage			●	●		●			●
RLS -Units for reducing noise ≤ 20 dB(A)	equal percentage	●				●	●	●	●	●
	linear	●				●	●	●	●	●
Mixing Plug general use	linear				●	●		●	●	
Distributing Plug general use	linear				●	●		●	●	

Parabolic Plug

Characteristic: modified-equal percentage

Kvs (m^3/h)	Port Size	Guide of Plug	Stroke (mm)	Material / Design							Incorporable seat diameter depends on nominal size DN								
				1.4571				1.4122		1.4922									
				standard	partial stellited	full stellited	soft seated	standard	hardened	standard	25	40	50	80	100	150	200	250	300
0,16	4	1	20			●			●		●								
0,25	4	1				●			●		●								
0,40	4	1		●		●		●	●	●	●								
0,63	6	1		●		●		●	●	●	●								
1,6	8	1		●		●		●	●	●	●								
2,5	10	1		●		●		●	●	●	●								
4,0	12	1		●	●	●	●	●	●	●	●								
6,3	16	1		●	●	●	●	●	●	●	●	●							
10	20	1		●	●	●	●	●	●	●	●	●	●						
16	25	1		●	●	●	●	●	●	●		●	●						
25	34	1/2*		●	●	●	●	●	●	●		●	●						
40	42	1/2		●	●	●	●	●	●	●			●						
40	42	1/2	40	●	●	●	●	●	●	●				●					
63	53	1/2		●	●	●	●	●	●	●				●	●				
100	67	1/2		●	●	●	●	●	●	●				●	●				
160	84	1/2		●	●	●	●	●	●	●					●				
160	84	1/2	80	●	●	●	●	●	●	●						●			
200	100	1/2		●	●	●	●	●	●	●						●	●		
355	125	1/2		●	●	●	●	●	●	●						●	●	●	
450	150	1/2		●	●	●	●	●	●	●							●	●	●
710	200	1/2		●	●	●	●	●	●	●								●	●
1000	250	1/2		●	●	●		●	●	●									●

Parabolic Plug

Characteristic: linear

Kvs (m^3/h)	Port Size	Guide of Plug	Stroke (mm)	Material / Design							Incorporable seat diameter depends on nominal size DN								
				1.4571				1.4122		1.4922									
				standard	partial stellited	full stellited	soft seated	standard	hardened	standard	25	40	50	80	100	150	200	250	300
4,0	12	1	20	●	●	●	●	●	●	●	●								
6,3	16	1		●	●	●	●	●	●	●	●	●							
10	20	1		●	●	●	●	●	●	●	●	●	●						
16	25	1		●	●	●	●	●	●	●		●	●						
25	34	1/2*		●	●	●	●	●	●	●		●	●						
40	42	1/2		●	●	●	●	●	●	●			●						
40	42	1/2	40	●	●	●	●	●	●	●				●					
63	53	1/2		●	●	●	●	●	●	●				●	●				
100	67	1/2		●	●	●	●	●	●	●				●	●				
160	84	1/2		●	●	●	●	●	●	●					●				
160	84	1/2	80	●	●	●	●	●	●	●						●			
200	100	1/2		●	●	●	●	●	●	●						●	●		
355	125	1/2		●	●	●	●	●	●	●						●	●	●	
450	150	1/2		●	●	●	●	●	●	●							●	●	●
710	200	1/2		●	●	●	●	●	●	●								●	●
1000	250	1/2		●	●	●		●	●	●									●

* 1 Top guided
2 Top and bottom guided with four-flange body only

Perforated Plug
Characteristic: equal percentage

Kvs (m³/h)	Port Size	Guide of Plug	Stroke (mm)	Material / Design					Incorporable seat diameter depends on nominal size DN								
				1.4571	1.4122		1.4922										
				tenifer treated	standard	hardened	standard	hardened	25	40	50	80	100	150	200	250	300
2,5	20	1	20	●	●	●	●	●	●								
4,0	20	1		●	●	●	●	●	●	●							
6,3	20	1		●	●	●	●	●	●	●	●						
10	25	1		●	●	●	●	●		●	●						
20	34	1		●	●	●	●	●		●	●						
25	42	1		●	●	●	●	●			●						
28	42	1	40	●	●	●	●	●				●					
50	53	1/2		●	●	●	●	●				●	●				
71	67	1/2		●	●	●	●	●				●	●				
100	84	1/2		●	●	●	●	●					●				
160	84	1/2	80	●	●	●	●	●						●			
200	100	1/2		●	●	●	●	●						●	●		
280	125	1/2		●	●	●	●	●						●	●	●	
400	150	1/2		●	●	●	●	●							●	●	●
500	200	1/2		●	●	●	●	●								●	●
710	250	1/2		●	●	●	●	●									●

