

In-line Air Filters and Coalescers

309919F

EN

To remove liquids and contaminants from compressed air supply. For professional use only.

Maximum Working Pressure 175 psi (1.2 MPa, 12 bar)

Maximum Temperature 150° F (65° C)



Important Safety Instructions

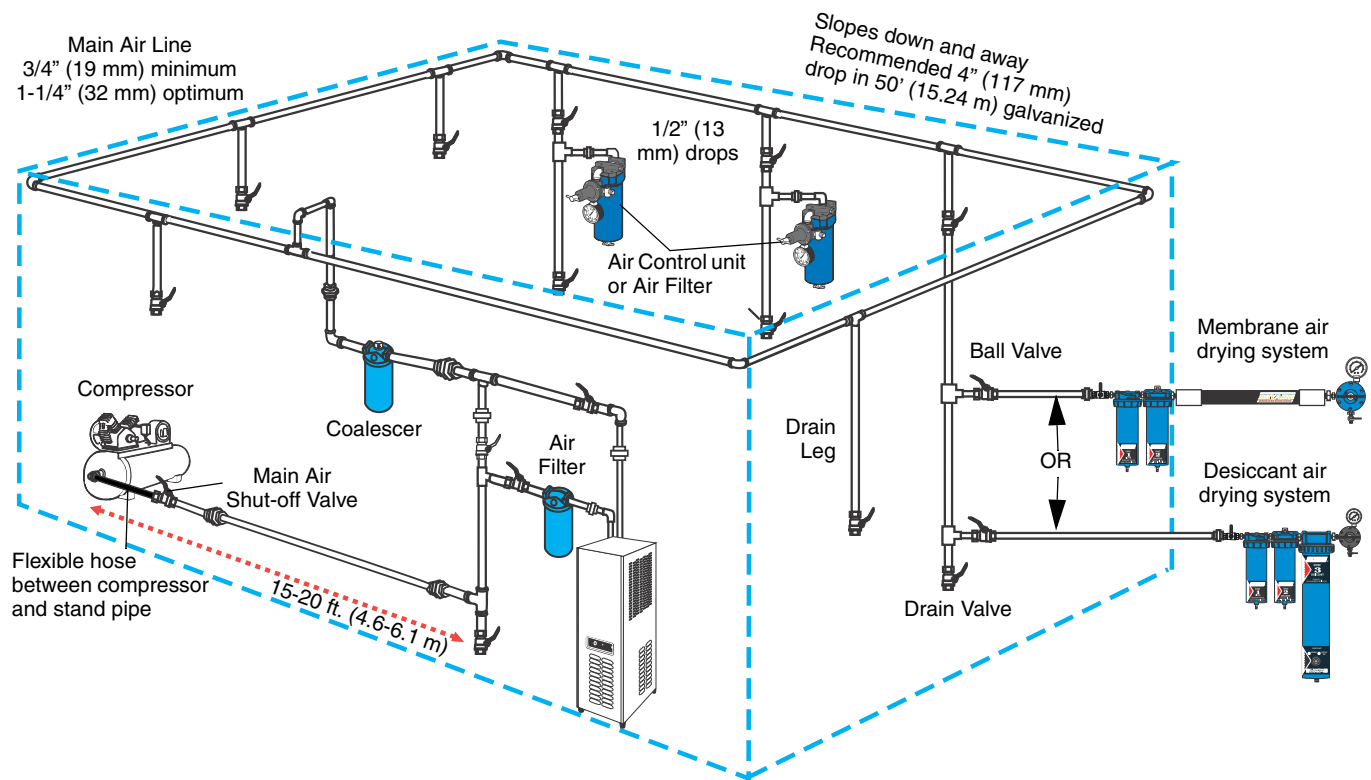
Read all warnings and instructions in this manual.
Save these instructions.

