

2/2-Ways, DN 13-50, G 1/2 to G 2 1/2, PN 16



Advantages / Benefits

- ▶ **High operating safety:**
 - maintenance-free double packing gland with intermediate relief and wiper
 - few parts
 - PTFE-articulate plug
- ▶ **Easy installation:**
 - 360° positioning of actuator control ports
 - threaded ports
- ▶ **Optical position indication standard**
- ▶ **Waterhammer-free**
- ▶ **Low operating costs due to minimized control air consumption**
- ▶ **Comprehensive range of modular accessories**
- ▶ **Short face to face length (Type 251 compatible)**

Design

The pneumatically operated 2/2-way valve is operated with a piston actuator.

The actuator is available in different materials, depending on the ambient temperature.

The standard material is PA. For high ambient temperatures (e.g. external sterilization) PPS is available for temperatures up to 140°.

High flow rates are attained with the gunmetal or stainless steel 2-way bodies. The reliable self-adjusting packing gland provides high sealing integrity.

These maintenance-free and robust valves can be retro-fitted with a comprehensive range of accessories for position indication, stroke limitation or manual override.

- gunmetal and stainless steel body

- high specific flow rate

- simple and safe conversion of control functions (e.g. N/O -> N/C or double-acting), due to no preloaded spring and few parts

Optional accessories:

- manual override

- various electrical position feedbacks

- adjustable stroke limiters

- pilot valves

Applications

Fluids

Neutral gases and liquids up to 16 bar

With stainless steel body also suitable for aggressive fluids

Steam up to 10 bar/180 °C

Industries

Systems engineering

Food processing

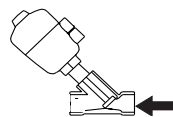
Chemical industry

Sterilizers

bürkert
Easy Fluid Control Systems

Compact Angle-seat Valve

for high-quality applications and steam

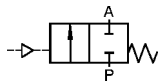


Waterhammer-free
(Flow Below Seat)

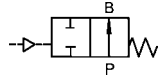
Technical Data

Control Functions

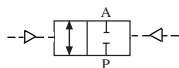
A 2/2-way valve, normally closed by spring action.



B 2/2-way valve, normally open by spring action.



I 2/2-way flow valve with double-acting actuator, no spring action



Body Materials

Gunmetal, stainless steel 1.4408 (threaded port),

Specifications

Connections	Orifice DN	Kv-value water	Max. operating pressure ²⁾		Max. operating pressure ²⁾		Actuator size ¹⁾	Weight
			Fluid up to 120 °C		Fluid up to 120-180 °C			
ISO 228	[mm]	[m ³ /h]	Control function		Control function		[mm]	[kg]
			A [bar]	B [bar]	A [bar]	B [bar]		
G 1/2	13,0	3,8	15	16	10	10	40	0,7
	13,0	4,2	16	16	10	10	50	0,8
G 3/4	20,0	7	6,5	16	10	10	40	0,9
	20,0	8,5	11	16	10	10	50	1,0
	20,0	9	16	-	10	-	63	1,5
G 1	25,0	10	-	16	-	10	50	1,2
	25,0	18	11	16	10	10	63	1,8
	25,0	18	16	-	10	-	80	2,2
G 1 1/4	32,0	25	6	16	6	10	63	2,7
	32,0	27	15	16	10	10	80	3,1
G 1 1/2	40,0	35	-	16	-	10	63	3,0
	40,0	38	10	16	10	10	80	3,5
	40,0	40	16	-	10	-	125	9,0
G 2	50,0	52	-	14	-	10	63	4,0
	50,0	55	6	-	6	-	80	4,8
	50,0	60	-	16	-	10	100	7,0
	50,0	60	10	-	10	-	125	9,4
G 2 1/2	65,0	70	-	15	-	10	80	8,3
	65,0	88	5,2	16	5,2	10	125	11,0

¹⁾ ø 40 actuator size without optional accessories.

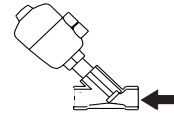
²⁾ All pressures quoted are gauge pressures with respect to the prevailing atmospheric pressure.

