

Est. 1980

Rwelco

electric

pneumatic

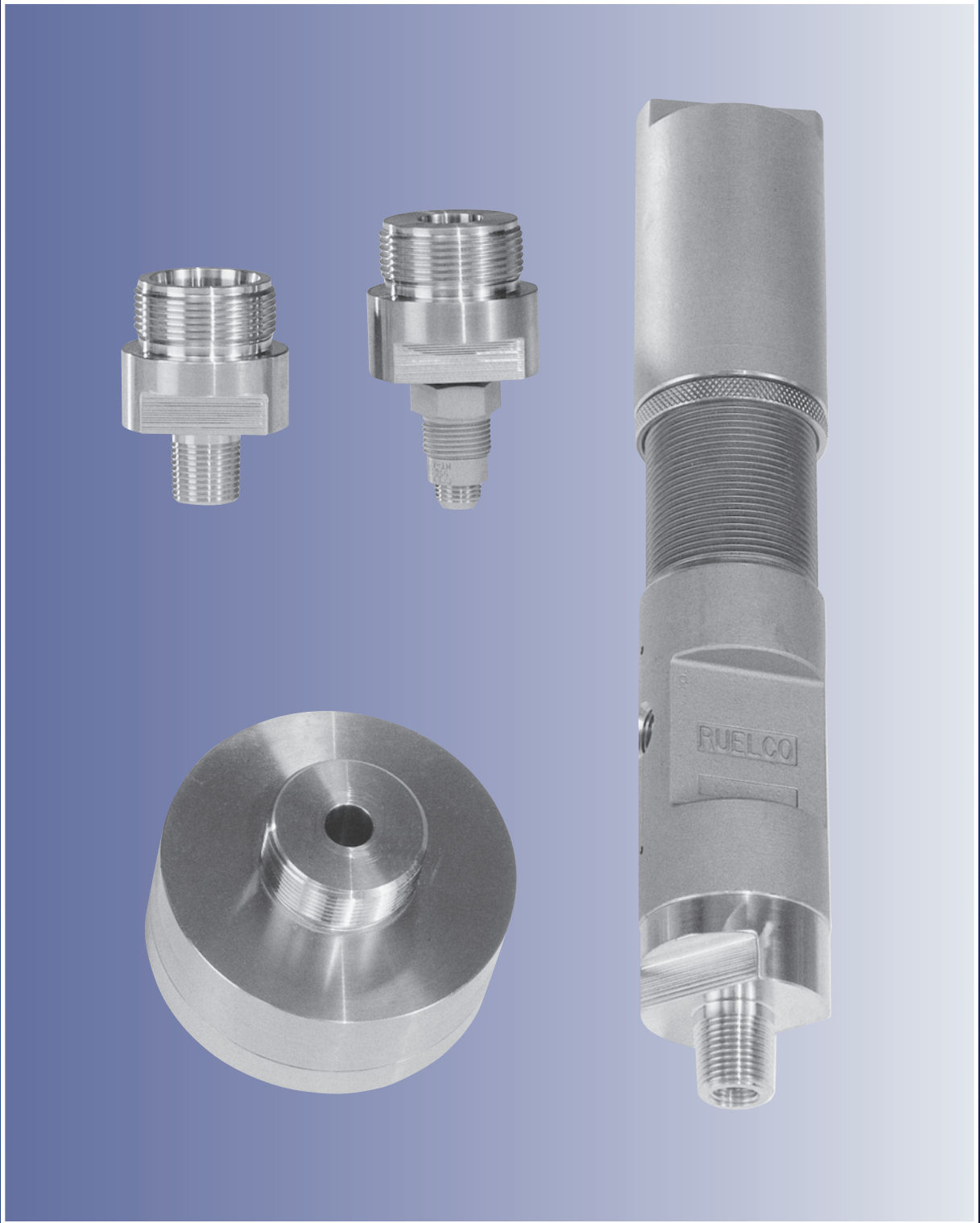
hydraulic

Control systems and services

Ruelco

SS-1 Pressure Switch

Model 4102



Phone (504) 340-0055
Fax (504) 340-0056

SS-I

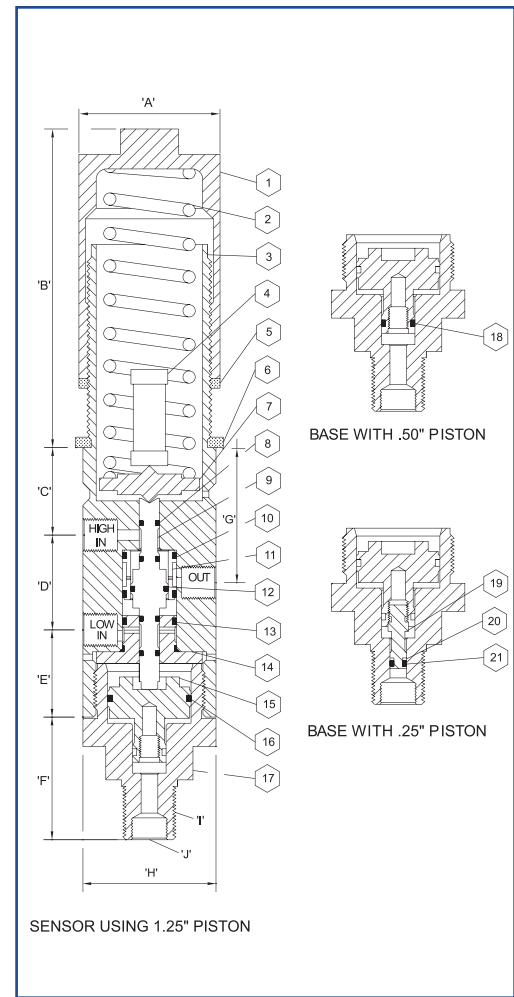
Pneumatic Pressure Switch

FEATURES

- 316 stainless steel construction (models to N.A.C.E. MR0175 available).
- Standard base range 10-10,000 p.s.i. (with 1/4" piston option).
- Operating pressure range from .5 to 20,000 psi.
- Block-and-bleed 3-way valve.
- Holds constant and accurate set points.
- Designed for 1% plus or minus repeatability on set points.
- Minimum deadband between trip and reset pressure.
- Spring may be replaced with instrument and sensing pressure present in the sensor.
- Vent above sensing piston prevents high pressure from entering instrument supply should a piston seal leak develop.
- Optional tamper proof lock-out device available upon request.

GENERAL DESCRIPTION:

The Ruelco 'SS-I' pneumatic pressure switch is a three way block and bleed valve that is operated by pressure acting on a piston opposing an adjustable spring force. It functions as either a normally closed or normally open valve, depending on through which of the two ports the instrument pressure is supplied. These ports are marked 'HI IN' or 'LO IN' on the switch body. The output port, marked 'OUT' on the switch body, is the same for either mode of operation. Pressure applied to the sense port will cause the valve to operate. The Ruelco 'SS-I' pneumatic pressure switch can also be used as a two way bleed only valve in which case one of the 'HI IN' or 'LO IN' ports is plugged depending on whether the valve is to be used as a high or a low pilot.



Switch Specifications

Valve Type	3 or 2 Way
Set Point Deviation	± 1%
Deadband	3 Way 3% of Range 2 Way 5% of Range
Max. Instr. Press.	3 Way 60 PSI 2 Way 150 PSI
Cv Factor	0.160
Ambient Temp. Range	-20 to 250 deg. F -29 to 122 deg. C

1.25"/.50"/.25" Switch Sensor Specifications

Sensor Type	Piston
Max. Oper. Press.	10,000 PSI (690 BAR)
Burst Pressure	20,000 PSI (1380 BAR)
Temperature Range	-20 to 250 Deg. F -29 to 122 Deg. C

Dimensions Inch (MM)

A	2.12 (53.8)
B (Max)	6.13 (155.7)
C	1.32 (33.5)
D	1.43 (36.3)
E	1.22 (31.0)
F	1.82 (46.2)
G	1.23 (31.2)
H	2.0 (50.8)
I	1/2" MNPT
J	1/4" MNPT
Panel Mount Hole	1.875 (48.0)
Valve Ports	1/4" FNPT
Weight*	4.9 lbs. (2.3Kg)

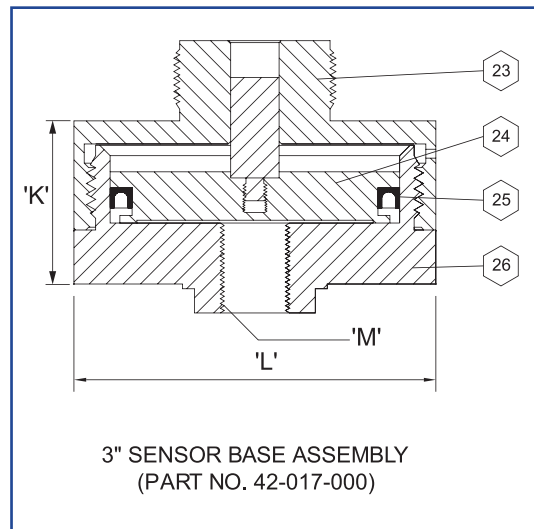
* For Switch and 1.25/50/.25 Sensor Base.

Parts List For Pressure Switch Model SS-I

Item	Qty.	Description	Material
1	1	Spring Cap	316L or ASTM-A-351 S.S.
2A	1	Spring (Blue)	ASTM-401
2B	—	Spring (Red)	ASTM-401
2C	—	Spring (Silver)	ASTM-401
2D	—	Spring (Green) optional	Inconel X-750
2E	—	Spring (Yellow) optional	Inconel X-750
2F	—	Spring (Purple) optional	Inconel X-750
3	1	Body For SS-I	CF-8M St. Stl.
4	1	Parts Tube	Acetate Butyrate
5	1	Lock Ring	AISI 316 St. Stl.
6	1	Panel Mnt. Ring (Optional)	AISI 316 St. Stl.
7	1	Spring Plate	AISI 316 St. Stl.
8*	4	Spool O-ring	Viton
9	1	Spool For SS-I	17-4 PH St. Stl.
10*	2	Shuttle Seal	Viton
11	1	Shuttle	AISI 316 St. Stl.
12*	1	Spool O-ring	Viton
13*	2	Spool Sleeve Seal	Viton
14	1	Spool Sleeve	AISI 316 St. Stl.
15	1	1.25"/.50" Piston	AISI 316 St. Stl.
16*	1	1.25" Piston O-ring	Viton
17	1	1.25"/.50"/.25" Base	AISI 316 St. Stl.
18*	1	.50" Piston O-ring	Viton
19	1	.25" Piston (Optional)	AISI 316 St. Stl.
20*	1	.25" Piston Backup	Teflon
21*	1	.25" Piston O-ring	Viton
22	—	Repair Kit	* Items

Parts Tube Not Supplied With Switches Using 3.0" or .187" Sensor Base.

Spring Codes (COLOR)		Available Ranges - PSI (BAR)															
		.5-20 (.03-1.4)	4-40 (.3-2.75)	10-80 (.7-5.5)	10-115 (.7-7.9)	20-230 (1.4 - 15.8)	50-450 (3.4 - 31)	200-750 (13.8-51.8)	500-1500 (34.5-103.5)	1000-3000 (69-207)	1000-3000 (69-207)	2000-5000 (138-345)	5000-10000 (345-689)	2000-5000 (138-345)	3500-9000 (241-620)	8500-20000 (586-1380)	
STANDARD SPRING	INCONEL SPRING																
B (Blue)	G (Green)	X			X			X			X			X			
R (Red)	Y (Yellow)		X			X			X			X			X		
S (Silver)	P (Purple)			X			X			X			X			X	
Piston Diameter		3.0"	3.0"	3.0"	1.25"	1.25"	1.25"	.50"	.50"	.50"	.25"	.25"	.25"	.187"	.187"	.187"	
Piston Code		0	0	0	1	1	1	2	2	2	3	3	3	4	4	4	
OPTIONAL BASE												OPTIONAL PISTON			OPTIONAL BASE		



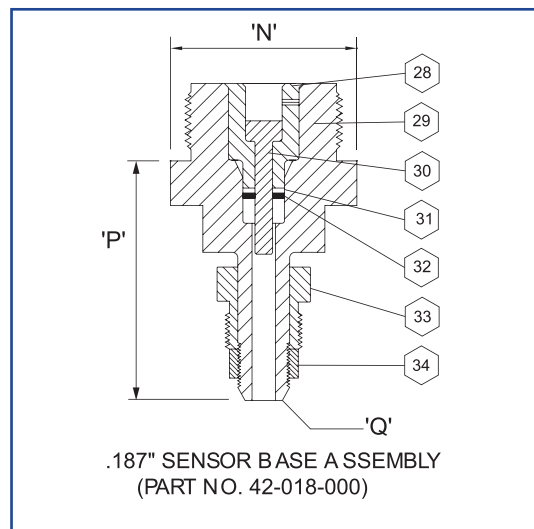
3.0" Sensor Base

ITEM	QTY.	DESCRIPTION	MATERIAL
23	1	Upper Housing	17-4 P.H. St. Stl.
24	1	Piston Assembly	17-4 P.H. St. Stl.
25	1	Seal	Viton
26	1	Lower Housing	17-4 P.H. St. Stl.
27	—	Rep. Kit F/ 3.0" Base	Items 8,10,12,13,25

Sensor Type	Piston
Max. Oper. Press.	5,000 PSI (345 BAR)
Burst Pressure	10,000 PSI (690 BAR)
Temperature Range	-20 to 250 Deg. F -29 to 122 Deg. C

K	2.0 IN. (50.8 MM)
L	3.75 IN. (95.2 MM)
M	1/2" FNPT
Weight*	8.5 lbs. (3.7 Kg.)

* For Switch and 3.0" Sensor Base



.187" Sensor Base

ITEM	QTY.	DESCRIPTION	MATERIAL
28	1	Retainer Sleeve	AISI 316 St. Stl.
29	1	.187" Sensor Base	17-4 P.H. St. Stl.
30	1	.187" Piston	17-4 P.H. St. Stl.
31	1	Back -Up Ring	Glass Filled Teflon
32	1	Seal	Viton
33	1	9/16" Gland Nut	AISI 316 St. Stl.
34	1	9/16" Gland Collar	AISI 316 St. Stl.
35	—	Rep. Kit F/ .187" Base	Items 8,10,12,13,31,32

Sensor Type	Piston
Max. Oper. Press.	20,000 PSI (1380 BAR)
Burst Pressure	40,000 PSI (2760 BAR)
Temperature Range	-20 to 250 Deg. F -29 to 122 Deg. C

N	2.0 IN. (50.8 MM)
P	2.57 IN. (65.3 MM)
Q	9/16" M/P Autoclave
Weight*	5.0 lbs. (2.3 Kg.)

* For Switch and .187" Sensor Base

Ordering Code: 4102 X X X 0 0 0

BASE MODEL NUMBER

Standard Corrosive Service - (-)
N.A.C.E. Option - N

SPRING CODE (see range chart)

PISTON CODE (see range chart)



SS Series

Pressure Switches

SS-1 High Flow

SS-2 Standard

**SS-2 High Flow
(Pneumatic or Hydraulic)**

SS-1 Differential

SS-2 Differential

SS-4 Hydraulic Bleed

SS-E Electric

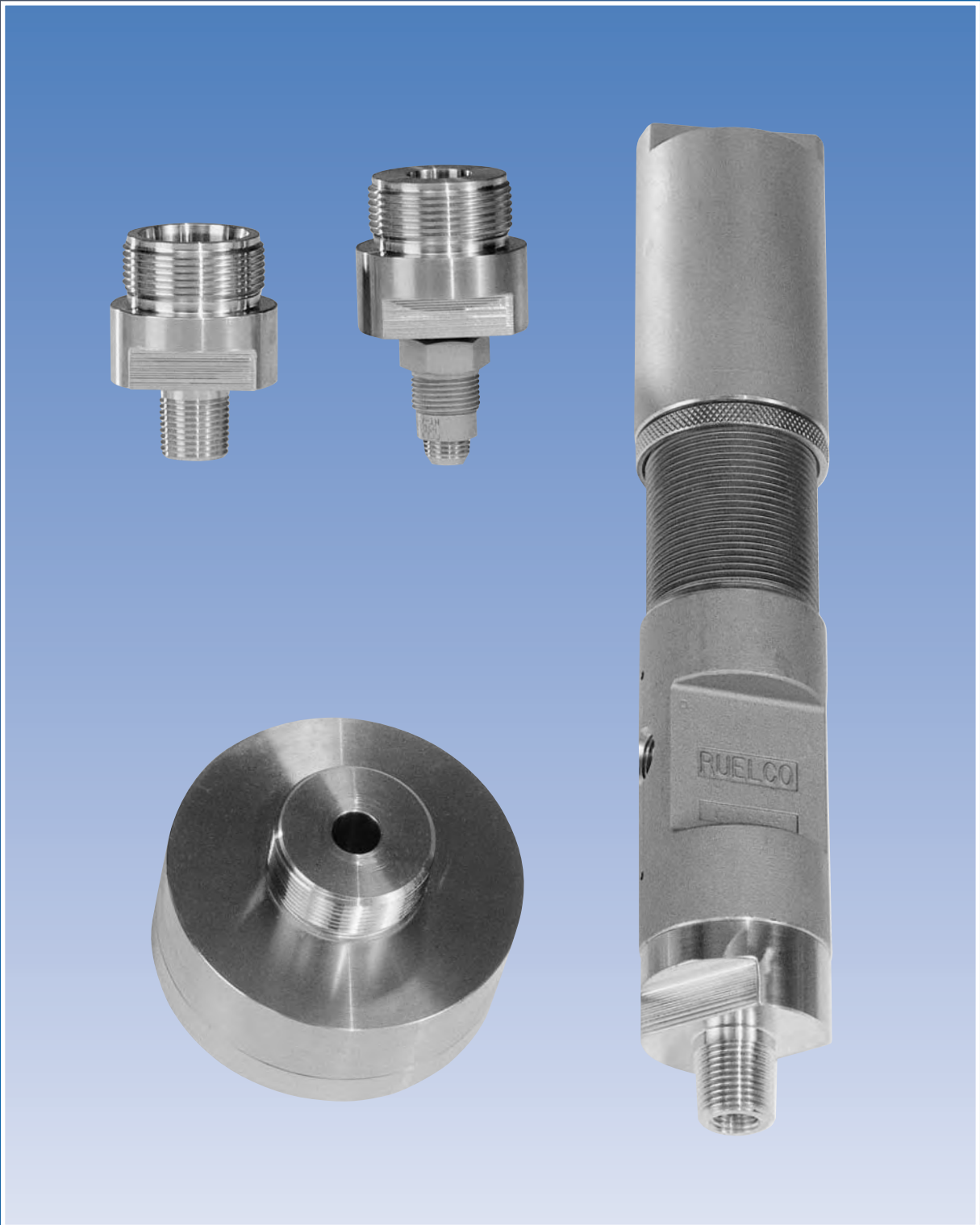
SS-E Electric Differential

**SS-1 With Optional Scale
Model 4103**

Ruelco

SS-2 Pressure Switch

Model 4202



Phone (504) 340-0055
Fax (504) 340-0056

SS-2

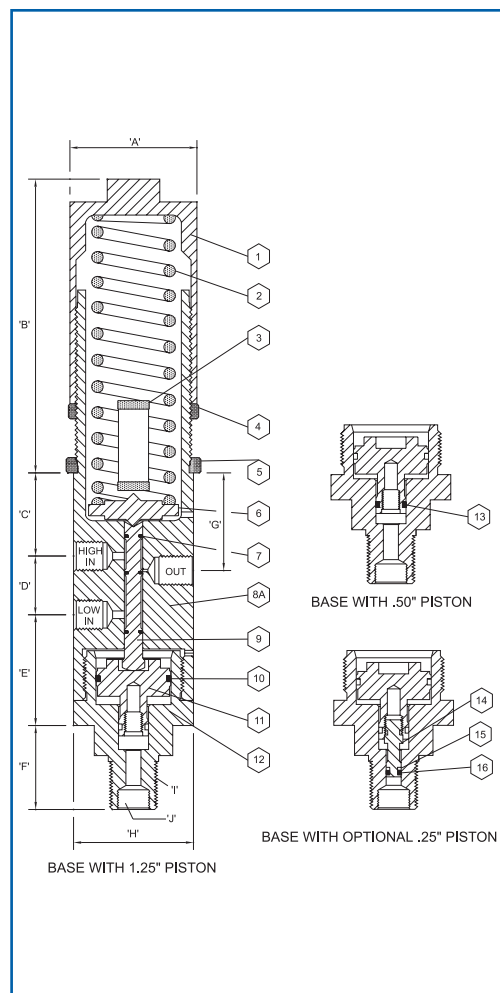
Pneumatic Pressure Switch

FEATURES

- 316 stainless steel construction (models to N.A.C.E. MR0175 available).
- Standard base range 10-10,000 p.s.i. (with 1/4" piston option).
- Operating pressure range from .5 to 20,000 psi.
- High Flow (C_v .090) on model 4222 (see back cover).
- Block-and-bleed 3-way valve.
- Holds constant and accurate set points.
- Designed for 1% plus or minus repeatability on set points.
- Minimum deadband between trip and reset pressure.
- Spring may be replaced with instrument and sensing pressure present in the sensor.
- Vent above sensing piston prevents high pressure from entering instrument supply should a piston seal leak develop.
- Optional tamper proof lock-out device available upon request.

GENERAL DESCRIPTION:

The Ruelco 'SS-2' pneumatic pressure switch is a three way block and bleed valve that is operated by pressure acting on a piston opposing an adjustable spring force. It functions as either a normally closed or normally open valve, depending on through which of the two ports the instrument pressure is supplied. These ports are marked as 'HI IN' or 'LO IN' on the switch body. The output port, marked 'OUT' on the switch body, is the same for either mode of operation. Pressure applied to the sense port will cause the valve to operate.



Parts List For Pressure Switch Model SS-2

Item	Qty.	Description	Material
1	1	Spring Cap	316L or ASTM-A-351 S.S.
2A	1	Spring (Blue)	ASTM-401
2B	---	Spring (Red)	ASTM-401
2C	---	Spring (Silver)	ASTM-401
2D	---	Spring (Green) optional	Inconel X-750
2E	---	Spring (Yellow) optional	Inconel X-750
2F	---	Spring (Purple) optional	Inconel X-750
3	1	Parts Tube	Acetate Butyrate
4	1	Lock Ring	AISI 316 St. Stl.
5	1	Panel Mnt. Ring (Optional)	AISI 316 St. Stl.
6	1	Spring Plate	AISI 316 St. Stl.
7	3	Shaft O-ring	Viton
8A	1	Body For SS-2	CF-8M St. Stl.
8B	1	Body For SS-2 High Flow	CF-8M St. Stl.
9	1	Spool For SS-2	17-4 PH St. Stl.
10	1	O-ring For 1.25" Piston	Viton
11	1	1.25"/.50" Piston	AISI 316 St. Stl.
12	1	1.25"/.50"/.25" Sensor Base	AISI 316 St. Stl.
13	1	O-ring For .5" Piston	Viton
14	1	.25" Piston (Optional)	AISI 316 St. Stl.
15	1	Backup For .25" Piston	Teflon
16	1	O-ring For .25" Piston	Viton
17	---	Repair Kit	Items 7, 10, 13, 15, 16

Parts Tube Not Supplied With Switches Using 3.0" or .187" Sensor Base.

Switch Specifications

Valve Type	3 Way
Set Point Deviation	$\pm 1\%$
Deadband	5% of Range
Max. Instr. Press.	150 PSI
C_v Factor	0.030
Ambient Temp. Range	-20 to 250 deg. F -29 to 122 deg. C

1.25"/.50"/.25" Switch Sensor Specifications

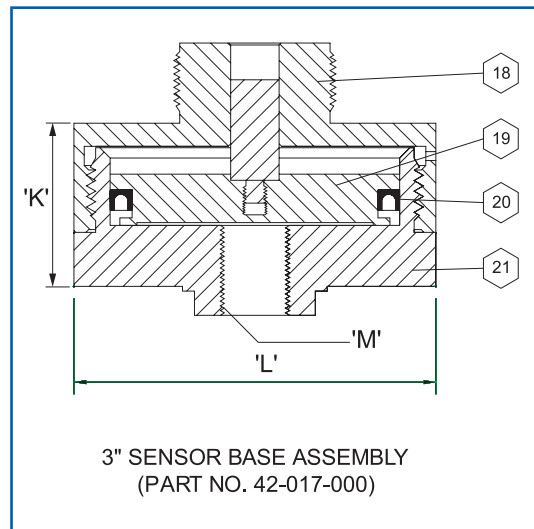
Sensor Type	Piston
Max. Oper. Press.	10,000 PSI (690 BAR)
Burst Pressure	20,000 PSI (1380 BAR)
Temperature Range	-20 to 250 Deg. F -29 to 122 Deg. C

Dimensions Inch (MM)

A	2.12 (53.8)
B (Max)	6.13 (155.7)
C	1.39 (35.3)
D	.98 (24.9)
E	1.43 (36.3)
F	1.82 (46.2)
G	1.63 (41.4)
H	2.0 (50.8)
I	1/2" MNPT
J	1/4" MNPT
Panel Mount Hole	1.875 (48.0)
Valve Ports	1/4" FNPT
Weight*	4.9 lbs. (2.3Kg)

* For Switch and 1.25/.50/.25 Sensor Base.

Spring Codes (COLOR)		Available Ranges - PSI (BAR)														
		.5-20 (.03-1.4)	4-40 (.3-2.75)	10-80 (.7-5.5)	10-115 (.7-7.9)	20-230 (1.4 - 15.8)	50-450 (3.4 -31)	200-750 (13.8-51.8)	500-1500 (34.5-103.5)	1000-3000 (69-207)	1000-3000 (69-207)	2000-5000 (138-345)	5000-10000 (345-689)	2000-5000 (138-345)	3500-9000 (241-620)	8500-20000 (586-1380)
STANDARD SPRING	INCONEL SPRING															
B (Blue)	G (Green)	X			X			X			X			X		
R (Red)	Y (Yellow)		X			X			X			X			X	
S (Silver)	P (Purple)			X			X			X			X			X
Piston Diameter		3.0"	3.0"	3.0"	1.25"	1.25"	1.25"	.50"	.50"	.50"	.25"	.25"	.25"	.187"	.187"	.187"
Piston Code		0	0	0	I	I	I	2	2	2	3	3	3	4	4	4
		OPTIONAL BASE											OPTIONAL PISTON		OPTIONAL BASE	



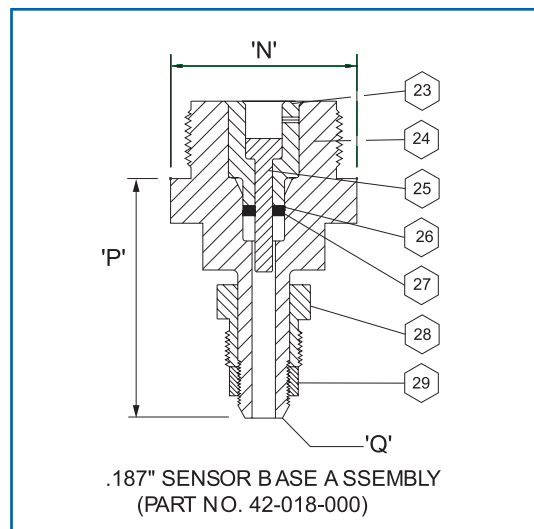
3.0" Sensor Base

ITEM	QTY.	DESCRIPTION	MATERIAL
18	1	Upper Housing	17-4 P.H. St. Std.
19	1	Piston Assembly	17-4 P.H. St. Std.
20	1	Seal	Viton
21	1	Lower Housing	17-4 P.H. St. Std.
22	---	Rep. Kit F/ 3.0" Base	Items 7 & 20

Sensor Type	Piston
Max. Oper. Press.	5,000 PSI (345 BAR)
Burst Pressure	10,000 PSI (690 BAR)
Temperature Range	-20 to 250 Deg. F -29 to 122 Deg. C

K	2.0 IN. (50.8 MM)
L	3.75 IN. (95.2 MM)
M	1/2" FNPT
Weight*	8.5 lbs. (3.7 Kg.)

* For Switch and 3.0" Sensor Base



.187" Sensor Base

ITEM	QTY.	DESCRIPTION	MATERIAL
23	1	Retainer Sleeve	AISI 316 St. Std.
24	1	.187" Sensor Base	17-4 P.H. St. Std.
25	1	.187" Piston	17-4 P.H. St. Std.
26	1	Back -Up Ring	Glass Filled Teflon
27	1	Seal	Viton
28	1	9/16" Gland Nut	AISI 316 St. Std.
29	1	9/16" Gland Collar	AISI 316 St. Std.
30	---	Rep. Kit F/ .187" Base	Items 7, 26 & 27

Sensor Type	Piston
Max. Oper. Press.	20,000 PSI (1,380 BAR)
Burst Pressure	40,000 PSI (2,760 BAR)
Temperature Range	-20 to 250 Deg. F -29 to 122 Deg. C

N	2.0 IN. (50.8 MM)
P	2.57 IN. (65.3 MM)
Q	9/16" M/P Autoclave
Weight*	5.0 lbs. (2.3 Kg.)

* For Switch and .187" Sensor Base

Ordering Code: 4202 X X X 0 0 0

BASE MODEL NUMBER

Standard Corrosive Service - (-)
N.A.C.E. Option - N

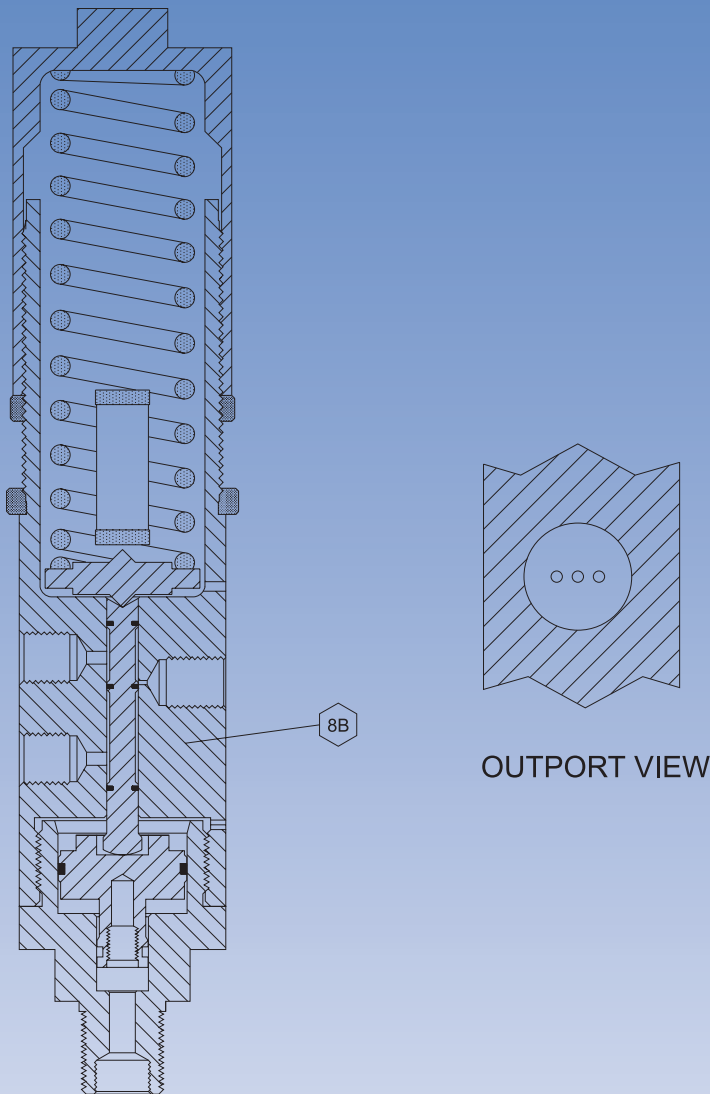
SPRING CODE (see range chart)

PISTON CODE (see range chart)



SS-2 High Flow

Pressure Switch



Model 4222 (Cv Factor .090)

Ruelco SS Series

Pressure Switches

**SS-1
High Flow**

**SS-2
Standard**

**SS-2
High Flow**

**SS-1
Differential**

**SS-2
Differential**

**SS-4
Hydraulic Bleed**

**SS-E
Electric**

**SS-E
Electric Differential**



SS-2 Differential Pressure Switch



Phone (504) 340-0055
Fax (504) 340-0056

SS-2 Differential

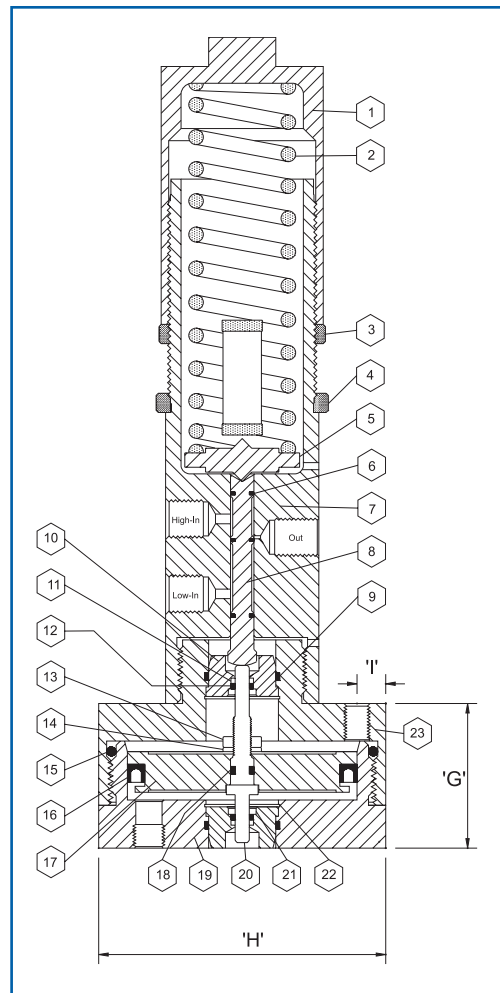
Pneumatic Differential Pressure Switch

FEATURES

- 316 stainless steel construction (models to N.A.C.E. MR0175 available).
- Differential pressure range from .5 to 80 psi.
- Block-and-bleed 3-way valve.
- Holds constant and accurate set points.
- Designed for 1% plus or minus repeatability on set points.
- Minimum deadband between trip and reset pressure.
- Spring may be replaced with instrument and sensing pressure present in the sensor.
- Vent above sensing piston prevents high pressure from entering instrument supply should a piston seal leak develop.
- Optional tamper proof lock-out device available.
- Optional mounting brackets available.

GENERAL DESCRIPTION:

The Ruelco 'SS-2' pneumatic differential pressure switch is a three way block and bleed valve that is operated by pressure acting on a piston opposing an adjustable spring force. It functions as either a normally closed or normally open valve, depending on which of the two ports the instrument pressure is supplied through. These ports are marked 'HI IN' or 'LO IN' on the switch body. The output port, marked 'OUT' on the switch body, is the same for either mode of operation. The difference between the pressures acting on the upstream and downstream sensing ports is the differential pressure which causes the valve to operate.



Parts List For Differential Pressure Switch Model 4202

Item	Qty.	Description	Material	Part No.
1	1	Spring Cap	316L or ASTM-A-351 S.S.	41-009-0A0
2A	1	Spring (Blue)	ASTM-401	41-012-000
2B	---	Spring (Red)	ASTM-401	41-013-000
2C	---	Spring (Silver)	ASTM-401	41-014-000
2D	---	Spring (Green) optional	Inconel X-750	41-019-000
2E	---	Spring (Yellow) optional	Inconel X-750	41-020-000
2F	---	Spring (Purple) optional	Inconel X-750	41-021-000
3	1	Lock Ring	AISI 316 St. Std.	42-015-000
4	1	Panel Mnt. Ring (Optional)	AISI 316 St. Std.	41-023-000
5	1	Spring Plate	AISI 316 St. Std.	41-008-0A0
6*	3	Spool O-ring	Viton	VO-008-75T
7	1	Body For SS-2	CF-8M St. Std.	42-001-0B0
8	1	Spool For SS-2	17-4 PH St. Std.	42-004-0A0
9*	2	Sleeve Seal	Viton	VO-020-75H
10	2	Guide Sleeve	AISI 316 St. Std.	4D-004-000
11*	2	Back-Up Ring	Teflon	TB-008-00C
12*	2	Shaft Seal	Fluorosilicone	FO-008-70T
13	2	Hex Nut	AISI 316 St. Std.	T6-08K-0G3
14	1	Lock Washer	AISI 316 St. Std.	VWA-0X0-H43
15*	1	Base Seal	Viton	VO-237-75H
16*	1	Piston Seal	Viton	VU-334-75T
17	1	Piston	17-4 PH St. Std.	4D-003-000
18*	1	Piston / Shaft Seal	Viton	VO-008-75H
19	1	Lower Housing	17-4 PH St. Std.	4D-002-000
20	1	Shaft	17-4 PH St. Std.	4D-005-000
21	2	Seal Retainer	AISI 316 St. Std.	4D-006-000
22*	2	Retainer Ring	302 St. Std.	S2-910-903
23	1	Upper Housing	17-4 PH St. Std.	4D-001-0A0
24	---	Repair Kit	* Items	4D-008-000

Dimensions Inch (MM)

G	1.62 (41.1)
H	3.75 (95.3)
I	.375 (9.5)
SENSE PORTS	1/8" NPT(F)
VALVE PORTS	1/4" NPT(F)
ASSY.WT.	8.7 LBS. (3.95 KG.)

Spring Codes (COLOR)

RANGE CHART

		DIFFERENTIAL PRESSURE RANGE PSI (BAR)		
STANDARD SPRING	INCONEL SPRING	.5-20 (.03-1.4)	4-40 (.3-2.75)	10-80 (.7-5.5)
B (Blue)	G (Green)	X		
R (Red)	Y (Yellow)		X	
S (Silver)	P (Purple)			X

Specifications

MAX. Sensor Test Press. PSI (BAR) @ 100 deg. F (37 deg. C)	MAX. Sensor Operating Pressure PSI (BAR) @ 100 deg. F (37 deg. C)	Ambient Temperature Range	Max. Process Fluid Temperature	Set Point Range PSI (BAR)	C _y Factor
2000 (138)	6000 (414)	-20 to 250 deg. F -29 to 122 deg. C	250 deg. F (122 deg. C)	.5-80 (.034-5.52)	0.030

Ordering Code: 4202 X D X 0 0 0

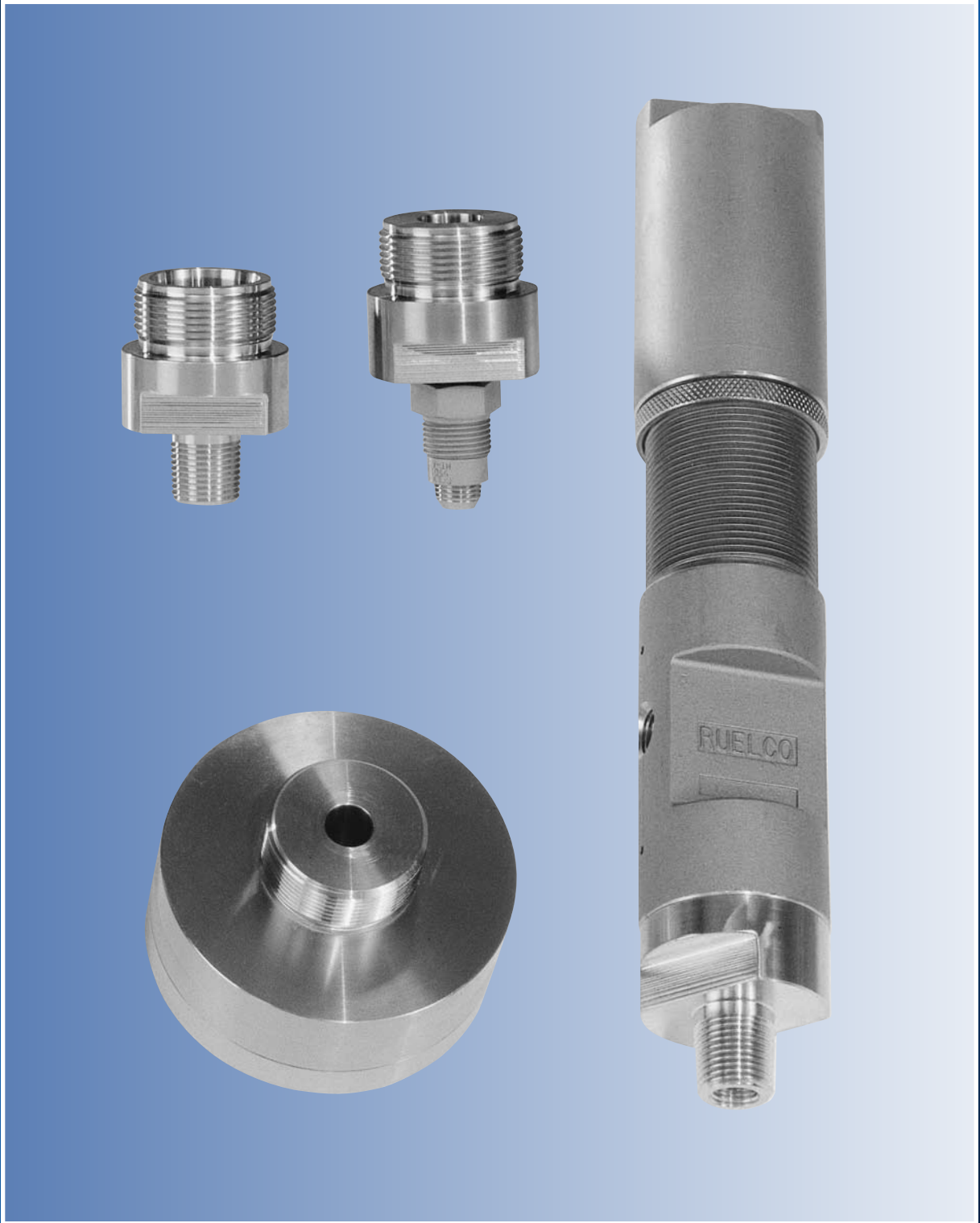
BASE MODEL NUMBER

MATERIAL OPTIONS

Standard Corrosive Service - (-)
N.A.C.E. Option - N

SPRING CODE (see range chart)

Ruelco



1-800-229-7835
ruelco@ruelco.com

SS-2 High Flow Pressure Switch

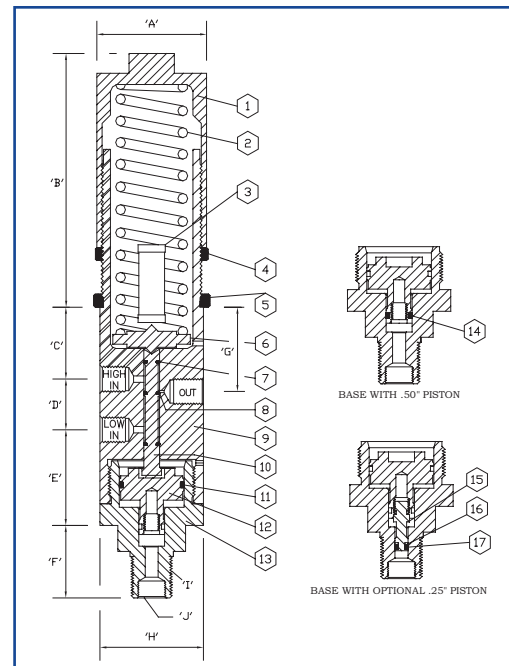
Model 4222

SS-2

High Flow Pneumatic and Hydraulic Pressure Switch

FEATURES

- 316 stainless steel construction (models to N.A.C.E. MR0175 available).
- Standard base range 10-10,000 PSI.
- Operating pressure range from .5 to 20,000 PSI.
- Cv factor of .090.
- Block and bleed 3-way valve.
- Holds constant and accurate set points.
- Designed for 1% plus or minus repeatability on set points.
- Minimum deadband between trip and reset pressure.
- Spring may be replaced with instrument and sensing pressure present in the sensor.
- Vent above sensing piston prevents high pressure from entering instrument supply.
- Optional tamper proof lockout device available.
- Optional indicating scale available (Model 4223).
- ATEX Certified models available.



GENERAL DESCRIPTION:

The Ruelco SS-2 high flow pressure switch is a three way block and bleed valve that is operated by pressure acting on a piston opposing an adjustable spring force. It functions as either a normally closed or normally open valve, depending on through which of the two ports the instrument pressure (either pneumatic or hydraulic) is supplied. The output port is the same for either mode of operation. Pressure applied to the sense port will cause the valve to operate.

Parts List For Pressure Switch Model SS-2

Item	Qty.	Description	Material
1	1	Spring Cap	316L or ASTM-A-351 S.S.
2A	1	Spring (Blue)	ASTM-401
2B	---	Spring (Red)	ASTM-401
2C	---	Spring (Silver)	ASTM-401
2D	---	Spring (Green) optional	Inconel X-750
2E	---	Spring (Yellow) optional	Inconel X-750
2F	---	Spring (Purple) optional	Inconel X-750
3	1	Parts Tube	Acetate Butyrate
4	1	Lock Ring	AISI 316 St. Stl.
5	1	Panel Mnt. Ring (Optional)	AISI 316 St. Stl.
6	1	Spring Plate	AISI 316 St. Stl.
7	2	Shaft O-ring	Viton
8A	1	Center Shaft O-ring	Viton
8B*	1	Center Shaft O-ring	Urethane
9	1	Body	CFM-8M St. Stl.
10	1	Spool For SS-2	17-4 PH St. Stl.
11	1	O-ring For 1.25" Piston	Viton
12	1	1.25"/.50" Piston	AISI 316 St. Stl.
13	1	1.25"/.50"/.25" Sensor Base	AISI 316 St. Stl.
14	1	O-ring For .5" Piston	Viton
15	1	.25" Piston (Optional)	AISI 316 St. Stl.
16	1	Backup For .25" Piston	Teflon
17	1	O-ring For .25" Piston	Viton
18	---	Repair Kit	Items 7, 8, 11, 14, 16, 17

Parts Tube Not Supplied With Switches Using 3.0" or .187" Sensor Base

*High Instrument Pressure Model Only

High Instrument Specifications

Valve Type	3 Way
Set Point Deviation	± 1%
Deadband	10% of Range
Max. Instr. Press.	1500 PSI.
Cv Factor	.090
Ambient Temp. Range	-20 TO 250° F / -29 TO 122° C

Switch Specifications

Valve Type	3 or 2 Way
Set Point Deviation	± 1%
Deadband	3 Way 3% of Range 2 Way 5% of Range
Max. Instr. Press.	3 Way 60 PSI 2 Way 150 PSI
Cv Factor	0.090
Ambient Temp. Range	-20 to 250 deg. F -29 to 122 deg. C

1.25"/.50"/.25" Switch Sensor Specifications

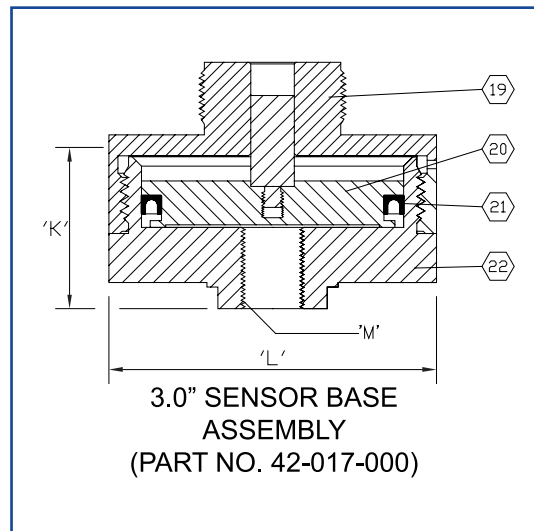
Sensor Type	Piston
Max. Oper. Press.	10,000 PSI (690 BAR)
Burst Pressure	20,000 PSI (1380 BAR)
Temperature Range	-20 to 250 Deg. F -29 to 122 Deg. C

Dimensions Inch (MM)

A	2.12 (53.8)
B (Max)	6.13 (155.7)
C	1.32 (33.5)
D	.96(24.9)
E	1.22 (31.0)
F	1.82 (46.2)
G	1.23 (31.2)
H	2.0 (50.8)
I	1/2" MNPT
J	1/4" MNPT
Panel Mount Hole	1.875 (48.0)
Valve Ports	1/4" FNPT
Weight*	4.9 lbs. (2.3Kg)

* For Switch and 1.25/.50/.25 Sensor Base.

