



# E FAMILY



# QUICK INDEX

Basic Features ..... Page 3

Valve Types — Series ..... See Chart Below



	Page 10	Page 13	Page 16	Page 18	Page 22	Page 23
Series	<b>EZ</b>	<b>E5</b>	<b>E4</b>	<b>E</b>	<b>E3</b>	<b>E* QE</b>
Description	Compact Direct Acting	Compact Direct Acting	Compact Direct Acting	Medium Flow Direct Acting	High Flow Direct Lift	High Flow
Pressure Range	vacuum to 250 psi (17 bar)	vacuum to 500 psi (34 bar)	vacuum to 500 psi (34 bar)	vacuum to 500 psi (34 bar)	0-150 psi (10.3 bar)	5-150 psi (0.3-10.3 bar)
Flow Range	.06 to 79	.022 to 23	.022 to 23	0.026 to 0.106	0.11 to 0.16	0.06- 0.106 Inlet 3.3-8.8 Exhaust
Port Size NPT	1/8" NPT	1/8" - 1/4" NPT	1/8" - 1/4" NPT	1/8" - 1/4" NPT	1/4" NPT	1/4"-1/2" NPT Inlet 3/8"-3/4" NPT Exhaust
Nominal Power	10 AC watt 10.5 DC watt	6 - 8.5 AC watt 7-10 DC watt	0.85 - 1.8 watt	6 - 8.5 AC watt 7-10 DC watt	0.85 - 1.8 watt	0.85 - 7.2 Watt
Seals	NBR-Nitrile (Buna N) FKM (fluorocarbon) Optional		FKM (fluorocarbon)	NBR-Nitrile (Buna N)	FKM (fluorocarbon)	

### Materials, General Purpose

Side Port	Aluminum	Page 10	—	—	—	—	—
	Stainless Steel	—	Page 13	—	Page 18	—	Page 23
Manifold Mount	Aluminum	Page 12	—	—	Page 20	—	—
	Stainless Steel	Consult Factory	—	—	Consult Factory	—	—

### Materials, Hazardous Location

Side Port	Aluminum	—	—	—	—	—	—
	Stainless Steel	—	Page 14	Page 16	Page 18	Page 22	Page 23
Manifold Mount	Aluminum	—	—	—	Page 20	—	—
	—	—	—	—	—	—	—

Selector ..... Page 4

Options ..... Page 4

Solenoid options - Non Hazardous Location ..... Page 8

Solenoid options - Hazardous Locations ..... Page 6

Solenoid - Cross Reference Chart ..... Page 9

## The E Family

Versa's E-Series valves are 2 port, 2 position and 3 port, 2 position direct acting pneumatic and hydraulic valves consisting of two body types, side ported and manifold mounted.

E Series Side-Ported valves are individually mounted with body port sizes 1/8" NPT to 1/4" NPT.

Manifold Mounting valve is direct solenoid actuated and is mounted on a manifold which can have 1 to 10 valve stations. The manifolds are provided with the threaded ports for pipe connections, which allows the valves to be easily and swiftly installed or removed without breaking any pipe connections. The manifolds also provide common ports, such as the inlet and exhaust, making only one such connection necessary per manifold.

### Design for Reliability, Flexibility and Availability

#### Direct Acting Solenoid Design

The E Family of solenoid valves utilize a high performance solenoid direct acting for the perfect balance of flow vs. power. Valves designed for complete pressure range including vacuum.

#### Electrical Connections

The E Family of solenoid valves offer the widest range of electrical hook connections, from 1/2" conduit to spade terminals and everything in between. All designed to simplify installation and serviceability. Select E Family valves are offered for hazardous location service, should application require such.

#### Porting Options

E Family valves are available with 1/8" or 1/4" ports for ease of installation. Select Families are available in manifolded configurations for ease of installation, space savings and trouble free maintenance.

#### Vent Options

The standard E Family valve is offered with a threaded vent port. This supports piped exhaust for gases and hydraulic applications. Other vent options are offered to keep contaminants out of the valve for long trouble, free service.

#### High Heat Epoxy Molded Coils

The E Family solenoid's are high heat rated and are all epoxy molded. A Versa standard! The epoxy molded coil yield a moisture resistance design which also dissipates heat for elevated temperature applications.

#### High Performance Solenoid

Near frictionless direct acting poppet design yields positive shifting, the lowest wattage ratings and unsurpassed reliability. Life cycle ratings to 20 million cycles.

#### Bubble Tight Sealing

The E Family of products utilizes an elastomer sealed poppet. This design offers a bubble tight seal. Many seal materials are available to offer the greatest flexibility in application/media solutions.

#### Durable Materials of Construction

E Family materials are available in stainless steel or aluminum to offer the greatest flexibility in application/media solutions.



# BASIC PART NUMBERING — OPTIONS

Every letter and digit in the product number of a valve has significant meaning. The product number shown below (E5SM-3201-34-A120) indicates the following:

<b>E5SM</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>H2</b>	<b>A120</b>
E5SM Series Solenoid, Spring Return	Three-Way	1/8" NPT	Side Ports	NC	Bottom Orifice Size	Top	Solenoid exhaust adapter	120V60 COIL

## BASIC PRODUCT NUMBER

<b>E5SM</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>1</b>
VALVE SERIES & ACTUATION	FUNCTION: Body Style	PORT SIZE	BODY DETAILS	FLOW
E5SM E5 Series	2 Two-Way	2 1/8"NPT	0 Side Ported	1 NC (Normally Closed)
E4SM E4 Series	3 Three-Way	3 1/4" NPT	1 Manifold Mounted	2 NO (Normally Open)
ESM E Series	7 Two-Outlet (3-Way-Diverter)			
E3SM E3 Series	8 Two-Inlet (3-Way-Selector)			
EZ EZ Series, for part number selection see page 10				
EQE EQE Series, for part number selection see page 23				
E4QE EQE Series, for part number selection see page 23				
E5QE EQE Series, for part number selection see page 23				

