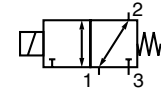




SOLENOID VALVES

direct operated, basic flow
balanced poppet
1/4

U



3/2
Series
327

FEATURES

- The valves have TÜV certified IEC 61508 Functional Safety data and can be used up to SIL-4
- The solenoid valves are recommended for pilot applications with basic flow, wide pressure ranges and no minimum operating pressure
- PTFE rider rings and graphite-filled PTFE seals reduce friction and eliminate sticking
- Coils used in metal enclosures have class H insulation materials
- Special execution for low power
- Special execution for extreme low ambient temperatures
- Peak voltage suppression diodes are standard in DC solenoids with metal enclosures
- The solenoid valves satisfy all relevant EC Directives

GENERAL

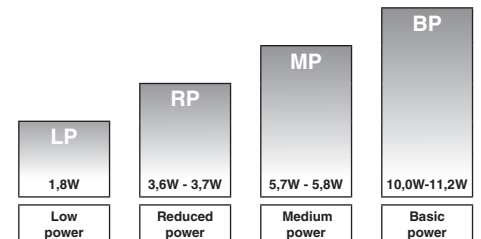
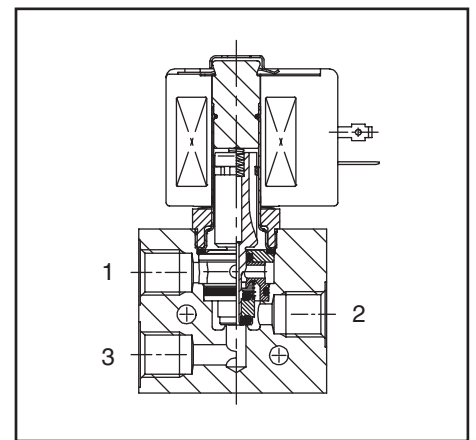
Differential pressure 0 - 10 bar [1 bar = 100kPa]
Maximum viscosity 65cST (mm²/s)
Response times 75 - 100 ms

fluids (*)	temperature range (TS)	seal materials (*)
air, inert gas, water, oil	-20 to +120°C -40 to + 40°C	FPM (fluoroelastomer) VMQ (silicone)

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 316L SS
Stem	Stainless steel	Stainless steel
Core tube	Stainless steel	Stainless steel
Core and plugnut	Stainless steel	Stainless steel
Springs	Stainless steel	Stainless steel
Sealings & poppets	FPM or VMQ / LT-NBR	FPM or VMQ / LT-NBR
Rider ring	PTFE	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		
		port		min.	max. (PS)		NEMA 7&9	ATEX/CENELEC				IP65	brass	stainless st.
		2→1 / 3→2	2→1 / 3→2					EEExd	EEExem	Exmb	EEExn			
❖	(mm)	(m ³ /h)	(l/m)		air/water (*)	~/=	EF ⁽¹⁾	NF	EM	PV	ZN	SC		
U - Universal, FPM sealings and poppets														
1/4	5,7	0,45	7,5	0	10	BP	●	●	●	○	○	●	❖ 327B001	❖ 327B002
1/4	5,7	0,45	7,5	0	10	MP	-	●	●	-	○	●	❖ 327B201	❖ 327B202
1/4	5,7	0,45	7,5	0	10	RP	-	●	●	-	○	●	❖ 327B101	❖ 327B102
1/4	5,7	0,45	7,5	0	10	LP	-	●	-	-	-	-	❖ 327B301	❖ 327B302
U - Universal, VMQ sealings and poppets														
1/4	5,7	0,45	7,5	0	10	BP	●	●	●	○	○	●	❖ 327B011	❖ 327B012
1/4	5,7	0,45	7,5	0	10	MP	-	●	●	-	○	●	❖ 327B211	❖ 327B212
1/4	5,7	0,45	7,5	0	10	RP	-	●	●	-	○	●	❖ 327B111	❖ 327B112
1/4	5,7	0,45	7,5	0	10	LP	-	●	-	-	-	-	❖ 327B311	❖ 327B312

