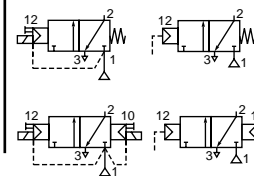




SPOOL VALVES

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



3/2
Series
551
552-553

FEATURES

- The monostable spool valves, series 551, have TÜV certified IEC 61508 Functional Safety data and can be used up to SIL 4/AK 7
- The spool valves 3/2 NC 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 (ANR)
3/8 = 3000 l/min
1/2 = 3800 l/min

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

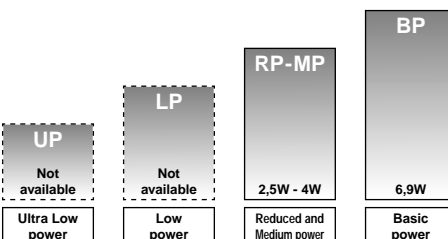
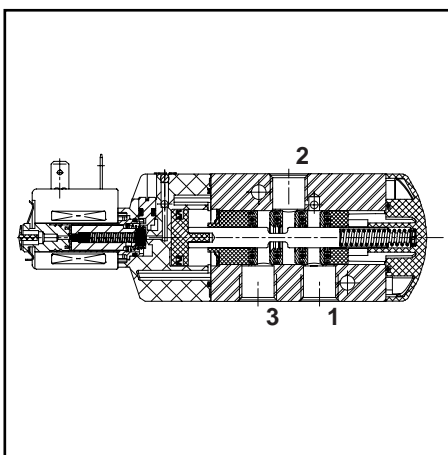
MATERIALS IN CONTACT WITH FLUID

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

Body Aluminium, black anodised
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)			
(*)	(mm)	(m³/h)	(l/min)		air (*)			
					~	=		
Air pilot operated - spring return (monostable)								
1/4	6	0,75	12,5	2	10	10	-	❖551A105 ⁽²⁾
3/8	12	2,49	41,5	2	10	10	-	❖552A105
1/2	13	3,15	52,5	2	10	10	-	❖553A105
Air pilot operated and return (bistable)								
1/4	6	0,75	12,5	2	10	10	-	❖551A106
3/8	12	2,49	41,5	2	10	10	-	❖552A106
1/2	13	3,15	52,5	2	10	10	-	❖553A106



POWER LEVELS - cold electrical holding values (watt)

PILOT OPERATED SPECIFICATIONS

pipe size	orifice size	flow coefficient kv		operating pressure differential (bar)			power level	prefix optional solenoids				basic catalogue number	
				min.	max. (PS)			ATEX/CENELEC (gas/dust)					
					air (*)			EEx d	EEx em	EEx m	EEx i		IP65
(*)	(mm)	(m³/h)	(l/min)		~	=	~/=			PV	SC		
Solenoid air pilot operated - spring return (monostable)													
1/4	6	0,75	12,5	2	10	10	RP	-	-	-	-	●	❖551A005 ⁽²⁾
1/4	6	0,75	12,5	2	10	10	MP	-	-	●	-	-	❖551A005 ⁽²⁾
3/8	12	2,49	41,5	2	10	10	BP	-	-	●	-	●	❖552A005
1/2	13	3,15	52,5	2	10	10	BP	-	-	●	-	●	❖553A005
Solenoid air pilot operated and return (bistable)													
1/4	6	0,75	12,5	2	10	10	RP	-	-	-	-	●	❖551A006
1/4	6	0,75	12,5	2	10	10	MP	-	-	●	-	-	❖551A006
3/8	12	2,49	41,5	2	10	10	BP	-	-	●	-	●	❖552A006
1/2	13	3,15	52,5	2	10	10	BP	-	-	●	-	●	❖553A006

❖ 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".

PREFIX TABLE

prefix							description	power level			
1	2	3	4	5	6	7		LP	RP	MP	BP
S	C						Dustproof ATEX (EN 50281-1-1) *	-	●	-	●
P	V						Encapsulated ATEX (EN 50028) *	-	-	●	●
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, 1 GD c, construction safety, gas/dust-ATEX (EN 13463-5)	-	-	-	-
			M	S	Screw type manual operator	-	●	●	●
	S	L			Certified IEC 61508 Functional Safety data ⁽¹⁾	-	●	●	●

- Available feature
- Not available
- * ATEX solenoids are also approved to EN 50281-1-1 (dust) and EN 13463-1 (non electrical valves)
- ⁽¹⁾ 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 page 1.

Example : G551A005

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 : PV

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 :

PV G551A005MS 230 V / 50 Hz

OPTIONS & ACCESSORIES

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

⁽²⁾ Provided with "SL" suffix.

ORDERING EXAMPLES:

SC	G	551	A	005	MS	230V / 50 Hz
SCDU	G	551	A	006		115V / 50 Hz
PV	8	551	A	006		115V / 50 Hz
SC	G	552	A	005	MS	24V / DC
	G	553	A	106		
	G	551	A	106	GD	
	G	551	A	105	GD SL	
SC	G	551	A	005	SL	

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 (=) 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 ⁽³⁾
	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	-	-	4	-/6,9	-40 to +65/40	II 2 G/D EEx m IIC T3 (AC-DC)	moulded IP65	- ⁽⁴⁾	- ⁽⁴⁾	04
Medium power (MP)										
PV	9	5	4	3,5/4,0	-40 to +60	II 2 G/D EEx m IIC T4 (AC) / T5 (DC)	moulded IP65	- ⁽⁴⁾	- ⁽⁴⁾	03
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

⁽³⁾ 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
- EEx m (prefix "PV") execution can be supplied in 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
- Magnetic latch execution for 551 series, TPL 20649

INSTALLATION

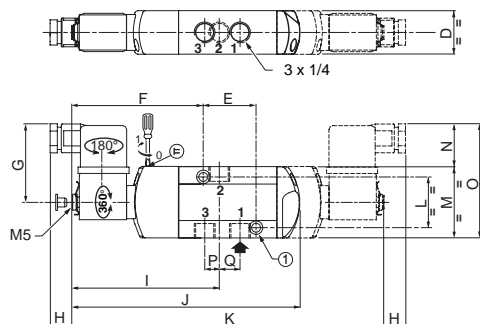
- Installation/maintenance instructions are included with each valve
- The valves can be mounted in any position without affecting operation
- IEC 61508 Functional Safety (Suffix SL), allowable temperature range: -40°C to +60°C. Probability of failure on demand, contact us
- It is necessary to connect 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)

DIMENSIONS (mm), WEIGHT (kg)



TYPE 01: Prefixes SC: IP65, SCDU: II 3 D, IP65, T85°C to 135°C
 Reduced power
 Epoxy moulded
 IEC 335 / DIN 43650

551A005 / A005MS / A006 / A006MS

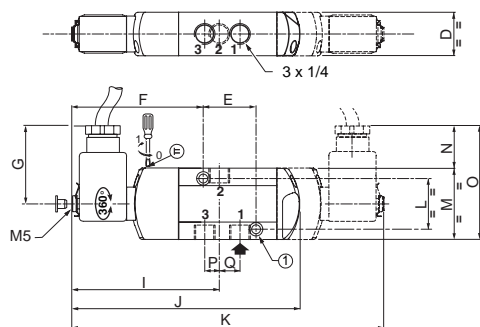


① 2 mounting holes dia. 5,3; spotfacing: dia. 9, depth 5 mm



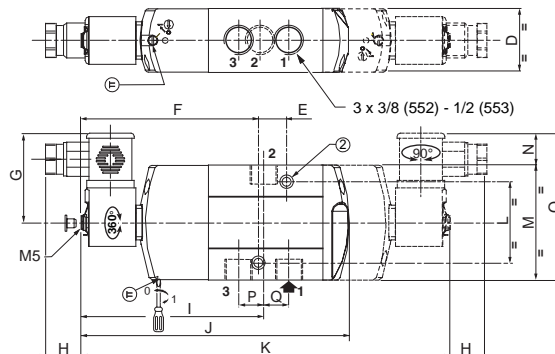
TYPE 03: Prefix: PV: II 2 GD, IP65, EEx m II
 Medium power
 Epoxy encapsulated
 EN50028 and EN 50281-1-1

551A005 / A005MS / A006 / A006MS



TYPE 02: Prefixes SC: IP65, SCDU: II 3 D, IP65, T85°C to 135°C
 Basic power
 Epoxy moulded
 IEC 335 / ISO 4400

552A005 / A005MS / A006 / A006MS
 553A005 / A005MS / A006 / A006MS

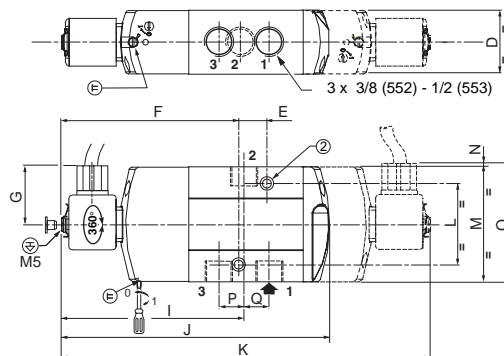


② 2 mounting holes dia. 6,5; spotfacing: dia. 11, depth 6 mm



TYPE 04: Prefix: PV: II 2 GD, IP65, EEx m II
 Basic power
 Epoxy encapsulated
 EN50028 and EN 50281-1-1

