气动部门
Richland, Michigan USA
www.parker.com/pneumatics

派克聚结过滤器产品样本

(09-01-2012)

COALESCING FILTERS

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Pneumatic Division
Richland, Michigan 49083
269-629-5000

Installation & Service Instructions: 1C100J

Mini & Hi-Flow Oil Removal Filters

ISSUED: December, 2008
Supersedes: October, 2006

Doc.# 1C100, EN# 081039, Rev. 12

⚠WARNING

To avoid unpredictable system behavior that can cause personal injury and property damage:

- **Disconnect electrical supply (when necessary) before installation, servicing, or conversion.**
- **Disconnect air supply and depressurize all air lines connected to this product before installation, servicing, or conversion.**
- **Operate within the manufacturer's specified pressure, temperature, and other conditions listed in these instructions.**
- **Medium must be moisture-free if ambient temperature is below freezing.**
- **Service according to procedures listed in these instructions.**
- **Installation, service, and conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.**
- **After installation, servicing, or conversion, air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or the product does not operate properly, do not put into use.**
- **Warnings and specifications on the product should not be covered by paint, etc. If masking is not possible, contact your local representative for replacement labels.**

⚠CAUTION

Polycarbonate bowls, being transparent and tough, are ideal for use with Filters and Lubricators. They are suitable for use in normal industrial environments, but should not be located in areas where they could be subjected to direct sunlight, an impact blow, nor temperatures outside of the rated range. As with most plastics, some chemicals can cause damage. Polycarbonate bowls should not be exposed to chlorinated hydrocarbons, ketones, esters and certain alcohols. They should not be used in air systems where compressors are lubricated with fire-resistant fluids such as phosphate ester and diester types.

Metal bowls are recommended where ambient and/or media conditions are not compatible with polycarbonate bowls. Metal bowls resist the action of most such solvents, but should not be used where strong acids or bases are present or in salt laden atmospheres. Consult the factory for specific recommendations where these conditions exist.

TO CLEAN POLYCARBONATE BOWLS USE MILD SOAP AND WATER ONLY! DO NOT use cleansing agents such as acetone, benzene, carbon tetrachloride, gasoline, toluene, etc., which are damaging to this plastic.

Bowl guards are recommended for added protection of polycarbonate bowls where chemical attack may occasionally occur.

⚠ WARNING

To avoid polycarbonate bowl rupture that can cause personal injury or property damage, do not exceed bowl pressure or temperature ratings. Polycarbonate bowls have a 150 PSIG pressure rating and a maximum temperature rating of 125°F.

Safety Guide

For more complete information on recommended application guidelines, see the Safety Guide section of Pneumatic Division catalogs or you can download the **Pneumatic Division Safety Guide** at: www.parker.com/safety

Introduction

Follow these instructions when installing, operating, or servicing the product.

Application Limits

These products are intended for use in general purpose compressed air systems only.

With Polycarbonate Bowl

	kPa	PSIG	bar
Operating Pressure Maximum	**1000**	**150**	**10.3**

Operating Temperature Maximum: 52°C (125°F)

With Metal Bowl

	kPa	PSIG	bar
Operating Pressure Maximum	**1700**	**250**	**17.0**

Operating Temperature Maximum: 80°C (175°F)

With Automatic Drain

	kPa	PSIG	bar
Operating Pressure Maximum	**68**	**10**	**0.68**

Installation

1. The equipment to which the filter is attached should be internally cleaned to remove all traces of accumulated oil and dirt. Also, new pipe or hose should be installed between the filter and equipment being protected.
2. Blow all upstream pipe work clear of accumulated dirt and liquids.
3. Select a filter location as close as possible to the equipment being protected and downstream of any pressure regulator.
4. A 5 micrometer pre-filter is recommended to protect the high efficiency filter and to prolong the element life.
5. Install filter so that air flows in the direction of arrow on cover.
6. Install filter vertically with the bowl drain mechanism at the bottom. Free moisture will thus drain into the sump "quiet-zone" at the bottom of the bowl (automatic drain models are recommended as standard equipment).

⚠ WARNING

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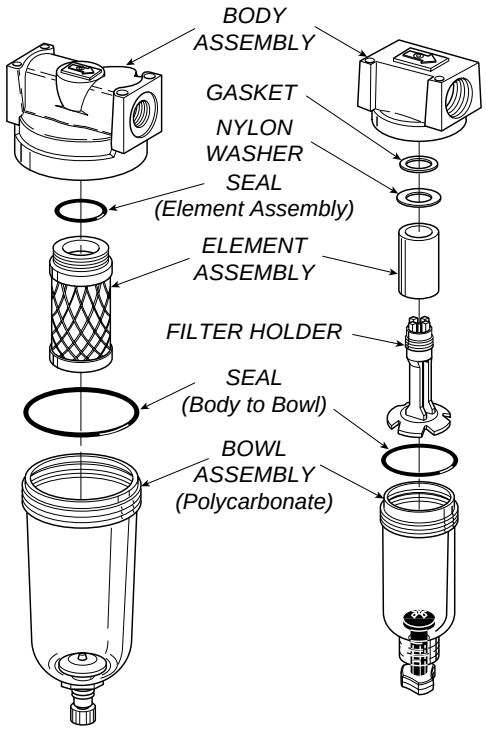

Hi-Flow **Mini**

Operation

Manual drain filters must be drained regularly before the separated moisture and oil reaches the bottom of the filter element. Automatic drain models will collect and dump the liquids automatically.

Pressure differential gauges should be used to determine when the maximum recommended pressure differential of 10 PSI (0.7 KG/CM^2) has been reached.

DO NOT EXCEED THE RATED RECOMMENDED FLOWS. THE MINIMUM FLOW IS TEN PERCENT OF THE NOMINAL RATING.

Maintenance

Hi Flow

To replace the element in the filter:

1. Shut off the air supply and relieve pressure within the filter bowl.
2. Unscrew the bowl and unscrew the filter element. This element canno be cleaned and should be replaced when a pressure differential of 10 PSI (0.7 KG/CM^2) is reached.

To install a new filter element:

1. Hold the element by the bottom end cap, position the new o-ring over the top threaded cap end, turn the element gently into the body's threaded section and make sure it is screwed tightly into place.

Mini

1. Loosen and remove bowl. DO NOT use a pipe wrench on polycarbonate bowl.
2. Unscrew filter holder and used element from filter housing. Discard the used element.
3. Lightly lubricate the new bowl seal included in the kit and replace the old seal. Use only mineral based oils or grease. DO NOT use synthetic oils such as esters, and DO NOT use silicones.
4. Install new element.
   a. Place new element on filter holder
   b. Place nylon washer on top of the element
   c. Place body seal on top of the nylon washer
5. Install new filter element / holder assembly. Hand-tighten only – DO NOT use a wrench.
6. Thread bowl onto body (Torque bowl to bottom of body then back off 1/8 turn).
7. Pressurize and check for leaks.

⚠ **CAUTION: Touching or handling the element section may cause contamination, spotting or migration of oil.**

Automatic drains should be checked to insure they are operating correctly.

Troubleshooting

(If oil aerosol appears downstream from the filter):

1. Examine downstream air lines to determine if they were cleaned out before installation of the filter. Residual oil will contaminate an installation from new pipe work if it is not initially cleaned.
2. Determine if the sealing gasket or o-ring is in place, and that it is not cut or otherwise damaged. (When checking the element, do not touch the element's body. Always handle the element by the bottom end cap.) When reinstalling the element, turn it gently to make sure that it is screwed tightly in place.
3. Check the rate of air being used. The air flow should not exceed the rated capacity of the element, nor be less than 10% of its rated flow.
4. Check the inlet air temperature; this should not exceed 65°C (150°F). Where higher temperatures are used, oil vapor may condense if the air cools downstream of the filter.
5. Check for acid fumes or other harmful gases being drawn into the compressor intake. The element may be attacked by certain chemicals.
6. Determine the type of oil used in the compressor. Some synthetic or high flash point oils are detrimental — contact factory for advice.

Kits Available

Description	Kit No.
Element Assemblies: (Includes Seal)	
Grade 6	PS446
Grade 10	PS456
40 SCFM (Hi-Flow)	PS351B
100 SCFM (Hi-Flow)	PS350
Polycarbonate Bowl Kit (1) Polycarbonate Bowl with Manual Drain (1) Seal (Body to Bowl)	
Mini	PS404
Hi-Flow (Metal Bowl)	PS369

Accessories

Description	Kit No.	
	Mini	Hi-Flow
Automatic Drain (Includes Seal)		PS506
Mounting Bracket Kit*		PS309
Polycarbonate Bowl (Automatic Drain)	PS408	N/A
Metal Bowl (Manual Drain)	PS447B	
Metal Bowl (Automatic Drain)	PS451	
Twist Drain Knob	P05117	

* Not supplied with units, must be ordered separately.

Pneumatic Division
Richland, Michigan 49083
269-629-5000

Installation & Service Instructions: 1C105B

Prep-Air® I Air Line Coalescer

ISSUED: November, 2003
Supersedes: August, 2001
Doc.# 1C105, ECN# 030539, Rev. 1

⚠WARNING

To avoid unpredictable system behavior that can cause personal injury and property damage:

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- **Operate within the manufacturer's specified pressure, temperature, and other conditions listed in these instructions.**
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- **Warnings and specifications on the product should not be covered by paint, etc. If masking is not possible, contact your local representative for replacement labels.**

Introduction

Follow these instructions when installing, operating, or servicing the product.

Application Limits

These products are intended for use in general purpose compressed air systems only.

Operating Pressure Range:	kPa	PSIG	bar
PLASTIC BOWL			
w/ Manual Drain			
Minimum	69	10	.69
Maximum	1034	150	10.34
w/ Internal Auto Drain			
Minimum	207	30	2.07
Maximum	1034	150	10.34
w/ External Auto Drain			
Minimum	345	50	3.45
Maximum	1034	150	10.34
METAL BOWL			
w/ Manual Drain			
Minimum	69	10	.69
Maximum	1724	250	17.24
w/ Internal Auto Drain			
Minimum	207	30	2.07
Maximum	1207	175	12.07
w/ External Auto Drain			
Minimum	345	50	3.45
Maximum	1034	150	10.34

Maximum Recommended Pressure Drop:

10 PSIG (Element should be replaced.)

Operating Temperature Range:

Coalescers w/ Plastic Bowls
-29°C * to 49°C (-20°F to 120°F)

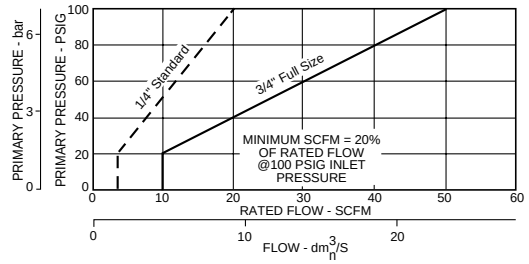
Coalescers w/ Metal Bowls

Manual Drains	-29°C * to 74°C (-20°F to 165°F)
Automatic Drains	-29°C * to 49°C (-20°F to 120°F)

* Temperatures below 0°C (32°F) require moisture free air.

Installation

1. Coalescer should be installed with reasonable accessibility for service whenever possible — repair service kits are available. Keep pipe or tubing lengths to a minimum with inside clean and free of dirt and chips. Pipe joint compound should be used sparingly and applied only to the male pipe — never into the female port. Do not use PTFE tape to seal pipe joints — pieces have a tendency to break off and lodge inside the unit, possibly causing malfunction. Also new pipe or hose should be installed between the coalescer and equipment being protected.
2. The upstream pipe work must be clear of accumulated dirt and liquids.
3. Install a 5-micron pre-filter immediately upstream of the coalescer. This will extend the life of the coalescing element up to twice its normal life. A pre-filter is also recommended to remove large amount of liquid water and/or oil from entering the coalescer.
4. Select a coalescer location as close as possible to the equipment being protected and upstream of any pressure regulator.
5. Install coalescer so that air flows from "IN" to "OUT" as marked on the coalescer.
6. Install coalescer vertically with bowl drain mechanism at the bottom. Free moisture will thus drain into the sump ("quiet zone" at the bottom of the bowl).
7. Verify that flow is within 20% and 120% of nominal rating of element to assure maximum efficiency.



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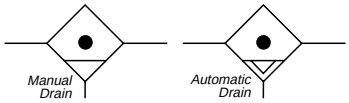
ANSI Symbols



Operation

The contaminated air enters the element interior **(G)** and is forced through a thick membrane of "borosilicate" glass fibers coated with epoxy. Flow then passes through the element, and at this stage 99.97% of the sub micronic particles have been removed from the air stream. The tiny droplets coalesce together and are collected from the coalescer element by the outer drain layer **(H)**.

The clean, filtered air now passes through and out into the pneumatic system. The air line coalescing filter removes liquid aerosols and sub-micron particulate matter.

Collected liquids and particles in the "quiet zone" **(J)** should be drained before their level reaches a height where they would be reentrained in the flowing air.

Replacement of Coalescer Element:

1. Depress button on lock ring **(A)**, turn counterclockwise and remove along with bowl assembly **(B)**.
2. Remove and discard the coalescer element **(C)** by turning it counterclockwise.
3. Clean the bowl assembly **(B)** with MILD SOAP AND WATER ONLY! See CAUTION.
4. Install new coalescer element **(C)** by turning it clockwise until hand tight.
5. Reinstall the bowl assembly **(B)** and lock ring **(A)**. Turn lock ring clockwise until it clicks into place.

⚠ CAUTION

Polycarbonate bowls, being transparent and tough, are ideal for use with Filters and Lubricators. They are suitable for use in normal industrial environments, but should not be located in areas where they could be subjected to direct sunlight, an impact blow, nor temperatures outside of the rated range. As with most plastics, some chemicals can cause damage. Polycarbonate bowls should not be exposed to chlorinated hydro-carbons, ketones, esters and certain alcohols. They should not be used in air systems where compressors are lubricated with fire-resistant fluids, such as phosphate ester and di-ester types.

Metal bowls are recommended where ambient and/or media conditions are not compatible with polycarbonate bowls. Metal bowls resist the action of most such solvents, but should not be used where strong acids or bases are present or in salt laden atmospheres. Consult the factory for specific recommendations where these conditions exist.

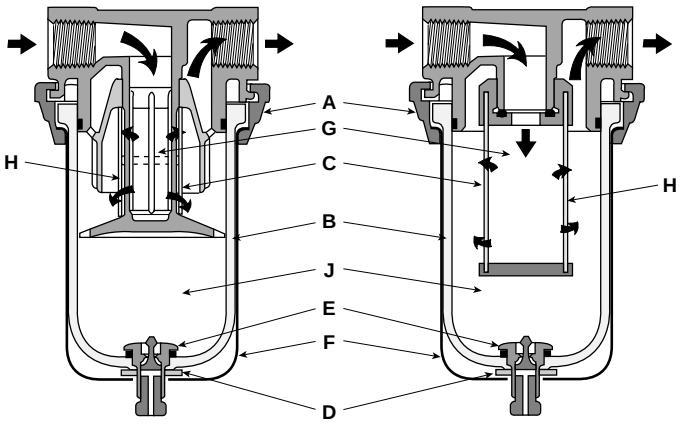
TO CLEAN POLYCARBONATE BOWLS, USE MILD SOAP AND WATER ONLY! DO NOT use cleansing agents such as acetone, benzene, carbon tetrachloride, gasoline, toluene, etc., which are damaging to this plastic.

Bowl guards are recommended for added protection of polycarbonate bowls where chemical attack may occasionally occur.

Bowl Conversion / Replacement

1. Depress button on lock ring **(A)**, turn counterclockwise and remove along with bowl assembly **(B)**.
2. Install new bowl assembly **(B)** and lock ring **(A)**. Turn lock ring clockwise until it clicks into place.

⚠ **WARNING:** Conversion or replacement of an old metal bowl with a new plastic bowl will reduce the product pressure / temperature rating. Be certain that the circuit and environment does not exceed the lower ratings; and that rating labels elsewhere on the product are replaced with one describing the lower rating. Failure to do so may cause property damage, injury or death.



Internal Automatic Drain Conversion

1. Depress button on lock ring **(A)**, turn counterclockwise and remove along with bowl assembly **(B)**.
2. Unscrew nut **(D)** and remove manual drain assembly **(E)**.
3. Install internal automatic drain in bowl and tighten nut **(D)** from below.
4. Reinstall the bowl assembly **(B)** and lock ring **(A)**. Turn lock ring clockwise until it clicks into place.

⚠ **WARNING:** Conversion of a coalescer from a manual drain to an automatic drain will reduce the product pressure / temperature rating. Be certain that the circuit and environment does not exceed the lower ratings; and that rating labels elsewhere on the product are replaced with one describing the lower rating. Failure to do so may cause property damage, injury or death.

Bowl Guard Installation

1. Depress button on lock ring **(A)**, turn counterclockwise and remove.
2. Coalescers with External Automatic Drains - Remove float. Screw drain out bottom of bowl assembly while holding adapter with a screw driver from above.
3. Slip guard **(F)** over bowl.
4. Coalescers with External Automatic Drains - Screw drain into bottom of bowl assembly while holding adapter with a screw driver from above. Reinstall float into bowl assembly.
5. Reinstall the bowl assembly **(B)** and lock ring **(A)**. Turn lock ring clockwise until it clicks into place.

Service Kits / Parts

Body Size	Port Size Inch	Lock Ring Assembly	O-Ring	External Automatic Drain Service Kit
Standard	1/4	03582 7502B	03454 7240B	03332 0208
Full Size	3/4	03586 7501B	03454 7247B	03332 0208

Accessories

Model	Standard Coalescer	Full Size Coalescer
Bowl Guards	03532 0100B	03536 0100B
Bowl Kits		
Polycarbonate w/ Manual Drain	03532 0500B	03536 0500B
Metal w/ Manual Drain	03532 0400B	03536 0400B
Drains		
Automatic Drain - External	03332 0205	03332 0205
Automatic Drain - Internal	PS506P	PS506P
Manual Drain	PS512P	PS512P
Grade 6 Coalescer Elements	03532 7521	03536 7521
Pipe Mounting Bracket	00902 0400B	00906 0400B

Pneumatic Division
Richland, Michigan 49083
269-629-5000

Installation & Service Instructions: 1C106

Coalescing Filter, 3/4" NPTF

ISSUED: November, 2003
Supersedes: July, 1999

Doc.# 1C106, ECN# 030539, Rev. 1

⚠WARNING

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Introduction

Follow these instructions when installing, operating, or servicing the product.

A 5 micrometer pre-filter installed immediately ahead of the filter, will greatly extend the life of the cartridge assembly up to twice the life expectancy in most cases. A pre-filter is also recommended to remove abnormally large amounts of liquid water and/or oil entering a coalescing filter.

Application Limits

These products are intended for use in general purpose compressed air systems only.

Maximum Operating Pressure:

	kPa	PSIG	bar
Plastic Bowl	1034	150	10.3
Metal Bowl			
w/ Manual Drain	1724	250	17.2
w/ Internal Auto Drain	1207	175	12.0

Maximum Ambient Temperature:

Metal Bowl w/ Manual Drain 74°C (165°F)
All Others 49°C (120°F)

Maximum Recommended Flow Rate:

50 SCFM @ 100 PSIG Inlet

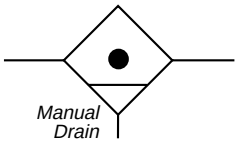
The maximum recommended flow for other inlet pressures can be determined by the following formula:

$$\text{Maximum Flow Rate (SCFM)} = \frac{50 \times \text{Inlet Pressure (PSIA)}}{114.7}$$

Maximum Recommended Flows

Inlet (PSIG)	Flow (SCFM)	Inlet (PSIG)	Flow (SCFM)
10	10.8	90	45.6
20	15.1	100	50.0
30	19.5	110	54.4
40	23.8	120	58.7
50	28.2	130	63.1
60	32.6	140	67.4
70	36.9	150	71.8
80	41.3		

ANSI Symbol



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Installation:

1. Determine if the flow requirement is within the limits recommended for the filter.
2. Do not install the filter in a location that would expose the polycarbonate bowl to harmful fumes or fluids (see Caution below).
3. Check downstream piping for cleanness.
4. Install the filter in a level (bowl down) position.

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Polycarbonate bowls, being transparent and tough, are ideal for use with Filters and Lubricators. They are suitable for use in normal industrial environments, but should not be located in areas where they could be subjected to direct sunlight, an impact blow, nor temperatures outside of the rated range. As with most plastics, some chemicals can cause damage. Polycarbonate bowls should not be exposed to chlorinated hydro-carbons, ketones, esters and certain alcohols. They should not be used in air systems where compressors are lubricated with fire-resistant fluids, such as phosphate ester and di-ester types.

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Bowl guards are recommended for added protection of polycarbonate bowls where chemical attack may occasionally occur.

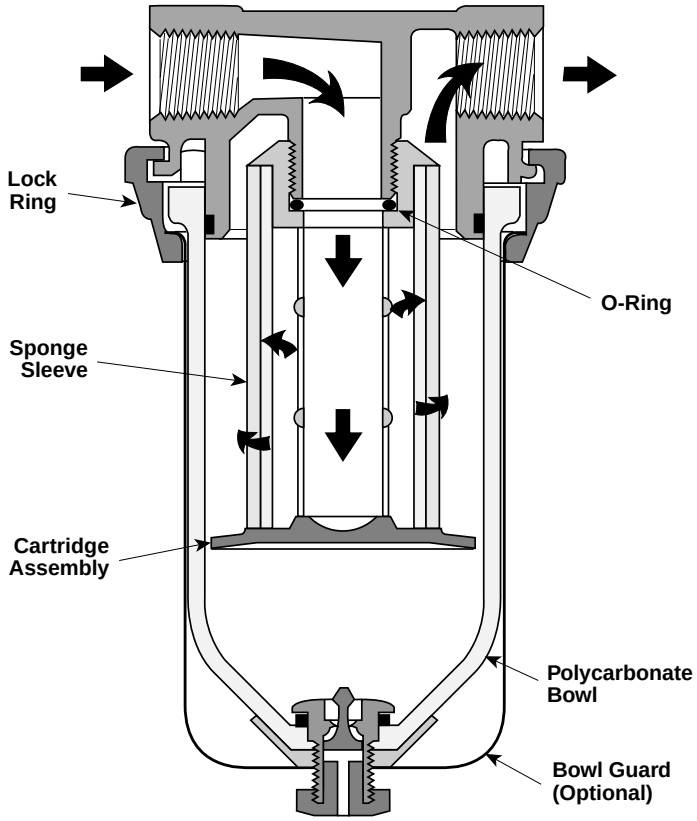
Operation

After start-up – inspect points of delivery to insure that the filtration is effective. If there is evidence of airline contamination, check the following:

1. Downstream piping – piping often contains residue from previous use or storage.
2. Flow – exceeding the maximum recommended flow can drastically reduce the filter's efficiency.
3. Check to see that the filter is in a level position.
4. Inspect filter and cartridge assembly for damage.

Maintenance

1. Periodically drain filter. Do not allow the liquid to reach the cartridge assembly.
2. The life of the filter is dependent upon the amount of dirt in the air stream; replacing the cartridge assembly is recommended if the pressure drop exceeds 10 psi.
3. To replace cartridge assembly, remove lock ring and bowl. Unscrew cartridge assembly counter-clockwise. Remove o-ring and discard. Replace with new cartridge assembly Kit Part #035367522 (includes new o-ring). To reassemble, place o-ring into top of cartridge assembly and reassemble unit. Avoid gripping the sponge sleeve when installing a new cartridge assembly.
4. The polycarbonate bowl should be cleaned only with a mild household detergent or white kerosene.



