

SUB ZERO RANGE -50°C 316 STAINLESS STEEL

SZ SERIES
SUB ZERO RANGE -50° C

SUB ZERO RANGE

AIR SERVICE UNITS 3550 SZ SERIES

AIR SERVICE UNITS 3500 SZ SERIES

SPOOL VALVES 1500 SZ SERIES

POPPET VALVES 1750 SZ SERIES

ANCILLARY VALVES 4500 SZ SERIES

SELF RELIEVING • NON RELIEVING

General Description

A 316 Stainless Steel combination unit for filtration and pressure regulation of compressed air for the offshore, food, pharmaceutical and allied industries.

- 316 Stainless Steel throughout.
- Large flow paths minimise pressure drop.
- Rolling diaphragm design.
- Precision adjustment.

Filter Unit

Large 40 micron standard element with manual drain for the removal of liquids and solids.

Operating Medium

Gases, air, inert gas, sweet (natural) gas

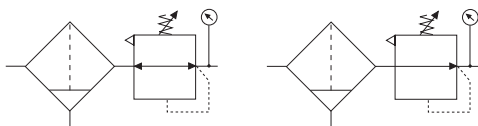
Ingress Protection

Heavy seas/on deck rating

Functional Symbols

Self relieving

Non relieving



Technical Data

Ports NPT (BSP option available)

- 1/4", 1/2", 3/4"

Gauge Ports

- 1/8" NPT
- 1/4" NPT (BSP option available)

Relief/Vent Port

- 1/8" NPT (Fitted with bug screen)

Maximum Inlet Pressure

- Manual drain - 20 bar (290 psi)

Regulated Pressure

- 0.50 to 2 bar (7.2 to 29 psi)
- 0.50 to 4 bar (7.2 to 58 psi)
- 0.50 to 8 bar (7.2 to 116 psi)

Cv (Kv)

- 1/4" - 2.4 (34.0) 3/8" - 3.3 (47.0)
- 1/2" - 4.4 (63.0) 3/4" - 5.0 (71.0)

Maximum Bleed Flow

at 2 bar (29psi) secondary pressure

- 0.5cc/sec (0.03cu in/sec)

Working Temperature

- -50°C to +90°C (-58°F to +194°F)

Bowl Retention Capacity

- 21cc (1.28cu ins)

Flow capacity

10 bar (145 psi) inlet pressure,
6 bar (87 psi) secondary pressure
with 1 bar (14.5 psi) pressure drop

- 1/4" - 62 dm³/sec (130 SCFM)
- 1/2" - 100 dm³/sec (212 SCFM)



Construction Materials

- Body/Bonnet/Bowl and Internals Stainless Steel AISI 316 S11 to NACE MR-0175
- 40 Micron 316 Stainless Steel (5 Micron option) Element
- Fluorosilicone and 316 Stainless Steel Diaphragm and Valve Assembly
- Inconel X750 Valve Spring
- 316 Stainless Steel Adjustment Spring
- EPDM Seals

Preferred Models

Model Number	Description	Weight kg (lbs)
Self Relieving		
2FRMSF**2A+	1/4" NPT Filter regulator, manual drain	1.75 (3.86)
4FRMSF**2A+	1/2" NPT Filter regulator, manual drain	1.75 (3.86)
6FRMSF**2A+	3/4" NPT Filter regulator, manual drain	1.95 (4.30)

Non Relieving

Specify model code 'FRN' in place of 'FRM' for manual drain versions.

**** for regulated pressure add code:**

0.50 to 2 bar (7.2 to 29 psi) -code 02

0.50 to 4 bar (7.2 to 58 psi) -code 04

0.50 to 8 bar (7.2 to 116 psi) -code 08

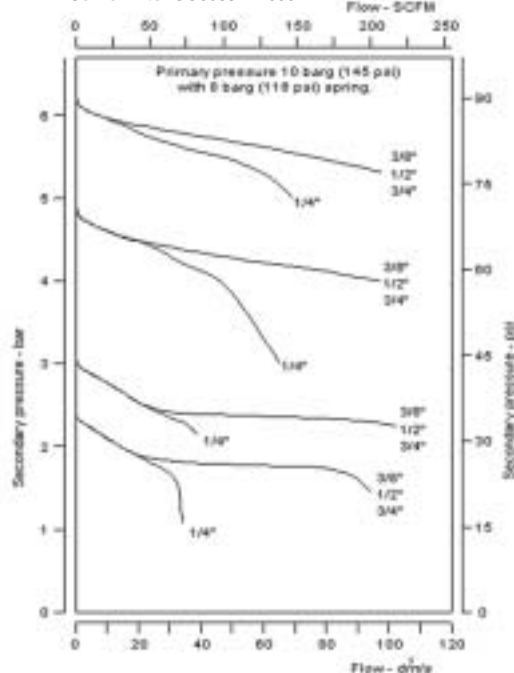
+ for 5 micron element add 05 to model number

for BSP replace '2' in position 9 with '1'

for 1/4" gauge port add 'X' to end of model number

Flow Characteristics

Conform to ISO6953-2:2000



SUB ZERO RANGE - Air Service Units

FILTER REGULATORS • 1/4", 1/2", 3/4", NPT (BSP)

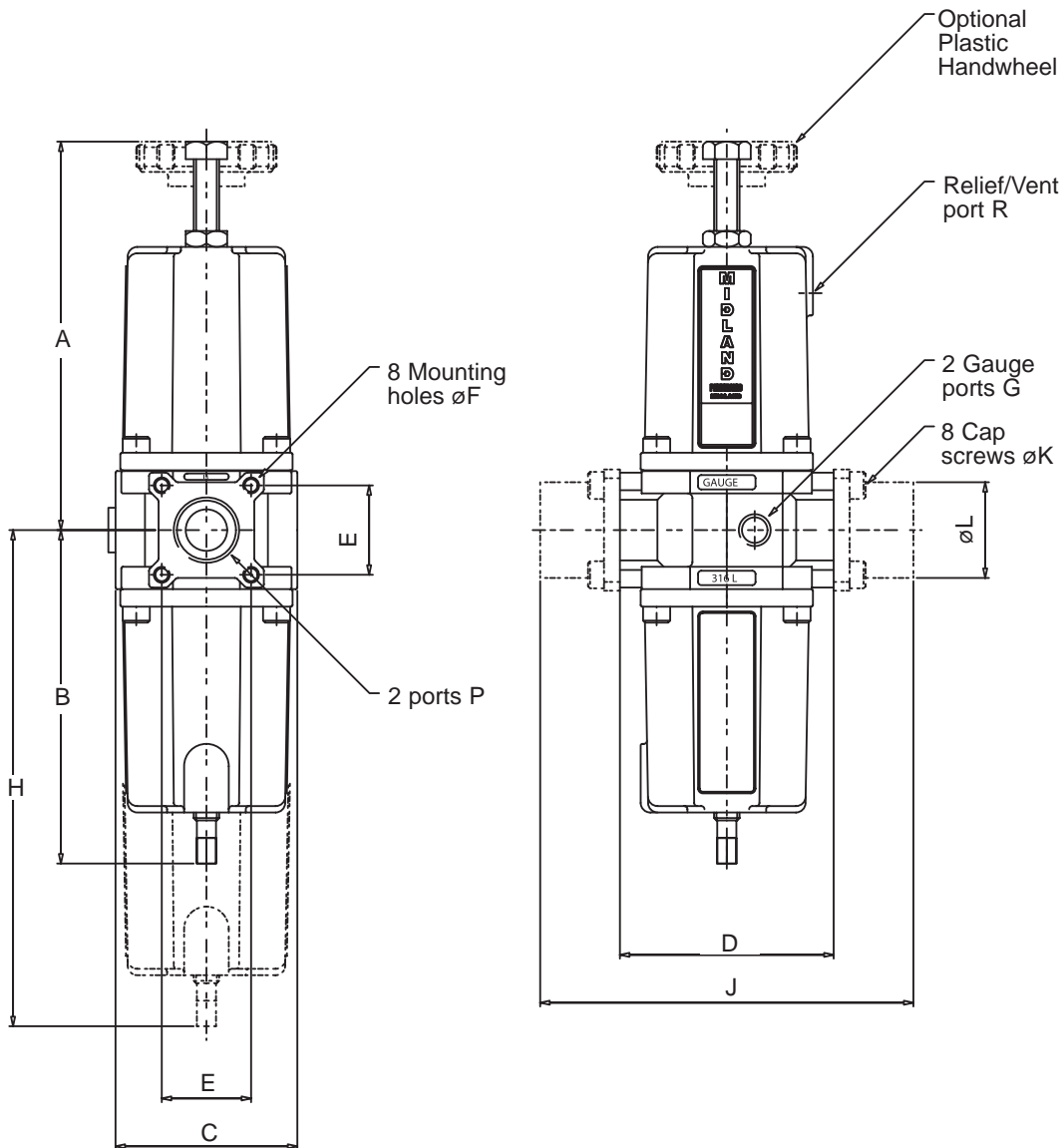
3550 SZ SERIES

3550 SZ SERIES SUB ZERO RANGE

SELF RELIEVING • NON RELIEVING

INSTALLATION DIMENSIONS mm (inches)

Filter Regulators - Self Relieving and Non Relieving with Manual Drain



Model Number	Ports P	Ports G	Port R	A	B	C	D	E	F	H	J	K	L
With manual drain													
2FMRSF**2A	1/4" NPT	1/8" NPT	1/8" NPT	123.5	104	55	67	24	M4	155	-	-	-
	1/4" NPT	1/8" NPT	1/8" NPT	(4.86)	(4.09)	(2.17)	(2.64)	(0.94)	M4	(6.10)	-	-	-
4FMRSF**2A	1/2" NPT	1/8" NPT	1/8" NPT	123.5	104	55	67	28	M5	155	-	-	-
	1/2" NPT	1/8" NPT	1/8" NPT	(4.86)	(4.09)	(2.17)	(2.64)	(1.10)	M5	(6.10)	-	-	-
6FMRSF**2A	3/4" NPT	1/8" NPT	1/8" NPT	123.5	104	55	-	28	-	155	117	M5	30
	3/4" NPT	1/8" NPT	1/8" NPT	(4.86)	(4.09)	(2.17)	-	(1.10)	-	(6.10)	(4.61)	M5	(1.18)

Dimensions for non relieving models are same as self relieving models above.

Dimension H = clearance required below pipe centerline to enable bowl removal.

For optional handwheel, tamper proof cap, gauges and mounting accessories see details on page 3550SZ.4

SELF RELIEVING • NON RELIEVING

General Description

A 316 Stainless Steel regulator for the offshore, food, pharmaceutical and allied industries.

- 316 Stainless Steel throughout.
- Large flow characteristics.
- Rolling diaphragm design.
- High relief flow.
- Precision adjustment.

Operating Medium

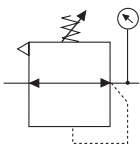
Gases, air, inert gas, sweet (natural) gas.

Ingress Protection

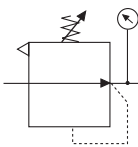
Heavy seas/on deck rating

Functional Symbols

Self relieving



Non relieving



Technical Data

Ports NPT (BSP option available)

- 1/4", 1/2", 3/4"

Gauge Ports

- 1/8" NPT
- 1/4" NPT (BSP option available)

Relief/Vent Port

- 1/8" NPT (Fitted with bug screen)

Maximum Inlet Pressure

- 20 bar (290 psi)

Regulated Pressure

- 0.50 to 2 bar (7.2 to 29 psi)
- 0.50 to 4 bar (7.2 to 58 psi)
- 0.50 to 8 bar (7.2 to 116 psi)

Cv (Kv)

- 1/4" - 2.4 (34.0) 3/8" - 3.5 (500.0)
- 1/2" - 4.6 (65.5) 3/4" - 5.2 (74.0)

Maximum Bleed Flow

- at 2 bar (29psi) secondary pressure
- 0.5cc/sec (0.03cu in/sec)

Working Temperature

- -50°C to +90°C (-58°F to +194°F)

Flow Capacity

- 10 bar (145 psi) inlet pressure, 6 bar (87 psi) secondary pressure with 1 bar (14.5 psi) pressure drop
- 1/4" - 62 dm³/sec (130 SCFM)
- 1/2" - 100 dm³/sec (212 SCFM)



Construction Materials

- Body/Bonnet/Bowl and Internals Stainless Steel AISI 316 S11 to NACE MR-01-75
- Fluorosilicone and 316 Stainless Steel Diaphragm and Valve Assembly
- Inconel X750 Valve spring
- EPDM Seals
- 316 Stainless Steel Adjustment Spring

Preferred Models Flow Characteristics

Model Number	Description	Weight kg (lbs)
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Self Relieving

2PRVSF**2A	1/4" NPT Pressure Regulator	1.60 (3.53)
4PRVSF**2A	1/2" NPT Pressure Regulator	1.60 (3.53)
6PRVSF**2A	3/4" NPT Pressure Regulator	1.80 (3.97)

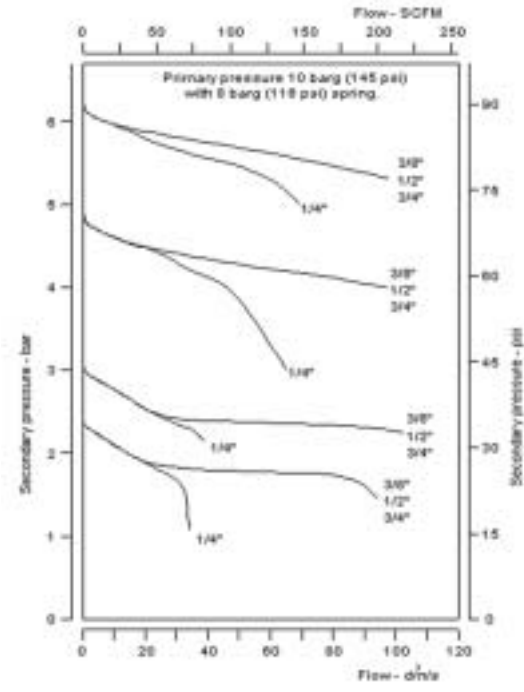
Non Relieving

2PRVSF**2	1/4" NPT Pressure Regulator	1.60 (3.53)
4PRVSF**2	1/2" NPT Pressure Regulator	1.60 (3.53)
6PRVSF**2A	3/4" NPT Pressure Regulator	1.80 (3.97)

**** for regulated pressure add code:**
 0.50 to 2 bar (7.2 to 29 psi) -code 02
 0.50 to 4 bar (7.2 to 58 psi) -code 04
 0.50 to 8 bar (7.2 to 116 psi) -code 08

- for BSP replace '2' in position 9 with '1'
 for 1/4" gauge port add 'X' to end of model number

Conform to ISO6953-2:2000



SUB ZERO RANGE - Air Service Units

PRESSURE REGULATORS • 1/4", 1/2", 3/4", NPT (BSP)

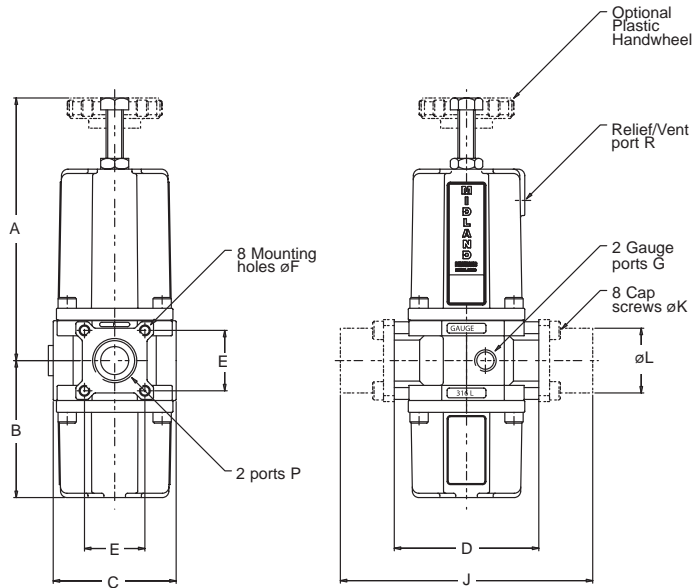
3550 SZ SERIES

3550 SZ SERIES SUB ZERO RANGE

SELF RELIEVING • NON RELIEVING

INSTALLATION DIMENSIONS mm (inches)

Pressure Regulators - Self Relieving and Non Relieving



Model Number	Ports P	Ports G	Port R	A	B	C	D	E	F	J	K	L
2PRVSF**2A	1/4" NPT	1/8" NPT	1/8" NPT	123.5	64	55	67	24	M4	-	-	-
	1/4" NPT	1/8" NPT	1/8" NPT	(4.86)	(2.52)	(2.17)	(2.64)	(0.94)	M4	-	-	-
4PRVSF**2A	1/2" NPT	1/8" NPT	1/8" NPT	123.5	64	55	67	28	M5	-	-	-
	1/2" NPT	1/8" NPT	1/8" NPT	(4.86)	(2.52)	(2.17)	(2.64)	(1.10)	M5	-	-	-
6PRVSF**2A	3/4" NPT	1/8" NPT	1/8" NPT	123.5	64	55	-	28	-	117	M5	30
	3/4" NPT	1/8" NPT	1/8" NPT	(4.86)	(2.52)	(2.17)	-	(1.10)	-	(4.61)	M5	(1.18)

Dimensions for non relieving models are same as self relieving models above.