Operating Data

Threaded connection	ISO 228	Fluid temperature, depending on the seal material	-10 °C to +180 °C (PTFE)
Control pressure	max. 10 bar 7.0 bar with ø 125 actuator	Packing gland	spring loaded PTFE V-ring stem seals
Control fluid	neutral gases, air	Seal materials	PTFE, NBR ³⁾ , FPM ³⁾ , EPDM ³⁾
Max. viscosity	600 mm ² /s	Fluids	water, alcohols, oils, fuels, hydraulic liquids, salt solutions, bases, organ. solvents, steam
Ambient temperature		Installation	as required, but preferably with actuator upright
PA actuator	-10 °C to + 60 °C		
PPS ²⁾ actuator	+ 5 °C to +140 °C, + 5°C to + 90°C, up to 140 °C for a short period (steam sterilization)		
40 - 80 mm			
100 and 125 mm			

³⁾ on request

Waterhammer-free (Flow Below Seat)

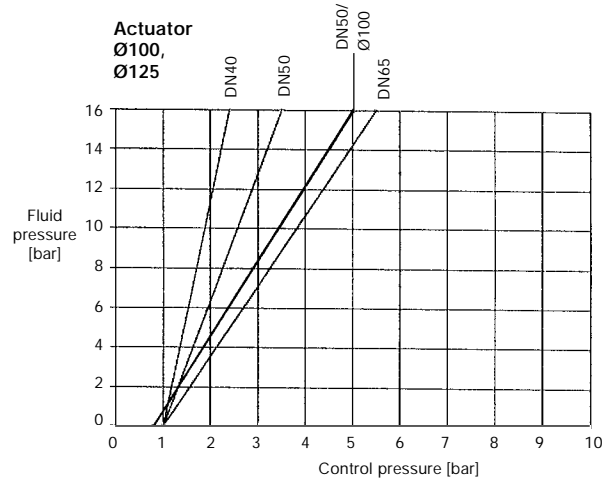
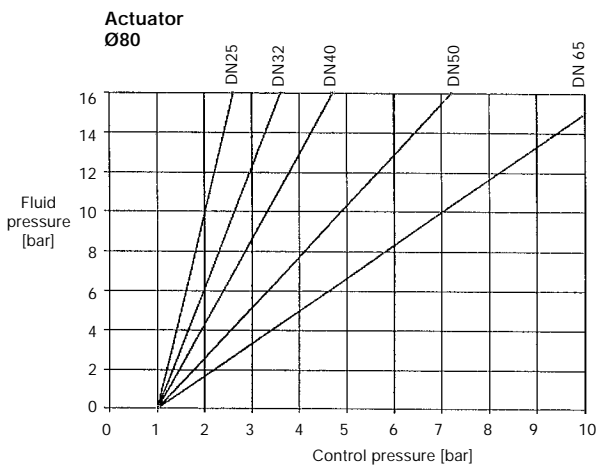
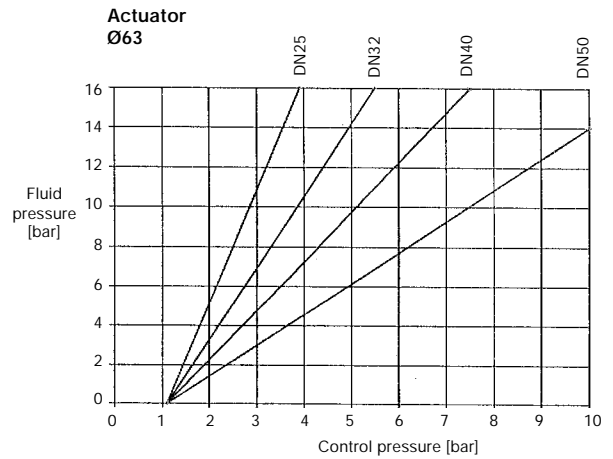
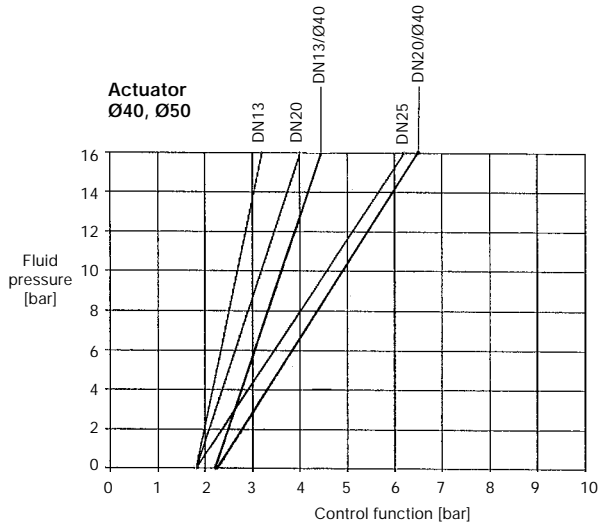