552A005 / A005MS / A006 / A006MS
 553A005 / A005MS / A006 / A006MS



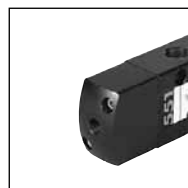
type	prefix option	power level	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	weight ⁽¹⁾	
																	monost.	bistable
01 (551)	SC / SCDU	RP	27,5	33	83,5	49	13	93,5	145	198	32	45	27	72	9,5	12	0,35	0,43
02 (552)	SC / SCDU	BP	40,2	16	114,2	56,2	21,8	111,6	170,2	233,3	51	72,3	20	92,3	12,1	17,5	0,70	1,00
02 (553)	SC / SCDU	BP	40,2	16	114,2	56,2	21,8	111,6	170,2	233,3	51	72,3	20	92,3	12,1	19,5	0,69	0,99
03 (551)	PV	MP	27,5	33	83,5	43,5	13	93,5	145	198	32	45	21	72	9,5	12	0,37	0,49
04 (552)	PV	BP	40,2	16	114,2	36,5	21,8	111,6	170,2	233,3	51	72,3	0,3	92,3	12,1	17,5	0,73	1,03
04 (553)	PV	BP	40,2	16	114,2	36,5	21,8	110,6	170,2	233,3	51	72,3	0,3	92,3	12,1	19,5	0,72	1,02

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

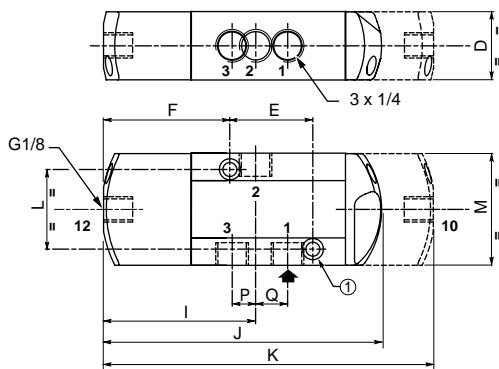


DIMENSIONS (mm), WEIGHT (kg)

TYPE 05: No prefix (suffixes "GD", "SL" or "GDSL")
Air operated version
(supply rail - see below)



551A105 / 551A106

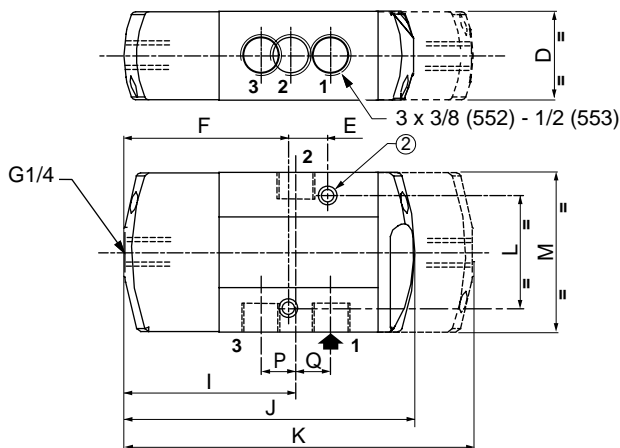


- ① 2 mounting holes dia. 5,3; spotfacing: dia. 9, depth 5 mm
- ② 2 mounting holes dia. 6,5; spotfacing: dia. 11, depth 6 mm

TYPE 06: No prefix (suffix "GD")
Air operated version



552A105 / 552A106 / 553A105 / 553A106



type	D	E	F	I	J	K	L	M	P	Q	weight	
											monost.	bistable
05 (551)	27,5	33	50,5	61	112	133	32	45	9,5	12	0,28	0,36
06 (552)	40,2	16	78,5	75,6	134,5	162	51	72,3	12,1	17,4	0,81	1,07
06 (553)	40,2	16	78,5	74,6	134,5	162	51	72,3	12,1	19,4	0,80	1,06

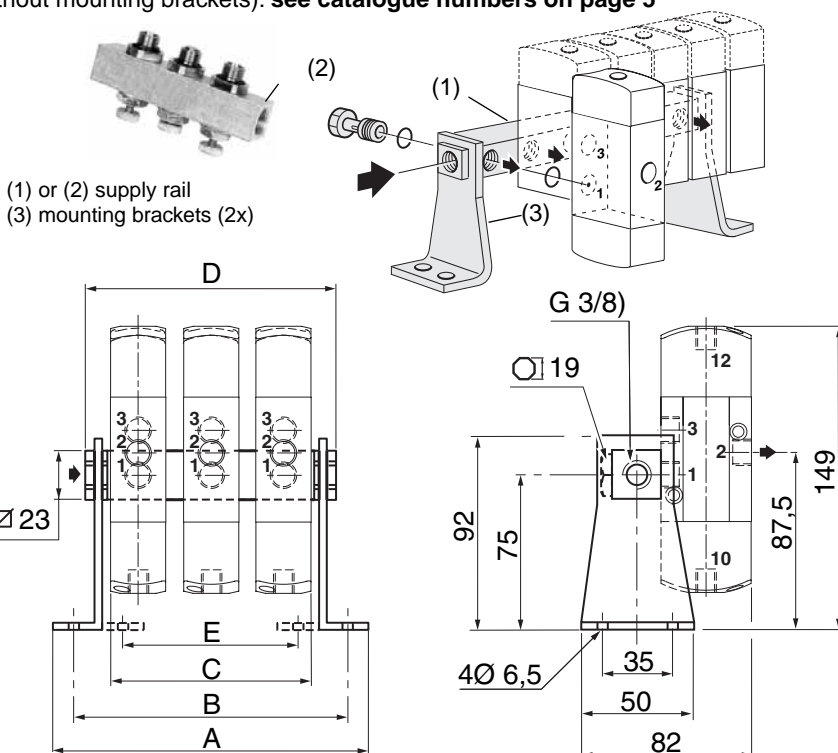
ACCESSORIES SERIES 551, 552 and 553

• Supply rail (supplied with seals and banjo bolts, without mounting brackets): see catalogue numbers on page 5

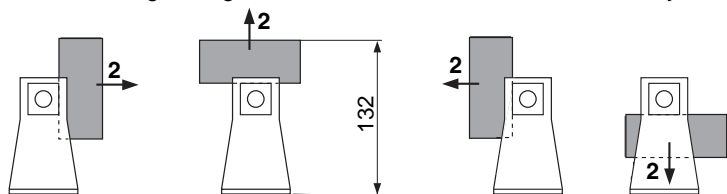
Series 551	number of valves						
	2	3	4	5	6	7	8
A	108	136	164	192	220	248	276
B	92	120	148	176	204	232	260
C	55	83	111	139	167	195	223
D	78	106	134	162	190	218	246
E	42	70	98	126	154	182	210
type 5, monost.*	0,9	1,2	1,5	1,9	2,2	2,5	2,8
type 5, bistable*	1,0	1,4	1,9	2,3	2,7	3,1	3,5

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 6, monost.*	2,3	3,0	3,8	4,7	5,5	6,3	7,2
type 6, bistable*	2,5	3,5	4,6	5,7	6,7	7,7	8,7

* Weight (kg)



This mounting arrangement allows valves to be mounted in any of 4 positions.

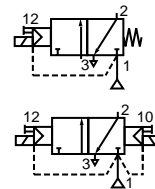


All leaflets are available on: www.asco-process-scope.com



SOLENOID VALVES

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



3/2
Series
551
552-553

FEATURES

- The monostable spool valves, series 551, have TÜV certified IEC 61508 Functional Safety data and can be used up to SIL 4/AK 7
- The spool valves 3/2 NC 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

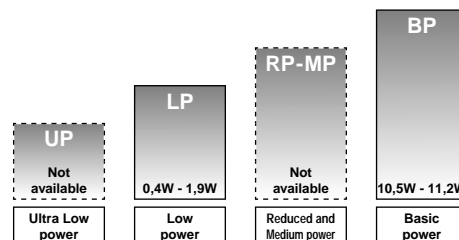
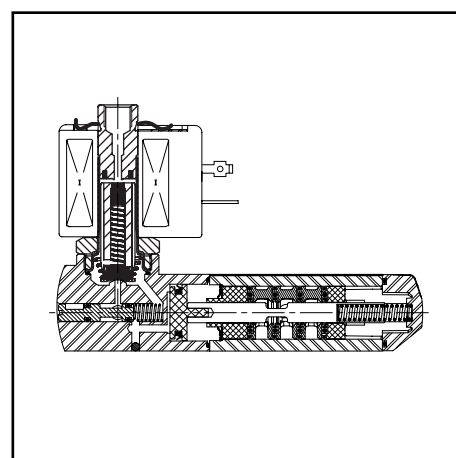
Differential pressure 2 - 10 bar [1 bar = 100 kPa]
Flow (Qv at 6 bar) 1/4 = 860 l/min (ANR)
 3/8 = 3000 l/min
 1/2 = 3800 l/min

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 anodised
End cover (spring return)	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	AC
Cartridge (low power)	Welded, packless AISI 430
Seat	Brass
Seat insert	AC
Shading coil	Copper
Rider rings (low power)	PTFE



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	ATEX/CENELEC (gas/dust)					IP65			
								air (*)		7 & 9	EEx d	EEx em		EEx m		EEx i
(*)	(mm)	(m³/h)	(l/min)	~	=	~/=	EF	NF	NK	EM	PV	IS	ZN	SC		
Solenoid air pilot operated - spring return (monostable)																
1/4	6	0,75	12,5	0/2	10	10	BP	-	●	●	●	●	-	●	●	❖551B405 ⁽²⁾
1/4	6	0,75	12,5	0/2	10	10	BP	●	-	-	-	-	-	-	-	❖551H405 ⁽²⁾
1/4	6	0,75	12,5	0/2	10	10	LP	-	●	-	-	-	○	○	-	❖551B305 ⁽²⁾
1/4	6	0,75	12,5	0/2	10	10	LP	○	-	-	-	-	-	-	-	❖551H305 ⁽²⁾
3/8	12	2,49	41,5	0/2	10	10	BP	-	●	●	●	●	-	●	●	❖552A405
3/8	12	2,49	41,5	0/2	10	10	BP	●	-	-	-	-	-	-	-	❖552G405
3/8	12	2,49	41,5	0/2	10	10	LP	-	●	-	●	○	○	○	●	❖552A305
3/8	12	2,49	41,5	0/2	10	10	LP	○	-	-	-	-	-	-	-	❖552G305
1/2	13	3,15	52,5	0/2	10	10	BP	-	●	●	●	●	-	●	-	❖553A405
1/2	13	3,15	52,5	0/2	10	10	BP	●	-	-	-	-	-	-	-	❖553G405
1/2	13	3,15	52,5	0/2	10	10	LP	-	●	-	●	○	○	○	●	❖553A305
1/2	13	3,15	52,5	0/2	10	10	LP	○	-	-	-	-	-	-	-	❖553G305

❖ 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
 (2) Certified IEC 61508 Functional Safety data, use suffix "SL".
 (3) Zero minimum is only achieved if external pressure is applied.

