

Features

- Mounts directly to actuators with NAMUR interfaces.
- Designed solely for installation in intrinsically safe areas, with properly approved and sized current and voltage-limiting safety barriers.
- Acceptable for use in hazardous locations, as classified by the National Electrical Code: Classes I, II, and III, Division 1, including Groups A through G.
- Electronically enhanced solenoids have efficient cartridge operators and nonpolarized coils with triple redundant blocking diodes.
- Capacitor stores power required to open the valve, while blocking diodes prevent it from flowing back into the wiring in the hazardous area.
- Low Power and General Purpose constructions are available.

Construction

Valve Parts in Contact with Fluids									
Body	Anodized Aluminum 316 Stainless Ste								
Seals and Disc	NBR and PUR								
Sleeve	304L Stainless Steel								
Core Spring	302 Stainless Steel								
Core and Plugnut	430F Stainless Steel								
Rider Ring	PTFE								
Spring Retainer	CA								
End Covers	Glass Filled PA + FV	316 Stainless Steel							
Spool	Stainless Steel								
Internals	Zamak, Steel, CA								

Solenoid Enclosures

Standard: Watertight, Type 4.

Optional: For 316 stainless steel, metal Watertight Box, Type 4X (on aluminum bodied valves), specify prefix "WS". For DIN IP65, specify prefix "ISSC". For open frame, screw terminal, specify prefix "U". For Liquid Crystal Polymer, Watertight, Type 1, 2, 3, 4, 4X, specify prefix "WB".

See Optional Features Section for other available options.

Electrical

Normal Operating Voltage — 24 volts DC, ±10%. Maximum Allowable "Off" State Current to the Valves must be less than 1 mA. **Electronically Enhanced "IS" Solenoid:** Maximum Capacitor Charge Time — 1 second Minimum Time between Cycles — 1 second

Minimum Drop Current to Reset Electronic Coil — 2 mA Nominal Temperature Rise at 24 VDC and 300 Ohms — 2°C (36°F) Maximum Recommended Wire Run (#18 Wire) — 1.5 miles from barrier to valve

IMPORTANT: Minimum series resistance of 200 ohms required in wiring circuit if a safety barrier is not used for non-"IS" system.

 $\begin{array}{ll} \mbox{Maximum Operating Current (amps)} = & \frac{V-2.4}{R_B+R_L+150} \\ \mbox{Maximum Charging Current (amps)} = & \frac{V-1.8}{R_B+R_L+52} \end{array}$

 R_B = Barrier or Current Limiting Resistance R_L = Line Resistance (wiring)



Nominal Ambient Temperature Ranges:

-4°F to 140°F (-20°C to 60°C) Refer to Engineering Section for details.

Approvals:

FM approved under J.I.3W8A8.AX (3610). CSA certified under File LR-13976-116C. CENELEC EEx ia IIC T6 approved. *Refer to Engineering Section for details.*

Important:

These solenoids are intended for use on clean, dry air or inert gas filtered to 50 micrometers or better. To prevent freezing, the dew point of the media should be at least $18^{\circ}F$ (- $8^{\circ}C$) below the minimum temperature to which any portion of the clean air or gas system could be exposed. Instrument air in compliance with ANSI/ISA Standard S7.3-1975 (R1981) exceeds the above requirements and is, therefore, an acceptable medium for these valves.

Oneratino	Voltage @ 86°F (30°C)				
Parameters	21.6	24.0	26.4		
Maximum Series Resistance in Ohms	510	610	690		
Maximum Holding Current with 300 Ohm Barrier	43	48	54		
Nominal Coil Watts with 300 Ohm Barrier	0.38	0.46	0.57		

Entity	Groups A-D	Groups C-D		
Parameters	V max - 30 VDC	V max - 34 VDC		
	I max - 100 mA	I max - 125 mA		
	Capacitance = 0	Capacitance = 0		
	Inductance = 0	Inductance = 0		

Coil: Continuous duty molded Class A. **Minimum Operating Current:** 0.028 amps.



Specifications (English units)

