

General Purpose Solenoid Valves

*Catalog 4203 BR
Brazil 2000*



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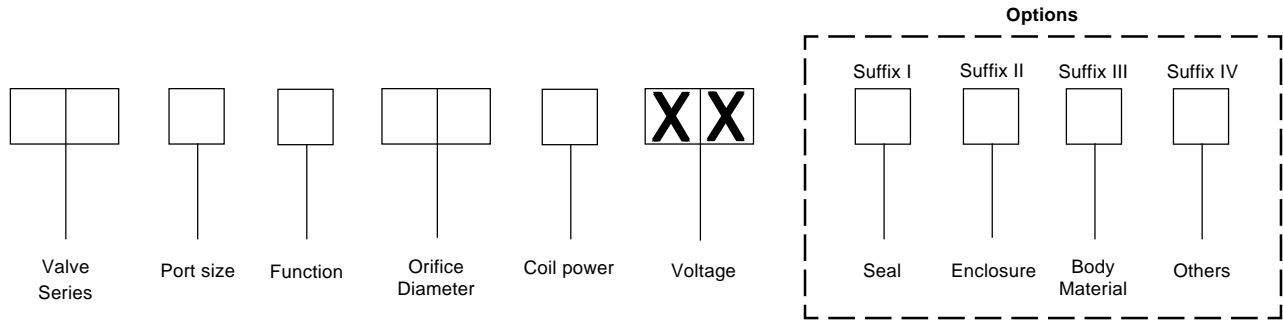
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Note: Valves in this catalog are standard, however Parker Hannifin Brazil may supply special valves which meet customers requirements. Please, consult our office.

General Purpose Solenoid Valves

Technical Information

Solenoid Valve Numbering



How to order a solenoid valve

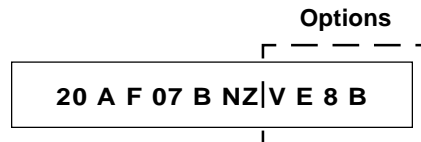
Select a two way solenoid valve, 1/8" NPT, normally closed, body material: brass, 240 V/ 60Hz, water and general purpose use.

According to the catalog, only Series 20 meets the above mentioned requirements, so the Part Number is:

20 A F 07 B NZ

Assume that now the customer wants to change some features of this valve: Viton seals, explosion proof enclosure, body material 316 S.S. and "G" threads.

First of all it is necessary to check if these options are available for Series 20; as they are, the new Part Number is the old Part Number adding the suffixes "V" (Viton), "E" (Explosion Proof Enclosure), "8" (316 S.S) and "B" ("G" threads).



Notes:

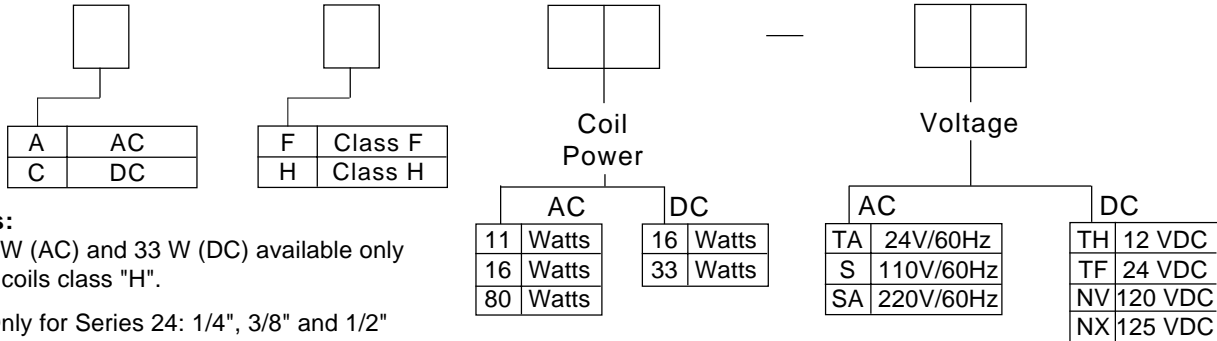
- ▷ If any other voltage not described in the catalog is necessary, please consult our office.
- ▷ Options must follow the order they appear in each series.
- ▷ Every suffix option must be added in the end of the standard Part Number (After the voltage code).
- ▷ Valves selected for A.C. voltages may not be modified to D.C. voltages.

General Purpose Solenoid Valves

Technical Information

Coil Numbering

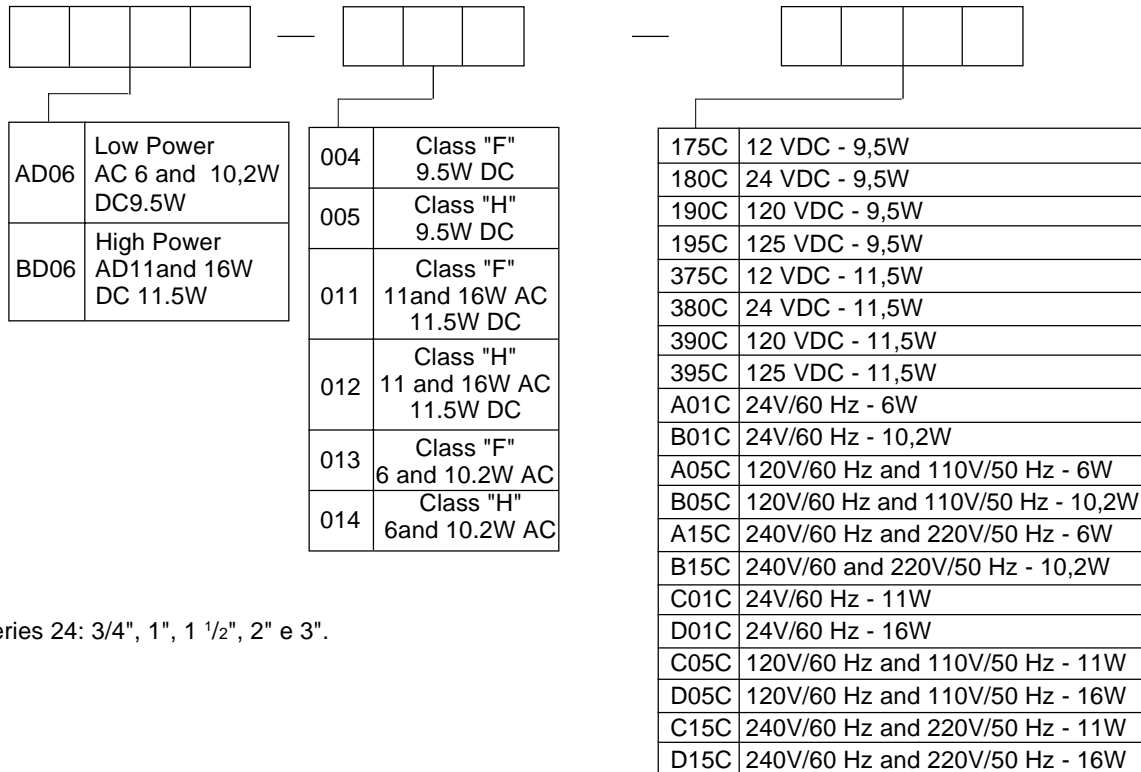
Coil Information for Series 21, 24*, 25, 45, 46, 80 and 81



Notes:

- ▷ 80 W (AC) and 33 W (DC) available only for coils class "H".
- ▷ * Only for Series 24: 1/4", 3/8" and 1/2"

Coil Information for Series 20, 24**, 30, 31, S, 53 and 54

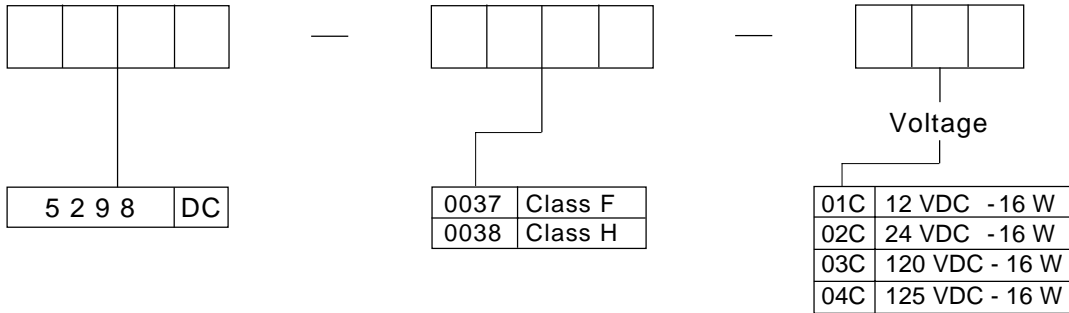


** Only for Series 24: 3/4", 1", 1 1/2", 2" e 3".

General Purpose Solenoid Valves

Technical Information

Coil Information for Series 24 Normally Open DC



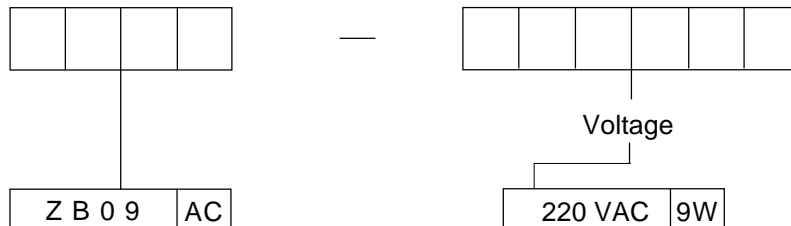
Plug-in Connectors Information

- Plug-in connectors available only for Series 15, 16, 20, 24, 28, 47, 52, 53, 72 and 90. (See Part Number Table Below).
- Explosion proof enclosures for plug-in connectors available only for series 28, 47, 52, 72, 75 and 90. (See Part Number Table Below).

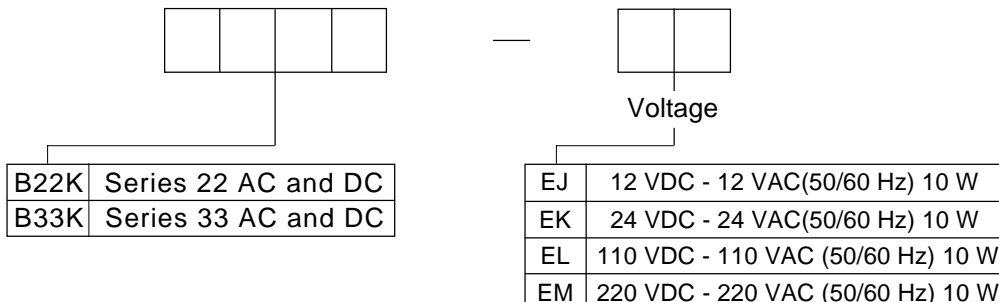
Voltage	Plug-in Reference	Explosion Proof Reference
24/60 Hz	K593-716	1610 - 4231-08TA
110/60 Hz	K593-717	1610 - 4231-08S
220/60 Hz	K593-720	1610 - 4231-08SA
12 VCC	K593-701	1610 - 4231-10TH
24 VCC	K593-702	1610 - 4231-10TF
120 VCC	7160-001-NV	*1601 - 5257
125 VCC	7160-001-NX	*7160 - 024

Note: For explosion proof enclosure with coil class "H", modify the tenth digit from (-) to (H).
 * For coils class "H", add the suffix "H".

Coil Information for Series 128 and 141



Coil Information for Series 22 and 33



General Purpose Solenoid Valves



Series 20

2 Way - Direct Operated
Normally Closed and Normally Open
1/8" and 1/4" NPT/G
Air, Gas, Water, Light Oil, Corrosive Media

Standard Materials

Valve Body:	305 S.S.
Seals:	Buna-N (NBR)
Plunger and Stop:	430 F S.S.
Springs:	302 S.S.
Shading Coil:	Copper
Coil:	Class "F"

Options (Add the suffixes after the voltage)

Seals

- Viton (FKM), use suffix "U".
- Ethylene Propylene (EPDM), use suffix "P".
- Teflon (PTFE), use suffix "T" (Only if the minimum differential pressure is 1 bar).
- Neoprene (CR), use suffix "N".

Enclosure

- Open enclosure, use suffix "O".
- General purpose with plug-in connector (Nema 3R), use suffix "C".
- General purpose with plug-in connector + LED + surge suppressor, use suffix "U".
- Explosion, water and dust proof (Nema 4, 7 and 9), use suffix "E".
- Air remote operated valves, modify the eighth and ninth digit from "XX" to "L" (Available only for NC, brass and internal orifice up to 4.0 mm).

Valve Body

- 316 S.S., use suffix "8".

Shading Coil

- Aluminium (Only for body in brass, AC voltages and use with acetylene), use suffix "S"

Others

- "G" thread, use suffix "B".
- Manual override, use suffix "M" (Available only for NC valves).
- Coil class "H", use suffix "H".
- "G" thread + manual override, use suffix "Q".
- Coil class "H" + manual override, use suffix "F".
- "G" thread + coil class "H", use suffix "R".
- "G" thread + manual override + coil class "H", use suffix "D".

Installation

- Valves can be mounted in any position without jeopardising their operation.

Vacuum

- Up to 10⁻² mm Hg

Oxygen

- Use suffix "I" and seals in neoprene (CR).

General Purpose Solenoid Valves

Two Way - Normally Closed - AC

Body and Seals: Brass and NBR (For other options see page 5)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	General Purpose
			Minimum (bar)	Maximum (M.O.D.P.) bar						
				Air Inert Gas	Water	Light Oil 300SSU				
1/8	1.2	0.06	0	51	51	36	80	6.0	1	20AF02AXX
1/8	1.2	0.06	0	129	102	102	80	10.2	1	20AF02BXX
1/8	2.4	0.20	0	23	20	20	80	10.2	1	20AF05BXX
1/8	3.2	0.34	0	15	14	12	80	10.2	1	20AF07BXX
1/4	1.2	0.06	0	102	102	74	80	11.0	2	20BF02CXX
1/4	2.4	0.15	0	34	34	19	80	16.0	2	20BF05DXX
1/4	3.2	0.29	0	20	20	13	80	11.0	2	20BF07CXX
1/4	4.0	0.51	0	10	10	10	80	11.0	3	20BF08CXX
1/4	5.6	0.71	0	7	7	7	80	16.0	3	20BF11DXX
1/4	7.1	0.88	0	6	6	6	80	16.0	3	20BF13DXX

Voltage (V/Hz)	Suffix XX
24/60	TA
120/60	NY
110/50	NY
240/60	NZ
220/50	NZ

Two Way- Normally Closed - DC

Body and Seals: Brass and NBR (For other options see page 5)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	General Purpose
			Minimum (bar)	Maximum (M.O.D.P.) bar						
				Air Inert Gas	Water	Light Oil 300SSU				
1/8	1.2	0.06	0	34	34	34	80	9.5	1	20AF021XX
1/8	2.4	0.20	0	10	10	10	80	9.5	1	20AF051XX
1/8	3.2	0.34	0	5.4	5.4	5.4	80	9.5	1	20AF071XX
1/4	1.2	0.06	0	34	34	34	80	9.5	6	20BF021XX
1/4	2.4	0.17	0	10	8.6	8.6	80	9.5	6	20BF051XX
1/4	3.2	0.35	0	5.1	4.8	4.8	80	11.5	2	20BF073XX
1/4	4.0	0.50	0	2.4	2.4	2.4	80	11.5	3	20BF083XX
1/4	5.6	0.72	0	1.7	1.7	1.7	80	11.5	3	20BF113XX
1/4	7.1	0.96	0	1.1	1.1	1.1	80	9.5	5	20BF131XX

Voltage (VDC)	Suffix XX
12	TH
24	TF
120	NV
125	NX

Two Way - Normally Open - AC

Body and Seals: Brass and NBR (For other options see page 5)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	General Purpose
			Minimum (bar)	Maximum (M.O.D.P.) bar						
				Air Inert Gas	Water	Light Oil 300SSU				
1/8	1.6	0.09	0	34	20	15	80	10.2	4	20AA03BXX
1/8	2.4	0.15	0	19	14	10	80	6.0	4	20AA05AXX
1/8	3.2	0.21	0	9	7	6	80	6.0	4	20AA07AXX
1/4	1.2	0.06	0	51	48	48	80	11.0	6	20BA02CXX
1/4	2.4	0.17	0	20	17	16	80	11.0	6	20BA05CXX
1/4	3.2	0.35	0	9	8	7	80	11.0	6	20BA07CXX
1/4	4.0	0.49	0	5.8	5.1	4.1	80	11.0	5	20BA08CXX
1/4	5.6	0.83	0	3	3	2.7	80	11.0	5	20BA11CXX
1/4	7.1	0.96	0	2	1.7	1.4	80	11.0	5	20BA13CXX

Voltage (V/Hz)	Suffix XX
24/60	TA
120/60	NY
110/50	NY
240/60	NZ
220/50	NZ

General Purpose Solenoid Valves

Two Way - Normally Open - DC

Body and Seals: Brass and NBR (For other options see page 5)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	General Purpose
			Maximum (M.O.D.P.) bar			Minimum (bar)				
			Air Inert Gas	Water	Light Oil 300SSU					
1/8	1.6	0.09	0	27	17	10	80	9.5	4	20AA031XX
1/8	2.4	0.15	0	13	8	8	80	9.5	4	20AA051XX
1/8	3.2	0.26	0	5.4	4.1	3.4	80	9.5	4	20AA071XX
1/4	1.2	0.06	0	34	34	34	80	11.5	6	20BA023XX
1/4	2.4	0.17	0	14	10	9	80	11.5	6	20BA053XX
1/4	3.2	0.35	0	5.4	4.1	4.1	80	11.5	6	20BA073XX
1/4	4.0	0.49	0	3	2	2	80	11.5	5	20BA083XX
1/4	5.6	0.83	0	1.7	1.7	1.4	80	11.5	5	20BA113XX
1/4	7.1	0.96	0	1.0	1	1	80	11.5	5	20BA133XX

Voltage (VDC)	Suffix XX
12	TH
24	TF
120	NV
125	NX

Valves with Plug-in Connectors

Two Way - Normally Closed - AC

Body and Seals: Brass and NBR (For other options see page 5)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	Plug-in Connectors (IP 65)
			Maximum (M.O.D.P.) bar			Minimum (bar)				
			Air Inert Gas	Water	Light Oil 300SSU					
1/8	1.2	0.06	0	44	39	39	80	8	7	20AF02ZXX
1/8	2.4	0.15	0	12	11	11	80	8	7	20AF05ZXX
1/8	3.2	0.29	0	8	7	7	80	8	7	20AF07ZXX
1/4	1.2	0.06	0	44	39	39	80	8	7	20BF02ZXX
1/4	1.6	0.11	0	19	17	17	80	8	7	20BF03ZXX
1/4	2.4	0.15	0	12	11	11	80	8	7	20BF05ZXX
1/4	3.2	0.29	0	8	7	7	80	8	7	20BF07ZXX
1/4	4.0	0.51	0	4	3.4	3.4	80	8	7	20BF08ZXX
1/4	5.6	0.71	0	3	2.5	2.5	80	8	7	20BF11ZXX
1/4	7.1	0.96	0	1.5	1	1	80	8	7	20BF13ZXX

Voltage (V/Hz)	Suffix XX
24/60	TA
110/60	S
220/60	SA

▷ Note: If LED and surge suppressor are necessary, modify the seventh digit from "Z" to "J".

Two Way - Normally Closed - DC

Body and Seals: Brass and NBR (For other options see page 5)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	Plug-in Connectors (IP 65)
			Maximum (M.O.D.P.) bar			Minimum (bar)				
			Air Inert Gas	Water	Light Oil 300SSU					
1/8	1.2	0.06	0	24	24	21	80	10	7	20AF020XX
1/8	2.4	0.15	0	5	4.3	4.3	80	10	7	20AF050XX
1/8	3.2	0.29	0	3.4	3	3	80	10	7	20AF070XX
1/4	1.2	0.06	0	24	21	21	80	10	7	20BF020XX
1/4	1.6	0.11	0	10	9	9	80	10	7	20BF030XX
1/4	2.4	0.15	0	5	4.3	4.3	80	10	7	20BF050XX
1/4	3.2	0.29	0	3.4	3	3	80	10	7	20BF070XX
1/4	4.0	0.51	0	2.5	1.9	1.9	80	10	7	20BF080XX
1/4	5.6	0.71	0	1.5	1	1	80	10	7	20BF110XX
1/4	7.1	0.96	0	0.4	0.25	0.25	80	10	7	20BF130XX

Voltage (VDC)	Suffix XX
12	TH
24	TF
120	NV
125	NX

▷ Note: If LED and surge suppressor are necessary, modify the seventh digit from "Z" to "J".

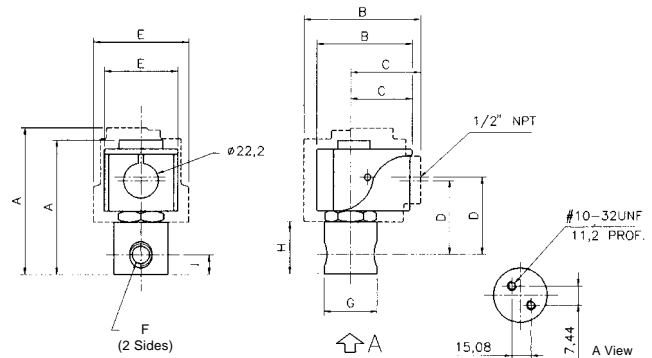
General Purpose Solenoid Valves

Dimensions

Drawing 1

enclosure	Orifice Diameter 1,2 - 2,4 - 3,2								
	A	B	C	D	E	F	G	H	I
general purpose	62	51.5	33.5	31.5	40	1/8"	Ø30	23.4	9.0
open enclosure	62	37	-	-	39	1/8"	Ø30	23.4	9.0
explosion, water and dust proof	81	74	44	41	Ø59	1/8"	Ø30	23.4	9.0

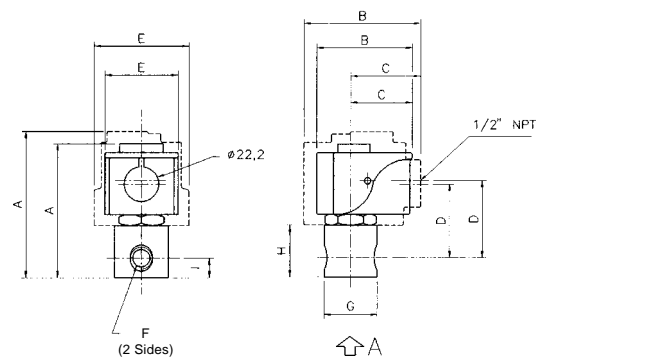
▷ **Note:** Explosion, water and dust proof enclosure shown in dashed line.



Drawing 2

enclosure	Orifice Diameter 1,2 - 2,4 - 3,2								
	A	B	C	D	E	F	G	H	I
general purpose	81	61	39.5	44.5	47	1/4"	Ø32	30	11
open enclosure	81	43	-	-	45	1/4"	Ø32	30	11
explosion, water and dust proof	87.5	74	44	46	Ø59	1/4"	Ø32	30	11

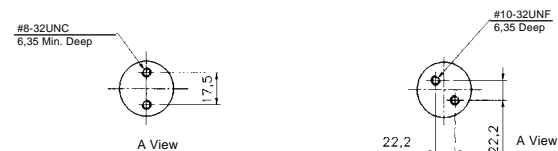
▷ **Note:** Explosion, water and dust proof enclosure shown in dashed line.



Drawing 3

enclosure	Orifice Diameter 4,0 - 5,6 - 7,1								
	A	B	C	D	E	F	G	H	I
general purpose	79	61	39.5	44	47	1/4"	Ø39.6	28.6	9.5
open enclosure	79	43	-	-	45	1/4"	Ø39.6	28.6	9.5
explosion, water and dust proof	86	74	44	46	Ø59	1/4"	Ø39.6	28.6	9.5

▷ **Note:** Explosion, water and dust proof enclosure shown in dashed line.



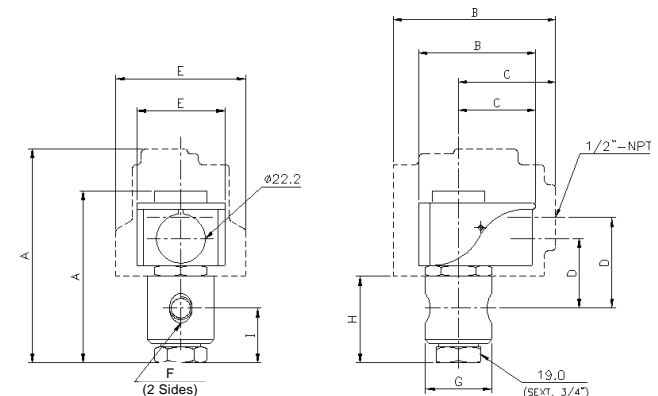
Drawing 2

Drawing 3

Drawing 4

enclosure	Orifice Diameter 1,2 - 1,6 - 2,4 - 3,2								
	A	B	C	D	E	F	G	H	I
general purpose	78	51.5	33.5	32	40	1/8"	Ø30	39	25
open enclosure	78	37	-	-	39	1/8"	Ø30	39	25
explosion, water and dust proof	97	74	44	41.5	Ø59	1/8"	Ø30	39	25

▷ **Note:** Explosion, water and dust proof enclosure shown in dashed line.