Perforated Plug
Characteristic: linear

Kvs (m³/h)	Port Size	Guide of Plug	Stroke (mm)	Material / Design					Incorporable seat diameter depends on nominal size DN								
				1.4571	1.4122		1.4922										
				tenifer treated	standard	hardened	standard	hardened	25	40	50	80	100	150	200	250	300
2,5	20	1	20	●	●	●	●	●	●								
4,0	20	1		●	●	●	●	●	●	●							
6,3	20	1		●	●	●	●	●	●	●	●						
10	25	1		●	●	●	●	●		●	●						
20	34	1		●	●	●	●	●		●	●						
25	42	1		●	●	●	●	●			●						
28	42	1	40	●	●	●	●	●				●					
50	53	1/2		●	●	●	●	●				●	●				
90	67	1/2		●	●	●	●	●				●	●				
125	84	1/2		●	●	●	●	●					●				
160	84	1/2	80	●	●	●	●	●						●			
200	100	1/2		●	●	●	●	●						●	●		
315	125	1/2		●	●	●	●	●						●	●	●	
500	150	1/2		●	●	●	●	●							●	●	●
630	200	1/2		●	●	●	●	●								●	●
900	250	1/2		●	●	●	●	●									●

Disk Plug

Characteristic: on / off

Kvs (m^3/h)	Port Size	Guide of Plug	Stroke (mm)	Material / Design 1.4571 standard	1.4122 standard	1.4922 standard	Incorporable seat diameter depends on nominal size DN 25	40	50	80	100	150	200	250	300
10	20	1	20	●	●	●	●								
25	34	1		●	●	●		●							
40	42	1		●	●	●			●						
100	67	1	40	●	●	●				●					
160	84	1		●	●	●					●				
400	125	1	80	●	●	●						●			
500	150	1		●	●	●							●		
1000	200	1		●	●	●								●	
1400	250	1		●	●	●									●

Piston Plug with Contoured Seat

Characteristic: equal percentage

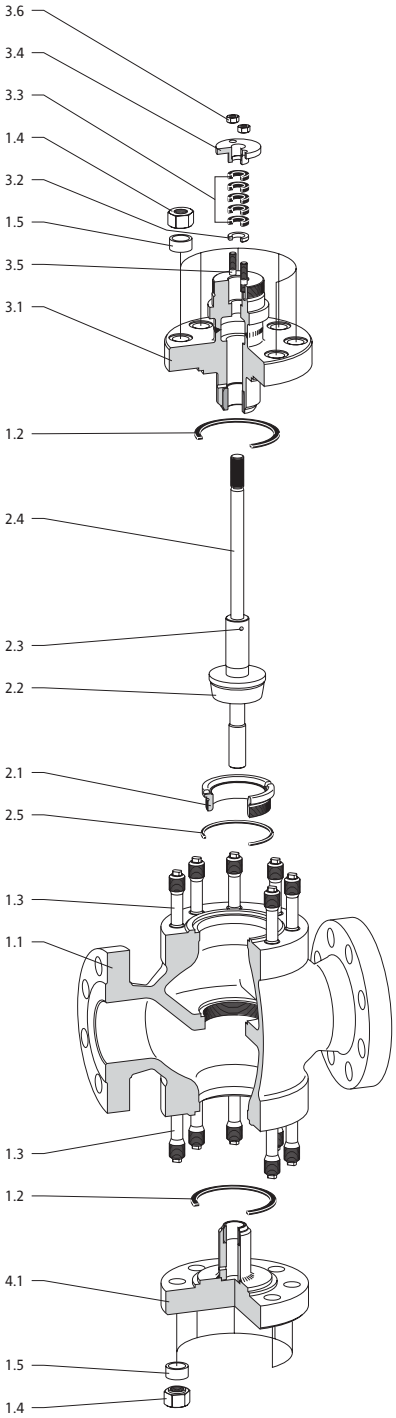
Kvs (m^3/h)	Port Size	Guide of Plug	Stroke (mm)	Material / Design 1.4571 full stellited	1.4122 hardened	Incorporable seat diameter depends on nominal size DN 25	40	50	80	100	150	200	250	300
2,5	16	1	20	●	●	●	●							
6,3	20	1		●	●	●	●	●						
10	25	1		●	●		●	●						
16	34	1		●	●		●	●						
25	42	1		●	●			●						
40	53	1	40	●	●				●	●				
63	67	1		●	●				●	●				
100	84	1		●	●					●				
160	100	1	80	●	●						●	●		
200	125	1		●	●						●	●	●	
355	150	1		●	●							●	●	●

Mixing, Distributing Plug

Characteristic: linear

Kvs (m^3/h)	Port Size	Guide of Plug	Stroke (mm)	Material / Design 1.4571 tenifer treated	1.4122 standard	1.4122 hardened	Incorporable seat diameter depends on nominal size DN 40	50	80	100	150	200
25	34	2	20	●	●	●	●					
40	42	2		●	●	●		●				
100	67	2	40	●	●	●			●			
160	84	2		●	●	●				●		
355	125	2	80	●	●	●					●	
450	150	2		●	●	●						●

