



## Filter Instruction Sheet

### ATD-7782 (ATD-7888)

Bowl	Max. Pressure	Temperature Range
Plastic	150 psi	40°F to 125°F
Metal	250 psi	40°F to 200°F
W/sight	250 psi	40°F to 160°F

**WARNING!** For compressed air service only. Do not use on life support systems or breathing air systems. Never use polycarbonate plastic bowls with air supplied by a compressor lubricated with synthetic oils or oils containing phosphate esters or chlorinated hydrocarbons. They can carry over into the air distribution system and chemically attack and possibly rupture the bowl. On these applications use a metal bowl. Also, do not expose the polycarbonate plastic bowl to materials such as trichloroethylene, acetone or paint thinner. Cleaning fluids or other harmful materials will craze and/or rupture the bowl. If materials harmful to polycarbonate are present either inside or outside the bowl, use a metal bowl. For any additional information regarding chemical compatibility, please contact: General Electric Plastics, One Plastic Ave, Pittsfield, MA.

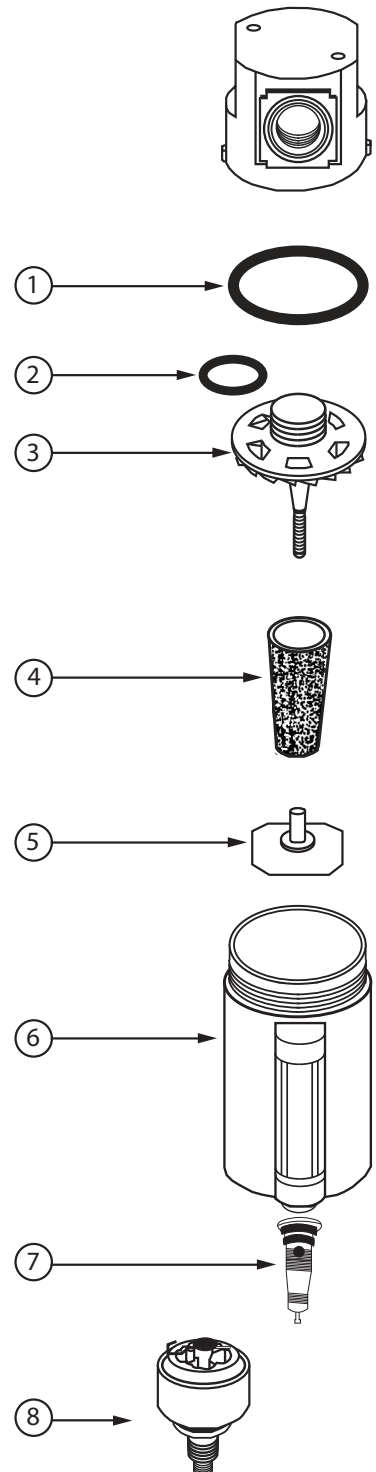
**INSTALLATION:** Install dryer so that air flows in the direction indicated by the arrow on the head of install filter upstream of regulators and lubricators, and as close as possible to the pneumatic tools or appliance being serviced. Do not install polycarbonate bowl in pressures that exceed 150psi or where there is a presence of solvents harmful to polycarbonate. In these cases, use a metal bowl.

**MAINTENANCE AND OPERATION:** Filtering out of dirt and foreign particles, and the separation of moisture is automatic with air flow. There are no moving parts and no adjustments are necessary. Accumulated sludge and moisture should be drained off. Sediment should not be permitted to fill above the lower baffle.

Wash filter element at intervals with naphtha to maintain filtering efficiency. To clean element, depressurize system, unscrew polycarbonate bowl, and unscrew element from head. Dry filter element thoroughly before reassembling. Clean filter bowl(s) only with soapy water. Inspect o-ring, replacing if damaged or distorted. Reassemble with care to avoid stripping threads on bowl. After a metal bowl with sight is tightened, it may be rotated up to 180° for proper viewing.