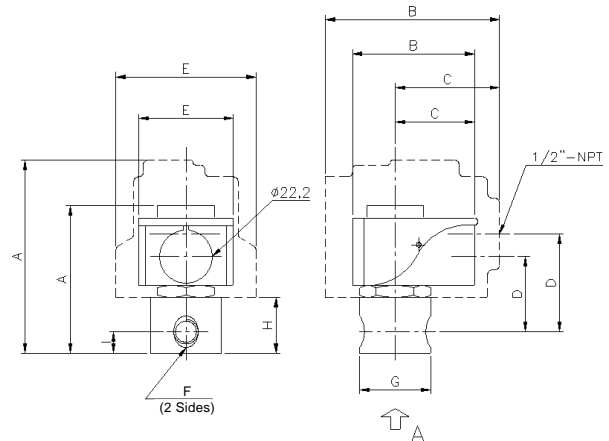
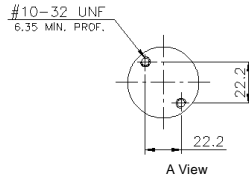


General Purpose Solenoid Valves

Drawing 5

enclosure	Orifice Diameter 4,0 - 5,6 - 7,1								
	A	B	C	D	E	F	G	H	I
general purpose	73.5	51.5	33.5	42.5	40	1/4"	Ø39.6	28.6	9.5
open enclosure	73.5	37	-	-	39	1/4"	Ø39.6	28.6	9.5
explosion, water and dust proof	86	74	44	46	Ø59	1/4"	Ø39.6	28.6	9.5

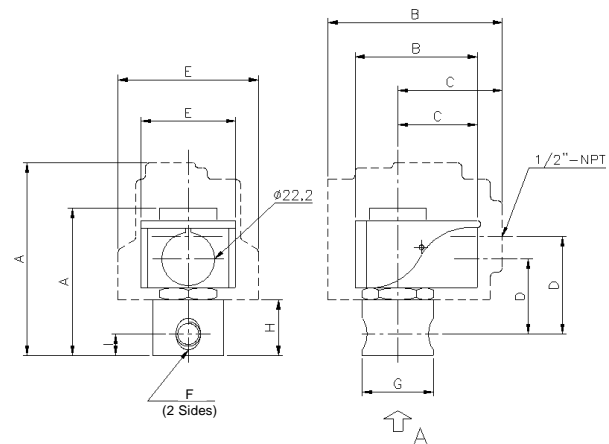
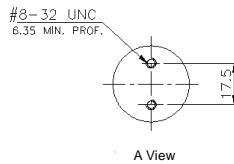
▷ **Note:** Explosion, water and dust proof enclosure shown in dashed line.



Drawing 6

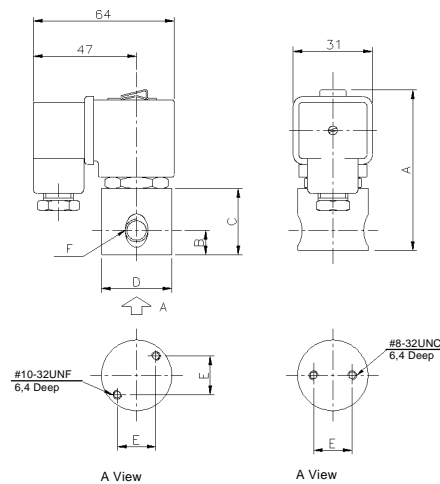
enclosure	Orifice Diameter 1,2 - 2,4 - 3,2								
	A	B	C	D	E	F	G	H	I
general purpose	75	51.5	33.5	43	40	1/4"	Ø32	30	11
open enclosure	75	37	-	-	-	1/4"	Ø32	30	11
explosion, water and dust proof	87.5	74	44	46	Ø59	1/4"	Ø32	30	11

▷ **Note:** Explosion, water and dust proof enclosure shown in dashed line.



Drawing 7

Normally Closed - Plug-in Connector						
Orifice Diameter	A	B	C	D	E	F (NPT/G)
1.2 - 1.6 - 2.4 - 3.2	76	11	30	Ø32	17.5	1/8", 1/4"
4 - 5.6 - 7.1	75	10	29	Ø40	22.2	1/4"

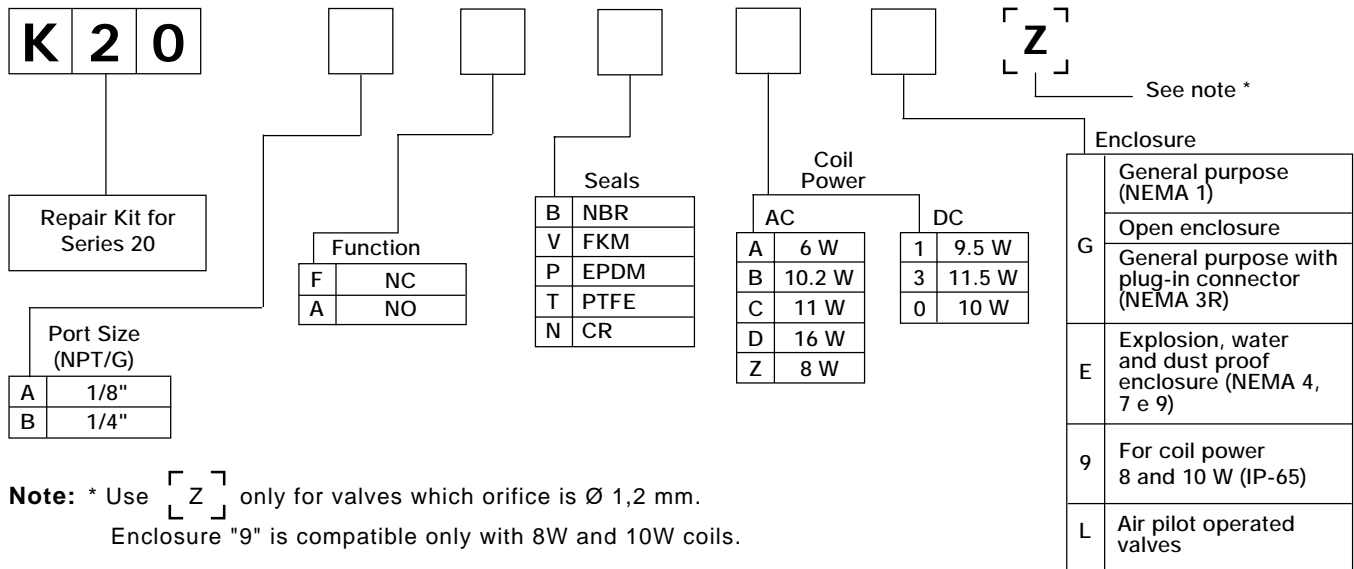


(Orifice 4 - 5,6 - 7,1)

(Orifice 1,2 - 1,6 - 2,4 - 3,2)

General Purpose Solenoid Valves

How to Order Repair kits



General Purpose Solenoid Valves

Series 21



2 Way - Direct Operated
 Normally Closed and Normally Open
 1/2" and 3/4" NPT/G
 High Viscosity Oils

Standard Materials

Valve Body: Bronze
 Seals: Stainless Steel Brass
 Plunger and Stop: 430 F S.S.
 Springs: 302 S.S.
 Shading Coil: Copper
 Coil: Class "F"

Options (Add the suffixes after the voltage)

Enclosure

- Explosion proof (Nema 7 and 9), use suffix "X".
- Water proof (Nema 4), use suffix "Y".

Others

- "G" thread, use suffix "B".

Installation

- Valve must be mounted with the coil in a vertical position above the body.

Two Way - Normally Closed - AC

Body and Seals: Bronze and Stainless Steel/Brass (For other options see above)

Specifications									Part Number	
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure		Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	General Purpose	Voltage (V/Hz)	Suffix XX
			Minimum (bar)	Maximum (M.O.D.P.) bar						
				Fuel Oil Heavy (1, 2 e 3)						
1/2	5	0.92	0	21	180	80	1	21DF10EXX	24/60	TA
3/4	8	2.53	0	10	180	80	2	21EF14EXX	110/60	S
									220/60	SA

Two Way - Normally Closed - DC

Body and Seals: Bronze and Stainless Steel/Brass (For other options see above)

Specifications									Part Number	
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure		Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	General Purpose	Voltage (VDC)	Suffix XX
			Minimum (bar)	Maximum (M.O.D.P.) bar						
				Fuel Oil Heavy (1, 2 e 3)						
1/2	5	0.92	0	19	180	33	1	21DF102XX	12	TH
3/4	8	2.53	0	9	180	33	2	21EF142XX	24	TF
									120	NV
									125	NX

General Purpose Solenoid Valves

Two Way - Normally Open - AC

Body and Seals: Bronze and Stainless Steel/Brass (For other options see page 11)

Specifications									Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure		Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	General Purpose	
			Minimum (bar)	Maximum (M.O.D.P.) bar					
				Fuel Oil Heavy (1.2 e 3)					
1/2	5	0.92	0	10	180	80	1	21DA10EXX	
3/4	6	1.29	0	8	180	80	2	21EA12EXX	

Voltage (V/Hz)	Suffix XX
24/60	TA
110/60	S
220/60	SA

Two Way - Normally Open - DC

Body and Seals: Bronze and Stainless Steel/Brass (For other options see page 11)

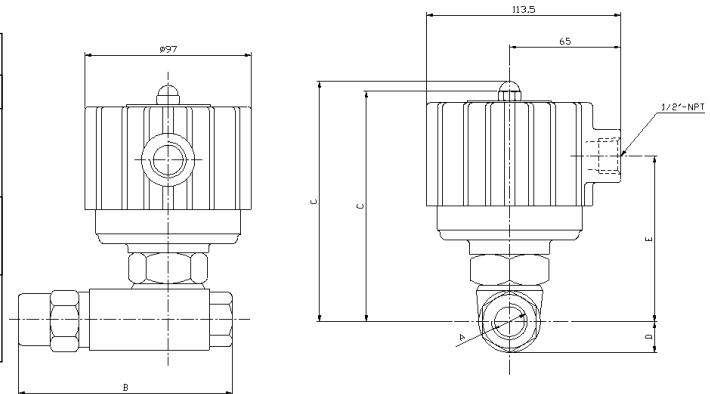
Specifications									Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure		Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	General Purpose	
			Minimum (bar)	Maximum (M.O.D.P.) bar					
				Fuel Oil Heavy (1.2 e 3)					
1/2	5	0.92	0	9	180	33	1	21DA102XX	
3/4	6	1.29	0	7	180	33	2	21EA122XX	

Voltage (VDC)	Suffix XX
12	TH
24	TF
120	NV
125	NX

Dimensions

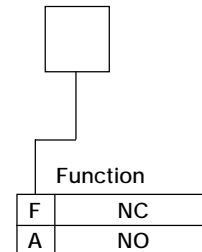
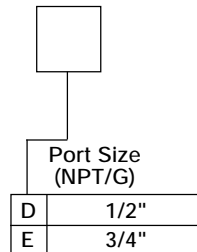
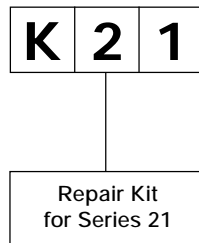
Drawing 1, 2 and 3

Normally Closed Valves NPT/G					
enclosure	A	B	C	D	E
general purpose	1/2"	125.5	143	18	96.5
water proof	3/4"	142.0	143	20	96.5
explosion proof	1/2"	125.5	152	18	96.5
explosion proof	3/4"	142.0	152	30	96.5



➤ **Note:** Explosion, water and dust proof enclosure shown in dashed line.

How to Order Repair Kits



➤ **Note:** Either coil power or the enclosure does not interfere with the repair kit.

General Purpose Solenoid Valves



Series 22

2 Way - Direct Operated
Normally Closed
1/8" and 1/4" NPT/G
Air, Gas and Water

Standard Materials

Valve Body: Polyphenylene Sulfide (PPS)
Seals: Buna-N (NBR)
Plunger and Stop: 430 F S.S.
Springs: 302 S.S.
Coil: Class "F"

Options (Add the suffixes after the voltage)

Others

- "G" thread, use suffix "B".

Installation

- Valves can be mounted in any position without jeopardising their operation.

Two Way- Normally Closed - AC

Body and Seals: PPS and NBR (For other options see above)

Specifications										Part Number				
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure			Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	Plug-in Connector (IP 65)		Voltage (V/Hz)	Suffix XX		
			Maximum (M.O.D.P.) bar		Minimum (bar)									
			Air Inert Gas	Water										
1/8	1.1	0.04	0	9.0	9.0	80	**	1	22AF30KXX	12/50/60	EJ			
1/4	1.1	0.04	0	9.0	9.0	80	**	1	22BF30KXX	24/50/60	EK			
										110/50/60	EL			
										220/50/60	EM			

** Coil Power :10W either for 12/24 VAC or 110/220 VAC

Two Way - Normally Closed - DC

Body and Seals: PPS and Buna-N (For other options see above)

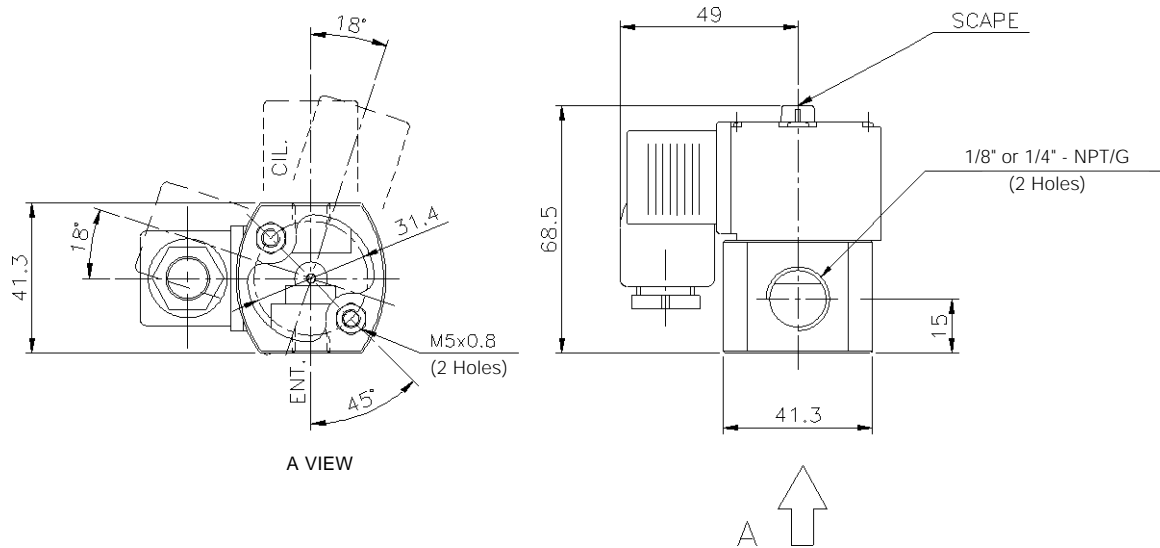
Specifications										Part Number				
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure			Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	Plug-in Connector (IP 65)		Voltage (VDC)	Suffix XX		
			Maximum (M.O.D.P.) bar		Minimum (bar)									
			Air Inert Gas	Water										
1/8	1.1	0.04	0	9.0	9.0	80	**	1	22AF30KXX	12	EJ			
1/4	1.1	0.04	0	9.0	9.0	80	**	1	22BF30KXX	24	EK			
										110	EL			
										220	EM			

** Coil Power :10W either for 12/24 VAC or 110/220 VAC

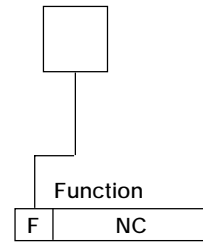
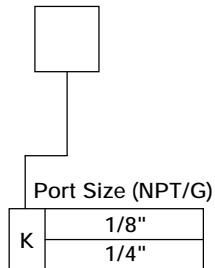
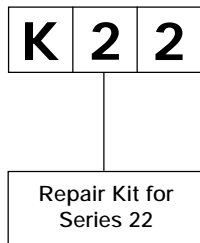
General Purpose Solenoid Valves

Dimensions

Drawing 1



How to Order Repair Kits



General Purpose Solenoid Valves



Series 24



Series 25

Series 24 and 25

2 Way - Piston Operated
Normally Closed and Normally Open
1/4", 3/8", 1/2", 3/4", 1", 1 1/2", 2" and 3" NPT/G
Air, Gas, Water, Light Oil

Standard Materials

Valve Body:	Brass/Bronze
Seals:	Buna-N (NBR)
Plunger and Stop:	430 F S.S.
Springs:	302 S.S.
Shading Coil:	Copper
Coil:	Class "F"

Options (Add the suffixes after the voltage)

Seals

- Viton (FKM), use suffix "V".
- Ethylene Propylene (EPDM), use suffix "P".
- Teflon (PTFE), use suffix "T".
- Neoprene (CR), use suffix "N".

Enclosure

- Open enclosure, use suffix "O" (Valves with minimum differential pressure "0.2" or "0.5" bar).
- General purpose with plug-in connector (Nema 3R), use suffix "C" (Except when the valve has minimum differential pressure "0" and "0.1").
- General purpose with plug-in connector + LED + surge suppressor, use suffix "U" (Except when the valve has minimum differential pressure "0" and "0.1").
- Explosion, water and dust (Nema 4, 7 and 9), use suffix "E" (Valves which differential pressure is "0.2" or "0.5" bar).
- Explosion proof (Nema 7 and 9), use suffix "X" (Valves which minimum differential pressure is "0" or "0.1" bar).
- Water proof (Nema 4), use suffix "Y" (Valves which minimum differential pressure is "0" and "0.1" bar).
- Air pilot operated valves, modify the eighth and the ninth digit from "XX" to "L" (Only for valves which minimum differential pressure is "0.2" or "0.5" bar, normally closed and valve body in brass/bronze).

Valve Body

- 304 S.S., use suffix "3" (This option is not available for 3" valves).

Shading Coil

- Aluminium (Only for body in brass, AC and use with acetylene), use suffix "5".

Others

- "G" thread, use suffix "B".
- Manual override, use suffix "M" (NC valves and port sizes over 3/4").
- Coil class "H", use suffix "H".
- "G" thread + manual override, use suffix "Q".
- Coil class "H" + manual override, use suffix "F".
- "G" thread + coil class "H", use suffix "R".
- "G" thread + manual override + coil class "H", use suffix "D".

- ▷ **Note:** Liquids: For liquids, modify the fourth digit as follow:
- From "F" to "K", for normally closed valves.
 - From "A" to "R", for normally open valves.

General Purpose Solenoid Valves

Installation

- Valves must be mounted in the horizontal position, with the coil above the body.

Oxygen

- Use suffix "I" and seals in neoprene (CR).

Two Way - Normally Closed - AC

Body and Seals: Brass and NBR (For other options see page 15)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	General Purpose
			Maximum (M.O.D.P.) bar			Minimum (bar)				
			Air Inert Gas	Water	Light Oil 300SSU					
Δ1/4	6	0.94	0.1	10	10	9.0	80	11	1	**24BF12CXX
Δ3/8	9	1.88	0.1	10	10	9.0	80	11	2	**24CF15CXX
Δ1/2	12	2.76	0.1	10	10	9.0	80	11	2	**24DF17CXX
3/4	19	7.06	0.0	4	4	3.5	80	80	3	**25EF20EXX*
3/4	19	5.8	0.2	15	15	13.5	80	11	7	24EF20CXX
1	25	11.76	0.0	4	4	3.5	80	80	4	**25FF21EXX*
1	25	12.9	0.2	15	15	13.5	80	11	8	24FF21CXX
1 1/2	32	17.65	0.0	4	4	3.5	80	80	5	**25GF23EXX*
1 1/2	38	29.0	0.2	15	15	13.5	80	11	9	24GF25CXX*
2	38	27.06	0.0	4	4	3.5	80	80	6	**25HF25EXX*
2	50	47.0	0.5	15	15	13.5	80	11	10	24HF27CXX*
3	76	100.0	0.5	15	15	13.5	80	11	11	24IF29CXX*

Voltage (V/Hz)	Suffix XX
24/60	TA
120/60	NY
110/50	NZ
240/60	NZ
220/50	NZ
**110/60	S
**220/60	SA

Δ 1/4", 3/8" and 1/2" valves with stainless steel body, consider $P_{min} = 0,5$ and $P_{max} = 15$ (air) 13,5 (water and light oil)
Voltage: available suffixes TA, NY e NZ.

* The valve body is cast.

** Only 60 Hz coil available.

Two Way - Normally Closed - DC

Body and Seals: Brass and NBR (For other options see page 15)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	General Purpose
			Maximum (M.O.D.P.) bar			Minimum (bar)				
			Air Inert Gas	Water	Light Oil 300SSU					
1/4	6	0.94	0.1	8	8	7	80	16	1	24BF125XX
3/8	9	1.88	0.1	8	8	7	80	16	2	24CF155XX
1/2	12	2.76	0.1	8	8	7	80	16	2	24DF175XX
3/4	19	7.06	0	3.5	3.5	3	80	33	3	25EF202XX*
3/4	19	5.8	0.2	13.5	13.5	12	80	11.5	7	24EF203XX
1	25	11.76	0	3.5	3.5	3	80	33	4	25FF212XX*
1	25	12.9	0.2	13.5	13.5	12	80	11.5	8	24FF213XX*
1 1/2	32	17.65	0	3.5	3.5	3	80	33	5	25GF232XX*
1 1/2	38	29	0.2	13.5	13.5	12	80	11.5	9	24GF253XX*
2	38	27.6	0	3.5	3.5	3	80	33	6	25HF252XX*
2	50	47	0.5	13.5	13.5	12	80	11.5	10	24HF273XX*
3	76	100	0.5	13.5	13.5	12	80	11.5	11	24IF293XX*

Voltage (VDC)	Suffix XX
12	TH
24	TF
120	NV
125	NX

* The valve body is cast.

General Purpose Solenoid Valves

Two Way - Normally Open - AC

Body and Seals: Brass and NBR (For other options see page 15)

Specifications											Part Number		
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	General Purpose		Voltage (V/Hz)	Suffix XX
			Maximum (M.O.D.P.) bar										
			Minimum (bar)	Air Inert Gas	Water	Light Oil 300SSU							
3/4	19	5.8	0.2	10	10	9	80	16	7	24EA20DXX	24/60	TA	
1	25	12.9	0.2	10	10	9	80	16	8	24FA21DXX	120/60	NY	
1 1/2	38	29.0	0.2	10	10	9	80	16	9	24GA25DXX*	110/50	NY	
2	50	47.0	0.5	10	10	9	80	16	10	24HA27DXX*	240/60	NZ	
3	76	100.0	0.5	10	10	9	80	16	11	24IA29DXX*	220/50	NZ	

* The valve body is cast.

Two Way - Normally Open - DC

Body and Seals: Brass and NBR (For other options see page 15)

Specifications											Part Number		
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	General Purpose		Voltage (VDC)	Suffix XX
			Maximum (M.O.D.P.) bar										
			Minimum (bar)	Air Inert Gas	Water	Light Oil 300SSU							
3/4	19	5.8	0.2	8	8	7	80	16	7	24EA205XX	12	TH	
1	25	12.9	0.2	8	8	7	80	16	8	24FA215XX	24	TF	
1 1/2	38	29.0	0.2	8	8	7	80	16	9	24GA255XX*	120	NV	
2	50	47.0	0.5	8	8	7	80	16	10	24HA275XX*	125	NX	
3	76	100.0	0.5	8	8	7	80	16	11	24IA295XX*			

* The valve body is cast.

Plug-in Connector Valves

Two Way - Normally Closed - AC

Body and Seals: Brass and NBR (For other options see page 15)

Specifications											Part Number		
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	Plug-in connector (IP65)		Voltage (V/Hz)	Suffix XX
			Maximum (M.O.D.P.) bar										
			Minimum (bar)	Air Inert Gas	Water	Light Oil 300SSU							
3/4	19	5.8	0.2	10	10	9	80	8	12	24EF20ZXX	24/60	TA	
1	25	12.9	0.2	10	10	9	80	8	12	24FF21ZXX	110/60	S	
1 1/2	38	29.0	0.2	10	10	9	80	8	12	24GF25ZXX*	220/60	SA	
2	50	47.0	0.5	10	10	9	80	8	12	24HF27ZXX*			
3	76	100.0	0.5	10	10	9	80	8	12	24IF29ZXX*			

* The valve body is cast.

Note: If LED and surge suppressor are necessary, modify the seventh digit from "Z" to "J".

General Purpose Solenoid Valves

Two Way - Normally Closed - DC

Body and Seals: Brass and NBR (For other options see page 15)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure			Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	General Purpose	
			Minimum (bar)	Maximum (M.O.D.P.) bar						
				Air Inert Gas	Water	Light Oil 300SSU				
3/4	19	5.8	0.2	8	8	7	80	10	12	24EF200XX
1	25	12.9	0.2	8	8	7	80	10	12	24FF210XX
1 1/2	38	29.0	0.2	8	8	7	80	10	12	24GF250XX*
2	50	47.0	0.5	8	8	7	80	10	12	24HF270XX*
3	76	100.0	0.5	8	8	7	80	10	12	24IF290XX*

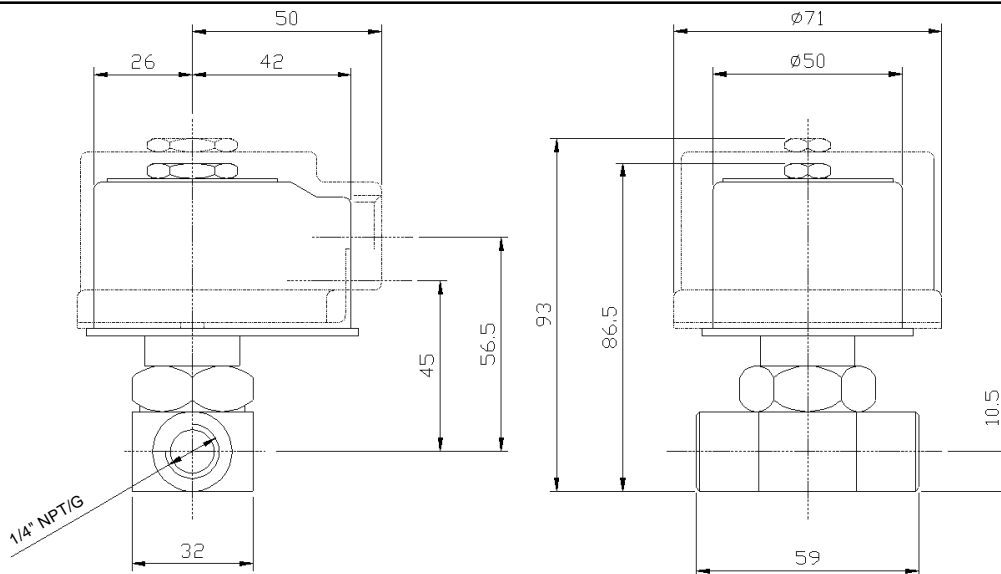
Voltage (VDC)	Suffix
12	XX
24	TH
120	NV
125	NX

* The valve body is cast.