ACCESSORIES

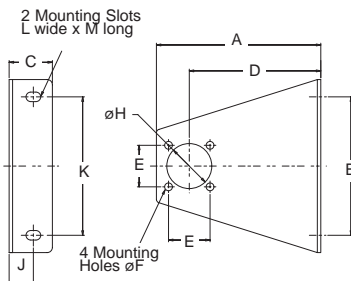
Mounting Bracket

Mounting bracket kit

SSF2110-7S
(for 1/4" units-short)

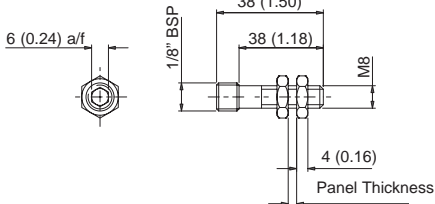
SSF2110-7
(for 1/4" units-long)

SSF4110-7
(for 3/8", 1/2" and 3/4" units)



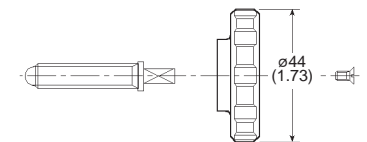
Stud Mounting Kit

Stud mounting kit
SSBF238-21



Plastic Handwheel Kit

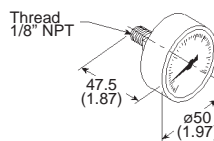
Plastic handwheel kit
SSAF238-23



Model Number	A	B	C	D	E
SSF2110-7S	79(3.11)	100(3.94)	25(0.98)	60(2.36)	24(0.94)
SSF2110-7	95(3.74)	100(3.94)	25(0.98)	76(2.99)	24(0.94)
SSF4110-7	95(3.74)	100(3.94)	25(0.98)	76(2.99)	28(1.10)
F	H	J	K	L	M
4.5(0.18)	26(1.02)	14(0.55)	80(3.15)	5.5(0.22)	8.5(0.33)
4.5(0.18)	26(1.02)	14(0.55)	80(3.15)	5.5(0.22)	8.5(0.33)
5.5(0.22)	30(1.18)	14(0.55)	80(3.15)	5.5(0.22)	8.5(0.33)

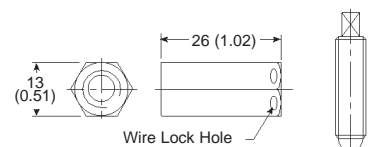
Pressure Gauge

50mm pressure gauge
SSF153N/11 (0-11 bar) (0-160 psi)
SSF153N/4 (0-4 bar) (0-60 psi)
SSF153N/2 (0-2 bar) (0-30 psi)



Tamper Proof Cap Kit

Tamper proof cap kit
SSAF238-22



TECHNICAL DATA

General Description

A 316 Stainless Steel combination unit for filtration and pressure regulation of compressed air for the offshore, food, pharmaceutical and allied industries.

- 316 Stainless Steel throughout.
- Large flow paths minimise pressure drop.
- Clean lines.

Operating Medium

Gases, air, inert gas, sweet (natural) gas.

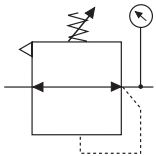
Ingress Protection

Heavy seas/on deck rating

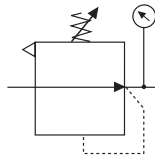
Functional Symbols

Regulators

Self relieving

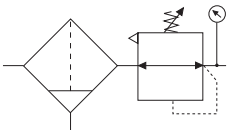


Non relieving

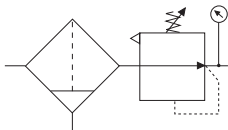


Filter/Regulators

Self relieving with manual drain



Non relieving with manual drain



Technical Data

Ports NPT (BSP option available)

- 3/4", 1"

Gauge ports

- 1/8" NPT
- 1/4" NPT (BSP option available)

Relief/Vent Port

- 1/8" NPT (Fitted with bug screen)

Filtration

- 2.5 micron

Working Pressure

- Filter regulators manual drain 20 bar (290 psi)
- Regulators maximum inlet pressure 20 bar (290 psi)

Working Temperature

Ambient Temperature

- -50°C to +90°C (-58°F to +194°F)

Bowl Retention

- 260cc (15.87cu ins)

Regulated Pressure

- 0.1 to 2 bar (1.45 to 29 psi)
- 0.2 to 4 bar (2.90 to 58 psi)
- 0.3 to 7 bar (4.35 to 102 psi)
- 0.5 to 10 bar (7.25 to 145 psi)

Cv (Kv)

- 3/4" - 10.0 (145)
- 1" - 15.0 (217)

Maximum Bleed Flow

at 2 bar (29 psi) secondary pressure

- 0.5 cc/sec (0.03cu in/sec)

Regulator

at 7 bar (102 psi) inlet pressure, 6 bar (87 psi) secondary pressure, 1 bar (14.5 psi) pressure drop

- 130 dm³/sec (274 SCFM)

Filter Regulator

at 7 bar (102 psi) inlet pressure, 6 bar (87 psi) secondary pressure, 1 bar (14.5 psi) pressure drop

- 130 dm³/sec (274 SCFM)

Construction Materials

- Body/Bonnet/Bowl and Internals Stainless Steel AISI 316 S11 to NACE MR-01-75
- Sintered Polypropylene Element
- Fluorosilicone Diaphragm
- Iconel X750 Valve Spring
- 316 Stainless Steel Adjustment Spring
- EPDM Seals

Flow Characteristics

Conform to ISO6953-2:2000

For pressure regulator characteristics see graphs on page 3500SZ.3

SELF RELIEVING • NON RELIEVING

General Description

A 316 Stainless Steel combination unit for filtration and pressure regulation of compressed air for the offshore, petrochemical, pharmaceutical and allied industries.

- Large flow paths minimise pressure drop.
- Clean Lines

Operating fluids, Ingress Protection Functional Symbols, Technical Data and Construction Materials.

See details on page 3500SZ.1

Flow Characteristics

- For pressure regulator characteristics see graphs on page 3550SZ.3



Preferred Models

Model Number	Description	Weight kg (lbs)
Self Relieving		
6FRMSV**2A	3/4" NPT Filter with manual drain	5.75 (12.7)
8FRMSV**2A	1" NPT Filter with manual drain	5.75 (12.7)
Non Relieving		
Specify model code "FRN" in place of "FRM" for manual drain versions.		

** for regulated pressure add code:

0.1 to 2 bar (1.45 to 29 psi) -code 02

0.2 to 4 bar (2.90 to 58 psi) -code 04

0.3 to 7 bar (4.35 to 102 psi) -code 07

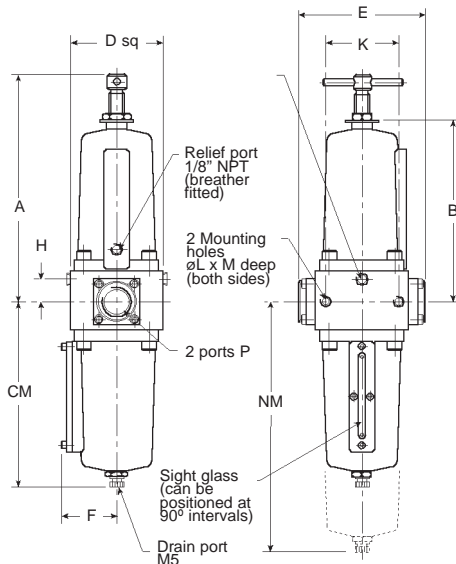
0.5 to 10 bar (7.25 to 145 psi) -code 10

- for BSP replace '2' in position 9 with '1'

- for 1/4" gauge port add 'X' to end of model number

INSTALLATION DIMENSIONS mm (inches)

Filter Regulators with Manual Drain



Mounting Brackets

Stand-pipe Mounting Kit
SSAF638-28

Mounting kit
SSAF638-26

for dimensional details see page 3550SZ.3

Tamper Proof Cap Kit

Tamper proof cap kit
SSAF638-22

for dimensional details see page 3550SZ.3

Model Number	Ports P	Ports G	A	B	CA [†]	CM	D	E	F	H	K	L	M	NA [†]	NM
6FRMSV**2A	3/4" NPT	1/8" NPT	219	174	201	180	87.5	120	52	21.5	70	M8	12	281	260
	3/4" NPT	1/8" NPT	(8.62)	(6.85)	(7.91)	(7.09)	(3.44)	(4.72)	(2.05)	(0.85)	(2.76)	M8	(0.47)	(11.06)	(10.24)
8FRMSV**2A	1" NPT	1/8" NPT	219	174	201	180	87.5	120	52	21.5	70	M8	12	281	260
	1" NPT	1/8" NPT	(8.62)	(6.85)	(7.91)	(7.09)	(3.44)	(4.72)	(2.05)	(0.85)	(2.76)	M8	(0.47)	(11.06)	(10.24)

Dimension NA or NM = clearance required below pipe centreline to enable bowl to be removed.

Dimensions for non relieving models (6FRNSV**2, 8FRNSV**) are same as self relieving models above.

SELF RELIEVING • NON RELIEVING

General Description

A 316 Stainless Steel unit for pressure regulation of compressed air in the offshore, petrochemical, and allied industries.

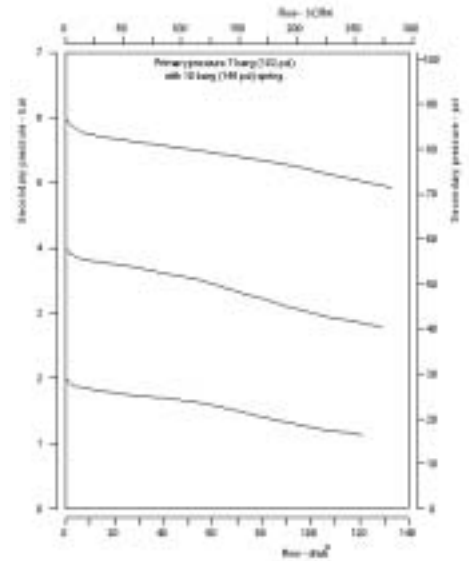
- Large flow
- 4 pressure ranges.
- High relief flow.

**** for regulated pressure add code:**
 0.1 to 2 bar (1.45 to 29 psi) -code 02
 0.2 to 4 bar (2.90 to 58 psi) -code 04
 0.3 to 7 bar (4.35 to 102 psi) -code 07
 0.5 to 10 bar (7.25 to 145 psi) -code 10

Operating Fluids, Ingress Protection, Functional Symbols, Technical Data and Construction Materials.
 See details on page 3500SZ.1



Flow Characteristics
Secondary pressure vs. Flow
 Conforms to ISO6953-2:2000



Preferred Models

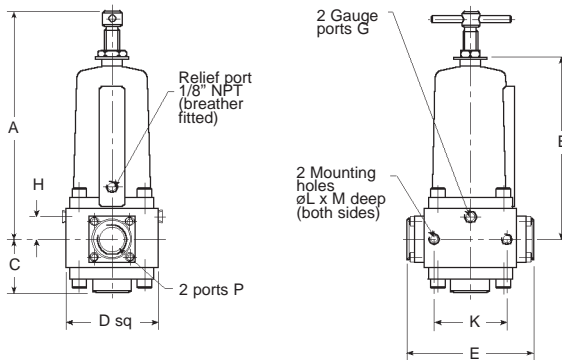
Model Number	Description	Weight kg (lbs)
Self Relieving		
6PRVSF**2A	3/4" NPT Pressure regulator	5.00 (11.0)
8PRVSF**2A	1" NPT Pressure regulator	5.00 (11.0)
Non Relieving		
6PRNSF**2A	3/4" NPT Pressure regulator	5.00 (11.0)
8PRNSF**2A	1" NPT Pressure regulator	5.00 (11.0)

for BSP replace '2' in position 9 with '1'

Models available with ANSI flanges - Contact customer service for further details.

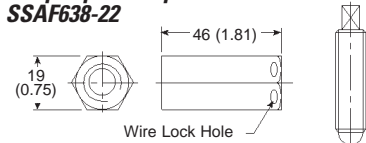
INSTALLATION DIMENSIONS mm (inches)

Pressure Regulators - Self Relieving and Non Relieving



Tamper Proof Cap Kit

Tamper proof cap kit
SSAF638-22



Model Number	Ports P	Ports G	A	B	C	D	E	H	K	L	M
6PRVSF**2	3/4" NPT	1/8" NPT	219	174	53	87.5	120	21.5	70	M8	12
	3/4" NPT	1/8" NPT	(8.62)	(6.85)	(2.09)	(3.44)	(3.44)	(0.85)	(2.76)	M8	(0.47)
8PRVSF**2	1" NPT	1/8" NPT	219	174	53	87.5	120	21.5	70	M8	12
	1" NPT	1/8" NPT	(8.62)	(6.85)	(2.09)	(3.44)	(3.44)	(0.85)	(2.76)	M8	(0.47)

Dimensions for non relieving models (6FRNSV**2, 8FRNSV**) are same as self relieving models above.

PILOT SOLENOID OPERATED

General Description

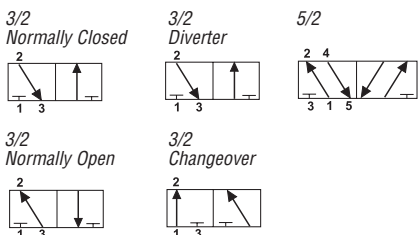
A range of compact 3/2 and 5/2 pilot solenoid operated spool valves in Stainless Steel for use on gases.

- Hazardous area solenoids
- Closed centre
- ATEX, UL, CSA Approved
- EExd, NEMA 7&9
- Lightweight

Operating Medium

Filtered non-lubricated air, inert gas, sweet (natural) gases.

