

## I 100 Series

### Introduction

The Racor I 100 Series features a variety of compact sizes to fit the most cramped engine compartments. All units feature 1/4"-18 NPTF inlet and outlet fuel ports and a unitized mounting bracket (except the I40R which may be hard piped and supported by the piping).

### Elements

All I 100 Series assemblies feature spin-on, high-capacity, Aquabloc®II replaceable filter elements which stop water, remove solid contamination, and are available in 2, 10, and 30 micron (model I 10A is a cartridge element and is available with a 10 micron element only). Filtration needs should be based on application, fuel quality, operating climates, and maintenance schedules.



I 10A



I 20A

### Clear Bowls

All units feature spin-on contaminant collection bowls. The clear bowls used with these models will not discolor from alcohol, additives, or UV light and have a leak-proof, positive seal drain for easy servicing (except the I 10A). Water and contamination levels can be seen easily at a glance.

### Options

I 100 Series optional accessories include: water detection kits, vacuum or compound gauges and metal bowls. Metal bowls should be specified when filtering fuels in hazardous locations where equipment is exposed to flying gravel and debris.



I 20B



I 40R

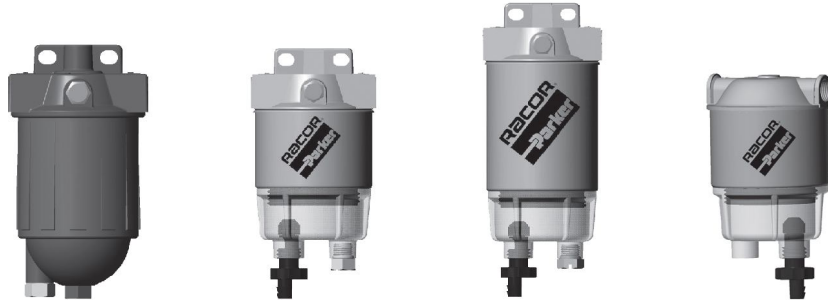


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# Mobile Fuel Filtration

## I 100 Series



Specifications	I 10A	I 20A	I 20B	I 40R
<b>Maximum Flow Rate:</b> (with diesel fuel) (with gasoline)	15 GPH (57 LPH) 35 GPH (132 LPH)	15 GPH (57 LPH) N/A	20 GPH (76 LPH) N/A	15 GPH (57 LPH) N/A
<b>Port Size: (SAE J476)</b>	¼"-18 NPTF	¼"-18 NPTF	¼"-18 NPTF	¼"-18 NPTF
<b>Total Number of Ports:</b> (total inlets) (total outlets)	4 2 2	4 2 2	4 2 2	2 1 1
<b>Minimum Service Clearance</b>	2.0 in. (5.1 cm)	2.0 in. (5.1 cm)	2.0 in. (5.1 cm)	2.0 in. (5.1 cm)
<b>Center Threads</b>	N/A	M18 x 1.5	M18 x 1.5	M18 x 1.5
<b>Height</b>	6.0 in. (15.2 cm)	6.5 in. (16.5 cm)	8.0 (20.3 cm)	6.0 in. (15.2 cm)
<b>Depth</b>	3.3 in. (8.4 cm)	3.2 in. (8.1 cm)	3.2 in. (8.1 cm)	3.2 in. (8.1 cm)
<b>Width</b>	3.2 in. (8.1 cm)	3.2 in. (8.1 cm)	3.2 in. (8.1 cm)	3.2 in. (8.1 cm)
<b>Weight (dry)</b>	1.3 lb (0.59 kg)	1.1 lb (0.50 kg)	1.2 lb (0.54 kg)	1.1 lb (0.50 kg)
<b>Clean Pressure Drop</b>	0.15 PSI (0.01 bar)	0.15 PSI (0.01 bar)	0.15 PSI (0.01 bar)	0.01 PSI (0.0007 bar)
<b>Max. Allowable Pressure<sup>1</sup></b>	100 PSI (6.9 bar)	7.0 PSI (0.48 bar)	7.0 PSI (0.48 bar)	7.0 PSI (0.48 bar)
<b>Available Options:<sup>2</sup></b> (water sensor probe) (heater)	Yes No	Yes No	Yes No	No No
<b>Water in Bowl Capacity</b>	1.2 oz. (36 ml)	1.8 oz. (52 ml)	1.8 oz. (53 ml)	1.8 oz. (53 ml)
<b>H<sub>2</sub>O Removal Efficiency</b>	99%	99%	99%	99%
<b>Operating Temperature</b>	-40° to +255°F (-40° to +123°C)			

**Special Notes:** <sup>1</sup> Pressure installations are applicable up to maximum PSI shown. Vacuum installations are recommended. <sup>2</sup> Not for use with gasoline applications.