| Part No. | Series | Description | Air Inlet npt(f) | Air Outlet npt(f) | Air Flow Capacity at 100 psi (0.7 MPa, 7 bar) |
|----------|--------|--|---------------------|-------------------------|---|
| 234397 | B | Air Coalescer with auto drain Removes liquids and contaminants down to 1 micron. | 1/2" | 1/2" | 83 CFM |
| 234402 | B | Stage 1 - Air Filter with auto drain Removes water and contaminants down to 3 microns. | 1/2" | 1/2" | 100 CFM |
| 234403 | B | Stage 2 - Coalescer with auto drain Removes oil and sub-micronic particles down to .01 microns. | 1/2" | 1/2" | 50 CFM |
| 234405 | B | Includes Air Filter 234402 and Coalescer 234397 | 1/2" | 1/2" | 83 CFM |
| 234408 | A | Air Filter with auto drain Removes liquids and contaminants down to 5 microns. | 3/4" | 3/4" | 300 CFM |
| 234409 | A | Coalescer with auto drain Removes oil and sub-micronic particles down to .01 microns. | 3/4" | 3/4" | 115 CFM |

Installation

1. Before installing air line components, blow out the pipe line to remove debris. Be sure air to the regulator is clean. Erratic operation or loss of regulation is usually caused by dirt in the regulator.
2. Install the unit as close as possible to the equipment it serves.
3. Install a main air shut-off valve upstream from the air controls to isolate them for service.
4. Install system so air flows through filters in the direction noted on top of filter.
5. A minimum 1/2" npt piping is recommended. Avoid using too many fittings, couplings, etc., which will restrict air flow.

Shop Air Piping Layout




- Main Air Line stand pipe should not be smaller than compressor outlet size.
- A minimum of 25 ft. (7.62 m) from compressor to first filter outlet is required to cool air [50 ft. (15.24 m) optimum]

| Minimum Pipe Size Recommendations | | | |
|-----------------------------------|-------------|----------------------------|------------------|
| Compressor | | Main Air Line | |
| Size | Capacity | Length | Size |
| 1-1/2 - 2 HP | 6 - 9 CFM | any | 3/4" (19 mm) |
| 3 - 5 HP | 12 - 20 CFM | Up to 200 ft. (61 m) | 3/4" (19 mm) |
| | | Over 200 ft. (61 m) | 1" (25.4 mm)) |
| 5 - 10 HP | 20 - 40 CFM | Up to 100 ft. (30.5) | 3/4" (19 mm) |
| | | Over100-200ft. (30.5-61 m) | 1" (25.4 mm) |
| | | Over 200 ft. (61 m) | 1-1/4" (31.8 mm) |
| 10 - 15 HP | 40 - 60 CFM | Up to 100 ft. (30.5) | 3/4" (19 mm) |
| | | Over100-200ft. (30.5-61 m) | 1-1/4" (31.8) |
| | | Over 200 ft. (61 m) | 1-1/2" (38.1) |

