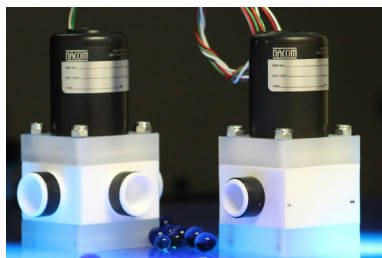
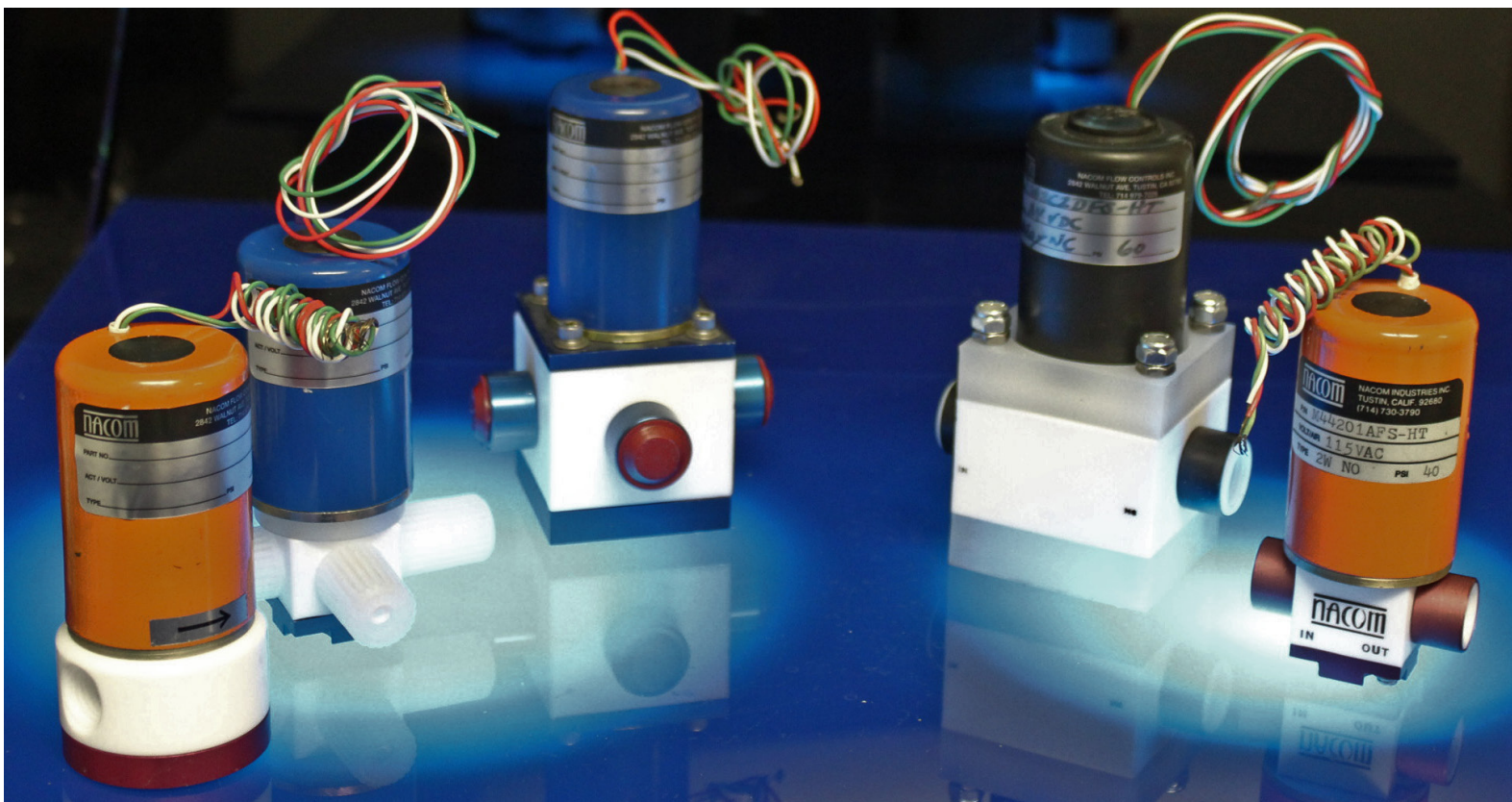
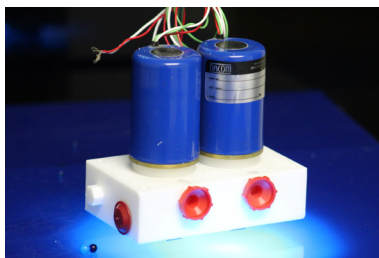


