



FlowPak™
General Application Valve
DN 15 - 100, PN 10 / 40



Experience In Motion

Application

Control of gases, vapours and liquids.

The modular concept of valve, multi spring actuator and our standard Positioner facilitates trouble free expansion to allow for the communication capability of the **FLOWPAK** Valve System.

Optionally also using a PSL electric linear actuator.

With its simple design the **FLOWPAK** modular concept has a wide range of application.

Product features

Compact overall height

Body shape gives optimum flow characteristics

- Largest possible kvs-values
- Excellent flow dynamics when correctly selected

Long service life and operational reliability

- Low clearance double guided valve stem achieved by an additional guide bushing, thus minimizing vibration and wear

Replaceable trim

- Simple maintenance as the valve body remains in the piping when trim is replaced
- Seat = DN, screwed seat

Wide range of application

- Trims are generally interchangeable

Quick delivery

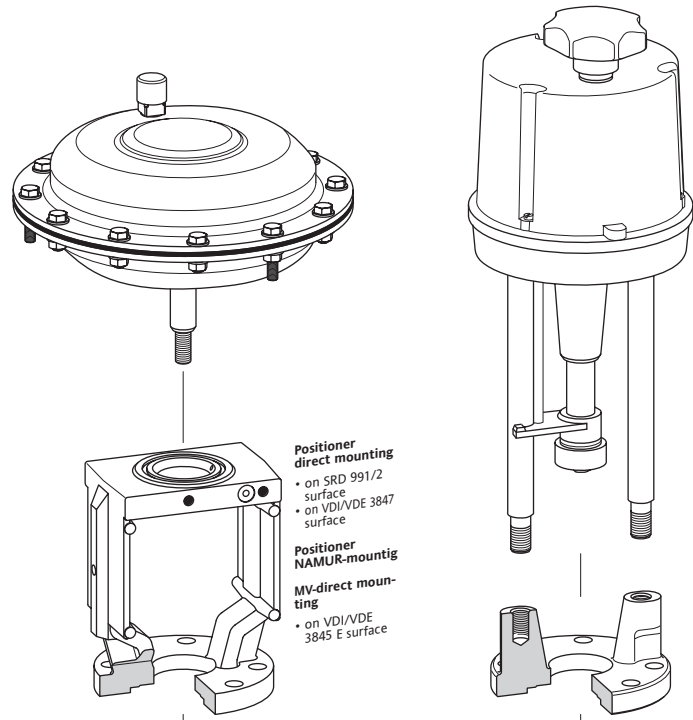
- **FLOWPAK** Control Valves can be delivered within 48 hours

Quality assurance system certified acc. EN ISO 9001 : 2000 including product development.

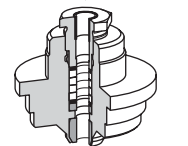
Schmidt minimal Valve Standards acc. to the Pressure Equipment Directive 97/23/EC Module H

The System

Actuators



Bonnets



Trim

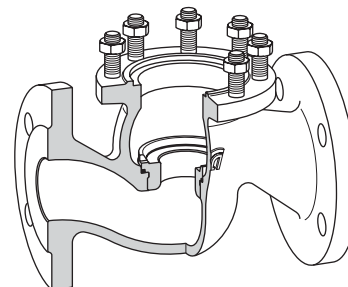
Contoured Plug



Gasket



Body



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

Form of Connection, Nominal Pressure Range

We reserve the right to deliver valve connections acc. to DIN 2526 during the adaption to EN 1092-1 !