Functional Symbols



Technical Data

Ports

- 1/4" NPT (BSP option available)

Working Pressure

- Single solenoid valve
3 to 10 bar (45 to 145 psi)
- Double solenoid valves
2 to 10 bar (30 to 105 psi)

Cv (Kv)

- 3/2 valves - 1.0 (15)
- 5/2 valves - 1.2 (17)

Working Temperature

- Valve version -50°C to +90°C (-58°F to +194°F)
- Solenoid version -50°C to +40°C (-58°F to +104°F)

Minimum Pilot Pressure

- 6.3 bar (90 psi) body pressure
- Pilot return 1.5 bar (22 psi)

Maximum Flow

- 6.3 bar (87 psi),
1 bar (14.5 psi) differential
- 3/2 valves - 1000 L/min (35.3 SCFM)
- 5/2 valves - 1200 L/min (42.4 SCFM)



Construction Materials

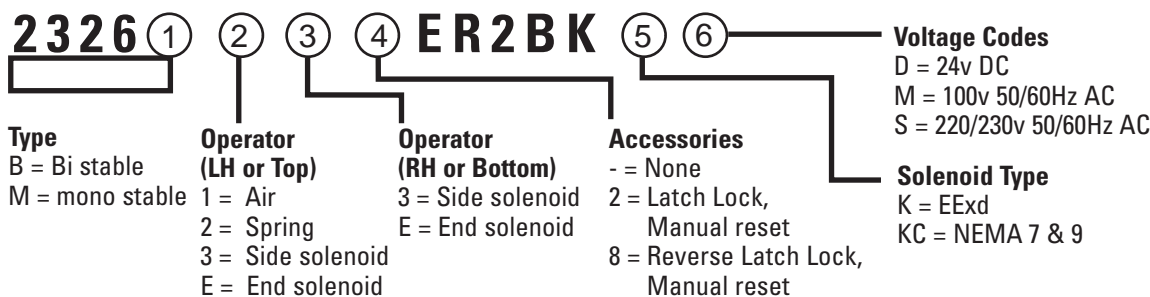
- Stainless Steel AISI 316L to NACE MR-0175 Body
- Stainless Steel AISI 316L to NACE MR-01-75 Spool
- 316 Stainless Steel Spring
- EPDM Seals
- Solenoid (refer to solenoid specifications)

Instrument Signals

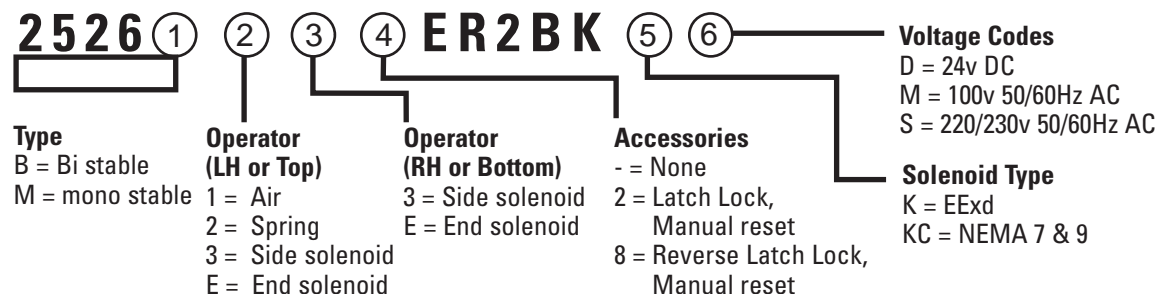
Valves with side mounted solenoids can be supplied to operate on instrument signals, typically 0 to 1.5 bar (0 to 21 psi). A separate supply to this pilot solenoid is necessary. This supply is 2 bar (30 psi) minimum for the double pilot and 3 bar (45 psi) minimum for the single pilot.

MODEL CODES

3/2 Valves



5/2 Valves



SUB ZERO RANGE - Spool Valves

SPOOL VALVES • 1/4", 3/2, 5/2, NPT (BSP)

1500 SZ SERIES

1500 SZ SERIES SUB ZERO RANGE

PILOT SOLENOID OPERATED

SOLENOID MODEL CODES



Model Code	Safety Rating	Protection and Housing Material	Approved Area	Ingress Protection	Weight kg (lbs)
K	EExdIIC T6	Flameproof, 316 Stainless Steel	Zones 1 and 2	IP67	1.62 (3.57)
KC	NEMA 7 & 9	Explosion Proof, 316 Stainless Steel	Class 1, Groups	NEMA 4	0.29 (0.65)

Preferred Models - 3/2 Pilot Solenoid Operated

Model Number	Description	Weight kg (lbs)	Symbol
2326M23-ER2B*+	1/4" NPT 3/2 Pilot solenoid operated, spring return	0.56 (1.23) + Sol	
2326M232ER2B*+	1/4" NPT 3/2 Pilot solenoid operated, spring return with latch lock, manual reset	0.94 (2.07) + Sol	
2326M238ER2B*+	1/4" NPT 3/2 Pilot solenoid operated, spring return with reverse latch lock, manual reset	0.94 (2.07) + Sol	
2326B13-ER2B*+	1/4" NPT 3/2 Pilot solenoid operated, pilot air return	0.71 (1.56) + Sol	
2326B33-ER2B*+	1/4" NPT 3/2 Double pilot solenoid operated	0.71 (1.56) + Sol	

Preferred Models - 5/2 Pilot Solenoid Operated

Model Number	Description	Weight kg (lbs)	Symbol
2526M23-ER2B*+	1/4" NPT 5/2 Pilot solenoid operated, spring return	1.01 (2.23) + Sol	
2526M232ER2B*+	1/4" NPT 5/2 Pilot solenoid operated, spring return with latch lock, manual reset	1.39 (3.06) + Sol	
2526M238ER2B*+	1/4" NPT 5/2 Pilot solenoid operated, spring return with reverse latch lock, manual reset	1.39 (3.06) + Sol	
2526B13-ER2B*+	1/4" NPT 5/2 Pilot solenoid operated, pilot air return	1.01 (2.23) + Sol	
2526B33-ER2B*+	1/4" NPT 5/2 Double pilot solenoid operated	1.02 (2.25) + Sol	

+ Specify solenoid voltage. Without solenoid fitted, specify 'Z' in position 13.

* Specify solenoid type.

SUB ZERO RANGE - Spool Valves

SPOOL VALVES • 1/4", 3/2, 5/2, NPT (BSP)

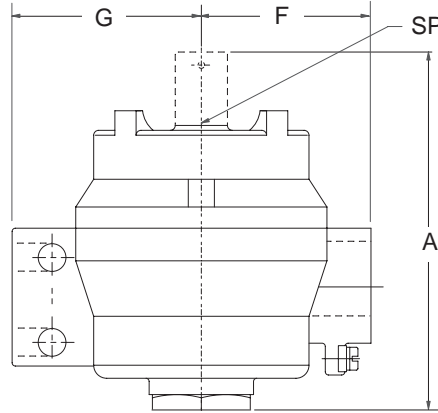
1500 SZ SERIES

PILOT SOLENOID OPERATED

SOLENOID ASSEMBLIES SOLENOID CODE K (EExd IIC T6), SOLENOID CODE KC (NEMA 7 & 9)



1500 SZ SERIES SUB ZERO RANGE



INSTALLATION DIMENSIONS mm (inches)

Model Code	A	F	G	SP
K, KC	110 (4.33)	52 (2.05)	58 (2.28)	M8

SOLENOID SPECIFICATIONS

Model Code	K	KC
Type of Protection	EExd IIC T6	NEMA 7 & 9
Approved Area	Zones 1 and 2	Class I, Groups C & D, Class II Groups E,F & G
Degree of Protection	IP67	NEMA 4
Housing	316 Stainless Steel	316 Stainless Steel
Cable entry <i>(Alt cable entry available)</i>	M20 x 1.5	M20 x 1.5
Power Consumption	5 Watt	5 Watt
Maximum Admissible Surface Temperature	85°C (185°F)	85°C (185°F)
Ambient Temperature	-50°C to +40°C (-58°F to +104°F)	-50°C to +40°C (-58°F to +104°F)
Approved Standard	ATEX	UL, CSA
Certificate Number	SIRA 03 ATEX 1319	–

SUB ZERO RANGE - Spool Valves

INSTALLATION DIMENSIONS • 1/4", 3/2, 5/2, NPT (BSP)

1500 SZ SERIES

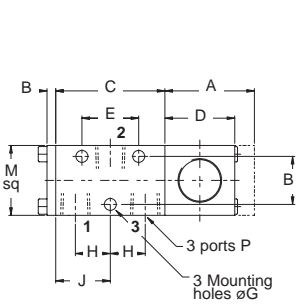
1500 SZ SERIES

SUB ZERO RANGE

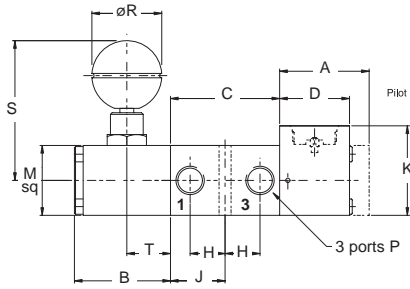
PILOT SOLENOID OPERATED INSTALLATION DIMENSIONS mm (inches)

3/2 Pilot Solenoid Operated - Valve Bases

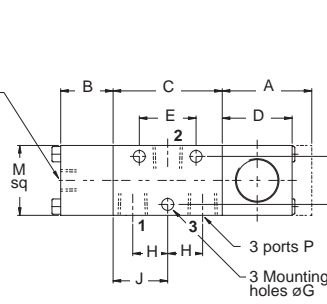
Spring Return
2326M2*-ER2B**



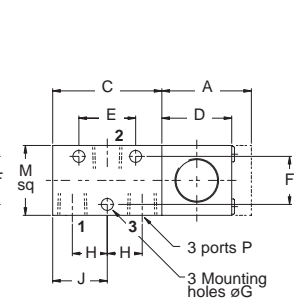
Spring Return with latch lock
2326M23*ER2B** 2326M2E*ER2B**



Pilot air return
2326B1*-ER2B**



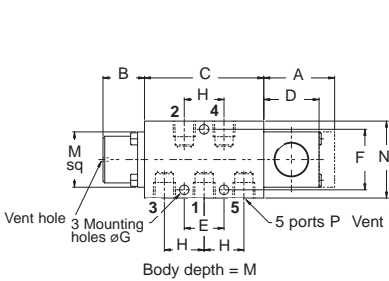
Pilot solenoid return
2326B**-ER2B**



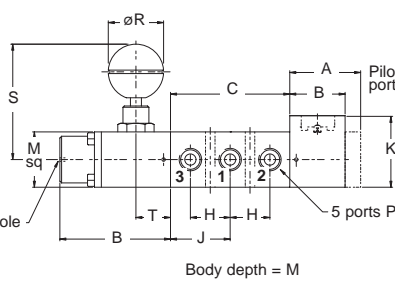
Model Number	A	B	C	D	E	F	G	H	J	K	M	P	PP	R	S	T
2326M2*-ER2B**	32 (1.26)	4 (0.16)	50 (1.97)	32 (1.26)	26 (1.02)	22 (0.87)	5.5 (0.22)	16 (0.63)	25 (0.98)	41 (1.61)	32 (1.26)	1/4"NPT 1/4"NPT	-	-	-	-
2326M23*ER2B**	32 (1.26)	44 (1.73)	50 (1.97)	32 (1.26)	26 (1.02)	22 (0.87)	5.5 (0.22)	16 (0.63)	25 (0.98)	41 (1.61)	32 (1.26)	1/4"NPT 1/4"NPT	-	32 (1.26)	64 (2.52)	20 (0.79)
2326M2E*ER2B**	32 (1.26)	44 (1.73)	50 (1.97)	32 (1.26)	26 (1.02)	22 (0.87)	5.5 (0.22)	16 (0.63)	25 (0.98)	41 (1.61)	32 (1.26)	1/4"NPT 1/4"NPT	-	32 (1.26)	64 (2.52)	20 (0.79)
2326B1*-ER2B**	32 (1.26)	24 (0.94)	50 (1.97)	32 (1.26)	26 (1.02)	22 (0.87)	5.5 (0.22)	16 (0.63)	25 (0.98)	41 (1.61)	32 (1.26)	1/4"NPT 1/4"NPT	1/8"NPT 1/8"NPT	-	-	-
2326B**-ER2B**	32 (1.26)	-	50 (1.97)	32 (1.26)	26 (1.02)	22 (0.87)	5.5 (0.622)	16 (0.63)	25 (0.98)	41 (1.61)	32 (1.26)	1/4"NPT 1/4"NPT	-	-	-	-

5/2 Pilot Solenoid Operated - Valve Bases

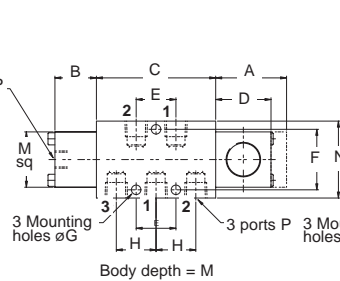
Spring Return
2526M2*-ER2B**



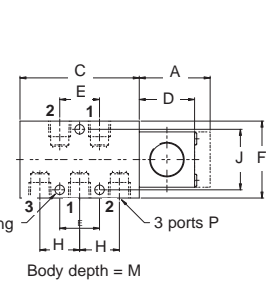
Spring Return with latch lock
2526M23*ER2B** 2526M2E*ER2B**



Pilot air return
2526B1*-ER2B**



Pilot solenoid return
2526B**-ER2B**



Model Number	A	B	C	D	E	F	G	H	J	K	M	P	PP	R	S	T
2526M2*-ER2B**	32 (1.26)	24 (0.16)	69 (2.72)	32 (1.26)	23 (0.91)	35 (1.38)	5.5 (0.22)	23 (0.91)	34.5 (1.36)	41 (1.61)	32 (1.26)	1/4"NPT 1/4"NPT	-	-	-	-
2526M23*ER2B**	32 (1.26)	64 (2.52)	69 (2.72)	32 (1.26)	23 (0.91)	35 (1.38)	5.5 (0.22)	23 (0.91)	34.5 (1.36)	41 (1.61)	32 (1.26)	1/4"NPT 1/4"NPT	-	32 (1.26)	64 (2.52)	20 (0.79)
2526M2E*ER2B**	32 (1.26)	64 (2.52)	69 (2.72)	32 (1.26)	23 (0.91)	35 (1.38)	5.5 (0.22)	23 (0.91)	34.5 (1.36)	41 (1.61)	32 (1.26)	1/4"NPT 1/4"NPT	-	32 (1.26)	64 (2.52)	20 (0.79)
2526B1*-ER2B**	32 (1.26)	24 (0.94)	69 (2.72)	32 (1.26)	23 (0.91)	35 (1.38)	5.5 (0.22)	23 (0.91)	34.5 (1.36)	41 (1.61)	32 (1.26)	1/4"NPT 1/4"NPT	1/8"NPT 1/8"NPT	-	-	-
2526B**-ER2B**	32 (1.26)	-	69 (2.72)	32 (1.26)	23 (0.91)	35 (1.38)	5.5 (0.622)	23 (0.91)	34.5 (1.36)	41 (1.61)	32 (1.26)	1/4"NPT 1/4"NPT	-	-	-	-

PILOT OPERATED

General Description

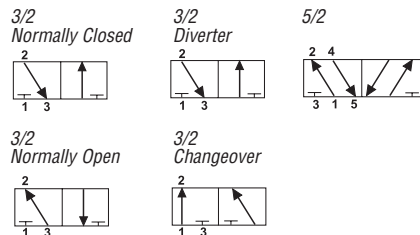
A range of compact 3/2 and 5/2 pilot operated spool valves in Stainless Steel for use on gases.

- Compact
- 3/2 and 5/2 versions
- Meet NACE standard
- Stainless Steel internals

Operating Medium

Filtered non-lubricated air, inert gas, sweet (natural) gases.