ITEM	DESCRIPTION	KIT NUMBER	CONTENTS
4	ELEMENT KIT (STD)	EK35-5	5 MICRON SINTERED BRONZE ELEMENT (STD)
	ELEMENT KIT (OPTIONAL)	EK35	40 MICRON SINTERED BRONZE ELEMENT
		EK35-3	3 MICRON ABSOLUTE ELEMENT
2, 3, 5	REPAIR KIT	RKF35	RETAINER/VANE ASSEMBLY, O-RING, BAFFLE
1, 6	BOWL KIT (STD)	BKF46W (9 OZ.)	METAL BOWL, SIGHT, DRAIN COCK, BALL, O-RING
NOT SHOWN	BOWL KIT (OPTIONAL)	BKF45W (6 OZ.)	METAL BOWL, SIGHT, DRAIN COCK, BALL, O-RING
		BKF35	POLYCARBONATE PLASTIC BOWL WITH PUSH DRAIN, O-RING, BOWL GUARD
		BKF45M (6 OZ.)	METAL BOWL WITHOUT SIGHT, DRAIN COCK, O-RING
NOT SHOWN	SIGHT KIT	WK45	SIGHT TUBE, RETAINER, INDICATOR BALL, O-RING
7	OVERNIGHT DRAIN (STD)	CKFK	OVERNIGHT DRAIN ASSEMBLY, BOWL INSERT, O-RING, RETAINER RING
8	AUTO DRAIN (OPTIONAL)	5200	FLOAT DRAIN ASSEMBLY, BOWL INSERT, O-RING, RETAINER RING

**Model 5200 Internal Float Drain Available (Item #7)** To be used for pressures from 30 psi to 175 psi and from 40°F to 120°F. To order filter with float drain assembled, add suffix "F" to filter model number.





## Coalescing Instruction Sheet ATD-7785 (ATD-7888)

Bowl	Max. Pressure	Temperature Range
Metal	250 psi	40°F to 200°F
W/Sight	250 psi	40°F to 160°F
W/Auto Drain	30 psi to 175 psi	40°F to 120°F

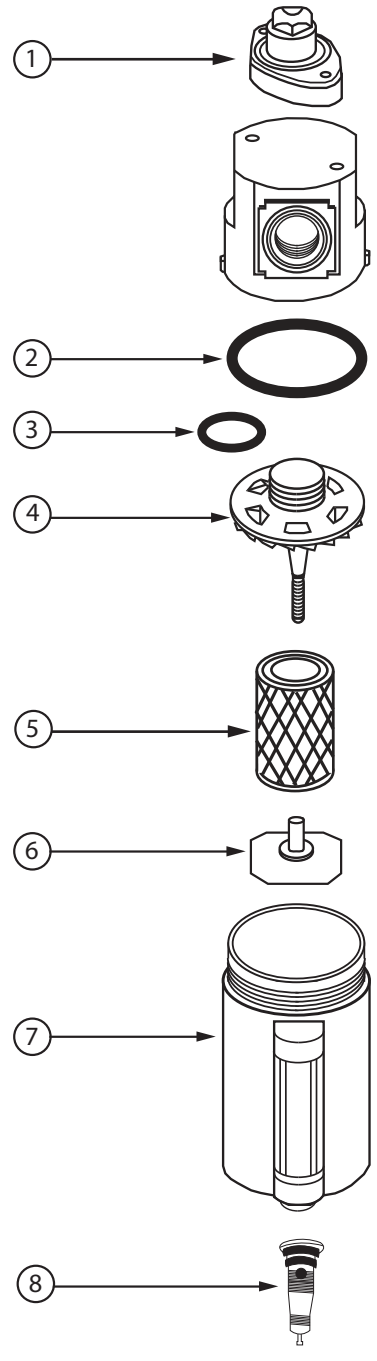
**WARNING!** For compressed air service only. Do not use on life support systems or breathing air systems. Metal bowl sight is made of polycarbonate which will craze and/or crack if exposed to chemicals incompatible with polycarbonate. For any additional information regarding chemical compatibility, please contact: General Electric Plastics, One Plastic Ave, Pittsfield, MA.

**INSTALLATION:** Install dryer so that air flows in the direction indicated by the arrow on the head of unit. Install filter upstream of regulators. If an air dryer is being used, install the filter downstream from the dryer. In most cases, a particulate pre-filter with a 3 micron absolute element is recommended to greatly extend the life of the coalescer element. When the coalescer element becomes clogged with dirt, it must be replaced. If it is kept free from dirt, it will coalesce oil indefinitely. A pre-filter will remove water and dirt before it reaches the coalescer, and will reduce maintenance costs. The coalescer filter is then free to remove oil, oil vapors, and submicron sized particles without prematurely clogging with large particles of dirt and scale.

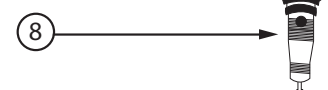
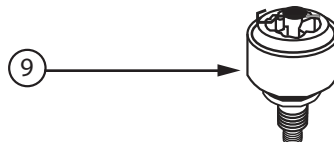
**WARNING!** Units are die cast aluminum, do not torque while installing. Also, pressurize unit slowly after installation of unit or new element to avoid damage to the element.

