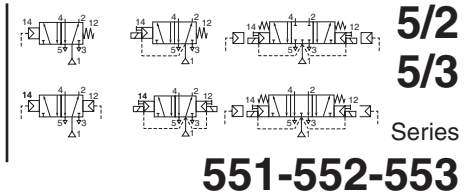




SPOOL VALVES

pilot operated or air operated, spool type
single/dual solenoid or air (mono/bistable function)
aluminium body, 1/4 to 1/2



FEATURES

- The monostable spool valves have TÜV-EXIDA certified IEC 61508 Functional Safety data and can be used up to SIL 4 (551/TÜV)-SIL 3 (552-553/EXIDA)
- The spool valves 5/2 and 5/3 have threaded port connections
- All the exhaust ports of this spool valve are connectable, providing better environmental protection, particularly recommended for sensitive areas such as clean rooms, and applications in the pharmaceutical and food processing sectors
- The valve offers environmental protection against the ingress of liquids, dusts or any other foreign matter (environmentally-protected construction)
- Epoxy moulded coil for general service applications
- The solenoid valves satisfy all relevant EC Directives

GENERAL

Differential pressure

2 - 10 bar [1 bar = 100 kPa]

Flow (Qv at 6 bar)

1/4 = 860 l/min (5/2) ; 760 l/min (5/3)(ANR)

3/8 = 3000 l/min (5/2, 5/3)

1/2 = 3800 l/min (5/2, 5/3)

fluids (*)	temperature range (TS)	seal materials (*)
air, inert gas, filtered	- 25°C to + 60°C	NBR (nitrile) + PUR (polyurethane)

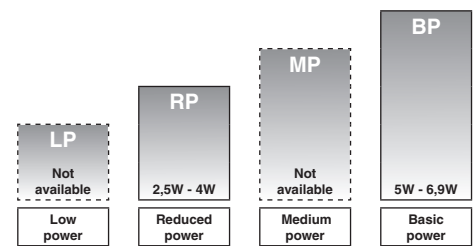
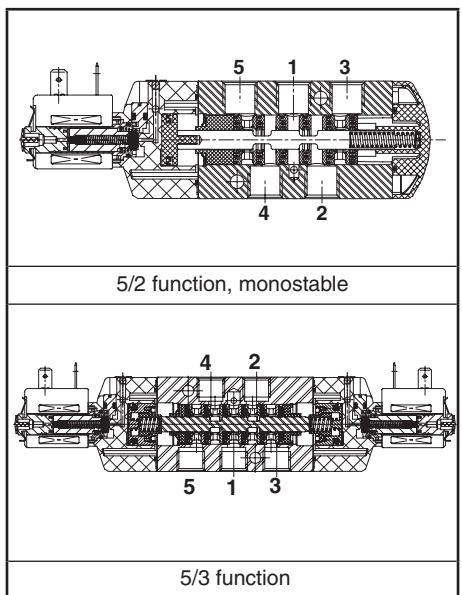
MATERIALS IN CONTACT WITH FLUID

(*) Ensure that the compatibility of the fluids in contact with the materials is verified

Body	Aluminium, black anodized
End covers	Glass-filled PA
Internal parts	Zamak, stainless steel, POM, aluminium
Seals	NBR + PUR
Core and plugnut	Stainless steel
Shading coil	Copper

AIR OPERATED SPECIFICATIONS

pipe size	orifice size	flow coefficient kv		operating pressure differential (bar)			prefix option	basic catalogue number
				min.	max. (PS)			
					air (★)			
(※)	(mm)	(m³/h)	(l/min)		~	=		
5/2 - Air pilot operated - spring return (monostable)								
1/4	6	0,75	12,5	2	10	10	-	❖551A117 ⁽²⁾
3/8	12	2,49	41,5	2	10	10	-	❖552A117 ⁽²⁾
1/2	13	3,15	52,5	2	10	10	-	❖553A117 ⁽²⁾
5/2 - Air pilot operated and return (bistable)								
1/4	6	0,75	12,5	2	10	10	-	❖551A118
3/8	12	2,49	41,5	2	10	10	-	❖552A118
1/2	13	3,15	52,5	2	10	10	-	❖553A118
5/3 - W1 - pressure held, air pilot operated and return								
1/4	6	0,75	12,5	2	10	10	-	❖551A067
5/3 - W3 - pressure release, air pilot operated and return								
1/4	6	0,75	12,5	2	10	10	-	❖551A068



POWER LEVELS - cold electrical holding values (watt)

PILOT OPERATED SPECIFICATIONS 5/2

pipe size	orifice size	flow coefficient kv		operating pressure differential (bar)			power level	prefix optional solenoids					basic catalogue number
				min.	max. (PS)			ATEX / IECEx				IP65	
					air (★)					Ex mb			
					~	=							
(❖)	(mm)	(m³/h)	(l/min)										
5/2 - Solenoid air pilot operated - spring return (monostable)													
1/4	6	0,75	12,5	2	10	10	RP	-	-	-	-	●	❖551A017 ⁽²⁾
1/4	6	0,75	12,5	2	10	10	RP	-	-	●	-	-	X❖551A017 20787 ⁽²⁾
3/8	12	2,49	41,5	2	10	10	BP	-	-	●	-	●	❖552A017 ⁽²⁾
1/2	13	3,15	52,5	2	10	10	BP	-	-	●	-	●	❖553A017 ⁽²⁾
5/2 - Solenoid air pilot operated and return (bistable)													
1/4	6	0,75	12,5	2	10	10	RP	-	-	-	-	●	❖551A018
1/4	6	0,75	12,5	2	10	10	RP	-	-	●	-	-	X❖551A018 20787
3/8	12	2,49	41,5	2	10	10	BP	-	-	●	-	●	❖552A018
1/2	13	3,15	52,5	2	10	10	BP	-	-	●	-	●	❖553A018

❖ Select 8 for NPT ANSI 1.20.3 or select G for ISO G (228/1) ● Available feature - Not available

⁽²⁾ Certified IEC 61508 Functional Safety data, use suffix "SL".

All leaflets are available on: www.asco-process-scope.com

PIC-5-30-GB

PILOT OPERATED SPECIFICATIONS 5/3

pipe size	orifice size	flow coefficient kv		operating pressure differential (bar)			power level	prefix optional solenoids					basic catalogue number
				min.	max. (PS)			ATEX / IECEx				IP65	
					air (★)			Ex d	Ex e mb	Ex mb	Ex i		
					~	=							
(✧)	(mm)	(m³/h)	(l/min)										
5/3 - W1 - pressure held, solenoid air pilot operated and return													
1/4	6	0,66	11	2	10	10	RP	-	-	-	-	●	✧551A067
1/4	6	0,66	11	2	10	10	RP	-	-	●	-	-	X✧551A067 20787
3/8	12	2,49	41,5	2	10	10	BP	-	-	●	-	●	✧552A067
1/2	13	3,15	52,5	2	10	10	BP	-	-	●	-	●	✧553A067
5/3 - W3 - pressure release, solenoid air pilot operated and return													
1/4	6	0,66	11	2	10	10	RP	-	-	-	-	●	✧551A068
1/4	6	0,66	11	2	10	10	RP	-	-	●	-	-	X✧551A068 20787
3/8	12	2,49	41,5	2	10	10	BP	-	-	●	-	●	✧552A068
1/2	13	3,15	52,5	2	10	10	BP	-	-	●	-	●	✧553A068

❖ Select **8** for NPT ANSI 1.20.3 or select **G** for ISO G (228/1) ● Available feature - Not available

PREFIX TABLE

prefix							description	power level			
1	2	3	4	5	6	7		LP	RP	MP	BP
S	C			D	U		Dustproof ATEX (EN 50281-1-1)*	-	●	-	●
P	V						Encapsulated ATEX + IECEx (EN/IEC 60079 / 61241)*	-	●	-	●
S	C						Solenoid with spade plug connector (EN 60730)	-	●	-	●
						X	Other special constructions	-	●	-	●

SUFFIX TABLE

suffix					description	power level			
1	2	3	4	5		LP	RP	MP	BP
	G	D			Non-electrical, 2 GD c, construction safety, gas/dust-ATEX (EN 13463-5)	-	-	-	-
			M	S	Screw type manual operator	-	●	-	●
	S	L			Certified IEC 61508 Functional Safety data ⁽²⁾	-	●	-	●

● Available feature

- Not available

* ATEX solenoids are also approved according to EN/IEC 61241 (Dust) and EN 13463-1 (non electrical valves)

⁽²⁾ Not to use with MS suffix

PRODUCT SELECTION GUIDE

STEP 1

Select the fluid temperature range and seal material from the general table on page 1. Select basic catalogue number, including pipe thread identification letter. Refer to the specifications table on pages 1 and 2.

Example : G551A017

STEP 2

Select prefix (combination). Select the appropriate operator from the specifications table on page 1 and the prefix table on page 2. Select for this operator in the electrical characteristics table on page 3: the power level (RP, MP, BP), the type of electrical enclosure protection and the desired temperature class. The air operated version is without prefix.

Warning: The ambient temperature range of your application may not exceed the temperature range of your operator. Do not use prefixes for air operated versions.

Example : SC

STEP 3

Select suffix (combination) if required. Suffix GD only applies for the air operated versions, do not use suffix MS.

Example : MS

STEP 4

Select voltage. Refer to standard voltages on page 3.

Example : 230V / 50Hz

STEP 5

Final catalogue / ordering number.

Example :

SC G551A017MS 230 V / 50 Hz

OPTIONS & ACCESSORIES

series	pipe size	exhaust protector (stainless steel)		
		(G)	(NPT)	(M)
551	1/4	34600419 ⁽³⁾	34600483 ⁽³⁾	-
552	3/8	34600478 ⁽³⁾	34600480 ⁽³⁾	-
553	1/2	34600479 ⁽³⁾	34600481 ⁽³⁾	-
551/552/553	M5	-	-	34600484 ⁽³⁾

⁽³⁾ Provided with "SL" suffix.

ORDERING EXAMPLES:

SC	G	551	A 017	MS	230V / 50 Hz
SCDU	G	551	A 018		115V / 50 Hz
PV X8		551	A 018	20787	115V / 50 Hz
SC	G	552	A 017	MS	24V / DC
		G	553	A 118	
		G	551	A 118	GD
		G	551	A 117	GD SL
		SC	G	551	A 017 SL

prefix — pipe thread — basic number — voltage — suffix

EXPLANATION OF TEMPERATURE RANGES OF SOLENOID VALVES

Valve temperature range	The valve temperature range (TS) is determined by the selected seal material, the temperature range for proper operation of the valve and sometimes by the fluid (e.g. steam)
Operator ambient temperature range	The operator ambient temperature range is determined by the selected power level (LP, RP, MP or BP) and the ATEX safety code
Total temperature range	The temperature range of the complete solenoid valve is determined by the limitations of both temperature ranges above

ELECTRICAL CHARACTERISTICS

Coil insulation class	F
Electrical safety	IEC 335
Standard voltages	DC (=) 24V - 48V AC (~) 24V - 48V - 115V - 230V/50Hz; other voltages and 60Hz are available on request

prefix option	power ratings				operator ambient temperature range (TS) (C°)	safety code	electrical enclosure protection (EN 60529)	replacement coil		type ⁽¹⁾
	inrush ~	holding ~		hot/ cold =				~	=	
	(VA)	(VA)	(W)	(W)				230 V / 50 Hz	24 V DC	
Basic power = BP										
SC	15	7	5	5/6,9	-25 to +60	EN 60730	moulded IP65	43004649	43004647	02
SCDU	15	7	5	5/6,9	-25 to +60	II 3 D IP65 T 135°C	moulded IP65	- ⁽⁴⁾	- ⁽⁴⁾	02
PV	-	-	6,3	-/6,9	-40 to +65/40	II 2 G/D Ex mb IIC T3/Ex mD	moulded IP65	- ⁽⁴⁾	- ⁽⁴⁾	04
Reduced power (RP)										
SC	6	3,5	2,5	2,5/3,0	-25 to +60	EN 60730	moulded IP65	43004886	43004869	01
SCDU	6	3,5	2,5	2,5/3,0	-25 to +60	II 3 D IP65 T 100°C	moulded IP65	- ⁽⁴⁾	- ⁽⁴⁾	01
PV	-	-	4	-/3,0	-40 to +65/60	II 2 G/D Ex mb II T3/Ex mD	moulded IP65	- ⁽⁴⁾	- ⁽⁴⁾	03

⁽¹⁾ Refer to the dimensional drawings on pages 4 and 5 (Air operated versions, see page 6 for types 5 and 6).

⁽⁴⁾ Multiple coil kits available under ATEX, contact us

ELECTRICAL CONNECTIONS

prefix	connection
SC, SCDU	Spade plug connector with cable gland DIN 43650, 11 mm, industry standard B, for cables with an outer diameter from 6 to 8 mm (type 01) or EN175301-803A (ISO 4400) for cables with an outer diameter from 6 to 10 mm (type 02).
PV	Moulded-in cable, standard length 2 m

ADDITIONAL OPTIONS

- Other pipe threads are available on request
- Ex mb/mD (prefix "PV") solenoid can be supplied with various cable lengths
- Compliance with "UL" Available on request (series 552-553)
- Dustproof ATEX (SCDU) with a coil and spade plug connector with lead (2 m lead), TPL 20651

INSTALLATION

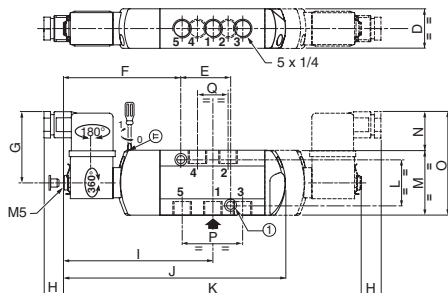
- Installation/maintenance instructions are included with each valve
- The valves can be mounted in any position without affecting operation
- Do not connect the pressure supply to the exhaust port 3. The "environmentally-protected" construction is not adapted for a "distributing" function or use in NO function. Contact us for functions available in specific versions
- IEC 61508 Functional Safety (Suffix SL), allowable temperature range: -40°C to +60°C. Probability of failure on demand, contact us
- It is necessary to connect pipes or fittings to the exhaust ports to protect the internal parts of the valve if used outside or in harsh environments (dusts, liquids etc.)
- Threaded pipe connection identifier is: 8 = NPT (ANSI 1.20.3); G = G (ISO 228/1)

DIMENSIONS (mm), WEIGHT (kg)

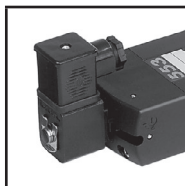


TYPE 01:
SC and SCDU
Epoxy moulded
IEC 335 / DIN 43650

551A017/A0017MS/A018/A018MS/A067/A067MS/A068/A068MS

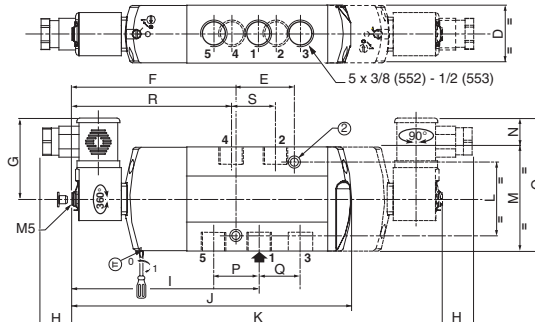


① 2 mounting holes dia. 5,3; spotfacing: dia. 9, depth 5 mm

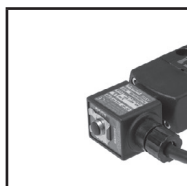


TYPE 02:
SC and SCDU
Epoxy moulded
IEC 335 / ISO 4400

552A017/A0017MS/A018/A018MS/A067/A067MS/A068/A068MS
553A017/A0017MS/A018/A018MS/A067/A067MS/A068/A068MS

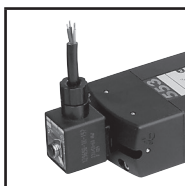
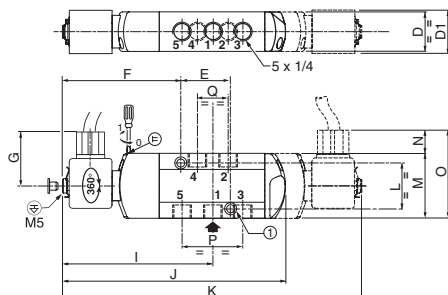


② 2 mounting holes dia. 6,5; spotfacing: dia. 11, depth 6 mm



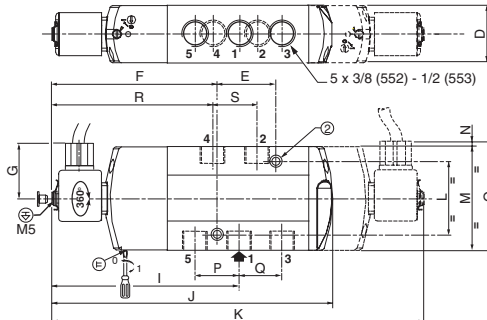
TYPE 03:
PV
Epoxy encapsulated
EN/IEC 60079-18 and EN/IEC 61241-18

