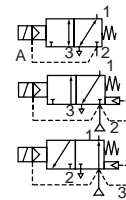




SOLENOID VALVES

internal/external pilot operated
Pressure assisted, balanced poppet
1/4 to 1/2

U
NC
NO



3/2
Series
307

FEATURES

- Can be internally piloted, or externally piloted to convert valve to zero minimum pressure differential operation by applying auxiliary air.
- Universal, Normally Closed, Normally Open pilot valves with high flow capacity (Ø 9 mm) especially suited for heavy duty industrial applications in hostile environments, such as drilling rigs and refineries
- Balanced poppet construction
- Stainless steel or brass bodied valves with stainless steel internal parts
- The use of first class materials and thorough valves testing ensure a high reliability and a long service life
- The solenoid valves satisfy all relevant EC Directives

Zero minimum pressure is only achieved if external pressure is applied

GENERAL

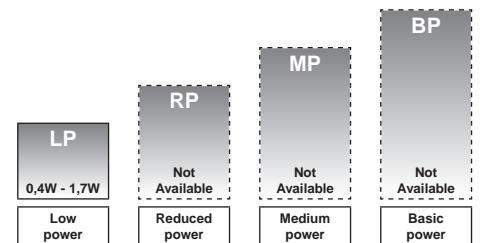
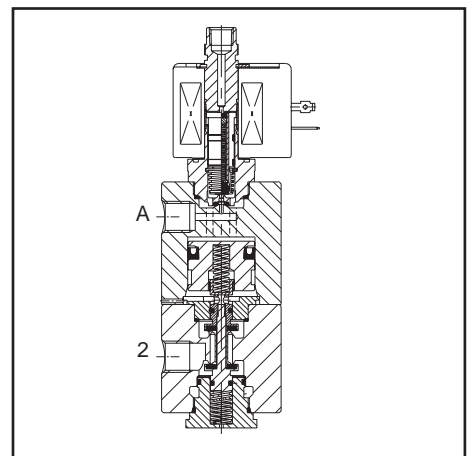
Differential pressure 0 / 0,7 - 10 bar [1 bar = 100kPa]
Response times 75 - 100 ms

fluids (*)	temperature range (TS)	seal material (*)
air, inert gas	-20 to + 60°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 316 SS
Core tube	Stainless steel	Stainless steel
Core and plugnut	Stainless steel	Stainless steel
Springs	Stainless steel	Stainless steel
Piston	Brass	Stainless steel
Piston ring	NBR	NBR
Cartridge	Welded, packless AISI 430 SS	Welded, packless AISI 430 SS
Poppet stem	Stainless steel	Stainless steel
Sealings	NBR	NBR
Discs and poppets	NBR	NBR
Rider ring	PTFE	PTFE
Seats	Brass	Stainless steel



POWER LEVELS - cold electrical holding values (watt)

SPECIFICATIONS

pipe size	orifice size	flow coefficient kv		operating pressure differential (bar)			power level	prefix optional solenoids						basic catalogue number				
								min. ⁽³⁾	max. (PS)		NEMA 7 & 9	ATEX / IECEx				IP65		
									air (*)	~		=	~/=				EF	NF
NPT	(mm)	(m ³ /h)	(l/min)												brass	stainless steel		
U - Universal																		
1/4	9,0	0,7	12	0 ⁽¹⁾	10	10	LP	○	□	●	○	○	●	B307A315U	B307A305U			
3/8	9,0	0,7	12	0 ⁽¹⁾	10	10	LP	○	□	●	○	○	●	B307A345U	B307A335U			
1/2	9,0	0,7	12	0 ⁽¹⁾	10	10	LP	○	□	●	○	○	●	B307A375U	B307A365U			
NC - Normally closed																		
1/4	9,0	0,7	12	0,7	10	10	LP	○	□	●	○	○	●	B307A315F	B307A305F			
3/8	9,0	0,7	12	0,7	10	10	LP	○	□	●	○	○	●	B307A345F	B307A335F			
1/2	9,0	0,7	12	0,7	10	10	LP	○	□	●	○	○	●	B307A375F	B307A365F			
NO - Normally open																		
1/4	9,0	0,7	12	0,7	10	10	LP	○	□	●	○	○	●	B307A315G	B307A305G			
3/8	9,0	0,7	12	0,7	10	10	LP	○	□	●	○	○	●	B307A345G	B307A335G			
1/2	9,0	0,7	12	0,7	10	10	LP	○	□	●	○	○	●	B307A375G	B307A365G			

□ Available on request ○ Available feature in DC only
● Available feature ⁽¹⁾ Min. auxiliary air pressure of 0,7 bar