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	ATEX/CENELEC (gas/dust)					IP65		
					air (*)				7 & 9	EEx d	EEx em	EEx m	EEx i			EEx nA
(*)	(mm)	(m ³ /h)	(l/min)	~	=	-/=	EF	NF	NK	EM	PV	IS	ZN	SC		
Solenoid air pilot operated and return (bistable)																
1/4	6	0,75	12,5	0/2	10	10	BP	-	●	●	●	●	-	●	●	❖551B406
1/4	6	0,75	12,5	0/2	10	10	BP	●	-	-	-	-	-	-	-	❖551H406
1/4	6	0,75	12,5	0/2	10	10	LP	-	●	-	●	○	○	○	●	❖551B306
1/4	6	0,75	12,5	0/2	10	10	LP	○	-	-	-	-	-	-	-	❖551H306
3/8	12	2,49	41,5	0/2	10	10	BP	-	●	●	●	●	-	-	-	❖552A406
3/8	12	2,49	41,5	0/2	10	10	BP	●	-	-	-	-	-	-	-	❖552G406
3/8	12	2,49	41,5	0/2	10	10	LP	-	●	-	●	○	○	○	●	❖552A306
3/8	12	2,49	41,5	0/2	10	10	LP	○	-	-	-	-	-	-	-	❖552G306
1/2	13	3,15	52,5	0/2	10	10	BP	-	●	●	●	●	-	-	-	❖553A406
1/2	13	3,15	52,5	0/2	10	10	BP	●	-	-	-	-	-	-	-	❖553G406
1/2	13	3,15	52,5	0/2	10	10	LP	-	●	-	●	○	○	○	●	❖553A306
1/2	13	3,15	52,5	0/2	10	10	LP	○	-	-	-	-	-	-	-	❖553G306

❖ 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 (EN 50019 & EN 50028)*	●	-	-	●
		E	T				Threaded conduit/hole (M20 x 1.5)	●	-	-	●
I	S			S	C		Intrinsically safe with SC coil ATEX (EN 50020)*	○	-	-	-
N	F						Flameproof - Alum. ATEX (EN 50018)*	●	-	-	●
N	L						Flameproof - Cast Iron ATEX (EN 50018)*	●	-	-	●
N	K						Flameproof - Alum. ATEX (EN 50018)*	-	-	-	●
P	V						Encapsulated ATEX (EN 50028)*	○	-	-	●
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*	-	-	-	●
W	P			I	S		I.S. with Metal IP67 enclosure ATEX (EN 50020)*	○	-	-	-
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	E	M				316 SS "EM" enclosure ATEX (EN 50019, EN 50020)*	●	-	-	●
W	S	N	F				Flameproof - Stainless steel 316 ATEX (EN 50018)*	●	-	-	●
W	S	Z	N				N.S. 316 SS enclosure ATEX (EN 50021)*	●	-	-	●
Z	N						Encapsulated Non Sparking ATEX (EN 50021)*	○	-	-	●
				T			Threaded conduit (1/2" NPT)	●	-	-	●
				H	T		Class H - High temperature	-	-	-	●
				M	F		Low temperature -40°C (series 551)	●	-	-	●
				X			Other special constructions	●	-	-	●

SUFFIX TABLE

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

* ATEX solenoids are also approved to EN 50281-1-1 (dust) and EN 13463-1 (non electrical valves)

- Available feature
- Available feature in DC only
- Not available
- (4) Not to use with MO suffix

OPTIONS & ACCESSORIES

series	pipe size	exhaust protector (stainless steel)	
		(G)	(NPT)
551/552/553	1/8	34600418 ⁽⁵⁾	34600482 ⁽⁵⁾
551	1/4	34600419 ⁽⁵⁾	34600483 ⁽⁵⁾
552	3/8	34600478	34600480
553	1/2	34600479	34600481

(5) Provided with "SL" suffix.

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 table above.

Example : G552A405

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 9: 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 9.

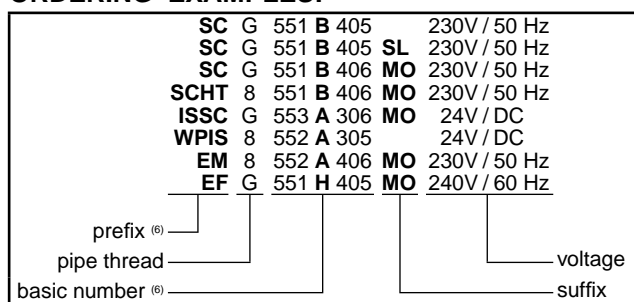
Example : 230V / 50Hz

STEP 5

Final catalogue / ordering number.

Example :
EM G552A405MO 230 V / 50 Hz

ORDERING EXAMPLES:



(6) Prefix EF should always be used with the letter H in the basic number.



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
Electrical safety
Standard voltages

F
IEC 335
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 (2)
	inrush	holding		hot/cold				~	=	
	(VA)	(VA)	(W)	(W)				230 V / 50 Hz	24 V DC	
Basic power (BP)										
SC	55	23	10,5	9/11,2	-40 to +75	EN 60730	moulded IP65	400-425-117	400-425-142	01
SCDU	55	23	10,5	9/11,2	-40 to +75	II 3D IP65 T 200°C(-)/135°C(-) EN 60730	moulded IP65	- (4)	- (4)	01
WP/WS	55	23	10,5	9/11,2	-40 to +75	EN 60730	steel/SS IP67	400-405-117	400-405-142	04
WPDU/WSDU	55	23	10,5	9/11,2	-40 to +75	II 3D IP67 T 200°C	steel/SS IP67	- (4)	- (4)	04
(WS)NF/NL	55	23	10,5	-	[-60] ⁽¹⁾ -40 to +25/40/60	II 2G/D EEx d IIC T6/T5/T4	alu./SS/steel IP67	400-405-117	-	02
(WS)NF/NL	-	-	-	9/11,2	[-60] ⁽¹⁾ -40 to +40/60/75	II 2G/D EEx d IIC T6/T5/T4	alu./SS/steel IP67	-	400-405-142	02
NK	55	23	10,5	9/11,2	-40 to +50/60	II 2G/D EEx d IIB+H ₂ T4(-/=)	aluminium IP65	400-405-117	400-405-142	03
EM/WSEM	55	23	10,5	9/11,2	-40 to +40	II 2G/D EEx em II T3	steel/SS IP67	400-909-117	400-913-142	04
PV	55	23	10,5	9/11,2	-40 to +65	II 2G/D EEx m II T3(-)/T4(=)	moulded IP65	- (4)	- (4)	05
EF	55	23	10,5	9/11,2	-40 to +54/40	NEMA type 7 and 9	NEMA 4X	238-610-058	238-710-006	06
ZN	55	23	10,5	9/11,2	-20 to +50	II 3G/D EEx nA II T3	moulded IP65	- (4)	- (4)	01
WP(WS)ZN	55	23	10,5	9/11,2	-40 to +50/60	II 3G/D EEx nA II T3(-)/T4(=)	steel/SS IP67	- (4)	- (4)	04
Low power (LP)										
SC	1,5	1,5	1,5	1,7/1,7	-40 to +60	EN 60730	moulded IP65	400-925-097	400-925-042	07
WP/WS	1,5	1,5	1,5	1,7/1,7	-40 to +60	EN 60730	steel/SS IP67	400-926-097	400-926-042	09
(WS)NF/NL	-	-	1,9	- /1,9	[-60] ⁽¹⁾ -40 to +75/80	II 2G/D EEx d IIC T6/T5	alu./SS/steel IP67	- (4)	- (4)	08
EM/WSEM	1,5	1,5	1,5	1,7/1,7	-40 to +40/55	II 2G/D EEx em II T6/T5	steel/SS IP67	- (4)	- (4)	09
PV	-	-	-	1,7/1,7	-40 to +60	II 2G/D EEx m II T6	moulded IP65	-	- (4)	10
EF	-	-	-	1,7/1,7	-40 to +40	NEMA type 7 and 9	NEMA 4X	-	- (4)	11
ISSC (3)	-	-	-	0,4/04	-40 to +60	II 2G/D EEx ia IIC T6	moulded IP65	-	268-976-001	12
WPIS (3)	-	-	-	0,4/04	-40 to +60	II 2G/D EEx ia IIC T6	acier IP67	-	268-900-001	09
ZN	-	-	-	1,7/1,7	-20 to +50	II 3G/D EEx nA II T3	moulded IP65	-	- (4)	07
WP(WS)ZN	1,5	1,5	1,5	1,7/1,7	-40 to +60	II 3G/D EEx nA II T6	steel/SS IP67	- (4)	- (4)	09

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

- (1) The certified minimum temperature of this operator
- (2) Refer to the dimensional drawings on pages 10 to 13.
- (3) Intrinsically safe pilots: Check the electrical characteristics in the corresponding catalogue pages (ISSC/WPIS operators).
- (4) Multiple coil kits available under ATEX, contact us
- Not available