Single Seat Valve suitable for Linear Actuators

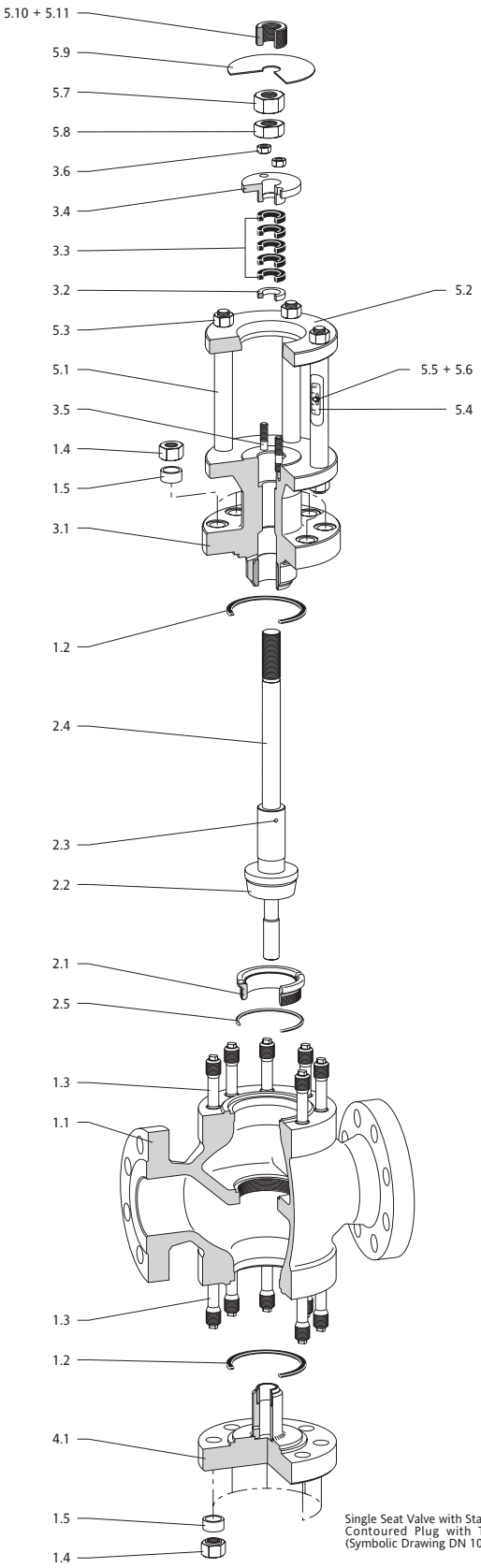


Single Seat Valve with Standard Bonnet, Contoured Plug with Top and Bottom Guiding (Symbolic Drawing DN 100, PN 160)

Designation	Part	Material			
Body	1.1	1.0619	1.5419	1.7357	1.4581
Bonnet Gasket	1.2	Pure Graphite on Support Plate from 1.4571			
Stud Bolt	1.3	G	GA		V
Hex Nut	1.4	G	GA		V
Extension Sleeve	1.5	G	GA		V
Screwed Seat	2.1	1.4571/1.4122		1.4922	1.4571
Contoured Plug	2.2	1.4571/1.4122		1.4922	1.4571
Spring Pin	2.3	A 2			
Stem	2.4	1.4571		1.4922	1.4571
Profil Ring	2.5	Pure Grafite			
Bonnet	3.1	1.0460	1.5415	1.7335	1.4571
Bottom Ring	3.2	1.4571			
Packing Box	3.3	PTFE-Rings or Pure Grafite Rings			
Gland Flange	3.4	1.0460		1.5415	1.4571
Stud Bolt	3.5	A 2 - 70			
Hex Nut	3.6	A 2 - 70			
Insert	4.1	1.0460	1.5415	1.7335	1.4571

Special Materials on request !

Single Seat Valve suitable for linear Thrust Units and electrical rotary Actuators

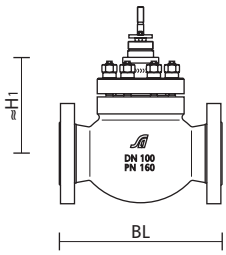


Single Seat Valve with Standard Bonnet (heavy-duty), Contoured Plug with Top and Bottom Guiding (Symbolic Drawing DN 100, PN 160