551A017 20787 / A017MS 20787 / A018 20787 / A018MS 20787
551A067 20787 / A067MS 20787 / A068 20787 / A068MS 20787



TYPE 04:
PV
Epoxy encapsulated
EN/IEC 60079-18 and EN/IEC 61241-18

552A017/A0017MS/A018/A018MS/A067/A067MS/A068/A068MS
553A017/A0017MS/A018/A018MS/A067/A067MS/A068/A068MS



type	prefix option	power level	D	D1	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	weight ⁽¹⁾	
																				(2)	(3)
01 (551)	SC / SCDU	RP	27,5	-	32	82,5	49	13	105,5	157	210	32	45	27	72	9,5	12	-	-	0,35	0,43
02 (552)	SC / SCDU	BP	40,2	-	43	114,5	56,2	21,8	129,5	197,5	261	51	72,3	20	92,3	12,1	17,5	112	29,6	0,70	1,00
02 (553)	SC / SCDU	BP	40,2	-	43	114,5	56,2	21,8	130,5	197,5	261	51	72,3	20	92,3	12,1	19,5	111	31,6	0,69	0,99
03 (551)	PV	RP	27,5	29	32	82,5	36,5	13	104,5	157	210	32	45	13	58	9,5	12	-	-	0,37	0,49
04 (552)	PV	BP	40,2	-	43	114,5	36,5	21,8	129,5	197,5	261	51	72,3	0,3	72,6	12,1	17,5	112	29,6	0,73	1,03
04 (553)	PV	BP	40,2	-	43	114,5	36,5	21,8	130,5	197,5	261	51	72,3	0,3	72,6	12,1	19,5	111	31,6	0,72	1,02

⁽¹⁾ Including coil(s) and connector(s)

⁽²⁾ monostable

⁽³⁾ bistable

ACCESSORIES SERIES 551, 553 AND 553

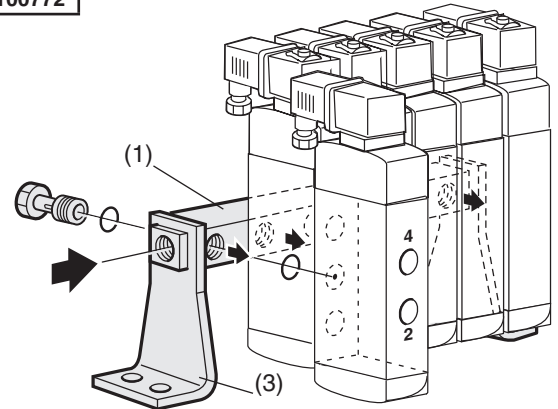
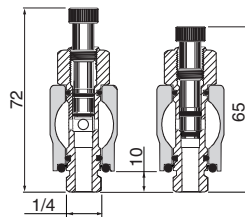
- Supply rail (supplied with seals and banjo bolts, without mounting brackets)

supply rail for "n" valves	catalogue number					
	series 551		series 552		series 553	
	G 1/4	NPT 1/4	G 3/8	NPT 3/8	G 1/2	NPT 1/2
2	88100034	88100053	88100800	88100807	88100759	88100766
3	88100035	(1)	88100801	88100808	88100760	88100767
4	88100036	88100054	88100802	88100809	88100761	88100768
5	88100037	88100058	88100803	88100810	88100762	88100769
6	88100038	88100055	88100804	88100811	88100763	88100770
7	88100039	88100059	88100805	88100812	88100764	88100771
8	88100040	88100060	88100806	88100813	88100765	88100772

(1) Available on request.

Mounting brackets (set of 2),
for series 551:
catalogue number **88100049**
for series 552-553:
catalogue number **88100773**

supply rail with isolation valves with mounting brackets (2)		
Allows the isolation of one or more valves from the general pressure supply		
supply rail for "n" valves	catalogue number	
	G 1/4	NPT
2	88100915	-
3	88100916	-
4	88100917	-
5	88100918	-
6	88100919	-
7	88100920	-
8	88100921	-
9	88100922	-
10	88100923	-
11	88100924	-
12	88100925	-

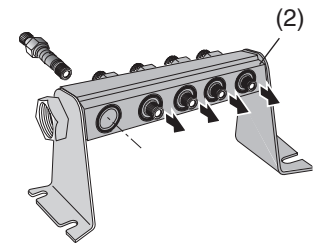


(1) or (2) supply rail
(3) mounting bracket (2x)

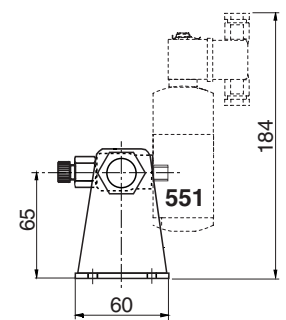
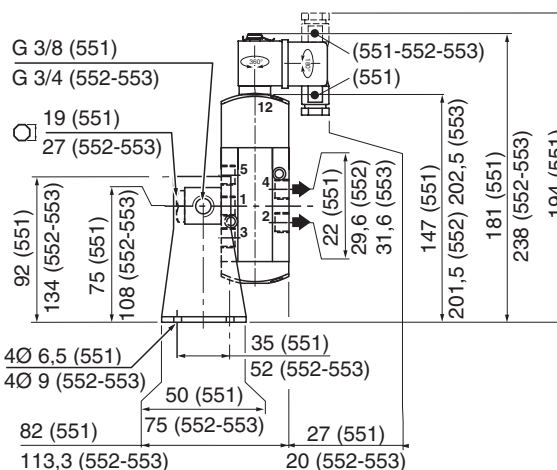
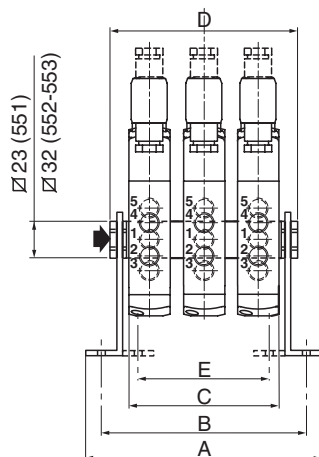
Series 551	number of valves						
	2	3	4	5	6	7	8
A	108	136	164	192	220	248	276
B	92	120	148	176	204	232	260
C	55	83	111	139	167	195	223
D	78	106	134	162	190	218	246
E	42	70	98	126	154	182	210
type 01, monost.*	1,0	1,4	1,8	2,1	2,5	2,9	3,3
type 01, bistable*	1,3	1,8	2,2	2,7	3,2	3,7	4,2

Series 552-553	number of valves						
	2	3	4	5	6	7	8
A	136	117	218	259	300	341	382
B	116	157	198	239	280	321	362
C	81	122	163	204	245	286	327
D	117	158	199	240	281	322	363
type 02, monost.*	2,4	3,4	4,4	5,5	6,5	7,5	8,6
type 02, bistable*	2,8	4,1	5,4	6,7	8,0	9,2	10,5

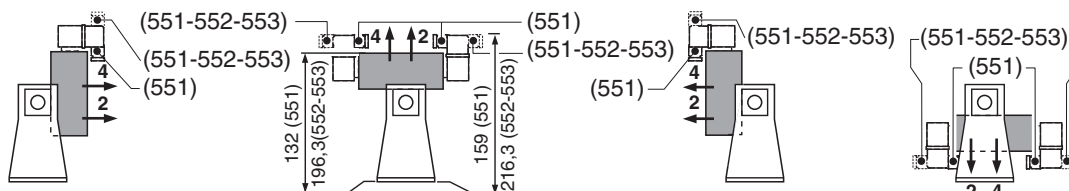
* Weight (kg)



Supply rail with isolation valves for series 551

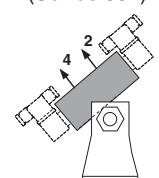


This mounting arrangement allows valves to be mounted in the positions bellow.

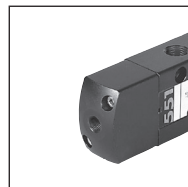


Not possible with supply rail and isolation valves

Only with supply rail with isolation valves (Series 551)

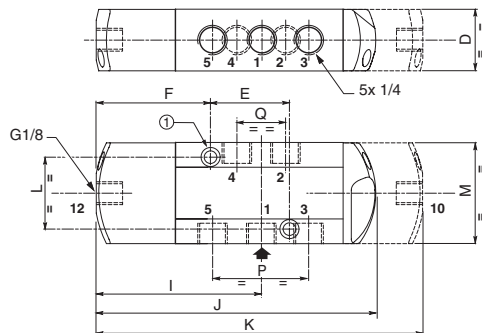


DIMENSIONS (mm), WEIGHT (kg)

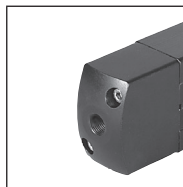


TYPE 05: No prefix, IP65 (suffixes, GD: II 2 GD c, SL: SIL or GD SL: SIL, II 2 GD c)
Air operated version
(supply rail - see below)

551A117 / 551A118 / 551A067 / 551A068

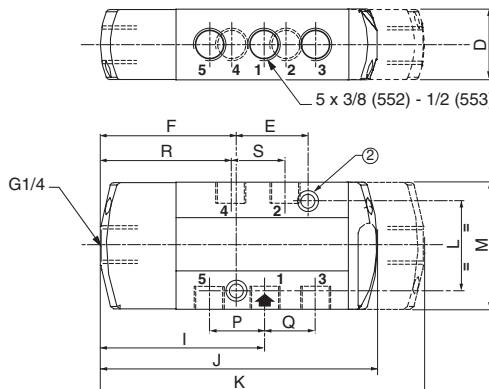


- ① 2 mounting holes dia. 5,3; spotfacing: dia. 9, depth 5 mm
② 2 mounting holes dia. 6,5; spotfacing: dia. 11, depth 6 mm



TYPE 06: No prefix, IP65 (suffixes, GD: II 2 GD c, SL: SIL or GD SL: SIL, II 2 GD c)
Air operated version
(supply rail - see below)

552A117 / 552A118 / 553A117 / 553A118



type	prefix option	power level	D	E	F	I	J	K	L	M	P	Q	R	S	weight ⁽²⁾	
															monostable	bistable
05 (551)	-	-	27,5	32	50,5	72	125	146	32	45	41	22	-	-	0,32	0,40
06 (552)	-	-	40,2	43	78,5	93,5	161,5	189	51	72,3	29,6	29,7	76	29,6	0,80	1,06
06 (553)	-	-	40,2	43	78,5	94,5	161,5	189	51	72,3	31,6	31,8	76	31,6	0,79	1,05

⁽²⁾ Including coil(s) and connector(s)

ACCESSORIES SERIES 551, 553 AND 553

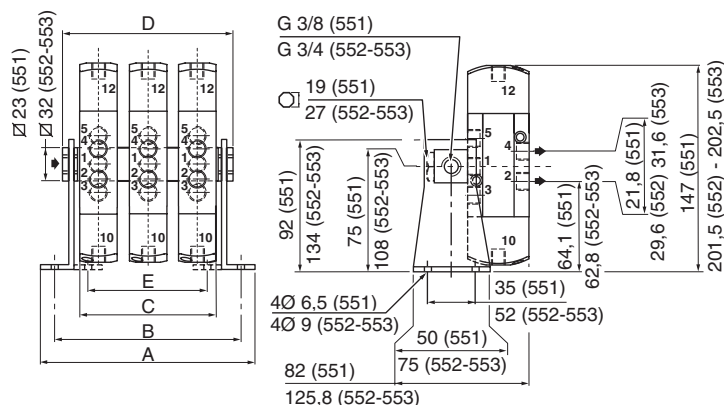
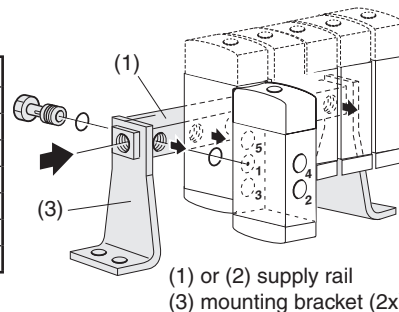
- Supply rails: see catalogue numbers on page 5

Series 551	number of valves						
	2	3	4	5	6	7	8
A	108	136	164	192	220	248	276
B	92	120	148	176	204	232	260
C	55	83	111	139	167	195	223
D	78	106	134	162	190	218	246
E	42	70	98	126	154	182	210
type 05, monost.*	1,0	1,3	1,6	2,0	2,3	2,6	2,9
type 05, bistable*	1.1	1.5	2.0	2.4	2.8	3.2	3.6

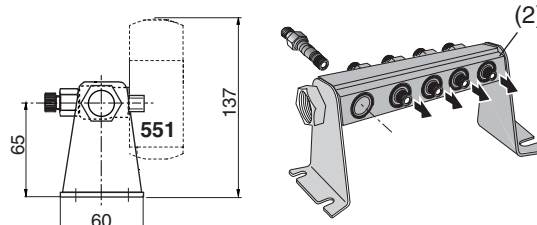
Series 552-553	number of valves						
	2	3	4	5	6	7	8
A	136	117	218	259	300	341	382
B	116	157	198	239	280	321	362
C	81	122	163	204	245	286	327
D	117	158	199	240	281	322	363
type 06, monost.*	2,3	3,2	4,2	5,2	6,2	7,1	8,2
type 06, bistable*	2,6	3,8	5,0	6,2	7,4	8,5	9,4

* Weight (kg)

* Weight (kg)

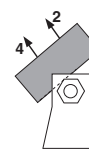
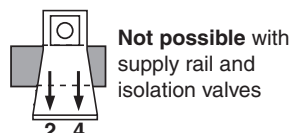
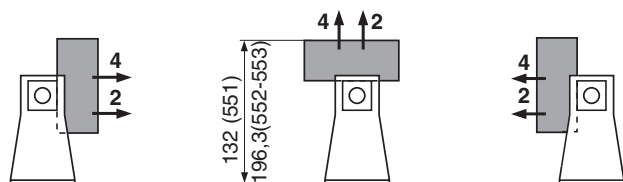


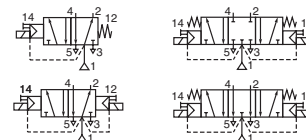
Supply rail with isolation valves for series 551



Only with supply rail with isolation valves (Series 551)

This mounting arrangement allows valves to be mounted in the positions bellow.