Functional Symbols



Technical Data

Ports

- 1/4" NPT (BSP option available)
- 1/8" NPT pilot ports

Working Pressure (gases & liquids)

- 10 bar (145 psi) Maximum

Cv (Kv)

- 3/2 valves - 1.0 (15)
- 5/2 valves - 1.2 (17)

Working Temperature

- -50°C to +90°C (-58°F to +194°F)

Minimum Pilot Pressure

- 6.3 bar (90 psi) body pressure

3/2 5/2

Spring Return	2.3 bar (33 psi)	3.5 bar (51 psi)
Pilot Return	1.3 bar (19 psi)	2.3 bar (33 psi)
Pilot Servo	0.8 bar (12 psi)	1.2 bar (17 psi)
Pilot Reset	3.0 bar (44 psi)	5.0 bar (72 psi)

Maximum Flow

- 6.3 bar (87 psi), 1 bar (14.5 psi) differential
- 3/2 valves - 1000 L/min (35.3 SCFM)
- 5/2 valves - 1200 L/min (42.4 SCFM)

Construction Materials

- Stainless Steel AISI 316L to NACE MR-01-75 Body
- Stainless Steel AISI 316L to NACE MR-01-75 Spool
- 316 Stainless Steel Spring
- EPDM Seals



Preferred Models

Model Number	Description	Weight kg (lbs)	Symbol
2326M21-ER2B	1/4" NPT 3/2 Pilot operated, spring return	0.55 (1.21)	
2326M212-ER2B	1/4" NPT 3/2 Pilot operated, spring return with latch lock, manual reset	0.93 (2.05)	
2326M218-ER2B	1/4" NPT 3/2 Pilot operated, spring return with reverse latch lock, manual reset	0.93 (2.05)	
2326B11-ER2B	1/4" NPT 3/2 Pilot operated, pilot return	0.70 (1.54)	
2326M21-ER2B	1/4" NPT 5/2 Pilot operated, spring return	1.00 (2.20)	
2326M212-ER2B	1/4" NPT 5/2 Pilot operated, pilot return with latch lock, manual reset	1.38 (3.04)	
2326M218-ER2B	1/4" NPT 5/2 Pilot operated, spring return with reverse latch lock, manual reset	1.38 (3.04)	
2326B11-ER2B	1/4" NPT 5/2 Pilot operated, pilot return	1.00 (2.20)	

SUB ZERO RANGE - Spool Valves

SPOOL VALVES • 1/4", 3/2, 5/2, NPT (BSP)

1500 SZ SERIES

1500 SZ SERIES

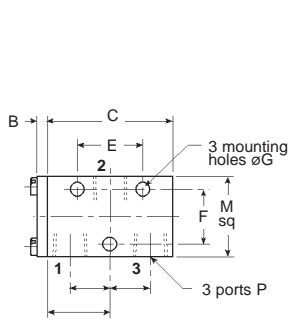
SUB ZERO RANGE

PILOT OPERATED

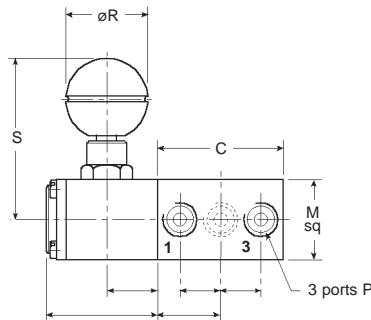
INSTALLATION DIMENSIONS mm (inches)

3/2 Pilot Operated, Spring or Pilot Return

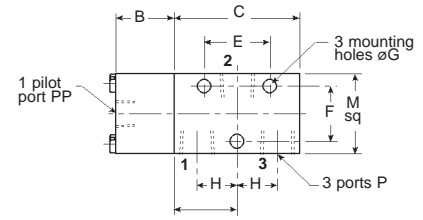
Pilot Operated - Spring Return
2326M21-ER2B



Pilot Operated - Spring Return with latch lock
2326M212-ER2B, 2326M218-ER2B



Pilot Operated - Pilot Return
2326B11-ER2B

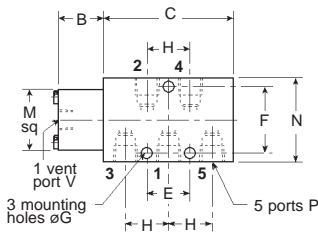


For basic valve dimensions see 3/2 spring return or 3/2 pilot return bases on page 1500SZ.6

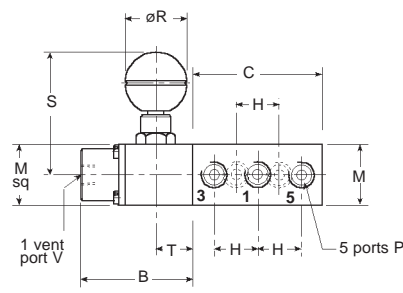
Model Number	A	D	K	L	P	PP
2326M21-ER2B	78 (3.07)	24 (0.94)	-	-	1/4" NPT (0.375)	1/8" NPT (0.125)
2326B11-ER2B	98 (3.86)	24 (0.94)	-	-	1/4" NPT (0.375)	1/8" NPT (0.125)
2326M212ER2B	118 (4.65)	24 (0.94)	-	-	1/4" NPT (0.375)	1/8" NPT (0.125)
2326M218ER2B	118 (4.65)	24 (0.94)	-	-	1/4" NPT (0.375)	1/8" NPT (0.125)

5/2 Pilot Operated, Spring or Pilot Return

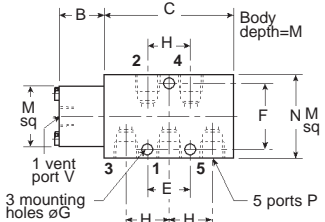
Pilot Operated - Spring Return
2526M211-ER2B



Pilot Operated - Spring Return with latch lock
2526M212-ER2B, 2526M218-ER2B



Pilot Operated - Pilot Return
2526B11-ER2B



For basic valve dimensions see 5/2 spring return or 5/2 pilot return bases on page 1500SZ.4

Model Number	A	D	K	L	P	PP	V
2526M21-ER2B	117 (4.61)	24 (0.94)	-	-	1/4" NPT (0.375)	1/8" NPT (0.125)	1/8" NPT (0.125)
2526B11-ER2B	117 (4.61)	24 (0.94)	-	-	1/4" NPT (0.375)	1/8" NPT (0.125)	-
2526M212ER2B	157 (6.18)	24 (0.94)	-	-	1/4" NPT (0.375)	1/8" NPT (0.125)	-
2526M218ER2B	157 (6.18)	24 (0.94)	-	-	1/4" NPT (0.375)	1/8" NPT (0.125)	-

SUB ZERO RANGE - Spool Valves

SPOOL VALVES • 1/4", 3/2, 5/2, NPT (BSP)

1500 SZ SERIES

MECHANICALLY OPERATED (ROLLER/LEVER, ROLLER, PLUNGER)

General Description

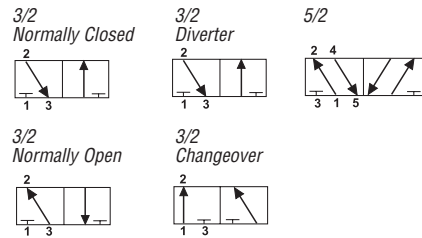
A range of compact 3/2 and 5/2 spool valves in Stainless Steel for use on gases.

- Closed centre
- All 316L
- Compact

Operating Medium

Filtered non-lubricated air, inert, sweet (natural) gases.

Functional Symbols



Technical Data

Ports

- 1/4" NPT (BSP option available)

Working Pressure

- 10 bar (145 psi) maximum

Cv (Kv)

- 3/2 valves - 1.0 (15)
- 5/2 valves - 1.2 (17)

Working Temperature

- -50°C to +90°C (-58°F to +194°F)

Operating Force

- 10 bar (145 psi) differential

	3/2	5/2
Roller/lever	35 N (8 lbf)	40 N (9 lbf)
Roller	76 N (17 lbf)	89 N (20 lbf)
Plunger	76 N (17 lbf)	89 N (20 lbf)

Maximum Flow

- 6 bar (87 psi), 1 bar (14.5 psi) differential
- 3/2 valves - 1000 L/min (35.3 SCFM)
- 5/2 valves - 1200 L/min (42.4 SCFM)

Construction Materials

- Stainless Steel AISI 316L to NACE MR-01-75 Body
- Stainless Steel AISI 316L to NACE MR-0175 Spool
- 316 Stainless Steel Spring
- EPDM Seals
- 316 Stainless Steel Roller/Lever



1500 SZ SERIES SUB ZERO RANGE

Preferred Models

Model Number	Description	Weight kg (lbs)	Symbol
2326M28-ER2B	1/4" NPT 3/2 Roller/lever operated, spring return	0.55 (1.21)	
2326M2C-ER2B	1/4" NPT 3/2 Roller operated, spring return	0.48 (1.06)	
2326M26-ER2B	1/4" NPT 3/2 Plunger operated, spring return	0.46 (1.01)	
2526M28-ER2B	1/4" NPT 5/2 Roller/lever operated, spring return	1.00 (2.20)	
2526M2C-ER2B	1/4" NPT 5/2 Roller operated, spring return	1.12 (2.47)	
2526M26-ER2B	1/4" NPT 5/2 Plunger operated, spring return	1.10 (2.42)	

For panel mounted versions of roller operated and plunger operated models, substitute code 5 for - in position 8. (i.e. 2326M2C-ER2B becomes 2326M265-ER2B, 2526M2C-ER2B, 2526M2C-ER2B becomes 2526M2C5-ER2B, 2526M26-ER2B becomes 2526M265-ER2B)

SUB ZERO RANGE - Spool Valves

SPOOL VALVES • 1/4", 3/2, 5/2, NPT (BSP)

1500 SZ SERIES

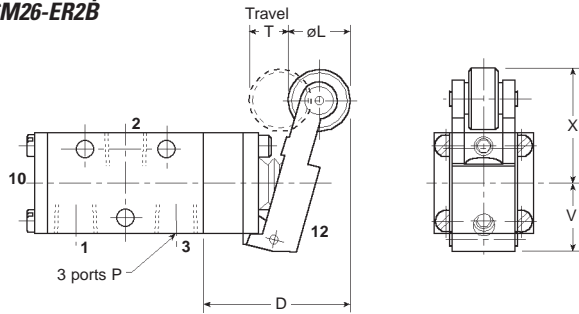
1500 SZ SERIES SUB ZERO RANGE

MECHANICALLY OPERATED (ROLLER/LEVER, ROLLER, PLUNGER)

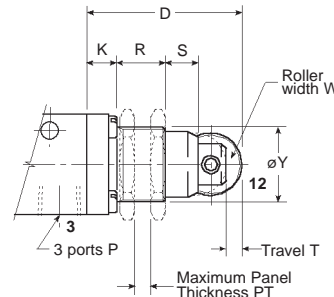
INSTALLATION DIMENSIONS mm (inches)

3/2 Roller/Lever, Roller, Plunger Operated, Spring Return

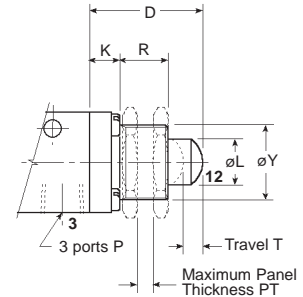
Roller/Lever operated
2326M26-ER2B



Roller operated
2326M2C-ER2B, 2326M2C5-ER2B



Plunger operated
2326M26-ER2B, 2326M265-ER2B



Travel T = 11.75 (0.46) to operate, 12.5 (0.49) maximum

For basic valve dimensions see 3/2 spring return bases on page 1500SZ.4

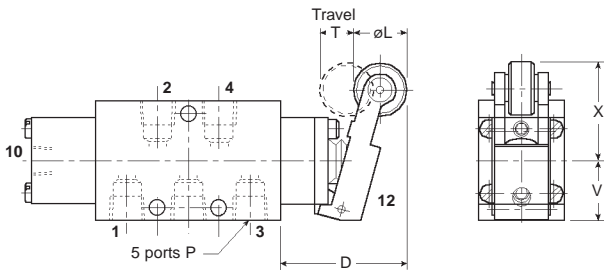
Model Number	D	K	L	P	R	S	T	V	W	X	PT
2326M28-ER2B	47 (1.85)	-	20 (0.79)	1/4"NPT 1/4"NPT	-	-	12.5 (0.49)	22 (0.87)	-	37 (1.46)	-
2326M2C-ER2B	50 (1.97)	10 (0.39)	-	1/4"NPT 1/4"NPT	15 (0.59)	10.5 (0.41)	5 (0.20)	-	5 (0.20)	-	5 (0.20)
2326M26-ER2B	35 (1.38)	10 (0.39)	13 (0.51)	1/4"NPT 1/4"NPT	15 (0.59)	-	5 (0.20)	-	-	-	5 (0.20)

Panel mounting thread ϕY is 15/16" dia. x 26 TPI Whit Form.

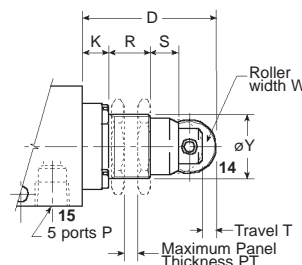
Panel mounted models 2326M2C-ER2B and 2326M26-ER2B are supplied with 2 off locknuts as indicated.

5/2 Roller/Lever, Roller, Plunger Operated, Spring Return

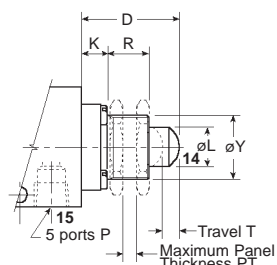
Roller/Lever operated
2526M28-ER2B



Roller operated
2526M2C-ER2B, 2526M2C5-ER2B



Plunger operated
2526M26-ER2B, 2526M265-ER2B



Travel T = 14.5 (0.57) to operate, 15.25 (0.60) maximum

For basic valve dimensions see 5/2 spring return bases on page 1500SZ.4

Model Number	D	K	L	P	R	S	T	V	W	X	PT
2526M28-ER2B	51 (2.00)	-	20 (0.79)	1/4"NPT 1/4"NPT	-	-	15.25 (0.60)	22 (0.87)	-	37 (1.46)	-
2526M2C-ER2B	50 (1.97)	10 (0.39)	-	1/4"NPT 1/4"NPT	15 (0.59)	10.5 (0.41)	6 (0.24)	-	5 (0.20)	-	5 (0.20)
2526M26-ER2B	35 (1.38)	10 (0.39)	13 (0.51)	1/4"NPT 1/4"NPT	15 (0.59)	-	6 (0.24)	-	-	-	5 (0.20)

Panel mounting thread ϕY is 15/16" dia. x 26 TPI Whit Form.

Panel mounted models 2526M2CER2B and 2526M26ER2B are supplied with 2 off locknuts as indicated.

MANUALLY OPERATED (PAD)

General Description

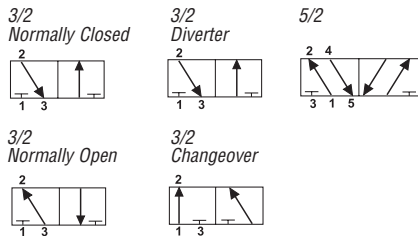
A range of compact 3/2 and 5/2 manually operated spool valves in Stainless Steel for use on gases.

- Panel mounted option
- Closed centre
- Compact

Operating Medium

Filtered non-lubricated air, inert, sweet (natural) gases.

Functional Symbols



Technical Data

Ports

- 1/4" NPT (BSP option available)
- 1/8" NPT pilot ports

Working Pressure (gases & liquids)

- 10 bar (145 psi) Maximum

Cv (Kv)

- 3/2 valves - 1.0 (15)
- 5/2 valves - 1.2 (17)

Working Temperature

- -50°C to +90°C (-58°F to +194°F)

Operating Force

- 10 bar (145 psi) differential
- 3/2 valves 76 N (17 lbf)
- 5/2 valves 89 N (20 lbf)

Maximum Flow

- 6 bar (87 psi), 1 bar (14.5 psi) differential
- 3/2 valves - 1000 L/min (35.3 SCFM)
- 5/2 valves - 1200 L/min (42.4 SCFM)

Construction Materials

- Stainless Steel AISI 316L to NACE MR-01-75 Body
- Stainless steel AISI 316L to NACE MR-01-75 Spool
- 316 Stainless Steel Spring
- EPDM Seals
- Phenolic Resin Pad



Preferred Models

Model Number	Description	Weight kg (lbs)	Symbol
2326M27-ER2B	1/4" NPT 3/2 Pad operated, spring return	0.50 (1.10)	
2326B77-ER2B	1/4" NPT 3/2 Pad operated, push - pull	0.61 (1.34)	
2326B773ER2B	1/4" NPT 3/2 Pad operated, push - pull with detent	0.63 (1.39)	
2526B17-ER2B	1/4" NPT 3/2 Pad operated, pilot air return	0.63 (1.39)	
2526M27-ER2B	1/4" NPT 5/2 Pad operated, spring return	0.95 (2.09)	
2526B77-ER2B	1/4" NPT 5/2 Pad operated, push - pull	0.93 (2.05)	
2526B773ER2B	1/4" NPT 5/2 Pad operated, push - pull with detent	0.95 (2.09)	
2326B17-ER2B	1/4" NPT 5/2 Pad operated, pilot air return	0.95 (2.09)	

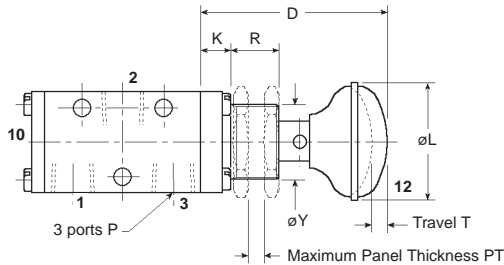
For panel mounted versions, substitute code 5 for - in position 8.