## Options

Solenoid Options	
<b>General Purpose (see page 4)</b>	
-243	Grommeted housing (flying leads)
-228L	Epoxy formed coil with 1/2" conduit hub, NEMA 4
-HC	DIN connector with strain relief
-HCC	DIN connector with 1/2" conduit hub
-HCL	DIN connector with light
-HCCL	DIN connector with 1/2" lighted conduit hub.
-HT	High temperature coil Class H insulation.
-P	Plug-in - A connection on manifold mounted valves that provides a plug in electrical connection
-44	Low temperature seals
-PC	Potted Coil - Ingress protection, provides NEMA 4 rating.
-Z	Exhaust vent for manifolded valves
<b>Hazardous Service (see page 6)</b>	
-XX	Hazardous Location solenoid, North American
-XN	Hazardous Location, coil ATEX Approvals
-LB (-XX or -XN required)	Low Watt 1.8 coil (-LX for E4SM See page 16 For E3 see page 22)
-LA (-XX or -XN required)	Low Watt 0.85 coil (-LC for E4SM See page 16 For E3 see page 22)
-HT	High temperature coil Class H insulation.
-PC	Potted Coil - Ingress protection, provides NEMA 4 rating.
-44	Low temperature seals
-ST (-XX or -XN required)	Stainless steel coil housing.
-XISC (-HC or HCC required)	Intrinsic Safe electrical operator, CSA
-XISX6 (-HC or HCC required)	Intrinsic Safe electrical operator, ATEX
-XDBS*/-XDBT*	Coil enclosure, 316 stainless steel, internal junction box with multi agency approvals (see page 16).
-XIF*	Intrinsic Safe ATEX Coil with internal junction box
-XMA*	Explosion Proof solenoid coil with integral junction box and internal bridge rectifier (see page 6)
<b>Miscellaneous</b>	
-14 (General purpose only)	Dust Excluder – Dust Tight; protection from contamination entering the solenoid sleeve (exhaust)
-E14	Dust Excluder – Dust Tight; protection from contamination entering the solenoid sleeve (exhaust)
-L14	Dust Excluder – Dust Tight; protection from contamination entering the solenoid sleeve (exhaust)
-D14	Dust Excluder – Water Tight; protection from "dirt or water" entering the solenoid sleeve (exhaust)
-H	1/4" npt, solenoid vent adapter (for stainless steel use -HE)
-H2	1/8" npt, solenoid vent adapter (for stainless steel use -H2E)
-WE	Mounting bracket, wall mount, attached to coil housing
-WMA	Mounting bracket, bottom mount, stainless steel,
-M	Manual override, a non-locking manual override, unguarded for solenoid actuators
-MAE	Manual override, with manual override pin that extends past the guard plate
-M5R	Manual override, an unguarded, locking, with a knurled knob, push to actuate and turn to lock.

# SUFFIX DETAILS

Suffix details indicate modifications or variations to the basic valve. When specifying simply add those suffix details required in alphanumeric order.

Listed below are the suffix detail modifications found in this catalog and the page on which they are noted.

	3	4	H2	A120
	BOTTOM ORIFICE	TOP ORIFICE	SUFFIX DETAILS	VOLTAGE CODE
	0 None (2-way NO) 2 1/32" 3 3/64" 4 1/16" 6 3/32" 8 1/8" 12 3/16" 16 1/4"	0 None (2-way NC) 2 1/32" 3 3/64" 4 1/16" 6 3/32"	See Options below (Partial list)	<p>Solenoid actuated valves require a Coil Code that indicates the specific coil current frequency and voltage. The Coil Code consists of a letter to indicate the current frequency</p> <p>Rating Code: A= 60Hz frequency (AC) D= Direct Current (DC) E= 50Hz frequency (AC)</p> <p>Examples: Voltage Code 24V60 = A024 120V60 = A120 24VDC = D024 110V50 = E110</p>

	EZ		E5SM	E4SM	ESM		E3SM	EQE		
	Side Ported	Manifold Mounted	Side Ported	Side Ported	Side Ported	Manifold Mounted	Side Ported	E4QE	E5QE	EQE
	X	X	X		X	X			X	X
	X	X	X						X	
	X	X	X		X	X			X	X
	X	X	X		X	X			X	X
	X	X	X		X	X			X	X
			X		X	X			X	X
			X		X	X				
		X				X				
			X		X	X			X	X
			X						X	
			X						X	
			X		X	X	X		X	X
			X	X	X	X			X	X
			X		X	X			X	X
			X						X	
			X						X	
			X	X				X		
					X	X				X
					X	X				X
	X	X	X	X				X	X	
	X	X	X	X	X	X		X	X	X
			X	X	X	X		X	X	X
	X	X	X	X	X	X		X	X	X
			X		X					
			X	X	X	X				
					X	X				
					X	X				
					X	X				