FEATURES

- The monostable spool valves have TÜV-EXIDA certified IEC 61508 Functional Safety data and can be used up to SIL 4 (551/TÜV)-SIL 3 (552-553/EXIDA)
- The spool valves 5/2 and 5/3 have threaded port connections
- All the exhaust ports of this spool valve are connectable, providing better environmental protection, particularly recommended for sensitive areas such as clean rooms, and applications in the pharmaceutical and food processing sectors
- The valve offers environmental protection against the ingress of liquids, dusts or any other foreign matter (environmentally-protected construction)
- Can be externally piloted (external air pilot supply) to convert valve to zero minimum operation by flipping a gasket
- The solenoid valves satisfy all relevant EC Directives

GENERAL

Differential pressure

2 - 10 bar [1 bar = 100 kPa]

Flow (Qv at 6 bar)

1/4 = 860 l/min (5/2) ; 760l/min (5/3) (ANR)

3/8 = 3000 l/min (5/2, 5/3)

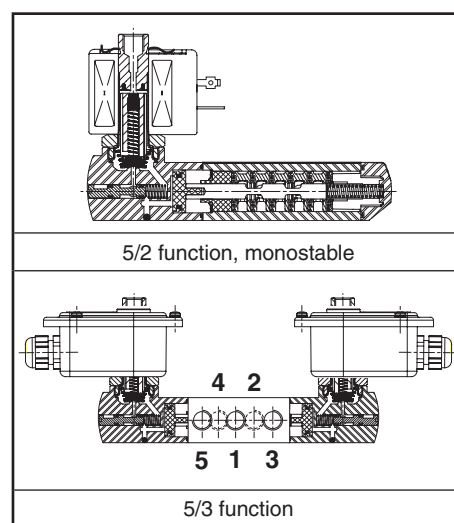
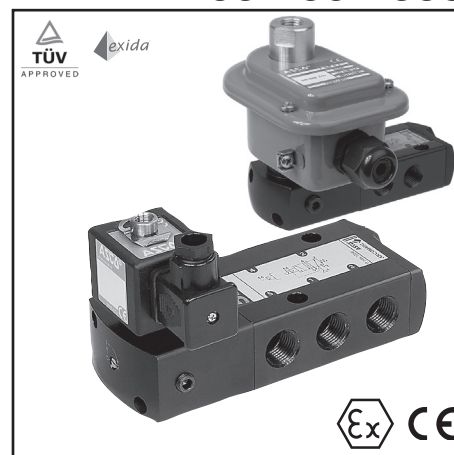
1/2 = 3800 l/min (5/2, 5/3)

fluids (*)	temperature range (TS)	seal materials (*)
air, inert gas, filtered	- 25°C to + 60°C	NBR (nitrile) + PUR (polyurethane)

MATERIALS IN CONTACT WITH FLUID

(*) Ensure that the compatibility of the fluids in contact with the materials is verified

Body	Aluminium, black anodized
End cover (spring)	Glass-filled PA
Spool valve internal parts	Zamak, stainless steel, (POM), aluminium
Pilot internal parts	Refer to specific solenoid catalogue pages
Pilot end covers	Aluminium
Core tube	Stainless steel
Core and plugnut	Stainless steel
Core spring	Stainless steel
Seals	NBR
Top disc	PA
Disc holder	POM
Cartridge (low power)	Welded, packless AISI 430
Seat	Brass
Seat insert	POM
Shading coil	Copper
Rider rings (low power)	PTFE



UP	LP	RP-MP	BP
Not available	0,4W - 1,9W	Not available	10,5W - 11,2W
Ultra Low power	Low power	Reduced and Medium power	Basic power

POWER LEVELS - cold electrical holding values (watt)

SPECIFICATIONS

pipe size	orifice size	flow coefficient kv		operating pressure differential (bar)			power level	prefix optional solenoids												basic catalogue number
				min. ⁽³⁾	max. (PS)	NEMA 7 & 9		ATEX / IECEx										IP65		
					air (*)			Ex d	Ex e mb	Ex mb	Ex ia	EEEx nA								
													~	=	~/=	EF	LPKF		NF	
(✱)	(mm)	(m³/h)	(l/min)																	
5/2 - Solenoid air pilot operated - spring return (monostable)																				
1/4	6	0,75	12,5	0/2	10	10	BP	-		●	-		●	-	-	●	●	✱551B417 ⁽²⁾		
1/4	6	0,75	12,5	0/2	10	10	BP	●	-	-	-	-	-	-	-	-	-	✱551H417 ⁽²⁾		
1/4	6	0,75	12,5	0/2	10	10	LP	-	○	●	-	●	○	○	○	○	●	✱551B317 ⁽²⁾		
1/4	6	0,75	12,5	0/2	10	10	LP	○	-	-	-	-	-	-	-	-	-	✱551H317 ⁽²⁾		
3/8	12	2,49	41,5	0/2	10	10	BP	-	-	●	-	●	-	-	-	●	●	✱552A417 ⁽²⁾		
3/8	12	2,49	41,5	0/2	10	10	BP	●	-	-	-	-	-	-	-	-	-	✱552G417 ⁽²⁾		
3/8	12	2,49	41,5	0/2	10	10	LP	-	○	●	-	●	○	○	○	○	●	✱552A317 ⁽²⁾		
3/8	12	2,49	41,5	0/2	10	10	LP	○	-	-	-	-	-	-	-	-	-	✱552G317 ⁽²⁾		
1/2	13	3,15	52,5	0/2	10	10	BP	-	-	●	-	●	●	-	-	●	●	✱553A417 ⁽²⁾		
1/2	13	3,15	52,5	0/2	10	10	BP	●	-	-	-	-	-	-	-	-	-	✱553G417 ⁽²⁾		
1/2	13	3,15	52,5	0/2	10	10	LP	-	○	●	-	●	○	○	○	○	●	✱553A317 ⁽²⁾		
1/2	13	3,15	52,5	0/2	10	10	LP	○	-	-	-	-	-	-	-	-	-	✱553G317 ⁽²⁾		

❖ Select 8 for NPT ANSI 1.20.3 or select G for ISO G (228/1)

(2) Certified IEC 61508 Functional Safety data, use suffix "SL"

(3) Zero minimum is only achieved if external pressure is applied.

● Available feature ○ Available feature in DC only - Not available

SPECIFICATIONS

pipe size	orifice size	flow coefficient kv		operating pressure differential (bar)			power level	prefix optional solenoids											basic catalogue number
				min. ⁽³⁾	max. (PS)			NEMA 7 & 9	ATEX / IECEx							IP65			
					air (*)				Ex d		Ex e mb	Ex mb	Ex ia	EEEx nA					
(*)	(mm)	(m³/h)	(l/min)		~	=	~/=	EF	LPKF	NF		EM	PV	LI	IS	ZN	SC		
5/2 - Solenoid air pilot operated and return (bistable)																			
1/4	6	0,75	12,5	0/2	10	10	BP	-	-	●	-	●	●	-	-	●	●	❖551B418	
1/4	6	0,75	12,5	0/2	10	10	BP	●	-	-	-	-	-	-	-	-	-	❖551H418	
1/4	6	0,75	12,5	0/2	10	10	LP	-	○	●	-	●	○	○	○	○	○	❖551B318	
1/4	6	0,75	12,5	0/2	10	10	LP	○	-	-	-	-	-	-	-	-	-	❖551H318	
3/8	12	2,49	41,5	0/2	10	10	BP	-	-	●	-	●	●	-	-	●	●	❖552A418	
3/8	12	2,49	41,5	0/2	10	10	BP	●	-	-	-	-	-	-	-	-	-	❖552G418	
3/8	12	2,49	41,5	0/2	10	10	LP	-	○	●	-	●	○	○	○	○	○	❖552A318	
3/8	12	2,49	41,5	0/2	10	10	LP	○	-	-	-	-	-	-	-	-	-	❖552G318	
1/2	13	3,15	52,5	0/2	10	10	BP	-	-	●	-	●	●	-	-	●	●	❖553A418	
1/2	13	3,15	52,5	0/2	10	10	BP	●	-	-	-	-	-	-	-	-	-	❖553G418	
1/2	13	3,15	52,5	0/2	10	10	LP	-	○	●	-	●	○	○	○	○	○	❖553A318	
1/2	13	3,15	52,5	0/2	10	10	LP	○	-	-	-	-	-	-	-	-	-	❖553G318	
5/3 - W1 - pressure held, solenoid air pilot operated and return																			
1/4	6	0,66	11	0/2	10	10	BP	-	-	●	-	●	●	-	-	●	●	❖551B467	
1/4	6	0,66	11	0/2	10	10	BP	●	-	-	-	-	-	-	-	-	-	❖551H467	
1/4	6	0,66	11	0/2	10	10	LP	-	○	●	-	●	○	○	○	○	○	❖551B367	
1/4	6	0,66	11	0/2	10	10	LP	○	-	-	-	-	-	-	-	-	-	❖551H367	
3/8	12	2,49	41,5	0/2	10	10	BP	-	-	●	-	●	●	-	-	●	●	❖552A467	
3/8	12	2,49	41,5	0/2	10	10	BP	●	-	-	-	-	-	-	-	-	-	❖552G467	
3/8	12	2,49	41,5	0/2	10	10	LP	-	○	●	-	●	○	○	○	○	○	❖552A367	
3/8	12	2,49	41,5	0/2	10	10	LP	○	-	-	-	-	-	-	-	-	-	❖552G367	
1/2	13	3,15	52,5	0/2	10	10	BP	-	-	●	-	●	●	-	-	●	●	❖553A467	
1/2	13	3,15	52,5	0/2	10	10	BP	●	-	-	-	-	-	-	-	-	-	❖553G467	
1/2	13	3,15	52,5	0/2	10	10	LP	-	○	●	-	●	○	○	○	○	○	❖553A367	
1/2	13	3,15	52,5	0/2	10	10	LP	○	-	-	-	-	-	-	-	-	-	❖553G367	
5/3 - W3 - pressure release, solenoid air pilot operated and return																			
1/4	6	0,66	11	0/2	10	10	BP	-	-	●	-	●	●	-	-	●	●	❖551B468	
1/4	6	0,66	11	0/2	10	10	BP	●	-	-	-	-	-	-	-	-	-	❖551H468	
1/4	6	0,66	11	0/2	10	10	LP	-	○	●	-	●	○	○	○	○	○	❖551B368	
1/4	6	0,66	11	0/2	10	10	LP	○	-	-	-	-	-	-	-	-	-	❖551H368	
3/8	12	2,49	41,5	0/2	10	10	BP	-	-	●	-	●	●	-	-	●	●	❖552A468	
3/8	12	2,49	41,5	0/2	10	10	BP	●	-	-	-	-	-	-	-	-	-	❖552G468	
3/8	12	2,49	41,5	0/2	10	10	LP	-	○	●	-	●	○	○	○	○	○	❖552A368	
3/8	12	2,49	41,5	0/2	10	10	LP	○	-	-	-	-	-	-	-	-	-	❖552G368	
1/2	13	3,15	52,5	0/2	10	10	BP	-	-	●	-	●	●	-	-	●	●	❖553A468	
1/2	13	3,15	52,5	0/2	10	10	BP	●	-	-	-	-	-	-	-	-	-	❖553G468	
1/2	13	3,15	52,5	0/2	10	10	LP	-	○	●	-	●	○	○	○	○	○	❖553A368	
1/2	13	3,15	52,5	0/2	10	10	LP	○	-	-	-	-	-	-	-	-	-	❖553G368	

❖ Select **8** for NPT ANSI 1.20.3 or select **G** for ISO G (228/1) ● Available feature ○ Available feature in DC only - Not available
⁽³⁾ Zero minimum is only achieved if external pressure is applied.

PREFIX TABLE

prefix							description	power level			
1	2	3	4	5	6	7		LP	RP	MP	BP
S	C				D	U	Dustproof ATEX (EN 50281-1-1)*	-	-	-	●
E	F						Explosionproof - NEMA 3, 4, 6, 7, 9	○	-	-	●
E	M						Encapsulated ATEX + IECEx (EN/IEC 60079 / 61241)*	●	-	-	●
		E	T				Threaded conduit/hole (M20 x 1.5)	●	-	-	●
I	S				S	C	Intrinsically safe ATEX + IECEx (EN/IEC 60079 / 61241) *	○	-	-	-
L	P	K	F				Flameproof - Alum. ATEX (IEC/ISA/EN: 60079 / 61241) *	○	-	-	-
N	F						Flameproof - Alum. ATEX + IECEx (EN/IEC 60079 / 61241)*	●	-	-	●
P	V						Encapsulated ATEX + IECEx (EN/IEC 60079 / 61241)*	○	-	-	●
S	C						Solenoid with spade plug connector (EN 60730)	●	-	-	●
W	P						Waterproof IP67 - Metal enclosure (EN 60730)	●	-	-	●
W	P				D	U	Dustproof ATEX (EN 50281-1-1) - Metal enclosure*	-	-	-	●
L	I						I.S., alu. enclosure IP67 ATEX-IECEx (EN/IEC 60079 / 61241) *	○	-	-	-
W	P				I	S	Intrinsically safe ATEX + IECEx (EN/IEC 60079 / 61241) *	○	-	-	-
W	P				Z	N	N.S. metal enclosure ATEX (EN 50021)*	●	-	-	●
W	S						Waterproof IP67 - 316 SS enclosure	●	-	-	●
W	S				D	U	Dustproof ATEX (EN 50281-1-1) - 316 SS enclosure*	-	-	-	●
W	S	L	P	K	F		Flameproof - St. steel ATEX (IEC/ISA/EN: 60079 / 61241) *	○	-	-	-
W	S	E	M				316 SS "EM" encl. ATEX + IECEx (EN/IEC 60079/61241)*	●	-	-	●
W	S	N	F				Flameproof - St. steel 316 ATEX + IECEx (EN/IEC 60079 / 61241)*	●	-	-	●
W	S	Z	N				N.S. 316 SS enclosure ATEX (EN 50021)*	●	-	-	●
Z	N						Encapsulated Non Sparking ATEX (EN 50021)*	○	-	-	●
							Threaded conduit (1/2" NPT)	●	-	-	●
							Class H - High temperature	-	-	-	●
					H	T	Low temperature -40°C (series 551)	●	-	-	●
					M	F	Other special constructions	●	-	-	●
						X					

PRODUCT SELECTION GUIDE

STEP 1

Select the fluid temperature range and seal material from the general table on page 7. Select basic catalogue number, including pipe thread identification letter. Refer to the specifications tables on pages 7 and 8.

Example : G552A417

STEP 2

Select prefix (combination). Select the appropriate operator from the specifications table on page 7 and the prefix table on page 8. Select for this operator in the electrical characteristics table on page 10: the power level (LP, BP), the type of electrical enclosure protection and the desired temperature class.

Warning: The ambient temperature range of your application may not exceed the temperature range of your operator.

Example : EM

STEP 3

Select suffix (combination) if required.

Example : MO

STEP 4

Select voltage. Refer to standard voltages on page 10.

Example : 230V / 50Hz

STEP 5

Final catalogue / ordering number.

Example :

EM G552A417MO 230 V / 50 Hz

SUFFIX TABLE

suffix					description	power level			
1	2	3	4	5		LP	RP	MP	BP
					Push type or screw type manual operator	●	-	-	●
S	L	M	O		Certified IEC 61508 Functional Safety data ⁽¹⁾	●	-	-	●

* ATEX solenoids are also approved according to EN/IEC 61241 (Dust) and EN 13463-1 (non electrical valves)

● Available feature

○ Available feature in DC only

- Not available

⁽¹⁾ Not to use with MO suffix

OPTIONS & ACCESSORIES

series	pipe size	exhaust protector (stainless steel)		
		(G)	(NPT)	(M)
551/552/553	1/8	34600418 ⁽²⁾	34600482 ⁽²⁾	-
551	1/4	34600419 ⁽²⁾	34600483 ⁽²⁾	-
552	3/8	34600478 ⁽²⁾	34600480 ⁽²⁾	-
553	1/2	34600479 ⁽²⁾	34600481 ⁽²⁾	-
551	M5	-	-	34600484

⁽²⁾ Provided with "SL" suffix.

ORDERING EXAMPLES:

SC	G	551	B	417	230V / 50 Hz
SC	G	551	B	417	SL 230V / 50 Hz
SC	G	551	B	418	MO 230V / 50 Hz
SCHT	8	551	B	418	MO 230V / 50 Hz
ISSC	G	553	A	318	MO 24V / DC
LPKF	G	551	B	317	MO 24V / DC
WSPKF	G	551	B	317	MO 24V / DC
LI	G	551	B	317	24V / DC
WPIS	8	552	A	317	24V / DC
EM	8	552	A	418	MO 230V / 50 Hz
EF	G	551	H	417	MO 240V / 60 Hz

⁽³⁾ Prefixes EF should always be used with the letter H or G in the basic number.