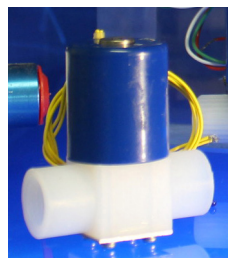
TEFLON SOLENOID VALVES



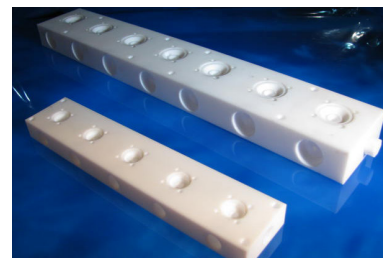
A series PTFE Solenoid valves



M series PTFE Solenoid Manifolds



S series PFA Solenoid valves



M series PTFE Solenoid Manifolds

NACOM'S PTFE TEFLON Solenoid valves are available in three series type categorized by size and design.

Each series type is available in 2way open, 2way closed, and 3way configurations. **S series** PTFE Solenoid valves are the smallest size valves with orifice sizes ranging from .030 diameter up to .090 diameter orifice and have a maximum operating pressure of 30 psi.

M series PTFE Solenoid valves with orifice sizes ranging from .125 diameter up to .375 diameter and have a maximum operating pressure of 40 psi.

A series PTFE Solenoid valves, NACOM's latest addition to our PTFE Solenoid valve group with orifice sizes ranging from .375 diameter up to .500 diameter and have a maximum operating pressure of 60 psi.

All NACOM PTFE Solenoid operated diaphragm valves are designed for use with high purity, contamination free fluid and gas handling applications including but not limited to Semiconductor manufacturing, Analytical (ozone analyzers), Pharmaceutical, Chromotography, Research laboratories and many more. Each series type valve meets or exceeds product specifications.

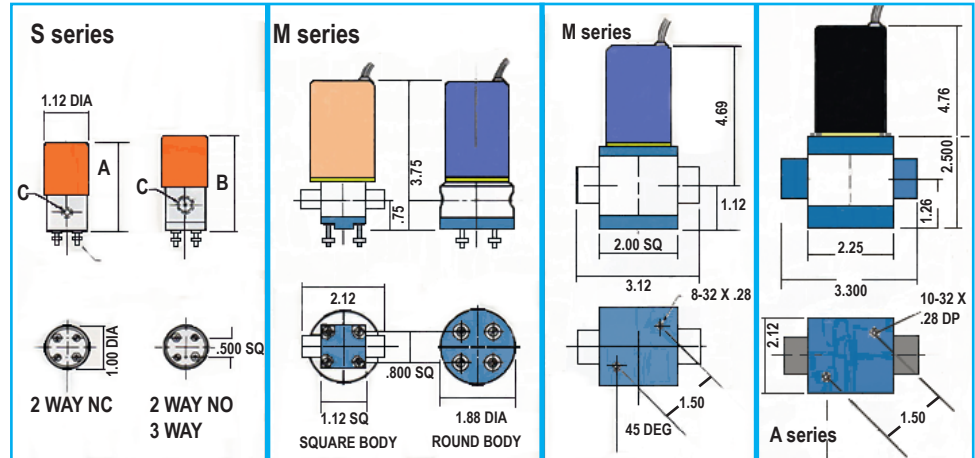
S (subminiature) series Orifice sizes .030 -.090 diameter **M (miniature) series** Orifice sizes .125 -.375 diameter **A (alpha) series** Orifice sizes .375 -.500 diameter

TEFLON SOLENOID VALVES

Specifications

VOLTAGE	DESIGNATOR
115 VAC	1A
220 VAC	2A
24 VAC	3A
12 VDC	1D
24 VDC	2D
105 VDC	5D

Example : M443W1AFS-HT / 1A = 115 VAC
the 1A indicates 115 VAC



S series

S series Solenoid valves: All S series Solenoid coils are a 5 watt Pull-Type.
There is no need to indicate high watt or low watt when building part number. Example : S213W1AFR-V this indicates the valve is a 115 VAC. All S series are 5 watt.