Form of Connection		Nominal Pressure	Nominal Size DN										
Connection Face Type acc. to EN 1092-1	Form B1 Form F Form D	•	15	20	25	32	40	50	65	80	100		
			PN 16	•	•	•	•	•	•	•	•	•	•
			PN 40	•	•	•	•	•	•	•	•	•	•

Pressure-Temperature Ratings (according to DIN 2401)

Nominal Pressure	Body Material	Service Temperatures in °C	-200	-85	-60	-10	0	120	200	250	300	350	400	450	500
PN 16	1.0619	Working Pressure in bar				16	14,9	13,9	12,4	11,4					
	1.4581					16	16	13	13	12					
PN 40	1.0619	Working Pressure in bar				40	37,3	34,7	30,2	28,4					
	1.4581					40	40	34	32	29					

Packing Box

Type of Packing		Bonnet	
		Standard Bonnet	Standard Bonnet suitable for PSL-Actuator
PTFE-Rings	- 10 °C + 250 °C, BAM	•	•
PTFE-V-ring, Spring loaded	- 10 °C + 250 °C, maintenance free	•	•
PTFE-Rings, Spring loaded	- 10 °C + 230 °C, "TA-Luft", maintenance free	•	•

Contoured Plug

Characteristic: **modified-equal percentage or linear**

¹⁾ Only for characteristic modified-equal percentage !
²⁾ Seat Facing for seat diameter < 10 mm = 10 mm

k _{vs} (m ³ /h)	Port Size	Material / Design				Incorporable seat diameter depends on nominal size								
		1.4571				15	20	25	32	40	50	65	80	100
		standard	partial stellited	full stellited	soft-seated ²⁾	Stroke = 20 mm						40 mm		
0,16	4 ¹⁾			•		•	•	•						
0,25	4 ¹⁾			•		•	•	•						
0,40	4 ¹⁾			•		•	•	•						
0,63	6 ¹⁾	•		•	•	•	•	•						
1,0	8 ¹⁾	•		•	•	•	•	•						
1,6	8 ¹⁾	•		•	•	•	•	•						
2,5	10 ¹⁾	•		•	•	•	•	•						
4,0	12	•	•		•	•	•	•						
5,6	16	•	•		•	•	•	•						
6,3	16	•	•		•	•	•	•						
8	20	•	•		•	•	•	•						
10	20	•	•		•	•	•	•	•					
14	25	•	•		•	•	•	•						
16	25	•	•		•	•	•	•	•					
22,4	34	•	•		•	•	•	•						
25	34	•	•		•	•	•	•	•					
31,5	40	•	•		•	•	•	•						
40	42	•	•		•	•	•	•	•					
47,5	50	•	•		•	•	•	•	•	•				
63	53	•	•		•	•	•	•	•	•	•			
80	67	•	•		•	•	•	•	•	•	•	•		
100	67	•	•		•	•	•	•	•	•	•	•	•	
125	80	•	•		•	•	•	•	•	•	•	•	•	
160	84	•	•		•	•	•	•	•	•	•	•	•	•
180	100	•	•		•	•	•	•	•	•	•	•	•	•

Leakage-class acc. DIN/IEC 534 Teil 4 resp. ANSI/FCI 70-2 - 1991

Plug with Pressure Balancing	Plug Design	Leakage-class acc. DIN/IEC 534	Test Medium	Test Pressure (bar)	max. Seat Leakage in % of kvs
Unbalanced	metal-to-metal seated	IV	Water	Working Pressure, max. 4	0,01
	metal-to-metal seated, reseated	IV-S1	Water	Working Pressure, max. 4	0,0005
	soft seated	VI	Air	Working Pressure, max. 4	0,0 - bubble-tight

Multi-Spring Actuator

Actuators are selected for use on FLOWPAK:

Effective area (cm ²)	Air supply (bar)	Spring ranges (bar)
125	2,9	1,5 - 2,7 *
	5,0	2,0 - 4,8
250	2,9	1,5 - 2,7
	5,0	2,0 - 4,8
500	2,9	1,5 - 2,7
	5,0	2,0 - 4,8
700	2,9	1,5 - 2,7
	5,0	2,0 - 4,8

* only using with a positioner and PTFE-V-ring !