| Air Pressure Drop Through Hose, by hose length and ID psi (Kpa, bar) | | | | | | |
|---|-------------------|--------------------|-------------------|---------------------------|--------------------|---------------------|
| Air Hose Inside Diameter | 4 ft. (1.22 m) | 10 ft. (3.05 m) | 15 ft. (4.6 m) | 20 ft. (6.1 m) | 25 ft. (7.62 m) | 50 ft. (15.24 m) |
| 1/4 in. (6.4 mm) | | | | | | |
| 40 psi (276 kPa, 2.8 bar) | 6 (41, .4) | 8 (55, .6) | 9.5 (66, .7) | 11 (76, .8) 14 (97, 1) | 12.75 (88, 0.9) | 24 (165, 1.7) |
| 50 psi (345 kPa, 3.4 bar) | 7.5 (52, .5) | 10 (69, .7) | 12 (83, .8) | 16.75(115,1.2) | 16 (110, 1.1) | 28 (193, 1.9) |
| 60 psi (414 kPa, 4.1 bar) | 9 (62, .6) | 12.5 (86, .9) | 14.5 (100, .1) | 19.5 (134, 1.3) | 19 (131, 1.3) | 31 (214, 2.1) |
| 70 psi (483 kPa, 4.8 bar) | 10.75 (74, .7) | 14.5 (100, 1) | 17 (117, 1.2) | 22.5 (155, 1.6) | 22.5 (155, 1.6) | 34 (234, 2.3) |
| 80 psi (552 kPa, 5.5 bar) | 12.25 (84, .8) | 16.5(114,1.1) | 19.5 (134, 1.3) | 25.25 (172, 1.7) | 25.5 (176, 1.8) | 37 (255, 2.6) |
| 90 psi (621 kPa, 6.2 bar) | 14 (97, 1) | 18.75 (129, 1.3) | 22 (152, 1.5) | 29 (200, 2) | 29 (200, 2) | 39.5 (169, 2.7) |
| 5/16 in. (7.9 mm) | | | | | | |
| 40 psi (276 kPa, 2.8 bar) | 2.25 (16, .2) | 2.75 (19, .2) | 3.25 (22, .2) | 3.5 (24, .2) | 4 (28, .3) | 8.5 (59, .6) |
| 50 psi (345 kPa, 3.4 bar) | 3 (21, .2) | 3.5 (24, .2) | 4 (28, .3) | 4.5 (31, .3) | 5 (34, .3) | 10 (69, .7) |
| 60 psi (414 kPa, 4.1 bar) | 3.75 (26, .3) | 4.5 (31, .3) | 5 (34, .3) | 5.5 (38, .4) | 6 (41, .4) | 11.5 (79, .8) |
| 70 psi (483 kPa, 4.8 bar) | 4.5(31, .3) | 5.25 (36, .4) | 6 (41, .4) | 6.75 (47, .5) | 7.25 (50, .5) | 13 (90, .9) |
| 80 psi (552 kPa, 5.5 bar) | 5.5 (38, .4) | 6.25 (43, .4) | 7 (48, .5) | 8 (55, .6) | 8.75 (60, .6) | 14.5 (100, 1) |
| 90 psi (621 kPa, 6.2 bar) | 6.5 (45, .4) | 7.5 (52, .5) | 8.5 (59, .6) | 9.5 (66, .7) | 10.5 (72, .7) | 16 (110, 1.1) |

Operation

 **WARNING**
Do not exceed the Maximum Incoming Air Pressure of the equipment. Over pressurizing can cause component rupture and serious injury.


Automatic Drain

The automatic drain is equipped with a float actuated device which automatically ejects liquid contaminants under pressure.

Coalescer Pressure Drop Indicator

The differential pressure drop indicator provides early detection of a clogged coalescing filter element. As the filter element becomes clogged, the red indicator starts to rise while air is flowing through the unit. When the pressure drop across the element reaches 10-12 psi (69-83 kPa, 0.7-0.8 bar), the red indicator will be in full view, and the element should be replaced. Failure to replace the element when the pressure drop exceeds 10 psi (69 kPa, 0.7 bar) will affect your air quality and tool efficiency.

Pressure Relief Procedure

 **WARNING**
To avoid injury, relieve air and fluid pressure before checking, cleaning, or repairing the equipment.

The following is a basic pressure relief procedure. Be sure to follow the specific pressure relief procedure in your spray gun and/or fluid supply equipment manuals.

1. Close the main air shut-off valve.
2. Trigger the gun or dispense valve and open any drain valves to relieve pressure.

Maintenance



- Relieve the pressure before cleaning, checking or repairing equipment. Follow **Pressure Relief Procedure**, page 4.
- Check system at least once per shift to ensure proper drainage.
- To maintain maximum filtering efficiency and avoid excessive pressure drop, filters must be kept clean.

Air Filters with Automatic Drain

Cleaning

You do not need to remove the complete filter from the line to clean it.

1. Follow the **Pressure Relief Procedure**, page 4.
2. Clean all parts with cleaning solvent and blow out filter body.
3. Wash filter element in cleaning solvent. Blow the filter out from the inside.

Coalescers with Automatic Drain



NOTE: It is recommended that Air Filter 234402 be installed upstream of the coalescing filter to remove 3 micron and larger size particles and separate large droplets of moisture from the air line.

| CAUTION |
|--|
| Never let the liquid level in the bowl reach the base of the coalescing element. |

Cleaning

You do not need to remove the complete coalescer from the line to clean it.