TYPE	A	B	C (PORT)	SPECIFICATION	2W NC	2W NO	3W
2 WAY NC	1.81	N/A	1/4-28	VACUUM			
2 WAY NC	N/A	2.19	1/8 FNPT	MEDIA PRESSURE	30 15 N/A N/A	30 8 N/A N/A	30 N/A 8 15
2 WAY NO	2.00	N/A	1/4-28	MEDIA TEMPERATURE		-50 to 100 degrees C	
2 WAY NO	N/A	2.38	1/8 FNPT	AMBIENT TEMPERATURE		-50 to 100 degrees C	
3 WAY	2.00	N/A	1/4-28	CV	.03	.03	.03
3 WAY	N/A	2.38	1/8 FNPT	WATTAGE	5 WATT	5 WATT	5 WATT

M series

SPECIFICATION	2 WAY NC	2 WAY NO	3 WAY
VACUUM			
MEDIA PRESSURE	LOW WATT 30 PSI 15 PSI N/A N/A	HIGH WATT 40 PSI 25 PSI N/A N/A	LOW WATT 30 PSI 8 PSI N/A N/A
MEDIA TEMPERATURE	-50 to 100 degrees C	-50 to 100 degrees C	-50 to 100 degrees C
AMBIENT TEMPERATURE	-50 to 100 degrees C	-50 to 100 degrees C	-50 to 100 degrees C
COIL TEMP			
VOLTAGE TOLERANCE	+/- 10%	+/- 10%	+/- 10%
WATTAGE	5-6 WATTS 10-13 WATTS	5-6 WATTS 10-13 WATTS	5-6 WATTS 10-13 WATTS
COIL LEADS			
CV	1/8 1/4 3/8	.18 .75 2.0	.18 .75 2.0

M series Solenoid valves: M series Solenoid coils are 6 (low) watt & 12 (high) watt Pull-Type. 6 watt are not available in 3/8" valves. When building part number it must be indicated what wattage is desired. For Low watt coils use "L" for wattage indicator. For High watt coils use "H" for wattage indicator. Example : M223W2DFR-LV this indicates the valve is a 24 VDC 6 watt unit. 1/8"-1/4" orifice valves can be ordered with either watt. 3/8" orifice valves can only be ordered with high watt. coils