❖ Select 8 for NPT ANSI 1.20.3 ● Available feature - Not available
 Select G for ISO G(228/1) ○ Available feature in DC only
 (1) Prefix EF and EV should always be used in conjunction with change letter H in the basic number

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	V						Explosionproof - NEMA 3, 4, 6, 7, 9 - 316 SS	-	-	-	●
E	M						Encapsulated ATEX + IECEx (EN/IEC 60079 / 61241)*	-	●	●	●
		E	T				Threaded conduit/hole (M20 x 1.5)	-	●	●	●
I	S			S	C		Intrinsically safe with SC coil ATEX (EN 50020)*	-	-	-	-
N	F						Flameproof - Aluminium ATEX (EN 50018)*	●	●	●	●
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*	-	●	●	●
W	P			I	S		I.S. with Metal IP67 enclosure ATEX (EN 50020)*	-	-	-	-
W	P			Z	N		Non Sparking 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" encl. ATEX + IECEx (EN/IEC 60079/61241)*	-	●	●	●
W	S			I	S		I.S. with 316 SS IP67 enclosure ATEX (EN 50020)*	-	-	-	-
W	S	N	F				Flameproof - 316 SS ATEX (EN 50018)*	●	●	●	●
W	S	Z	N				Non Sparking 316 SS enclosure ATEX (EN 50021)*	-	●	●	●
							Threaded conduit (1/2" NPT)	-	●	●	●
				H	C		Class H - Battery charging circuit	-	-	-	●
				H	T		Class H - High temperature	-	-	-	-
Z	N						Encapsulated Non Sparking ATEX (EN 50021)*	-	-	-	○
						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) parts cleaned for oxygen service	●	●	●	●
	C	O			Epoxy coating on all external surfaces	●	●	●	●
	M	B			Mounting bracket	-	-	-	-
			M	O	Manual operator	●	●	●	●
			M	S	Screw type manual operator ⁽¹⁾	●	●	●	●
				M	Metering device	-	-	-	-

● 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⁾ Functional Safety certification is not applicable with this feature

PRODUCT SELECTION GUIDE

STEP 1

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

Example: 8327B001

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: NF

STEP 3

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

Example: MS

STEP 4

Select voltage. Refer to standard voltages on page 3.

Example: 230V / 50/60Hz

STEP 5

Final catalogue / ordering number.

Example:

NF 8327B001 MS 230V / 50/60 Hz

OPTIONS & ACCESSORIES

catalogue number	spare part kit no. ⁽²⁾	mounting bracket
	~ / =	
SC ❖327B001	C123670	■
SC ❖327B002	C123670	■
SC ❖327B011	C131237	■
SC ❖327B012	C131237	■
SC ❖327B101	C132251	■
SC ❖327B102	C132251	■
SC ❖327B111	C132253	■
SC ❖327B112	C132253	■
SC ❖327B201	C132251	■
SC ❖327B202	C132251	■
SC ❖327B211	C132253	■
SC ❖327B212	C132253	■
SC ❖327B301	C133441	■
SC ❖327B302	C133441	■
SC ❖327B311	C133442	■
SC ❖327B312	C133442	■

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

⁽²⁾ Standard prefixes/suffixes are also applicable to kits

■ Mounting holes in body

ORDERING EXAMPLES VALVES:

SC 8	327B001	24V / DC
WSEMT G	327B002 MS	24V / DC
NFET G	327B001	230V / 50/60 Hz
WSEM G	327B002 MS	24V / DC
NF 8	327B211	24V / DC
WS G	327B001 MS	24V / DC
EM 8	327B201	230V / 50/60 Hz
PV 8	327B012 MS	24V / DC
EF G	327H002 MS	240V / 50/60 Hz

prefix ⁽³⁾ _____ voltage
 pipe thread _____ suffix
 basic number ⁽³⁾ _____

ORDERING EXAMPLES KITS:

C131237 ⁽⁴⁾
WSEM C123670 MS
NF C131237
WSEM C123670 MO

prefix _____ suffix
 basic number _____

⁽³⁾ Prefix EF and EV should always be used in conjunction with change letter H in the basic number