# SOLENOID SELECTOR Hazardous Location

## HAZARDOUS LOCATION SOLENOIDS

	Suffix Identification	Protection Classification	Area Classification and (Gas Grouping)	Certification- (Conformance)	Ingress Protection	Series
	-XX	Hazardous Location NEMA 7 - 9	CLASS I, DIV. 1 (C & D) CLASS I, DIV. 2 (A & B) CLASS II, DIV. 1 (E, F & G)	CSA - UL	NEMA 4, 4X (with -PC)	ESM
	-XX -LB-XX		CLASS I, DIV. 1 (C & D) CLASS I, DIV. 2 (A & B) CLASS II, DIV. 1 (E, F & G)	CSA - UL	NEMA 4, 4X (with -PC)	
	XN -LB-XN	(d) Flameproof	Ex d IIB+H2 T3 to T6 Gb II 2 G Ex d IIB+H2 T3 to T6	IECEX ATEX	IP65 IP66 (with -PC)	E5
	-XDBS* -XDBT*	(d) Flameproof (e) Increased Safety	EX II 2 G D Ex d e IIC T* Gb EX tb IIC T* °C Db Class I Div I Grp B, C & D Class I Div II Grp E, F & G EX d IIC DIP A21 T6 T4	ATEX ATEX - IECEX -INMETRO CSA	IP66 IP67 IP68 NEMA 4, 4X 6P	E4
<b>*For ordering information see "Miscellaneous" column page 7</b>						
	-XMAA -XMAE -XMAF -XMFA -XMFE -XMFF	(mb) Encapsulation (e) Increased Safety (tD) Tight Dust	Ex e mb II T5, T6 Gb Ex tD A21 T100°C, T85°C Db II 2 G Ex e mb II T5, T6 II 2D Ex tD A21 T100°C, T85°C	IECEX ATEX	IP66 IP67	ESM
	-XIFA -XIFE -XIFF	(ia) Intrinsic Safe	Ex (ia) IIC T4...T6 Gb Ex (ia) IIIC T130°C, T80°C Db II 2 G Ex ia IIC T4...T6 II 2 D Ex ia D 21 T130°C, T80°C	IECEX ATEX	IP66 IP67	ESM
	-XISX6 -XISC		Intrinsic Safe	II 2 G Ex ia IIC T6 Class I, Groups (A, B, C & D) Class II, Groups (E, F, & G) Class III	ATEX Factory Mutual CSA	IP65
	XPN LC-XPS -XPS LC-XPS	Factory Sealed	II 2 G Ex d IIB T4...T6 Gb Class I, Div 1, Group C and D Class II, Div 1, Group E, F and G, T6 Class I, Div 2, Group C and D Class II, Div 2, Group E, F and G	ATEX CSA	IP66 IP67 NEMA 4X & 6P	E3SM

Voltage (Power)	Electrical Characteristics	Miscellaneous																																		
All usual 50 Hz & 60 Hz AC (7.3W), DC (9.5W) 12V60, 24V60, 48V60, 120V60, 240V60 6VDC, 12VDC, 24VDC, 48VDC	Class F epoxy molded coil (155°C). continuous duty. 3 leads 24" (60 cm).	Plated steel coil housing with 1/2 NPT conduit entry.																																		
All usual 50 Hz & 60 Hz AC (6W), DC (7.2W) 12V60, 24V60, 48V60, 120V60, 240V60 6VDC, 12VDC, 24VDC, 48VDC		Plated steel coil housing with 1/2 NPT conduit entry. For stainless steel (430 type) coil housing add: (-ST)																																		
All usual 50 Hz & 60 Hz AC, DC (1.8W) 12V60, 24V60, 48V60, 120V60, 240V60 6VDC, 12VDC, 24VDC, 48VDC		Plated steel coil housing with 1/2 NPT conduit entry. For stainless steel (430 type) coil housing add: (-ST) Maximum pilot pressure 120 psi (8 bar) 1.8W nominal power.																																		
All usual 50 Hz & 60 Hz AC (6W), DC (7.2W) 12V60, 24V60, 48V60, 120V60, 240V60 6VDC, 12VDC, 24VDC, 48VDC		Plated steel coil housing with M20 x 1.5 conduit entry. Ground terminal on cover. For stainless steel (430 type) coil housing add: (-ST)																																		
All usual 50 Hz & 60 Hz AC, DC (1.8W) 12V60, 24V60, 48V60, 120V60, 240V60 6VDC, 12VDC, 24VDC, 48VDC		Plated steel coil housing with M20 x 1.5 conduit entry. Ground terminal on cover. For stainless steel (430 type) coil housing add: (-ST) Maximum pilot pressure 120 psi (8 bar) 1.8W nominal power.																																		
24VDC (D024) 120V60 (A120) 110V50 (E110) 230V50 (E230)  1.8 Watt standard, for lower watt contact factory.	Epoxy molded coils rated for continuous duty, Class H – 180°C.	<table border="1"> <tr> <td data-bbox="885 913 1144 997" rowspan="2">Stainless steel coil housing with internal Junction Box. Internal and external ground screw.</td> <td colspan="4" data-bbox="1144 913 1477 934">Suffix Detail Ordering Code</td> </tr> <tr> <td colspan="2" data-bbox="1144 934 1307 966">M 20 Connection</td> <td colspan="2" data-bbox="1307 934 1477 966">1/2" Connection</td> </tr> <tr> <td data-bbox="885 966 1144 997"></td> <td data-bbox="1144 966 1307 997">No Diode</td> <td data-bbox="1307 966 1437 997">Diode</td> <td data-bbox="1437 966 1477 997">No Diode</td> <td data-bbox="1477 966 1485 997">Diode</td> </tr> <tr> <td data-bbox="885 997 1144 1029">Standard (vent to atmosphere)</td> <td data-bbox="1144 997 1307 1029">XDBS1</td> <td data-bbox="1307 997 1437 1029">XDBS5</td> <td data-bbox="1437 997 1477 1029">XDBT1</td> <td data-bbox="1477 997 1485 1029">XDBT5</td> </tr> <tr> <td data-bbox="885 1029 1144 1060">1/8" Adapter (-H2E)</td> <td data-bbox="1144 1029 1307 1060">XDBS2</td> <td data-bbox="1307 1029 1437 1060">XDBS6</td> <td data-bbox="1437 1029 1477 1060">XDBT2</td> <td data-bbox="1477 1029 1485 1060">XDBT6</td> </tr> <tr> <td data-bbox="885 1060 1144 1092">1/4" Adapter (-HE)</td> <td data-bbox="1144 1060 1307 1092">XDBS3</td> <td data-bbox="1307 1060 1437 1092">XDBS7</td> <td data-bbox="1437 1060 1477 1092">XDBT3</td> <td data-bbox="1477 1060 1485 1092">XDBT7</td> </tr> <tr> <td data-bbox="885 1092 1144 1123">Dust Nut (-L14)</td> <td data-bbox="1144 1092 1307 1123">XDBS4</td> <td data-bbox="1307 1092 1437 1123">XDBS8</td> <td data-bbox="1437 1092 1477 1123">XDBT4</td> <td data-bbox="1477 1092 1485 1123">XDBT8</td> </tr> </table>	Stainless steel coil housing with internal Junction Box. Internal and external ground screw.	Suffix Detail Ordering Code				M 20 Connection		1/2" Connection			No Diode	Diode	No Diode	Diode	Standard (vent to atmosphere)	XDBS1	XDBS5	XDBT1	XDBT5	1/8" Adapter (-H2E)	XDBS2	XDBS6	XDBT2	XDBT6	1/4" Adapter (-HE)	XDBS3	XDBS7	XDBT3	XDBT7	Dust Nut (-L14)	XDBS4	XDBS8	XDBT4	XDBT8
Stainless steel coil housing with internal Junction Box. Internal and external ground screw.	Suffix Detail Ordering Code																																			
	M 20 Connection		1/2" Connection																																	
	No Diode	Diode	No Diode	Diode																																
Standard (vent to atmosphere)	XDBS1	XDBS5	XDBT1	XDBT5																																
1/8" Adapter (-H2E)	XDBS2	XDBS6	XDBT2	XDBT6																																
1/4" Adapter (-HE)	XDBS3	XDBS7	XDBT3	XDBT7																																
Dust Nut (-L14)	XDBS4	XDBS8	XDBT4	XDBT8																																
24VDC (4W) (Consult factory for other voltage options)	Continuous duty coil & rectifier, including surge suppression, potted within housing.	Thick wall epoxy coil housing with integral junction box. Internal ground terminal. M20 x 1.5 conduit entry: (-XMAA), (-XMFA), Cable gland for 6-12 mm ø cable: (-XMAE), (-XMFE) 1/2 NPT conduit entry with adapter: (-XMAF), (-XMFF)																																		
24VDC (10W inrush, 2.6W holding) (Consult factory for other voltages)	Continuous duty coil & power controller potted within housing.																																			
24VDC (0.8W) (Consult factory for other voltages)	Continuous duty coil and power controller potted within housing.	Requires the use of an approved safety barrier or isolator. Thick wall epoxy coil housing and integral junction box. Internal ground terminal. M20 x 1.5 conduit entry: (-XIFA) Cable gland for 6-12 mm ø cable: (-XIFE) 1/2 NPT conduit entry with adapter: (-XIFF)																																		
24VDC system voltage prior to barrier (1.6 watt max.)	Class F epoxy molded coil (155°C). Continuous duty.	Requires the use of an approved barrier or isolator. Maximum operating system voltage before barrier 28VDC. Maximum pilot pressure 115 psi (8 bar). 3 spade terminals & DIN connector with PG9 cable gland: (-HC) 1/2 NPT conduit entry: (-HCC)																																		
1.8 watts  0.85 watt 12 or 24 DC	Class F, Continuous duty	Coil: 1/2" NPT, male hub with 72 inch wire leads, 3 wire. Not polarity dependent Epoxy molded/encapsulated (Factory Sealed), Inline off conduit hub. Not orientation sensitive, coil housing and body 316 stainless steel with FKM seal																																		
1.8 watts  0.85 watt 12 or 24 DC																																				

