

# STEM LENGTH AND SENSITIVITY ADJUSTMENT TYPES PRA-1 AND PRQ-1 CONSTANT PRESSURE PILOT CONTROLLERS

## FORCE BALANCE, FIXED BAND TYPES

### ADJUSTMENT PROCEDURE

Supply 20-22 psig operating pressure to the pilot controller. Turn adjusting nut to compress adjusting spring to set upper diaphragm against its top limit stop. If possible remove fluid pressure from top of diaphragm, if not compress springs sufficiently to overcome fluid pressure and move diaphragm to stop.

### ADJUSTING RESPONSE SENSITIVITY

Remove nozzle disc pin, pilot cover and diaphragm nozzle disc.

**For Normal Response Sensitivity** adjust pilot controller for very minor or no leak off. To do this relieve pressure of blade spring on nozzle stop by pressing lightly downward on it with finger. Then screw nozzle stop downward until it is felt to barely seat on nozzle nut.

**For Supersensitive Response** adjust pilot controller for continuous leak off. To do this slowly screw nozzle stop further downward until operating pressure flow is just detectable through nozzle bleed port. To check amount of leak off place finger lightly over nozzle bleed port to seal air (do not press down on nozzle). Air pressure in output line to diaphragm control valve should not build up any faster than 3-5 psig in 20-30 seconds. Lock nozzle stop with blade spring.

**To Test Pilot Controller Body and Diaphragm Control Valve** for response press downward on center of nozzle until 20-22 psig air pressure registers on output gauge. Control valve should move through full travel. Release nozzle. Air output pressure should drop to 0 psig and control valve should return to its original position.

After completing sensitivity adjustment replace diaphragm nozzle disc, nozzle disc pin and pilot cover.

### LEVER SCREW ADJUSTMENT

Desired pilot controller performance will be obtained only if the upper (sensing) diaphragm is operating at or near its mean position, i.e. half way between its top and bottom limit stops in base and cover. Its position is determined by adjusting length of lever adjusting screw.

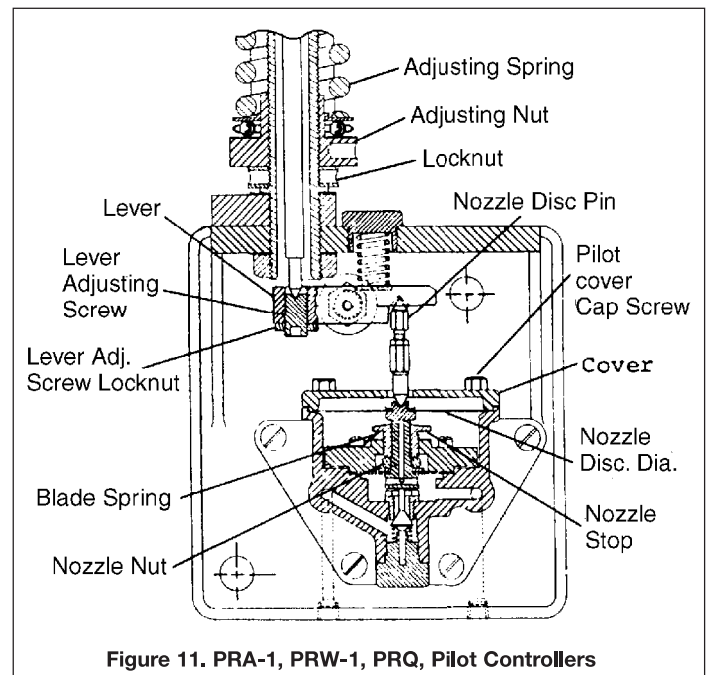
**NOTE: THIS ADJUSTMENT IS FACTORY SET** and should not be disturbed unless it is obvious that the original setting has been changed or major parts replacements were made which may cause need for readjustment.

These adjustments can be made when the pilot controller is set for either continuous or non-continuous leak off.

### PRA-1 AND PRQ PILOT CONTROLLERS

1. Loosen locknut on lever setscrew. With 20 psig air pressure on out put gauge turn setscrew upward into lever until output air pressure just begins to fall away from 20 psig.
2. Then turn lever screw downward (out of lever) 3/4 turn for all low pressure pilots (up to and including the 50-125 psig range) 1-1/4 turns for high pressure ranges (100-200) psig and over). Tighten locknut.

**NOTE:** With pilot air output at 20/22 psig, lever should be approximately in the parallel position. If not parallel loosen nozzle disc pin locknut and screw lower section of pin into or out of upper section of pin until lever is parallel. Tighten locknut.



# CONSTANT, DIFFERENTIAL PRESSURE AND RATIO PILOT CONTROLLERS

## Force Balance, Fixed Band Types

### Types Covered:

PDA-1	PDW-1	PDQ-1	UDDV*	DDD**
PRA-1	PRW-1	PRQ-1	UDRV*	UDDD***

**STOP — LOOK — READ**

**OBSOLETE**

ADHERENCE TO THESE INSTRUCTIONS  
GUARANTEE OPTIMUM RESULTS  
INSIST UPON THEIR BEING FOLLOWED.

### SECTION I — INSTALLATION

Install Pilot Controller vertically in an accessible location. Allow removal— space for ease of maintenance. Pilot Controller may be located above or below line controlled. *NOTE: Whenever hydrostatic head exists on diaphragm effect must be considered with relation to obtainable pressures.*

#### Piping Details

Figure 1 shows control pilot piping details. *Control valve piping shown in figures is schematic only. Consult Control Valve Instructions for piping details.*

#### Control Pipe Connection and Length

Connect Control Pipe from top of diaphragm cover to controlled pressure line. Make connection in controlled pressure line at least 3 feet from the valve body opening or the end of the expander, if one is in use. Best results are obtained when length of control pipe does not exceed 30 feet. Avoid connections near turbulent areas such as those created by orifices, elbows, sharp bends, or other flow direction changing components.

