

Product Instruction G18-2

CONNECTING TUBING AND ACCESSORIES FOR PNEUMATIC CONTROL AND TRANSMISSION

INDEX

	<u>Page</u>
Materials and Sizes	2
Tubing Installation	3
Flaring of Tubing	3
Air Compressor	5
Reducing Valves	5
Main Line Filters	7
Air Filter and Piping Sets	7
Protection from Freezing	7
Replacement Parts	15

This Instruction Section covers only the compressed air tubing required for a Bailey pneumatic control or transmitting system. For instructions regarding instrument connecting piping and for suggested methods of supporting and protecting tube runs, see Instruction Section G18 1.

The recommendations contained in this Instruction Section are based on the best practices and methods for instrument tubing installations.

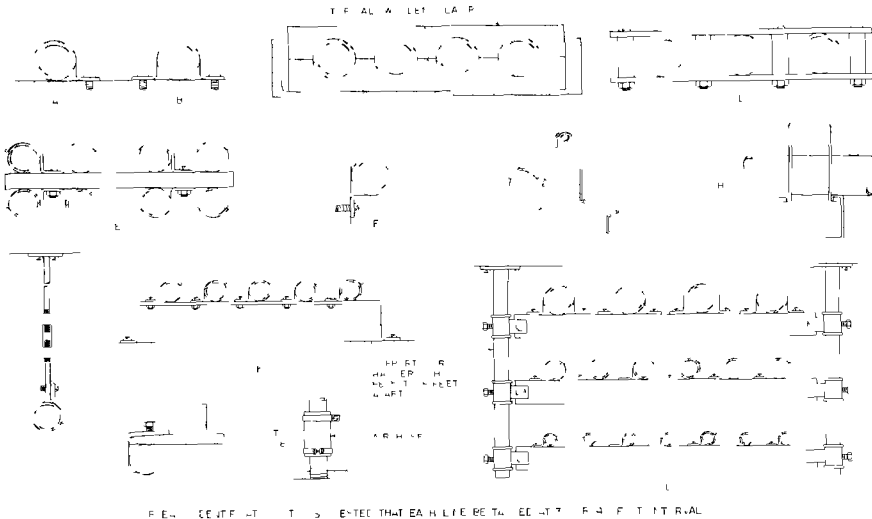


FIGURE 1 - Suggested Methods For Supporting Instrument Piping

MATERIAL AND SIZES

Use copper, aluminum, or suitably protected plastic tubing with proper fittings throughout the pneumatic control or transmitting system (soldered fittings are not suitable for this purpose) Brass pipe should be used for air supply main folds, or in a filter, reducing valve, and piping assembly

The size of the connecting tubing or brass pipe used should conform to the specifications given on the tubing diagram covering the specific job. Note that the loading and control lines between the various pieces of equipment and to the Control Valve or Control Drive, etc., should be 1/4 inch O D.

If no tubing diagram has been supplied to cover a simple installation consisting of only two to four pieces of equipment, such as a Controller or Transmitter, Relay, Selector Station, and Control Valve or Drive, use 1/4 inch O D tubing for both the supply and loading or control lines. However, for Control Drives or Valves equipped with a 3/16 inch pilot valve in the Bailey Positioner, normally only Type AC0816P and AC1016P Control Drives or Type VJ301 or VJ401 Valve Actuators use 1/2 inch O D tubing for the air supply line instead of 1/4-inch O D tubing.

TUBING INSTALLATION

Make up the connecting tubing in accordance with the tubing diagram listed in the Table of Contents and on the Specification Sheets covering the various Bailey equipment furnished for the specific installation.

Make sure that all joints are made up correctly (see "Flaring of Tubing" below for approved methods of making flares). Clean the inside of each length of tubing thoroughly before installation.

All main headers should be supported to prevent sagging and should be sloped toward the main line filter or suitable drip pockets in order that water and oil that may collect in the line will not be transmitted to the pilot valves or transmitter units. In general, it is not necessary to slope the connecting tubing between the various pieces of equipment.

When a panel board has been tubed by the Bailey Meter Company, tubing terminal blocks are provided to facilitate connection of the air lines entering or leaving the panel board. The supply air connection is to be made at the supply manifold header, the connection being 1 inch (unless specified otherwise by the customer). The loading or control connections on the tubing terminal blocks are suitable for connecting to 1/4 inch O D tubing.

Methods for supporting and protecting connecting tubing are described and illustrated in Instruction Section G18 1 covering instrument connecting piping. However, the following suggestions should be considered when running the pneumatic tubing. Also, see Figure 1.

- 1 Make neat runs. (Keep tubing straight within runs so that tracing is simplified.)
2. Protect tubing runs as necessary but leave them accessible for inspection or repair.
3. Protect horizontal runs near floor area using steel sheeting or similar material for kickplates.

4 Make provision for protection from vibration. See "Protection Against Vibration" below.

5 When air from a common source is supplied to more than one system or set of equipment, provide valves in supply lines for cut off to allow other systems to continue in operation while repairs are made to a single system or set of equipment.

Protection Against Vibration

Vibration, causing connecting tubing failure, is one of the biggest problems encountered. When vibration exists that cannot be eliminated, any one or all of the following suggestions may be helpful.

- 1 Support tubing with wooden instead of metal clamps.
- 2 Make two or three loops in connecting tubing at or near connection to Control Valve or Drive, especially when near pulverizer mills or fans.
3. Insert a 12 to 18 inch length of air hose or rubber covered woven steel tubing between connection to Control Valve or Drive and pipe run.
4. Insert a small piece of rubber between each tube clip and tubing at all points affected by vibration.
- 5 Set up a periodic inspection procedure for testing all joints for leaks.

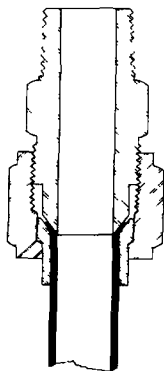
It is essential to test for leakage before the system is placed in operation (and periodically thereafter). Apply air pressure of 30 to 40 psig to the complete tubing system and test each joint with a solution of soap and water. Even small leaks may cause erratic operation of the system.

FLARING OF TUBING

Tubing should be flared with approved flaring tools which can be supplied by the Bailey Meter Company.

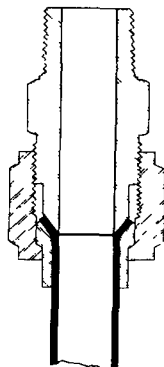
To make a good joint, the end of the tubing must be trimmed off square. All cutter or hacksaw marks on the inside and

outside edges of the tube end should be removed by filing. All filings, chips, burrs, and grit should be removed from inside the tubing by blowing compressed air through the tube. Before flaring, be sure that the sleeve and/or tube nut has been placed on the tubing.



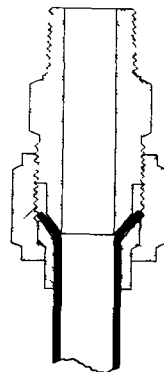
SKETCH A

TUB NG FLARE TOO SHORT



SKETCH B

TUB NG FLARE CORRECT



SKETCH C

TUB NG FLARE TOO LONG

FIGURE 2 Tub ng F ares

To insure proper seating the flare should conform to requirements of the fitting being used for coupling the tube

If the flaring tool has been properly used, the flare diameter will be correct. When the tube is flared too short, the full clamping area of the fitting is not used and the flare may be squeezed thin due to the small area of the tube that is clamped (sketch A of Figure 2). Such joints do not offer maximum security against leakage, breakage at the flare, or pull out strains. If the flare is too short, correct by reflaring.