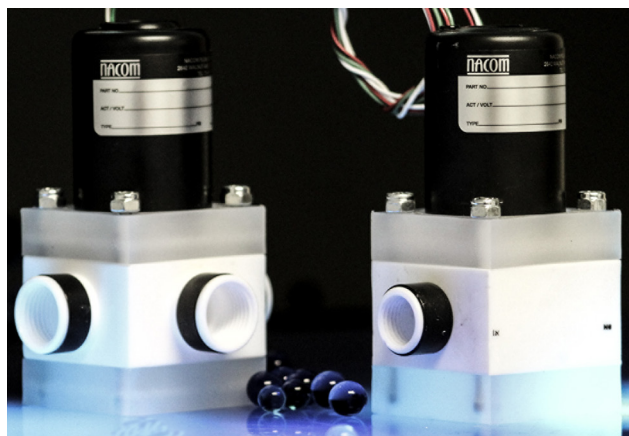
TEFLON SOLENOID VALVES

Specifications 2 way & 3 way Configurations

A series

alpha series PTFE solenoid valves

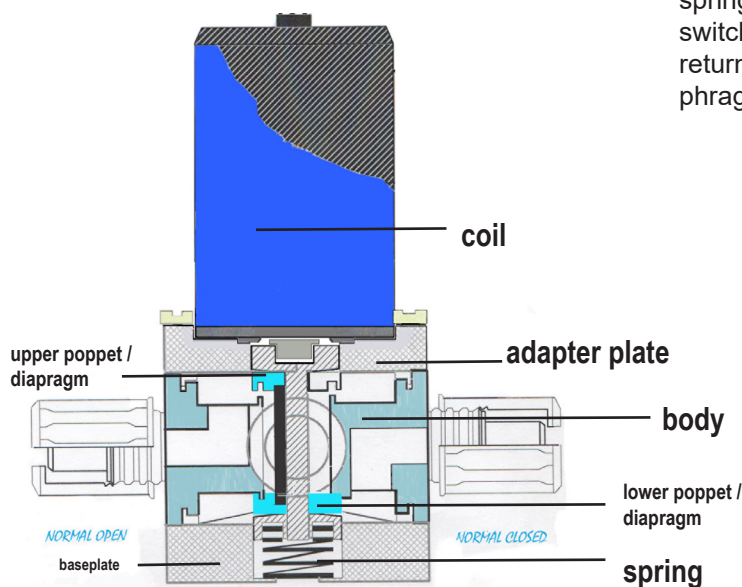
Specification	2 way normal closed	2 way normal open	3 way
Vacuum	29.5 Hg	29.5 Hg	29.5 Hg
Operating pressure	60 psi	60 psi	60 psi
Temperature			
ambient	-53 deg C to + 80 deg C	-53 deg C to + 80 deg C	-53 deg C to + 80 deg C
line media	-53 deg C to + 120 deg C	-53 deg C to + 120 deg C	-53 deg C to + 120 deg C
Cv factor			
3/8	.19	.19	.19
1/2	3.12	3.12	3.12
wattage	12 WATT	12 WATT	12 WATT
Voltage tolerance	+/- 10%	+/- 10%	+/- 10%
Voltages	24 VAC / 115 VAC / 220 VAC // 12 VDC / 24 VDC / 105 VDC		
Flow characteristics			
Water GPM @ 20ft sec	3/8 = 4.2 GPM 1/2 = 6.5 GPM		
Free flow@rated pressure	3/8 = 29.5 ScFm 1/2 = 39.2 ScFm		



Operating Pressure : 60 psi

Backpressure : 30 psi

All A series PTFE Solenoid valves operate with a 12 watt "Push type" coil. When coil is energized, a internal plunger pushes down poppet-diaphragm assembly ,compressing spring(located beneath the lower diaphragm chamber) and switching flow direction. When de-energized , the spring returns to fully extended length , pushing up on poppet - diaphragm assembly and goes back to original flow position.



Seating configurations

S series valves are only available with oring seat type. Viton or KALREZ are options

M series valves are available in **Oring seat** and in **Teflon seat** types to choose from .

A series valves are only available with **Teflon seat** types

Conduit connection : In addition to the standard 2 lead and 3 lead power connections , NACOM offers all 3 series with conduit connection in place of wire power supply. This is a additional cost and extends delivery date . *consult factory* .

Extended leads : In addition to the standard 12" leads ,NACOM offers extended leads of 18" , 24 " and 36" . This applies to all 3 series valves and has a additional cost and extended delivery date . *consult factory*

Body shapes:

S series valves **Round body** 1/4-28 thread & 1/8" FNPT. **Square body** 1/8" FNPT. & 1/8 TUBE

M series valves **Round body** 1/8" FNPT, 1/4" FNPT. **Square body** 1/8", 1/4" & 3/8" FNPT. 1/8", 1/4", & 3/8" TUBE. 1/4", 3/8" FLARE

A series valves Are only available **Square body** with 3/8"-1/2" FNPT. 3/8"-1/2" TUBE, & 3/8"-1/2" FLARE

Options continued

Non standard configurations. 3 way teflon solenoid valves may be ordered with any of the six different porting arrangements as shown in the ordering chart below.