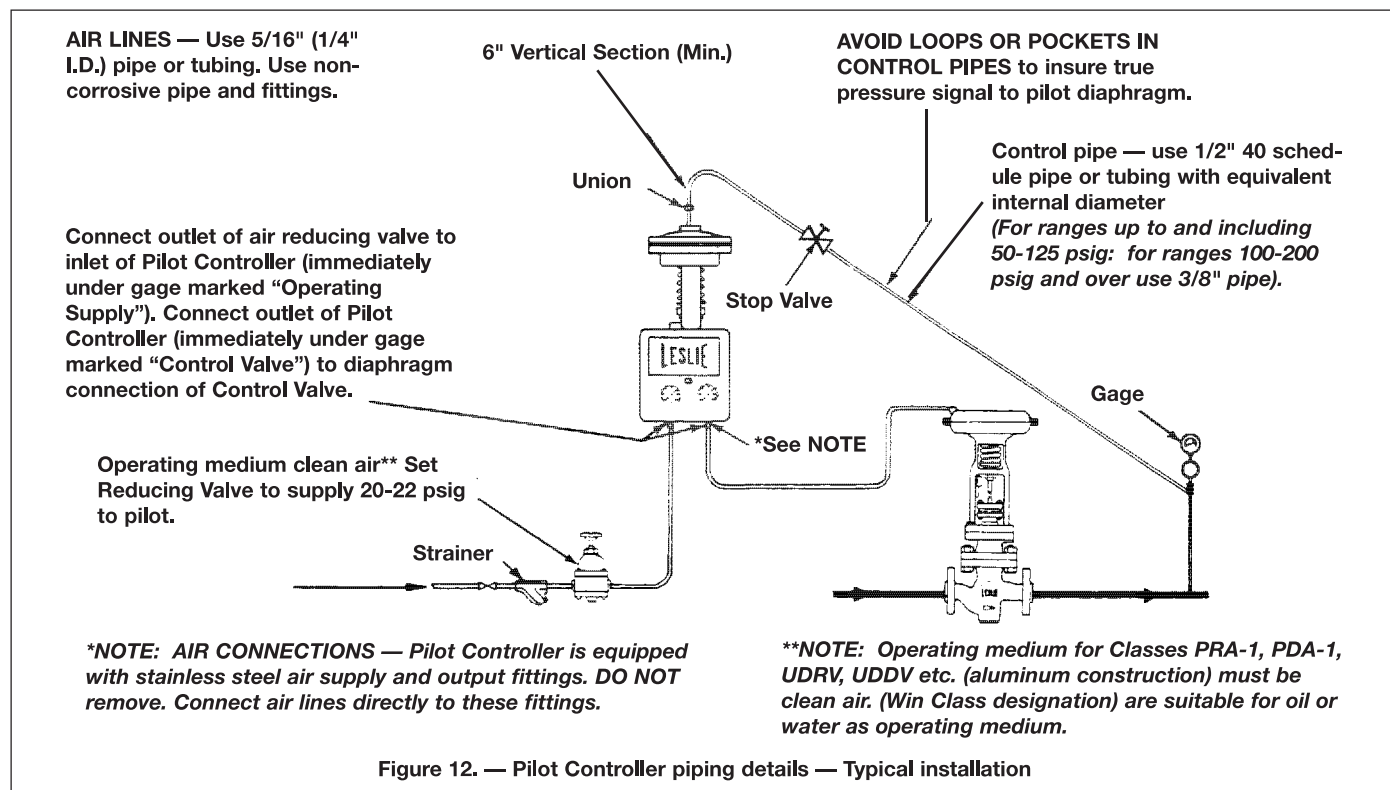
#### Pitch or Slope of Control Pipe

*Pilot Above Line Controlled* — Slope control pipe downward, away from the Pilot Controller. Provide at least 6" of vertical pipe at connection to pilot cover.

*Pilot Below Line Controlled* — Slope control pipe downward toward Pilot Controller.

#### Hydrostatic Head Pressure

Where the Pilot Controller is to be installed under the line controlled (and liquids or condensible gases are to be controlled) total pressure resulting from hydrostatic head and controlled pressure must not exceed the maximum range of the control pilot.



\*Use with Instruction 20/2.5.3 for replacing upper diaphragms — UDDV, UDRV Types.

\*\*Use instruction 20/3.5.1 for replacing upper diaphragms — DDD, UDDD Types.

## SECTION II — OPERATION

**PROCEDURE:** Follow Steps 1 and 2 then proceed with Steps 3 through 5 whichever applies to the particular service.

1. Close inlet and outlet stop valves around the control valve.
2. Open air supply line stop valve. Adjust 1/4" reducing valve to supply 20-22 psig pressure to control pilot.

### For Pressure Reduction Installation

3. Turn adjusting nut of Pilot Controller Until diaphragm control valve is wide open.
4. Open outlet stop valve partially and control pipe stop valve fully.
5. Open inlet stop valve slowly, until Pilot Controller takes hold and starts to close the diaphragm control valve. Screw adjusting nut upward to increase, downward to decrease the controlled pressure. After desired controlled pressure is obtained, open inlet stop and outlet valves fully.

### For Overflow Relief Installation

3. Turn adjusting nut of Pilot Controller until diaphragm control valve is closed.
4. Open inlet, outlet, and control pipe stop valves fully.
5. Turn adjusting nut of Pilot Controller so that diaphragm control valve starts to open when desired inlet pressure is exceeded.

### Differential Pressure Pilot Controllers

3. Turn adjusting nut of control pilot to adjust compression on adjusting spring until control valve is wide open.
4. Open outlet stop valve partially and control pipe stop valves fully.
5. Open inlet stop valve slowly, until controller takes hold and begins to close the control valve. Readjust the adjusting nut of the control pilot to obtain desired differential. To increase differential, when highest pressure is on top of diaphragm, screw adjusting nut upward; to decrease differential, screw adjusting nut downward. When highest pressure is on underside of diaphragm screw adjusting nut upward to decrease differential; downward to increase. After desired differential setting is obtained, open inlet and outlet stop valves fully.

**NOTE:** When systems are in full operation, use caution in cutting a controller in so that system differential will not be disturbed.

