

FEATURES

- Three way solenoid valves direct operated with top exhaust
- Valves are designed to handle relatively high pressure 3-way applications
- Valves do not require a minimum operating pressure
- Valve operation is not affected by mounting position
- The use of first class materials and thorough valve testing ensure high reliability
- The solenoid valves satisfy all relevant EC Directives

GENERAL

Differential pressure 0 - 20 bar [1 bar = 100kPa]
Maximum viscosity 65cST (mm²/s)
Response times 5 - 25 ms

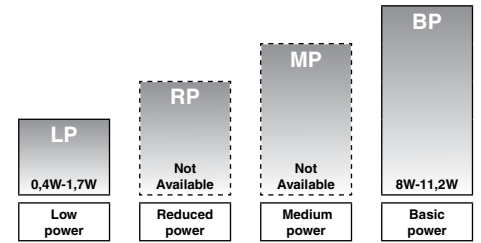
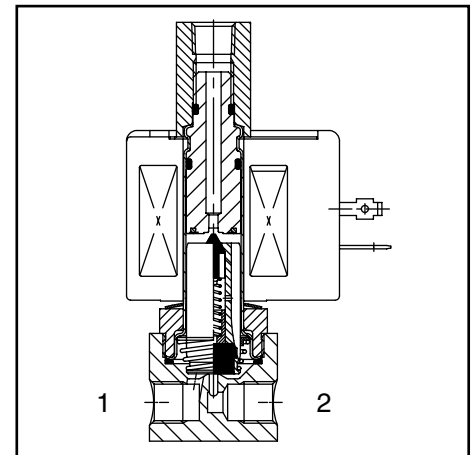
fluids (*)	temperature range (TS)	seal material (*)
air, inert gas, water, oil	-20 to + 90°C	NBR (nitrile)

MATERIALS IN CONTACT WITH FLUID

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

	Brass body	Stainless steel body
Body	Brass	AISI 303 SS
Core tube	Stainless steel	Stainless steel
Core and plugnut	Stainless steel	Stainless steel
Springs	Stainless steel	Stainless steel
Seat	Brass & Stainless steel	Brass & Stainless steel
Sealings and discs	NBR	NBR
Riderring (1)	PTFE	PTFE
Cartridge (1)	Welded, packless AISI 430 SS	Welded, packless AISI 430 SS
Top disc	PA all executions	NBR
Core guide	CA	CA
Shading coil	Copper	Silver

(1) LP only



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	
				maximum (PS)									NEMA 7&9	ATEX / IECEx				IP65		
				air/water/oil (*)										Ex e mb	Ex mb	Ex ia	EEx nA			
NPT	(mm)	(m ³ /h)	(l/min)	min.	~	=	~	=	~	=	~/=	EF	EM	PV	IS	ZN	SC	brass	stainless steel	
U - Universal																				
1/8	1,2	0,03	0,5	0	11	5	11	4	11	4	BP	●	●	●	-	●	●	B314C041	-	
1/4	1,2	0,03	0,5	0	11	5	11	4	11	4	BP	●	●	●	-	●	●	B314C006	-	
1/4	1,6	0,07	1,2	0	10	10	10	10	10	10	LP	○	●	○	○	○	●	B314A300	B314A301	
NC - Normally closed																				
1/8	1,2	0,03	0,5	0	16	8	16	10	16	9	BP	●	●	●	-	●	●	B314C031	-	
1/8	2,4	0,13	2,1	0	9	4	7	5	7	2	BP	●	●	●	-	●	●	B314C032	-	
1/4	1,2	0,03	0,5	0	16	8	16	10	16	9	BP	●	●	●	-	●	●	B314C034	-	
1/4	2,4	0,13	2,1	0	10	4	7	5	7	2	BP	●	●	●	-	●	●	B314C035	B314A121	
NO - Normally open																				
1/8	1,2	0,03	0,5	0	20	14	20	14	20	8	BP	●	●	●	-	●	●	B314C049	-	
1/8	2,4	0,13	2,1	0	12	5	12	6	12	3	BP	●	●	●	-	●	●	B314C050	-	
1/4	1,2	0,03	0,5	0	20	14	20	14	20	8	BP	●	●	●	-	●	●	B314C052	-	
1/4	2,4	0,13	2,1	0	12	5	12	6	12	3	BP	●	●	●	-	●	●	B314C053	B314A122	