EXPLANATION OF TEMPERATURE RANGES OF SOLENOID VALVES

Valve temperature range	The valve temperature range (TS) is determined by the selected seal material, the temperature range for proper operation of the valve and sometimes by the fluid (e.g. steam)
Operator ambient temperature range	The operator ambient temperature range is determined by the selected power level (LP, RP, MP or BP) and the safety code
Total temperature range	The temperature range of the complete solenoid valve is determined by the limitations of both temperature ranges above

ELECTRICAL CHARACTERISTICS

Coil insulation class	F
Electrical safety	IEC 335
Standard voltages	DC (=) 24V - 48V AC (~) 24V - 48V - 115V - 230V ⁽⁵⁾ /50Hz; other voltages and 60Hz are available on request

prefix option	power ratings				operator ambient temperature range (TS)	safety code	electrical enclosure protection (EN 60529)	replacement coil / kit		type (2)
	inrush ~	holding ~		hot/cold =				~	=	
	(VA)	(VA)	(W)	(W)				(C°) ⁽¹⁾	230 V/50 Hz	
Basic power (BP)										
SC	55	23	10,5	9/11,2	-40 to +75	EN 60730	IP65 moulded	400425-117	400425-142	01
SCDU	55	23	10,5	9/11,2	-40 to +75	II3D IP65 T 200°C(~/)/135°C(=)	IP65 moulded	- (4)	- (4)	01
WP/WS	55	23	10,5	9/11,2	-40 to +75	EN 60730	IP67 steel/SS	400405-117	400405-142	04
WPDU/WSDU	55	23	10,5	9/11,2	-40 to +75	II3D IP67 T 200°C	IP67 steel/SS	- (4)	- (4)	04
NF/WSNF	55	23	10,5	-	(-60) ⁽⁷⁾ -40 to +25/40/60	II2G Ex d IIC T6/T5/T4, II2D Ex tD	IP67 alum./SS	400405-117	-	02
NF/WSNF	-	-	-	9/11,2	(-60) ⁽⁷⁾ -40 to +40/60/75	II2G Ex d IIC T6/T5/T4, II2D Ex tD	IP67 alum./SS	-	400405-142	02
EM/WSEM	55	23	10,5	9/11,2	-40 to +40	II2G Ex e mb II T3, II2D Ex tD	IP67 steel/SS	400909-117	400913-142	04
PV	55	23	10,5	9/11,2	-40 to +65	II2G Ex mb II T3(~/)/T4(=),II2D Ex mD 21	IP67 moulded	- (4)	- (4)	05
EF	55	23	10,5	9/11,2	-40 to +54/40	NEMA type 7 and 9	4X moulded	238614-058	238714-006	06
ZN	55	23	10,5	9/11,2	-20 to +50	II3GD EEx nA II T3	IP65 moulded	- (4)	- (4)	01
WPZN/WSZN	55	23	10,5	9/11,2	-40 to +50/60	II3GD EEx nA II T3(~/)/T4(=)	IP67 steel/SS	- (4)	- (4)	04
Low power (LP)										
SC	1,5	1,5	1,5	1,7/1,7	-40 to +60	EN 60730	IP65 moulded	400925-097	400925-042	07
WP/WS	1,5	1,5	1,5	1,7/1,7	-40 to +60	EN 60730	IP67 steel/SS	400926-097	400926-042	09
LPKF/WSLPKF (6)	-	-	-	0,5/0,5	-40 to +60	II2G Ex d IIB+H2 T6, II2D Ex tD A21	IP67 alum./SS	-	- (4)	13
NF/WSNF	-	-	1,9	-/1,9	(-60) ⁽⁷⁾ -40 to +75/80	II2G Ex d IIC T6/T5, II2D Ex tD	IP67 alum./SS	- (4)	- (4)	08
EM/WSEM	1,5	1,5	1,5	1,7/1,7	-40 to +40/55	II2G Ex e mb II T6/T5, II2D Ex tD	IP67 steel/SS	- (4)	- (4)	09
PV	-	-	-	1,7/1,7	-40 to +65	II2G Ex mb II T6 / II2D Ex mD 21	IP67 moulded	-	- (4)	10
EF	-	-	-	1,7/1,7	-40 to +60	NEMA type 7 and 9	4X moulded	-	- (4)	11
ISSC (3)	-	-	-	0,4/04	-40 to +60	II2G Ex ia IIC T6, II2D Ex iaD 21	IP65 moulded	-	268976-001	12
LI (6)	-	-	-	0,5/0,5	-40 to +60	II2G Ex ia IIC Gb T6, II2D Ex t IIC Db	IP67 alum./SS	-	- (4)	14
WPIS (3)	-	-	-	0,4/04	-40 to +60	II2G Ex ia IIC T6, II2D Ex iaD 21	IP67 steel	-	268900-001	09
ZN	-	-	-	1,7/1,7	-20 to +50	II3GD EEx nA II T3	IP65 moulded	-	- (4)	07
WPZN/WSZN	1,5	1,5	1,5	1,7/1,7	-40 to +60	II3GD EEx nA II T6	IP67 steel/SS	- (4)	- (4)	09

prefix option	safety parameters				
	U _i = (DC) (V)	I _i (mA)	P _i (W)	L _i (H)	C _i (μF)
Low power (LP)					
ISSC/WPIS	32	500	1,5	0	0
LI	32	500	1,5	0	0

- ⁽¹⁾ Temperature range can be limited by sealings
⁽²⁾ Refer to the dimensional drawings on pages: 11 to 14
⁽³⁾ ISSC/WPIS/LI: Check the electrical characteristics in the corresponding catalogue pages
⁽⁴⁾ Multiple coil kits are available under ATEX/IECEx, contact us
⁽⁵⁾ Low Power, 230 V AC does not exist. Maximum voltage in AC is 115 V
⁽⁶⁾ LPKF/WSLPKF/LI: Low Power, 24 V DC only
⁽⁷⁾ The certified minimum temperature of this operator
 - Not available

ELECTRICAL CONNECTIONS

prefix	connection
SC, SCDU, ZN, ISSC	Spade plug connector with cable gland EN175301-803A (ISO 4400) for cables with an outer diameter from 6 to 10 mm
WP, WS, EM, WSEM, WPDU, WSDU, WPZN, WSZN, WPIS	M20 cable gland for cables with an outer diameter from 7 to 12 mm. With an internal and external facility for an earthing or bonding conductor
NF, WSNF, LPKF, WSLPKF	1/2" NPT threaded cable entry. Enclosures are supplied without cable gland
PV	Moulded-in cable, standard length 2 m
LI	1/2 cable gland for cables with an outer diameter from 6 to 12 mm. With an internal and external facility for an earthing or bonding conductor
EF	1/2" NPT conduits, standard length 35 cm

ADDITIONAL OPTIONS

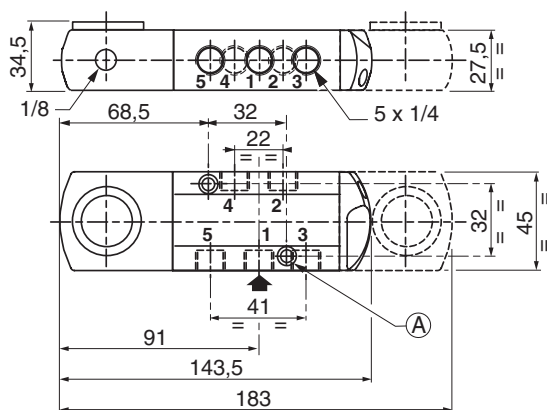
- Valves configured for external pilot air supply, TPL 20547
- Other pipe threads are available on request
- Ex mb/mD (prefix "PV") solenoid can be supplied with various cable lengths
- Compliance with "UL", "CSA" and other local approvals available on request
- 1/2" NPT (prefix "T") and M20 x 1.5 (prefix "ET") conduits (aluminium or 316 SS) available for steel solenoid housing

INSTALLATION

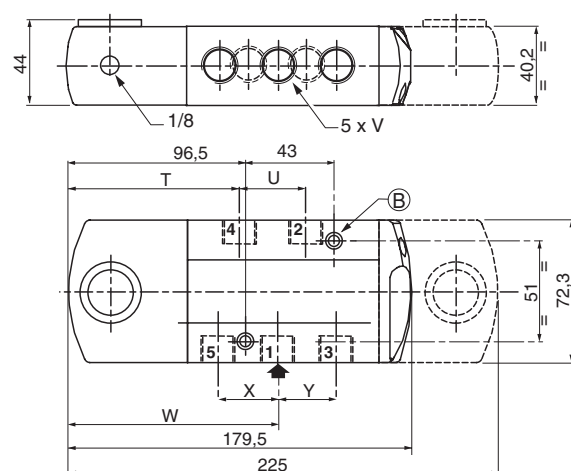
- Multi language installation/maintenance instructions are included with each valve
- The solenoid valves can be mounted in any position without affecting operation
- Do not connect the pressure supply to the exhaust port 3. The "environmentally-protected" construction is not adapted for a "distributing" function or use in NO function. Contact us for functions available in specific versions
- IEC 61508 Functional Safety (suffix SL), allowable temperature range: -40°C to +60°C. For probability of failure, contact us
- It is necessary to connect pipes or fittings to the exhaust ports to protect the internal parts of the spool valve and its pneumatic operator if used outside or in harsh environments (dusts, liquids etc.)
- Threaded pipe connection identifier is: 8 = NPT (ANSI 1.20.3); G = G (ISO 228/1)
- Prefix "NF/WSNF" enclosure is provided with a 1/2" NPT threaded entry hole, M20 x 1,5 (prefix "ET") is optional. Both are supplied without cable gland
- To comply with IEC 61508 (SIL) the valves must be provided with a specific exhaust protector (see following pages)

DIMENSIONS (mm), WEIGHT (kg)

Series 551



Series 552-553



(A) 2 mounting holes dia. 5,3; Spotfacing: dia. 9, depth 5 mm

(B) 2 mounting holes dia. 6,5; Spotfacing: dia. 11, depth 6 mm

	type	T	U	V	W	X	Y
552	01 to 11	94	29,6	3/8	111,5	29,6	29,7
	12 to 19	76	29,6	3/8	93,5	29,6	29,7
553	01 to 11	93	31,6	1/2	112,5	31,6	31,8
	12 to 19	75	31,6	1/2	94,5	31,6	31,8

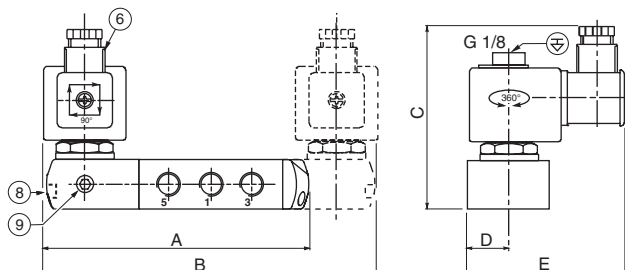
DIMENSIONS (mm), WEIGHT (kg)



TYPE 01:

SC, SCDU and ZN
Epoxy moulded
IEC 335 / ISO 4400 (SC, SCDU)
EN 50021 (ZN)

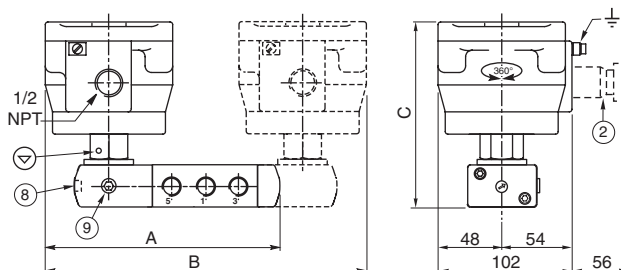
551B417/B418/B417MO/B418MO/B467/B468/B467MO/B468MO
552A417/A418/A417MO/A418MO/A467/A468/A467MO/A468MO
553A417/A418/A417MO/A418MO/A467/A468/A467MO/A468MO



TYPE 02:

NF / WSNF
Aluminium; epoxy coated / AISI 316 SS
EN/IEC 60079-1 and EN/IEC 61241-1

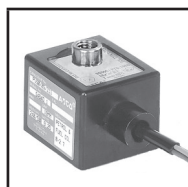
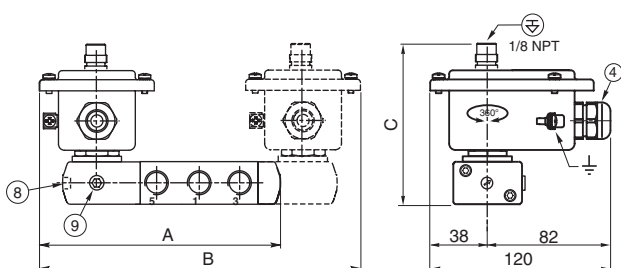
551B417/B418/B417MO/B418MO/B467/B468/B467MO/B468MO
552A417/A418/A417MO/A418MO/A467/A468/A467MO/A468MO
553A417/A418/A417MO/A418MO/A467/A468/A467MO/A468MO



TYPE 04:

WP / WS
EM / WSEM
WPDU / WSDU
WPZN / WSNZ
Steel; epoxy coated / AISI 316 SS
IEC 335 / EN 60079-7/18 and EN 61241-1

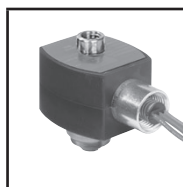
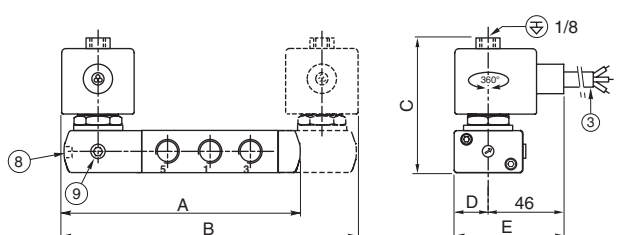
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552A417/A418/A417MO/A418MO/A467/A468/A467MO/A468MO
553A417/A418/A417MO/A418MO/A467/A468/A467MO/A468MO



TYPE 05:

PV
Epoxy encapsulated
EN/IEC 60079-18 and EN/IEC 61241-18

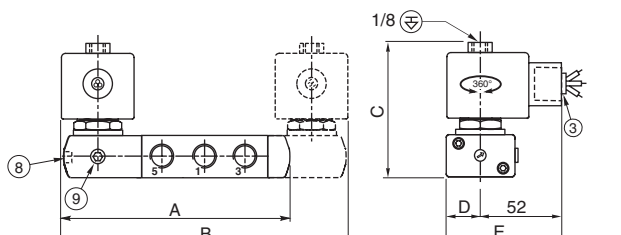
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552A417/A418/A417MO/A418MO/A467/A468/A467MO/A468MO
553A417/A418/A417MO/A418MO/A467/A468/A467MO/A468MO



TYPE 06:

EF: NEMA type 7 and 9
Epoxy encapsulated
ICS-6 ANSI
NOTE: applicable to solenoid only

551H417/H418/H417MO/H418MO/H467/H468/H467MO/H468MO
552G417/G418/G417MO/G418MO/G467/G468/G467MO/G468MO
553G417/G418/G417MO/G418MO/G467/G468/G467MO/G468MO

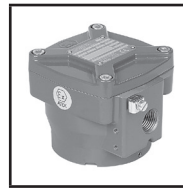
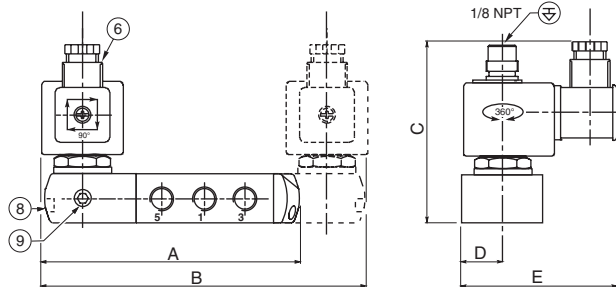


DIMENSIONS (mm), WEIGHT (kg)



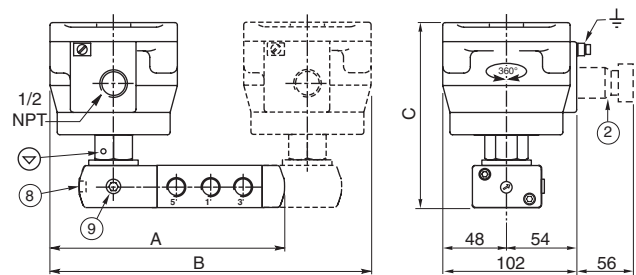
TYPE 07:
SC and ZN
Epoxy moulded
IEC 335 / ISO 4400
EN 50021

551B317/B318/B317MO/B318MO/B367/B368/B367MO/B368MO
552A317/A318/A317MO/A318MO/A367/A368/A367MO/A368MO
553A317/A318/A317MO/A318MO/A367/A368/A367MO/A368MO



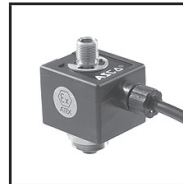
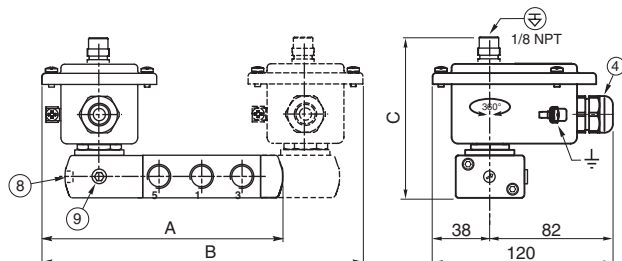
TYPE 08:
NF / WSNF
Aluminium; epoxy coated / AISI 316 SS
EN/IEC 60079-1 and EN/IEC 61241-1

551B317/B318/B317MO/B318MO/B367/B368/B367MO/B368MO
552A317/A318/A317MO/A318MO/A367/A368/A367MO/A368MO
553A317/A318/A317MO/A318MO/A367/A368/A367MO/A368MO



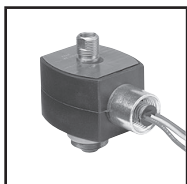
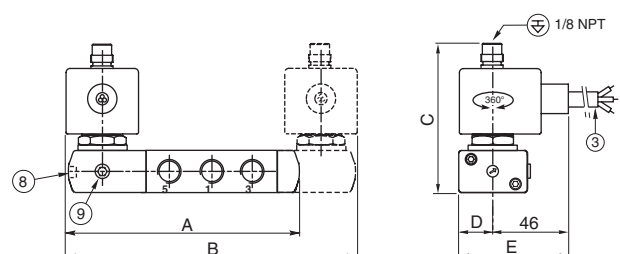
TYPE 09:
WP / WS
EM / WSEM
WPZN / WSNZ
WPIS
Steel; epoxy coated / AISI 316 SS
IEC 335/EN 60079-7/11/18/26 and EN 61241-1/11