Pneumatic Division
Richland, Michigan 49083
269-629-5000

Installation & Service Instructions
1C200F

Hi-Flow Series Coalescing Filters

ISSUED: October, 2003
Supersedes: September, 2000

Doc# 1C200F, ECN# 030539, Rev. 7

⚠WARNING

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- **Medium must be moisture-free if ambient temperature is below freezing.**
- **Service according to procedures listed in these instructions.**
- **Installation, service, and conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.**
- **After installation, servicing, or conversion, air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or the product does not operate properly, do not put into use.**
- **Warnings and specifications on the product should not be covered by paint, etc. If masking is not possible, contact your local representative for replacement labels.**

Application Limits

These products are intended for use in general purpose compressed air systems only.

Maximum Operating Pressure*:

	kPa	PSIG	bar
Inlet Pressure	1720	250	17.2

*When using with an Automatic Drain, minimum inlet pressure is 69 kPa (0.1 bar & 10 PSIG).

Maximum Ambient Temperature: 80°C (175°F)

ANSI Symbols

Coalescing Filter w/Manual Drain

Coalescing Filter w/Automatic Drain

Installation

1. Filter unit should be installed with reasonable accessibility for service whenever possible - repair service kits are available. Keep pipe or tubing lengths to a minimum with inside clean and free of dirt and chips. Pipe joint compound should be used sparingly and applied only to the male pipe - never into the female port. Do not use PTFE tape to seal pipe joints - pieces could break off from the outlet port and lodge inside units which are located downstream, possibly causing malfunction.
2. Blow all upstream pipe work clear of accumulated dirt and liquids.
3. Select a filter location as close as possible to the equipment being protected and upstream of any pressure regulator.
4. A 5 micrometer pre-filter is recommended to protect the high efficiency filter and to prolong the element's life.
5. Install filter so that air flow is in the direction of the arrow.
6. Install filter vertically with the bowl drain mechanism at the bottom. Free moisture will thus drain into the sump "quiet zone" at the bottom of the bowl (automatic drain models are recommended as standard equipment).

Operation

Manual drain filters must be drained regularly before the separated moisture and oil reaches the bottom of the filter element. Automatic drain models will collect and dump the liquid automatically.

The filter element should be changed when the *Differential Pressure Indicator* (DPI) displays the orange piston (item #9) when air is flowing. For units without a DPI, pressure differential gauges should be used to determine when the maximum recommended pressure differential has been reached. (See **Service Procedure** section.)

⚠ **Caution: DO NOT EXCEED THE RATED RECOMMENDED FLOWS. The minimum flow is ten percent of the normal rating.**

Service Procedure

⚠ **Caution: Shut off air supply and exhaust the pressure trapped within the filter bowl before servicing unit.**

1. Unscrew the bowl from the body.
2. To install a new filter element, use the following procedure:
   a. Unscrew the lower baffle and remove coalescing element.
   b. This element can not be cleaned and should be replaced when a pressure differential (across the filter unit) of 10 PSID (69 kPa) has been reached.

⚠ **Caution: Touching or handling the new element section may cause contamination, spotting, or migration of oil.**

   c. Clean all internal parts and bowl before reassembling.
   d. Install element.
   e. Attach lower baffle and tighten firmly.
   f. Lubricate bowl seal to assist with retaining it in position.

⚠WARNING

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⚠ **Caution: Use only mineral based oils or grease. Do not use synthetic oils such as esters and do not use silicones.**

g. Place new bowl seal on bowl with the inner ridge on the seal located toward the top.

3. Screw bowl into body; torque from 40 to 320 in-lbs (4.5 to 36 N•m). Automatic drains should be checked to insure that they are operating correctly.
4. If you are replacing the o-ring between the filter holder and the body, add the following steps when installing the element:
   a. Assemble filter holder extension to filter holder using a torque of 10 to 15 in-lbs (1.1 to 1.7 N•m).
   b. Install o-ring on filter holder and then screw holder into body. Torque: 10 to 15 in-lbs (1.1 to 1.7 N•m).
   c. Install element to filter holder/body assembly and secure in place with lower baffle. Torque baffle from 6 to 8 in-lbs (.7 to .9 N•m).

If you have questions concerning how to service this unit, contact your local authorized dealer or your customer service representative.

Troubleshooting

If oil aerosol appears downstream from filter, investigate this condition as follows:

1. Examine downstream air lines to determine if they were cleaned out before installation of the filter. Residual oil will contaminate an installation from new pipe work if it is not initially cleaned.
2. Check the end seal surfaces on the element to insure that they are not cut or otherwise damaged.

⚠ **Caution: When checking the element, do not touch the element's body. Always handle the element by the end seal surfaces.**

3. Check the rate of air being used. The air flow should not exceed the rated capacity of the element, nor be less than 10% of its rated flow.
4. Check the inlet air temperature. If it exceeds 150°F (65°C) oil vapor may be condensing as the air cools downstream of the filter.
5. Check for acid fumes or other harmful gases being drawn into the compressor intake. The element may be attacked by certain chemicals.
6. Determine the type of oil being used in the compressor. Some synthetic or high flash point oils are detrimental to the filter unit - contact your customer service representative for advice.

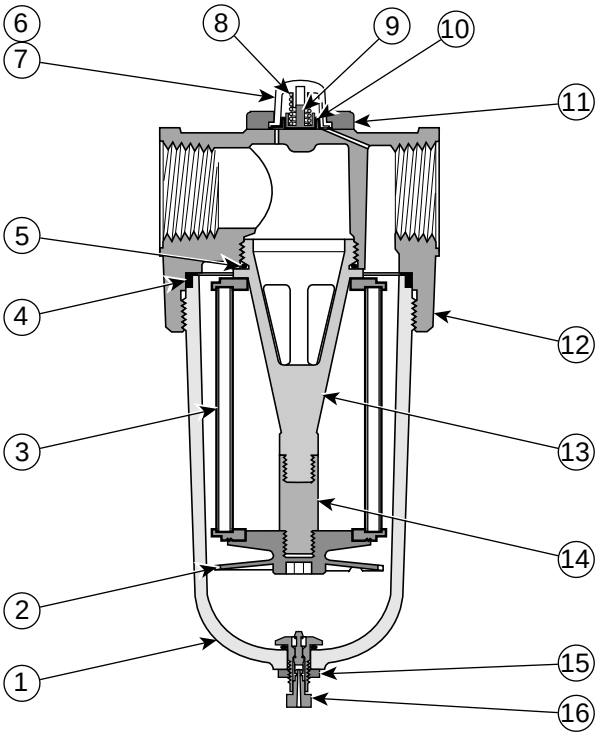
Service Kits Available

Element Kit, grade 6	PS356
Element Kit, grade 10	PS357
Metal Bowl with sight gage (manual drain)	PS369
Metal Bowl with sight gage (automatic drain)	PS344C
Manual Drain	PS512
Automatic Drain (includes seal)	PS506
Mounting Bracket Kit*	PS309
DPI Repair Kit	PS781

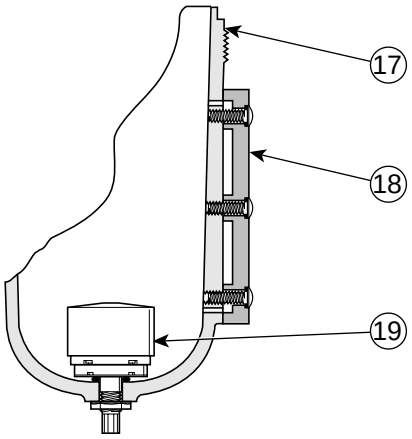
* Not supplied with units, must be ordered separately.

Parts Identification List

Item#	Description
1	Metal Bowl (without sight gage)
2	Baffle
3	Element
4	Bowl Seal
5	O-ring - filter holder to body
6	Differential Pressure Indicator (DPI) Assembly
7	Shell
8	Spring - piston return
9	Piston
10	Diaphragm
11	Collar, DPI
12	Body
13	Element Holder
14	Extension for Element Holder
15	Drain Nut
16	Twist Drain Assembly
17	Metal Bowl (with Sight Gage)
18	Sight Gage
19	Automatic Drain Assembly



Hi-Flow Filter Unit w/Twist Drain



Hi-Flow Filter Bowl w/Auto Drain

Pneumatic Division
Richland, Michigan 49083
269-629-5000

Installation and Service Instructions: 1C300B

30F Series Coalescing Filter
30F Series Adsorber Filter

ISSUED: November, 2003
Supersedes: February, 1999

Doc.# 1C300, ECN# 030539, Rev. 1

⚠ WARNING

To avoid unpredictable system behavior that can cause personal injury and property damage:

- **Disconnect electrical supply (when necessary) before installation, servicing, or conversion.**
- **Disconnect air supply and depressurize all air lines connected to this product before installation, servicing, or conversion.**
- **Operate within the manufacturer's specified pressure, temperature, and other conditions listed in these instructions.**
- **Medium must be moisture-free if ambient temperature is below freezing.**
- **Service according to procedures listed in these instructions.**
- **Installation, service, and conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.**
- **After installation, servicing, or conversion, air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or the product does not operate properly, do not put into use.**
- **Warnings and specifications on the product should not be covered by paint, etc. If masking is not possible, contact your local representative for replacement labels.**

Introduction

Follow these instructions when installing, operating, or servicing the product.

Application Limits

These products are intended for use in general purpose compressed air systems only.

Installation

The filter should be installed in a level pipeline, mounted vertically, the bowl downward with one bowl length clearance for element removal. The filter should be installed at the highest pressure point practical and as near to the equipment to be protected as possible. The equipment to which the filter is attached should be internally cleaned to remove all traces of accumulated oil and dirt. Also, new pipe or hose should be installed between the filter and equipment protected. Blow all upstream pipe work clear of accumulated dirt and liquids. A 5 micrometer pre-filter is recommended to protect the high efficiency filter and to prolong the element life.

The filter should be visible and easily accessible for periodic draining and maintenance. The filters should be plumbed in accordance with instruction tags, flow arrows or "IN" and "OUT". Should these tags become obliterated, plumb the filter so that flow passes through the filter elements from inside-to-outside for the coalescing filter and outside to inside for the adsorber filter. The position of the filters relative to other equipment should be as follows unless specific instructions are given to the contrary: The coalescing filter goes ahead of the dryer no matter what type dryer is used. A standard particle filter and a coalescing filter should be installed upstream of the adsorber filter for best results.

Operation

Maximum operating pressure: 250 PSI @ 175°F

Coalescing Filters

Coalescing filtration of air is a continuous, balanced, steady-state condition occurring at or below a housing rated flow which depends on 2 factors for high performance: 1 - The bowl must be kept free of waste liquid buildup and 2 - The element must be replaced when its induced pressure drop reaches 6-8 PSID, 12 PSID maximum. Differential pressure can be sensed at the inlet and outlet ports by 2 gauges, or by a differential pressure indicator, or by observing system characteristics. Bowl draining can be accomplished by simply opening the manual drain valve, provided standard on all coalescing filters, at least once every 8 hours or less depending on the liquid load. An auto-drain is a useful tool if it is kept clear of emulsions and other heavy liquids.

A coalescing filter, under normal system conditions, will operate for 6 to 12 months before reaching its maximum differential pressure. Should one clog sooner it is very likely that a particulate filter should be employed ahead of the coalescer to increases its life 4 to 6 times.

Coalescing filters are design for nominal operation with 10-20 wt. oil. Any viscosity increase over that of 20 wt. oil must be offset by a proportionate oversizing of the filter element.

Adsorber Filters

Adsorber elements are designed to adsorb vaporous contaminants. The relative efficiency of an adsorber varies depending on the vapor to be adsorbed and the environmental temperature. At higher temperatures, adsorbers become less efficient.

Adsorber cartridges are not particle filters, per se; all particulates and aerosols should be removed prior to adsorbing vaporous contaminants. The initial pressure drop across the adsorber element (1.5 PSID maximum), therefore, should never increase. The presence of any liquids, aerosols, or particulate matter in an adsorber indicates that the effective life of the element has been exceeded and the element should be replaced and the system cleaned.

The most effective method of testing whether an element needs to be replaced or not is to smell the air coming from the adsorber. Offensive odors will be present well before oil levels become detectable.

Element Replacement Procedure:

1. Depressurize system and drain bowl.
2. Unscrew bowl from body and set aside.
3. Remove element end cap.
4. Remove and discard clogged filter element only.
5. Place end cap on new filter element.
6. Slide entire end-cap-element assembly over center rod. Head end of element should be squarely seated against serrations in head.
7. Holding element with one hand, start end cap on rod threads.
8. Tighten end cap.

⚠ WARNING

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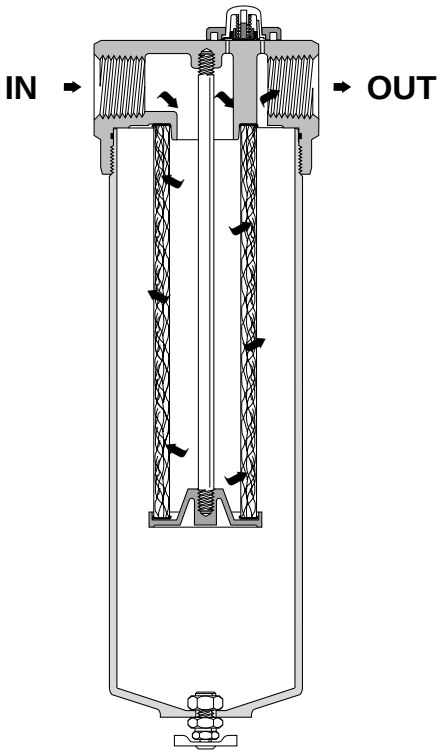
9. If contaminants have migrated downstream from the prefilters: clean the adsorber bowl, the air lines from the prefilters to the adsorber, the prefilter bowls and replace the prefilter elements.
10. Reassemble bowl assembly with new O-Ring and tighten bowl to 12 foot-pounds torque.
11. Repressurize the assembled unit and check for possible leaks. If leaks are present do not put into service. Repeat the disassembly and assembly procedure.



Kits Available:

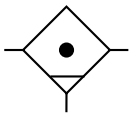
Model	30F	31F83	31F8L	32F9
Drain Kits	PS506P	PS506P	PS506P	PS506P
Metal/Petcock	41618P	41619P	41620P	41621P
Differential Pressure Indicator	2003P	2003P	2003P	2003P
Differential Pressure Gauge	2111P	2111P	2111P	2111P

Repair Parts:

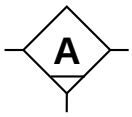
Filter Grade	Filter Model No.*	Element/O-Ring
#6	30F73EC —	9920-011X1
	31F83EC —	9920-012X1
	31F8LEC —	9920-013X1
	32F9LEC —	9920-014X1
	32FNLEC —	9920-014X1
#10	30F73HC —	9920-015X1
	31F83HC —	9920-016X1
	31F8LHC —	9920-017X1
	32F9LHC —	9920-018X1
	32FNLHC —	9920-018X1
Adsorber	30F73ZC —	9920-019X1
	31F83ZC —	9920-020X1
	31F8LZC —	9920-021X1
	32F9LZC —	9920-022X1
	32FNLZC —	9920-022X1

* Model numbers shown are for bowls with manual drain. Repair parts shown are same for bowls with automatic drain.

ANSI Symbols



Coalescing Filter w/Manual Drain



Adsorbing Filter w/Manual Drain

Troubleshooting:

Problem	Probable Cause	Solution
Initial Pressure Drop Too High	• Air flow excessive for housing size.	Install larger filter.
	• Filter grade too tight.	Install coarser element.
Premature Clogging (Air Flow Drops Off)	• Lubricant improperly selected for compressor, causing varnish or carbonizing of lubricant.	Change to oil with higher flash point.
	• Excessive inlet particulate contamination.	Pre-filter with particulate filter.
	• Excessive lubricants present on element caused by either high lubricant viscosity or very high inlet aerosol level.	Pre-filter with particulate filter and oversize coalescing filter to compensate.
	• Oil/Water emulsion forming on element.	Remove water by drip leg, aftercooler or dryer.
	• Ice forming or oil viscosity too high due to excessively low unit temperature.	Raise Temperature.
Oil Present Downsteam of Filter	• Bowl not properly drained of waste liquids.	Drain regularly.
	• Element clogged and inducing excessive differential pressure and velocity.	Change element.
	• Bad seal causing bypass leakage.	Repair seal.
	• Filter piped backwards.	See “INSTALLATION” - re-pipe
	• Filter being bypassed by valving.	Close valve.
	• Contaminated air entering system from second source downstream.	Change pipe or relocate filter.
	• Excessive inlet oil level.	Check sources and eliminate.
	• Element damaged, chemically attacked or not installed in housing.	Change element and consult distributor or or factory for other than neutral PH.
	• Oil present to pre-contaminated downstream piping	Clean piping.

When coalescing filter or particulate differential pressure reaches clogged condition replace element immediately, DO NOT ATTEMPT TO CLEAN FILTER ELEMENT. System contamination can result. DO NOT BYPASS THE COALESCER unless the bypass line is also filtered.

Pneumatic Division
Richland, Michigan 49083
269-629-5000

Installation and Service Instructions: 1F601B

Coalescing Element Kits

ISSUED: November, 2003
Supersedes: January, 1999

Doc.# 1F601, ECN# 030539, Rev. 3

⚠ WARNING

To avoid unpredictable system behavior that can cause personal injury and property damage:

- **Disconnect electrical supply (when necessary) before installation, servicing, or conversion.**
- **Disconnect air supply and depressurize all air lines connected to this product before installation, servicing, or conversion.**
- **Operate within the manufacturer's specified pressure, temperature, and other conditions listed in these instructions.**
- **Medium must be moisture-free if ambient temperature is below freezing.**
- **Service according to procedures listed in these instructions.**
- **Installation, service, and conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.**
- **After installation, servicing, or conversion, air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or the product does not operate properly, do not put into use.**
- **Warnings and specifications on the product should not be covered by paint, etc. If masking is not possible, contact your local representative for replacement labels.**

⚠ CAUTION

Polycarbonate bowls, being transparent and tough, are ideal for use with Filters and Lubricators. They are suitable for use in normal industrial environments, but should not be located in areas where they could be subjected to direct sunlight, an impact blow, nor temperatures outside of the rated range. As with most plastics, some chemicals can cause damage. Polycarbonate bowls should not be exposed to chlorinated hydrocarbons, ketones, esters and certain alcohols. They should not be used in air systems where compressors are lubricated with fire-resistant fluids such as phosphate ester and diester types.

Metal bowls are recommended where ambient and/or media conditions are not compatible with polycarbonate bowls. Metal bowls resist the action of most such solvents, but should not be used where strong acids or bases are present or in salt laden atmospheres. Consult the factory for specific recommendations where these conditions exist.

TO CLEAN POLYCARBONATE BOWLS USE MILD SOAP AND WATER ONLY! DO NOT use cleansing agents such as acetone, benzene, carbon tetrachloride, gasoline, toluene, etc., which are damaging to this plastic.

Bowl guards are recommended for added protection of polycarbonate bowls where chemical attack may occasionally occur.

Introduction

Follow these instructions when installing, operating, or servicing the product.

Application Limits

These products are intended for use in general purpose compressed air systems only.

Operation

Manual drain filters must be drained regularly before the separated moisture and oil reaches the bottom of the filter element. Automatic drain models will collect and dump the liquids automatically.

Pressure differential gauges should be used to determine when the maximum recommended pressure differential of 69 kPa (10 PSIG) has been reached.

DO NOT EXCEED THE RATED RECOMMENDED FLOWS. THE MINIMUM RECOMMENDED FLOW IS TEN PERCENT OF THE NOMINAL RATING.

Maintenance

1. The filter element should be removed and replaced when the pressure differential across the filter unit exceeds 10 PSIG.
2. To service the filter element; **SHUT OFF AIR SUPPLY** and depressurize the unit.
   a. Unscrew threaded bowl.
   b. Unscrew coalescing element. **IMPORTANT:** Element cannot be cleaned and must be replaced.
   c. Clean the bowl before reassembling. See polycarbonate bowl cleaning **CAUTION**.
   d. To install a new element, hold it by the bottom end cap, position the new o-ring over the top threaded cap end, turn the element gently into the body's threaded section and make sure it is screwed tightly into place.

      CAUTION: Handling the element mid-section may cause contamination, spotting or migration of oil.
   e. Automatic drains should be checked to insure they are operating correctly.
   f. Replace bowl seal; lubricate seal to assist in retaining it in position. Use only mineral base oils or grease included in kit. **DO NOT** use synthetic oils such as esters, and **DO NOT** use silicones.
   g. Screw bowl into body.
   h. Apply pressure and check for leaks. If leaks occur, shut off air supply, depressurize the unit and correct leaks.

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Pneumatic Division
Richland, Michigan 49083
269-629-5000

Installation & Service Instructions: 1C500

Exhaust Coalescing Silencer (ECS)

Issued: November, 2003
Supersedes: December, 2000

Doc.# 1C500, ECN# 030539, Rev. 1

⚠WARNING

To avoid unpredictable system behavior that can cause personal injury and property damage:

- **Disconnect electrical supply (when necessary) before installation, servicing, or conversion.**
- **Disconnect air supply and depressurize all air lines connected to this product before installation, servicing, or conversion.**
- **Operate within the manufacturer's specified pressure, temperature, and other conditions listed in these instructions.**
- **Medium must be moisture-free if ambient temperature is below freezing.**
- **Service according to procedures listed in these instructions.**
- **Installation, service, and conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.**
- **After installation, servicing, or conversion, air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or the product does not operate properly, do not put into use.**
- **Warnings and specifications on the product should not be covered by paint, etc. If masking is not possible, contact your local representative for replacement labels.**

Introduction

Follow these instructions when installing, operating, or servicing the product.

Application Limits

These products are intended for use in general purpose compressed air systems only.

Operating Pressure	**kPa**	**PSIG**	**bar**
Maximum	700	100	7

Maximum Temperature: 125°F (51°C)

Installation

1. The ECS should be mounted vertically to take advantage of the oil-catching sump on the bottom of the filter element. Mount in a location that will allow easy access for draining sump.
2. It may be necessary to add a flow control valve to the outlet of the air motor or valve exhaust port if motor or cylinder extension or retraction speeds need to be regulated.
3. Multiple small valve exhausts may be plumbed into one ECS providing that the maximum pressure rating of the ECS unit will not be exceeded. Use a pressure manifold (rated for the maximum pressure of your air supply) for this purpose.
4. Always use a wrench to tighten the element; tightening by hand could damage the filter element, or cause it to loosen in the end caps. Do not over tighten the ECS. Over tightening can crack the element end cap. **Never operate the ECS with a cracked end cap or loose element. Injury and/or property damage may result!**
5. The temperature of the air entering the ECS filter element must not exceed the maximum temperature rating of the ECS unit. **The ECS must not be used on heat regenerated air dryers!**
6. If coalescing filters are used to filter the inlet air, prior to a regulator and/or lubricator, the service life of the Exhaust Coalescing Silencer will be greatly increased. If sub-micronic filtration is not used, ECS element life will depend on the exhaust flow rate and exhaust air contamination. The ECS should be replaced periodically: for most applications, the differential pressure should not be allowed to exceed 25 PSID.