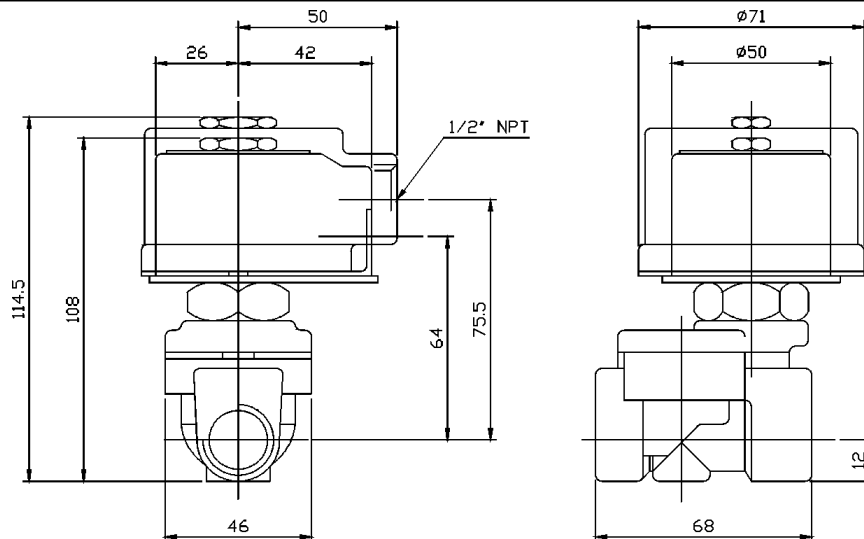
Note: If LED and surge supressor are necessary, modify the seventh digit from "Z" to "J".

Dimensions

Drawing 1

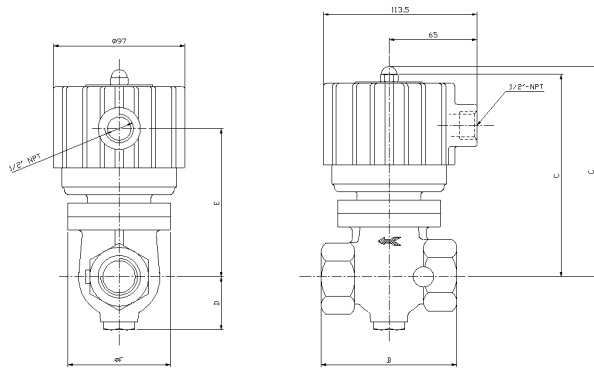


Drawing 2



General Purpose Solenoid Valves

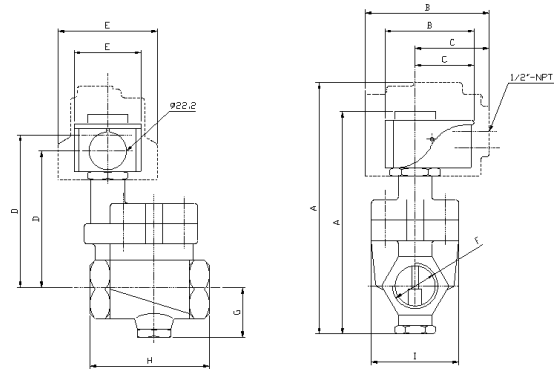
Drawings 3, 4, 5 and 6



enclosure	A	B	C	D	E	øF
general	3/4"	100.0	147.0	39.2	108.8	76
purpose	1 1/2"	138.5	171.5	51.5	133.5	100
	2"	149.0	175.5	59.0	137.5	110

► **Note:** For explosion proof enclosures add 9 mm to dimension "C". Shown in dashed line.

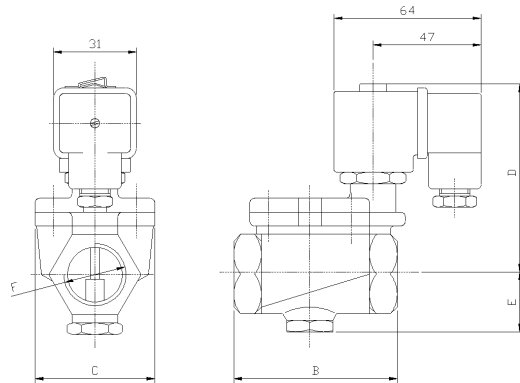
Drawings 7, 8, 9, 10 and 11



NC Valve NPT/G									
enclosure	A	B	C	D	E	F	G	H	I
general purpose	132.0	61	39.5	80	47	3/4"	26	71	50
	141.0	61	39.5	85	47	1"	30	96	67
	163.0	61	39.5	97	47	1 1/2"	40	114	83
	174.5	61	39.5	103	47	2"	46	130	96
	301.5	61	39.5	187	47	3"	89	225	163
open enclosure	132.0	43	-	-	45	3/4"	26	71	50
	141.0	43	-	-	45	1"	30	96	67
	163.0	43	-	-	45	1 1/2"	40	114	83
	174.5	43	-	-	45	2"	46	130	96
	301.5	43	-	-	45	3"	89	225	163
explosion water and dust enclosure	139.0	74	44.0	82	ø59	3/4"	26	71	50
	148.0	74	44.0	87	ø59	1"	30	96	67
	170.0	74	44.0	99	ø59	1 1/2"	40	114	83
	181.5	74	44.0	105	ø59	2"	46	130	96
	308.5	74	44.0	189	ø59	3"	89	225	163
NO Valve NPT/G									
enclosure	A	B	C	D	E	F	G	H	I
general purpose	133.0	61	39.5	81.0	47	3/4"	26	71	50
	142.0	61	39.5	86.0	47	1"	30	96	67
	164.0	61	39.5	96.0	47	1 1/2"	40	114	83
	175.5	61	39.5	104.0	47	2"	46	130	96
	302.5	61	39.5	184.5	47	3"	89	225	163
open enclosure	133.0	43	-	-	45	3/4"	26	71	50
	142.0	43	-	-	45	1"	30	96	67
	164.0	43	-	-	45	1 1/2"	40	114	83
	175.5	43	-	-	45	2"	46	130	96
	302.5	43	-	-	45	3"	89	225	163
explosion water and dust enclosure	140.0	74	44.0	83.0	ø59	3/4"	26	71	50
	149.0	74	44.0	86.0	ø59	1"	30	96	67
	171.0	74	44.0	100.0	ø59	1 1/2"	40	114	83
	182.5	74	44.0	106.0	ø59	2"	46	130	96
	309.5	74	44.0	190.0	ø59	3"	89	225	163

► **Note:** Explosion proof enclosure shown in dashed line.

Drawing 12



Plug-in Connector Valve (NPT/G)				
F	B	C	D	E
3/4"	71	53	86	26
1"	97	66	90	30
1 1/2"	113	82	102	40
2"	130	96	108	40

How to Order Repair Kits

K 2 4																						
K 2 5						**																
Repair Kit for Valves Series 24 and 25	Port Size (NPT/G)	Function	Seals	Coil Power		Enclosure																
	B 1/4"	F NC	B NBR	AC	DC	<table border="1"> <tr> <td>G</td> <td>General Purpose (NEMA 1)</td> </tr> <tr> <td></td> <td>Open enclosure</td> </tr> <tr> <td>G</td> <td>General purpose with plug-in connector (NEMA 3R)</td> </tr> <tr> <td>E</td> <td>Explosion, water and dust proof only available for series 24 (NEMA 4, 7 and 9)</td> </tr> <tr> <td>X</td> <td>Explosion proof, only available for series 25 (NEMA 7 and 9)</td> </tr> <tr> <td>Y</td> <td>Water proof, only available for series 25 (NEMA 4)</td> </tr> <tr> <td>9</td> <td>For coils power 8 e 10 W (IP-65)</td> </tr> <tr> <td>L</td> <td>Remote operated valves</td> </tr> </table>	G	General Purpose (NEMA 1)		Open enclosure	G	General purpose with plug-in connector (NEMA 3R)	E	Explosion, water and dust proof only available for series 24 (NEMA 4, 7 and 9)	X	Explosion proof, only available for series 25 (NEMA 7 and 9)	Y	Water proof, only available for series 25 (NEMA 4)	9	For coils power 8 e 10 W (IP-65)	L	Remote operated valves
	G	General Purpose (NEMA 1)																				
		Open enclosure																				
	G	General purpose with plug-in connector (NEMA 3R)																				
	E	Explosion, water and dust proof only available for series 24 (NEMA 4, 7 and 9)																				
	X	Explosion proof, only available for series 25 (NEMA 7 and 9)																				
	Y	Water proof, only available for series 25 (NEMA 4)																				
	9	For coils power 8 e 10 W (IP-65)																				
	L	Remote operated valves																				
C 3/8"	A NO	V FKM	C 11W	3 11.5W																		
D 1/2"	K Liquids NC	P EPDM	D 16W	5 16W																		
E 3/4"	R Liquids NO	T PTFE	Z 8W	0 10W																		
F 1"		N CR	6 80W	6 33W																		
G 1 1/2"																						
H 2"																						
I 3"																						

- ** For 304 S.S. valve body, add to the kit part number the suffix "3".
- Enclosure "9" compatible with normally closed valves which power are 8 W and 10 W.
- Functions "A" and "R" compatible only with series 24 and port sizes E, F, G, H, I.
- Coil Power "6" compatible only with series 25 and enclosures G, X and Y with port sizes E, F, G, H.

General Purpose Solenoid Valves

Series S



2 Ways - Diaphragm Pilot Operated
 Normally Closed
 1/2", 3/4" and 1" NPT
 Steam Service

Standard Materials

Valve Body: Brass
 Seals: Teflon (PTFE)
 Plunger and Stop: 430 F S.S.
 Springs: 302 S.S.
 Shading Coil: Copper
 Coil: Class "H"

Options (Add the suffixes after the voltage)

Enclosure

- General purpose with plug-in connectors (Nema 3R), use suffix "C".
- General purpose with plug-in connectors + LED + surge supressor, use suffix "U".
- Explosion, water and dust proof (Nema 4, 7 and 9), use suffix "E".

Installation

- Valves must be mounted in the horizontal position with the solenoid above the body.

Two Way - Normally Closed - AC Body and Seals: Brass and PTFE (For other options see above)

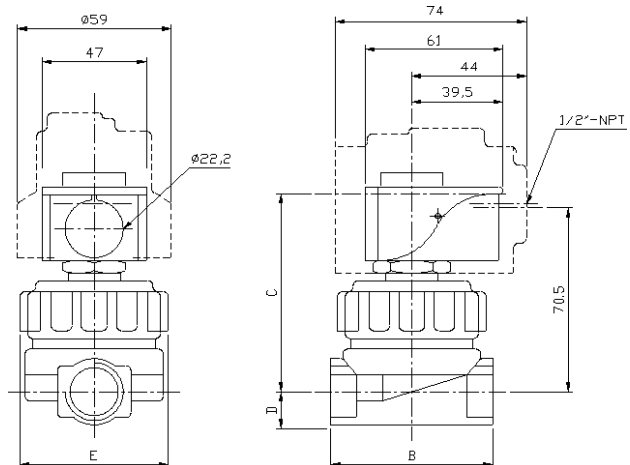
Specifications								Part Number				
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure		Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	General Purpose	Enclosure	Wire Length	Voltage (V/Hz)	
			Minimum (bar)	Maximum (M.O.D.P.) bar								
				Steam								
1/2	12.7	3.6	0.07	8.6	178	11	1	08FS5C2432ACH	G	C	01 - 24/60	
3/4	19.0	7.4	0.07	8.6	178	11	1	12FS5C2448ACH	General Purpose		05 - 120/60	
1	25.4	12.2	0.07	8.6	178	11	2	16FS5C2464ACH	E	Explosion Proof	15 - 240/60	
											110/50	
											220/50	

Dimensions

Drawing 1

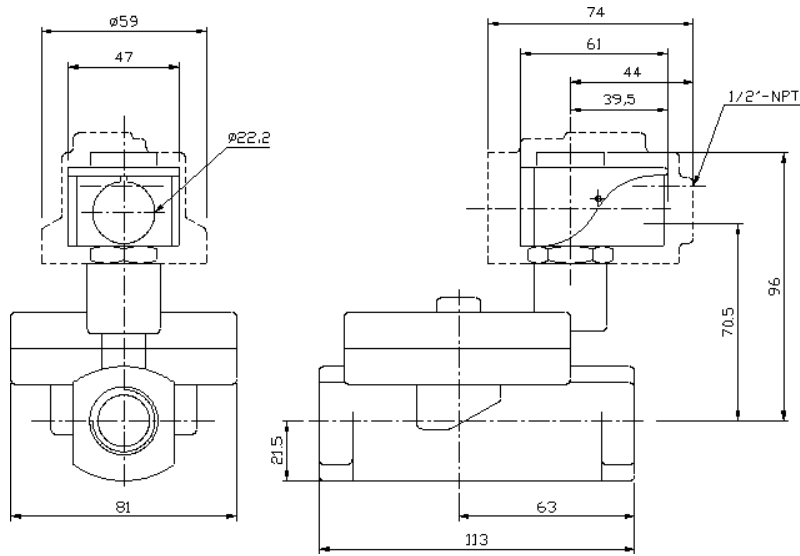
A	B	C	D	E
1/2" NPT	62	84	12,7	57
3/4" NPT	79	88	16	74

▷ **Note:** Explosion, water and dust proof enclosure shown in dashed line.



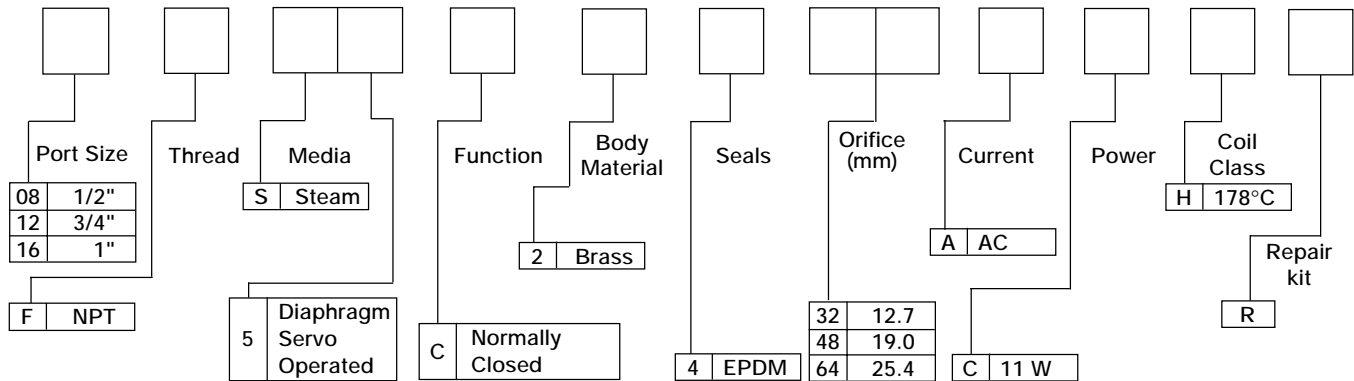
General Purpose Solenoid Valves

Drawing 2



▷ **Note:** Explosion, water and dust proof enclosure shown in dashed line.

How to Order Repair Kits



General Purpose Solenoid Valves



Series 45

2 Way - Direct Operated
Normally Closed
1/4" NPT/G

High Corrosive Media (The metallic internal parts are insulated from the media through the diaphragm).

Standard Materials

Valve Body: Acrylic
Seals: Viton (FKM)
Plunger and Stop: 430 F S.S.
Springs: 302 S.S.
Shading Coil: Copper
Coil: Class "F"

Options (Add the suffixes after the voltage)

Enclosure

- Explosion proof (Nema 7 and 9), use suffix "X".
- Water proof (Nema 4), use suffix "Y".

Others

- "G" thread, use suffix "B".
- Coil class "H", use suffix "H".
- "G" thread + coil class "H", use suffix "R".

Installation

- The valve must be mounted in the horizontal position with the solenoid above the body.

Two Way - Normally Closed - AC

Body and Seals: Acrylic and FKM (For other options see above)

Specifications										Part Number		
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure			Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	General Purpose		Voltage (V/Hz)	Suffix XX
			Minimum (bar)	Maximum (M.O.D.P.) bar								
				Air Gas	Liquids							
1/4	2.25	0.15	0	1	1	60	16	1	45BF04DXX	24/60	TA	
										110/60	S	
										220/60	SA	

Two Way - Normally Closed - DC

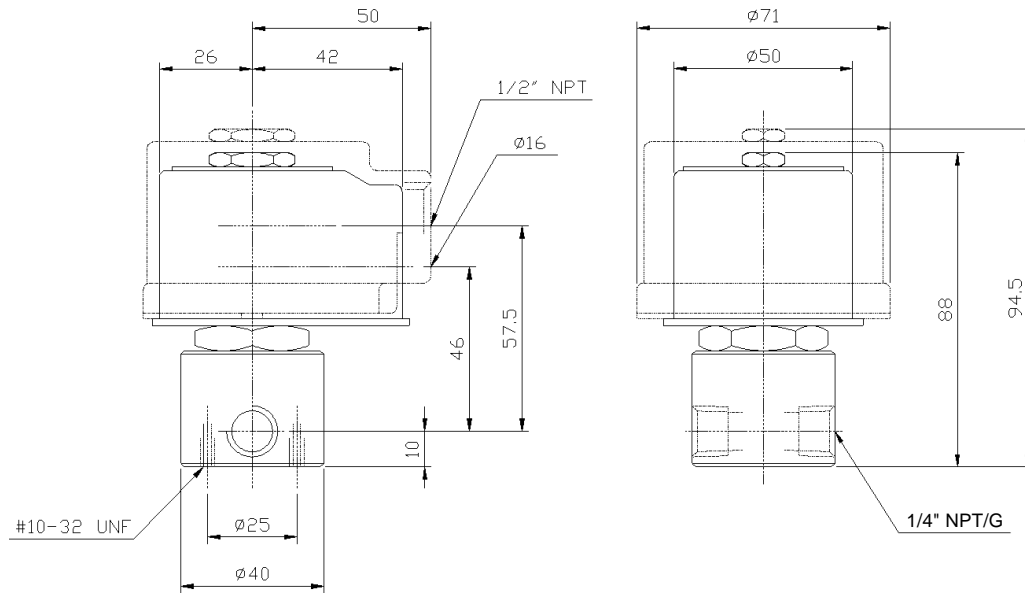
Body and Seals: Acrylic and FKM (For other options see above)

Specifications										Part Number		
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure			Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	General Purpose		Voltage (VDC)	Suffix XX
			Minimum (bar)	Maximum (M.O.D.P.) bar								
				Air Gas	Liquids							
1/4	2.25	0.15	0	1	1	60	16	1	45BF045XX	12	TH	
										24	TF	
										120	NV	
										125	NX	

General Purpose Solenoid Valves

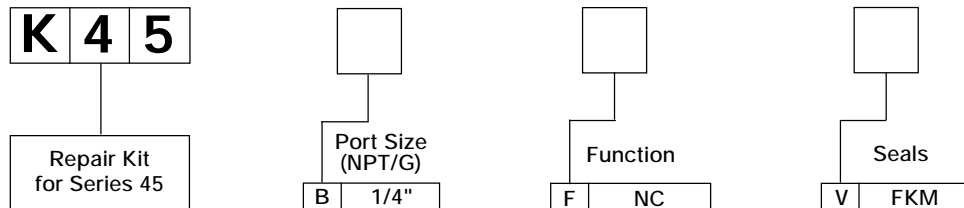
Dimensions

Drawing 1



▷ **Note:** Explosion, water and dust proof enclosure shown in dashed line.

How to Order Repair Kits



▷ **Note:** Either the coil or the enclosure does not interfere with the repair kit.

General Purpose Solenoid Valves



Series 46

2 Way - Direct Operated
Normally Closed
1/4", 3/8" and 1/2" NPT/G

High Corrosive Media (The metallic internal parts are insulated from the media through the diaphragm)

Standard Materials

Valve Body: PVC
Seals: Viton (FKM)
Plunger and Stop: 430 F S.S.
Springs: 316 S.S.
Shading Coil: 430 F S.S.
Coil: Class "F"

Options (Add the suffixes after the voltage)

Enclosure

- Explosion proof (Nema 7 and 9), use suffix "X".
- Water proof (Nema 4), use suffix "Y".

Others

- "G" thread "H", use suffix "B".
- Coil class "H", use suffix "H".
- "G" thread + coil class "H", use suffix "R".

Installation

- The valve must be mounted in the horizontal position with the solenoid above the body.

Two Way - Normally Closed - AC

Body and Seals: PVC and FKM (For other options see above)

Specifications										Part Number		
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure			Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	General Purpose		Voltage (V/Hz)	Suffix XX
			Minimum (bar)	Maximum (M.O.D.P.) bar								
				Air Gas	Liquids							
1/4	2.25	0.15	0	1	1	60	11	1	46BF04CXX	24/60	TA	
3/8	7.0	0.96	0	1	1	60	11	2	46CF12CXX	110/60	S	
1/2	7.0	0.96	0	1	1	60	11	2	46DF15CXX	220/60	SA	

Two Way - Normally Closed - DC

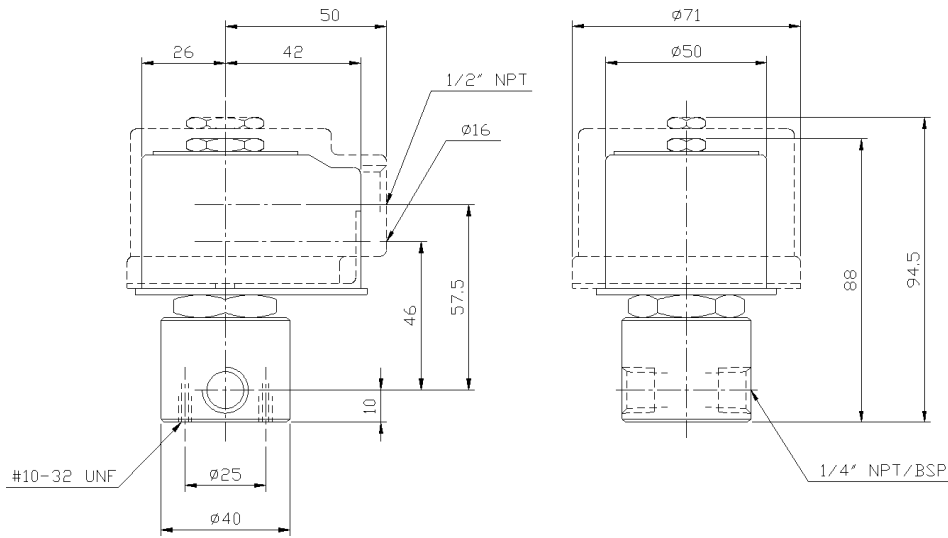
Body and Seals: PVC and FKM (For other options see above)

Specifications										Part Number		
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure			Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	General Purpose		Voltage (VDC)	Suffix XX
			Minimum (bar)	Maximum (M.O.D.P.) bar								
				Air Gas	Liquids							
1/4	2.25	0.15	0	1	1	60	16	1	46BF045XX	12	TH	
3/8	7.0	0.96	0	1	1	60	16	2	46CF125XX	24	TF	
1/2	7.0	0.96	0	1	1	60	16	2	46DF155XX	120	NV	
										125	NX	

General Purpose Solenoid Valves

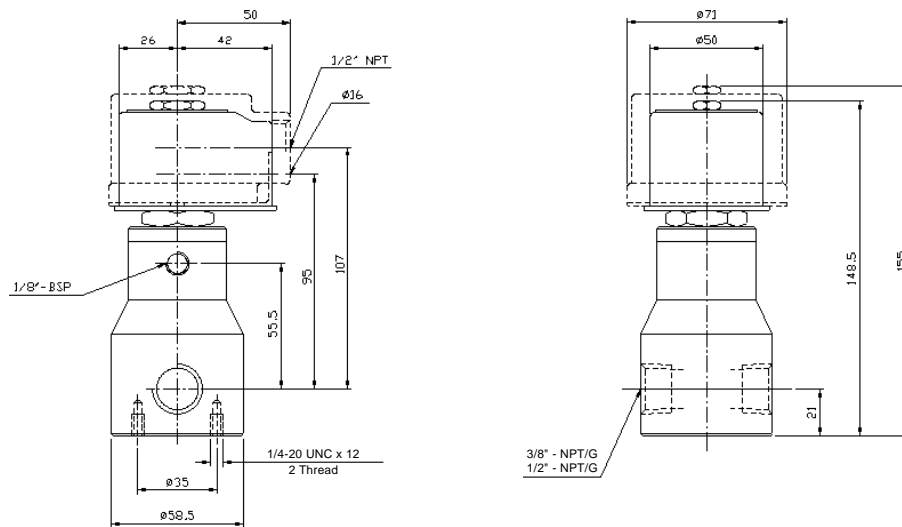
Dimensions

Drawing 1



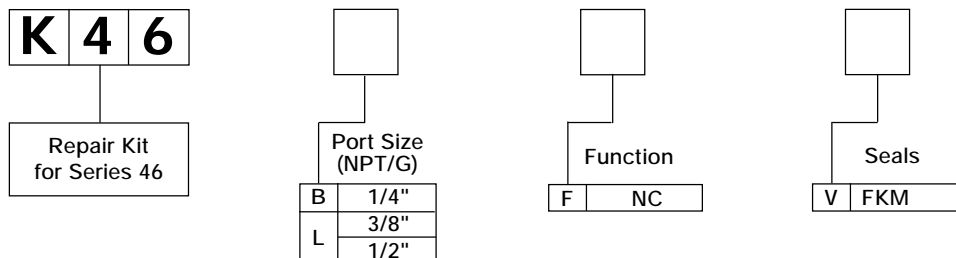
▷ **Note:** Explosion, water and dust proof enclosure shown in dashed line.