551B317/B318/B317MO/B318MO/B367/B368/B367MO/B368MO
552A317/A318/A317MO/A318MO/A367/A368/A367MO/A368MO
553A317/A318/A317MO/A318MO/A367/A368/A367MO/A368MO



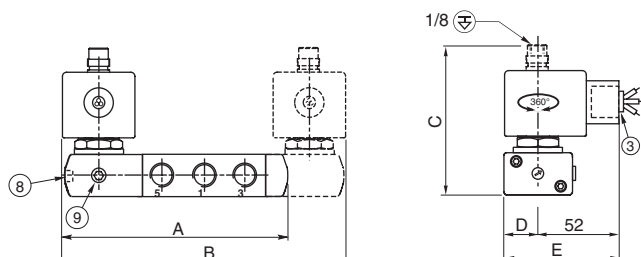
TYPE 10:
PV
Epoxy encapsulated
EN/IEC 60079-18 and EN/IEC 61241-18

551B317/B318/B317MO/B318MO/B367/B368/B367MO/B368MO
552A317/A318/A317MO/A318MO/A367/A368/A367MO/A368MO
553A317/A318/A317MO/A318MO/A367/A368/A367MO/A368MO



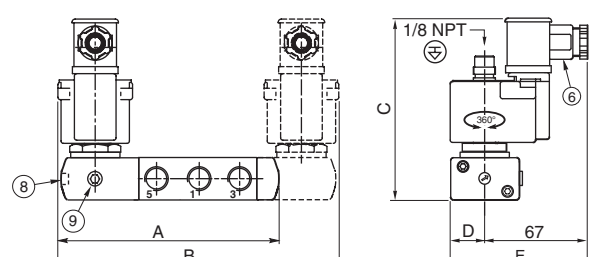
TYPE 11:
EF: NEMA type 7 and 9
Epoxy encapsulated
ICS-6 ANSI
NOTE: applicable to solenoid only

551B317/B318/B317MO/B318MO/B367/B368/B367MO/B368MO
552A317/A318/A317MO/A318MO/A367/A368/A367MO/A368MO
553A317/A318/A317MO/A318MO/A367/A368/A367MO/A368MO



TYPE 12:
ISSC
Polypropylene moulded
Epoxy moulded
IEC 335/EN 60079-11/26 and EN/IEC 61241-11

551B317/B318/B317MO/B318MO/B367/B368/B367MO/B368MO
552A317/A318/A317MO/A318MO/A367/A368/A367MO/A368MO
553A317/A318/A317MO/A318MO/A367/A368/A367MO/A368MO



DIMENSIONS (mm), WEIGHT (kg)



TYPE 13:

LPKF / WSLPKF

Aluminium, cataphoresis black painting / AISI 316L SS
EN/IEC/ISA 60079-1 and EN/IEC/ISA 61241-1



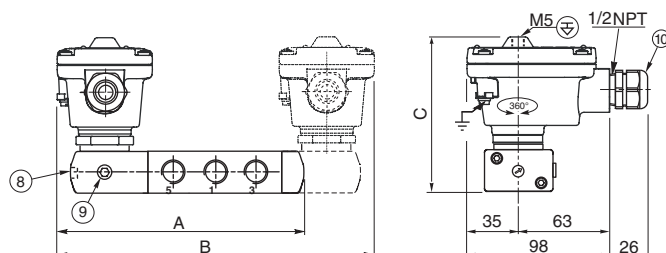
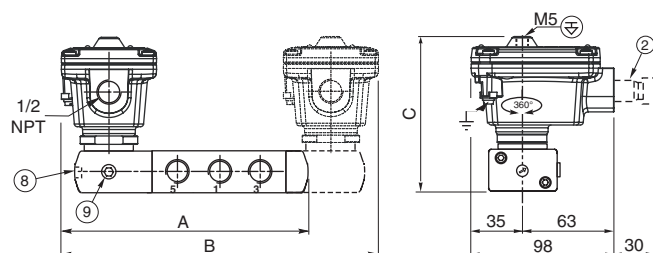
TYPE 14:

LI

Aluminium, cataphoresis black painting
IEC and EN: 60079-11, 61241-1

551B317/B318/B317MO/B318MO/B367/B368/B367MO/B368MO
552A317/A318/A317MO/A318MO/A367/A368/A367MO/A368MO
553A317/A318/A317MO/A318MO/A367/A368/A367MO/A368MO

551B317/B318/B317MO/B318MO/B367/B368/B367MO/B368MO
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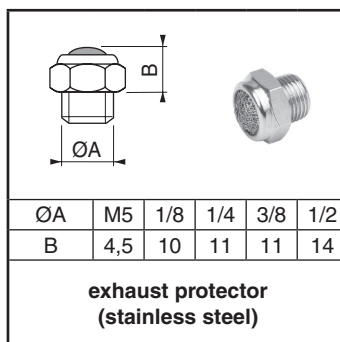
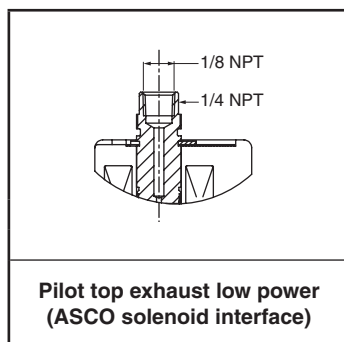
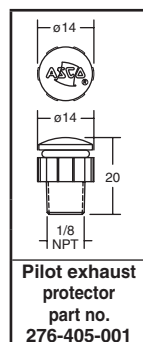


- ② Ex d certified cable gland (on request)
- ③ Three-core cable, length 2 m
- ④ Cable gland for unarmoured cable with 7 to 12 mm dia. sheath
- ⑥ Connector rotatable by 90° increments, cable Ø 6 - 10 mm
- ⑧ Push type or screw type manual operator, suffix MO
- ⑨ External pilot air supply, 1/8 pipe size
- ⑩ Cable gland for unarmoured cable with 6 to 12 mm dia. sheath
- ⊕ Connectable pilot exhaust port
- ⊖ Non-connectable pilot exhaust port

type	prefix option	power level	A		B		C		D		E		weight ⁽¹⁾					
													monostable			5/2 bistable - 5/3		
			551	552/553	551	552/553	551	552/553	551	552/553	551	552/553	551	552	553	551	552	553
01	SC / SCDU / ZN	BP	144	179,5	182	225	102,7	112,2	22,5	36,15	86,5	100,2	0,79	1,60	1,50	1,37	2,16	2,06
02	NF / WSNF	BP	170	224,3	236	314,6	141,8	151,3	-	-	-	-	1,88	2,64	2,54	3,54	4,30	4,20
04	WP/WS/WSDU/WPDU	BP	160	196,2	216	253,3	103	112,5	-	-	-	-	0,87	1,61	1,51	1,52	2,18	2,08
04	(WS)EM/WP(WS)ZN	BP	160	196,2	216	253,3	103	112,5	-	-	-	-	0,87	1,61	1,51	1,52	2,18	2,08
05	PV	BP	144	179,5	184	225	88	97,5	22,5	36,15	67,5	81,2	0,85	1,61	1,51	1,48	2,17	2,07
06	EF	BP	144,5	183	185	232	85,5	95	22,5	36,15	74,5	88,2	0,67	1,61	1,51	1,32	2,18	2,08
07	SC / ZN	LP	144,5	180,5	185	227	101,5	111	22,5	36,15	87,5	101,2	1,00	1,81	1,71	1,58	2,37	2,27
08	NF / WSNF	LP	170	224,3	236	314,6	141,8	151,3	-	-	-	-	1,88	2,64	2,54	3,54	4,30	4,20
09	WP/WS/(WS)EM	LP	160	196,2	216	258,3	102,2	111,7	-	-	-	-	1,08	1,82	1,72	1,73	2,39	2,29
09	WP(WS)ZN	LP	160	196,2	216	258,3	102,2	111,7	-	-	-	-	1,08	1,82	1,72	1,73	2,39	2,29
09	WPIS	LP	160	196,2	216	258,3	102,2	111,7	-	-	-	-	1,08	1,82	1,72	1,73	2,39	2,29
10	PV	LP	144	179,5	184	225	100,5	110	22,5	36,15	67,5	81,2	1,06	1,82	1,72	1,69	2,38	2,28
11	EF	LP	144,5	183	185	232	100,5	110	22,5	36,15	74,5	88,2	0,88	1,83	1,72	1,53	2,39	2,29
12	ISSC	LP	134	182	187	230	124,5	134	22,5	36,15	89,5	103,5	0,83	1,64	1,54	1,44	2,20	2,10
13	LPKF	LP	153	191,5	204	249	113	122,5	-	-	-	-	0,93	2,01	1,91	1,65	2,46	2,36
13	WSLPKF	LP	153	191,5	204	249	113	122,5	-	-	-	-	1,54	2,61	2,92	2,85	3,66	3,43
14	LI	LP	153	191,5	204	249	113	122,5	-	-	-	-	0,94	2,02	1,92	1,66	2,47	2,37

⁽¹⁾ Including coil(s) and connector(s).

ACCESSORIES



FEATURES

- The monostable spool valves have TÜV-EXIDA certified IEC 61508 Functional Safety data and can be used up to SIL 4 (551/TÜV)-SIL 3 (552-553/EXIDA)
- The spool valves 5/2 have threaded port connections
- All the exhaust ports of this spool valve are connectable, providing better environmental protection, particularly recommended for sensitive areas such as clean rooms, and applications in the pharmaceutical and food processing sectors
- The valve offers environmental protection against the ingress of liquids, dusts or any other foreign matter (environmentally-protected construction)
- Ultra low power level for inside application, suitable to connect to process field-bus remote I/O or valve couplers
- The solenoid valves satisfy all relevant EC Directives

GENERAL

Differential pressure

2 - 10 bar [1 bar = 100 kPa]

Flow (Qv at 6 bar)

1/4 = 860 l/min (5/2) ; 760 l/min (5/3)(ANR)

3/8 = 3000 l/min (5/2, 5/3)

1/2 = 3800 l/min (5/2, 5/3)

fluids (*)	temperature range (TS)	seal materials (*)
air, inert gas, filtered	- 25°C to + 40°C ⁽¹⁾	NBR (nitrile) + PUR (polyurethane)
	- 25°C to + 60°C	

⁽¹⁾ With series 302 pilots, suffixes CFSC/CFSD/CFVT/CFL/CFSCIS/CFSDIS/CFVTIS/CFSCZN/CFVTZN.

MATERIALS IN CONTACT WITH FLUID

(*) Ensure that the compatibility of the fluids in contact with the materials is verified

Body

Aluminium, black anodized

End cover (spring)

Glass-filled PA

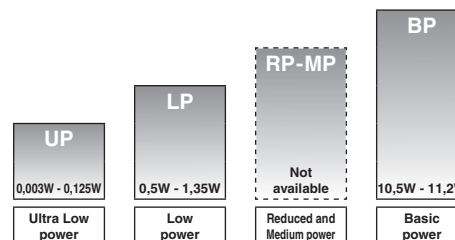
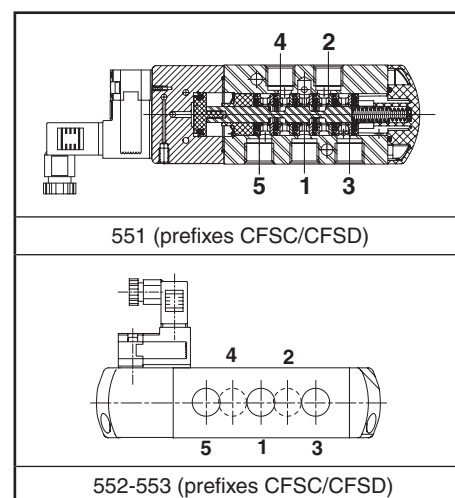
Spool valve internal parts

Zamak, stainless steel, (POM), aluminium

Pilot internal parts

Size 30 (E06.05.80), refer to specific catalogue pages:
374 pilots (CTNK) and 195 (ISSC)
Size 15 (E06.36.120N), refer to specific catalogue pages:
302 pilots (CFSC/CFSD/CFVT/CFL/
CFSCIS/CFSDIS/CFVTIS/CFSCZN/CFVTZN) and
630 piezotronic (PISC-PISCIS)
Aluminium

Pilot end covers



POWER LEVELS - cold electrical holding values (watt)

SPECIFICATIONS

pipe size	orifice size	flow coefficient kv		operating pressure differential (bar)			power level	prefix optional solenoids							basic catalogue number	
				min.	max. (PS)			ATEX / IECEx					IP65			
					air (*)			Ex d	Ex ia		IP65	EEx nA				
					~	=			~/=	CTNK				ISSC	CFSCIS	PISCIS
Solenoid air pilot operated - spring return (monostable)																
1/4	6	0,75	12,5	2	10	10	LP	-	-	-	-	●	●	-	-	❖551C517 ⁽²⁾
1/4	6	0,75	12,5	2	-	8	LP	-	-	○	-	-	-	-	-	❖551C517 ⁽²⁾
1/4	6	0,75	12,5	2	10	10	BP	●	-	-	-	-	-	-	❖551A217 ⁽²⁾	-
1/4	6	0,75	12,5	2	-	8	LP	-	○	-	-	-	-	-	❖551B217 ⁽²⁾	-
1/4	6	0,75	12,5	2	8	8	UP	-	-	-	○	-	-	●	-	❖551C517 ⁽²⁾
3/8	12	2,49	41,5	2	10	10	LP	-	-	-	-	●	●	-	-	❖552A517 ⁽²⁾
3/8	12	2,49	41,5	2	-	8	LP	-	-	○	-	-	-	-	-	❖552A517 ⁽²⁾
3/8	12	2,49	41,5	2	10	10	BP	●	-	-	-	-	-	-	❖552A217 ⁽²⁾	-
3/8	12	2,49	41,5	2	-	8	LP	-	○	-	-	-	-	-	❖552B217 ⁽²⁾	-
3/8	12	2,49	41,5	2	8	8	UP	-	-	-	○	-	-	●	-	❖552A517 ⁽²⁾
1/2	13	3,15	52,5	2	10	10	LP	-	-	-	-	●	●	-	-	❖553A517 ⁽²⁾
1/2	13	3,15	52,5	2	-	8	LP	-	-	○	-	-	-	-	-	❖553A517 ⁽²⁾
1/2	13	3,15	52,5	2	10	10	BP	●	-	-	-	-	-	-	❖553A217 ⁽²⁾	-
1/2	13	3,15	52,5	2	-	8	LP	-	○	-	-	-	-	-	❖553B217 ⁽²⁾	-
1/2	13	3,15	52,5	2	8	8	UP	-	-	-	○	-	-	●	-	❖553A517 ⁽²⁾

❖ Select 8 for NPT ANSI 1.20.3 or select G for ISO G (228/1)

⁽²⁾ Certified IEC 61508 Functional Safety data, use suffix "SL".