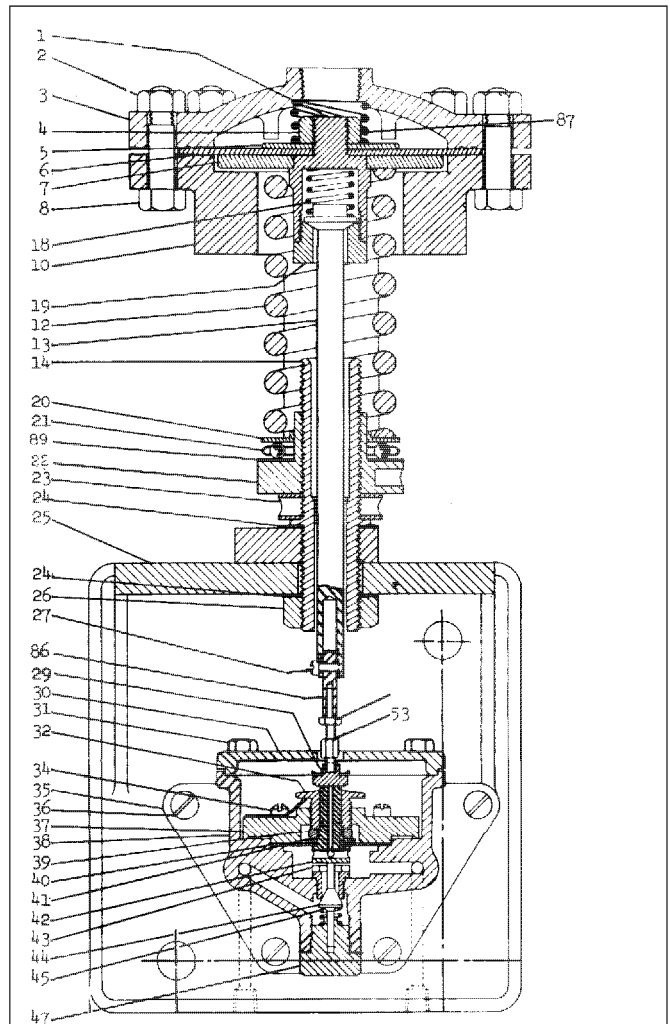


Figure 13. — Drawing showing Direct Acting Type Pilot Controller (PDA-1, etc.).

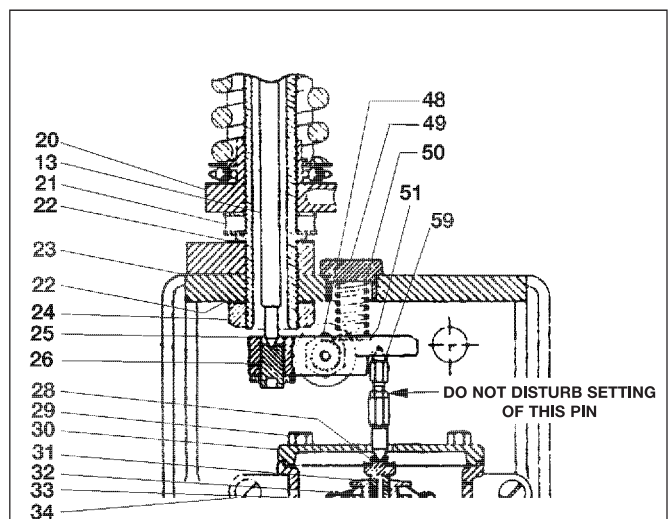


Figure 14. — Partial Drawing showing lever and lever pin, etc., in lever action Types (PRA-1, etc.).

### SECTION III — MAINTENANCE

(CONSULT FIGURES OF APPLICABLE DRAWINGS)

**IMPORTANT:** ALWAYS MAKE SURE THAT CONTROL PIPES AND AIR SUPPLY LINES ARE FREE AND CLEAR OF FOREIGN MATTER.

#### Dismantling Pilot Valve Bodies

1. By-pass diaphragm control valve if system operation is necessary maintenance. Close air supply and control pipe stop valves to pilot controller. Remove cover screw and cover from base.
2. In lever action types (PRA-1, etc.), lift right hand end of lever and remove lever pin assembly. (DO NOT disturb setting of these parts as they are designed for initial factory length adjustment only).

Loosen bottom plug (47.) Remove body screws (36) and take body assembly off base (25). Disassemble diaphragm plate capscrews (31), diaphragm plate (30) and nozzle disc diaphragm assembly (29) from body.

3. Take out flange ring screws (34), flange ring complete (37) and nozzle (42) with assembled parts. Disassemble nozzle stop (32) from flange ring. Remove bottom plug (47), pilot valve spring (45) and seat (43) from body unless it is damaged and must be replaced. (If removal is necessary, use piece of flat stock or wide screwdriver in lugs to loosen and unscrew).

#### Cleaning — Replacing Parts

1. Wipe all parts clean including pilot valve seat. Use an approved, non-residue forming solvent, if necessary.
2. Inspect all parts. Replace any worn or damaged parts including neoprene nozzle diaphragm (40) and “O” ring body gaskets (35) in back of body.
3. To change nozzle diaphragm insert pin in bottom port in nozzle for grip, loosen diaphragm nut (39). Disassemble parts. Replace diaphragm. Reassemble parts. Tighten diaphragm nut.

*NOTE: Do not use abrasive cloth on parts or grind in pilot valve as parts may be damaged or important dimensions changed. If necessary, crocus cloth may be used. All working parts must be clean and free moving. Open air supply line valve and blow out ports.*

#### Reassembling Pilot Valve Bodies

1. Place pilot valve spring (45) and pilot valve (44) (with seating face upward) on bottom plug. Position parts in body. Screw bottom plug all the way in. Tighten.
2. Insert nozzle (42) with assembled parts in upper end of body. Screw nozzle stop (32) part way into flange ring (37). Position flange ring complete on nozzle diaphragm (nozzle stop upward) with blade spring (33) on left hand side facing gauges. Insert flange ring screws (34) through flange ring and into body threads. Start carefully into threads. Tighten evenly and sufficiently to make a good air seal.

3. Replace body assembly on base (25). Insert body screws (36) through body and into base threads. Start carefully into threads. Tighten securely to make a good gasket seal between body and base.
4. Note: Adjust nozzle stop setting for leak off or non-leak off setting at this point. Proceed as described for the particular setting desired.

#### Adjusting Response Sensitivity

To adjust response sensitivity of a pilot controller supply 20-22 psig air to pilot controller then proceed as follows:

For Normal Response Sensitivity: Adjust pilot controller for very minor or no leak off. To do this, relieve pressure of blade spring on nozzle stop by pressing lightly downward on it with finger. Then screw nozzle stop downward until it is felt to barely seat on nozzle nut (39).

