

Basic Information—All ESP Types

Overall Size

Length	12 3/4-in. Max.
Diameter	
All Piston Type.	2 1/4-in. Max.
2-in. Diaphragm	2 7/8-in. Max.
4-in. Diaphragm	5-in. Max.
Panel Mount Hole Required.	2 in.

Weight

All Piston Type.	5#
2-in. Aluminum Diaphragm Assembly . . .	5#
2-in. SS Diaphragm Assembly.	6.8#
4-in. Aluminum Diaphragm Assembly . . .	6.4#
4-in. SS Diaphragm Assembly.	10#

Instrument Pressure Range

Standard Body	200 psi max.
High Flow Rate Body	600 psi max.

Note With urethane o-ring on the stem—1,480 psi maximum instrument pressure.

C_v Factor (Flow Capacity)

Standard Body	0.028
High Flow Rate Body	0.058

Repeatability to Set Point

Within 3% of set point

Dead Band (Spread) Percent of Range

1 1/8-, 1/2-, 1/4-in. Pistons.	5%
Diaphragm Types	3%
3/16-in. Piston	10%

Conformity to NACE

The following assemblies conform to NACE Standard MR-01-75-2002:
41046-2XXX; -3XXX

Selection Guide for Spring and Piston Sizes

Sensing Pressure Range	Sensing Unit	Spring	Maximum Line Pressure
0.25 to 5.3 psi 0.50 to 20 psi 1 to 40 psi	4-in. Diaphragm 4-in. Diaphragm 4-in. Diaphragm	Ultra-Light Light Heavy	250 psi
0.50 to 20 psi 1 to 100 psi 2 to 200 psi	2-in. Diaphragm 2-in. Diaphragm 2-in. Diaphragm	Ultra-Light Light Heavy	250 psi
1 to 60 psi 10 to 125 psi 75 to 550 psi	1 1/8-in. Piston 1 1/8-in. Piston 1 1/8-in. Piston	Ultra-Light Light Heavy	10,000 psi
300 to 1,000 psi 500 to 2,000 psi	1/2-in. Piston 1/2-in. Piston	Light Heavy	15,000 psi
1,900 to 5,000 psi 4,900 to 10,000 psi	1/4-in. Piston 1/4-in. Piston	Light Heavy	15,000 psi
10,000 to 20,000 psi	3/16-in. Piston	Heavy	20,000 psi

Std. ESP

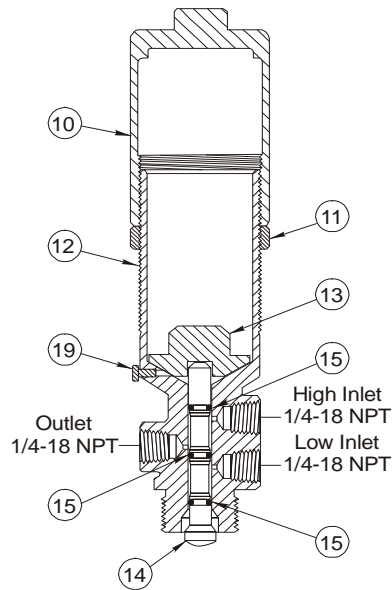


Figure 6

Bill of Material

Index	Part No.	Part Name	Req'd	Material
10	41052	Cap	1	316 Stainless Steel
11	41053	Lock Nut	1	316 Stainless Steel
12	41056	Body, Standard	1	316 Stainless Steel
12	44742	Body, Indicating Standard	1	316 Stainless Steel
13	41054	Spring Guide	1	316 Stainless Steel
14	41055	Stem	1	316 Stainless Steel
15	55343-010	O-Ring	3	Teflon/Buna-N
15	55345-010	O-Ring	3	Teflon/Viton
15	53013-010	O-Ring	3	Neoprene
15	55680-010	O-Ring	3	EPDM
19	55713	Screw (Indicating Only)	1	Steel