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

PREFIX TABLE

prefix							description	power level			
1	2	3	4	5	6	7		LP	RP	MP	BP
S	C						Dustproof (EN 50281-1-1)*	●	-	-	●
E	F						Explosionproof - NEMA 7, 9 - Zinc plated steel conduit	○	-	-	●
E	V						Explosionproof - NEMA 7, 9 - 316 SS conduit	○	-	-	●
E	M						Waterproof IP67 - Metal enclosure (EN/IEC 60079-7+18, 61241-1)*	●	-	-	●
		E	T				Threaded conduit/hole (M20 x 1,5)	●	-	-	●
I	S						Intrinsically safe with SC coil (EN/IEC 60079-11+26, 61241-11)*	○	-	-	-
N	F						Flameproof - Aluminium (EN/IEC 60079-1, 61241-1)*	-	-	-	-
P	V						Encapsulated epoxy moulded (EN/IEC 60079-18, 61241-18)*	○	-	-	●
S	C						Solenoid with spade plug connector (EN/IEC 60730)	●	-	-	●
W	P						Waterproof IP67 - Metal enclosure	●	-	-	●
W	P		D	U			Waterproof IP67 - Metal enclosure, Dustproof (EN 50281-1-1)*	●	-	-	●
W	P		I	S			I.S. with Metal IP67 enclosure (EN/IEC 60079-11+26, 61241-11)*	○	-	-	-
W	P		Z	N			Waterproof IP67 - Metal enclosure (EN 50021, 50281-1-1)*	○	-	-	●
W	S						Waterproof IP67 - 316 SS enclosure	●	-	-	●
W	S			D	U		Waterproof IP67 - 316 SS enclosure, Dustproof (EN 50281-1-1)*	●	-	-	●
W	S	E	M				Waterproof IP67 - 316 SS enclosure (EN/IEC 60079-7+18, 61241-1)*	●	-	-	●
W	S			I	S		I.S. with 316 SS IP67 enclosure (EN/IEC 60079-11+26, 61241-11)*	○	-	-	-
W	S	N	F				Flameproof - 316 SS (EN/IEC 60079-1, 61241-1)*	-	-	-	-
W	S	Z	N				Waterproof IP67 - 316 SS enclosure (EN 50021, 50281-1-1)*	○	-	-	●
		T					Threaded conduit (1/2" NPT)	●	-	-	●
				H	C		Class H - Battery charging circuit	-	-	-	●
				H	T		Class H - High temperature	-	-	-	●
Z	N						Moulded enclosure (EN 50021, 50281-1-1)*	○	-	-	●
						X	Other special constructions	-	-	-	-

SUFFIX TABLE

suffix					description	power level			
1	2	3	4	5		LP	RP	MP	BP
E					EPDM (ethylene-propylene)	-	-	-	●
J					CR (chloroprene)	-	-	-	●
N					Oxygen service (CR (chloroprene))	-	-	-	●
N	V				FPM (fluoroelastomer) and parts cleaned for oxygen service	-	-	-	●
T					PTFE (polytetrafluoroethylene)	-	-	-	●
V					FPM (fluoroelastomer)	-	-	-	●
W					UR (urethane)	-	-	-	●
	C	O			Epoxy coating on all external surfaces	●	-	-	●
	M	B			Mounting bracket	-	-	-	●
			M	O	Push type manual operator	-	-	-	-
			M	S	Screw type manual operator	-	-	-	-

- Available feature
- Available feature in DC only
- Not available
- * ATEX solenoids are also approved according to EN 13463-1 (non electrical valves)