# SOLENOID SELECTOR General Purpose

## NONHAZARDOUS LOCATION SOLENOIDS

Image	Series	Suffix Detail	Certification- (Conformance)		Ingress Protection	Voltage (Power)	Electrical Characteristics	Miscellaneous
			AC	DC				
	E5SM	Standard -PC	CSA		NEMA 1, 2, 3 & 4	24V60, 120V60, 240V60 (8W) 24V50, 110V50, 220V50 (8W) 12VDC, 24VDC, 48VDC (7W)	Class F epoxy molded coil (155°C). Continuous duty.	Steel cover with 1/2 NPT conduit entry.
	ESM	Standard -PC	CSA UL		NEMA 4; IP65	24V60, 120V60, 240V60 (7.3W) 24V50, 110V50, 220V50 (7.3W) 12VDC, 24VDC, 48VDC (9.5W)		Epoxy molded coil with integral 1/2" npt conduit hub
	EZ E5SM	-228L			NEMA 4	24V60, 120V60, 240V60 (8.5W) 24V50, 110V50, 220V50 (8.5W) 12VDC, 24VDC, 48VDC (10.5W)		Steel cover with grommited (flying) leads. 2 leads 24" (60 cm)
	E5SM	-243	CSA UL		NEMA 1, 2 & 3	24V60, 120V60, 240V60 (8W) 24V50, 110V50, 220V50 (8W) 12VDC, 24VDC, 48VDC (7W)		Steel cover with grommited (flying) leads 2 leads 24" (60 cm)
	ESM		CSA UL		NEMA 1, 2 & 3	24V60, 120V60, 240V60 (7.3W) 24V50, 110V50, 220V50 (7.3W) 12VDC, 24VDC, 48VDC (9.5W)		flying leads. 2 leads 24" (60 cm)
	EZ		— —		NEMA 1, 2 & 3	24V60, 120V60, 240V60 (8.5W) 24V50, 110V50, 220V50 (8.5W) 12VDC, 24VDC, 48VDC (10.5W)		Spade terminals (3). Connector: mini DIN socket with PG9 cable gland.
	EZ E5SM	-HC	CSA UL	—	NEMA 4	24V60, 120V60, 240V60 (8.5W) 24V50, 110V50, 220V50 (8.5W) 12VDC, 24VDC, 48VDC (10.5W)		Spade terminals (3) Connector pins according to Din 43650 & ISO 4400
	ESM		— —	—	IP 65	24V60, 120V60, 240V60 (12W) 24V50, 110V50, 220V50 (12W) 12VDC, 24VDC, 48VDC (10W)		Spade terminals (3). Connector: mini DIN socket with PG9 cable gland.
	EZ E5SM	-HCL	CSA UL	—	NEMA 4	24V60, 120V60, 240V60 (8.5W) 24V50, 110V50, 220V50 (8.5W) 12VDC, 24VDC, 48VDC (10.5W)		Spade terminals (3). Connector: mini DIN socket with PG9 cable gland.
	ESM		— —	—	IP 65	24V60, 120V60, 240V60 (12W) 24V50, 110V50, 220V50 (12W) 12VDC, 24VDC, 48VDC (10W)		Spade terminals (3). Connector: mini DIN socket with PG9 cable gland.
	EZ E5SM	-HCC	CSA UL	—	NEMA 4	24V60, 120V60, 240V60 (8.5W) 24V50, 110V50, 220V50 (8.5W) 12VDC, 24VDC, 48VDC (10.5W)		Spade terminals (3). Connector pins according to Din 43650 & ISO 4400
	ESM		— —	—	IP 65	24V60, 120V60, 240V60 (12W) 24V50, 110V50, 220V50 (12W) 12VDC, 24VDC, 48VDC (10W)		Spade terminals (3). Connector: mini DIN socket with PG9 cable gland.
	EZ E5SM	-HCCL	CSA UL	—	NEMA 4	24V60, 120V60, 240V60 (8.5W) 24V50, 110V50, 220V50 (8.5W) 12VDC, 24VDC, 48VDC (10.5W)		Spade terminals (3). Connector: mini DIN socket with PG9 cable gland.
	ESM		— —	—	IP65	24V60, 120V60, 240V60 (12W) 24V50, 110V50, 220V50 (12W) 12VDC, 24VDC, 48VDC (10W)		Steel cover with electrical plug-in. A Solenoid which can be removed from subplate or manifold, without disturbing the wiring
	ESM	-P	—	—	NEMA 4; IP65	24V60, 120V60, 240V60 (12W) 24V50, 110V50, 220V50 (12W) 12VDC, 24VDC, 48VDC (10W)		