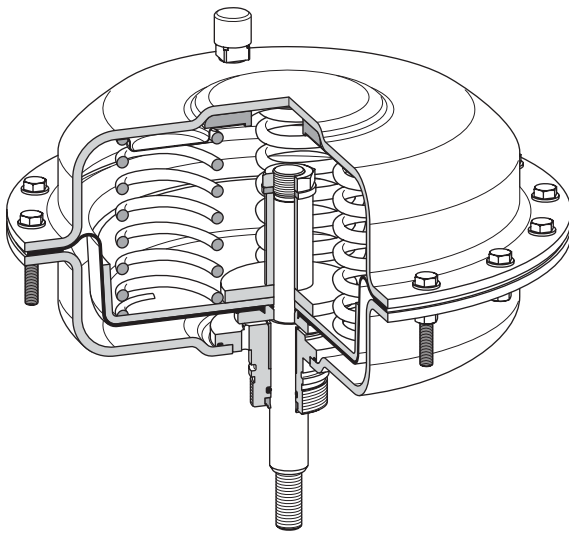
Actuator Selection for:

Operation: **Spring extracted Stem**, Air retracted
 Flow: **tends to open Valve**, without Pressure Balancing, p₂ = 0
 Packing Box: **PTFE**
 Bonnet: **Standard-Bonnet**

Seat ø	DN	Effective area (cm ²)	max. differential pressure in bar for actuator selection							
			125		250		500		700	
			1,5 - 2,7	2,0 - 4,8	1,5 - 2,7	2,0 - 4,8	1,5 - 2,7	2,0 - 4,8	1,5 - 2,7	2,0 - 4,8
Spring ranges (bar)		Air (bar)		Air (bar)		Air (bar)		Air (bar)		
6	15, 20, 25	Stroke 20 (mm)	40	40	40	40				
8			40	40	40	40				
10			40	40	40	40				
12			40	40	40	40				
16	15, 20, 25, 32		40	40	40	40				
20	20, 25, 32, 40		38	40	40	40				
25	25, 32, 40, 50		23	36	40	40				
34	40, 50		11	18	31	40				
40	40		7,0	12	22	32				
42	50		6,0	11	20	29				
50		3,7	7,0	13	20					
42		65					40	40	40	40
53	65, 80					27	38	40	40	
67	80, 100					16	23	25	35	
80	80					11	16	17	24	
84	100					10	14	15	22	
100						7,0	10	11	15	

Using the FOXPAK valve system in the grey fields requires special knowledges and is recommended only for moderate operating conditions !

FlowPak™ - General Application Valve



Effective area (cm ²)	Air supply (bar)	Spring ranges (bar)
125	3,5	0,5 - 1,9
	5,0	0,5 - 1,9
250	3,5	0,2 - 1,0
	5,0	0,2 - 1,0
500	3,5	0,2 - 1,0
	5,0	0,2 - 1,0
700	3,5	0,2 - 1,0
	5,0	0,2 - 1,0

Actuator Selection for:

Operation: **Spring retracted Stem**, Air extracted
 Flow: **tends to close Valve**, without Pressure Balancing, p₂ = 0
 Packing Box: **PTFE**
 Bonnet: **Standard-Bonnet**

Seat ø	DN	Effective Area (cm ²)	max. differential pressure in bar for actuator selection							
			125		250		500		700	
			0,5 - 1,9	0,5 - 1,9	0,2 - 1,0	0,2 - 1,0	0,2 - 1,0	0,2 - 1,0	0,2 - 1,0	0,2 - 1,0
Spring Range (bar)		Air (bar)		Air (bar)		Air (bar)		Air (bar)		
6	15, 20, 25	Stroke 20 (mm)	40	40	40	40				
8			40	40	40	40				
10			40	40	40	40				
12			40	40	40	40				
16	15, 20, 25, 32		40	40	40	40				
20	20, 25, 32, 40		40	40	40	40				
25	25, 32, 40, 50		26	40	40	40				
34	40, 50		12	33	40	40				
40	40		8,0	23	40	40				
42	50		7,0	21	38	40				
50			4,3	14	26	40				
42	65		40					40	40	40
53	65, 80						40	40	40	40
67	80, 100						30	40	40	40
80	80						21	36	31	40
84	100						19	32	28	37
100							13	22	19	26

Product features

SRI990 Analog Positioner (direct mounting !)