Tubes flared too long will stick and jam on threads when assembling and are likely to seat against the bottom of the fitting rather than on the tapered seat (sketch C of Figure 2). Strong wrench pressure cannot be depended upon to bring such flares to seat tight. If too long, the flare should be cut off and the tube end reflared.

For the correct length and diameter of flare, the outside corner of the flare should extend beyond the maximum inside diameter or toe of the sleeve or tube nut, but not beyond the out-

side diameter of the sleeve or tube nut (sketch B of Figure 2).

The flare angle of the tube should be directly related to the flare angle of the fitting. An incomplete flare cannot be depended upon to draw down properly on the fitting seat. In such cases, the sleeve tends to climb up on the flare, leaving very little grip on the tube after the fitting is assembled. For best results, complete all flares to the proper angle.

The flare must be square and concentric with the tube and fitting sleeve to seat properly. Flares may be out of square and eccentric because the tube has not been cut off square and the flare has been unevenly formed in the flaring tool. Such flares are impossible to correct and should be cut off and done over.

Inspect each completed flare for surface markings. If such marks are present, the flare should be cut off and the tube reflared.

A drop of 600W oil may be used on the fitting joints. Do not use thread compound on compression fittings. Do not use a pipe wrench on tubing.

AIR COMPRESSOR

When an air compressor is furnished as a part of the control system, complete instructions for the installation and operation of the compressor are shipped with the unit

The compressor pressure switch should be adjusted so that the compressor will cut in when the pressure drops below 80 psig and will cut

out when the pressure has risen to 100 psig

The air receiver should be blown down frequently and kept free of oil or water

The air supply connections should be made at the top of the receiver tank or to risers connected to the top side of supply headers

REDUCING VALVES

Reducing valves, similar to that shown in Figure 12, must be used with the control system (Figures 5 through 11 show the piping assemblies in which the reducing valves are used) Each valve should be installed in a horizontal line and with its adjustment screw on top. These valves are suitable for air at 80 to 100 psig inlet pressure, 20 to 60 psig outlet pressure

Each reducing valve should be adjusted so that its outlet pressure is that which is noted on the tubing diagram covering the specific job, or the supply pressure required for each piece of equipment. See Table 1 below. To increase the outlet pressure which the valve will main-

tain, turn the adjusting screw clockwise. To decrease the outlet pressure, turn the screw counterclockwise

CONTROL PRESSURE RANGE, PSIG	SUPPLY PRESSURE, PSIG	
	Controllers, Transmitters, Relays, Selector Stations, etc	Control Valves, Control Drives, etc
3 to 27	30	40 - 50
5 to 25	28	40 - 50
3 to 15	18	40 - 50

TABLE 1 Normal Supply Pressure

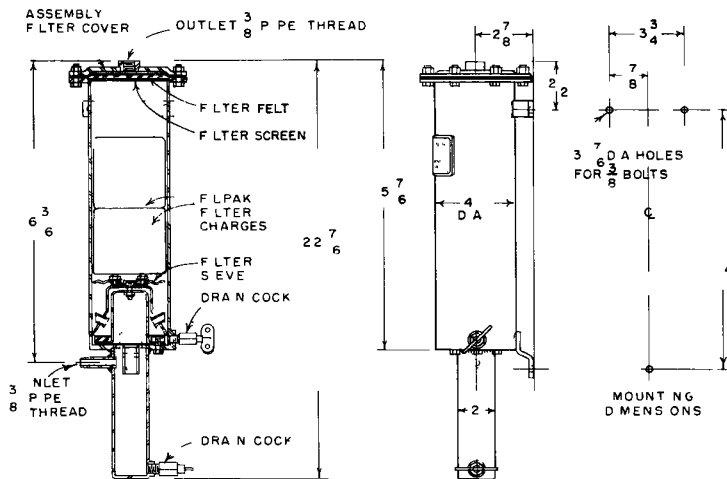


FIGURE 3 Main Line Filter, 6cm Free Air Capacity, 50 psig Body Design

MAIN LINE FILTERS

One or more main line filters, as shown in Figures 3 and 4, are recommended for each control system. The filters are to be installed in the piping system in the manner shown in one of Figures 5 through 11. The correct assembly, if furnished by Bailey Meter Company, is noted on the tubing diagram, included in this Instruction Book, covering the specific installation involved.

The filters are equipped with mechanical separators, Bailey Filpak (cellulose fiber), and a special ribbon type filter assembly.

Each filter is equipped with two drain valves which are connected to the two liquid traps in the filter. The drain valves should be opened daily to remove any accumulation of moisture, or more often if accumulation is excessive.

Inspect the Filpak rolls at least once every six months. When thoroughly saturated, the rolls should be replaced. In most cases it will be necessary only to remove the bottom roll. Replace this roll with one of the older rolls and put the new roll or rolls on top.

To remove the Filpak rolls, remove the filter coverplate, remove the ribbon type filter assembly, if necessary, and lift the rolls out of the filter. Be sure to replace the ribbon type filter assembly before replacing the filter cover.

A pressure gage is supplied at the top of each 30 cubic foot filter assembly. A safety valve is included at the gage connection. For the 6 cubic foot filter, a safety valve is included in the filter piping assembly, as shown in Figures 5 through 7.

AIR FILTER AND PIPING SETS

Recommended filter, reducing valve, and piping assemblies are shown in Figures 5 through 11.

The piping diagram for each control installation specifies one of these assemblies if supplied by Bailey Meter Company.

PROTECTION FROM FREEZING

Air operated control connecting lines should be protected from freezing by

- a The use of electric heating cable or steam tracers
- b Drying the air
- c Treating the air

The use of electric heating cable or steam tracers to prevent freezing is covered in detail in Instruction Section G18 1, "Instrument Connecting Piping".

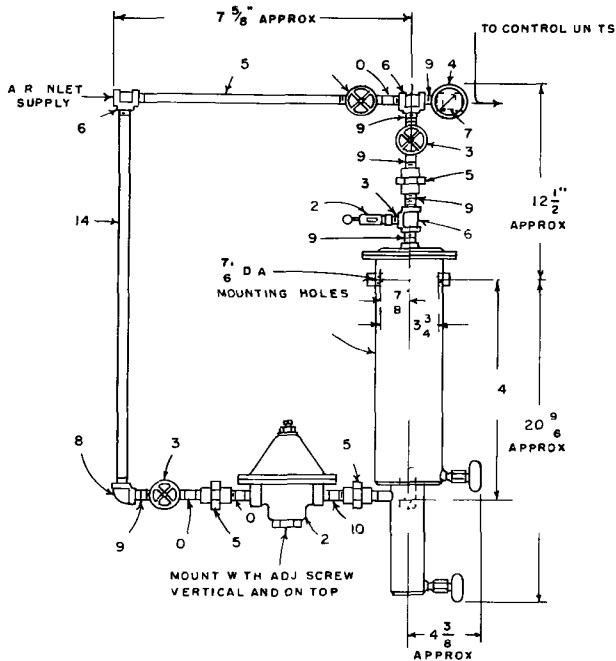
Drying the air used in the system is the preferred method to prevent freezing. This method consists of the use of dehydrators for drying saturated air leaving the air receiver. Dehydrators are available which use desiccants such as Silica Gel, Activated Alumina, or Sovabeads, any one of which may be reactivated (dried) over and over again without appreciable loss of material or efficiency. The dehydrators used may be manual, semi-automatic, or completely automatic with regard to reactivation of the desiccants.