⚠WARNING

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Pneumatic Division
Richland, Michigan 49083
269-629-5000

Installation & Service Instructions: 1M105C

1/8" & 1/4" P3A-F Mini Modular Filter (Screen Type)

ISSUED: November, 2003
Supersedes: January, 2000
Doc.# 1M105, ECN# 030539, Rev. 1

⚠ WARNING

To avoid unpredictable system behavior that can cause personal injury and property damage:

- **Disconnect electrical supply (when necessary) before installation, servicing, or conversion.**
- **Disconnect air supply and depressurize all air lines connected to this product before installation, servicing, or conversion.**
- **Operate within the manufacturer's specified pressure, temperature, and other conditions listed in these instructions.**
- **Medium must be moisture-free if ambient temperature is below freezing.**
- **Service according to procedures listed in these instructions.**
- **Installation, service, and conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.**
- **After installation, servicing, or conversion, air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or the product does not operate properly, do not put into use.**
- **Warnings and specifications on the product should not be covered by paint, etc. If masking is not possible, contact your local representative for replacement labels.**

⚠ CAUTION

Polycarbonate bowls, being transparent and tough, are ideal for use with Filters and Lubricators. They are suitable for use in normal industrial environments, but should not be located in areas where they could be subjected to direct sunlight, an impact blow, nor temperatures outside of the rated range. As with most plastics, some chemicals can cause damage. Polycarbonate bowls should not be exposed to chlorinated hydrocarbons, ketones, esters and certain alcohols. They should not be used in air systems where compressors are lubricated with fire-resistant fluids such as phosphate ester and diester types.

Metal bowls are recommended where ambient and/or media conditions are not compatible with polycarbonate bowls. Metal bowls resist the action of most such solvents, but should not be used where strong acids or bases are present or in salt laden atmospheres. Consult the factory for specific recommendations where these conditions exist.

TO CLEAN POLYCARBONATE BOWLS USE MILD SOAP AND WATER ONLY! DO NOT use cleansing agents such as acetone, benzene, carbon tetrachloride, gasoline, toluene, etc., which are damaging to this plastic.

Bowl guards are recommended for added protection of polycarbonate bowls where chemical attack may occasionally occur.

Introduction

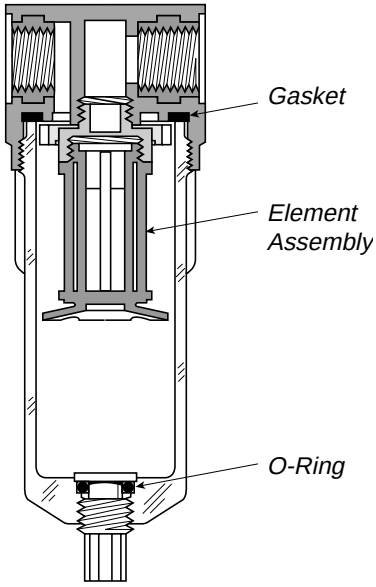
Follow these instructions when installing, operating, or servicing the product.

Application Limits

These products are intended for use in general purpose compressed air systems only.

With Polycarbonate Bowl

	kPa	PSIG	bar
Operating Pressure Maximum	**830**	**120**	**8.3**
Operating Temperature Maximum:	52°C (125°F)		



Installation

1. The equipment to which the filter is attached should be internally cleaned to remove all traces of accumulated oil and dirt. Also, new pipe or hose should be installed between the filter and equipment being protected.
2. Blow all upstream pipe work clear of accumulated dirt and liquids.
3. Select a filter location as close as possible to the equipment being protected and upstream of any pressure regulator.
4. Install filter so that air flows in the direction of arrow on body.
5. Install filter vertically with bowl drain mechanism at the bottom. Free moisture will thus drain into the sump "quiet zone" at the bottom of the bowl (automatic drain models are recommended as standard equipment).

⚠ WARNING

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

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Operation & Service

1. Both free moisture and solids are removed automatically by the filter. There are no moving parts.
2. Manual drain filters must be drained regularly before the separated moisture and oil reaches the bottom of the lower baffle. Automatic drain models will collect and dump liquids automatically.
3. The filter element should be removed and replaced when the pressure differential across the filter is 10 PSIG.
4. To remove the filter element: SHUT OFF AIR SUPPLY and depressurize the unit.
    a. Unscrew threaded bowl.
    b. Unscrew element assembly.
    c. Clean bowl and internal parts before cleaning reassembling. See polycarbonate bowl cleaning section.
    d. Attach clean element assembly and tighten firmly.
    e. Replace bowl gasket; lubricate gasket to assist in retaining it in position. Use only mineral base oils or grease. Do NOT use synthetic oils such as esters, and do NOT use silicones.
    f. Screw bowl into body and tighten firmly.

Kits Available

Kit No.	Description
P3A-KA00EEN	Element Kit
P3A-KA00RFN	Filter Repair Kit

Pneumatic Division
Richland, Michigan 49083
269-629-5000

Installation & Service Instructions: 1M110C

1/8" & 1/4" Mini Modular Filter (Coalescing)

ISSUED: October, 2003
Supersedes: September, 2000
Doc.# 1M110, ECN# 030539, Rev. 4

⚠ WARNING

To avoid unpredictable system behavior that can cause personal injury and property damage:

- **Disconnect electrical supply (when necessary) before installation, servicing, or conversion.**
- **Disconnect air supply and depressurize all air lines connected to this product before installation, servicing, or conversion.**
- **Operate within the manufacturer's specified pressure, temperature, and other conditions listed in these instructions.**
- **Medium must be moisture-free if ambient temperature is below freezing.**
- **Service according to procedures listed in these instructions.**
- **Installation, service, and conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.**
- **After installation, servicing, or conversion, air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or the product does not operate properly, do not put into use.**
- **Warnings and specifications on the product should not be covered by paint, etc. If masking is not possible, contact your local representative for replacement labels.**

⚠ CAUTION

Polycarbonate bowls, being transparent and tough, are ideal for use with Filters and Lubricators. They are suitable for use in normal industrial environments, but should not be located in areas where they could be subjected to direct sunlight, an impact blow, nor temperatures outside of the rated range. As with most plastics, some chemicals can cause damage. Polycarbonate bowls should not be exposed to chlorinated hydrocarbons, ketones, esters and certain alcohols. They should not be used in air systems where compressors are lubricated with fire-resistant fluids such as phosphate ester and diester types.

Metal bowls are recommended where ambient and/or media conditions are not compatible with polycarbonate bowls. Metal bowls resist the action of most such solvents, but should not be used where strong acids or bases are present or in salt laden atmospheres. Consult the factory for specific recommendations where these conditions exist.

TO CLEAN POLYCARBONATE BOWLS USE MILD SOAP AND WATER ONLY! DO NOT use cleansing agents such as acetone, benzene, carbon tetrachloride, gasoline, toluene, etc., which are damaging to this plastic.

Bowl guards are recommended for added protection of polycarbonate bowls where chemical attack may occasionally occur.

Introduction

Follow these instructions when installing, operating, or servicing the product.

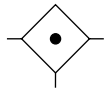
Application Limits

These products are intended for use in general purpose compressed air systems only.

Maximum Operating Pressure:	**PSIG**	**bar**	**kPa**
with Polycarbonate Bowl	120	8.3	827

Ambient Temperature Range:
with Polycarbonate Bowl 20°F to 125°F (-7°C to 52°C)

ANSI Symbol



Coalescing Filter

Installation

Coalescing Filter units should be installed with reasonable accessibility for service whenever possible - repair service kits are available. Keep pipe and tubing lengths to a minimum with inside clean and free of dirt and chips. Pipe joint compounds should be used sparingly and applied only to the male pipe - never into the female port. Do not use PTFE tape to seal pipe joints - pieces have a tendency to break off and lodge inside the unit, possibly causing malfunction.

Install Coalescing Filter unit so that air flow is in the direction of arrow. Installation must be upstream of and close to devices it is to service (valve, cylinder, tool, etc.), and downstream of any pressure regulator. Position unit vertically with the bowl drain mechanism at the bottom. Free moisture will thus drain into the sump ("quiet zone") at the bottom of the bowl.

A 5 micrometer pre-filter is recommended to protect the high efficiency filter and to prolong the element's life.

Operation & Service

1. Both liquid aerosols and sub-micron particles are removed automatically by this filter.

⚠ **Caution: Do not exceed the rated recommended flows. The minimum flow is ten percent of the nominal rating.**

2. Manual drain filters must be drained regularly before the separated moisture and oil reaches the bottom of the element. Automatic drain models ("pulse drain") will collect and dump liquids automatically. They are actuated when a pressure drop occurs within the filter. Check to insure that they are operating correctly.
3. This element can not be cleaned and should be replaced when the pressure differential across the filter exceeds 10 PSIG (70 kPa). Use a pressure differential gage to determine the pressure differential.

⚠ WARNING

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4. To service the filter element:

⚠ **Caution: SHUT OFF AIR SUPPLY and exhaust the pressure within the filter bowl before removing bowl from body.**

   a. Unscrew the threaded bowl. Then remove coalescing filter element.

   b. Clean all internal parts, bowl, and body before re-assembling unit. See Polycarbonate bowl cleaning section.

⚠ **Caution: Touching or handling the element section may cause contamination, spotting or migration of oil. Hold the element by the bottom end cap.**

   c. Position the new o-ring (item 5) onto the replacement element (see figure). The screw the element into the body's threaded section and make sure that it is secured tightly into place.

   d. Screw bowl into body. Tighten bowl from 22 to 28 in-lbs (2.5 to 3.2 N•m) of torque.

   e. Apply pressure to the system and check for leaks. If leaks occur, shut off the air supply, de-pressurize the system and make necessary adjustments to eliminate leakage.

Troubleshooting

(If oil aerosol appears downstream from the filter):

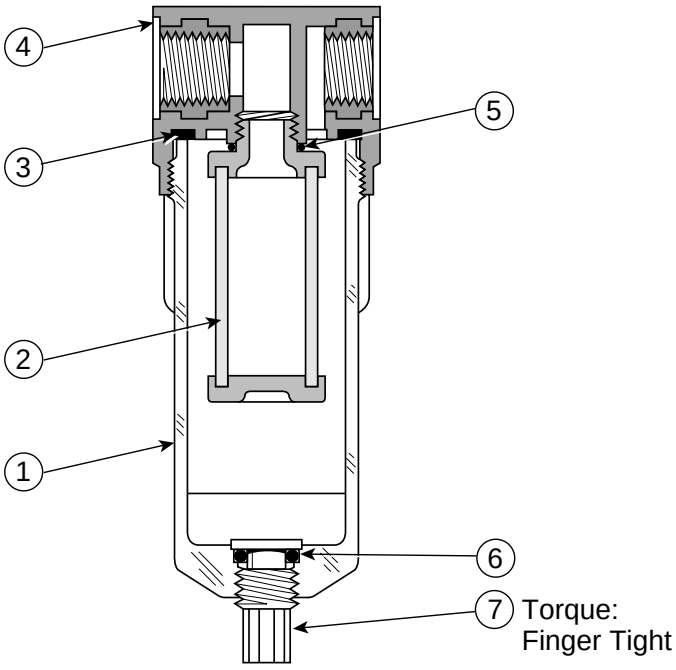
1. Examine downstream air lines to determine if they were cleaned out before installation of the filter unit. Residual oil from these pipes can contaminate the element.
2. Determine if the sealing o-ring is in place, and that it is not cut or otherwise damaged. (When checking the element, do not touch the element's body. Always handle the element by the bottom end cap.) When reinstalling the element, turn it gently and make sure that it is screwed tightly in place.
3. Check the rate of air being used. The air flow should not exceed the rated capacity of the element, nor be less than 10% of its rated flow.
4. Check the rate the inlet air temperature; this should not exceed 150°F (65°C). Where higher temperatures are used, oil vapor may condense as the air cools downstream of the filter.
5. Check for acid fumes or other harmful gasses being drawn into the compressor intake. The element may be attacked by certain chemicals.
6. Determine the type of oil used in the compressor. Some synthetic or high flash point oils are detrimental - contact factory for advice.

Replacement Element Kits

Grade Level	Part Number
6	PS467
10	PS468

Part Identification List

Item#	Description
1	Bowl
2	Filter Element
3	Seal - body to bowl
4	Body
5	O-ring - body to element
6	O-ring - bowl to drain
7	Twist Drain



Pneumatic Division
Richland, Michigan 49083
269-629-5000

Installation & Service Instructions:
2C100F

1/8", 1/4" & 3/8" Economy
1/4", 3/8" & 1/2" Compact
1/2" & 3/4" Standard
Coalescing Filter

ISSUED: September, 2012
Supersedes: September, 2006
Doc# 2C100, EN# 120039, Rev. 10

⚠ WARNING

To avoid unpredictable system behavior that can cause personal injury and property damage:

- **Disconnect electrical supply (when necessary) before installation, servicing, or conversion.**
- **Disconnect air supply and depressurize all air lines connected to this product before installation, servicing, or conversion.**
- **Operate within the manufacturer's specified pressure, temperature, and other conditions listed in these instructions.**
- **Medium must be moisture-free if ambient temperature is below freezing.**
- **Service according to procedures listed in these instructions.**
- **Installation, service, and conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.**
- **After installation, servicing, or conversion, air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or the product does not operate properly, do not put into use.**
- **Warnings and specifications on the product should not be covered by paint, etc. If masking is not possible, contact your local representative for replacement labels.**

⚠ CAUTION

Polycarbonate bowls, being transparent and tough, are ideal for use with Filters and Lubricators. They are suitable for use in normal industrial environments, but should not be located in areas where they could be subjected to direct sunlight, an impact blow, nor temperatures outside of the rated range. As with most plastics, some chemicals can cause damage. Polycarbonate bowls should not be exposed to chlorinated hydrocarbons, ketones, esters and certain alcohols. They should not be used in air systems where compressors are lubricated with fire-resistant fluids such as phosphate ester and diester types.

Metal bowls are recommended where ambient and/or media conditions are not compatible with polycarbonate bowls. Metal bowls resist the action of most such solvents, but should not be used where strong acids or bases are present or in salt laden atmospheres. Consult the factory for specific recommendations where these conditions exist.

TO CLEAN POLYCARBONATE BOWLS USE MILD SOAP AND WATER ONLY! DO NOT use cleansing agents such as acetone, benzene, carbon tetrachloride, gasoline, toluene, etc., which are damaging to this plastic.

Bowl guards are recommended for added protection of polycarbonate bowls where chemical attack may occasionally occur.

⚠ WARNING

To avoid polycarbonate bowl rupture that can cause personal injury or property damage, do not exceed bowl pressure or temperature ratings. Polycarbonate bowls have a 150 PSIG pressure rating and a maximum temperature rating of 125°F.

Safety Guide

For more complete information on recommended application guidelines, see the Safety Guide section of Pneumatic Division catalogs or you can download the **Pneumatic Division Safety Guide** at: www.parker.com/safety

Introduction

Follow these instructions when installing, operating, or servicing the product.

Application Limits

These products are intended for use in general purpose compressed air systems only.

Maximum Recommended Pressure Drop:

	kPa	PSIG	bar
Coalescing Filter	**70**	**10**	**0.7**

With Polycarbonate Bowl

	kPa	PSIG	bar
Operating Pressure Maximum	**1000**	**150**	**10.3**

Operating Temperature Maximum	52°C (125°F)
Operating Temperature Minimum	0°C (32°F)

With Metal Bowl

	kPa	PSIG	bar
Operating Pressure Maximum	**1700**	**250**	**17.0**

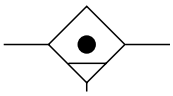
Operating Temperature Maximum	80°C (175°F)
Operating Temperature Minimum	0°C (32°F)

Economy Pulse Drain

	kPa	PSIG	bar
Operating Pressure Maximum	**1000**	**150**	**10.3**

Operating Temperature Maximum	80°C (175°F)
Operating Temperature Minimum	0°C (32°F)

ANSI Symbols



Coalescing w/Manual Drain

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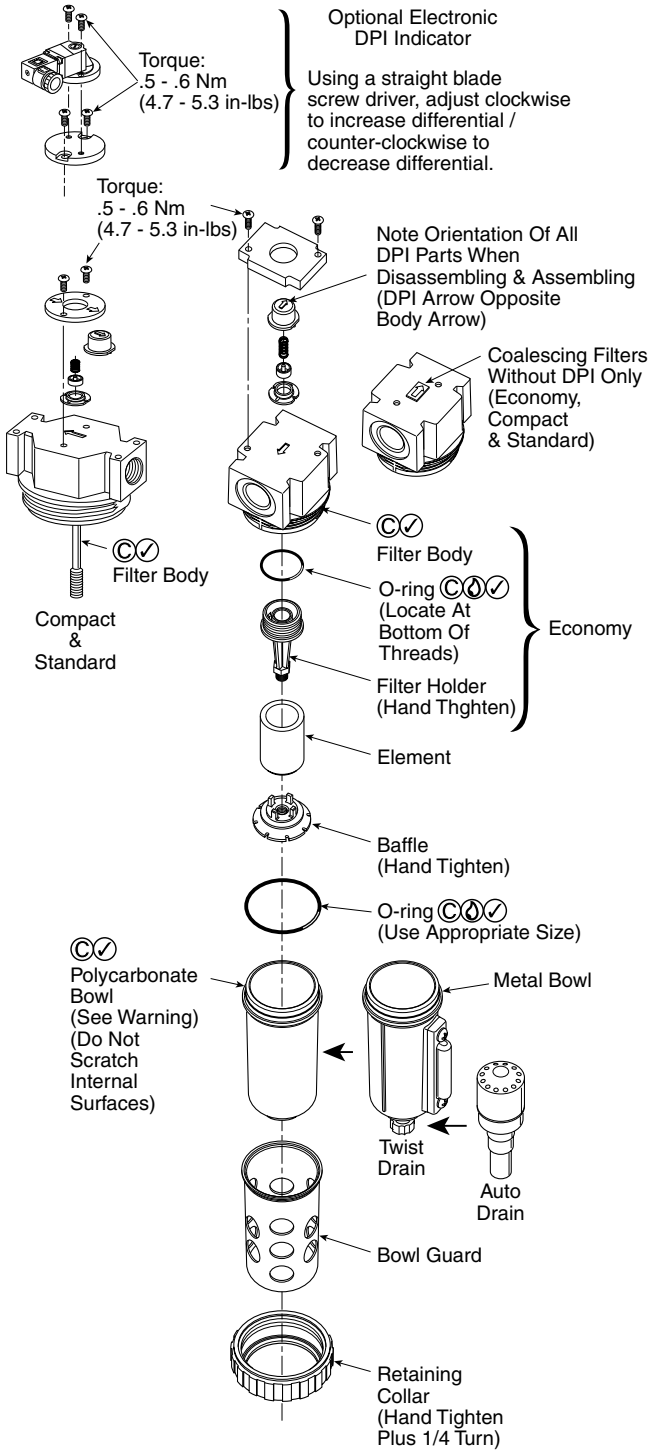

Lightly grease with provided lubricant.

Inspect for nicks, scratches, and surface imperfections.
If present, reduced service life is probable and future replacement should be planned.

Clean with lint-free cloth.

Installation

1. The filter should be installed with reasonable accessibility for service whenever possible – repair service kits are available. Keep pipe or tubing lengths to a minimum with inside clean and free of dirt and chips. Pipe joint compound should be used sparingly and applied only to the male pipe – never into the female port. Do not use PTFE tape to seal pipe joints – pieces have a tendency to break off and lodge inside the unit, possibly causing malfunction. Also, new pipe or hose should be installed between the filter and equipment being protected.
2. The upstream pipe work must be clear of accumulated dirt and liquids.
3. Select a filter location as close as possible to the equipment being protected and upstream of any pressure regulator.
4. Install filter so that air flows in the direction of arrow on body.
5. Install filter vertically with bowl drain mechanism at the bottom. Free moisture will thus drain into the sump “quiet zone” at the bottom of the bowl.

Operation and Service

1. Both free moisture and solids are removed automatically by the filter. There are no moving parts.
2. Manual drain filters must be drained regularly before the separated moisture and oil reaches the bottom of the lower baffle.
3. The coalescing filter element should be removed and replaced when pressure differential across the filter is 10 psid. The differential pressure indicator, located on top of the filter body, gives a visual indication of the pressure differential across the filter element. Change the filter element when half or more of the orange piston is above the retaining ring when air is flowing. For units without a differential pressure indicator, pressure differential gauges should be used to determine when the maximum recommended pressure differential has been reached.
4. Shut off air supply and depressurize the unit, before servicing.
5. After servicing, apply system pressure and check for air leaks. If leakage occurs, **Do Not Operate** — conduct servicing again.

Service Kits Available

Description	Economy 1/8", 1/4" & 3/8"	Compact 1/4", 3/8" & 1/2"	Standard 1/2" & 3/4"
Element Kits*			
Grade 6	PS924	PS724	PS824
Grade 10	PS930	PS730	PS830
DPI Repair Kit	PS781	PS781	PS781
Electronic DPI Kit	PS965	PS764	PS764

*Element kits include body / bowl seal.

Pneumatic Division
Richland, Michigan 49083
269-629-5000

Installation & Service Instructions
2C400

Large Ported Coalescing Filters 35F & 43F with Variations and Accessories

ISSUED: August, 2011
Supersedes: May, 2011
Doc. #2C400, EN#110617, Rev. 2

⚠ WARNING

To avoid unpredictable system behavior that can cause personal injury and property damage:

- **Disconnect electrical supply (when necessary) before installation, servicing, or conversion.**
- **Disconnect air supply and depressurize all air lines connected to this product before installation, servicing, or conversion.**
- **Operate within the manufacturer's specified pressure, temperature, and other conditions listed in these instructions.**
- **Medium must be moisture-free if ambient temperature is below freezing.**
- **Service according to procedures listed in these instructions.**
- **Installation, service, and conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.**
- **After installation, servicing, or conversion, air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or the product does not operate properly, do not put into use.**
- **Warnings and specifications on the product should not be covered by paint, etc. If masking is not possible, contact your local representative for replacement labels.**

⚠ CAUTION

Polycarbonate bowls and sight domes, being transparent and tough, are ideal for use with Filters and Lubricators. They are suitable for use in normal industrial environments, but should not be located in areas where they could be subjected to direct sunlight, an impact blow, nor temperatures outside of the rated range. As with most plastics, some chemicals can cause damage. Polycarbonate bowls and sight domes should not be exposed to chlorinated hydrocarbons, ketones, esters and certain alcohols. They should not be used in air systems where compressors are lubricated with fire-resistant fluids such as phosphate ester and diester types.

Metal bowls are recommended where ambient and/or media conditions are not compatible with polycarbonate bowls. Metal bowls resist the action of most such solvents, but should not be used where strong acids or bases are present or in salt laden atmospheres. Consult the factory for specific recommendations where these conditions exist.

TO CLEAN POLYCARBONATE BOWLS USE MILD SOAP AND WATER ONLY! DO NOT use cleansing agents such as acetone, benzene, carbon tetrachloride, gasoline, toluene, etc., which are damaging to this plastic.

Bowl guards are recommended for added protection of polycarbonate bowls where chemical attack may occasionally occur.

⚠ WARNING

To avoid polycarbonate bowl rupture that can cause personal injury or property damage, do not exceed bowl pressure or temperature ratings. Polycarbonate bowls have a 150 PSIG pressure rating and a maximum temperature rating of 125°F.

Safety Guide

For more complete information on recommended application guidelines, see the Safety Guide section of Pneumatic Division catalogs or you can download the **Pneumatic Division Safety Guide** at: www.parker.com/safety

Installation

1. Refer to WARNINGS and CAUTIONS.
2. Purge downstream air line of oil.
3. Install the unit with the air flowing in the direction indicated by the arrow on the body and / or the Differential Pressure Indicator.
4. The drain line connection is dependent on the type of drain that is selected.
5. Maximum inlet pressure and operating temperature ratings are: units with Differential Pressure Indicator, 150 psig (10,3 bar) and 150°F (66°C); units without DP2 Differential Pressure Indicator or with DP3 Differential Pressure Gauge: 250 psig (17.2 bar)150°F (66°C).