Product Specification PSS EVE 0107 A

- Configuration by means of switches and potentiometers
- Low air consumption
- Supply air pressure up to 6 bar (90 psig)
- Attachment to stroke actuators directly or acc. to IEC 534 part 6 (NAMUR)
- Protection class IP 65 and NEMA 4X
- Explosion protection: EEx ia IIC acc. to CENELEC or “Intrinsic safety” acc. to FM and CSA
- Additional equipments
- Integrated inductive limit switches
- Gauge attachment
- Booster relay

SRD992 Digital Positioner (direct mounting !)

Product Specification PSS EVE 0106 A

Technical data same as SRI990 with additional features

- Autostart with self-calibration
- Selfdiagnostics
- Configuration by means of local keys and LEDs
- Position feedback

SRD991 Intelligent Positioner (direct mounting !)

Product Specification PSS EVE 0105 A

Technical data same as SRD992 with additional features

- Self diagnostics, status- and diagnostic messages
- Communication HART, FoxCom, PROFIBUS-PA or FOUNDATION Fieldbus H1
- Configuration by means of local keys, hand-held terminal, PC or I/A Series system
- Sensors for supply air pressure and output pressure optional
- Additional Inputs / outputs

SRP981 Pneumatic Positioner

Product Specification PSS EVE 0101 A

- Input signal range 0,2 - 1,0 bar (split range up to 4-fold possible)
- Independent adjustment of stroke range and zero
- Low vibration effect in all directions
- Supply pressure up to 6 bar
- Single or double-acting
- Mounting according to IEC 534, part 6 (NAMUR)
- Electrical limit switches optional
- Connection manifold optional
- Booster optional

FRS 107 Airset

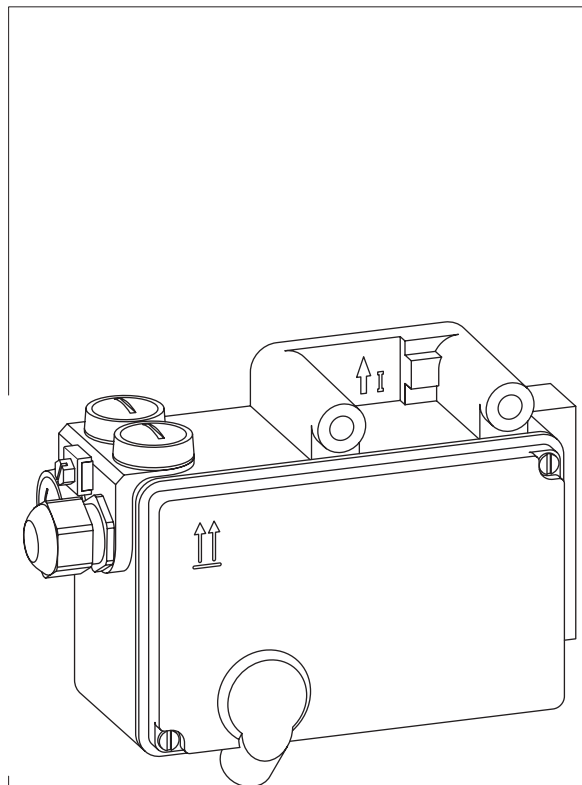
- Max. supply pressure up to 10 bar
- Output range 0,3 - 10 bar
- Filter 5 µm
- Manually operated drain
- With gauge

MV - valve (direct mounting !)

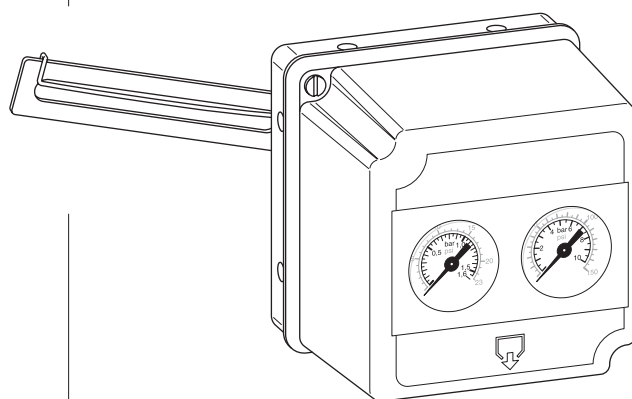
Tubing

- without, by direct mounting
- Steel, chromatised
- Stainless steel

Any further information see product specifications sheet.