An after cooler and separator trap are essential when a dehydrator is used. The after

cooler will remove any surplus moisture from the air by reducing the air temperature to within approximately 15F of the available cooling water temperature. This reduces the load on and required size of the dehydrator. Whenever possible, the compressor intake duct should be run to the outside of the building, preferably on the coolest side. This not only reduces the load on the after cooler and the dehydrator but also on the compressor itself.

NOTE If a dehydrator is used in the control system, it is necessary that an air filter (shown in Figures 3 and 4) be located following the dryer to insure a clean air supply to the air operated equipment. In this case, however, it is necessary to insure that the temperature of the air entering the filter from the dryer does not exceed 150F.

Air may be treated to lower the freezing point of any moisture in the air by introducing a vapor such as alcohol or Tanner gas. This method is not highly recommended since it entails additional maintenance, sometimes adds undesirable volume to the air control and loading lines, and may cause corrosion of materials used in the control equipment.



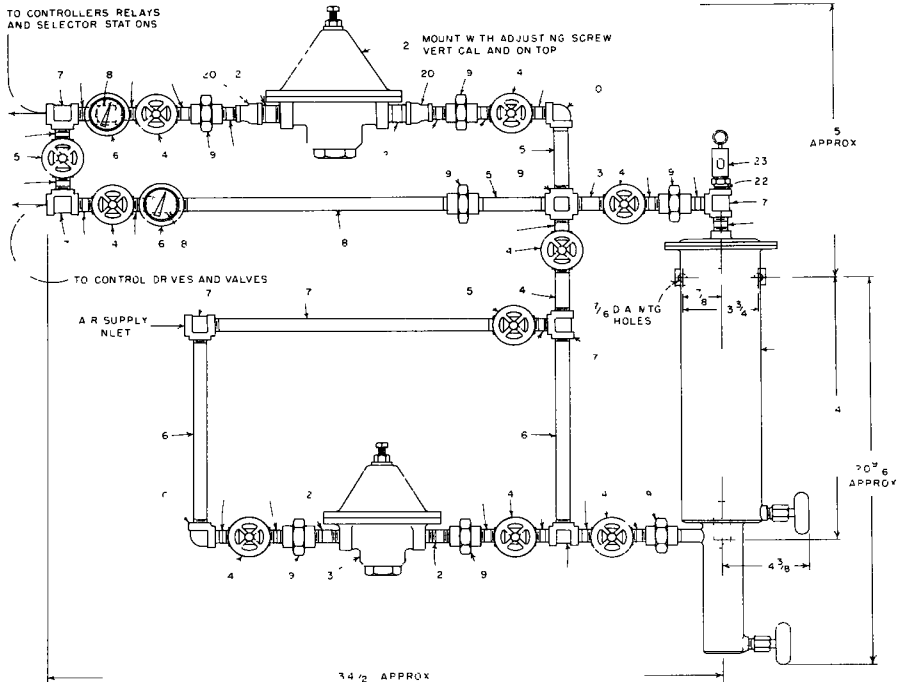
BILL OF MATERIAL 531575*

ITEM	PART NO	DESCRIPTION
1	535715 1	AIR FILTER ASSY
2	195168 3 8	REDUCING VALVE
3	1951221 3 8	GATE VALVE 2 REQD
4	195151 4	PRESSURE GAGE
5	195418 3 8	3 8 STD UNION 3 REQD
6	195153 3 8	3 8 STD TEE 3 REQD
7	195419 1	3 8 x 3 8 x 1 8 TEE
8	195420 3 8	3 8 STD 90° ELBOW
9	195428 1	3 8 STD NIPPLE 1 2 LG 6 REQD
10	195426 2	3 8 STD NIPPLE 1 2 LG 4 REQD
11	195187 3 8	GLOBE TYPE NEEDLE VALVE
12	195598 1	SAFETY VALVE

ITEM	PART NO	DESCRIPTION
13	3 8 x 1 4	REDUCING BUSHING
14	195427 6	3 8 STD PIPE 24 3 8 LG
15	195427 1	3 8 STD PIPE 13 LG

*COMPLETE SET OF PARTS IS COVERED BY BILL OF MATERIAL 531575 ITEMS 1 2 AND 12 ARE COVERED BY BILL OF MATERIAL 533959 PART NO 195417 1 INCLUDES ITEMS 3 THRU 13 INCLUSIVE FOR ACTUAL EQUIPMENT FURNISHED REFER TO THE CONTRACT REQUIREMENTS OR THE SPECIFICATION SHEET IN THIS INSTRUCTION BOOK WHICH COVERS THE AIR FILTER SET

FIGURE 5 Filter, Reducing Valve, and Pressure Assembly, 6cfm Capacity, Single Supply Pressure Outlet Connection