Instrument Pressures—200 psi Maximum

High Flow ESP

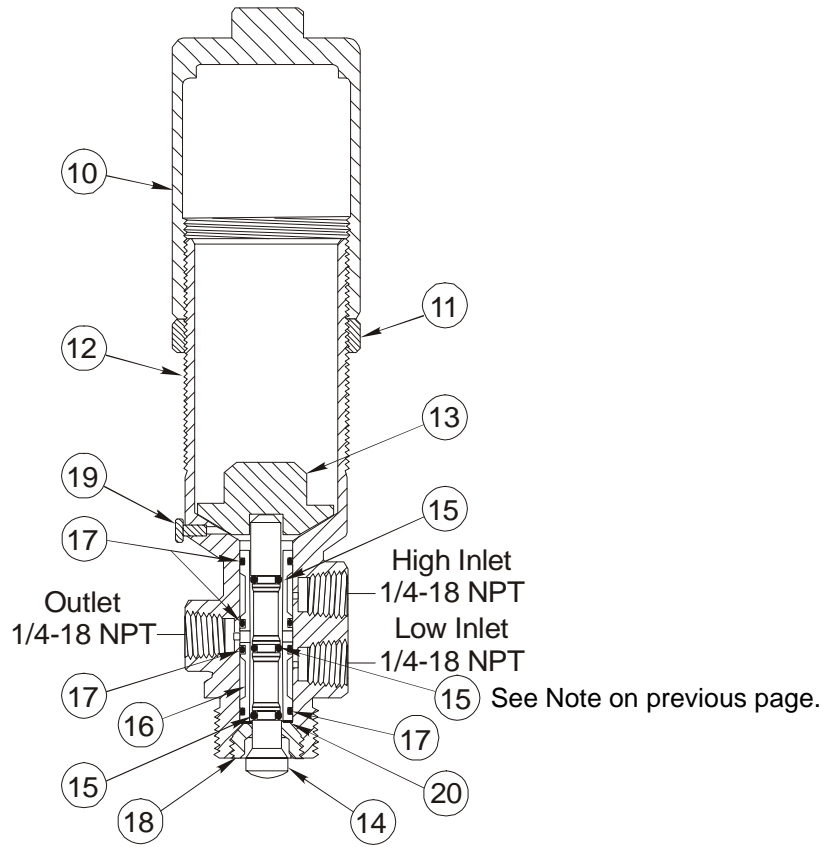


Figure 7

Bill of Material

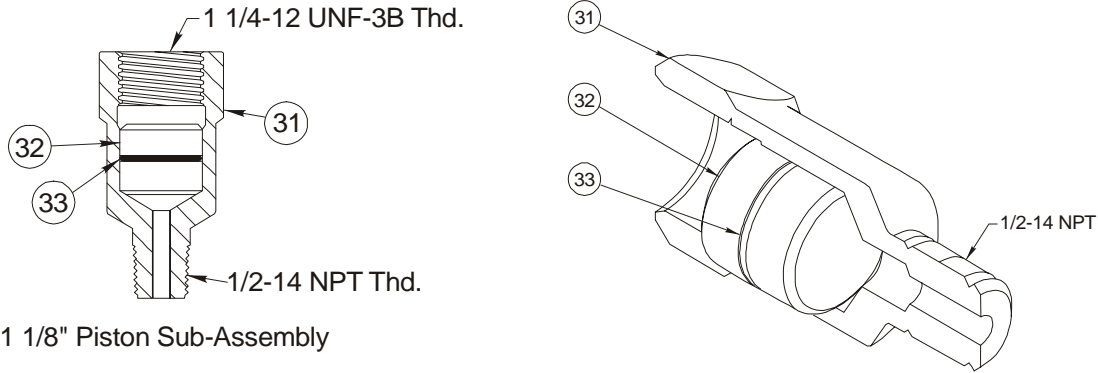
Index	Part No.	Part Name	Req'd.	Material
10	41052	Cap	1	316 Stainless Steel
11	41053	Lock Nut	1	316 Stainless Steel
12	43806	Body	1	316 Stainless Steel
12	45453	Body, Indicating	1	316 Stainless Steel
13	41054	Spring Guide	1	316 Stainless Steel
14	41055	Stem	1	316 Stainless Steel
15	55343-010	O-Ring	3	Teflon/Buna-N
15	55345-010	O-Ring	3	Teflon/Viton
15	53013-010	O-Ring	3	Neoprene
15	55680-010	O-Ring	3	EPDM
15	55493-010	O-Ring	*	Urethane
16	41823	Sleeve	1	316 Stainless Steel
17	53010-013	O-Ring	4	Buna-N
17	53279-013	O-Ring	4	Viton
17	53013-013	O-Ring	4	Neoprene
18	43698	Retainer	1	316 Stainless Steel
19	55713	Screw (Indicating only)	1	Steel
20	50533-05026	Retainer Ring	1	Stainless Steel

1 1/8-in. Piston Housing Sub-Assembly 44028-X010

Refer to [Figure 10](#).

Sensing Pressure Range: 10 to 550 psi

Maximum Working Pressure: 10,000 psi



1 1/8" Piston Sub-Assembly

Figure 10

Bill of Materials

Index	Part No.	Part Name	Req'd	Material
31	41057	Piston Housing 1 1/8-in.	1	316 Stainless Steel
32	41060	Piston 1 1/8-in.	1	316 Stainless Steel
33	55343-022	O-ring 1 1/8-in.	1	Teflon/Buna-N
33	55345-022	O-ring 1 1/8-in.	1	Teflon/Viton
33	53013-022	O-ring 1 1/8-in.	1	Neoprene
33	55680-022	O-ring 1 1/8-in.	1	EPDM

Disassembly

1. Remove the piston (32) from the housing (31).
2. Remove and discard the o-ring (33).
3. Clean and inspect all parts for obvious defects.

Assembly

1. Install the o-ring (33) onto the piston (32), and lubricate with Dow-Corning 33 Light.
2. Insert the piston (32) into the housing (31), and check for free movement.

1/2-in. Piston Housing Sub-Assembly 44028-X020

Refer to [Figure 11](#).