## Combination Suffix Details Cross Reference Chart (E, E4 & E5)

Suffix Reference	
Suffix	Description
-XX	North American solenoid
-XN	ATEX solenoid
-XDB	World Solenoid
-HT	Class H coil
-ST	Stainless solenoid housing
-PC	Potted coil
-LB	1.8 watt solenoid
-LA	0.85 watt solenoid
-VJBT	Add on Junction Box
-D14	Solenoid vent, water proof nut
-PS	Potted coil, male conduit
-CD	72" wire leads
-LX	1.8 watt solenoid (XDB_)
-LV	0.85 watt solenoid (XDB_)
-H2E	1/8" npt solenoid vent
-HE	1/4" npt solenoid vent
-L14	solenoid vent dust nut
-303D	Integral diode

North American (-XX) (Cont.)	
Combination Suffix	Included Suffix
-XXH4	-XX, -D14, -HT, -PC, -ST
-XXJ	-XX, -LB, -PC, -ST
-XXJ4	-XX, -D14, -LB, -PC, -ST
-XXK	-XX, -HT, -LB, -PC, -ST
-XXK4	-XX, -D14, -HT, -LB, -PC, -ST
-XXL	-XX, -PC
-XXL4	-XX, -D14, -PC
-XXM	-XX, -HT, -PC
-XXM4	-XX, -D14, -HT, -PC
-XXN	-XX, -LB, -PC
-XXN4	-XX, -D14, -LB, -PC
-XXP	-XX, -HT, -LB, -PC
-XXP4	-XX, -D14, -HT, -LB, -PC
-XXQ	-XX, -HT, -LB
-XXQ4	-XX, -D14, -HT, -LB
-XXR	-XX, -LB
-XXR4	-XX, -D14, -LB
-XXS	-XX, -LA, -ST
-XXS4	-XX, -D14, -LA, -ST
-XXU	-XX, -HT, -LB, -ST
-XXU4	-XX, -D14, -HT, -LB, -ST
-XXV	-XX, -LA
-XXV4	-XX, -D14, -LA
-XXW	-XX, -CD, -HT, -H2, -PC, -ST
-XXW4	-XX, -D14, -CD, -HT, -PC, -ST

ATEX (XN) (Cont.)	
Combination Suffix	Included Suffix
-XNL	-XN, -PC
-XNM	-XN, -HT, -PC
-XNN	-XN, -LB, -PC
-XNP	-XN, -HT, -LB, -PC
-XNQ	-XN, -HT, -LB
-XNR	-XN, -LB
-XNS	-XN, -LA, -ST
-XNU	-XN, -HT, -LB, -ST
-XNV	-XN, -LA
-XNX	-XN, -LB, -PS
-XNWS	-XN, -VJBT, -LB, -PS
-XXK4	-XX, -D14, -HT, -LB, -PC, -ST

North American (-XX)	
Combination Suffix	Included Suffix
-XXA	-XX, -HT
-XXA4	-XX, -D14, -HT
-XXB	-XX, -PS
-XXB4	-XX, -D14, -PS
-XXC	-XX, -HT, -PS
-XXC4	-XX, -D14, -HT, -PS
-XXD	-XX, -ST
-XXD4	-XX, -D14, -ST
-XXE	-XX, -PC, -ST
-XXE4	-XX, -D14, -PC, -ST
-XXF	-XX, -HT, -ST
-XXF4	-XX, -D14, -HT, -ST
-XXG	-XX, -LB, -ST
-XXG4	-XX, -D14, -LB, -ST
-XXH	-XX, -HT, -PC, -ST

ATEX (XN)	
Combination Suffix	Included Suffix
-XNA	-XN, -HT
-XND	-XN, -ST
-XNE	-XN, -PC, -ST
-XNF	-XN, -HT, -ST
-XNG	-XN, -LB, -ST
-XNH	-XN, -HT, -PC, -ST
-XNJ	-XN, -LB, -PC, -ST
-XNK	-XN, -HT, -LB, -PC, -ST