**OPERATION ADJUSTMENTS:** If the filter is installed properly, it should give long, trouble-free service. The pressure drop across the filter should not exceed 10 psi. If the pressure drop exceeds 10 psi, either the filter element needs to be replaced or the unit is being operated beyond its capacity and a larger size unit is required. Operating the filter at a pressure drop in excess of 10 psi will greatly reduce the efficiency of the filter.

**DIFFERENTIAL PRESSURE INDICATOR MAINTENANCE (#1 ON THE DRAWING):** When The filter is depressurized, periodically clean and grease the piston o-ring with a non-silicon ring grease (see item 1 in drawing).



ITEM	DESCRIPTION	KIT NUMBER	CONTENTS
1	INDICATOR SIGHT KIT	DPK05	SCREWS, SIGHT GLASS, SPRING BRACKET, O-RING, INNER & OUTER CYLINDERS, SIGHT DOME
2,7	<b>BOWL KIT (STD)</b>	BKF46W	METAL BOWL, SIGHT, DRAIN COCK, O-RING
	BOWL KIT (OPTIONAL)	BKF45M	METAL BOWL, DRAIN COCK, O-RING
3, 4, 6	REPAIR KIT	RKF45	RETAINER, O-RING, BAFFLE
5	<b>ELEMENT KIT (STD)</b>	EK55	.03 MICRON COALESCING ELEMENT
	ELEMENT KIT (OPTIONAL)	EK55A	.01 MICRON COALESCING ELEMENT
NOT SHOWN	SIGHT KIT	WK45	SIGHT TUBE, RETAINER, INDICATOR BALL, O-RING
NOT SHOWN	MOUNTING BRACKET (OPTIONAL)	FBK5	MOUNTING BRACKET, SCREWS
8	<b>OVERNIGHT DRAIN (STD)</b>	CKFK	OVERNIGHT DRAIN ASSEMBLY, BOWL INSERT, O-RING, RETAINER RING
9	AUTO DRAIN (OPTIONAL)	5200	FLOAT DRAIN ASSEMBLY, BOWL INSERT, O-RING, RETAINER RING





## Desiccant Dryer Instruction Sheet ATD-7889 (ATD-7888)

**Bowl**  
Metal w/sight

**Max. Pressure**  
250 psi

**Temperature Range**  
40°F to 160°F

**WARNING!** For compressed air service only. Do not use on life support systems or breathing air systems. Metal bowl sight is made of polycarbonate resin that will crack if exposed to solvents or oils containing ethyl acetate, methylene dichlorobenzene or any partially halogenated or aromatic hydrocarbons. For any additional information regarding chemical compatibility, please contact: General Electric Plastics, One Plastic Ave, Pittsfield, MA.

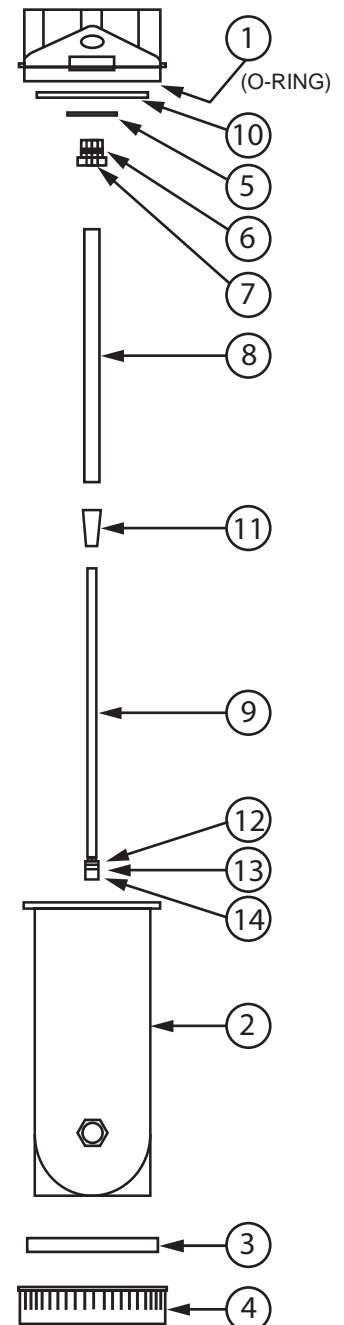
**INSTALLATION:** Install dryer so that air flows in the direction indicated by the arrow on the head of the unit. A prefilter combination is always required upstream of the dryer. First stage filtration with a particulate filter will remove water and solid particles down to 40 microns in size. Second stage filtrations with a coalescing filter will remove oil and water particulates down to 0.03 microns.

**NOTE:** Used desiccant material can be regenerated by spreading the desiccant in a thin layer in a shallow pan and then heating it in a convection oven at 275°F until a complete color change occurs, usually within about 3 hours. Caution - avoid excessive temperatures and do not regenerate your desiccant in an oven that is used for food consumption use.