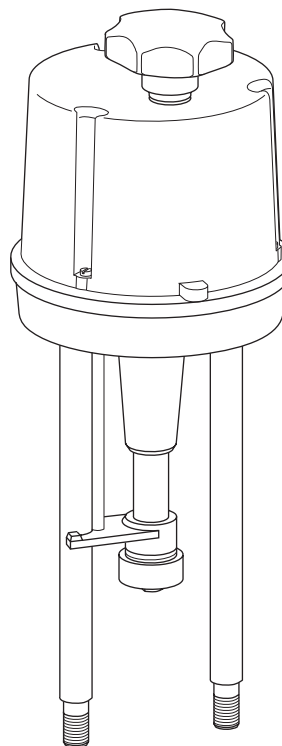
SRD992 Digital Positioner



SRP 981 Pneumatic Positioner

PSL-Actuator

Actuators are selected for use on FLOWPAK:



Linear Actuator	Voltage	Power input
AP 102	alternating current 230 V, 50 Hz	11,9 W
AP 202		11,9 W
AP 204		21 W
AP 208		49 W

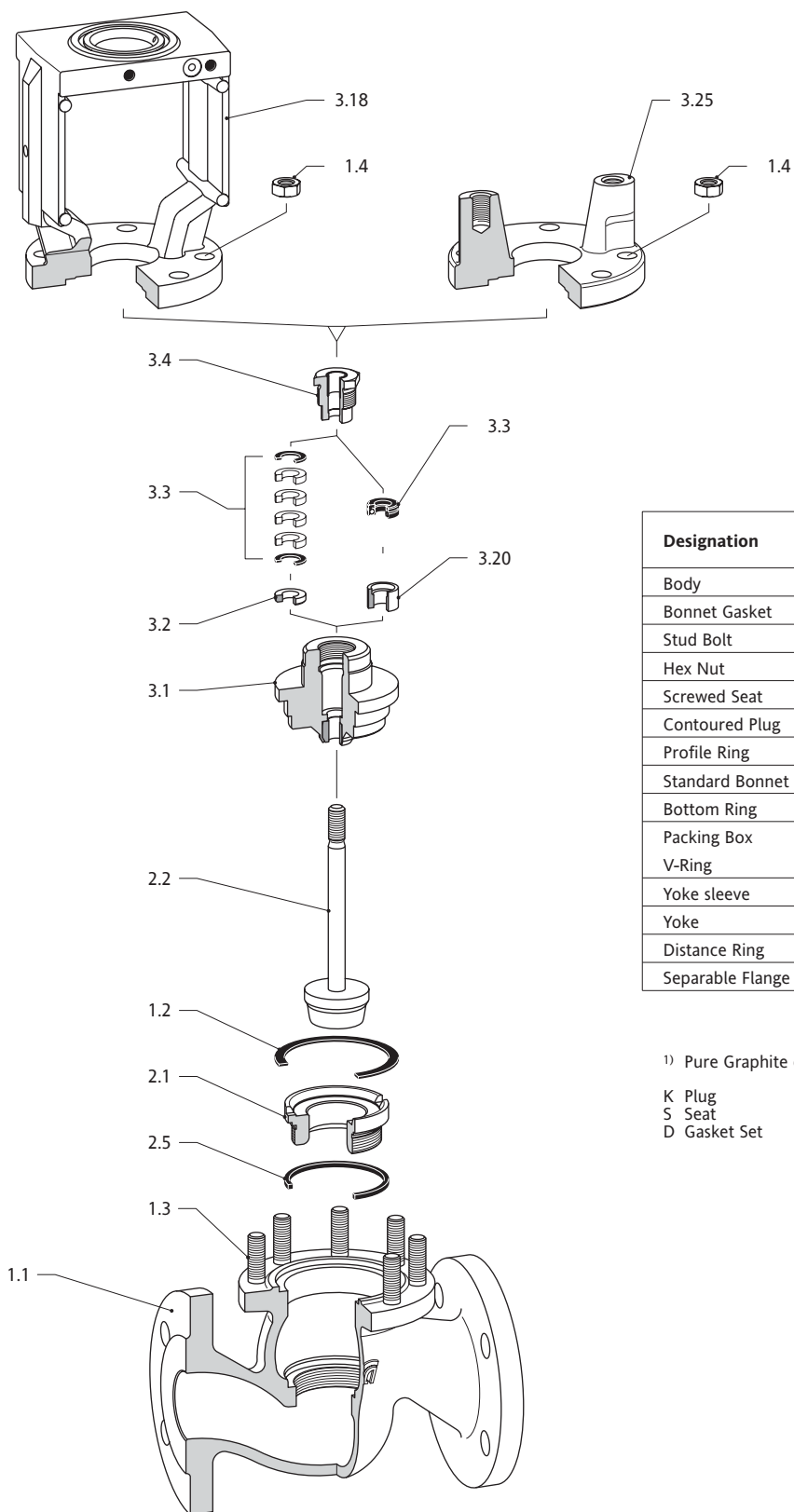
Actuator Selection for:

Operation: **Stem retracted or extracted**
 Flow: **tends to open Valve**, without Pressure Balancing, p₂ = 0
 Packing Box: **PTFE**
 Bonnet: **Standard-Bonnet**

Seat ø	DN	Stroke (mm)	max. differential pressure in bar for actuator selection			
			AP 102 A.p. 2 kN	AP 202 A.p. 2 kN	AP 204 A.p. 4,5 kN	AP 208 A.p. 8 kN
4	15, 20, 25	20	40	40	40	
6			40	40	40	
8			40	40	40	
10			40	40	40	
12			40	40	40	
16			15, 20, 25, 32	40	40	40
20	20, 25, 32, 40		40	40	40	
25	25, 32, 40, 50		26	26	40	
34	40, 50		12	12	40	
40	40		8,0	8,0	28	
42	50		7,0	7,0	25	
50			4,0	4,0	17	
42		65			23	40
53	65, 80	40			13	29
67	80, 100				8,0	18
80	80				5,0	12
84	100				4,0	11
100					3,0	7,0

Using the FOXPAK valve system in the grey fields requires special knowledges and is recommended only for moderate operating conditions !

Parts List

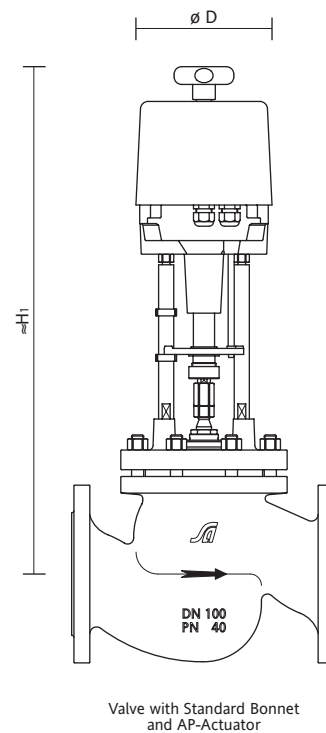
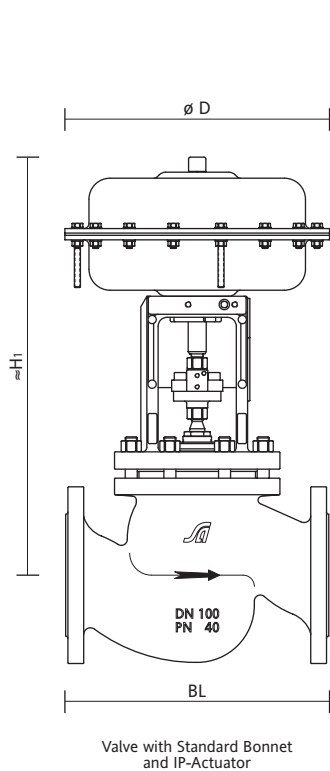