MANUALLY OPERATED PAD

INSTALLATION DIMENSIONS mm (inches)

3/2 Pad Operated, Spring Return

Pad operated
2326M27-ER2B, 2326M275ER2B

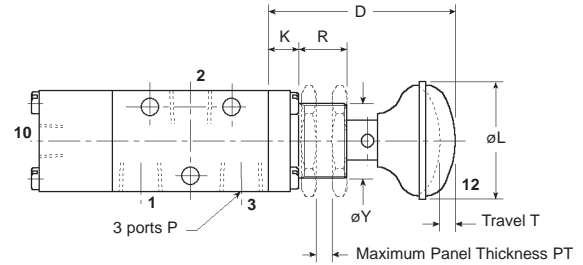


For basic valve dimensions, see 3/2 spring return bases on page 1500SZ.6

3/2 Pad Operated (Push-Pull)

3/2 Pad Operated, Pilot Air Return

Pad operated (Push-Pull) 2326B77ER2B, 2326MB775ER2B
Pad operated (Push-Pull) 2326B773ER2B
Pad operated, pilot air return 2326B17ER2B, 2326B175ER2B



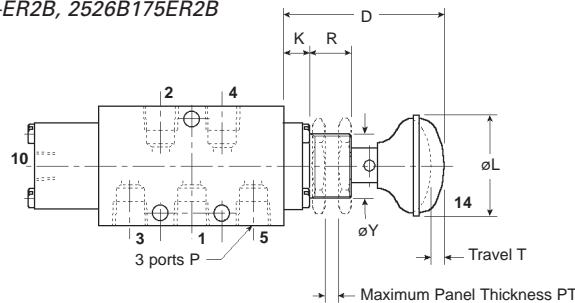
For basic valve dimensions, see 3/2 spring return bases on page 1500SZ.4

Model Number	D	K	L	P	R	T	PT
2326M27-ER2B	60 (2.36)	10 (0.39)	38 (1.50)	1/4" NPT 1/4" NPT	15 (0.59)	5 (0.20)	5 (0.20)
2326B77-ER2B	60 (2.36)	10 (0.39)	38 (1.50)	1/4" NPT 1/4" NPT	15 (0.59)	5 (0.20)	5 (0.20)
2326B773ER2B	60 (2.36)	10 (0.39)	38 (1.50)	1/4" NPT 1/4" NPT	15 (0.59)	5 (0.20)	5 (0.20)
2326B17-ER2B	60 (2.36)	10 (0.39)	38 (1.50)	1/4" NPT 1/4" NPT	15 (0.59)	5 (0.20)	5 (0.20)

Panel mounting thread øY is 15/16" dia. x 26 TPI Whit Form. Panel mounted models 2326M275ER2B, 2326B775ER2B and 2326B175ER2B are supplied with 2 off locknuts as indicated.

5/2 Pad Operated, Spring Return, 5/2 Pad Operated (Push-Pull), 5/2 Pad Operated, Pilot Air Return

Pad operated (Push-Pull) 2526M27-ER2B, 2526M275ER2B
Pad operated (Push-Pull) 2526B77-ER2B, 2526B775ER2B
Pad operated (Push-Pull) with detent 2526B773ER2B
Pad operated, pilot air return 2526B17-ER2B, 2526B175ER2B



For basic valve dimensions, see 5/2 spring return or 5/2 pilot return bases on page 1500SZ.4

Model Number	D	K	L	P	R	T	PT
2526M27-ER2B	60 (2.36)	10 (0.39)	38 (1.50)	1/4" NPT 1/4" NPT	15 (0.59)	6 (0.24)	5 (0.20)
2526B77-ER2B	60 (2.36)	10 (0.39)	38 (1.50)	1/4" NPT 1/4" NPT	15 (0.59)	6 (0.24)	5 (0.20)
2526B773ER2B	60 (2.36)	10 (0.39)	38 (1.50)	1/4" NPT 1/4" NPT	15 (0.59)	6 (0.24)	5 (0.20)
2526B17-ER2B	60 (2.36)	10 (0.39)	38 (1.50)	1/4" NPT 1/4" NPT	15 (0.59)	6 (0.24)	5 (0.20)

Panel mounting thread øY is 15/16" dia. x 26 TPI Whit Form. Panel mounted models 2526M275ER2B, 2526B775ER2B and 2526B175ER2B are supplied with 2 off locknuts as indicated.

MANUALLY OPERATED (PAD) AND PILOT LATCH

INSTALLATION DIMENSIONS mm (inches)

General Description

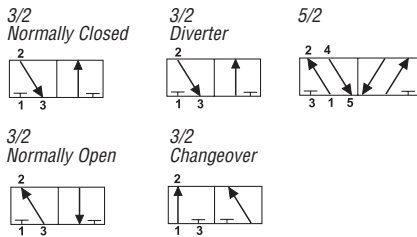
A range of compact 3/2 and 5/2 manually operated spool valves in Stainless Steel for use on gases.

- Mechanical latch
- Pilot latch

Operating Medium

Filtered non-lubricated, air, inert, sweet (natural) gases.

Functional Symbols



Technical Data

Ports

- 1/4" NPT (BSP option available)
- 1/8" NPT pilot ports

Working Pressure (gases & liquids)

- 10 bar (145 psi) Maximum

Cv (Kv)

- 3/2 valves - 1.0 (15)
- 5/2 valves - 1.2 (17)

Working Temperature

- -50°C to +90°C (-58°F to +194°F)

Operating Force

- 10 bar (145 psi) body pressure
- 3/2 valves 76 N (17 lbf)
- 5/2 valves 89 N (20 lbf)

Maximum Flow

- 6 bar (87 psi), 1 bar (14.5 psi) differential
- 3/2 valves - 1000 L/min (35.3 SCFM)
- 5/2 valves - 1200 L/min (42.4 SCFM)

Construction Materials

- Stainless Steel AISI 316L to NACE MR-01-75 Body
- Stainless Steel AISI 316L to NACE MR-01-75 Spool
- 316 Stainless Steel Spring
- EPDM Seals



Function

PAD OPERATED, SPRING RETURN WITH PILOT LATCH

If a pilot pressure of 1.5 to 10 bar (21 to 145 psi) is present at pilot ports when the knob is pulled out, the pilot pressure will hold the valve in the operated position against the return spring. If the pilot pressure falls to 0.5 bar (7 psi) or less, the valve will be reset to its unoperated position. The valve cannot be operated by pilot pressure alone, manual operation must take place first.

PAD OPERATED, SPRING RETURN WITH PILOT LATCH AND MANUAL LATCH PIN

If a pilot pressure of 1.5 to 10 bar (21 to 145 psi) is present at pilot ports when the knob is pulled out, the pilot pressure will hold the valve in the operated position against the return spring. If the pilot pressure falls to 2 to 10 bar (29 to 145 psi) this will simultaneously allow the latch to release whilst holding the valve in the operated position. The valve will reset to its unoperated position. The valve cannot be operated by pilot pressure alone, manual operation must take place first.

Preferred Models

Model Number	Description	Weight kg (lbs)	Symbol
2326M276ER2B	1/4" NPT 3/2 Pad operated, spring return with pilot latch	0.75 (1.65)	
2326M2A-ER2B	1/4" NPT 3/2 Pad operated, spring return, pilot latch, manual pin	0.85 (1.87)	

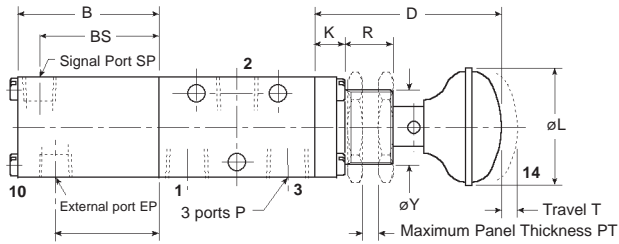
These models are supplied with locknuts for panel mounting.

MANUALLY OPERATED (PAD) AND PILOT LATCH

INSTALLATION DIMENSIONS mm (inches)

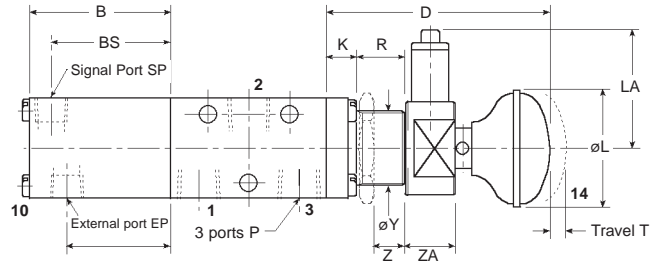
3/2 Pad Operated, Spring Return with Pilot Latch

2326M276ER2B



3/2 Pad Operated, Spring Return with Pilot Latch and Manual Latch Pin

2326M27AER2B



For basic valve dimensions, see 3/2 pilot air return bases on page 1500SZ.4

Model Number	B	BE	BS	D*	K	L	LA	P	SP	EP	R	T	PT	Z	ZA
2326M276ER2B	45 (1.77)	33 (1.30)	38 (1.50)	60 (2.36)	10 (0.39)	38 (1.50)	-	1/4"NPT 1/4"NPT	1/8"NPT 1/8"NPT	1/8"NPT 1/8"NPT	15 (0.59)	5 (0.20)	5 (0.20)	-	-
2326M27AER2B	45 (1.77)	33 (1.30)	38 (1.50)	72.5 (2.86)	10 (0.39)	38 (1.50)	38 (1.50)	1/4"NPT 1/4"NPT	1/8"NPT 1/8"NPT	1/8"NPT 1/8"NPT	15 (0.59)	5 (0.20)	-	10 (0.39)	16 (0.63)

Panel mounting thread øY is 15/16" dia. x 26 TPI Whit Form.

SUB ZERO RANGE - Spool Valves

SPOOL VALVES • 1/4", 3/2, 5/2, NPT (BSP)

1500 SZ SERIES

MANUALLY OPERATED (BUTTON), MANUALLY OPERATED (KEY)

General Description

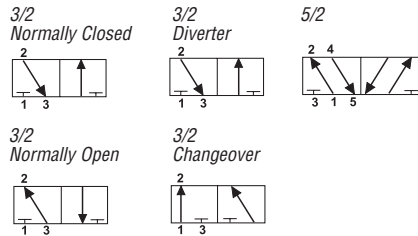
A range of compact 3/2 and 5/2 manually operated spool valves in Stainless Steel for use on gases.

- Unique key
- Fully guarded button
- Closed centre

Operating Medium

Filtered non-lubricated air, inert, sweet (natural) gases.

Functional Symbols



Technical Data

Ports

- 1/4" NPT (BSP option available)

Working Pressure

- 10 bar (145 psi) maximum

Cv (Kv)

- 3/2 valves - 1.0 (15)
- 5/2 valves - 1.2 (17)

Working Temperature

- -50°C to +90°C (-58°F to +194°F)

Operating Force

- 10 bar (145 psi) body pressure

Button Operated

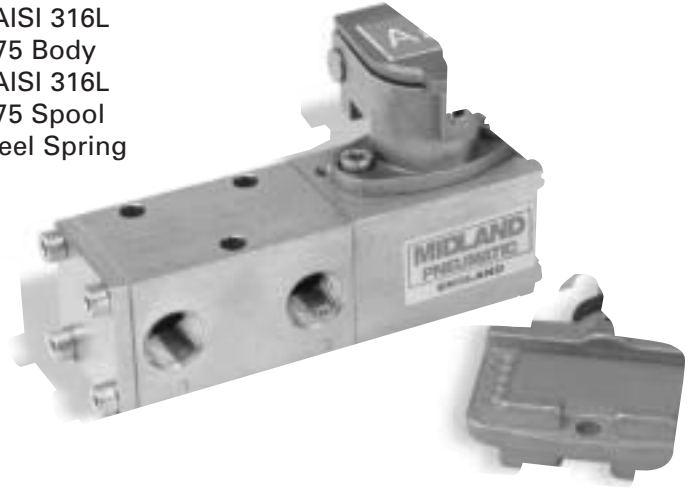
- 3/2 valves - 76 N (17 lbf)
- 5/2 valves - 89 N (20 lbf)

Maximum Flow

- 6 bar (87 psi), 1 bar (14.5 psi) differential
- 3/2 valves - 1000 L/min (35.3 SCFM)
- 5/2 valves - 1200 L/min (42.4 SCFM)

Construction Materials

- Stainless Steel AISI 316L to NACE MR-0175 Body
- Stainless Steel AISI 316L to NACE MR-0175 Spool
- 316 Stainless Steel Spring
- EPDM Seals



1500 SZ SERIES
SUB ZERO RANGE

Preferred Models

Model Number	Description	Weight kg (lbs)	Symbol
2326M2G-ER2B	1/4" NPT 3/2 Button operated, spring return	0.50 (1.10)	
2326M2GGER2B	1/4" NPT 3/2 Guarded button operated, spring return	0.55 (1.21)	
2326BPP-ER2B	1/4" NPT 3/2 Key operated (positive) Key removable in unoperated position	0.97 (2.14)	
2526M2P-ER2B	1/4" NPT 3/2 Key operated (spring return) Key removable in unoperated position	0.97 (2.14)	
2526MBPPER2B	1/4" NPT 5/2 Key operated (positive) Key removable in unoperated position	1.47 (3.24)	
2526M2P-ER2B	1/4" NPT 5/2 Key operated (spring return) Key removable in unoperated position	1.47 (3.24)	

For panel mounted version of model 2326M2G-ER2B, substitute code 5 for - in position 8. All other models are supplied with panel mounting facilities.

SUB ZERO RANGE - Spool Valves

SPOOL VALVES • 1/4", 3/2, 5/2, NPT (BSP)

1500 SZ SERIES

1500 SZ SERIES

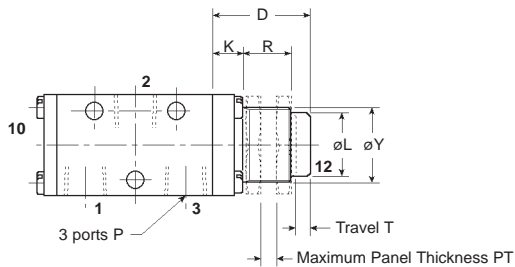
SUB ZERO RANGE

MANUALLY OPERATED (BUTTON), MANUALLY OPERATED (KEY)

INSTALLATION DIMENSIONS mm (inches)

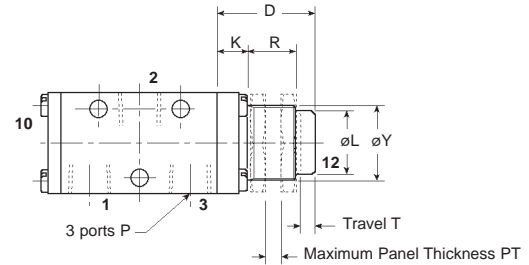
3/2 Button Operated, Spring Return

2326M2G-ER2B, 2326M2G5ER2B



3/2 Pad Guarded Button Operated, Spring Return

2326M2GGER2B



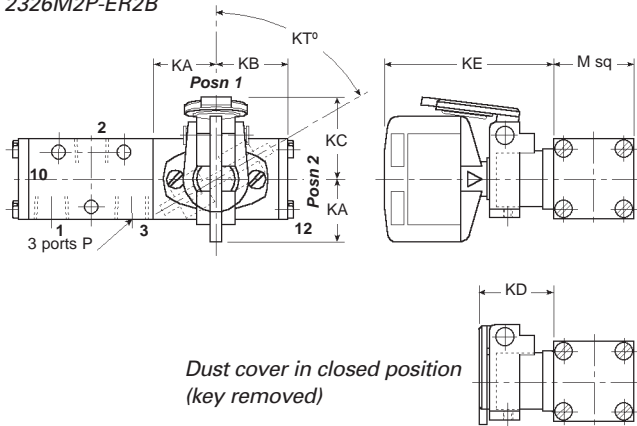
For basic valve dimensions, see 3/2 spring return bases on page 1500SZ.4

Model Number	D	K	L	P	R	T	PT	HA	HB
2326M2G-ER2B	31 (1.22)	10 (0.39)	20 (0.79)	1/4"NPT 1/4"NPT	15 (0.59)	5 (0.20)	5 (0.20)	-	-
2326M2GGER2B	31 (1.22)	10 (0.39)	20 (0.79)	1/4"NPT 1/4"NPT	15 (0.59)	5 (0.20)	4 (0.16)	30.5 (1.20)	28 (1.10)

Panel mounting thread ϕY is 15/16" dia. x 26 TPI Whit Form.