**MAINTENANCE AND OPERATION:** Care must be taken to change or regenerate the dryer desiccant material once it appears pink in color. The following steps are to be taken when recharging the dryer: 1) Shut off air supply and bleed system. 2) Unscrew bowl ring and remove bowl assembly. 3) Remove used desiccant. 4) Unscrew lead-in bullet from threaded rod. 5) Remove exhaust tube, exhaust element and gasket. 6) Inspect and clean inside of exhaust tube if necessary and then reassemble the main assembly. 7) Remove sight retainer and sight o-ring. 8) Discard used desiccant within the sight body. 9) Fill sight body with new or regenerated desiccant. 10) Secure sight and o-ring by hand-tightening sight dome retainer. 11) Fill bowl with new or regenerated desiccant to 1/2" from top bowl flange. Replace bowl assembly and hand-tighten bowl ring. **CAUTION: DO NOT REMOVE SIGHT RETAINER WHILE BOWL IS UNDER PRESSURE.**

**STORAGE:** Store replacement desiccant in a dry area making certain that the jar is tightly sealed with a shelf life noted.

ITEM	DESCRIPTION	KIT NUMBER	CONTENTS
1, 2, 3, 4	BOWL KIT	BKD1206	BOWL O-RING, BOWL ASSY W/SIGHT, BOWL ADAPTER, BOWL RING
5, 6, 7, 8, 9, 13, 14	REPAIR KIT	RKD1206	EXT. RETAINING E-RING, LEAD IN O-RING, LEAD IN BULLET, EXHAUST TUBE, THREADED ROD, DRAIN PLUG ADAPTER O-RING
10, 11, 12	ELEMENT KIT	EKD1206	DISPERSION FILTER, EXHAUST ELEMENT GASKET
NOT SHOWN	SIGHT KIT	SKD10	SIGHT BODY, O-RINGS, RETAINING NUT, SIGHT DOME, DOME RETAINER



**NOTE:** To prevent excessive pressure drop, it is recommended that the exhaust element be replaced whenever the desiccant is replaced or discharged.



Filter / Regulator Instruction Sheet  
ATD-7790  
(ATD-7888)

<b>Bowl</b>	<b>Max. Pressure</b>	<b>Temperature Range</b>
Metal	250 psi	40°F to 200°F
W/Sight	250 psi	40°F to 160°F
W/Auto Drain	30 psi to 175 psi	40°F to 120°F

**WARNING!** For compressed air service only. Do not use on life support systems or breathing air systems. Never use polycarbonate plastic bowls with air supplied by a compressor lubricated with synthetic oils or oils containing phosphate esters or chlorinated hydrocarbons. They can carry over into the air distribution system and chemically attack and possibly rupture the bowl. On these applications use a metal bowl. Also, do not expose the polycarbonate plastic bowl to materials such as trichloroethylene, acetone or paint thinner. Cleaning fluids or other harmful materials will craze and/or rupture the bowl. If materials harmful to polycarbonate are present either inside or outside the bowl, use a metal bowl. For any additional information regarding chemical compatibility, please contact: General Electric Plastics, One Plastic Ave, Pittsfield, MA.

**MAINTENANCE AND OPERATION:**

**FILTER:** Filtering out of dirt and foreign particles, and the separation of moisture is automatic with air flow. There are no moving parts and no adjustments are necessary. Accumulated sludge and moisture should be drained off. Sediment should not be permitted to fill above the lower baffle.

Wash filter element at intervals with naphtha to maintain filtering efficiency. To clean element, depressurize system, unscrew polycarbonate bowl, and unscrew element from head. Dry filter element thoroughly before reassembling. Clean filter bowl(s) only with soapy water. Inspect o-ring, replacing if damaged or distorted. Reassemble with care to avoid stripping threads on bowl. After a metal bowl with sight is tightened, it may be rotated up to 180° for proper viewing.

**REGULATOR:** The regulator will accurately control secondary pressure between 2 and 125 PSI. The self-bleed venting feature permits use on dead end applications.

After the regulator is installed, back off pressure adjusting knob before the air is turned on. Turn on the air supply and regulate the adjusting knob until pressure gauge shows the desired pressure. To lock adjusting knob, push down until knob snaps into locking groove. To make regulator tamper-resistant, remove adjusting knob from unit. Regulator may be adjusted by replacing knob.

**IMPORTANT!** Use care to avoid screwing fittings too far into body of units as it may close internal ports. Normally finger tight plus one turn will seal.