Spring Codes (COLOR)		Available Ranges - PSI (BAR)														
		.5-20 (.03-1.4)	4-40 (.3-2.75)	10-80 (.7-5.5)	10-115 (.7-7.9)	20-230 (1.4 - 15.8)	50-450 (3.4 -31)	200-750 (13.8-51.8)	500-1500 (34.5-103.5)	1000-3000 (69-207)	1000-3000 (69-207)	2000-5000 (138-345)	5000-10000 (345-689)	2000-5000 (138-345)	3500-9000 (241-620)	8500-20000 (586-1380)
STANDARD SPRING	INCONEL SPRING															
B (Blue)	G (Green)	X			X			X			X			X		
R (Red)	Y (Yellow)		X			X			X			X			X	
S (Silver)	P (Purple)			X			X			X			X			X
Piston Diameter		3.0"	3.0"	3.0"	1.25"	1.25"	1.25"	.50"	.50"	.50"	.25"	.25"	.25"	.187"	.187"	.187"
Piston Code		0	0	0	I	I	I	2	2	2	3	3	3	4	4	4
		OPTIONAL BASE									OPTIONAL PISTON			OPTIONAL BASE		



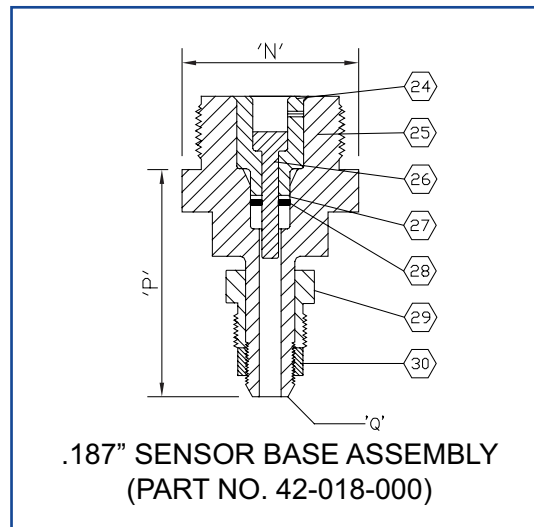
3.0" Sensor Base

ITEM	QTY.	DESCRIPTION	MATERIAL
19	1	Upper Housing	17-4 P.H. St. Stl.
20	1	Piston Assembly	17-4 P.H. St. Stl.
21	1	Seal	Viton
22	1	Lower Housing	17-4 P.H. St. Stl.
23	—	Rep. Kit F/ 3.0" Base	Items 7, 8, 21

Sensor Type	Piston
Max. Oper. Press.	5,000 PSI (345 BAR)
Burst Pressure	10,000 PSI (690 BAR)
Temperature Range	-20 to 250 Deg. F -29 to 122 Deg. C

K	2.0 IN. (50.8 MM)
L	3.75 IN. (95.2 MM)
M	1/2" FNPT
Weight*	8.5 lbs. (3.7 Kg.)

* For Switch and 3.0" Sensor Base



.187" Sensor Base

ITEM	QTY.	DESCRIPTION	MATERIAL
24	1	Retainer Sleeve	AISI 316 St. Stl.
25	1	.187" Sensor Base	17-4 P.H. St. Stl.
26	1	.187" Piston	17-4 P.H. St. Stl.
27	1	Back -Up Ring	Glass Filled Teflon
28	1	Seal	Viton
29	1	9/16" Gland Nut	AISI 316 St. Stl.
30	1	9/16" Gland Collar	AISI 316 St. Stl.
31	—	Rep. Kit F/ .187" Base	Items 7, 8, 27, 28

Sensor Type	Piston
Max. Oper. Press.	20,000 PSI (1380 BAR)
Burst Pressure	40,000 PSI (2760 BAR)
Temperature Range	-20 to 250 Deg. F -29 to 122 Deg. C

N	2.0 IN. (50.8 MM)
P	2.57 IN. (65.3 MM)
Q	9/16" M/P Autoclave
Weight*	5.0 lbs. (2.3 Kg.)

* For Switch and .187" Sensor Base

Ordering Code: 4222 X X X 0 0 0

BASE MODEL NUMBER

Standard Corrosive Service - (-)

N.A.C.E. Option - N

High Instr. Press. Option - H

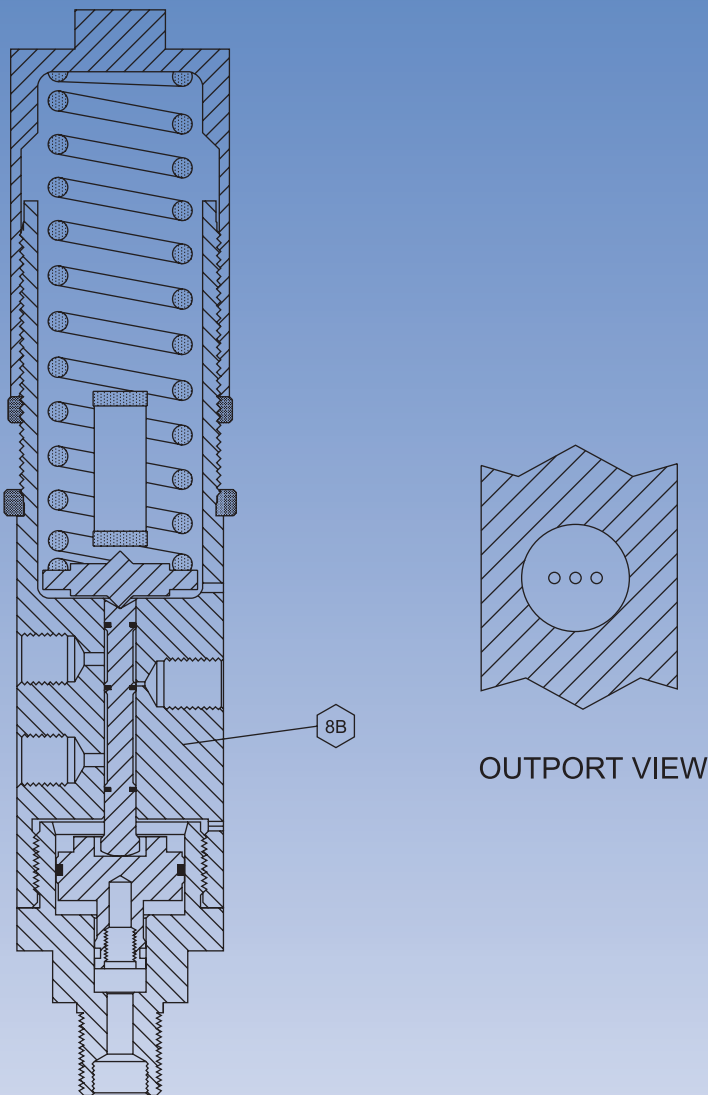
SPRING CODE (see range chart)

PISTON CODE (see range chart)



SS-2 High Flow

Pressure Switch



Model 4222 (Cv Factor .090)

Ruelco SS Series

Pressure Switches

**SS-1
High Flow**

**SS-2
Standard**

**SS-2
High Flow**

**SS-1
Differential**

**SS-2
Differential**

**SS-4
Hydraulic Bleed**

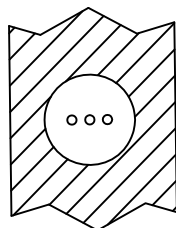
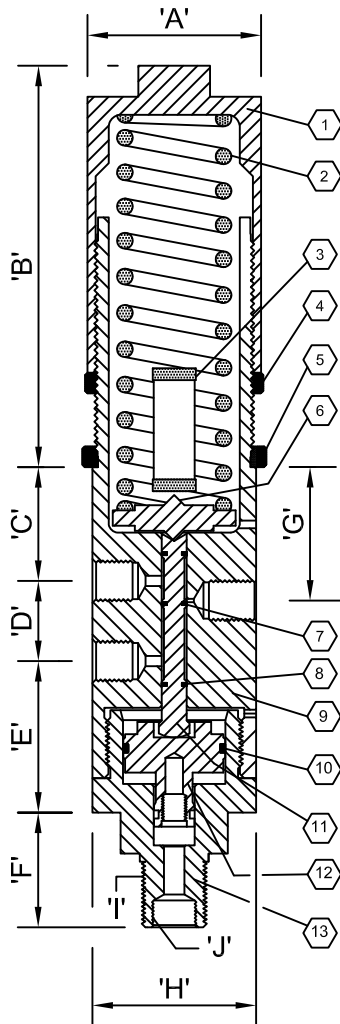
**SS-E
Electric**

**SS-E
Electric Differential**

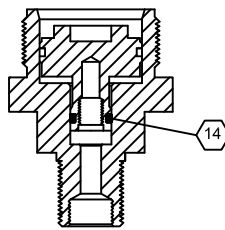


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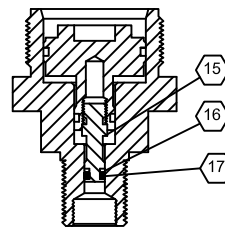
MANUFACTURED UNDER U.S. PATENT NUMBER 4709727



OUTPORT VIEW



SENSOR USING
.50" PISTON



SENSOR USING
OPTIONAL .25" PISTON

PARTS LIST FOR SWITCH AND 1.25"/.5"/.25" SENSOR BASE				
ITEM	QTY.	DESCRIPTION	MATERIAL	PART NO.
1	1	SPRING CAP	STAINLESS STEEL	41-009-0A0
2A	1	SPRING (BLUE)	ASTM-401	41-012-000
2B	1	SPRING (RED)	ASTM-401	41-013-000
2C	1	SPRING (SILVER)	ASTM-401	41-014-000
2D	1	SPRING (GREEN)	INCONEL	41-019-000
2E	1	SPRING (YELLOW)	INCONEL	41-020-000
2F	1	SPRING (PURPLE)	INCONEL	41-021-000
3	1	PARTS TUBE	ACETATE BUTYRATE	42-025-000
4	1	LOCK RING	STAINLESS STEEL	41-015-000
5	1	PNL MOUNT RING (OPTIONAL)	STAINLESS STEEL	41-023-000
6	1	SPRING PLATE	STAINLESS STEEL	41-008-0A0
7	1	SHAFT O-RING	URETHANE	UR-008-75H
8	2	SHAFT O-RING	NITRILE	AS-008-75T
9	1	BODY	STAINLESS STEEL	42-H01-000
10	1	O-RING F/1.25" PISTON	NITRILE	AS-024-75T
11	1	SPOOL	STAINLESS STEEL	42-004-0A0
12	1	1.25"/.50" PISTON	STAINLESS STEEL	42-005-001
13	1	1.25"/.50"/.25" SENSOR BASE	STAINLESS STEEL	41-004-0A0
14	1	O-RING F/.5" PISTON	NITRILE	AS-012-75T
15	1	.25" PISTON (OPTIONAL)	STAINLESS STEEL	41-011-0A0
16	1	BACK-UP F/.25" PISTON	TEFLON	TB-006-00C
17	1	O-RING F/.25" PISTON	NITRILE	AS-006-75T
18	-	REPAIR KIT	ITEMS 7,8,10,14,16,17	42-030-0H0

SWITCH SPECIFICATIONS

VALVE TYPE	3-WAY
SET POINT DEVIATION	± 1%
DEADBAND	10% OF RANGE
MAX. INSTR. PRESSURE	1500 PSI.
C _v FACTOR	.090
AMBIENT TEMPERATURE RANGE	-20 TO 250° F -29 TO 122° C

1.25"/.50"/.25" SENSOR SPECIFICATIONS

SENSOR TYPE	PISTON
MAX. OPER. PRESSURE	10,000 PSI (690 BAR)
BURST PRESSURE	20,000 PSI (1380 BAR)

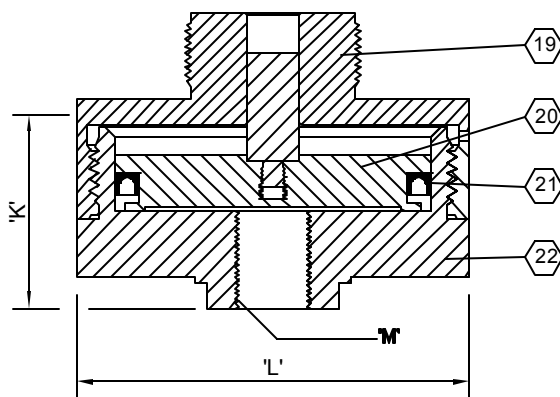
DIMENSIONS

A	2.12 IN (53.8 mm)
B (MAX.)	6.13 IN (155.7 mm)
C	1.39 IN (35.3 mm)
D	.96 IN (24.9 mm)
E	1.43 IN (36.3 mm)
F	1.82 IN (46.2 mm)
G	1.63 IN (41.4 mm)
H	2 IN (50.8 mm)
I	1/2" MNPT
J	1/4" FNPT
PANEL MOUNT HOLE	1.875 IN (48.0 mm)
VALVE PORTS	1/4" FNPT
WEIGHT *	4.9 LBS. (2.3 KG.)

*FOR SWITCH AND 1.25/.50/.25 SENSOR BASE

SS-2 HIGH FLOW / HIGH INSTRUMENTATION PRESSURE SWITCH - MODEL 4222

SPRING CODES (COLOR)		AVAILABLE RANGES – PSI (BAR)															
		.5- 20 (.03- 1.4)	4- 40 (.3- 2.75)	10- 80 (7- 5.5)	10- 115 (7- 7.9)	20- 230 (1.4- 15.8)	50- 450 (3.4- 31)	200- 750 (13.8- 51.8)	500- 1500 (34.5- 103.5)	1000- 3000 (69- 207)	1000- 3000 (69- 207)	2000- 5000 (138- 345)	5000- 10,000 (345- 689)	2000- 5000 (138- 345)	3500- 9000 (241- 620)	8500- 20,000 (586- 1380)	
STD. SPRING	INCONEL SPRING	B (BLUE)	G (GREEN)	X			X			X			X				
R (RED)	Y (YELLOW)		X			X			X			X			X		
S (SILVER)	P (PURPLE)			X			X			X			X			X	
PISTON DIA.		3.0"	3.0"	3.0"	1.25"	1.25"	1.25"	.50"	.50"	.50"	.25"	.25"	.25"	.187"	.187"	.187"	
PISTON CODE		0	0	0	1	1	1	2	2	2	3	3	3	4	4	4	
OPTIONAL BASE												OPTIONAL PISTON			OPTIONAL BASE		



3.0" SENSOR BASE ASSEMBLY
(PART NO. 42-017-000)

PARTS LIST FOR 3.0" SENSOR BASE				
ITEM	QTY.	DESCRIPTION	MATERIAL	PART NO.
19	1	UPPER HOUSING	17-4 PH ST. STL.	42-011-000
20	1	PISTON ASSEMBLY	17-4 PH ST. STL.	42-024-000
21	1	SEAL	NITRILE	VU-334-75T
22	1	LOWER HOUSING	17-4 PH ST. STL.	42-012-000
23	-	REPAIRKIT	ITEMS 7 & 20	42-015-000

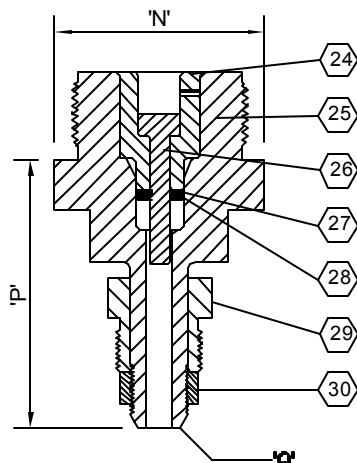
3.0" SENSOR BASE SPECIFICATIONS

SENSOR TYPE	PISTON
MAX. OPER. PRESSURE	5,000 PSI (345 BAR)
BURST PRESSURE	10,000 PSI (690 BAR)
AMBIENT TEMPERATURE RANGE	-20 TO 250° F -29 TO 122° C

3.0" SENSOR BASE DIMENSIONS

K	2.0 IN. (50.8 mm)
L	3.75 IN. (95.2 mm)
M	1/2" FNPT
WEIGHT*	8.5 LBS. (3.7 KG.)

* FOR SWITCH AND 3.0" SENSOR BASE



.187" SENSOR BASE ASSEMBLY
(PART NO. 42-018-000)

PARTS LIST FOR .187" SENSOR BASE				
ITEM	QTY.	DESCRIPTION	MATERIAL	PART NO.
24	1	RETAINER SLEEVE	AISI 316 ST. STL.	42-021-0A0
25	1	.187" SENSOR BASE	17-4 PH ST. STL.	42-019-0A0
26	1	.187" PISTON	17-4 PH ST. STL.	42-020-000
27	1	BACK-UP RING	TEFLON	42-010-3B0
28	1	SEAL	NITRILE	VP-201-75H
29	1	9/16" GLAND NUT	AISI 316 ST. STL.	42-022-000
30	1	9/16" GLAND COLLAR	AISI 316 ST. STL.	42-023-000
31	-	REPAIRKIT	ITEMS 7, 26 & 27	42-016-000

.187" SENSOR BASE SPECIFICATIONS

SENSOR TYPE	PISTON
MAX. OPER. PRESSURE	20,000 PSI (1380 BAR)
BURST PRESSURE	40,000 PSI (2760 BAR)
AMBIENT TEMPERATURE RANGE	-20 TO 250° F -29 TO 122° C

.187" SENSOR BASE DIMENSIONS

N	2.0 IN. (50.8 mm)
P	2.57 IN. (65.3 mm)
Q	9/16" M/P AUTOCLAVE
WEIGHT*	5.0 LBS. (2.3 KG.)

* FOR SWITCH AND .187" SENSOR BASE

ORDERING CODE: 4222 H X X 000

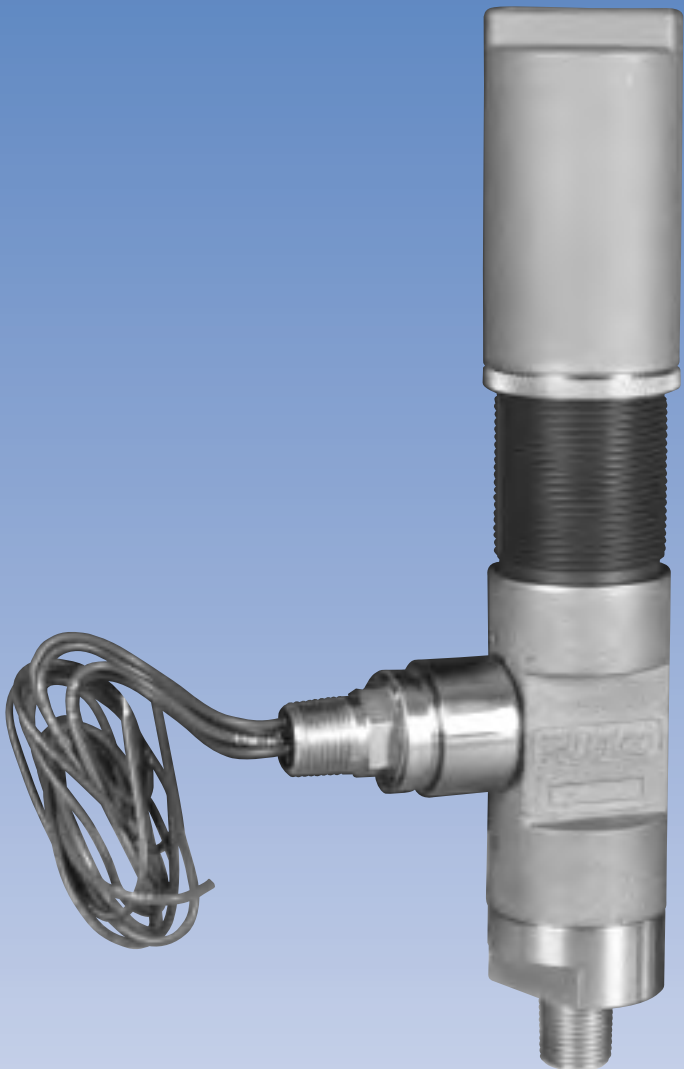
BASE MODEL NUMBER

SPRING CODE (See Range Chart)

PISTON CODE (See Range Chart)

Ruelco

SS-E Electric Pressure Switch Model 4E02



Phone (504) 340-0055
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SS-E

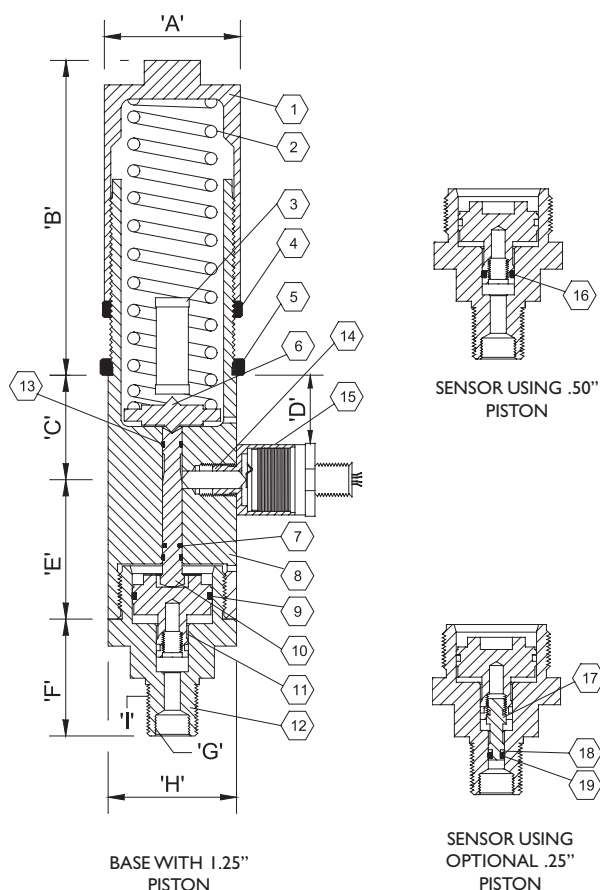
Electric Pressure Switch

FEATURES

- 316 stainless steel construction (models to N.A.C.E. MR0175 available).
- Standard base range 10-10,000 p.s.i. (with 1/4" piston option).
- Operating pressure range from .5 to 20,000 psi.
- Holds constant and accurate set points.
- Designed for 1% plus or minus repeatability on set points.
- Minimum deadband between trip and reset pressure.
- Uses hermetically sealed, snap acting, dry contact switches rated explosion proof. (U.L.™ rated Class I, Div. I, Groups A,B, C, D.).
- Spring may be replaced with sensing pressure present in the sensor.
- Vent above sensing piston prevents high pressure from entering the switch assembly should a piston seal leak develop.
- Optional tamper proof lock-out device available upon request.

GENERAL DESCRIPTION:

The Ruelco 'SS-E' electric pressure switch is operated by pressure acting on a piston opposing an adjustable spring force. It functions as a normally closed or normally open switch, depending on which contacts are used. Pressure applied to the sense port will cause the switch to operate.



Parts List For Pressure Switch Model SS-E

Item	Qty.	Description	Material
1	1	Spring Cap	316 St. Stl.
2A	1	Spring (Blue)	ASTM-401
2B	1	Spring (Red)	ASTM-401
2C	1	Spring (Silver)	ASTM-401
2D	1	Spring (Green)	Inconel
2E	1	Spring (Yellow)	Inconel
2F	1	Spring (Purple)	Inconel
3	1	Parts Tube	Acetate Butyrate
4	1	Lock Ring	316 St. Stl.
5	1	Panel Mount Ring (Optional)	316 St. Stl.
6	1	Spring Plate	316 St. Stl.
7	1	Shaft O-Ring	Viton
8	1	Body	CF-8M St. Stl.
9	1	O-Ring for 1.25" Piston	Viton
10	1	Spool	17-4 PH St. Stl.
11	1	1.25"/.50" Piston	316 St. Stl.
12	1	1.25"/.5"/.25" Sensor Base	316 St. Stl.
13	2	Wear Ring	Delrin
14	1	Push Rod	Delrin
15A	1	SPDT Switch Assembly	316 St. Stl.
15B	1	DPDT Switch Assembly	316 St. Stl.
16	1	O-ring for .5" Piston	Viton
17	1	.25" Piston (Optional)	316 St. Stl.
18	1	Backup for .25" Piston	Teflon
19	1	O-ring for .25" Piston	Viton
20	—	Repair Kit 1.25"/.25" Base	Items 7,9,13,16,18 & 19

Switch Specifications

Set Point Deviation	± 1%
Deadband	5% of Range
Switch Type	SPDT or DPDT
AC Rating	250 Volts @ 5 Amps
DC Rating	30 Volts @ 5 Amps
Ambient Temperature Range	-20 to 167 Deg. F -29 to 75 Deg. C

1.25"/.50"/.25" Switch Sensor Specifications

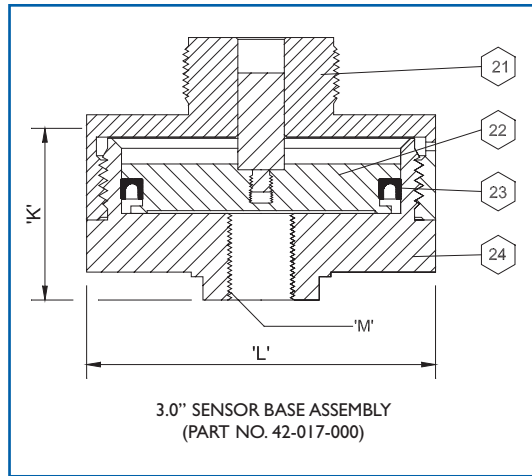
Sensor Type	Piston
Max. Oper. Press.	10,000 PSI (690 BAR)
Burst Pressure	20,000 PSI (1380 BAR)
Temperature Range	-20 to 250 Deg. F -29 to 122 Deg. C

Dimensions Inch (MM)

A	2.12 (53.8)
B (Max)	6.13 (155.7)
C	1.39 (35.3)
D	.90 (22.9)
E	.98 (24.9)
F	1.82 (46.2)
G	1/4" FNPT
H	2.0 (50.8)
I	1/2" MNPT
Panel Mount Hole	1.875 (48.0)
Wire Leads	18" 18 Awg. Stranded
Weight*	6.1 lbs. (2.8 Kg)

* For Switch and 1.25/.50/.25 Sensor Base.

Spring Codes (COLOR)		Available Ranges - PSI (BAR)														
		.5-20 (.03-1.4)	4-40 (.3-2.75)	10-80 (.7-5.5)	10-115 (.7-7.9)	20-230 (1.4 - 15.8)	50-450 (3.4 - 31)	200-750 (13.8-51.8)	500-1500 (34.5-103.5)	1000-3000 (69-207)	1000-3000 (69-207)	2000-5000 (138-345)	5000-10000 (345-689)	2000-5000 (138-345)	3500-9000 (241-620)	8500-20000 (586-1380)
STANDARD SPRING	INCONEL SPRING															
B (Blue)	G (Green)	X			X			X			X			X		
R (Red)	Y (Yellow)		X			X			X			X			X	
S (Silver)	P (Purple)			X			X			X			X			X
Piston Diameter		3.0"	3.0"	3.0"	1.25"	1.25"	1.25"	.50"	.50"	.50"	.25"	.25"	.25"	.187"	.187"	.187"
Piston Code		0	0	0	1	1	1	2	2	2	3	3	3	4	4	4
		OPTIONAL BASE				OPTIONAL PISTON							OPTIONAL BASE			



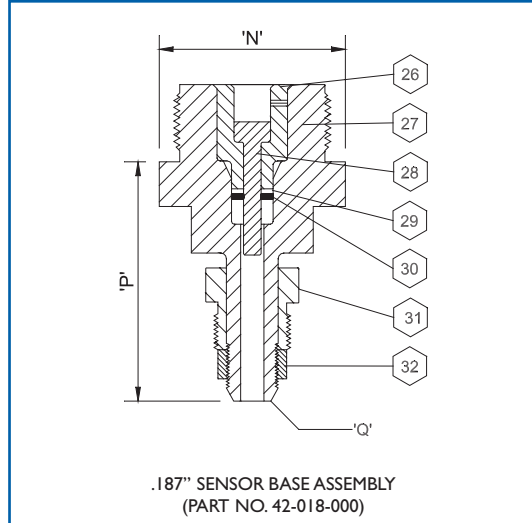
Parts List 3.0" Sensor Base

ITEM	QTY.	DESCRIPTION	MATERIAL
21	1	Upper Housing	17-4 P.H. St. Stl.
22	1	Piston Assembly	17-4 P.H. St. Stl.
23	1	Seal	Viton
24	1	Lower Housing	17-4 P.H. St. Stl.
25	—	Rep. Kit F/ 3.0" Base	Items 7, 13 & 23

Sensor Type	Piston
Max. Oper. Press.	5,000 PSI (345 BAR)
Burst Pressure	10,000 PSI (690 BAR)
Temperature Range	-20 to 250 Deg. F -29 to 122 Deg. C

K	2.0 IN. (50.8 MM)
L	3.75 IN. (95.2 MM)
M	1/2" FNPT
Weight*	8.5 lbs. (3.7 Kg.)

* For Switch and 3.0" Sensor Base



Parts List .187" Sensor Base

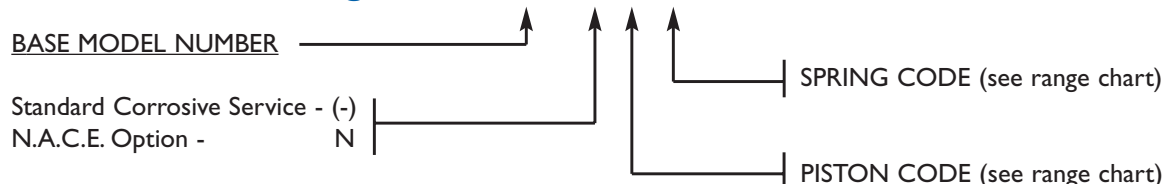
ITEM	QTY.	DESCRIPTION	MATERIAL
26	1	Retainer Sleeve	AISI 316 St. Stl.
27	1	.187" Sensor Base	17-4 P.H. St. Stl.
28	1	.187" Piston	17-4 P.H. St. Stl.
29	1	Back -Up Ring	Teflon
30	1	Polypak Seal	Nitrile
31	1	9/16" Gland Nut	AISI 316 St. Stl.
32	1	9/16" Gland Collar	AISI 316 St. Stl.
33	—	Repair Kit	Items 7, 13, 29 & 30

Sensor Type	Piston
Max. Oper. Press.	20,000 PSI (1,380 BAR)
Burst Pressure	40,000 PSI (2,760 BAR)
Temperature Range	-20 to 250 Deg. F -29 to 122 Deg. C

N	2.0 IN. (50.8 MM)
P	2.57 IN. (65.3 MM)
Q	9/16" M/P Autoclave
Weight*	5.0 lbs. (2.3 Kg.)

* For Switch and .187" Sensor Base

Ordering Code: 4E02 X X X 0 0 0





SS Series Pressure Switches

SS-1 High Flow

SS-2 Standard

SS-2 High Flow (Pneumatic or Hydraulic)

SS-1 Differential

SS-2 Differential

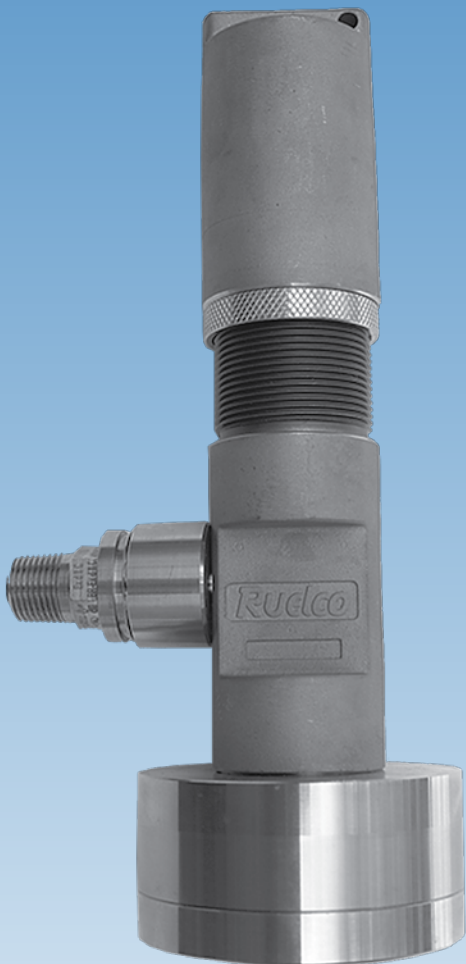
SS-4 Hydraulic Bleed

SS-E Electric

SS-E Electric Differential

Ruelco

SS-E Differential Pressure Switch



1-800-229-7835
ruelco@ruelco.com

SS-E Differential

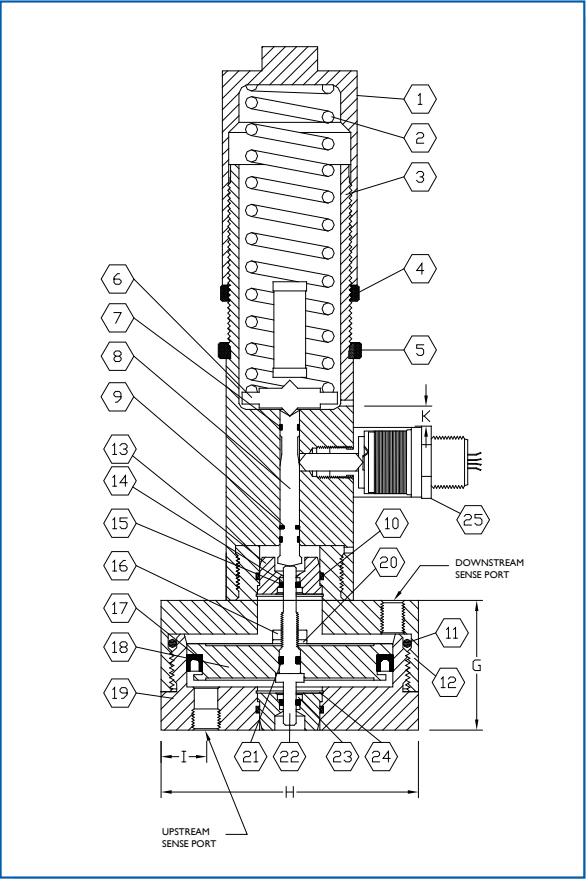
Pneumatic Differential Pressure Switch

FEATURES

- 316 stainless steel construction (models to N.A.C.E. MR0175 available).
- Differential pressure range from .5-80 PSI.
- Holds constant and accurate set points.
- Designed for 1% plus or minus repeatability on set points.
- Minimum deadband between trip and reset pressure.
- Spring may be replaced with instrument and sensing pressure present in the sensor.
- Vent above sensing piston prevents high pressure from entering instrument supply should a piston seal leak develop.
- Optional tamper proof lockout device available.
- Optional mounting brackets available.
- SPDT or DPDT microswitches available.

GENERAL DESCRIPTION:

The Ruelco SS-E electric differential pressure switch is a direct acting valve that is operated by pressure acting on a piston opposing an adjustable spring force. It functions as either a normally closed or normally open valve, depending on the contacts used on the microswitch. Pressure applied to the sense port will cause the valve to operate.



Parts List For SS-E Differential Pressure Switch

Item	Qty.	Description	Material	Part No.
1	1	SPRING CAP	STAINLESS STEEL	41-009-0A0
2A	1	SPRING (BLUE)	ASTM-401	41-012-000
2B	1	SPRING (RED)	ASTM-401	41-013-000
2C	1	SPRING (SILVER)	ASTM-401	41-014-000
2D	1	SPRING (GREEN)	INCONEL	41-019-000
2E	1	SPRING (YELLOW)	INCONEL	41-020-000
2F	1	SPRING (PURPLE)	INCONEL	41-021-000
3	1	BODY	STAINLESS STEEL	4E-001-000
4	1	LOCK RING	STAINLESS STEEL	41-015-000
5	1	PANEL MOUNT RING (OPTIONAL)	STAINLESS STEEL	41-023-000
6	1	SPRING PLATE	STAINLESS STEEL	41-008-040
7*	2	SPOOL GUIDE RING	DELIRIN	4E-004-000
8	1	SPOOL F/SS-E	STAINLESS STEEL	4E-005-000
9*	1	SPOOL O-RING	VITON	VO-008-75T
10*	2	GUIDE SLEEVE SEAL	VITON	VO-020-75H
11*	1	BODY SEAL	VITON	VO-237-75H
12	1	UPPER HOUSING	STAINLESS STEEL	4D-001-0A0
13	2	GUIDE SLEEVE	STAINLESS STEEL	4D-004-000
14*	2	BACK-UP RING	TEFLON	TB-008-00C
15*	2	SHAFT SEAL	FLUOROSILICONE	FO-008-70T
16	1	HEX NUT	STAINLESS STEEL	T6-08K-0G3
17*	1	PISTON SEAL	VITON	VU-334-75T
18	1	PISTON	STAINLESS STEEL	4D-003-000
19	1	LOWER HOUSING	STAINLESS STEEL	4D-002-000
20	1	LOCK WASHER	STAINLESS STEEL	WA-0X0-H43
21*	1	PISTON/SHAFT SEAL	VITON	VO-008-75H
22	1	SHAFT	STAINLESS STEEL	4D-005-000
23	2	SEAL RETAINER	STAINLESS STEEL	4D-006-000
24	2	RETAINER RING	STAINLESS STEEL	S2-910-903
25	1	SPDT SWITCH ASSEMBLY	STAINLESS STEEL	38-027-000
-	-	DPDT SWITCH ASSEMBLY	STAINLESS STEEL	38-028-000
26	-	REPAIR KIT	* ITEMS	4D-008-000

Ordering Code: 4E02 X D X 0 0 0

Base Model Number
Standard Corrosive Service - (-)
N.A.C.E. Option - N
Spring Code (See Range Chart)

Dimensions P.S.I. (BAR)

SPRING CODES (COLOR)		RANGE CHART		
		DIFFERENTIAL PRESSURE RANGE PSI (BAR)		
STD. SPRING	INCONEL SPRING	.5-20 (.03-1.4)	4-40 (.3-2.75)	10-80 (.7-5.5)
B (BLUE)	G (GREEN)	X		
R (RED)	Y (YELLOW)		X	
S (SILVER)	P (PURPLE)			X

Dimensions Inch (MM)

G	1.62 (41.1)
H	3.75 (92.3)
I	3.75 (92.3)
K	0.90 (22.9)
Sense Ports	1/8" NPT(F)
Assy. Wt.	8.9 LBS (4.05 KG.)

Specifications

Max. Sensor HSG. Test Pressure PSI (BAR) @ 100°F (37°C)	Max. Differential Pressure PSI (BAR) @ 100°F (37°C)	Ambient Temperature Range	Max. Process Fluid Temperature	Set Point Range PSI (BAR)	Switch Type	AC Rating	DC Rating
2000 (138)	1500 (103)	-20 to 167°F -29 to 75°C	250°F 122°C	.5 - 80 (.28 - 5.5)	SPDT or DPDT	250 Volts or 5 Amps	30 Volts or 5 Amps

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Ruelco



SS-H Hydraulic Pressure Switch Hi Model 4HH2

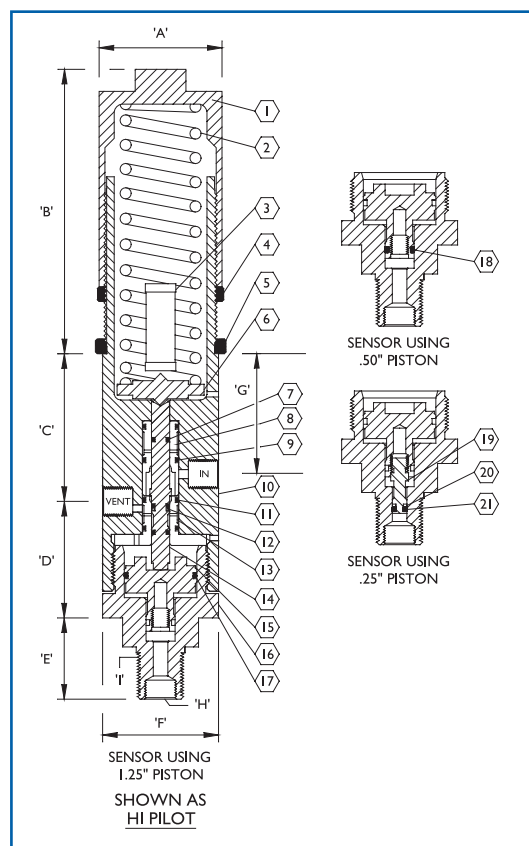
Phone (504) 340-0055
Fax (504) 340-0056

SS-H

Hydraulic Pressure Switch Hi Model 4HH2

Parts List For Pressure Switch Model 4HH2

Item	Qty.	Description	Material	Part No.
1	1	Spring Cap	316L or ASTM-A-351 S.S.	41-009-0A0
2A	1	Spring (Blue)	ASTM-401	41-012-000
2B	---	Spring (Red)	ASTM-401	41-013-000
2C	---	Spring (Silver)	ASTM-401	41-014-000
2D	---	Spring (Green) Optional	Inconel X-750	41-019-000
2E	---	Spring (Yellow) Optional	Inconel X-750	41-020-000
2F	---	Spring (Purple) Optional	Inconel X-750	41-021-000
3	1	Parts Tube	Acetate Butyrate	42-025-000
4	1	Lock Ring	AISI 316 St. Stl.	41-015-000
5	1	Panel Mount Ring (Optional)	AISI 316 St. Stl.	41-023-000
6	1	Spring Plate	AISI 316 St. Stl.	41-008-0A0
7*	3	Spool O-Ring	Buna-N	NO-008-75
8	1	Top Sleeve	AISI 316 St. Stl.	4H-002-000
9*	2	Top Sleeve O-Ring	Buna-N	NO-014-75
10	1	Body	AISI 316 St. Stl.	4H-001-0H0
11*	2	Bottom Sleeve O-Ring	Buna-N	NO-014-75
12*	1	Backup	Teflon	TB-008-000
13	1	Bottom Sleeve	AISI 316 St. Stl.	4H-003-000
14	1	Spool	AISI 316 St. Stl.	4H-004-0H0
15	1	1.25" / .50" Piston	AISI 316 St. Stl.	42-005-000
16	1	1.25" / .50" / .25" Sensor Base	AISI 316 St. Stl.	41-004-0A0
17*	1	O-Ring F/ 1.25" Piston	Viton	VO-024-75T
18*	1	O-Ring F/ .5" Piston	Viton	VO-012-75T
19	1	.25" Piston (Optional)	AISI 316 St. Stl.	41-011-0A0
20*	1	Backup F/ .25" Piston	Teflon	TB-006-0B0
21*	1	O-Ring F/ .25" Piston	Viton	VO-006-75T
22	1	Repair Kit	* Items	4H-005-0B0



Dimensions Inch (MM)

A	2.12 (53.8)
B (Max)	6.13 (155.7)
C	1.55 (39.4)
D	3.00 (76.2)
E	1.40 (35.6)
F	2.00 (50.8)
G	2.08 (52.8)
H	1/4" FNPT
I	1/2" MNPT
Panel Mount Hole	1.875 (48.0)
Valve Ports	1/4" FNPT
Weight*	4.9 lbs (2.3 kg)

* For switch and 1.25"/.50"/.25" sensor base

Switch Specifications

Valve Type	2-Way
Setpoint Deviation	+ 3%
Max. Instr. Press.	6,000 PSI (414 BAR)
Ambient Temp. Range	20 to 250 deg. F -29 to 122 deg. C
Cv Factor	.12

1.25"/.50"/.25" Switch Sensor Specifications

Sensor Type	Piston
Max. Oper. Press.	10,000 PSI (690 BAR)
Burst Pressure	20,000 PSI (1380 BAR)
Temperature Range	-20 to 250 deg. F -29 to 122 deg. C

Ordering Code: 4HH2 X X X 0 0 0

BASE MODEL NUMBER

Standard Corrosive Service - (-)
N.A.C.E. Option - N

SPRING CODE (see range chart)

PISTON CODE (see range chart)

Spring Codes (COLOR)		Available Ranges - PSI (BAR)															
		5-20 (.03-1.4)	4-40 (.3-2.75)	10-80 (.7-5.5)	10-115 (.7-7.9)	20-230 (1.4 - 15.8)	50-450 (3.4 -31)	200-750 (13.8-51.8)	500-1500 (34.5-103.5)	1000-3000 (69-207)	1000-3000 (69-207)	2000-5000 (138-345)	5000-10000 (345-689)	2000-5000 (138-345)	3500-9000 (241-620)	8500-20000 (586-1380)	
STANDARD SPRING	INCONEL SPRING																
B (Blue)	G (Green)	X			X			X			X			X			
R (Red)	Y (Yellow)		X			X			X			X			X		
S (Silver)	P (Purple)			X			X			X			X			X	
Piston Diameter		3.0"	3.0"	3.0"	1.25"	1.25"	1.25"	.50"	.50"	.50"	.25"	.25"	.25"	.187"	.187"	.187"	
Piston Code		0	0	0	1	1	1	2	2	2	3	3	3	4	4	4	
		OPTIONAL BASE										OPTIONAL PISTON			OPTIONAL BASE		

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Ruelco



SS-H Hydraulic Pressure Switch Lo Model 4HL2

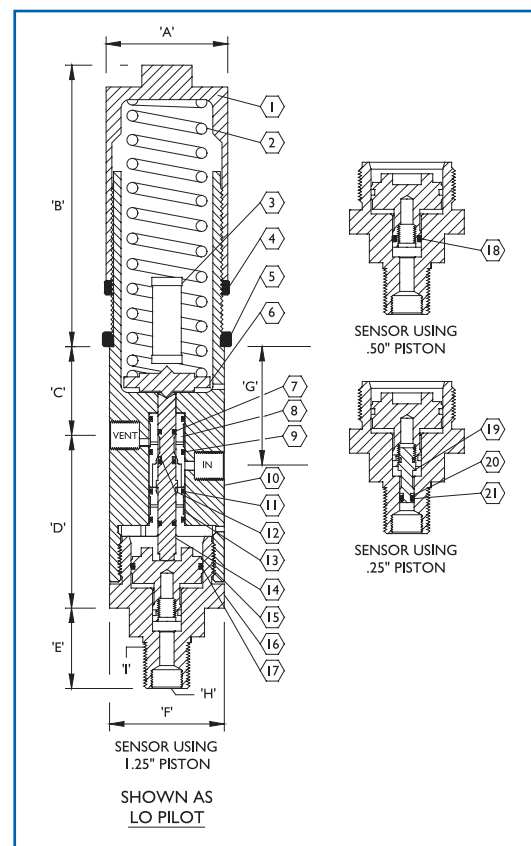
Phone (504) 340-0055
Fax (504) 340-0056

SS-H

Hydraulic Pressure Switch Lo Model 4HL2

Parts List For Pressure Switch Model 4HL2

Item	Qty.	Description	Material	Part No.
1	1	Spring Cap	316L or ASTM-A-351 S.S.	41-009-0A0
2A	1	Spring (Blue)	ASTM-401	41-012-000
2B	---	Spring (Red)	ASTM-401	41-013-000
2C	---	Spring (Silver)	ASTM-401	41-014-000
2D	---	Spring (Green) Optional	Inconel X-750	41-019-000
2E	---	Spring (Yellow) Optional	Inconel X-750	41-020-000
2F	---	Spring (Purple) Optional	Inconel X-750	41-021-000
3	1	Parts Tube	Acetate Butyrate	42-025-000
4	1	Lock Ring	AISI 316 St. Stl.	41-015-000
5	1	Panel Mount Ring (Optional)	AISI 316 St. Stl.	41-023-000
6	1	Spring Plate	AISI 316 St. Stl.	41-008-0A0
7*	3	Spool O-Ring	Buna-N	NO-008-75
8	1	Top Sleeve	AISI 316 St. Stl.	4H-002-000
9*	2	Top Sleeve O-Ring	Buna-N	NO-014-75
10	1	Body	AISI 316 St. Stl.	4H-001-0L0
11*	2	Bottom Sleeve O-Ring	Buna-N	NO-014-75
12*	1	Backup	Teflon	TB-008-000
13	1	Bottom Sleeve	AISI 316 St. Stl.	4H-003-000
14	1	Spool	AISI 316 St. Stl.	4H-004-0L0
15	1	1.25" / .50" Piston	AISI 316 St. Stl.	42-005-000
16	1	1.25" / .50" / .25" Sensor Base	AISI 316 St. Stl.	41-004-0A0
17*	1	O-Ring F/ 1.25" Piston	Viton	VO-024-75T
18*	1	O-Ring F/ .5" Piston	Viton	VO-012-75T
19	1	.25" Piston (Optional)	AISI 316 St. Stl.	41-011-0A0
20*	1	Backup F/ .25" Piston	Teflon	TB-006-0B0
21*	1	O-Ring F/ .25" Piston	Viton	VO-006-75T
22	1	Repair Kit	* Items	4H-005-0B0



Dimensions Inch (MM)

A	2.12 (53.8)
B (Max)	6.13 (155.7)
C	1.55 (39.4)
D	3.00 (76.2)
E	1.40 (35.6)
F	2.00 (50.8)
G	2.08 (52.8)
H	1/4" FNPT
I	1/2" MNPT
Panel Mount Hole	1.875 (48.0)
Valve Ports	1/4" FNPT
Weight*	4.9 lbs (2.3 kg)

* For switch and 1.25"/.50"/.25" sensor base

Switch Specifications

Valve Type	2-Way
Setpoint Deviation	+ 3%
Max. Instr. Press.	6,000 PSI (414 BAR)
Ambient Temp. Range	20 to 250 deg. F -29 to 122 deg. C
Cv Factor	.12

1.25"/.50"/.25" Switch Sensor Specifications

Sensor Type	Piston
Max. Oper. Press.	10,000 PSI (690 BAR)
Burst Pressure	20,000 PSI (1380 BAR)
Temperature Range	-20 to 250 deg. F -29 to 122 deg. C

Ordering Code: 4HL2 X X X 0 0 0

BASE MODEL NUMBER

Standard Corrosive Service - (-)
N.A.C.E. Option - N

SPRING CODE (see range chart)

PISTON CODE (see range chart)

Spring Codes (COLOR)		Available Ranges - PSI (BAR)														
		5-20 (.03-1.4)	4-40 (.3-2.75)	10-80 (.7-5.5)	10-115 (.7-7.9)	20-230 (1.4 - 15.8)	50-450 (3.4 -31)	200-750 (13.8-51.8)	500-1500 (34.5-103.5)	1000-3000 (69-207)	1000-3000 (69-207)	2000-5000 (138-345)	5000-10000 (345-689)	2000-5000 (138-345)	3500-9000 (241-620)	8500-20000 (586-1380)
STANDARD SPRING	INCONEL SPRING															
B (Blue)	G (Green)	X			X			X			X			X		
R (Red)	Y (Yellow)		X			X			X			X			X	
S (Silver)	P (Purple)			X			X			X			X			X
Piston Diameter		3.0"	3.0"	3.0"	1.25"	1.25"	1.25"	.50"	.50"	.50"	.25"	.25"	.25"	.187"	.187"	.187"
Piston Code		0	0	0	1	1	1	2	2	2	3	3	3	4	4	4
		OPTIONAL BASE									OPTIONAL PISTON			OPTIONAL BASE		

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Ruelco



LPO Line Pressure Operated Actuator Control System

Phone (504) 340-0055
Fax (504) 340-0056

LPO

Line Pressure Operated Actuator Control System

FEATURES

- Space saving compact design
- Width of only 8" and overall height of 13"
- Rating of up to 6,000 psi.
- Completely self-contained
- Connected in three simple steps:
 - 1) 1/2" FNPT to flowline
 - 2) 3/8" tubing to actuator
 - 3) Bleed ports to reservoir

ACCESSORIES

One important feature of the Ruelco LPO is the optional scales feature available for the pressure switches. The scales allow the operator to properly set the trip point without having to rely on a secondary pressure gauge. (For reference only)

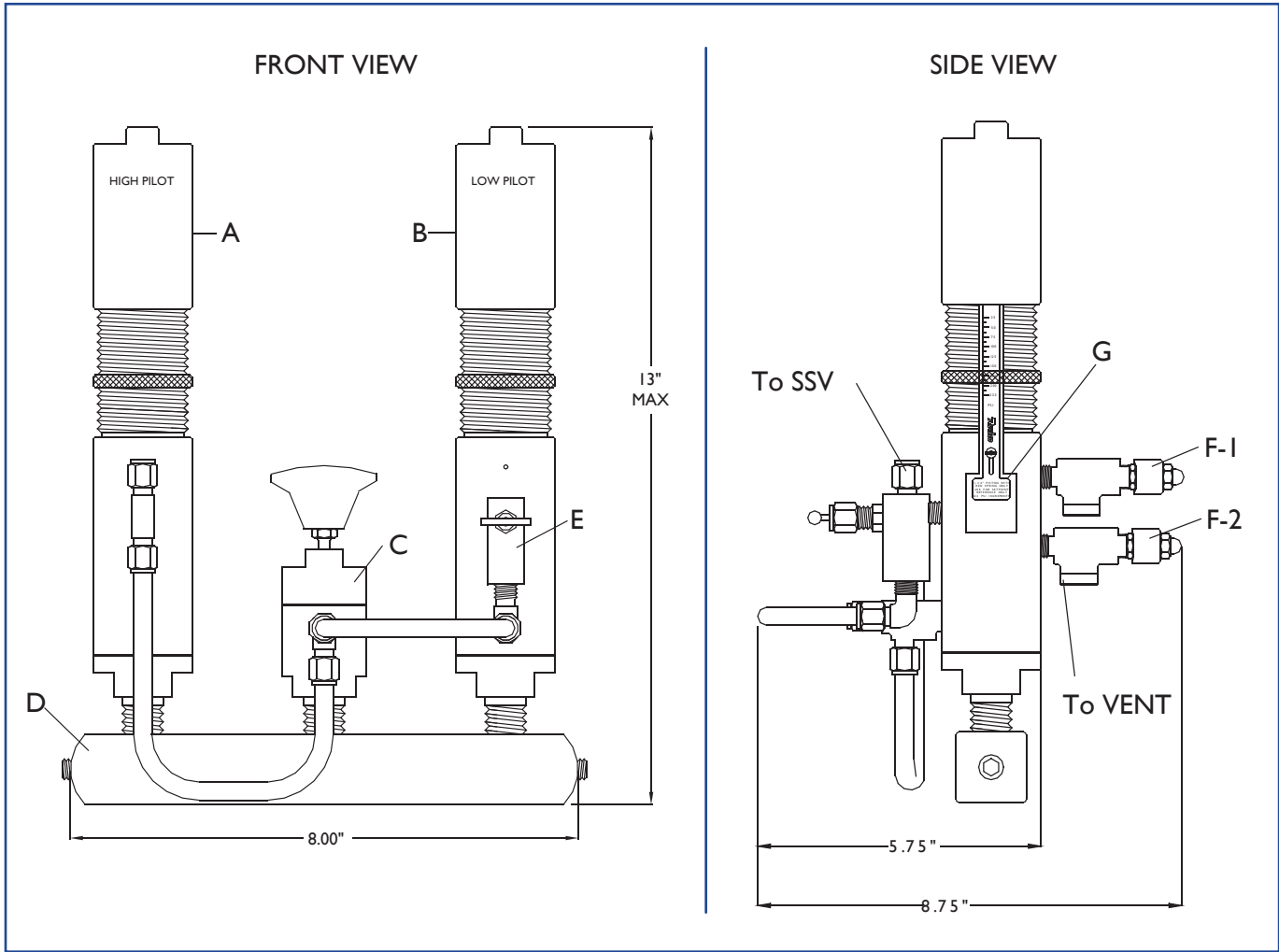
Another optional feature of the LPO system is the addition of Ruelco Tattletale Indicators. The Tattletale Indicator alerts the operator that the system has shut-in and can also indicate which pressure switch caused the shut-in. The Tattletale works by displaying a red indicating band and exhausting the system when the high or low pressure switch has been tripped.