ELECTRICAL CONNECTIONS


prefix	connection
SC, SCDU, ZN	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	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, NL	1/2" NPT threaded cable entry. Enclosures are supplied without cable gland
NK	3/4" NPT threaded cable entry. Enclosures are supplied without cable gland
PV	Moulded-in cable, standard length 2 m
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
- EEx m (prefix "PV") execution can be supplied in 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

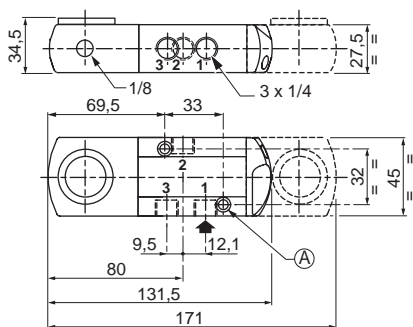
INSTALLATION

- Installation/maintenance instructions are included with each valve
- The solenoid 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 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)
- EEx d (prefix "NF") enclosure is provided with a 1/2" NPT threaded entry hole [optionally, M20 x 1,5 (prefix "ET")] and is supplied without cable gland
- EEx d (prefix "NK") 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

DIMENSIONS (mm), WEIGHT (kg) 

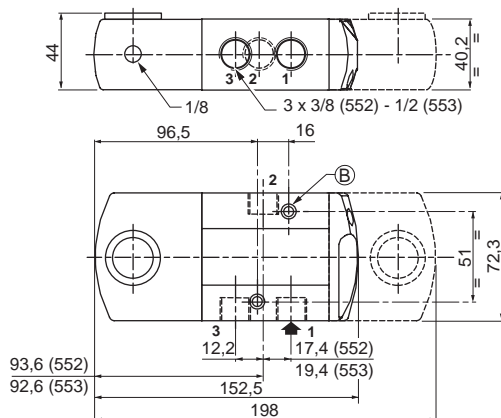
Types 01 to 12

Series 551



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

Series 552-553



(B) 2 mounting holes dia. 6,5 mm
Spotfacing: dia. 11 mm, depth 8 mm



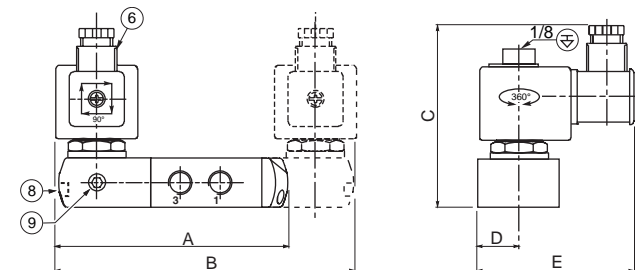
TYPE 01: Prefixes SC: IP65, ZN: II 3 G/D, IP65, EEx nA II, SCDU: II 3 D, IP65, T100°C to 200°C
Basic power
Epoxy moulded
IEC 335 / ISO 4400

551B405 / B406 / B405MO / B406MO
552A405 / A406 / A405MO / A406MO
553A405 / A406 / A405MO / A406MO



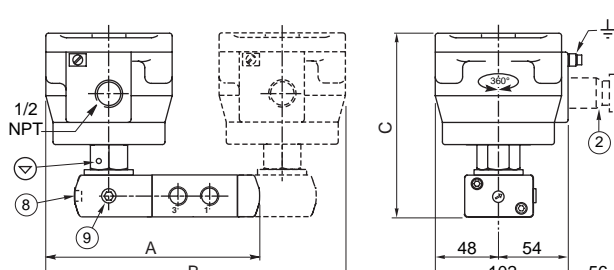
TYPE 02: Prefixes NF/NL/WSNF: II 2 G/D, IP67, EEx d IIC
Basic power
Aluminium, epoxy coated (NF)
Cast iron, epoxy coated (NL)
AISI 316 SS (WSNF)
EN 50018 and EN 50281-1-1

551B405 / B406 / B405MO / B406MO
552A405 / A406 / A405MO / A406MO
553A405 / A406 / A405MO / A406MO



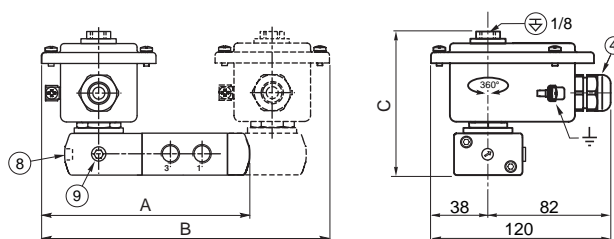
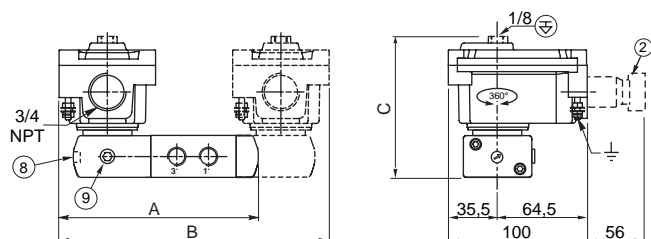
TYPE 03: Prefix NK: II 2 GD, IP65, EEx d IIB + H₂
Basic power
Aluminium, epoxy coated
EN 50018 and EN 50281-1-1

551B405 / B406 / B405MO / B406MO
552A405 / A406 / A405MO / A406MO
553A405 / A406 / A405MO / A406MO



TYPE 04: Prefixes WP/WS: IP67, EM/WSEM: II 2 G/D, IP67, EEx em II, WPDU/WSDU: II 3 D, IP67, T85°C to 200°C, WPZN/WSZN: II 3 G/D, IP67, EEx nA II
Basic power
Steel, epoxy coated (EM, WP, WPDU, WPZN)
AISI 316 SS (WS, WSDU, WSEM, and WSZN)
IEC 335 / EN 50019, EN 50028 and 50281-1-1

551B405 / B406 / B405MO / B406MO
552A405 / A406 / A405MO / A406MO
553A405 / A406 / A405MO / A406MO

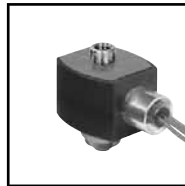
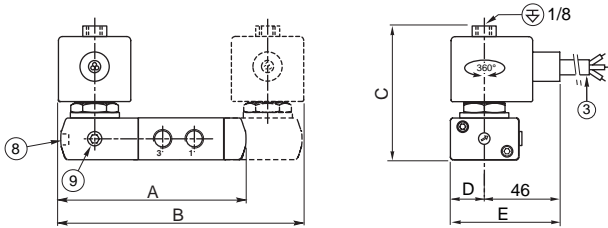


DIMENSIONS (mm), WEIGHT (kg)



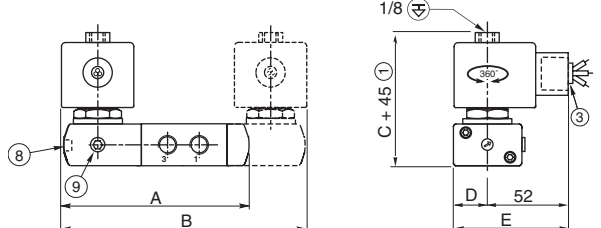
TYPE 05: Prefix: PV: II 2 G/D, IP65, EEx m II
 Basic power
 Epoxy encapsulated
 EN50028 and EN 50281-1-1

551B405 / B406 / B405MO / B406MO
552A405 / A406 / A405MO / A406MO
552A405 / A406 / A405MO / A406MO



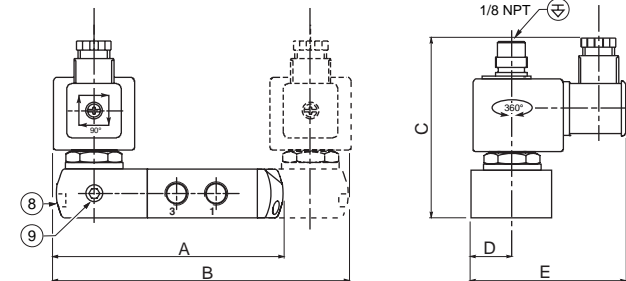
TYPE 06: Prefix: EF: ICS-6 ANSI / NEMA type 7 and 9
 Basic power
 Epoxy encapsulated
 EN50028 and EN 50281-1-1
 NOTE: applicable to solenoid only

551H405 / H406 / H405MO / H406MO
552G405 / G406 / G405MO / G406MO
553G405 / G406 / G405MO / G406MO



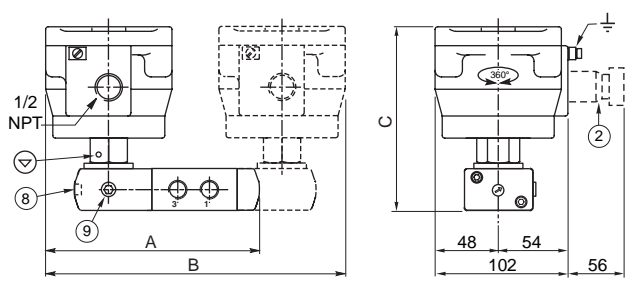
TYPE 07: Prefixes SC: IP65, ZN: II 3 G/D, IP65, EEx nA II
 Low power
 Epoxy moulded
 IEC 335 / ISO 4400

551B305 / B306 / B305MO / B306MO
552A305 / A306 / A305MO / A306MO
553A305 / A306 / A305MO / A306MO



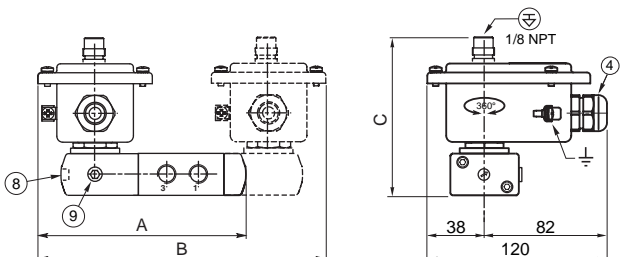
TYPE 08: Prefixes NF/NL/WSNF: II 2 G/D, IP67, EEx d IIC
 Low power
 Aluminium, epoxy coated (NF)
 Cast iron, epoxy coated (NL)
 AISI 316 SS (WSNF)
 EN 50018 and EN 50281-1-1