**TAMPER RESISTANT OPTION:** The tamper-resistant cap (P/N 75104) has been provided in the plastic bag to ensure that the reduced pressure cannot be tampered with. To make the unit "tamper-resistant", proceed as follows:

Turn the adjustment knob until desired pressure is reached. Remove the adjustment knob by pulling upward. Install the tamper resistant cap in its place.

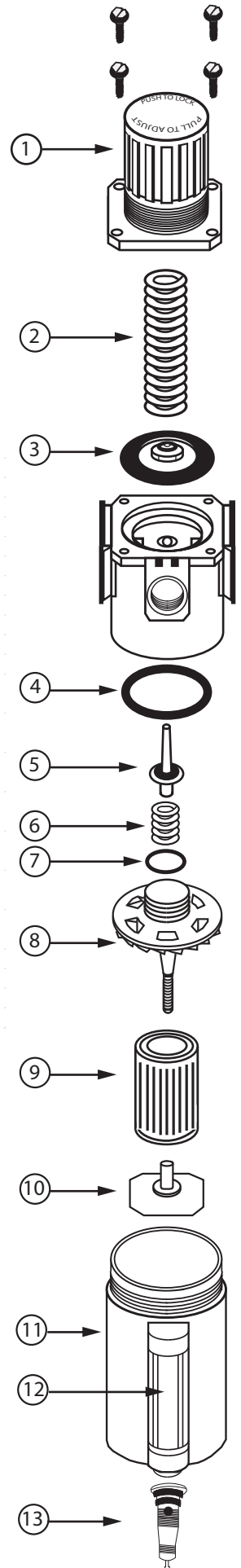
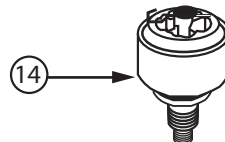
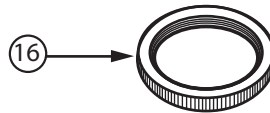
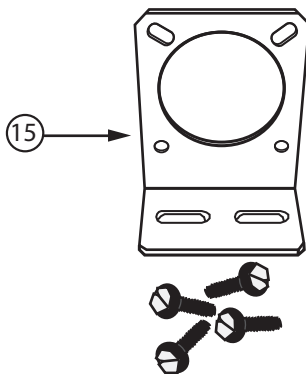
**NOTE:** To make permanently tamper-resistant, LOCTITE the cap into place.

**CAUTION:** By permanently applying LOCTITE to keep the tamper-resistant cap into place, the pressure adjustment cannot be changed.



Filter / Regulator Instruction Sheet (Continued)  
 ATD-7790  
 (ATD-7888)

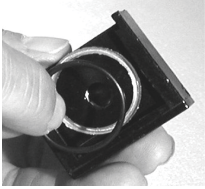
ITEM	DESCRIPTION	KIT NUMBER	CONTENTS
1	REGULATOR BONNET REPAIR KIT	SC35 SC35T	CAP, BONNET LOCK SCREWS T-HANDLE
2	<b>ADJUSTING SPRING KIT (STD)</b>	SK35	ADJUSTING SPRING, 2-125 PSI
	ADJUSTING SPRING KIT (OPTIONAL)	SK35L	ADJUSTING SPRING, 2-60 PSI
		SK35H	ADJUSTING SPRING, 2-250 PSI
3	<b>DIAPHRAGM REPAIR KIT (STD)</b>	DK35HD	RUBBER DIAPHRAGM (RELIEVING)
	DIAPHRAGM REPAIR KIT (OPTIONAL)	DK35N	RUBBER DIAPHRAGM (NON-RELIEVING)
9	ELEMENT KIT	EK35-3	3 MICRON ABSOLUTE ELEMENT
4, 11, 12, 13	<b>BOWL KIT (STD)</b>	BKF46W (9 oz.)	METAL BOWL, SIGHT, DRAIN COCK, BALL, O-RING
4, 11, 13	BOWL KIT (OPTIONAL)	BKF45M (6 oz.)	METAL BOWL WITHOUT SIGHT, DRAIN COCK, O-RING
4, 11, 12, 13		BKF45W (6 oz.)	METAL BOWL, SIGHT, DRAIN COCK, BALL, O-RING
4, 11, 12, 13		BKF35	POLYCARBONATE PLASTIC BOWL WITH PUSH DRAIN, O-RING, BOWL GUARD
5, 6, 7, 8, 10	VALVE KIT	VKB75	VALVE PLUNGER, SPRING, O-RING, VANE ASSEMBLY, BAFFLE
12	SIGHT GLASS	WK45	SIGHT TUBE, O-RINGS
13	<b>OVERNIGHT DRAIN (STD)</b>	CKFK	OVERNIGHT DRAIN ASSEMBLY, BOWL INSERT, O-RING, RETAINER RING
14	AUTO DRAIN KIT (OPTIONAL)	5200	FLOAT DRAIN ASSEMBLY
15	MOUNTING BRACKET (OPTIONAL)	RBK5	MOUNTING BRACKET, SCREWS
16	PANEL MOUNT RING (OPTIONAL)	PKR35	PANEL MOUNT RING





## MODULAR CONNECTOR INSTRUCTION SHEET

### Assemble and Disassemble Units Quickly and Easily



Install the end port O-ring in the end port. O-ring groove provided on each product end port.