OPTIONS & ACCESSORIES

catalogue number	spare parts kit no. ⁽¹⁾		mounting bracket no.
	~	=	
SC B 314C006	C302857	C302880	206525-001 ⁽²⁾
SC B 314C031	C302863	C302886	164706-001 ⁽²⁾
SC B 314C032	C302864	C302887	164706-001 ⁽²⁾
SC B 314C034	C302863	C302886	206525-001 ⁽²⁾
SC B 314C035	C302864	C302887	206525-001 ⁽²⁾
SC B 314C041	C302857	C302880	164706-001 ⁽²⁾
SC B 314C049	C302872	C302892	164706-001 ⁽²⁾
SC B 314C050	C302873	C302893	164706-001 ⁽²⁾
SC B 314C052	C302872	C302892	206525-001 ⁽²⁾
SC B 314C053	C302873	C302893	206525-001 ⁽²⁾
SC B 314A121	C314457	C314460	206525-001 ⁽²⁾
SC B 314A122	C314458	C314461	206525-001 ⁽²⁾
SC B 314A300	-	C316816	206525-001 ⁽²⁾
SC B 314A301	-	C316816	206525-001 ⁽²⁾

- ⁽¹⁾ Standard prefixes/suffixes are also applicable to kits
⁽²⁾ Mounting holes in body

PRODUCT SELECTION GUIDE

STEP 1

Select basic catalogue number, including pipe thread identification letter. Refer to the specifications table on page 1.

Example: B314C006

STEP 2

Select prefix (combination). Refer to the specifications table on page 1 and the prefix table on page 2, respect the indicated power level.

Example: EM

STEP 3

Select suffix (combination) if required. Refer to the suffix table on page 2, respect the indicated power level.

Example: V

STEP 4

Select voltage. Refer to standard voltages on page 3.

Example: 230V / 50Hz

STEP 5

Final catalogue / ordering number.

Example:

EMB314C006 V 230V / 50Hz

ORDERING EXAMPLES:

WSEMT B 314C006	230V / 50 Hz
SCHT B 314C031 V	230V / 50 Hz
ISSC B 314C300 MO	24V / DC
WP B 314C032 MS	24V / DC
WS B 314C049 V	24V / DC
SC B 314C041	230V / 50 Hz
PV B 314C035 CO	230V / 50 Hz
EF B 314G053 MB	240V / 60 Hz

prefix⁽⁴⁾ voltage
 pipe thread suffix
 basic number⁽⁴⁾

ORDERING EXAMPLES KITS:

WSEM C302857	
C302864 V ⁽³⁾	
C302893 MO ⁽³⁾	
WP C302892 MS	

prefix suffix
 basic number

- ⁽⁴⁾ Prefix EF and EV should always be used in conjunction with change letter G in the basic number
⁽³⁾ Basic kit number applies to SC coil construction

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 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/50/60Hz; Other voltages are available on request