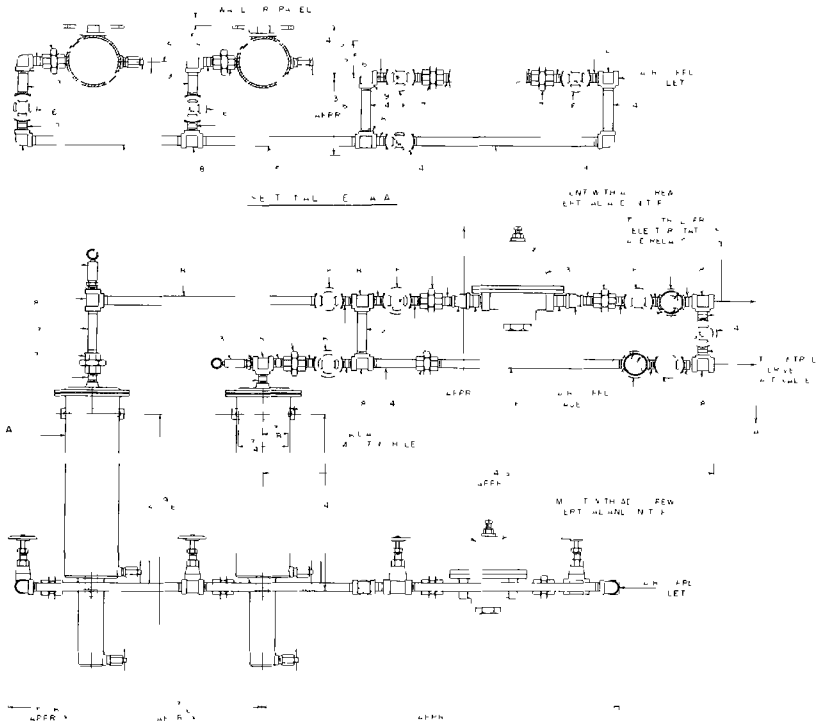
BILL OF MATERIAL 531667*

ITEM	PART NO	DESCRIPTION
1	535715 1	AIR FILTER
2	195168 3,4	REDUCING VALVE
3	195168 3,8	REDUCING VALVE
4	1951221 3 8	GATE VALVE 8 REQD
5	195187 3 8	GLOBE TYPE VALVE 2 REQD
6	195151 4	PRESSURE GAGE 2 REQD
7	195153 3 8	3 8 STD BRASS TEE 6 REQD
8	195419 1	3 8 x 3 8 x 1 8" BRASS TEE 2 REQD
9	195421 1	3 8 STD BRASS CROSS
10	195420 3 8	3 8 STD BRASS ELBOW 2 REQD
11	195428 1	3 8 BRASS NIPPLE 1 1/2 LG 22 REQD
12	195428 2	3 8 BRASS NIPPLE 2 LG 2 REQD
13	195428 3	3 8 BRASS NIPPLE 2 1 8 LG
14	195428 5	3 8 BRASS NIPPLE 2 7 8 LG
15	195428 *	3 8 BRASS NIPPLE 4 1 4 LG 2 REQD
16	195428 8	3 8 BRASS NIPPLE 10 1 2 LG 2 REQD

ITEM	PART NO	DESCRIPTION
17	195427 4	3 8 BRASS PIPE 14 13 16 LG
18	195427 2	3 8 BRASS PIPE 14 7 16 LG
19	195418 3 8	3 8 STD BRASS UNION 7 REQD
20	195422 1	3 4 x 3 8 BRASS REDUCER 2 REQD
21	195426 2	3 4 BRASS NIPPLE 2 LG 2 REQD
22		3 8 x 1 4 BRASS REDUCER
23	195598 1	1,4 SAFETY VALVE

*COMPLETE SET OF PARTS IS COVERED BY BILL OF MATERIAL 531667 ITEMS 1 2 3 AND 23 ARE COVERED BY BILL OF MATERIAL 533660 PART NO 195431 1 INCLUDES ITEMS 4 THRU 23 INCLUSIVE FOR ACTUAL EQUIPMENT FURNISHED REFER TO THE CONTRACT REQUIREMENTS OR THE SPECIFICATION SHEET IN THIS INSTRUCTION BOOK WHICH COVERS THE AIR FILTER SET

FIGURE 6 Filter, Reducing Valve, and Piping Assembly, 6cfm Capacity, Two Supply Pressure Outlet Connections



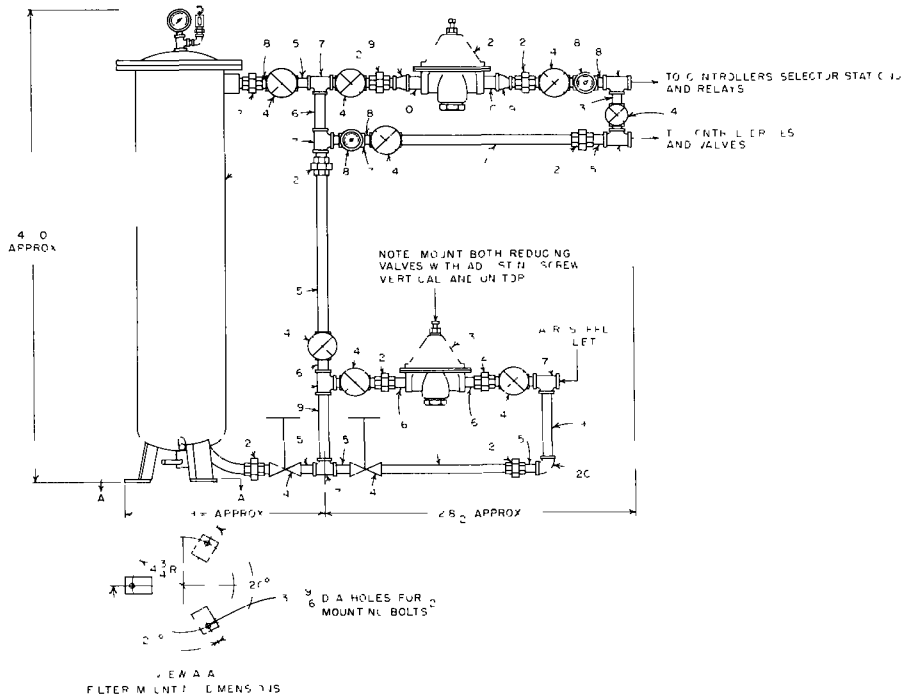
BILL OF MATERIAL 531577*

ITEM	PART NO	DESCRIPTION
1	535715 1	AIR FILTER ASSY 2 REQD
2	195168 J d	REDUCING VALVE
3	195168 3 4	REDUCING VALVE
4	195187 3 8	GLOBE TYPE VALVE 2 REQD
5	195151 4	PRESSURE GAGE 2 REQD
6	1951221 3 8	GATE VALVE 9 REQD
7	195418 3 8	3 8 STD BRASS UNION 9 REQD
8	195153 3 8	3 8 STD BRASS TEE 9 REQD
9	195419 1	3 8 x 3 8 x 1 8 BRASS TEE 2 REQD
10	195428 1	3 8 BRASS NIPPLE 1 1 2 LG 26 REQD
11	195428 2	3 8 BRASS NIPPLE 2 LG 2 REQD
12	195428 4	3 8 BRASS NIPPLE 2 1 2 LG 2 REQD
13	195428 -	3 8 BRASS NIPPLE 4 1 4 LG 2 REQD
14	145428 6	3 8 BRASS NIPPLE 4 LG 3 REQD
15	195428 9	3 8 BRASS NIPPLE 12 LG 2 REQD
16	19542* 3	3 8 BRASS PIPE 14 5 8 LG

ITEM	PART NO	DESCRIPTION
17	195427 4	3 8 BRASS PIPE 14 13 16 LG
18	195427 5	3 8 BRASS PIPE 16 5 8 LG
19	195420 3 8	3 8 STD BRASS ELBOW 5 REQD
20	195426 2	3 4 BRASS NIPPLE 2 LG 2 REQD
21	195422 1	3 4 x 3 8 BRASS REDUCER 2 REQD
22	3 8	x 1 4 BRASS RED BUSH 2 REQD
23	195598 1	SAFETY VALVE 2 REQD

*COMPLETE SET OF PARTS IS COVERED BY BILL OF MATERIAL 531577 ITEMS 1 2 3 AND 23 ARE COVERED BY BILL OF MATERIAL 533661 PART NO 195430 1 INCLUDES ITEMS 4 THRU 23 INCLUSIVE FOR ACTUAL EQUIPMENT FURNISHED REFER TO THE CONTRACT REQUIREMENTS OR THE SPECIFICATION SHEET IN THIS INSTRUCTION BOOK WHICH COVERS THE AIR FILTER SET

FIGURE 7 Filter, Reducing Valve, and Piping Assembly, 12cfm Capacity, Two Supply Pressure Outlet Connections