For Supersensitive Response: Adjust pilot controller for continuous leak off. To do this slowly screw nozzle stop further downward until operating pressure flow is just detectable through nozzle bleed port. To check amount of leak off, place finger lightly over nozzle bleed port to seal air (do not press down on nozzle). Air pressure in output line to diaphragm control valve should not build up any faster than 3-5 psig in 20-30 seconds. Lock nozzle stop with blade spring.

To Test Pilot Controller Body and Diaphragm Control Valve: For response press downward on center of nozzle until 20-22 psig air pressure registers on output gauge. Control valve should move through full travel. Release nozzle. Air output pressure should drop to 0 psig and control valve should return to its original position.

*NOTE: Maintenance work can be performed on superstructure, if necessary, as described under “Replacing Upper Diaphragm.” If unnecessary, proceed with Reassembly Step 5.*

5. Place nozzle disc assembly in body recess with disc toward nozzle.

In PDA-1, etc. types, remove screw (27) from stem complete (13). Lift extension pin (86) upward into stem complete then replace diaphragm cover on body. Insert capscrews (31) through cover into body. Tighten. Position end of adjusting pin (53) properly in recess in nozzle disc then insert screw (27) through stem complete and extension pin and tighten.

In PRA-1, etc. types, replace cover (30) on body. Insert capscrews (29). Tighten. Then lift right hand end of lever and insert lever pin assembly in place between lever and nozzle disc making sure that pointed ends center in recesses in disc and lever. Check opposite end of lever to make sure that point of stem complete (13) has centered in recess in set-screw properly.

*NOTE: If it was found necessary to disturb adjustment of lever screw of adjusting pin readjust as described under “STEM LENGTH ADJUSTMENT” shown on Page 4.*

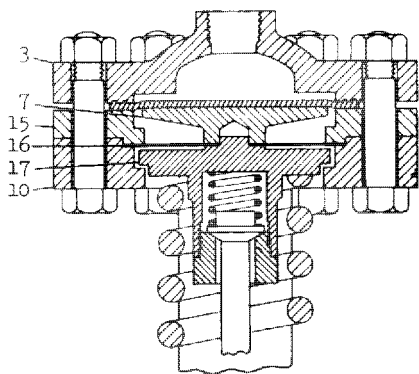


## Replacing Upper Diaphragms Constant Pressure Pilot Controllers (PDA-1, PRA-1, etc.)

For Type UDDV, UDRV Consult Instruction 20/2.5.3  
For Type UDDD Consult Instruction 20/3.5.1

1. In all pilot controllers remove all adjusting spring compression by screwing locknut (23) downward as far as it will go, then following with adjusting nut (22) until all compression is removed from adjusting spring (12). In the case of lever action types (PRA-1, etc.) relieve lever spring compression also by removing spring cap (49).
2. Disassemble bolts and nuts (2/8), diaphragm cover (3) from diaphragm base (9). Remove spring (87) (13 psia - 20 psig range only). Clean cover. In direct acting types (PDA-1, etc.) take screw (27) out of stem (13).
3. For all ranges from 13 psia - 20 psig to 50-125 psig Lift diaphragm assembly out of diaphragm base (9). Hold diaphragm disc screw (1) rigidly on hex and loosen diaphragm disc nut (4). Disassemble parts. Clean parts, replace diaphragm. Place diaphragm disc (7), diaphragm (6), and diaphragm disc washer (5) on diaphragm disc screw (1). Assemble diaphragm disc nut (4) to diaphragm disc screw (1). Tighten snugly to make a good pressure seal. Do not distort diaphragm.

For ranges 100-200 psig and over Diaphragm may be changed by simply removing spring compression, disassembling bolts/nuts and cover, replacing diaphragm and closing unit up again.



**Figure 15. — FOR PRESSURE RANGES 13 PSIA - 20 PSIG TO 50-125 THIS TYPE OF DIAPHRAGM ASSEMBLY IS USED**

*NOTE: Balance of superstructure parts may be cleaned, examined, and replaced if necessary at this point. To examine yielding spring (18)(PDA-1, etc.) hold disc screw (1), rigidly on hex. Press down on stem (13). Remove stem nut (19). Disassemble parts. Reassemble. Tighten stem nut.*

4. Replace diaphragm assembly in diaphragm base (9). Reassemble diaphragm cover (3), and bolts and nuts (2/8) to diaphragm base. Tighten bolts to make good pressure seal.
- Proceed with Step 5, "REASSEMBLY" insofar as it applies to parts removed to permit rework of superstructure and stem length readjustment (if the latter is necessary). Reassemble pilot cover and screw to base (25). Do not overtighten screw.
5. Reconnect control pipe to diaphragm cover and operating medium lines to pilot controller and valve. Turn on operating medium supply and adjust pilot controller for desired controlled pressure as described under "OPERATION."

### Stem Length Adjustment (Pin/Lever)

Desired pilot controller performance will be obtained only if the upper (sensing) diaphragm is operating at or near its mean position, i.e. half way between its top and bottom limit stops in base and cover. Its position is determined by adjusting length of adjusting pin (53) in PDA-1, etc. types and lever screw (26) in PRA-1, etc. types.

**NOTE: THIS ADJUSTMENT IS FACTORY SET** and should not be disturbed unless it is obvious that the original setting has been changed or major parts replacements were made which may cause need for readjustment.

These adjustments can be made when the pilot controller is set for either continuous or non-continuous leak off.

### Adjustment Procedure

In all cases: Supply 20-22 psig operating pressure to the pilot controller. Turn adjusting nut (22) to compress adjusting spring to set upper diaphragm against its top limit stop. If possible, remove fluid pressure from top of diaphragm, if not, compress spring sufficiently to overcome fluid pressure and move diaphragm to stop. Blank off output connection to D.C.V.

### PDA-1, PDW-1, PDQ, UDDV, etc. Pilot Controllers

1. Loosen locknut (74) on adjusting pin (53). Turn adjusting pin (53) downward toward pilot until 0-3 psig air pressure shows on output gauge.
2. Then turn adjusting pin (53) back upward into extension pin (86) (away from pilot body) 1 turn for all low pressure pilots (up to and including the 50-125 psig range); 1-3/4 turns for high pressure pilots (ranges 100-200 psig and over). Tighten locknut (74).
3. Reconnect output to D.C.V.