551B305 / B306 / B305MO / B306MO
552A305 / A306 / A305MO / A306MO
553A305 / A306 / A305MO / A306MO



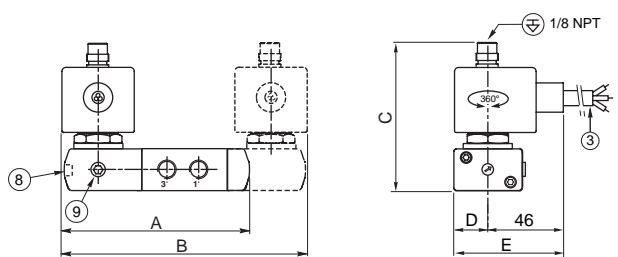
TYPE 09: Prefixes WP/WS: IP67, EM/WSEM: II 2 G/D, IP67, EEx em II, WPDU/WSDU: II 3 D, IP67, T85°C to 200°C, WPZN/WSZN: II 3 G/D, IP67, EEx nA II, WPIS: II 2 G/D EEx ia IIC
 Low power
 Steel, epoxy coated (EM, WP, WPDU, WPZN, WPIS)
 AISI 316 SS (WS, WSDU, WSEM, and WSZN)
 IEC 335 / EN 50019, EN 50028 and 50281-1-1

551B305 / B306 / B305MO / B306MO
552A305 / A306 / A305MO / A306MO
553A305 / A306 / A305MO / A306MO

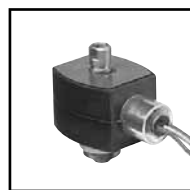


TYPE 10: Prefix: PV: II 2 G/D, IP65, EEx m II
 Low power
 Epoxy encapsulated
 EN50028 and EN 50281-1-1

551B305 / B306 / B305MO / B306MO
552A305 / A306 / A305MO / A306MO
553A305 / A306 / A305MO / A306MO



DIMENSIONS (mm), WEIGHT (kg)



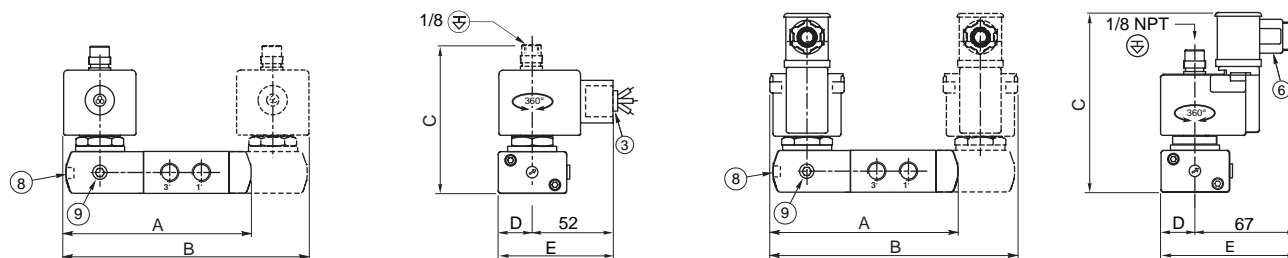
TYPE 11: Prefix: EF: ICS-6 ANSI / NEMA type 7 and 9
 Low power
 Epoxy encapsulated
 EN50028 and EN 50281-1-1
 NOTE: applicable to solenoid only

551H305 / H306 / H305MO / H306MO
 552G305 / G306 / G305MO / G306MO
 553G305 / G306 / G305MO / G306MO



TYPE 12: Prefixes ISSC: II 2 G/D EEx ia IIC, IP65
 Low power
 Polypropylene moulded
 IEC 335 / ISO 4400
 EN 50020 and EN 50281-1-1

551B305 / B306 / B305MO / B306MO
 552A305 / A306 / A305MO / A306MO
 553A305 / A306 / A305MO / A306MO



- ② EEx 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
- ⑤ Connector rotatable by 90° increments, Pg 11P (Ø 6 - 10 mm)
- ⑥ Screw type manual operator, suffix MS
- ⑦ Push type or screw type manual operator, suffix MO
- ⑧ External pilot air supply, 1/8 pipe size
- ⑨ Connectable pilot exhaust port
- ⊕ Non-connectable pilot exhaust port

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	551
01	SC / SCDU / ZN	BP	132	152,5	170	198	102,7	112,2	22,5	36,15	86,5	100,2	0,76	1,45	1,35	1,34	2,01	1,91
02	NF / NL / WSNF	BP	158	197,3	224	287,6	141,8	151,3	-	-	-	-	1,85	2,49	2,39	3,51	4,15	4,05
03	NK	BP	143	166,5	196	226	102	111,5	-	-	-	-	1,02	1,97	1,87	1,84	2,53	2,43
04	WP/WS/WSDU/WPDU	BP	148	169,2	204	231,3	103	112,5	-	-	-	-	0,84	1,46	1,36	1,49	2,03	1,93
04	(WS)EM/WP(WS)ZN	BP	148	169,2	204	231,3	103	112,5	-	-	-	-	0,84	1,46	1,36	1,49	2,03	1,93
05	PV	BP	132	152,5	172	198	88	97,5	22,5	36,15	67,5	81,2	0,82	1,46	1,36	1,45	2,02	1,92
06	EF	BP	132,5	156	173	205	85,5	95	22,5	36,15	74,5	88,2	0,64	1,46	1,36	1,29	2,03	1,93
07	SC / ZN	LP	132,5	153,5	173	200	101,5	111	22,5	36,15	87,5	101,2	0,97	1,66	1,56	1,55	2,22	2,16
08	NF / NL / WSNF	LP	158	197,3	224	287,5	141,8	151,3	-	-	-	-	1,85	2,49	2,39	3,51	4,15	4,05
09	WP/WS/(WS)EM	LP	148	169,2	204	231,3	102,2	111,7	-	-	-	-	1,05	1,67	1,57	1,70	2,23	2,14
09	WP(WS)ZN	LP	148	169,2	204	231,3	102,2	111,7	-	-	-	-	1,05	1,67	1,57	1,70	2,23	2,14
09	WPIS	LP	148	169,2	204	231,3	102,2	111,7	-	-	-	-	1,05	1,67	1,57	1,70	2,23	2,14
10	PV	LP	132	152,5	172	198	100,5	110	22,5	36,15	67,5	81,2	1,03	1,67	1,57	1,67	2,23	2,13
11	EF	LP	132,5	156	173	205	100,5	110	22,5	36,15	74,5	88,2	0,85	1,67	1,57	1,50	2,24	2,14
12	ISSC	LP	122	155	175	203	124,5	134	22,5	36,15	89,5	103,5	0,80	1,49	1,39	1,41	2,05	1,95

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

ACCESSORIES

pilot exhaust protector
 part no. 276-405-001

pilot top exhaust low power
 (ASCO solenoid interface)

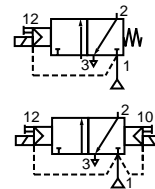
ØA	M5	1/8	1/4	3/8	1/2
B	-	10	11	11	14

exhaust protector
 (stainless steel)



SOLENOID VALVES

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



3/2
Series
551
552-553

FEATURES

- The monostable spool valves, series 551, have TÜV certified IEC 61508 Functional Safety data and can be used up to SIL 4/AK 7
- The spool valves 3/2 NC 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
- Ultra low power level for inside application, suitable to connect to process fieldbus 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 (ANR)
3/8 = 3000 l/min
1/2 = 3800 l/min

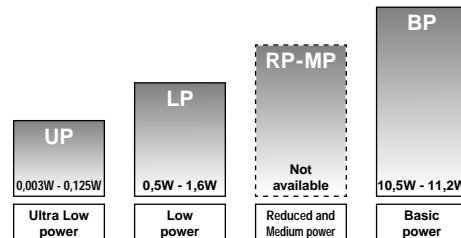
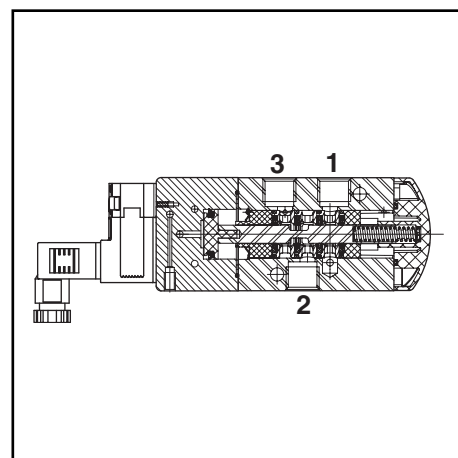
fluids (*)	temperature range (TS)	seal materials (*)
air, inert gas, filtered	- 25°C to + 40°C ⁽¹⁾	NBR (nitrile) + PUR (polyurethane)
	- 25°C to + 60°C	

⁽¹⁾ With series 302 pilots, prefixes 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 anodised
End cover (spring return) 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)
Pilot end covers Aluminium