Type 2002 (2/2-Way)

Required Control Pressure for Control Function A

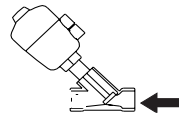
Actuator \varnothing [mm]	40	50	63	80	100	125
Min. control pressure [bar]	4,0	3,9	4,2	5,0	4,4	3,2

Required Control Pressure for Control Function B, I



Compact Angle-seat Valve

for high-quality applications and steam



Waterhammer-free
(Flow Below Seat)

Ordering Chart (Other Versions on Request)

Threaded port, PA-actuator, PTFE seal material

SF	DN [mm]	Connection ISO 228	Actuator \varnothing [mm]	Max. operating pressure [bar]		Order-No. gunmetal body ¹⁾	Order-No. stainl. steel body ²⁾
				Fluid temperature at 120 °C	120 ... 180 °C		
A	13	1/2	40	15	10	002 200 M	002 227 T
	13	1/2	50	16	10	002 038 Z	002 043 W
	20	3/4	40	6,5	6,5	002 201 A	002 228 C
	20	3/4	50	11	10	002 052 X	002 229 D
	20	3/4	63	16	10	002 050 H	002 055 S
	25	1	63	11	10	002 061 Y	002 068 F
	25	1	80	16	10	002 202 B	002 230 A
	32	1 1/4	63	6	6	002 076 X	002 080 Y
	32	1 1/4	80	15	10	002 203 C	002 231 X
	40	1 1/2	80	10	10	002 204 D	002 232 Y
	40	1 1/2	125	16	10	002 205 E	002 234 S
	50	2	80	6	6	002 207 G	003 042 W
	50	2	125	10	10	002 206 F	002 236 U
	65	2 1/2	125	5,2	5,2	002 130 W	-
	B	13	1/2	40	16	10	002 350 J
13		1/2	50	16	10	003 005 S	003 007 U
20		3/4	40	16	10	002 208 R	002 252 C
20		3/4	50	16	10	002 209 J	002 253 D
25		1	50	16	10	002 210 E	002 254 E
25		1	63	16	10	003 011 P	003 013 R
32		1 1/4	63	16	10	003 014 J	002 040 L
32		1 1/4	80	16	10	002 211 T	002 270 J
40		1 1/2	63	16	10	003 018 W	002 246 E
40		1 1/2	80	16	10	002 212 U	002 247 F
50		2	63	14	10	003 021 R	002 248 Q
50		2	100	16	10	002 213 V	002 249 R
65		2 1/2	80	15	10	002 214 W	-
65		2 1/2	125	16	10	002 297 S	-