Sensing Pressure Range: 300 to 2,000 psi

Maximum Working Pressure: 15,000 psi

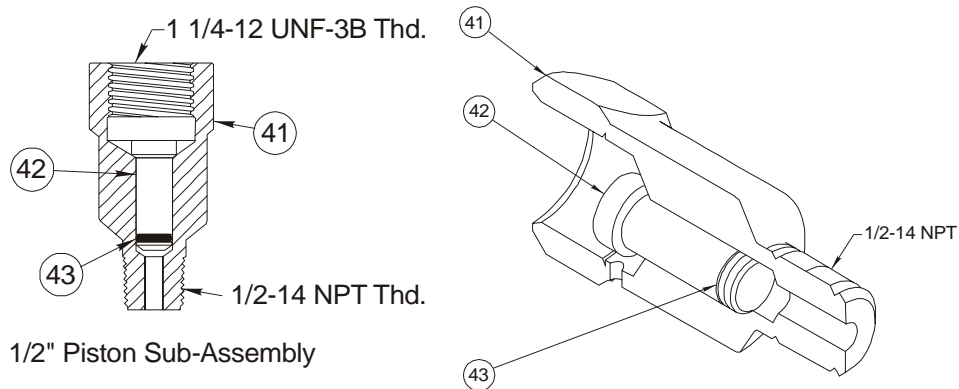


Figure 11

Bill of Materials

Index	Part No.	Part Name	Req'd	Material
41	41058	Piston Housing 1/2-in.	1	316 Stainless Steel
42	41061	Piston 1/2-in.	1	316 Stainless Steel
43	55344-012	O-ring 1/2-in.	1	Teflon/Buna-N
43	55346-012	O-ring 1/2-in.	1	Teflon/Viton
43	53013-012	O-ring 1/2-in.	1	Neoprene
43	55680-012	O-ring 1/2-in.	1	EPDM

Disassembly

1. Remove the piston (42) from the housing (41).
2. Remove and discard the o-ring (43).
3. Clean and inspect all parts for obvious defects.

Assembly

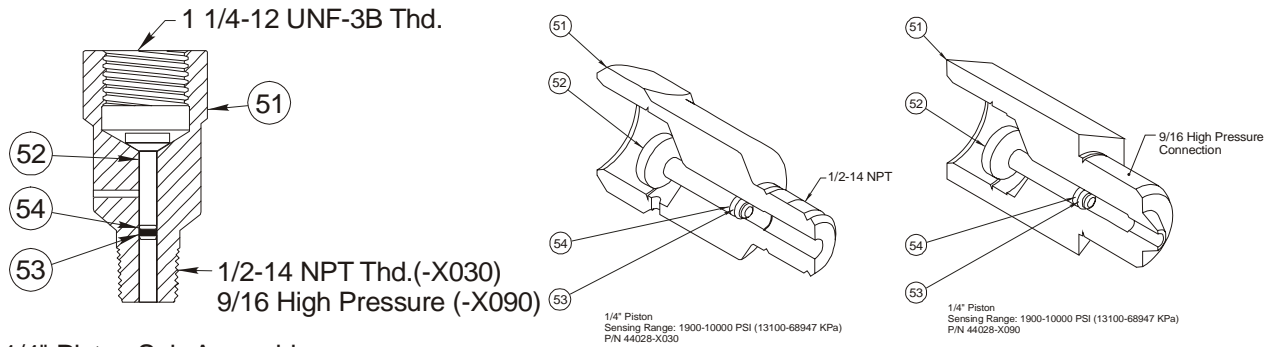
1. Install the o-ring (43) onto the piston (42), and lubricate with Dow-Corning 33 Light.
2. Insert the piston (42) into the housing (41), and check for free movement.

1/4-in. Piston Housing Sub-Assembly 44028-X030 and -X090

Refer to [Figure 12](#).

Sensing Pressure Range: 1,900 to 10,000 psi

Maximum Working Pressure: 15,000 psi



1/4" Piston Sub-Assembly

Figure 12

Bill of Materials

Index	Part No.	Part Name	Req'd	Material
51	41059 (-X030)	Piston Housing 1/4-in.	1	316 Stainless Steel
51	46688 (-X090)	Piston Housing 1/4-in.	1	316 Stainless Steel
52	41062	Piston 1/4-in.	1	316 Stainless Steel
53	55344-006	O-ring 1/4-in.	1	Teflon/Buna-N
53	55346-006	O-ring 1/4-in.	1	Teflon/Viton
53	53013-006	O-ring 1/4-in.	1	Neoprene
53	55680-006	O-ring 1/4-in.	1	EPDM
54	53015-006	Backup Ring 1/4-in.	1	Teflon

Disassembly

1. Remove the piston (52) from the housing (51).
2. Remove and discard the o-ring (53) and back-up ring (54) from the piston (52).
3. Clean and inspect all parts for obvious defects.

Assembly

1. Install the back-up ring (54) and o-ring (53) onto the piston (52), and lubricate with Dow-Corning 33 Light.
2. Insert the piston (52) into the housing (51), and check for free movement.