Designation	Part	Materials		Spare Parts
Body	1.1	1.0619	1.4581	
Bonnet Gasket	1.2	Pure Graphite ¹⁾		D
Stud Bolt	1.3	G	A2-70	
Hex Nut	1.4	G	A2-70	
Screwed Seat	2.1	1.4571		S
Contoured Plug	2.2	1.4571		K
Profile Ring	2.5	Pure Graphite		S
Standard Bonnet	3.1	1.0460	1.4571	
Bottom Ring	3.2	1.4571		
Packing Box	3.3	PTFE-Rings, PTFE-Graphite Rings		D
V-Ring		PTFE-Graphite		
Yoke sleeve	3.4	1.4571 / Iglidur X		
Yoke	3.18	0.7043		
Distance Ring	3.20	1.4571		
Separable Flange	3.25	0.7043		

¹⁾ Pure Graphite on Support Plate from 1.4401

K Plug
S Seat
D Gasket Set

Dimensions and Weights



Designations			Nominal Size DN								
			15	20	25	32	40	50	65	80	100
	ø D		Stroke 20 mm						40 mm		
BL Face to Face Dimensions			130	150	160	180	200	230	290	310	350
≈ H1 for Standard Bonnet	IP 127	198	355	355	355	355	355	360			
	IP 252	265	365	365	365	365	365	370			
	IP 502	352							540	540	540
	IP 700	405							650	650	650
	AP 102	177	508	508	508	525	525	578			
	AP 202	177	508	508	508	525	525	578			
	AP 204	177	508	508	508	525	525	578	631	631	635
	AP 208	177							669	669	673
≈ Weight in kg for Standard Bonnet, without Accessories	IP 127		13	13	15	18	20	24			
	IP 252		18	18	20	23	25	29			
	IP 502								57	65	80
	IP 700								68	76	91
	AP 102		10	11	12	15	17	21			
	AP 202		10	11	12	15	17	21			
	AP 204		10	11	12	16	17	22	37	44	58
	AP 208								39	46	60
Flanges Drilled and Dimensioned acc. to			DIN 2501, Form C, D, R, N								

SPM - Code

Type	DN	PN	Body/Cert.	Plug	Seat	kvs	Trim	Actuator
V725 DKFNA	50	40	1.0619/OOAO	PONP1GG	42	40	1.4571	

Body Form
Three-Flange D

Form of Connection
Flange acc. to EN 1092-1
Form B1 K
Form F Q
Form D Y

Bonnet Form
without Pressure Balancing F

Bonnet Assembly
Standard Bonnet N
Standard Bonnet for PSL-Sct. P

Packing Box Assembly
Teflon-Rings, adjustable, BAM A
V-Ring Packing T
Teflon-Rings, loaded, "TA" U

Nominal Size 15 - 100

Nominal Pressure PN 16 16
PN 40 40

Body Material 1.0619
1.4581

Standards and Certificates for Pressure Stressed Materials

Standards for Materials
without DGRL (Standard) O . . .
TRB 801 AG A P . . .
AG B R . . .

Certificates for Materials
without . O . .
EN 10 204 2.2 . Z . .
3.1 (Survey of Cert.) . B . .
3.1 (CMTR) . D . .

Standards and Certificates for Final Test

Standards for Final Test
EN 1349 (Standard) . . A .

Certificates for Final Test
without . . . O
EN 10 204 2.2 . . . Z
3.1 . . . B
3.2 . . . A