⁽⁴⁾ Basic kit number applies to SC coil construction

ELECTRICAL CHARACTERISTICS

Coil insulation materials H
 Connector Spade plug
 Connector specification ISO 4400 (cable Ø 6-10 mm)
 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 (TS) (°C) ⁽¹⁾	safety code	electrical enclosure protection (EN 60529)	replacement coil / kit		type ⁽²⁾
	inrush	holding		hot/cold				~	=	
	(VA)	(VA)	(W)	(W)				230V/50/60 Hz	24V/DC	
Basic Power (BP)										
SC	10,0	10,0	10,0	9,0/11,2	-40 to +55	EN 60730	moulded IP65	123664-017	400425-142	01
WP/WS	10,0	10,0	10,0	9,0/11,2	-40 to +55	EN 60730	steel/SS IP67	400915-017	400913-142	03
(WS)NF	10,0	10,0	10,0	9,0/11,2	-60 to +40/60	II 2 G/D EEx d IIC T6/T5	alu/SS IP67	400915-017	400913-142	05
EM/WSEM	10,0	10,0	10,0	9,0/11,2	-40 to +40	II 2 G/D EEx em II T3	steel/SS IP67	400915-017	400913-142	03
PV	-	-	-	9,0/11,2	-40 to +65	II 2 G/D Ex mb II T4 / Ex mD	moulded IP67	-	- ⁽⁴⁾	06
EF/EV	10,0	10,0	10,0	9,0/11,2	-40 to +55	NEMA type 7 and 9	mould. NEMA 4X	-	238714-006D	07
ZN	-	-	-	9,0/11,2	-20 to +50	II 3 G/D EEx nA II T3	moulded IP65	-	- ⁽⁴⁾	01
WP(WS)ZN	-	-	-	9,0/11,2	-40 to +60/75	II 3 G/D EEx nA II T4/T3	steel/SS IP67	400915-017	400913-142	03
Medium Power (MP)										
SC	5,8	5,8	5,8	5,2/5,7	-40 to +90	EN 60730	moulded IP65	400924-297	400923-442	02
WP/WS	5,8	5,8	5,8	5,2/5,7	-40 to +90	EN 60730	steel/SS IP67	400921-297	400914-442	04
(WS)NF	5,8	5,8	5,8	5,2/5,7	-60 to +60/75/90	II 2 G/D EEx d IIC T6/T5/T4	alu/SS IP67	400921-297	400914-442	05
EM/WSEM	5,8	5,8	5,8	5,2/5,7	-40 to +40/75/90	II 2 G/D EEx em II T5/T4/T3	steel/SS IP67	400921-297	400914-442	04
WP(WS)ZN	5,8	5,8	5,8	5,2/5,7	-40 to +40/60/90	II 3 G/D EEx nA II T6/T5/T4	steel/SS IP67	400921-297	400914-442	04
Reduced Power (RP)⁽³⁾										
SC	3,7	3,7	3,7	3,2/3,6	-40 to +55	EN 60730	moulded IP65	400924-098 ⁽³⁾	400923-042	02
WP/WS	3,7	3,7	3,7	3,2/3,6	-40 to +55	EN 60730	steel/SS IP67	400921-098 ⁽³⁾	400914-242	04
(WS)NF	3,7	3,7	3,7	3,2/3,6	-60 to +60	II 2 G/D EEx d IIC T6	alu/SS IP67	400921-098 ⁽³⁾	400914-242	05
EM/WSEM	3,7	3,7	3,7	3,2/3,6	-40 to +40/55	II 2 G/D EEx em II T6/T5	steel/SS IP67	400921-098 ⁽³⁾	400914-242	04
WP(WS)ZN	3,7	3,7	3,7	-	-40 to +40/55	II 3 G/D EEx nA II T6/T5	steel/SS IP67	400921-098 ⁽³⁾	-	04
WP(WS)ZN	-	-	-	3,2/3,6	-40 to +40/55	II 3 G/D EEx nA II T6/T5	steel/SS IP67	-	400914-242	04
Low Power (LP)⁽³⁾										
(WS)NF	1,8	1,8	1,8	1,5/1,8	-40 to +60	II 2 G/D EEx d IIC T6	alu/SS IP67	- ⁽³⁾	400914-542	05