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/CENELEC (gas/dust)			IP65			CNOMO size 30	CNOMO size 15	
					air (*)	~		=	~/=	EEx d	EEx i	EEx i	EEx i			EEx nA
(*)	(mm)	(m³/h)	(l/min)					CTNK	ISSC	CFSCIS	PISCIS	CFSCZN	CFSC	PISC		
Solenoid air pilot operated - spring return (monostable)																
1/4	6	0,75	12,5	2	10	10	LP	-	-	-	-	●	●	-	-	❖551C505 ⁽²⁾
1/4	6	0,75	12,5	2	-	8	LP	-	-	○	-	-	-	-	-	❖551C505 ⁽²⁾
1/4	6	0,75	12,5	2	10	10	BP	●	-	-	-	-	-	-	-	❖551A205 ⁽²⁾
1/4	6	0,75	12,5	2	-	8	LP	-	○	-	-	-	-	-	-	❖551A205 ⁽²⁾
1/4	6	0,75	12,5	2	8	8	UP	-	-	-	○	-	-	●	-	❖551C505 ⁽²⁾
3/8	12	2,49	41,5	2	10	10	LP	-	-	-	-	●	●	-	-	❖552A505
3/8	12	2,49	41,5	2	-	8	LP	-	-	○	-	-	-	-	-	❖552A505
3/8	12	2,49	41,5	2	10	10	BP	●	-	-	-	-	-	-	-	❖552A205
3/8	12	2,49	41,5	2	-	8	LP	-	○	-	-	-	-	-	-	❖552A205
3/8	12	2,49	41,5	2	8	8	UP	-	-	-	○	-	-	●	-	❖552A505
1/2	13	3,15	52,5	2	10	10	LP	-	-	-	-	●	●	-	-	❖553A505
1/2	13	3,15	52,5	2	-	8	LP	-	-	○	-	-	-	-	-	❖553A505
1/2	13	3,15	52,5	2	10	10	BP	●	-	-	-	-	-	-	-	❖553A205
1/2	13	3,15	52,5	2	-	8	LP	-	○	-	-	-	-	-	-	❖553A205
1/2	13	3,15	52,5	2	8	8	UP	-	-	-	○	-	-	●	-	❖553A505

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

SPECIFICATIONS

pipe size	orifice size	flow coefficient kv		operating pressure differential (bar)			power level	prefix optional solenoids							basic catalogue number	
				min.	max. (PS)			ATEX/CENELEC (gas/dust)					IP65		CNOMO size 30	CNOMO size 15
					air (*)			EEEx d	EEEx i	EEEx i	EEEx i	EEEx nA	CFSC	PISC		
(*)	(mm)	(m³/h)	(l/min)	~	=	~/=	CTNK	ISSC	CFSCIS	PISCIS	CFSCZN	CFSC	PISC			
Solenoid air pilot operated and return (bistable)																
1/4	6	0,75	12,5	2	10	10	LP	-	-	-	-	●	-	-	-	❖551C506
1/4	6	0,75	12,5	2	-	8	LP	-	-	○	-	-	-	-	-	❖551C506
1/4	6	0,75	12,5	2	10	10	BP	●	-	-	-	-	-	-	❖551A206	-
1/4	6	0,75	12,5	2	-	8	LP	-	○	-	-	-	-	-	❖551A206	-
1/4	6	0,75	12,5	2	8	8	UP	-	-	-	○	-	-	●	-	❖551C506
3/8	12	2,49	41,5	2	10	10	LP	-	-	-	-	●	-	-	-	❖552A506
3/8	12	2,49	41,5	2	-	8	LP	-	-	○	-	-	-	-	-	❖552A506
3/8	12	2,49	41,5	2	10	10	BP	●	-	-	-	-	-	-	❖552A206	-
3/8	12	2,49	41,5	2	-	8	LP	-	○	-	-	-	-	-	❖552A206	-
3/8	12	2,49	41,5	2	8	8	UP	-	-	-	○	-	-	●	-	❖552A506
1/2	13	3,15	52,5	2	10	10	LP	-	-	-	-	●	-	-	-	❖553A506
1/2	13	3,15	52,5	2	-	8	LP	-	-	○	-	-	-	-	-	❖553A506
1/2	13	3,15	52,5	2	10	10	BP	●	-	-	-	-	-	-	❖553A206	-
1/2	13	3,15	52,5	2	-	8	LP	-	○	-	-	-	-	-	❖553A206	-
1/2	13	3,15	52,5	2	8	8	UP	-	-	-	○	-	-	●	-	❖553A506

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 with pilot 195, ATEX (EN 50020) *	-	○	-	-
C	T	N	K				Flameproof with pilot 374, ATEX (EN 50018) *	-	-	-	●
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		Intrins. safe, spade plug connector, pilot 302; ATEX (EN 50020) *	-	○	-	-
C	F	S	D	I	S		Intrins. safe, spade plug ISO 15217, 8 mm, pilot 302; ATEX (EN 50020) *	-	○	-	-
C	F	V	T	I	S		Intrins. safe, connector M12 (straight), LED + protection, pilot 302; ATEX (EN 50020) *	-	○	-	-
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 with piezotronic pilot 630; ATEX (EN 50020) *	○	-	-	-

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)	-
551/552/553	1/8	34600418 ⁽²⁾	34600482 ⁽²⁾	-
551	1/4	34600419 ⁽²⁾	34600483 ⁽²⁾	-
552	3/8	34600478	34600480	-
553	1/2	34600479	34600481	-
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 to EN 50281-1-1 (dust) and EN 13463-1 (non electrical valves)
- ⁽¹⁾ Not to use with SL suffix
- ⁽²⁾ Provided with SL suffix (series 551)

ORDERING EXAMPLES:

CTNK	G	551	A	205					115V / 50 Hz
CTNK	G	551	A	206	MS				115V / 50 Hz
CTNK	G	551	A	205	SL				24V / DC
ISSC	G	551	A	205	SL				24V / DC
CFSC	G	552	C	506					230V / 50 Hz
CFSC	8	552	C	505	MO				230V / 50 Hz
CFSC	G	552	C	505	SLMO				230V / 50 Hz
CFVTZN	G	551	C	505					230V / 50 Hz
CFVTZN	G	551	C	505					24V / DC
ISSC	G	552	A	205	MO				24V / DC
PISCIS	G	551	C	506	MO				6V / DC
PISCIS	G	551	C	505	SLMO				6V / DC
PISCIS X	G	551	C	505	MO	TPL20666			24HV / DC

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

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

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 à 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) (C°)	safety code	electrical enclosure protection (EN 60529)	replacement coil		type (2)
	inrush ~ (VA)	holding ~ (VA)	hot/cold = (W)	hot/cold = (W)				~	=	
Basic power (BP)										
CTNK	55	23	10,5	9/11,2	-20 to +50/60	II 2G/D EEx d IIB+H2 T4(AC/DC)	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 +50	II 2GD EEx ia IIC T5 (12V)/T6 (24V)	moulded IP65	-	-	09
CFSDIS ⁽⁴⁾⁽⁵⁾	-	-	-	0,5	-10 to +50	II 2GD EEx ia IIC T5 (12V)/T6 (24V)	moulded IP65	-	-	09
CFVTIS ⁽⁴⁾⁽⁵⁾	-	-	-	0,5	-10 to +50	II 2GD EEx ia IIC T5 (12V)/T6 (24V)	moulded IP67	-	-	10
ISSC ⁽³⁾⁽⁴⁾	-	-	-	1,6	-40 to +50	II 2G/D EEx ia IIC 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 2GD EEx ia IIC T6	moulded IP65	-	-	06
PISCIS ⁽¹⁾⁽⁴⁾ 8V	-	-	-	0,022	-20 to +50	II 2GD EEx ia IIC T6	moulded IP65	-	-	06
PISCIS ⁽¹⁾⁽⁴⁾ 12LV	-	-	-	0,012	-20 to +50	II 2GD EEx ia IIC T6	moulded IP65	-	-	06
PISCIS ⁽¹⁾⁽⁴⁾ 12HV	-	-	-	0,032	-20 to +50	II 2GD EEx ia IIC T6	moulded IP65	-	-	06
PISCIS ⁽¹⁾⁽⁴⁾ 24LV	-	-	-	0,046	-20 to +50	II 2GD EEx ia IIC T6	moulded IP65	-	-	06
PISCIS ⁽¹⁾⁽⁴⁾ 24HV	-	-	-	0,125	-20 to +50	II 2GD EEx ia IIC T6	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: 6 V DC / 3 mW 8 V DC / 22 mW 12 V DC / 12 mW 12H V DC / 32 mW 24L V DC / 46 mW 24H V DC / 125 mW
Turn ON voltage U_{ON} 6 .. 9 V 7,2 .. 12 V 10,8 .. 16 V 10,8 .. 16 V 21,6 .. 28 V 21,6 .. 28 V
Turn OFF voltage U_{OFF} 3 V 3,2 V 3,3 V 3,3 V 5 V 5 V
Peak current 6 mA 10 mA 6,8 mA 8,1 mA 10 mA 14 mA
Holding current 0,5 mA 2,8 mA 1 mA 2,7 mA 1,9 mA 5,2 mA
Cable + max. barrier resistances (R_S + R_C) 1200 Ω max. 300 Ω max. 1200 Ω max. 470 Ω max. 1200 Ω max. 470 Ω max.

prefix option	safety parameters				
	U _I (= DC) (V)	I _I (mA)	P _I (W)	L _I (µF)	C _I (mF)
Low power (LP)					
CFSCIS	28	300	1,6	0	0
CFSDIS/CFVTIS	28	300	1,6	0	0
ISSC	28	115	1,6	0	0
Ultra low power (UP)					
PISCIS	30	200	0,9	0	0

(2) Refer to the dimensional drawings on pages 16 to 19.
(3) Min. operating current (I_{min.}): 0,037 A
(4) Intrinsically safe pilots: Check the electrical characteristics in the corresponding catalogue pages (CFSCIS/CFSDIS/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

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
CTNK	3/4" NPT threaded cable entry. Enclosures are supplied without cable gland

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)
- Other pipe threads are available on request