World Solenoid (XDB)	
Combination Suffix	Included Suffix
-XDBS1	-XDBS, -HT, -LX
-XDBS2	-XDBS, -HT, -LX, -H2E
-XDBS3	-XDBS, -HT, -LX, -HE
-XDBS4	-XDBS, -HT, -LX, -L14
-XDBS5	-XDBS, -HT, -LX, -303D
-XDBS6	-XDBS, -HT, -LX, -H2E, -303D
-XDBS7	-XDBS, -HT, -LX, -HE, -303D
-XDBS8	-XDBS, -HT, -LX, -L14, -303D
-XDBS9	-XDBS, -HT, -LX, -D14
-XDBS10	-XDBS, -HT, -LX, -D14, -303D
-XDBT1	-XDBT, -HT, -LX
-XDBT2	-XDBT, -HT, -LX, -H2E
-XDBT3	-XDBT, -HT, -LX, -HE
-XDBT4	-XDBT, -HT, -LX, -L14
-XDBT5	-XDBT, -HT, -LX, -303D
-XDBT6	-XDBT, -HT, -LX, -H2E, -303D
-XDBT7	-XDBT, -HT, -LX, -HE, -303D
-XDBT8	-XDBT, -HT, -LX, -L14, -303D
-XDBT9	-XDBT, -HT, -LX, -D14
-XDBT10	-XDBT, -HT, -LX, -D14, -303D

### Recommended Hazardous Location Solenoid Option Packages

(For complete specifications please see above and page 6-8)

Series	Enclosure/Wire	Certification/Power			
		North American - CSA		ATEX - IECEx - INMETRO	
		Standard Power	Low Watt*	Standard Power	Low Watt*
E/E5	Steel, Electroless Nickel Plated, 24 Inch Leads	-XXL4	-XXN4	-XNL4	-XNN4
E5	Stainless Steel, High Performance 430 type, 24" wire leads	-XXE4	-XXJ4	-XNE4	-XNJ4
E4	Stainless Steel, 316L type, Junction Box with Terminal Strip	n/a	-XDBT9**	n/a	-XDBS9

\*1.8 watt solenoid. Also available is 0.85 watt, see cross reference chart above, 1.8 & 0.85 not available on E. For 0.50 watt, consult factory.

\*\*All the -XDBT type solenoids are "World Solenoids." Certified for North America, ATEX, IECEx and INMETRO and more

# SERIES E4 COMPACT

## XDB World Solenoid Valve

A compact, heavy duty solenoid valve with integral junction box for hazardous location service. Valve and junction box are stainless steel for superior corrosion resistance. Worldwide certifications available. Valves available in 2-Way, 3-Way, selectors or diverters functions. All products are rated for air, gas, oil or water. Porting available in 1/8" or 1/4" NPT for tubing convenience.

- Pressure: to 400 psi (see selector table)
- Flow: to 0.26 Cv (see selector table)
- Temperature: +5°F to 194°F (-15°C to 90°C)  
-40°F to 194°F (-40°C to 90°C)(low temp option -44)
- Ports, Inlet & Outlet: 1/8" or 1/4" NPT
- Exhaust/vent: Vent to atmosphere, #10-32 thread  
(NPT port or dust protectors available)
- Voltages: AC or DC (see selector table)
- Coil rating: Class H, continuous duty
- Power: 1.8 or 0.85 watt
- Connections: 1/2" NPT or M20 conduit hub
- Ingress protection: IP 66/67/68 NEMA 4X, 6P
- Materials of construction:
  - Body: 430 Stainless (316 Stainless Steel optional)
  - Housing: FKM-fluorocarbon (Low Temp Nitrile optional)
  - Coil: Epoxy molded
  - Mounting: (2) threaded holes (optional bracket -WMA)



Shown with Dust Nut and Mounting Bracket



	-XDBS M20 x 1,5	XDBT 1/2" NPT
CSA North American	NA	Class I, Group B, C, D Class II, Group E, F, G Class III
ATEX	II 2 GD Ex d e IIC T4 Gb Ex tb IIIC IP66 T4C Db	II 2 GD Ex d e IIC T4 Gb Ex tb IIIC IP66 T4C Db
IECEX	Ex d e IIC T4 Gb Ex tb IIIC IP66 T4C Db	Ex d e IIC T4 Gb Ex tb IIIC IP66 T4C Db
INMETRO	Ex d e IIC T4 Gb Ex tb IIIC IP66 T4C Db	Ex d e IIC T4 Gb Ex tb IIIC IP66 T4C Db
Russia, Kazakhstan and Belarus	Ex d e IIC T4 Gb Ex tb IIIC IP66 T4 Db	Ex d e IIC T4 Gb Ex tb IIIC IP66 T4 Db

Stainless steel coil housing with internal Junction Box. Internal and external ground screw.	Suffix Detail Ordering Code			
	M 20 Connection		1/2" Connection	
	No Diode	Diode	No Diode	Diode
Standard (vent to atmosphere)	XDBS1	XDBS5	XDBT1	XDBT5
1/8" Adapter (-H2E)	XDBS2	XDBS6	XDBT2	XDBT6
1/4" Adapter (-HE)	XDBS3	XDBS7	XDBT3	XDBT7
Dust Nut (-L14)	XDBS4	XDBS8	XDBT4	XDBT8

Suffix Details above are for 1.8 watt coils. For 0.85 watt coil add a "C" as last character to above. Example: XDBS1C See tables opposite page