⁽¹⁾ Temperature range can be limited by sealings

⁽³⁾ AC (~) limited to 120V/50/60Hz

- Not available

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

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

ADDITIONAL OPTIONS

- Ex mb/mD (prefix "PV") solenoid can be supplied with various cable lengths
- Compliance with "UL", "CSA" and other local approvals available on request

INSTALLATION

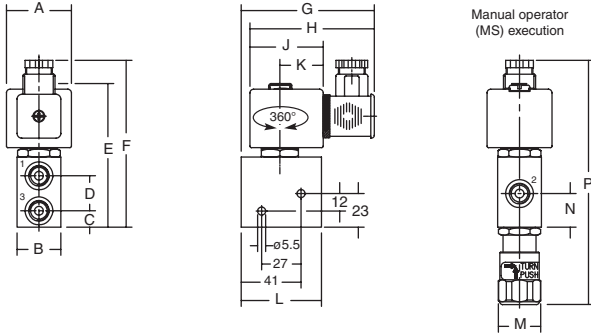
- Multi language installation/maintenance instructions are included with each valve
- The solenoid valves can be mounted in any position without affecting operation
- The mounting holes are provided in the valve body
- Threaded pipe connection identifier is 8 = NPT (ANSI 1.20.3); G = G (ISO 228/1)
- Declarations of conformity are available on request
- EEx em (prefix "EM") execution: solenoid enclosure has a cable gland with integral strain relief for cables with an o.d. from 7 to 12 mm and is provided with an internal and external connection facility for an earthing or bonding conductor
- EEx d (prefix "(WS)NF") 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
- All DC solenoids with metal enclosure are provided with switch-off peak voltage suppression diodes
- To comply with IEC 61508 (SIL) the valves must be provided with a specific exhaust protector (as shown on page 5) or equal

DIMENSIONS (mm), WEIGHT (kg)



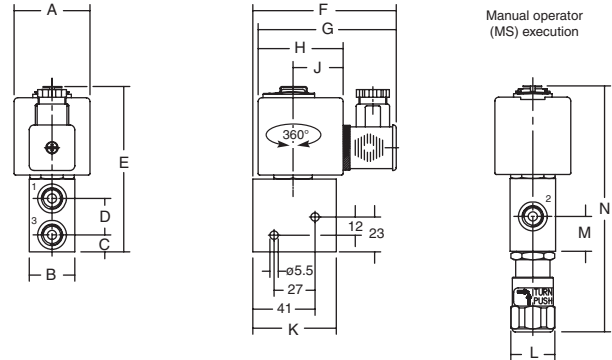
TYPE 01:
Prefix "SC" and "ZN" Solenoid
Basic power
Epoxy moulded
IEC 335 / ISO 4400 (SC)
EN 50021 (ZN)
IP65 / II 3 G/D EEx nA II

327B001 / B002 / B011 / B012



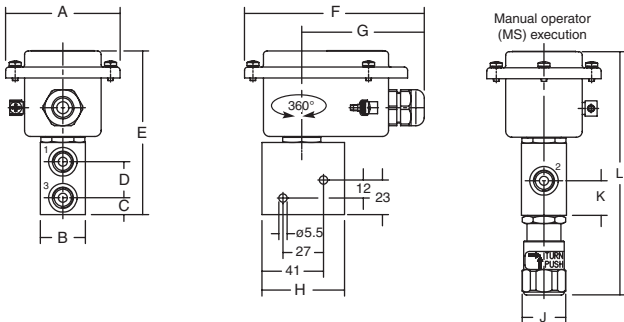
TYPE 02:
Prefix "SC" Solenoid
Reduced and medium power
Epoxy moulded
IEC 335 / ISO 4400
IP65