Drawing 2



▷ **Note:** Explosion, water and dust proof enclosure shown in dashed line.

How to Order Repair Kits



▷ **Note:** Either the coil or the enclosure does not interfere with the kit part number.

General Purpose Solenoid Valves



Series 52

2 Way - Direct Operated
Normally Closed and Normally Open
1/8" and 1/4" NPT/G
Air, Gas, Water and Light Oil

Standard Materials

Valve Body:	Brass
Seals:	Viton (FKM)
Plunger and Stop:	430 FS.S.
Springs:	302 S.S.
Shading Coil:	Cooper
Coil:	Class "F"

Options (Add the suffixes after the voltage)

Enclosure

- Explosion proof Nema 7 and 9 , use suffix "X".
-

Valve Body

- Aluminium, use suffix "4".
-

Shading Coil

- Aluminium (Only for AC valves with use in acetylene), use suffix "5".
-

Others

- "G" thread, use suffix "B".
 - Manual override, use suffix "M".
 - Coil class "H", use suffix "H".
 - Col class "H", + manual override, use suffix "F".
 - "G" thread + coil class "H", use suffix "R".
 - "G" thread + manual override + coil class "H", use suffix "D".
 - If it is necessary a plug-in connector with LED and surge supressor, modify the seventh digit as following:
AC - from "Z" to "J"
DC - from "0" to "4"
-

Installation

- Valve can be mounted in any position without jeopardising its operation.
-

Oxygen

- Use suffix "I" and seals in neoprene (CR).
-

Notes:

Coil class "H" available only for explosion proof enclosures.

General Purpose Solenoid Valves

Two Way - Normally Closed - AC

Body and Seals: Brass and FKM (For other options see page 26)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	Plug-in Connector (IP 65)
			Minimum (bar)	Maximum (M.O.D.P.) bar						
				Air Inert Gas	Water	Light Oil 300SSU				
1/8	0.8	0.02	0	32	32	32	80	8	1	52AF01ZXX
1/8	1.2	0.04	0	25	25	25	80	8	1	52AF02ZXX
1/8	1.6	0.09	0	15	15	15	80	8	1	52AF03ZXX
1/8	2.4	0.16	0	7	7	7	80	8	1	52AF05ZXX
1/8	3.0	0.22	0	4	4	4	80	8	1	52AF06ZXX
1/4	0.8	0.02	0	32	32	32	80	8	1	52BF01ZXX
1/4	1.2	0.04	0	25	25	25	80	8	1	52BF02ZXX
1/4	1.6	0.09	0	15	15	15	80	8	1	52BF03ZXX
1/4	2.4	0.16	0	7	7	7	80	8	1	52BF05ZXX
1/4	3.0	0.22	0	4	4	4	80	8	1	52BF06ZXX

Voltage (V/Hz)	Suffix
24/60	TA
110/60	S
220/60	SA

Two Way - Normally Closed - DC

Body and Seals: Brass and FKM (For other options see page 26)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	Plug-in Connector (IP 65)
			Minimum (bar)	Maximum (M.O.D.P.) bar						
				Air Inert Gas	Water	Light Oil 300SSU				
1/8	0.8	0.02	0	27	27	27	80	10	1	52AF010XX
1/8	1.2	0.04	0	18	18	18	80	10	1	52AF020XX
1/8	1.6	0.09	0	11	11	11	80	10	1	52AF030XX
1/8	2.4	0.16	0	6.5	6.5	6.5	80	10	1	52AF050XX
1/8	3.0	0.22	0	4	4	4	80	10	1	52AF060XX
1/4	0.8	0.02	0	27	27	27	80	10	1	52BF010XX
1/4	1.2	0.04	0	18	18	18	80	10	1	52BF020XX
1/4	1.6	0.09	0	11	11	11	80	10	1	52BF030XX
1/4	2.4	0.16	0	6.5	6.5	6.5	80	10	1	52BF050XX
1/4	3.0	0.22	0	4	4	4	80	10	1	52BF060XX

Voltage (VDC)	Suffix
12	TH
24	TF

Two Way - Normally Open - AC

Body and Seals: Brass and FKM (For other options see page 26)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	Plug-in Connector (IP 65)
			Minimum (bar)	Maximum (M.O.D.P.) bar						
				Air Inert Gas	Water	Light Oil 300SSU				
1/8	0.8	0.02	0	32	32	32	80	8	1	52AA01ZXX
1/8	1.2	0.05	0	9	9	9	80	8	1	52AA02ZXX
1/8	1.6	0.09	0	9	9	9	80	8	1	52AA03ZXX
1/8	2.4	0.22	0	5	5	5	80	8	1	52AA05ZXX
1/8	3.0	0.29	0	3.5	3.5	3.5	80	8	1	52AA06ZXX
1/4	0.8	0.02	0	32	32	32	80	8	1	52BA01ZXX
1/4	1.2	0.05	0	9	9	9	80	8	1	52BA02ZXX
1/4	1.6	0.09	0	9	9	9	80	8	1	52BA03ZXX
1/4	2.4	0.22	0	5	5	5	80	8	1	52BA05ZXX
1/4	3.0	0.29	0	3.5	3.5	3.5	80	8	1	52BA06ZXX

Voltage (V/Hz)	Suffix
24/60	TA
110/60	S
220/60	SA

General Purpose Solenoid Valves

Two Way - Normally Open - DC

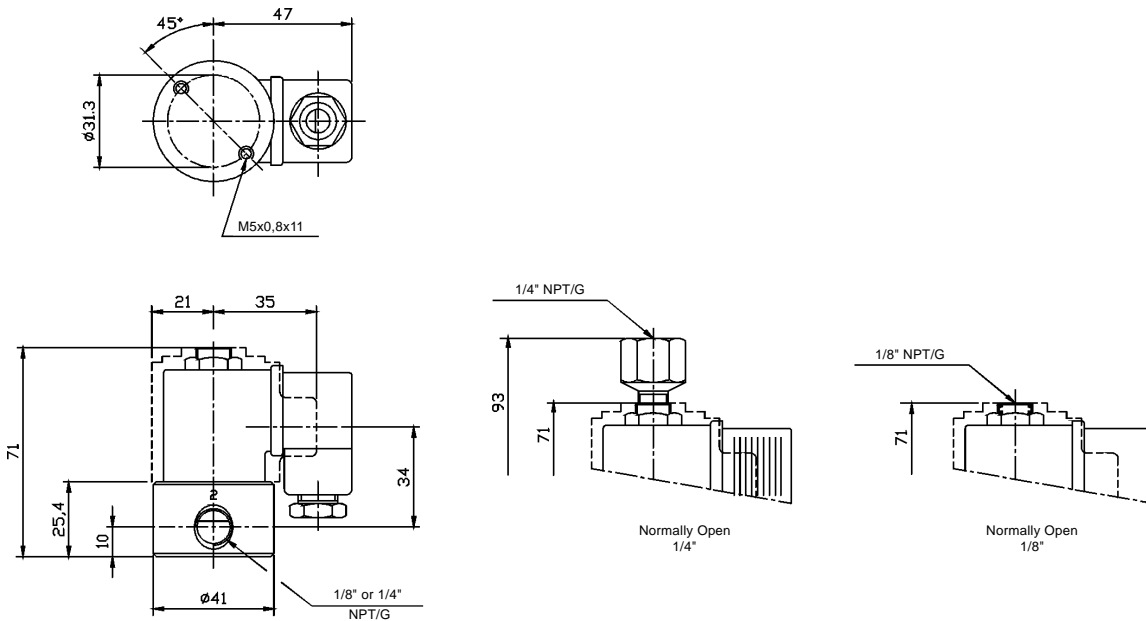
Body and Seals: Brass and FKM (For other options see page 26)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	Plug-in Connector (IP 65)
			Minimum (bar)	Maximum (M.O.D.P.) bar						
				Air Inert Gas	Water	Light Oil 300SSU				
1/8	0.8	0.02	0	27	27	27	80	10	1	52AA010XX
1/8	1.2	0.05	0	9	9	9	80	10	1	52AA020XX
1/8	1.6	0.08	0	9	9	9	80	10	1	52AA030XX
1/8	2.4	0.22	0	5	5	5	80	10	1	52AA050XX
1/8	3.0	0.29	0	3.8	3.8	3.8	80	10	1	52AA060XX
1/4	0.8	0.02	0	27	27	27	80	10	1	52BA010XX
1/4	1.2	0.05	0	9	9	9	80	10	1	52BA020XX
1/4	1.6	0.08	0	9	9	9	80	10	1	52BA030XX
1/4	2.4	0.22	0	5	5	5	80	10	1	52BA050XX
1/4	3.0	0.29	0	3.8	3.8	3.8	80	10	1	52BA060XX

Voltage (VDC)	Suffix XX
12	TH
24	TF

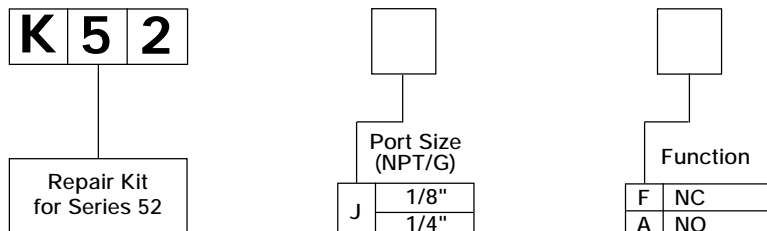
Dimensions

Drawing 1



▷ **Note:** Explosion, water and dust proof enclosure shown in dashed line.

How to Order Repair Kits



▷ **Note:** Either the coil or the enclosure does not interfere with the kit part number.

General Purpose Solenoid Valves



Series 53 and 54

2 Way - Diaphragm Pilot Operated
Normally Closed and Normally Open
3/8", 1/2" and 3/4" NPT/G
Air, Gas, Water and Light Oil

Standard Materials

Valve Body:	Brass
Seals:	Buna-N (NBR)
Plunger and Stop:	430 F S.S.
Springs:	302 S.S.
Shading Coil:	Copper
Coil:	Class "F"

Options (Add the suffixes after the voltage)

Seals

- Viton (FKM), use suffix "V".
- Ethylene propylene (EPDM), use suffix "P".
- Neoprene (CR), suffix "N".

Enclosure

- Open enclosure, use suffix "O".
- General purpose with plug-in connector (Nema 3R), use suffix "C".
- General purpose with plug-in connector + LED + surge suppressor, use suffix "U".
- Explosion proof, water and dust (Nema 4, 7 and 9), use suffix "E".
- Air pilot operated valve, modify the eighth and ninth digit from "XX" to "L" (Only for normally closed valves).

Shading Coil

- Aluminium (only for AC valve with acetylene), use suffix "5".

Others

- "G" thread, use suffix "B".
- Manual override, use suffix "M" (only for NC valves).
- Coil class "H", use suffix "H".
- "G" thread + Manual override, use suffix "Q".
- Coil class "H" + Manual override, use suffix "R".
- "G" thread + Manual override + Coil class "H", use suffix "D".

Installation

- Valves can be mounted in any position without jeopardising their operation.

Vacuum

- Valves in which minimum differential pressure is zero can be used until 10⁻² mm Hg (Please consult our office).

Oxygen

- Use suffix "I" and seals in neoprene (CR).

General Purpose Solenoid Valves

Two Way - Normally Closed - AC

Body and Seals: Forged Brass and NBR (For other options see page 29)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	General Purpose
			Maximum (M.O.D.P.) bar							
			Minimum (bar)	Air Inert Gas	Water	Light Oil 300SSU				
3/8	19	4	0	8.6	8.6	8.6	80	11	1	54CF20CXX
3/8	19	4	0.34	12.0	12.0	10.5	80	11	1	53CF20CXX
1/2	19	5	0	8.6	8.6	8.6	80	11	1	54DF20CXX
1/2	19	5	0.34	12.0	12.0	10.5	80	11	1	53DF20CXX
3/4	19	6	0	8.6	8.6	8.6	80	11	1	54EF20CXX
3/4	19	6	0.34	12.0	12.0	10.5	80	11	1	53EF20CXX

Voltage (V/Hz)	Suffix
24/60	TA
120/60	NY
110/50	
240/60	NZ
220/50	

Two Way - Normally Closed - DC

Body and Seals: Forged Brass and NBR (For other options see page 29)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	General Purpose
			Maximum (M.O.D.P.) bar							
			Minimum (bar)	Air Inert Gas	Water	Light Oil 300SSU				
3/8	19	4	0	8.6	8.6	8.6	80	11.5	1	54CF203XX
3/8	19	4	0.34	10.5	10.5	9.0	80	11.5	1	53CF203XX
1/2	19	5	0	8.6	8.6	8.6	80	11.5	1	54DF203XX
1/2	19	5	0.34	10.5	10.5	9.0	80	11.5	1	53DF203XX
3/4	19	6	0	8.6	8.6	8.6	80	11.5	1	54EF203XX
3/4	19	6	0.34	10.5	10.5	9.0	80	11.5	1	53EF203XX

Voltage (VDC)	Suffix
12	TH
24	TF
120	NV
125	NX

Two Way - Normally Open - DC

Body and Seals: Forged Brass and NBR (For other options see page 29)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	General Purpose
			Maximum (M.O.D.P.) bar							
			Minimum (bar)	Air Inert Gas	Water	Light Oil 300SSU				
3/8	19	4	0	8.6	8.6	8.6	80	11	1	54CA20CXX
3/8	19	4	0.34	8.6	10	9	80	11	1	53CA20CXX
1/2	19	5	0	8.6	8.6	8.6	80	11	1	54DA20CXX
1/2	19	5	0.34	10.0	10	9	80	11	1	53DA20CXX
3/4	19	6	0	8.6	8.6	8.6	80	11	1	54EA20CXX
3/4	19	6	0.34	10	10	9	80	11	1	53EA20CXX

Voltage (V/Hz)	Suffix
24/60	TA
120/60	NY
110/50	
240/60	NZ
220/50	

Two Way - Normally Open - DC

Body and Seals: Forged Brass and NBR (For other options see page 29)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	General Purpose
			Maximum (M.O.D.P.) bar							
			Minimum (bar)	Air Inert Gas	Water	Light Oil 300SSU				
3/8	19	4	0	8.6	8.6	8.6	80	11.5	1	54CA203XX
3/8	19	4	0.34	9	9	8	80	11.5	1	53CA203XX
1/2	19	5	0	8.6	8.6	8.6	80	11.5	1	54DA203XX
1/2	19	5	0.34	9	9	8	80	11.5	1	53DA203XX
3/4	19	6	0	8.6	8.6	8.6	80	11.5	1	54EA203XX
3/4	19	6	0.34	9	9	8	80	11.5	1	53EA203XX

Voltage (VDC)	Suffix
12	TH
24	TF
120	NV
125	NX

General Purpose Solenoid Valves

Valves with Plug-in Connectors

Two Way - Normally Closed - DC

Body and Seals: Forged Brass and NBR (For other options see page 29)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing N°	Plug-in Connector (IP 65)
			Maximum (M.P.D.O.) bar							
			Minimum (bar)	Air Inert Gas	Water	Light Oil 300SSU				
3/8	19	4	0.7	10	9	9	80	8	3	53CF20ZXX
1/2	19	5	0.7	10	9	9	80	8	3	53DF20ZXX
3/4	19	6	0.7	10	9	9	80	8	3	53EF20ZXX

Voltage (V/Hz)	Suffix XX
24/60	TA
110/60	S
220/60	SA

► **Note:** If LED and surge suppressor are necessary, modify the seventh digit from "Z" to "J".

Two Way - Normally Closed - DC

Body and Seals: Forged Brass and NBR (For other options see page 29)

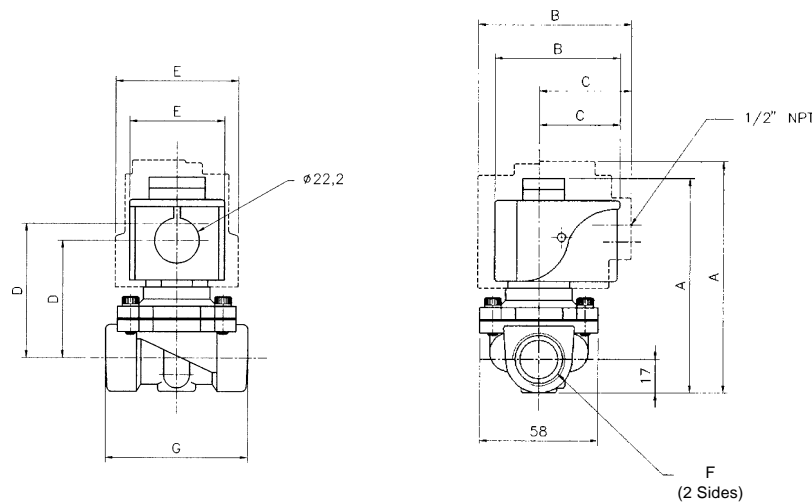
Specifications										Pat Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing N°	Plug-in Connector (IP 65)
			Maximum (M.P.D.O.) bar							
			Minimum (bar)	Air Inert Gas	Water	Light Oil 300SSU				
3/8	19	3.0	0.7	7	6	6	80	10	3	53CF200XX
1/2	19	3.5	0.7	7	6	6	80	10	3	53DF200XX
3/4	19	3.5	0.7	7	6	6	80	10	3	53EF200XX

Voltage (VDC)	Suffix XX
12	TH
24	TF
120	NV
125	NX

► **Note:** If LED and surge suppressor are necessary, modify the seventh digit from "Z" to "J".

Dimensions

Drawing 1



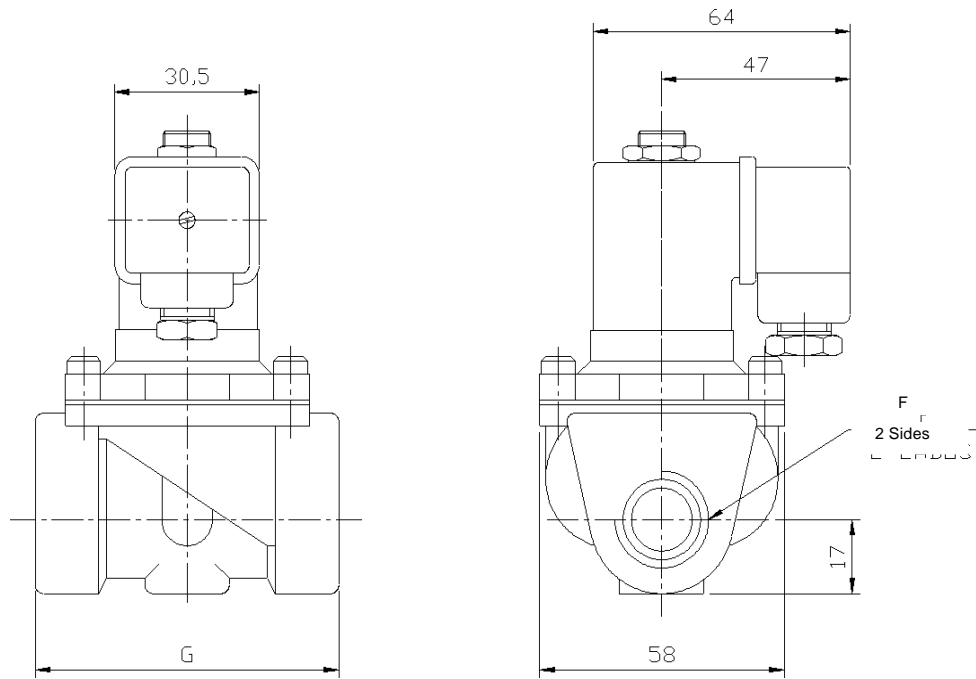
Normally Closed Valve NPT/G								
enclosure	A	B	C	D	E	F	G (NPT)	G (G)
general purpose	103	61	39,5	60	47	3/8", 1/2", 3/4"	72	68
open enclosure	103	43	-	-	45	3/8", 1/2", 3/4"	72	68
Explosion, water and dust, proof enclosure	110	74	44	62	$\phi 59$	3/8", 1/2", 3/4"	72	68

Normally Open Valve NPT/G								
enclosure	A	B	C	D	E	F	G (NPT)	G (G)
general purpose	103	61	39,5	56,5	47	3/8", 1/2", 3/4"	72	68
open enclosure	103	43	-	-	45	3/8", 1/2", 3/4"	72	68
Explosion, water and dust, proof enclosure	110	74	44	62	$\phi 59$	3/8", 1/2", 3/4"	72	68

► **Note:** Explosion, water and dust enclosure shown in dashed line.

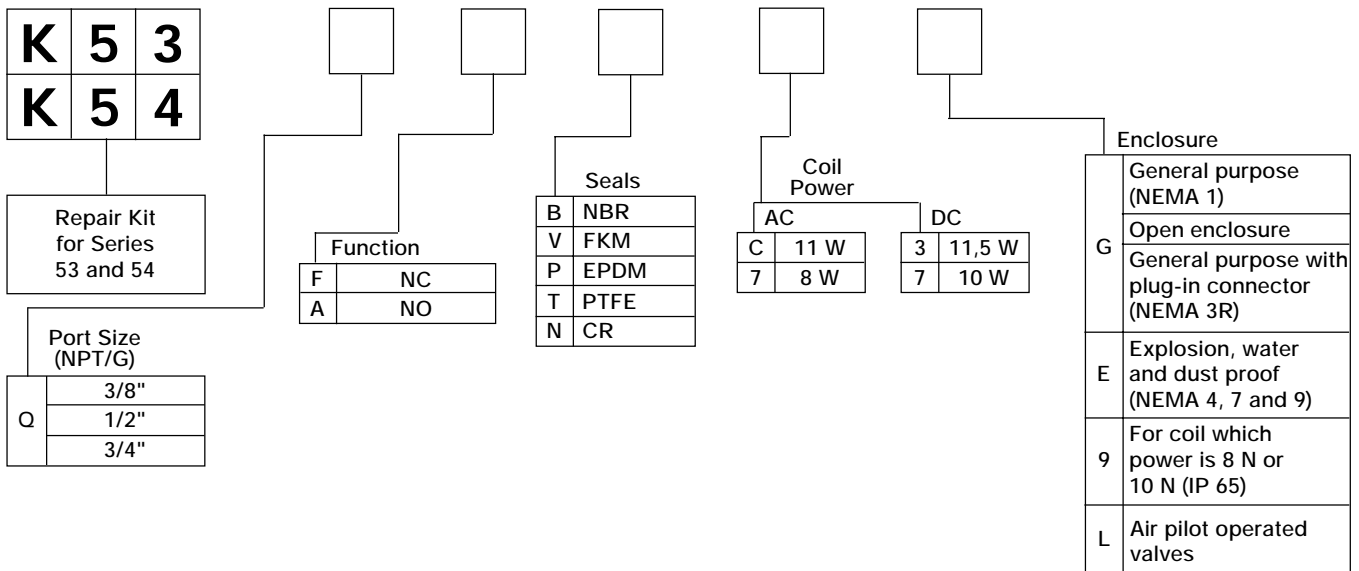
General Purpose Solenoid Valves

Drawing 3



Normally closed valve with plug-in connector NPT/G		
F	G (NPT)	G (G)
3/8"	72	68
1/2"	72	68
3/4"	72	68

How to Order Repair Kits



▷ **Note:** Enclosure "9" is only compatible with normally closed valves and coil powers 8 W and 10 W. Repair kit for series 54 is only compatible with "G" and "E" enclosures.

General Purpose Solenoid Valves

Series 72 and 73



2 Way - Diaphragm Pilot Operated
Normally Closed
3/4", 1" and 1 1/2" NPT/G
Bag Filters

Standard Materials

Valve Body: Aluminium
Seals: Buna-N (NBR)
Plunger and Stop: 430 F S.S.
Springs: 302 S.S.
Shading Coil: Copper
Coil: Class "F"

Options (Add the suffixes after the voltage)

Enclosure

- Explosion Proof (Nema 7 and 9), use suffix "X".

Others

- Coil Class "H", use suffix "H" (Available only for explosion proof enclosure).
- "G" thread, use suffix "B".
- If a plug-in connector with LED and surge suppressor is necessary, modify the seventh digit as following
AC - from "Z" to "J"
DC - from "0" to "4"

Intallation

- Valves can be mounted in any position without jeopardising their operation.