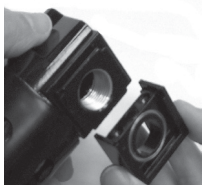
Slide the insert onto the product end port. The insert will now be held in place by the end port safety bars.



Align the insert lock plate assembly with the insert plate holes.



Tighten to snug fit which will mechanically lock the insert in place and form a wedge O-ring seal with the end port.



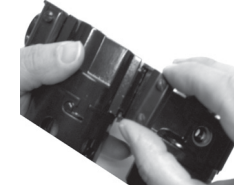
When assembling combinations together use a connector insert kit or diverter insert kit



Slide the insert against the O-ring seal on product.

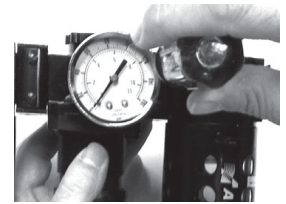


Then repeat this process with the end port seal on the next product keeping in mind the direction of flow.

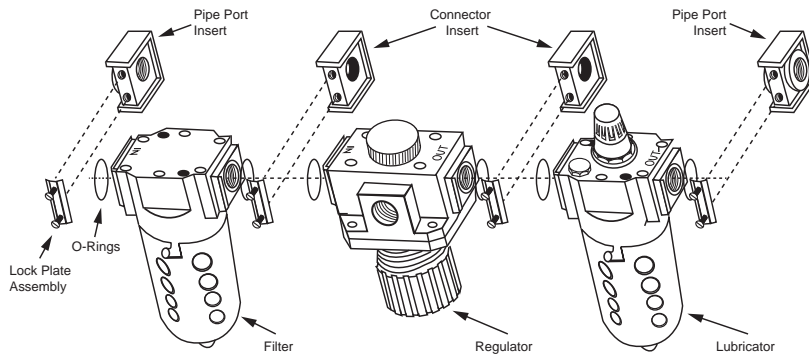
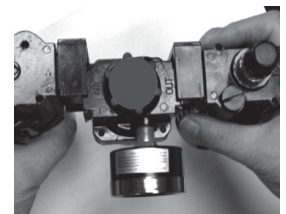


Lock up the insert plate and simply repeat this process for linking up additional product.