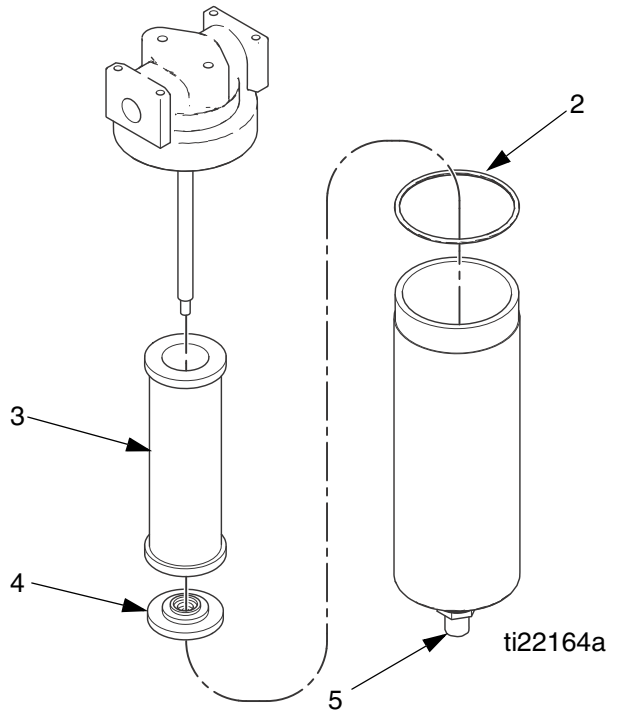
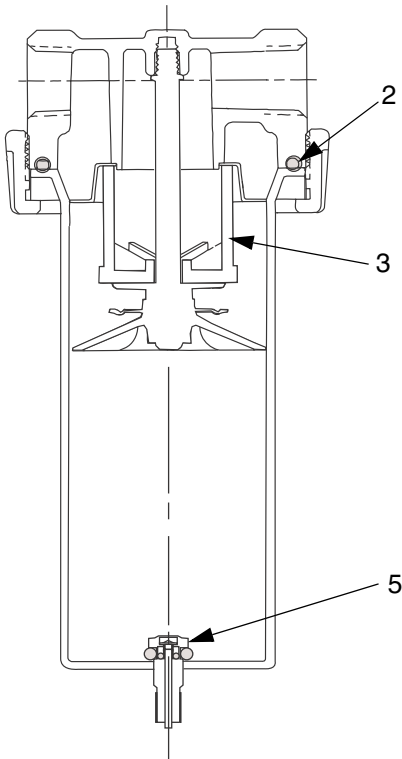
1. Follow the **Pressure Relief Procedure**, page 4. Be sure to shut off the air supply and depressurize the filter.
2. Clean all parts with cleaning solvent and blow out coalescer body.
3. Replace coalescer element.

Parts

Air Filter and Coalescer Assembly 234405, Series B

Includes Air Filter 234402 (below) and Coalescer 234397 (page 7).