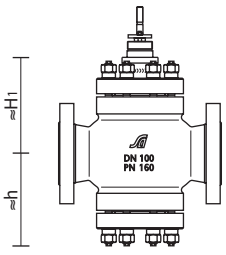
Designation	Part	Materials			
Body	1.1	1.0619	1.5419	1.7357	1.4581
Bonnet Gasket	1.2	Pure Graphite on Support Plate from 1.4571			
Stud Bolt	1.3	G	GA		V
Hex Nut	1.4	G	GA		V
Extension Sleeve	1.5	G	GA		V
Screwed Seat	2.1	1.4122	1.4122	1.4922	1.4571
Contoured Plug	2.2	1.4122	1.4122	1.4922	1.4571
Spring Pin	2.3	A 2			
Stem	2.4	1.4122	1.4122	1.4922	1.4571
Profil Ring	2.5	Pure Graphite			
Bonnet	3.1	1.0460	1.5415	1.7335	1.4571
Bottom Ring	3.2	1.4122	1.4122	1.4922	1.4571
Packing Box	3.3	Pure Graphite Rings			
Gland Flange	3.4	1.0460		1.5415	1.4571
Stud Bolt	3.5	A 2 - 70			
Hex Nut	3.6	A 2 - 70			
Insert	4.1	1.0460	1.5415	1.7335	1.4571
Yoke Rod	5.1	1.4021			
Flange	5.2	1.0038			
Hex Nut	5.3	8			
Stroke indicator Scale	5.4	Aluminium			
Hex Bolt	5.5	A 2 - 70			
Washer	5.6	A 2			
Hex Nut	5.7	8			
Hex Nut	5.8	04			
Stroke indicator Disk	5.9	1.0114			
Threaded Ring	5.10	1.1141			
Set Screw	5.11	45 H			

Special Materials on request !

Valve with Three-Flange Body

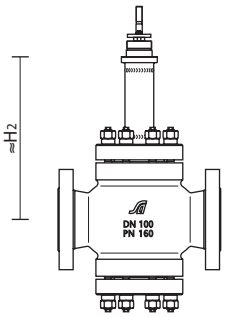


Valve with
Standard Bonnet

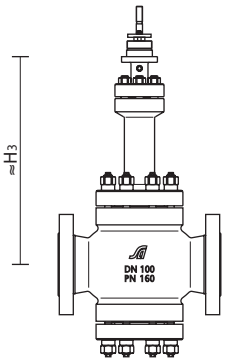


Valve with
Standard Bonnet

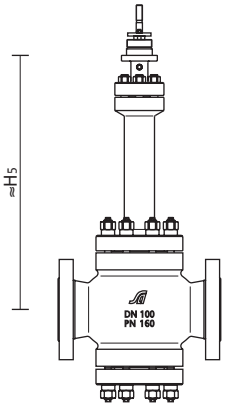
Valve with Four-Flange Body



Valve with
Extension Bonnet



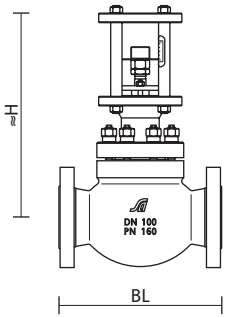
Valve with
Bellows seal Bonnet



Valve with
Insulating Bonnet

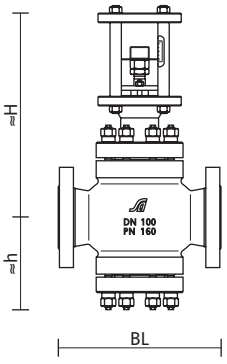
Designations		Nominal Size DN								
		25	40	50	80	100	150	200	250	300
Stroke		20			40		80			
BL Face to Face Dimensions		230	260	300	380	430	550	650	775	900
≈ h		120	135	165	195	240	315	405	480	535
≈ H_1 Standard Bonnet		160	195	215	220	255	330	410	485	535
≈ H_2 Extension Bonnet		160	195	215	390	425	505	580	655	705
≈ H_3 Bellows seal Bonnet		325	360	360	550	550	905	905	905	905
≈ H_5 Insulating Bonnet		650	650	650	650	650	670	800	800	800
≈ Weight in kg Three-Flange Body	Standard Bonnet	19,5	30	44	84	133				
	Extension Bonnet	19,5	30	44	86	136				
	Bellows seal Bonnet	26,0	38	50	98	144				
	Insulating Bonnet	26,0	38	50	98	144				
≈ Weight in kg Four-Flange Body	Standard Bonnet	23,5	34	48	91	161	320	600	981	1333
	Extension Bonnet	23,5	34	48	93	164	323	603	984	1336
	Bellows seal Bonnet	30,0	42	55	105	172	340	620	1001	1353
	Insulating Bonnet	30,0	42	55	105	172	340	620	1001	1353
Flanges Drilled and Dimensioned acc. to		EN 1092-1, Form B2, Form F, Form D resp. DIN 2501, Form E, R, N, L								
Welded Ends comply with		DIN 3239 Section 1, Table 1								