prefix option	power ratings				operator ambient temperature range (C°) ⁽¹⁾	safety code	electrical enclosure protection (EN 60529)	replacement coil / kit		type ⁽²⁾
	inrush ~	holding ~	hot/cold =					~	=	
	(VA)	(VA)	(W)	(W)				230V/50 Hz	24V/DC	
Basic power (BP)										
SC	55,0	23,0	10,5	9,0/11,2	-40 to +75	EN 60730	IP65, moulded	400425-117	400425-142	01-02
WP/WS	55,0	23,0	10,5	9,0/11,2	-40 to +75	EN 60730	IP67, steel/SS	400405-117	400405-142	03-04
EM/WSEM	55,0	23,0	10,5	9,0/11,2	-40 to +40	II2G Ex e mb II T3, II2D Ex tD	IP67, steel/SS	400909-117	400913-142	03-04
PV	55,0	23,0	10,5	9,0/11,2	-40 to +65	II2G Ex mb II T3(-)/T4(=), II2D Ex mD 21	IP67, moulded	- ⁽³⁾	- ⁽³⁾	05-06
EF	50,0	25,0	10,1	9,0/11,6	-40 to +52/40	NEMA type 7 and 9	NEMA 4X	238614-057D	238714-006D	07-08
ZN	55,0	23,0	10,5	9,0/11,2	-20 to +50	II3GD EEx nA II T3	IP65, moulded	- ⁽³⁾	- ⁽³⁾	01-02
WPZN/WSZN	55,0	23,0	10,5	9,0/11,2	-40 to +70	II3GD EEx nA II T6	IP67, steel/SS	400405-117	400405-142	03-04
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	09-10
WP/WS	1,5	1,5	1,5	1,7/1,7	-40 to +60	EN 60730	IP67, steel/SS	400926-097	400926-042	11-12
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	400926-097	400926-042	11-12
PV	-	-	-	1,7/1,7	-40 to +60	II2G Ex mb II T6, II2D Ex mD 21	IP67, moulded	-	- ⁽³⁾	13-14
EF	-	-	-	1,4/1,4	-40 to +60	NEMA type 7 and 9	NEMA 4X	-	238714-902D	15-16
ISSC	-	-	-	0,4/0,4	-40 to +60	II1G Ex ia IIC T6, II2D Ex iaD 21	IP65, moulded	-	268976-001	17-18
WPIS/WSIS	-	-	-	0,4/0,4	-40 to +60	II1G Ex ia IIC T6, II2D Ex iaD 21	IP67, steel/SS	-	268900-001	11-12
ZN	-	-	-	1,7/1,7	-20 to +50	II3GD EEx nA II T3	IP65, moulded	-	- ⁽³⁾	09-10
WPZN/WSZN	1,5	1,5	1,5	1,7/1,7	-40 to +60	II3GD EEx nA II T6	IP67, steel/SS	400926-097	400926-042	11-12

⁽¹⁾ Temperature range can be limited by sealings

⁽²⁾ Refer to the dimensional drawings on page 4 and 5

⁽³⁾ Multiple coil kits are available under ATEX/IECEx, contact us

- Not available

ELECTRICAL CONNECTIONS


prefix	connection
SC, 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, WPZN, WSZN,	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

ADDITIONAL OPTIONS

- Other pipe threads are available on request
- Ex mb (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
- Special moulded-in solid state components for peak voltage suppression and/or rectification (four diode bridge)

INSTALLATION

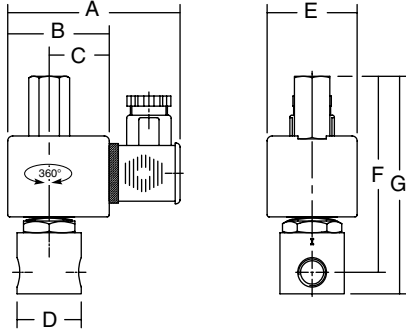
- Multi language installation/maintenance instructions are included with each valve
- The solenoid valves can be mounted in any position without affecting operation
- Threaded pipe connection identifier is B = NPT (ANSI 1.20.3)
- Declarations of conformity are available on request

DIMENSIONS (mm), WEIGHT (kg) 



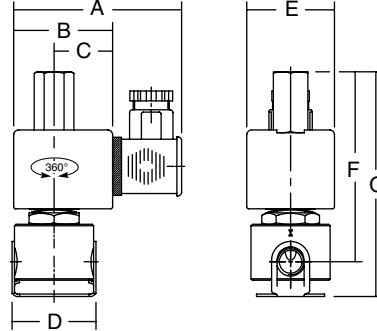
TYPE 01:
Epoxy moulded
SC: IEC 335 / ISO 4400
ZN: EN 50021

B314C006 / C031 / C032 / C034 / C035 / C041 /
B314C049 / C050 / C052 / C053



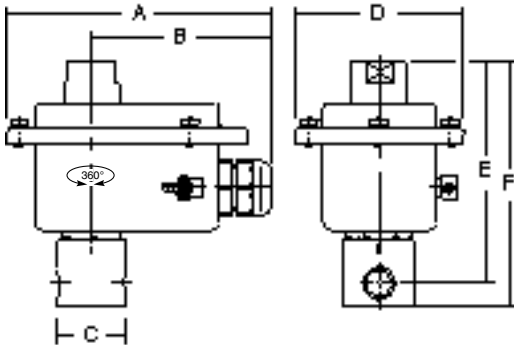
TYPE 02:
Epoxy moulded
SC: IEC 335 / ISO 4400
ZN: EN 50021