¹⁾ Control ports with brass inserts

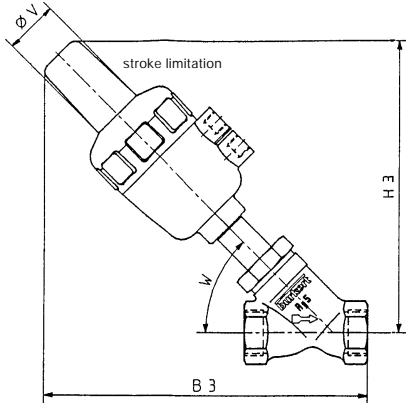
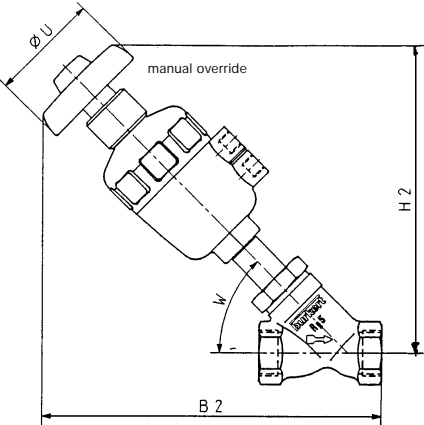
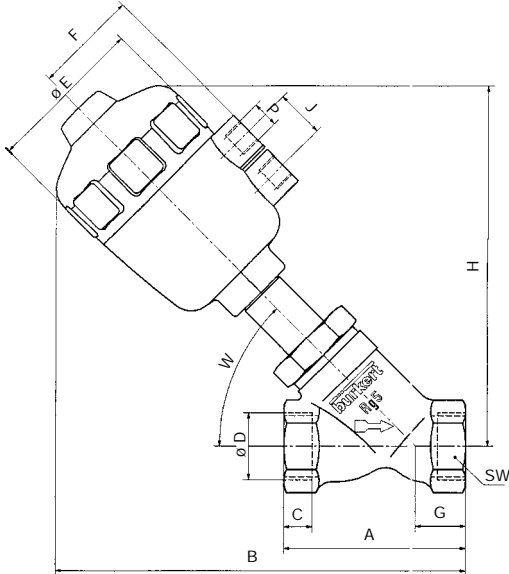
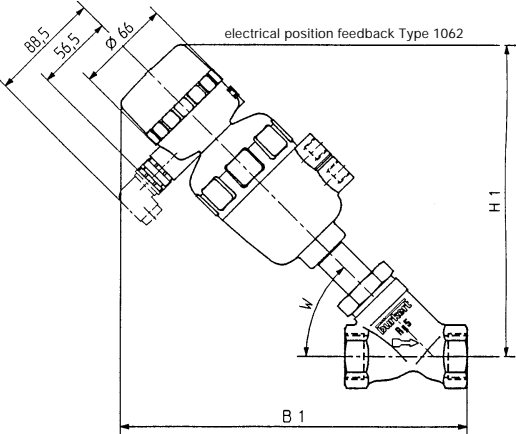
²⁾ Control ports with stainless steel inserts

Type 2002

(2/2-Way)

Flow Below and Above Seat

Dimensions in mm

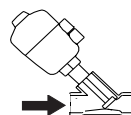


DN	Actuator ø [mm]	A	B	C	ø D	ø E	F	G	H	J	P	SW	Dimensions for optional accessories ¹⁾						ø U	ø V
													B1	H1	B2	H2	B3	H3		
13	40	65	141	11	G 1/2	53	33	19	117	16,5	G 1/8	27	-	-	-	-	-	-	80	39
	50		166			64	44		141	24	G 1/4		223	195	216	189	205	178	80	39
20	40	75	150	12	G 3/4	53	33	19	126	16,5	G 1/8	32	-	-	-	-	-	-	80	39
	50		175			64	44		151	24	G 1/4		232	205	225	199	214	188	80	39
25	50	90	185	14	G 1	64	44	25	155	24	G 1/4	40	242	209	235	203	224	192	80	39
	63		211			80	52	25	179				265	230	259	224	248	213	80	39
	80		233			101	60	25	201				282	247	276	241	265	229	80	39
32	63	110	230	16	G 1 1/4	80	52	31	192	24	G 1/4	50	284	243	278	237	267	226	80	39
	80		252			101	60		213				301	259	295	253	284	241	80	39
	100		305			127	73		264	30			351	306	373	330	357	312	150	53
40	63	120	233	18	G1 1/2	80	52	35	191	24	G 1/4	55	287	242	281	236	270	225	80	39
	80		255			101	60		212				301	258	298	252	287	240	80	39
	100		308			127	73		264	30			354	306	376	330	360	312	150	53
	125		338			153	86		294				378	329	400	353	384	335	150	53
50	63	150	258	20	G 2	80	52	37	213	24	G 1/4	70	312	264	306	258	295	247	80	39
	80		280			101	60		235				329	281	323	275	312	263	80	39
	100		329			127	73		282	30			375	324	397	348	381	330	150	53
	125		360			153	86		312				400	347	422	371	406	353	150	53
65	80	190	290	22	G 2 1/2	101	60	45	245	24	G 1/4	85	336	291	330	285	318	273	80	39
	100		339			127	73		294	30			381	336	405	360	387	342	150	53
	125		369			153	86		324				404	359	428	383	410	365	150	53

Due to the different angles A (42° for stainless steel and 45° for gunmetal bodies for DN 13 to 50) applies B_i (42°) > B_i (45°) and H_i (42°) < H_i (45°); i = 1, 2, 3. The larger value is listed in the chart.

¹⁾ Not valid for ø 40 actuator.

Flow Above Seat
(for gaseous fluids)

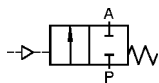


Type 2002
(2/2-Way)

Technical Data

Control function

A 2/2-way valve, normally closed by spring action.