Parts List for Line Pressure Operated System

Item	Qty.	Description
A	1	MODEL 4HH2 HYDRAULIC PRESSURE SENSOR (HIGH)
B	1	MODEL 4HL2 HYDRAULIC PRESSURE SENSOR (LOW)
C	1	MODEL VC-2 VELOCITY CHECK VALVE
D	1	8" MANIFOLD KIT ASSEMBLY
E	1	NEEDLE VALVE
F-1	1	3-WAY HYDRAULIC TATTLETALE ON LOW PILOT (OPTIONAL)
F-2	1	3-WAY HYDRAULIC TATTLETALE ON HIGH PILOT (OPTIONAL)
G	2	INDICATING SCALES (OPTIONAL)

Assembly Shown With Optional Equipment F-1, F-2, and G

Consult Factory for Part Numbers and Pricing



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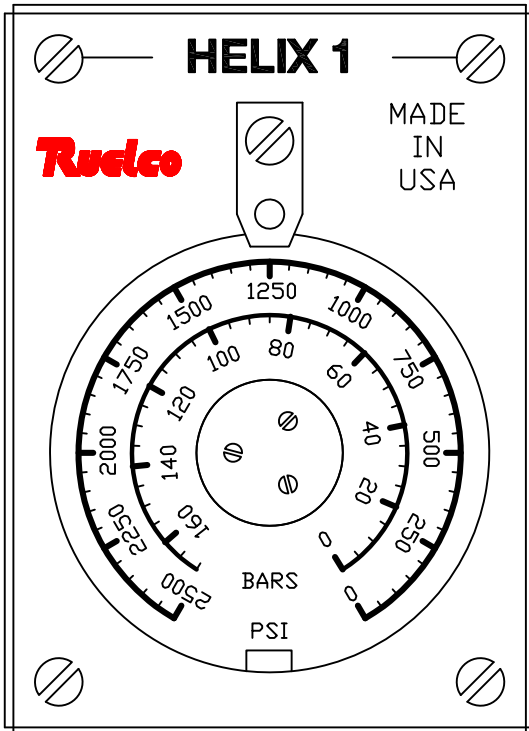


1209 DISTRIBUTORS ROW ■ NEW ORLEANS, LA 70123 U.S.A.

TELEPHONE: (504)340-0055 ■ FAX: (504)340-0056

GENERAL DESCRIPTION:

The Ruelco Dial Pressure Switch is a Helix bourdon tube type pressure switch. The Helix is designed to have good over-pressure protection as well as a small deadband. The pressure is adjusted by means of the external dial. Supplied as a high or low, the coiled bourdon tube is used as the pressure sensor. This eliminates any soft goods from coming into direct contact with the process fluid. The coil will activate a snap acting block and bleed valve when a high or low setpoint is reached. All pressure switches are factory calibrated using 30 psi. pneumatic signal and come in various ranges from 0 – 15,000 psi.



FEATURES:

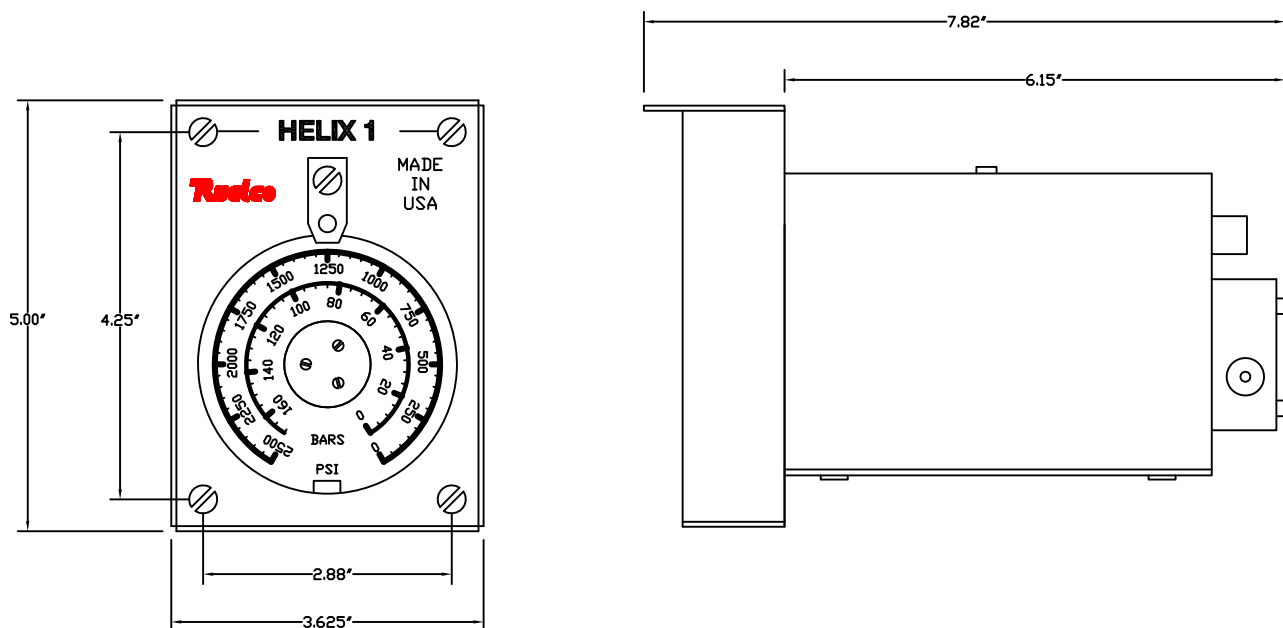
- * 316 Stainless steel construction
Models to N.A.C.E. MR0175 available.
- * Operating Ranges from 0 – 15,000 psi.
- * Block and bleed pneumatic valve
- * Viton seals are utilized for dependability.

HELIX

PRESSURE SWITCH

MODEL 4600

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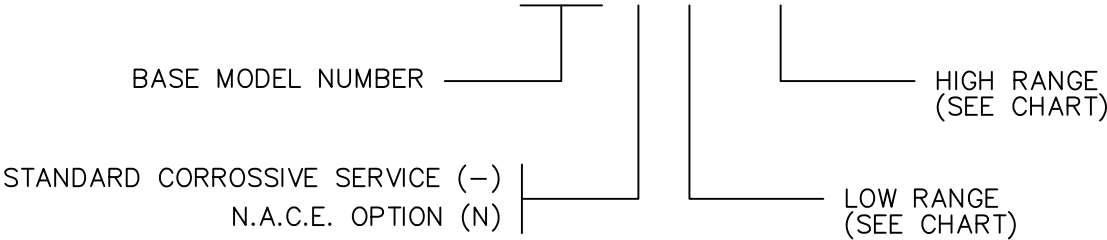
SPECIFICATIONS PSI. (BAR)

VALVE BODY MAX. W.P.	30 (2.07)
AMBIENT TEMP. RANGE	-20 TO 250° F -29 TO 121° C
WEIGHT	4 LBS 5 OZ (1.95 kg)
REPEATABILITY	1 % OF FULL SCALE
DEADBAND	5 % OF FULL SCALE
ACCURACY	± 1 %

RANGE CHART PSI. (BAR)

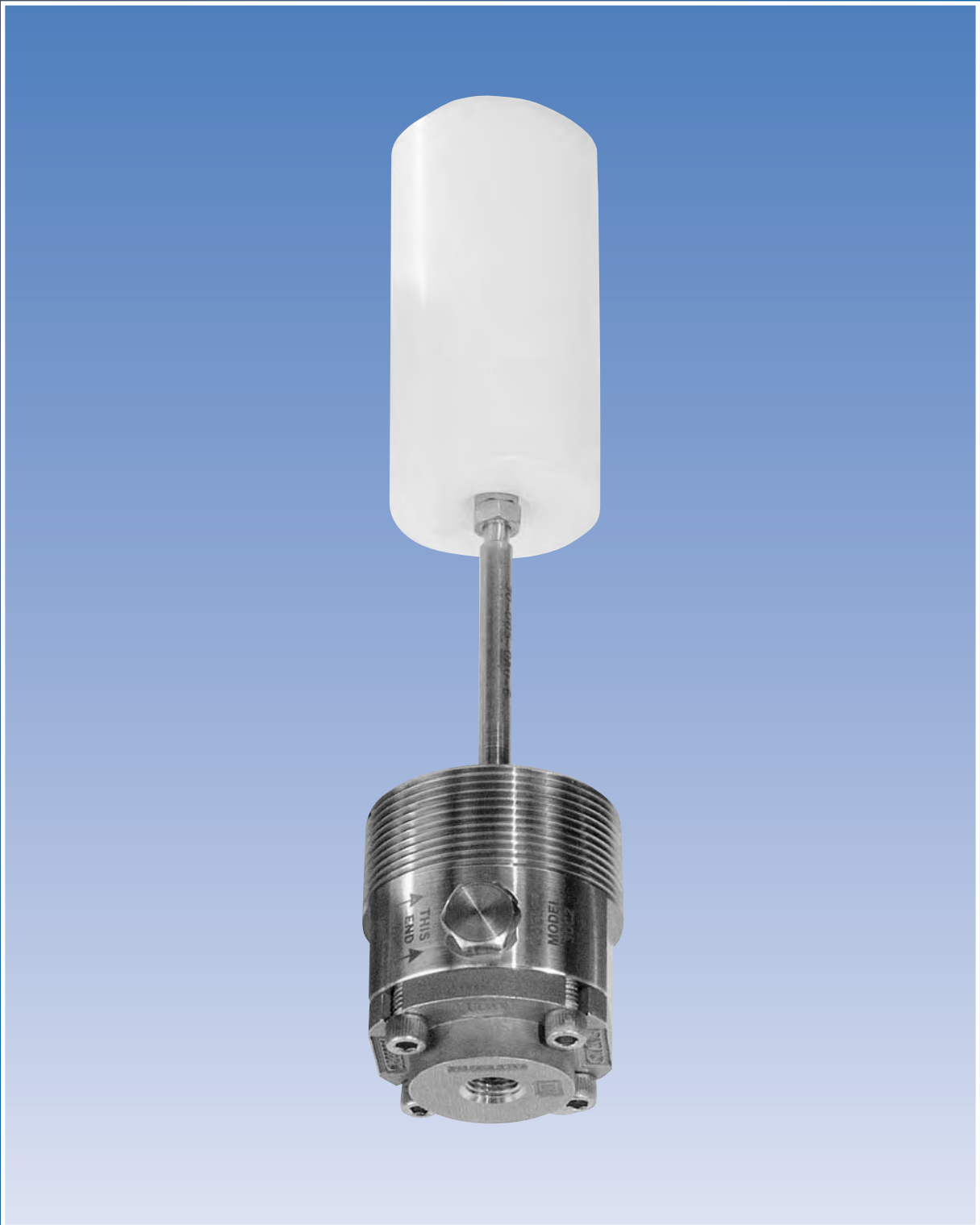
CODE	RANGE	MAX. PRESSURE	PROCESS CONNECTION
1	0-250 (17.2)	500 (34.5)	1/2" NPT
2	0-2,500 (172.4)	5,000 (344.7)	1/2" NPT
3	0-5,000 (344.7)	7,500 (517.1)	1/2" NPT
4	0-10,000 (690)	12,500 (861.8)	1/4" NPT
5	0-15,000 (1034)	18,000 (1241)	9/16"-18

ORDERING CODE: 4600 X X 0 X 0 0





Pneumatic 2" NPT Level Switch 30C2



Phone (504) 340-0055
Fax (504) 340-0056

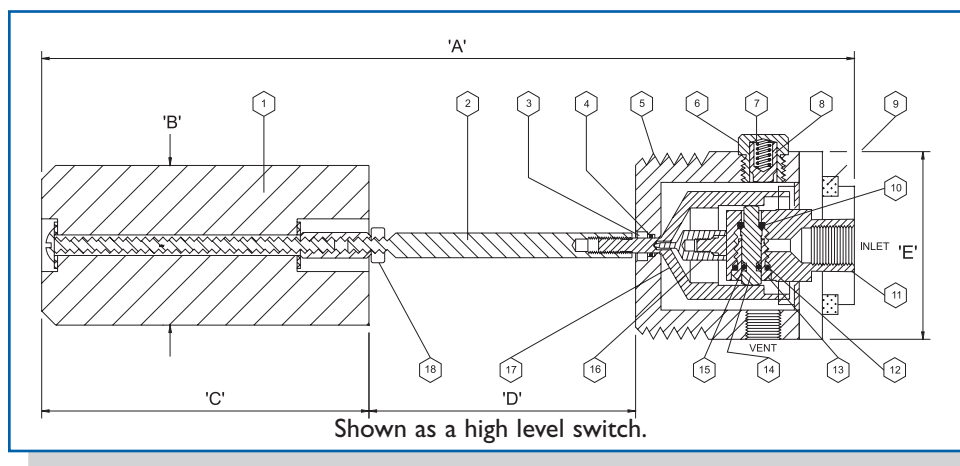
Model 30C2

Manufactured Under U.S. Patent # 4838303

Pneumatic Level Switch

FEATURES

- 316 stainless steel construction (models to N.A.C.E. MR0175 available).
- Design has no deep cavities or recesses exposed to the process fluids for debris accumulation and is excellent for dirty fluid applications.
- Uses a patented pivot seal mechanism to transmit liquid buoyancy to the valve operation mechanism with the pivot completely isolated from the process fluid.
- Mode of operation ('HI' or 'LO') is easily changed and no re-calibration is required.
- Level adjustments cannot be easily tampered with after installation, making this switch well suited for critical applications.



GENERAL DESCRIPTION:

The Ruelco Flex Level Model '30C2' is a pneumatic liquid level switch. It incorporates 2" NPT thread giving it substantial mounting flexibility. The sensor operates a pneumatic valve when the liquid in a tank or pressure vessel reaches a predetermined level. The "Flex Level" operates as either a high or low level sensor, the mode of operation is selected simply by rotating the valve body 180 degrees. The standard pneumatic valve is a two-way N.O. or N.C. valve which provides positive and fast system response. When used as a high level sensor, the valve will be N.C. when the liquid level is below the sensor. The valve for a low level sensor is N.O. when the liquid level is below the sensor. Three way 'BLOCK and BLEED' valve operation is possible with the addition of an orifice and a street tee.

Dimensions Inch (MM)

'A'	10.06 (255.5)
'B'	2.00 (50.8)
'C'	4.10 (104.14)
'D'	3.25 (82.6)
'E'	2.37 (60.2)
PORTS	1/4" NPT
Weight	3.3 Lbs. (1.5 Kg.)

Ordering Code 30C2 X X X X X X

BASE MODEL NUMBER	STANDARD MODEL	To NACE MR0175	POLYPROPYLENE DISPLACER	316 ST.STL. DISPLACER (500 PSI W.P.)	316 ST. STL. DISPLACER (2160 PSI W.P.)	2-WAY VALVE	3-WAY VALVE	HI LEVEL OPERATION	LOW LEVEL OPERATION	STD. ROD WITH HORIZ. DISPLACER	6" ROD WITH HORIZ. DISPLACER	10" ROD WITH HORIZ. DISPLACER	14" ROD WITH HORIZ. DISPLACER	18" ROD WITH HORIZ. DISPLACER	SHORT ROD WITH HANGDOWN DISPLACER	STD. ROD WITH HANGDOWN DISPLACER	HORIZONTAL DISPLACER	1" TO 1' HANGDOWN	1" TO 5' HANGDOWN	1" TO 10' HANGDOWN	1" TO 40' HANGDOWN	40' OR GREATER
30C2 2" NPT Pneumatic	-	N	P	3	6	2	3	H	L	3	6	A	E	J	2	3	0	I	2	3	4	X

Parts List For Pneumatic Level Switch 30C2

Item	Qty.	Description	Material
1	1	Displacer Assembly	Polypropylene & 18-8 St. Stl.
2	1	Float Rod	316 St. Stl.
3	1	Body Seal Retainer	316 St. Stl.
4	1	Body Seal	Fluorocarbon
5	1	Body	316 St. Stl.
6	1	Spring Cap	316 St. Stl.
7	1	Spring	Inconel
8	1	Spring Guide	Acetal
9	4	Socket Hd. Cap Screw	316 St. Stl.
10	1	Valve Seat	Fluorocarbon
11	1	Valve Body	316 St. Stl.
12	1	Valve Retainer Seal	Fluorocarbon
13	1	Valve Retainer	316 St. Stl.
14	1	Valve Poppet	316 St. Stl.
15	1	Poppet Seal	Fluorosilicone
16	1	Pivot	304 St. Stl.
17	1	Cone	17-4 PH St. Stl.
18	1	Float rod Nut	316 St. Stl.
19	—	Repair Kit	Items 4,10,12 & 15

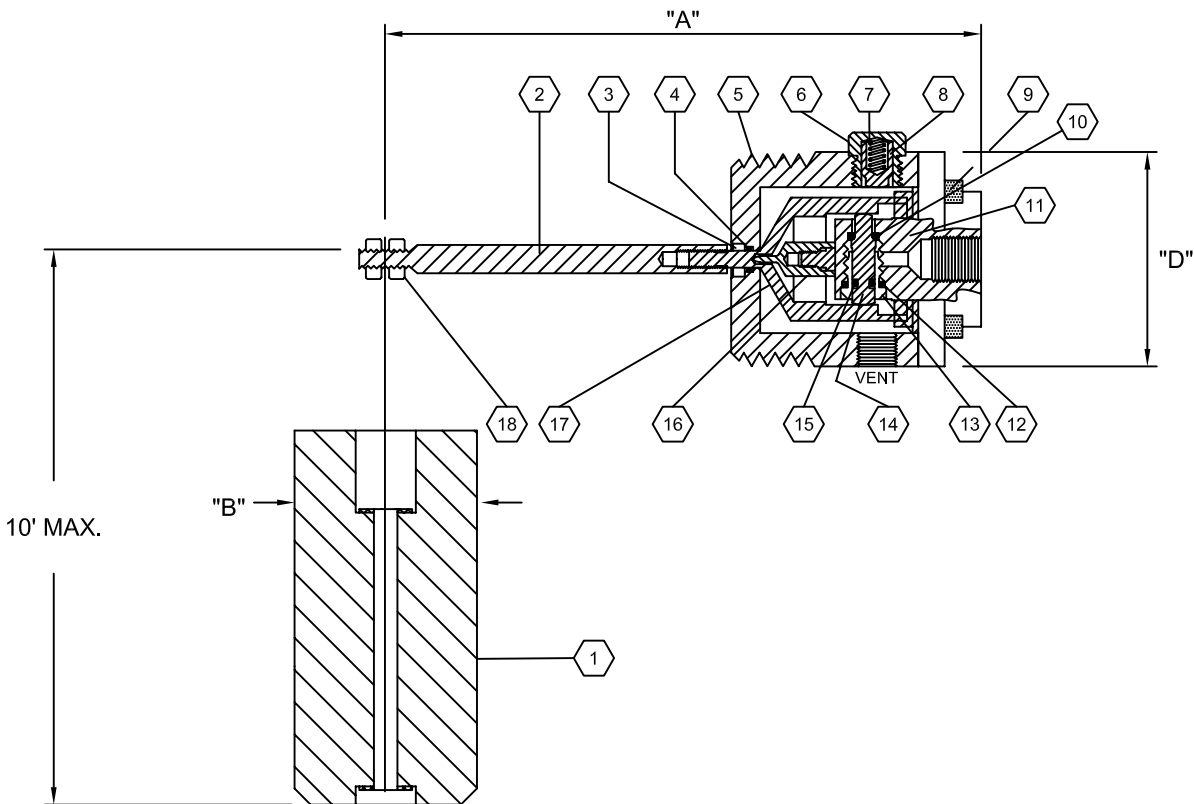
Specifications

Max. Test Pressure PSI (BAR) @ 100 deg. F (37 deg. C)	Max. W.P. PSI (BAR) @ 100 deg. F (37 deg. C)	Ambient Temperature Range	Max. Process Fluid Temperature	Min. Specific Gravity	Max. Supply Pressure PSI (BAR) (3.44)	C _v Factor
3240 (223)	2160 (149)	-20 to 250 deg. F -29 to 122 deg. C	200 deg. F (93 deg. C)	0.6	50 (3.44)	.16

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MANUFACTURED UNDER U.S. PATENT NUMBER 4838303



PARTS LIST

ITEM	QTY.	DESCRIPTION	MATERIAL	PART NO.
1	1	DISPLACER ASSEMBLY	POLYPROPYLENE & 18-8 ST. STL.	30-016-000
2	1	HANG DOWN FLOAT ROD	316 ST. STL.	30-033-000
3	1	BODY SEAL RETAINER	316 ST. STL.	30-007-0A0
4*	1	BODY SEAL	FLUOROCARBON	VO-008-75H
5	1	BODY	316 ST. STL.	30-001-0B0
6	1	SPRING CAP	316 ST. STL.	30-012-000
7	1	SPRING	INCONEL	30-014-000
8	1	SPRING GUIDE	316 ST. STL.	30-008-001
9	1	SOCKET HD. CAP SCREW	316 ST. STL.	TA-08K-0G3
10*	1	VALVE SEAT	FLUOROCARBON	V0-010-75H
11	1	CAST PIVOT VALVE BODY	316 ST. STL.	30-064-000
12*	1	VALVE RETAINER SEAL	FLUOROCARBON	VO-012-75H
13	1	VALVE RETAINER	316 ST. STL.	30-018-000
14	1	VALVE POPPET	316 ST. STL.	30-019-0B0
15*	1	POPPET SEAL	FLUOROSILICON	FO-006-70T
16	1	PIVOT	304 ST. STL.	30-079-000
17	1	CONE	17-4 PH ST. STL.	30-085-000
18	2	FLOAT ROD NUT	316 ST. STL.	T6-08K-073
19	-	REPAIR KIT	* ITEMS	30-089-000

SPECIFICATIONS

MAXIMUM TEST PRESSURE PSI (BAR) @ 100° F (37° C)	3240 (223)
MAXIMUM WORKING PRESSURE PSI (BAR) @ 100° F (37° C)	2160 (149)
AMBIENT TEMPERATURE RANGE	-20/+200° F -20/+93° C
MINIMUM SPECIFIC GRAVITY	0.6
MAX. PROCESS FLUID TEMPERATURE	200° F 93° C
MAXIMUM SUPPLY PRESSURE PSI (BAR)	50 (3.44)
Cv FACTOR	.16

DIMENSIONS IN. (MM)

A	4.50 (114.3)
B	2.00 (50.8)
C	4.10 (104.14)
D	2.37 (60.2)
PORTS	1/4" NPT
WEIGHT	3.3 LBS (1.5 KG)

FLEX-LEVEL

2-WAY LEVEL SWITCH
HANG DOWN

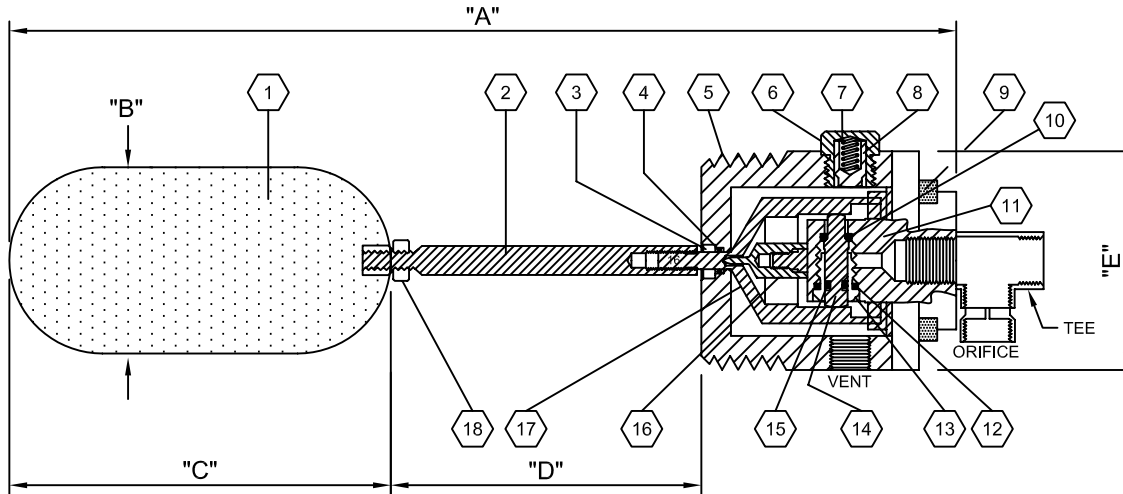
MODEL 30C2-P2(H OR L)33

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2065 BONN STREET ■ HARVEY, LA 70058 U.S.A.
TELEPHONE: (504)340-0055 ■ FAX: (504)340-0056

MANUFACTURED UNDER U.S. PATENT NUMBER 4838303



PARTS LIST

ITEM	QTY.	DESCRIPTION	MATERIAL	PART NO.
1	1	DISPLACER ASSEMBLY	316 ST. STL. & 18-8 ST. STL.	30-015-000
2	1	FLOAT ROD	316 ST. STL.	30-005-0A0
3	1	BODY SEAL RETAINER	316 ST. STL.	30-007-0A0
4*	1	BODY SEAL	FLUOROCARBON	VO-008-75H
5	1	BODY	316 ST. STL.	30-001-0B0
6	1	SPRING CAP	316 ST. STL.	30-012-000
7	1	SPRING	INCONEL	30-014-000
8	1	SPRING GUIDE	316 ST. STL.	30-008-001
9	1	SOCKET HD. CAP SCREW	316 ST. STL.	TA-08K-0G3
10*	1	VALVE SEAT	FLUOROCARBON	V0-010-75H
11	1	CAST PIVOT VALVE BODY	316 ST. STL.	30-064-000
12*	1	VALVE RETAINER SEAL	FLUOROCARBON	VO-012-75H
13	1	VALVE RETAINER	316 ST. STL.	30-018-000
14	1	VALVE POPPET	316 ST. STL.	30-019-0B0
15*	1	POPPET SEAL	FLUOROSILICON	FO-006-70T
16	1	PIVOT	304 ST. STL.	30-079-000
17	1	CONE	17-4 PH ST. STL.	30-085-000
18*	1	FLOAT ROD NUT	316 ST. STL.	T6-08K-073
19	-	REPAIR KIT	* ITEMS	30-089-000

SPECIFICATIONS

MAXIMUM TEST PRESSURE PSI (BAR) @ 100° F (37° C)	3240 (223)
MAXIMUM WORKING PRESSURE PSI (BAR) @ 100° F (37° C)	2160 (149)
AMBIENT TEMPERATURE RANGE	-20/+200° F -20/+93° C
MINIMUM SPECIFIC GRAVITY	0.6
MAX. PROCESS FLUID TEMPERATURE	200° F 93° C
MAXIMUM SUPPLY PRESSURE PSI (BAR)	50 (3.44)
Cv FACTOR	.16

DIMENSIONS IN. (MM)

A	10.06 (255.5)
B	2.00 (50.8)
C	4.10 (104.14)
D	3.25 (82.6)
E	2.37 (60.2)
PORTS	1/4" NPT
WEIGHT	3.3 LBS (1.5 KG)

FLEX-LEVEL

3-WAY LEVEL SWITCH

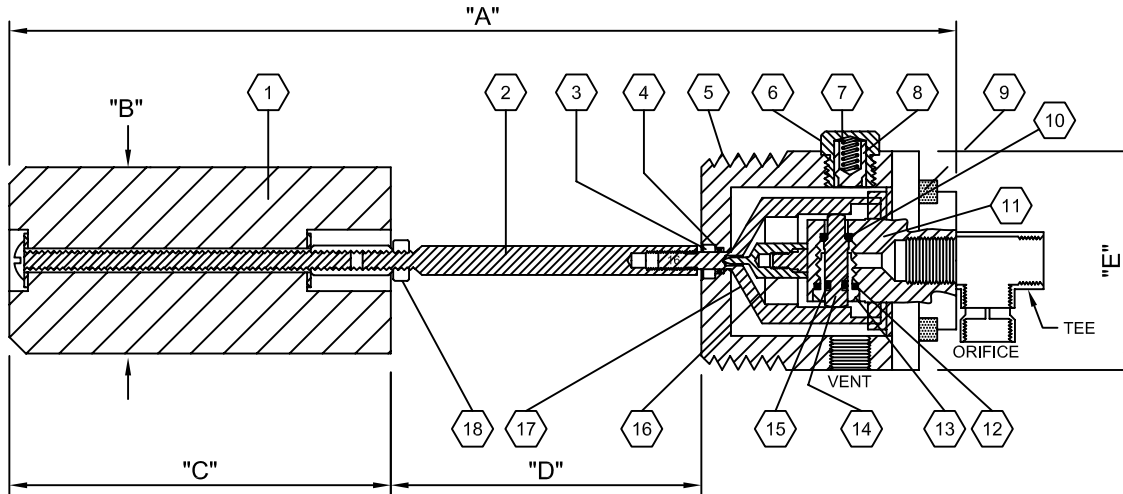
MODEL 30C2-63(H OR L)30

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2065 BONN STREET ■ HARVEY, LA 70058 U.S.A.
TELEPHONE: (504)340-0055 ■ FAX: (504)340-0056

MANUFACTURED UNDER U.S. PATENT NUMBER 4838303



PARTS LIST

ITEM	QTY.	DESCRIPTION	MATERIAL	PART NO.
1	1	DISPLACER ASSEMBLY	POLYPROPYLENE & 18-8 ST. STL.	30-016-000
2	1	FLOAT ROD	316 ST. STL.	30-005-0A0
3	1	BODY SEAL RETAINER	316 ST. STL.	30-007-0A0
4*	1	BODY SEAL	FLUOROCARBON	VO-008-75H
5	1	BODY	316 ST. STL.	30-001-0B0
6	1	SPRING CAP	316 ST. STL.	30-012-000
7	1	SPRING	INCONEL	30-014-000
8	1	SPRING GUIDE	316 ST. STL.	30-008-001
9	1	SOCKET HD. CAP SCREW	316 ST. STL.	TA-08K-0G3
10*	1	VALVE SEAT	FLUOROCARBON	V0-010-75H
11	1	CAST PIVOT VALVE BODY	316 ST. STL.	30-064-000
12*	1	VALVE RETAINER SEAL	FLUOROCARBON	VO-012-75H
13	1	VALVE RETAINER	316 ST. STL.	30-018-000
14	1	VALVE POPPET	316 ST. STL.	30-019-0B0
15*	1	POPPET SEAL	FLUOROSILICON	FO-006-70T
16	1	PIVOT	304 ST. STL.	30-079-000
17	1	CONE	17-4 PH ST. STL.	30-085-000
18*	1	FLOAT ROD NUT	316 ST. STL.	T6-08K-073
19	-	REPAIR KIT	* ITEMS	30-089-000

SPECIFICATIONS

MAXIMUM TEST PRESSURE PSI (BAR) @ 100° F (37° C)	3240 (223)
MAXIMUM WORKING PRESSURE PSI (BAR) @ 100° F (37° C)	2160 (149)
AMBIENT TEMPERATURE RANGE	-20/+200° F -20/+93° C
MINIMUM SPECIFIC GRAVITY	0.6
MAX. PROCESS FLUID TEMPERATURE	200° F 93° C
MAXIMUM SUPPLY PRESSURE PSI (BAR)	50 (3.44)
Cv FACTOR	.16

DIMENSIONS IN. (MM)

A	10.06 (255.5)
B	2.00 (50.8)
C	4.10 (104.14)
D	3.25 (82.6)
E	2.37 (60.2)
PORTS	1/4" NPT
WEIGHT	3.3 LBS (1.5 KG)

FLEX-LEVEL

3-WAY LEVEL SWITCH

MODEL 30C2-P3(H OR L)30

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Ruelco

Pneumatic Flange Mount Level Switch 31C2



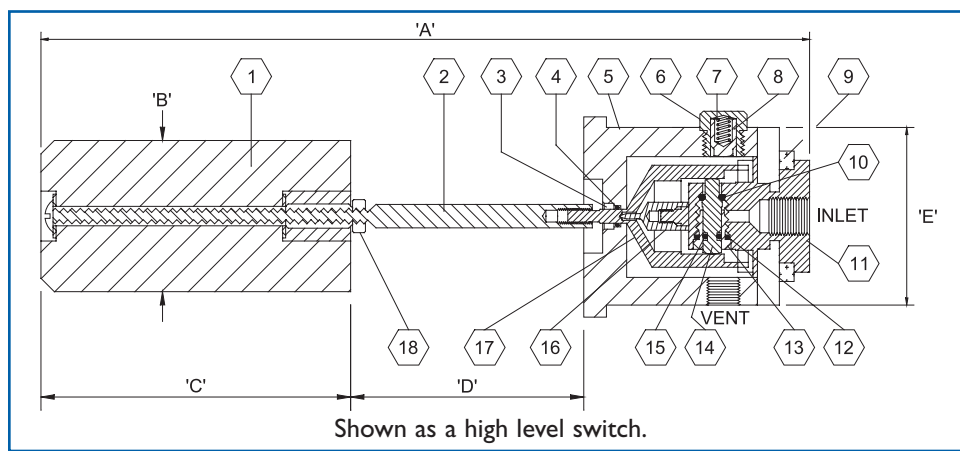
Phone (504) 340-0055
Fax (504) 340-0056

Model 31C2 Manufactured Under U.S. Patent # 4838303

Pneumatic Flange Mount Level Switch

FEATURES

- 316 stainless steel construction (models to N.A.C.E. MR0175 available).
- Design has no deep cavities or recesses exposed to the process fluids for debris accumulation and is excellent for dirty fluid applications.
- Uses a patented pivot seal mechanism to transmit liquid buoyancy to the valve operation mechanism with the pivot completely isolated from the process fluid.
- Mode of operation ('HI' or 'LO') is easily changed and no re-calibration is required.
- Level adjustments cannot be easily tampered with after installation, making this switch well suited for critical applications.



GENERAL DESCRIPTION:

The Ruelco Flex Level Model '31C2' is a pneumatic liquid level switch. It incorporates a slip ring mounting feature providing it with the highest degree of sealing integrity. The sensor operates a pneumatic valve when the liquid in a tank or pressure vessel reaches a predetermined level. The "Flex Level" operates as either a high or low level sensor, the mode of operation is selected simply by rotating the valve body 180 degrees. The standard pneumatic valve is a two-way N.O. or N.C. valve which provides positive and fast system response. When used as a high level sensor, the valve will be N.C. when the liquid level is below the sensor. The valve for a low level sensor is N.O. when the liquid level is below the sensor. Three way 'BLOCK and BLEED' valve operation is possible with the addition of an orifice and a street tee.

Ordering Code: **31C2 X X X X 3 0**

BASE MODEL NUMBER	STANDARD MODEL	To NACE MR0175	POLYPROPYLENE DISPLACER	316 ST. STL. DISPLACER (2,160 PSI W.P.)	2-WAY VALVE	3-WAY VALVE	HI LEVEL OPERATION	LO LEVEL OPERATION
31C2 Flange Mount Pneumatic	-	N	P	6	2	3	H	L

Parts List For Pneumatic Level Switch 31C2

Item	Qty.	Description	Material
1	1	Displacer Assembly	Polypropylene & 18-8 St. Stl.
2	1	Float Rod	316 St. Stl.
3	1	Body Seal Retainer	316 St. Stl.
4*	1	Body Seal	Fluorocarbon
5	1	Body	316 St. Stl.
6	1	Spring Cap	316 St. Stl.
7	1	Spring	Inconel
8	1	Spring Guide	Acetal
9	4	Socket Hd. Cap Screw	316 St. Stl.
10*	1	Valve Seat	Fluorocarbon
11	1	Valve Body	316 St. Stl.
12*	1	Valve Retainer Seal	Fluorocarbon
13	1	Valve Retainer	316 St. Stl.
14	1	Valve Poppet	316 St. Stl.
15*	1	Poppet Seal	Fluorosilicone
16	1	Pivot	304 St. Stl.
17	1	Cone	17-4 PH St. Stl.
18	1	Float Rod Nut	316 St. Stl.
19	—	Repair Kit	* Items

Dimensions Inch (MM)

'A'	10.06 (255.5)
'B'	2.00 (50.8)
'C'	4.10 (104.1)
'D'	2.96 (75.2)
'E'	2.37 (60.2)
Ports	1/4" NPT
Weight	3.3 Lbs. (1.5 Kg.)

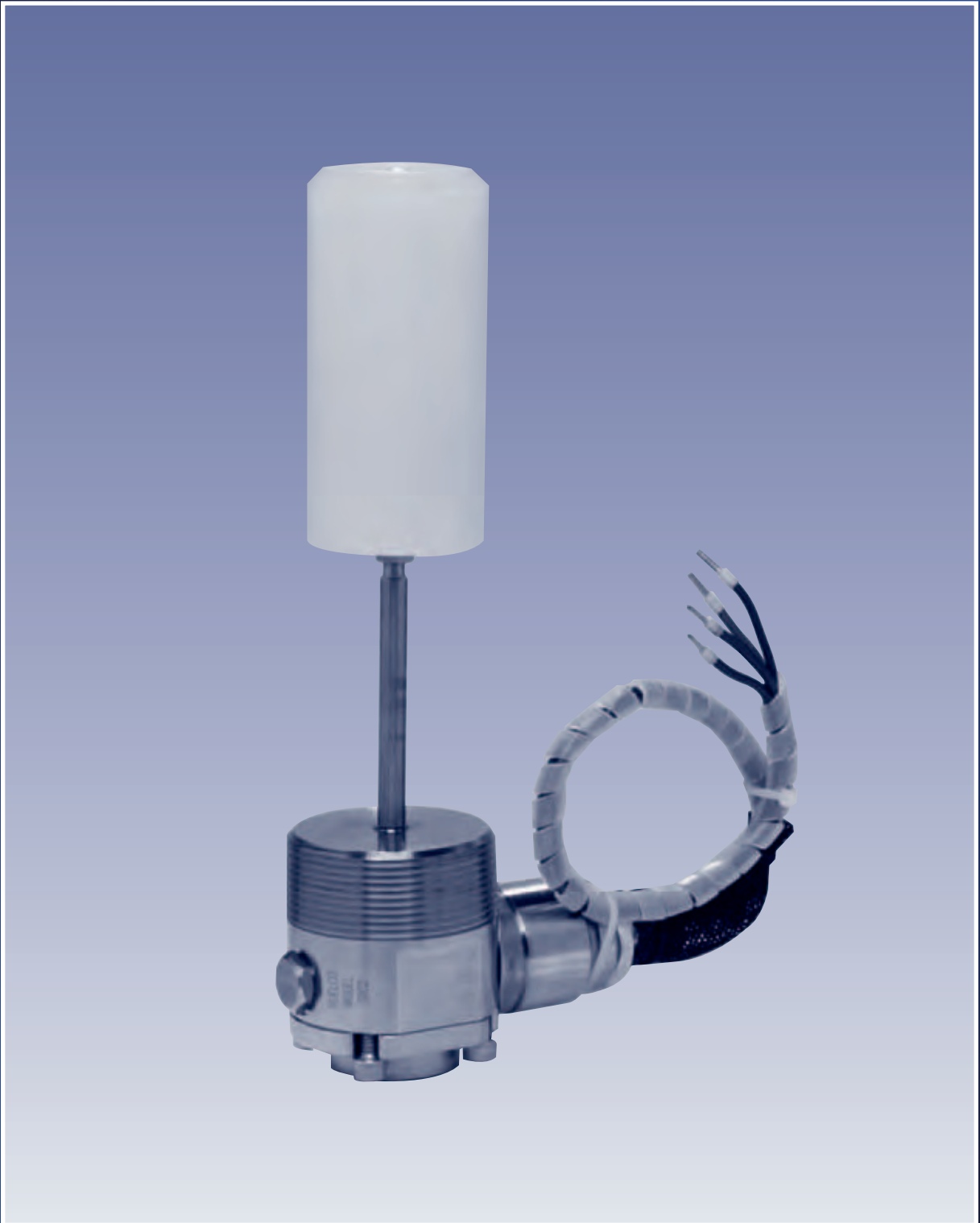
Specifications

Max. Test Pressure PSI (BAR) @ 100 deg. F (37 deg. C)	Max. W.P. PSI (BAR) @ 100 deg. F (37 deg. C)	Ambient Temperature Range	Max. Process Fluid Temperature	Min. Specific Gravity	Max. Supply Pressure PSI (BAR)	C _v Factor
3240 (223)	2160 (149)	-20 to 250 deg. F -29 to 122 deg. C	200 deg. F (93 deg. C)	0.6	50 (3.44)	.16

Ruelco

Flex-Level Switch

Model 38C2



Phone (504) 340-0055
Fax (504) 340-0056

Model 38C2

Manufactured Under U.S. Patent # 4838303

Flex Level Switch

FEATURES

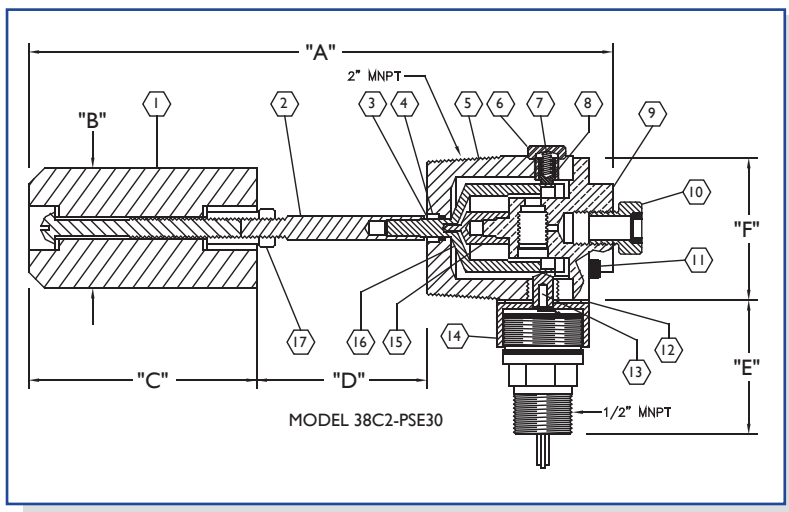
- Uses hermetically sealed, snap acting, dry contact switches rated explosion proof (U.L.™ rated Class I, Div. I Groups A, B, C, D).
- Atmospheric vent between level sensor process seals and switch assembly.
- 2" NPT threaded mounting.

OPTIONS

- SPDT or DPDT switches.
- 0.4 specific gravity operation.
- Hangdown displacers for easy top mounting on vessel with 1-1/2" to 4" connections using standard pipe fittings.
- 316 S.S. displacer for operating temperatures to 450°F (232°C).
- External manual test mechanism.
- Rating for Cenelec EExdIICT6.

GENERAL DESCRIPTION:

The Ruelco Model '38C2' meets the growing industry demands for durable, easy to maintain and accurate electrical discrete point level indication. Its non-externally adjustable set point makes it ideal for level safety switches and redundant back-up switches for simple local control to the most sophisticated process control systems. The direct action of the "Flex-Level" design ensures trouble free operation in the process fluids with specific gravities as low as 0.6 without any fine tuning or other adjustments.