### PRA-1, PRW-1, PRQ, UDRV, Etc. Pilot Controllers

1. Loosen locknut (27) on lever setscrew (87). With 20 psig air pressure on output gauge turn setscrew (87) upward into lever until output air pressure just begins to fall away from 20 psig.

2. Then turn lever screw (26) downward (out of lever) 3/4 turn for all low pressure pilots (up to and including the 50-125 psig range; 1-1/4 turns for high pressure ranges (100-200 psig and over). Tighten locknut (27).
3. Reconnect output to D.C.V.

*NOTE: Differential and Ratio pilot controller (UDDV, UDRV or UDDD types) may require slight stem length readjustment to obtain complete balancing of the sensing diaphragm, if changes in static pressure on the diaphragm cause changes in pilot controller setpoint. To check this supply 20 psig operating pressure to pilot. Adjust pilot for a constant differential within its range. Apply a change in static pressure across the upper sensing diaphragms and observe output pressure on right hand gauge. If output pressure changes, readjust stem length in small increments (by turning adjusting pin or lever screw upward or downward as required) until changes in static pressure do not affect the air output pressure).*

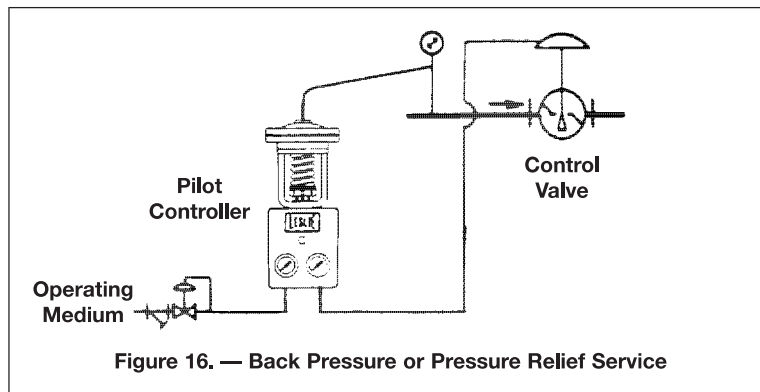
#### **To Decrease Sensitivity of Pilot Controllers (Constant Pressure Types Only)**

1. Readjust nozzle stop to non-leak off position (if leak off is in use).
2. Move diaphragm slightly away from its mean position by readjusting stem length in small increments of about 1/8 of a turn until desired operation is obtained.  
Caution: DO NOT turn excessively.

PDA-1, PRW-1 PDQ Pilot Controllers — In reducing service move diaphragm upward by increasing the stem length. In back pressure or relief service, move diaphragm downward by decreasing the stem length.

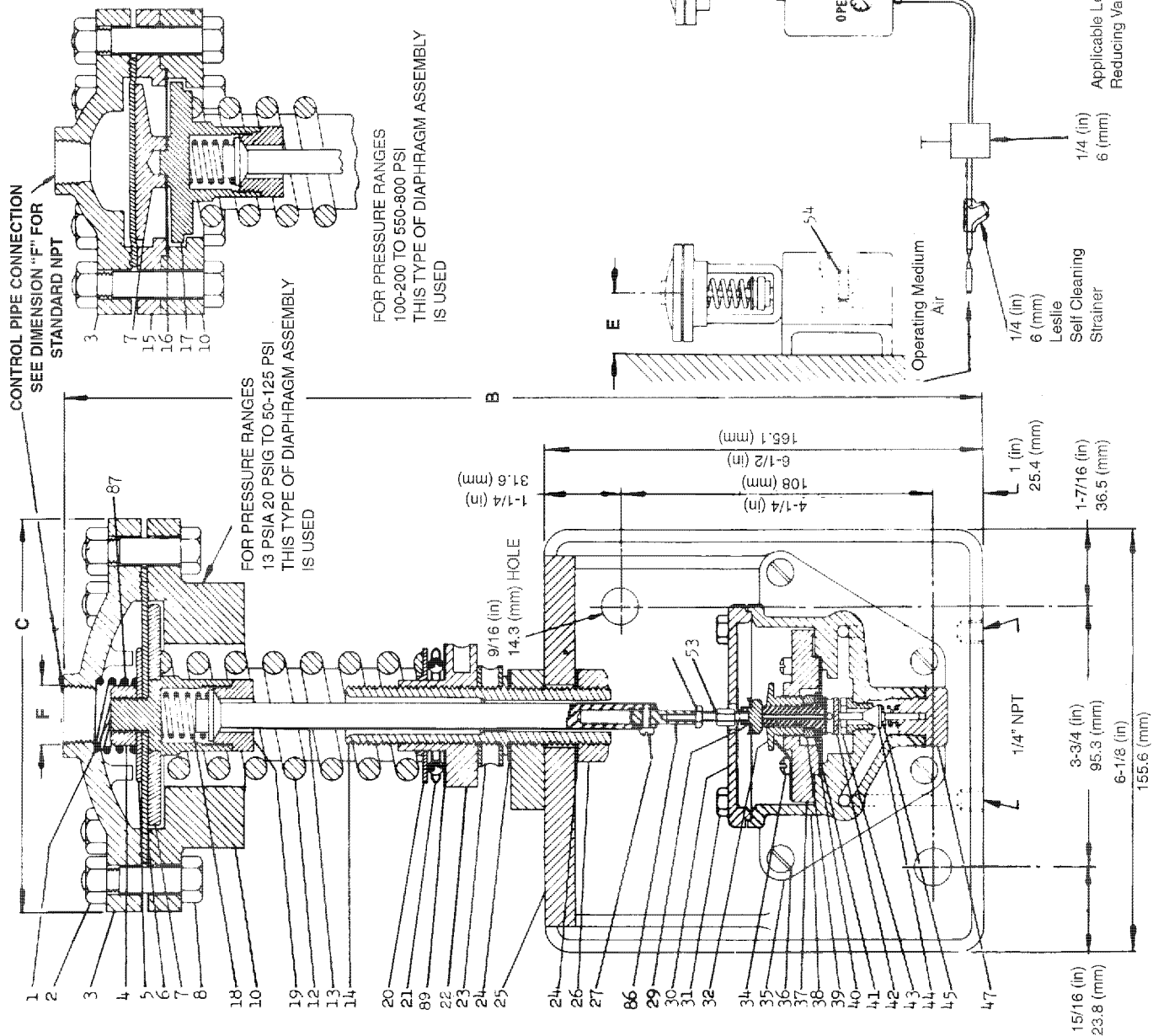
PRA-1, PRW-1, PRQ Pilot Controllers — In reducing service move diaphragm downward by decreasing stem length. In back pressure or relief service, move diaphragm upward by increasing the stem length.