Maintenance

1. The element operates effectively when it is saturated. The element's useful life will end only when the Differential Pressure Indicator is completely red. The element cannot be cleaned or reused and must be replaced at the end of its useful life.
2. When bowl becomes dirty, replace the bowl or clean by wiping with a clean, dry cloth.
3. Before placing the unit in service, make sure that the bowl is securely bolted in place per noted torque specification.

Repair Kits and Replacement Parts

Filter Element Kit (kit includes filter element, element o-ring, and retainer o-ring).

	Element Types		
	1 micron	0.01 micron	oil vapor, adsorption
35F	MSP-95-502	MTP-95-502	MXP-95-502
43F	MSP-95-876	MTP-95-562	MXP-95-565

Drain Plate Kits:
- Drain Plate 9/16 diameter (use with internal automatic mechanical float drain no. P32KA00DA)..... GRP-95-391
- Drain Plate (1/2 NPT) GRP-95-393
- Drain Plate (1/2 BSPP)..... GRP-95-395

Bowl O-ring Kit (43F)..... GRP-95-290

Bowl O-ring Kit (35F)..... GRP-95-291

Differential Pressure Gauge DP3-01-000

Differential Pressure Indicator (Standard) DP2-01-001

Differential Pressure Indicator Removal Cap Kit:
- (for 250 psig appl.)..... GRP-95-022

Internal Drains:
- Automatic Mechanical Drain:
  (Fluorocarbon 1/8 NPT seals w/ stem)..... P32KA00DA

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Automatic Electric Drain Valves

Model Number Kit	Port Size NPT	Voltage	Operating Pressure
WDV3-G14BL	1/2"	115 VAC	232 PSIG
WDV3-G24BL	1/2"	230 VAC	232 PSIG
WDV3-G34BL	1/2"	24 VDC	232 PSIG

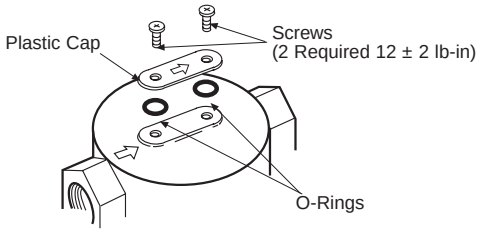
Zero Air Loss Condensation Drain

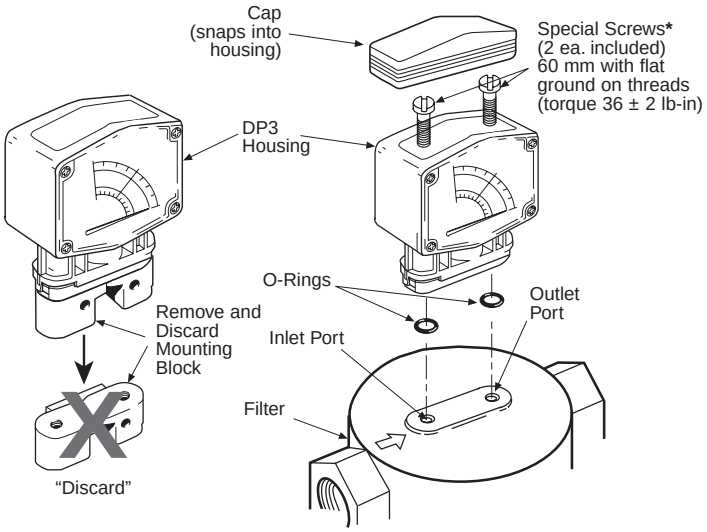
Model Number Kit	Port Size NPT	Voltage	Operating Pressure
ED3002N115-KL	1 x 3/8, 3/8	115 VAC	232 PSIG
ED3004N115-KL	1 x 1/2, 3/8	115 VAC	232 PSIG
ED3007N115-KL	2 x 1/2, 3/8	115 VAC	232 PSIG
ED3030N115-KL	2 x 1/2, 3/8	115 VAC	232 PSIG
ED3100N115-KL	2 x 1/2, 3/8	115 VAC	232 PSIG

DP3 Differential Pressure Gauge Installation Instructions on 3x / 4x Series Filters

1. Remove and discard the plastic cap, screws and O-rings from top of unit.
2. To install the new DP3 Differential Pressure Gauge, pry the cap out of the housing and separate the mounting block from the DP3 by removing the 2 screws under the cap. Make sure that air flow direction arrows on DP3 match flow arrows (same direction) on filter unit. Make sure O-Rings are properly seated on bottom of DP3, and attach DP3 to filter, using the special 60mm mounting screws (2 required) with flat ground on threads.

⚠ **CAUTION! Overtightening the screws may damage the Differential Pressure Gauge.**

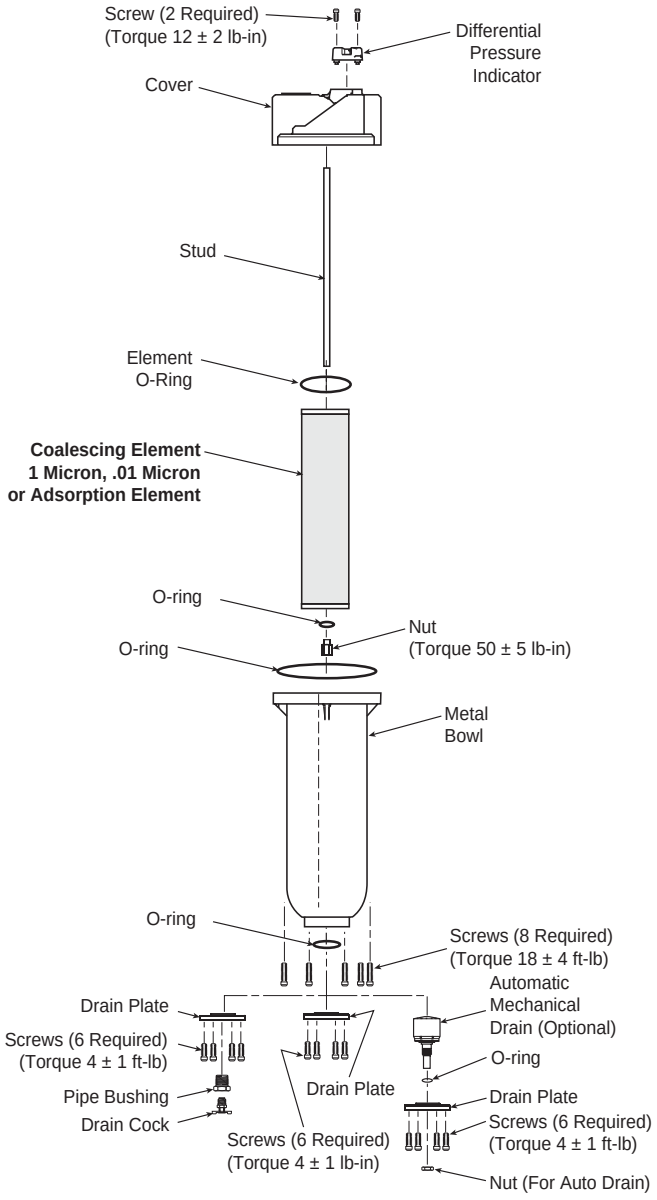




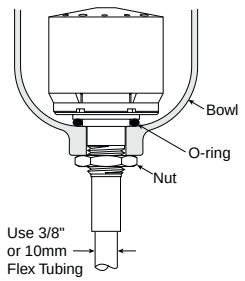
*** CAUTION: Use special 60 mm (long) screw to mount gauge to filter only.**

3. Replace coalescing element when differential pressure reaches the **red** band.

35F / 43F



Automatic Mechanical Float Drain



Pneumatic Division
Richland, Michigan 49083
269-629-5000

Installation and Service Instructions:
2F102C
1/4" & 3/8" 05F/15F
1/4", 3/8" & 1/2" 06F/11F
3/8", 1/2" & 3/4" 07F/12F
3/4", 1" & 1-1/2" P3N
Electronic DPI

ISSUED: November, 2003
Supersedes: January, 2003
Doc.# 2F102, ECN# 030539, Rev. 4

⚠ WARNING

To avoid unpredictable system behavior that can cause personal injury and property damage:

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- **Disconnect air supply and depressurize all air lines connected to this product before installation, servicing, or conversion.**
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- **Medium must be moisture-free if ambient temperature is below freezing.**
- **Service according to procedures listed in these instructions.**
- **Installation, service, and conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.**
- **After installation, servicing, or conversion, air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or the product does not operate properly, do not put into use.**
- **Warnings and specifications on the product should not be covered by paint, etc. If masking is not possible, contact your local representative for replacement labels.**

Introduction

Follow these instructions when installing, operating, or servicing the product.

Application Limits

These products are intended for use in general purpose compressed air systems only.

Electrical Rating:

5 Amps - 12/24VDC, 125/250VAC

With Polycarbonate Bowl

	kPa	PSIG	bar
Operating Pressure Maximum	**1000**	**150**	**10.3**

Operating Temperature Maximum	52°C (125°F)
Operating Temperature Minimum	0°C (32°F)

With Metal Bowl

	kPa	PSIG	bar
Operating Pressure Maximum	**1700**	**250**	**17.0**

Operating Temperature Maximum	80°C (175°F)
Operating Temperature Minimum	0°C (32°F)

Operation and Service

1. The particulate and coalescing filter element should be removed and replaced when pressure differential across the filter is 10 PSID.
2. Adsorber elements are designed to adsorb vaporous contaminates. The relative efficiency of an adsorber varies depending on the vapor to be adsorbed and the environmental temperature. At higher temperatures, adsorbers become less efficient.

   Adsorber elements are not particle filters. All particles and aerosols should be removed prior to adsorbing vaporous contaminants. The initial pressure drop across an adsorber element (1.5 PSIG maximum) should never increase. The presence of any liquids, aerosols or particulate matter in an adsorber indicates that the effective life of the element has been exceeded and the element should be replaced and the system cleaned.

   The most effective method of testing whether an element needs to be replaced is to smell the air coming from the adsorber. Offensive odors will be present well before oil levels become detectable.
3. If the electronic differential pressure indicator, located on top of the filter body is wired as normally open, it sends an electrical signal when the differential is greater than the specified range. If the electronic differential pressure indicator is wired as normally closed, there will be a signal until the differential exceedes the specified range. Change the filter element when this happens. For units without a differential pressure indicator, pressure differential gauges should be used to determine when the maximum recommended pressure differential has been reached.
4. Shut off air supply and depressurize the unit, before servicing.
5. After servicing, apply system pressure and check for air leaks. If leakage occurs, **Do Not Operate** — conduct servicing again.

⚠ WARNING

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

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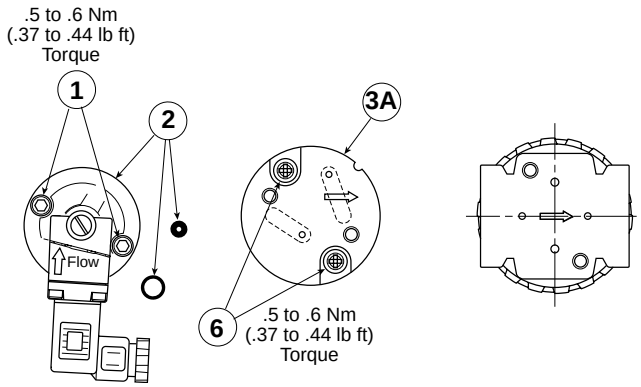
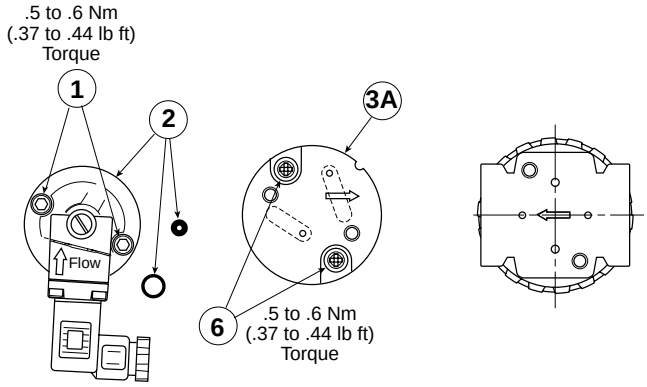
The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by The Company and its subsidiaries at any time without notice.

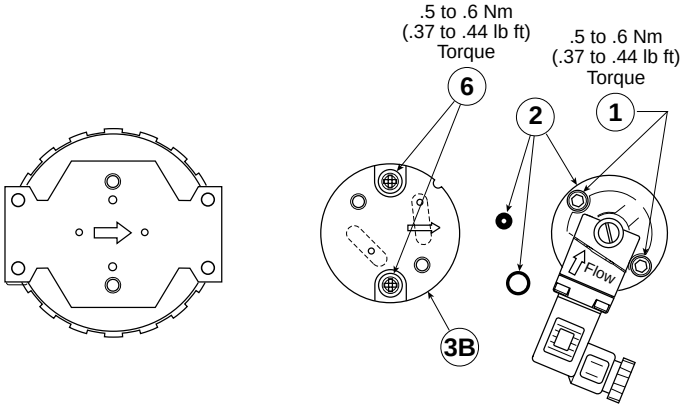
EXTRA COPIES OF THESE INSTRUCTIONS ARE AVAILABLE FOR INCLUSION IN EQUIPMENT / MAINTENANCE MANUALS THAT UTILIZE THESE PRODUCTS. CONTACT YOUR LOCAL REPRESENTATIVE.



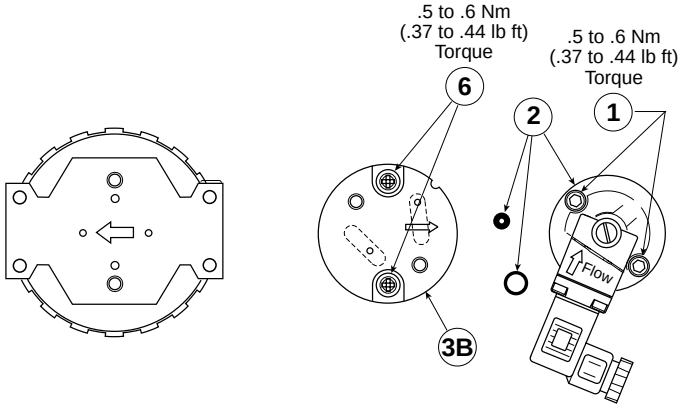
Orientation / Assembly for (05F) Electronic DPI



Orientation / Assembly for (15F) Electronic DPI



Orientation / Assembly for (06F / 07F / P3N) Electronic DPI



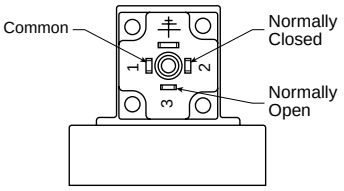
Orientation / Assembly for (11F / 12F / P3N Coalescing) Electronic DPI

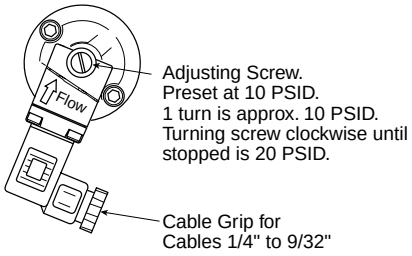
Item 1: Screws (2) for mounting Electronic DPI
Item 2: Electronic DPI with two seals - Preset at 10 PSID

Item 3A: Adapter, 05F/15F
Item 3B: Adapter, 06F/07F/11F/12F/P3N
Item 6: Screw (2) for mounting adapter

Wiring Code

Pin 1: Common
Pin 2: Normally Closed
Pin 3: Normally Open





Kits Available

Description	05F/15F 1/4" & 3/8"	06F/11F 1/4", 3/8" & 1/2"	07F/12F 3/8", 1/2" & 3/4"	P3N 3/4", 1" & 1-1/2"
Element Kits*				
5 Micron	PS902	PS702	PS802	P3NKA00ESE
40 Micron	PS901	PS701	PS801	P3NKA00ESG
Coalescing Grade 6	PS924	PS724	PS824	P3NKA00ESC
Coalescing Grade 10	PS930	PS730	PS830	P3NKA00ES9
Adsorber	PS931	PS731	PS831	P3NKA00ESA
Porous Bronze	PS988	PS788	PS888	—
DPI Repair Kit	PS781	PS781	PS781	PS781
Electronic DPI Kit	PS764	PS764	PS764	PS764

*Element kits include body / bowl seal.

Pneumatic Division
Richland, Michigan 49083
269-629-5000

Installation & Service Instructions:

2F300E

1" Particulate, Adsorber & Coalescing Filter

ISSUED: October, 2006
Supersedes: March, 2005
Doc.# 2F300, ECN# 061068, Rev. 9

⚠WARNING

To avoid unpredictable system behavior that can cause personal injury and property damage:

- **Disconnect electrical supply (when necessary) before installation, servicing, or conversion.**
- **Disconnect air supply and depressurize all air lines connected to this product before installation, servicing, or conversion.**
- **Operate within the manufacturer's specified pressure, temperature, and other conditions listed in these instructions.**
- **Medium must be moisture-free if ambient temperature is below freezing.**
- **Service according to procedures listed in these instructions.**
- **Installation, service, and conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.**
- **After installation, servicing, or conversion, air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or the product does not operate properly, do not put into use.**
- **Warnings and specifications on the product should not be covered by paint, etc. If masking is not possible, contact your local representative for replacement labels.**

Safety Guide

For more complete information on recommended application guidelines, see the Safety Guide section of Pneumatic Division catalogs or you can download the **Pneumatic Division Safety Guide** at: www.parker.com/safety

Introduction

Follow these instructions when installing, operating, or servicing the product.

Application Limits

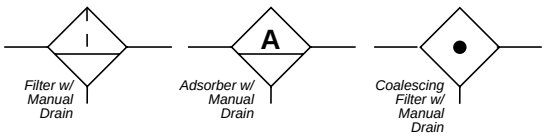
These products are intended for use in general purpose compressed air systems only.

Adsorber Filters are not effective on: Carbon monoxide, carbon dioxide, methane, ethane, ethylene or hydrogen. For a complete list of vapors that can and cannot be adsorbed effectively by activated charcoal adsorbers consult the factory.

Maximum Recommended Pressure Drop:

	kPa	PSIG	bar
Particulate Filter	70	10	0.7
Operating Pressure Maximum	1700	250	17.0
Operating Temperature Maximum	80°C (175°F)		
Operating Temperature Minimum	0°C (32°F)		

ANSI Symbols



Installation

1. The filter should be installed with reasonable accessibility for service whenever possible – repair service kits are available. Keep pipe or tubing lengths to a minimum with inside clean and free of dirt and chips. Pipe joint compound should be used sparingly and applied only to the male pipe – never into the female port. Do not use PTFE tape to seal pipe joints – pieces have a tendency to break off and lodge inside the unit, possibly causing malfunction. Also, new pipe or hose should be installed between the filter and equipment being protected.
2. The upstream pipe work must be clear of accumulated dirt and liquids.
3. Select a filter location as close as possible to the equipment being protected and upstream of any pressure regulator.
4. Install filter so that air flows in the direction of arrow on body.
5. Install filter vertically with bowl drain mechanism at the bottom. Free moisture will thus drain into the sump "quiet zone" at the bottom of the bowl.

Operation and Service

1. Manual drain filters must be drained regularly before the separated moisture and oil reaches the bottom of the lower baffle.
2. The particulate filter element should be removed and replaced when pressure differential across the filter is 10 PSIG.
3. Adsorber elements are designed to adsorb vaporous contaminates. The relative efficiency of an adsorber varies depending on the vapor to be adsorbed and the environmental temperature. At higher temperatures, adsorbers become less efficient.

   Adsorber elements are not particle filters. All particles and aerosols should be removed prior to adsorbing vaporous contaminants. The initial pressure drop across an adsorber element (1.5 PSIG maximum) should never increase. The presence of any liquids, aerosols or particulate matter in an adsorber indicates that the effective life of the element has been exceeded and the element should be replaced and the system cleaned.

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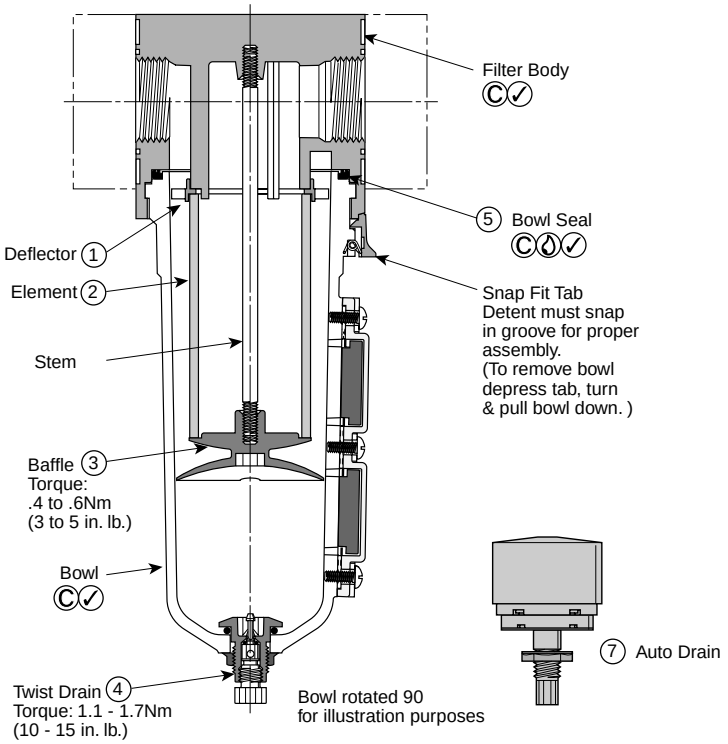
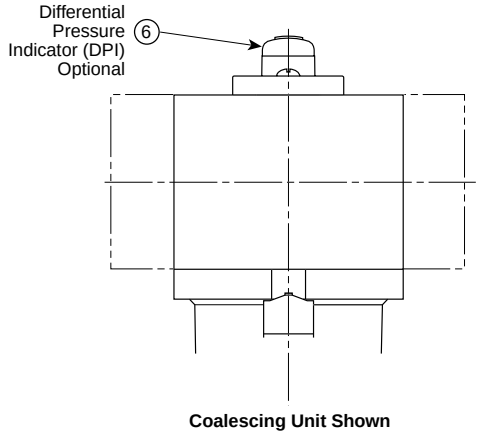
The most effective method of testing whether an element needs to be replaced is to smell the air coming from the adsorber. Offensive odors will be present well before oil levels become detectable.

4. For Coalescing filter, a 5 micrometer pre-filter is recommended to protect the high efficiency filter and to prolong the elements life.
5. The differential pressure indicator, located on top of the filter body, gives a visual indication of the pressure differential across the filter element. Change the filter element when half or more of the orange piston is above the retaining ring when air is flowing. For units without a differential pressure indicator, pressure differential gauges should be used to determine when the maximum recommended pressure differential has been reached.
6. Shut off air supply and depressurize the unit, before servicing.
7. After servicing, apply system pressure and check for air leaks. If leakage occurs, Do Not Operate — conduct servicing again.