Parts List For Flex Level Switch 38C2

Item	Qty.	Description	Material	Part No.
1	1	Standard Displacer	Polypropylene	30-016-000
1	-	St. Stl. Displacer	316 St. Stl.	30-068-000
2	1	Float Rod	316 St. Stl.	30-005-0A0
3	1	Body Seal Retainer	316 St. Stl.	30-007-0A0
4	1	Body Seal	Fluorocarbon	V0-008-75H
5	1	Body	316 St. Stl.	30-001-0B0
6	1	Spring Cap	316 St. Stl.	30-012-000
7	1	Spring	Inconel X-750	30-014-000
8	1	Spring Guide	316 St. Stl.	30-008-001
9	1	Cast Pivot Valve Body	316 St. Stl.	30-064-000
10	1	Vent Plug	316 St. Stl.	91-002-000
11	4	Socket Head Cap Screw	316 St. Stl.	T8-08K-0G3
12	1	Support Washer	316 St. Stl.	38-020-000
13	1	Push Rod Assembly	Acetal/ 18-8 SS	38-022-000
14	1	SPDT Switch Assembly	316 St. Stl.	38-018-000
14	-	DPDT Switch Assembly	316 St. Stl.	38-019-000
15	1	Pivot	17-4 PH St. Stl.	30-079-000
16	1	Cone	17-4 PH St. Stl.	30-085-000
17	1	Float Rod Nut	316 St. Stl.	T6-08K-073
18	-	Repair Kit	Item 4 & 15	38-016-000

Ordering Code:

38C2 X X X E X X

Base Model Number	Standard Model	To N.A.C.E. MR0175	Polypropylene Displacer	316 St. Stl. Displacer (2160 psi W.P.)	SPDT Electrical Switch	DPDT Electrical Switch	Std. Rod with Horiz. Displacer	6" Rod with Horiz. Displacer	Horizontal Displacer	1" to 10' Hangdown
38C2 2" NPT Electric	-	N	P	6	S	D	3	6	0	3

Specifications

Max. Test Pressure PSI (BAR) @ 100° F (37° C)	3240 (223)	Max. W.P. PSI (BAR) @ 100° F (37° C)	2160 (149)	Ambient Temperature Range	-20° to 161° F -20° to 72° C	Max. Process Fluid Temperature	200° F* (93° C)	Min. Specific Gravity	.6	SPDT & DPDT Max. AC/DC Voltage	250 AC 30 DC	SPDT & DPDT AMPS @ Rated Voltage	5 AC/DC
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* 450° F (232° C) w/ St. Stl. Displacer

Dimensions In. (mm)

"A"	10.06 (255.5)
"B"	2.00 (50.8)
"C"	4.10 (104.14)
"D"	3.25 (82.6)
"E"	2.37 (60.2)
"F"	2.25 (57.2)
"G"	1/2" MNPT
Weight	3.8 Lbs (1.7 Kg)

Ruelco

Flex Level Switch

Model 39C2



Phone (504) 340-0055
Fax (504) 340-0056

Model 39C2

Manufactured Under U.S. Patent # 4838303

Flex Level Switch

FEATURES

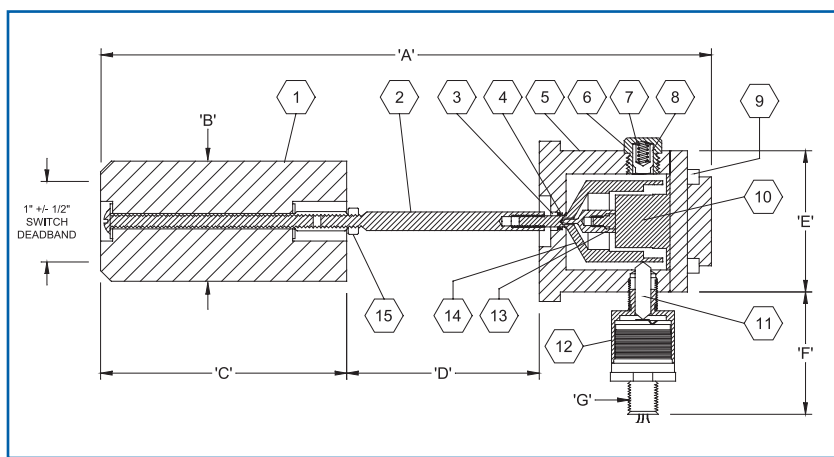
- Uses hermetically sealed, snap acting, dry contact switches rated explosion proof (U.L.™ rated Class I, Div. I Groups A, B, C, D).
- Atmospheric vent between level sensor process seals and switch assembly.
- Slip ring mounting.

OPTIONS

- SPDT or DPDT switches.
- 0.4 specific gravity operation.
- 316 st. stl. displacer for operating temperatures to 450°F (232°C).
- Hangdown displacers available when mounted on ANSI flange.
- External manual test mechanism.

GENERAL DESCRIPTION:

Incorporating the same operational performance as the Model 38C2 but with the reliable slip ring mounting of the Model 31C2 pneumatic switch, the Model '39C2' "Flex-Level" switch is well suited for the harshest environments. In combination with the optional mounting accessories and displacer variations, this switch finds many uses in both the oil and gas producing and petro-chem industries. Its "non-magnetic" direct acting operating principle provides a high degree of reliability in any safety or control system.



Dimensions Inch (MM)

'A'	10.06 (255.5)
'B'	2.00 (50.8)
'C'	4.10 (104.1)
'D'	3.00 (76.2)
'E'	2.37 (60.2)
'F'	2.33 (59.2)
'G'	1/2" MNPT
Weight	3.3 Lbs. (1.5 Kg.)

Parts List For Flex Level Switch 39C2

Item	Qty.	Description	Material
1	1	Displacer Assembly	Polypropylene
Optional	Optional	St. Stl. Displacer	316 St. Stl.
2	1	Float Rod	316 St. Stl.
3	1	Body Seal Retainer	316 St. Stl.
4*	1	Body Seal	Fluorocarbon
5	1	Body	316 St. Stl.
6	1	Spring Cap	316 St. Stl.
7	1	Spring	Inconel
8	1	Spring Guide	Acetal
Optional	Optional	St. Stl. Spring Guide	316 St. Stl.
9	4	Socket Hd. Cap Screw	316 St. Stl.
10	1	Pivot Body	8CFM St. Stl.
11	1	Push Rod	Acetal
12	1	Switch Assembly	316 St. Stl.
13	1	Pivot	17-4 PH St. Stl.
14	1	Cone	17-4 PH St. Stl.
15	1	Float Rod Nut	316 St. Stl.
16	1	Washer	316 St. Stl.
17	—	Repair Kit	* Items

St. Stl. Spring Guide when St. Stl. Displacer used.

Specifications

Max. Test Pressure PSI (BAR) @ 100 deg. F (37 deg. C)	Max. W.P. PSI (BAR) @ 100 deg. F (37 deg. C)	Ambient Temperature Range	Max. Process Fluid Temperature	Min. Specific Gravity	SPDT & DPDT Max. AC/DC Voltage	SPDT & DPDT AMPS @ Rated Voltage
3240 (223)	2160 (149)	-20 to 161 deg. F -29 to 72 deg. C	200 deg. F* (93 deg. C)	0.6	250 AC 30 DC	5 AC/DC

*450°F (232°C) with St. Stl. Displacer

Ordering Code: 39C2 X X X E X X

BASE MODEL NUMBER	STANDARD MODEL	TO NACE MR0175	POLYPROPYLENE DISPLACER	316 ST. STL. DISPLACER (500 PSI W.P.)	316 ST. STL. DISPLACER (2160 PSI W.P.)	SPDT ELECTRICAL SWITCH	DPDT ELECTRICAL SWITCH	STD. ROD WITH HORIZONTAL DISPLACER	6" ROD WITH HORIZONTAL DISPLACER	10" ROD WITH HORIZONTAL DISPLACER	14" ROD WITH HORIZONTAL DISPLACER	18" ROD WITH HORIZONTAL DISPLACER	SHORT ROD WITH HANGDOWN DISPLACER	STD. ROD WITH HANGDOWN DISPLACER	HORIZONTAL DISPLACER	1" TO 1' HANGDOWN	1" TO 5' HANGDOWN	1" TO 10' HANGDOWN	1" TO 40' HANGDOWN	40' OR GREATER
39C2 Electric Flange Mount	-	N	P	3	6	S	D	3	6	A	E	J	2	3	0	1	2	3	4	Consult Factory

Ruelco



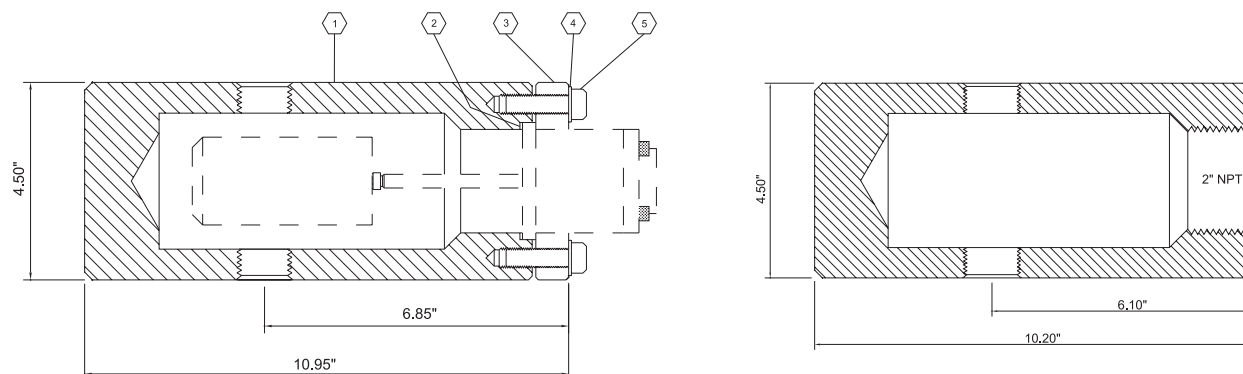
Flex Level External Mounted Cages

Phone (504) 340-0055
Fax (504) 340-0056

Model 3C0 Flex Level Cages

GENERAL DESCRIPTION:

Ruelco Model 3C0 cages are used for installing Ruelco "Flex-Level" switches externally on tanks or pressure vessels. The compact size of these units permit efficient bridle mounting of multiple switches using a minimum number of vessel connections. Standard cages use solid bar non-welded construction allowing them to withstand the most severe operating environments. Ruelco model 3C0 cages are offered in both 2" NPT and flange mount versions for the Model 30C2 and 31C2 "Flex-Level" switches.



Parts List For Flex Level Cage

Item	Qty.	Description	Material
1	1	Cage W/ 1" NPT	ASTM A-108 / 316 St. Stl.
2	1	Gasket	Blue-Gard™ / 316 St. Stl.
3	1	Mounting Ring	ASTM A-108 / 316 St. Stl.
4	6	Flat Washer	Carbon Steel / 316 St. Stl.
5	6	Hex Head Bolt	SAE Grade 8 / 316 St. Stl.

Specifications P.S.I. (Bar)

	ANSI 600	ANSI 900
Max .Working Pressure @ 100 deg. F	1440 (100)	2160 (149)
Maximum Test Pressure @ 100 deg. F	2160 (149)	3240 (223.4)

Ordering Code 3C0 X X X X X X X

BASE MODEL NUMBER	Carbon Steel Cage	316 St. Stl. cage	Standard Model	To N.A.C.E. MR-0175	2" NPT Level Switch Mounting	Slip Ring Level Switch Mounting	ANSI 600 Class Rating	ANSI 900 Class Rating	1" Process Connections	2" Process Connections	NPT Threaded Process Connections	Socket Weld Process Connections	Butt Weld Process Connections	2" NPT Level Switch Mounting	Fiber Filled Gasket, Carbon Steel Slip Ring, Bolts and Washers	316 St. Stl. Gasket, Slip Ring, Bolts and Washers	Fiber Filled Gasket, 316 St. Stl. Slip Ring, Bolts and Washers	316 St. Stl. Gasket, Carbon Steel Slip Ring, Bolts and Washers
3C0	I	2	-	N	T	F	6	9	I	2	T	S	W	0	C	S	M	N

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Ruelco



MP-2 Manual Reset Relay

Model 10A1

Phone (504) 340-0055
Fax (504) 340-0056

MP-2

Manual Reset Relay

FEATURES

- 316 stainless steel construction (models to N.A.C.E. MR0175 available).
- Easy to close with pilot signal pressures as high as 100 psi.
- Large Cv factor assures fast system response.
- May be used in pneumatic or hydraulic systems.
- 'Lock Closed' design prevents relay from automatically opening.
- Viton and nitrile seals are utilized for dependability.
- Design minimizes malfunctions due to supply system debris.
- Inconel X-750 springs assures dependability in most corrosive environments.

OPTIONS

- 30 psi closing spring.
- Stem protector to prevent external debris accumulation on relay shaft.
- Double detent assembly.
- Remote reset override.

GENERAL DESCRIPTION:

The Ruelco 'MP-2' relay is a multi-pressure control valve for production control and safety systems. It functions as a manual reset, pilot operated, normally closed, block and bleed valve.

Parts List For Reset Relay Model MP-2

Item	Qty.	Description	Material	Part No.
1A	1	Black Knob	Phenolic	ZO-200-001
1B	—	Red Knob (optional)	Phenolic	ZO-200-002
1C	—	Green Knob (optional)	Phenolic	ZO-200-003
2	1	Lock Nut	316 St. Stl.	T6-08K-0F3
3	1	Detent Assembly	316 St. Stl.	10-005-000
4	2	Screw	316 St. Stl.	T3-632-0G3
5	1	Panel Mount Nut	316 St. Stl.	10-006-000
6	3	Set Screw	316 St. Stl.	T1-08K-0C3
7	1	Mounting Head	316 St. Stl.	10-007-000
8*	1	Head Seal	Nitrile	NU-204 -70H
9*	4	Shaft Seal	Viton	VO-009-75H
10	1	Shaft Assembly	316 St. Stl.	10-023-000
11	1	Body	316 St. Stl.	10-020-000
12A	1	20 PSI Spring	Inconel X-750	10-024 -000
12B	—	30 PSI Spring	Inconel X-750	10-017-000
13*	1	Piston Seal	Nitrile	NU-209-70H
14*	1	Base Seal	Viton	VO-025-75H
15	1	Base	316 St. Stl.	10-021-000
16	1	Stem Protector Housing	Delrin	10-015-000
17	1	Seal Washer	Delrin	10-016-000
18#	1	Stem Protector Seal	Nitrile	NU-210-70H
19		Rep. Kit W/O Protector	* Items	10-013-0A0
20		Rep. Kit W/ Protector	* & # Items	10-026-000

Ordering Code: 10A1 X2 X X X X

BASE MODEL NUMBER

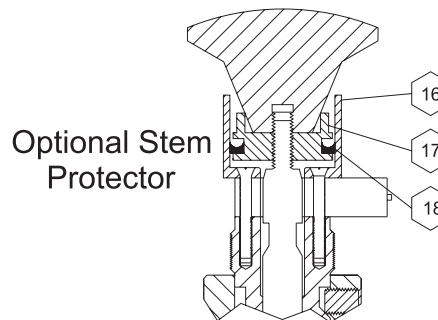
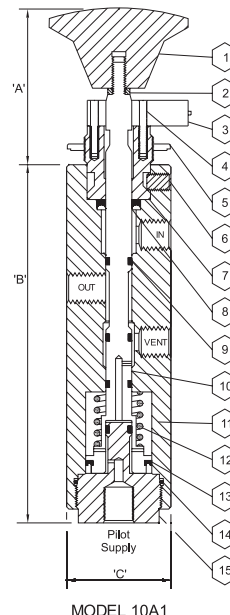
Standard Corrosive Service - (-)
N.A.C.E. Option - N

Black Knob- B
Red Knob- R
Green Knob- G

0 - Without Panel Mount Nut

0 - Without Stem Protector
P - With Stem Protector

2 - 20 psi Closing Spring
3 - 30 psi Closing Spring



Specifications P.S.I. (Bar)

Valve Body Max. W.P.	150 (10.3)
Optional Max. W.P.	250 (17.2)
Max. Pilot Cap. W.P.	125 (8.6)
Ambient Temp. Range	-20 to 250 deg. F -29 to 122 deg. C
Minimum Pilot Signal Pressure	27 (1.9) with 20 PSI Spring 35 (2.4) with Relay Open 30 PSI Spring.
Cv Factor	1.7

Dimensions Inch (MM)

'A' (Closed / Open)	2.36/2.7 (60/69.3)
'B'	5.18 (132)
'C'	1.5 (38.1)
Port Size	1/4" NPT
Panel Mount Hole	1.0 (25.4)
Max. Panel Thickness	.18 (4.6)
Weight	2.5 Lb. (1.14 Kg.)

MP-H12 Hydraulic Relay

Model 10A1

Ruelco



1-800-229-7835
ruelco@ruelco.com

MP-H2

Hydraulic Reset Relay

FEATURES

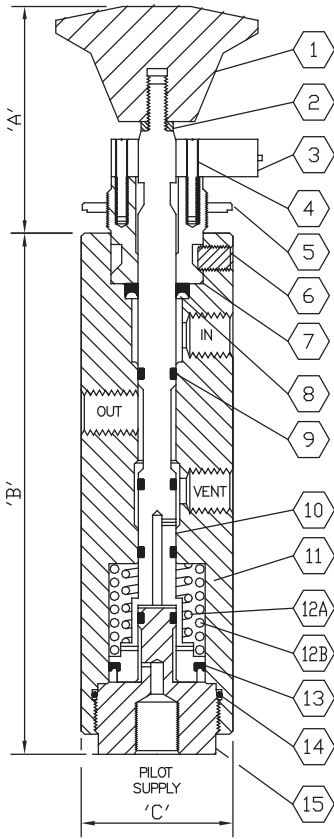
- 316 stainless steel construction (models to N.A.C.E. MR0175 available).
- Easy to close with pilot signal pressures as high as 100 PSI.
- Large Cv factor assures fast system response.
- For use in hydraulic systems.
- 'Lock closed' design prevents relay from automatically opening.
- Viton and nitril seals are utilized for dependability.
- Design minimizes malfunctions due to supply system debris.
- Inconel X-750 20 PSI spring assures dependability in most corrosive environments

OPTIONS

- 30 PSI closing spring.
- Stem protector to prevent external debris accumulation on relay shaft.
- Double detent assembly.
- Remote reset override.
- ATEX Certified models available upon request.

GENERAL DESCRIPTION:

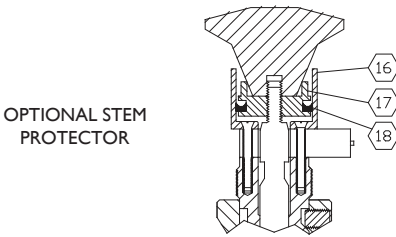
The Ruelco MP-2 relay is a multi-pressure control valve for production control and safety systems. It functions as a manual reset, pilot operated, normally closed, block and bleed valve.



MODEL 10A1

Parts List For MP-H2 Relay

ITEM	QTY.	DESCRIPTION	MATERIAL	PART No.
1A	1	BLACK KNOB	PHENOLIC	Z0-200-001
1B	-	RED KNOB	PHENOLIC	Z0-200-002
1C	-	GREEN KNOB	PHENOLIC	Z0-200-003
2	1	LOCK NUT	316 ST. STL.	T6-08K-0F3
3	1	DETENT ASSEMBLY	316 ST. STL.	10-005-000
4	2	SCREW	316 ST. STL.	T3-632-0G3
5	1	PANEL MOUNT NUT	316 ST. STL.	10-006-000
6	3	SET SCREW	316 ST. STL.	T1-08K-0C3
7	1	MOUNTING HEAD	316 ST. STL.	10-007-000
8*	1	HEAD SEAL	NITRIL	NU-204-70H
9*	4	SHAFT SEAL	VITON	V0-009-90H
10	1	SHAFT ASSEMBLY	316 ST. STL.	10-023-00H
11	1	BODY	316 ST. STL.	10-020-000
12A	1	SPRING	INCONEL X-750	10-017-000
12B	1	HYDRAULIC SPRING	INCONEL X-750	V0-009-90T
13*	1	PISTON SEAL	NITRIL	NU-209-70H
14*	1	BASE SEAL	VITON	V0-025-75H
15	1	BASE	316 ST. STL.	10-021-000
16*	1	STEM PROTECTOR HOUSING	DELTRIN	10-015-000
17*	1	SEAL WASHER	DELTRIN	10-016-000
18#	1	STEM PROTECTOR SEAL	NITRIL	NU-210-70H
19	-	REP. KIT W/O PROTECTOR	* ITEMS	10-013-0A0
20	-	REP. KIT W/ PROTECTOR	* & # ITEMS	10-026-000



OPTIONAL STEM PROTECTOR

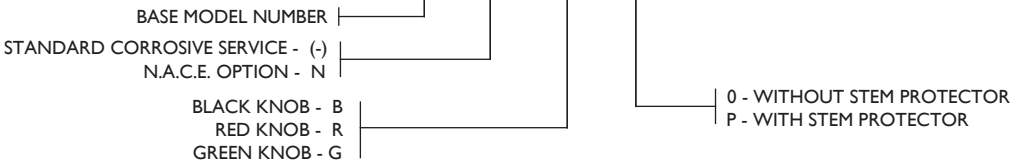
Specifications PSI. (Bar)

VALVE BODY MAX. W.P.	150 (10.3)
AMBIENT TEMP. RANGE	-20° TO 250° F -29° TO 122° C
MINIMUM PILOT SIGNAL PRESSURE TO HOLD RELAY OPEN	65 (4.5)
Cv FACTOR	1.7

Dimension Inch (MM)

"A" (CLOSED/OPEN)	2.36/2.73 (60/ 69.3)
"B"	5.18 (132)
"C"	1.5 (38.1)
PORT SIZE	1/4" NPT
PANEL MOUNT HOLE	1.0 (25.4)
MAX. PANEL THICKNESS	.18 (4.6)
WEIGHT	2.5 LBS (1.14 KG)

ORDERING CODE: 10A1 X 2 X 5 X 0



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Ruelco

AR-I Automatic Reset Relay Model 12A1



Phone (504) 340-0055
Fax (504) 340-0056

AR-I

Automatic Reset Relay Model 12AI

FEATURES

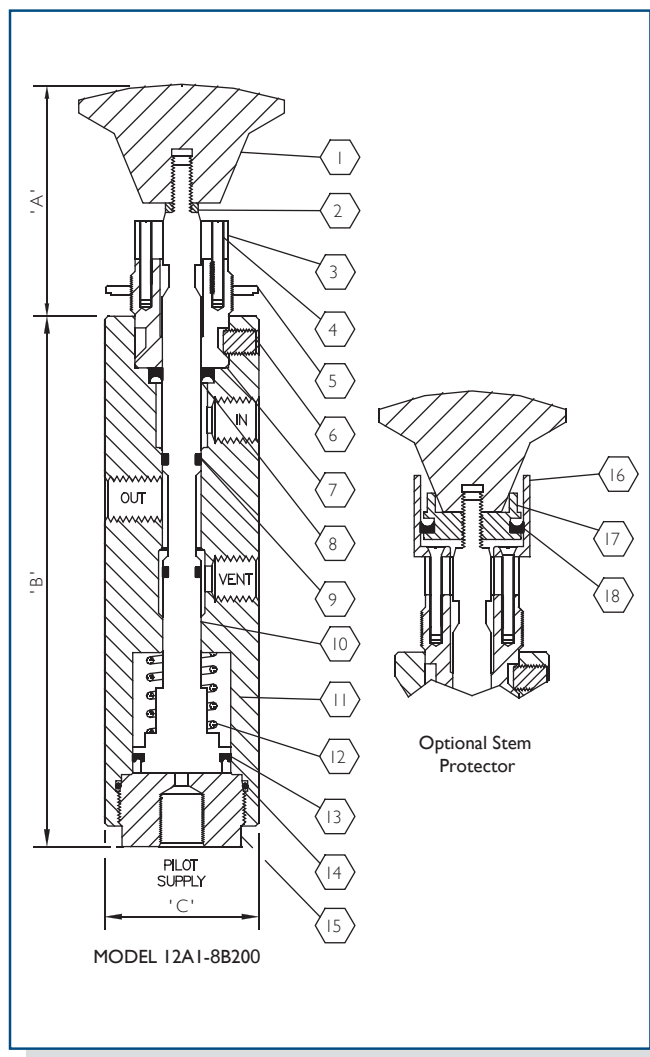
- 316 Stainless steel construction (models to N.A.C.E. MR0175 available).
- Easy to close with pilot signal pressures as high as 100 psi.
- Large Cv factor assures fast system response
- Viton and nitril seals are utilized for dependability.
- Design minimizes malfunctions due to supply system debris. Inconel X-750 springs assures dependability in corrosive environments.

GENERAL DESCRIPTION:

The Ruelco "AR-I" relay is a multi-pressure control valve for production control and safety systems. It functions as an automatic reset, pilot operated, normally closed, block and bleed valve.

Parts List For AR-I Relay

ITEM	QTY.	DESCRIPTION	MATERIAL	PART No.
1A	1	Black Knob	Phenolic	Z0-200-001
1B	—	Red Knob	Phenolic	Z0-200-002
1C	—	Green Knob	Phenolic	Z0-200-003
2	1	Lock Nut	316 St. Std.	T6-08K-0F3
3	1	Detent Replacement	Black Delrin	10-034-000
4	2	Screw	316 St. Std.	T3-632-0G3
5	1	Panel Mount Nut	316 St. Std.	10-006-000
6	3	Set Screw	316 St. Std.	T1-08K-0C3
7	1	Mounting Head	316 St. Std.	10-007-000
8*	1	Head Seal	Nitril	NU-204-70H
9*	2	Shaft Seal	Viton	V0-009-90T
10	1	Shaft Assembly	316 St. Std.	14-023-000
11	1	Body	316 St. Std.	10-020-000
12A	1	20 PSI. Spring	Inconel X-750	10-024-000
12B	—	30 PSI. Spring	Inconel X-750	10-017-000
13*	1	Piston Seal	Nitril	NU-209-70H
14*	1	Base Seal	Viton	V0-025-75H
15	1	Base	316 St. Std.	14-021-000
16	1	Stem Protector Housing	Black Delrin	10-015-000
17	1	Seal Washer	Black Delrin	10-016-000
18#	1	Stem Protector Seal	Nitril	NU-210-70H
19	—	Repair Kit w/o Stem Protector	* Items	14-013-0A0
20	—	Repair Kit w/ Stem Protector	* & # Items	14-026-000



Specifications PSI. (Bar)

Valve Body Max. W.P.	150 (10.3)
Optional Max. W.P.	250 (17.2)
Ambient Temperature Range	-20° To 250° F -20° To 122° C
Minimum Pilot Signal Pressure to Hold Relay Open	27 (1.9) With 20 PSI Spring 35 (2.4) With 30 PSI Spring
Cv Factor	1.7

Dimensions Inch (MM)

"A" (Closed/ Open)	2.36/2.73 (60/69.3)
"B"	5.18 (132)
"C"	1.5 (38.1)
Port Size	1/4" NPT
Panel Mount Hole	1.0 (25.4)
Max. Panel Thickness	.18 (4.6)
Weight	2.5 lbs (1.14 Kg)

Ordering Code:

12AI X 8 X X X X

BASE MODEL NUMBER

Standard Corrosive Service - (-)
N.A.C.E. Option - N

Black Knob - B
Red Knob - R
Green Knob - G

0 - Without Panel Mount Nut

0 - Without Stem Protector
P - With Stem Protector

2 - 20 Psi. Closing Spring
3 - 30 Psi. Closing Spring

Ruelco



AR-2 Manual/Automatic Reset Relay Model 14A1

Phone (504) 340-0055
Fax (504) 340-0056

AR-2

Manual/Automatic Reset Relay Model 14A1

FEATURES

- 316 Stainless steel construction (models to N.A.C.E. MR0175 available).
- Easy to close with pilot signal pressures as high as 100 psi.
- Large Cv factor assures fast system response.
- "Lock Closed" design prevents relay from automatically opening.
- Viton and Nitril seals are utilized for dependability.
- Design minimizes malfunctions due to supply system debris.
- Inconel X-750 springs assures dependability in corrosive environments.
- A simple detent mechanism external to the relay is used to switch the relay from an automatic reset to a manual reset relay and vice versa.

OPTIONS

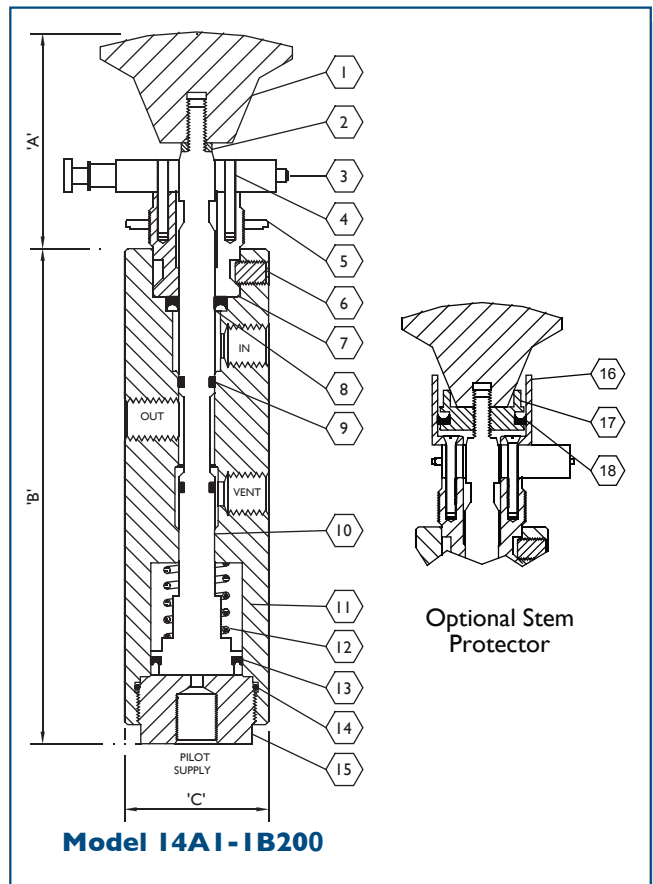
- 30 psi closing spring (20 psi spring is standard).
- Stem protector to prevent external debris accumulation on relay shaft.
- Black or red knob colors (green is standard).

GENERAL DESCRIPTION:

The Ruelco AR-2 Relay is a multi-pressure control valve for production control and safety systems. It functions as either a manual reset or an automatic reset, pilot operated, normally closed, block and bleed valve.

Parts List For AR-2 Relay

ITEM	QTY.	DESCRIPTION	MATERIAL	PART No.
1A	1	Black Knob	PHENOLIC	ZO-200-001
1B	-	Red Knob	PHENOLIC	ZO-200-002
1C	-	Green Knob	PHENOLIC	ZO-200-003
2	1	Lock Nut	316 ST. STL	T6-08K-0F3
3	1	Double Detent Assembly	316 ST. STL	14-036-000
4	2	Screw	316 ST. STL	T3-632-0G3
5	1	Panel Mount Nut	316 ST. STL	10-006-000
6	3	Set Screw	316 ST. STL	T1-08K-0C3
7	1	Mounting Head	316 ST. STL	10-007-000
8*	1	Head Seal	NITRIL	NU-204-70H
9*	2	Shaft Seal	VITON	VO-009-90T
10	1	Shaft Assembly	316 ST. STL	14-023-000
11	1	Body	316 ST. STL	10-020-000
12A	1	20 Psi. Spring	INCONEL X-750	10-024-000
12B	-	30 Psi. Spring	INCONEL X-750	10-017-000
13*	1	Piston Seal	NITRIL	NU-209-70H
14*	1	Base Seal	VITON	VO-025-75H
15	1	Base	316 ST. STL	10-021-000
16	1	Stem Protector Housing	DELTRIN	10-015-000
17	1	Seal Washer	DELTRIN	10-016-000
18#	1	Stem Protector Seal	NITRIL	NU-210-70H
19	-	Repair Kit w/o Stem Protector	* ITEM	14-013-0A0
20	-	Repair Kit w/ Stem Protector	* & # ITEM	14-026-000



Specifications PSI. (Bar)

VALVE BODY MAX. W.P.	150 (10.3)
OPTIONAL MAX. W.P.	250 (17.2)
AMBIENT TEMP. RANGE	-20 TO 250° F -29 TO 122° C
MINIMUM PILOT SIGNAL PRESSURE TO HOLD RELAY OPEN	27 (1.9) WITH 20 PSI SPRING 35 (2.4) WITH 30 PSI SPRING
Cv FACTOR	1.7

Dimension Inch (MM)

"A" (CLOSED/OPEN)	2.36/2.73 (60/69.3)
"B"	5.18 (132)
"C"	1.5 (38.1)
PORT SIZE	1/4" NPT
PANEL MOUNT HOLE	1.0 (25.4)
MAX. PANEL THICKNESS	.18 (4.6)
WEIGHT	2.5 LB (1.14 KG)

Ordering Code:

14A1 X 1 X X X X

BASE MODEL NUMBER

Standard Corrosive Service - (-)
N.A.C.E. Option - N

Black Knob - B
Red Knob - R
Green Knob - G

0 - Without Panel Mount Nut

0 - Without Stem Protector
P - With Stem Protector

2 - 20 Psi. Closing Spring
3 - 30 Psi. Closing Spring

Ruelco

VC-2 Velocity Check Valve

Model 2202



Phone (504) 340-0055
Fax (504) 340-0056

FEATURES

- Stainless steel construction.
- Will operate with flowline pressures as low as 100 PSI.
- Viton O-rings are utilized for dependability.
- Soft seal design ensures zero leakage.
- “Red Band” on shaft provides positive indication that the velocity check valve has operated.
- May be used in pneumatic or hydraulic systems.

- Red or green knob (black is standard).

The Ruelco 'VC-2' Velocity Check Valve is a 2-way, 2 position control valve. It is ideal for line break or process upset detection when using pipeline process pressure to operate an actuated valve. The valve is designed to operate with liquid or gas process fluids with pressures ranging from 100 to 10,000 psi. The valve incorporates a unique soft seal design to ensure zero leakage while also providing trip indication.

Valve Body Max. W.P.	10,000 (690)
Valve Operation Range	100 (6.7) 10,000 (690)
Ambient Temperature Range	-20° To 250° F -20° To 122° C

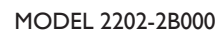
"A" (Closed/ Open)	1.41/1.64 (35.81/41.66)
"B"	3.61 (91.7)
"C"	1.5 (38.1)
Port Size Inlet	1/2" NPT
Port Size Outlet	1/4" NPT
Weight	1.3 lbs (.6 Kg)

Base Model Number

Standard Corrosive Service - (-)

N.A.C.E. Option - N

B - Black Knob
R - Red Knob
G - Green Knob



ITEM	QTY.	DESCRIPTION	MATERIAL	PART No.
1A	1	Black Knob	Phenolic	Z0-200-001
1B	-	Red Knob	Phenolic	Z0-200-002
1C	-	Green Knob	Phenolic	Z0-200-003
2	1	Lock Nut	316 St. Std.	T6-08K-0F3
3	1	Cap	316 St. Std.	22-011-000
4	1	Sleeve	316 St. Std.	22-013-000
5*	1	Upper Seal	Viton	V0-109-70H
6*	1	Shaft Seal	Viton	V0-012-70H
7	1	Shaft	316 St. Std.	22-012-000
8	1	Body	316 St. Std.	22-010-000
9*	1	Lower Seal	Viton	V0-008-70H
10	1	Push Rod	Tungsten Carbide	22-014-000
11*	1	Ball Seat	Viton	V0-008-70H
12	1	Ball	Tungsten Carbide	BL-125-12T
13	1	Retainer Screw	316 St. Std.	22-015-000
14	1	Repair Kit	* Items	22-016-000

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Ruelco



MP-2 Manual/Remote Reset Realy

Model 15A1

Phone (504) 340-0055
Fax (504) 340-0056

MP-2 Manufactured Under U.S. Patent # 4790354
Manual/Remote Reset Relay Model 15A1

FEATURES

- 316 Stainless steel construction (models to N.A.C.E. MR0175 available).
- Easy to close with pilot signal pressures as high as 150 psi.
- Large Cv factor assures fast system response.
- May be used in pneumatic or hydraulic systems.
- "Lock Closed" design prevents relay from automatically opening when local control signal is applied.
- Remote reset feature permits the telemetrically activated pressure signal to open the relay.
- Design minimizes malfunctions due to supply system debris.

OPTIONS

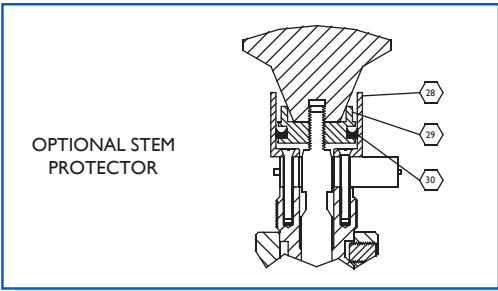
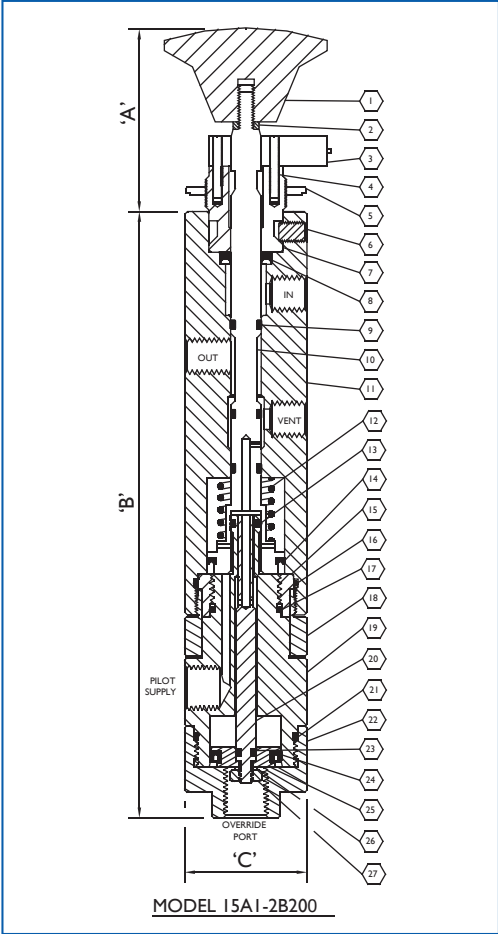
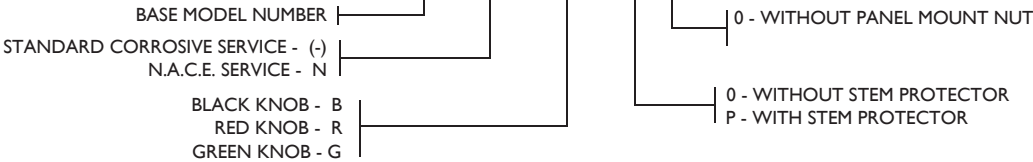
- Stem protector to prevent external debris accumulation.
- Green or red knob colors (Black is standard).

GENERAL DESCRIPTION:
The Ruelco Model 15A1 "MP-2" relay is a multi-pressure control valve for production control and safety systems. It functions as a manual or remote reset, block and bleed, normally closed, pilot operated valve.

Parts List For MP-2 Relay

Table with 5 columns: ITEM, QTY., DESCRIPTION, MATERIAL, PART No.
Rows include: 1A BLACK KNOB, 1B RED KNOB, 1C GREEN KNOB, 2 LOCK NUT, 3 DETENT ASSEMBLY, 4 SCREW, 5 PANEL MOUNT NUT, 6 SET SCREW, 7 MOUNTING HEAD, 8* HEAD SEAL, 9* SHAFT SEAL, 10 SHAFT ASSEMBLY, 11 BODY, 12 20 PSI. SPRING, 13* O-RING, 14* PISTON SEAL, 15 FLANGE RING, 16* O-RING, 17* FLANGE SEAL, 18 SLIP RING, 19 OVERRIDE BODY, 20 OVERRIDE STEM, 21* END CAP SEAL, 22 BASE, 23* STEM SEAL, 24* PISTON SEAL, 25 PISTON, 26 LOCK WASHER, 27 HEX NUT, 28 STEM PROTECTOR HOUSING, 29 SEAL WASHER, 30# STEM PROTECTOR SEAL, 31 REP. KIT W/O STEM PROTECTOR, 32 REP. KIT W/ STEM PROTECTOR

ORDERING CODE: 15A1 X 2 X 2 X X



Specifications PSI. (Bar)

Table with 2 columns: Specification, Value
Rows: VALVE BODY MAX. W.P. (150 (10.3)), PILOT CAP/OVERRIDE PORT MAX. W.P. (150 (10.3)), AMBIENT TEMP. RANGE (-20° TO 250° F, -29° TO 122° C), MINIMUM PILOT SIGNAL PRESSURE TO HOLD RELAY OPEN (65 (4.5)), Cv FACTOR (1.7)

Dimension Inch (MM)

Table with 2 columns: Dimension, Value
Rows: "A" (CLOSED/OPEN) (2.36/2.73 (60/ 69.3)), "B" (8.18 (207.8)), "C" (1.5 (38.1)), PORT SIZE (1/4" NPT), PANEL MOUNT HOLE (1.0 (25.4)), MAX. PANEL THICKNESS (.18 (4.6)), WEIGHT (3.2 LBS (1.45 KG))

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RB-1 Universal Control Valve Model 16A1

Phone (504) 340-0055
Fax (504) 340-0056

RB-I

Automatic Reset

Universal Control Valve Model I6AI

FEATURES

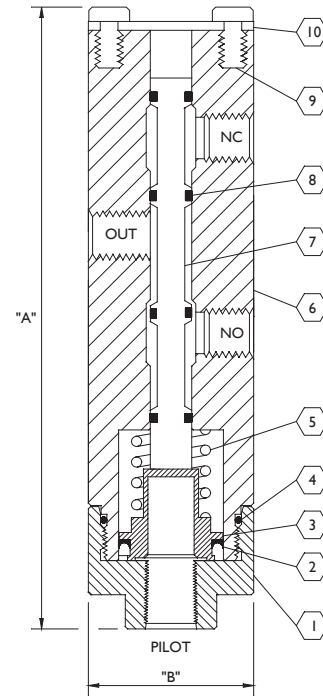
- 316 stainless steel construction (models to N.A.C.E. MR0175 available).
- Large C_v factor assures fast system response.
- Viton and nitrile seals are utilized for dependability.
- Inconel X-750 springs assures dependability in most corrosive environments.
- All ports are 1/4" NPT
- Supply pressure and pilot cap pressure are independent of each other

OPTIONS

- Panel mountable valve model available (1" panel mount hole required).
- Floor mountable brackets available.

GENERAL DESCRIPTION:

The Ruelco 'RB-I' relay is a multi-pressure control valve for production control and safety systems. It functions as an automatic reset, pilot operated, normally open or closed, block and bleed valve.



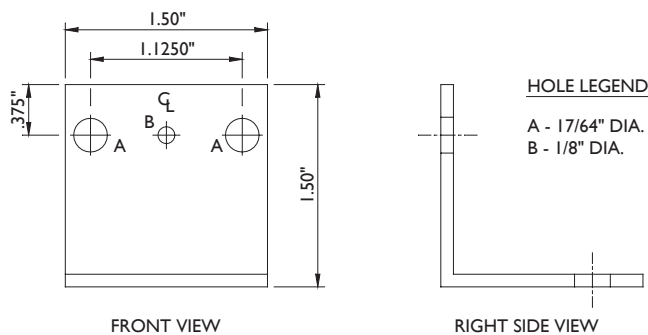
Parts List For RB-I Universal Control Valve

Item	Qty.	Description	Material	Part No.
1	1	Base	AISI 316 St. Stl.	I6-003-000
2	1	Piston Seal	Nitrile	NU-209-70H
3	1	Piston	AISI 316 St. Stl.	I6-004-000
4	1	Base O-Ring	Viton	VO-024-000
5	1	Spring	Inconel X-750	I0-017-000
6	1	Body	AISI 316 St. Stl.	I6-001-000
7	1	Spool	AISI 316 St. Stl.	I6-002-000
8	4	Spool Seal	Viton	VO-009-90T
9	2	Screw	AISI 316 St. Stl.	T6-420-0G3
10	1	End Plate	AISI 316 St. Stl.	I6-005-000

Specifications P.S.I. (BAR)

Valve Body Max. W.P.	150 (10.3)
Ambient Temperature Range	-20 to 250 deg. F -29 to 122 deg. C
Min. Pilot Signal Pressure To Hold N.C. Valve Open	25 (1.7)
Min. Pilot Signal Pressure To Hold N.C. Valve Closed	25 (1.7)
C_v Factor	1.4

Optional Mounting Bracket



Dimensions Inch (MM)

'A'	5.45 (138.4)
'B'	1.50 (38.1)
Ports	1/4" NPT
Weight	2.25 lbs (1.02 kg)

Ordering Code: I6AI X 2 0000

BASE MODEL NUMBER

Standard Corrosive Service - (-)
N.A.C.E. Option - N

Ruelco



MP-4 Manual Reset Relay

Model 1901

Phone (504) 340-0055
Fax (504) 340-0056

MP-4

Manual Reset Relay

FEATURES

- 316 stainless steel construction (models to N.A.C.E. MR0175 available).
- Easy to close with pilot signal pressures as high as 100 psi.
- Can be repaired without removing relay from system or panel.
- May be used in pneumatic or hydraulic systems.
- 'Lock Closed' design prevents relay from automatically opening.
- Viton and nitrile seals are utilized for dependability.
- Design minimizes malfunctions due to supply system debris.
- Inconel X-750 spring assures dependability in most corrosive environments.

OPTIONS

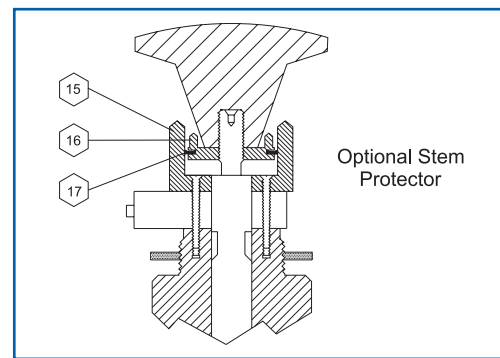
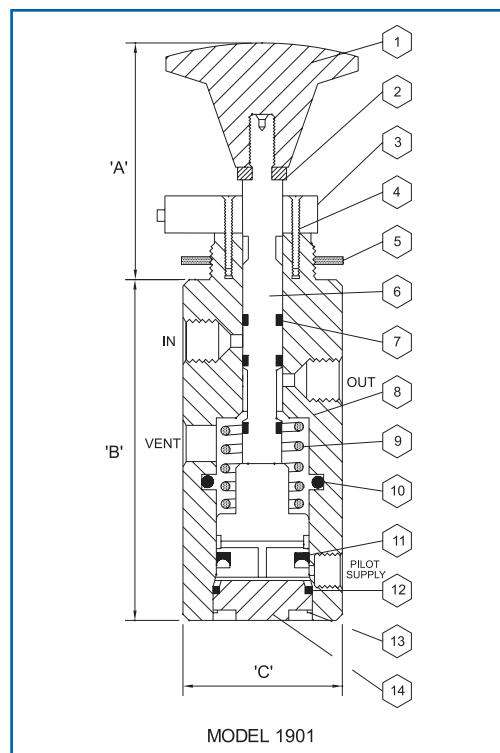
- 30 psi closing spring.
- Stem protector to prevent external debris accumulation on relay shaft.
- Green or red knob colors (black is standard).

GENERAL DESCRIPTION:

The Ruelco 'MP-4' relay is a multi-pressure control valve for production control and safety systems. It functions as a manual reset, pilot operated, normally closed, block and bleed valve. Its simple and compact design makes maintenance and repair easy. The MP-4 does not have to be removed from its control panel or system loop if repair or maintenance is necessary.

Parts List For Manual Relay Model MP-4

Item	Qty.	Description	Material	Part No.
1A	1	Black Knob	Phenolic	ZO-200-001
1B	—	Red Knob	Phenolic	ZO-200-002
1C	—	Green Knob	Phenolic	ZO-200-003
2	1	Lock Nut	316 St. Std.	T6-08K-0F3
3	1	Detent Assembly	316 St. Std.	10-005-000
4	2	Screw	316 St. Std.	T3-632-0G3
5	1	Panel Mount Nut	316 St. Std.	10-006-000
6A	1	Shaft Assembly	316 St. Std. VV/	
6B	—	With Delrin Piston	Delrin	19-005-0A0
6B	—	With St. Std. Piston	316 St. Std.	19-005-0A1
7*	3	Shaft Seal	Viton	VO-009-75H
8	1	Body	316 St. Std.	19-001-0A0
9A	1	20 PSI Spring	Inconel X-750	10-024 -000
9B	—	30 PSI Spring	Inconel X-750	10-017-000
10*	1	Body Seal	Viton	VO-118-75T
11*	1	Piston Seal	Nitrile	NU-209-70H
12*	1	Base Seal	Viton	VO-019-75H
13	1	Retaining Ring	316 St. Std.	S2-910-093
14A	1	Delrin Base	Delrin	19-004 -000
14B	—	St. Std. Base	316 St. Std.	19-004 -001
15	1	Stem Protector Housing	Delrin	10-015-000
16	1	Seal Washer	Delrin	10-016-000
17#	1	Stem Protector Seal	Nitrile	NU-210-70H
18	—	Rep. Kit W/O Protector	* Items	19-006-000
19	—	Rep. Kit W/ Protector	* & # Items	19-007-000



Dimensions Inch (MM)

'A' (Closed / Open)	2.36/2.73 (60/69.3)
'B'	3.25 (82.5)
'C'	1.5 (38.1)
"In" and "Out" Port Size	1/4" NPT
Pilot Port Size	1/8" NPT
Panel Mount Hole	1.0 (25.4)
Max. Panel Thickness	.18 (4.6)
Weight	1.6 Lb. (.72 Kg.)