### Options - Suffix Details



1.8 Watt Product Selector	Maximum Differential/ Operating Pressure psi (bar)	Orifice/Flow				Product Number For Pneumatic and Hydraulic Service	
		"A" to "B"		"B" to "C"		1/8" NPT	1/4" NPT
		In (mm)	Cv	In (mm)	Cv		
TYPE Media							
TWO-WAY 2/2 NORMALLY CLOSED	400 (27.6) 300 (20.7) 200 (13.8) 100 (6.9) 50 (3.4)	1/32" (0.8 mm) 3/64" (1.2 mm) 1/16" (1.6 mm) 3/32" (2.4 mm) 1/8" (3.2 mm)	0.022 0.06 0.106 0.21 0.26			E4SM-2201-20-XDB**-voltage E4SM-2201-30-XDB**-voltage E4SM-2201-40-XDB**-voltage E4SM-2201-60-XDB**-voltage E4SM-2201-80-XDB**-voltage	E4SM-2301-20-XDB**-voltage E4SM-2301-30-XDB**-voltage E4SM-2301-40-XDB**-voltage E4SM-2301-60-XDB**-voltage E4SM-2301-80-XDB**-voltage
TWO-WAY 2/2 NORMALLY OPEN	300 (20.7) 150 (10.3) 100 (6.9) 50 (3.4)			1/32" (0.8 mm) 3/64" (1.2 mm) 1/16" (1.6 mm) 3/32" (2.4 mm)	0.022 0.06 0.106 0.21	E4SM-2202-02-XDB**-voltage E4SM-2202-03-XDB**-voltage E4SM-2202-04-XDB**-voltage E4SM-2202-06-XDB**-voltage	E4SM-2302-02-XDB**-voltage E4SM-2302-03-XDB**-voltage E4SM-2302-04-XDB**-voltage E4SM-2302-06-XDB**-voltage
THREE-WAY 3/2 NORMALLY CLOSED (Exhaust to atm)	200 (13.8) 175 (12.1) 125 (8.6) 75 (5.2)	1/32" (0.8 mm) 3/64" (1.2 mm) 1/16" (1.6 mm) 3/32" (2.4 mm)	0.022 0.06 0.106 0.21	3/64" (1.2 mm) 1/16" (1.6 mm) 1/16" (1.6 mm) 1/16" (1.6 mm)	0.06 0.106 0.106 0.106	E4SM-3201-23-XDB**-voltage E4SM-3201-34-XDB**-voltage E4SM-3201-44-XDB**-voltage E4SM-3201-64-XDB**-voltage	E4SM-3301-23-XDB**-voltage E4SM-3301-34-XDB**-voltage E4SM-3301-44-XDB**-voltage E4SM-3301-64-XDB**-voltage
THREE-WAY 3/2 NORMALLY CLOSED (Piped exhaust)	200 (13.8) 175 (12.1) 125 (8.6) 75 (5.2)	1/32" (0.8 mm) 3/64" (1.2 mm) 1/16" (1.6 mm) 3/32" (2.4 mm)	0.022 0.06 0.106 0.21	3/64" (1.2 mm) 1/16" (1.6 mm) 1/16" (1.6 mm) 1/16" (1.6 mm)	0.06 0.106 0.106 0.106	E4SM-3201-23-XDB**-voltage E4SM-3201-34-XDB**-voltage E4SM-3201-44-XDB**-voltage E4SM-3201-64-XDB**-voltage	E4SM-3301-23-XDB**-voltage E4SM-3301-34-XDB**-voltage E4SM-3301-44-XDB**-voltage E4SM-3301-64-XDB**-voltage
THREE-WAY 3/2 NORMALLY OPEN	150 (10.3) 100 (6.9) 75 (5.2) 50 (3.4)	1/32" (0.8 mm) 3/64" (1.2 mm) 1/16" (1.6 mm) 3/32" (2.4 mm)	.022 0.06 0.106 0.21	1/32" (0.8 mm) 3/64" (1.2 mm) 1/16" (1.6 mm) 1/16" (1.6 mm)	.022 0.06 0.106 0.106	E4SM-3202-22-XDB**-voltage E4SM-3202-33-XDB**-voltage E4SM-3202-44-XDB**-voltage E4SM-3202-64-XDB**-voltage	E4SM-3302-22-XDB**-voltage E4SM-3302-33-XDB**-voltage E4SM-3302-44-XDB**-voltage E4SM-3302-64-XDB**-voltage
THREE-WAY 3/2 DIRECTIONAL CONTROL	250 (17.2) 200 (13.8) 150 (10.3) 120 (8.3)	1/32" (0.8 mm) 3/64" (1.2 mm) 1/16" (1.6 mm) 3/32" (2.4 mm)	.022 0.06 0.106 0.21	1/32" (0.8 mm) 3/64" (1.2 mm) 1/16" (1.6 mm) 1/16" (1.6 mm)	0.022 0.06 0.106 0.106	E4SM-7202-22-XDB**-voltage E4SM-7202-33-XDB**-voltage E4SM-7202-44-XDB**-voltage E4SM-7202-64-XDB**-voltage	E4SM-7302-22-XDB**-voltage E4SM-7302-33-XDB**-voltage E4SM-7302-44-XDB**-voltage E4SM-7302-64-XDB**-voltage
THREE-WAY 3/2 MULTI-PURPOSE	150 (10.3) 75 (5.2) 60 (4.1) 30 (2.1)	1/32" (0.8 mm) 3/64" (1.2 mm) 1/16" (1.6 mm) 3/32" (2.4 mm)	.022 0.06 0.106 0.21	1/32" (0.8 mm) 3/64" (1.2 mm) 1/16" (1.6 mm) 1/16" (1.6 mm)	0.022 0.06 0.106 0.106	E4SM-8202-22-XDB**-voltage E4SM-8202-33-XDB**-voltage E4SM-8202-44-XDB**-voltage E4SM-8202-64-XDB**-voltage	E4SM-8302-22-XDB**-voltage E4SM-8302-33-XDB**-voltage E4SM-8302-44-XDB**-voltage E4SM-8302-64-XDB**-voltage

Voltagess, AC 120/60 (-A120), 110/50 (-E110), 240/60 (-A240), 220/50 (-E220) DC 24 vdc (-D024), 48 vdc (-D048), 12 vdc (-D012), 110 vdc (-D110), 220 vdc (D220)

\*\* Product Number. Complete product number by inserting one of the following in place of the \*\*: S1 = M20 conduit connection, no diode, T1 = 1/2" npt conduit connection no diode, S5 = M20 conduit connection with diode, T5 = 1/2" npt conduit connection with diode.