B314A121 / A122



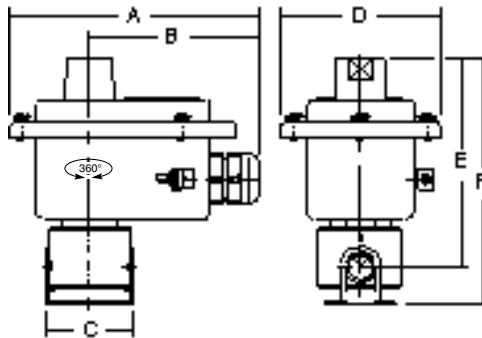
TYPE 03:
Metal, epoxy coated / AISI 316 SS
WP / WS: IEC 335
EM / WSEM: EN 60079-7/18 and EN 61241-1
WPZN / WSN: EN-50021, 50281-1-1

B314C006 / C031 / C032 / C034 / C035 / C041 /
B314C049 / C050 / C052 / C053



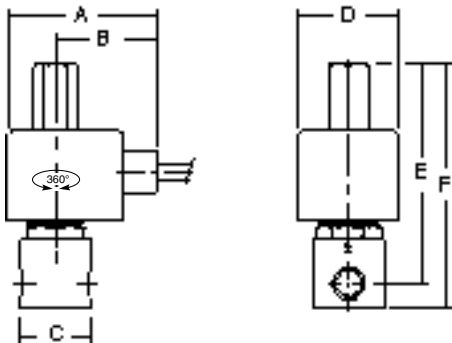
TYPE 04:
Metal, epoxy coated / AISI 316 SS
WP / WS: IEC 335
EM / WSEM: EN 60079-7/18 and EN 61241-1
WPZN / WSN: EN-50021, 50281-1-1

B314A121 / A122



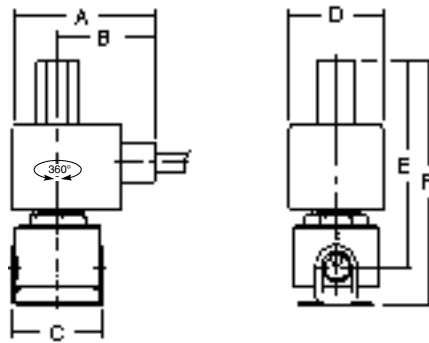
TYPE 05:
Epoxy encapsulated
PV: EN/IEC 60079-18 and EN/IEC 61241-18

B314C006 / C031 / C032 / C034 / C035 / C041 /
B314C049 / C050 / C052 / C053

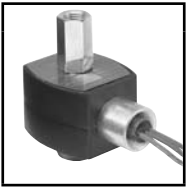


TYPE 06:
Epoxy encapsulated
PV: EN/IEC 60079-18 and EN/IEC 61241-18

B314A121 / A122

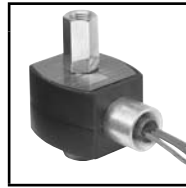
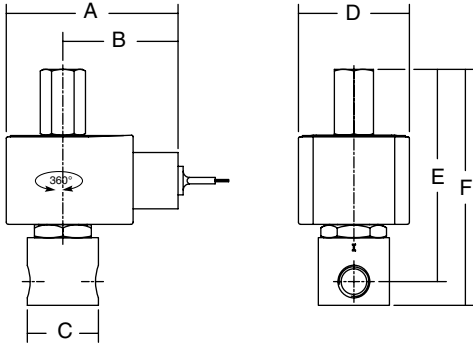


DIMENSIONS (mm), WEIGHT (kg)