Valve with Three-Flange Body



Valve with
Standard Bonnet

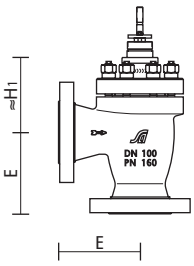
Valve with Four-Flange Body



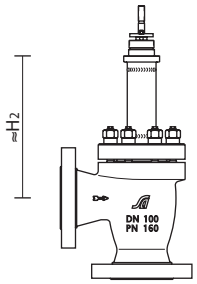
Valve with
Standard Bonnet

Designations	Nominal Size DN								
	25	40	50	80	100	150	200	250	300
Stroke	20			40		80			
BL Face to Face Dimensions	230	260	300	380	430	550	650	775	900
≈ h	120	135	165	195	240	315	405	480	535
≈ H Standard Bonnet (heavy duty)	332	371	388	560	510	813	895	925	980
≈ Weight in kg - Three-Flange Body	30	40	54	105	169				
≈ Weight in kg - Four-Flange Body	34	44	59	112	197	405	688	1077	1432
Flanges Drilled and Dimensioned acc. to	EN 1092-1, Form B2, Form F, Form D resp. DIN 2501, Form E, R, N, L								
Welded Ends comply with	DIN 3239 Section 1, Table1								

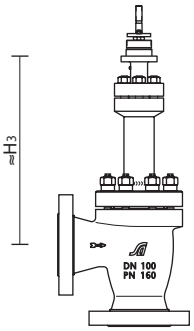
Valve with Angle Body



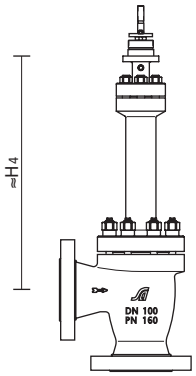
Valve with
Standard Bonnet



Valve with
Extension Bonnet



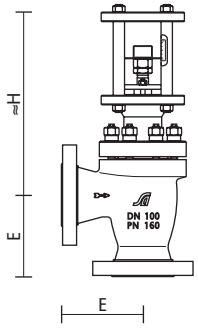
Valve with
Bellows seal Bonnet



Valve with
Insulating Bonnet

Designations		Nominal Size DN						
		25	40	50	80	100	150	200
	Stroke	20			40		80	
E Angle Dimension		115	130	150	190	215	275	325
≈H1 Standard Bonnet		140	165	180	180	200	250	300
≈H2 Extension Bonnet		140	165	180	350	370	420	470
≈H3 Bellows seal Bonnet		305	340	340	510	510	820	820
≈H3 Insulating Bonnet		630	630	630	630	630	630	690
≈ Weight in kg	Standard Bonnet	15	27	38	65	92	215	375
	Extension Bonnet	15	27	38	67	95	218	378
	Bellows seal Bonnet	22	34	43	79	103	235	380
	Insulating Bonnet	22	34	43	79	103	235	380
Flanges Drilled and Dimensioned acc. to		EN 1092-1, Form B2, Form F, Form D resp. DIN 2501, Form E, R, N, L						
Welded Ends comply with		DIN 3239 Section 1, Table 1						

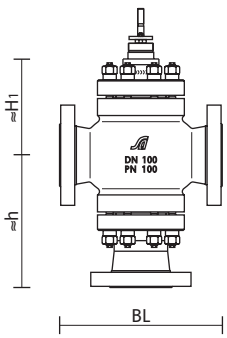
Valve with Angle Body



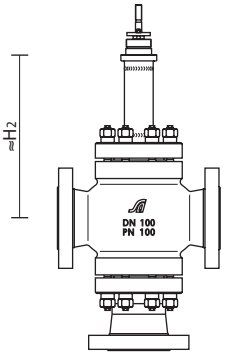
Valve with
Standard Bonnet

Designations		Nominal Size DN						
		25	40	50	80	100	150	200
	Stroke	20			40		80	
E Angle Dimension		115	130	150	190	215	275	325
≈H Standard Bonnet (heavy duty)		311	342	353	519	455	430	785
≈ Weight in kg		26	36	47	86	128	300	463
Flanges Drilled and Dimensioned acc. to		EN 1092-1, Form B2, Form F, Form D resp. DIN 2501, Form E, R, N, L						
Welded Ends comply with		DIN 3239 Section 1, Table 1						