Air Filters



Air Filter 234408

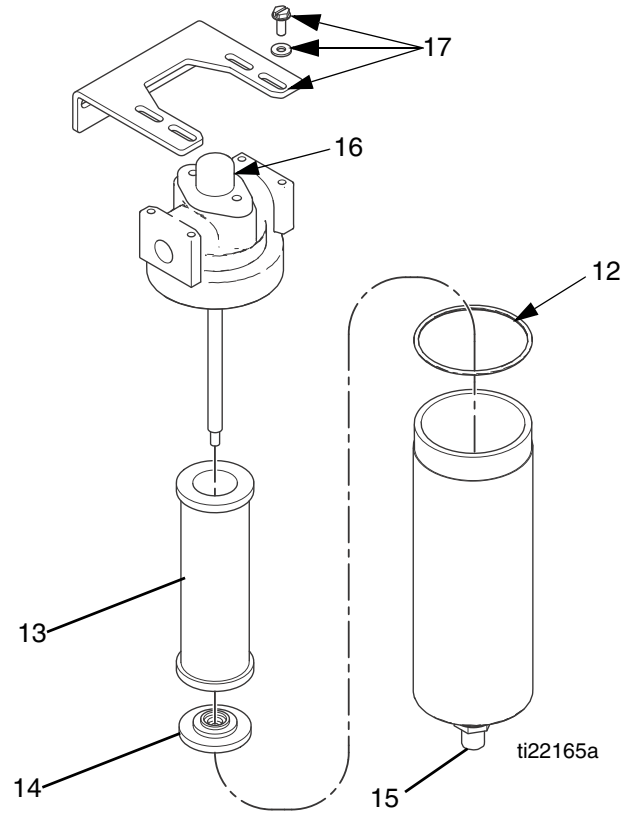
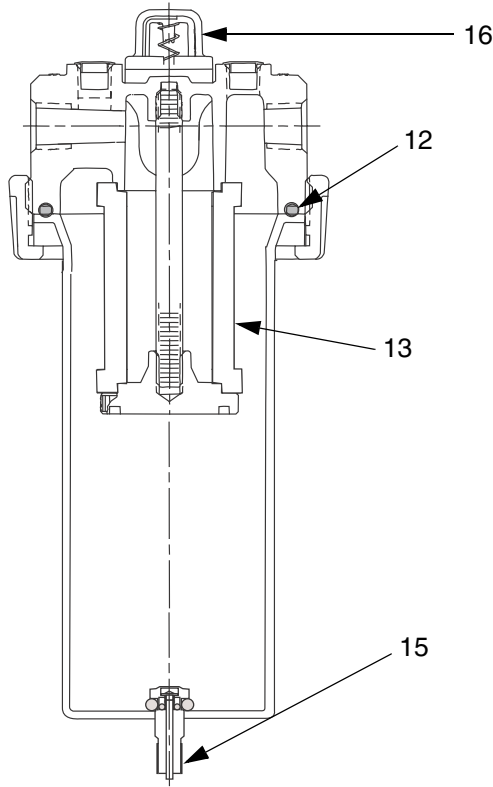
| Ref. No. | Part No. | Description |
|----------|----------|---------------------|
| 2 | 288791 | O-Ring |
| 3 | 288807 | Filter Element |
| 5 | 289192 | Automatic Drain Kit |

Air Filter 234402†

| Ref. No. | Part No. | Description |
|----------|----------|---------------------|
| 2 | 127289 | O-Ring |
| 3 | 16W405 | Filter Element |
| 4 | 16W811 | Baffle End Cap |
| 5 | 24U115 | Automatic Drain Kit |

† Used with both Desiccant 234401 (see Manual 309921) and Membrane 234481 (see Manual 309920) Air Drying Systems.

Air Coalescers



Coalescer 234409

Ref.

| No. | Part No. | Description |
|-----|----------|-----------------------------|
| 12 | 288791 | O-Ring |
| 13 | U23085 | Coalescer Element |
| 15 | 289192 | Auto Drain |
| 16 | 288792 | Pop-up Indicator Repair Kit |

Coalescer 234397**

Ref.

| No. | Part No. | Description |
|-----|----------|-----------------------------|
| 12 | 127289 | O-Ring |
| 13 | 16W406 | 1 Micron Coalescer Element |
| 14 | 16W811 | Baffle End Cap |
| 15 | 24U115 | Automatic Drain Kit |
| 16 | 24U116 | Pop-up Indicator Repair Kit |
| 17 | 24U117 | Bracket Kit |

** Used with Membrane Air Drying System 234418. Refer to Manual 309920.

Coalescer 234403*

Ref.

| No. | Part No. | Description |
|-----|----------|-------------------------------|
| 12 | 127289 | O-Ring |
| 13 | 16W407 | 0.01 Micron Coalescer Element |
| 14 | 16W811 | Baffle End Cap |
| 15 | 24U115 | Automatic Drain Kit |
| 16 | 24U116 | Pop-up Indicator Repair Kit |
| 17 | 24U117 | Bracket Kit |

* Used with Desiccant Air Drying System 234401. Refer to Manual 309921.

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Original instructions. This manual contains English. MM 309919

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