

# 277 Series Valves



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**RANKIN**   
COMPONENTS THAT AUTOMATE

## DESCRIPTION

Solenoid valve 2 way normally open in stainless steel AISI 316 with servo-assisted diaphragm

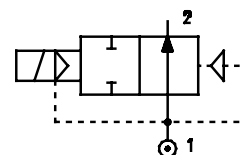
## CONSTRUCTION

Body and cover	AISI 316
Armature tube	AISI 303
Plunger and core	AISI 430FR
Springs	AISI 302
Seal material	NBR - FPM - EPDM



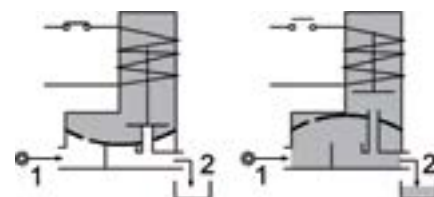
## FEATURES

- Minimum differential pressure 2.2psi
- Maximum fluid viscosity 25cSt (mm<sup>2</sup>/s)
- Ambient temperature: from +14°F to +176°F according to the coil
- Preferred mounting position with vertical coil above



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- OPTIONS:**
- Series 7 explosion proof coil according to
    - ATEX II 2G Ex mb IIC T6, T5, T4 Gb
    - II 2D Ex mb IIIC T85°C, T100°C, T135°C Db
    - similar to NEC 505 Div.1 Class II IIC T6
  - Version with slow closing diaphragm
  - Version for use with oxygen
  - Silver shading ring



CODE	Port Size	Orifice Size		Flow Factor Cv	Operating Pressure Differential (M.O.P.D.) ③						Nominal power			Coil		Seal	Temp. range
					Min		Max				AC		DC	Series	Width		
					(psi)	(bar)	(psi)	(bar)	(psi)	(bar)	Inrush	Holding					
① ②	NPT	(in)	(mm)	(gpm)	(psi)	(bar)	AC (psi)	(bar)	DC ④ (psi)	(bar)							
E277CN...12///...	3/8	0.472	12	2.54	2.2	0.15	217	15	217	15	12	8	6.5	3	22	NBR=B	+14 +194
E277DN...12///...	1/2	0.472	12	2.89	2.2	0.15	217	15	217	15							
E277EN...18///...	3/4	0.709	18	6.36	2.2	0.15	188	13	188	13							
E277FN...25///...	1	0.984	25	11.79	2.2	0.15	145	10	145	10	20	15	5	4	30	EPDM=E	+14 +284
E277CN...12///...	3/8	0.472	12	2.54	2.2	0.15	217	15	217	15							
E277DN...12///...	1/2	0.472	12	2.89	2.2	0.15	217	15	217	15							
E277EN...18///...	3/4	0.709	18	6.36	2.2	0.15	188	13	188	13							
E277FN...25///...	1	0.984	25	11.79	2.2	0.15	145	10	145	10						FPM=V	+14 +284

- ① Seal Ordination example: E277DNB12///U451 NBR seal, connection 1/2 NPT
- ② Coil Coil 24V DC certified cULus and marked CE
- ③ Safe Working Pressure:360 psi. Is the line or system pressure to which the valve may be subjected without being damaged. The maximum allowable pressure PS for steam is 36 psi.
- ④ Direct current (DC) series 3 coil available only without UL certification

# Series 277

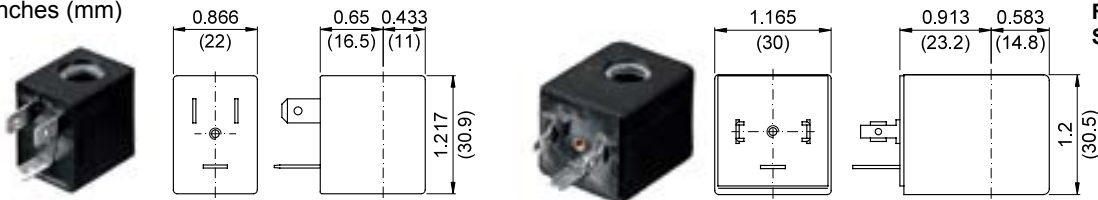
COILS Code ②	Alternating Current						Direct Current				Electrical connection	Connectors
	24V		120V		240V		12V		24V			
Series 3 Width 22mm	U35B c 	30B	U35D c 	30D	U35F c 	30F	-	300	-	301	DIN 46244	PG9 code 10348000
Series 4 Width 30mm	-	40B	-	40D	-	40F	U450 c 	400	U451 c 	401	DIN 43650A	PG9 code 10349000