INSTALLATION

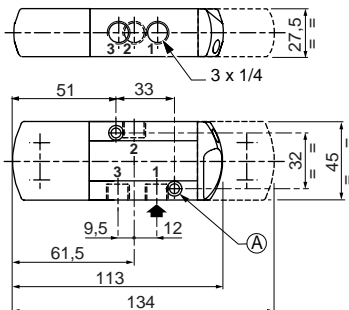
- Installation/maintenance instructions are included with each valve
- The valves can be mounted in any position without affecting operation
- IEC 61508 Functional Safety (Suffix SL), allowable temperature range: -40°C to +60°C. Probability of failure on demand, contact us
- It is necessary to connect 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)
- EEx 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)

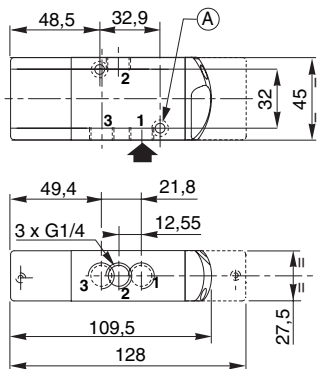
Types 01 and 02

Series 551



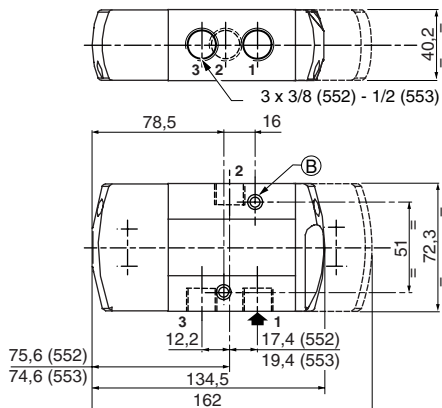
Types 03 to 10

Series 551



Types 01 to 10

Series 552-553



(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



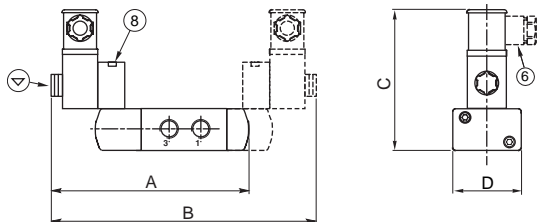
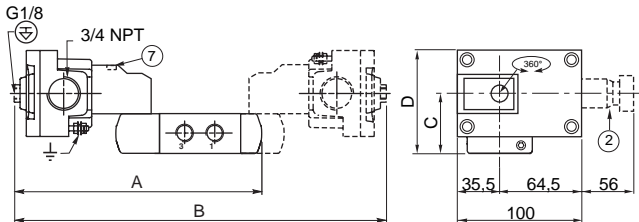
TYPE 01: Prefix CTNK: II 2 GD, IP65, EEx d IIB + H₂
Basic power
374 pilot, light alloy
Aluminium, epoxy coated
EN 50018 and EN 50281-1-1

551A205MS / A206MS
552A205MS / A206MS
553A205MS / A206MS



TYPE 02: Prefix ISSC: II 2 GD EEx ia IIC, IP65
Low power
195 pilot
Polyamide
IEC 335 / ISO 4400
EN 50020 and EN 50281-1-1

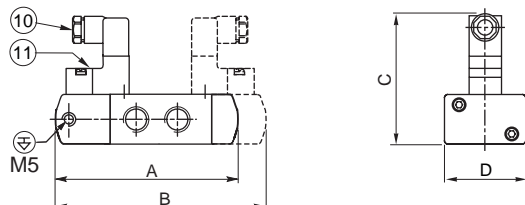
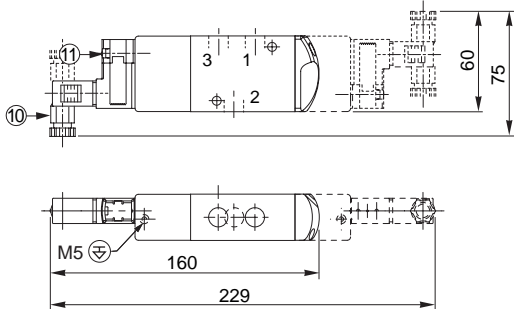
551A205MO / A206MO
552A205MO / A206MO
553A205MO / A206MO




TYPE 03: Prefixes CFSC and CFSD: IP65
Low power
Pilote 302
Polyarylamide
IEC 335

551C505 / 551C506
551C505MS / 551C505MO / C506MS / C506MO

552A505 / A505MS / A505MO / A506 / A506MS / A506MO
553A505 / A505MS / A505MO / A506 / A506MS / A506MO

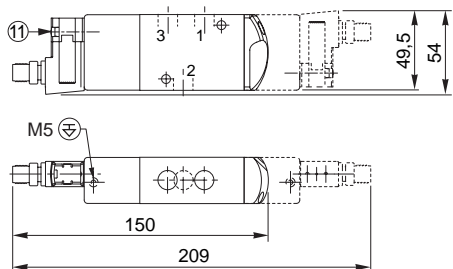


DIMENSIONS (mm), WEIGHT (kg) 

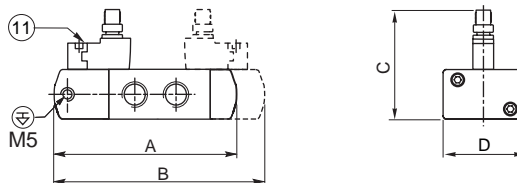


TYPE 04: Prefix CFVT: IP67 (with M12 connector mounted)
 Low power
 Pilot 302
 Polyarylamide
 IEC 335 / connection M12 + LED and protection

551C505 / 551C506
 551C505MS / 551C505MO / C506MS / C506MO

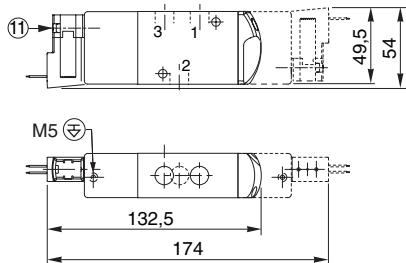


552A505 / A505MS / A505MO / A506 / A506MS / A506MO
 553A505 / A505MS / A505MO / A506 / A506MS / A506MO

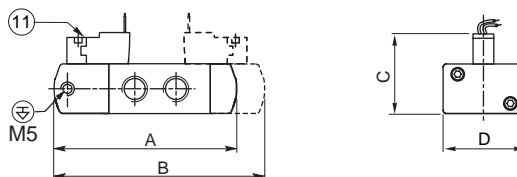


TYPE 05: Prefix CFL: IP65
 Low power
 Pilot 302
 Polyarylamide
 IEC 335 / flying lead + LED and protection

551C505 / 551C506
 551C505MS / 551C505MO / C506MS / C506MO



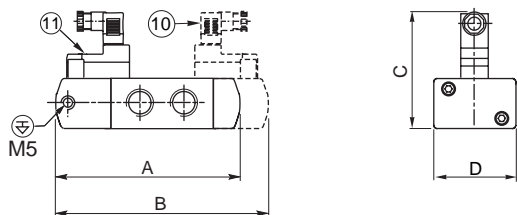
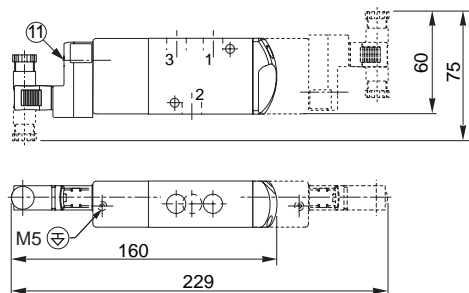
552A505 / A505MS / A505MO / A506 / A506MS / A506MO
 553A505 / A505MS / A505MO / A506 / A506MS / A506MO



TYPE 06: Prefixes PISC: IP65, PISCIS: II 2 GD
EEx ia IIC, IP65
 Low power
 Piezotronic pilot, Polyamide
 Epoxy moulded
 IEC 335 / DIN 43650
 EN50020 and EN 50281-1-1

551C505MO / 551C506MO

552A505MO / A506MO
 553A505MO / A506MO



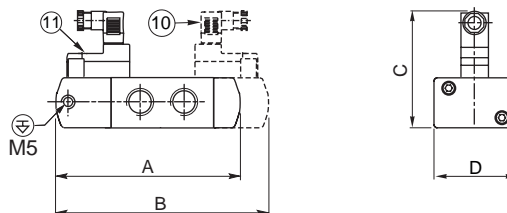
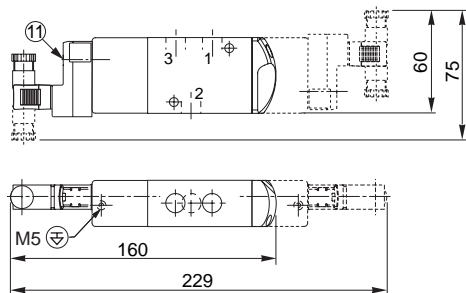
DIMENSIONS (mm), WEIGHT (kg)



TYPE 07: Prefix CFSCZN: II 3 GD, IP65, EEx nA IIC
 Low power
 Pilot 302, Polyarylamide
 Connector with LED and protection
 EN50021 and EN 50281-1-1

551C505MO / 551C506MO

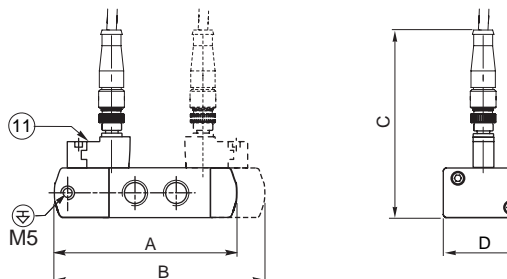
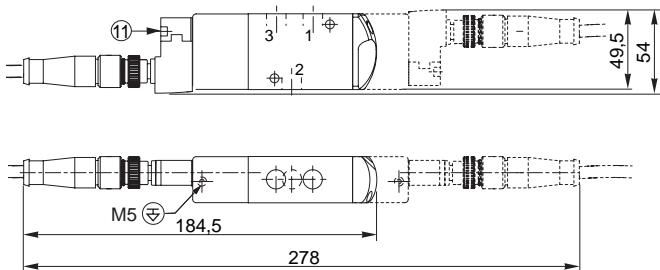
552A505MO / A506MO
 553A505MO / A506MO