327B101 / B102 / B111 / B112 / B201 / B202 / B211 / B212



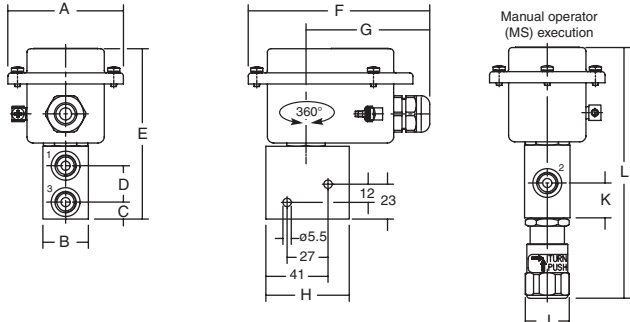
TYPE 03:
Prefix "WP", "WS", "(WS)EM" and "WP(WS)ZN" Solenoid
Basic power
Steel; epoxy coated (EM, WP and WPZN)
AISI 316 SS (WS, WSEM and WSZN)
IEC 335 / EN 50019, EN 50028 and 50281-1-1
IP67 / II 2 G/D EEx em II / II 3 G/D EEx nA II

327B001 / B002 / B011 / B012



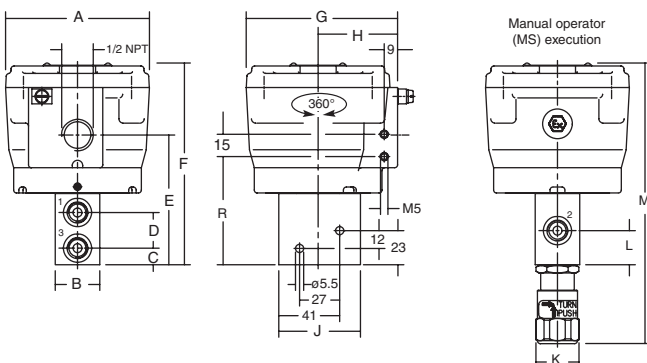
TYPE 04:
Prefix "WP", "WS", "(WS)EM" and "WP(WS)ZN" Solenoid
Medium and reduced power
Steel; epoxy coated (EM, WP and WPZN)
AISI 316 SS (WS, WSEM and WSZN)
IEC 335 / EN 50019, EN 50028 and 50281-1-1
IP67 / II 2 G/D EEx em II / II 3 G/D EEx nA II

327B101 / B102 / B111 / B112 / B201 / B202 / B211 / B212



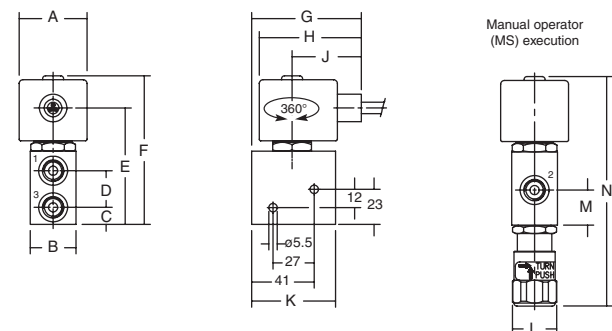
TYPE 05:
Prefix "NF" and "WSNF" Solenoid
Basic, medium, reduced and low power
Aluminium; epoxy coated (NF)
AISI 316 SS (WSNF)
EN 50018 and EN 50281-1-1
IP67 / II 2 G/D EEx d IIC

327B001 / B002 / B011 / B012 / B101 / B102 / B111 / B112 / B201 / B202 / B211 / B212 / B301 / B302 / B311 / B312



TYPE 06:
Prefix "PV" Solenoid
Basic power
Epoxy encapsulated
EN 50028 and EN 50281-1-1
II 2 G/D Ex mb II / Ex mD
IP67

327B001 / B002 / B011 / B012

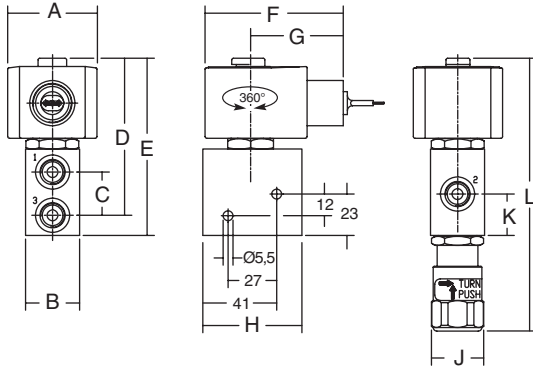


DIMENSIONS (mm), WEIGHT (kg)