Plug
Contoured Plug P O
Disk Plug T O

Plug Form
standard N
partial stellited D
Contour stellited K
soft seated W

1.4571 Plug, Seat Material

kvs - Value 0,16 - 180

Port Size 4 - 100

Flow tends top open Valve G

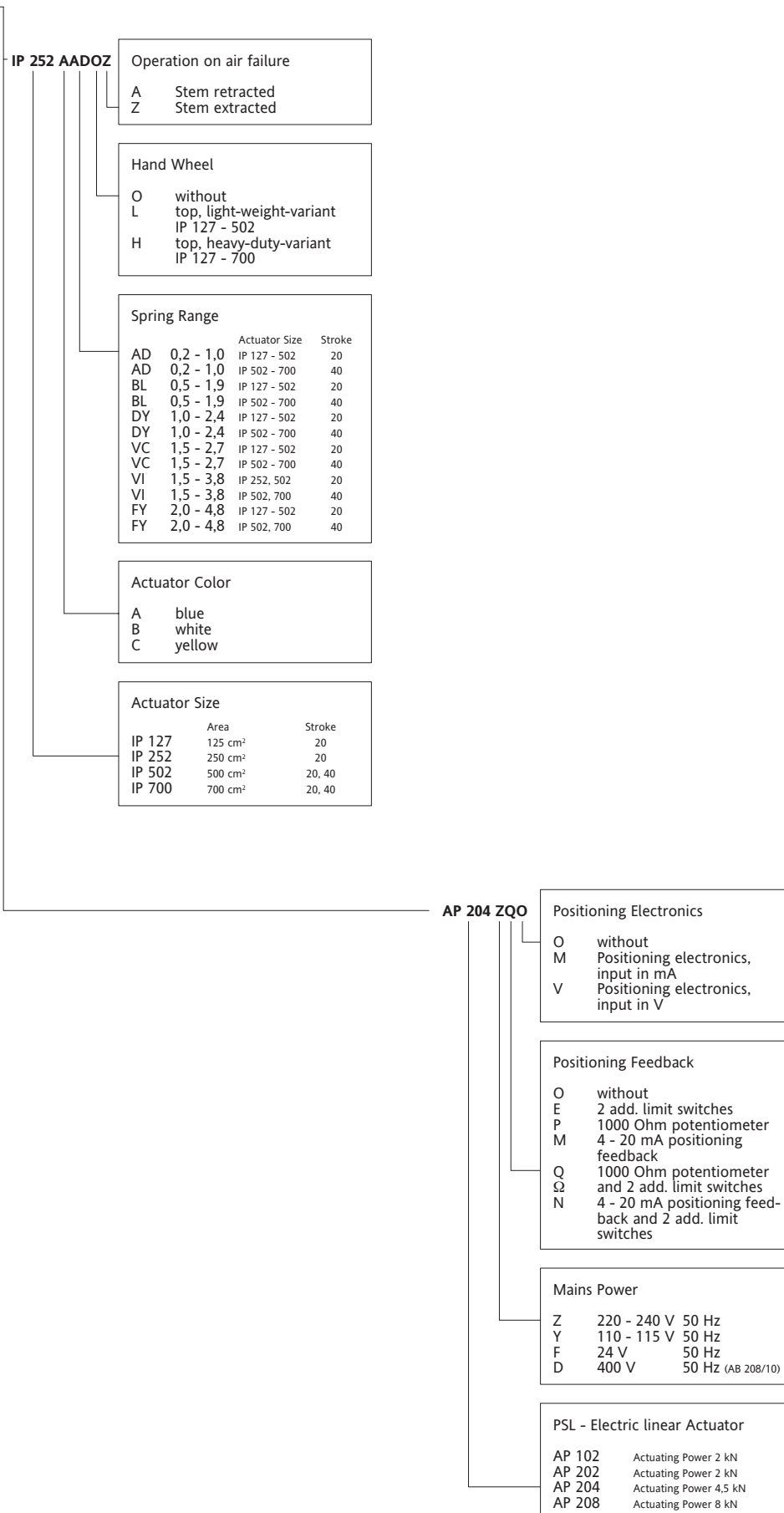
Characteristic
modified - equal percentage G
linear L
on / off A

Plug Guidance
Top 1

Seat Leakage
IEC Class IV P
Class IV - S1 Q
Class VI T
EN 12 266 LR A (DIN 3230 BN) A
LR A (DIN 3230 BO) B

FlowPak™ - General Application Valve

1) For Bellows Seal Bonnet see FlowTop !





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SAENBRV725-00 05.07

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Modifications without notice in line with technical progress.

PSS 108268 05/07 V725 en