Service Kits Available

Description	Kit Number	Contains Items
Element Kits -		(5) Bowl Seal and (2) Element
5 Micron	P3NKA00ESE	
40 Micron	P3NKA00ESG	
Adsorber	P3NKA00ESA	
25 Micron Porous Bronze	P3NKA00ESJ	
Coalescing / Element Grade 6	P3NKA00ESC	
Coalescing / Element Grade 10	P3NKA00ES9	
DPI Repair Kit	PS781	(6) DPI components (not all shown)
Auto Drain Kit	PS506	(7) Auto Drain Assembly



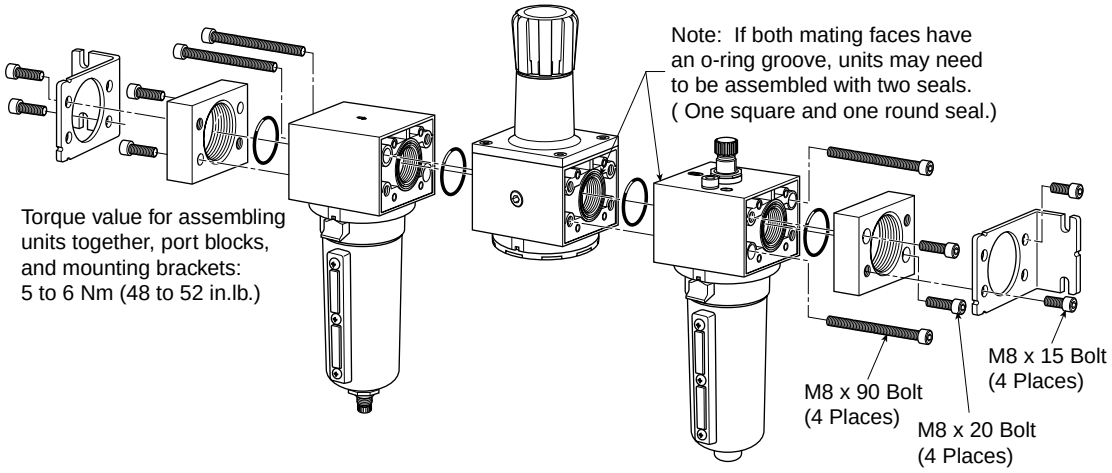


Coalescing Unit Shown

💧 Lightly grease with provided lubricant.

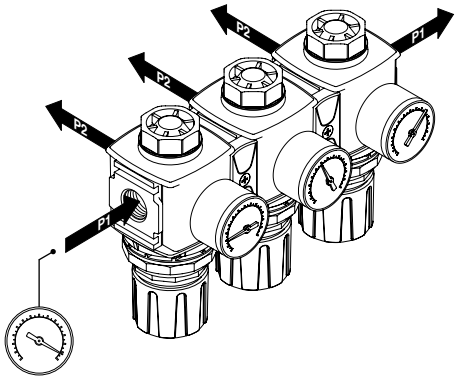
✓ Inspect for nicks, scratches, and surface imperfections. If present, reduced service life is probable and future replacement should be planned.

Ⓒ Clean with lint-free cloth.



P31 Mini + P32 Compact

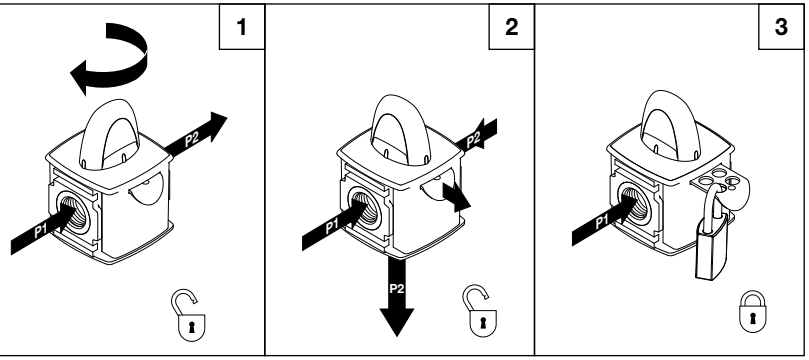
(UK) Common Ported Regulators
(CN) 汇流型减压阀
(FR) Régulateurs à orifices communs
(DE) Regler mit allgemeinen Anschlüssen
(IT) Regolatori con porte comuni
(JP) 共通ポートレギュレータ
(KR) 공통급기 레귤레이터
(ES) Reguladores de boca común
(SE) Sammanbyggda regulatorer



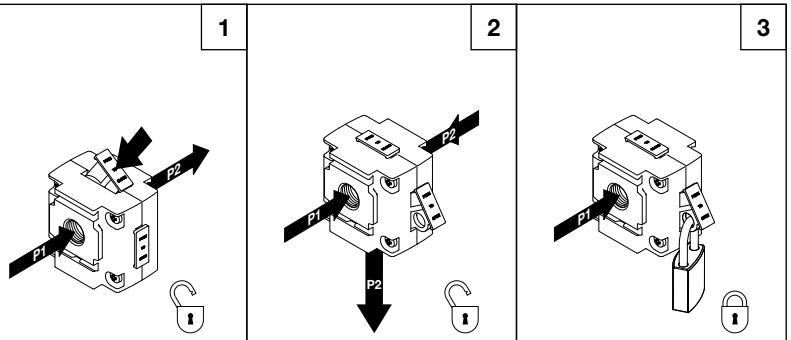
Safety Lockout Valves

(UK) Safety Lockout Valves
(CN) 可锁定安全阀
(FR) Distributeurs verrouillables
(DE) Sicherheitsabschaltventile
(IT) Valvole di bloccaggio di sicurezza
(JP) セーフティーロックアウトバルブ
(KR) 안전 잠압 배기밸브
(ES) Válvulas de bloqueo - seguridad
(SE) Säkerhetsavstängningsventiler

(UK) Ball Valve
(CN) 球阀
(FR) Vanne à boisseau
(DE) Kugelventil
(IT) Valvola a sfera
(JP) ボールバルブ
(KR) 볼밸브
(ES) Válvula de bola
(SE) Kulventil



(UK) Slide Valve
(CN) 截止阀
(FR) Tiroir
(DE) Schieberventil
(IT) Valvola scorrevole
(JP) スライドバルブ
(KR) 슬라이드밸브
(ES) Válvula de corredera
(SE) Slidventil



5FRL100 Rev. 3
www.parker.com
EN100698

Global Air Preparation System

Parker

(UK) ⚠ WARNING

To avoid unpredictable system behaviour that can cause personal injury and proper damage:

- Disconnect electrical supply (when necessary) before installation, servicing, or conversion.
- Disconnect air supply and depressurize all air lines connected to this product before installation, servicing or conversion.
- Operate within the manufacturer's specified pressure, temperature, and other conditions listed in these instructions.
- Medium must be moisture-free if ambient temperature is below freezing.
- Service according to procedures listed in these instructions.
- Installation, service and conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.
- After installation, servicing or conversion, air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present or the product does not operate properly, do not put into use.
- Warning and specifications on the product should not be covered by paint, etc. If masking is not possible, contact your local representative for replacement labels.

(UK) ⚠ WARNING

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(UK) ⚠ CAUTION

Polycarbonate bowls, being transparent and tough, are ideal for use with Filters and Lubricators. They are suitable for use in normal industrial environments, but should not be located in areas where they could be subjected to direct sunlight, an impact blow, nor temperatures outside of the rated range. As with most plastics, some chemicals can cause damage. Polycarbonate bowls should not be exposed to chlorinated hydrocarbons, ketones, esters and certain alcohols. They should not be used in air systems where compressors are lubricated with fire-resistant fluids such as phosphate ester and diester types.

Metal bowls are recommended where ambient and/or media conditions are not compatible with polycarbonate bowls. Metal bowls resist the action of most such solvents, but should not be used where strong acids or bases are present or in salt laden atmospheres. Consult the factory for specific recommendations where these conditions exist.

TO CLEAN POLYCARBONATE BOWLS USE MILD SOAP AND WATER ONLY! DO NOT use cleansing agents such as acetone, benzene, carbon tetrachloride, gasoline, toluene, etc., which are damaging to this plastic.

(UK) Safety Guide

For more complete information on recommended application guidelines, see the Safety Guide section of Pneumatic Division catalogues or you can download the Pneumatic Division Safety Guide at: *www.parker.com/safety*

(UK) ⚠ WARNING

To avoid polycarbonate bowl rupture that can cause personal injury or property damage, do not exceed bowl pressure or temperature ratings. Polycarbonate bowls have a 150 PSIG (10 bar) pressure rating and a maximum temperature rating of 125°F (52°C).

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(CN) ⚠ 警告

为避免不可预测的系统运作而导致人身伤害和资产损害：

- 安装，维修和改动前必须断开电源供应；
- 安装，维修和改动前必须断开气源供应，释放连接该产品的管路压力；
- 必须在厂商所指定的压力，温度和其他使用说明书中注明的环境条件下操作使用；
- 在环境温度低于零下时介质必须是无油的；
- 根据使用说明书中厂商推荐的程序保养；
- 必须由气动专业人士来安装，维护和改动产品；
- 安装，维修，改动后，气源和电气需要连接，并测试产品功能及是否有泄漏。如果有可听到的泄漏声或操作不正确，不可投入使用；
- 产品上的警示和规范不能被油漆等覆盖。如果标签不清晰，请联系相关人员更换标签。

(CN) ⚠ 警告

错误或者不正确地选择和使用产品以及错误地描述相关产品信息有可能会导致死亡，人身伤害和财产损失。

这个文件和另外的信息来自公司总部，它是给分销商补充和授权产品或者系统的选项，是给用户调查研究用的技术资料。分析你的所有应用，包括任何一旦发生错误的后果并在现有的产品目录中阅读相关产品或系统信息，对于您来说都是非常有必要的。由于操作环境和产品或系统的使用是多样性的，用户通过自己的分析和测试，对最终产品和系统选择负有绝对责任，并需要确保所有产品的性能，安全和应用时需要注意的问题都已满足。

这里提到的产品，包括无限制性，产品特性，说明书，设计，实用性和价格可由公司总部及其下属公司在没有通知的情况下改变。

(CN) ⚠ 注意

碳酸聚酯水杯是透明坚固的，是过滤器和油雾器的理想选择。适合一般工业环境应用，但是不适用于那些阳光直射，冲击和户外温差大的场合。因为含有大量塑料，某些化学物质会损伤水杯。碳酸聚酯水杯不能暴露于碳氢化合物，酮，酯和某些酒精。此类杯体不能应用于被防火型液体，如，碳酸盐酯和二酯类润滑过的空压机的气动系统中。

在那些不适合碳酸聚酯水杯的环境中，推荐使用金属水杯。金属水杯能抵抗大多数溶解剂，但是不能用在强酸，含盐的场所。对于特殊场合请咨询工厂。

只能使用温和肥皂水和清水洗涤碳酸聚酯水杯。不能使用丙酮，苯，四氯化碳，汽油，甲苯等清洁剂，这会直接损害塑料。

(CN) 安全指南

更多完整的推荐应用指导信息，请见气动样本中的安全指南部分或者可以在气动部门安全指南网站下载资料：www.parker.com/safety

(CN) ⚠ 警告

为了避免碳酸聚酯水杯破裂而导致的人身或财产损害，不能使用超过水杯的压力和温度范围。碳酸聚酯水杯最高承受 150 PSIG (10bar)压力和最高 125°F (52°C)的温度。

如需多份涉及这些产品维修/操作指南的使用说明书。请联系当地办事处。

(FR) ⚠ MISE EN GARDE

Afin de prévenir tout comportement imprévisible du système pouvant entraîner des accidents et des dommages matériels :

- **Débrancher l'alimentation électrique (s'il y a lieu) avant de procéder à l'installation, à l'entretien ou à la transformation.**
- **Débrancher l'approvisionnement en air et mettre hors pression toutes les conduites d'air de ce produit avant de procéder à l'installation, à l'entretien ou à la transformation.**
- **Faire fonctionner dans les conditions de pression, de température et autres qui sont indiquées dans ces instructions.**
- **Si la température ambiante est inférieure au point de congélation, le fluide doit être exempt d'humidité.**
- **Effectuer l'entretien conformément aux procédures qui sont indiquées dans ces instructions.**
- **L'installation, l'entretien et la transformation de ces produits doivent être effectués par des personnes familiarisées avec les produits pneumatiques.**
- **Après l'installation, l'entretien ou la transformation, rétablir l'alimentation électrique ainsi que l'approvisionnement en air (s'il y a lieu) et tester le produit afin de s'assurer qu'il fonctionne bien et qu'il n'y a pas de fuites. Si une fuite s'entend ou si le produit ne fonctionne pas correctement, ne pas le mettre en service.**
- **Les mises en garde et les indications portées sur le produit ne doivent pas être recouvertes par de la peinture, etc. Si le masquage n'est pas possible, contacter le représentant local pour obtenir des étiquettes de remplacement.**
- **Les mises en garde et les indications portées sur le produit ne doivent pas être recouvertes par de la peinture, etc. Si le masquage n'est pas possible, contacter le représentant local pour obtenir des étiquettes de remplacement.**

(FR) ⚠ MISE EN GARDE

LA NON OBSERVATION D'INSTRUCTIONS OU LA SÉLECTION IMPROPRE OU L'USAGE INAPPROPRIÉ DES PRODUITS ET/OU DES SYSTÈMES DÉCRITS AUX PRÉSENTES, OU ARTICLES CONNEXES, PEUVENT ENTRAÎNER LA MORT, DES PRÉJUDICES CORPORELS ET/OU DES DOMMAGES MATÉRIELS.

Le présent document et toute autre information provenant de la Société, de ses filiales et distributeurs agréés se réfèrent à des produits et/ou des systèmes pouvant faire l'objet de tests et de contrôles de la part d'utilisateurs compétents, possédant une expertise technique. Il est important que vous analysiez tous les aspects de votre application, notamment les conséquences d'une défaillance, et étudiiez les informations concernant le produit ou les systèmes qui figurent dans le catalogue actuel. Compte tenu de la variété des conditions d'exploitation et des applications inhérentes à ces produits et/ou systèmes, l'utilisateur est, par le biais de ses propres analyses et tests, seul responsable de la sélection finale desdits produits et/ou systèmes et s'engage à ce que son application réponde à tous les critères relatifs aux performances, à la sécurité et aux mises en garde.

Les produits décrits aux présentes, y compris et sans limitation, les caractéristiques produit, les spécifications, les conceptions, la disponibilité et les prix, peuvent faire l'objet de modifications par la Société et ses filiales, à tout moment et sans préavis.

(FR) ⚠ ATTENTION

Durs et transparents, les bols en polycarbonates sont parfaitement indiqués pour l'utilisation dans les filtres et les lubrificateurs. Ils sont compatibles avec les milieux industriels normaux mais ne doivent pas être placés dans des lieux où ils pourraient être exposés à la lumière directe du soleil, à des chocs ou à des températures situées en-dehors de leur plage d'utilisation nominale. Comme la plupart des plastiques, cette matière peut être endommagée par certains produits chimiques. Les bols en polycarbonate ne doivent pas être exposés aux hydrocarbures chlorés, aux cétones, aux éthers et à certains alcools. Ils ne doivent pas être utilisés dans des systèmes pneumatiques dont les compresseurs sont lubrifiés par des fluides résistant au feu tels que les esters et diesters de phosphate.

Les bols métalliques sont recommandés lorsque le milieu et/ou le fluide sont incompatibles avec les bols en polycarbonates. Les bols métalliques sont résistants à la plupart de ces solvants mais ne doivent pas être utilisés en milieu fortement acide ou basique, ou en atmosphère salée. Si de telles conditions prévalent, adressez-vous au fabricant afin d'obtenir des recommandations spécifiques.

NETTOYER LES BOLS EN POLYCARBONATE UNIQUEMENT À L'EAU ET AU SAVON DOUX ! NE PAS utiliser d'agents nettoyants tels que l'acétone, le benzène, le tétrachlorure de carbone, l'essence, le toluène, etc., qui endommageraient ce plastique.

(FR) Guide de sécurité

Pour obtenir de plus amples informations sur les directives à appliquer recommandées, prière de vous reporter à la section Guide de sécurité des catalogues de la Pneumatic Division ou de télécharger le Guide de sécurité de la Pneumatic Division sur le site : www.parker.com/safety

(FR) ⚠ MISE EN GARDE

Pour éviter que le bol de polycarbonate se rompe et provoque des préjudices corporels ou des dommages matériels, ne pas dépasser les limites maximales de pression et de température, à savoir 150 PSIG (10 bar) et 125 °F (52°C).

DES EXEMPLAIRES DE CES INSTRUCTIONS SONT DISPONIBLES POUR INSERTION DANS LE MATÉRIEL OU LES MANUELS D'ENTRETIEN QUI UTILISENT CES PRODUITS. VEUILLEZ CONTACTER VOTRE REPRÉSENTANT LOCAL.

(DE) ⚠ WARNUNG

Als Schutz vor unvorhersehbarem Systemverhalten, das zu Verletzungen und Sachschäden führen kann, sind folgende Maßnahmen zu ergreifen:

- **Vor Einbau, Servicearbeiten oder Umbau gegebenenfalls die Stromversorgung unterbrechen.**
- **Vor Einbau, Servicearbeiten oder Umbau die Druckluftversorgung unterbrechen und alle an das Produkt angeschlossenen Luftleitungen vom Druck befreien.**
- **Im Betrieb sind die vom Hersteller angegebenen Druck- und Temperaturbereiche und die übrigen in der Betriebsanleitung aufgeführten Betriebsbedingungen einzuhalten.**
- **Das Betriebsmedium muss bei Umgebungstemperaturen unter dem Gefrierpunkt absolut trocken sein.**
- **Servicearbeiten sind gemäß den in diesem Handbuch aufgeführten Vorgehensweisen durchzuführen.**
- **Einbau, Servicearbeiten und Umbau dieser Produkte dürfen nur von geschulten Mitarbeitern vorgenommen werden, die über gute Kenntnisse beim Einsatz von Pneumatikprodukten verfügen.**
- **Nach Einbau, Servicearbeiten oder Umbau ist die Strom- und Druckluftversorgung bei Bedarf wieder anzuschließen und das Produkt einer sorgfältigen Dichtigkeits- und Funktionsprüfung zu unterziehen. Wenn eine hörbare Undichtigkeit vorliegt oder das Produkt nicht einwandfrei funktioniert, darf es nicht in Betrieb genommen werden.**
- **Warntexte und technische Angaben auf dem Produkt dürfen nicht durch Farbe oder dgl. verdeckt sein. Wenn sich die Schilder nicht abdecken lassen, hält der Händler vor Ort neue Schilder bereit.**

(DE) ⚠ WARNUNG

DURCH DAS VERSAGEN ODER DIE UNSACHGEMÄSSE AUSWAHL ODER VERWENDUNG DER HIER BESCHRIEBENEN PRODUKTE UND/ODER SYSTEME ODER DAMIT IN VERBINDUNG STEHENDER GERÄTE KANN ES ZU TODESFÄLLEN, VERLETZUNGEN UND SACHBESCHÄDIGUNGEN KOMMEN.

Dieses Dokument und andere Information der Parker Hannifin Corporation, ihrer Niederlassungen und autorisierten Händler stellt Produkt- und/oder Systemoptionen zur Verfügung, die durch einen Anwender mit entsprechenden technischen Kenntnissen vor dem Einsatz auf Eignung überprüft werden müssen. Es ist wichtig, dass alle Aspekte der Anwendung analysiert und die produkt- oder systemrelevanten Angaben dieses Produktkatalogs überprüft werden. Aufgrund der Vielfältigkeit von Betriebsbedingungen und Einsatzbereichen dieser Produkte oder Systeme ist der Anwender, in Form von eigenen Analysen und Tests, allein verantwortlich für die endgültige Auswahl des Produkts bzw. Systems. Er muss sicherstellen, dass alle Leistungsmerkmale, Sicherheits- und Warnhinweise für den jeweiligen Einsatzbereich erfüllt sind.

Die hier beschriebenen Produkte, einschließlich aller Angaben zu Produktmerkmalen, Spezifikationen, Konstruktionen, Verfügbarkeit und Preisgestaltung, können jederzeit, ohne Ankündigung und uneingeschränkt von der Parker Hannifin Corp. und ihren Niederlassungen geändert werden.

(DE) ⚠ BITTE BEACHTEN

Transparente und robuste Behälter aus Polycarbonat eignen sich bestens für Filter und Schmiergeräte. Sie sind für den Einsatz unter normalen Industriebedingungen vorgesehen, sollten jedoch nicht direkter Sonneneinstrahlung oder Stößen ausgesetzt und nur innerhalb des angegebenen Temperaturbereichs benutzt werden. Wie alle Kunststoffe können sie durch gewisse Chemikalien beschädigt werden. Behälter aus Polycarbonat sollten weder Chlorkohlenwasserstoffen noch Ketonen, Estern oder gewissen Alkoholen ausgesetzt werden. Sie sollten auch nicht in Drucklufsystemen eingesetzt werden, deren Kompressoren mit feuerfesten Flüssigkeiten wie z.B. Phosphatester oder Di-Ester geschmiert werden.

Metallbehälter werden empfohlen, wenn Polycarbonatbehälter aufgrund der Umgebungsbedingungen und der verwendeten Medien nicht verwendet werden dürfen. Metallbehälter widerstehen den meisten dieser Lösungsmittel, sollten jedoch keinen starken Säuren oder Basen ausgesetzt oder in salzhaltigen Umgebungen eingesetzt werden. Setzen Sie sich bei Einsätzen unter diesen Umgebungsbedingungen bitte mit dem Hersteller in Verbindung.

ZUR REINIGUNG VON POLYCARBONAT-BEHÄLTERN DÜRFEN AUSSCHLIESSLICH MILDE SEIFENLÖSUNGEN UND WASSER VERWENDET WERDEN! KEINE Reinigungsmittel wie Azeton, Benzol, Tetrachlorkohlenstoff, Benzin, Methylbenzol und dgl. verwenden, da diese den Kunststoff angreifen.

(DE) Sicherheitshinweise

Ausführlichere Informationen über Richtlinien in Bezug auf die empfohlenen Einsatzbereiche siehe Sicherheitshinweise der Kataloge der Pneumatic Division, die hier auch heruntergeladen werden können: www.parker.com/safety

(DE) ⚠ WARNUNG

Damit der Polycarbonatbehälter nicht platzt und Verletzungen oder Sachbeschädigungen verursacht, sind die Richtwerte für Behälterdruck und Temperatureinstellung nicht zu überschreiten. Polycarbonatbehälter sind für einen Nenndruck von 10 bar und eine Höchsttemperatur von 52°C ausgelegt.

DES EXEMPLAIRES DE CES INSTRUCTIONS SONT DISPONIBLES POUR INSERTION DANS LE MATÉRIEL OU LES MANUELS D'ENTRETIEN QUI UTILISENT CES PRODUITS. VEUILLEZ CONTACTER VOTRE REPRÉSENTANT LOCAL.

(IT) ⚠ ATTENZIONE

Per evitare comportamenti imprevedibili del sistema che possono provocare lesioni personali e danni alle cose:

- **Scollegare l'alimentazione elettrica (se necessario) prima di installazione, manutenzione o conversione.**
- **Scollegare l'alimentazione dell'aria e depressurizzare tutte le condutture collegate al prodotto prima di installazione, manutenzione o conversione.**
- **Utilizzare il prodotto alla pressione, alla temperatura e alle altre condizioni specificate in queste istruzioni.**
- **Il mezzo deve essere privo di condensa se la temperatura ambiente è inferiore al punto di congelamento.**
- **Effettuare la manutenzione secondo le procedure specificate in queste istruzioni.**
- **Installazione, manutenzione e conversione di questi prodotti devono essere effettuate da personale competente relativamente al funzionamento dei prodotti pneumatici.**
- **Dopo installazione, manutenzione o conversione, ricollegare le alimentazioni dell'aria ed elettrica (se necessario) e verificare che il prodotto funzioni correttamente e non vi siano perdite. In caso di perdita o funzionamento anomalo del prodotto, non utilizzarlo.**
- **Le avvertenze e le specifiche sul prodotto non devono essere coperte da vernice ecc. Qualora siano illeggibili, contattare il proprio rappresentante locale per le targhette di ricambio.**

(IT) ⚠ ATTENZIONE

LA SCELTA OPPURE L'UTILIZZO ERRATO DEI PRODOTTI E/O SISTEMI IVI DESCRITTI OPPURE DEGLI ARTICOLI CORRELATI PUÒ PROVOCARE GRAVI LESIONI PERSONALI, MORTE E DANNI ALLE COSE.