Specifications P.S.I. (Bar)

Valve Body Max. W.P.	150 (10.3)
Pilot Cap Max. W.P.	125 (8.6)
Ambient Temp. Range	-20 to 250 deg. F -29 to 122 deg. C
Minimum Pilot Signal Pressure To Hold	25 (1.7) with 20 PSI Spring
Relay Open	35 (2.4) with 30 PSI Spring.
C _v Factor	.34

Ordering Code: 1901 X 2 X X X X

BASE MODEL NUMBER

Standard Corrosive Service - (-)
N.A.C.E. Option - N

Black Knob - B
Red Knob - R
Green Knob - G

0 - Without Panel Mount Nut

0 - Without Stem Protector

P - With Stem Protector

S - With St. Std. Piston & Base

T - With Options P & S Above

2 - 20 psi Closing Spring

3 - 30 psi Closing Spring

Ruelco

MP-4 Indicating Relay

Model 1901



1-800-229-7835
ruelco@ruelco.com

MP-4

Indicating Relay

FEATURES

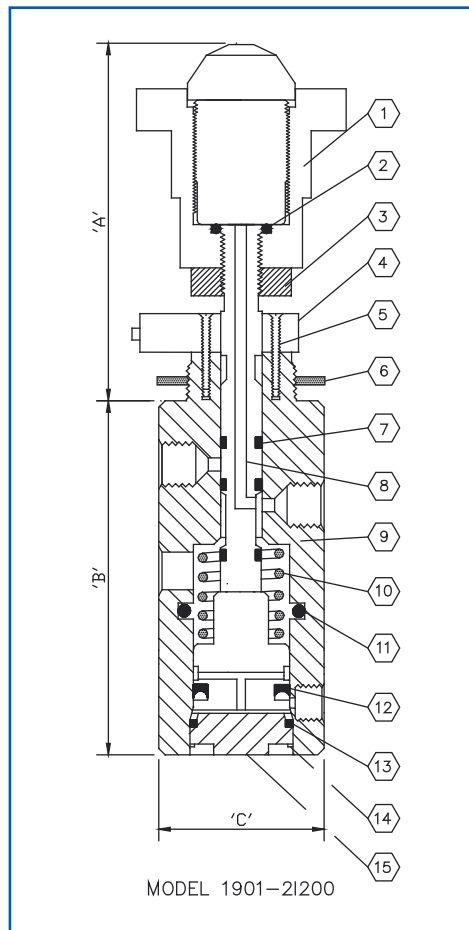
- 316 stainless steel construction (models to N.A.C.E. MR0175 available).
- Easy to close with pilot signal pressures as high as 100 PSI.
- Can be repaired without removing relay from system or panel.
- 'Lock closed' design prevents relay from automatically opening.
- Viton and nitril seals are utilized for dependability.
- Design minimizes malfunctions due to supply system debris.
- Inconel X-750 20 PSI spring assures dependability in most corrosive environments (optional 30 PSI spring available).
- Indicating knob with Green/Red visual status of relay operation.

OPTIONS

- 30 psi closing spring
- Stem protector to prevent external debris accumulation on relay shaft

GENERAL DESCRIPTION:

The Ruelco MP-4 indicating relay is a multi-pressure control valve for production control and safety systems. It functions as a manual reset, pilot operated, normally closed, block and bleed valve. Its simple and compact design makes maintenance and repair easy. The MP-4 does not need to be removed from its control panel or system loop if repair or maintenance is necessary. The visual indicator on the knob will switch between green and red as the operating condition of the relay changes.



Parts List For MP-4 Relay

Item	Qty.	Description	Material	Part No.
1	1	INDICATING KNOB ASSY.	316 ST. STL.	19-018-000
2*	1	KNOB SEAL	VITON	V0-108-70H
3	1	LOCK NUT	316 ST. STL.	T8-08K-0F3
4	1	DETENT ASSEMBLY	316 ST. STL.	10-005-000
5	1	SCREW	316 ST. STL.	T3-632-0G3
6	1	PANEL MOUNT NUT	316 ST. STL.	10-006-000
7*	3	SHAFT SEAL	VITON	V0-009-90T
8A	1	SHAFT ASSEMBLY WITH DELRIN PISTON	316 ST. STL. W/ DELRIN	19-016-000
8B	-	S.S. PISTON	316 ST. STL.	19-016-001
9	1	BODY	316 ST. STL.	19-001-0A0
10A	1	SPRING (20 PSI.)	INCONEL X-750	10-024-000
10B	1	SPRING (30 PSI.)	INCONEL X-750	10-017-000
11*	1	BODY SEAL	VITON	V0-118-75T
12*	1	PISTON SEAL	NITRIL	NU-209-70H
13*	1	BASE SEAL	VITON	V0-019-75H
14*	1	RETAINING RING	316 ST. STL.	S2-910-093
15A	1	DELRIN BASE	DELRIN	19-004-000
15B	-	ST. STL. BASE	316 ST. STL.	19-004-001
18	-	REPAIR KIT	* ITEMS	19-019-000

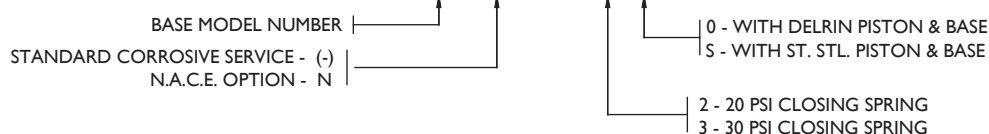
Specifications P.S.I. (BAR)

VALVE BODY MAX. W.P.	150 (10.3)
PILOT CAP MAX. W.P.	125 (8.6)
AMBIENT TEMP. RANGE	-20 TO 250° F -29 TO 122° C
MINIMUM PILOT SIGNAL PRESSURE TO HOLD RELAY OPEN	25 (1.7) WITH 20 PSI SPRING 35 (2.4) WITH 30 PSI SPRING
Cv FACTOR	.34

Dimensions In. (MM)

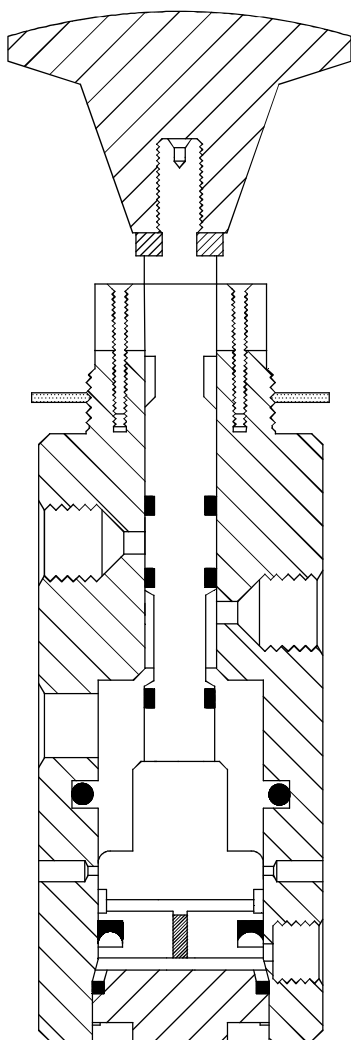
'A'(CLOSED/OPEN)	2.36/2.85 (60/72.4)
'B'	3.25 (82.5)
'C'	1.5 (38.1)
INLET & OUTLET PORTS	1/4" FNPT
PILOT PORT	1/8" FNPT
PANEL MOUNT HOLE	1.0 (25.4)
MAX. PANEL THICKNESS	.18 (4.6)
WEIGHT	1.6 LB. (.72 KG.)

Ordering Code: 1901 X 2 I X X 0



GENERAL DESCRIPTION:

The Ruelco Horn Relay is a multi-pressure control valve for production control and safety systems. It functions as a pilot operated, normally closed, block and bleed valve. Its simple and compact design makes maintenance and repair easy. The horn relay does not have to be removed from its control panel or system loop if repair or maintenance is necessary.

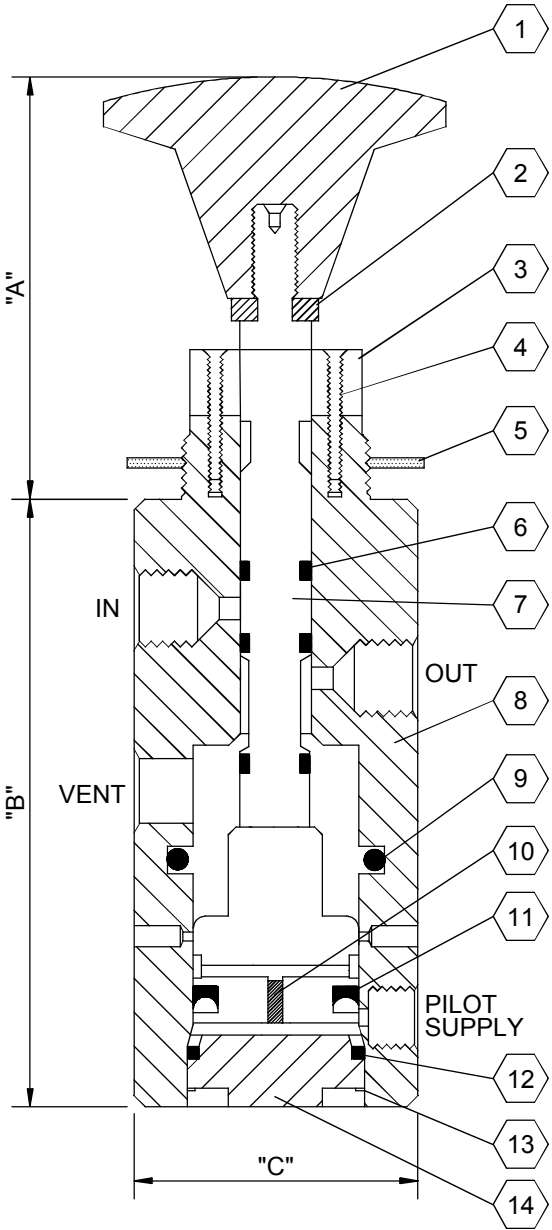


FEATURES:

- * 316 Stainless Steel construction (models to N.A.C.E. MRO175 available).
- * Easy to close with pilot signal pressures as high as 100 psi.
- * Can be repaired without removing relay from system or panel.
- * Viton and nitrile seals are utilized for dependability.
- * Design minimizes malfunctions due to supply system debris.
- * Inconel X-750 spring assures dependability in most corrosive environments.

PARTS LIST FOR MP-4 HORN RELAY

ITEM	QTY.	DESCRIPTION	MATERIAL	PART NO.
1A	1	BLACK KNOB	PHENOLIC	ZO-200-001
1B	-	RED KNOB	PHENOLIC	ZO-200-002
1C	-	GREEN KNOB	PHENOLIC	ZO-200-003
2	1	LOCK NUT	316 ST. STL.	T6-08K-0F3
3	1	DETENT REPLACEMENT	316 ST. STL.	10-034-000
4	1	SCREW	DELTRIN	T3-632-0G3
5	1	PANEL MOUNT NUT	316 ST. STL.	10-006-000
6*	3	SHAFT SEAL	VITON	VO-009-75H
		SHAFT ASSEMBLY W/	316 ST. STL. W/	
7A	1	DELTRIN PISTON	DELTRIN	1H-003-000
7B	-	S.S. PISTON	316 ST. STL.	1H-003-0A1
8	1	BODY	316 ST. STL.	19-001-0A0
9*	1	BODY SEAL	VITON	VO-118-75T
10	1	PLUG	316 ST. STL.	T3-633-0G3
11*	1	PISTON SEAL	NITRIL	NU-209-70H
12*	1	BASE SEAL	VITON	VO-019-75H
13	1	RETAINING RING	316 ST. STL.	S2-910-093
14	1	DELTRIN BASE	DELTRIN	19-004-001
15	1	REPAIR KIT	* ITEM	19-006-000



MODEL 1H01

SPECIFICATIONS P.S.I. (BAR)

VALVE BODY MAX. W.P.	150 (10.3)
PILOT CAP MAX. W.P.	125 (8.6)
AMBIENT TEMP. RANGE	-20 TO 250° F -29 TO 122° C
MINIMUM PILOT SIGNAL PRESSURE TO HOLD RELAY OPEN	20 (1.4)
Cv FACTOR	.34

DIMENSIONS INCH (MM)

"A" (CLOSED/OPEN)	2.36/2.73 (60/69.3)
"B"	3.25 (82.5)
"C"	1.5 (38.1)
INLET & OUTLET PORTS	1/4" FNPT
PILOT PORT	1/8" FNPT
PANEL MOUNT HOLE	1.0 (25.4)
MAX. PANEL THICKNESS	.18 (4.6)
WEIGHT	1.6 LB (.72 KG)

ORDERING CODE: 1H01 X 8X000

STANDARD MODEL NUMBER
STANDARD CORROSIVE SERVICE --- (-)
N.A.C.E. OPTION ---- N

BLACK KNOB ----B
RED KNOB ---- R
GREEN KNOB ---- G

Ruelco

PR-4 Manual Reset Realy

Model 1902



Phone (504) 340-0055
Fax (504) 340-0056

PR-4

Manual Reset Relay Model 1902

FEATURES

- 316 Stainless steel construction (models to N.A.C.E. MR0175 available).
- Easy to close with pilot signal pressures as high as 100 psi.
- Can be repaired without removing relay from system or panel.
- Viton and nitrile seals are utilized for dependability.
- Design minimizes malfunctions due to supply system debris.
- Inconel X-750 springs assures dependability in most corrosive environments.
- "Lock Closed" design prevents relay from automatically opening.

OPTIONS

- 30 psi closing spring.
- Stem protector to prevent external debris accumulation on relay shaft.
- Green or red knob colors (Black is standard).

GENERAL DESCRIPTION:

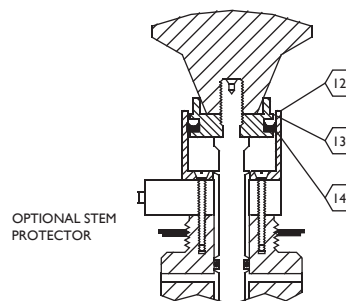
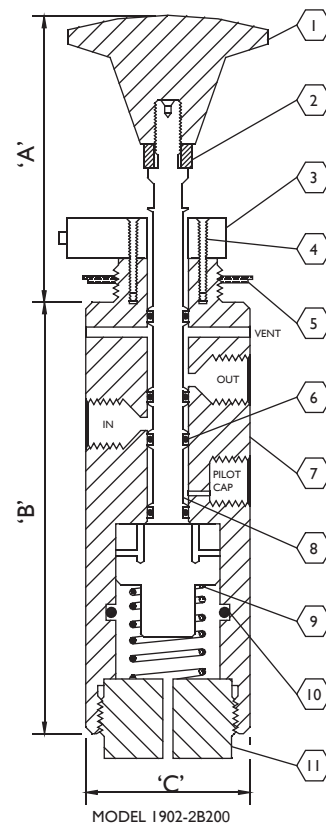
The Ruelco PR-4 relay is a multi-pressure control valve for production control and safety systems. It functions as a pilot operated, normally closed, block and bleed valve. Its simple and compact design makes maintenance and repair easy. The PR-4 relay does not have to be removed from its control panel or system loop if repair or maintenance is necessary.

Parts List For PR-4 Relay

ITEM	QTY.	DESCRIPTION	MATERIAL	PART No.
1A	1	BLACK KNOB	PHENOLIC	Z0-200-001
1B	-	RED KNOB	PHENOLIC	Z0-200-002
1C	-	GREEN KNOB	PHENOLIC	Z0-200-003
2	1	LOCK NUT	316 ST. STL.	T6-08K-0F3
3	1	DETENT ASSEMBLY	316 ST. STL.	10-005-000
4	2	SCREW	316 ST. STL.	T3-632-0G3
5	1	PANEL MOUNT NUT	316 ST. STL.	10-006-000
6*	4	SHAFT SEAL	VITON	VO-009-75H
7	1	BODY	316 ST. STL.	19-001-PRB
		SHAFT WITH	316 ST. STL. WITH	
8A	1	DELIN PISTON	DELIN	19-003-DNP
8B	-	S.S. PISTON	316 ST. STL.	19-003-SSP
9A	1	20 PSI SPRING	INCONEL X-750	10-024-000
9B	-	30 PSI SPRING	INCONEL X-750	10-017-000
10*	1	BODY SEAL	VITON	VO-119-75T
11	1	BASE	316 ST. STL.	10-021-0B0
12	1	STEM PROTECTOR HOUSING	DELIN	10-015-000
13	1	SEAL WASHER	DELIN	10-016-000
14#	1	STEM PROTECTOR SEAL	NITRIL	NU-210-70H
15	-	REP. KIT W/O PROTECTOR	* ITEM	19-004-PRK
16	-	REP. KIT W/PROTECTOR	* & # ITEM	19-005-PRK

Dimension Inch (MM)

"A" (OPEN/CLOSED)	2.36/2.73 (60/69.3)
"B"	3.94 (100.1)
"C"	1.50 (38.1)
PORT SIZE	1/4" NPT
PANEL MOUNT HOLE	1.0 (25.4)
MAX. PANEL THICKNESS	.18 (4.6)
WEIGHT	2 LBS (0.91 KG)



Specifications PSI. (Bar)

VALVE BODY MAX. W.P.	150 (10.3)
OPTIONAL MAX. W.P.	150 (10.3)
AMBIENT TEMP. RANGE	-20 TO 250° F -29 TO 122° C
MINIMUM PILOT SIGNAL PRESSURE TO HOLD RELAY OPEN	25 (1.7) WITH 20 PSI SPRING 35 (2.4) WITH 30 PSI SPRING
Cv FACTOR	.34

Ordering Code:

BASE MODEL NUMBER	1902	X	2	X	X	X	X
Standard Corrosive Service --- (-)							
N.A.C.E. option --- N							
Black Knob --- B							
Red Knob --- R							
Green Knob --- G							
O --- Without Panel Mount Nut							
S --- With St. Stl. Piston							
P --- With Stem Protector							
O --- Without Stem Protector							
T --- With options P & S above							
2 --- 20 psi Closing Spring							
3 --- 30 psi Closing Spring							

Ruelco

PR-4 Push to Charge Relay

Model 1P02



1-800-229-7835
ruelco@ruelco.com

PR-4

Push to Charge Relay

FEATURES

- 316 Stainless steel construction (models to N.A.C.E. MR0175 available).
- Easy to close with pilot signal pressures as high as 100 psi.
- Can be repaired without removing relay from system or panel.
- "Lock Closed" design prevents relay from automatically opening.
- Viton and nitril seals are utilized for dependability.
- Design minimizes malfunctions due to supply system debris.
- Inconel X-750 springs assures dependability in most corrosive environments (optional 30 PSI spring available).

OPTIONS

- 30 psi closing spring
- Stem protector to prevent external debris accumulation on relay shaft
- Black or red knob colors (green is standard)

GENERAL DESCRIPTION:

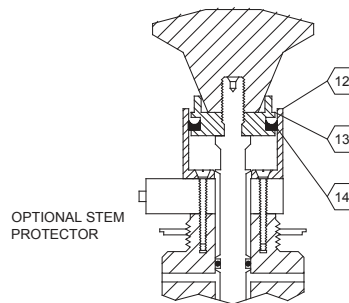
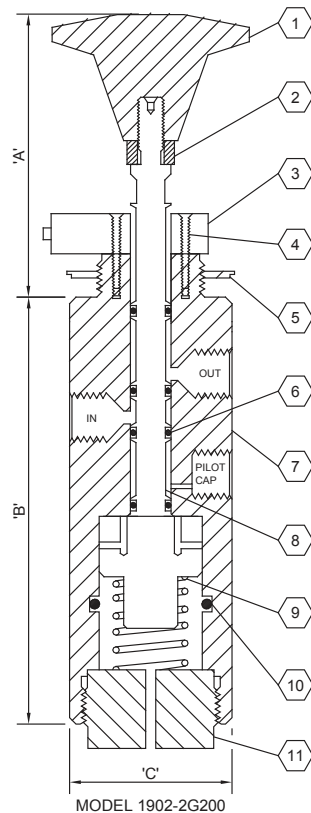
The Ruelco PR-4 push to charge relay is a multi-pressure control valve for production control and safety systems. It functions as a pilot operated, normally closed, in to out valve. It's simple and compact design makes maintenance and repair easy. The PR-4 relay does not need to be removed from its control panel or system loop if repair or maintenance is necessary.

Parts List For PR-4 Relay

ITEM	QTY.	DESCRIPTION	MATERIAL	PART No.
1A	1	BLACK KNOB	PHENOLIC	Z0-200-001
1B	-	RED KNOB	PHENOLIC	Z0-200-002
1C	-	GREEN KNOB	PHENOLIC	Z0-200-003
2	1	LOCK NUT	316 ST. STL.	T6-08K-0F3
3	1	DETENT ASSEMBLY	316 ST. STL.	10-005-000
4	2	SCREW	316 ST. STL.	T3-632-0G3
5	1	PANEL MOUNT NUT	316 ST. STL.	10-006-000
6*	4	SHAFT SEAL	VITON	VO-009-75H
7	1	BODY	316 ST. STL.	19-001-PRB
8A	1	SHAFT WITH DELRIN PISTON	316 ST. STL. WITH DELRIN	19-003-DNP
8B	-	S.S. PISTON	316 ST. STL.	19-003-SSP
9A	1	20 PSI SPRING	INCONEL X-750	10-024-000
9B	-	30 PSI SPRING	INCONEL X-750	10-017-000
10*	1	BODY SEAL	VITON	VO-119-75T
11	1	BASE	316 ST. STL.	10-021-0B0
12	1	STEM PROTECTOR HOUSING	DELTRIN	10-015-000
13	1	SEAL WASHER	DELTRIN	10-016-000
14#	1	STEM PROTECTOR SEAL	NITRIL	NU-210-70H
15	-	REP. KIT W/O PROTECTOR	* ITEM	19-004-PRK
16	-	REP. KIT W/PROTECTOR	* & # ITEM	19-005-PRK

Dimension Inch (MM)

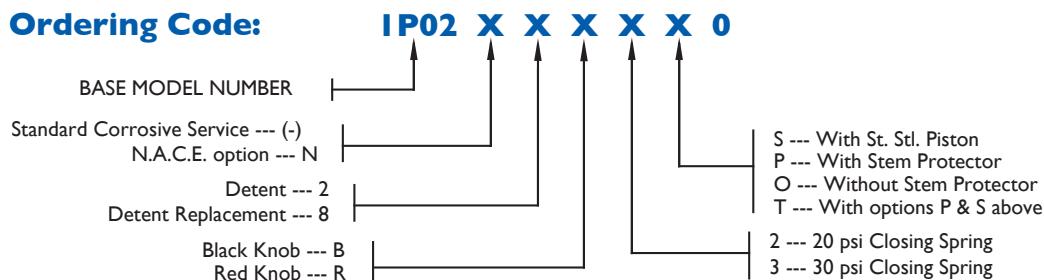
"A" (OPEN/CLOSED)	2.36/2.73 (60/69.3)
"B"	3.94 (100.1)
"C"	1.50 (38.1)
PORT SIZE	1/4" NPT
PANEL MOUNT HOLE	1.0 (25.4)
MAX. PANEL THICKNESS	.18 (4.6)
WEIGHT	2 LBS (0.91 KG)



Specifications PSI. (Bar)

VALVE BODY MAX. W.P.	150 (10.3)
PILOT CAP MAX. W.P.	150 (10.3)
AMBIENT TEMP. RANGE	-20 TO 250° F -29 TO 122° C
MINIMUM PILOT SIGNAL PRESSURE TO HOLD RELAY OPEN	25 (1.7) WITH 20 PSI SPRING 35 (2.4) WITH 30 PSI SPRING
Cv FACTOR	.34

Ordering Code:



While this information is presented in good faith and believed to be accurate, Ruelco, Inc. does not guarantee satisfactory results from reliance upon such information. Nothing contained herein is to be construed as a warranty or guarantee, expressed or implied, regarding the performance, merchantability, and fitness with respect to the products. Ruelco, Inc. reserves the right, without notice, to alter or improve the designs or specifications of the products described herein.

Ruelco

Sand Probe Relay

Model IS03



Phone (504) 340-0055
Fax (504) 340-0056

IS03

Sand Probe Relay Model IS03

FEATURES

- 316 stainless steel construction meets severe service demands. (models to N.A.C.E. MR0175 available).
- Will operate with flowline pressures as low as 100 P.S.I.
- Viton “O-rings” are utilized for dependability.
- “Red Band” on shaft provides visual indication that sand probe relay has operated.
- Knob provided for manually testing the sand probe relay.
- Option for panel mounting offered.
- Probes thru 4” in stock (other sizes available upon request).
- SCH. 80, 160, and XXH probe wall sizes are standard.

GENERAL DESCRIPTION:

The Ruelco MODEL IS03 Sand Probe relay uses a thin wall steel probe installed directly in a flowline to detect and indicate that excessive erosion or corrosion has occurred. It utilizes a reliable 3-way valve that will bleed off an instrumentation signal and provide visual indication that the probe has lost pressure integrity. This alerts field personnel that inspection of the flowline and possible repair may be required.

Parts List For Sand Probe Relay

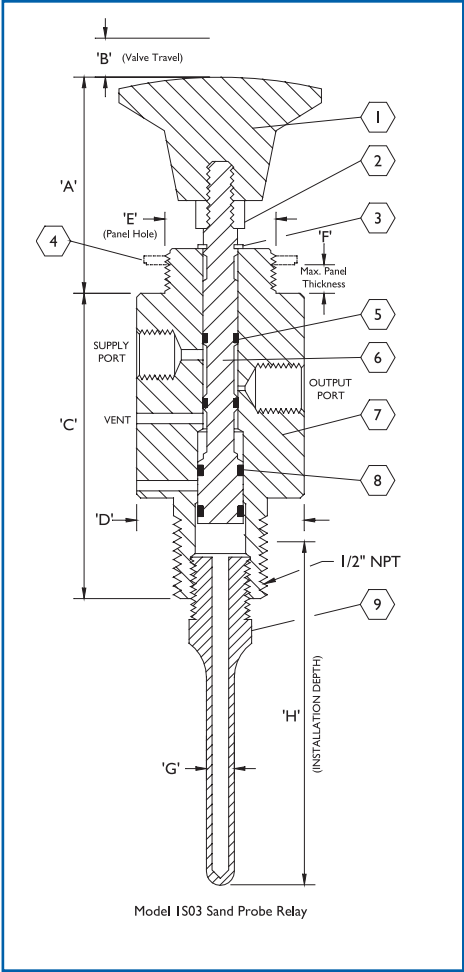
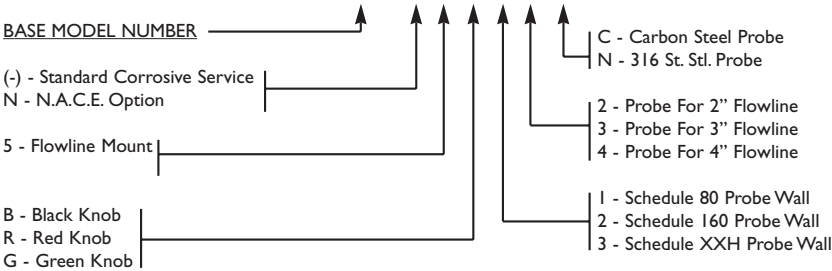
Item	Qty.	Description	Material	Part No.
1	1	Knob	Phenolic	ZO-200-001
2	1	Lock Nut	AISI 316 St. Stl.	T6-08K-073
3	1	Snap Ring	15-7 St. Stl.	S5-8H00031
4	1	Panel Mt. Nut (Optional)	AISI 316 St. Stl.	10-006-000
5	2	Shaft O-ring	Viton	VO-008-75T
6	1	Shaft	AISI 316 St. Stl.	IS-002-000
7	1	Valve Body	AISI 316 St. Stl.	IS-003-000
8	1	Piston O-ring	Fluorocarbon	VO-107-90H
9*	1	Sand Probe	See Order Code	IS-001-XXX*
10	—	Repair Kit	Items 3,5 & 8	IS-004-000

*Use last three (3) digits of sand probe order code shown below.

Specifications P.S.I. (BAR)

Valve Body Max. W.P.	150 (10.3)
Probe Operation Range	100 (6.7) min. 10,000 (690) max.
Ambient Temperature Range	-20 to 250 deg. F -29 to 122 deg. C
Cv Factor	.34

Ordering Code: IS03 XXXXXX



Dimensions Inches (MM)

"A"	1.93 (49.0)
"B"	0.28 (7.1)
"C"	2.37 (60.2)
"D"	1.50 (38.1)
"E"	1.06 (26.9)
"F"	0.187 (4.75)

PROBE WALL	SCH. 80 032 WALL (.81)	SCH. 160 .050 WALL (1.3)	SCH. XXH .125 WALL (3.2)
G	.25 (6.4)	.25 (6.4)	.50 (12.7)
PIPE SIZE	2 INCHES	3 INCHES	4 INCHES
H	2.01 (51.1)	2.57 (65.3)	3.08 (78.2)

Ruelco

Hydraulic Sand Probe Relay

Model IS03



1-800-229-7835
ruelco@ruelco.com

Hydraulic Sand Probe Relay

Model IS03

FEATURES

- 316 stainless steel construction meets severe service demands (models to N.A.C.E. MR0175 available).
- Will operate with flowline pressures as low as 100 PSI.
- Viton O-rings are utilized for dependability.
- “Red band” on shaft provides visual indication that sand probe relay has operated.
- Knob provided for manually testing the sand probe relay.
- Probes 2" thru 4" in stock (other sizes available upon request).
- Sch. 40, 80, 160, and XXH probe wall sizes are in stock.

GENERAL DESCRIPTION:

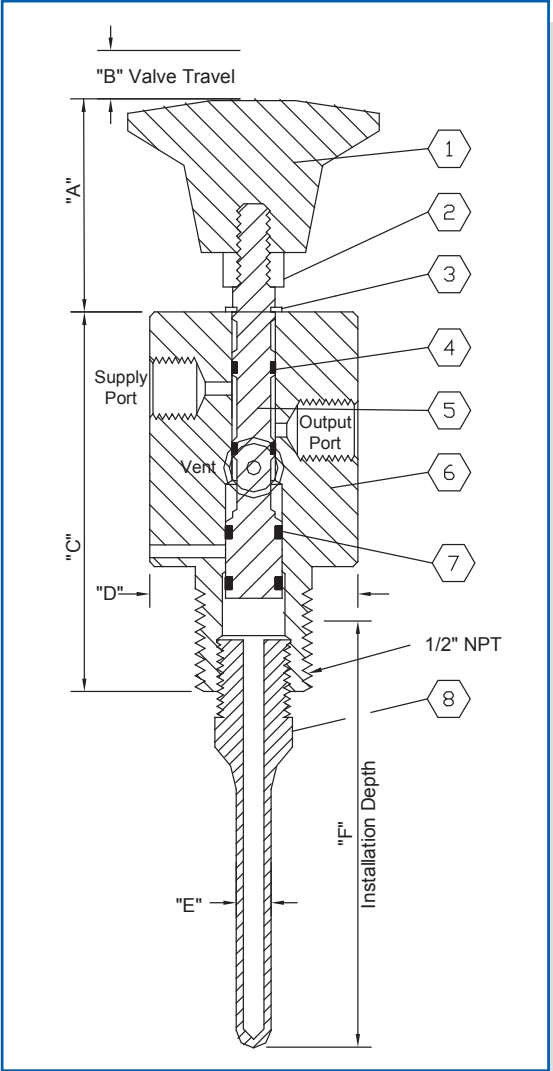
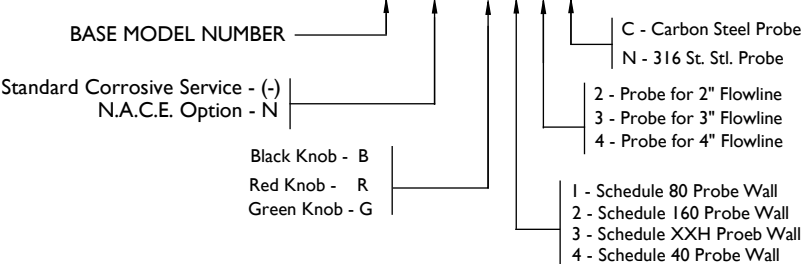
The Ruelco model IS03 sand probe relay uses a thin wall steel probe installed directly in a flowline to detect and indicate that excessive erosion or corrosion has occurred. It utilizes a reliable 3-way valve that will bleed off an instrumentation signal and provide visual indication that the probe has lost pressure integrity. This alerts field personnel that inspection of the flowline and possible repair may be required.

Parts List For Sand Probe Relay

Item	Qty.	Description	Material	Part No.
1	1	Knob	Phenolic	Z0-200-001
2	1	Lock Nut	AISI 316 St. Stl.	T6-08K-0F3
3	1	Snap Ring	5 - 17 St. Stl.	S5-8H00031
4	2	Shaft O-Ring	Viton	V0-008-75T
5	1	Shaft	AISI 316 St. Stl.	IS-002-000
6	1	Valve Body	AISI 316 St. Stl.	IS-003-0H2
7	2	Piston O-Ring	Viton	V0-107-90H
8	1	Sand Probe	See Chart	IS-001-XXX*
9	—	Repair Kit	Items 3, 5 & 8	IS-004-000

* USE LAST THREE (3) DIGITS OF SAND PROBE ORDER CODE SHOWN BELOW

Ordering Code: IS03 X H X X X X



Dimensions Inch (MM)

A	1.40 (35.6)
B	.28 (7.1)
C	3.55 (90.2)
D	1.50 (38.1)
E (Sch. 40 .025 Wall (.64)	.25 (6.4)
E (Sch. 80 .032 Wall (.81)	.25 (6.4)
E (Sch. 160 .050 Wall (1.3)	.25 (6.4)
E (Sch. XXH .125 Wall (3.2)	.50 (12.7)
F (2" Pipe Size)	2.01 (51.1)
F (3" Pipe Size)	2.57 (65.3)
F (4" Pipe Size)	3.08 (78.2)

Specifications P.S.I. (BAR)

Valve Body Max. W.P.	150 (10.3)
Relay Operation	100 (6.7) min.
Range (base on Probe)	10,000 (690) max.
Ambient Temperature	-20° To 250° F
Range	-29° To 122° C
Cv Factor	.34

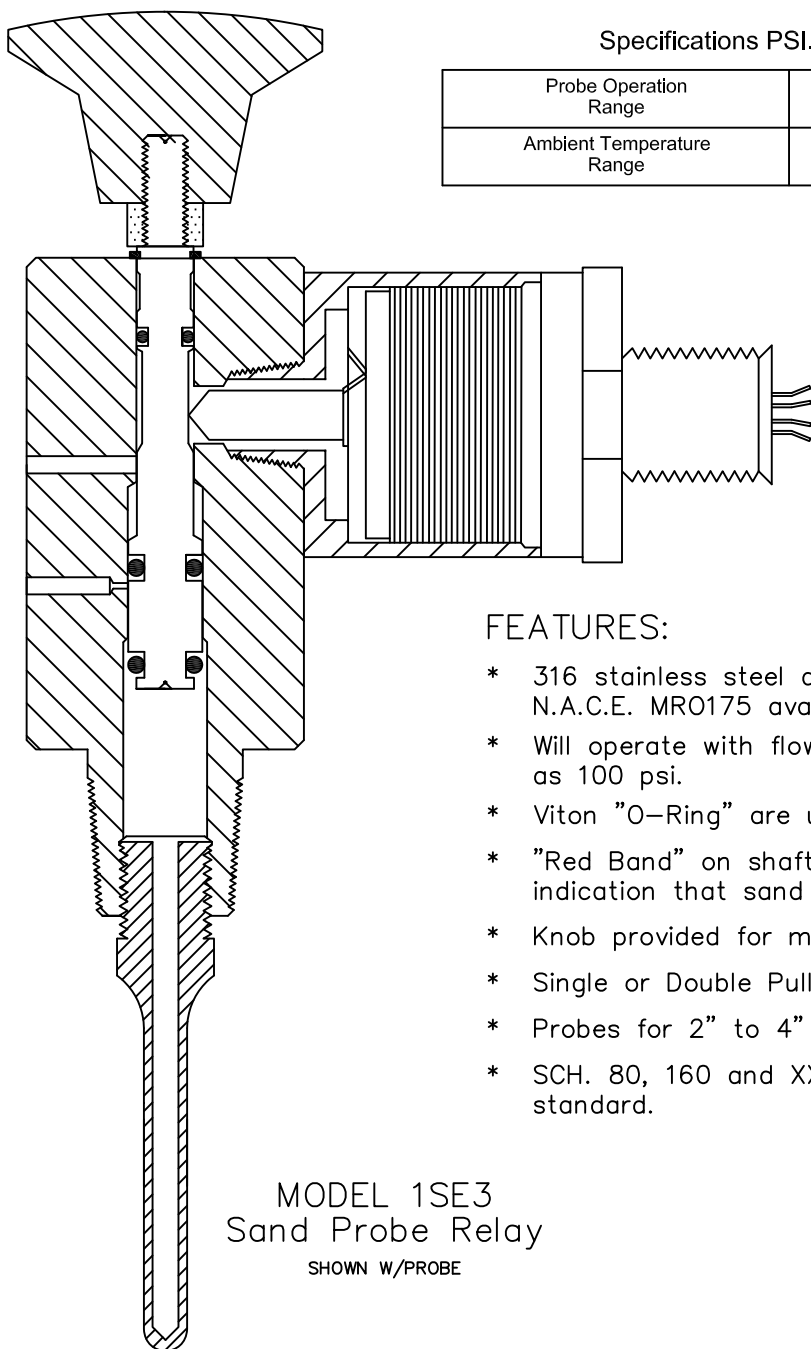


1209 DISTRIBUTORS ROW ■ NEW ORLEANS, LA 70123 U.S.A.

TELEPHONE: (504)340-0055 ■ FAX: (504)340-0056

GENERAL DESCRIPTION:

The Ruelco model 1SE3 Sand Probe relay uses a thin wall steel probe installed directly in a flowline to detect and indicate that excessive erosion or corrosion has occurred. It utilizes a reliable SPDT or DPDT microswitch which can be operated normally open or normally closed. In addition, the relay also provides visual indication that the probe has lost pressure integrity. This alerts fields personnel that inspection of the flowline and possible repair may be required.



Specifications PSI. (BAR)

Probe Operation Range	100 (6.7) min. 10,000 (690) max.
Ambient Temperature Range	-20° To 250° F -29° To 122° C

FEATURES:

- * 316 stainless steel construction (models to N.A.C.E. MRO175 available).
- * Will operate with flowline pressures as low as 100 psi.
- * Viton "O-Ring" are utilized for dependability.
- * "Red Band" on shaft provides positive indication that sand probe relay has operated.
- * Knob provided for manual testing.
- * Single or Double Pull Switch
- * Probes for 2" to 4" pipe available.
- * SCH. 80, 160 and XXH probe wall sizes are standard.

MODEL 1SE3
Sand Probe Relay

SHOWN W/PROBE

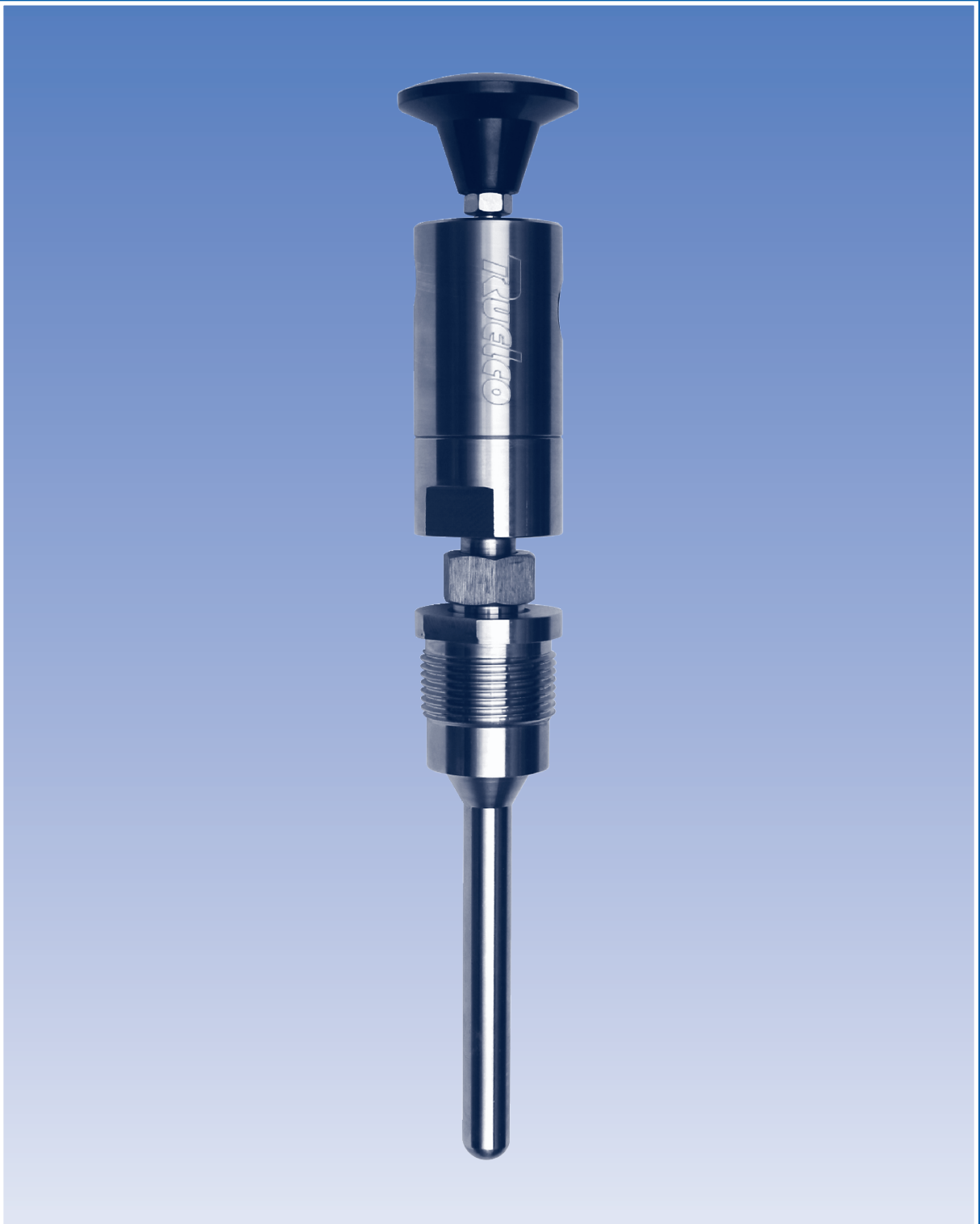
ELECTRIC SAND PROBE RELAY

MODEL 1SE3

Ruelco

Sand Probe Relay

Model 1S04



1-800-229-7835
ruelco@ruelco.com

Sand Probe Relay

Model IS04

FEATURES

- 316 stainless steel construction (models to N.A.C.E. MR0175 available)
- Will operate with flowline pressures as high as 15,000 PSI.
- Viton O-rings are utilized for dependability
- “Red band” on shaft provides visual indication that sand probe relay has operated
- Knob provided for manual testing
- Probes for 2" to 4" inch pipe available

GENERAL DESCRIPTION:

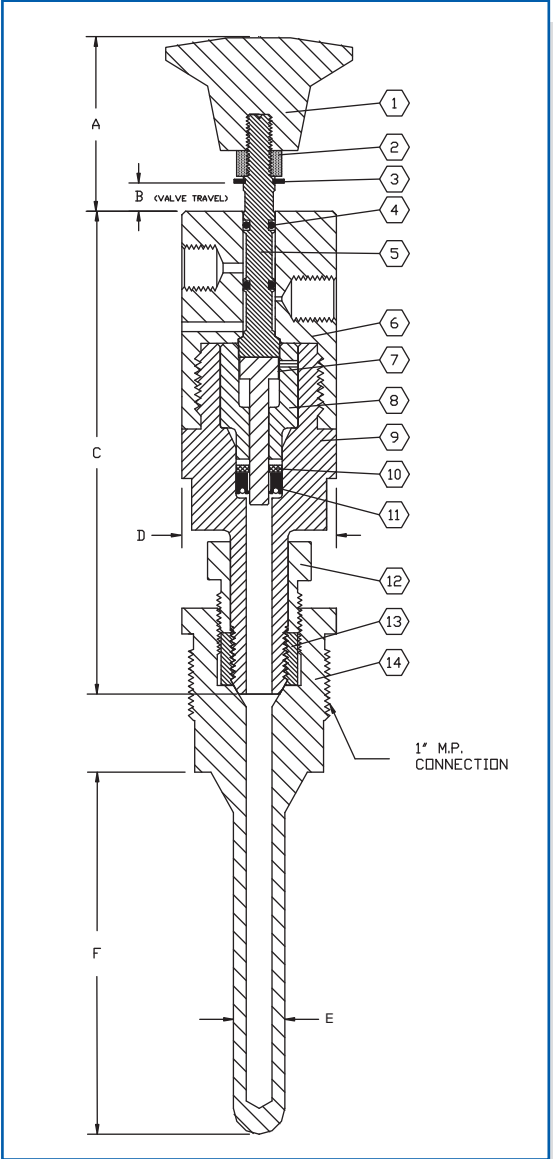
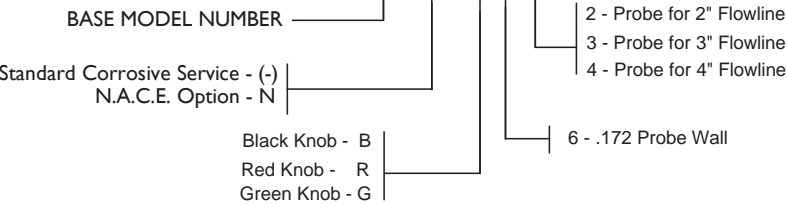
The Ruelco high pressure sand probe relay utilizes a thin wall steel probe installed directly in the flowline to detect and indicate that excessive erosion or corrosion has occurred. It is installed directly into a 15,000 psi. flowline using the 1" medium pressure connection. The relay utilizes a reliable 3-way valve that will bleed off an instrumentation signal and provide visual indication that the probe has lost pressure integrity. This alerts field personnel that inspection of the flowline and possible repair may be required.

Parts List For Sand Probe Relay

Item	Qty.	Description	Material	Part No.
1	1	Knob	Phenolic	Z0-200-001
2	1	Lock Nut	AISI 316 St. Stl.	T6-08K-0F3
3	1	Snap Ring	5 - 17 St. Stl.	S5-8H00031
4	2	Shaft O-Ring	Viton	V0-008-75T
5	1	Shaft	AISI 316 St. Stl.	1S-012-000
6	1	Valve Body	AISI 316 St. Stl.	1S-011-000
7	1	Piston	AISI 17-4 St. Stl.	42-020-000
8	1	Sleeve	AISI 17-4 St. Stl.	42-021-0A0
9	1	H.P. Base	AISI 17-4 St. Stl.	1S-013-000
10	1	Backup Ring	Teflon	42-010-0B0
11	1	Piston Seal	Viton	VP-201-75H
12	1	Gland Nut	AISI	42-022-000
13	1	Collar	AISI	42-023-000
14	1	20k Sand Probe	See Chart	1S-010-XXX*
15	—	Repair Kit	Items 3, 4,10 & 11	1S-014-000

* USE LAST THREE (3) DIGITS OF SAND PROBE ORDER CODE SHOWN BELOW

Ordering Code: IS04 X 5 X X X N



Dimensions Inch (MM)

A	1.69 (43)
B	.28 (7.1)
C	4.68 (118.8)
D	1.50 (38.1)
Probe Wall	.172 Wall (4.37)
E	.50 (12.7)
F (2" Pipe Size)	3.16 (80.2)
F (3" Pipe Size)	3.72 (94.5)
F (4" Pipe Size)	4.22 (107.2)

Specifications P.S.I. (BAR)

Valve Body Max. W.P.	150 (10.3)
Probe Operation Range	100 (6.7) min. 15,000 (1035) max.
Ambient Temperature Range	-20° To 250° F -29° To 122° C
Cv Factor	.34

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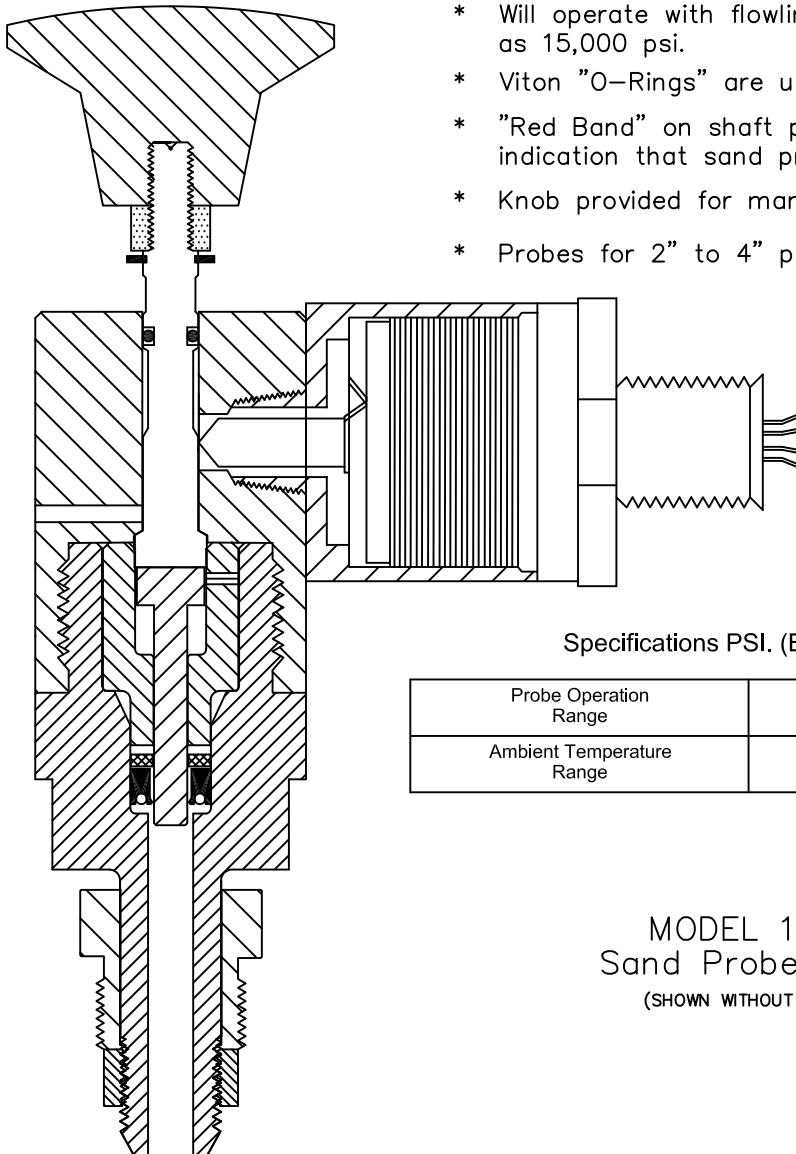
1209 DISTRIBUTORS ROW ■ NEW ORLEANS, LA 70123 U.S.A.
TELEPHONE: (504)340-0055 ■ FAX: (504)340-0056

GENERAL DESCRIPTION:

The Ruelco model 1SE4 Electric Sand Probe relay uses a thin wall steel probe installed directly in a flowline to detect and indicate that excessive erosion or corrosion has occurred. It utilizes a reliable snap acting electric switch and will provide visual indication that the probe has lost pressure integrity. This alerts fields personnel that inspection of the flowline and possible repair may be required.