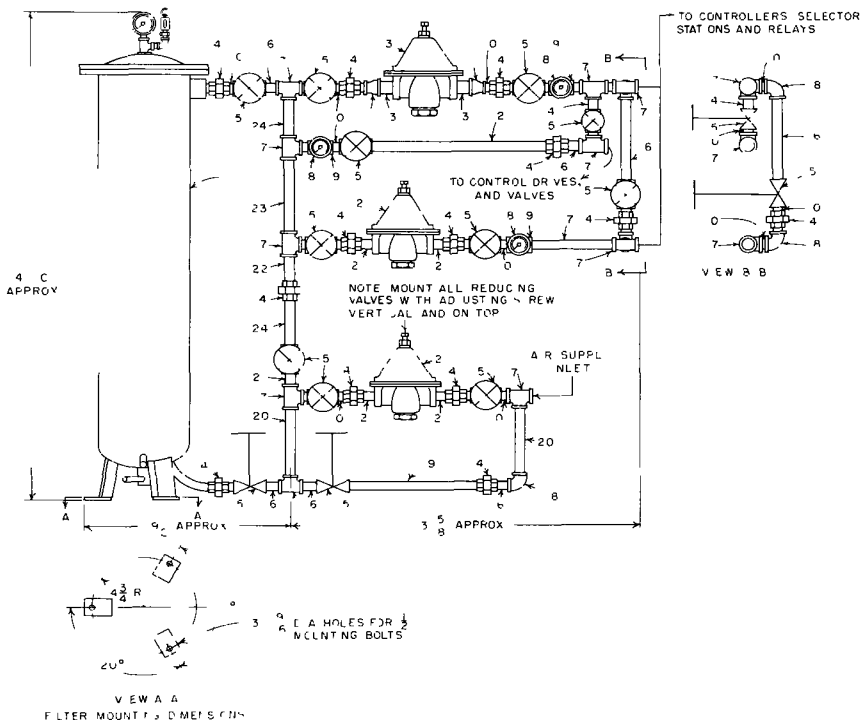
BILL OF MATERIAL 531741*

ITEM	PART NO	DESCRIPTION
1	5314200 1	AIR FILTER ASSY
2	195168 1	REDUCING VALVE
3	195168 3 4	REDUCING VALVE
4	1951221 3 4	GATE VALVE 8 REQD
5	195426 3	3 4 BRASS NIPPLE 2 1 2 LG 5 REQD
6	195426 5	3 4 BRASS NIPPLE 4 5 8 LG
7	195153 3 4	3 4 STD BRASS TEE 7 REQD
8	195151 4	PRESSURE GAGE 2 REQD
9	195422 2	1 x 3 4 BRASS REDUCER 2 REQD
10	195424 1	1 BRASS NIPPLE 2 1 2 LG 2 REQD
11	195606 8	3 4 BRASS PIPE 18 15 16 LG
12	15418 3 4	3 4 STD BRASS UNION 9 REQD
13	195426 14	3 4 BRASS NIPPLE 3 1 8 LG
14	195161 3 4	3 4 NEEDLE GLOBE VALVE 2 REQD
15	195606 7	3 4 BRASS PIPE 19 1 2 LG

ITEM	PART NO	DESCRIPTION
16	195426 2	3 4 BRASS NIPPLE 2 LG 3 REQD
17	195419 2	3 4 x 3/4 x 1 8 BRASS TEE 2 REQD
18	195426 1	3 4 BRASS NIPPLE 1 3 8 LG 18 REQD
19	195426 7	3 4 BRASS NIPPLE 7 LG 2 REQD
20	195420 3 4	3 4 STD BRASS ELBOW
21	195606 5	3 4 BRASS PIPE 14 1 16 LG

*COMPLETE SET OF PARTS IS COVERED BY BILL OF MATERIAL 531741 ITEMS 1 2 AND 3 ARE COVERED BY BILL OF MATERIAL 533662 PART NO 195429 1 INCLUDES ITEMS 4 THRU 21 INCLUSIVE FOR ACTUAL EQUIPMENT FURNISHED REFER TO THE CONTRACT REQUIREMENTS OR THE SPECIFICATION SHEET IN THIS INSTRUCTION BOOK WHICH COVERS THE AIR FILTER SET

FIGURE 8 Filter, Reducing Valve, and Piping Assembly, 30cfm Capacity, Two Supply Pressure Outlet Connections



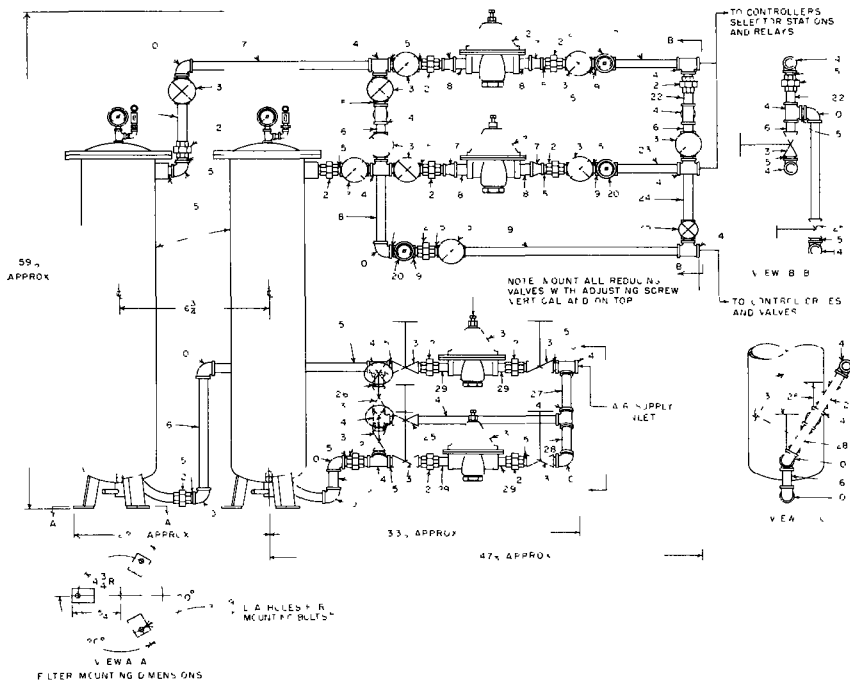
BILL OF MATERIAL 532330*

ITEM	PART NO	DESCRIPTION
1	5314200 1	AIR FILTER ASSY
2	195168 3 4	REDUCING VALVE 2 REQD
3	195168 1	REDUCING VALVE
4	195418 3 4	3 4 STD BRASS UNION 12 REQD
5	1951221 3 4	GATE VALVE 11 REQD
6	195426 3	3 4 BRASS NIPPLE 2 1 1 LG 5 REQD
7	195153 3 4	3 4 BRASS TEE 10 REQD
8	195151 4	PRESSURE GAGE 3 REQD
9	195419 2	3 4 3 4 x 1 8 BRASS TEE 3 REQD
10	195476 1	3 4 BRASS NIPPLE 1 3 8 LG 26 REQD
11	195422 2	1 3 4 BRASS REDUCER 2 REQD
12	195606 8	3 4 BRASS PIPE 18 15 LG
13	195424 1	1 BRASS NIPPLE 2 1 2 LG 2 REQD
14	195426 14	3 4 BRASS NIPPLE 2 1 1 LG
15	195161 3 4	3 4 NEEDLE GLOBE VALVE 2 REQD
16	195606 4	3 4 BRASS PIPE 12 5 8 LG
17	195606 2	3 4 BRASS NIPPLE 10 " 8 LG