			Single Solenoid		Dual Solenoid						
Dif	Operating Pressure fferential (p Air-Inert Ga	Max. psi) Fluid Is Temp.°F	Aluminum Body 316 Stainless Steel Body Catalon Number		Constr	Constr. Ref. No Min Min Max		Max. Fluid Temp. °F	Aluminum Body	316 Stainless Steel Body	Constr
Flow actor M	lin Ma	24/DC			Ref.			24/DC Only	Catalon	Numher	Ref.
3/2 VALVES - NORMALLY CLOSED with breather block											
.60 3	35 15	50 140	WPIS8551A378	-	9	20	150	140	WPIS8551A380	-	10
.84 3	35 15	50 140	WPIS8551A387	WSIS8551A388	11	20	150	140	WPIS8551A389	WSIS8551A390	12
Fac M/ .6	Low tor N ALLY CL 0 3	Operating Pressure Differential (I Air-Inert Ga Iow Min. Min. ALLY CLOSED with 0 35 4 35	Operating Pressure Differential (psi) Air-Inert Gas Max. Fluid Temp.°F Iow Min. Max. Min. Max. Only ALLY CLOSED with breather block 0 35 0 35 150 140 4 35 150 140	Operating Pressure Max. Fluid Temp."F Aluminum Body Jow tor Min. Max. Fluid Temp."F Aluminum Body Jow tor Min. Max. Only Catalog ALLY CLOSED with breather block 140 WPIS8551A378 4 35 150 140 WPIS8551A387	Operating Pressure Max. Fluid Aluminum Body 316 Stainless Steel Body Iow tor Min. Max. Fluid 316 Stainless Iow tor Min. Max. Only Catalog Number ALLY CLOSED with breather block 0 35 150 140 WPIS8551A387 - 4 35 150 140 WPIS8551A387 WSIS8551A388	Operating Pressure Differential (psi) Air-Inert Gas Max. Fluid Temp.°F 316 Stainless Steel Body Constr. Ref. No. Iow tor Max. Only Catalog Number No. ALLY CLOSED with breather block 0 35 150 140 WPIS8551A378 - 9 4 35 150 140 WPIS8551A387 WSIS8551A388 11	Operating Pressure Differential (psi) Air-Inert Gas Max. Fluid Temp.°F Aluminum Body 316 Stainless Steel Body Operating Constru- Ref. Iow tor Min. Max. Only Catalog Number No. Min. ALLY CLOSED with breather block 0 35 150 140 WPIS8551A378 - 9 20	Operating Pressure Max. Fluid Aluminum Body 316 Stainless Steel Body Operating Pressure Operating Pressure Iow tor Min. Max. Fluid Steel Body Constr. Differential (psi) Air-Inert Gas Iow tor Min. Max. Only Catalog Number No. Min. Max. 0 35 150 140 WPIS8551A378 - 9 20 150 4 35 150 140 WPIS8551A387 WSIS8551A388 11 20 150	Operating Pressure Differential (psi) Air-Inert Gas Max. Fluid Temp.°F Max. Aluminum Body 316 Stainless Steel Body Operating Pressure Steel Body Max. Differential (psi) Air-Inert Gas Max. Fluid Temp.°F Iow for Max. Only Catalog Number No. Min. Max. 0 35 150 140 WPIS8551A378 - 9 20 150 140 4 35 150 140 WPIS8551A387 WSIS8551A388 11 20 150 140	Operating Pressure Differential (psi) Air-Inert Gas Max. Fluid Temp.°F Max. Aluminum Body 316 Stainless Steel Body Operating Pressure No. Max. Fluid Air-Inert Gas Max. Fluid Temp.°F Iow tor Max. Only Catalog Number No. Min. Max. Fluid Temp.°F Aluminum Body Iow tor Min. Max. Only Catalog Number No. Min. Max. Only Catalog 0 35 150 140 WPIS8551A378 - 9 20 150 140 WPIS8551A380 4 35 150 140 WPIS8551A387 WSIS8551A388 11 20 150 140 WPIS8551A389	Operating Pressure Differential (psi) Air-Inert Gas Max. Fluid Temp.°F Max. Aluminum Body Max. Steel Body Max. Pressure Constr. Ref. No. Max. Fluid Air-Inert Gas Max. Fluid Temp.°F Max. Aluminum Body 316 Stainless Steel Body Iow for Min. Max. Max. Catalog Number No. Max. No. Fluid Air-Inert Gas Aluminum Body 316 Stainless Steel Body Iow for Max. Only Catalog Number No. Max. Fluid Temp.°F Aluminum Body Steel Body Iow for Max. Only Catalog Number No. Max. Only Catalog Number 0 35 150 140 WPIS8551A378 - 9 20 150 140 WPIS8551A380 - 4 35 150 140 WPIS8551A387 WSIS8551A388 11 20 150 140 WPIS8551A389 WSIS8551A390

Specifications (Metric units)

			Single Solenoid						Dual Solenoid					
	.	<i>w</i> =1	Oper Pres Differen Air-In	rating ssure itial (bar) ert Gas	Max. Fluid Temp. °C	316 Stainless Aluminum Body Steel Body		Operating Pressure I Differential (bar) Air-Inert Gas Te		Max. Fluid Temp. °C	316 Stainless Aluminum Body Steel Body			
Pipe Size	Orifice Size	Kv Flow Factor			24/DC			Constr. Ref.			24/DC			Constr. Ref.
(ins.)	(mm)	(m3/h)	Min.	Max.	Only	Catalog Number No.		Min.	Max.	Only	Catalog Number		No.	
3/2 VALVES - NORMALLY CLOSED with breather block													lumbol	
3/2 VAL	VES - NO	RMALLY CLO	SED with	breather b	lock	;					.,			
3/2 VAL 1/4	VES - NO 6	RMALLY CLO .51	SED with 2.4	breather b 10.3425	llock 59	WPIS8551A378		9	1.379	10.3	59	WPIS8551A380		10
3/2 VAL 1/4 4/2 VAL	VES - NO 6 VES	RMALLY CLO .51	SED with 2.4	breather b 10.3425	l iock 59	WPIS8551A378		9	1.379	10.3	59	WPIS8551A380		10
3/2 VAL 1/4 4/2 VAL 1/4	VES - NO 6 VES 6	RMALLY CLO .51 .72	2.4 2.4	breather b 10.3425 10.3	59 59	WPIS8551A378 WPIS8551A387	 WSIS8551A388	9	1.379	10.3	59	WPIS8551A380 WPIS8551A389	 WSIS8551A390	10

Dimensions: inches (mm)



SERIES Intrinsically Safe 8551

Dimensions: inches (mm)



-6,56 [167]-

-7.32 [186]—

└2.05 [52]┘

ASCO

SERIES Intrinsically Safe 8551



Dimensions: inches (mm)