● Available feature ○ Available feature in DC only - Not available

SPECIFICATIONS

pipe size	orifice size	flow coefficient kv		operating pressure differential (bar)			power level	prefix optional solenoids								basic catalogue number	
				min.	max. (PS)			ATEX / IECEx						IP65			
					air (★)			Ex d	Ex ia		IP65	EEx nA					
					~	=			~/=	CTNK			ISSC		CFSCIS	PISCIS	CFSC
(✱)	(mm)	(m³/h)	(l/min)														
Solenoid air pilot operated and return (bistable)																	
1/4	6	0,75	12,5	2	10	10	LP	-	-	-	-	●	●	-	-	✧551C518	
1/4	6	0,75	12,5	2	-	8	LP	-	-	○	-	-	-	-	-	✧551C518	
1/4	6	0,75	12,5	2	10	10	BP	●	-	-	-	-	-	-	-	-	
1/4	6	0,75	12,5	2	-	8	LP	-	○	-	-	-	-	-	✧551B218	-	
1/4	6	0,75	12,5	2	8	8	UP	-	-	-	○	-	-	●	-	✧551C518	
3/8	12	2,49	41,5	2	10	10	LP	-	-	-	-	●	●	-	-	✧552A518	
3/8	12	2,49	41,5	2	-	8	LP	-	-	○	-	-	-	-	-	✧552A518	
3/8	12	2,49	41,5	2	10	10	BP	●	-	-	-	-	-	-	✧552A218	-	
3/8	12	2,49	41,5	2	-	8	LP	-	○	-	-	-	-	-	✧552B218	-	
3/8	12	2,49	41,5	2	8	8	UP	-	-	-	○	-	-	●	-	✧552A518	
1/2	13	3,15	52,5	2	10	10	LP	-	-	-	-	●	●	-	-	✧553A518	
1/2	13	3,15	52,5	2	-	8	LP	-	-	○	-	-	-	-	-	✧553A518	
1/2	13	3,15	52,5	2	10	10	BP	●	-	-	-	-	-	-	✧553A218	-	
1/2	13	3,15	52,5	2	-	8	LP	-	○	-	-	-	-	-	✧553B218	-	
1/2	13	3,15	52,5	2	8	8	UP	-	-	-	○	-	-	●	-	✧553A518	

PREFIX TABLE

prefix							description	power level			
1	2	3	4	5	6	7		UP	LP	RP	BP
CNOMO solenoid (pilot) interface size 30											
I	S	S	C				Intrinsically safe, pilot 195, ATEX ((EN 60079 / 50281-1-1)	-	○	-	-
C	T	N	K				Flameproof with pilot 374, ATEX (EN 60079 / 61241) *	-	-	-	●
CNOMO solenoid (pilot) interface size 15											
C	F	S	C				Solenoid + spade plug AMP 2,5x0,5, 9,4 mm, (EN 60730), 302 pilot	-	●	-	-
C	F	S	D				Solenoid + spade plug ISO 15217, 8 mm, (EN 60730), 302 pilot	-	●	-	-
C	F	V	T				Solenoid with M12 connection, LED + protection (EN 60730), 302 pilot	-	○	-	-
C	F	L					Solenoid with cable ends, LED + protection (EN 60730), 302 pilot	-	○	-	-
C	F	S	C	I	S		Intrinsically safe, 9,4 mm, pilot 302; ATEX (EN 60079 / 61241) *	-	○	-	-
C	F	S	D	I	S		Intrinsically safe, 8 mm, pilot 302; ATEX (EN 60079 / 61241) *	-	○	-	-
C	F	V	T	I	S		Intrins. safe, M12 (straight), LED + protection, ATEX (EN 60079 / 61241) *	-	○	-	-
C	F	S	C	Z	N		Non sparking, spade plug connector 9,4 mm, pilot 302; ATEX (EN 50021) *	-	●	-	-
C	F	V	T	Z	N		Non sparking, connector M12 (straight), LED + protection, pilot 302; ATEX (EN 50020) *	-	○	-	-
P	I	S	C				Solenoid with spade plug connector (EN 60730), 630 piezotronic pilot	●	-	-	-
P	I	S	C	I	S		Intrinsically safe, piezotronic 630 pilot, ATEX (EN 60079/61241) *	○	-	-	-

SUFFIX TABLE

suffix					description	power level			
1	2	3	4	5		UP	LP	RP	BP
CNOMO solenoid (pilot) interface size 30									
			M	S	Screw type manual operator ⁽¹⁾	-	-	-	●
			M	O	Push type or screw type manual operator ⁽¹⁾	-	○	-	-
S	L				Certified IEC 61508 Functional Safety data (monostable)				
CNOMO solenoid (pilot) interface size 15									
			M	S	Screw type manual operator ⁽¹⁾	-	●	-	-
			M	O	Push type manual operator	○/●	○/●	-	-
S	L				Certified IEC 61508 Functional Safety data (monostable)	○/●	○/●	-	-

OPTIONS & ACCESSORIES

series	pipe size	exhaust protector (stainless steel)		
		(G)	(NPT)	(M)
551/552/553	1/8	34600418 ⁽²⁾	34600482 ⁽²⁾	-
551	1/4	34600419 ⁽²⁾	34600483 ⁽²⁾	-
552	3/8	34600478 ⁽²⁾	34600480 ⁽²⁾	-
553	1/2	34600479 ⁽²⁾	34600481 ⁽²⁾	-
551/552/553	M5	-	-	34600484 ⁽²⁾

❖ Select 8 for NPT ANSI 1.20.3 or select G for ISO G (228/1)

● Available feature

○ Available feature in DC only

- Not available

* ATEX solenoids are also approved according to EN/IEC 61241 (Dust) and EN 13463-1 (non electrical valves)

⁽¹⁾ Not to use with SL suffix

⁽²⁾ Provided with SL suffix (series 551)

PRODUCT SELECTION GUIDE

STEP 1

Select the fluid temperature range and seal material from the general table on page 15. Select basic catalogue number, including pipe thread identification letter. Refer to the specifications tables on pages 15 and 16.

Example : G552A517

STEP 2

Select prefix (combination). Select the appropriate operator from the tables on pages 15 and 16. Select for this operator in the electrical characteristics table on page 17: the power level (UP, LP, BP), the type of electrical enclosure protection and the desired temperature class.

Warning: The ambient temperature range of your application may not exceed the temperature range of your operator.

Example : CFSC

STEP 3

Select suffix. Suffix **MO** mandatory for the pilot 302 (CFSCIS/CFSDIS/CFVTIS/CFSCZN/CFVTZN). Refer to the suffix table on page 16, respect the indicated power level.

Example : MO

STEP 4

Selection of TPL is mandatory for the 630 pilot (PISCIS), 12 HV DC (32 mW) and 24 HV DC (125 mW). Add "X" between the prefix "PISCIS" and the basic catalogue number.

STEP 5

Select voltage.

Refer to standard voltages on page 17.

Example : 230V / 50Hz

STEP 6

Final catalogue / ordering number.

Example :

CFSCG552A517MO 230 V / 50 Hz

ORDERING EXAMPLES:

CTNK	G	551	A	217		115V / 50 Hz
CTNK	G	551	A	218	MS	115V / 50 Hz
CTNK	G	551	A	217	SL	24V / DC
ISSC	G	551	B	217	SL	24V / DC
CFSC	G	552	C	518		230V / 50 Hz
CFSC	8	552	C	517	MO	230V / 50 Hz
CFSC	G	552	C	517	SLMO	230V / 50 Hz
CFSCZN	G	551	C	517		230V / 50 Hz
CFVTZN	G	551	C	517		24V / DC
ISSC	G	552	B	217	MO	24V / DC
PISCIS	G	551	C	518	MO	6V / DC
PISCIS	G	551	C	517	SLMO	6V / DC
PISCIS X	G	551	C	517	MO	TPL20666 24HV / DC

prefix

pipe thread

basic number

voltage

TPL

suffix

prefix — pipe thread — basic number — voltage — TPL — suffix

EXPLANATION OF TEMPERATURE RANGES OF SOLENOID VALVES

Valve temperature range	The valve temperature range is determined by the selected seal material, the temperature range for proper operation of the valve and sometimes by the fluid (e.g. steam)
Operator ambient temperature range	The operator ambient temperature range is determined by the selected power level (LP, RP, MP or BP) and the ATEX safety code
Total temperature range	The temperature range of the complete solenoid valve is determined by the limitations of both temperature ranges above

ELECTRICAL CHARACTERISTICS

Coil insulation class

F

Electrical safety

IEC 335

Standard voltages

DC (=)

CTNK : 24V - 48V ; CFSC/CFSD/CFSCZN : 12V - 24V ; CFVT/CFL/CFVTZN : 24V
CFSCIS/CFSDIS/CFVTIS : 12V - 24V ; ISSC : 24V ; PISC : 24V to 70V ; PISCIS : 6V, 8V, 12V, 24V
AC (~) CTNK : 24V - 48V - 115V - 230V/50Hz ; CFSC/CFSD/CFSCZN : 24V - 115V - 230V/50Hz ;
PISC : 24V to 70V - other voltages and 60Hz are available on request

prefix option	power ratings				operator ambient temperature range (TS)	safety code	electrical enclosure protection (EN 60529)	replacement coil		type ⁽²⁾
	inrush	holding		hot/ cold				~	=	
	~	~	=							
	(VA)	(VA)	(W)	(W)						
Basic power = BP										
CTNK	55	23	10,5	9/11,2	-20 to +50/60	II 2G/D Ex d IIB+H2 T4/Ex tD	aluminium IP65	-	-	01
Low power = LP										
CFSC/CFSD	1,4	1,2	1,1	1/1,2	-25 to +60	EN 60730	moulded IP65	-	-	03
CFSC/CFSD	2,1 ⁽⁷⁾	1,6 ⁽⁷⁾	1,5 ⁽⁷⁾	-	-25 to +60	EN 60730	moulded IP65	-	-	03
CFVT/CFL ⁽⁶⁾	-	-	-	1,15/1,35	-25 to +60	EN 60730	moulded IP67/IP65	-	-	04-05
CFSCZN	1,4	1,2	1,1	1/1,2	-25 to +60	II 3GD EEx nA IIC T5	moulded IP65	-	-	07
CFSCZN	2,1 ⁽⁷⁾	1,6 ⁽⁷⁾	1,5 ⁽⁷⁾	-	-25 to +60	II 3GD EEx nA IIC T5	moulded IP67/IP65	-	-	07
CFVTZN	-	-	-	1,15/1,35	-25 to +60	II 3GD EEx nA IIC T5	moulded IP67	-	-	08
CFSCIS ⁽⁴⁾⁽⁵⁾	-	-	-	0,5	-10 to +40/60	II 2G Ex ia IIC T6/T4, II 2D Ex iaD 20	moulded IP65	-	-	09
CFSDIS ⁽⁴⁾⁽⁵⁾	-	-	-	0,5	-10 to +40/60	II 2G Ex ia IIC T6/T4, II 2D Ex iaD 20	moulded IP65	-	-	09
CFVTIS ⁽⁴⁾⁽⁵⁾	-	-	-	0,5	-10 to +40/60	II 2G Ex ia IIC T6/T4, II 2D Ex iaD 20	moulded IP67	-	-	10
ISSC ⁽³⁾⁽⁴⁾	-	-	-	0,5	-40 to +50	II 2G Ex ia IIC T6/ II 2G Ex ia IIB T6	moulded IP65	-	-	02
Ultra low power = UP										
PISC	-	-	-	0,007	-0 to +60	-	moulded IP65	-	-	06
PISCIS ^{(1)(4)6V}	-	-	-	0,003	-20 to +50	II 2G Ex ia IIC T6, II 2D Ex iaD 20	moulded IP65	-	-	06
PISCIS ^{(1)(4)8V}	-	-	-	0,022	-20 to +50	II 2G Ex ia IIC T6, II 2D Ex iaD 20	moulded IP65	-	-	06
PISCIS ^{(1)(4)12LV}	-	-	-	0,012	-20 to +50	II 2G Ex ia IIC T6, II 2D Ex iaD 20	moulded IP65	-	-	06
PISCIS ^{(1)(4)12HV}	-	-	-	0,032	-20 to +50	II 2G Ex ia IIC T6, II 2D Ex iaD 20	moulded IP65	-	-	06
PISCIS ^{(1)(4)24LV}	-	-	-	0,046	-20 to +50	II 2G Ex ia IIC T6, II 2D Ex iaD 20	moulded IP65	-	-	06
PISCIS ^{(1)(4)24HV}	-	-	-	0,125	-20 to +50	II 2G Ex ia IIC T6, II 2D Ex iaD 20	moulded IP65	-	-	06

⁽¹⁾ Piezotronic standard voltages:

Prefix PISC, 24 V to 70 V AC/DC, peak current max.: 80 mA, holding current max.: 1 mA

Prefix PISCIS:

Turn ON voltage U _{ON}	6 V DC / 3 mW	8 V DC / 22 mW	12 V DC / 12 mW	12 H V DC / 32 mW	24 L V DC / 46 mW	24 H V DC / 125 mW
Turn OFF voltage U _{OFF}	6 .. 9 V	7,2 .. 12 V	10,8 .. 16 V	10,8 .. 16 V	21,6 .. 28 V	21,6 .. 28 V
Peak current	3 V	3,2 V	3,3 V	3,3 V	5 V	5 V
Holding current	6 mA	10 mA	6,8 mA	8,1 mA	10 mA	14 mA
Cable + max. barrier resistances (R _S + R _C)	0,5 mA	2,8 mA	1 mA	2,7 mA	1,9 mA	5,2 mA
	1200 Ω max.	300 Ω max.	1200 Ω max.	470 Ω max.	1200 Ω max.	470 Ω max.

⁽²⁾ Refer to the dimensional drawings on pages 18 to 22.

⁽³⁾ Min. operating current (I_{min}): 0,037 A

⁽⁴⁾ Intrinsically safe pilots: Check the electrical characteristics in the corresponding catalogue pages (CFSCIS/ISSC/PISCIS: 302/195/630 pilots).

⁽⁵⁾ CFSCIS/CFSDIS/CFVTIS (302 pilots):

12 V : I_{ON} min., with LED = 33 mA; U_{ON} min. = 11,9 V; U_{max} recommended = 23 V; U_{OFF} = 3,3 V; I_{OFF} = 10 mA
24 V : I_{ON} min., with LED = 25 mA; U_{ON} min. = 16,4 V; U_{max} recommended = 28 V; U_{OFF} = 5,7 V; I_{OFF} = 7 mA

⁽⁶⁾ Values for LED + protection. Use with TPL 20674 (CFSC and CFSD prefixes)

⁽⁷⁾ AC : 230V

- Not available

prefix option	safety parameters				
	U ₀ (DC) (V)	I ₀ (mA)	P ₀ (W)	L ₀ (H)	C ₀ (μF)
Low power = LP					
CFSCIS	28	300	1,6	0	0
CFSDIS/CFVTIS	28	300	1,6	0	0
ISSC (II 2G Ex ia IIC T6)	28	115	1,6	0	0
ISSC (II 2G Ex ia IIB T6)	32	195	1,6	0	0
Ultra low power = UP					
PISCIS	30	200	0,9	0	0

ELECTRICAL CONNECTIONS

prefix	connection
CTNK	3/4" NPT threaded cable entry. Enclosures are supplied without cable gland
ISSC	Spade plug connector with cable gland EN175301-803A (ISO 4400) for cables with an outer diameter from 6 to 8 mm
CFSC, CFSCIS, CFSCZN, PISC, PISCIS	Spade plug connector with cable gland DIN 43650, 9,4 mm, industry standard B, for cables with an outer diameter from 4 to 6 mm
CFSD, CFSDIS	Spade plug connector with cable gland ISO 15217 / DIN 43650, 8 mm, form C, for cables with an outer diameter from 4 to 6 mm
CFVT	M12 connection for M12 connector
CFVTIS	Straight M12 connector for cables with an outer diameter from 2,5 mm to 6,5 mm
CFVTZN	Straight M12 connector with moulded-in cable, standard length 5 m
CFL	Moulded-in flying lead, standard length 0,3 m

ADDITIONAL OPTIONS

- TPL numbers: TPL **20665**: Piezotronic, PISCIS prefix, 12 HV (32 mW); TPL **20666**: Piezotronic, PISCIS prefix, 24 HV (125 mW)
TPL **20674**: LED and protection, CFSC / CFSD prefixes, only available in 24 V AC/DC and 115 V AC - Add 0,15 W (DC) and 0,4 W/VA (AC)
- TPL **20819**: ISSC (195 pilot), temperature class T4
- Other pipe threads are available on request

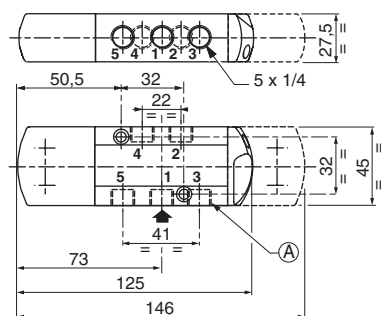
INSTALLATION

- Installation/maintenance instructions are included with each valve
- The valves can be mounted in any position without affecting operation
- IEC 61508 Functional Safety (Suffix SL), allowable temperature range: -40°C to +60°C. Probability of failure on demand, contact us
- It is necessary to connect pipes or fittings to the exhaust ports to protect the internal parts of the valve if used outside or in harsh environments (dusts, liquids etc.)
- Threaded pipe connection identifier is: 8 = NPT (ANSI 1.20.3); G = G (ISO 228/1)
- Ex d (prefix "CTNK") enclosure is provided with a 3/4" NPT threaded entry hole [optionally, 1/2" NPT (prefix "T") or M20 x 1,5 (prefix "ET")] and is supplied without cable gland
- Valves with suffix "SL" are provided with specific exhaust protectors

DIMENSIONS (mm), WEIGHT (kg) 

Types 01 et 02

Series 551

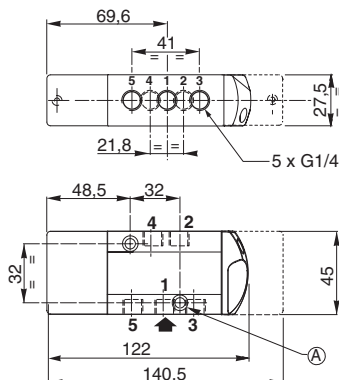


(A) 2 mounting holes dia. 5,3 mm
Spotfacing: dia. 9 mm, depth 5 mm

(B) 2 mounting holes dia. 6,5 mm
Spotfacing: dia. 11 mm, depth 6 mm

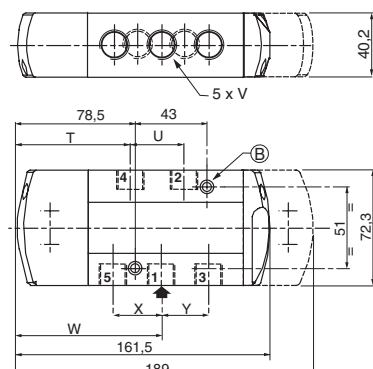
Types 03 to 10

Series 551



Types 03 to 10

Series 552-553



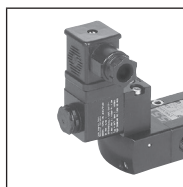
	type	T	U	V	W	X	Y
552	03 to 10	76	29,6	3/8	93,5	29,6	29,7
553	03 to 10	75	31,6	1/2	94,5	31,6	31,8