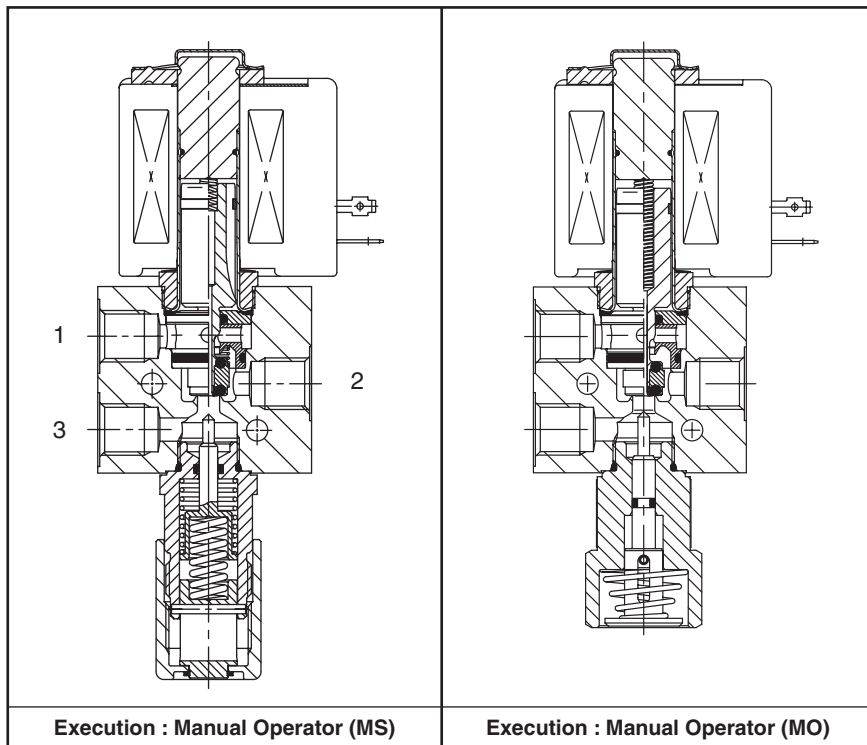
TYPE 07:
 Prefix "EF" and "EV" Solenoid
 Basic power
 Epoxy encapsulated
 ICS-6 ANSI / NEMA
 Type 7 and 9
 NOTE: applicable to solenoid only

327H001 / H002 / H011 / H012

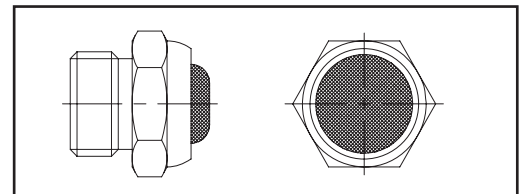


type	prefix/option	power level	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	weight
01	SC, ZN	BP	45	30	11	24	90	114	91	85	50	30	55	29	23	167	-	0,95 kg
02	SC	MP/RP	50	30	11	24	109	95	87	56	53	55	29	23	162	-	-	1,05 kg
03	WP, WS, (WS)EM, WP(WS)ZN	BP	77	30	11	24	109	120	81	55	29	23	162	-	-	-	-	1,00 kg
04	WP, WS, (WS)EM, WP(WS)ZN	MP/RP	77	30	11	24	112	120	81	55	29	23	165	-	-	-	-	1,00 kg
05	NF, WSNF	BP/MP/RP	97	30	11	24	87	136	102	54	55	29	23	189	-	-	73	2,60 kg
05	NF, WSNF	LP	97	30	11	24	97	146	102	54	55	29	23	199	-	-	83	2,65 kg
06	PV	BP	45	30	11	24	76	97	72	67	45	55	29	23	150	-	-	1,05 kg
07	EF, EV	BP	50	30	24	87	98	77	51	55	29	23	151	-	-	-	-	0,95 kg

SECTIONAL DRAWING



EXHAUST PROTECTOR



EXHAUST PROTECTOR ORDER NUMBERS

1/4	ISO 228/1	brass/nickel	B-MV110014
	NPT		B-PV110014
	ISO 22/1	stainless steel	B-VX110014
	NPT		B-PV110014 Inox