B See flow below seat.

Body material

Gunmetal, stainless steel 1.4581 (threaded port),

Specifications

Connections	Orifice DN [mm]	Kv-value water [m ³ /h]	Max. operating press. ²⁾ fluid up to 120 °C [bar]	Max. operating press. ²⁾ fluid up to 120 ... 180°C [bar]	Actuator size ¹⁾ [mm]	Weight [kg]
G 1/2	13	3,8	16	10	40	0,7
	13	4,2	16	10	50	0,8
G 3/4	20	7	16	10	40	0,9
	20	8,5	16	10	50	1,0
G 1	25	10	16	10	50	1,2
	25	18	16	10	63	1,8
G 1 1/4	32	25	16	10	63	2,7
	32	27	16	10	80	3,1
G 1 1/2	40	35	16	10	63	3,0
	40	38	16	10	80	3,5
G 2	50	52	16	10	63	4,0
	50	55	16	10	80	4,8
	50	60	16	10	100	7,0
G 2 1/2	65	88	16	10	100	8,6
	65	88	16	10	125	11,0

¹⁾ ø 40 actuator size without optional accessories.

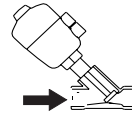
²⁾ All pressures are gauge pressures with respect to the prevailing atmospheric pressure.

Operating Data

Threaded port	ISO 228	Fluid temperature, depending on the seal material	-10 °C to +180 °C (PTFE)
Min. required control pressure	see charts	Packing gland	self-adjusting spring loaded PTFE V-ring stem seals with wiper
Admiss. control pressure	max. 10 bar 7.0 bar with ø 125 actuator	Seal materials	PTFE, NBR ³⁾ , FPM ³⁾ , EPDM ³⁾
Control fluid	neutral gases, air	Fluids	water, alcohols, oils, fuels, hydraulic liquids, salt solutions, bases, organ. solvents, steam
Max. viscosity	600 mm ² /s	Installation	as required, but preferably with actuator upright
Ambient temperature			
PA actuator	-10 °C to + 60 °C		
PPS ²⁾ actuator			
40 - 80 mm	+ 5 °C to +140 °C,		
100 and 125 mm	+ 5°C to + 90°C, up to 140 °C for a short period (steam sterilization)		