▷ **Note:** A Solenoid valve is needed to actuate remote operated valves. It is recommended to use Series 20 solenoid valves. This valve must be selected carefully: the internal orifice must be 3,2 mm and its maximum differential pressure must be at least equal to the Series 72/73.

Solenoid Operated

Two Way - Normally Closed -AC

Body and Seals: Aluminium and NBR (For other options see above)

Specifications									Part Number	
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure		Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	Plug-in Connector (IP 65)	Voltage (V/Hz)	Suffix XX
			Minimum (bar)	Maximum (M.O.D.P.) bar						
				Air						
3/4	25	6.47	1	8	80	8	1	72EF21ZXX	110/60	S
1	25	12.9	1	8	80	8	1	72FF21ZXX	220/60	SA
1 1/2	42	32.9	1	8	80	8	2	72GF26ZXX		

Two Way - Normally Closed - DC

Body and Seals: Aluminium and NBR (For other options see above)

Specifications									Part Number	
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure		Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	Plug-in Connector (IP 65)	Voltage (VDC)	Suffix XX
			Minimum (bar)	Maximum (M.O.D.P.) bar						
				Air						
3/4	25	6.47	1	7	80	10	1	72EF210XX	12	TH
1	25	12.9	1	7	80	10	1	72FF210XX	24	TF
1 1/2	42	32.9	1	7	80	10	2	72GF260XX		

General Purpose Solenoid Valves

Remote Operated Valves

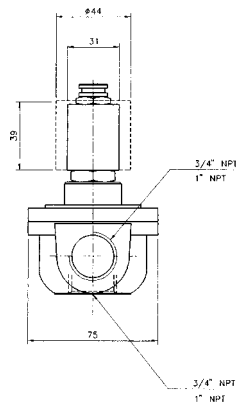
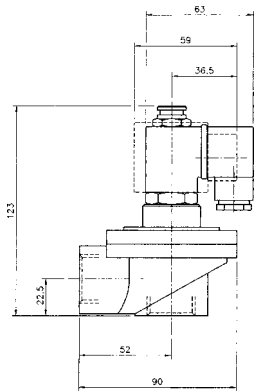
Two Way - Normally Closed

Body and Seals: Aluminium and NBR (For other options see page 33)

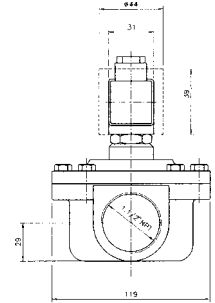
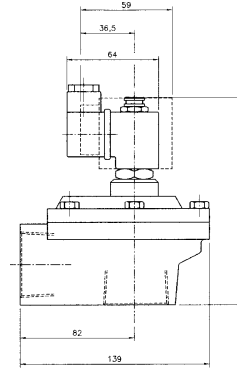
Specifications							Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure		Media Maximum Temperature (°C)	Drawing N°	Plug-in Connector (IP 65)
			Minimum (bar)	Maximum (M.O.D.P.) bar			
				AiR			
3/4	25	6.47	1	8	80	3	73EF21
1	25	12.9	1	8	80	3	73FF21
1 1/2	42	32.9	1	8	80	4	73GF26

Dimensions

Drawing 1



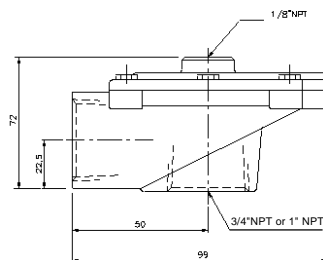
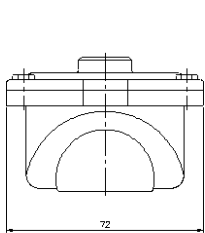
Drawing 2



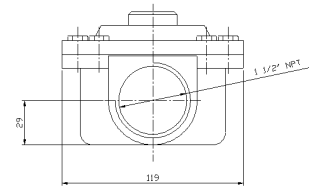
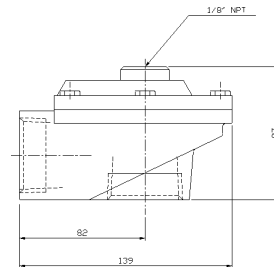
▷ Note: Explosion proof enclosure shown in dashed line.

▷ Note: Explosion proof enclosure shown in dashed line.

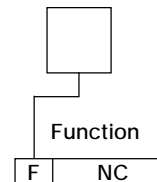
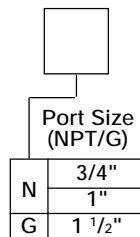
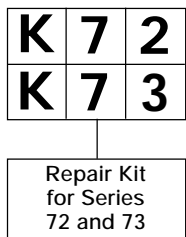
Drawing 3



Drawing 4



How to Order Repair Kits



▷ Note: Valves can be mounted in any position without jeopardising their operation.

General Purpose Solenoid Valves

Series 75 and 76



2 Way - Diaphragm Pilot Operated
 Normally Closed
 1 1/2", 2" and 2 1/2" and NPT/ G
 Bag Filters

Standard Materials

Valve Body: Aluminium
 Seals: Buna-N (NBR) and Viton (FKM)
 Plunger and Stop: 430 F S.S.
 Springs: 302 S.S.
 Shading Coil: Copper
 Coil: Class "F"

Options (Add the suffixes after the voltage)

Enclosure

- Explosion Proof (Nema 7 and 9), use suffix "X" (For 1 1/2" valve or "E" (For the others)

Others

- Coil Class "H", use suffix "H" (Available only for explosion proof enclosure).
- "G" thread, use suffix "B".
- "G" thread + coil class "H", use suffix "R".
- If a plug-in connector with LED and surge suppressor is necessary, modify the seventh digit as following:
 AC - from "Z" to "J"
 DC - from "0" to "4"

Installation

- Valves can be mounted in any position without jeopardising their operation.

▷ **Note:** Response time: 8 ms (For 1 1/2" valves) and 20 ms (For 2" and 2 1/2" valves)

Solenoid Operated

Two Way - Normally Closed - AC

Body and Seal: Aluminium and NBR (For other options see above)

Specifications									Part Number	
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure		Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	Plug-in Connector (IP 65)	Voltage (V/Hz)	Suffix XX
			Minimum (bar)	Maximum (M.O.D.P.) bar						
				Air						
1 1/2"	42	33.2	1	8	80	8	1	75GF26ZXX	110/60	S
2"	50.8	52.5	3	8	80	11	3	75HF28CXX	220/60	SA
2 1/2"	63.5	82.0	3	8	80	11	4	75JF32CXX	120/60 110/50	NY
									240/60 220/50	NZ

▷ **Note:** * Available only for 1 1/2" valves.

** Available only for 2" and 2 1/2" valves.

Two Way - Normally Closed - DC

Body and Seal: Aluminium and NBR (For other options see above)

Specifications									Part Number	
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure		Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	Plug-in Connector (IP 65)	Voltage (VDC)	Suffix XX
			Minimum (bar)	Maximum (M.O.D.P.) bar						
				Air						
1 1/2"	42	33.2	1	7	80	10	1	75GF260XX	12	TH
2"	50.8	52.5	3	8	80	11,5	3	75HF283XX	24	TF
2 1/2"	63.5	82.0	3	8	80	11.5	4	75JF323XX		

General Purpose Solenoid Valves

Remote Operated Valves

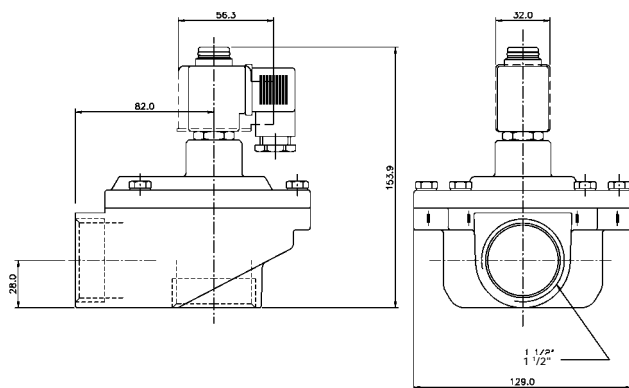
Two Way - Normally Closed

Body and Seals: Aluminium and NBR (For other options see page 35)

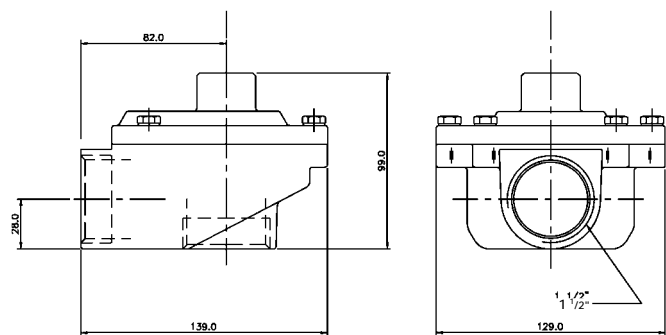
Specifications							Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure		Media Maximum Temperature (°C)	Drawing Nº	Plug-in Connector (IP 65)
			Minimum (bar)	Maximum (M.O.D.P.) bar			
				AiR			
1 1/2"	42	33.2	1	8	80	2	76GF26
2"	50.8	52.5	3	8	80	3	76HF28
2 1/2"	63.5	82.0	3	8	80	4	76JF32

Dimensions

Drawing 1



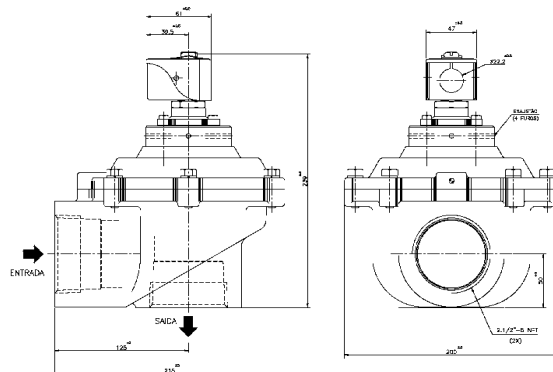
Drawing 2



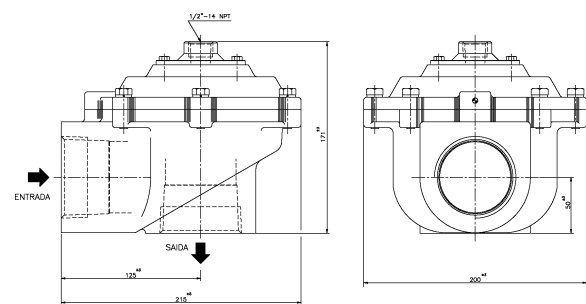
▷ Note: Explosion proof enclosure shown in dashed line.

▷ Note: Explosion proof enclosure shown in dashed line.

Drawing 3



Drawing 4



▷ Note: Explosion proof enclosure shown in dashed line.

How to Order Repair Kits

<table border="1"> <tr><td>K</td><td>7</td><td>5</td></tr> <tr><td>K</td><td>7</td><td>6</td></tr> </table>	K	7	5	K	7	6	<table border="1"> <tr><td> </td></tr> </table>		<table border="1"> <tr><td> </td></tr> </table>		<table border="1"> <tr><td> </td></tr> </table>		<table border="1"> <tr><td> </td></tr> </table>		<table border="1"> <tr><td> </td></tr> </table>	
K	7	5														
K	7	6														
Repair Kit for Series 75 e 76	Port Size (NPT/G)	Operation	Seal	Potência * da Bobina *	Involúcro *											
	R 2" 2 1/2"	F NF	B Buna-N	C 11 W 3 11,5 W	Gx Caixa uso geral (Nema 1)											
					E Caixa à prova de explosão, água e pó (Nema 4, 7 e 9)											

* Os códigos dos kits de reparo das válvulas de comando à distância não possuem os dois últimos dígitos.

General Purpose Solenoid Valves



Series 80 and 81

2 Way - Diaphragm Pilot Operated
 Normally Closed and Normally Open
 1", 1 1/2" and 2" NPT/G
 Air and Combustible Gases

Standard Materials

Valve Body: Aluminium
 Seals: Buna-N (NBR)
 Plunger and Stop: 430 F S.S.
 Springs: 302 S.S.
 Shading Coil: Copper
 Coil: Class "F"

Options (Add the suffixes after the voltage)

Seals

- Viton (FKM), use suffix "V".

Enclosure

- Explosion proof (Nema 7 and 9), use suffix "X".
- Water proof (Nema 4), use suffix "Y".

Others

- "G" thread, use suffix "B".
- Coil class "H", use suffix "H".
- "G" thread + Coil class "H", use suffix "R".

Installation

- Valve must be mounted in the horizontal position with the unit solenoid above the body.

Two Way - Normally Closed - AC

Body and Seals: Aluminium and NBR (For other options see above)

Specifications								Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure		Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing N°	General Purpose
			Minimum (bar)	Maximum (M.O.D.P.) bar				
1	25	14.12	0.001	Air Gas	80	11	1	80FF21CXX
1	25	14.12	0.001	2	80	11	1	81FF21CXX
1 1/2	37	31.76	0.001	0.5	80	11	2	80GF24CXX
1 1/2	37	31.76	0.001	2	80	11	2	81GF24CXX
2	51	50.59	0.001	0.5	80	11	3	80HF28CXX
2	51	50.59	0.001	2	80	11	3	81HF28CXX

Voltage (V/Hz)	Suffix
XX	XX
24/60	TA
110/60	S
220/60	SA

General Purpose Solenoid Valves

Two Way - Normally Closed - DC

Body and Seals: Aluminium and NBR (For other options see page 37)

Specifications									Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure		Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	General Purpose	
			Minimum (bar)	Maximum (M.O.D.P.) bar					
				Air Gas					
1	25	14.12	0.001	0.5	80	16	1	80FF215XX	
1	25	14.12	0.001	2.0	80	16	1	81FF215XX	
1 1/2	37	31.76	0.001	0.5	80	16	2	80GF245XX	
1 1/2	37	31.76	0.001	2.0	80	16	2	81GF245XX	
2	51	50.59	0.001	0.5	80	16	3	80HF285XX	
2	51	50.59	0.001	2.0	80	16	3	81HF285XX	

Voltage (VDC)	Suffix XX
12	TH
24	TF
120	NV
125	NX

Two Way - Normally Open - AC

Body and Seals: Aluminium and NBR (For other options see page 37)

Specifications									Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure		Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	General Purpose	
			Minimum (bar)	Maximum (M.O.D.P.) bar					
				Air Gas					
1	25	14.12	0.001	0.5	80	11	1	80FA21CXX	
1	25	14.12	0.001	2.0	80	11	1	81FA21CXX	
1 1/2	37	31.76	0.001	0.5	80	11	2	80GA24CXX	
1 1/2	37	31.76	0.001	2.0	80	11	2	81GA24CXX	
2	51	50.59	0.001	0.5	80	11	3	80HA28CXX	
2	51	50.59	0.001	2.0	80	11	3	81HA28CXX	

Voltage (V/Hz)	Suffix XX
24/60	TA
110/60	S
220/60	SA

Two Way - Normally Closed - DC

Body and Seals: Aluminium and NBR (For other options see page 37)

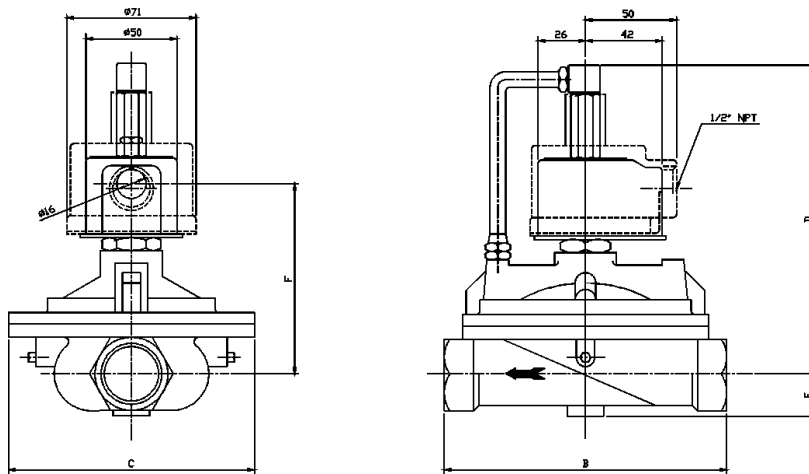
Specifications									Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure		Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	General Purpose	
			Minimum (bar)	Maximum (M.O.D.P.) bar					
				Air Gas					
1	25	14.12	0.001	0.5	80	16	1	80FA215XX	
1	25	14.12	0.001	2.0	80	16	1	81FA215XX	
1 1/2	37	31.76	0.001	0.5	80	16	2	80GA245XX	
1 1/2	37	31.76	0.001	2.0	80	16	2	81GA245XX	
2	51	50.59	0.001	0.5	80	16	3	80HA285XX	
2	51	50.59	0.001	2.0	80	16	3	81HA285XX	

Voltage (VDC)	Suffix XX
12	TH
24	TF
120	NV
125	NX

General Purpose Solenoid Valves

Dimensions

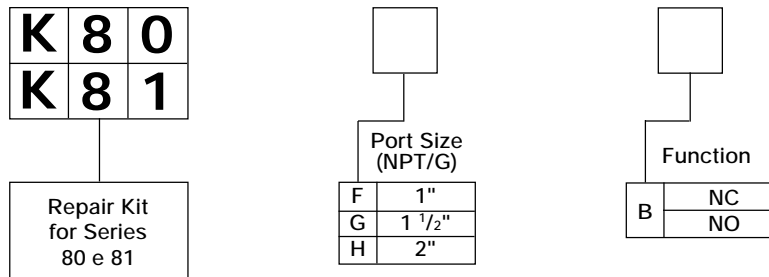
Drawings 1, 2 and 3



Drawing	A	B	C	D	E	F
1	1"	155	135	170	23	104
2	1 1/2"	180	160	180	33	119
3	2"	225	205	180	40	127

▷ **Note:** Explosion, water and dust enclosure shown in dashed line.

How to Order Repair Kits



▷ **Note:** Either the coil or the enclosure does not interfere with the repair kit part number.

General Purpose Solenoid Valves



Series 15

Three Way
Normally Closed and Normally Open
1/4", 3/8" and 1/2" NPT/G
Air, Neutral Gases, Water and Light Oil

Standard Materials

Valve Body:	Brass
Seals:	Buna-N (NBR)
Springs:	302 S.S.
Shading Coil:	Copper
Coil:	Class "F"

Options (Add the suffixes after the voltage)

Seals

- Viton (FKM), use suffix "V".
 - Ethylene Propylene (EPDM), use suffix "P".
 - Neoprene (CR), use suffix "N".
-

Enclosure

- Explosion proof (Nema 7 and 9), use suffix "X".
 - Water proof (Nema 4) use suffix "Y".
 - Plug-in connector with LED and surge supressor, modify the seventh digit as following:
AC - From "Z" to "J"
DC - From "0" to "4"
-

Valve Body

- 304 S.S., use suffix "3".
-

Others

- "G" thread, use suffix "B".
 - Manual override, use suffix "M".
 - Coil class "H", use suffix "H".
 - Coil class "H" + Manual override, use suffix "F".
 - "G" thread + Manual override, use suffix "Q"
 - "G" thread + Coil class "H", use suffix "R".
 - "G" thread + Coil class "H" + Manual override, use suffix "D".
-

Installation

- Valves can be mounted in any position without jeopardising their operation.
- When used with gas, water and light oils, it is necessary to pipe the escape.

General Purpose Solenoid Valves

Three Way- Normally Closed - AC

Body and Seals: Brass and NBR (For other options see page 40)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	Plug-in Connector (IP 65)
			Maximum (M.O.D.P.) bar							
			Minimum (bar)	Air Inert Gas	Water	Light Oil 300SSU				
1/4	6	0.94	1.4	10	10	9	80	8	1	15BF12ZXX
3/8	8	1.13	1.4	10	10	9	80	8	2	15CF14ZXX
1/2	10	2.24	1.4	10	10	9	80	8	3	15DF16ZXX

Voltage (V/Hz)	Suffix XX
24/60	TA
110/60	S
220/60	SA

Three Way - Normally Closed - DC

Body and Seals: Brass and NBR (For other options see page 40)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	Plug-in Connector (IP 65)
			Maximum (M.O.D.P.) bar							
			Minimum (bar)	Air Inert Gas	Water	Light Oil 300SSU				
1/4	6	0.94	1.4	9	9	8	80	10	1	15BF120XX
3/8	8	1.13	1.4	9	9	8	80	10	2	15CF140XX
1/2	10	2.24	1.4	9	9	8	80	10	3	15DF160XX

Voltage (VDC)	Suffix XX
12	TH
24	TF
120	NV
125	NX

Three Way - Normally Open - AC

Body and Seals: Brass and NBR (For other options see page 40)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	Plug-in Connector (IP 65)
			Maximum (M.O.D.P.) bar							
			Minimum (bar)	Air Inert Gas	Water	Light Oil 300SSU				
1/4	6	0.94	1.4	10	10	9	80	8	1	15BA12ZXX
3/8	8	1.13	1.4	10	10	9	80	8	2	15CA14ZXX
1/2	10	2.24	1.4	10	10	9	80	8	3	15DA16ZXX

Voltage (V/Hz)	Suffix XX
24/60	TA
110/60	S
220/60	SA

Three Way - Normally Open - DC

Body and Seals: Brass and NBR (For other options see page 40)

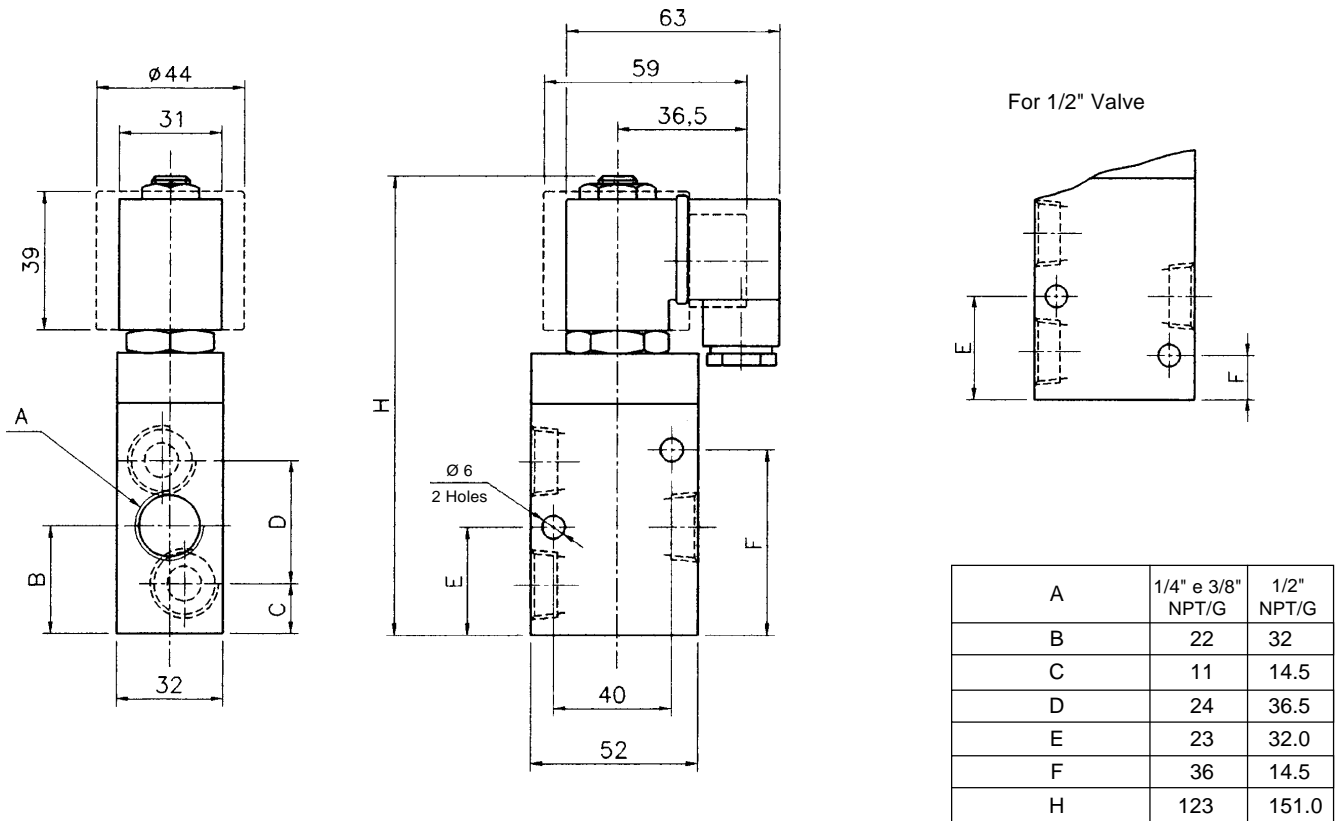
Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	Plug-in Connector (IP 65)
			Maximum (M.O.D.P.) bar							
			Minimum (bar)	Air Inert Gas	Water	Light Oil 300SSU				
1/4	6	0.94	1.4	9	9	8	80	10	1	15BA120XX
3/8	8	1.13	1.4	9	9	8	80	10	2	15CA140XX
1/2	10	2.24	1.4	9	9	8	80	10	3	15DA160XX

Voltage (VDC)	Suffix XX
12	TH
24	TF
120	NV
125	NX

General Purpose Solenoid Valves

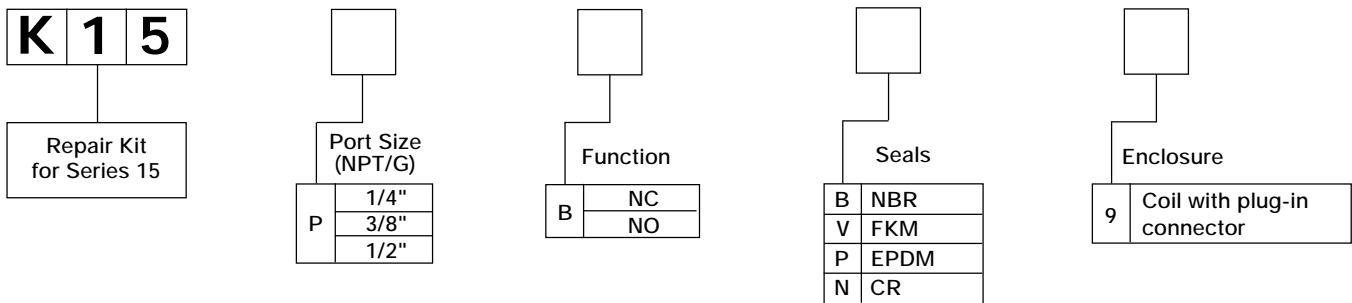
Dimensions

Drawings 1, 2 and 3



► **Note:** Explosion, water and dust proof enclosure shown in dashed line.