0.85 Watt Product Selector	Maximum Differential/ Operating Pressure psi (bar)	Orifice/Flow				Product Number For Pneumatic and Hydraulic Service	
		"A" to "B"		"B" to "C"		1/8" NPT	1/4" NPT
		In (mm)	Cv	In (mm)	Cv		
TYPE Media							
TWO-WAY 2/2 NORMALLY CLOSED	250 (17.2) 150 (10.3) 80 (5.5)	1/32" (0.8 mm) 3/64" (1.2 mm) 1/16" (1.6 mm)	0.022 0.06 0.106			E4SM-2201-20-XDB***-voltage E4SM-2201-30-XDB***-voltage E4SM-2201-40-XDB***-voltage	E4SM-2301-20-XDB***-voltage E4SM-2301-30-XDB***-voltage E4SM-2301-40-XDB***-voltage
TWO-WAY 2/2 NORMALLY OPEN	175 (12.1) 100 (6.9)			1/32" (0.8 mm) 3/64" (1.2 mm)	0.022 0.06	E4SM-2302-02-XDB***-voltage E4SM-2302-03-XDB***-voltage	E4SM-2302-02-XDB***-voltage E4SM-2302-03-XDB***-voltage
THREE-WAY 3/2 NORMALLY CLOSED (Exhaust to atm)	150 (10.3) 125 (8.6) 100 (6.9) 75 (5.2) 40 (2.8) 25 (1.7)	1/32" (0.8 mm) 3/64" (1.2 mm) 3/64" (1.2 mm) 1/16" (1.6 mm) 3/32" (2.4 mm) 3/32" (2.4 mm)	0.022 0.06 0.06 0.106 0.21 0.21	3/64" (1.2 mm) 3/64" (1.2 mm) 1/16" (1.6 mm) 1/16" (1.6 mm) 1/16" (1.6 mm) 3/32" (2.4 mm)	0.06 0.06 0.106 0.106 0.106 0.21	E4SM-3201-23-XDB***-voltage E4SM-3201-33-XDB***-voltage E4SM-3201-34-XDB***-voltage E4SM-3201-44-XDB***-voltage E4SM-3201-64-XDB***-voltage E4SM-3201-66-XDB***-voltage	E4SM-3301-23-XDB***-voltage E4SM-3301-33-XDB***-voltage E4SM-3301-34-XDB***-voltage E4SM-3301-44-XDB***-voltage E4SM-3301-64-XDB***-voltage E4SM-3301-66-XDB***-voltage
THREE-WAY 3/2 NORMALLY CLOSED (Piped exhaust)	150 (10.3) 125 (8.6) 100 (6.9) 75 (5.2) 40 (2.8) 25 (1.7)	1/32" (0.8 mm) 3/64" (1.2 mm) 3/64" (1.2 mm) 1/16" (1.6 mm) 3/32" (2.4 mm) 3/32" (2.4 mm)	0.022 0.06 0.06 0.106 0.21 0.21	3/64" (1.2 mm) 3/64" (1.2 mm) 1/16" (1.6 mm) 1/16" (1.6 mm) 1/16" (1.6 mm) 3/32" (2.4 mm)	0.06 0.06 0.106 0.106 0.106 0.21	E4SM-3201-23-XDB***-voltage E4SM-3201-33-XDB***-voltage E4SM-3201-34-XDB***-voltage E4SM-3201-44-XDB***-voltage E4SM-3201-64-XDB***-voltage E4SM-3201-66-XDB***-voltage	E4SM-3301-23-XDB***-voltage E4SM-3301-33-XDB***-voltage E4SM-3301-34-XDB***-voltage E4SM-3301-44-XDB***-voltage E4SM-3301-64-XDB***-voltage E4SM-3301-66-XDB***-voltage
THREE-WAY 3/2 NORMALLY OPEN	125 (8.6) 100 (6.9) 60 (4.1)	1/32" (0.8 mm) 3/64" (1.2 mm) 1/16" (1.6 mm)	0.022 0.06 0.106	1/32" (0.8 mm) 3/64" (1.2 mm) 1/16" (1.6 mm)	0.022 0.06 0.106	E4SM-3202-22-XDB***-voltage E4SM-3202-33-XDB***-voltage E4SM-3202-44-XDB***-voltage	E4SM-3302-22-XDB***-voltage E4SM-3302-33-XDB***-voltage E4SM-3302-44-XDB***-voltage
THREE-WAY 3/2 DIRECTIONAL CONTROL	110 (7.6) 100 (6.9) 80 (5.5)	1/32" (0.8 mm) 3/64" (1.2 mm) 1/16" (1.6 mm)	0.022 0.06 0.106	1/32" (0.8 mm) 3/64" (1.2 mm) 1/16" (1.6 mm)	0.22 0.06 0.106	E4SM-7202-22-XDB***-voltage E4SM-7202-33-XDB***-voltage E4SM-7202-44-XDB***-voltage	E4SM-7302-22-XDB***-voltage E4SM-7302-33-XDB***-voltage E4SM-7302-44-XDB***-voltage
THREE-WAY 3/2 MULTI-PURPOSE	125 (8.6) 100 (6.9) 40 (2.8)	1/32" (0.8 mm) 3/64" (1.2 mm) 1/16" (1.6 mm)	0.022 0.06 0.106	1/32" (0.8 mm) 3/64" (1.2 mm) 1/16" (1.6 mm)	0.022 0.06 0.106	E4SM-8202-22-XDB***-voltage E4SM-8202-33-XDB***-voltage E4SM-8202-44-XDB***-voltage	E4SM-8302-22-XDB***-voltage E4SM-8302-33-XDB***-voltage E4SM-8302-44-XDB***-voltage

Voltagess 24 vdc (-D024), 48 vdc (-D048), 12 vdc (-D012)

\*\*\* Product Number. Complete product number by inserting one of the following in place of the \*\*\*: S1C = M20 conduit connection, no diode, T1C = 1/2" npt conduit connection no diode, S5C = M20 conduit connection with diode, T5C = 1/2" npt conduit connection with diode.