Il presente documento ed altre informazioni fornite dall'azienda, relative affiliate e distributori autorizzati propongono opzioni di prodotti e/o sistemi il cui utilizzo deve essere valutato da utenti in possesso delle competenze tecniche necessarie. E' importante analizzare ogni aspetto della propria applicazione, comprese le conseguenze in caso di guasto, nonché valutare le informazioni relative al prodotto o sistema contenute nel presente catalogo di prodotti. In seguito alla varietà di condizioni di esercizio ed applicazioni per questi prodotti o sistemi, l'utente, con le proprie valutazioni ed i propri test, è l'unico responsabile della scelta finale di prodotti e sistemi nonché di accertarsi che tutti i requisiti di prestazioni, sicurezza e normativi dell'applicazione siano soddisfatti.

I prodotti ivi descritti, inclusi ma non limitati a, caratteristiche dei prodotti, specifiche, design, disponibilità e prezzo, sono soggetti a modifiche senza preavviso da parte dell'azienda e delle relative affiliate.

(IT) ⚠ ATTENZIONE

Le vaschette in policarbonato, trasparenti e robuste, sono ideali per l'uso con filtri e lubrificatori. Sono indicate per l'uso in normali ambienti industriali, ma non devono essere collocate in aree esposte a luce solare diretta, urti o temperature al di fuori del range indicato. Come molte plastiche, alcune sostanze chimiche possono provocare danni. Le vaschette in policarbonato non devono essere esposte a idrocarburi, chetoni, esteri e determinati alcool. Non devono essere utilizzate in impianti pneumatici con compressori lubrificati con fluidi ignifughi come esteri e diesteri di fosfati.

Qualora le condizioni ambientali e/o il mezzo non siano compatibili con le vaschette in policarbonato, si raccomanda l'uso di vaschette metalliche. Le vaschette metalliche resistono alla maggior parte di questi solventi, ma non devono essere utilizzate in presenza di acidi o basi forti oppure in ambienti estremamente salini. Consultare la fabbrica per le eventuali raccomandazioni specifiche.

PER LA PULIZIA DELLE VASCHETTE IN POLICARBONATO, UTILIZZARE ESCLUSIVAMENTE ACQUA E SAPONE NEUTRO! NON utilizzare detergenti quali acetone, benzene, tetracloruro di carbonio, benzina, toluene ecc. che possono danneggiare la plastica.

(IT) Guida alla sicurezza

Per informazioni più complete sulle linee guida di applicazione raccomandate, consultare la sezione Guida alla sicurezza dei cataloghi Pneumatic Division o scaricare la guida all'indirizzo: www.parker.com/safety

(IT) ⚠ ATTENZIONE

Per evitare la rottura delle vaschette in policarbonato e conseguenti lesioni personali o danni alle cose, non superare la pressione o la temperatura nominale della vaschetta. Le vaschette in policarbonato hanno una pressione nominale di 150 PSIG (10 bar) e una temperatura massima di 125°F (52°C).

ULTERIORI COPIE DI QUESTE ISTRUZIONI SONO DISPONIBILI A INTEGRAZIONE DEI MANUALI DI USO / MANUTENZIONE PER GLI UTENTI DI QUESTI PRODOTTI. CONTATTARE IL PROPRIO RAPPRESENTANTE LOCALE.

(JA) ⚠ 警告

人が障害を負う危険が生じる、また物的障害が起こりうる予想外のシステム障害を避けるために：

- 機器の取り付け、取り扱いもしくは交換の前に電源を落としてください。
- 機器の取り付け、取り扱いもしくは交換前に全ラインの圧縮空気の供給を止め、ライン内の圧縮空気を排出してください。
- 圧力、使用温度やコネクション等が説明書に記載されている範囲で機器を使用ください。
- 外気が0度以下の場合、完全に乾燥した空気を供給してください。
- 説明書の記載通りに機器の操作を行ってください。
- 機器の取り付け、取り扱い、交換は空気圧機器の十分な知識と経験を持った人が行ってください。
- 機器の取り付け、取り扱い、交換後に電源、圧縮空気を入れ機器が正しく作動するか、空気漏れがないかを確認してください。もし空気漏れが聞こえる場合や機器が適切に作動しない場合、電源、圧縮空気を止めてください。
- "警告" や仕様の詳細は機器に記載されていません。もし必要な場合は最寄りの Parker、当社子会社にラベルを依頼してください。

(JA) ⚠ 警告

本文書に記載した製品、あるいは関連した物品を、正しく選定しなかったり、使い方を誤ったりすれば死亡事故や、怪我、そして物的損害を引き起こす可能性があります。

本文書、並びに Parker-Hannifin Corporation、そして当社の子会社、ならびに正規販売業者が発行しているその他の情報では、技術的専門知識を有しているお客様が更なる調査を実施できるように、販売している製品やシステムについての情報を提供しています。お客様は、各自の解析や試験の結果に基づきシステムや部品を最終的に選択し、さらには全ての性能、耐久性、保守、安全性、そして警告要件が満たされているかどうかに関して、唯一お客様自身にて責任を負うものとします。 お客様は、アプリケーション全てを解析し、該当する業界基準に従い、最新版の製品カタログ内の当該製品の情報、並びに Parker、そして当社の子会社や正規販売業者が提供するその他の原材料全てに関する情報に従ってください。

この商品はこの文書で説明されている商品の特徴、仕様、デザイン、入手の可能性、価格は Parker、そして当社の子会社や正規販売業者からの通達なく変更される場合があります。

(JA) ⚠ 注意

透明で頑丈なポリカーボネート製ボウルはフィルタとルブリケータとの使用が理想です。プラスチックボウルは一般的な工業環境に適していますが、直射日光が当たる環境、強風の環境、仕様範囲外の温度での使用は避けてください。多くのプラスチックと同じようにいくつかの化学物質はボウルの損傷させます。ポリカーボネイトボウルは塩素化炭化水素、ケトン、エステル、いくつかのアルコール物質の環境では使用できません。ボウルはホスファターゼエステルやジェステルタイプの耐火性潤滑油を使用したコンプレッサからの供給エアを使用ください。

メタルボウルはポリカーボネイト製ボウルと使用温度、使用流体状況が同じでないことを奨励します。メタルボウルは大概の溶剤に耐性がありますが、強酸や塩の環境での使用は避けてください。そのような環境がある場合当社までお問合せください。

ポリカーボネートボウルの洗浄には中性石鹸や水を使用ください。アセトン、ベンジン、炭素四塩化物、ガソリン、トルエン等の洗浄液の使用はしないでください。プラスチック不具合発生の可能性があります。

(JA) 注意事項

より詳細の奨励されるアプリケーションの指針は当社カタログの注意事項をご参照ください。もしくは以下から空気圧機器注意事項がダウンロードできます。www.parker.com/safety

(JA) ⚠ 警告

人が障害を負う、また物的損害の可能性があるポリカーボネートボウルの破損を避ける為に、使用範囲圧力、温度範囲以上での使用はしないでください。 ポリカーボネートボウルの最高使用圧力は1MPa、最高使用温度は52℃です。

上記以外のメンテナンスマニュアルを含む説明書が必要な場合最寄の Parker 、そして当社の子会社や正規販売業者に連絡してください。

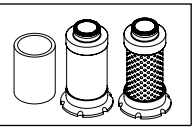
(UK) Kits (CN) 维修包 (FR) Kits (DE) Sätze (IT) Kit (JP) キット (KR) 킷트 (ES) Juegos (SE) Satser

(UK) Filter Element Kits (CN) 滤芯维修包 (FR) Kits élément filtrant (DE) Filtersätze (IT) Kit elementi filtranti (JP) フィルタエレメントキット (KR) 필터 엘리먼트 (ES) Juegos de elementos de filtro (SE) Filterelementsatser

	P31 Mini	P32 Compact	P33 Standard
(UK) 5 micron Particle Filter (CN) 5 微米 颗粒过滤 (FR) 5 microns Filtre à particules (DE) 5 µ Partikelfilter (IT) 5 micron Filtro antiparticolato (JP) 5 ミクロン 粒子フィルタ (KR) 5 마이크론 분진 필터 (ES) 5 micras Filtro de partículas (SE) 5 mikron Partikelfilter	P31KA00ESE	P32KA00ESE	P33KA00ESE
(UK) 1 micron Coalescing Filter (CN) 1 微米 絵结式过滤 (FR) 1 microns Filtre coalescent (DE) 1 µ Sinterfilter (IT) 1 micron Filtro a coalescenza (JA) 1 ミクロン コアレッシングフィルタ (KR) 1 마이크론 콜렉싱 필터 (ES) 1 micras Filtro coalescente (SE) 1 mikron Coalescingfilter	P31KA00ES9	P32KA00ES9	P33KA00ES9
(UK) 0.01 micron Coalescing Filter (CN) 0.01 微米 絵结式过滤 (FR) 0.01 microns Filtre coalescent (DE) 0.01 µ Sinterfilter (IT) 0.01 micron Filtro a coalescenza (JP) 0.01 ミクロン コアレッシングフィルタ (KR) 0.01 마이크론 콜렉싱 필터 (ES) 0.01 micras Filtro coalescente (SE) 0.01 mikron Coalescingfilter	P31KA00ESC	P32KA00ESC	P33KA00ESC
(UK) Adsorber Filter (CN) 吸附式过滤 (FR) Filtre adsorbant (DE) Adsorberfilter (IT) Filtro ad assorbimento (JP) アブソーバフィルタ (KR) 흡입재 필터 (ES) Filtro absorbente (SE) Adsorptionsfilter	P31KA00ESA	P32KA00ESA	P33KA00ESA

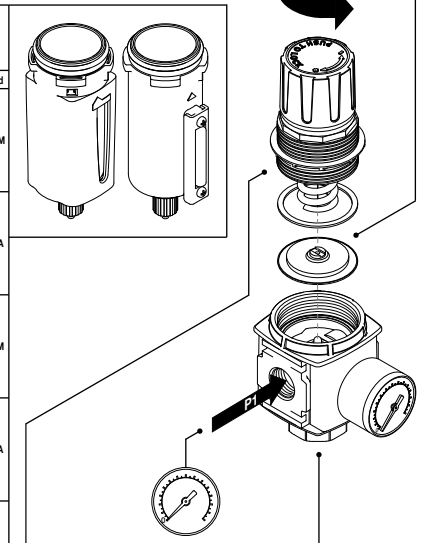
(UK) Regulator + Filter/Regulator Repair Kits (CN) 调压阀+过滤器/调压阀维修包 (FR) Kits de réparation Régulateur + Filtre/Régulateur (DE) Reparatursätze Regler + Filter/Regler (IT) Kit di riparazione regolatore + filtro/regolatore (JP) レギュレータ+フィルタ/レギュレータリペアキット (KR) 레귤레이터/필터-레귤레이터 교환부품 (ES) Juegos de reparación de regulador + filtro/regulador (SE) Regulator + repsats för filter/regulator

	(UK) Relieving (ZH) 溢流型 (FR) Décompression (DE) mit Entlüftung (IT) Con scarico (JA) リリーフタイプ (KO) 릴리프 타입 (ES) Con descarga (SE) Avlastning	(UK) Non-Relieving (ZH) 非溢流型 (FR) Sans décompression (DE) ohne Entlüftung (IT) Senza scarico (JA) ノンリリーフタイプ (KO) 논-릴리프 타입 (ES) Sin descarga (SE) Ingen avlastning
P31 Mini	P31KA00RC	P31KA00RH
P32 Compact	P32KA00RC	P32KA00RH
P33 Standard	P33KA00RC	P33KA00RH



(UK) Bowl/Drain Kits (CN) 水杯/排水包 (FR) Kits cuve/purge (DE) Behälter-/Entleerungssätze (IT) Kit vaschetta/drenaggio (JP) ボウル/ドレンキット (KR) 보울/드레인 킷트 (ES) Juegos de recipiente/drenaje (SE) Kärl/dräneringsatser

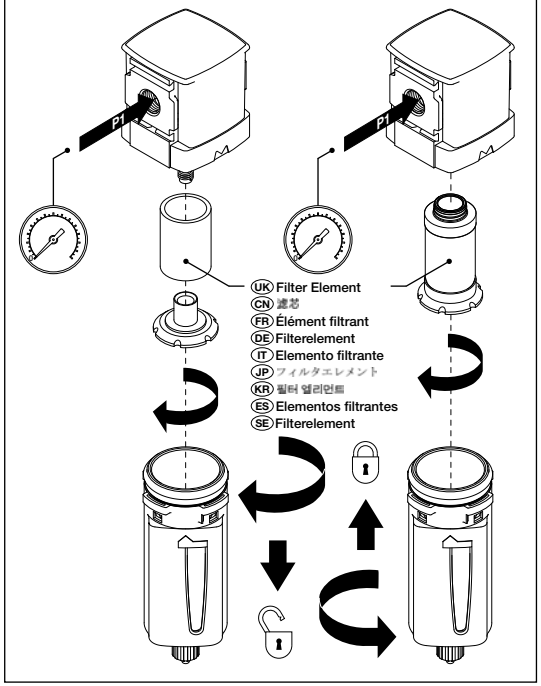
	P31 Mini	P32 Compact	P33 Standard
(UK) Plastic Bowl / Bowl Guard Manual Drain (CN) 塑料水杯 水杯保护装置 手动排水 (FR) Cuve en plastique / Enveloppe protectrice de cuve Purge manuelle (DE) Kunststoffbehälter / Schalenschutz Manuelle Entleerung (IT) Vaschetta in plastica / Protezione vaschetta Drenaggio manuale (JP) プラスチックボウル/ボウルガード マニュアルドレン (KR) 플라스틱 보울/ 보울가이드 수동 드레인 (ES) Recipiente plástico / Protector de recipiente Drenaje manual (SE) Plastkärl / Kärlskydd Manuell dränering	P31KA00BGM	P32KA00BGM	P33KA00BGM
(UK) Plastic Bowl / Bowl Guard Auto Drain (CN) 塑料水杯 水杯保护装置 自动排水 (FR) Cuve en plastique / Enveloppe protectrice de cuve Purge automatique (DE) Kunststoffbehälter / Schalenschutz Automatische Entleerung (IT) Vaschetta in plastica / Protezione vaschetta Drenaggio automatico (JP) プラスチックボウル/ボウルガード オートドレン (KR) 플라스틱 보울/ 보울가이드 자동 드레인 (ES) Recipiente plástico / Protector de recipiente Drenaje automático (SE) Plastkärl / Kärlskydd Automatisk dränering	-	P32KA00BGA	P33KA00BGA
(UK) Metal Bowl / Sight Gauge Manual Drain (CN) 金属水杯 带观测计 手动排水 (FR) Cuve métallique / Visualisation de niveau Purge manuelle (DE) Metallbehälter / Schauglas Manuelle Entleerung (IT) Vaschetta metallica / Indicatore Drenaggio manuale (JP) メタルボウル/レベルゲージ マニュアルドレン (KR) 메탈 보울/ 관측지 수동 드레인 (ES) Recipiente de metal / Mirilla Drenaje manual (SE) Metallkärl / Synglas Manuell dränering	-	P32KA00BSM	P33KA00BSM
(UK) Metal Bowl / Sight Gauge Auto Drain (CN) 金属水杯 带观测计 自动排水 (FR) Cuve métallique / Visualisation de niveau Purge automatique (DE) Metallbehälter / Schauglas Automatische Entleerung (IT) Vaschetta metallica / Indicatore Drenaggio automatico (JP) メタルボウル/レベルゲージ オートドレン (KR) 메탈 보울/ 관측지 자동 드레인 (ES) Recipiente de metal / Mirilla Drenaje automático (SE) Metallkärl / Synglas Automatisk dränering	-	P32KA00BSA	P33KA00BSA
(UK) Plastic Bowl / Bowl Guard No Drain (CN) 塑料水杯 水杯保护装置 无排水 (FR) Cuve en plastique / Enveloppe protectrice de cuve Sans purge (DE) Kunststoffbehälter / Schalenschutz Kein Abfluss (IT) Vaschetta in plastica / Protezione vaschetta Senza drenaggio (JP) プラスチックボウル/ボウルガード ノードレン (KR) 플라스틱 보울/ 보울가이드 드레인 없음 (ES) Recipiente plástico / Protector de recipiente Sin drenaje (SE) Plastkärl / Kärlskydd Ingen dränering	-	P32KA00BGN	P33KA00BGN
(UK) Plastic Bowl / Bowl Guard Pulse Drain (CN) 塑料水杯 水杯保护装置 半自动排水 (FR) Cuve en plastique / Enveloppe protectrice de cuve Purge à impulsions (DE) Kunststoffbehälter / Schalenschutz Impulsentleerung (IT) Vaschetta in plastica / Protezione vaschetta Drenaggio ad impulso (JP) プラスチックボウル/ボウルガード パルスドレン (KR) 플라스틱 보울/ 보울가이드 펄스 드레인 (ES) Recipiente plástico / Protector de recipiente Drenaje pulsado (SE) Plastkärl / Kärlskydd Pulsdränering	P31KA00BGB	-	-
(UK) Metal Bowl / without Sight Gauge Manual Drain (CN) 金属水杯 不带观测计 手动排水 (FR) Cuve métallique / Sans visualisation de niveau Purge manuelle (DE) Metallbehälter / Ohne Schauglas Manuelle Entleerung (IT) Vaschetta metallica / Senza indicatore Drenaggio manuale (JP) メタルボウル/レベルゲージ無し マニュアルドレン (KR) 메탈 보울/ 관측지 없이 수동 드레인 (ES) Recipiente de metal / Sin mirilla Drenaje manual (SE) Metallkärl / Utan synglas Manuell dränering	P31KA00BMM	P32KA00BMM	P33KA00BMM
(UK) Metal Bowl / without Sight Gauge Pulse Drain (CN) 金属水杯 不带观测计 半自动排水 (FR) Cuve métallique / Sans visualisation de niveau Purge à impulsions (DE) Metallbehälter/ Ohne Schauglas Impulsentleerung (IT) Vaschetta metallica / Senza indicatore Drenaggio ad impulso (JP) メタルボウル/レベルゲージ無し パルスドレン (KR) 메탈 보울/ 관측지 없이 펄스 드레인 (ES) Recipiente de metal /Sin mirilla Drenaje pulsado (SE) Metallkärl/ Utan synglas Pulsdränering	P31KA00SGM	-	-
(UK) Auto Drain (CN) 自动排水 (FR) Purge automatique (DE) Automatische Entleerung (IT) Drenaggio automatico (JP) オートドレン (KR) 자동 드레인 (ES) Drenaje automático (SE) Automatisk dränering	-	P32KA00DA	P32KA00DA



(UK) Torque Values (CN) 扭矩值 (FR) Couples (DE) Drehmomentwerte (IT) Coppie di serraggio (JP) 奨励トルク (KR) 조임 토르크 (ES) Valores del par de torsión (SE) Åtdragningsmoment

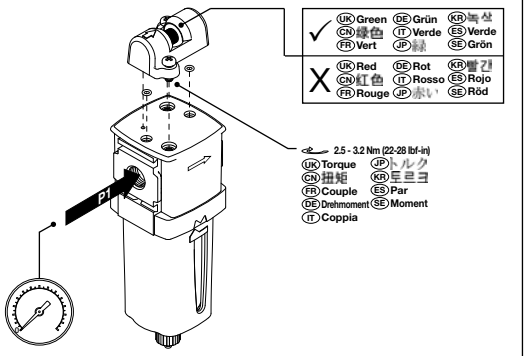
	P31 Mini	P32 Compact	P33 Standard
(UK) Bottom Plug (CN) 底部堵头 (FR) Bouchon de fond (DE) Bodenstopfen (IT) Tappo inferiore (JP) 底プラグ (KR) 하부 플러그 (ES) Tapón de fondo (SE) Bottenplugg	1/4 Turn	6.8 Nm 60 in. lbs.	6.8 Nm 60 in. lbs.
(UK) Bonnet (CN) 调节螺母 (FR) Capotage (DE) Ventilhals (IT) Involucro (JP) 盾 (KR) 본넷 (ES) Caperuza (SE) Bröst	13.6 Nm 120 in. lbs.	54.2 Nm 480 in. lbs.	54.2 Nm 480 in. lbs.

(UK) Filter Element Replacement (JP) フィルタエレメント交換
(CN) 替换滤芯 (KR) 필터 엘리먼트 교환
(DE) Austausch des Filterelements (ES) Recambio del elemento filtrante
(FR) Élément filtrant de remplacement (SE) Utbyteselement
(IT) Elemento filtrante di ricambio



P32 Compact + P33 Standard

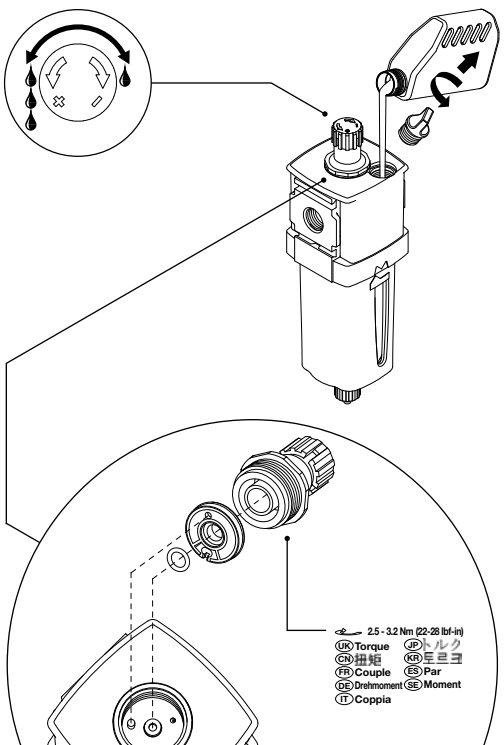
(UK) Filter DPI (DE) Filter DPI (KR) 필터 차압표시기
(CN) 过滤器压差显示器 (IT) FPI per filtro (ES) Filtro DPI
(FR) DPI filtre (JP) まりインジケータ (SE) Dp-indikator



(UK) DPI must be read under flow condition. Replace element when indicator is red under flow.
(CN) 压差指示器必须在有流量的情况下读出
指示器显示红色时替换滤芯
(FR) L'indicateur de différence de pression (DPI) doit être relevé quand l'air circule.
Remplacer l'élément filtrant lorsque l'indicateur est rouge sous le débit.
(DE) Der DPI-Wert ist unter Betriebsbedingungen abzulesen. Das Element austauschen, wenn die Anzeige im Betrieb rot ist.
(IT) Il DPI deve essere misurato sotto portata. Sostituire l'elemento quando l'indicatore è rosso sotto portata.
(JP) DPI は規定値以下にしてください。
表示が赤になり次第エレメントを交換してください。
(KR) DPI(차압표시기)는 에어가 공급되고 있는 상태에서 확인하야주십시요.
DPI(차압표시기)에 적색이 표시되면 필터 엘리먼트를교체하여 주십시요.
(ES) DPI debe ser leído con el caudal activo. Cambiar el elemento cuando el indicador está rojo.
(SE) Difftryckindikatorn skall avläsas i drift. Filtret skall bytas när indikatorn visar rött vid drift.