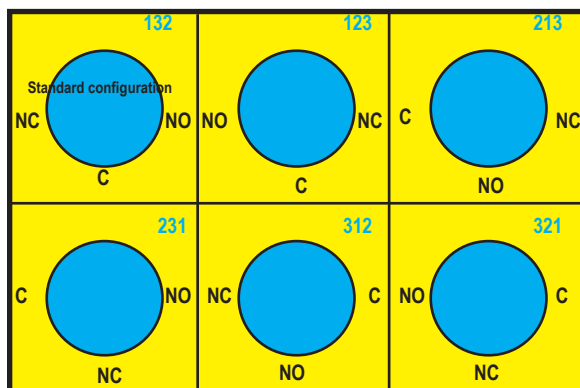
Unless otherwise specified, 3 way valves will be supplied in the 132 configuration. To order any of the other five configurations, simply add the appropriate three digits after the basic part number selected from the how to order chart. Example : **M223W1AFR-LT-123**, Example 2 : **A883W2DFF-HT-231** This applies to all 3 way solenoid valves regardless of series type.

Mounting studs. The **M series** 3/8 inch orifice an **A series** 3/8 and 1/2 inch orifice does not use mounting studs. Each of these valves have 8-32 mounting holes located in the bottom side of valve.

Indicates seat type.*** The **S series** is only available in oring type seat. The **A series** is only available with TEFLON Seat.

Coil wattage* : The **S series** is only available in 5 watt. The wattage designator does not apply to **S series**. The **A series** is only available in 12 watt. The designator for this is "H". The **M series** is available in 6 watt, and 12 watt. For 6 watt the designator is "L". For 12 watt the designator is "H". The **M series** is the only series where you can choose wattage type. For **Pneumatic style** The voltage designating number is changed from voltage to pneumatic style.
Example : (M443W1AFS-HT for solenoid style) (M443WPFS-T for pneumatic style)

FLOW CONFIGURATION CHART



Optional

Only applies if valve material is PFA to order in PFA add "P"

Indicates valve series

S = S series (1/16)
M = M series (1/8, 1/4, 3/8)
A = A series (3/8, 1/2)

Indicates port size

1 = 1/4-28
2 = 1/8 (3.2mm)
4 = 1/4 (6.4mm)
6 = 3/8 (9.5mm)
8 = 1/2 (12.7mm)

Indicates orifice size

1 = 1/16 (1.6mm)
2 = 1/8 (3.2mm)
4 = 1/4 (6.4mm)
6 = 3/8 (9.5mm)
8 = 1/2 (12.7mm)

Indicates valve config

2C = 2 Way Normally closed
2O = 2 Way Normally open
3W = 3 Way

P- M 6 6 2C 2D F S H T- AP- XXX

indicates alt flow config

Unless specified alternate flow, valve will be 132 configuration

indicates high pressure

Can only be ordered in M series 1/4". All others do not use AP

Indicates seat type***

T = Teflon
V = Viton
K = Kalrez

Indicates coil wattage*
pneumatic style leave blank

H = High watt ** (12watt)
L = Low watt (6watt)
XLP = Xtra low watt (2.2watt)

note : For pneumatic style this does not apply. This is only for solenoid version

Indicates body shape

R = Round body
S = Square body

Indicates port type

F = Female NPT
T = Tube ends
F = Fractional Flared

Indicates coil voltage or Pneumatic style

1A = 115 VAC
2A = 230 VAC
3A = 24 VAC
1D = 12 VDC
2D = 24 VDC
5D = 105 VDC
P = PNEUMATIC STYLE

NOTE : S SERIES VALVES ORDERING INFORMATION CAN BE FOUND ON PAGE 21.

PART NUMBER BREAKDOWN IS PART NUMBER FOLLOWED BY CONFIGURATION (2WAY CLOSED, 2WAY OPEN OR 3WAY), VOLTAGE, THEN ORING SEAT TYPE (VITON OR KALREZ).