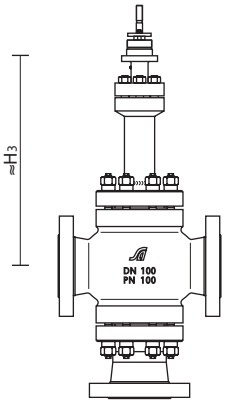
Three-Way Valve



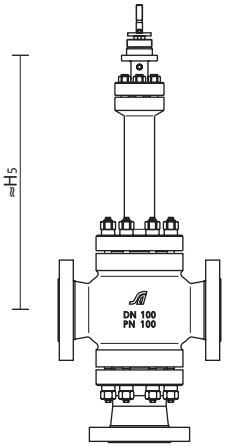
Valve with
Standard Bonnet



Valve with
Extension Bonnet



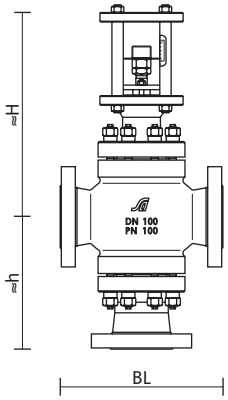
Valve with
Bellows seal Bonnet



Valve with
Insulating Bonnet

Designations		Nominal Size DN					
		40	50	80	100	150	200
	Stroke	20		40		80	
BL Face to Face Dimensions		260	300	380	430	550	650
≈ h		240	250	310	350	450	550
≈ H_1 Standard Bonnet		195	215	220	255	330	410
≈ H_2 Extension Bonnet		195	215	390	425	505	580
≈ H_3 Bellows seal Bonnet		360	360	550	550	905	905
≈ H_5 Insulating Bonnet		650	650	650	650	670	800
≈ Weight in kg	Standard Bonnet	40	56	105	176	348	654
	Extension Bonnet	40	56	105	178	351	656
	Bellows seal Bonnet	48	64	118	193	385	674
	Insulating Bonnet	48	64	118	193	385	674
Flanges Drilled and Dimensioned acc. to		EN 1092-1, Form B2, Form F, Form D resp. DIN 2501, Form E, R, N, L					

Three-Way Valve

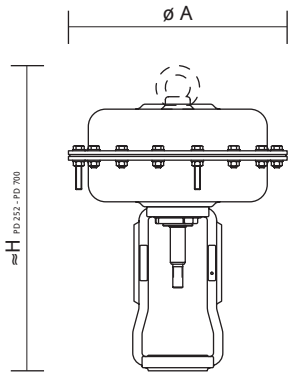


Valve with
Standard Bonnet

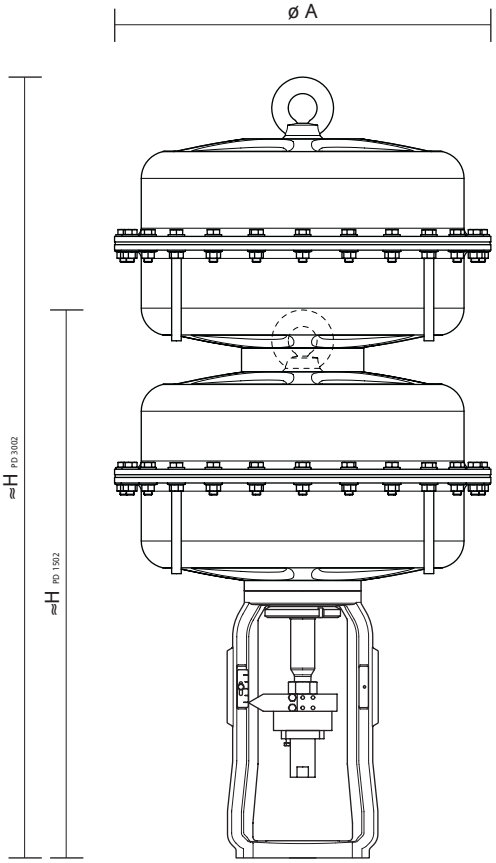
Designations		Nominal Size DN					
		40	50	80	100	150	200
	Stroke	20		40		80	
BL Face to Face Dimensions		260	300	380	430	550	650
≈ h		240	250	310	350	450	550
≈ H Standard Bonnet (heavy duty)		371	388	560	510	813	895
≈ Weight in kg		50	67	126	212	433	742
Flanges Drilled and Dimensioned acc. to		EN 1092-1, Form B2, Form F, Form D resp. DIN 2501, Form E, R, N, L					

Pneumatic linear Actuator

with NAMUR-Yoke

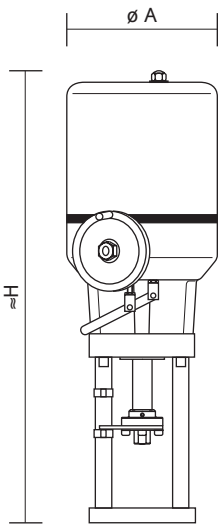


Designation	Area	250	500		700	
	Stroke	20 mm	20 mm	40 mm	20 mm	40 mm
ø A	mm	265	352	352	405	405
≈ H	mm	330	420	450	545	545
≈ Weight	kg	16	31	40	46	46



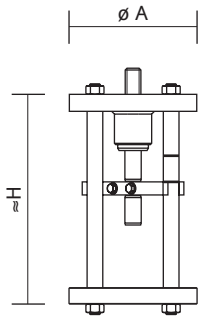
Designation	Area	1500	3000
	Stroke	20 / 40 / 80 mm	40 / 80 mm
ø A	mm	548	548
≈ H	mm	800	1140
≈ Weight	kg	124	240