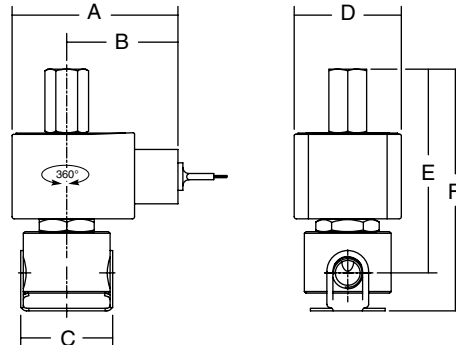
TYPE 07:
Epoxy encapsulated
EF: ICS-6 ANSI / NEMA Type 7 and 9
NOTE: applicable to solenoid only

**B314G006 / G031 / G032 / G034 / G035 / G041 /
B314G049 / G050 / G052 / G053**



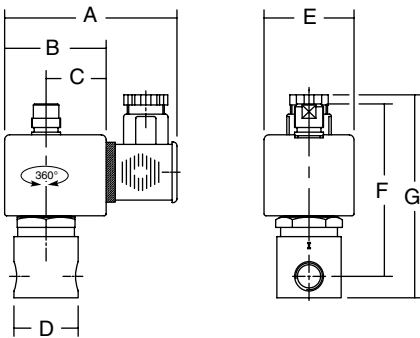
TYPE 08:
Epoxy encapsulated
EF: ICS-6 ANSI / NEMA Type 7 and 9
NOTE: applicable to solenoid only

B314G121 / G122



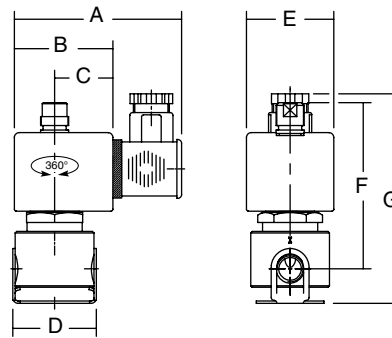
TYPE 09:
Epoxy moulded
SC: IEC 335 / ISO 4400
ZN: EN 50021

B314A300



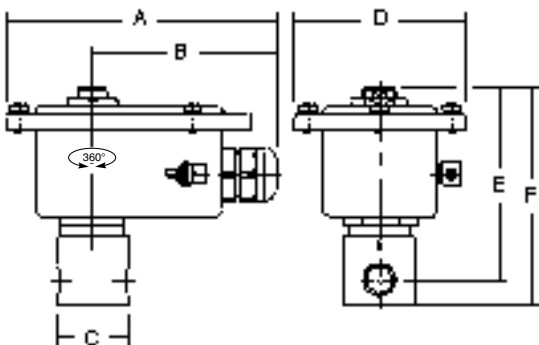
TYPE 10:
Epoxy moulded
SC: IEC 335 / ISO 4400
ZN: EN 50021

B314A301



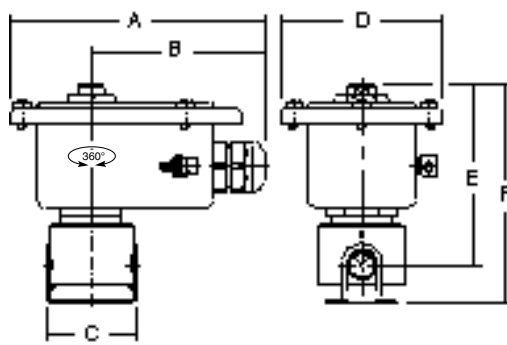
TYPE 11:
Metal, epoxy coated / AISI 316 SS
WP / WS: IEC 335
EM / WSEM: EN 60079-7/18 and EN 61241-1
WPZN / WSN: EN-50021, 50281-1-1
WPIS / WSIS: EN/IEC 60079-11+26 / 61241-11


B314A300



TYPE 12:
Metal, epoxy coated / AISI 316 SS
WP / WS: IEC 335
EM / WSEM: EN 60079-7/18 and EN 61241-1
WPZN / WSN: EN-50021, 50281-1-1
WPIS / WSIS: EN/IEC 60079-11+26 / 61241-11