Any S series Solenoid valves can be ordered in pneumatic version. To order in pneumatic version simply drop the voltage designating number and add "P" in place of the voltage number. Example : Solenoid version **S112C1AFR-V** / Pneumatic version **S112CPFR-V**

HOW TO ORDER S SERIES

1/4-28 ROUND BODY

S series Solenoid valves

1/4-28 THD ROUND BODY

Part number	Description
S112C1AFR-V	2W NC 115VAC VITON
S112C1AFR-K	2W NC 115 VAC KALREZ
S112C2AFR-V	2W NC 220VAC VITON
S112C2AFR-K	2W NC 220 VAC KALREZ
S112C1DFR-V	2W NC 12 VDC VITON
S112C1DFR-K	2W NC 12 VDC KALREZ
S112C2DFR-V	2W NC 24 VDC VITON
S112C2DFR-K	2W NC 24 VDC KALREZ
S112C5DFR-V	2W NC 105 VDC VITON
S112C5DFR-K	2W NC 105 VDC KALREZ
S112O1AFR-V	2W NO 115 VAC VITON
S112O1AFR-K	2W NO 115 VAC KALREZ
S112O2AFR-V	2W NO 220 VAC VITON
S112O2AFR-K	2W NO 220 VAC KALREZ
S112O1DFR-V	2W NO 12 VDC VITON
S112O1DFR-K	2W NO 12 VDC KALREZ
S112O2DFR-V	2W NO 24 VDC VITON
S112O2DFR-K	2W NO 24 VDC KALREZ
S112O5DFR-V	2W NO 105 VDC VITON
S112O5DFR-K	2W NO 105 VDC KALREZ
S113W1AFR-V	3W 115 VAC VITON
S113W1AFR-K	3W 115 VAC KALREZ
S113W2AFR-V	3W 220 VAC VITON
S113W2AFR-K	3W 220 VAC KALREZ
S113W1DFR-V	3W 12 VDC VITON
S113W1DFR-K	3W 12 VDC KALREZ
S113W2DFR-V	3W 24 VDC VITON
S113W2DFR-K	3W 24 VDC KALREZ
S113W5DFR-V	3W 105 VDC VITON
S113W5DFR-K	3W 105 VDC KALREZ

1/8 FNPT ROUND BODY

S series Solenoid valves

1/8 FNPT ROUND BODY

Part number	Description
S212C1AFR-V	2W NC 115VAC VITON
S212C1AFR-K	2W NC 115 VAC KALREZ
S212C2AFR-V	2W NC 220VAC VITON
S212C2AFR-K	2W NC 220 VAC KALREZ
S212C1DFR-V	2W NC 12 VDC VITON
S212C1DFR-K	2W NC 12 VDC KALREZ
S212C2DFR-V	2W NC 24 VDC VITON
S212C2DFR-K	2W NC 24 VDC KALREZ
S212C5DFR-V	2W NC 105 VDC VITON
S212C5DFR-K	2W NC 105 VDC KALREZ
S212O1AFR-V	2W NO 115 VAC VITON
S212O1AFR-K	2W NO 115 VAC KALREZ
S212O2AFR-V	2W NO 220 VAC VITON
S212O2AFR-K	2W NO 220 VAC KALREZ
S212O1DFR-V	2W NO 12 VDC VITON
S212O1DFR-K	2W NO 12 VDC KALREZ
S212O2DFR-V	2W NO 24 VDC VITON
S212O2DFR-K	2W NO 24 VDC KALREZ
S212O5DFR-V	2W NO 105 VDC VITON
S212O5DFR-K	2W NO 105 VDC KALREZ
S213W1AFR-V	3W 115 VAC VITON
S213W1AFR-K	3W 115 VAC KALREZ
S213W2AFR-V	3W 220 VAC VITON
S213W2AFR-K	3W 220 VAC KALREZ
S213W1DFR-V	3W 12 VDC VITON
S213W1DFR-K	3W 12 VDC KALREZ
S213W2DFR-V	3W 24 VDC VITON
S213W2DFR-K	3W 24 VDC KALREZ
S213W5DFR-V	3W 105 VDC VITON
S213W5DFR-K	3W 105 VDC KALREZ