Change Units  
On-Line Without  
Disturbing Piping



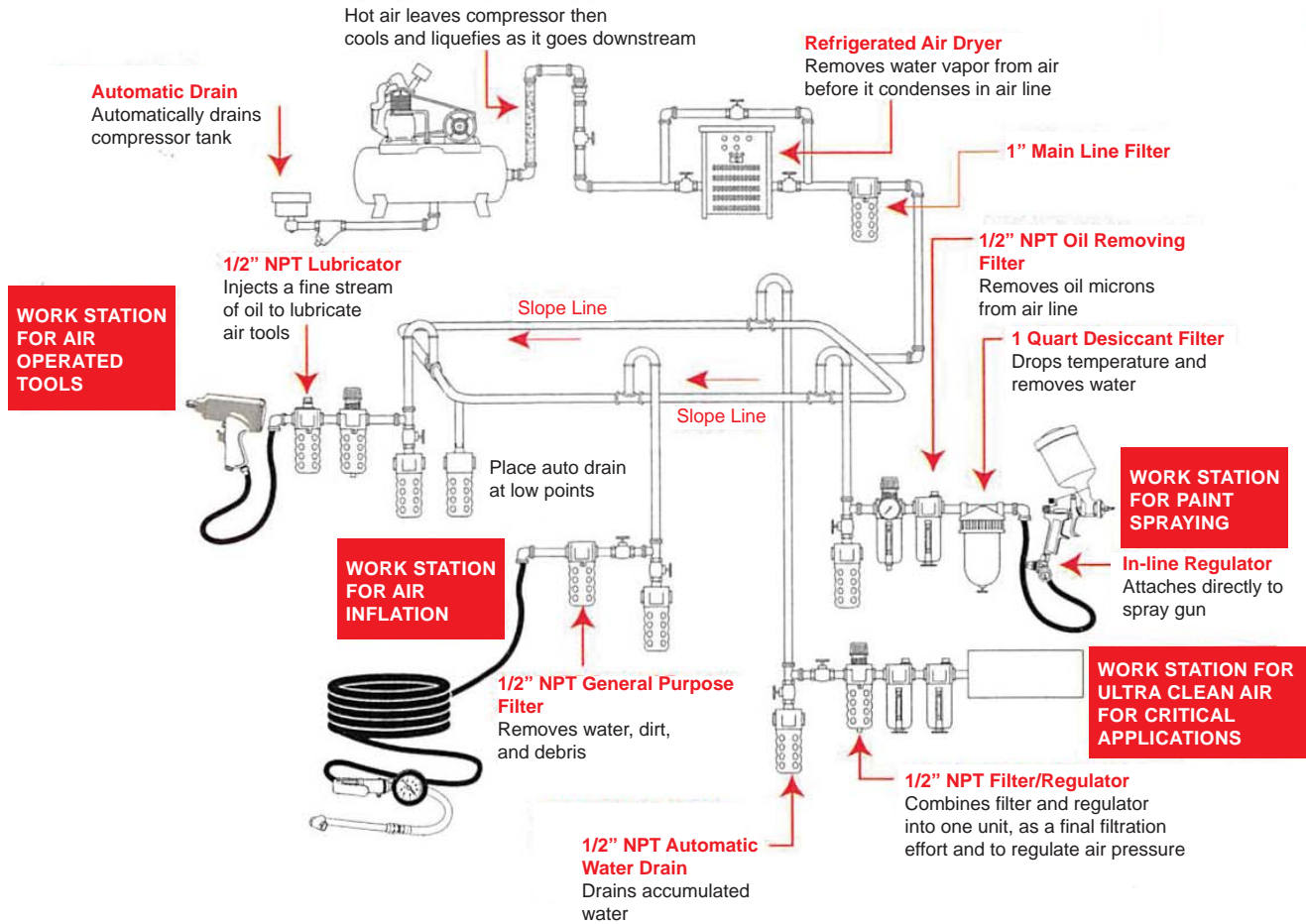
Simply unscrew lock plates and slide unit out. Reverse the procedure to install.



This exploded view drawing illustrates the engineering uniqueness of the modular system. Components shown can be ordered as a total system, or as individual items.

Item	Kit Description	Kit Number	Contents
2, 3, 4	Modular Connector Insert Kit	IK50	Modular insert, cover plate assembly, (2) O-Rings
1, 3, 4	1/4 NPT Pipe Port Kit	IK52	(2) 1/4 NPT Modular Pipe Ports, (2) Cover Plate Assemblies, (2) O-Rings
	3/8 NPT Pipe Port Kit	IK53	(2) 3/8 NPT Modular Pipe Ports, (2) Cover Plate Assemblies, (2) O-Rings
	1/2 NPT Pipe Port Kit	IK54	(2) 1/2 NPT Modular Pipe Ports, (2) Cover Plate Assemblies, (2) O-Rings
	3/4 NPT Pipe Port Kit	IK56	(2) 3/4 NPT Modular Pipe Ports, (2) Cover Plate Assemblies, (2) O-Rings
Not Shown	1/4 NPT Diverter Modular Kit	DK52	(1) 1/4 NPT Diverter Module, (2) Cover Plate Assemblies, (2) O-Rings
	3/8 NPT Diverter Modular Kit	DK53	(1) 3/8 NPT Diverter Module, (2) Cover Plate Assemblies, (2) O-Rings
	1/4 NPT - 3 Port Diverter Modular Kit	DK54	(1) 1/4 NPT - 3 Port Diverter Module, (1) Cover Plate Assembly, (1) O-Ring

# BUILDING AN EFFICIENT AIR SYSTEM



Compressed air powered equipment and machinery are critical elements in the productivity, efficiency and economy of today's industry, and quality air is the essential ingredient. Water and dirt cause more problems in compressed air lines than anything else. A typical 7.5 HP compressor brings an average of 3 gallons of water from the atmosphere per day along with dust and dirt in the air. It is important to eliminate water and dirt from your air system.