B314A301



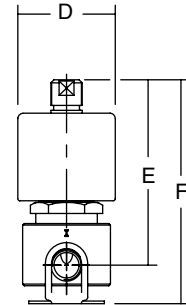
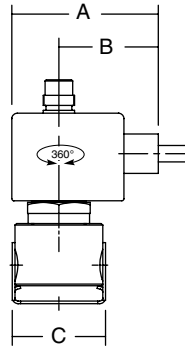
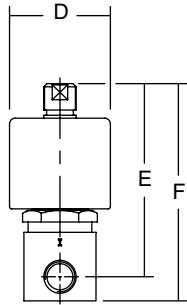
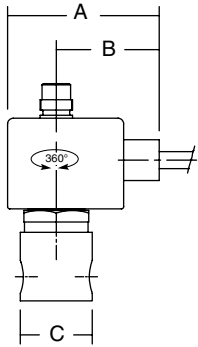
DIMENSIONS (mm), WEIGHT (kg) 



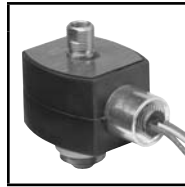
TYPE 13:
Epoxy encapsulated
PV: EN/IEC 60079-18 and EN/IEC 61241-18



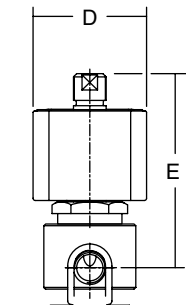
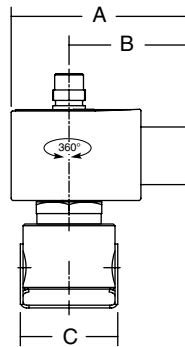
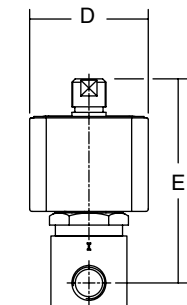
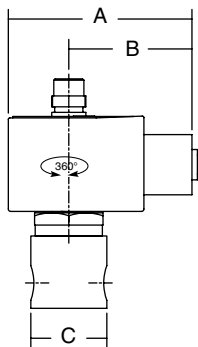
TYPE 14:
Epoxy encapsulated
PV: EN/IEC 60079-18 and EN/IEC 61241-18



TYPE 15:
Epoxy encapsulated
EF: ICS-6 ANSI / NEMA Type 7 and 9
NOTE: applicable to solenoid only



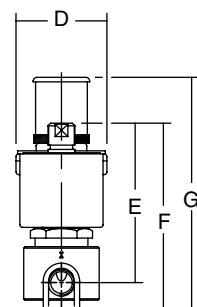
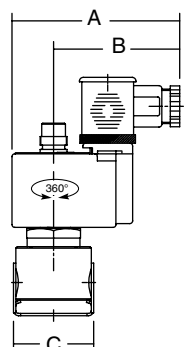
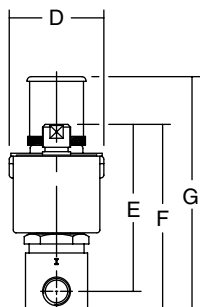
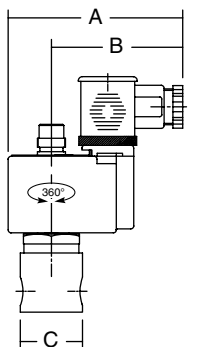
TYPE 16:
Epoxy encapsulated
EF: ICS-6 ANSI / NEMA Type 7 and 9
NOTE: applicable to solenoid only