How to Order Repair Kits



► **Note:** The enclosure does not interfere with the repair kit part number.

General Purpose Solenoid Valves



Series 128 and 141

3 Way - Direct Operated
Normally Closed
1/8" NPT and Sub-base
Steam and Hot Water

Standard Materials

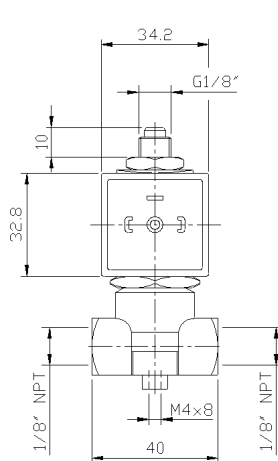
Valve Body: Brass
Seals: Ruby
Plunger and Stop: 430 F S.S.
Springs: 302 S.S.
Shading Coil: Copper
Coil: Class "F"

Three Way - Normally Closed - AC Body and Seals: Brass and Ruby

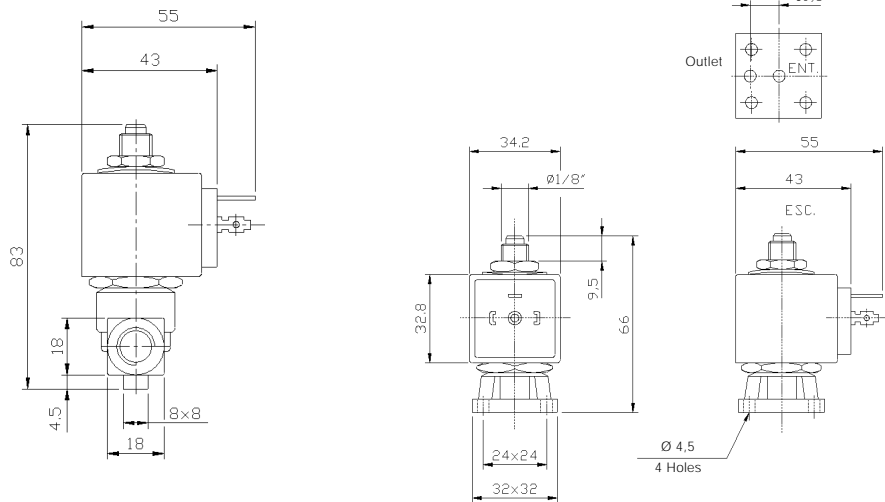
Specifications											Part Number	
Port Size (NPT)	Orifice Diameter (mm)		Cv		Operating Differential Pressure		Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing N°	Plug-in Connector (IP 65) Voltage (V/Hz)	Code	
	Inlet	Outlet	Inlet	Outlet	Minimum (bar)	Maximum (M.O.D.P.) bar						
						Steam						Hot Water
1/8	1.3	2.5	0.08	0.2	0	10	140	9	1	220-230/50-60	VE141IRP	
For Sub-base	1.3	2.5	0.08	0.2	0	10	140	9	2	220-230/50-60	VE128IR	

Dimensions

Drawing 1



Drawing 2



How to Order Repair Kits

K	1	2	8
K	1	4	1
Repair Kit for Series 128 and 141			

	Port Size
A	1/8" NPT Sub-base

	Function
F	NC

General Purpose Solenoid Valves



Series 28

3 Way - Direct Operated
Normally Closed and Normally Open
1/8" and 1/4" NPT/G
Air, Gas, Water and Light Oil

Standard Materials

Valve Body:	Brass
Seals:	Viton (FKM)
Plunger and Stop:	430 F S.S.
Springs:	302 S.S.
Shading Coil:	Copper
Coil:	Class "F"

Options (Add the suffixes after the voltage)

Enclosure

- Explosion proof (Nema 7 and 9), use suffix "X".
- If it is necessary plug-in connector with LED and surge suppressor, modify seventh digit as follow:
AC - From "Z" to "J"
DC - From "0" to "4"

Valve Body

- Escape piped, use suffix "G".
- Escape protector, use suffix "7".
- Aluminium, use suffix "4".
- Aluminium + Escape piped, use suffix "0".
- Aluminium + Escape protector, use suffix "1".

Others

- "G" thread, use suffix "B".
- Manual override, use suffix "M".
- Coil class "H", use suffix "H".
- "G" thread + Manual override, use suffix "Q".
- Coil class "H" + Manual override, use suffix "F".
- "G" thread + Coil class "H", use suffix "R".
- "G" thread + Manual override + Coil class "H", use suffix "D".

▷ **Note:**

Coil class "H" may be used only as an option with explosion proof enclosures.

Installation

- The valves can be mounted in any position without jeopardising their operation.

General Purpose Solenoid Valves

Three Way - Normally Closed - AC

Body and Seals: Brass and FKM (For other options see page 44)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	Plug-in Connector (IP 65)
			Maximum (M.O.D.P.) bar							
			Minimum (bar)	Air Inert Gas	Water	Light Oil 300SSU				
1/8	0.8	0.02	0	30	30	30	80	8	1	28AF01ZXX
1/8	1.2	0.05	0	16	16	16	80	8	1	28AF02ZXX
1/8	1.6	0.09	0	13	13	13	80	8	1	28AF03ZXX
1/8	2.4	0.22	0	7	7	7	80	8	1	28AF05ZXX
1/8	3.0	0.24	0	5	5	5	80	8	1	28AF06ZXX
1/4	0.8	0.02	0	30	30	30	80	8	1	28BF01ZXX
1/4	1.2	0.05	0	16	16	16	80	8	1	28BF02ZXX
1/4	1.6	0.09	0	13	13	13	80	8	1	28BF03ZXX
1/4	2.4	0.22	0	7	7	7	80	8	1	28BF05ZXX
1/4	3.0	0.24	0	5	5	5	80	8	1	28BF06ZXX

Voltage (V/Hz)	Suffix XX
24/60	TA
110/60	S
220/60	SA

Three Way - Normally Closed - DC

Body and Seals: Brass and FKM (For other options see page 44)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	Plug-in Connector (IP 65)
			Maximum (M.O.D.P.) bar							
			Minimum (bar)	Air Inert Gas	Water	Light Oil 300SSU				
1/8	0.8	0.02	0	27	27	27	80	10	1	28AF010XX
1/8	1.2	0.04	0	15	15	15	80	10	1	28AF020XX
1/8	1.6	0.09	0	11	11	11	80	10	1	28AF030XX
1/8	2.4	0.16	0	6.5	6.5	6.5	80	10	1	28AF050XX
1/8	3.0	0.29	0	4	4	4	80	10	1	28AF060XX
1/4	0.8	0.02	0	27	27	27	80	10	1	28BF010XX
1/4	1.2	0.04	0	15	15	15	80	10	1	28BF020XX
1/4	1.6	0.09	0	11	11	11	80	10	1	28BF030XX
1/4	2.4	0.16	0	6.5	6.5	6.5	80	10	1	28BF050XX
1/4	3.0	0.29	0	4	4	4	80	10	1	28BF060XX

Voltage (VDC)	Suffix XX
12	TH
24	TF

Three Way - Normally Open - AC

Body and Seals: Brass and FKM (For other options see page 44)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	Plug-in Connector (IP 65)
			Maximum (M.O.D.P.) bar							
			Minimum (bar)	Air Inert Gas	Water	Light Oil 300SSU				
1/8	0.8	0.02	0	32	32	32	80	8	1	28AA01ZXX
1/8	1.2	0.05	0	9	9	9	80	8	1	28AA02ZXX
1/8	1.6	0.09	0	9	9	9	80	8	1	28AA03ZXX
1/8	2.4	0.22	0	5	5	5	80	8	1	28AA05ZXX
1/8	3.0	0.29	0	3.5	3.5	3.5	80	8	1	28AA06ZXX
1/4	0.8	0.02	0	32	32	32	80	8	1	28BA01ZXX
1/4	1.2	0.05	0	9	9	9	80	8	1	28BA02ZXX
1/4	1.6	0.09	0	9	9	9	80	8	1	28BA03ZXX
1/4	2.4	0.22	0	5	5	5	80	8	1	28BA05ZXX
1/4	3.0	0.29	0	3.5	3.5	3.5	80	8	1	28BA06ZXX

Voltage (V/Hz)	Suffix XX
24/60	TA
110/60	S
220/60	SA

General Purpose Solenoid Valves

Three Way - Normally Open - DC

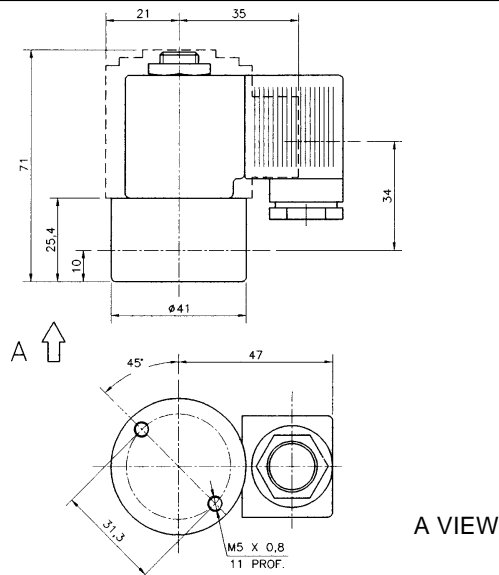
Body and Seals: Brass and FKM (For other options see page 44)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure			Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	Plug-in Connector (IP 65)	
			Maximum (M.O.D.P.) bar							
			Minimum (bar)	Air Inert Gas	Water					
1/8	0.8	0.02	0	27	27	27	80	10	1	28AA010XX
1/8	1.2	0.05	0	9	9	9	80	10	1	28AA020XX
1/8	1.6	0.09	0	9	9	9	80	10	1	28AA030XX
1/8	2.4	0.22	0	5	5	5	80	10	1	28AA050XX
1/8	3.0	0.24	0	3,8	3,8	3,8	80	10	1	28AA060XX
1/4	0.8	0.02	0	27	27	27	80	10	1	28BA010XX
1/4	1.2	0.05	0	9	9	9	80	10	1	28BA020XX
1/4	1.6	0.09	0	9	9	9	80	10	1	28BA030XX
1/4	2.4	0.22	0	5	5	5	80	10	1	28BA050XX
1/4	3.0	0.24	0	3,8	3,8	3,8	80	10	1	28BA060XX

Voltage (VDC)	Suffix XX
12	TH
24	TF

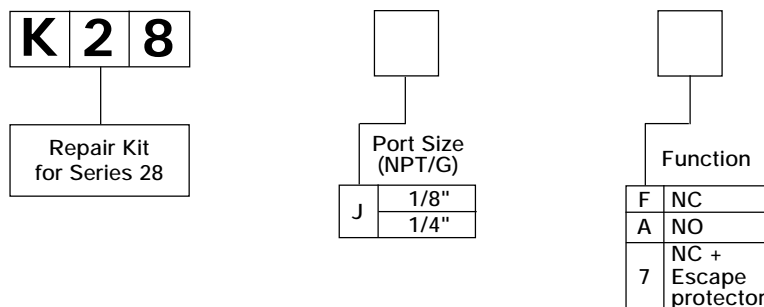
Dimensions

Drawing 1



▷ **Note:** Explosion, water and dust proof enclosure shown in dashed line.

How to Order Repair Kits



▷ **Note:** Either the coil or the enclosure does not interfere with the repair kit part number.

General Purpose Solenoid Valves

Series 30 and 31



3 Way - Direct Operated
 Normally Closed, Normally Open and Universal
 1/8" and 1/4" NPT/ G
 Air, Gas, Water and Light Oil

Standard Materials

Valve Body: Brass
 Seals: Buna-N (NBR)
 Plunger and Stop: 430 F S.S.
 Springs: 302 S.S.
 Shading Coil: Copper
 Coil: Class "F"

Options (Add the suffixes after the voltage)

Seals

- Viton (FKM), use suffix "V".
- Ethylene Propylene (EPDM), use suffix "P".
- Neoprene (CR), use suffix "N".

Enclosure

- Open enclosure, use suffix "O".
- General purpose with plug-in connector (Nema 3R), use suffix "C".
- General purpose with plug-in connector + LED + surge supsressor, use suffix "U".
- Explosion, water and dust proof enclosure, use suffix "E".

Others

- "G" thread, use suffix "B".
- Manual override, use suffix "M".
- Coil class "H", use suffix "H".
- "G" thread + manual override, use suffix "Q".
- Coil class "H" + manual override, use suffix "F".
- "G" thread + coil class "H", use suffix "R".
- "G" thread + coil class "H" + manual override, use suffix "D".

Installation

- Valves can be mounted in any position without jeopardising their operation.

Flow Diagram

Normally Open Pressure at 3	Normally Closed PressurI at 2	Universal Pressure at 1, 2 or 3	Solenoid
			Desenergised
			Energised

General Purpose Solenoid Valves

Three Way - Normally Closed - AC

Body and Seals: Brass and NBR (For other options see page 47)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	General Purpose
			Maximum (M.O.D.P.) bar			Minimum (bar)				
			Air Inert Gas	Water	Light Oil 300SSU					
1/8	1.2	0.06	0	17	17	17	80	10.2	1	30AF02BXX
1/8	1.6	0.09	0	8.6	8.6	8.6	80	6	1	30AF03AXX
1/8	2.4	0.12	0	7	7	7	80	6	1	30AF05AXX
1/8	3.2	0.21	0	2.8	2.8	2.8	80	6	1	30AF07AXX
1/4	1.6	0.09	0	11	11	11	80	16	2	30BF03DXX
1/4	2.4	0.12	0	8	8	8	80	11	2	30BF05CXX
1/4	3.2	0.25	0	4	4	4	80	11	2	30BF07CXX
1/4	4.4	0.35	0	1.8	1.8	1.8	80	11	2	30BF09CXX

Voltage (V/Hz)	Suffix XX
24/60	TA
120/60	NY
110/50	NY
240/60	NZ
220/50	NZ

Three Way - Normally Closed - DC

Body and Seals: Brass and NBR (For other options see page 47)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	General Purpose
			Maximum (M.O.D.P.) bar			Minimum (bar)				
			Air Inert Gas	Water	Light Oil 300SSU					
1/8	1.2	0.06	0	14	14	14	80	9.5	1	30AF021XX
1/8	1.6	0.09	0	8.6	8.6	8.6	80	9.5	1	30AF031XX
1/8	2.4	0.12	0	7	7	7	80	9.5	1	30AF051XX
1/8	3.2	0.21	0	2.8	2.8	2.8	80	9.5	1	30AF071XX
1/4	1.6	0.09	0	11	11	11	80	11.5	2	30BF033XX
1/4	2.4	0.12	0	7	7	7	80	11.5	2	30BF053XX
1/4	3.2	0.25	0	3.8	3.8	3.8	80	11.5	2	30BF073XX
1/4	4.4	0.35	0	1.7	1.7	1.7	80	11.5	2	30BF093XX

Voltage (VDC)	Suffix XX
12	TH
24	TF
120	NV
125	NX

Three Way - Normally Open - AC

Body and Seals: Brass and NBR (For other options see page 47)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	General Purpose
			Maximum (M.O.D.P.) bar			Minimum (bar)				
			Air Inert Gas	Water	Light Oil 300SSU					
1/8	1.2	0.06	0	14	14	14	80	6	1	30AA02AXX
1/8	1.6	0.09	0	8.6	8.6	8.6	80	6	1	30AA03AXX
1/8	2.4	0.12	0	7	7	7	80	6	1	30AA05AXX
1/8	3.2	0.21	0	2.8	2.8	2.8	80	6	1	30AA07AXX
1/4	1.6	0.09	0	16	17	17.5	80	16	2	30BA03DXX
1/4	2.4	0.12	0	9.6	9.6	9.6	80	11	2	30BA05CXX
1/4	3.2	0.25	0	4.8	4.8	4.8	80	11	2	30BA07CXX
1/4	4.4	0.35	0	2.8	2.8	2.8	80	11	2	30BA09CXX

Voltage (V/Hz)	Suffix XX
24/60	TA
120/60	NY
110/50	NY
240/60	NZ
220/50	NZ

General Purpose Solenoid Valves

Three Way- Normally Open - DC

Body and Seals: Brass and NBR (For other options see page 47)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	General Purpose
			Maximum (M.O.D.P.) bar			Minimum (bar)				
			Air Inert Gas	Water	Light Oil 300SSU					
1/8	1.2	0.06	0	14	14	14	80	9.5	1	30AA021XX
1/8	1.6	0.09	0	8.6	8.6	8.6	80	9.5	1	30AA031XX
1/8	2.4	0.12	0	7	7	7	80	9.5	1	30AA051XX
1/8	3.2	0.21	0	2.8	2.8	2.8	80	9.5	1	30AA071XX
1/4	1.6	0.09	0	11	11	11	80	11.5	2	30BA033XX
1/4	2.4	0.12	0	7	7	7	80	11.5	2	30BA053XX
1/4	3.2	0.25	0	3.8	3.8	3.8	80	11.5	2	30BA073XX
1/4	4.4	0.35	0	2	2	2	80	11.5	2	30BA093XX

Voltage (VDC)	Suffix XX
12	TH
24	TF
120	NV
125	NX

Three Way - Universal - AC

Body and Seals: Brass and NBR (For other options see page 47)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	General Purpose
			Maximum (M.O.D.P.) bar			Minimum (bar)				
			Air Inert Gas	Water	Light Oil 300SSU					
1/8	1.2	0.06	0	12	12	12	80	10,2	1	30AU02BXX
1/8	1.6	0.06	0	7	7	7	80	10,2	1	30AU03BXX
1/8	2.4	0.12	0	3.5	3.5	3.5	80	6	1	30AU05AXX
1/8	3.2	0.21	0	2	2	2	80	10,2	1	30AU07BXX
1/4	1.6	0.09	0	8.6	8.6	8.6	80	11	2	30BU03CXX
1/4	2.4	0.12	0	7	7	7	80	16	2	30BU05DXX
1/4	3.2	0.25	0	3.5	3.5	3.5	80	16	2	30BU07DXX
1/4	4.4	0.35	0	1.4	1.4	1.4	80	11	2	30BU09CXX

Voltage (V/Hz)	Suffix XX
24/60	TA
120/60 110/50	NY
240/60 220/50	NZ

Three Way - Universal - DC

Body and Seals: Brass and NBR (For other options see page 47)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	General Purpose
			Maximum (M.O.D.P.) bar			Minimum (bar)				
			Air Inert Gas	Water	Light Oil 300SSU					
1/8	1.2	0.06	0	8.6	8.6	8.6	80	9.5	1	30AU021XX
1/8	1.6	0.09	0	4.5	4.5	4.5	80	9.5	1	30AU031XX
1/8	2.4	0.12	0	3.4	3.4	3.4	80	9.5	1	30AU051XX
1/8	3.2	0.21	0	1.4	1.4	1.4	80	9.5	1	30AU071XX
1/4	1.6	0.09	0	5	5	5	80	11.5	2	30BU033XX
1/4	2.4	0.12	0	4	4	4	80	11.5	2	30BU053XX
1/4	3.2	0.25	0	1.8	1.8	1.8	80	11.5	2	30BU073XX
1/4	4.4	0.35	0	0.8	0.8	0.8	80	11.5	2	30BU093XX

Voltage (VDC)	Suffix XX
12	TH
24	TF
120	NV
125	NX

General Purpose Solenoid Valves

Three Way - Normally Closed - AC

Body and Seals: Stainless Steel and NBR (For other options see page 47)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	General Purpose
			Maximum (M.O.D.P.) bar			Minimum (bar)				
			Air Inert Gas	Water	Light Oil 300SSU					
1/8	1.2	0.06	0	14	14	14	80	6	1	31AF02AXX
1/8	1.6	0.09	0	8.6	8.6	8.6	80	6	1	31AF03AXX
1/8	2.4	0.12	0	7	7	7	80	6	1	31AF05AXX
1/8	3.2	0.21	0	2.8	2.8	2.8	80	6	1	31AF07AXX
1/4	1.6	0.09	0	8.6	8.6	8.6	80	6	3	31BF03AXX
1/4	2.4	0.12	0	7.5	7.5	7.5	80	10.2	3	31BF05BXX
1/4	3.2	0.31	0	2.8	2.8	2.8	80	6	3	31BF07AXX

Voltage (V/Hz)	Suffix
24/60	TA
120/60	NY
240/60	NZ
220/50	

Three Way - Normally Closed - DC

Body and Seals: Stainless Steel and NBR (For other options see page 47)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	General Purpose
			Maximum (M.O.D.P.) bar			Minimum (bar)				
			Air Inert Gas	Water	Light Oil 300SSU					
1/8	1.2	0.06	0	14	14	14	80	9.5	1	31AF021XX
1/8	1.6	0.09	0	8.6	8.6	8.6	80	9.5	1	31AF031XX
1/8	2.4	0.12	0	7	7	7	80	9.5	1	31AF051XX
1/8	3.2	0.21	0	2.8	2.8	2.8	80	9.5	1	31AF071XX
1/4	1.6	0.09	0	8.6	8.6	8.6	80	11.5	4	31BF033XX
1/4	2.4	0.12	0	4.5	4.5	4.5	80	11.5	4	31BF053XX
1/2	3.2	0.31	0	2.8	2.8	2.8	80	11.5	4	31BF073XX

Voltage (VDC)	Suffix
12	TH
24	TF
120	NV
125	NX

Three Way - Normally Open - AC

Body and Seals: Stainless Steel and NBR (For other options see page 47)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	General Purpose
			Maximum (M.O.D.P.) bar			Minimum (bar)				
			Air Inert Gas	Water	Light Oil 300SSU					
1/8	1.2	0.06	0	20	20	20	80	10.2	1	31AA02BXX
1/8	1.6	0.09	0	8.6	8.6	8.6	80	6	1	31AA03AXX
1/8	2.4	0.12	0	7	7	7	80	6	1	31AA05AXX
1/8	3.2	0.21	0	2.8	2.8	2.8	80	6	1	31AA07AXX
1/4	1.6	0.09	0	8.6	8.6	8.6	80	6	3	31BA03AXX
1/4	2.4	0.12	0	7.5	7.5	7.5	80	10.2	3	31BA05BXX
1/4	3.2	0.31	0	2.8	2.8	2.8	80	6	3	31BA07AXX

Voltage (V/Hz)	Suffix
24/60	TA
120/60	NY
240/60	NZ
220/50	

General Purpose Solenoid Valves

Three Way - Normally Open - DC

Body and Seals: Stainless Steel and NBR (For other options see page 47)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	General Purpose
			Minimum (bar)	Maximum (M.O.D.P.) bar						
				Air Inert Gas	Water	Light Oil 300SSU				
1/8	1,2	0,06	0	14	14	14	80	9,5	1	31AA021XX
1/8	1,6	0,09	0	8,6	8,6	8,6	80	9,5	1	31AA031XX
1/8	2,4	0,12	0	7	7	7	80	9,5	1	31AA051XX
1/8	3,2	0,21	0	2,8	2,8	2,8	80	9,5	1	31AA071XX
1/4	1,6	0,09	0	8,6	8,6	8,6	80	9,5	3	31BA031XX
1/4	2,4	0,12	0	4,5	4,5	4,5	80	9,5	3	31BA051XX
1/4	3,2	0,31	0	2,8	2,8	2,8	80	9,5	3	31BA071XX

Voltage (VDC)	Suffix XX
12	TH
24	TF
120	NV
125	NX

Three Way - Universal - AC

Body and Seals: Stainless Steel and NBR (For other options see page 47)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	General Purpose
			Minimum (bar)	Maximum (M.O.D.P.) bar						
				Air Inert Gas	Water	Light Oil 300SSU				
1/8	1,2	0,06	0	12	12	12	80	10,2	1	31AU02BXX
1/8	1,6	0,09	0	7	7	7	80	10,2	1	31AU03BXX
1/8	2,4	0,12	0	3,5	3,5	3,5	80	6	1	31AU05AXX
1/8	3,2	0,21	0	2	2	2	80	10,2	1	31AU07BXX
1/4	1,6	0,09	0	7	7	7	80	10,2	3	31BU03BXX
1/4	2,4	0,12	0	2,8	2,8	2,8	80	6	3	31BU05AXX
1/4	3,2	0,31	0	2	2	2	80	10,2	3	31BU07BXX

Voltage (V/Hz)	Suffix XX
24/60	TA
120/60	NY
110/50	
240/60	NZ
220/50	

Three Way - Universal - DC

Body and Seals: Stainless Steel and NBR (For other options see page 47)