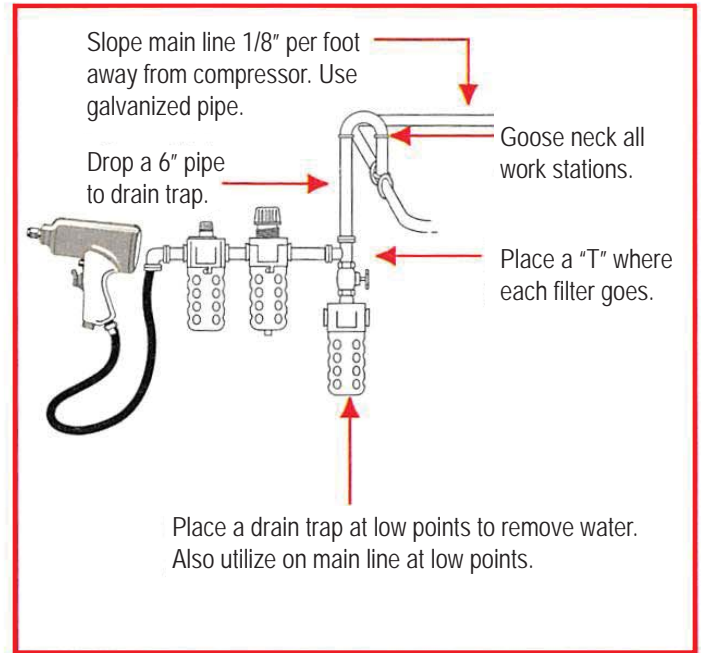
High speed pneumatic production lines operate efficiently because of air dryers and filters that remove moisture and impurities from the air, which results in eliminating downtime. Regulators and lubricators can be added to control and lubricate downstream equipment. A good filtration system is key to saving time, money and to operating at maximum efficiency. Illustrated below are the key components in building an efficient air system.

## PIPE SIZE FOR VARIOUS COMPRESSORS

Compressor Size	Compressor Capacity	Length of Main Line	Use this Pipe
3 to 5 HP	12 to 20 SCFM	Up to 100'	3/4"
		Over 100'	1"
5 to 10 HP	20 to 40 SCFM	Up to 100'	3/4"
		100 to 200'	1"
10 to 15 HP	40 to 60 SCFM	Up to 100'	1"
		100' to 200'	1-1/4"
15 to 25 HP	60 to 100 SCFM	Over 200'	1-1/2"

## 5 Important Steps to an Air System Layout

- 1 Main line filter and regulator should be placed at least 20 feet from the compressor or as far away from the compressor as possible. The air will cool down, allowing much of the water vapor to condense naturally for removal by filtration.
- 2 Main line piping should slope down from point of origin by 1/8" per foot. Any water in the line will flow down to the lowest point for draining.
- 3 All line drops (work stations) should be taken from the top of the main line. This prevents water which forms in the main line from flowing into branch lines.
- 4 Galvanized pipe is recommended when building an air system.
- 5 Follow illustration when building a work station drop.



## 5 Easy Steps to Sizing an Air Compressor

- 1 List the types of pneumatic devices/equipment to be used and how many will be used at the same time.
- 2 Add total of air volume (SCFM) required by pneumatic tools being used.
- 3 Add additional 25% to compensate for air line leaks and pressure drops.
- 4 Identify the air compressor that will provide necessary SCFM. The following professional electric 2-stage compressors will provide the listed SCFM:

5 HP Compressor	16 SCFM
7.5 HP Compressor	24 SCFM
10 HP Compressor	32 SCFM
15 HP Compressor	42 SCFM
25 HP Compressor	97 SCFM
30 HP Compressor	106 SCFM

- 5 Once the correct HP rating has been selected based on the air volume requirements, you will need to know the type of available electric service to determine the need for single phase or three phase compressor.

### WHAT SIZE COMPRESSOR SHOULD BE USED?

#### Tools Being Used

Tools Being Used	SCFM
Tire Changer	5.5 SCFM
1/2" Impact Wrench	3.5 SCFM
3/4" Impact Wrench	7.5 SCFM
Hydraulic Lift	6.0 SCFM

#### SUBTOTAL

22.5 SCFM

#### Additional 25%

X 1.25%

#### TOTAL SCFM NEEDED FOR SHOP

28.125 SCFM

## ANSWER

You will need an air compressor that produces a **MINIMUM of 28.125 SCFM @ 175 PSI.**

**You will need a 10 HP compressor  
OR two 5 HP compressors.**





ATD-78881

## Filter Element Change Kit for ATD-7888

### Complete Filter Change Kit Includes:

Stage 1 - 5 micron particulate filter element (EK35-5)

Stage 2 - .01 micron oil removing filter element (EK55A)

Stage 3 - Desiccant Dryer dispersion element & intake tube element (EKD1206), O-Ring (3460-70)

Stage 4/5 - 3 micron absolute filter element (EK35-3)

Stage 1, 2 or 4 - Spare O-Ring (1560-70)

Stage 4/5 - Element Gasket (33089)