TYPE 01:

CTNK
Light alloy, cataphoresis black painting
EN 60079-1 and EN 61241-1

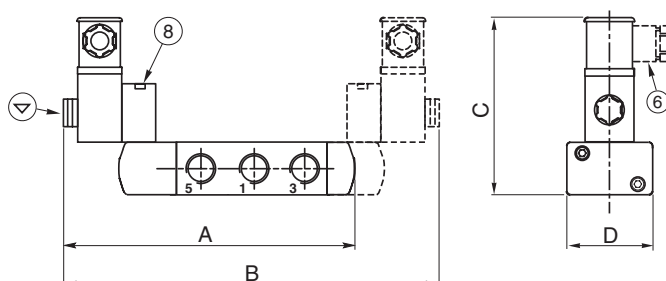
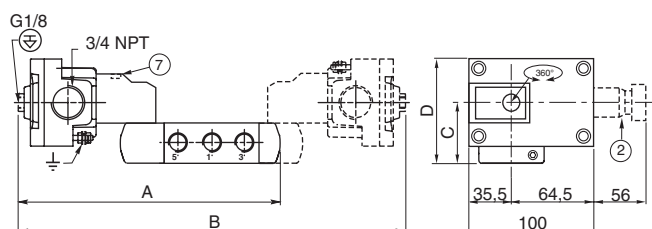
551A217MS / A218MS
552A217MS / A218MS
553A217MS / A218MS



TYPE 02:

ISSC
PA, thermoplastic resin
EN 60079-11/26 and EN 50281-1-1

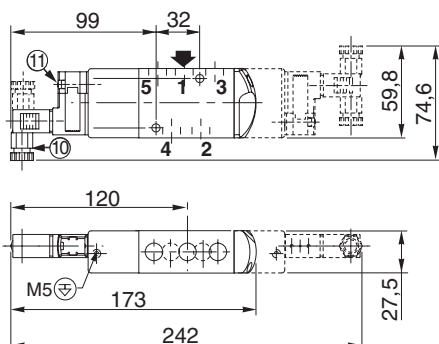
551B217MO / B218MO
552B217MO / B218MO
553B217MO / B218MO



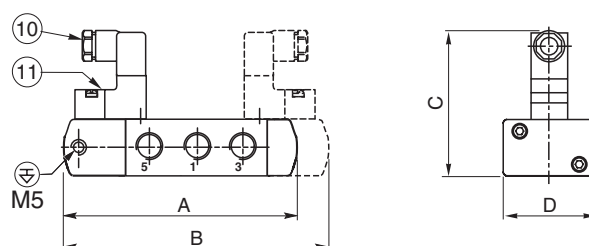
TYPE 03:

CFSC / CFSD
302 pilot
Polyarylamide
IEC 335 / DIN 43650 or ISO 15217

551C517 / 551C518
551C517MS / 551C517MO / C506MS / C506MO



552A517/A517MS/A517MO/A518/A518MS/A518MO
553A517/A517MS/A517MO/A518/A518MS/A518MO

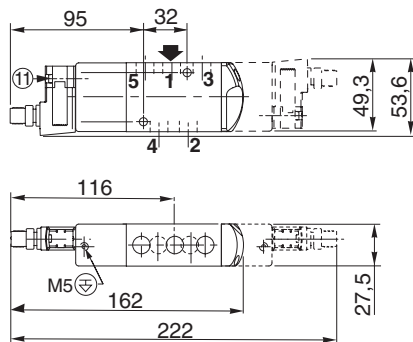


DIMENSIONS (mm), WEIGHT (kg)



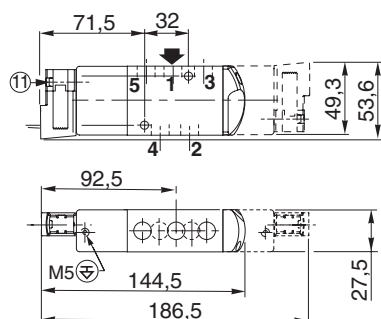
TYPE 04:
CFVT
302 pilot
Polyarylamide
IEC 335 / connection M12 + LED and protection

551C517 / 551C518
551C517MS / 551C517MO / C506MS / C506MO



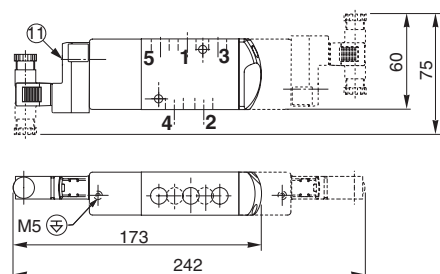
TYPE 05:
CFL
302 pilot
Polyarylamide
IEC 335 / flying lead + LED and protection

551C517 / 551C518
551C517MS / 551C517MO / C518MS / C518MO

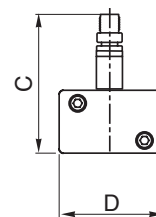
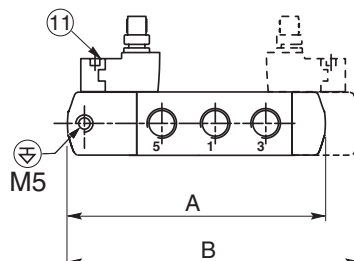


TYPE 06:
PICS / PISCIS
Piezotronic pilot
Polyamide
IEC 335 / DIN 43650
EN 60079-11/26 and EN 61241-11

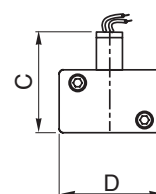
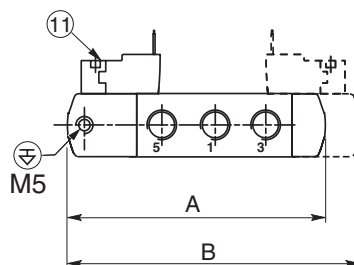
551C517MO / 551C518MO



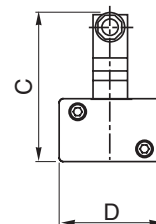
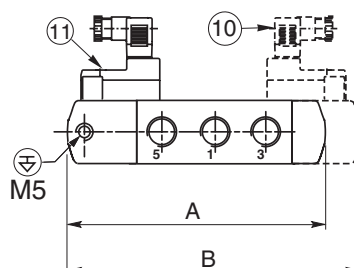
552A517 / A517MS / A517MO / A518 / A518MS / A518MO
553A517 / A517MS / A517MO / A518 / A518MS / A518MO



552A517 / A517MS / A517MO / A518 / A518MS / A518MO
553A517 / A517MS / A517MO / A518 / A518MS / A518MO



552A517MO / A518MO
553A517MO / A518MO



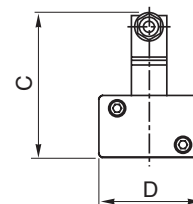
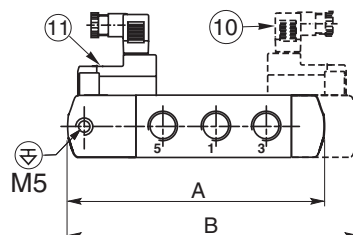
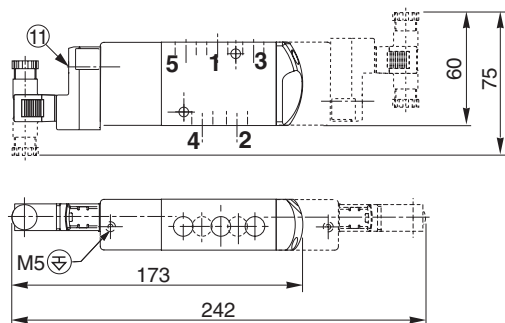
DIMENSIONS (mm), WEIGHT (kg)



TYPE 07:
CFSCZN
302 pilot
Polyarylamide
IEC 335 / Connector with LED and protection
EN 50021 and EN 50281-1-1

551C517MO / 551C518MO

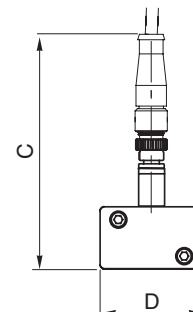
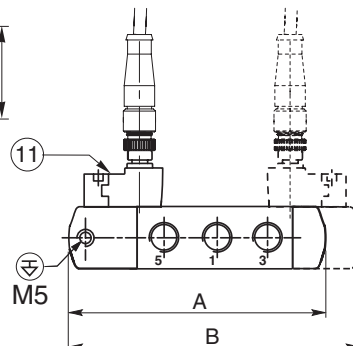
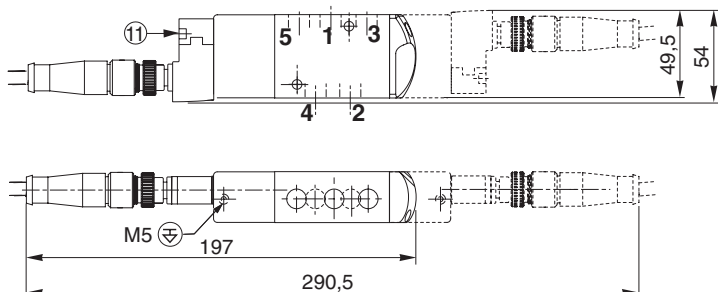
552A517MO / A518MO
553A517MO / A518MO



TYPE 08:
CFVTZN
302 pilot
Polyarylamide
IEC 335 / connection M12 + LED and protection
EN 50021 and EN 50281-1-1

551C517MO / 551C518MO

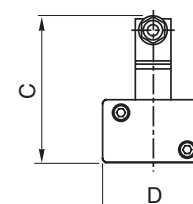
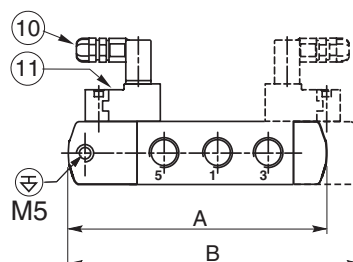
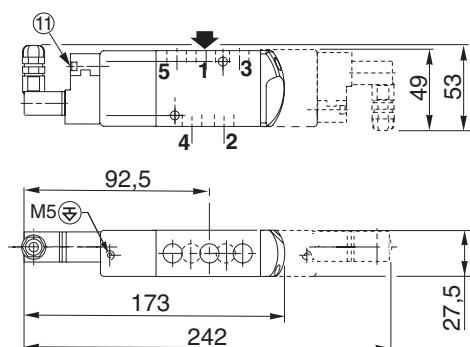
552A517MO / A518MO
553A517MO / A518MO



TYPE 09:
CFSCIS / CFSDIS
302 pilot
Polyarylamide
IEC 335 / DIN 43650 or ISO 15217
EN/IEC 60079-11/26 and EN/IEC 61241-11

551C517MO / 551C518MO

552A517MO / A518MO
553A517MO / A518MO

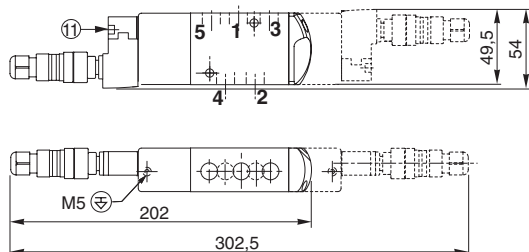


DIMENSIONS (mm), WEIGHT (kg)

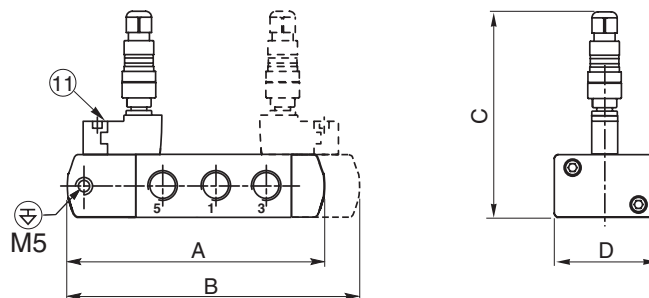


TYPE 10:
CFVTIS
302 pilot
Polyarylamide
IEC 335 / M 12 connector (straight) + LED and
protection
EN/IEC 60079-11/26 and EN/IEC 61241-11

551C517MO / 551C518MO



552A517MO / A518MO
553A517MO / A518MO



- ② Ex d certified cable gland (on request)
- ③ Three-core cable, length 2 m
- ④ Cable gland for unarmoured cable with 7 to 12 mm dia. sheath
- ⑥ Connector rotatable by 90° increments, cable Ø 6 - 10 mm
- ⑦ Screw type manual operator, suffix MS
- ⑧ Push type or screw type manual operator, suffix MO

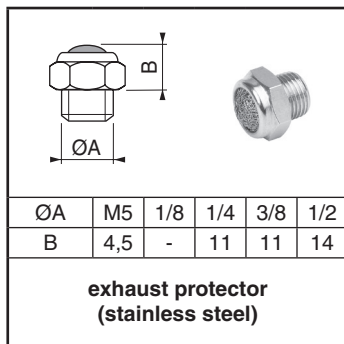
- ⑨ External pilot air supply, 1/8 pipe size
- ⑩ Connector rotatable by 90° increments, cable Ø 6 - 7 mm
- ⑪ Push type manual operator, suffix MO
- ⊕ Connectable pilot exhaust port
- ⊖ Non-connectable pilot exhaust port

DIMENSIONS (mm), WEIGHT (kg)

type	prefix option	power level	A		B		C		D		E		weight ⁽¹⁾					
													monostable			bistable		
			551	552/ 553	551	552/ 553	551	552/ 553	551	552/ 553	551	552/ 553	551	552	553	551	552	553
01	CTNK	BP	195	244,5	288	355	43	55,7	77	89,7	-	-	1,15	2,12	2,02	1,89	3,20	3,10
02	ISSC	LP	158	213,5	216	293	102	111,5	45	72,3	-	-	0,62	1,59	1,49	0,83	2,67	2,57
03	CFSC / CFSD	LP	-	161,5	-	189	-	90,2	-	72,3	-	-	0,36	1,25	1,15	0,41	2,33	2,23
04	CFVT	LP	-	161,5	-	189	-	79,2	-	72,3	-	-	0,36	1,27	1,17	0,41	2,37	2,27
05	CFL	LP	-	161,5	-	189	-	75	-	72,3	-	-	0,35	1,26	1,16	0,42	2,36	2,26
06	PISC / PISCIS	UP	-	161,5	-	189	-	91,2	-	72,3	-	-	0,34	1,25	1,15	0,35	2,33	2,23
07	CFSCZN	LP	-	134,5	-	162	-	90,2	-	72,3	-	-	0,36	1,25	1,15	0,41	2,33	2,23
08	CFVTZN	LP	-	134,5	-	162	-	115,0	-	72,3	-	-	0,59	1,48	1,38	0,87	2,79	2,69
09	CFSCIS/CFSDIS	LP	-	161,5	-	189	-	91,2	-	72,3	-	-	0,37	1,27	1,17	0,43	2,37	2,27
10	CFVTIS	LP	-	161,5	-	189	-	121	-	72,3	-	-	0,39	1,29	1,19	0,47	2,41	2,31

⁽¹⁾ Including coil(s) and connector(s).