FEATURES:

- * 316 stainless steel construction (models to N.A.C.E. MRO175 available).
- * Will operate with flowline pressures as high as 15,000 psi.
- * Viton "O-Rings" are utilized for dependability.
- * "Red Band" on shaft provides positive indication that sand probe relay has operated.
- * Knob provided for manual testing.
- * Probes for 2" to 4" pipe available.



Specifications PSI. (BAR)

Probe Operation Range	100 (6.7) min. 15,000 (1035) max.
Ambient Temperature Range	-20° To 250° F -29° To 122° C

MODEL 1SE4
Sand Probe Relay
(SHOWN WITHOUT PROBE)

ELECTRIC SAND PROBE RELAY

MODEL 1SE4

PARTS LIST FOR SAND PROBE RELAY

ITEM	QTY.	DESCRIPTION	MATERIAL	PART NO.
1	1	Knob	Phenolic	Z0-200-001
2	1	Lock Nut	AISI 316 St. Stl.	T6-08K-0F3
3	1	Snap Ring	5 - 17 St. Stl.	S5-8H00031
4	2	Shaft O-Ring	Viton	V0-008-75T
5	1	Shaft	AISI 316 St. Stl.	1S-012-000
6	1	Valve Body	AISI 316 St. Stl.	1S-011-000
7	1	Piston	AISI 17-4 St. Stl.	42-020-000
8	1	Sleeve	AISI 17-4 St. Stl.	42-021-0A0
9	1	H.P. Base	AISI 17-4 St. Stl.	1S-013-000
10	1	Backup Ring	Teflon	42-010-0B0
11	1	Piston Seal	Viton	VP-201-75H
12	1	Gland Nut	AISI	42-022-000
13	1	Collar	AISI	42-023-000
14	1	20k Sand Probe	See Chart	1S-010-XXX*
15	1	Push Rod	AISI 316 St. Stl.	38-021-001
16A	1	Electric Switch SPDT	NEO-DYN	057-0770
16B	—	Electric Switch DPDT	NEO-DYN	057-0771
17	—	Repair Kit	Items 3, 4, 10 & 11	1S-027-000

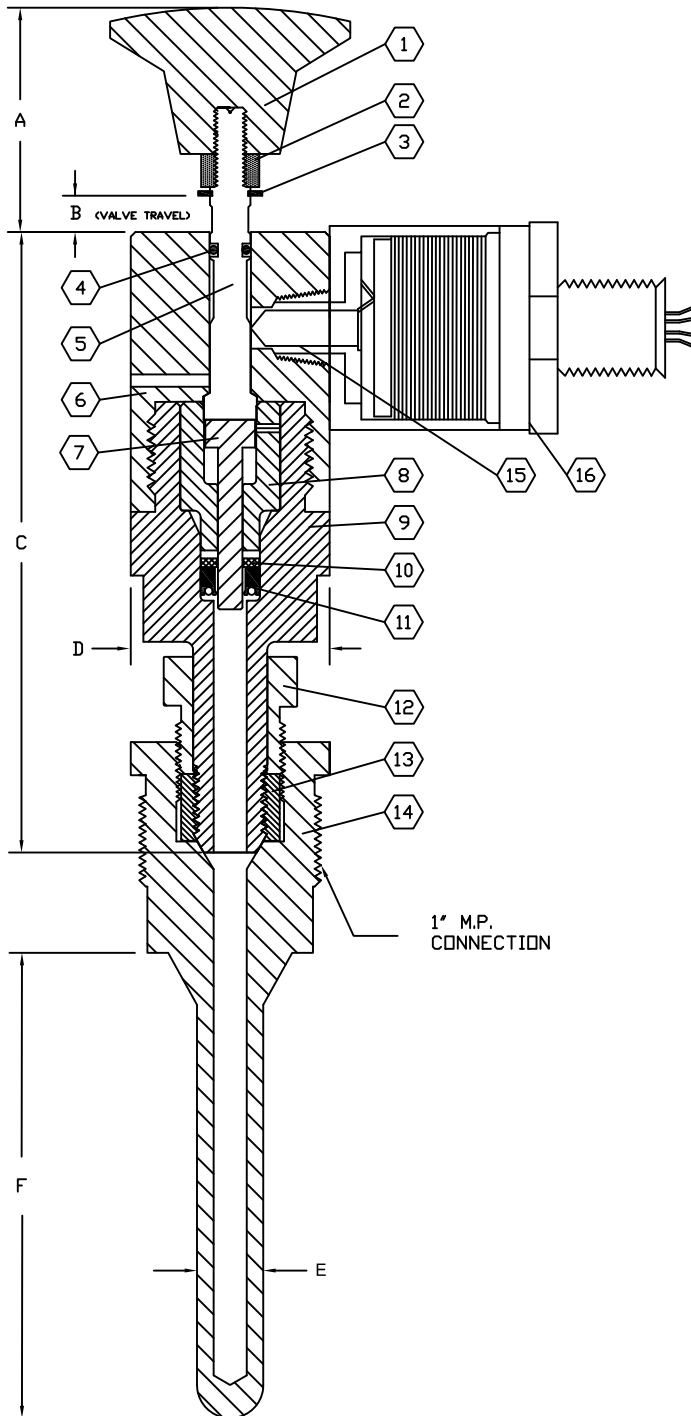
* USE LAST THREE (3) DIGITS OF SAND PROBE ORDER CODE SHOWN BELOW.

ELECTRIC SWITCH:
SUITABLE FOR THE FOLLOWING HAZARDOUS LOCATIONS:
ZONE 1 AND 2, EEx d IIC
DIVISION 1 AND 2, CLASS I, GROUPS A,B,C, AND D; CLASS II, GROUPS E,F, AND G
THESE ASSEMBLIES CARRY ONE OR ALL OF THE FOLLOWING AGENCY LISTINGS.
UNDERWRITERS LABORATORIES, INC., FILE NUMBER E56677
CSA INTERNATIONAL, FILE NUMBER LR34146
FACTORY MUTUAL, FILE NUMBER J.1.IR5A9.AE
SIRA, 02ATEX1087X

DIMENSIONS IN (mm)

A	1.69 (43)
B	.28 (7.1)
C	4.68 (118.8)
D	1.50 (38.1)

Probe Wall	.172 Wall (4.37)		
E	.50 (12.7)		
Pipe Size	2 Inch	3 Inch	4 Inch
F	3.16 (80.2)	3.72 (94.5)	4.22 (107.2)



Ordering Code: 1SE4 X X X X X N

BASE MODEL NUMBER	1	S	E	4	X	X	X	X	X	N
Standard Corrosive Service - (-)										
N.A.C.E. Option -										
SPDT - S										
DPDT - D										
Black Knob - B										
Red Knob - R										
Green Knob - G										
2 - Probe for 2" Flowline										
3 - Probe for 3" Flowline										
4 - Probe for 4" Flowline										
6 - .172 Probe Wall										

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Ruelco

EX-1 Quick Exhaust Valve

Model 1702



Phone (504) 340-0055
Fax (504) 340-0056

EX-I

Quick Exhaust Valve Model 1702

FEATURES

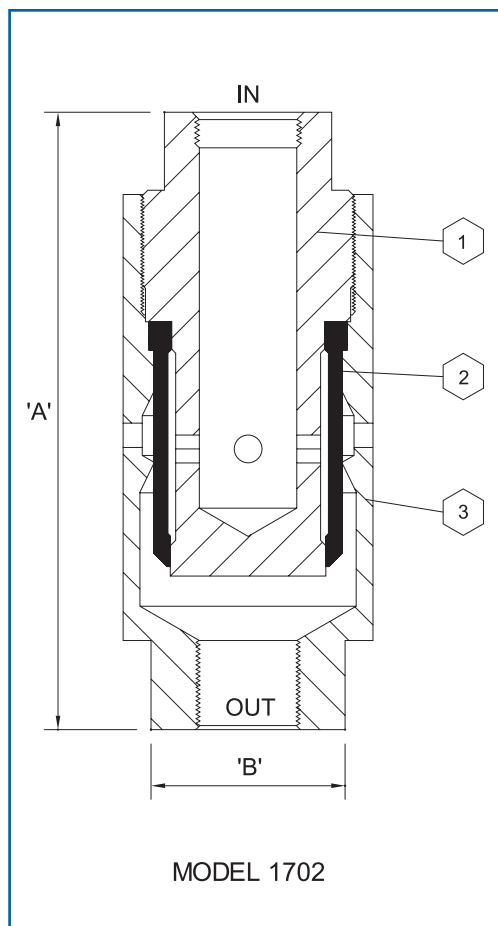
- 316 stainless steel construction (models to N.A.C.E. MR0175 available).
- Durable Polyurethane seal.
- Large C_v factor produces large flow rates.
- Small compact design.
- No moving parts.
- No O-rings.

OPTIONS

- 3/8" FNPT exhaust port adapter.
- Alternate seal materials.
- Models with working pressures to 500 psi.

GENERAL DESCRIPTION:

The Ruelco 'EX-I' quick exhaust is designed to rapidly bleed the control pressure from an actuator or other pneumatic device. It is typically used on safety valves, control valves, or other devices that must respond quickly when the control signals are removed. Its in-line design and three part construction make the quick exhaust easy to install and maintain. No special tools are needed for repair and assembly. The Ruelco 'EX-I' will improve equipment operation and reduce maintenance time.

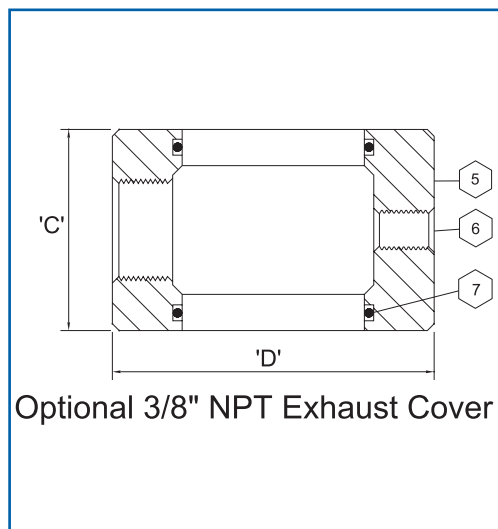


Parts List For EX-I Quick Exhaust Valve

Item	Qty.	Description	Material
1	1	Center Spool	316 St. Stl.
2*	1	Bladder	Polyurethane
3	1	Body	316 St. Stl.
4	—	Repair Kit	* Item
5	1	Exhaust Port Body	316 St. Stl.
6	1	Set Screw	316 St. Stl.
7	2	Exhaust Port Seal	Viton

Specifications P.S.I. (BAR)

Valve Body Max. W.P.	150 (10.3)
Ambient Temp. Range	-20 to 250 deg. F -29 to 122 deg. C
C_v Factor Venting	2.75
C_v Factor Input	1.0



Dimensions Inch (MM)

'A'	2.80 (71.1)
'B'	0.87 (22.1)
'C'	1.25 (31.8)
'D'	2.00 (50.8)
Port Size	1/4" NPT
Weight	12.0 oz. (227 gm.)

Ordering Code: 1702 X S4U X 0

Base Model Number

Standard Corrosive Service (-)

N.A.C.E. Option

N

0 without 3/8" FNPT Exhaust Port

S with 3/8" FNPT Port

Ruelco

RQ-1 Hydraulic Quick Exhaust Model 1801-34400



Phone (504) 340-0055
Fax (504) 340-0056

RQ-I

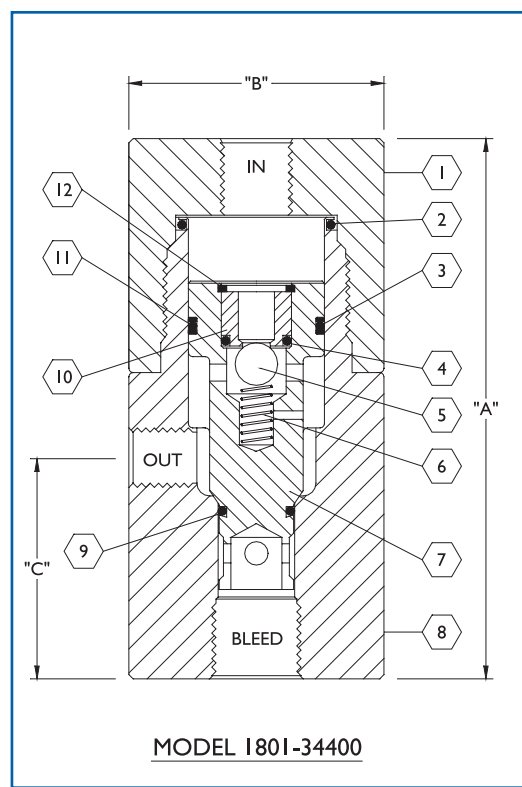
Hydraulic Quick Exhaust Model 1801-34400

FEATURES

- Stainless steel construction.
- 1/4" NPT port connections.
- Durable Buna-N seals.
- Large Cv factor assures fast system response.
- Small compact design.

GENERAL DESCRIPTION:

The Ruelco 'RQ-I' hydraulic quick exhaust is designed to rapidly bleed the control pressure from an actuator or other hydraulic device. It is typically used on safety valves, control valves, or other devices that must respond quickly when the control signals are removed. It's in-line design and three part construction make the quick exhaust easy to install and maintain. No special tools are needed for repair and assembly. The Ruelco 'RQ-I' will improve equipment operation and reduce maintenance time.



Specifications P.S.I. (BAR)

Max. Working Pressure @ 100 deg. F (37 deg. C)	10,000 (690)
Inlet Check Opening Pressure	45 (3.1)
Ambient Temperature Range	-20 to 250 deg. F -29 to 122 deg. C
C _v Factor (In)	.237
C _v Factor (Bleed)	.91

Dimensions Inch (MM)

'A'	3.75 (95)
'B'	1.62 (41.1)
'C'	1.7 (43.18)
Ports	1/4" FNPT
Weight	3.3 lbs (1.5 kg)

Parts List For Hydraulic Quick Exhaust RQ-I

Item	Qty.	Description	Material	Part No.
1	1	Cap	AISI 316 St. Stl.	18-001-000
2	1	Body O-Ring	Buna-N	NO-118-70H
3	1	Piston O-Ring	Buna-N	NO-115-70H
4	1	Seat O-Ring	Buna-N	NO-012-70H
5	1	Ball	Tungsten Carbide	BL-250-25T
6	1	Spring	Inconel X-750	18-006-000
7	1	Spool Assembly	316/17-4 St. Stl.	18-004-000
8	1	Body	AISI 316 St. Stl.	18-002-000
9	1	Spool O-Ring	Buna-N	NO-110-90H
10	1	Seat	AISI 316 St. Stl.	18-003-000
11	2	Back-Up Ring	PTFE	TB-115-00C
12	1	Retainer Ring	15-7 NO St. Stl.	SG-810-050
13	---	Repair Kit	Item #'s 2,3,4,5,9,12	18-007-000

Ordering Code: 1801-34400

Ruelco



RQ-2 Hydraulic Quick Exhaust **Model 1801-38800**

Phone (504) 340-0055
Fax (504) 340-0056

RQ-2

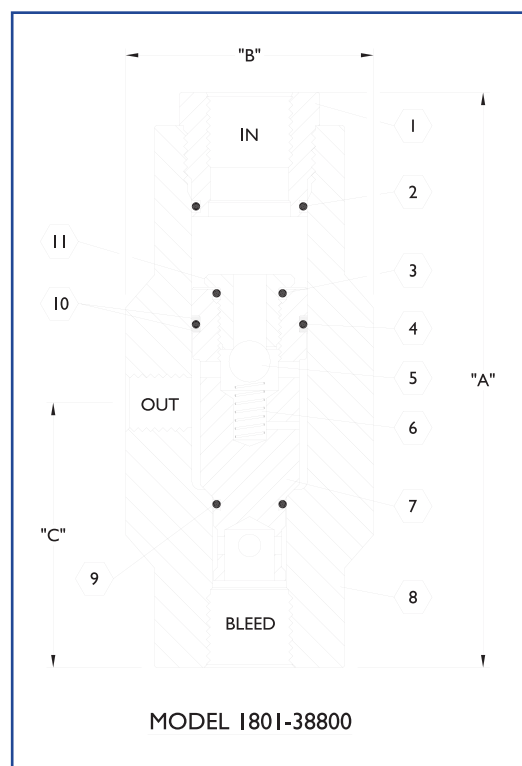
Hydraulic Quick Exhaust Model 1801-38800

FEATURES

- Stainless steel construction.
- 1/2" NPT port connections.
- Durable Buna-N seals.
- Large Cv factor assures fast system response.

GENERAL DESCRIPTION:

The Ruelco 'RQ-2' hydraulic quick exhaust is designed to rapidly bleed the control pressure from an actuator or other hydraulic device. It is typically used on safety valves, control valves, or other devices that must respond quickly when the control signals are removed. It's in-line design and three part construction make the quick exhaust easy to install and maintain. No special tools are needed for repair and assembly. The Ruelco 'RQ-2' will improve equipment operation and reduce maintenance time.



Specifications P.S.I.(BAR)

Max. Working Pressure @ 100 deg. F (37 deg. C)	10,000 (690)
Inlet Check Opening Pressure	45 (3.1)
Ambient Temperature Range	-20 to 250 deg. F -29 to 122 deg. C
C _v Factor (In)	1.0
C _v Factor (Bleed)	4.82

Dimensions Inch(MM)

'A'	5.25 (134)
'B'	2.50 (63.5)
'C'	2.40 (61)
Ports	1/2" FNPT
Weight	5.5 lbs (2.5 kg)

Parts List For RQ-2 Quick Exhaust

Item	Qty.	Description	Material	Part No.
1	1	Cap	17-4 PH St. Stl.	18-009-000
2*	1	Body O-ring	Nitril	N0-118-90H
3*	1	Seat O-Ring	Nitril	N0-013-70H
4*	1	Piston O-Ring	Nitril	N0-118-70H
5*	1	Ball	Tungsten Carbide	BL-375-10M
6	1	Spring	316 St. Stl.	18-013-000
7	1	Spool Assembly	17-4 PH St. Stl.	18-010-000
8	1	Body	17-4 PH St. Stl.	18-011-000
9*	1	Spool O-Ring	Nitril	N0-111-90H
10*	2	Backup Ring	Telfon	TB-118-00C
11	1	Seat	316 St. Stl.	18-012-000
12	1	Repair Kit	* Items	18-008-000

Ordering Code: 1801-38800



Tattle Tale Indicators



Model 6001
Pneumatic



Model 6201
Hydraulic

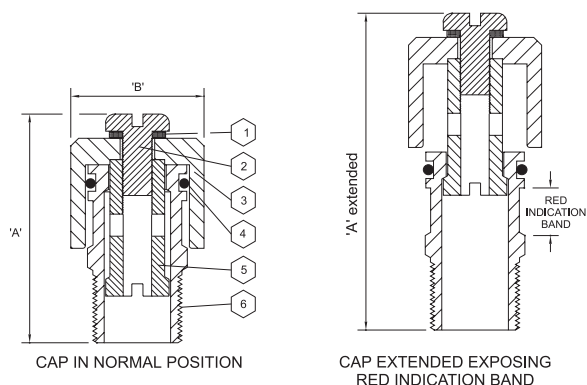
Tattletale

Pneumatic / Hydraulic Indicators

FEATURES

- 316 stainless steel construction.
- Viton O-ring used for dependability.
- Small size and rugged construction.
- Does not affect operation of the device it is installed in.
- Easy to repair and test.
- Trip indication easily visible.
- No indicator "bounce".
- Can eliminate the need for an expensive control panel.

PNEUMATIC TATTLETALE



Dimensions Inch (MM)

'A' (Closed)	1.31 (33.3)
'A' (Extended)	1.81 (46.0)
'B'	0.75 (19.1)
Port Size	1/4" MNPT
Weight	1.5 OZ. (42.6 GM.)

Specifications P.S.I. (Bar)

Max. Exhaust Pressure	150 (10.3)
Ambient Temp. Range	-20 to 250 deg. F -29 to 122 deg. C
Cv Factor	0.4
Minimum Pressure and Flowrate to Operate	2 PSI @ 1 SCFM

Parts List For Pneumatic Tattletale Indicator

ITEM	QTY.	DESCRIPTION	MATERIAL
1	1	Lock Washer	316 St. Std.
2	1	Machine Screw	316 St. Std.
3	1	Cap	316 St. Std.
4*	1	Body Seal	Viton
5	1	Stem	316 St. Std.
6	1	Body	316 St. Std.
7	—	Repair Kit	* Item

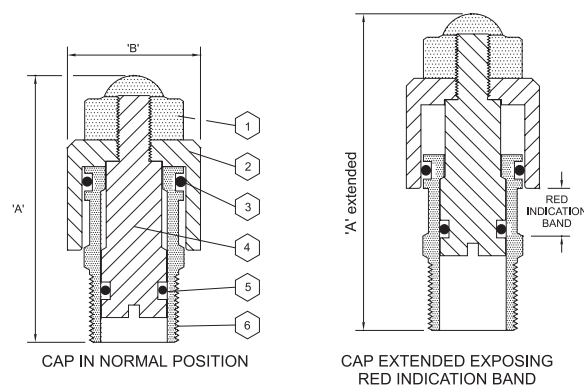
Order Pneumatic
Model#
600I-4MRMO

GENERAL DESCRIPTION:

The Ruelco pneumatic "Tattletale" is a unique device to provide indication when production control or safety system sensors and control devices trip. The "Tattletale" is designed to be installed in the exhaust port of pneumatic control devices and sensors. When these sensors or control devices trip, the pneumatic pressure venting through the exhaust port will cause the cap of the "Tattletale" to pop - out. This exposes a red indicator band giving visual indication that the device has tripped. First - Out indication of several sensors can be obtained by using the "Tattletale" in conjunction with a pneumatic relay. Often this eliminates the need for an expensive control panel.

Likewise, the Ruelco hydraulic "Tattletale" is designed to be installed in the return line near the exhaust port of a hydraulic sensor or control component. When the sensor or control device operates and vents or exhausts hydraulic fluid, the pressure in the return line will cause the cap of the "Tattletale" to pop out. This exposes a red indicator band giving visual indication that the sensor or control device has operated. The Ruelco hydraulic "Tattletale" is ideal for indicating when a hydraulic pressure sensor has operated and gives "first - out" indication when the sensor is used to vent a hydraulically actuated valve.

HYDRAULIC TATTLETALE



Dimensions Inch (MM)

'A' (Closed)	1.42 (36.1)
'A' (Extended)	1.72 (43.7)
'B'	0.75 (19.1)
Port Size	1/4" MNPT
Weight	1.7 OZ. (48.3 gm.)

Specifications P.S.I. (Bar)

Max. Exhaust Pressure	6000 (414)
Ambient Temp. Range	-20 to 250 deg. F -29 to 122 deg. C
Min. Pressure to Operate	10 PSI (0.7)

Parts List For Hydraulic Tattletale Indicator

ITEM	QTY.	DESCRIPTION	MATERIAL
1	1	Acorn Nut	316 St. Std.
2	1	Cap	316 St. Std.
3	1	O-ring (Cut)	Viton
4	1	Stem	316 St. Std.
5	1	Stem Seal	Viton
6	1	Body	316 St. Std.
7	—	Repair Kit	Items 3 & 5

Order Hydraulic
Model#
620I-4MRMO

Ruelco



3 Way Tattle Tale Hydraulic Indicator Model 6301

Phone (504) 340-0055
Fax (504) 340-0056

3 Way Tattletale

Hydraulic Indicator Model 6301

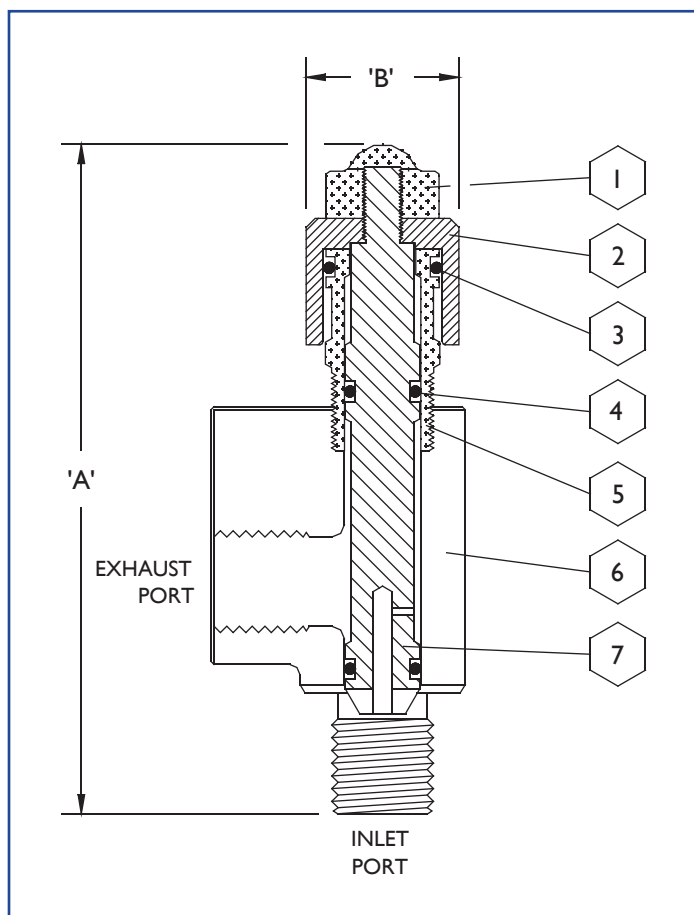
FEATURES

- 316 Stainless Steel construction.
- Viton O-Ring used for dependability.
- Small size and rugged construction.
- Does not effect operation of the device it is installed in.
- Easy to repair and test.
- First-out indication.
- Trip indication easily visible.
- No indicator "BOUNCE"

GENERAL DESCRIPTION:

The Ruelco hydraulic 3-Way Tattletale is a compact device that provides indication when a hydraulic sensor or control component operates. The 3-Way Tattletale is designed to be installed in the return line near the exhaust port of a hydraulic sensor or control component. When the sensor or control device operates and vents or exhausts hydraulic fluid, the pressure in the return line will cause the cap of the 3-Way Tattletale to pop out. This exposes a red indicator band giving visual indication that the sensor or control device has operated.

The Ruelco hydraulic 3-Way Tattletale is ideal for indicating when a hydraulic sensor has operated and give "first-out" indication when the sensor is used to vent a hydraulic actuated valve.



Parts List For Tattletale Indicator

ITEM	QTY.	DESCRIPTION	MATERIAL	PART No.
1	1	ACORN NUT	316 ST. STL.	T6-0K8-073
2	1	CAP	316 ST. STL.	61-003-0A0
3*	1	O-Ring (Cut)	VITON	VO-012-75T
4*	2	STEM SEAL	VITON	VO-009-75T
5	1	BODY	316 ST. STL.	60-001-0A0
6	1	MANIFOLD	316 ST. STL.	63-006-000
7	1	STEM	316 ST. STL.	63-002-0A0
8	-	REPAIR KIT	* ITEMS	63-005-000

Specifications PSI. (Bar)

MAX. EXHAUST PRESSURE	2000 (138)
AMBIENT TEMP. RANGE	-20 TO 250° F -29 TO 122° C
MIN. PRESSURE AND FLOWRATE TO OPERATE	10 PSI (0.7) @ 1 SCFM

Dimensions Inch (MM)

'A' (CLOSED)	3.42 (86.9)
'A' (EXTENDED)	3.77 (95.7)
'B'	0.75 (19.1)
INLET PORT SIZE	1/4" MNPT
EXHAUST PORT SIZE	1/4" FNPT
WEIGHT	4.9 oz (140 gm)

Ordering Code: 6301-4MRMO

Ruelco

ESD Station

Manual Pull Valve

Model 7002



2 Way ESD Valve
7002-PL200



3 Way ESD Valve
7003-PL200



Boat Loop ESD
7002-BL000
(3/8" Poly-Flo Tubing)

GENERAL DESCRIPTION:

The Ruelco 'ESD' Station is a compact and highly visible ESD station. It uses a variety of valve types to complete a control circuit. It can be placed in any desired location by clamping the station to any 1-1/2" diameter handrail or pipe.



Ball Valve ESD
7002-PL2BV
(1/4" valve is standard, other sizes upon request)



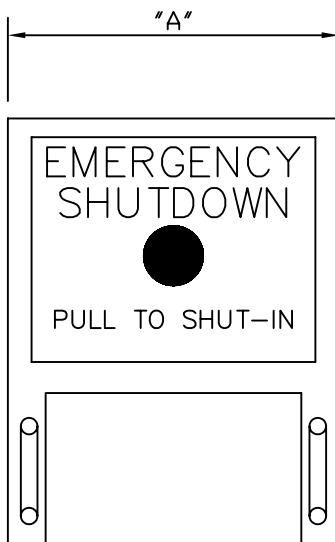
St. STL Handle
7002-PL2BL



1209 DISTRIBUTORS ROW ■ NEW ORLEANS, LA 70123 U.S.A.
TELEPHONE: (504)340-0055 ■ FAX: (504)340-0056

GENERAL DESCRIPTION:

The Ruelco ESD station is a compact, highly visible ESD station. It uses the Ruelco model 1102 pull valve to operate an electric switch assembly. The switch assembly can be SPDT, Ruelco Part No. 38-027-000, or DPDT, Ruelco Part No. 38-028-000. The Ruelco ESD station uses a large red tag to increase visibility. It can be mounted in any desired location by clamping to any 1-1/2" dia. handrail or pipe. When the activation knob is pulled, the electric switch contacts change position until the knob is manually pushed back in.



FEATURES:

- * 316 Stainless steel construction (models to N.A.C.E. MRO175 available).
- * Large Cv factor assures fast system response.
- * May be used in pneumatic or hydraulic systems.
- * Red identification tag for high visibility.
- * Clamps to a 1-1/2" diameter handrail or pipe.
- * Easily repaired without removing valve from panel.
- * Threaded vent port allows use of a vent screen.

OPTIONS:

- * Available for other pipe sizes upon request.
- * SPDT or DPDT switch actions.

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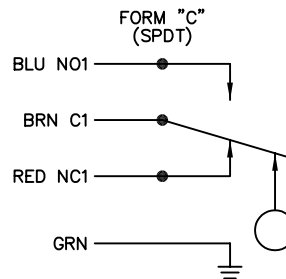
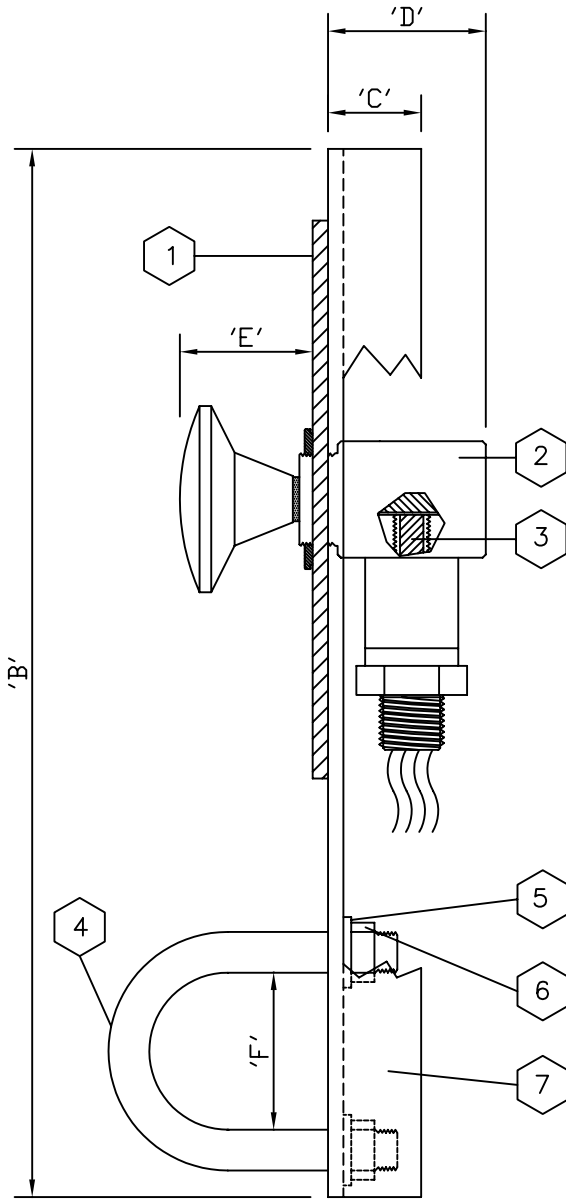
ELECTRIC ESD STATION

MANUAL PULL VALVE

MODEL 7E02

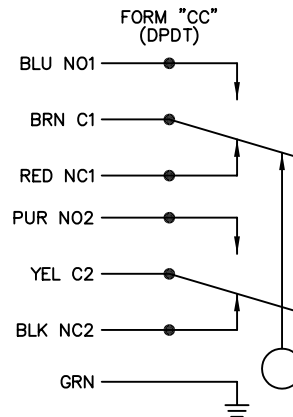
PARTS LIST FOR ELECTRIC ESD STATION

ITEM	QTY.	DESCRIPTION	MATERIAL	PART No.
1	1	FACE PLATE	ACRYLIC	70-001-000
2	1	ESD VALVE	-	1102-2410R
3	1	PUSH ROD	DELTRIN	11-006-000
4	2	U-BOLT	316 ST. STL.	TU-0C1-204
5	2	FLAT WASHER	316 ST. STL.	WB-AKO-J43
6	2	HEX NUT	316 ST. STL.	TB-0C1-0A3
7	1	SUPPORT BRACKET	316 ST. STL.	70-002-000
8	-	REPAIR KIT	-	11-005-000
9A	1	ELECTRIC SWITCH SPDT	-	38-018-000
9B	-	ELECTRIC SWITCH DPDT	-	38-019-000



DIMENSION INCH (MM)

"A"	8.75 (222.3)
"B"	11.25 (285.8)
"C"	1.00 (25.4)
"D"	1.66 (42.2)
"E" (NORMAL)	1.62 (41.1)
"E" (PULLED FOR ESD)	2.12 (53.8)
"F"	2.06 (52.32)



SPECIFICATIONS

VALVE BODY MAX. W.P.	150 PSI 10.3 BARS
AMBIENT TEMP. RANGE	-20 TO 250° F -29 TO 122° C
Cv FACTOR	1.8
SPDT & DPDT MAX. AC/DC VOLTAGE	250 VAC 30 VDC
SPDT & DPDT AMPS @ RATED VOLTAGE	5 AMPS

MODEL 7E02

ORDERING CODE: 7E02 X PLX00

BASE MODEL NUMBER

- = STANDARD CORROSIVE SERVICE
N = N.A.C.E. OPTION

S ----- SPDT SWITCH ASSEMBLY
D ----- DPDT SWITCH ASSEMBLY

Ruelco

ESD Manual Valve

Model 1102



Phone (504) 340-0055
Fax (504) 340-0056

ESD

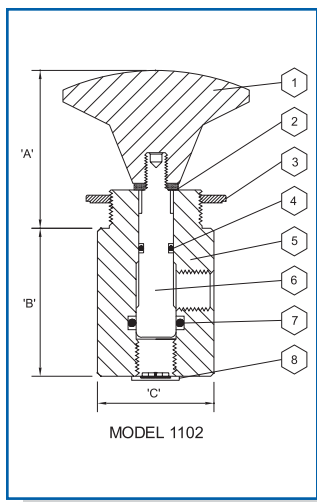
Manual Valve Model 1102

FEATURES

- 316 stainless steel construction (models to N.A.C.E. MR0175 available).
- Large C_v factor provides a fast system response.
- May be used in pneumatic or hydraulic systems.
- No seals crossing ports.
- Easily repaired without removing valve from panel.

GENERAL DESCRIPTION:

The Ruelco 'ESD' manual valve has a simple and compact design. Its high flow rate and two way pull to open action makes it ideal for use in manual ESD systems and other control applications that require fast response time. The supply pressure acting on the unbalanced stem maintains the valve in the closed position. This prevents vibration or small pulling forces from accidentally opening the valve. Once pulled, the valve will stay in the open position until manually closed.



Dimensions Inch (MM)	
'A' (Closed / Open)	1.66 / 2.16 (42.2 / 54.9)
'B'	1.59 (40.4)
'C'	1.25 (31.8)
Port Size	1/4" NPT
Panel Mount Hole	1.0 (25.4)
Max. Panel Thickness	.25 (6.4)
Weight	12 OZ. (340 GM.)

Specifications P.S.I. (BAR)	
Valve Body Max. W.P.	150 (10.3)
Ambient Temp. Range	-20 to 250 deg. F -29 to 122 deg. C
C_v Factor	1.8

Parts List For ESD Manual Valve

Item	Qty.	Description	Material	Part No.
1A	1	Black Knob (optional)	Phenolic	ZO-200-001
1B	—	Red Knob	Phenolic	ZO-200-002
1C	—	Green Knob (optional)	Phenolic	ZO-200-003
2	1	Flat Washer	316 St. Std.	WB-AKO-J43
3	1	Panel Mount Nut	316 St. Std.	10-006-000
4*	1	Stem Seal	Viton	VO-010-75H
5	1	Body	316 St. Std.	11-004-000
6	1	Stem	316 St. Std.	11-003-000
7*	1	Body Seal	Viton	VO-111-90H
8	1	Vent Screen (optional)	Plastic	ZO-100-000
9	—	Repair Kit	* Items	11-005-000

Ordering Code: 1102 X 241 X X

BASE MODEL NUMBER

Standard Corrosive Service - (-)
N.A.C.E. Option - N

B - Black Knob
R - Red Knob
G - Green Knob

0 - Without Vent Cover
S - With Vent cover

ESD Station

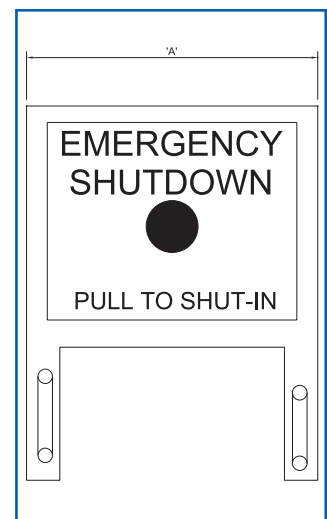
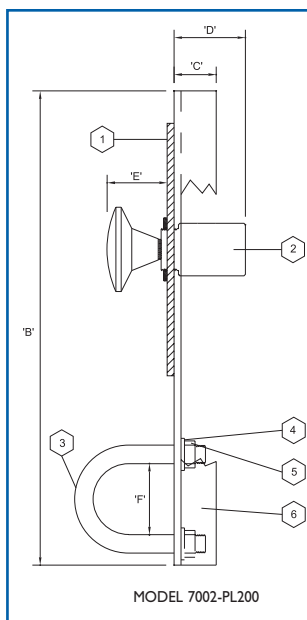
Manual Pull To Shut-In Model 7002

FEATURES

- 316 stainless steel construction (models to N.A.C.E. MR0175 available).
- Highly Visible Red Tag.
- Clamps to 1 1/2" dia. pipe (available for other pipe sizes upon request).
- Optional Pull Ring available in various sizes upon request.

GENERAL DESCRIPTION:

The Ruelco 'ESD' station is a compact, highly visible ESD station. It uses the Ruelco model 1102 high flow ESD valve. The Ruelco 'ESD' station uses a large red tag to increase visibility. It can be placed in any desired location by clamping the station to any 1-1/2" diameter handrail or any 1-1/2" diameter pipe. (Clamps for other pipe sizes available upon request).



Dimensions Inch (MM)	
'A'	8.75 (222.3)
'B'	11.25 (285.8)
'C'	1.0 (25.4)
'D'	1.66 (42.2)
'E' (Normal)	1.62 (41.1)
'E' (Pulled for ESD)	2.12 (53.8)
'F'	2.06 (52.32)

Parts List For ESD Station

Item	Qty.	Description	Material	Part No.
1	1	Face Plate	Acrylic	70-001-000
2	1	ESD Valve	---	1102-2410R
3	2	U-Bolt	AISI 316 S.S.	TU-0C1204
4	2	Flat Washer	AISI 316 S.S.	WB-AKO-J43
5	2	Hex Nut	AISI 316 S.S.	TB-0C1-0A3
6	1	Support Bracket	AISI 316 S.S.	70-002-000

Order Model 7002-PL200

Ruelco

ESD 3-Way Manual Valve Model 1103



Phone (504) 340-0055
Fax (504) 340-0056

ESD

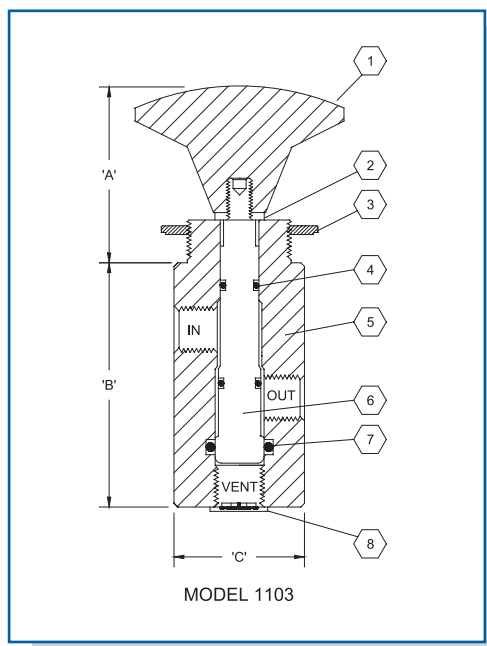
3-Way Manual Valve Model 1103

FEATURES

- 316 stainless steel construction (models to N.A.C.E. MR0175 available).
- Large C_v factor provides a fast system response.
- May be used in pneumatic or hydraulic systems.
- Easily repaired without removing valve from panel.
- Threaded vent port allows use of vent screen.

GENERAL DESCRIPTION:

The Ruelco 'ESD' manual valve has a simple and compact design. Its high flow rate and three way pull to open action makes it ideal for use in manual ESD systems and other control applications that require fast response time. The supply pressure acting on the unbalanced stem maintains the valve in the closed position. This prevents vibration or small pulling forces from accidentally opening the valve. Once pulled, the valve will stay in the open position until manually closed.



Specifications P.S.I. (BAR)

Valve Body Max. W.P.	150 (10.3)
Ambient Temp. Range	-20 to 250 deg. F -29 to 122 deg. C
C_v Factor	1.8

Dimensions Inch (MM)

'A' (Closed / Open)	1.66 / 2.16 (42.2 / 54.9)
'B'	2.45 (62.2)
'C'	1.25 (31.8)
Port Size	1/4" NPT
Panel Mount Hole	1.0 (25.4)
Max. Panel Thickness	.25 (6.4)
Weight	16 OZ. (455 GM.)

Parts List For ESD 3-Way Manual Valve

Item	Qty.	Description	Material	Part No.
1A	1	Black Knob (optional)	Phenolic	ZO-200-001
1B	---	Red Knob	Phenolic	ZO-200-002
1C	---	Green Knob (optional)	Phenolic	ZO-200-003
2	1	Flat Washer	316 St. Stl.	WB-AKO-J43
3	1	Panel Mount Nut	316 St. Stl.	10-006-000
4*	1	Stem Seal	Viton	VO-010-75H
5	1	Body	316 St. Stl.	11-004-0A0
6	1	Stem	316 St. Stl.	11-003-0A0
7*	1	Body Seal	Viton	VO-111-90H
8	1	Vent Screen (optional)	Plastic	ZO-100-000
9	---	Repair Kit	* Items	11-005-0A0

Ordering Code: 1103 X 241 X X

BASE MODEL NUMBER

Standard Corrosive Service - (-)

N.A.C.E. Option ----- N

B - Black Knob

R - Red Knob

G - Green Knob

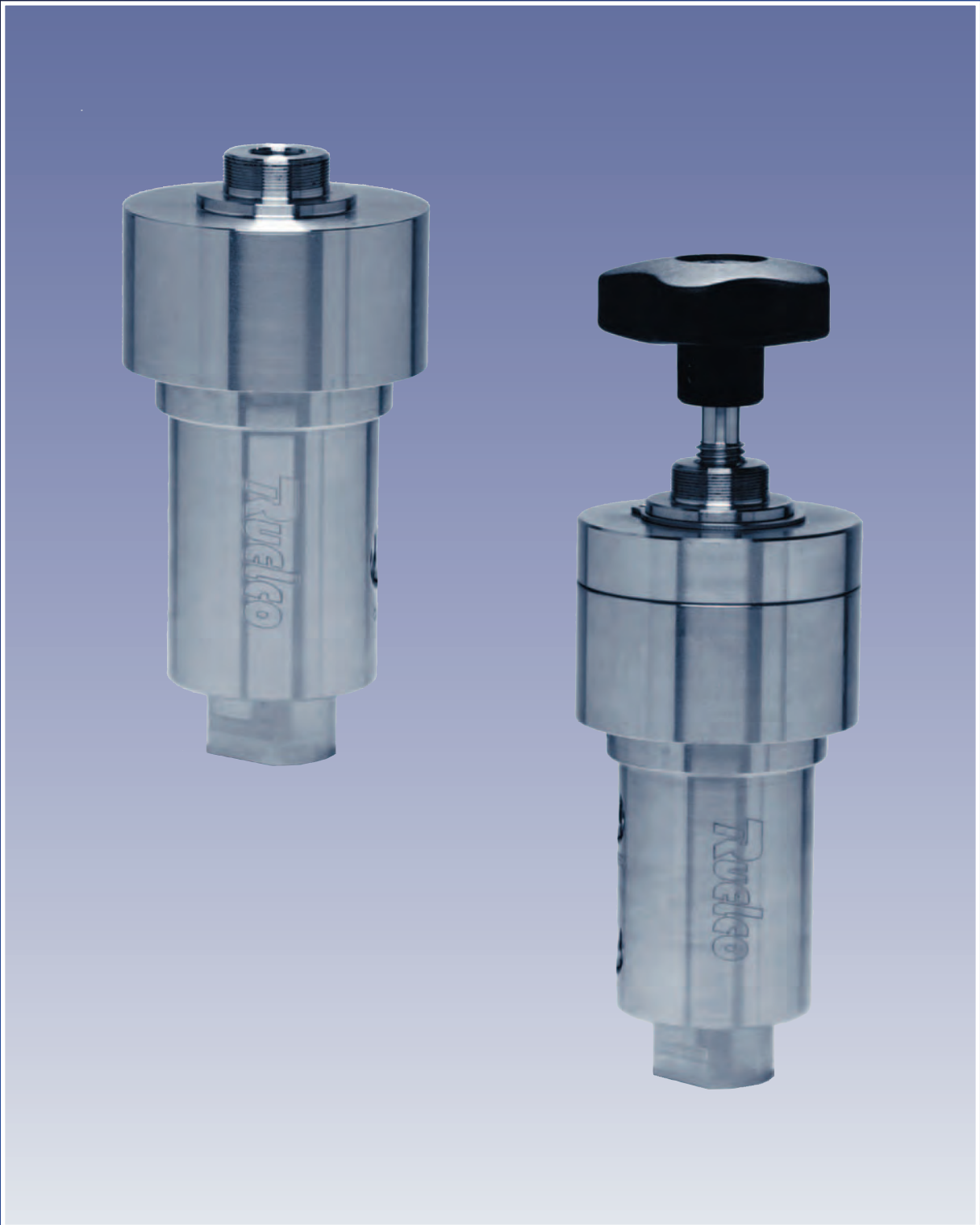
0 - Without Vent Cover

S - With Vent Cover

Ruelco

Interface Valve

Model 8100



Phone (504) 340-0055
Fax (504) 340-0056

Interface Valve

Model 8100

FEATURES

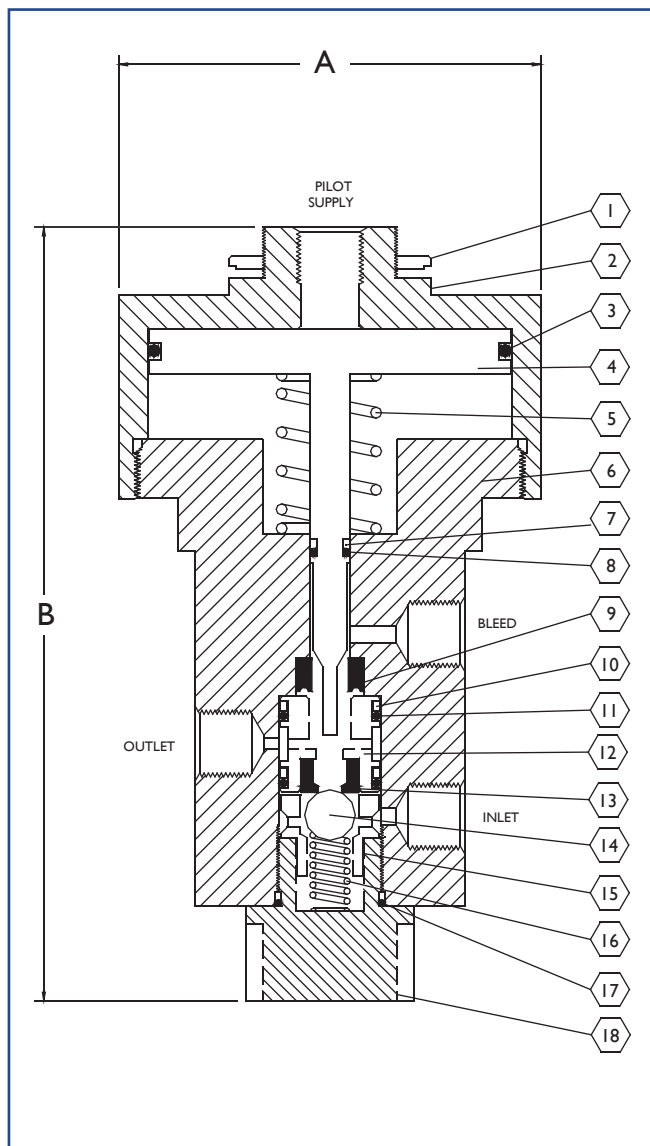
- 316 Stainless steel construction (models to N.A.C.E. MR0175 available).
- Large Cv factor assures fast system response
- All soft seal design
- Design minimizes malfunctions due to supply system debris.