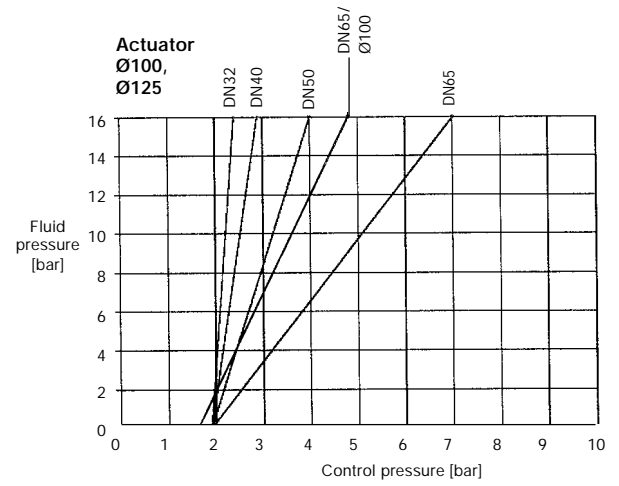
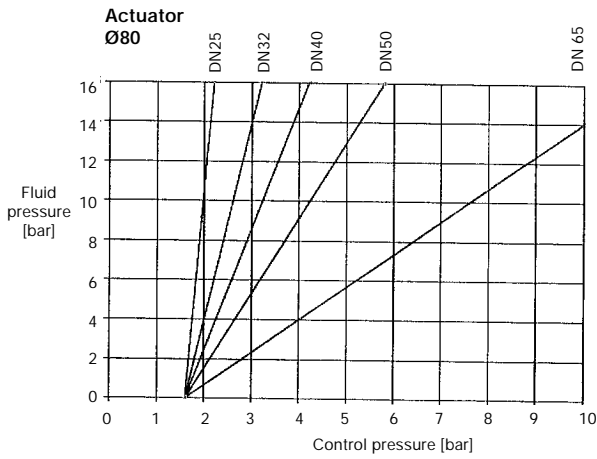
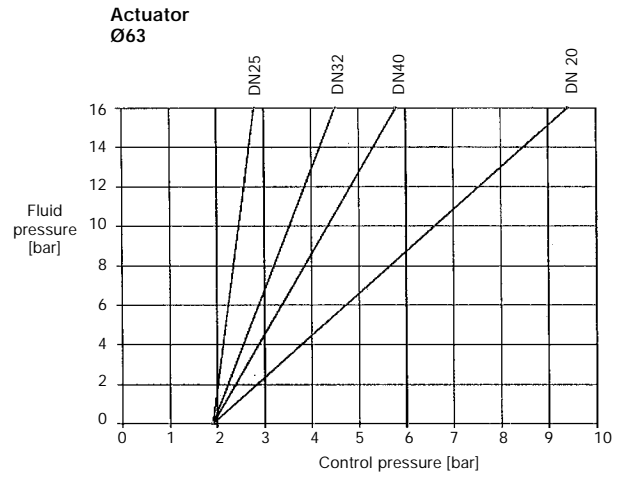
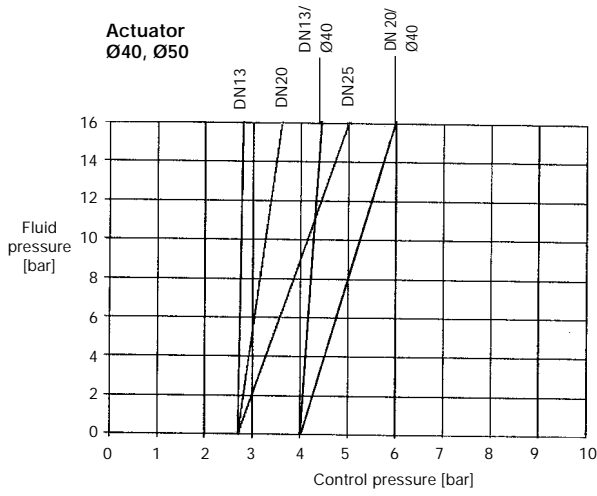
³⁾ on request

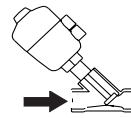
Flow Above Seat
(for gaseous fluids)



Type 2002
(2/2-Way)

Control Pressure for Control Function A





Ordering Chart (Other Versions on Request)

Threaded port, PA-actuator, PTFE seal material

SF	DN [mm]	Connection G ISO 228	Actuator ϕ [mm]	Max. operating pressure [bar]		Order-No. gunmetal body ¹⁾	Order-No. stainl. steel body ²⁾
				Fluid temperature at 120 °C	120 ... 180 °C		
A	13	1/2	40	16	10	002 237 V	030 243 A
	13	1/2	50	16	10	002 036 P	002 041 U
	20	3/4	40	16	10	002 239 F	002 256 U
	20	3/4	50	16	10	002 048 B	002 053 Y
	25	1	50	16	10	002 119 X	030 248 P
	25	1	63	16	10	002 058 D	002 066 V
	32	1 1/4	63	16	10	002 073 U	002 077 Y
	32	1 1/4	80	16	10	002 240 L	002 261 D
	40	1 1/2	63	16	10	003 048 C	003 057 V
	40	1 1/2	80	16	10	002 241 H	002 258 V
	50	2	63	16	10	003 030 W	003 038 S
	50	2	80	16	10	002 242 A	002 259 K
	50	2	100	16	10	002 243 B	002 260 Q
	65	2 1/2	100	16	10	002 244 C	-

¹⁾Control ports with brass inserts

²⁾Control ports with stainless steel inserts

Options and Accessories on Request

- Control function I (double-acting actuator)
- PPS actuator material for ambient temperatures up to 140 °C.
- Electrical position feedback¹⁾
- Magnet-inductive proximity sensors, mounted to the actuator for position feedback¹⁾
- Independently adjustable stroke limitation:¹⁾ for high and low flow
- Manual override¹⁾
- NAMUR-adaptor for pilot valve¹⁾
- Pilot valves:
 - Type 375, DN 1,2; 220/- (incl. double nipple) for actuator sizes 50mm, 63 mm
Order-No. 700 875 R
 - Type 311, DN 2,0; 220/50 (incl. double nipple) for actuator sizes 63 mm
Order-No. 700 876 J

¹⁾ Please refer to data sheet Modular Option Package Type 2000-2031