ACCESSORIES



ØA	M5	1/8	1/4	3/8	1/2
B	4,5	-	11	11	14

**exhaust protector
(stainless steel)**

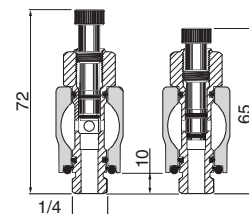
ACCESSORIES SERIES 551



Supply rail (supplied with seals and banjo bolts, without mounting brackets) (1)		
supply rail for "n" valves	catalogue number	
	G 1/4	NPT 1/4
2	88100034	88100053
3	88100035	(4)
4	88100036	88100054
5	88100037	88100058
6	88100038	88100055
7	88100039	88100059
8	88100040	88100060

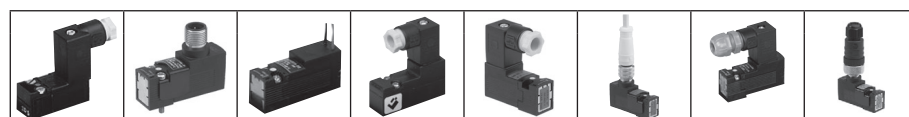
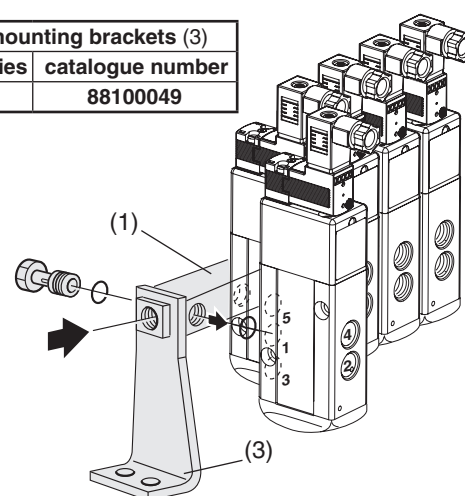
(4) Available on request.

supply rail with isolation valves with mounting brackets (3) Allows the isolation of one or more valves from the general pressure supply		
supply rail for "n" valves	catalogue number	
	G 1/4	NPT
2	88100915	-
3	88100916	-
4	88100917	-
5	88100918	-
6	88100919	-
7	88100920	-
8	88100921	-
9	88100922	-
10	88100923	-
11	88100924	-
12	88100925	-

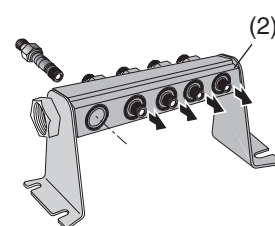
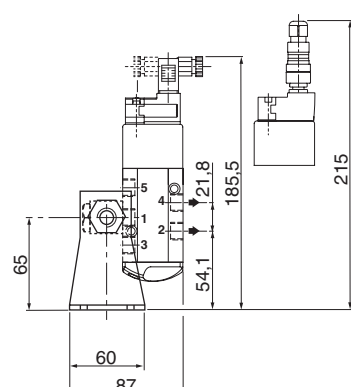
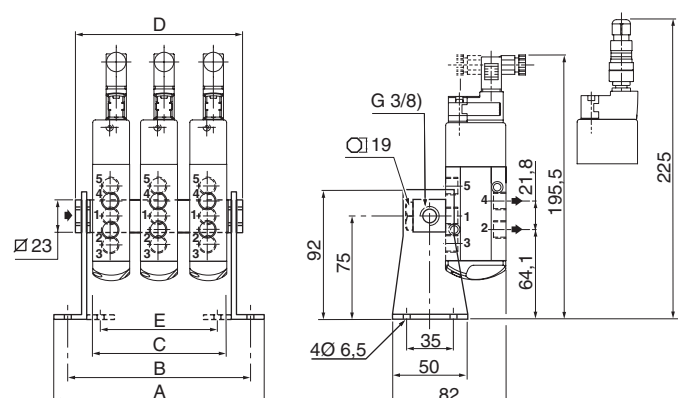


series 551	number of valves						
	2	3	4	5	6	7	8
A	108	136	164	192	220	248	276
B	92	120	148	176	204	232	260
C	55	83	111	139	167	195	223
D	78	106	134	162	190	218	246
E	42	70	98	126	154	182	210
type	weight (kg)						
03, mono/bistable	0,96 / 1,1	1,29 / 1,55	1,62 / 2,1	2,55 / 2,05	2,38 / 3	2,71 / 3,45	3,04 / 3,9
04, mono/bistable	0,96 / 1,1	1,29 / 1,55	1,62 / 2,1	2,55 / 2,05	2,38 / 3	2,71 / 3,45	3,04 / 3,9
05, mono/bistable	0,94 / 1,09	1,26 / 1,47	1,56 / 1,94	1,7 / 2	2,08 / 2,34	2,36 / 2,78	2,72 / 3,34
06, mono/bistable	0,92 / 1,02	1,23 / 1,43	1,54 / 1,98	1,95 / 2,35	1,96 / 2,76	2,22 / 3,17	2,48 / 3,58
07, mono/bistable	0,96 / 1,1	1,29 / 1,55	1,62 / 2,1	2,55 / 2,05	2,38 / 3	2,71 / 3,45	3,04 / 3,9
08, mono/bistable	1,31 / 1,67	1,83 / 2,26	2,2 / 2,81	2,81 / 3,33	3,25 / 3,85	3,41 / 4,37	3,81 / 4,89
09, mono/bistable	0,98 / 1,16	1,32 / 1,64	1,66 / 2,22	2 / 2,55	2,32 / 3	2,64 / 3,45	2,96 / 4,14
10, mono/bistable	1,1 / 1,24	1,62 / 1,83	1,99 / 2,38	2,6 / 2,9	3,04 / 3,42	3,2 / 3,94	3,6 / 4,46

mounting brackets (3)	
series	catalogue number
551	88100049

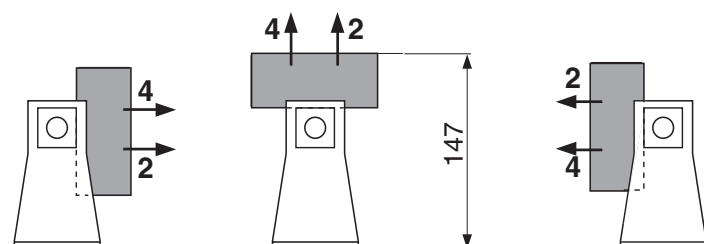


TYPE 03-04-05-06-07-08-09-10
See pages 18 to 21.

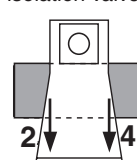


(1) or (2) supply rail
(3) mounting bracket (2x)

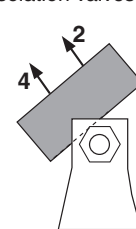
This mounting arrangement allows valves to be mounted in the positions bellow.

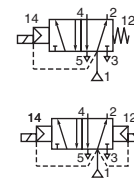


**Not possible with
supply rail and
isolation valves**



**Only with
supply rail with
isolation valves**





FEATURES

- Solenoid pilot valve 3/2 with flapper/nozzle technology for long service life
- Ultra power low pilot (**0,03 W**) for use in potentially explosive atmospheres according to ATEX-Directive 94/9/EC
EC type-examination certificate no.: **LCIE 07 ATEX 6080 X**
- Pilot associated to a series 551 valve with aluminium body for control of actuators in the pharmaceutical, fine chemical and process industries
- The pilot's intrinsic safe (Ex ia) protection allows it to be installed in hazardous zone 1 or 2. It is compatible with all safety barrier brands
- Exhaust ports of this spool valve connectable for better environmental protection
- The valve offers environmental protection against the ingress of liquids, dusts or any other foreign matter (environmentally-protected construction)
- The solenoid valves satisfy all relevant EC Directives

GENERAL

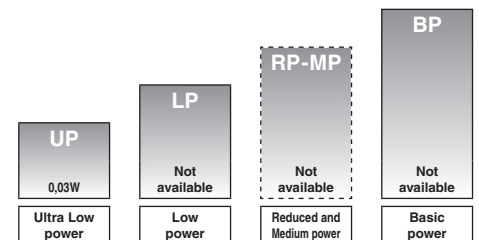
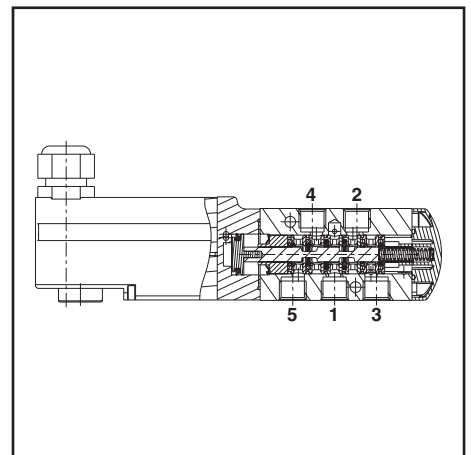
Differential pressure 2 - 8 bar [1 bar = 100 kPa]
Flow (Qv at 6 bar) 860 l/min (ANR)

fluids (*)	temperature range (TS)	seal materials (*)
air, inert gas, dry, filtered	- 40°C to + 60°C	NBR (nitrile) + PUR (polyurethane)

MATERIALS IN CONTACT WITH FLUID

(*) Ensure that the compatibility of the fluids in contact with the materials is verified

Body	Aluminium, black anodised
End cover (spring return)	PBT
Pilot end covers	Aluminium
Spool valve internal parts	Stainless steel, POM, aluminium
Pilot housing	PBT reinforced (thermoplastic polyester)
Pilot seals	NBR + VMQ (silicone)



POWER LEVELS - cold electrical holding values (watt)

SPECIFICATIONS

pipe size	orifice size	flow coefficient kv		operating pressure differential (bar)			power level	prefix optional solenoids								basic catalogue number
								ATEX / IECEx								
				min.	max. (PS)			Ex ia								
					air (*)											
(❖)	(mm)	(m³/h)	(l/min)	~	=	~/=		CTPV								
Solenoid air pilot operated - spring return (monostable)																
1/4	6	0,75	12,5	2	-	8	UP	-	○	-	-	-	-	-	❖551A697	
Solenoid air pilot operated and return (bistable)																
1/4	6	0,75	12,5	2	-	8	UP	-	○	-	-	-	-	-	❖551A698	

❖ Select **8** for NPT ANSI 1.20.3 or select **G** for ISO G (228/1) ○ Available feature in DC only - Not available

PREFIX TABLE

prefix							description	power level			
1	2	3	4	5	6	7		UP	LP	RP	BP
Solenoid (pilot) interface											
C	T	P	V				Intrinsically safe with pilot 19500033, ATEX (EN 60079) *	Q	-	-	-

PRODUCT SELECTION GUIDE

STEP 1

Select the fluid temperature range and seal material from the general table on page 23. Select basic catalogue number, including pipe thread identification letter. Refer to the specifications tables on page 23.

Example : G551A697

STEP 2

Select prefix (combination). Select the appropriate operator from the tables on page 23. Select for this operator in the electrical characteristics table on page 25: the power level (UP), the type of electrical enclosure protection and the desired temperature class.

Warning: The ambient temperature range of your application may not exceed the temperature range of your operator.

Example : CTPV

STEP 3

Select voltage.

Refer to standard voltages on page 24.

Example : 16..40V / DC

STEP 4

Final catalogue / ordering number.

Example :

CTPVG551A697 16..40V / DC

OPTIONS & ACCESSORIES

series	pipe size	exhaust protector (stainless steel)		fitting with inlet filter 0,1 mm and seal
		(G)	(NPT)	(G)
551	1/4	34600419	34600483	88100931

❖ Select **8** for NPT ANSI 1.20.3 or select **G** for ISO G (228/1)

● Available feature

○ Available feature in DC only

- Not available

* ATEX solenoids are also approved to EN 13463-1 (non electrical valves)

ORDERING EXAMPLES:

CTPV	G	551	A	697	24V / DC
CTPV	8	551	A	698	24V / DC
prefix	pipe thread	basic number			voltage
					TPL
					suffix

EXPLANATION OF TEMPERATURE RANGES OF SOLENOID VALVES

Valve temperature range	The valve temperature range is determined by the selected seal material, the temperature range for proper operation of the valve and sometimes by the fluid (e.g. steam)
Operator ambient temperature range	The operator ambient temperature range is determined by the selected power level (UP) and the ATEX safety code
Total temperature range	The temperature range of the complete solenoid valve is determined by the limitations of both temperature ranges above

ELECTRICAL CHARACTERISTICS

Coil insulation class	B
Electrical safety	IEC 335
Voltage range	DC (=) CTPV : 16 to 40 V

prefix option	power ratings				operator ambient temperature range (TS)	safety code	electrical enclosure protection (EN 60529)	replacement coil		type ⁽²⁾
	inrush ~	holding ~		hot/ cold =				~	=	
	(VA)	(VA)	(W)	(W)				-	-	
Ultra low power (UP)										
CTPV ⁽¹⁾	-	-	-	0.04/0.03	-40 to +80/+50	II 2G Ex ia IIC T5/T6	moulded IP65	-	-	01

⁽¹⁾ Prefix CTPV, U_{max} : 16 to 40 V DC; Max. current consumption : I_{max} : 2,5 to 6,7 mA; P_{max} : 40 to 270 mW
8080 Ω at +80°C ≤ Internal resistance (Ω) ≥ 5000 Ω at +40°C

prefix option	safety parameters				
	U _i (DC)	I _i	P _i	L _i	C _i
	(V)	(mA)	(W)	(H)	(μF)
Ultra low power (UP)					
CTPV	40	200	0,75	0	0

⁽²⁾ Refer to the dimensional drawings on page 26.

- Not available

ELECTRICAL CONNECTIONS

prefix	connection
CTPV	M20 cablegland for cables with an outer diameter from 5 to 9 mm

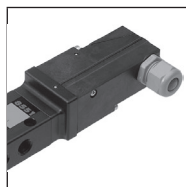
ADDITIONAL OPTIONS

- Other pipe threads are available on request

INSTALLATION

- Installation/maintenance instructions are included with each valve
- The valves can be mounted in any position without affecting operation
- It is recommended to protect the pilot with an inlet filter G 1/4, catalogue number 88100931
- It is necessary to connect pipes or fittings to the exhaust ports to protect the internal parts of the valve if used outside or in harsh environments (dusts, liquids etc.)
- Threaded pipe connection identifier is: 8 = NPT (ANSI 1.20.3); G = G (ISO 228/1)

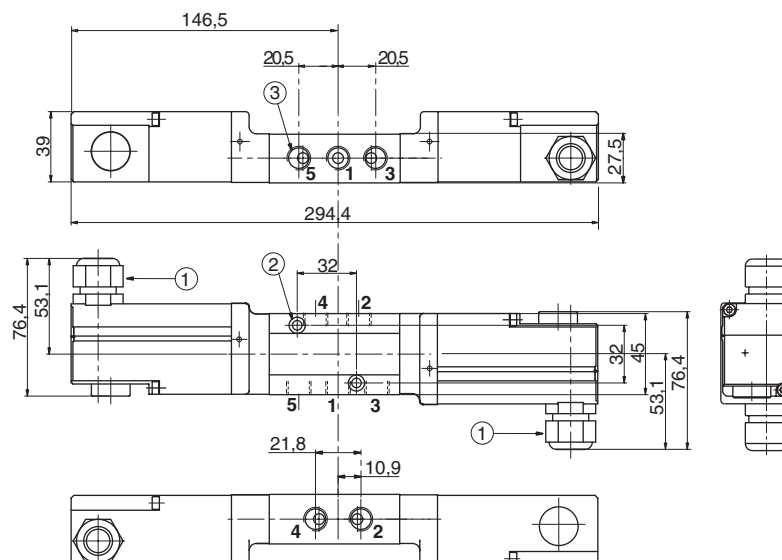
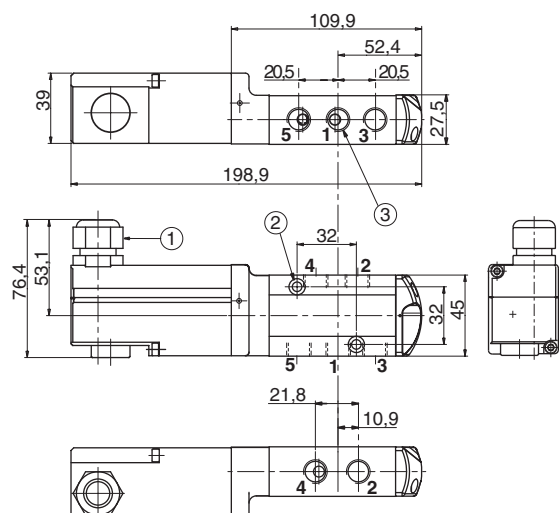
DIMENSIONS (mm), WEIGHT (kg)



TYPE 01:
CTPV
Aluminium
IEC 335 / ISO 4400
EN 60079-11

551A697

551A698

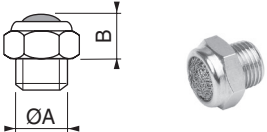
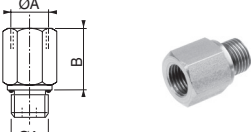


- ① Cable gland for unarmoured cable with 5 to 9 mm dia. sheath
- ② 2 mounting holes dia. 5,3 mm Spotfacing: dia. 9 mm, depth 5 mm
- ③ 5 x 1/4

type	prefix option	power level	weight ⁽¹⁾	
			monostable	bistable
01	CFVT	UP	0.52	0.78

(1) Without cable.

ACCESSORIES

							
ØA	-	-	1/4	-	-	1/4	
B	-	-	11	-	-	19	
exhaust protector (stainless steel)						fitting with inlet filter 100 mm and seal	