PREFIX TABLE

prefix							description	power level			
1	2	3	4	5	6	7		LP	RP	MP	BP
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, 60079-31)*	-	-	-	-
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			I	S		I.S. with Metal IP67 enclosure (EN/IEC 60079-11+26, 61241-11)*	○	-	-	-
W	S						Waterproof IP67 - 316 SS enclosure	●	-	-	-
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, 60079-31)*	-	-	-	-
						T	Threaded conduit (1/2" NPT)	●	-	-	-
						H	Class H - Battery charging circuit	-	-	-	-
						H	Class H - High temperature	-	-	-	-
						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	●	-	-	-
V					FPM (fluoroelastomer)	●	-	-	-
	C	O			Epoxy coating on all external surfaces	●	-	-	-
	M	B			Mounting bracket	●	-	-	-
		P			Dry gas, non-lubricated air construction	-	-	-	-
		Q			Long life, quiet operation construction	-	-	-	-
			M	O	Push type manual operator	●	-	-	-
			M	S	Screw type manual operator	●	-	-	-
				M	Metering device	-	-	-	-

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

PRODUCT SELECTION GUIDE

STEP 1

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

Example: B307A345F

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: 115V / 50Hz

STEP 5

Final catalogue / ordering number.

Example:

EM B307A345 V 115V / 50 Hz

OPTIONS & ACCESSORIES

catalogue number	spare parts kit no. ⁽¹⁾		mounting bracket no.
	~	=	
SC B307A305F	-	C132658F	115292-001
SC B307A315F	-	C132658F	115292-001
SC B307A335F	-	C132658F	115292-001
SC B307A345F	-	C132658F	115292-001
SC B307A365F	-	C132658F	115292-001
SC B307A375F	-	C132658F	115292-001
SC B307A305G	-	C132658G	115292-001
SC B307A315G	-	C132658G	115292-001
SC B307A335G	-	C132658G	115292-001
SC B307A345G	-	C132658G	115292-001
SC B307A365G	-	C132658G	115292-001
SC B307A375G	-	C132658G	115292-001
SC B307A305U	-	C132658U	115292-001
SC B307A315U	-	C132658U	115292-001
SC B307A335U	-	C132658U	115292-001
SC B307A345U	-	C132658U	115292-001
SC B307A365U	-	C132658U	115292-001
SC B307A375U	-	C132658U	115292-001

- ⁽¹⁾ Standard prefixes/suffixes are also applicable to kits
 - Not available

ORDERING EXAMPLES:

WSEMT	B 307	A315U	240V / 60 Hz
SC	B 307	A335U V	230V / 50 Hz
ISSC	B 307	A345F MO	24V / DC
WPIS	B 307	A375F MO	24V / DC
WS	B 307	A305G E	24V / DC
EM	B 307	A335F MB	230V / 50 Hz
PV	B 307	A365U MB	24V / DC
EV	B 307	G315U MB	24V / DC

prefix⁽²⁾ pipe thread basic number⁽²⁾ voltage suffix

ORDERING EXAMPLES KITS:

WSEM	C132659	F
	C132659	U V
ISSC	C132659	G MO
WPIS	C132659	U MO

prefix basic number⁽³⁾ suffix

- ⁽²⁾ 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
Connector	Spade plug
Connector specification	ISO 4400 (cable Ø 6-10 mm)
Electrical safety	IEC 335
Standard voltages:	DC (=) 24V - 48V; Allowable voltage variation +10%, -15%
	AC (~) 24V - 48V - 115V - 230V/50Hz; Other voltages and 60Hz are available on request

prefix option	power ratings				operator amb. temp. range (TS) (C°) ⁽¹⁾	safety code	electrical enclosure protection (EN 60529)	replacement coil / kit		type ⁽²⁾
	inrush ~	holding ~	hot/cold =					~	=	
	(VA)	(VA)	(W)	(W)				230 V/50 Hz	24V/DC	
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	01
WP/WS	1,5	1,5	1,5	1,7/1,7	-40 to +60	EN 60730	IP67, steel/SS	400926-097	400926-042	02
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 A21	IP67, steel/SS	400926-097	400926-042	03
PV	-	-	-	1,7/1,7	-40 to +60	II2G Ex mb II T6, II2D Ex mD 21	IP67, moulded	-	- ⁽³⁾	04
EF	-	-	-	1,4/1,4	-40 to +60	NEMA type 7 and 9	NEMA 4X	-	238714-902D	04
ISSC	-	-	-	0,4/0,4	-40 to +60	II2G Ex ia IIC T6, II2D Ex iaD 21	IP65, moulded	-	268976-001	05
WPIS/WSIS	-	-	-	0,4/0,4	-40 to +60	II2G Ex ia IIC T6, II2D Ex iaD 21	IP67, steel/SS	-	268900-001	02