ITEM	PART NO	DESCRIPTION
18	195420 3 4	3 4 STD BRASS ELBOW 3 REQD
19	195606 5	3 4 BRASS PIPE 14 1, 16 LG
20	195426 "	3 4 BRASS NIPPLE 7 LG 2 REQD
21	195426 2	3 4 BRASS NIPPLE 2 LG 5 REQD
22	195426 1b	3 4 BRASS NIPPLE 2 7 8 LG
23	195606 3	3 4 BRASS PIPE 12 1 8 LG
24	195426 5	3 4 BRASS NIPPLE 4 5 8 LG 2 REQD

*COMPLETE SET OF PARTS IS COVERED BY BILL OF MATERIAL 532330 ITEMS 1 2 AND 3 ARE COVERED BY BILL OF MATERIAL 533863 PART NO 195457 1 INCLUDES ITEMS 4 THRU 24 INCLUSIVE FOR ACTUAL EQUIPMENT FURNISHED REFER TO THE CONTRACT REQUIREMENTS OR THE SPECIFICATION SHEET IN THIS INSTRUCTION BOOK WHICH COVERS THE AIR FILTER SET

FIGURE 9 Filter, Reducing Valve, and Piping Assembly, 30cfm Capacity, Three Supply Pressure Outlet Connections



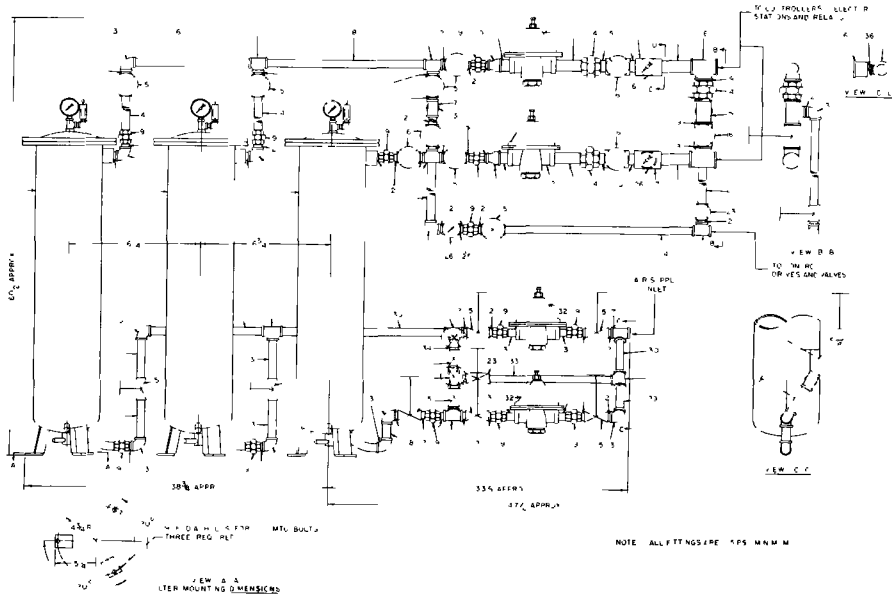
BILL OF MATERIAL 531805*

ITEM	PART NO	DESCRIPTION
1	5314200 1	AIR FILTER ASSY 2 REQD
2	195168 1	REDUCING VALVE 2 REQD
3	195168 3 4	REDUCING VALVE 2 REQD
4	195806 6	3/4 BRASS PIPE 18 1/2 LG
5	195425 8	3/4 BRASS PIPE 18 1/8 LG
6	195425 6	BRASS PIPE 15 1/2 LG
7	195425 10	3/4 BRASS PIPE 22 7/8 LG
8	195425 5	3/4 BRASS PIPE 15 LG
9	195606 9	3/4 BRASS PIPE 26 11/16 LG
10	195420 3 4	3/4 STD BRASS ELBOW 10 REQD
11	195426 12	3/4 BRASS NIPPLE 5 1/8 LG
12	195418 3 4	3/4 STD BRASS UNION 14 REQD
13	1951221 3 4	GATE VALVE 16 REQD
14	195153 3 4	3/4 STD BRASS TEE 12 REQD
15	195425 1	3/4 BRASS NIPPLE 1 3/8 LG 44 REQD
16	195428 9	3/4 BRASS NIPPLE 3 LG 3 REQD
17	195422 2	1 x 3/4 STD BRASS REDUCER 4 REQD
18	195424 1	1 BRASS NIPPLE 2 1/2 LG 4 REQD
19	195419 2	3/4 x 3/4 x 1/8 BRASS TEE 3 REQD

ITEM	PART NO	DESCRIPTION
20	195511 4	PRESSURE GAGE 3 REQD
21	195426 11	3/4 BRASS NIPPLE 8 LG
22	195426 8	3/4 BRASS NIPPLE 2 3/8 LG
23	195606 1	3/4 BRASS NIPPLE 10 LG
24	195425 4	3/4 BRASS PIPE 12 1/2 LG
25	195161 3/4	3/4 NEEDLE GLOBE VALVE 2 REQD
26	195426 3	3/4 BRASS NIPPLE 2-1 2 LG
27	195426 10	3/4 BRASS NIPPLE 5 11/16 LG
28	195428 5	3/4 BRASS NIPPLE 4 3/8 LG
29	195426 2	3/4 BRASS NIPPLE 2 LG 4 REQD

*COMPLETE SET OF PARTS IS COVERED BY BILL OF MATERIAL 531805 ITEMS 1 2 AND 3 ARE COVERED BY BILL OF MATERIAL 533664 PART NO 195433 1 INCLUDES ITEMS 4 THRU 29 INCLUSIVE FOR ACTUAL EQUIPMENT FURNISHED REFER TO THE CONTRACT REQUIREMENTS OR THE SPECIFICATION SHEET IN THIS INSTRUCTION BOOK WHICH COVERS THE AIR FILTER SET

FIGURE 10 - Filter, Reducing Valve, and Piping Assembly, 60cfm Capacity, Three Supply Pressure Outlet Connections