**DESCRIPTION**  
Class F or H insulation  
Voltage tolerance ±10%  
Protection class:  
IP65 with connector attached  
IP00 without connector  
Continuous service ED100%

**OPTIONS**  
Cable attached  
Special coil voltage  
Special coil powers

## OVERALL DIMENSIONS

inches (mm)



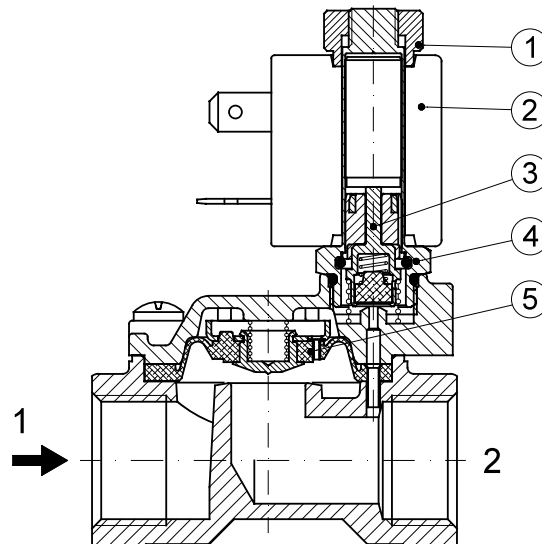
Series 3 Weight 0.11lb (0.05Kg)

Series 4 Weight 0.22lb (0.1Kg)

**FOR COIL SPECIFICATION SEE SECTION 6**

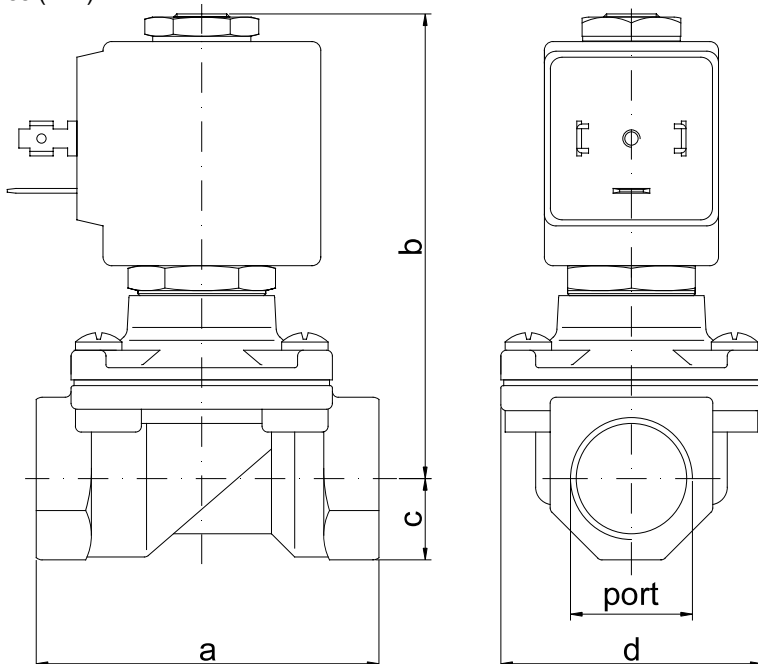
## SPARE PARTS LIST

1. Coil fixing nut
2. Coil
3. Seal assembly
4. Armature tube with core
5. Diaphragm assembly



## OVERALL DIMENSIONS

inches (mm)



PORT SIZE	a		b		c		d		weight	
	in	mm	in	mm	in	mm	in	mm	lb	Kg
3/8	2.32	59	2.87	73	0.55	14	1.77	45	0.66	0.30
1/2	2.32	59	2.87	73	0.55	14	1.77	45	0.71	0.32
3/4	3.11	79	2.99	76	0.71	18	2.17	55	1.21	0.55
1	3.78	96	3.35	85	0.79	20	2.83	72	2.09	0.95