1/8 TUBE SQUARE BODY

S series Solenoid valves

1/8" TUBE SQUARE BODY

Part number	Description
S212C1ATS-V	2W NC 115VAC VITON
S212C1ATS-K	2W NC 115 VAC KALREZ
S212C2ATS-V	2W NC 220VAC VITON
S212C2ATS-K	2W NC 220 VAC KALREZ
S212C1DTS-V	2W NC 12 VDC VITON
S212C1DTS-K	2W NC 12 VDC KALREZ
S212C2DTS-V	2W NC 24 VDC VITON
S212C2DTS-K	2W NC 24 VDC KALREZ
S212C5DTS-V	2W NC 105 VDC VITON
S212C5DTS-K	2W NC 105 VDC KALREZ
S212O1ATS-V	2W NO 115 VAC VITON
S212O1ATS-K	2W NO 115 VAC KALREZ
S212O2ATS-V	2W NO 220 VAC VITON
S212O2ATS-K	2W NO 220 VAC KALREZ
S212O1DTS-V	2W NO 12 VDC VITON
S212O1DTS-K	2W NO 12 VDC KALREZ
S212O2DTS-V	2W NO 24 VDC VITON
S212O2DTS-K	2W NO 24 VDC KALREZ
S212O5DTS-V	2W NO 105 VDC VITON
S212O5DTS-K	2W NO 105 VDC KALREZ
S213W1ATS-V	3W 115 VAC VITON
S213W1ATS-K	3W 115 VAC KALREZ
S213W2ATS-V	3W 220 VAC VITON
S213W2ATS-K	3W 220 VAC KALREZ
S213W1DTS-V	3W 12 VDC VITON
S213W1DTS-K	3W 12 VDC KALREZ
S213W2DTS-V	3W 24 VDC VITON
S213W2DTS-K	3W 24 VDC KALREZ
S213W5DTS-V	3W 105 VDC VITON
S213W5DTS-K	3W 105 VDC KALREZ

1/8 FNPT SQUARE BODY

S series Solenoid valve

2 WAY NORMAL CLOSED
1/8 FNPT SQUARE BODY

Part number	Description
S212C1AFS-V	2W NC 115 VAC VITON
S212C1AFS-K	2W NC 115 VAC KALREZ
S212C2AFS-V	2W NC 220 VAC VITON
S212C2AFS-K	2W NC 220 VAC KALREZ
S212C1DFS-V	2W NC 12 VDC VITON
S212C1DFS-K	2W NC 12 VDC KALREZ
S212C2DFS-V	2W NC 24 VDC VITON
S212C2DFS-K	2W NC 24 VDC KALREZ
S212C5DFS-V	2W NC 105 VDC VITON
S212C5DFS-K	2W NC 105 VDC KALREZ

1/8 FNPT SQUARE BODY

S series Solenoid valve

2 WAY NORMAL OPEN
1/8 FNPT SQUARE BODY

Part number	Description
S212O1AFS-V	2W NO 115 VAC VITON
S212O1AFS-K	2W NO 115 VAC KALREZ
S212O2AFS-V	2W NO 220 VAC VITON
S212O2AFS-K	2W NO 220 VAC KALREZ
S212O1DFS-V	2W NO 12 VDC VITON
S212O1DFS-K	2W NO 12 VDC KALREZ
S212O2DFS-V	2W NO 24 VDC VITON
S212O2DFS-K	2W NO 24 VDC KALREZ
S212O5DFS-V	2W NO 105 VDC VITON
S212O5DFS-K	2W NO 105 VDC KALREZ

1/8 FNPT SQUARE BODY

S series Solenoid valve

3 WAY
1/8 FNPT SQUARE BODY

Part number	Description
S213W1AFS-V	3W 115 VAC VITON
S213W1AFS-K	3W 115 VAC KALREZ
S213W2AFS-V	3W 220 VAC VITON
S213W2AFS-K	3W 220 VAC KALREZ
S213W1DFS-V	3W 12 VDC VITON
S213W1DFS-K	3W 12 VDC KALREZ
S213W2DFS-V	3W 24 VDC VITON
S213W2DFS-K	3W 24 VDC KALREZ
S213W5DFS-V	3W 105 VDC VITON
S213W5DFS-K	3W 105 VDC KALREZ