After making readjustment retest pilot controller to make sure that it will change the operating output pressure from 0 psig to 20 psig or vice versa with a reasonable change in controller pressure.



For Differential Pilot Installation Sketches,  
See Instructions 20/2.5.3  
For Ratio Pilot Installation Sketch,  
See Instructions 20/3.5.1

# PILOT CONTROLLER TYPES PDA-1, PDQ-1 AIR ACTUATED



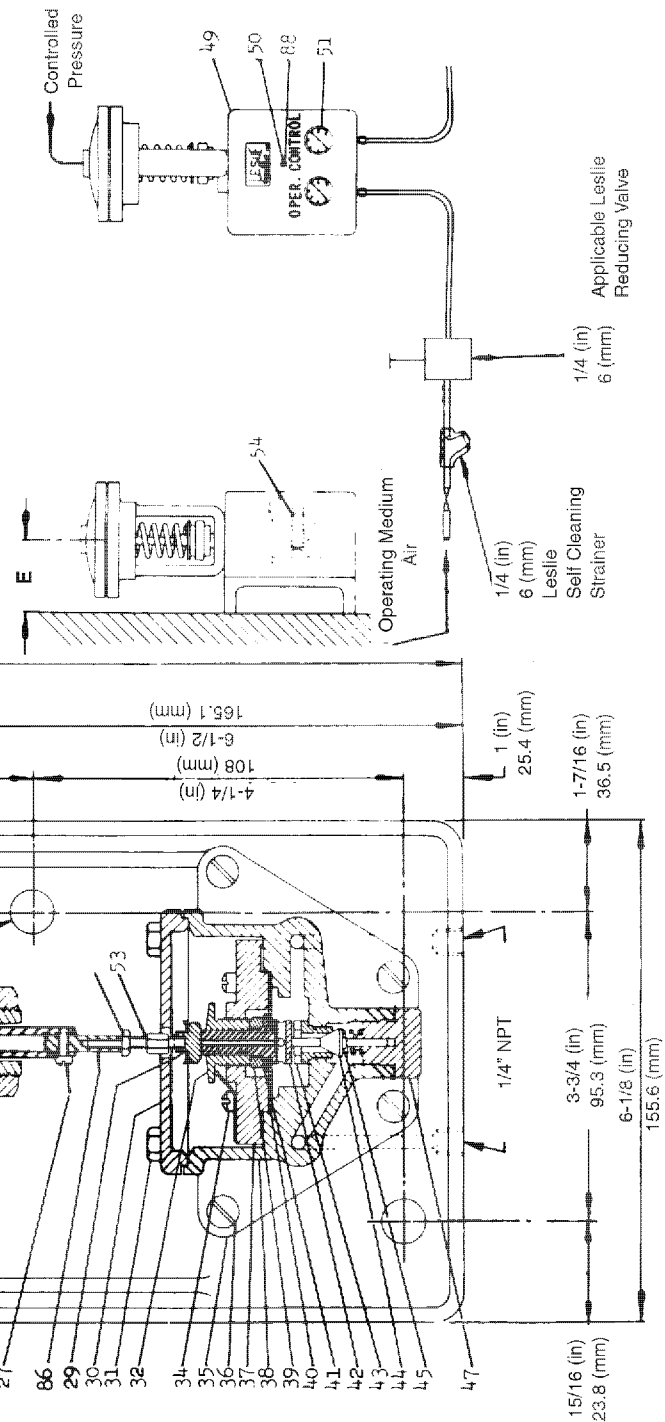
## PARTS LIST

ADJUSTABLE RANGE PSI	DIMENSIONS IN INCHES			
	B	C	E	F *
NOTE 1 15 - 75	13-5/8	6-5/16	3-17/32	1/2
50 - 125	13-5/8	5-13/16	3-17/32	1/2
100 - 200	16-1/8	5-13/16	3-17/32	1/2
175 - 300	16-1/8	4-1/2	3-17/32	3/8
275 - 450	16-1/8	4-1/2	3-17/32	3/8
400 - 600	16-1/8	4-1/2	3-17/32	3/8
550 - 800	16-1/8	4-1/2	3-17/32	3/8
ADJUSTABLE RANGE PSI	DIMENSIONS IN MM			
	B	C	E	
NOTE 1 15 - 75	346.	160.3	89.6	
50 - 125	346.	147.6	89.6	
100 - 200	409.5	114.3	89.6	
175 - 300	409.5	114.3	89.6	
275 - 450	409.5	114.3	89.6	
400 - 600	409.5	114.3	89.6	
550 - 800	409.5	114.3	89.6	

NOTE 1 - 13 PSIA - 20 PSIG  
\* NPT

NET WEIGHT WITH ACCESSORIES -  
APPROX. 19 lb  
8.6 kg

MAXIMUM ALLOWABLE STATIC PRESSURE  
PSI - 900 lb.



## TYPES PDA-1, PDQ-1 PILOT CONTROLLERS

WHEN ORDERING PARTS, PLEASE GIVE PAT NAME AND PART REFERENCE NUMBER FROM TABLE BELOW  
USE PART NUMBER ONLY TO LOCATE PART ON DRAWING