GENERAL DESCRIPTION:

The Ruelco Interface Valve is a normally closed 3-way block and bleed Hydraulic Controller. The valve allows the system to control pressures as high as 10,000 psi. with a pilot supply pressure of 100 psi. The unique soft seal design ensures zero leakage and also prevents damage from foreign particles. Ruggedly constructed for years of reliable service.

Parts List For Interface Valve

ITEM	QTY.	DESCRIPTION	MATERIAL	PART NO.
1	1	Panel Mount Nut	Stainless Steel	10-006-000
2	1	Cap	Stainless Steel	81-001-000
3*	1	Piston Seal	Viton	V0-145-75H
4	1	Spool Assembly	Stainless Steel	81-009-000
5	1	Piston Spring	Stainless Steel	81-014-000
6	1	Body	Stainless Steel	81-003-000
7*	1	Spool Back-Up Seal	Teflon	TF-008-75H
8*	1	Spool Seal	Buna	V0-008-90H
9*	1	Shaft Seal	Fluoromyte	FM-250-250
10*	2	Sleeve Back-Up Seal	Teflon	TF-016-75H
11*	2	Sleeve Seal	Buna	N0-016-75H
12	1	Sleeve	Stainless Steel	81-006-000
13*	1	Center Seal	Delrin	81-011-000
14*	1	Ball	Tungsten Carbide	BL-375-10M
15	1	Bottom Sleeve	Stainless Steel	81-005-000
16	1	Seal Spring	Stainless Steel	81-015-000
17*	1	Bottom Cap Seal	Buna	N0-017-75H
18	1	Bottom Cap	Stainless Steel	81-004-000
19	1	Repair Kit for 8100-10000	* Items	81-016-000



Dimensions

A	3.125 IN (79.4 mm)
B	5.75 IN (146.1 mm)
Panel Mount Hole	1.0 IN (25.4 mm)
Valve Ports	1/4" FNPT
Weight	4.9 LBS (2.30 KG)

Switch Specifications

Valve Type	3-Way
Max. Supply Pressure	200 PSI.
Outlet Orifice Size	.125 IN.
Ambient Temperature Range	-20° TO 250° F -20° TO 122° C
Sensor Type	Piston
Max. Oper. Pressure	10,000 PSI (680 BAR)
Burst Pressure	20,000 PSI. (1380 BAR)

Ordering Code: 8100 - 10000

Interface Valve with override

Model 8100

FEATURES

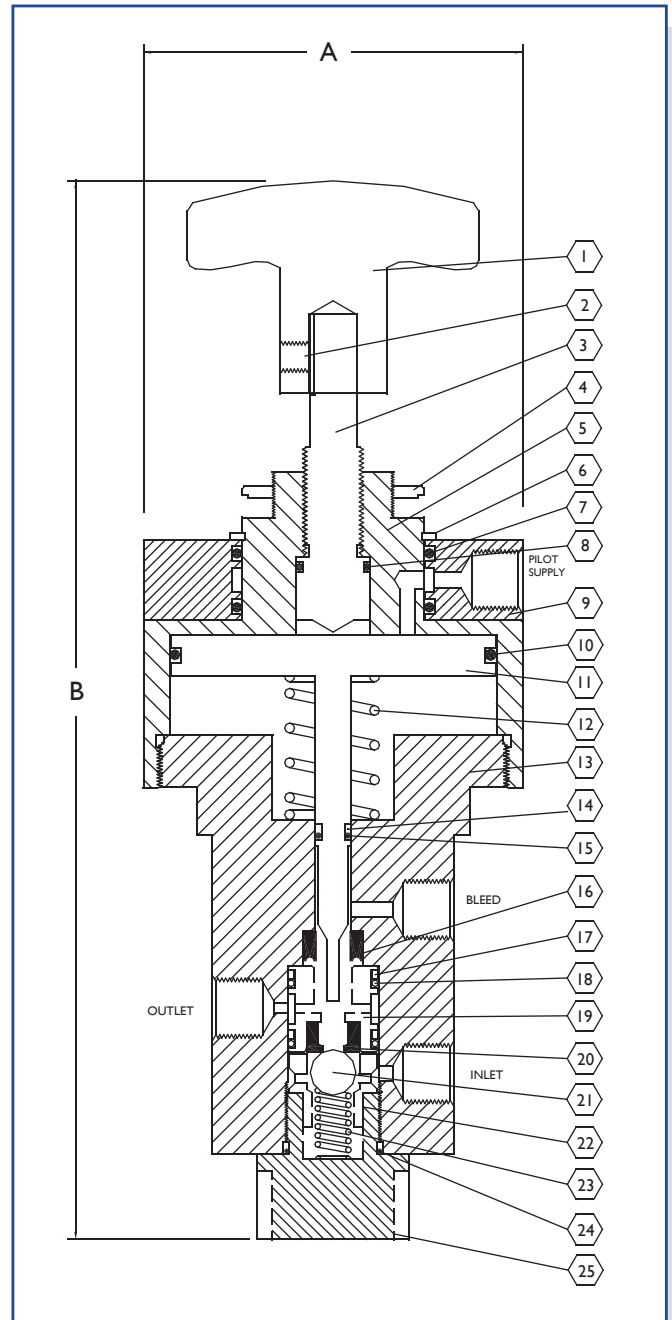
- 316 Stainless steel construction (models to N.A.C.E. MR0175 available).
- Large Cv factor assures fast system response
- All soft seal design
- Design minimizes malfunctions due to supply system debris.

GENERAL DESCRIPTION:

The Ruelco Interface Valve is a normally closed 3-way block and bleed Hydraulic Controller. The valve allows the system to control pressures as high as 10,000 psi. with a pilot supply pressure of 100 psi. The unique soft seal design ensures zero leakage and also prevents damage from foreign particles. Ruggedly constructed for years of reliable service. The manual override option can be used to manually operate the valve even while at maximum control pressure.

Parts List For Interface Valve 8100-20000

Item	Qty.	Description	Material	Part No.
1	1	Handle	Technopolymer	81-012-000
2	1	Set Screw	Stainless Steel	T1-08K-0C3
3	1	Override Stem	Stainless Steel	81-010-000
4	1	Panel Mount Nut	Stainless Steel	10-006-000
5	1	Override Cap	Stainless Steel	81-002-000
6	1	Snap Ring	Stainless Steel	SH-150-050
7*	2	Air Ring O-Ring	Viton	V0-125-75H
8*	1	Override Seal	Viton	V0-013-75H
9	1	Air Ring	Stainless Steel	81-013-000
10*	1	Piston Seal	Viton	V0-145-75H
11	1	Spool Assembly	Stainless Steel	81-009-000
12	1	Piston Spring	Stainless Steel	81-014-000
13	1	Body	Stainless Steel	81-003-000
14*	1	Spool Back-Up Seal	Teflon	TF-008-75H
15*	1	Spool Seal	Buna	V0-008-90H
16*	1	Shaft Seal	Fluoromylte	FM-250-250
17*	2	Sleeve Back-Up Seal	Teflon	TF-016-75H
18*	2	Sleeve Seal	Buna	N0-016-75H
19	1	Sleeve	Stainless Steel	81-006-000
20*	1	Center Seal	Delrin	81-011-000
21*	1	Ball	Tungsten Carbide	BL-375-10M
22	1	Bottom Sleeve	Stainless Steel	81-005-000
23	1	Seal Spring	Stainless Steel	81-015-000
24*	1	Bottom Cap Seal	Buna	N0-017-75H
25	1	Bottom Cap	Stainless Steel	81-004-000
26	1	Repair Kit for 8100-20000	* Items	81-017-000



Dimensions

A	3.125 IN (79.4 mm)
B (MAX.)	8.75 IN (222.3 mm)
Panel Mount Hole	1.0 IN (25.4 mm)
Valve Ports	1/4" FNPT
Weight	5.2 LBS (2.44 KG)

Switch Specifications

Valve Type	3-Way
Max. Supply Pressure	200 PSI.
Outlet Orifice Size	.125 IN.
Ambient Temperature Range	-20° TO 250° F -20° TO 122° C
Sensor Type	Piston
Max. Oper. Pressure	10,000 PSI (680 BAR)
Burst Pressure	20,000 PSI. (1380 BAR)

Ordering Code: 8100 - 20000



Hydraulic Controllers

SS-H Hydraulic Pilot

VC-2 Velocity Check Valve

RQ-1 (1/4") Quick Exhaust

RQ-2 (1/2") Quick Exhaust

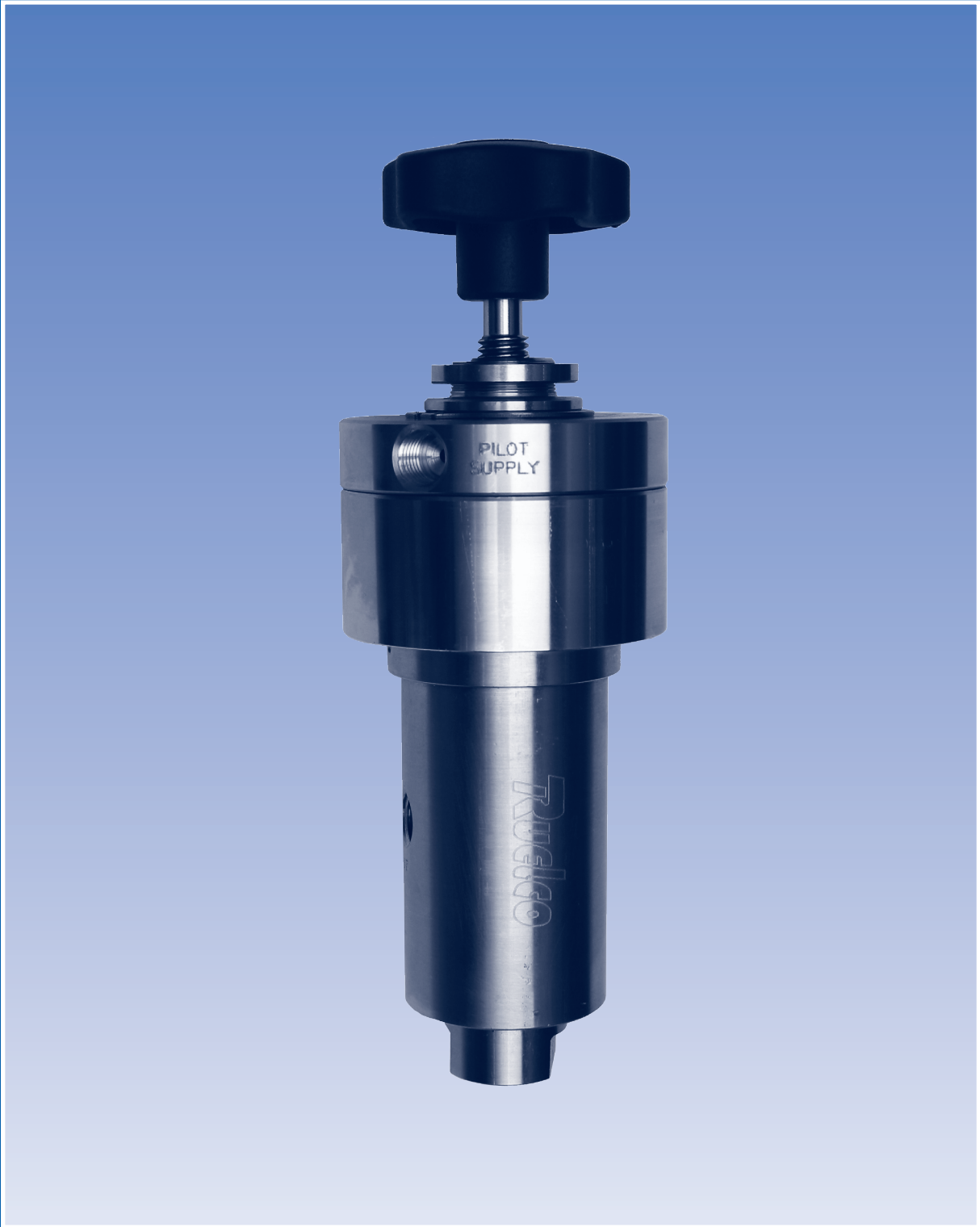
Interface Valve

RD-1 Dump Valve

RD-H Dump Valve

Hydraulic Tattletale Indicator

Ruelco



SC-1 SSSCV 3-Way Interface Valve Model 8200

1-800-229-7835
ruelco@ruelco.com

SC-I SSCSV 3-Way Interface Valve

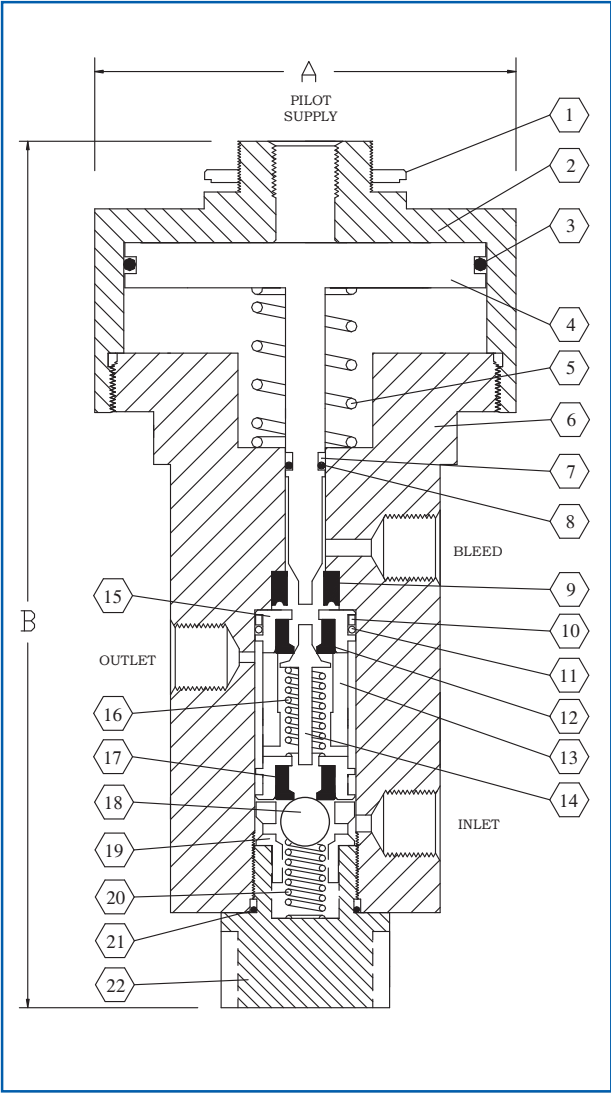
Model 8200

FEATURES

- 316 Stainless steel construction (models to N.A.C.E. MR0175 available).
- Large Cv factor assures a fast system response
- All soft seal design
- Design minimizes malfunctions due to supply system debris.
- For downhole applications, ensuring positive shut off.

GENERAL DESCRIPTION:

The Ruelco SC-I SSCSV Interface Valve is a normally closed 3-way block and bleed hydraulic controller. The valve allows the system to control pressures as high as 10,000 PSI with a pilot supply pressure of 100 PSI. The unique soft seal design ensures zero leakage and also prevents damage from foreign particles. The shut off spool ensures that the outlet fluid cannot leak back through the bleed port after the valve has been shut. Ruggedly constructed for years of reliable service.



Parts List For Interface Valve

ITEM	QTY.	DESCRIPTION	MATERIAL	PART NO.
1	1	Panel Mount Nut	Stainless Steel	10-006-000
2	1	Cap	Stainless Steel	81-001-000
3*	1	Piston Seal	Viton	V0-145-75H
4	1	Spool Assembly	Stainless Steel	82-007-000
5	1	Piston Spring	Music Wire	81-014-000
6	1	Body	Stainless Steel	82-001-000
7*	1	Spool Back-Up Seal	Teflon	TF-008-75H
8*	1	Spool Seal	Buna	N0-008-70H
9*	2	Shaft Seal	Fluoromylte	FM-250-250
10*	2	Sleeve Back-Up Seal	Teflon	TF-016-75H
11*	1	Sleeve Seal	Buna	N0-016-75H
12*	1	Block Seal	Delrin	82-005-000
13	1	Shut Off Sleeve	Stainless Steel	82-003-000
14	1	Shut Off Piston	Stainless Steel	82-004-000
15	1	Top Sleeve	Stainless Steel	82-002-000
16	1	Shut Off Spring	Stainless Steel	82-008-000
17*	1	Ball Seal	Delrin	81-011-000
18*	1	Ball	Tungsten Carbide	BL-375-10M
19	1	Bottom Sleeve	Stainless Steel	81-005-000
20	1	Inlet Spring	Stainless Steel	81-015-000
21*	1	Bottom Cap Seal	Buna	N0-017-75H
22	-	Bottom Cap	Stainless Steel	81-004-000
23	-	Repair Kit	* Items	82-009-000

Instrument Supply

Max. Supply Pressure	200 PSI.
Outlet Orifice Size	.125 IN.
Timer Circuit	0 - 60 sec. Required

Dimensions

A	3.125 IN (79.4 mm)
B (MAX.)	6.42 IN (163.1 mm)
Panel Mount Hole	1.0 IN (25.4 mm)
Valve Ports	1/4" FNPT
Weight	5.1 LBS (2.31 KG)

Switch Specifications

Valve Type	3-Way
Ambient Temperature Range	-20° TO 250° F -20° TO 122° C
Sensor Type	Piston
Max. Oper. Pressure	10,000 PSI (680 BAR)
Burst Pressure	20,000 PSI. (1380 BAR)

Ordering Code: 8200 - 10000

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SC-I SSCSV 3-Way Interface Valve with Override

Model 8200

FEATURES

- 316 Stainless steel construction (models to N.A.C.E. MR0175 available).
- Large Cv factor assures a fast system response
- All soft seal design
- Design minimizes malfunctions due to supply system debris.
- For downhole applications, ensuring positive shut off.

GENERAL DESCRIPTION:

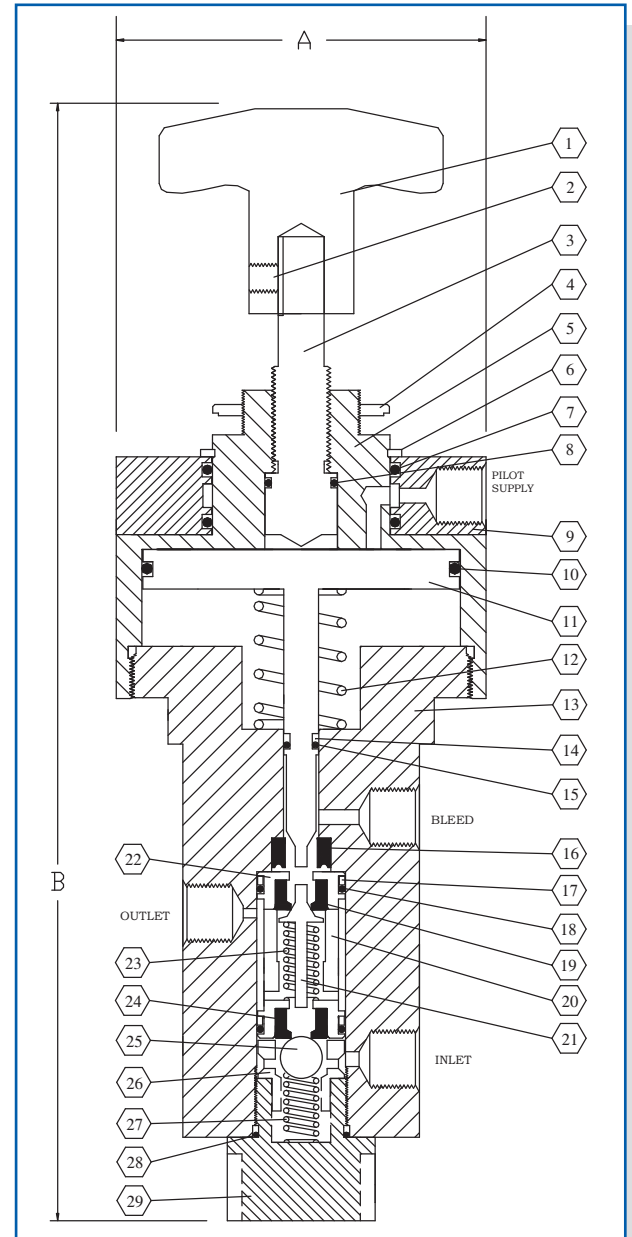
The Ruelco SC-I SSCSV Interface Valve is a normally closed 3-way block and bleed hydraulic controller. The valve allows the system to control pressures as high as 10,000 PSI with a pilot supply pressure of 100 PSI. The unique soft seal design ensures zero leakage and also prevents damage from foreign particles. The shut off spool ensures that the outlet fluid cannot leak back through the bleed port after the valve has been shut. Ruggedly constructed for years of reliable service.

Parts List For Interface Valve

ITEM	QTY.	DESCRIPTION	MATERIAL	PART NO.
1	1	Handle	Technopolymer	81-012-000
2	1	Set Screw	Stainless Steel	T1-08K-0C3
3	1	Override Stem	Stainless Steel	81-010-000
4	1	Panel Mount Nut	Stainless Steel	10-006-000
5	1	Override Cap	Stainless Steel	81-002-000
6	1	Snap Ring	Stainless Steel	SH-150-050
7*	1	Air Ring O-ring	Viton	V0-128-75H
8*	2	Override Seal	Viton	V0-013-75H
9	1	Air Ring	Stainless Steel	81-013-000
10*	1	Piston Seal	Viton	V0-145-75H
11	1	Spool Assembly	Stainless Steel	82-007-000
12	1	Piston Spring	Stainless Steel	81-014-000
13	1	Body	Stainless Steel	82-001-000
14*	1	Spool Back-Up Seal	Teflon	TF-008-75H
15*	1	Spool Seal	Buna	N0-008-70H
16*	1	Shaft Seal	Fluoromylte	FM-250-250
17*	1	Sleeve Back-Up Seal	Teflon	TF-016-75H
18*	2	Sleeve Seal	Buna	N0-016-75H
19*	2	Block Seal	Delrin	82-005-000
20	1	Shut Off Sleeve	Stainless Steel	82-003-000
21	1	Shut Off Piston	Stainless Steel	82-004-000
22	1	Top Sleeve	Stainless Steel	82-002-000
23	1	Shut Off Spring	Stainless Steel	82-008-000
24*	1	Ball Seal	Delrin	81-011-000
25*	1	Ball	Tungsten Carbide	BL-375-10M
26	1	Bottom Sleeve	Stainless Steel	81-005-000
27	1	Inlet Spring	Stainless Steel	81-015-000
28*	1	Bottom Cap Seal	Buna	N0-017-75H
29	1	Bottom Cap	Stainless Steel	81-004-000
30	-	Repair Kit	* Items	82-010-000

Dimensions

A	3.125 IN (79.4 mm)
B (MAX.)	9.25 IN (234.9 mm)
Panel Mount Hole	1.0 IN (25.4 mm)
Valve Ports	1/4" FNPT
Weight	7.15 LBS (3.25 KG)



Instrument Supply

Max. Supply Pressure	200 PSI.
Outlet Orifice Size	.125 IN.
Timer Circuit	0 - 60 sec. Required

Switch Specifications

Valve Type	3-Way
Ambient Temperature Range	-20° TO 250° F -20° TO 122° C
Sensor Type	Piston
Max. Oper. Pressure	10,000 PSI (680 BAR)
Burst Pressure	20,000 PSI. (1380 BAR)

Ordering Code: **8200 - 10000**



Hydraulic Controllers

SS-H Hydraulic Pilot

VC-2 Velocity Check Valve

RQ-1 (1/4") Quick Exhaust

RQ-2 (1/2") Quick Exhaust

Interface Valve

RD-1 Dump Valve

RD-H Dump Valve

Hydraulic Tattletale Indicator

Ruelco

RD-1 2-Way Dump Valve Model 8001



Phone (504) 340-0055
Fax (504) 340-0056

RD-I

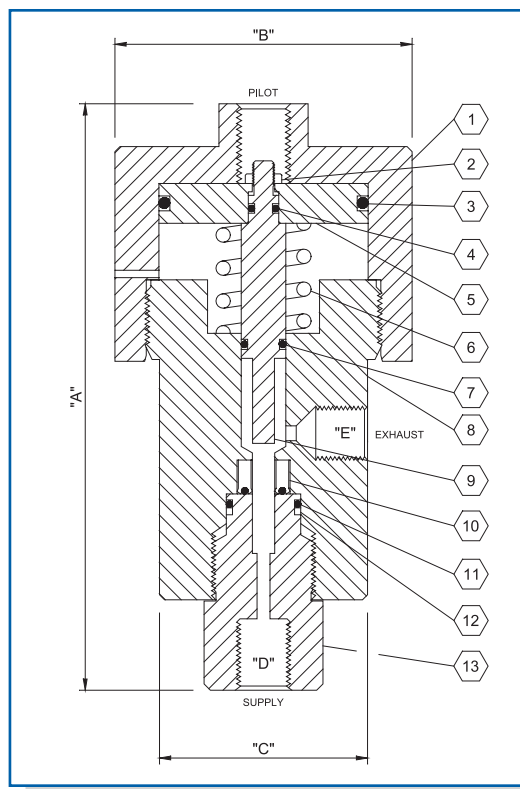
2-Way Normally Open Dump Valve Model 800I

GENERAL DESCRIPTION:

The Ruelco 'RD-I' is a 2-way normally open hydraulic controller that acts as a snap acting vent valve on loss of pilot pressure. This configuration of the Ruelco 'RD-I' permits control of hydraulic pressure up to 6000 psi. A pilot supply of 80 psi is necessary to control 6000 psi of hydraulic pressure. Minimum recommended pilot pressure is 30 psi. A high ratio of hydraulic pressure to pilot control pressure ensures safe operation. A soft seal design ensures zero leakage in the hydraulic section.

The internal spring and the hydraulic pressure act on the spool area is jointly responsible for opening the valve, although each on its own provides sufficient force to open the valve.

Ruggedly constructed stainless steel process wetted parts provide years of reliable service and the compact and simple design makes field maintenance easy.



Parts List For RD-I 2-Way Dump Valve

Item	Qty.	Description	Material	Part No.
1	1	Cap	St. Stl.	41-009-0A0
2	1	Lock Nut	St. Stl.	41-012-000
3*	1	O-Ring	Viton	41-013-000
4*	1	O-Ring	Viton	41-014-000
5	1	Piston	St. Stl.	41-019-000
6	1	Spring	Inconel	41-020-000
7*	1	O-Ring	Viton	41-021-000
8	1	Body	St. Stl.	42-025-000
9	1	Spool	St. Stl.	41-015-000
10*	1	Polypak	Polyurethane	41-023-000
11*	1	O-Ring	Viton	41-008-0A0
12	1	Backup	Teflon	NO-008-75
13	1	Hex Plug	St. Stl.	4H-002-000
14	1	Repair Kit	* Items	NO-014-75

Dimensions Inch (MM)

'A'	4.95 (125.7)
'B'	2.5 (63.5)
'C'	1.75 (44.5)
'D'	1/4" FNPT
'E'	1/4" FNPT
Weight	3.75 lbs. (1.7 kg)

Pilot Section Specifications P.S.I. (Bar)

Maximum Operating Pressure	200 (13.8)
Burst Pressure	45 (3.1)
Fluid	Air/Hydraulic
Ambient Temp. Range	-20 to 160 deg. F -29 to 70 deg. C

Hydraulic Section Specifications P.S.I. (Bar)

Maximum Operating Pressure	6000 (414)
Burst Pressure	12000 (828)
C _v Factor	.25
Ambient Temp. Range	-20 to 160 deg. F -29 to 70 deg. C

Ordering Code: 800I X 20000

BASE MODEL NUMBER

Standard Corrosive Service - (-)

N.A.C.E. Option ----- N

Arctic Service ----- A



1209 DISTRIBUTORS ROW ■ NEW ORLEANS, LA 70123 U.S.A.

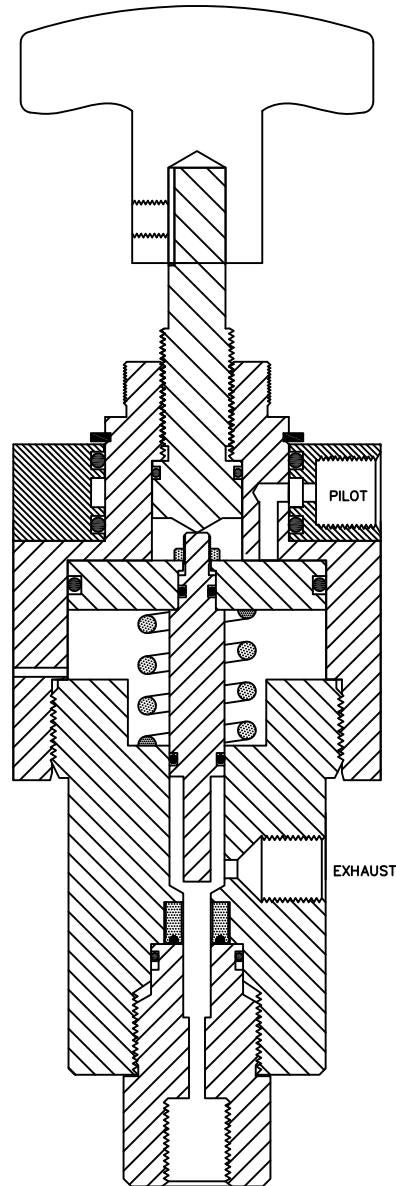
TELEPHONE: (504)340-0055 ■ FAX: (504)340-0056

GENERAL DESCRIPTION:

The Ruelco RD-1 is a 2-way normally open hydraulic controller that acts as a snap acting vent valve on loss of pilot pressure. This configuration of the Ruelco "RD-1" permits control of hydraulic pressure up to 10,000 psi. A pilot supply of 100 psi is necessary to control 10,000 psi of hydraulic pressure. Minimum recommended pilot pressure is 30 psi. A high ratio of hydraulic pressure to pilot control pressure ensures safe operation. A soft seal design ensures zero leakage in the hydraulic section.

The internal spring and the hydraulic pressure acting on the spool area are jointly responsible for opening the valve, although each on its own provides sufficient force to open the valve.

Ruggedly constructed stainless steel process wetted parts provide years of reliable service and the compact and simple makes field maintenance easy.

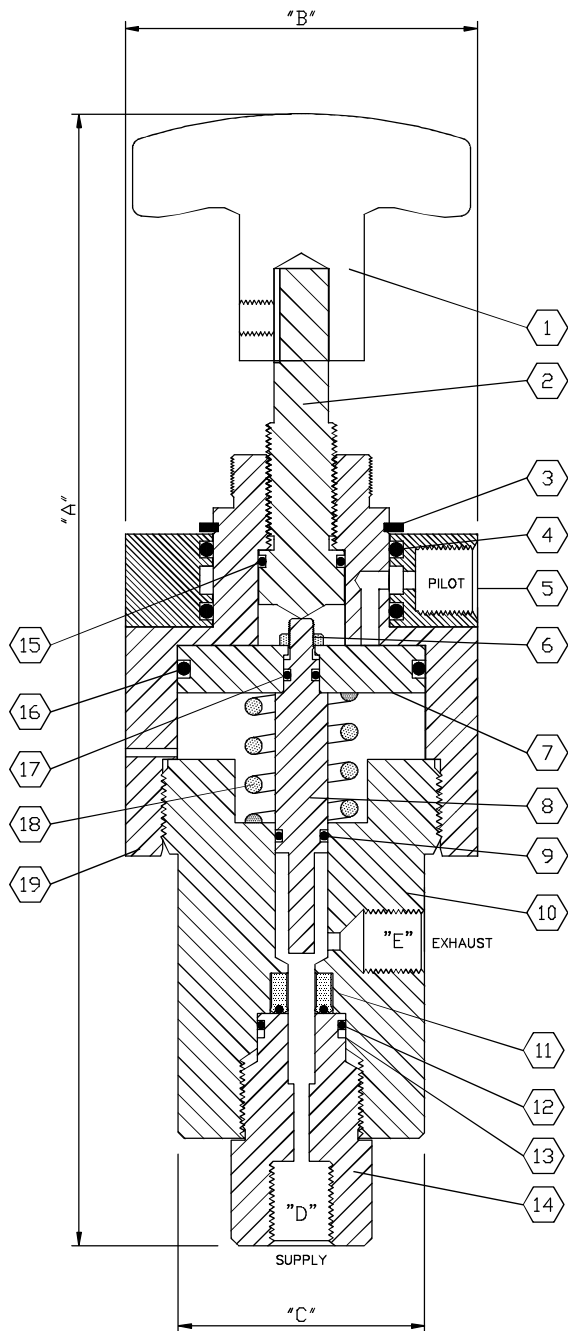


SUPPLY

RD-1

2 WAY DUMP VALVE

MODEL 8001



PARTS LIST FOR RD-1 DUMP VALVE

ITEM	QTY.	DESCRIPTION	MATERIAL	PART No.
1	1	Knob	Delrin	81-012-000
2	1	Override	316 St. Stl.	80-012-000
3	1	Snap Ring	Viton	SH-150-050
4*	2	O-Ring	Viton	V0-124-70H
5	1	Air Ring	316 St. Stl.	80-011-000
6	1	Lock Nut	316 St. Stl.	T6-832-044
7	1	Piston	316 St. Stl.	80-003-000
8	1	Spool	316 St. Stl.	80-002-000
9*	1	O-Ring	Viton	V0-009-70T
10	1	Body	316 St. Stl.	80-001-000
11*	1	Polypak	Fluoromylte	FU-187-70H
12*	1	O-Ring	Viton	V0-014-70H
13	1	Backup	Teflon	TB-014-000
14	1	Hex Plug	316 St. Stl.	80-004-000
15*	1	O-Ring	Viton	V0-013-70H
16*	1	O-Ring	Viton	V0-129-70H
17*	1	O-Ring	Viton	V0-006-70H
18	1	Spring	Inconel	80-006-000
19	1	Cap	316 St. Stl.	80-010-000
20	1	Repair Kit	* Items	80-015-000

DIMENSION INCH (MM)

"A"	6.85 (174)
"B"	2.5 (63.5)
"C"	1.75 (44.5)
"D"	1/4" FNPT
"E"	1/4" FNPT
WEIGHT	4.0 lbs. (1.81 kg)

Pilot Section Specifications P.s.i. (BAR)	
Max. Operating Pressure	200 (13.8)
Burst Pressure	500 (34.5)
Fluid	Air/ Hydraulics
Ambient Temperature Range	-20° to 160° F -29° to 70° C

Hydraulic Section Specifications P.s.i. (BAR)	
Max. Operating Pressure	10,000 (690)
Burst Pressure	12000 (828)
Cv Factor	.25
Temperature Range	-20° to 160° F -29° to 70° C

ORDERING CODE:

8001 X 20000

Base Model Number

Standard Corrosive Service - (-)

N.A.C.E. Option - N

Arctic Service - A

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Ruelco

RD-H 2 Way Normally Opened Dump Valve Model 8002



Phone (504) 340-0055
Fax (504) 340-0056

RD-H

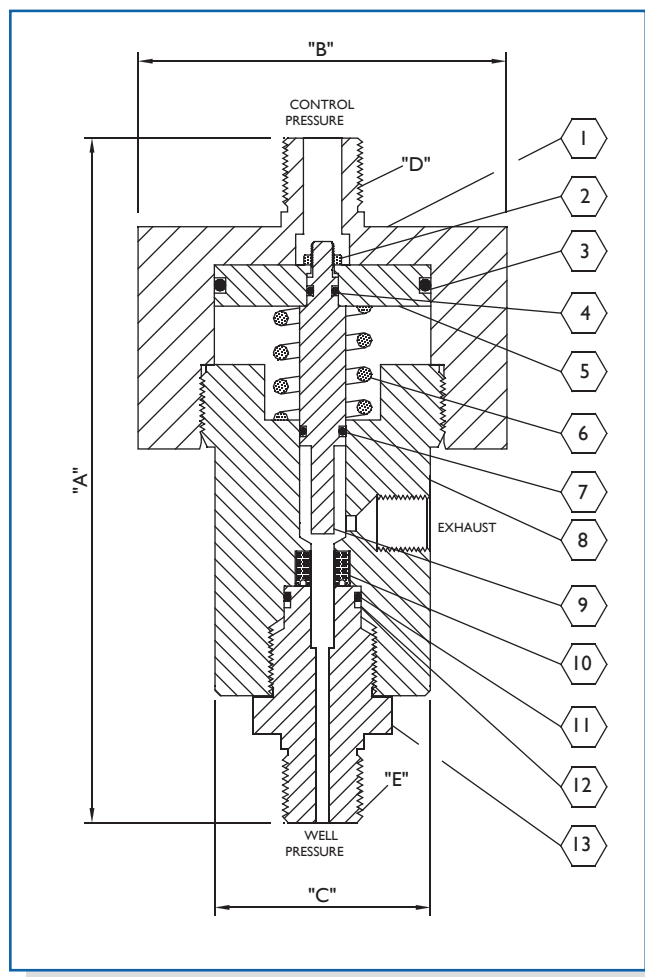
2 Way Normally Opened Dump Valve Model 8002

GENERAL DESCRIPTION:

The Ruelco "RD-H" is a 2-way normally open hydraulic controller that acts as a snap acting vent valve on loss of pilot pressure. This configuration of the Ruelco "RD-H" permits control of hydraulic pressure to 5,000 psi. A control supply of 100 psi is necessary to control 5,000 psi of well pressure. Minimum recommended pilot pressure is 30 psi. A high ratio of hydraulic pressure to pilot control pressure ensures safe operation. A soft seal design provides zero leakage in the hydraulic section.

The internal spring and the hydraulic pressure acting on the spool area act in tandem to open the valve, although each on its own provides sufficient force to open the valve.

Ruggedly constructed stainless steel process wetted parts provide years of reliable service, and the compact and simple design makes field maintenance easy.



Parts List For RD-H Dump Valve

ITEM	QTY.	DESCRIPTION	MATERIAL	PART No.
1	1	CAP	ST. STL.	80-005-0H0
2	1	LOCK NUT	ST. STL.	T6-832-044
3*	1	O-RING	VITON **	VO-129-70H
4*	1	O-RING	VITON **	VO-006-70H
5	1	PISTON	ST. STL.	80-003-000
6	1	SPRING	INCONEL	80-006-000
7*	1	O-RING	VITON **	VO-009-70T
8	1	BODY	ST. STL.	80-001-000
9	1	SPOOL	ST. STL.	80-002-000
10*	1	POLYPAK	POLYURETHANE	PU-187-70H
11*	1	O-RING	VITON **	VO-014-70H
12*	1	BACKUP	DELRIN	80-014-3BO
13	1	HEX PLUG	ST. STL.	80-004-0H0
14	1	REPAIR KIT	* ITEMS	80-007-000

Dimensions Inch (MM)

A	5.52 IN (140.2 mm)
B	3.0 IN (76.2 mm)
C	1.75 IN (44.5 mm)
D	3/8" MNPT
E	3/8" MNPT
WEIGHT	3.75 LBS (1.7 KG)

Specifications PSI. (Bar)

PILOT SECTION		HYDRAULIC SECTION	
MAX. OPER. PRESSURE	5,000 PSI (347 BAR)	MAX. OPER. PRESSURE	5,000 PSI (345 BAR)
BURST PRESSURE	10,000 PSI (694 BAR)	BURST PRESSURE	10,000 PSI (690 BAR)
FLUID	AIR OR HYDRAULICS	Cv FACTOR	.25
TEMPERATURE RANGE	-20 TO 160° F -29 TO 70° C	TEMPERATURE RANGE	-50 TO 160° F -45 TO 70° C

Ordering Code:

8002 X 2000 X

— Standard Service
N — Nace Option

0 — Standard Service
A — Arctic Service

Ruelco

FV-1

Hydraulic Control Line Fire Safety Valve & B.O.P.

Model 2V02



Phone (504) 340-0055
Fax (504) 340-0056

FV- I

Hydraulic Control Line

Fire Safety Valve & B.O.P. Model 2V02

FEATURES

- Rugged and compact design.
- Stainless steel construction.
- B.O.P. function prevents hazards due to SCSSV packing leaks under normal and fire operating conditions.
- Block and bleed operation closes SCSSV automatically under fire conditions.
- Metal to metal valve seats.
- B.O.P. function independent of fire activated operation.
- Field repairable.

OPTIONS

- Fusible lock open device for B.O.P. function.
- 168, 210 & 283° F (76, 99, 139° C) eutectics for fire activation.

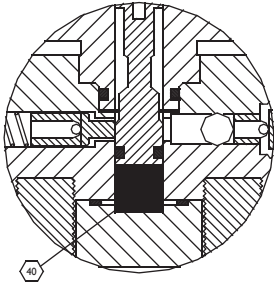
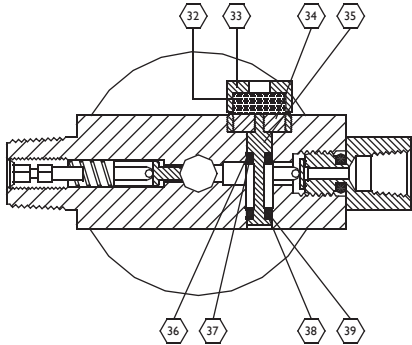
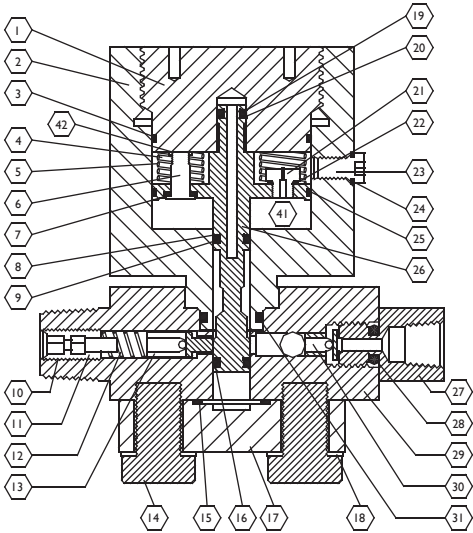
GENERAL DESCRIPTION:

The Ruelco FV- I is a multi-function control valve. It is designed to remove the hydraulic signal to a surface controlled subsurface safety valve in the event of a fire and stop any well fluid returns due to packing leaks in the SCSSV. The FV- I also acts as B.O.P. and provides protection from well fluid returns thru the control line during normal operating conditions.

The FV- I operation as a fire safety and its operation as B.O.P. are completely independent of each other. When a fire activates the FV- I, it blocks and bleeds the hydraulic pressure going to SCSSV allowing it to close. After a fixed elapsed time the FV- I will close off any further returns from the SCSSV. When operating as B.O.P. the FV- I will allow returns from the hydraulic control line for the same elapsed time as if exposed to a fire and then it will block any further flow from the SCSSV, thus minimizing any well fluids from flowing back to the hydraulic control system.

Parts List For FV- I

ITEM	Qty.	DESCRIPTION	MATERIAL	PART NO.
1	1	Timer Body Cap	316 St. Stl.	2V-001-000
2	1	Timer Body	17-4 PH St. Stl.	2V-002-000
3*	1	Timer Body Cap Seal	Viton	V0-032-90H
4	2	Timer Spring	Inconel X-750	2V-021-000
5	1	Flow Control Spring	Inconel X-750	10-004-000
6	1	Flow Control Stem	316 St. Stl.	2V-003-000
7*	1	Flow Control Seal	Viton	V0-008-75H
8*	1	Timer Spool Middle B/U	Teflon	TB-009-00C
9*	1	Timer Spool Middle Seal	Viton	V0-009-75H
10	1	Spring Guide Lock Screw	316 St. Stl.	2V-020-000
11	1	Shut-Off Valve Spring Guide	Inconel X-750	30-004-000
12	1	Shut-Off Valve Spring	316 St. Stl.	10-004-000
13	1	Shut-Off Valve Poppet	316 St. Stl.	2V-005-000
14	2	Crossover Plate Bolt	316 St. Stl.	T7-0GD-103
15*	1	Crossover Plate Seal	Viton	V0-016-90H
16*	1	Timer Spool Lower Seal	Viton	V0-009-75H
17	1	Crossover Plate	316 St. Stl.	2V-006-000
18	2	Crossover Plate Washer	316 St. Stl.	WA-14A-163
19*	1	Timer Spool Upper Seal	Viton	V0-006-75H
20*	1	Timer Spool Upper B/U	Teflon	TB-006-00C
21	1	Timer Orifice	Brass	2V-007-000
22*	1	Timer Orifice Seal	Viton	V0-008-75H
23	1	Oil Fill Port Screw	316 St. Stl.	TA-08K-0G3
24*	1	Oil Fill Port Screw Seal	Viton	V0-008-75H
25*	1	Timer Spool Oil Seal	Teflon	2V-017-000
26	1	Timer Spool	316 St. Stl.	2V-008-000
27	1	Inlet Fitting	17-4 PH St. Stl.	2V-009-000
28*	1	Inlet Fitting Seal	Viton	V0-012-90H
29	1	Body	316 St. Stl.	2V-010-000
30	1	Block & Bleed Valve Poppet	316 St. Stl.	2V-011-000
31*	1	Timer Body Seal	Viton	V0-013-90H
32	1	B & B Eutectic Plug	Eutectic	2V-012-000
33	1	Block & Bleed Cap	316 St. Stl.	2V-013-000
34	1	Block & Bleed Piston	316 St. Stl.	2V-014-000
35	1	Block & Bleed Stem	17-4 PH St. Stl.	2V-015-000
36*	1	B & B Stem Upper B/U	Teflon	TB-007-00C
37*	1	B & B Stem Upper Seal	Viton	V0-007-75H
38*	1	B & B Stem Lower B/U	Teflon	TB-006-00C
39*	1	B & B Stem Lower Seal	Viton	V0-006-75H
40	1	Lock Open Eutectic	Eutectic	2V-016-000
41*	4 oz.	Timer Oil	Petroleum Base	2V-019-000
42	1	Adjustment Nut	316 St. Stl.	T6-632-033
43	-	Repair Kit	* Items	2V-018-000

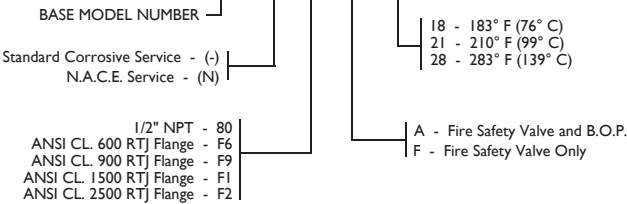


Partial View Showing
Timer Lock Open Eutectic Installed

Specifications

Max. Working Pressure	10,000 PSI. (690 BAR)
Min. Working Pressure	1,000 PSI. (69 BAR)
B.O.P. Response Time	6 Min @ 72° F (22° C) 1 Min @ 300° F (149° C)
Ambient Operating Temperature Range	-20° to 250° F -29° to 121° C
Cv Normal Operation	.063
Cv Fire Activated	.097

Ordering Code: 2V02 - 80 A 18



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Ruelco

RV-1 Low Pressure Relief Valve

Model 7500



1-800-229-7835
ruelco@ruelco.com

RV- I Low Pressure

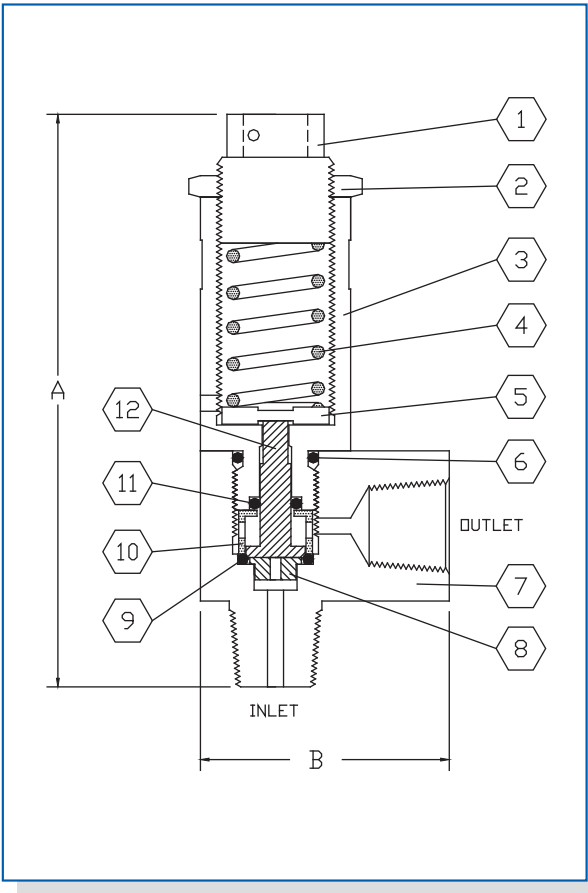
Relief Valve Model 7500

FEATURES

- Stainless Steel Construction
- Externally Adjustable
- Wide Adjustable Ranges using only 3 Springs
- 100 % Tested
- Compact Design

GENERAL DESCRIPTION:

The Ruelco RV-I Relief Valve is a stainless steel, soft seat relief valve capable of pressures from 50 psi. to 1,250 psi. The size of the valve makes it ideal for small spaces while the stainless steel construction allows the valve to operate in corrosive systems.