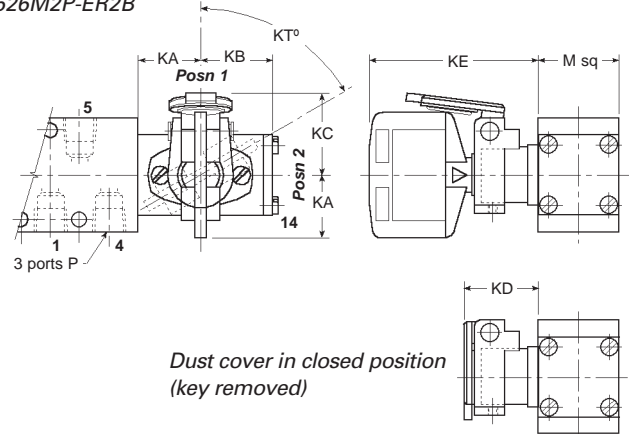
3/2 Key Operated

Key operated (Key retained in operated position) 2326BPP-ER2B
Key operated, spring return (Key retained in operated position) 2326M2P-ER2B



3/2 Key Operated

Key operated (Key retained in operated position) 2526BPP-ER2B
Key operated, spring return (Key retained in operated position) 2526M2P-ER2B



For basic valve dimensions, see 5/2 spring return or 5/2 pilot return bases on page 1500SZ.4

Model Number	P	M	KA	KB	KC	KD	KE	KT
2526BPP-ER2B	1/4"NPT	32	25	29	31	29	66	90°
	1/4"NPT	(1.26)	(0.98)	(1.14)	(1.22)	(1.14)	(2.60)	90°
2526M2P-ER2B	1/4"NPT	32	25	29	31	29	66	60°
	1/4"NPT	(1.26)	(0.98)	(1.14)	(1.22)	(1.14)	(2.60)	60°
2526BPP-ER2B	1/4"NPT	32	25	29	31	29	66	90°
	1/4"NPT	(1.26)	(0.98)	(1.14)	(1.22)	(1.14)	(2.60)	90°
2526M2P-ER2B	1/4"NPT	32	25	29	31	29	66	60°
	1/4"NPT	(1.26)	(0.98)	(1.14)	(1.22)	(1.14)	(2.60)	60°

SUB ZERO RANGE - Spool Valves

SPOOL VALVES • 1/4", 3/2, 5/2, NPT (BSP)

1500 SZ SERIES

MANUALLY OPERATED (SWITCH), MANUALLY OPERATED (LEVER)

General Description

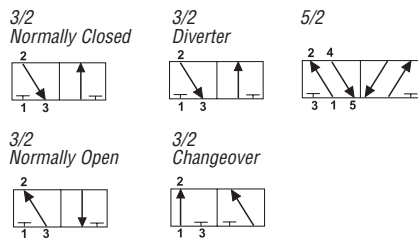
A range of compact 3/2 and 5/2 manually operated spool valves in Stainless Steel for use on gases.

- Panel mounted switch operated
- Closed centre
- Compact

Operating Medium

Filtered non-lubricated air, inert, sweet (natural) gases.

Functional Symbols



Technical Data

Ports

- 1/4" NPT (*BSP option available*)
- 1/8" NPT vent port

Working Pressure

- 10 bar (145 psi) maximum

Cv (Kv)

- 3/2 valves - 1.0 (15)
- 5/2 valves - 1.2 (17)

Working Temperature

- -50°C to +90°C (-58°F to +194°F)

Operating Force

- 10 bar (145 psi) body pressure

Switch Operated

- 3/2 valves - 13 N (2.9 lbf)
- 5/2 valves - 16 N (3.5 lbf)

Maximum Flow

- 6 bar (87 psi), 1 bar (14.5 psi) differential
- 3/2 valves - 1000 L/min (35.3 SCFM)
- 5/2 valves - 1200 L/min (42.4 SCFM)

Construction Materials

- Stainless Steel AISI 316L to NACE MR-01-75 Body
- Stainless Steel AISI 316L to NACE MR-01-75 Spool
- 316 Stainless Steel Spring
- EPDM Seals



1500 SZ SERIES
SUB ZERO RANGE

Preferred Models

Model Number	Description	Weight kg (lbs)	Symbol
2326B00-ER2B	1/4" NPT 3/2 Switch operated, spring return with detent	0.80 (1.76)	
2326M25-ER2B	1/4" NPT 3/2 Lever operated, spring return	0.65 (1.43)	
2526M25-ER2B	1/4" NPT 5/2 Lever operated, spring return	1.10 (2.43)	

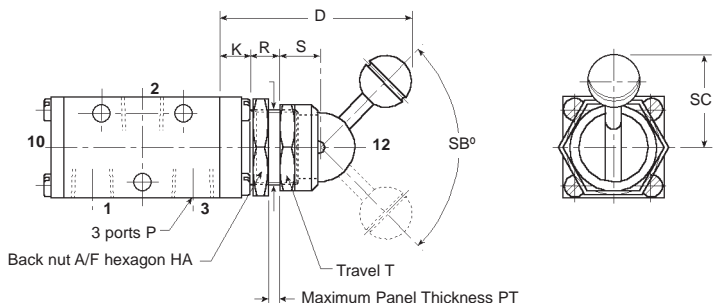
Models 2326B00-ER2B and 2526B00-ER2B are supplied with 2 off locknuts for mounting.

MANUALLY OPERATED (SWITCH), MANUALLY OPERATED (LEVER)

INSTALLATION DIMENSIONS mm (inches)

3/2 Switch Operated, Spring Return with Detent

2326B00-ER2B



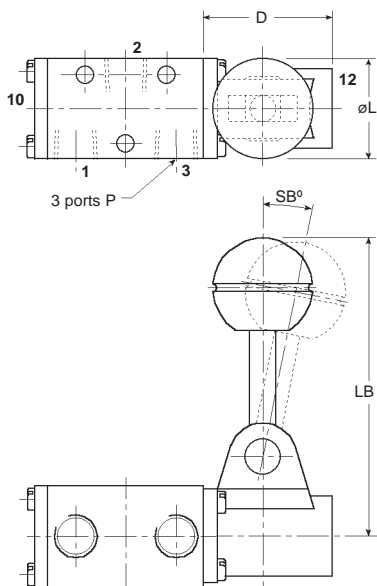
For basic valve dimensions, see 3/2 spring return bases on page 1500SZ.4

Model Number	D	K	P	R	HA	HB	PT	SA	SB	SC
2326B00-ER2B	61 (2.40)	10 (0.39)	1/4" NPT 1/4" NPT	10 (0.39)	30.5 (1.20)	28 (1.10)	5 (0.20)	13 (0.51)	95° 95°	28 (1.10)

Panel mounting thread ϕY is 15/16" dia. x 26 TPI Whit Form.

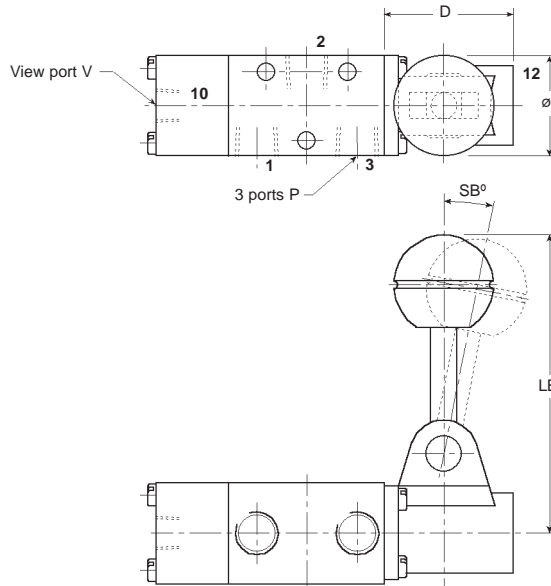
3/2 Lever Operated, Spring Return

2326M25-ER2B



5/2 Lever Operated, with Detent

2526B553ER2B



For basic valve dimensions, see 3/2 spring return and pilot air return bases on page 1500SZ.4

Model Number	D	L	LB	LC	P	V
2326M25-ER2B	41.25 (1.62)	32 (1.26)	96 (3.78)	11.3° 11.3°	1/4" NPT 1/4" NPT	- -
2326B553ER2B	41.25 (1.62)	32 (1.26)	96 (3.78)	11.3° 11.3°	1/4" NPT 1/4" NPT	1/8" NPT 1/8" NPT

PILOT SOLENOID OPERATED

General Description

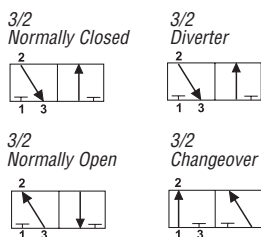
A range of compact 3/2 pilot solenoid operated poppet valves in Stainless Steel for use on gases.

- High flow
- Hazardous area solenoids.
- ATEX, UL and CSA approved
- EExd, NEMA 7 & 9

Operating Medium

Filtered non-lubricated air, inert gas, sweet (natural) gases.

Functional Symbols



Technical Data

Ports

- 1/4" - 1 1/2" NPT (BSP option available)
- 1/4" NPT pilot ports

Working Pressure (gases & liquids)

- 3 to 10 bar (45 to 145 psi)

Cv (Kv)

- 1/4" - 1.75 (25) 3/8" - 2.2 (31)
- 1/2" - 4.00 (57) 3/4" - 10.2 (146)
- 1" - 15.0 (214) 1-1/4" - 20.0 (286)
- 1-1/2" - 28.0 (400)

Working Temperature

- Solenoid version
-50°C to +40°C (-58°F to +104°F)
- Valve only version
-50°C to +90°C (-58°F to +194°F)

Minimum Pilot Pressure

- 6.3 bar (90 psi) body pressure
- 1/4" - 3/8" Spring return
4.0 bar (58.0 psi)
- 1/2" - 1-1/2" Spring return
3.0 bar (43.5 psi)

Maximum Flow

- 6 bar (87 psi), 1 bar (14.5 psi) differential
- 1/4" - 2668 L/min (94 SCFM)
- 3/8" - 3521 L/min (124 SCFM)
- 1/2" - 6402 L/min (226 SCFM)
- 3/4" - 16005 L/min (565 SCFM)
- 1" - 24008 L/min (848 SCFM)
- 1-1/4" - 32010 L/min (1130 SCFM)
- 1-1/2" - 44814 L/min (1583 SCFM)

Construction Materials

- Stainless Steel AISI 316L to NACE MR-01-75 Body
- Stainless Steel AISI 316L to NACE MR-01-75 Poppet
- 316 Stainless Steel Spring
- EPDM Seals



MODEL CODES

3/2 Valves

<p>① 32</p> <p>Size 2 = 1/4" 3 = 3/8" 4 = 1/2" 6 = 3/4" 8 = 1" 5 = 1-1/4" 7 = 1-1/2"</p>	<p>② -M2</p> <p>Function 3 = N/C 5 = Universal</p>	<p>③ -EC2BK</p> <p>Operator 1 = Air 3 = N/C solenoid 4 = Univ solenoid E = End solenoid</p>	<p>④</p> <p>Solenoid Type K = EExd KC = NEMA 7 & 9</p>	<p>⑤ Voltage Codes D = 24v DC M = 110v 50/60Hz AC S = 220/230v 50/60Hz AC</p>
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SUB ZERO RANGE - Poppet Valves

POPPET VALVES • 1/4" - 1 1/2", 3/2, NPT (BSP)

1750 SZ SERIES

1750 SZ SERIES SUB ZERO RANGE

PILOT SOLENOID OPERATED

SOLENOID MODEL CODES



Model Code	Safety Rating	Protection and Housing Material	Approved Area	Ingress Protection	Weight kg (lbs)
K	EExdIIC T6	Flameproof, 316 Stainless Steel	Zones 1 and 2	IP67	1.62 (3.57)
KC	NEMA 7 & 9	Explosion Proof, Stainless Steel	Class I, Groups C & D	NEMA 4	0.29 (0.65)

Preferred models

Model Number	Description	Weight kg (lbs)	Symbol
2323M23-EC2BK*+	1/4" NPT 3/2 Pilot solenoid operated, spring return, N/C	0.65 (1.43) + Sol	
2325M24-EC2BK*+	1/4" NPT 3/2 Pilot solenoid operated, spring return, UNIV	0.65 (1.43) + Sol	
3323M23-EC2BK*+	3/8" NPT 3/2 Pilot solenoid operated, spring return, N/C	0.90 (1.98) + Sol	
3325M23-EC2BK*+	3/8" NPT 3/2 Pilot solenoid operated, spring return, UNIV	0.90 (1.98) + Sol	
4323M23-EC2BK*+	1/2" NPT 3/2 Pilot solenoid operated, spring return, N/C	1.50 (3.31) + Sol	
4325M24-EC2BK*+	1/2" NPT 3/2 Pilot solenoid operated, spring return, UNIV	1.50 (3.31) + Sol	
6325M24-EC2BK*+	3/4" NPT 3/2 Pilot solenoid operated, spring return, UNIV	5.06 (11.16) + Sol	
8325M24-EC2BK*+	1" NPT 3/2 Pilot solenoid operated, spring return, UNIV	5.06 (11.16) + Sol	
5325M24-EC2BK*+	1 1/4" NPT 3/2 Pilot solenoid operated, spring return, UNIV	9.06 (19.97) + Sol	
7325M24-EC2BK*+	1 1/2" NPT 3/2 Pilot solenoid operated, spring return, UNIV	11.06 (24.38) + Sol	

* Specify solenoid type

+ Specify solenoid voltage

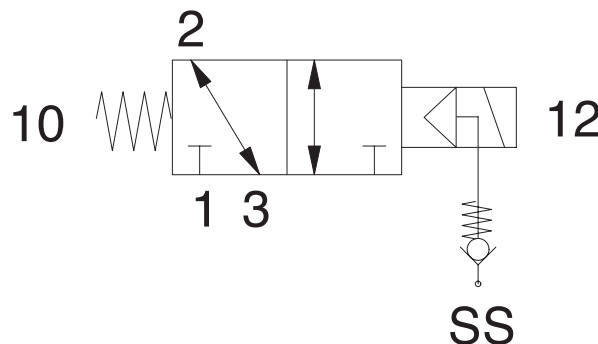
Without solenoid fitted specify "Z" in position "13"

1/4", 3/8" and 1/2" Normally closed versions have internal air supply to the solenoid - Specify code 3 in position 4 and code 3 in position 7 of model number code.

1/4", 3/8" and 1/2" Normally open and Universal versions require a separate air supply to the pilot solenoid - Specify code 5 in position 4 and code 4 in position 7 of model number code.

3/4" to 1 1/2" Normally open, normally closed and universal versions always require a separate main air supply to be taken to the pilot solenoid - Specify code 5 in position 4 and code 4 of position 7 of model number code.

It is recommended that consideration be given to positioning a non-return valve in the separate supply line to the solenoid. This will help to prevent back-flow from the solenoid servo should a temporary/severe pressure drop occur across main valve when it opens.