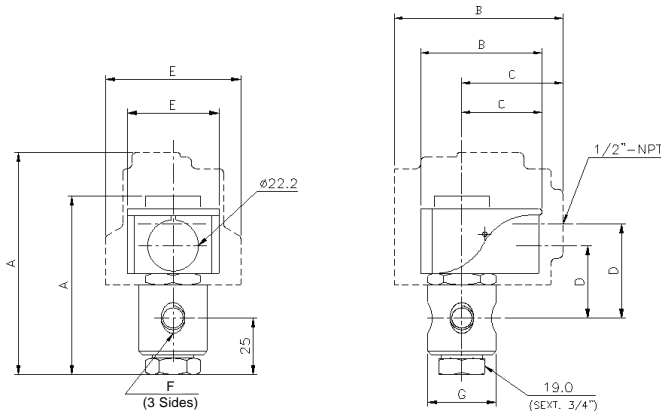
Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	General Purpose
			Minimum (bar)	Maximum (M.O.D.P.) bar						
				Air Inert Gas	Water	Light Oil 300SSU				
1/8	1,2	0,06	0	8,6	8,6	8,6	80	9,5	1	31AU021XX
1/8	1,6	0,09	0	4,5	4,5	4,5	80	9,5	1	31AU031XX
1/8	2,4	0,12	0	3,5	3,5	3,5	80	9,5	1	31AU051XX
1/8	3,2	0,21	0	1,4	1,4	1,4	80	9,5	1	31AU071XX
1/4	1,6	0,09	0	4,5	4,5	4,5	80	9,5	3	31BU031XX
1/4	2,4	0,12	0	2,8	2,8	2,8	80	9,5	3	31BU051XX
1/4	3,2	0,31	0	1,4	1,4	1,4	80	9,5	3	31BU071XX

Voltage (VDC)	Suffix XX
12	TH
24	TF
120	NV
125	NX

General Purpose Solenoid Valves

Dimensions

Drawings 1, 3 and 4



Drawing 2

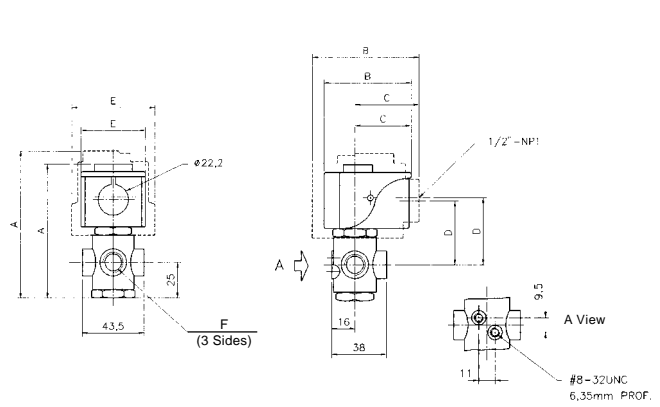


Table for drawings 1 and 3

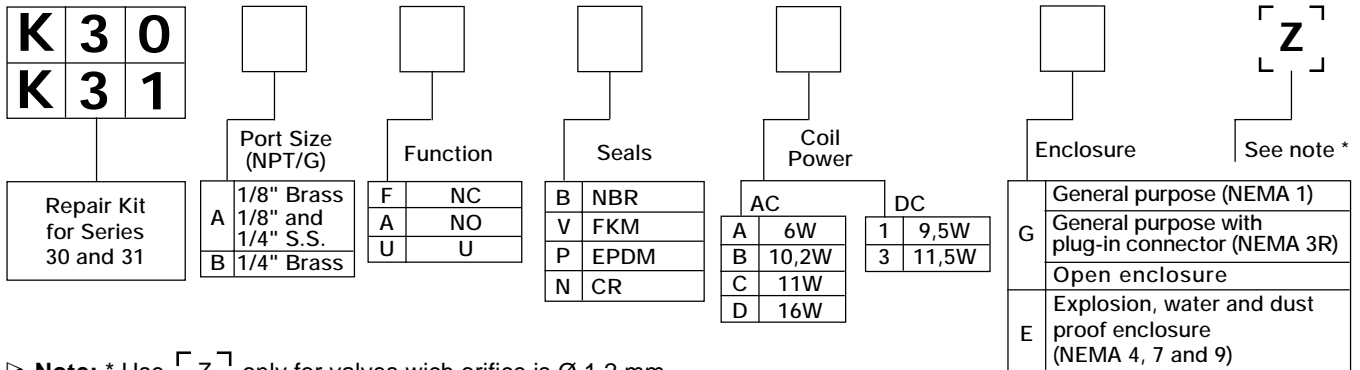
Valves: NC, NO and U 1/8" (Brass/S.S.) 1/2" (S.S.) NPT/G enclosure	A	B	C	D	E	F	G	G
							(Brass Inox 1/8")	(Inox 1/4")
general purpose	78	51.5	33.5	32	40	1/8", 1/4"	Ø30	Ø36.3
open enclosure	78	37	-	-	39	1/8", 1/4"	Ø30	Ø36.3
explosion, water and dust proof enclosure	97	74	44	41.5	Ø59	1/8", 1/4"	Ø30	Ø36.3

Table for drawings 2 and 4

Valves: NC, NO and U brass 1/4" NPT/G enclosure	A	B	C	D	E	F	G
	general purpose	94	61	39.5	43.5	47	1/4"
open enclosure	94	43	-	-	45	1/4"	Ø43.5
explosion, water and dust proof enclosure	101	74	44	45.5	Ø59	1/4"	Ø43.5

► **Note:** Explosion, water and dust proof enclosure shown in dashed line.

How to Order Repair Kits



► **Note:** * Use [Z] only for valves wich orifice is Ø 1,2 mm.

General Purpose Solenoid Valves

Series 33



3 Way - Direct Operated
Normally Closed
1/8" and 1/4" NPT/G
Air, Gas, Water

Standard Materials

Valve Body: Polyphenylene Sulfide (PPS)
Seals: Buna-N (NBR)
Plunger and Stop: 430 F S.S.
Springs: 302 S.S.
Coil: Class "F"

Options (Add the suffixes after the voltage)

- "G" thread, use suffix "B".

Installation

- Valves can be mounted in any position without jeopardising their operation.

Three Way - Normally Closed - AC Body and Seals: PPS and NBR (For other options see above)

Specifications										Part Number			
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure			Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	Plug-in Connector (IP 65)		Voltage (V/Hz)	Suffix XX	
			Maximum (M.O.D.P.) bar										Minimum (bar)
			Air Inert Gas	Water									
1/8	1.1	0.04	0	9.0	9.0	80	**	1	33AF30KXX	12/50/60	EJ		
1/4	1.1	0.04	0	9.0	9.0	80	**	1	33BF30KXX	110/50/60	EL		
										220/50/60	EM		

** Coil power: 10 W for 12/24 VAC and 8 W for 110/220 VAC.

Three Way - Normally Closed - DC Body and Seals: PPS and NBR (For other options see above)

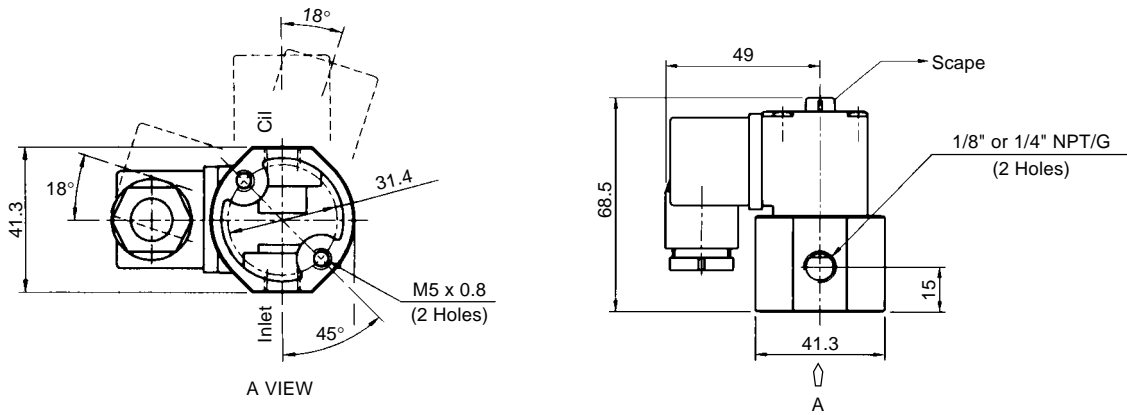
Specifications										Part Number			
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure			Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	Plug-in Connector (IP 65)		Voltage (VCC)	Suffix XX	
			Maximum (M.O.D.P.) bar										Minimum (bar)
			Air Inert Gas	Water									
1/8	1.1	0.04	0	9.0	9.0	80	**	1	33AF30KXX	12	EJ		
1/4	1.1	0.04	0	9.0	9.0	80	**	1	33BF30KXX	24	EK		
										110	EL		
										220	EM		

** Coil power: 10 W for 12/24 VDC and 8 W for 110/220 VDC.

General Purpose Solenoid Valves

Dimension

Drawing 1



How to Order Repair Kits

K	3	3
----------	----------	----------

Repair Kit
for Series 33

--

Port Size
(NPT/G)

K	1/8"
	1/4"

--

Function

F	NC
---	----

Series 16

5 Way - One or Two Solenoids
1/4", 3/8" and 1/2" NPT/ G
Air, Gas, Water and Light Oil



Standard Materials

Valve Body:	Brass
Seals:	Buna-N (NBR)
Plunger and Stop:	430 F S.S.
Springs:	302 S.S.
Shading Coil:	Copper
Coil:	Class "F"

Options (Add the suffixes after the voltage)

Seals

- Viton (FKM), use suffix "V".
- Ethylene Propylene (EPDM), use suffix "P".
- Neoprene (CR), use suffix "N".

Enclosure

- Explosion proof (Nema 7 and 9), use suffix "X".
- Water proof (Nema 4) use suffix "Y".
- Plug-in connector with LED and surge suppressor, modify the seventh digit as follow:
AC - from "Z" to "J"
DC - from "0" to "4"

Valve Body

- 304 S.S., use suffix "3".

Others

- "G" thread, use suffix "B".
- Manual override, use suffix "M".
- Coil class "H", use suffix "H".
- "G" thread + manual override, use suffix "Q".
- Coil class "H" + manual override, use suffix "F".
- "G" thread + coil class "H", use suffix "R".
- "G" thread + coil class "H" + manual override, use suffix "D".

Installation

- These valves can be mounted in any position without jeopardising their operation.

General Purpose Solenoid Valves

Five Way - One or Two Solenoids - AC

Body and Seals: Brass and NBR (For other options see page 55)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure			Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	Plug-in Connector (IP 65)	
			Maximum (M.O.D.P.) bar							
			Minimum (bar)	Air Inert Gas	Water					
1/4	6	0.94	1.4	10	10	9	80	8	1	16BS12ZXX
3/8	8	1.13	1.4	10	10	9	80	8	2	16CS14ZXX
1/2	10	2.24	1.4	10	10	9	80	8	3	16DS16ZXX

Voltage (V/Hz)	Suffix XX
24/60	TA
110/60	S
220/60	SA

► **Note:** For valves with two solenoids, modify the fourth digit from (S) to (D).

Five Way - One or Two Solenoids - DC

Body and Seals: Brass and NBR (For other options see page 55)

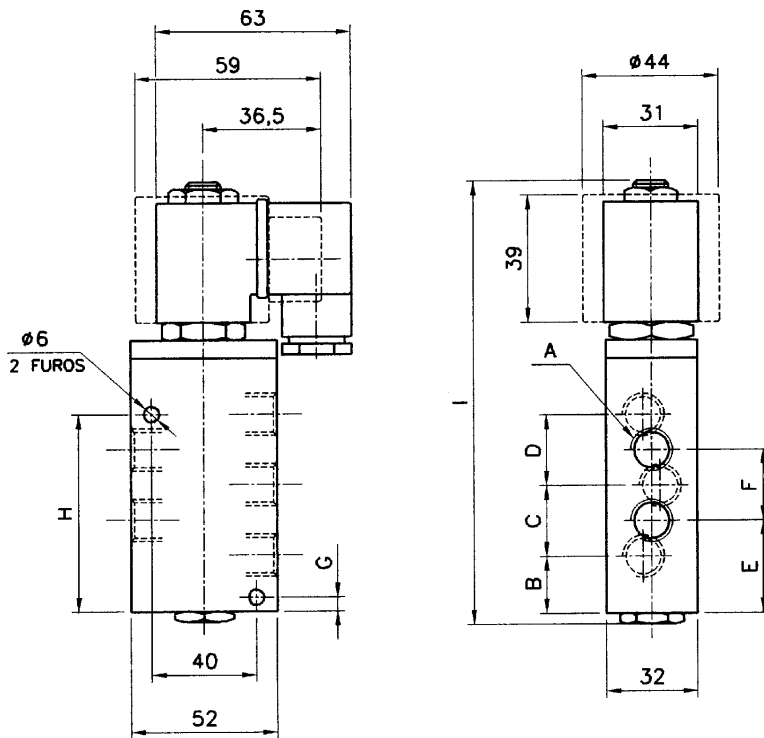
Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure			Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	Plug-in Connector (IP 65)	
			Maximum (M.O.D.P.) bar							
			Minimum (bar)	Air Inert Gas	Water					
1/4	6	0.94	1.4	9	9	8	80	10	1	16BS120XX
3/8	8	1.13	1.4	9	9	8	80	10	2	16CS140XX
1/2	10	2.24	1.4	9	9	8	80	10	3	16DS160XX

Voltage (VDC)	Suffix XX
12	TH
24	TF
120	NV
125	NX

► **Note:** For valves with two solenoids, modify the fourth digit from (S) to (D).

Dimensions

Drawings 1, 2 and 3 (One solenoid)

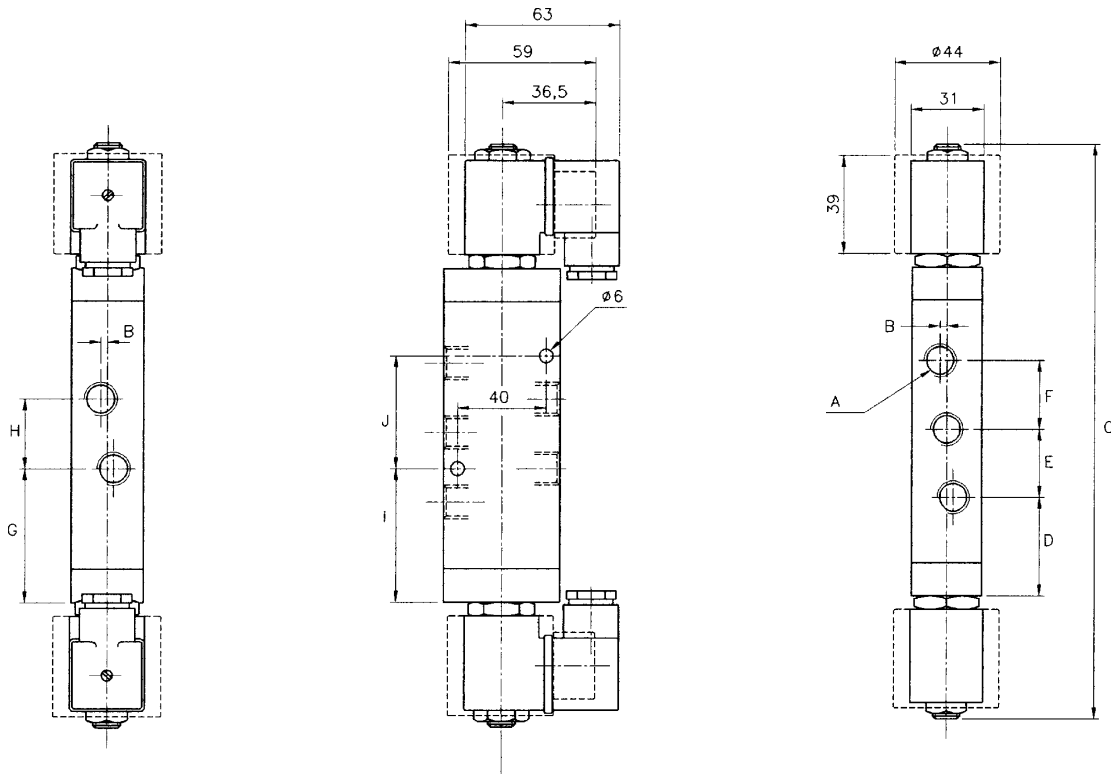


	1/4" and 3/8" NPT/G	1/2" NPT/G
A		
B	19	17,5
C	23,5	36
D	24	38
E	31	35
F	23,5	38
G	5	35
H	69,5	91
I	161	198

► **Note:** Explosion, water and dust proof enclosure shown in dashed line.

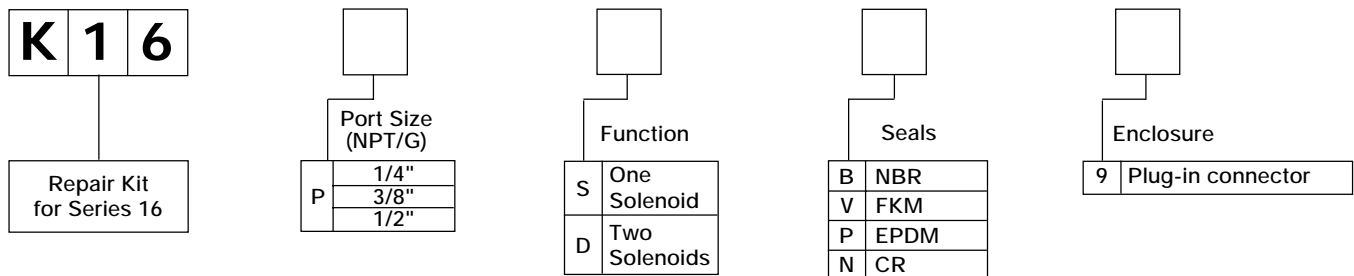
General Purpose Solenoid Valves

Drawings 1, 2 and 3 (Two solenoids)



A	B	C	D	E	F	G	H	I	J					
1/4"	3	*	40.5	28	28	54.5	28	54.5	44.4					
3/8"	3	*	40.5	28	28	54.5	28	54.5	44.5					
1/2"	3	*	43	30	30	58	30	58	48					
* Dimension C														
Water proof enclosure					Plug-in connector or explosion proof enclosures									
1/4"					280					237				
3/8"					280					237				
1/2"					289					246				

How to Order Repair Kits



► **Note:** The enclosure does not interfere with the repair kit part number.

General Purpose Solenoid Valves



Series 47

5 Way - One Solenoid for Sub-base

1/4" NPT/G

Air, Gas, Water and Light Oil

Standard Materials

Valve Body:	Brass
Seals:	Buna-N (NBR)
Plunger and Stop:	430 F S.S.
Springs:	302 S.S.
Shading Coil:	Copper
Coil:	Class "F"

Options (Add the suffixes after the voltage)

Seals

- Viton (FKM), use suffix "V".
 - Ethylene Propylene (EPDM), use suffix "P".
 - Neoprene (CR), use suffix "N".
-

Enclosure

- Explosion proof (Nema 7 and 9), use suffix "X".
-

Valve Body

- 304 S.S., use suffix "3".
-

Others

- "G" thread, use suffix "B".
 - Manual override, use suffix "M".
 - "G" thread + manual override, use suffix "Q".
 - Coil class "H", use suffix "H" (Available only for explosion proof enclosures).
 - If a plug-in connector with LED and surge suppressor is necessary, modify the seventh digit as following:
 - AC - from "Z" to "J"
 - DC - from "0" to "4"
-

Installation

- Valves may be mounted in any position without jeopardising their operation.
- For gas, water and light oil, escape must be piped.

General Purpose Solenoid Valves

Five Way - For Sub-base - AC

Body and Seals: Brass and NBR (For other options see page 58)

Specifications										Part Number	
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	Plug-in Connector (IP 65)	
			Maximum (M.O.D.P.) bar								
			Minimum (bar)	Air Inert Gas	Water	Light Oil 300SSU					
1/4	4	0.59	1.4	10	10	9	80	8	1	47BM08ZXX	

Voltage (V/Hz)	Suffix
110/60	S
220/60	SA

Five Way - For Sub-base - DC

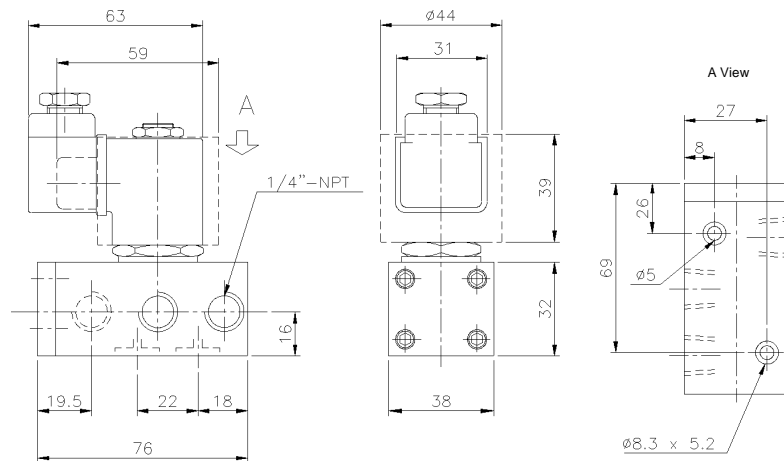
Body and Seals: Brass and NBR (For other options see page 58)

Specifications										Part Number	
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	Plug-in Connector (IP 65)	
			Maximum (M.O.D.P.) bar								
			Minimum (bar)	Air Inert Gas	Water	Light Oil 300SSU					
1/4	4	0.59	1.4	9	9	8	80	10	1	47BM080XX	

Voltage (VDC)	Suffix
12	TH
24	TF

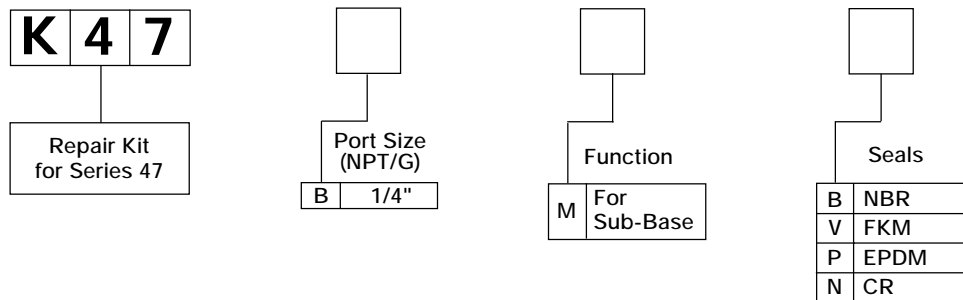
Dimension

Drawing 1



▷ **Note:** Explosion, water and dust proof enclosures shown in dashed line.

How to Order Repair Kits



▷ **Note:** Either the coil power or the enclosure does not interfere with repair kit part number.

General Purpose Solenoid Valves



Series 90

2 Way - Diaphragm Pilot Operated with Pneumatic Command

Normally Closed

3/8", 1/2" and 3/4" NPT/G

Viscous and Colloidal Media

Standard Materials

Valve Body:	Brass
Seals:	Buna-N (NBR)
Plunger and Stop:	430 F S.S.
Springs:	302 S.S.
Shading Coil:	Copper
Coil:	Class "F"

Options (Add the suffixes after the voltage)

Seals

- Viton (FKM), use suffix "V".
 - Ethylene Propylene (EPDM), use suffix "P".
 - Neoprene (CR), use suffix "N".
-

Enclosure

- Explosion proof (Nema 7 and 9), use suffix "X".
-

Others

- "G" thread, use suffix "B".
 - Degrease wash, use suffix "I".
-

Installation

- Valves can be mounted in position without jeopardising their operation.
-

Pneumatic Command

- Pilot diaphragm of the main valve: Hypalon
-

Oxygen

- Use suffix "I" and seals in neoprene (CR).
-

General Purpose Solenoid Valves

Two Way - Normally Closed - AC

Body and Seals: Brass and NBR (For other options see page 60)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	General Purpose
			Main Line		Main Line					
			Minimum (bar)	Maximum (M.O.D.P.) bar	Minimum (bar)	Maximum (bar)				
3/8	19	4	1.0	6.0	* 1,0	6.5	80	8	1	90CF20ZXX
1/2	19	5	1.0	6.0	* 1,0	6.5	80	8	1	90DF20ZXX
3/4	19	6	1.0	6.0	* 1,0	6.5	80	8	1	90EF20ZXX

Voltage (V/Hz)	Suffix XX
24/60	TA
110/60	S
220/60	SA

- **Notes:** 1) The pilot valve sizes 1/8" NPT.
 * 2) The pressure in the pilot must be at least equal to the pressure of the main line.
 3) If LED and surge supressor are necessary, modify the seventh digit from "Z" to "J".