Haselhofer - Electric linear Actuator



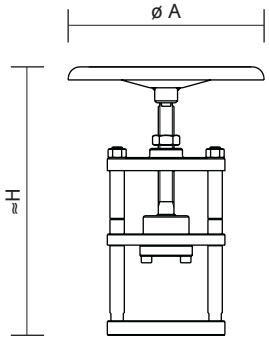
Designation	Actuator	ED 1,2	ED 4,5	ED 8	ED 12	ED 20	ED 25
	Stroke	20 mm	20/40 mm	20 / 40 / 80 mm			80 mm
ø A	mm	145	145	184	184	216	216
≈ H	mm	505	535	570	570	660	660
≈ Weight	kg	6,5	7,5	13	13	19	19

Linear thrust Unit “light”



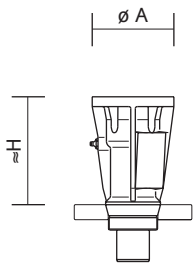
Designation	Thrust Unit	LD 12	LD 16	LD 20
	Stroke	20 mm	40 mm	80 mm
ø A	mm	196	196	196
≈ H	mm	240	320	407
≈ Weight	kg	12	17	20

Manual Operation



Designation	Manual Operation	HD 12	HD 16	HD 20
	Stroke	20 mm	40 mm	80 mm
ø A	mm	300	300	400
≈ H	mm	400	450	480
≈ Weight	kg	17	17	18

Linear thrust Unit “heavy”



Designation	Thrust Unit	SD 15	SD 35	SD 36	SD 75	SD120	SD200	SD300
	Stroke	20 / 40 mm		80 mm				
ø A	mm	125	125	175	175	175	210	300
≈ H	mm	165	165	290	280	280	335	410
≈ Weight	kg	7,5	7,5	25	22	22	46	93

SPM - Code

Typ	DN	PN	Body/Cert.	Plug	Seat	kvs	Trim	Actuator
V724 **DEVNA**	**50**	**160**	**1.0619/OOAO**	**PONP1GG**	**42**	**40**	**1.4571**	

Body Form

Three-Flange	D
Four-Flange	V
Angle	E
Three-Way	W

Form of Connection

Flange acc. to EN 1092-1	Form B2	M
	Form D	Q
	Form F	Y
Flange acc. to DIN 2526	Form E	E
	Form N	N
	Form R	R
	Form L	L
Welded Ends acc. to DIN 3239		S

Bonnet Form

without Pressure Balancing	V
with V-Ring Balancing	O
with Piston-Ring Balancing	K
heavy duty	S

Bonnet Assembly

Standard Bonnet	N
Bellows seal Bonnet	F
HT-Extension Bonnet	R
LT-Extension Bonnet	K
Insulating Bonnet	I

Packing Box Assembly

Teflon-Rings, adjustable, BAM	A
Graphite-Rings, adjustable, BAM	B
Teflon-Rings, loaded, BAM	N
Graphite-Rings, loaded, BAM	O
Teflon with Graphite, loaded, "TA"	Q
Graphite-Rings, loaded, "TA"	V

Nominal Size 25 - 300

Nominal Pressure

PN 63	63
PN 100	100
PN 160	160

Body Material

1.0619
1.4581
1.5419
1.7357
1.6220
1.7357

Materials acc. to international Standards for Pressure Stressed Parts

Standards for Materials

without TRD	DGRL (Standard)	O . . .
	AG 1	H . . .
	AG 2	I . . .
TRB 801	AG A	P . . .
	AG B	R . . .
	AG C1	U . . .
	AG C2	T . . .

Certificates for Materials

without		. O . .
EN 10 204	2.2	. Z . .
	3.1 (Survay of Cert.)	. B . .
	3.1 (CMTR)	. D . .
	3.2	. A . .

1.4571 Plug, Seat Material
1.4122
1.4922

kvs - Value 0,16 - 1600

Port Size 4 - 250

Flow tends top open Valve G
Flow tends to close Valve I

Characteristic

modified - equal percentage	G
linear	L
on / off	A
modified - equal percentage with Special Rangeability	H

Plug Guidance

Top	1
Top and Bottom	2

Seat Leakage

IEC	Class III	O
	Class IV	P
	Class IV - S1	Q
	Class IV - S2	R
	Class V	S
	Class VI	T
EN 12 266	LR A (DIN 3230 BN)	A
	LR A (DIN 3230 BO)	B

Plug Form

standard	N
partial stellited	D
contour stellited	K
soft seated	W
hardened	H
nitrided	T

Plug

Cont. Plug without Silent-Set	P O
with Silentpack	P K
with MultiStream Type C	P C
with MultiStream Type D	P D
with MultiStream Type E	P E
with MultiStream Type F	P F
with MultiStream Type G	P G
with MultiStream Type H	P H
with MultiStream Type I	P I
with MultiStream Type Q	P Q
with MultiStream Type W	P W
Disk Plug	T O
Multi-Hole Plug	L O
RLS-Unit, 2-step, Series I	A O
RLS-Unit, 2-step, Series II	B O
RLS-Unit, 3-step, Series II	D O
Seat characteristic	S O
Mixing Plug	M O
Distributing Plug	V O

Standards and Certificates for final test

Standards for final test

without	EN 1349 (Standard)	. . A .
DGRL	Kat. IV	. . M .