SUB ZERO RANGE - Poppet Valves

POPPET VALVES • 1/4" - 1 1/2", 3/2, NPT (BSP)

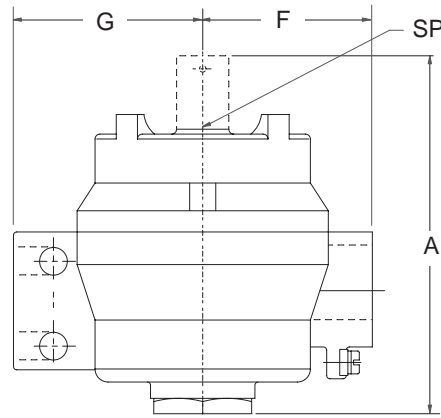
1750 SZ SERIES

PILOT SOLENOID OPERATED

SOLENOID ASSEMBLIES SOLENOID CODE K (EExd IIC T6), SOLENOID CODE KC (NEMA 7 & 9)



1750 SZ SERIES
SUB ZERO RANGE



INSTALLATION DIMENSIONS mm (inches)

Model Code	A	F	G	SP
K, KC	110 (4.33)	52 (2.05)	58 (2.28)	M8

SOLENOID SPECIFICATIONS

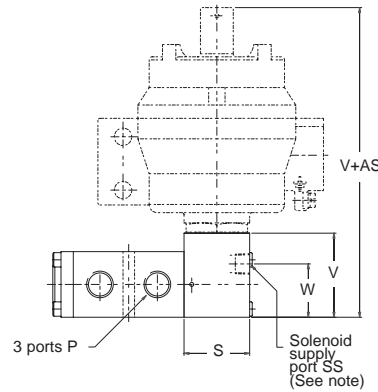
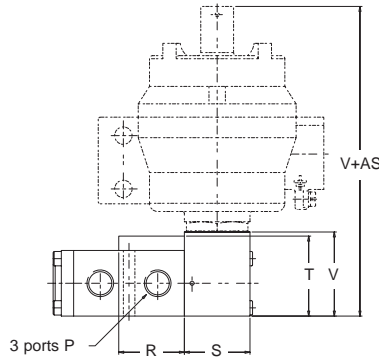
Model Code	K	KC
Type of Protection	EExd IIC T6	NEMA 7 & 9
Approved Area	Zones 1 and 2	Class I, Groups C & D, Class II Groups E,F & G
Degree of Protection	IP67	NEMA 4
Housing	316 Stainless Steel	316 Stainless Steel
Cable entry (Alt cable entry available)	M20 x 1.5	M20 x 1.5
Power Consumption	5 Watt	5 Watt
Maximum Admissible Surface Temperature	85°C (185°F)	85°C (185°F)
Ambient Temperature	-50°C to +40°C (-58°F to +104°F)	-50°C to +40°C (-58°F to +104°F)
Approved Standard	ATEX	UL, CSA
Certificate Number	SIRA 03 ATEX 1319	—

PILOT SOLENOID OPERATED INSTALLATION DIMENSIONS mm (inches)

3/2 Pilot solenoid operated - spring return, 1/4", 3/8", 1/2" valve bases

2323M23-EC2BK*
3323M23-EC2BK*
4323M23-EC2BK*

2323M24-EC2BK*
3323M24-EC2BK*
4323M24-EC2BK*



For solenoid dimensions, see page 1750SZ.3

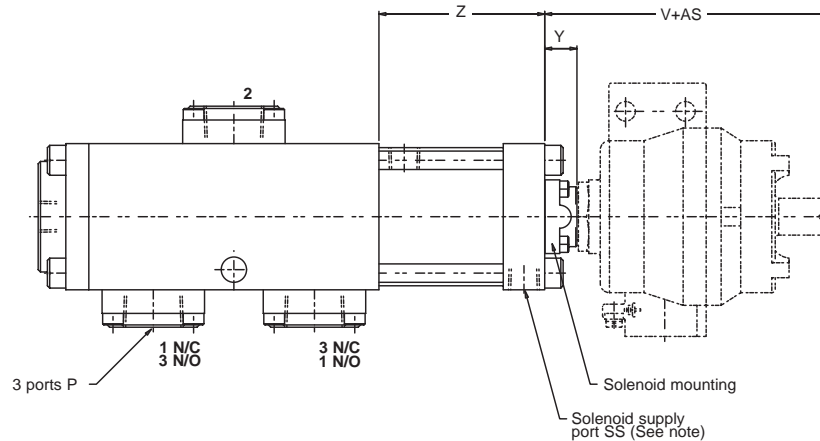
Model Number	P	R	S	T	V	VE	W	X	SS
2323M23-EC2BK*+	1/4"NPT(1/4"NPT)	32 (1.26)	32(1.26)	39(1.54)	41(1.61)	-	-	-	-
2325M24-EC2BK*+	1/4"NPT(1/4"NPT)	-	32(1.26)	-	41(1.61)	-	26(1.02)	-	1/8"NPT(1/8"NPT)
3323M23-EC2BK*+	3/8"NPT(3/8"NPT)	32 (1.26)	32(1.26)	39(1.54)	41(1.61)	-	-	-	-
3325M24-EC2BK*+	3/8"NPT(3/8"NPT)	-	32(1.26)	-	41(1.61)	-	26(1.02)	-	1/8"NPT(1/8"NPT)
4323M23-EC2BK*+	1/2"NPT(1/2"NPT)	38 (1.50)	32(1.26)	45(1.77)	50(1.97)	-	-	-	-
4325M24-EC2BK*+	1/2"NPT(1/2"NPT)	-	32(1.26)	-	50(1.97)	-	37(1.46)	-	1/8"NPT(1/8"NPT)

1/4", 3/8" and 1/2" Normally closed versions have internal air supply to the solenoid - Specify code 3 in position 4 and code 3 in position 7 of model number code.

1/4", 3/8" and 1/2" Normally open and Universal versions require a separate air supply to the pilot solenoid - Specify code 5 in position 4 and code 4 in position 7 of model number code.

3/2 Pilot Solenoid Operated - Spring Return, 3/4", 1-1/4", 1-1/2" Valve Bases

6323M24-EC2BK*+
8323M24-EC2BK*+
5323M24-EC2BK*+
7323M24-EC2BK*+



For basic valve dimensions, see page 1750SZ.5 - For Solenoid dimensions see page 1750SZ.6

Model Number	P	Y	Z	SS
6325M24-EC2BK*	3/4"NPT(1/4"NPT)	14 (0.55)	72(2.83)	1/4"NPT(1/4"NPT)
8325M24-EC2BK*	1"NPT(1/4"NPT)	14 (0.55)	72(2.83)	1/4"NPT(1/4"NPT)
5325M24-EC2BK*	1 1/4"NPT(1 1/4"NPT)	14 (0.55)	73(2.87)	1/4"NPT(1/4"NPT)
7325M24-EC2BK*	1 1/2"NPT(1 1/2"NPT)	14 (0.55)	73(2.87)	1/4"NPT(1/4"NPT)

3/4" to 1 1/2" Normally open, normally closed and universal versions always require a separate mains air supply to be taken to the pilot solenoid - Specify code 5 in position 4 and code 4 of position 7 of model number code.

PILOT AIR OPERATED

General Description

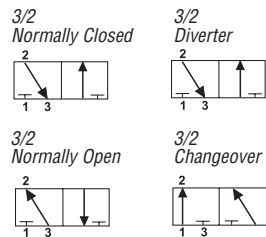
A range of compact 3/2 pilot operated high flow poppet valves in Stainless Steel for use on gases.

- Compact
- High flow
- 3/2 N/O, N/C and Universal
- Meet NACE standard

Operating medium

Filtered non-lubricated air, inert, sweet (natural) gases.

Functional Symbols



Technical Data

Ports

- 1/4" - 1-1/2" NPT (BSP option available)
- 1/4" NPT pilot ports

Working Pressure (gases & liquids)

- 2 to 10 bar (30 to 145 psi)

Cv (Kv)

- 1/4" - 1.75 (25) 3/8" - 2.2 (31)
- 1/2" - 4.00 (57) 3/4" - 10.2 (146)
- 1" - 15.0 (214) 1-1/4" - 20.0 (286)
- 1-1/2" - 28.0 (400)

Working Temperature

- -50°C to +90°C (-58°F to +194°F)

Minimum Pilot Pressure

- 6.3 bar (90 psi) body pressure
- 1/4" - 3/8" Spring return
 4.0 bar (58.0 psi)
- 1/2" - 1-1/2" Spring return
 3.0 bar (43.5 psi)

Maximum Flow

- 6 bar (87 psi), 1 bar (14.5 psi) differential
- 1/4" - 2668 L/min (94 SCFM)
- 3/8" - 3521 L/min (124 SCFM)
- 1/2" - 6402 L/min (226 SCFM)
- 3/4" - 16005 L/min (565 SCFM)
- 1" - 24008 L/min (848 SCFM)
- 1-1/4" - 32010 L/min (1130 SCFM)
- 1-1/2" - 44814 L/min (1583 SCFM)



Construction Materials

- Stainless Steel AISI 316L to NACE MR-01-75 Body
- Stainless Steel AISI 316L to NACE MR-01-75 Poppet
- 316 Stainless Steel Spring
- EPDM Seals

Preferred Models

Model Number	Description	Weight kg (lbs)	Symbol
2325M21-EC2B	1/4" NPT 3/2 Pilot air operated, spring return, UNIV	0.65 (1.43)	
3325M21-EC2B	3/8" NPT 3/2 Pilot air operated, spring return, UNIV	0.90 (1.98)	
4325M21-EC2B	1/2" NPT 3/2 Pilot air operated, spring return, UNIV	1.50 (3.31)	
6325M21-EC2B	3/4" NPT 3/2 Pilot air operated, spring return, UNIV	5.00 (11.0)	
8325M21-EC2B	1" NPT 3/2 Pilot air operated, spring return, UNIV	5.00 (11.0)	
5325M21-EC2B	1-1/4" NPT 3/2 Pilot air operated, spring return, UNIV	9.00 (19.8)	
7325M21-EC2B	1-1/2" NPT 3/2 Pilot air operated, spring return, UNIV	11.0 (24.3)	

SUB ZERO RANGE - Poppet Valves

POPPET VALVES • 1/4" - 1-1/2", 3/2, NPT (BSP)

1750 SZ SERIES

1750 SZ SERIES

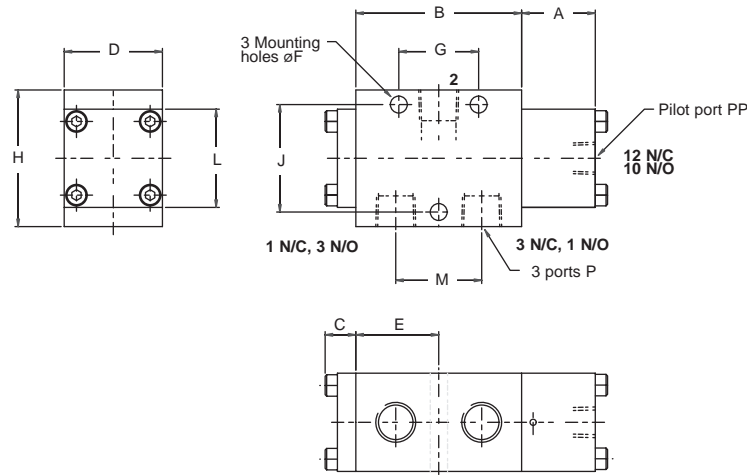
SUB ZERO RANGE

PILOT AIR OPERATED

INSTALLATION DIMENSIONS mm (inches)

3/2 Pilot Air Operated - Spring Return, 1/4", 3/8", 1/2"

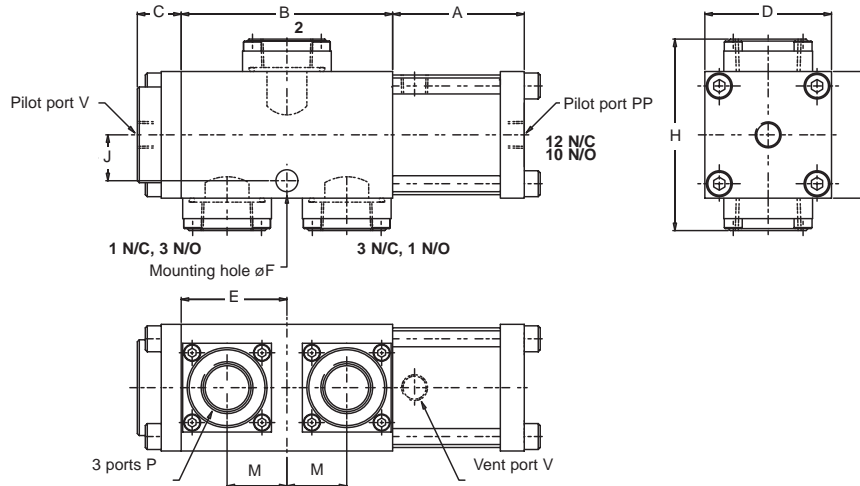
2325M21-EC2B
3325M21-EC2B
4325M21-EC2B



Model Number	A	B	C	D	E	F	G	H	J	L	M	N	P	PP
2325M21-EC2B	24 (0.94)	54 (2.13)	10 (0.39)	32 (1.26)	27 (1.06)	6.5 (0.26)	26 (1.02)	44.5 (1.75)	35 (1.38)	32 (1.26)	28 (1.10)	-	1/4" NPT	1/8" NPT
3325M21-EC2B	24 (0.94)	54 (2.13)	10 (0.39)	32 (1.26)	27 (1.06)	6.5 (0.26)	38 (1.50)	51 (2.00)	44 (1.73)	32 (1.26)	28 (1.10)	-	3/8" NPT	1/8" NPT
4325M21-EC2B	32 (1.26)	65 (2.56)	28 (1.10)	38 (1.50)	32.5 (1.28)	6.5 (0.26)	45 (1.77)	63.5 (2.50)	50 (1.97)	38 (1.50)	36 (1.42)	24 (0.94)	1/2" NPT	1/8" NPT

3/2 Pilot Air Operated - Spring Return, 3/4", 1", 1-1/4", 1-1/2"

6325M21-EC2B
8325M21-EC2B
5325M21-EC2B
7325M21-EC2B



Model Number	A	B	C	D	E	F	H	J	L	M	P	PP	V
6325M21-EC2B	66 (2.60)	106 (4.17)	22 (0.87)	63.5 (2.50)	53 (2.09)	11 (0.43)	96 (3.78)	23 (0.91)	63.5 (2.50)	30 (1.18)	3/4" NPT	1/4" NPT	1/4" NPT
8325M21-EC2B	66 (2.60)	126 (4.96)	22 (0.87)	63.5 (2.50)	63 (2.48)	11 (0.48)	96 (3.78)	23 (0.91)	63.5 (2.50)	35 (1.38)	1" NPT	1/4" NPT	1/4" NPT
5325M21-EC2B	67 (2.64)	155 (6.10)	18 (0.71)	76 (2.99)	77.5 (3.05)	11 (0.43)	116 (4.57)	28.5 (1.12)	76 (2.99)	42.5 (1.67)	1-1/4" NPT	1/4" NPT	1/4" NPT
7325M21-EC2B	67 (2.64)	180 (7.09)	18 (0.71)	76 (2.99)	90 (3.54)	11 (0.43)	116 (4.57)	28.5 (1.12)	76 (2.99)	50 (1.97)	1-1/2" NPT	1/4" NPT	1/4" NPT

SUB ZERO RANGE - Ancillary Valves

1/4", 3/8", 1/2", 3/4", 1", NPT (BSP)

4500 SZ SERIES

UNI-DIRECTIONAL FLOW REGULATORS • BI-DIRECTIONAL FLOW REGULATORS

General Description

Uni-directional

316 Stainless Steel in-line flow regulators for uni-directional operation (free flow return).

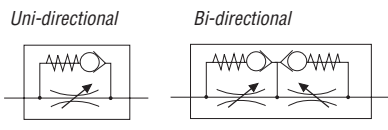
Bi-directional

316 Stainless Steel in-line flow regulators for bi-directional operation (separate flow control in each direction).

Operating Medium

Filtered non-lubricated air, inert, sweet (natural) gases.