Two Way - Normally Closed - DC

Body and Seals: Brass and NBR (For other options see page 60)

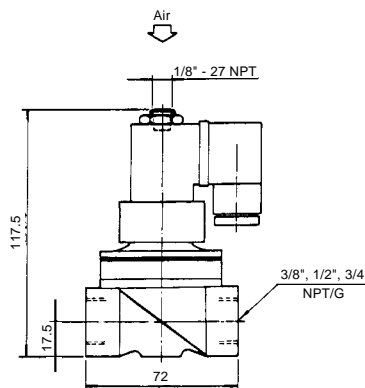
Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	General Purpose
			Main Line		Main Line					
			Minimum (bar)	Maximum (M.O.D.P.) bar	Minimum (bar)	Maximum (bar)				
3/8	19	4	1.0	6.0	* 1.0	6.5	80	10	1	90CF200XX
1/2	19	5	1.0	6.0	* 1.0	6.5	80	10	1	90DF200XX
3/4	19	6	1.0	6.0	* 1.0	6.5	80	10	1	90EF200XX

Voltage (VDC)	Suffix XX
12	TH
24	TF

- **Notes:** 1) The pilot valve sizes 1/8" NPT.
 * 2) The pressure in the pilot must be at least equal to the pressure of the main line.
 3) If LED and surge supressor are necessary, modify the seventh digit from "Z" to "J".

Dimension

Drawing 1



How to Order Repair Kits

K 9 0

Repair Kit for Series 90

□

Port Size (NPT/G)

Q 3/8", 1/2" and 3/4"

□

Function

F NC

□

Seals

B	NBR
V	FKM
P	EPDM
N	CR

General Purpose Solenoid Valves



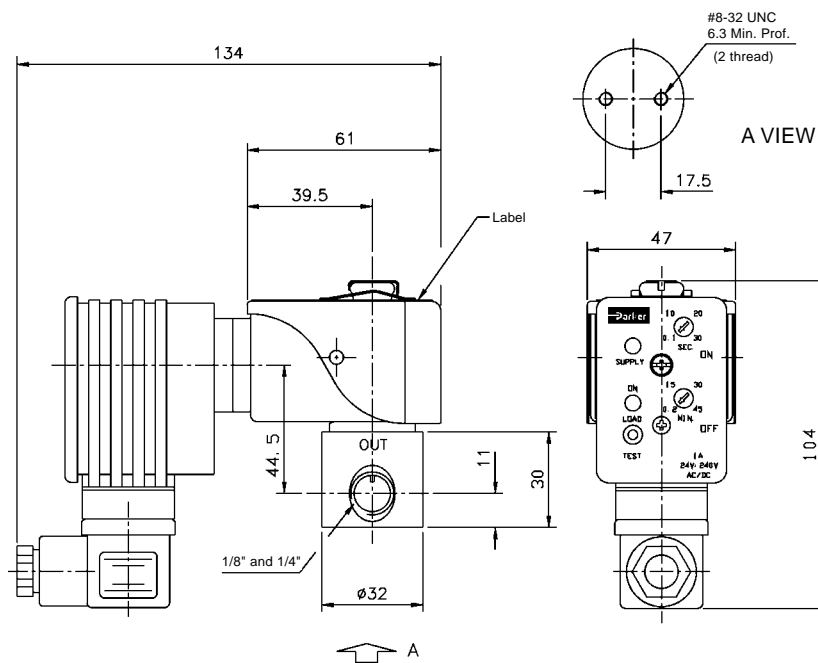
Electronic Drain

Technical Characteristics

Port Size:	1/8" and 1/4" NPT/G
Frequency:	0,2 to 45 minutes
Period:	0,1 to 30 seconds
Voltage:	24V/60Hz, 120/60Hz - 110V/50Hz 240V/60Hz-220V/50Hz
Ambient Temperature:	-10°C (14°F) to 60°C (140°F)
Maximum Current:	1A
Degree of Protection:	IP65
Electrical Connectors:	DIN 43650
Differential Pressure:	Minimum - Zero Maximum - 10 bar
Condensed Maximum Temperature:	80°C (176°F)

Dimensions

Drawing 1



How to Order The Electronic Drain

D E

	Port Size
A	1/8"
B	1/4"

	Thread
N	NPT
B	BSP

	Voltage
TA	24/60 Hz
NY	120/60 Hz 110/50 Hz
NZ	240/60 Hz 220/50 Hz

Notes:

- Repair Kit (Only for the solenoid valve) K20BFBCG
- Coil

24V/60 Hz	reference BD06-011-C01C
120V/60 Hz 110V/50 Hz	reference BD06-011-C05C
240V/60 Hz 220V/50 Hz	reference BD06-011-C15C

 For other voltage, please consult our office.
- There is not repair kit for the timer.
- The solenoid valve may be substituted, so that other Cv, voltage, port sizes and seals are also available. Please consult our office.

General Purpose Solenoid Valves

Series 56



2 Way - 1ST Stage (Direct Operated)
 2ND Stage (Diaphragm Pilot Operated)
 Normally Closed - Dual Flow
 3/8", 1/2" and 3/4" NPT/G
 Air, Gas, Water and Light Oil

Standard Materials

Valve Body: Brass
 Seals: Viton (FKM)
 Plunger and Stop: 430 F.S.S.
 Springs: 302 S.S.
 Shading Coil: Copper
 Coil: Class "F"

Options (Add the suffixes after the voltage)

- "G" thread, use suffix "B".
- Valves can be mounted in any position without jeopardising their operation.

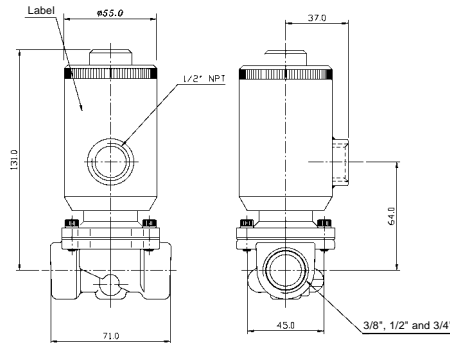
Two Way - Normally Closed-AC

Body and Seals: Forged Brass and FKM (For other options see above)

Specifications													Part Number		
Port Size (NPT)	Orifice Diameter (mm)		Cv		Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power AC (WATT)		Drawing Nº	General Purpose	Voltage (V/Hz)	Suffix XX
	1 ST Stage	2 ND Stage	1 ST Stage	2 ND Stage	Minimum (bar)	Air Inert Gas	Water	Light Oil 300SSU		1 ST Stage	2 ND Stage				
	3/8	2.1	19	0.13	4	0.3	10	10		10	80				
1/2	2.1	19	0.13	5	0.3	10	10	10	80	8	8	1	56DF20FXX	220/50	
3/4	2.1	19	0.13	6	0.3	10	10	10	80	8	8	1	56EF20FXX		

Dimensions

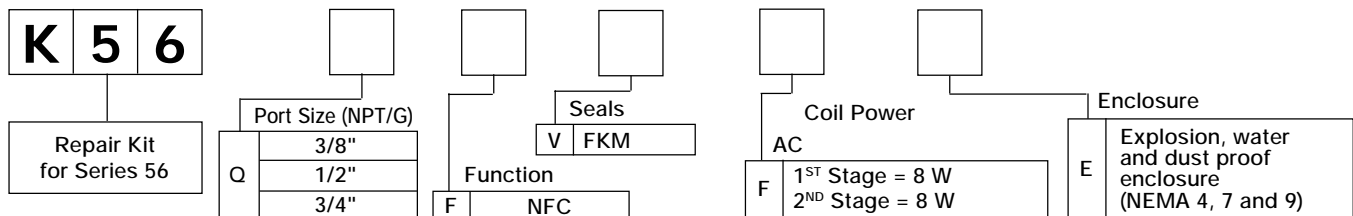
Drawing 1



Notes:

Valve must be mounted in the horizontal position with the solenoid above the body.

How to Order Repair Kits



How to Order Coils

1ST Stage - B56F-NZ (Wire colours: Gray and White).
 2ND Stage - B56FANZ (Wire colours: White and Yellow).

General Purpose Solenoid Valves

Series 17 and 18



Explosion Proof



General Purpose

3 Way - Series 17
 5 Way - Series 18
 Manual Reset
 Normally Closed and Normally Open
 1/4" and 3/8" NPT/G
 Air

Standard Materials

Valve Body: Aluminium
 Seals: Buna-N (NBR)
 Plunger and Stop: 430 F S.S.
 Springs: 302 S.S.
 Shading Coil: Copper
 Coil: Class "F"

Options (Add the suffixes after the voltage)

Enclosure

- Explosion proof (Nema 7 and 9), use suffix "X".
- Plug-in connector with LED and surge suppressor, modify the seventh digit as follow:
 AC - from "Z" to "J"
 DC - from "0" to "4"

Others

- "G" thread, use suffix "B".
- Coil class "H", use suffix "H" (Available only for explosion proof enclosure).
- "G" thread + coil class "H", use suffix "R".

Installation

- Valves can be mounted in any position without jeopardising their operation.

Manual Override

- If the reset button is pushed without energizing the coil, this button becomes a manual override which returns immediately after releasing it.

Series 17

Three Way - Normally Closed - AC

Body and Seals: Aluminium and NBR (For other options see above)

Specifications								Part Number	
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure		Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing N°	Electronically Locked	
			Minimum (bar)	Maximum (M.O.D.P.) bar				Plug-in Connector (IP 65)	
				Air					
1/4	6	1.1	2.5	10	80	8	1	17BF12ZXX	
3/8	8	1.1	2.5	10	80	8	1	17CF14ZXX	

Voltage (V/Hz)	Suffix XX
24/60	TA
110/60	S
220/60	SA

General Purpose Solenoid Valves

Three Way - Normally Closed - DC

Body and Seals: Aluminium and NBR (For other options see page 64)

Specifications									Part Number	
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure		Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	Electronically Locked	Plug-in Connector (IP 65)	
			Minimum (bar)	Maximum (M.O.D.P.) bar				Electronically Locked		
				Air						Electronically Locked
1/4	6	1.1	2.5	10	80	10	1	17BF120XX		
3/8	8	1.1	2.5	10	80	10	1	17CF140XX		

Voltage (VDC)	Suffix XX
12	TH
24	TF
120	NV
125	NX

Three Way - Normally Open - AC

Body and Seals: Aluminium and NBR (For other options see page 64)

Specifications									Part Number	
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure		Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	Electronically Locked	Plug-in Connector (IP 65)	
			Minimum (bar)	Maximum (M.O.D.P.) bar				Electronically Locked		
				Air						Electronically Locked
1/4	6	1.1	2.5	10	80	8	1	17BA12ZXX		
3/8	8	1.1	2.5	10	80	8	1	17CA14ZXX		

Voltage (V/Hz)	Suffix XX
24/60	TA
110/60	S
220/60	SA

Three Way - Normally Open - DC

Body and Seals: Aluminium and NBR (For other options see page 64)

Specifications									Part Number	
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure		Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	Electronically Locked	Plug-in Connector (IP 65)	
			Minimum (bar)	Maximum (M.O.D.P.) bar				Electronically Locked		
				Air						Electronically Locked
1/4	6	1.1	2.5	10	80	10	1	17BA120XX		
3/8	8	1.1	2.5	10	80	10	1	17CA140XX		

Voltage (VDC)	Suffix XX
12	TH
24	TF
120	NV
125	NX

Series 18

Five Way - One Solenoid - AC

Body and Seals: Aluminium and NBR (For other options see page 64)

Specifications									Part Number	
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure		Media Maximum Temperature (°C)	Coil Power AC (WATT)	Drawing Nº	Electronically Locked	Plug-in Connector (IP 65)	
			Minimum (bar)	Maximum (M.O.D.P.) bar				Electronically Locked		
				Air						Electronically Locked
1/4	6	1.1	2.5	10	80	8	1	18BS12ZXX		
3/8	8	1.1	2.5	10	80	8	1	18CS14ZXX		

Voltage (V/Hz)	Suffix XX
24/60	TA
110/60	S
220/60	SA

Five Way - One Solenoid - DC

Body and Seals: Aluminium and NBR (For other options see page 64)

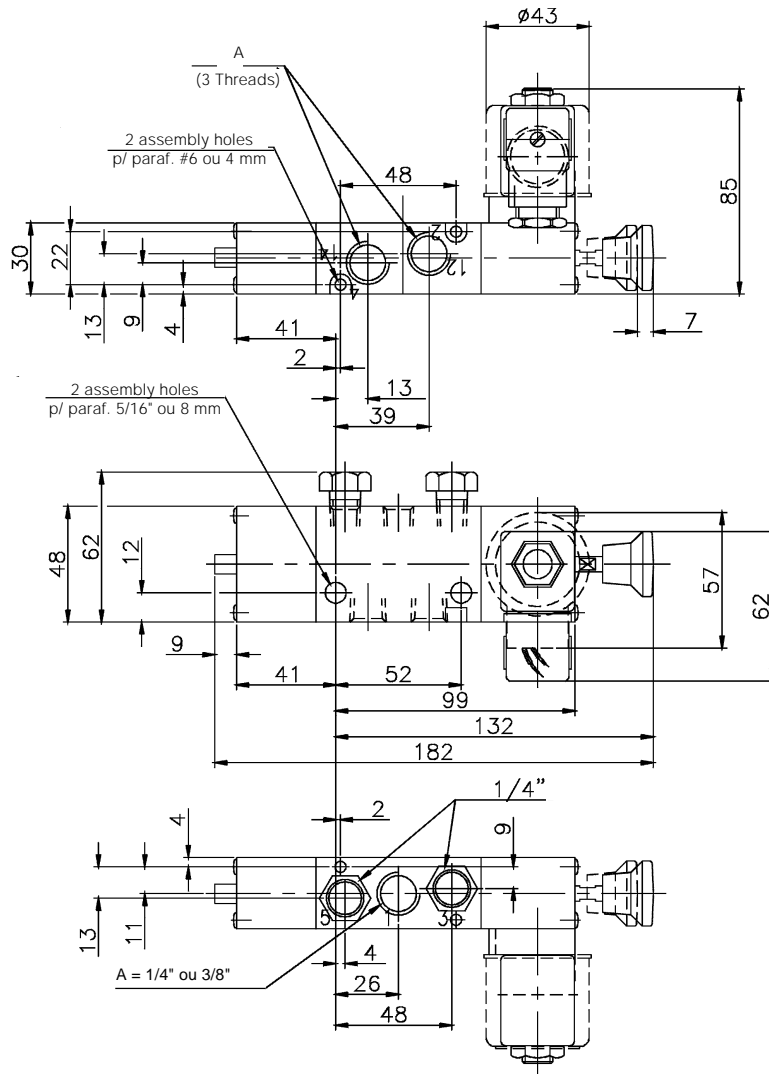
Specifications									Part Number	
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure		Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	Electronically Locked	Plug-in Connector (IP 65)	
			Minimum (bar)	Maximum (M.O.D.P.) bar				Electronically Locked		
				Air						Electronically Locked
1/4	6	1.1	2.5	10	80	10	1	18BS120XX		
3/8	8	1.1	2.5	10	80	10	1	18CS140XX		

Voltage (VDC)	Suffix XX
12	TH
24	TF
120	NV
125	NX

General Purpose Solenoid Valves

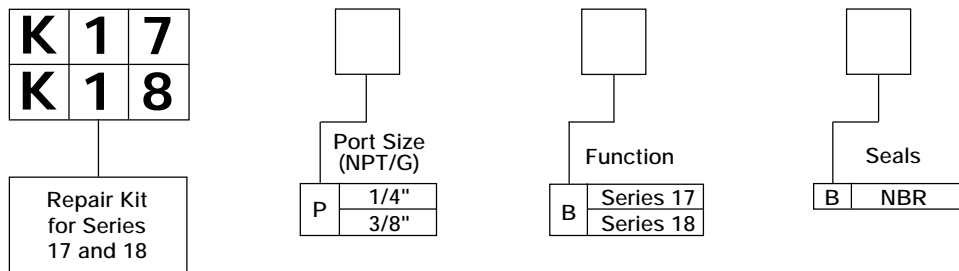
Dimensions

Drawing 1



▷ **Note:** Explosion, water and dust proof enclosure shown in dashed line.

How to Order Repair Kits



▷ **Obs:** The enclosure do not interfere with the repair Kit Part Number.

General Purpose Solenoid Valves

Series 37



3 Way - Intrinsically Safe
 Normally Closed and Normally Open
 1/4", 3/8" and 1/2" NPT/G
 Air, Gas, Water and Light Oil

Standard Materials

Valve Body: Brass
 Seals: Buna-N (NBR)
 Plunger and Stop: 430 F S.S.
 Springs: 302 S.S.
 Shading Coil: Copper
 Coil: Class "H", Nema 4 and 4x, Group A-G Div. 1 and 2

Options (Add the suffixes after the voltage)

Valve Body

- 304 S.S., use suffix "3".

Others

- "G" thread, use suffix "B".

Installation

- Valves can be mounted in any position without jeopardising their operation.

Current Operation

- 33 mA (Through the barrier).

Coil Resistance

- 370 ohms.

Electrolyte Nickel Wash

- Consult factory.

Important

- Under the solenoid assembly there is a screw which controls the plungers course, this screw is factory set up, and it must not be altered because it may jeopardise the valve operation.

Three Way - Normally Closed - DC Body and Seals: Brass and NBR (For other options see above)

Specifications										Part Number	
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure			Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	General Purpose		
			Minimum (bar)	Maximum (M.O.D.P.) bar							
				Air Inert Gas	Water						Light Oil 300SSU
1/4	6	0.94	1.4	9	9	8	80	0.4	1	37BF126XX	
3/8	8	1.13	1.4	9	9	8	80	0.4	1	37CF146XX	
1/2	10	2.24	1.4	9	9	8	80	0.4	1	37DF166XX	

Voltage (VDC)	Suffix XX
24	TF

General Purpose Solenoid Valves

Three Way - Normally Open - DC

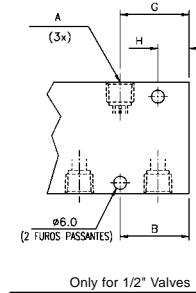
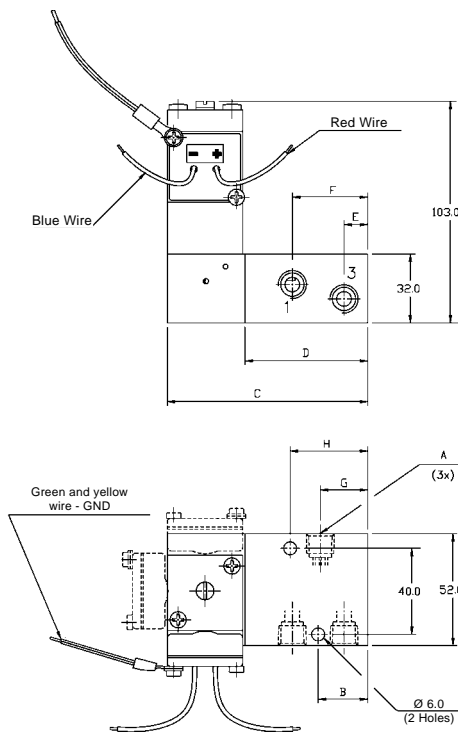
Body and Seals: Brass and NBR (For other options see page 67)

Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure				Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	General Purpose
			Maximum (M.O.D.P.) bar							
			Minimum (bar)	Air Inert Gas	Water	Light Oil 300SSU				
1/4	6	0.94	1.4	9	9	8	80	0.4	1	37BA126XX
3/8	8	1.13	1.4	9	9	8	80	0.4	1	37CA146XX
1/2	10	2.24	1.4	9	9	8	80	0.4	1	37DA166XX

Voltage (VDC)	Suffix XX
24	TF

Dimensions

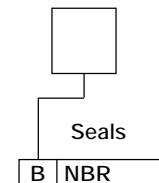
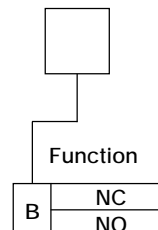
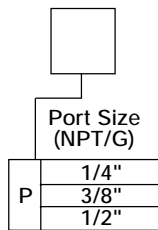
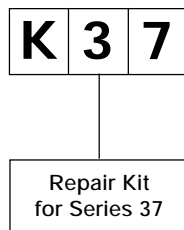
Drawing 1



Only for 1/2" Valves

A	B	C	D	E	F	G	H
1/4" or 3/8" NPT/G	23	93	57	11	35	22	36
1/2" NPT/G	32	121	85	14,5	51	32	14,5

How to Order Repair Kits



► **Note:** The coils can be bought only with complete solenoid assembly. Reference 37-3001.

General Purpose Solenoid Valves

Series 38



5 Way - Intrinsically Safe
 One Solenoid
 1/4", 3/8" and 1/2" NPT/G
 Air, Gas, Water and Light Oil

Standard Materials

Valve Body: Brass
 Seals: Buna-N (NBR)
 Plunger and Stop: 430 F S.S.
 Springs: 302 S.S.
 Shading Coil: Copper
 Coil: Class "H", Nema 4 and 4x, Group A-G Div. 1 and 2

Options (Add the suffixes after the voltage)

Valve Body

- 304 S.S., use suffix "3".

Others

- "G" thread, use suffix "B".

Installation

- The valves can be mounted in any position without jeopardising their operation.

Current Operation

- 33 mA (Through the barrier).

Coil Resistance

- 370 ohms.

Electrolyte Nickel Wash

- Consult factory.

Important

- Under the solenoid assembly there is a screw which controls the plungers course, this screw is factory set up, and it must not be altered because it may jeopardise the valve operation.

Five Way - One Solenoid - DC

Body and Seals: Brass and NBR (For other options see above)

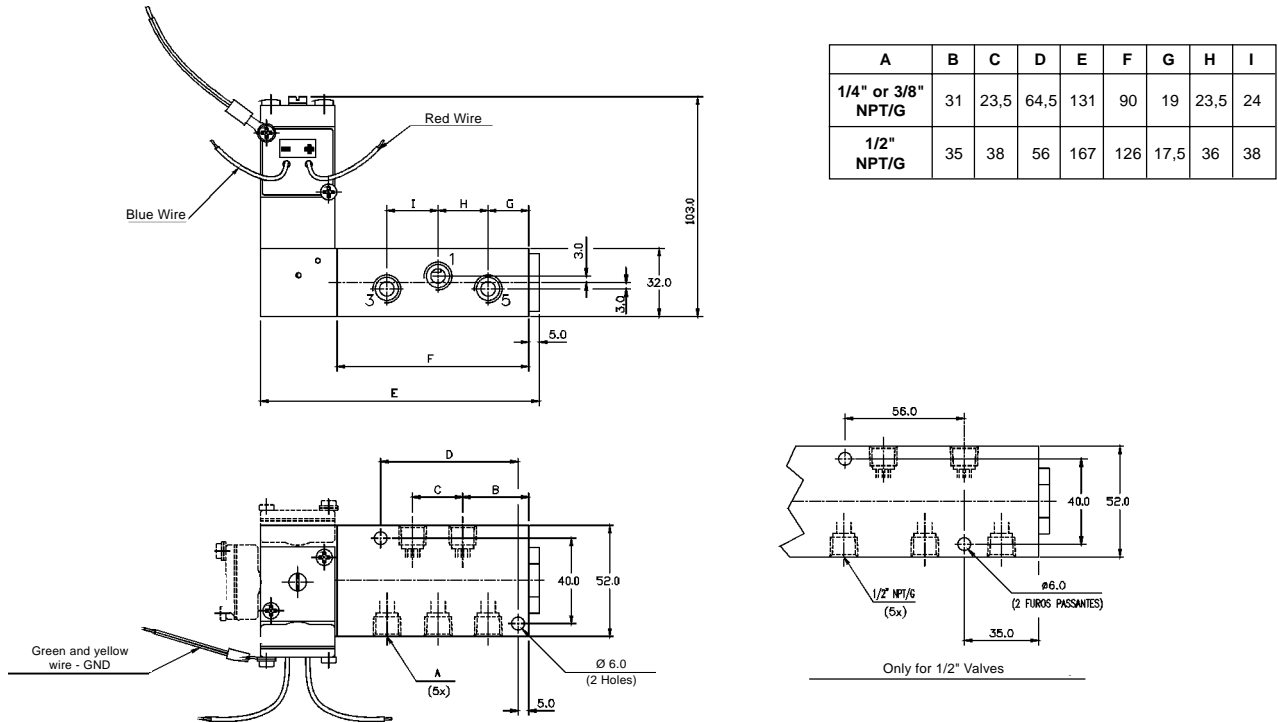
Specifications										Part Number
Port Size (NPT)	Orifice Diameter (mm)	Cv	Operating Differential Pressure			Media Maximum Temperature (°C)	Coil Power DC (WATT)	Drawing Nº	General Purpose	
			Maximum (M.O.D.P.) bar							
			Minimum (bar)	Air Inert Gas	Water					
1/4	6	0.94	1.4	9	9	8	80	0.4	1	38BS126XX
3/8	8	1.13	1.4	9	9	8	80	0.4	1	38CS146XX
1/2	10	2.24	1.4	9	9	8	80	0.4	1	38DS166XX

Voltage (VDC)	Suffix XX
24	TF

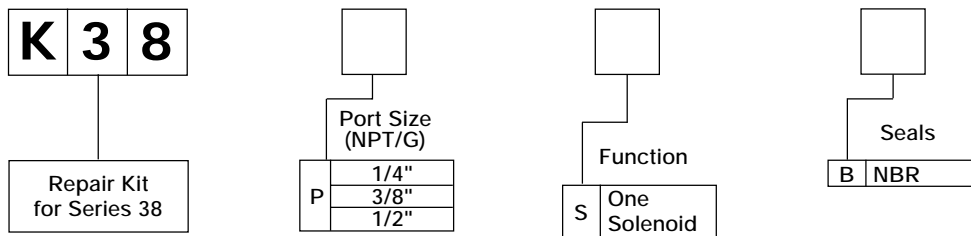
General Purpose Solenoid Valves

Dimensions

Drawing 1



How to Order Repair Kits



► **Note:** The coils can be bought only with complete solenoid assembly. Reference 37-3001.

Parker Hannifin



Climate & Industrial
Controls

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