Parts List For RV-I Relief Valve

Item	Qty.	Description	Material	Part No.
1	1	SPRING CAP	316 St. Std.	75-007-000
2	1	LOCK NUT	316 St. Std.	75-008-000
3	1	SPRING HOUSING	316 St. Std.	75-002-000
4A	1	BLUE SPRING	SPRING WIRE	75-009-000
4B	—	RED SPRING	SPRING WIRE	75-010-000
4C	—	GOLD SPRING	SPRING WIRE	75-011-000
5	1	SPRING PLATE	316 St. Std.	75-006-000
6*	1	BODY SEAL	NITRILE	N0-012-70H
7	1	RELIEF VALVE BODY	316 St. Std.	75-001-000
8	1	SEAL GUIDE	316 St. Std.	75-021-000
9*	1	HEAD SEAL	VITON	V0-011-70H
10	1	OUTER SLEEVE	316 St. Std.	75-022-000
11*	1	PISTON SEAL	NITRILE	N0-4X2-70H
12	1	PISTON	17-4 PH St. Std.	75-020-000
13	—	STANDARD REPAIR KIT	-	75-023-000
14	—	REPAIR KIT W/ BLUE SPRING	-	75-024-000
15	—	REPAIR KIT W/ RED SPRING	-	75-025-000
16	—	REPAIR KIT W/ GOLD SPRING	-	75-026-000

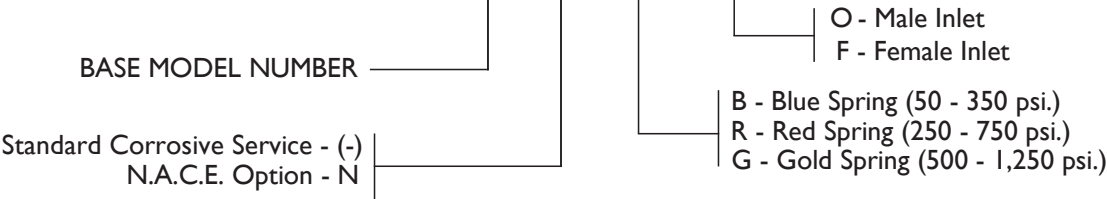
Specifications P.S.I. (BAR)

Valve Body Max. W.P.	10,000 (640)
Ambient Temperature Range	-20° To 250° F -20° To 122° C

Dimensions Inch (MM)

"A"	3.50 (88.9)
"B"	1.50 (38.1)
Port Size	1/4" NPT
Weight	.5 lbs (.24 Kg)

Ordering Code: 7500 X I X 0 0 X



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RV-I

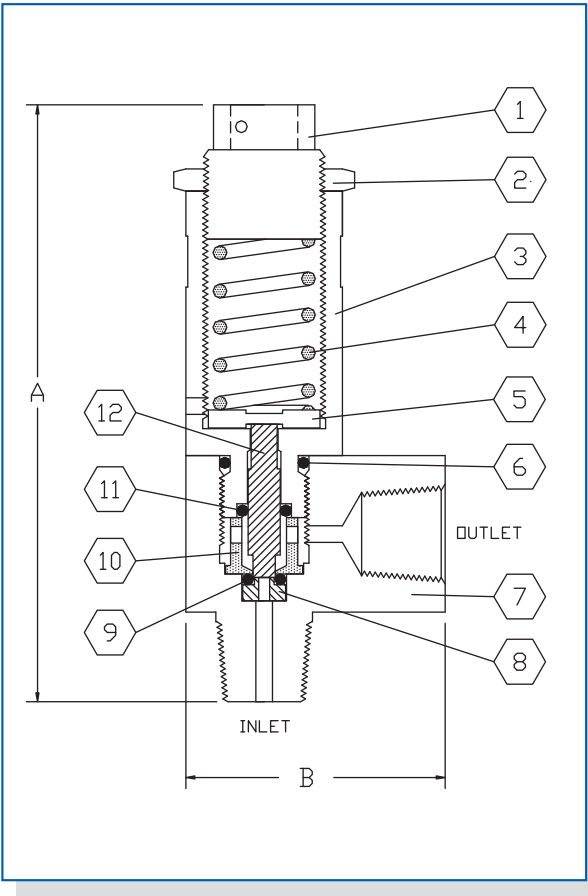
Relief Valve Model 7500

FEATURES

- Stainless Steel Construction
- Externally Adjustable
- Wide Adjustable Ranges using only 3 Springs
- 100 % Tested
- Compact Design

GENERAL DESCRIPTION:

The Ruelco RV-I Relief Valve is a stainless steel, soft seat relief valve capable of pressures from 250 psi. to 10,000 psi. The size of the valve makes it ideal for small spaces while the stainless steel construction allows the valve to operate in corrosive systems.



Parts List For RV-I Relief Valve

Item	Qty.	Description	Material	Part No.
1	1	SPRING CAP	316 St. Stl.	75-007-000
2	1	LOCK NUT	316 St. Stl.	75-008-000
3	1	SPRING HOUSING	316 St. Stl.	75-002-000
4A	1	BLUE SPRING	SPRING WIRE	75-009-000
4B	—	RED SPRING	SPRING WIRE	75-010-000
4C	—	GOLD SPRING	SPRING WIRE	75-011-000
5	1	SPRING PLATE	316 St. Stl.	75-006-000
6*	1	BODY SEAL	NITRILE	N0-012-70H
7	1	RELIEF VALVE BODY	316 St. Stl.	75-001-000
8	1	SEAL GUIDE	316 St. Stl.	75-004-000
9*	1	HEAD SEAL	VITON	V0-006-90H
10	1	OUTER SLEEVE	316 St. Stl.	75-005-000
11*	1	PISTON SEAL	NITRILE	N0-4X2-70H
12	1	PISTON	17-4 PH St. Stl.	75-003-000
13	—	STANDARD REPAIR KIT	-	75-012-000
14	—	REPAIR KIT W/ BLUE SPRING	-	75-013-000
15	—	REPAIR KIT W/ RED SPRING	-	75-014-000
16	—	REPAIR KIT W/ GOLD SPRING	-	75-015-000

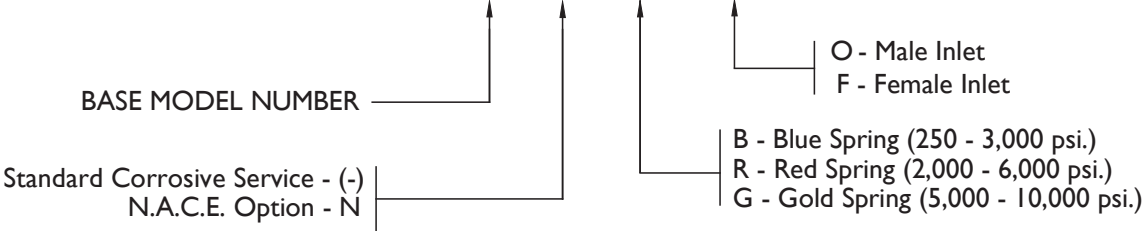
Specifications P.S.I. (BAR)

Valve Body Max. W.P.	10,000 (640)
Ambient Temperature Range	-20° To 250° F -20° To 122° C

Dimensions Inch (MM)

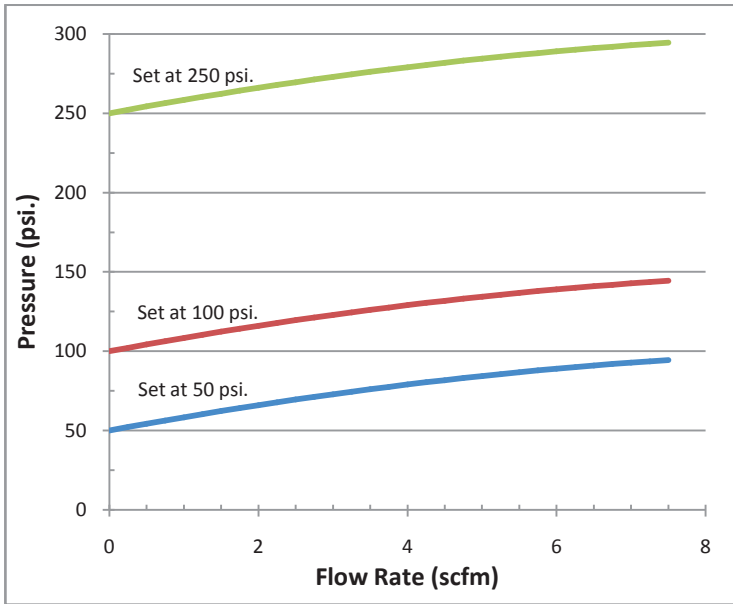
"A"	3.50 (88.9)
"B"	1.50 (38.1)
Port Size	1/4" NPT
Weight	.5 lbs (.24 Kg)

Ordering Code: **7500 X 2 X 0 0 X**

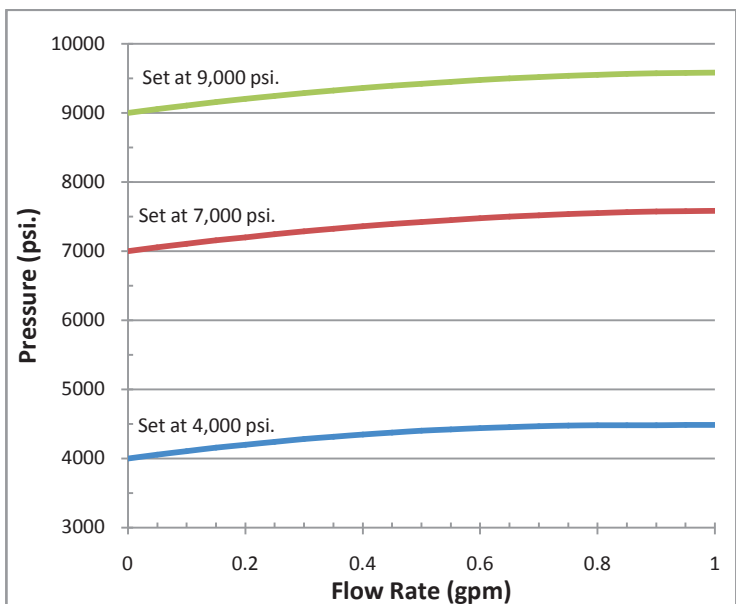
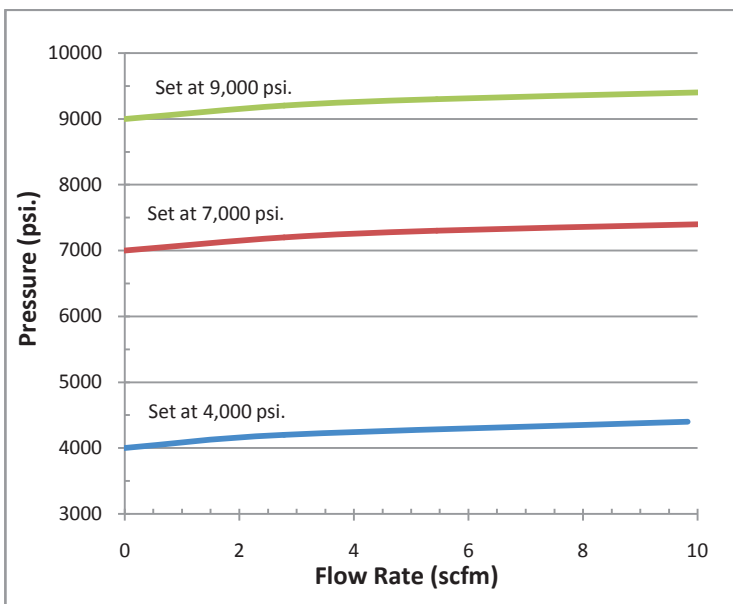
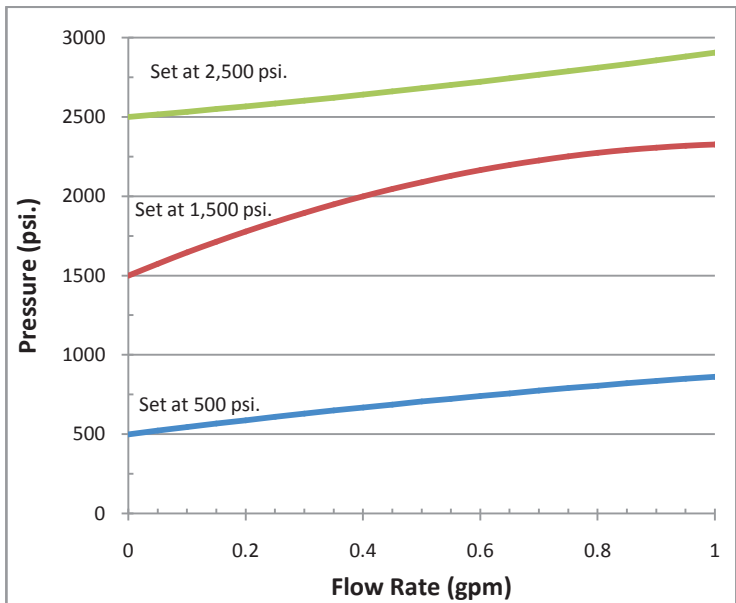
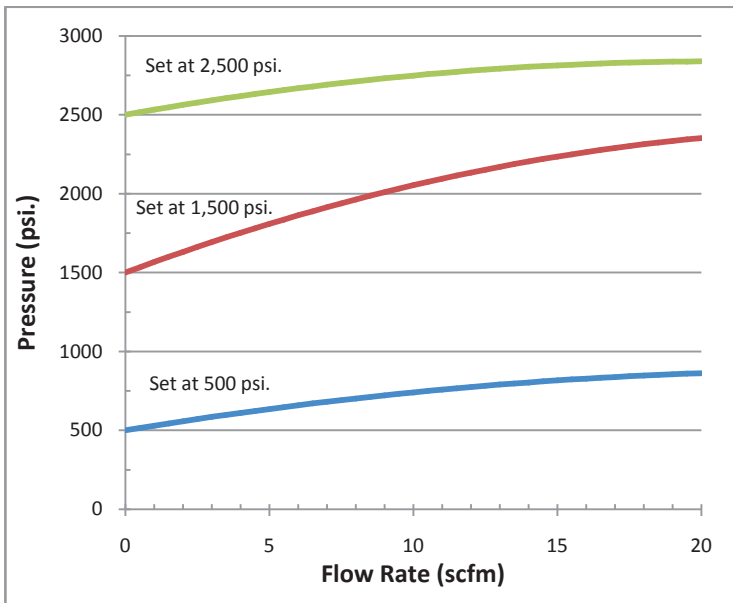
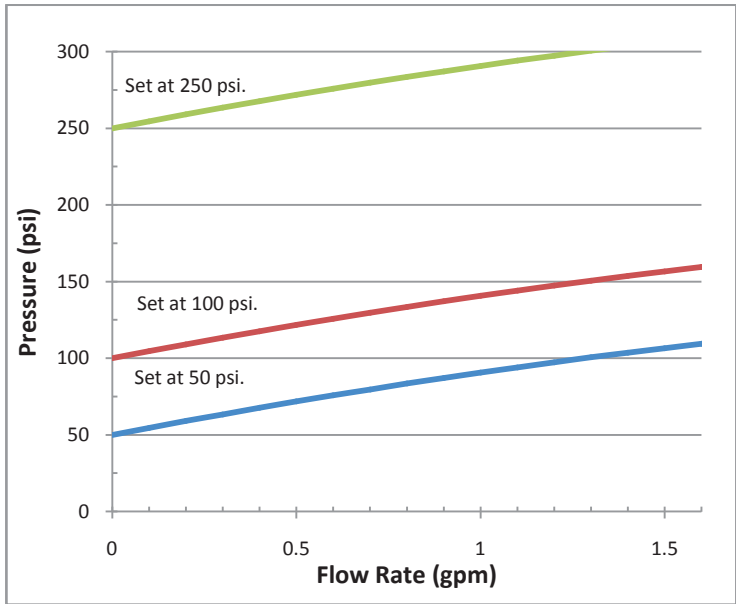


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Air Flow Data at 72° F



Water Flow Data at 72° F



Ruelco

H.P. Relief Valve

Model 7500



1-800-229-7835
ruelco@ruelco.com

H.P. Relief Valve

Model 7500

FEATURES

- Stainless steel construction
- Externally adjustable
- 100% tested
- Compact design

GENERAL DESCRIPTION:

The Ruelco RV-1 high pressure relief valve is a stainless steel, soft seat relief valve capable of pressures from 7500 to 15,000 PSI. The size of the valve makes it ideal for small spaces while the stainless steel construction allows the valve to operate in corrosive systems.

Parts List For H.P. Relief Valve

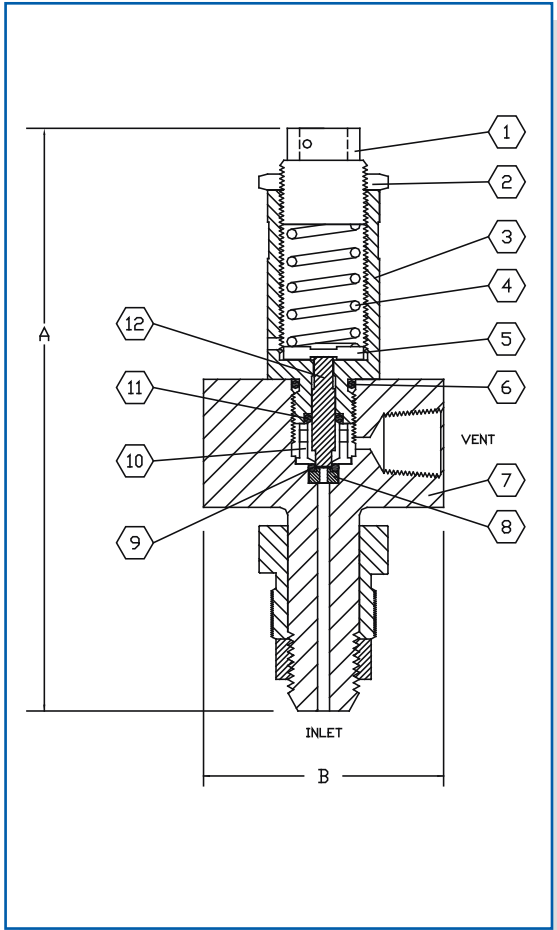
Item	Qty.	Description	Material	Part No.
1	1	Spring Cap	316 St. Stl.	75-007-000
2	1	Lock Nut	316 St. Stl.	75-008-000
3	1	Spring Housing	316 St. Stl.	75-002-000
4*	1	Green Spring	Spring Wire	75-033-000
5	1	Spring Plate	316 St. Stl.	75-006-000
6*	1	Body Seal	Nitrile	N0-012-70H
7	1	Relief Valve Body	17-4 Ph St. Stl.	75-030-000
8	1	Seal Guide	316 St. Stl.	75-031-000
9*	1	Head Seal	Urethane	U0-005-90H
10	1	Outer Sleeve	316 St. Stl.	75-005-000
11*	1	Piston Seal	Nitrile	N0-4X2-70H
12	1	Piston	17-4 Ph St. Stl.	75-003-000
13	-	H.P. Repair Kit (* Items)	-	75-034-000

Specifications P.S.I. (BAR)

Valve Body Max. W.P.	15,000 (960)
Ambient Temperature Range	-20° To 250° F -20° To 122° C

Dimensions Inch (MM)

"A"	4.55 (115.6)
"B"	1.88 (47.8)
Inlet Size	9/16" M.P.
Port Size Vent	1/4" NPT
Weight	.7 lbs (.32 Kg)



Ordering Code: 7500 X 3 X 000

BASE MODEL NUMBER ————
Standard Corrosive Service - (-) ————
N.A.C.E. Option - N ———— N - Green Spring (7,500 - 15,000 psi.)

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Fuse Plug / Vent Screen



Fuse Plug



Vent Screen

Fuse Plug

Temperature Sensor Model 2102

FEATURES

- 316 stainless steel construction. (models to N.A.C.E. MR0175 available)
- Leak free seal.
- Large Cv factors produce large flow rates.
- Small compact design.

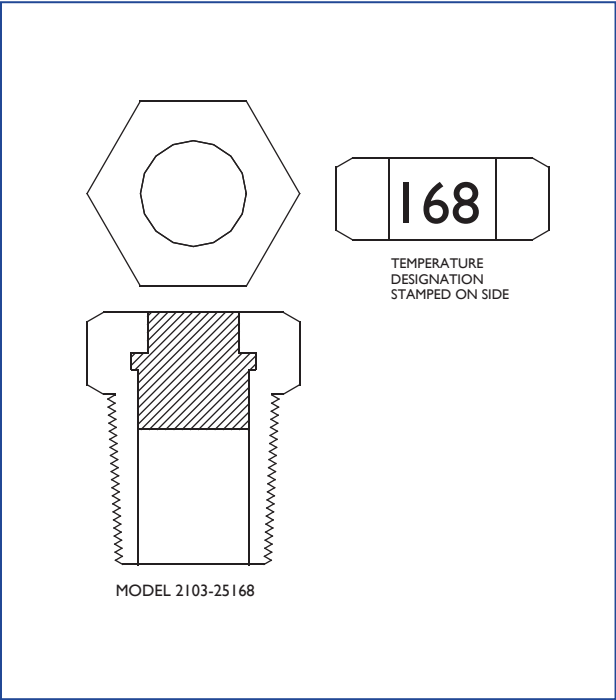
OPTIONS

- 1/4", 3/8", 1/2" MNPT sizes.
- 158°, 168°, 183°, 210° or 283° F sensing temperature.
- Consult factory for other sensing temperatures.

GENERAL DESCRIPTION:

The Ruelco Fuse Plug is a heat sensitive device designed to vent control pressure at a predetermined temperature. Ruelco Fuse plugs are manufactured using a process that assures a leak free operation. The sensing temperature of the fusible material is clearly marked on each fuse plug to assure proper identification.

The Ruelco fuse plugs are available in 316 stainless steel with various sensing temperatures and sizes.



Ordering Code: 2102 - XX XXX

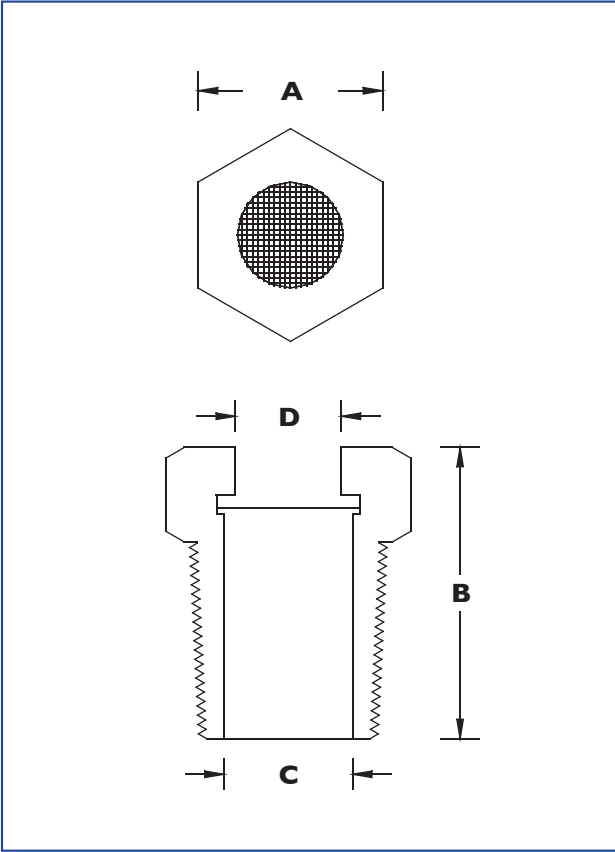
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|------------------|---------------------|
| 1/4" MNPT --- 25 | 158 --- 158° F TEMP |
| 3/8" MNPT --- 37 | 168 --- 168° F TEMP |
| 1/2" MNPT --- 50 | 183 --- 183° F TEMP |
| | 210 --- 210° F TEMP |
| | 283 --- 283° F TEMP |

Vent Screen

Series 91

GENERAL DESCRIPTION:

The Ruelco Vent Screen is manufactured with an all stainless steel construction and is used to prevent insects from blocking the vent port. The Ruelco Vent Screen is available in four standard NPT sizes.



	DIMENSION			
NPT SIZE	'A'	'B'	'C'	'D'
1/8"	.435"	.550	.250"	.187"
1/4"	.563"	.770"	.343"	.281"
3/8"	.745"	.860"	.438"	.375"
1/2"	.875"	1.10"	.500"	.438"

Ordering Code: 91 - 0XX - 000

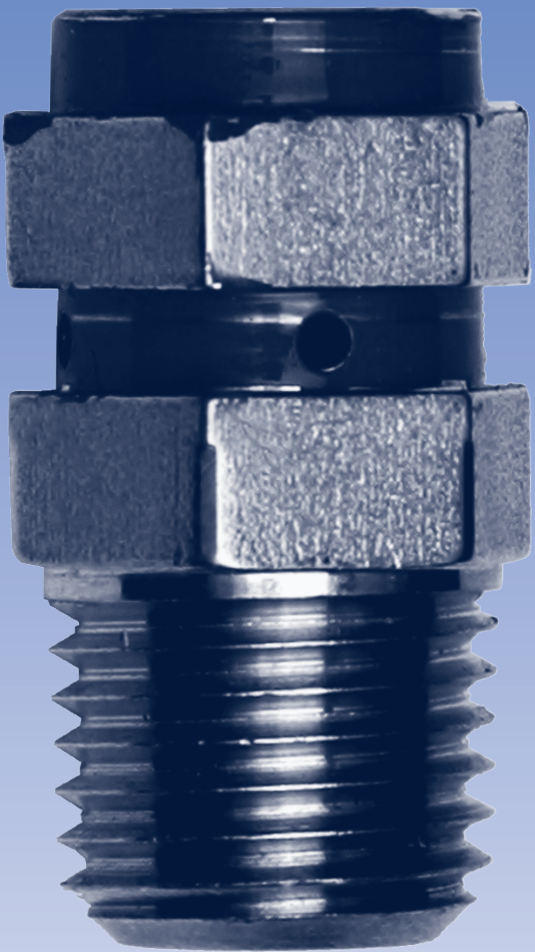
- | |
|------------------|
| 1/8" MNPT --- 01 |
| 1/4" MNPT --- 02 |
| 3/8" MNPT --- 03 |
| 1/2" MNPT --- 04 |

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High Pressure Fuse Plug

Model 2103

Ruelco



1-800-229-7835
ruelco@ruelco.com

High Pressure Fuse Plug

Temperature Sensor Model 2103

FEATURES

- 316 Stainless Steel Construction
(models to N.A.C.E. MRO175 available)
- Leak Free Seal
- Small Compact Design
- Max. W.P. 6,000 psi

OPTIONS

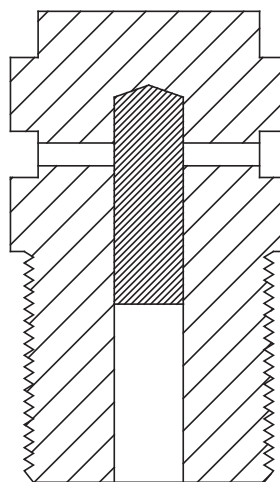
- 1/4" and 3/8" MNPT Sizes
- 450° F sensing temperature

GENERAL DESCRIPTION:

The Ruelco Fuse Plug is a heat sensitive device designed to vent control pressure. The sensing temperature of the fusible material is clearly marked on each fuse plug to assure proper identification.

The Ruelco fuse plugs are available in 316 stainless steel with various sizes.

TEMPERATURE
DESIGNATION ETCHED
ON TOP



MODEL 2103-25450

Ordering Code: 2103 - XX 450

1/4" MNPT --- 25

3/8" MNPT --- 37

Ruelco

Orifice Nipple



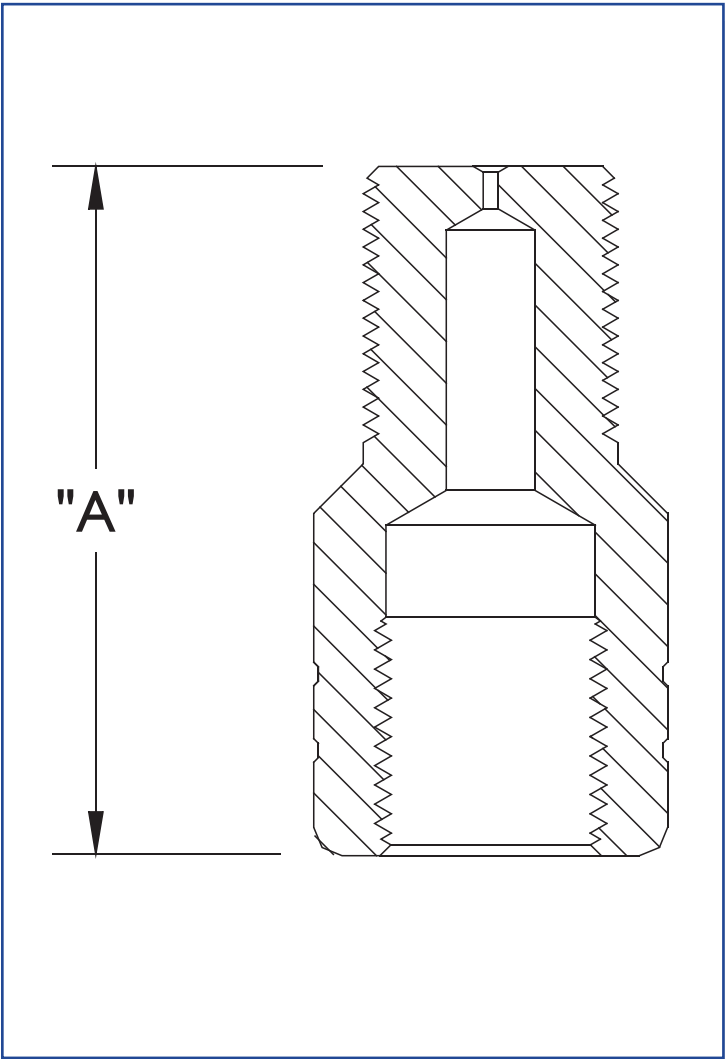
Orifice Nipple

GENERAL DESCRIPTION:

The Ruelco .030" and .020" diameter orifice is available in stainless steel. Each orifice is tested for performance as well as heat treatment for hardness.

Specifications

"A"	1.45 (36.8)
PORT SIZE	1/4" NPT
WEIGHT	.1 LB. (.05 KG.)



Ordering Code: 90 - 00 X -0A0

BASE MODEL NUMBER	90	-	00	X	-0A0	1 -- .030" ORIFICE
						2 -- .020" ORIFICE

Optional Orifice Sizes Available Upon Request

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Flame Arrestor / Vent Fill Cap



FA-I



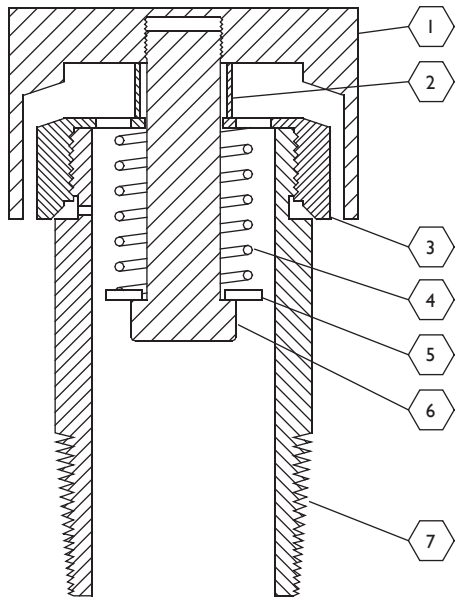
VF-I

FA-1

Flame Arrestor Model 6700

GENERAL DESCRIPTION:

The Ruelco FA-I Flame Arrestor provides protection for the enclosure or the tank contents in case of fire or any possible ignition source outside. Under normal conditions, the cover prevents rain, dust or other contaminants from entering the enclosure or tank.



ITEM	QTY.	DESCRIPTION	MATERIAL	PART No.
1	1	COVER	316 S.S.	67-001-000
2	1	EUTECTIC	DELRIN	67-002-000
3	1	CAP	316 S.S.	65-002-000
4	1	SPRING	INCONEL	10-024-000
5	1	WASHER	316 S.S.	67-005-000
6	1	BOLT	316 S.S.	67-004-000
7	1	BODY	316 S.S.	65-001-000

Ordering Code: 6700 - X X 000

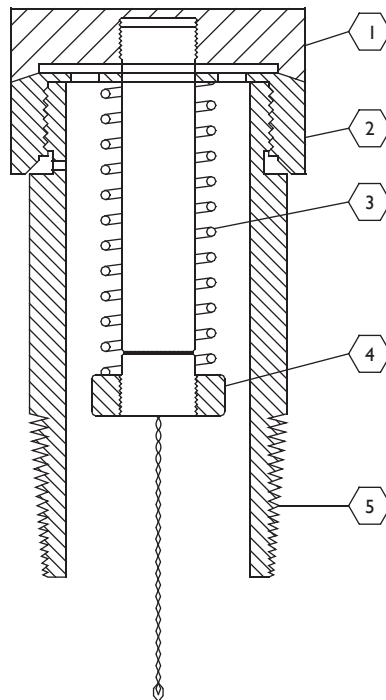
75 --- 3/4" NPT
10 --- 1" NPT

VF-1

Vent/Fill Cap Model 6500

GENERAL DESCRIPTION:

The Ruelco VF-I is a vent cap designed to relieve pressure due to entrapped gases in a hydraulic reservoir through a spring loaded cover. Under normal conditions, the cover prevents rain, dust or other contaminants from entering into the hydraulic reservoir.



ITEM	QTY.	DESCRIPTION	MATERIAL	PART No.
1	1	COVER	316 S.S.	65-003-000
2	1	CAP	316 S.S.	65-002-000
3	1	SPRING	INCONEL	65-005-000
4	1	BOLT	316 S.S.	65-006-000
5	1	BODY	316 S.S.	65-001-000

Ordering Code: 6500 - X X 000

5 — 3/4" NPT / 1.5" NPT
0 — 1" NPT

7 — 3/4" NPT
1 — 1" NPT / 1.5" NPT

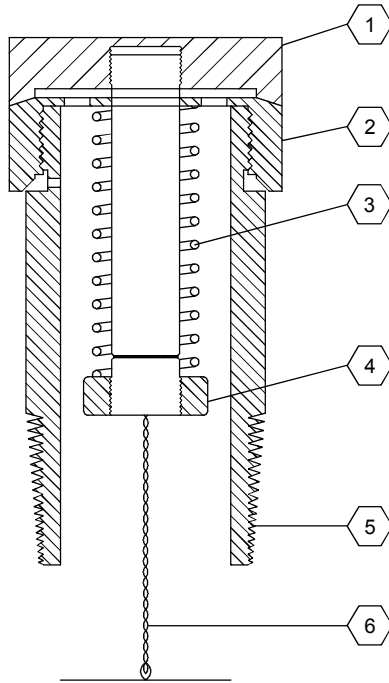
GENERAL DESCRIPTION:

The Ruelco VF-1 is a vent cap designed to relieve pressure due to entrapped gases in a hydraulic reservoir through a spring loaded cover. Under normal conditions, the cover prevents rain, dust or other contaminants from entering into the hydraulic reservoir. The micron filter option also prevents oil contaminants from entering the system during filling or maintenance.

10/13

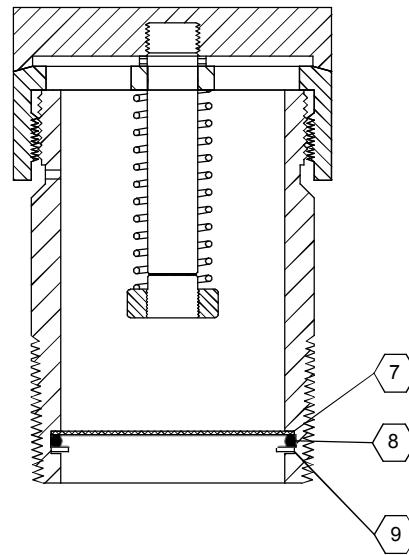
VF-1

STANDARD MODEL



ITEM	QTY.	DESCRIPTION	MATERIAL	PART No.
1	1	COVER	316 S.S.	65-003-XXX
2	1	CAP	316 S.S.	65-002-XXX
3	1	SPRING	INCONEL	65-005-000
4	1	BOLT	316 S.S.	65-006-000
5	1	BODY	316 S.S.	65-001-150
6	1	WIRE CATCH	316 S.S.	65-xxx-xxx

FILTER OPTION



ITEM	QTY.	DESCRIPTION	MATERIAL	PART No.
7a	1	80 µm FILTER	S.S.	65-0XX-080
7b	-	200 µm FILTER	S.S.	65-0XX-200
8	1	FILTER SEAL	VITON	VO-029-70H
9	1	SNAP RING	S.S.	RS-0163-000

VENT/FIL CAP

ORDERING CODE: 6500 - XXXXX

3/4" NPT -- 75

1" NPT -- 10

1.5" NPT -- 15

000 -- NO FILTER

080 -- 80 MICRON FILTER

200 -- 200 MICRON FILTER

Contact for other filter micron options

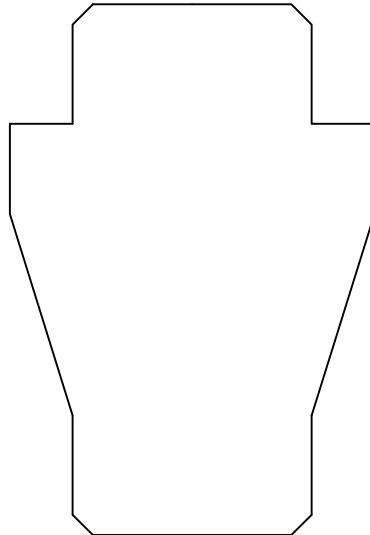
MODEL 6500



1209 DISTRIBUTORS ROW ■ NEW ORLEANS, LA 70123 U.S.A.
TELEPHONE: (504)340-0055 ■ FAX: (504)340-0056

GENERAL DESCRIPTION:

THE RUELCO TUBING PLUG IS A STAINLESS STEEL PLUG SPECIALLY DESIGNED TO FIT INSIDE OF A PRE-EXISTING TUBING NUT. THE PLUG TAKES THE PLACE A TUBING CAP AND IS REPLACABLE WITH THE ORIGINAL FERRELS UPON INSTALLATION. THE LOW COST OF THE PLUG MAKES IT IDEAL FOR SHIPPING.



ORDERING CODE:

PS - 0XX - 000

1/4" TUBE --- 01
3/8" TUBE --- 02
1/2" TUBE --- 03

TUBING PLUG

SERIES PS

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Status Indicator

Model 6400

Ruelco



1-800-229-7835
ruelco@ruelco.com

Status Indicator

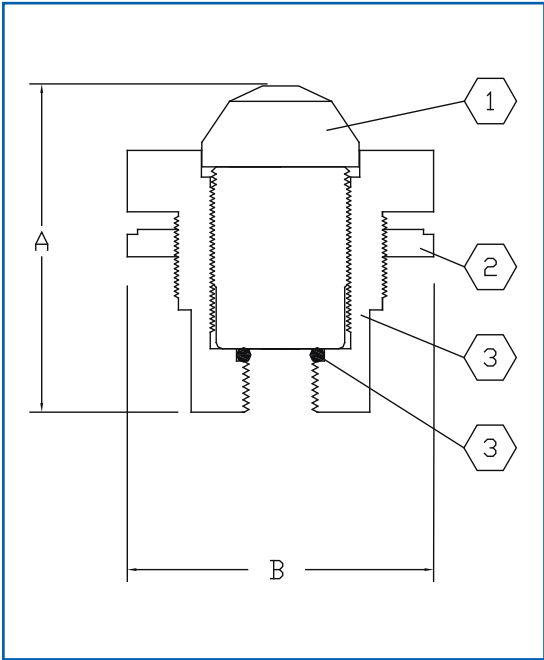
Model 6400

FEATURES

- 316 Stainless Steel Knob
- 100 psi. Maximum Instrument Supply
- Viton seals are utilized for dependability
- Indicator Shows Green/Red Visual Status

GENERAL DESCRIPTION:

The Ruelco Status Indicator is designed to give positive indication of a pneumatic control signal. When pneumatic pressure is applied to the Status Indicator, the viewable window will indicate green. When the pneumatic signal is removed, the indicator will show red. Its simple and compact design makes maintenance and repair easy. The Status Indicator does not have to be removed from the control panel or system loop if repair or maintenance is necessary.



Parts List For Status Indicator

Item	Qty.	Description	Material	Part No.
1	1	Indicator	Plastic	MD-GR-HP
2	1	Panel Nut	316 S. S.	10-006-000
3	1	Body	316 S. S.	64-001-000
4*	—	Base Seal	Viton	V0-108-90H
5	—	Repair Kit	*Items	64-002-000

Specifications

Inlet Connection	1/8" NPT
Max. Oper. Pressure	100 PSI (6.90 BAR)
Ambient Temperature Range	-20° To 250° F -29° To 122° C

Dimensions Inch (MM)

A	1.70 (43.18)
B	1.50 (38.1)

Ordering Code: 6400 - 10000

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Regulator

Model 7700

Ruelco



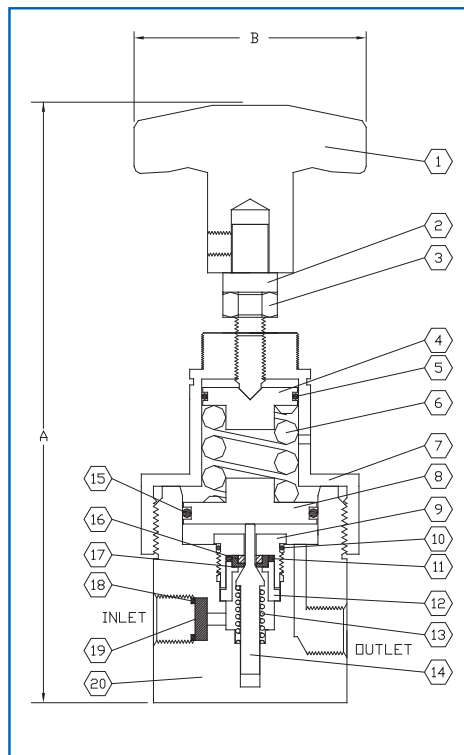
1-800-229-7835
ruelco@ruelco.com

Model 7700

- 316 stainless steel construction (models to N.A.C.E. MR0175 available).
- 6,000 psi inlet and 0-250 psi outlet.
- Viton and nitril seals are utilized for dependability.
- Stainless steel filter and design minimizes malfunctions due to supply system debris.

- Up to 3 outlet ports (1 outlet port is standard).

The Ruelco High Pressure Regulator is a rapid response regulator designed to give precise low pressure control of a high pressure signal. A 6,000 psi inlet, and a 0-250 psi outlet allow the regulator to provide a steady control pressure. The valve also comes standard with a 20 micron stainless steel filter to ensure long life and clean flow.



Specifications P.S.I. (BAR)

MAX INLET PRESSURE	6000 (413)
MAX OUTLET PRESSURE	250 (17.2)
AMBIENT TEMP. RANGE	-50 TO 180° F -45 TO 82° C

"A"	5.75 (1463)
"B"	2.375 (60.3)
PORT SIZE	1/4" NPT
PANEL MOUNT HOLE	1.0 (25.4)
MAX PANEL THICKNESS	.18 (4.6)
WEIGHT	2.5 (1.14 kg)

BASE MODEL NUMBER | | | | |

STANDARD CORROSIVE SERVICE - (-) | | | | |

N.A.C.E. OPTION - N | | | | |

ARTIC SERVICE - A | | | | |

1 - 1 OUTLET PORT

2 - 2 OUTLET PORTS

3 - 3 OUTLET PORTS

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Ruelco

CV-1 Check Valve

Model 7800



1-800-229-7835
ruelco@ruelco.com

CV- I Check Valve

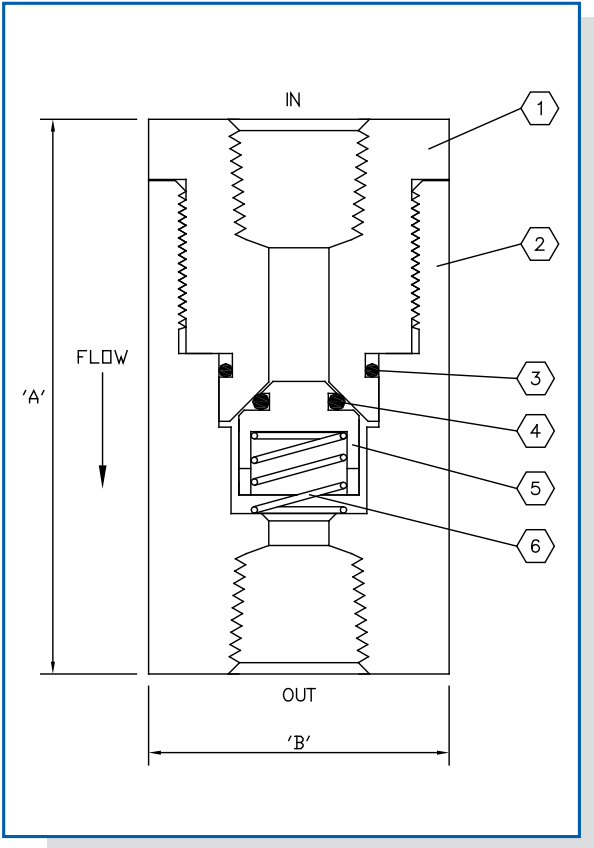
Model 7800

FEATURES

- Stainless Steel construction (N.A.C.E. Model Available)
- All soft seal design
- Large Cv factors produce large flow rates
- Small compact design
- Simple operation allows for easy repair
- Additional cracking pressures available upon request

GENERAL DESCRIPTION:

The Ruelco CV-I check valve is designed to provide reliable one way flow. The 17-4 stainless steel construction allows for high corrosion resistance in harsh environments. The CV-I was designed with a high flow rate in mind with the orifice being equal to 1/4" I.D. tubing. The CV-I can be disassembled and repaired without the need for special tools.



Parts List For CV-I Check Valve

Item	Qty.	Description	Material	Part No.
1	1	Cap	17-4 St. Stl.	78-002-000
2	1	Body	17-4 St. Stl.	78-001-000
3*	1	O-Ring	Viton	VO-014-V90
4*	1	O-Ring	Viton	VO-010-V70
5	1	Poppet	17-4 St. Stl.	78-003-000
6	1	Spring	316 St. Stl.	78-005-000
7*	1	Repair Kit	—	78-004-000

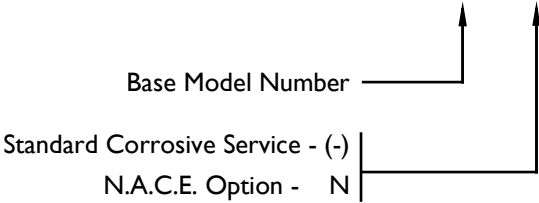
Dimensions Inch (MM)

"A"	2.31 (58.7)
"B"	1.25 (31.8)
Port Size	1/4" NPT
Weight	10.6 oz. (301 g.)

Specifications P.S.I. (BAR)

Valve Body Max W.P.	10,000 (689.5)
Cracking Pressure	5 (0.34)
Ambient Temperature Range	-20° to 250° F -29° to 122° C
Cv Factor	2.0

Ordering Code: 7800 X 10000



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