⁽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

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

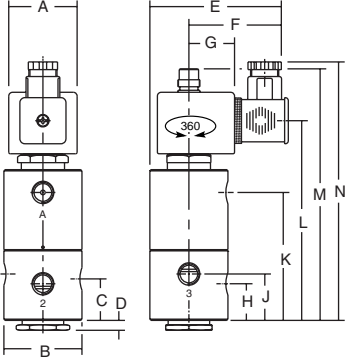
- The solenoid valves have to be mounted vertically and in an upright position for best performance
- Multi language installation/maintenance instructions are included with each valve
- Threaded pipe connection identifier is B = NPT (ANSI 1.20.3)
- Other pipe threads are available on request
- Normally closed construction (F) and normally open construction (G) have internal pilot connections and need 0.7 bar min. operating pressure
- Universal construction (U) needs auxiliary air pressure applied to port connection "A"
- Declarations of conformity are available on request
- Ex e mb (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

DIMENSIONS (mm), WEIGHT (kg)



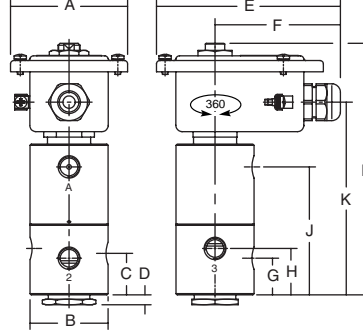
TYPE 01
Epoxy moulded
SC: IEC 335 / ISO 4400

307A305 / A315 / A335 / A345 / A365 / A375



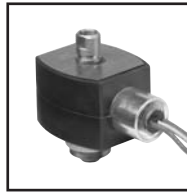
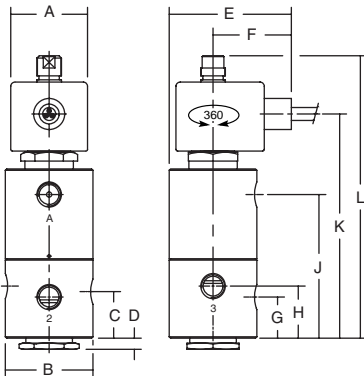
TYPE 02
Metal, epoxy coated / AISI 316 SS
WP / WS: IEC 335
EM / WSEM: EN 60079-7/18 and EN 61241-1
WPIS / WSIS: EN/IEC 60079-11+26 / 61241-11

307A305 / A315 / A335 / A345 / A365 / A375



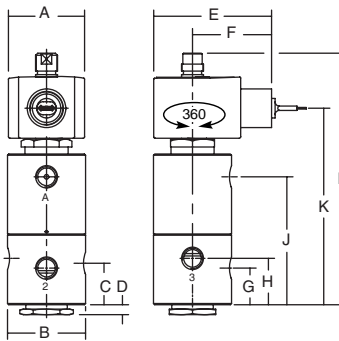
TYPE 03
Epoxy encapsulated
PV: EN/IEC 60079-18 and EN/IEC 61241-18

307A305 / A315 / A335 / A345 / A365 / A375



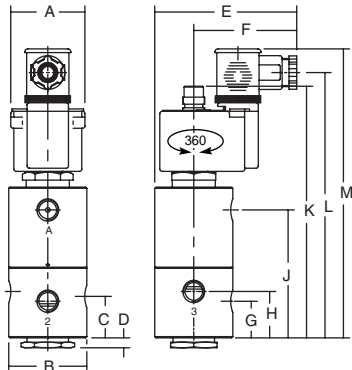
TYPE 04
Epoxy encapsulated
EF: ICS-6 ANSI / NEMA Type 7 and 9
NOTE: applicable to solenoid only

307A305 / A315 / A335 / A345 / A365 / A375



TYPE 05
PP moulded
ISSC: EN/IEC 60079-11+26 / 61241-11

307A305 / A315 / A335 / A345 / A365 / A375



type	prefix option	power level	A	B	C	D	E	F	G	H	J	K	L	M	N	weight
01	SC	LP	45	51	27	6	85	50	30	24	30	83	130	164	168	1,05 kg
02	WP, WS, EM, WSEM	LP	77	51	27	6	120	82	24	30	83	125	164	-	-	1,95 kg
02	WPIS, WSIS	LP	77	51	27	6	120	82	24	30	83	125	164	-	-	1,95 kg
03	PV	LP	45	51	27	6	67	45	24	30	83	130	164	-	-	1,05 kg
04	EF	LP	50	51	27	6	77	52	24	30	83	128	164	-	-	1,05 kg
05	ISSC	LP	48	57	27	6	89	67	24	30	83	164	173	188	-	1,05 kg

SECTIONAL DRAWING