TYPE 08: Prefix CFVTZN: II 3 GD, IP67, EEx nA IIC
 Low power
 Pilot 302, Polyarylamide
 Connector M12 + LED and protection
 EN50021 and EN 50281-1-1

551C505MO / 551C506MO

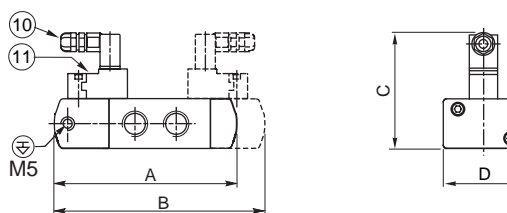
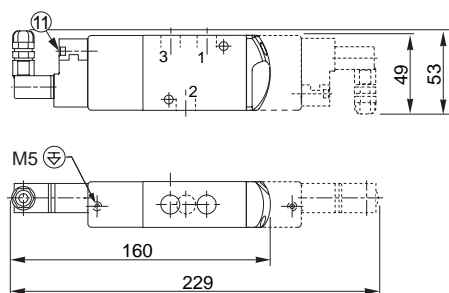
552A505MO / A506MO
 553A505MO / A506MO



TYPE 09: Prefixes CFSCIS and CFSDIS: II 2 GD
EEx ia IIC, IP65
 Low power
 Pilot 302, Polyarylamide
 IEC 335 / DIN 43650 or ISO 15217
 Connector + LED and protection
 EN50020 and EN 50281-1-1

551C505MO / 551C506MO

552A505MO / A506MO
 553A505MO / A506MO

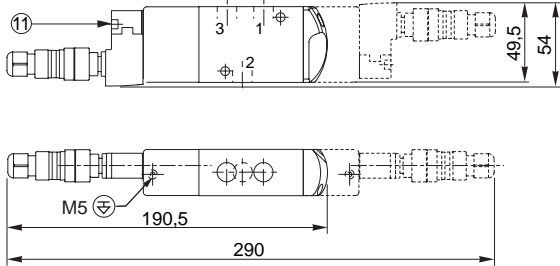


DIMENSIONS (mm), WEIGHT (kg)

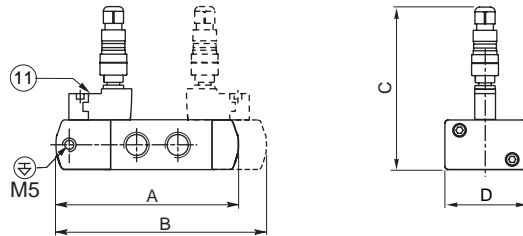


TYPE 10: Prefix CFVTIS: II 2 GD
EEx ia IIC, IP67
 Low power
 Pilot 302, Polyarylamide
 Connector M12 (straight) + LED and protection
 EN50020 and EN 50281-1-1

551C505MO / 551C506MO



552A505MO / A506MO
 553A505MO / A506MO



- ② EEx 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, Pg 11P (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, Pg 7P (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⁾					
			551	552/553	551	552/553	551	552/553	551	552/553	551	552/553	monostable			bistable		
													551	552	553	551	552	553
01	CTNK	BP	183	217,5	276	328	43	55,7	77	89,7	-	-	1,12	1,97	1,87	1,86	3,05	2,95
02	ISSC	LP	146	186,5	204	266	102	111,5	45	72,3	-	-	0,59	1,44	1,34	0,80	2,52	2,42
03	CFSC / CFSD	LP	-	134,5	-	162	-	90,2	-	72,3	-	-	0,33	1,10	1,00	0,38	2,18	2,08
04	CFVT	LP	-	134,5	-	162	-	79,2	-	72,3	-	-	0,33	1,10	1,00	0,38	2,18	2,08
05	CFL	LP	-	134,5	-	162	-	63	-	72,3	-	-	0,32	1,11	1,01	0,39	2,21	2,11
06	PISC / PISCIS	UP	-	134,5	-	162	-	90,2	-	72,3	-	-	0,31	1,10	1,00	0,32	2,18	2,08
07	CFSCZN	LP	-	134,5	-	162	-	90,2	-	72,3	-	-	0,33	1,10	1,00	0,38	2,18	2,08
08	CFVTZN	LP	-	134,5	-	162	-	115	-	72,3	-	-	0,56	1,33	1,23	0,84	2,64	2,58
09	CFSCIS/CFSDIS	LP	-	134,5	-	162	-	91,2	-	72,3	-	-	0,34	1,12	1,02	0,4	2,22	2,12
10	CFVTIS	LP	-	134,5	-	162	-	109	-	72,3	-	-	0,36	1,14	1,04	0,44	2,26	2,16

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

ACCESSORIES

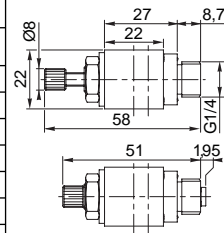
ØA	M5	1/8	1/4	3/8	1/2
B	4,5	-	11	11	14

exhaust protector (stainless steel)

DIMENSIONS (mm), WEIGHT (kg)

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

supply rail with isolation valves (without 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	
2	88100717	
3	88100718	
4	88100719	
5	88100720	
6	88100721	
7	88100722	
8	88100723	

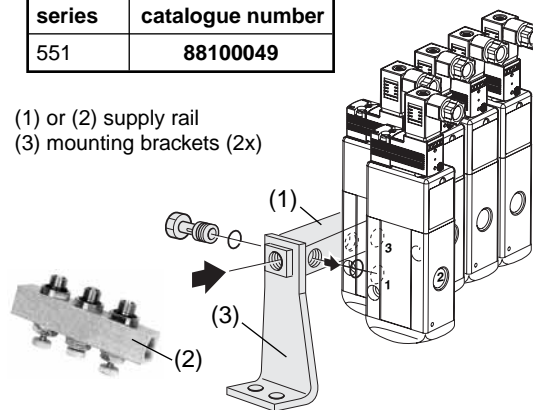


(4) Available on request.

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	0,9/1	1,2/1,4	1,5/1,9	1,9/2,3	2,2/2,7	2,5/3,1	2,8/3,5
04, mono/bistable	0,9/1	1,2/1,4	1,5/1,9	1,9/2,3	2,2/2,7	2,5/3,1	2,8/3,5
05, mono/bistable	0,88/0,96	1,17/1,34	1,46/1,82	1,75/2,2	2,14/2,58	2,43/2,96	2,72/3,34
06, mono/bistable	0,86/0,92	1,94/1,28	1,42/1,74	1,8/2,1	2,08/2,46	2,36/2,82	2,64/3,18
07, mono/bistable	0,9/1	1,2/1,4	1,5/1,9	1,9/2,3	2,2/2,7	2,5/3,1	2,8/3,5
08, mono/bistable	1,25/1,65	1,62/2,16	1,92/2,77	2,46/3,28	2,83/3,79	3,20/4,30	3,57/4,81
09, mono/bistable	0,92/1,02	1,23/1,46	1,54/1,98	1,95/2,4	2,26/2,82	2,57/3,24	2,88/3,66
10, mono/bistable	1,04/1,22	1,41/1,73	1,71/2,34	2,25/2,85	2,62/3,36	2,99/3,87	3,36/4,38

mounting brackets (3)	
series	catalogue number
551	88100049

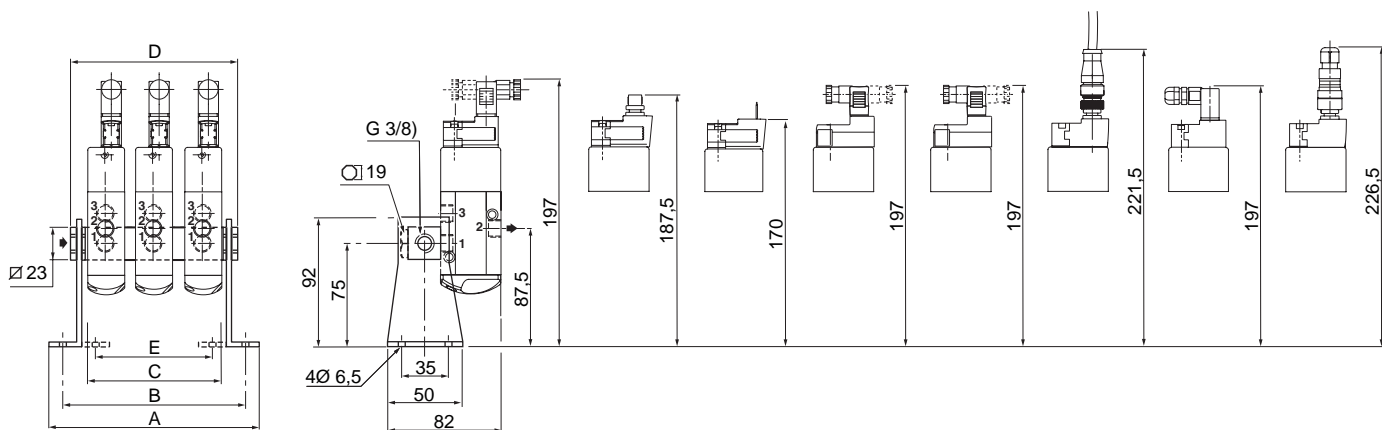
(1) or (2) supply rail
(3) mounting brackets (2x)



TYPE 03-04-05-06-07-08-09-10

See pages 16 to 19

Type 03 Type 04 Type 05 Type 06 Type 07 Type 08 Type 09 Type 10



This mounting arrangement allows valves to be mounted in any of 4 positions.