BILL OF MATERIAL 534125*

ITEM	PART NO	DESCRIPTION
1	5314200 1	AIR FILTER ASSY 3 REQD
2	195426 1	3 4 BRASS NIPPLE 1 3 8 LG 41 REQD
3	195420 3 4	3 4 STD BRASS ELBOW 12 REQD
4	195426 21	3 4 BRASS NIPPLE 7 5 8 LG 2 REQD
5	1951221 3 4	GATE VALVE 1" REQD
6	195425 6	3 4 STD BRASS PIPE 15 1 2 LG 2 REQD
8	195153 3 4	3 4 STD BRASS TEE 11 REQD
9	195425 10	3 4 STD BRASS PIPE 22 7 8 LG
9	195418 3 4	3 4 STD BRASS UNION 13 REQD
10	195422 3	1 1 4 x 3 4 BRASS REDUCER 2 REQD
11	1951192 3	1 1 4 BRASS NIPPLE 4 LG 8 REQD
12	195158 1 1	REDUCING VALVE 2 REQD
13	195426 21	3 4 BRASS NIPPLE 6 7 8 LG 4 REQD
14	195418 1 1	1 1 4 BRASS UNION 3 REQD
15	1951192 2	1 1 4 BRASS NIPPLE 2 LG 4 REQD
16	1951221 1 1	GATE VALVE 3 REQD
17	195419 4	1 1 4 x 1 1 4 x 1 3 BRASS REDUCING TEE 2 REQD
18	195153 1 1	1 1 4 BRASS TEE 2 REQD
14	1951192 1	1 1 4 BRASS NIPPLE 1 5 8 LG 4 REQD
20	195419 3	1 1 4 x 1 1 4 x 3 4 BRASS REDUCING TEE
21	195426 19	3 4 BRASS NIPPLE 4 LG
22	195426 22	3 4 BRASS NIPPLE 13 1 2 LG

ITEM	PART NO	DESCRIPTION
23	195161 3 4	3 4 NEEDLE GLOBE VALVE 2 REQD
24	195606 9	3 4 BRASS PIPE 26 11 16 LG
25	195419 2	3 4 x 3 4 x 1 3 BRASS TEE
26	195151 4	PRESSURE GAGE 3 REQD
27	195426 18	5 4 BRASS NIPPLE 16 LG
28	194420 9	3 4 BRASS NIPPLE 3 LG
29	194420 5	3 4 BRASS NIPPLE 4 5 8 LG
30	194420 10	3 4 BRASS NIPPLE 5 11/16 LG
31	194420-2	3 4 BRASS NIPPLE 2 LG 4 REQD
32	195168-3 4	REDUCING VALVE 2 REQD
33	195606-5	3 4 BRASS NIPPLE 18 1 2 LG
34	195426 3	3 4 BRASS NIPPLE 2 1 2 LG
35	195426 23	3 4 BRASS NIPPLE 21 5 16 LG
36	1 2	x 1 8 BRASS HEX RED BUSH 2 REQD

*COMPLETE SET OF PARTS IS COVERED BY BILL OF MATERIAL 534125 ITEMS 1 12 AND 32 ARE COVERED BY BILL OF MATERIAL 534126 ALL OTHER ITEMS ARE INCLUDED AS PART NO 151193 1 FOR ACTUAL EQUIPMENT FURNISHED REFER TO THE CONTRACT REQUIREMENTS OR THE SPECIFICATION SHEET IN THIS INSTRUCTION BOOK WHICH COVERS THE AIR FILTER SET

FIGURE 11 Filter, Reducing Valve, and Piping Assembly, 90cfm Capacity, Three Supply Pressure Outlet Connections

REPLACEMENT PARTS

Spare Parts Kits

Figures 12, 13, and 14 include Spare Parts Kits covering the assemblies illustrated. A minimum of one kit for each type of unit actually furnished should be carried in stock. Specify the Spare Parts Kit part number to order a complete kit.

Ordering Parts

Figures 12, 13 and 14 show parts drawings of the Pressure Reducing Valve, 6 cfm Air Filter, and 30 cfm Air Filter. These drawings normally will apply to the assemblies furnished. However, there may be differences in specific units because of:

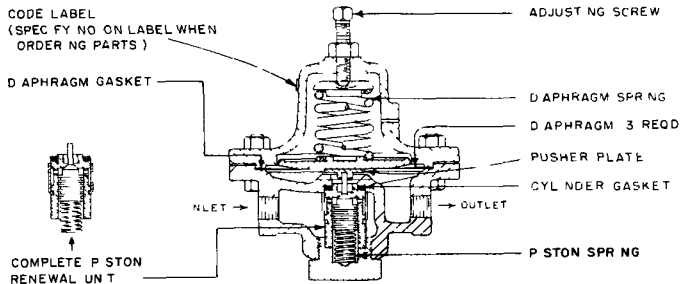
a Design changes made since the printing of this Instruction Section

b Special design of the equipment furnished to make it suitable for a special application

Therefore, when ordering parts, assure correct replacements by specifying on the order:

1 The part number and Code Label number of the unit for which parts are desired

2 The parts drawing on which each part is illustrated (the parts drawing number is given in the title for the Figure)



PIPE SIZE	COMPLETE VALVE	DIAPHRAGM (3 REQD)*	RENEWAL UNIT*	DIAPHRAGM SPRING*	PISTON SPRING	CYLINDER GASKET	PUSHER PLATES	DIAPHRAGM GASKET	SPARE PARTS KIT PT NO
3/8	195168L3/8	1951009 3/8	195513 3/8	195514 3/8	195515 3/8	195739 3/8	195*80 3/8	1951007 3/8	256018 1
3/4	195168L3/4	1951009 3/4	195513 3/4	195514 3/4	195515 3/8	195739 3/4	195*81 3/4	1951007 3/4	256018 2
1	195168L1	1951009 1	195513 1	195514 3/4	195515 1	195739 1	195*82 1	1951007 1	256018 3
1 1/4	195168L1 1/4	1951009 1 1/4	195513 1 1/4	195514 1 1/4	195515 1	195739 1	195*83 1 1/4	1951007 1 1/4	256018 4