PART NO.	PART NAME	MATERIAL	QTY. PER UNIT	REFERENCE NUMBERS - EACH PRESSURE RANGE							
				(NOTE 4)	15-75 PSI	50-125 PSI	100-200 PSI	175-300 PSI	275-450 PSI	400-600 PSI	550-800 PSI
1	Disc Screw	Aluminum	1	33930	33930	33930	--	--	--	--	--
3	Diaphragm	Cast Aluminum	1	33949	33950	33951	33924	33925	33926	33927	33928
4	Diaphragm Disc Nut	Aluminum	1	33932	33932	33932	--	--	--	--	--
5	Diaphragm Disc Washer	Aluminum	1	33931	33931	33931	--	--	--	--	--
6 *	Diaphragm, Upper	Synthetic Rubber	1	12476	13257	13257	13226	13226	13226	13226	13226
7	Diaphragm, Disc	Cast Aluminum	1	33915	33916	33917	33939	33940	33941	33942	33943
8	Bolt	Steel, Cadmium Plated	(NOTE 3)	12291	12291	12291	45749	45749	45749	45749	45749
10	Yoke	Cast Aluminum	1	58408	58409	58410	33971	33971	33971	33971	33971
12	Adjusting Spring	Spring Steel, Plated	1	12475	12474	12474	13218	13218	13218	13218	13218
13	Stem, Complete	Aluminum	1	47133	47133	47133	47134	47134	47134	47134	47134
14	Adjusting Sleeve	Stainless Steel	1	33985	33985	33985	33986	33986	33986	33986	33986
15	Diaphragm Spacer	Cast Aluminum	1	--	--	--	33934	33935	33936	33937	33938
16	Diaphragm Guide	Stainless Steel	1	--	--	--	33933	33933	33933	33933	33933
17	Top Spring Seat	Cast Aluminum	1	--	--	--	33944	33944	33944	33944	33944
87	Upper Diaphragm Spring	Stainless Steel	1	53566	--	--	--	--	--	--	--

ALL PARTS BELOW ARE INTERCHANGEABLE IN ALL PRESSURE RANGES

PART NO.	PART NAME	MATERIAL	QTY. PER UNIT	REFERENCE NUMBERS - ALL RANGES
2	Nut	Steel, Cadmium Plated	(NOTE 3)	42843
18	Yielding Spring	Steel, Nickel Plated	1	12471
19	Stem Nut	Aluminum	1	31839
20	Bottom Spring Seat	Stainless Steel	1	11683
21	Thrust Bearing	Stainless Steel & Brass	1	11684
22	Adjusting Nut	Cast Bronze	1	12395
23	Lock Nut	Brass	1	12833
24	Washer	Stainless Steel	2	30673
25	Base	Aluminum	1	43320
26	Nut	Steel, Cadmium Plated	1	13744
27	Screw	Stainless Steel	1	48063
29 *	Diaph. Nozzle Disc, Comp. (NOTE 2)	Stainless Steel	1	15086
30	Diaphragm Plate	Cast Aluminum	1	38030
31	Cap Screw	Aluminum	2	33679
32	Nozzle Stop	Aluminum	1	33673
34	Screw	Aluminum	4	33678
35 *	O-Ring	Synthetic Rubber	2	42213
36	Screw	Steel, Cadmium Plated	4	33959
37	Flange Ring, Complete	Aluminum	1	33672
38	Body	Aluminum	1	40445
39	Diaphragm Nut	Stainless Steel	1	33316
40 *	Diaphragm	Synthetic Rubber	1	12368
41	Diaphragm Washer	Stainless Steel	1	33676
42 *	Nozzle	Aluminum	1	38347
43 *	Pilot Valve Seat	Calcon	1	12353
44 *	Pilot Valve, Complete	Stainless Steel	1	33675
45 *	Pilot Valve Spring	Stainless Steel	1	33666
47	Bottom Plug	Aluminum	1	33667
49	Cover	Aluminum	1	40447
50	Cover Screw	Steel, Plated	1	33960
51 *	Pressure Gage.	Steel Case, Clearlok Crystal	2	52354
53 *	Adjusting Pin	Brass	1	12401
54	Connector Piece	Cold Rolled Steel	2	41637
74	Lock Nut	Stainless Steel	1	47138
86 *	Extension Pin	Stainless Steel	1	47097
89	Washer	Stainless Steel	1	11685
88	Cover Screw Washer	Rubber	2	57685
	Adjusting Rod	Steel, Plated	1	11808

\* RECOMMENDED SPARE PARTS

\* THESE PARTS SHOULD BE ON HAND, PLUS RECOMMENDED SPARE PARTS WHEN OVERHAULING THIS EQUIPMENT.

PDQ-1				
ALL PARTS ARE SAME AS PDA-1 SHOWN IN TABLE ABOVE, EXCEPT FOR PARTS SHOWN BELOW				
PART NO.	PART NAME	MATERIAL	QTY. PER UNIT	REFERENCE NO.
42	Nozzle	Aluminum	1	38981
43	Pilot Valve Seat	Stainless Steel	1	12358
44	Pilot Valve Complete	Stainless Steel	1	12350

NOTE 1 - Consists of Stem and Stem Head.