TYPE 17:
PP moulded
ISSC: EN/IEC 60079-11+26 / 61241-11



TYPE 18:
PP moulded
ISSC: EN/IEC 60079-11+26 / 61241-11

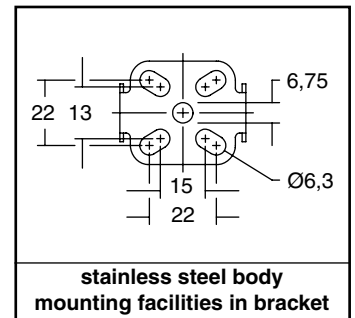
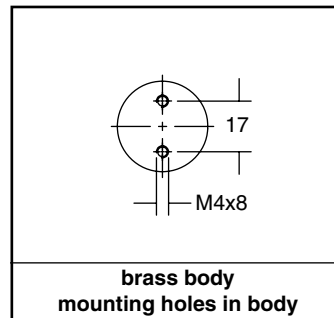
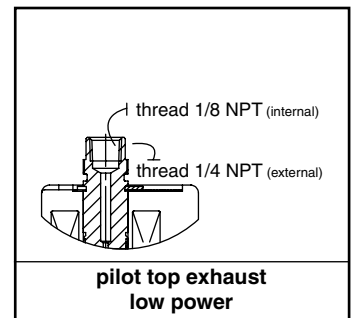
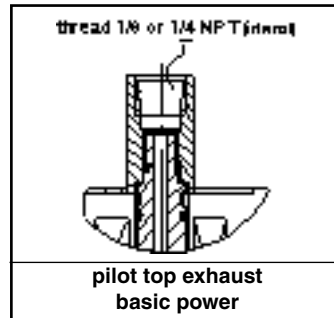
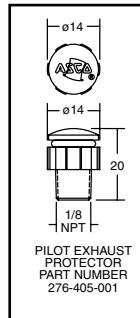
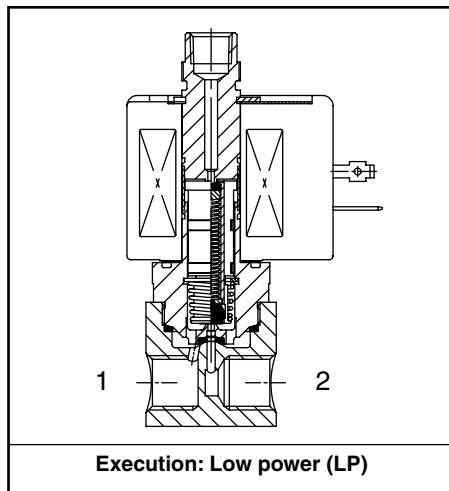


DIMENSIONS (mm), WEIGHT (kg)



type	prefix/option	power level	A	B	C	D	E	F	G	weight
01	SC, ZN	BP	80	50	30	32	45	90	99	0,45 kg
02	SC, ZN	BP	85	50	30	43	45	90	107	0,50 kg
03	WP, WS, EM/WSEM, WPZN/WSZN	BP	120	82	32	77	100	111	-	0,80 kg
04	WP, WS, EM/WSEM, WPZN/WSZN	BP	120	82	43	77	100	117	-	0,90 kg
05	PV	BP	67	45	32	45	97	108	-	0,45 kg
06	PV	BP	67	45	43	45	97	114	-	0,50 kg
07	EF	BP	77	51	32	50	95	105	-	0,45 kg
08	EF	BP	77	51	43	50	94	112	-	0,50 kg
09	SC, ZN	LP	80	50	30	32	45	85	100	0,75 kg
10	SC, ZN	LP	80	50	30	43	45	85	107	0,85 kg
11	WP, WS, EM/WSEM, WPZN/WSZN, WPIS, WSIS	LP	120	82	32	76	85	96	-	0,80 kg
12	WP, WS, EM/WSEM, WPZN/WSZN, WPIS, WSIS	LP	120	82	43	76	85	102	-	0,90 kg
13	PV	LP	67	45	32	45	85	96	-	0,80 kg
14	PV	LP	67	45	43	45	85	102	-	0,90 kg
15	EF	LP	77	51	32	50	85	96	-	0,80 kg
16	EF	LP	77	51	43	50	85	103	-	0,90 kg
17	ISSC	LP	89	67	32	48	85	96	120	0,85 kg
18	ISSC	LP	89	67	43	48	85	102	127	0,95 kg

SECTIONAL DRAWING



MOUNTING BRACKETS BRASS BODIED VALVES