(UK) DPI Repair Kit	(FR) Kit de réparation d'indicateur de différence de pression	(IT) Kit di riparazione DPI	(ES) Juego de reparación DPI
(CN) 压差指示器维修包	(DE) DPI-Reparatursatz	(JP) DPI リペアキット	(SE) Reparationssats
		(KR) DPI 교환부품	P32KA00DM

(UK) Lubricator (DE) Schmiergerät (KR) 루브리게이터
(CN) 油雾器 (IT) Lubrificatore (ES) Lubricador
(FR) Lubrificateur (JP) ルブリケータ (SE) Dimsmörjare



(UK) Sight Dome Assembly (CN) 视窗安装包 (FR) Dôme de visualisation (DE) Einbau der Sichtkuppel (IT) Gruppo vetro spia (JP) サイトドームアッセンブリ (KR) 관측자 교환부품	(ES) Montaje de mirilla	(SE) Synglas
	(UK) Polycarbonate (CN) 聚碳酸酯 (FR) Polycarbonate (DE) Polycarbonat (IT) Policarbonato (JP) ポリカーボネィ (KR) 폴리카보네이트 (ES) Policarbonato (SE) Polykarbonat	(UK) Nylon (CN) 尼龙 (FR) Nylon (DE) Nylon (IT) Nylon (JP) ナイロン (KR) 나일론 (ES) Nailon (SE) Nylon
P31 Mini	P31KA00PG	P31KA00PH
P32 Compact	P32KA00PG	P32KA00PH
P33 Standard	P32KA00PG	P32KA00PH

(UK) Do not use oils with additives, compounds, oils containing solvents, graphite, detergents or synthetic oils.
(CN) 不能使用含添加剂，混合物，溶解剂，石墨，清洁剂的油或者合成油。
(FR) Ne pas utiliser d'huiles avec des additifs, contenant des solvants, du graphite, des détergents ou de l'huile synthétique.
(DE) Die nicht zusammen mit Additiven, Verbundstoffen lösungsmittelhaltigen Ölsorten, Graphit, Waschmitteln oder Synthetikölen benutzen.
(IT) Non utilizzare oli con additivi, oli compositi contenenti solventi, grafite, detergenti oppure oli sintetici.
(JP) 混合、合成、溶剤、黒鉛、洗浄剤を含んだオイルは使用しないでください。
(KR) 첨가제, 합성유, 세척액과 함께 사용하거나 솔벤트를 함유한 오일과 유사용할유를 사용하지 마십시요
(ES) No usar aceites con aditivos, compuestos, aceites con disolventes, grafito, detergentes ni aceites sintéticos.
(SE) Använd inte olja med tillsatser, kemiska föreningar, olja med lösningsmedel, grafit, rengöringsmedel eller syntetoljor.

(KR) ⚠ 경고

예상하지 못한 인체의 위해나 제품의 치명적인 손상을 미연에 방지하기 위한 목적입니다 :

- 필요에 의해 조립이나 수리 또는 개조를 할 때는 공급전원을 차단하여 주십시요.
- 필요에 의해 조립이나 수리 또는 개조를 할 때는 에어공급을 차단하여 주십시요.
- 동결을 방지하기 위해 완전 건조된 공기를 사용하여 주십시요.
- 동결을 방지하기 위해 완전 건조된 공기를 사용하여 주십시요..
- 수리를 위해 분해를 할 경우 취급설명서에 따라 주십시요..
- 조립이나 수리 또는 개조는 공기압에 대한 충분한 지식과 경험을 가진 사람이 해 주십시요.
- 조립이나 수리 또는 개조 후에는 압축공기와 전기를 접속하여 적절한 기능 검사 및 누설검사를 행해 주십시요. 만약 소리가 들릴 정도의 누설이 발생하거나 기기가 올바르게 작동하지 않는 경우는 사용하지 말고 바르게 조립되어 있는지 확인해 주십시요.
- 제품에 명시된 경고나 사양은 훼손되거나 가려져서는 안됩니다. 만약 불가피한 경우 담당 책임자에게 연락하여 주십시요.

(KR) ⚠ 경고

적절하지 못한 제품의 선정이나 사용으로 치명적인 손상을 주거나 인체에 위해 할 수 있으며 사망에 이를 수도 있습니다.

취급설명서에 게재되어 있는 제품은 사용 조건이 다양하므로 그 시스템에서의 적합성의 결정은 시스템의 설계자 또는 사양을 결정하는 사람이 필요에 따라 분석과 테스트를 행한 후 결정해 주십시요. 이 시스템의 소기 성능, 안전성의 보증은 시스템의 적합성을 결정한 사람의 책임이 됩니다. 앞으로도 최신의 제품 카탈로그와 자료에 따라 모든 사양 내용을 검토하여 기기의 고장 가능성에 대한 상황을 고려하여 시스템을 구성하여 주십시요.
취급설명서에 게재되어 있는 제품의 특성, 사양, 디자인, 성능 그리고 가격은 예고 없이 언제라도 변경될 수 있습니다.

(KR) ⚠ 주의

폴리카보네이트 보울은 투명하고 견고하여 필터나 루브리케이터에 사용하기에 이상적이며 일반 산업용에 적용하기에 적합합니다만 직사광선에 노출되거나 충격이 가해지는 장소와 온도범위를 벗어나는 곳에서의 사용은 피해야 합니다. 대부분의 플라스틱과 같이 일부 화학약품은 제품 손상의 원인이 될 수 있습니다. 폴리카보네이트 보울은 사염화탄소, 케톤, 초산에스테르, 알콜에 노출되어서는 안되며 인산과 같은 내화성 유체로 윤활된 컴프레셔 에어 시스템에서 사용을 피해야 합니다.

메탈 보울은 폴리카보네이트 보울을 적용할 수 없는 환경에 권장됩니다. 메탈 보울은 대부분의 솔벤트에 대해 견딜 수 있지만 강산성이나 염도가 높은 환경은 피해 주십시요. 이런 환경에서 사용할 경우 공장 설비담당자와 권장 사양에 대해 상의하여 주십시요.

폴리카보네이트 보울의 세척은 약 알칼리성 세제나 물을 사용하시고 절대 플라스틱에 손상을 줄 수 있는 아세톤, 벤젠, 카본 염화물, 가솔린, 톨루엔 등은 사용하지 말아 주십시요.

(KR) 안전지침

보다 많은 제품정보와 올바른 취급 사례에 대해서는 공압사업부 카탈로그의 "안전한 사용을 위한 안내"나 Parker 홈페이지에서 자료를 다운 받을 수 있습니다. www.parker.com/safety

(KR) ⚠ 경고

인체에 위해나 제품의 손상을 가져올 수 있는 폴리카보네이트 보울의 파손을 피하기 위해 과도한 압력이나 온도범위에서 사용하지 마십시요.

폴리카보네이트 보울은 150 PSIG (10bar)의 압력범위와 최대 125℉ (52℃)에서 사용 가능합니다.

이 취급설명서를 장비에 첨가하거나 보전 매뉴얼을 위해 복사하여 사용하십시요. 필요한 경우 제품 취급점에 문의해 주십시요.

(ES) ⚠ ADVERTENCIA

Para evitar comportamientos del sistema que puedan causar accidentes y daños materiales:

- **Cuando proceda, desconectar la electricidad antes de la instalación, servicio o modificación.**
- **Desconectar el aire y despresurizar todas las líneas conectadas a este producto antes de la instalación, servicio o modificación.**
- **Trabajar con la presión, temperatura y demás condiciones recomendadas aquí por el fabricante.**
- **El aire no debe ser húmedo si la temp. ambiente es inferior a 0º C.**
- **Servicio según se indicada en estas instrucciones.**
- **La instalación, el servicio y la modificación de estos productos deben ser realizados por personal calificado con conocimientos de los productos neumáticos.**
- **Después de realizada la instalación, el servicio o la modificación, se debe conectar el aire y la electricidad (cuando proceda) y el producto probado para verificar un funcionamiento correcto sin fugas. Si se escucha una fuga o si el producto no funciona normalmente, no incorporar al uso normal.**
- **Las advertencias y especificaciones no deben ser tapadas con pintura o similar. Si no es posible protegerlas, contacte con el representante local para cambiar las etiquetas.**

(ES) ⚠ ADVERTENCIA

LA SELECCIÓN ERRÓNEA O INCORRECTA O EL USO INCORRECTO DE LOS PRODUCTOS Y/O SISTEMAS O DE OBJETOS RELACIONADOS, PUEDE CAUSAR MUERTES, HERIDAS Y AVERÍAS.

Este documento y demás información de La Compañía, sus filiales y distribuidores autorizados ofrece opciones de productos y sistemas para que los usuarios con los conocimientos técnicos necesarios profundicen sus análisis. Es importante que Ud. analice todos los aspectos de su aplicación, inclusive las posibles consecuencias de cualquier fallo y revise la información del producto o sistemas en el catálogo de productos correspondiente. Debido a la variedad de condiciones de funcionamiento y aplicaciones de estos productos y sistemas, el usuario, mediante sus propios análisis y pruebas, es el único responsable de realizar la selección final de los productos y sistemas y de garantizar el rendimiento, la seguridad y las advertencias necesarias de la aplicación.

La Compañía y sus subsidiarias se reservan el derecho de modificar en cualquier momento y sin previo aviso los productos descritos aquí, incluyendo sin limitación sus características y especificaciones, diseños, disponibilidad y precios.

(ES) ⚠ PRECAUCIÓN

Los recipientes de policarbonato, transparentes y robustos, son ideales para el uso con filtros y lubricadores. Son especiales para el uso en entornos industriales pero no deben ser colocados en lugares en que reciban luz solar directa, golpes de aire ni temperaturas fuera del rango estipulado. Como con la mayoría de los plásticos, algunos productos químicos pueden ser nocivos. Los recipientes de policarbonato no deben ser expuestos a hidrocarburos clorinados, ketones (cetonas), ésteres y ciertos alcoholes. No deben ser usados en sistemas de aire donde los compresores son lubricados con fluidos antiinflamables como por ejemplo ésteres de fosfato y diésteres. Usar recipientes de metal cuando las condiciones del entorno o del medio utilizado no sean compatibles con los de policarbonato. Los recipientes de metal resisten a la mayoría de los disolventes, pero no deben ser usados con ácidos ni álcalis fuertes o en atmósferas cargadas de sal. En estas condiciones consulte con la fábrica para recomendaciones especiales.

¡PARA LIMPIAR RECIPIENTES DE POLICARBONATO USAR SOLAMENTE AGUA Y JABÓN SUAVE! NO USAR agentes limpiadores como acetona, benceno, tetracloruro de carbono, gasolina, tolueno, etc. que afectan este plástico.

(ES) Guía de Seguridad

Para una información más detallada consultar la sección Guía de Seguridad de los catálogos de la Pneumatic Division o descargue la guía desde: www.parker.com/safety

(ES) ⚠ ADVERTENCIA

Evite la rotura de los recipientes de policarbonato que pueden causar heridas o averías respetando los límites de presión y temperatura. Los recipientes de policarbonato tienen un límite de presión de 10 bar (150 PSIG) y de temperatura de 52°C (125°F)

SE PUEDEN OBTENER COPIAS EXTRAS DE ESTAS INSTRUCCIONES PARA ADJUNTAR AL EQUIPO Y/O MANUALES DE MANTENIMIENTO QUE UTILIZAN ESTOS PRODUCTOS. TOME CONTACTO CON EL REPRESENTANTE LOCAL.

(SE) ⚠ VARNING!

Undvika oförutsett systembeteende som kan leda till person- och sakskada:

- **Koppla vid behov ur strömförsörjningen innan installations-, service- eller ombyggnadsarbete påbörjas.**
- **Koppla ur tryckluftförsörjningen och tryckavlasta alla luftledningar som är anslutna till den här produkten innan installations-, service- eller ombyggnadsarbete påbörjas.**
- **Se till att tillverkarens föreskrivna tryck, temperatur och andra förhållanden som definieras i de här instruktionerna följs.**
- **Mediet måste vara fuktfritt om omgivningstemperaturen är lägre än noll grader.**
- **Service skall utföras på det sätt som beskrivs i de här instruktionerna.**
- **Installation, service och ombyggnad av dessa produkter skall utförs av kunnig personal som förstår hur pneumatiska produkter används.**
- **När installations-, service- eller ombyggnadsarbetet är klart skall tryckluft- och strömförsörjning (när sådan krävs) kopplas in och produkten funktionsprovas och läcksökas. Produkten får inte tas i drift vid hörbart läckage eller om den inte fungerar korrekt.**
- **Varningar och specifikationer på produkten får inte målas över. Om det inte är möjligt att maskera sådan märkning vid målning, bör du kontakta vår lokale representant för att få nya skyltar.**

(SE) ⚠ VARNING!

FELAKTIGT ELLER OLÄMPLIGT VAL OCH OLÄMPLIG ANVÄNDNING AV PRODUKTER OCH/ELLER SYSTEM SOM BESKRIVS HÄRI ELLER AV KRINGUTRUSTNING, KAN ORSAKA PERSON- OCH SAKSKADA OCH T O M DÖDSFALL.

Detta dokument och annan information från företaget, dess dotterbolag och auktoriserade återförsäljare innehåller förslag på produkter och system, för närmare analys av användare med tekniska specialkunskaper. Det är viktigt att analysera alla aspekter på din applikation, inklusive konsekvenserna av ett maskinfel, och noggrant läsa informationen om produkten eller systemet i aktuell produktkatalog. Beroende på de olika driftförhållandena och tillämpningarnaför dessa produkter och system, så ansvarar användaren helt själv, genom egna analyser och provning, för det slutgiltiga valet av system och komponenter, och för att förvissa sig om att uppfylla alla krav på funktion, hållbarhet, underhåll, säkerhet och varningstexter för den avsedda tillämpningen.

De produkter som beskrivs häri, inklusive, dock utan att begränsas därtill, samtliga produktfunktioner, specifikationer och konstruktioner samt alla uppgifter om tillgänglighet och prissättning kan när som helst komma att ändras av företaget eller dess dotterbolag, utan föregående meddelande därom.

(SE) ⚠ OBSERVERA!

Behållare och synglas av polykarbonat, som är både genomskinligt och starkt, är idealiska för användning på filter och dimsmörjare. De är lämpliga för användning i vanlig industrimiljö, men bör inte placeras på platser där de kan utsättas för direkt solljus, slag eller temperaturer utanför föreskrivet temperaturområde. Polykarbonat kan ta skada vid kontakt med vissa kemikalier, precis om de flesta andra plaster. Kärl och synglas av polykarbonat bör inte exponeras för klorerade kolväten, ketoner, estrar eller alkoholer. De bör inte användas i luftsystem där kompressorerna smörjs med brandbeständig vätska, t ex fosfatestrar eller diestrar.

Vi rekommenderar metallkärl när miljön och/eller mediet är sådant att kärl av polykarbonat kan ta skada. Metallkärl klarar de flesta sådana lösningsmedel, men bör inte användas vid förekomst av starka syror eller baser och inte i atmosfär med hög salthalt. Rekommendationer för sådana förhållanden kan fås från fabriken.

ANVÄND BARA MILD TVÅLLÖSNING MED VATTEN VID RENGÖRING AV KÄRL AV POLYKARBONAT! Använd INTE sådana rengöringsmedel som aceton, benzen, koltetraklorid, bensin, toluen eller liknande, som är skadliga för den här typen av plast.

(SE) Säkerhetsguide

I avsnitten om säkerhet i pneumatikdivisionens kataloger hittar du mer information och riktlinjer. Denna information och dessa riktlinjer finns även på vår webbsida på adressen: www.parker.com/safety

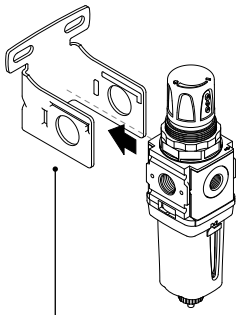
(SE) ⚠ VARNING!

Förhindra polykarbonatkärl att gå sönder och orsaka person- eller sakskada genom att se till att föreskrivna tryck och temperaturer inte överskrids. Polykarbonatkärl är tryckklassade för 10 bar och en maxtemperatur på 52 °C.

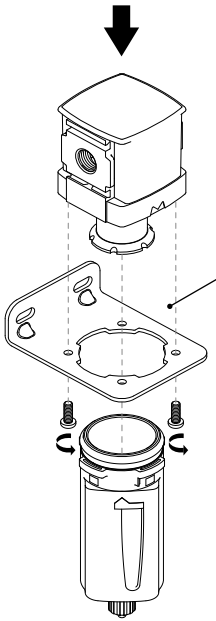
DESSA INSTRUKTIONER KAN FÅS I SÄRTRYCK, FÖR ATT BIFOGAS DRIFT- OCH UNDERHÅLLSINSTRUKTIONER. KONTAKTA I SÅ FALL DIN LOKALE PARKERREPRESENTANT.

(UK) Product Connection + Mounting (FR) Raccordement + Montage du produit (IT) Collegamento e montaggio del prodotto (KR) 제품의 조합과 취부 (SE) Montering och inkoppling
(CN) 产品接头+安装 (DE) Produktanschluss und -einbau (JP) 機器の接合＋取り付け (ES) Montaje y conexión del producto

(UK) Individual Product Brackets (JP) 機器個別ブラケット
(CN) 单个产品支架 (KR) 유니트 개별 취부 브라켓
(FR) Éléments de fixation pour produits isolés (ES) Sujeciones producto individual
(IT) Staffe separate (SE) Separata klammor
(DE) Spezielle Produkthalterungen



P31 Mini
(UK) Mounting Bracket (CN) 安装支架 (FR) Console (DE) Einbauhalterung (IT) Staffa di montaggio (JP) 取り付けブラケット (KR) ㄷ형 취부 브라켓 (ES) Sujeción de montaje (SE) Monteringskonsol
P31KA00MW



(UK) L-Bracket (CN) 角架 (FR) Équerre (DE) Winkelhalterung (IT) Staffa angolare (JP) 角ブラケット (KR) L 형 취부 브라켓 (ES) Sujeción angulada (SE) Vinkelklamma	
P32 Compact	P32KA00ML
P33 Standard	P33KA00ML

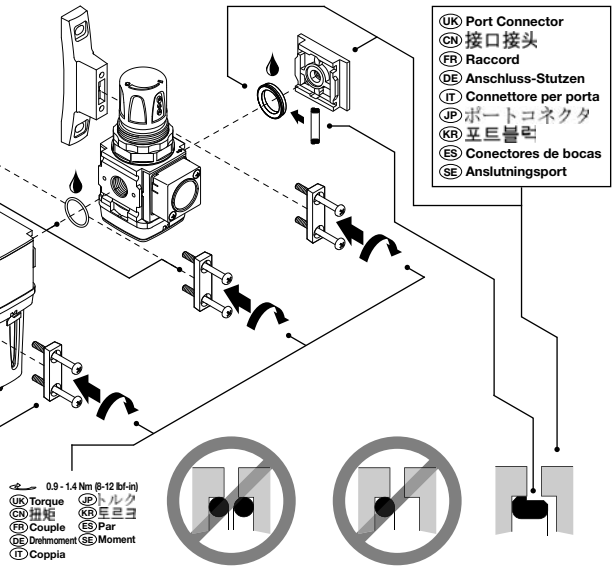
P31 Mini

(UK) Body Connector (CN) 主体接头 (FR) Élément de liaison (DE) Gehäusestecker (IT) Connettore del corpo	(JP) ボディコネクタ (KR) 바디 컨넥터 (ES) Conector de cuerpo (SE) Husanslutning
P31KA00CB	

(UK) Body Connector + Wall Mounting Bracket (CN) 主体接头＋墙壁安装支架 (FR) Élément de liaison + Équerre de fixation murale (DE) Gehäusestecker und Wandhalterung (IT) Connettore del corpo + staffa di montaggio a muro (JP) ボディコネクタ＋壁取り付けブラケット (KR) 바디 컨넥터＋취부 브라켓 (ES) Conector de cuerpo + Sujeción de muro (SE) Husanslutning + väggfäste
P31KA00MT

(UK) Port Connector (CN) 接口接头 (FR) Raccord (DE) Anschluss-Stutzen (IT) Connettore per porta (JP) ポートコネクタ (KR) 포트블럭 (ES) Conectores de bocas (SE) Anslutningsport

(UK) Port Connector (CN) 接口接头 (FR) Raccord (DE) Anschluss-Stutzen (IT) Connettore per porta (JP) ポートコネクタ (KR) 포트블럭 (ES) Conectores de bocas (SE) Anslutningsport



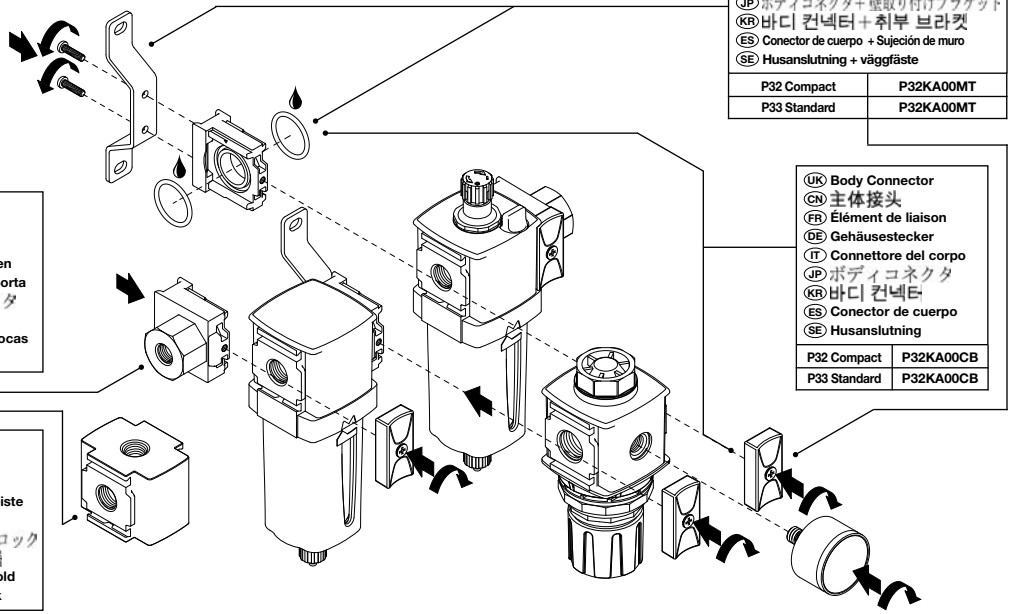
P32 Compact + P33 Standard

(UK) Body Connector + Wall Mounting Bracket (CN) 主体接头＋墙壁安装支架 (FR) Élément de liaison + Équerre de fixation murale (DE) Gehäusestecker und Wandhalterung (IT) Connettore del corpo + staffa di montaggio a muro (JP) ボディコネクタ＋壁取り付けブラケット (KR) 바디 컨넥터＋취부 브라켓 (ES) Conector de cuerpo + Sujeción de muro (SE) Husanslutning + väggfäste	
P32 Compact	P32KA00MT
P33 Standard	P32KA00MT

(UK) Body Connector (CN) 主体接头 (FR) Élément de liaison (DE) Gehäusestecker (IT) Connettore del corpo (JP) ボディコネクタ (KR) 바디 컨넥터 (ES) Conector de cuerpo (SE) Husanslutning	
P32 Compact	P32KA00CB
P33 Standard	P32KA00CB