Certificates for final test

without		. . . O
EN 10 204	2.2	. . . Z
	3.1	. . . B
	3.2	. . . A

PD 252 ADYOZ

Operation on air failure

A	Stem retracted
Z	Stem extracted

Hand Wheel

O	without
L	top, light-weight-variant PD 252 + 502
H	top, heavy-duty-variant PD 252 - 700
S	lateral PD 1502 - 3002

Spring Range

		Actuator Size	Stroke
AD	0,2 - 1,0	PD 252 - 502	20
AD	0,2 - 1,0	PD 502 - 3002	40
AD	0,2 - 1,0	PD 1502 - 3002	80
GF	0,4 - 2,0	PD 1502 - 3002	40, 80
BL	0,5 - 1,9	PD 252 - 502	20
BL	0,5 - 1,9	PD 502 - 700	40
KI	0,75 - 1,4	PD 1502 - 3002	40, 80
MU	0,8 - 1,6	PD 1502	20
DY	1,0 - 2,4	PD 252 - 502	20
DY	1,0 - 2,4	PD 502 - 700, 3002	40
DY	1,0 - 2,4	PD 3002	80
EP	1,3 - 2,1	PD 3002	40, 80
VI	1,5 - 2,1	PD 1502	20
VC	1,5 - 2,7	PD 252 - 700	20
VC	1,5 - 2,7	PD 502 - 1502	40
VC	1,5 - 2,7	PD 1502	80
VI	1,5 - 3,8	PD 252 - 502	20
VI	1,5 - 3,8	PD 502 - 700	40
JC	1,8 - 2,7	PD 700	20
FY	2,0 - 3,5	PD 1502	40, 80
FY	2,0 - 4,8	PD 252 - 502	20
FY	2,0 - 4,8	PD 502 - 700	40
AJ	2,6 - 4,2	PD 1502	40, 80

Actuator Color

A	blue
B	white
C	yellow

Actuator Size with NAMUR-Yoke

	Actuator Size	Stroke
PD 252	250 cm²	20
PD 502	500 cm²	20, 40
PD 700	700 cm²	20, 40
PD 1502	1500 cm²	20, 40, 80
PD 3002	3000 cm²	40, 80

ED 8/8 ZPO 50

Positioning Speed

13,5	13,5 mm/min
17	17 mm/min
25	25 mm/min
50	50 mm/min

Positioning Electronics

O	without
M	Positioning Electronics, input in mA
V	Positioning Electronics, input in V

Positioning Feedback

O	without
P	1000 Ohm potentiometerΩ
M	4 - 20 mA positioning feedback

Mains Power

Z	alternating current 230 V, 50 Hz
D	alternating current 400 V, 50 Hz
G	direct current 24 V

Haselhofer - Electric linear Actuator

ED 1,2/1,2	Actuating Power 1,2 kN
ED 4,5/2	Actuating Power 2 kN
ED 4,5/4,5	Actuating Power 4,5 kN
ED 8/6	Actuating Power 6 kN
ED 8/8	Actuating Power 8 kN
ED 12/12	Actuating Power 12 kN
ED 20/15	Actuating Power 15 kN
ED 20/20	Actuating Power 20 kN
ED 25/25	Actuating Power 25 kN

LD 16

Linear thrust Unit “light”

	Thrust	Stroke	Torque	ISO5210
LD 12	10,4 kN	20 mm	30 Nm	F10
LD 16	17,3 kN	≤40 mm	50 Nm	F10
LD 20	27,7 kN	≤80 mm	80 Nm	F10

SD 15

Linear thrust Unit “heavy”
(only SN-bonnet)

	Thrust	Stroke	Torque	DIN3210
SD 15	15 kN	≤40 mm	30 Nm	G0
SD 35	35 kN	≤40 mm	100 Nm	G0
SD 36	35 kN	≤80 mm	100 Nm	G0
SD 75	77 kN	≤80 mm	250 Nm	G1/2
SD 120	121 kN	≤80 mm	500 Nm	G1/2
SD 200	181 kN	≤80 mm	1000 Nm	G3
SD 300	288 kN	≤80 mm	1700 Nm	G3
SD 300	288 kN	≤80 mm	1700 Nm	G4

HD 16

Manual Operation

	Thrust	Stroke
HD 12	13 kN	20 mm
HD 16	23 kN	40 mm
HD 20	30 kN	80 mm

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Experience In Motion