*ITEMS INCLUDED IN SPARE PARTS KITS PT NOS 256018 1, 2, 3, & 4

FIGURE 12 - Parts Drawing P95 33, Pressure Reducing Valve, Part Number 195168 □

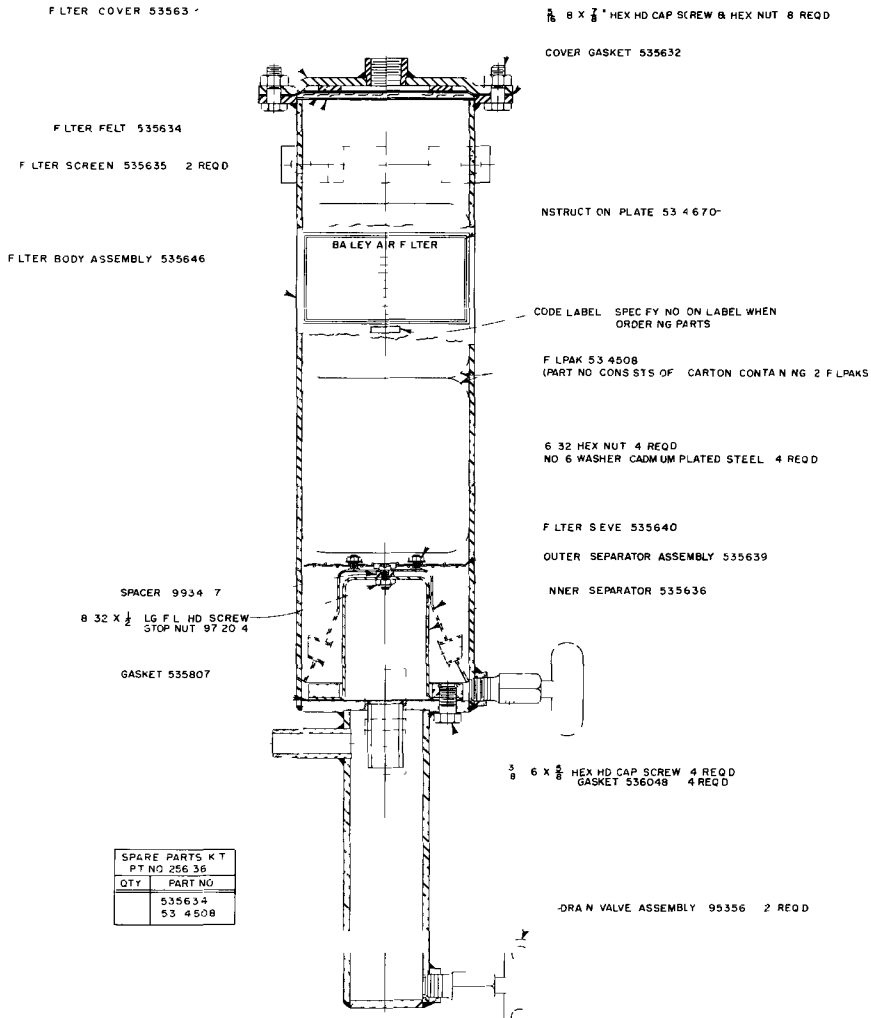


FIGURE 13 Parts Drawing P956, Air Filter, 6cfm Capacity, Part Number 5357151

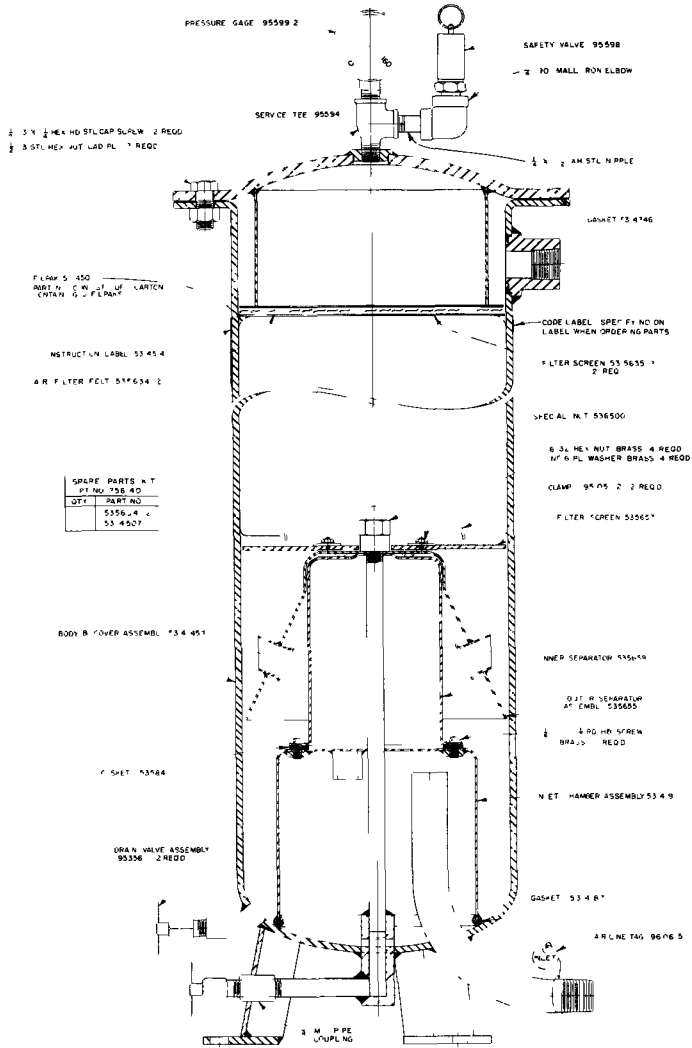


FIGURE 14 Parts Draw ng P95 15, A r F ter 30cfm Copac ty, Part Number 5314200-1

Product Warranty

Bailey Meter Company warrants the products manufactured by it to be free from defects in material and workmanship and will repair or replace, at its option free of charge, to its factory, such part or parts which prove defective within one year from date of shipment. In respect to any products which are not an integral part of a product manufactured by the Company, the warranty given by the manufacturer thereof shall apply.

Shipping Damage

We strongly recommend that you inspect and test your instrument as soon as you receive it. If the instrument is damaged or operates improperly, notify the carrier for inspection of the shipment. The carrier's claim agent will prepare a report of damage, a copy of which should be forwarded to your nearest Bailey District Office (see back cover for location). The District Office will then tell you how to have the instrument repaired or replaced.

Service

The Bailey Meter Company is very concerned that your Bailey instrument provides continued, fine performance. This instruction manual is designed to fully describe the correct installation, operation, and maintenance of your instrument under recommended conditions. If the need arises, factory trained Service Engineers are on call for prompt, in plant maintenance. Telephone or wire your nearby Bailey District Office to make arrangements for this service.

Replacement Parts and Supplies

Complete parts drawings and recommended spare parts kit information are included in this instruction manual. When replacement parts or supplies are required for maintenance of your Bailey instrument, contact your nearest Bailey District Office (see back cover for location). Always specify complete data on the instrument nameplate on your inquiry or order for parts. Common parts are available for shipment within 48 hours on a speed order basis.

**BA LEY METER COMPANY
HEADQUARTERS**

29801 Euclid Avenue
Wickliffe, Ohio 44092

U S A D I S T R I C T O F F I C E S

California Los Angeles
California San Francisco
Colorado Denver
Connecticut, New Haven
Florida, Jacksonville
Georgia, Atlanta
Illinois, Chicago
Kentucky, Louisville
Louisiana, New Orleans
Maine, Augusta
Maryland, Baltimore
Massachusetts, Boston
Michigan, Detroit
Michigan, Kalamazoo
Minnesota, St. Paul
Missouri, Kansas City
Missouri, St. Louis
North Carolina, Charlotte
New Jersey, East Orange
New York, Buffalo
New York, Syracuse
Ohio, Cincinnati
Ohio, Cleveland
Pennsylvania, Philadelphia
Pennsylvania, Pittsburgh
Texas, Dallas
Texas, Houston
Virginia, Richmond
Washington, Seattle
Wisconsin, Milwaukee

**BA LEY METER COMPANY LIMITED
POINTE-CLAIRE 730, QUEBEC**

Alberta, Edmonton
British Columbia, Vancouver
Manitoba, Winnipeg
Nova Scotia, Halifax
Ontario, Ottawa
Ontario, Toronto
Quebec, Montreal

**BA LEY METER AUSTRALIA PTY LTD
REGENTS PARK, NEW SOUTH WALES 2143**

N.S.W., Sydney
Queensland, Brisbane
South Australia, Adelaide
Victoria, Melbourne
Western Australia, Perth

INTERNATIONAL REPRESENTATIVES

Argentina, Buenos Aires
Brazil, Rio de Janeiro
Chile, Santiago
England, Croydon
France, Paris
India, New Delhi
Italy, Milan
Japan, Tokyo
Mexico, Mexico City D.F.
Puerto Rico, San Juan
Spain, Madrid
Taiwan, Taipei
Turkey, Ankara
And Other Provinces, Cities

Bailey

a subsidiary of Babcock & Wilcox U.S.A.