(UK) Port Connector (CN) 接口接头 (FR) Raccord (DE) Anschluss-Stutzen (IT) Connettore per porta (JP) ポートコネクタ (KR) 포트블럭 (ES) Conectores de bocas (SE) Anslutningsport

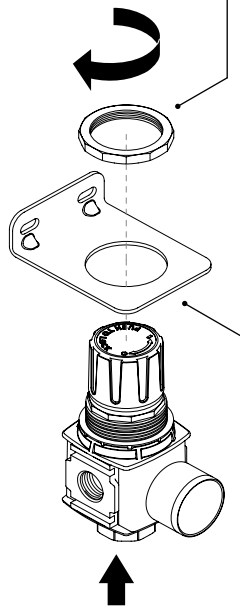
(UK) Manifold Block (CN) 分气块 (FR) Bloc d'ilots (DE) Sammelsystemleiste (IT) Blocco manifold (JP) マニホールドブロック (KR) 매니폴드 블록 (ES) Bloque de manifold (SE) Anslutningsblock



(UK) Regulator + Filter/Regulator Angle Bracket
(CN) 调压阀+过滤器/调压阀角架
(FR) Équerre pour Régulateur + Filtre/Régulateur
(DE) Winkelhalterung für Regler + Filter/Regler
(IT) Staffa angolare per regolatore + filtro/regolatore
(JP) レギュレータ＋フィルタ/レギュレータ角ブラケット
(KR) 레귤레이터＋필터-레귤레이터 개별 취부 브라켓
(ES) Sujeción angulada Regulador + Filtro/Regulador
(SE) Regulator + vinkelklamma för filter/regulator

(UK) Panel Mounting Ring (JP) パネル取り付けリング
(CN) 面板安装螺母 (KR) 판넬 마운팅 넛트
(FR) Écrou pour montage sur panneau (ES) Aro de montaje en panel
(DE) Schalttafel-Schraubring (SE) Ring för panelmontering
(IT) Anello di montaggio su pannello

	(UK) Plastic Nut (CN) 塑料螺母 (FR) Écrou en plastique (DE) Kunststoffmutter (IT) Dado in plastica (JP) プラスチックナット (KR) 플라스틱 넛트 (ES) Tuerca plástica (SE) Plastmutter	(UK) Metal Nut (CN) 金属螺母 (FR) Écrou métallique (DE) Metallmutter (IT) Dado in metallo (JP) メタルナット (KR) 네탈 넛트 (ES) Tuerca metálica (SE) Metallmutter
P31 Mini	P31KA00MP	P31KA00MM
P32 Compact	P32KA00MP	P32KA00MM
P33 Standard	P33KA00MP	P33KA00MM



(UK) Angle Bracket (CN) 角架 (FR) Équerre (DE) Winkelhalterung (IT) Staffa angolare (JP) 角ブラケット (KR) L 형 취부 브라켓 (ES) Sujeción angulada (SE) Vinkelklamma	
P31 Mini	P31KA00MR
P32 Compact	P32KA00MR
P33 Standard	P33KA00MR

Pneumatic Division
Richland, Michigan 49083
269-629-5000

Installation & Service Instructions
IS-F700C (06-08)

3/4" and 1" High Efficiency Compressed Air Filters (Coalescing, Particulate, Adsorber)

ISSUED: November, 2005

Doc. #ISF700C0608, ECN #051180, Rev. 1

⚠ WARNING

To avoid unpredictable system behavior that can cause personal injury and property damage:

- **Disconnect electrical supply (when necessary) before installation, servicing, or conversion.**
- **Disconnect air supply and depressurize all air lines connected to this product before installation, servicing, or conversion.**
- **Operate within the manufacturer's specified pressure, temperature, and other conditions listed in these instructions.**
- **Medium must be moisture-free if ambient temperature is below freezing.**
- **Service according to procedures listed in these instructions.**
- **Installation, service, and conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.**
- **After installation, servicing, or conversion, air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or the product does not operate properly, do not put into use.**
- **Warnings and specifications on the product should not be covered by paint, etc. If masking is not possible, contact your local representative for replacement labels.**

⚠ CAUTION

Polycarbonate bowls, being transparent and tough, are ideal for use with Filters and Lubricators. They are suitable for use in normal industrial environments, but should not be located in areas where they could be subjected to direct sunlight, an impact blow, nor temperatures outside of the rated range. As with most plastics, some chemicals can cause damage. Polycarbonate bowls should not be exposed to chlorinated hydrocarbons, ketones, esters and certain alcohols. They should not be used in air systems where compressors are lubricated with fire-resistant fluids such as phosphate ester and di-ester types.

Metal bowls are recommended where ambient and/or media conditions are not compatible with polycarbonate bowls. Metal bowls resist the action of most such solvents, but should not be used where strong acids or bases are present or in salt laden atmospheres. Consult the factory for specific recommendations where these conditions exist.

TO CLEAN POLYCARBONATE BOWLS USE MILD SOAP AND WATER ONLY! DO NOT use cleansing agents such as acetone, benzene, carbon tetrachloride, gasoline, toluene, etc., which are damaging to this plastic.

Bowl guards are recommended for added protection of polycarbonate bowls where chemical attack may occur.

Introduction

Follow these instructions when installing, operating, or servicing the product.

Application Limits

These products are intended for use with compressed air in industrial applications. For other applications, consult factory before use.

Maximum Recommended Pressure Drop:

	kPa	PSIG	bar
Coalescing Filter	70	10	0.7

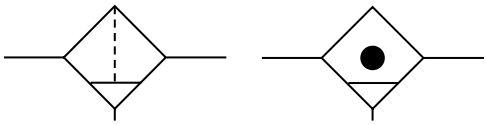
Operating Pressure:

	kPa	PSIG	bar
Maximum Inlet Pressure	2068	300	21.0

Operating Temperature Range: 4°C to 82°C (40°F to 180°F)

Internal Auto Drain Option limits temperature to a maximum of 52°C (125°F).

ANSI Symbols



Filter w/Manual Drain | **Coalescing w/ Manual Drain**

Installation

Proper installation of a filter in a compressed air system can have a considerable effect on the cost and efficiency of the filter. It is highly recommended that a particulate filter be installed upstream of the coalescing filter to remove 40 micron and larger size particles and separate large droplets of moisture from the air line. All filters must be installed with the bowl in a vertical orientation. The correct passage of air through a coalescing filter is for the air to flow from the inside of the element to the outside. The correct passage of air through a particulate or adsorber filter is for the air to flow from the outside of the element to the inside.

Maintenance

Never let the liquid level in bowl reach the base of the filter element. Because of the high degree of water and oil removal efficiency of high efficiency compressed air filters, it is recommended that an SA702MD internal automatic drain, external automatic drain, or electronic drain be used to automatically drain the bowl.

Differential Pressure Indicator Option

The differential pressure indicator option available on this unit is designed to provide early detection of a clogged, coalescing filter element. As the filter element becomes clogged, the red indicator will start to rise while air is flowing through the unit. When the pressure drop across the element reaches 10 to 12 PSI, 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 can be costly, both in terms of reduced air quality due to contaminant reentrainment and the power cost associated with forcing compressed air through an obstructed filter.

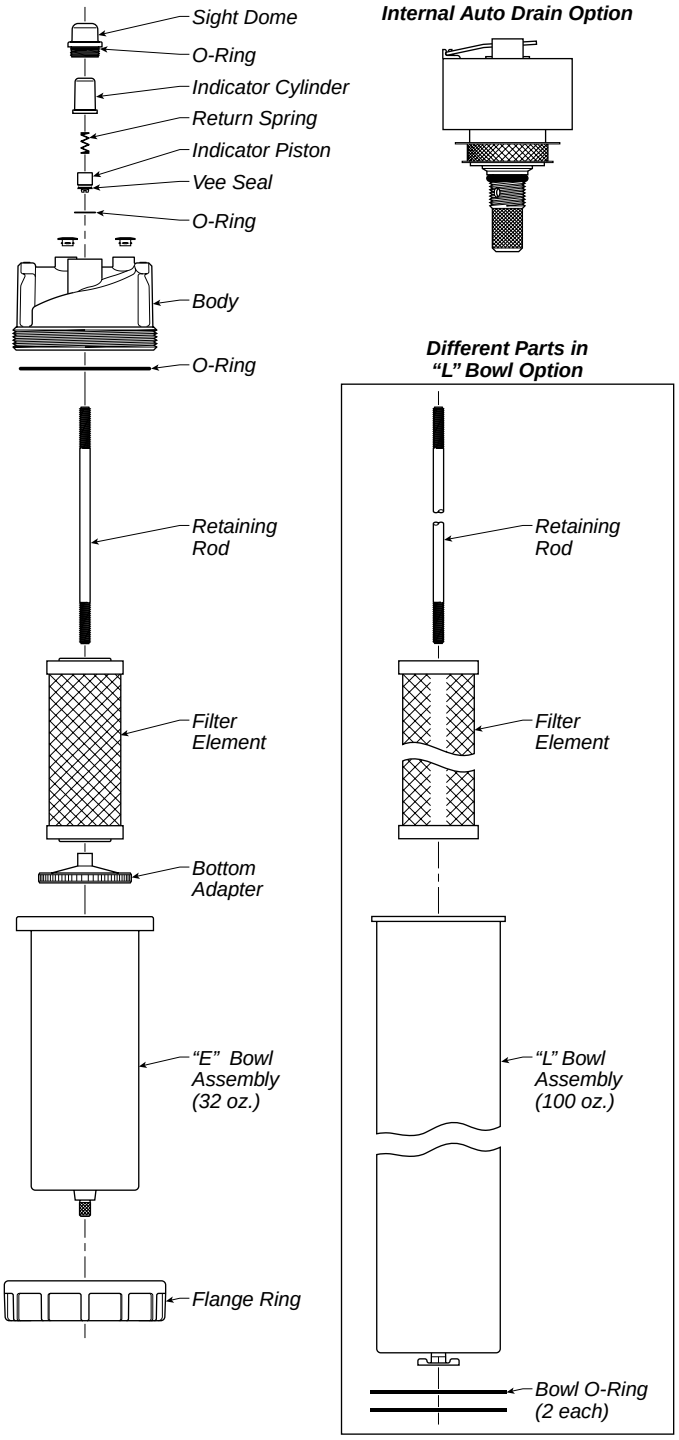
Note: The Differential Pressure Pop-Up Indicator Option is only designed to be used with coalescing filter elements.

Draining Instructions

To drain, turn drain cock on bottom of bowl clockwise (from bottom). When all liquid is drained, turn drain cock counterclockwise (from bottom) to re-seal.

Filter Element Replacement

To replace the filter element, relieve all air pressure from the filter. Unscrew flange ring (counterclockwise from bottom) and remove bowl. Remove the bottom adapter and the filter element. To reassemble, install element, bottom adapter, bowl, and flange ring.



Internal Auto Drain Option

If your filter is equipped with an internal automatic drain, it is designed to automatically drain any liquid that accumulates in the bottom of the bowl. However, the bowl may be drained manually by turning the drain cock clockwise (from bottom). If the auto drain is not functioning properly, remove the auto drain assembly from the filter bowl and clean the screen. Disassemble the lever actuation mechanism by snapping the lever out of the plastic retainer on the float and remove the pin. Remove the disc and float. Carefully break away the interface fit between the plastic housing and the brass body, and remove the piston and spring. Clean all parts thoroughly with soapy water or alcohol, and clean or replace all seals as necessary. Ensure that the small orifices in the housing and the piston are not clogged. Carefully reassemble all parts.

Service Kits / Parts Available

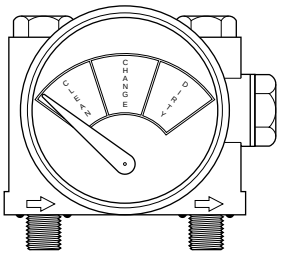
Description	Part Number
Bowl Kit	
"E" - Aluminum Bowl, 300 PSI Maximum Pressure	BK603B
"L" - Aluminum Bowl, 300 PSI Maximum Pressure	BK603C
Replacement Element Kits	
Particulate Filters with 0.9 Micron Element	
F702-06 with E Bowl (133 SCFM)	F702-P9-0773
F702-08 with E Bowl (167 SCFM)	F702-P9-0773
F702-08 with L Bowl (242 SCFM)	F702-P9-0774
Coalescing Filters with 0.7 Micron Element	
F701-06 with E Bowl (112 SCFM)	F701-C7-0773
F701-08 with E Bowl (140 SCFM)	F701-C7-0773
F701-08 with L Bowl (200 SCFM)	F701-C7-0774
Coalescing Filters with 0.3 Micron Element	
F701-06 with E Bowl (80 SCFM)	F701-C3-0773
F701-08 with E Bowl (100 SCFM)	F701-C3-0773
F701-08 with L Bowl (145 SCFM)	F701-C3-0774
Charcoal Adsorber Element	
F702-06 with E Bowl (80 SCFM)	F702-OA-0773
F702-08 with E Bowl (100 SCFM)	F702-OA-0773
F702-08 with L Bowl (145 SCFM)	F702-OA-0774
Manual Drain	
"E" Bowl	SA600Y7-1
"L" Bowl	SA600Y7
Pop-Up Indicator Repair Kit (Sight Dome, Indicator Cylinder, Vee Seal, Return Spring, Indicator Piston, O-Rings)	RK701P
Plug and O-Ring Assembly (For Units Wwithout Pop-Up indicator)	SA508Y4
Repair Kit for All Internal Auto Drains	RK602MD/M4

Accessories

Description	Part Number	Bowl Type
Internal Automatic Drain		
"T" Option, 250 PSI Max. Pressure	SA702MD	All
"R" Option, 175 PSI Max. Pressure	SA602MD	All
Mounting Bracket		
3/4" Port Size	SA200AW57	—
1" Port Size	SA200CW57	

Optional Differential Pressure Gauge DP276-P

This gauge is available as an accessory to the F700 High Efficiency Filter series to aid in monitoring the condition of either a Particulate, Coalescing, or Adsorbing style element. It may be used on all filters not equipped with a Pop-Up style Differential Pressure Indicator.



⚠ WARNING

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from The Company, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application, including consequences of any failure and review the information concerning the product or systems in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by The Company and its subsidiaries at any time without notice.

EXTRA COPIES OF THESE INSTRUCTIONS ARE AVAILABLE FOR INCLUSION IN EQUIPMENT / MAINTENANCE MANUALS THAT UTILIZE THESE PRODUCTS. CONTACT YOUR LOCAL REPRESENTATIVE.

Pneumatic Division
Richland, Michigan 49083
269-629-5000

PDNSG-1
Pneumatic Division Safety Guide
ISSUED: August 1 , 2006
Supersedes: June 1, 2006

Safety Guide For Selecting And Using Pneumatic Division Products And Related Accessories

⚠ WARNING:

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF PNEUMATIC DIVISION PRODUCTS, ASSEMBLIES OR RELATED ITEMS ("PRODUCTS") CAN CAUSE DEATH, PERSONAL INJURY, AND PROPERTY DAMAGE. POSSIBLE CONSEQUENCES OF FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THESE PRODUCTS INCLUDE BUT ARE NOT LIMITED TO:

- Unintended or mistimed cycling or motion of machine members or failure to cycle
- Work pieces or component parts being thrown off at high speeds.
- Failure of a device to function properly for example, failure to clamp or unclamp an associated item or device.
- Explosion
- Suddenly moving or falling objects.
- Release of toxic or otherwise injurious liquids or gasses.

Before selecting or using any of these Products, it is important that you read and follow the instructions below.

1. GENERAL INSTRUCTIONS

1.1. Scope: This safety guide is designed to cover general guidelines on the installation, use, and maintenance of Pneumatic Division Valves, FRLs (Filters, Pressure Regulators, and Lubricators), Vacuum products and related accessory components.

1.2. Fail-Safe: Valves, FRLs, Vacuum products and their related components can and do fail without warning for many reasons. Design all systems and equipment in a fail-safe mode, so that failure of associated valves, FRLs or Vacuum products will not endanger persons or property.

1.3 Relevant International Standards: For a good guide to the application of a broad spectrum of pneumatic fluid power devices see: ISO 4414:1998, Pneumatic Fluid Power – General Rules Relating to Systems. See www.iso.org for ordering information.

1.4. Distribution: Provide a copy of this safety guide to each person that is responsible for selection, installation, or use of Valves, FRLs or Vacuum products. Do not select, or use Parker valves, FRLs or vacuum products without thoroughly reading and understanding this safety guide as well as the specific Parker publications for the products considered or selected.

1.5. User Responsibility: Due to the wide variety of operating conditions and applications for valves, FRLs, and vacuum products Parker and its distributors do not represent or warrant that any particular valve, FRL or vacuum product is suitable for any specific end use system. This safety guide does not analyze all technical parameters that must be considered in selecting a product. The user, through its own analysis and testing, is solely responsible for:

- Making the final selection of the appropriate valve, FRL, Vacuum component, or accessory.
- Assuring that all user's performance, endurance, maintenance, safety, and warning requirements are met and that the application presents no health or safety hazards.
- Complying with all existing warning labels and / or providing all appropriate health and safety warnings on the equipment on which the valves, FRLs or Vacuum products are used; and,
- Assuring compliance with all applicable government and industry standards.

1.6. Safety Devices: Safety devices should not be removed, or defeated.

1.7. Warning Labels: Warning labels should not be removed, painted over or otherwise obscured.

1.8. Additional Questions: Call the appropriate Parker technical service department if you have any questions or require any additional information. See the Parker publication for the product being considered or used, or call 1-800-CPARKER, or go to www.parker.com, for telephone numbers of the appropriate technical service department.

2. PRODUCT SELECTION INSTRUCTIONS

2.1. Flow Rate: The flow rate requirements of a system are frequently the primary consideration when designing any pneumatic system. System components need to be able to provide adequate flow and pressure for the desired application.

2.2. Pressure Rating: Never exceed the rated pressure of a product. Consult product labeling, Pneumatic Division catalogs or the instruction sheets supplied for maximum pressure ratings.

2.3. Temperature Rating: Never exceed the temperature rating of a product. Excessive heat can shorten the life expectancy of a product and result in complete product failure.

2.4. Environment: Many environmental conditions can affect the integrity and suitability of a product for a given application. Pneumatic Division products are designed for use in general purpose industrial applications. If these products are to be used in unusual circumstances such as direct sunlight and/or corrosive or caustic environments, such use can shorten the useful life and lead to premature failure of a product.

2.5. Lubrication and Compressor Carryover: Some modern synthetic oils can and will attack nitrile seals. If there is any possibility of synthetic oils or greases migrating into the pneumatic components check for compatibility with the seal materials used. Consult the factory or product literature for materials of construction.

2.6. Polycarbonate Bowls and Sight Glasses: To avoid potential polycarbonate bowl failures:

- Do not locate polycarbonate bowls or sight glasses in areas where they could be subject to direct sunlight, impact blow, or temperatures outside of the rated range.
- Do not expose or clean polycarbonate bowls with detergents, chlorinated hydro-carbons, keytones, esters or certain alcohols.
- Do not use polycarbonate bowls or sight glasses in air systems where compressors are lubricated with fire resistant fluids such as phosphate ester and di-ester lubricants.

2.7. Chemical Compatibility: For more information on plastic component chemical compatibility see Pneumatic Division technical bulletins Tec-3, Tec-4, and Tec-5

2.8. Product Rupture: Product rupture can cause death, serious personal injury, and property damage.
- Do not connect pressure regulators or other Pneumatic Division products to bottled gas cylinders.
- Do not exceed the maximum primary pressure rating of any pressure regulator or any system component.
- Consult product labeling or product literature for pressure rating limitations.

3. PRODUCT ASSEMBLY AND INSTALLATION INSTRUCTIONS

3.1. Component Inspection: Prior to assembly or installation a careful examination of the valves, FRLs or vacuum products must be performed. All components must be checked for correct style, size, and catalog number. DO NOT use any component that displays any signs of nonconformance.

3.2. Installation Instructions: Parker published Installation Instructions must be followed for installation of Parker valves, FRLs and vacuum components. These instructions are provided with every Parker valve or FRL sold, or by calling 1-800-CPARKER, or at www.parker.com.

3.3. Air Supply: The air supply or control medium supplied to Valves, FRLs and Vacuum components must be moisture-free if ambient temperature can drop below freezing

4. VALVE AND FRL MAINTENANCE AND REPLACEMENT INSTRUCTIONS

4.1. Maintenance: Even with proper selection and installation, valve, FRL and vacuum products service life may be significantly reduced without a continuing maintenance program. The severity of the application, risk potential from a component failure, and experience with any known failures in the application or in similar applications should determine the frequency of inspections and the servicing or replacement of Pneumatic Division products so that products are replaced before any failure occurs. A maintenance program must be established and followed by the user and, at minimum, must include instructions 4.2 through 4.10.

4.2. Installation and Service Instructions: Before attempting to service or replace any worn or damaged parts consult the appropriate Service Bulletin for the valve or FRL in question for the appropriate practices to service the unit in question. These Service and Installation Instructions are provided with every Parker valve and FRL sold, or are available by calling 1-800-CPARKER, or by accessing the Parker web site at www.parker.com.

4.3. Lockout / Tagout Procedures: Be sure to follow all required lockout and tagout procedures when servicing equipment. For more information see: OSHA Standard – 29 CFR, Part 1910.147, Appendix A, The Control of Hazardous Energy – (Lockout / Tagout)

4.4. Visual Inspection: Any of the following conditions requires immediate system shut down and replacement of worn or damaged components:
- Air leakage: Look and listen to see if there are any signs of visual damage to any of the components in the system. Leakage is an indication of worn or damaged components.
- Damaged or degraded components: Look to see if there are any visible signs of wear or component degradation.
- Kinked, crushed, or damaged hoses. Kinked hoses can result in restricted air flow and lead to unpredictable system behavior.
- Any observed improper system or component function: Immediately shut down the system and correct malfunction.
- Excessive dirt build-up: Dirt and clutter can mask potentially hazardous situations.

Caution: Leak detection solutions should be rinsed off after use.

4.5. Routine Maintenance Issues:
- Remove excessive dirt, grime and clutter from work areas.
- Make sure all required guards and shields are in place.

4.6. Functional Test: Before initiating automatic operation, operate the system manually to make sure all required functions operate properly and safely.

4.7. Service or Replacement Intervals: It is the user's responsibility to establish appropriate service intervals. Valves, FRLs and vacuum products contain components that age, harden, wear, and otherwise deteriorate over time. Environmental conditions can significantly accelerate this process. Valves, FRLs and vacuum components need to be serviced or replaced on routine intervals. Service intervals need to be established based on:
- Previous performance experiences.
- Government and / or industrial standards.
- When failures could result in unacceptable down time, equipment damage or personal injury risk.

4.8. Servicing or Replacing of any Worn or Damaged Parts: To avoid unpredictable system behavior that can cause death, personal injury and property damage:
- Follow all government, state and local safety and servicing practices prior to service including but not limited to all OSHA Lockout Tagout procedures (OSHA Standard – 29 CFR, Part 1910.147, Appendix A, The Control of Hazardous Energy – Lockout / Tagout).
- Disconnect electrical supply (when necessary) before installation, servicing, or conversion.
- Disconnect air supply and depressurize all air lines connected to system and Pneumatic Division products before installation, service, or conversion.
- Installation, servicing, and / or conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.
- After installation, servicing, or conversions air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or if the product does not operate properly, do not put product or system into use.
- Warnings and specifications on the product should not be covered or painted over. If masking is not possible, contact your local representative for replacement labels.

4.9. Putting Serviced System Back into Operation: Follow the guidelines above and all relevant Installation and Maintenance Instructions supplied with the valve FRL or vacuum component to insure proper function of the system.