NOTE 2 - Consist of Nozzle Disc; Retaining Ring, and Diaphragm

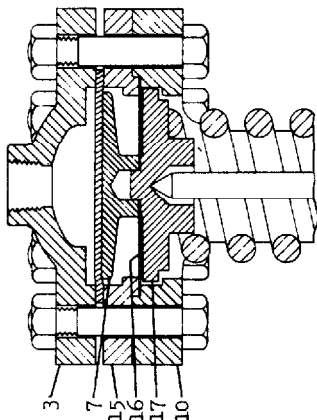
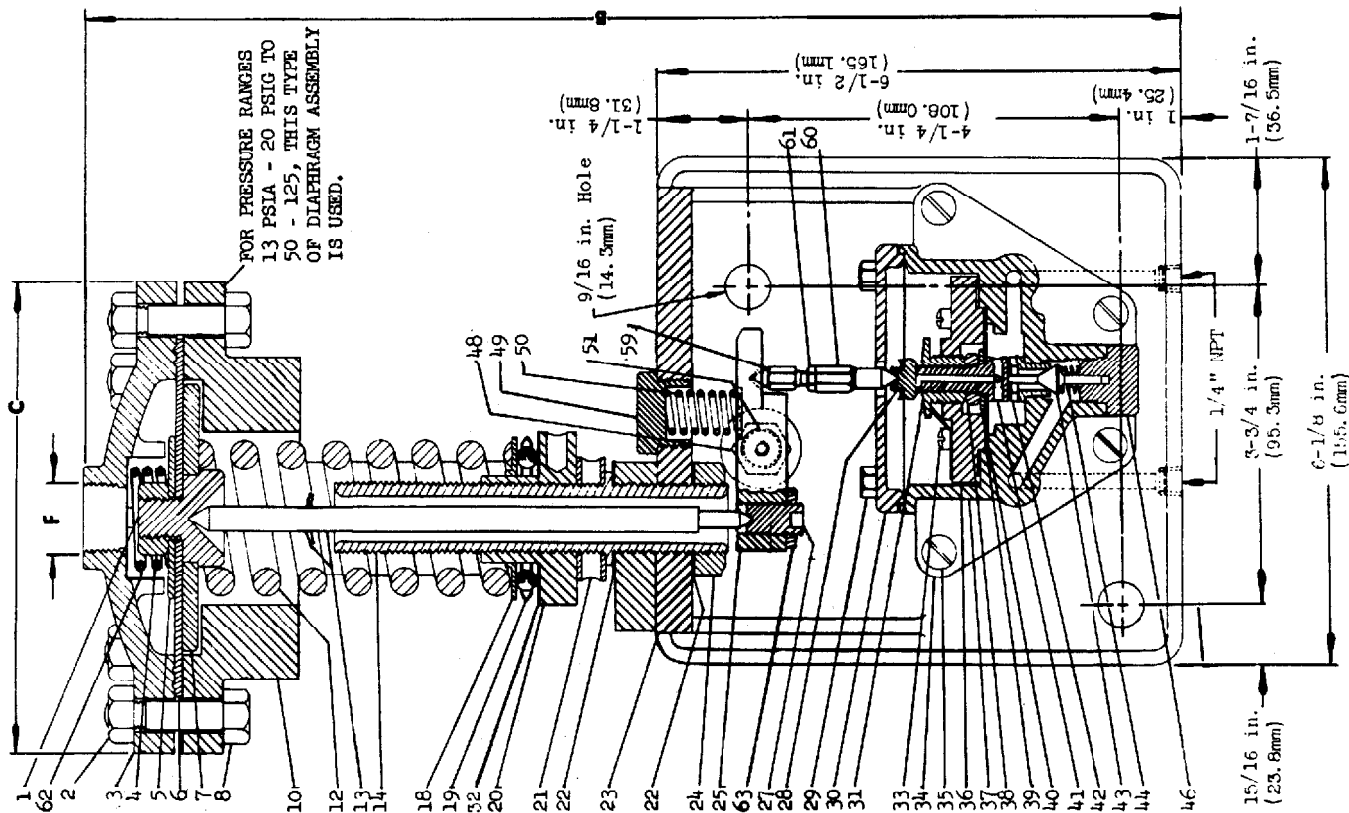
NOTE 3 - Quantities are: Eight (8) for 13 psia - 20 psig to 50 - 125 Pressure Ranges and Size (6) for 100 - 200 to 550 - 800 Pressure Ranges.

NOTE 4 - Range 13 psia to 20 psig (3.5 Hg. Vacuum).

FOR ALL TYPES NOT LISTED, PLEASE ORDER PARTS BY NAME AND INCLUDE RANGE, TYPE AND SERIAL NUMBER



## PILOT CONTROLLER TYPES PRA-1, PRQ-1 AIR ACTUATED



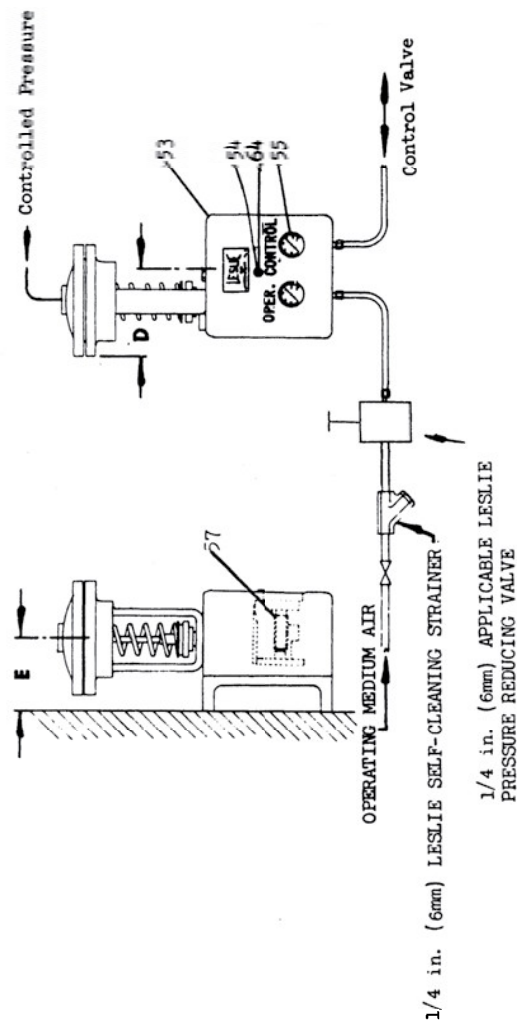
For pressure ranges 100-200 to 550-800 this type of Diaphragm Assembly is used.

PRESSURE RANGE-PSI	DIMENSIONS IN INCHES AND MILLIMETERS					
		B	C	D	E	F*
NOTE 1	in.	13-5/8	6-5/16	5	3-17/32	1/2
	mm.	346.1	147.6	120.7	89.7	
15-75	in.	13-5/8	5-13/16	4-3/4	3-17/32	1/2
	mm.	346.1	147.6	120.7	89.7	
50-125	in.	13-5/8	5-13/16	4-3/4	3-17/32	1/2
	mm.	346.1	147.6	120.7	89.7	
100-200	in.	16-1/8	4-1/2	4	3-17/32	3/8
	mm.	409.6	114.3	101.6	89.7	
175-300	in.	16-1/8	4-1/2	4	3-17/32	3/8
	mm.	409.6	114.3	101.6	89.7	
275-450	in.	16-1/8	4-1/2	4	3-17/32	3/8
	mm.	409.6	114.3	101.6	89.7	
400-600	in.	16-1/8	4-1/2	4	3-17/32	3/8
	mm.	409.6	114.3	101.6	89.7	
550-800	in.	16-1/8	4-1/2	4	3-17/32	3/8
	mm.	409.6	114.3	101.6	89.7	

\* NPT

NOTE 1 - Range 13 psia to 20 psig (3.5 Hg Vacuum).

**MAXIMUM ALLOWABLE STATIC PRESSURE 900 PSI**  
APPROX. NET WT. WITH ACCESSORIES 19 LB. (8.6KG)  
SUPERSEDES DRAWING NO. CP 12750 F, ALT.



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