Functional Symbols



Technical Data

Working Pressure

- 10 bar (145 psi)

Working Temperature

- -50°C to +90°C (-58°F to +194°F)

Maximum Flow L/min (SCFM) Cv(Kv)

- 6 bar (87 psi), 1 bar (14.5 psi) differential

Uni-directional

- 1/4" 1000(35) -1.0(15.5)
- 3/8" 1680(59) -1.7(26)
- 1/2" 2520(89) -2.5(39)
- 3/4" 5428(192) -5.4(84)
- 1" 9820(347) -9.8(152)

Bi-directional

- 1/4" 620(22) -0.6(9.6)
- 3/8" 1290(45) -1.3(20)
- 1/2" 2000(71) -2.0(31)



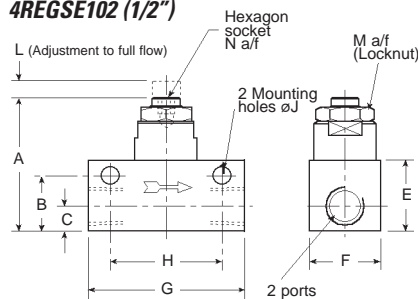
Construction Materials

- Stainless Steel AISI 316L to NACE MR-01-75 Body
- Stainless Steel AISI 316L to NACE MR-01-75 Internals
- 316 Stainless Steel Springs
- EPDM Seals

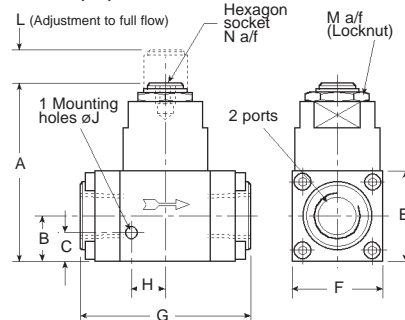
MODEL CODES, INSTALLATION DIMENSIONS mm (inches) and WEIGHT kg (lbs)

Uni-Directional Flow Regulators

2REGSE102 (1/4")
3REGSE102 (3/8")
4REGSE102 (1/2")

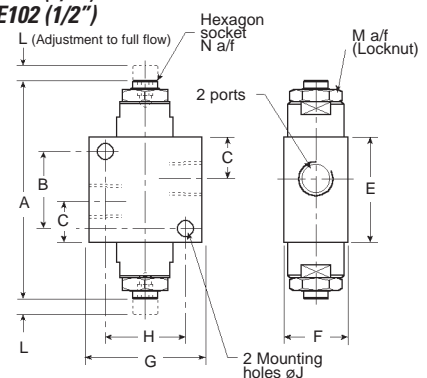


6REGSE102 (3/4")
8REGSE102 (1")



Bi-Directional Flow Regulators

2BIDSE102 (1/4")
3BIDSE102 (3/8")
4BIDSE102 (1/2")



OPTION - Mounting bracket available for 3/4" and 1" models
Model number SSBF 612/MB2

Model Number	Ports	A	B	C	E	F	G	H	J	L	M	N	WEIGHT
Uni-directional													
2REGSE102	1/4" NPT	48(1.89)	20(0.79)	9(0.35)	25.4(1.00)	25.4(1.00)	56(2.20)	40(1.57)	6.35(0.25)	6(0.24)	18(0.71)	5(0.20)	0.26(0.57)
3REGSE102	3/8" NPT	70(2.76)	29(1.14)	14.5(0.57)	35(1.38)	35(1.38)	76(2.99)	45(1.77)	6.35(0.25)	12(0.47)	23.3(0.92)	6(0.24)	0.75(1.65)
4REGSE102	1/2" NPT	70(2.76)	29(1.14)	13.5(0.57)	35(1.38)	35(1.38)	76(2.99)	45(1.77)	6.35(0.25)	12(0.47)	23.3(0.92)	6(0.24)	0.75(1.65)
6REGSE102	3/4" NPT	100(3.94)	16(0.63)	25.4(1.00)	50.8(2.00)	50.8(2.00)	95(3.74)	19(0.75)	6.35(0.25)	19(0.75)	30.5(1.20)	10(0.39)	1.75(3.86)
8REGSE102	1" NPT	125(4.92)	19(0.75)	31.75(1.25)	63.5(2.50)	63.5(2.50)	95(3.74)	24(0.94)	6.35(0.25)	19(0.75)	36(1.42)	12(0.47)	2.75(6.06)
Bi-directional													
2BIDSE102	1/4" NPT	85(3.35)	28(1.10)	15.5(0.61)	40(1.57)	25.4(1.00)	44.5(1.75)	32(1.26)	6.35(0.25)	6(0.24)	18(0.71)	5(0.20)	0.43(0.95)
3BIDSE102	3/8" NPT	121(4.76)	35(1.38)	21(0.83)	51(2.00)	35(1.38)	63.5(2.50)	45(1.77)	6.35(0.25)	12(0.47)	23.3(0.92)	6(0.24)	1.40(3.09)
4BIDSE102	1/2" NPT	121(4.76)	35(1.38)	21(0.83)	51(2.00)	35(1.38)	63.5(2.50)	45(1.77)	6.35(0.25)	12(0.47)	23.3(0.92)	6(0.24)	1.40(3.09)

NEEDLE VALVES • EXHAUST PORT FLOW REGULATORS

General Description

Needle Valve

316 Stainless Steel Needle Valve with 3mm or 6mm orifice.

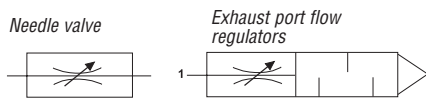
Exhaust Port Flow Regulators

316 Stainless Steel exhaust flow regulator/breather supplied complete with tamper proof cap.

Operating Medium

Filtered non-lubricated air, inert, sweet (natural) gases.

Functional Symbols



Technical Data

Working Pressure (gases & liquids)

- 10 bar (145 psi) maximum

Working Temperature

- -50°C to +90°C (-58°F to +194°F)

Maximum Flow

- 6 bar (87 psi), 1 bar (14.5 psi) differential

Needle Valve (3mm orifice)

- 1/4" 290(10.5) -0.30(4.6)

Needle Valve (6mm orifice)

- 1/4" 640(23) -0.64(10)

Exhaust Port Flow Regulators

- 1/4" 646(23) -0.65(10)

- 3/8" 1100(39) -1.10(17)

- 1/2" 1800(64) -1.80(28)



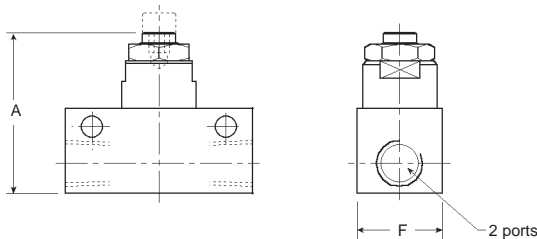
Construction Materials

- Stainless Steel AISI 316L to NACE MR-01-75 Body
- Stainless Steel AISI 316L to NACE MR-01-75 Internals
- 316 Stainless Steel Spring
- EPDM Seals

MODEL CODES, INSTALLATION DIMENSIONS mm (inches) and WEIGHT kg (lbs)

Needle Valve

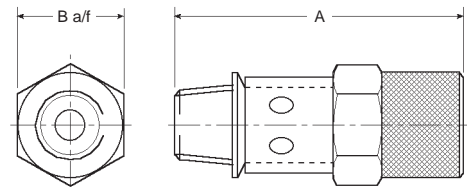
- 2NDVSE10203 (1/4"-3mm orifice)
- 2NDVSE10206 (1/4"-6mm orifice)



All dimensions as for uni-directional flow regulators
Model 2REGSE102 on page 4500.SZ.1

Exhaust Port Flow Regulators

- 2EFRSE102 (1/4")
- 3EFRSE102 (3/8")
- 4EFRSE102 (1/2")



Note: All units have 0.4mm (0.016") diameter minimum orifice to eliminate complete shut off.
Units supplied complete with tamper proof cap.

Model Number	Ports	A	F	Weight
2NDVSE10203	1/4" NPT	48 (1.89)	25.4 (1.00)	0.26 (0.57)
2NDVSE10206	1/4" NPT	48 (1.89)	25.4 (1.00)	0.26 (0.57)

Model Number	Ports	A	F	Weight
2EFRSE102	1/4" NPT	47.5 (1.87)	17 (0.67)	0.05 (0.11)
3EFRSE102	3/8" NPT	66 (2.60)	23.4 (0.92)	0.15 (0.33)
4EFRSE102	1/2" NPT	87.5 (3.44)	23.4 (0.92)	0.20 (0.44)

SUB ZERO RANGE - Ancillary Valves

NON RETURN VALVES • 1/4", 3/8", 1/2", 3/4", 1", NPT (BSP)

4500 SZ SERIES

NON RETURN VALVES 10 BAR

General Descriptions

Non Return Valves

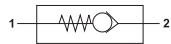
316 Stainless Steel non return valves.

Operating Medium

Filtered non-lubricated air, inert, sweet (natural) gases.

Functional Symbols

Non return valves



Technical Data

Working Pressure (gases & liquids)

- 10 bar (145 psi)

Minimum Opening Pressure

- 0.2 bar (2.90 psi)

Working Temperature

- -50°C to +90°C (-58°F to +194°F)

Maximum Flow L/min (SCFM) - Cv(Kv)

- 6 bar (87 psi), 1 bar (14.5 psi) differential
- 1/4" 1600(57) -1.6(25)
- 3/8" 2200(80) -2.3(35)
- 1/2" 3800(137) -3.9(60)
- 3/4" 5800(205) -5.8(90)
- 1" 7700(274) -7.8(120)



Construction Materials

- Stainless Steel AISI 316L to NACE MR-01-75 Body
- Stainless Steel AISI 316L to NACE MR-01-75 Internals
- 316 Stainless Steel Spring
- EPDM Seals

MODEL CODES, INSTALLATION DIMENSIONS mm (inches) and WEIGHT kg (lbs)

Non Return Valves (12 bar)

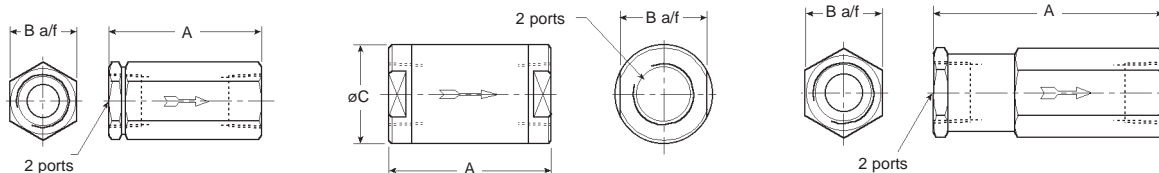
2NRVSE102 (1/4")

3NRVSE102 (3/8")

4NRVSE102 (1/2")

6NRVSE102 (3/4")

8NRVSE102 (1")



Model Number	Ports	A	B	C	Weight
2NRVSE102	1/4" NPT	50(1.97)	22.2(0.87)	-	0.12(0.26)
3NRVSE102	3/8" NPT	65(2.56)	30.5(1.20)	-	0.30(0.66)
4NRVSE102	1/2" NPT	65(2.56)	30.5(1.20)	-	0.30(0.66)
6NRVSE102	3/4" NPT	85(3.35)	45(1.77)	50.8(2.00)	1.00(2.20)
8NRVSE102	1" NPT	85(3.35)	45(1.77)	50.8(2.00)	1.00(2.20)

SUB ZERO RANGE - Ancillary Valves

1/4", 3/8", 1/2", 3/4", 1", NPT (BSP)

4500 SZ SERIES

4500 SZ SERIES SUB ZERO RANGE

QUICK EXHAUST VALVES • SHUTTLE VALVES

General Descriptions

Quick Exhaust Valves

316 Stainless Steel quick exhaust valves in 5 sizes.

Shuttle Valves

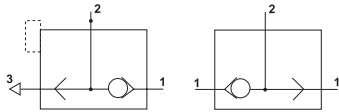
316 Stainless Steel shuttle valves for three way "OR" function.

Operating Medium

Filtered non-lubricated air, inert, sweet (natural) gases.

Functional Symbols

Quick exhaust valve Shuttle valve



Technical Data

Working Pressure (gases & liquids)

- 10 bar (145 psi)

Working Temperature

- -50°C to +90°C (-58°F to +194°F)

Maximum Flow L/min (SCFM) - Cv(Kv)

- 6 bar (87 psi), 1 bar (14.5 psi) differential

Quick Exhaust Valve (supply to outlet)

- 1/4" 1290(46) 1.3(20)
- 3/8" 1810(64) 1.8(28)
- 1/2" 3810(135) 3.8(59)
- 3/4" 4520(160) 4.5(70)
- 1" 7700(274) 7.8(120)

Quick Exhaust Valve (outlet to exhaust)

- 1/4" 2780(98) 2.8(43)
- 3/8" 3810(135) 3.8(59)
- 1/2" 5490(194) 5.5(85)
- 3/4" 6460(228) 6.5(100)
- 1" 11000(388) 11.0(170)

Shuttle Valve

- 1/4" 1350(45) 1.36(21)
- 3/8" 1830(65) 1.8(28.4)
- 1/2" 3550(126) 3.6(55)
- 3/4" 5500(194) 5.5(85)
- 1" 9000(319) 9.0(140)



Construction Materials

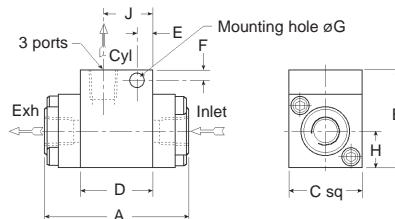
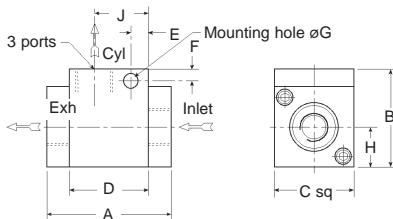
- Stainless Steel AISI 316L to NACE MR-01-75 Body
- Stainless Steel AISI 316L to NACE MR-01-75 Internals
- 316 Stainless Steel Spring
- EPDM Seals

MODEL CODES, INSTALLATION DIMENSIONS mm (inches) and WEIGHT kg (lbs)

Quick Exhaust Valves

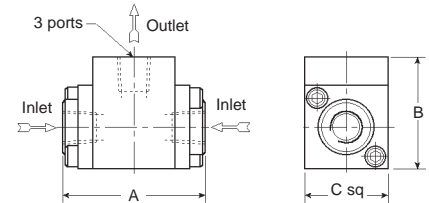
2QEVSE102 (1/4")
3QEVSE102 (3/8")
4QEVSE102 (1/2")

6QEVSE102 (3/4")
8QEVSE102 (1")



Shuttle Valves

2SHVSE102 (1/4")
3SHVSE102 (3/8")
4SHVSE102 (1/2")
6SHVSE102 (3/4")
8SHVSE102 (1")

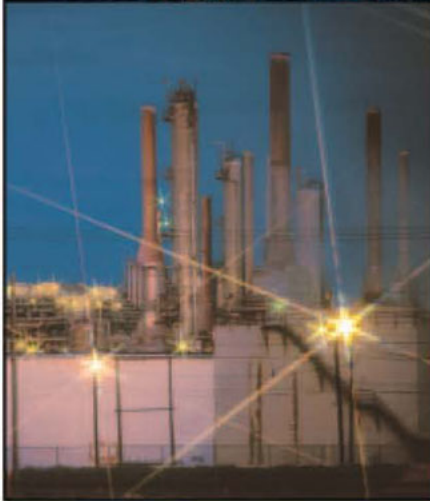


Model Number	Ports	A	B	C	D	E	F	G	H	J	Weight
2QEVSE102	1/4"NPT	52 (2.05)	38 (1.50)	32 (1.26)	32 (1.26)	-	-	-	16 (0.63)	22 (0.87)	0.34 (0.75)
3QEVSE102	3/8"NPT	60 (2.36)	42 (1.65)	35 (1.38)	35 (1.38)	-	-	-	17.5 (0.69)	23 (0.91)	0.48 (1.06)
4QEVSE102	1/2"NPT	70 (2.76)	55 (2.17)	45 (1.77)	45 (1.77)	10 (0.39)	6.5 (0.26)	8.5 (0.33)	22.5 (0.88)	31 (1.22)	0.80 (1.76)
6QEVSE102	3/4"NPT	102 (4.02)	70 (2.76)	54 (2.13)	54 (2.13)	10 (0.39)	12 (0.47)	8.5 (0.33)	27 (1.06)	35 (1.38)	1.60 (3.53)
8QEVSE102	1"NPT	114 (4.49)	99 (3.90)	74 (2.91)	74 (2.91)	16 (0.63)	12 (0.47)	11 (0.43)	37 (1.46)	52 (2.05)	3.6 (7.94)

Model Number	Ports	A	B	C	Weight
2SHVSE102	1/4"NPT	56 (2.20)	43 (1.69)	32 (1.26)	0.40 (0.88)
3SHVSE102	3/8"NPT	56 (2.20)	43 (1.69)	32 (1.26)	0.40 (0.88)
4SHVSE102	1/2"NPT	74 (2.91)	55 (2.17)	38 (1.50)	0.70 (1.54)
6SHVSE102	3/4"NPT	104 (4.09)	75 (2.95)	54 (2.13)	2.00 (4.41)
8SHVSE102	1"NPT	108 (4.25)	82 (3.23)	63.5 (2.50)	3.00 (6.62)



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