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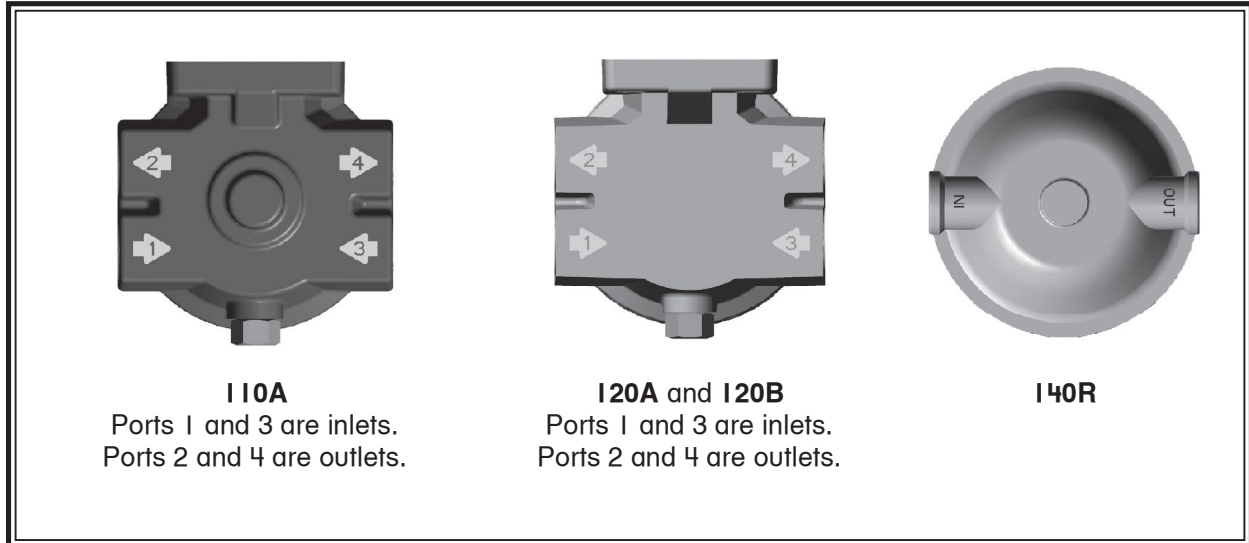
Technical Support:  
800.344.3286 ext. 7555  
racortech@parker.com

# Mobile Fuel Filtration

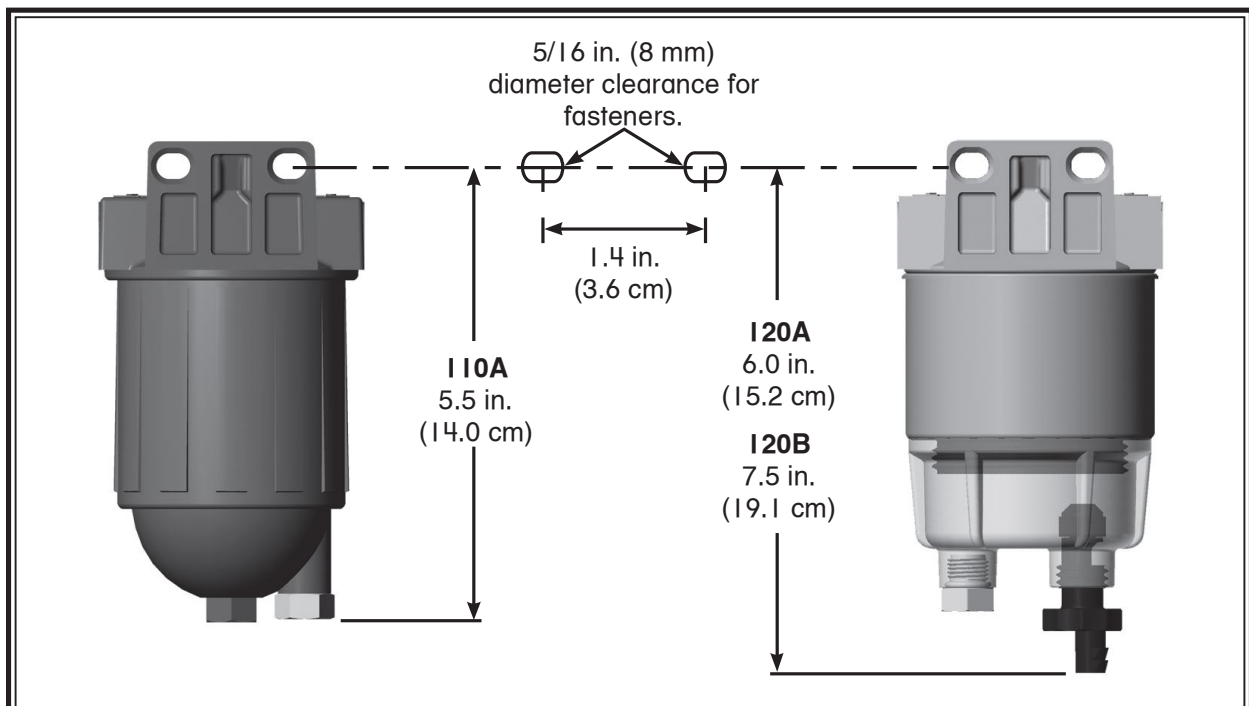
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## I 00 Series

### Top View



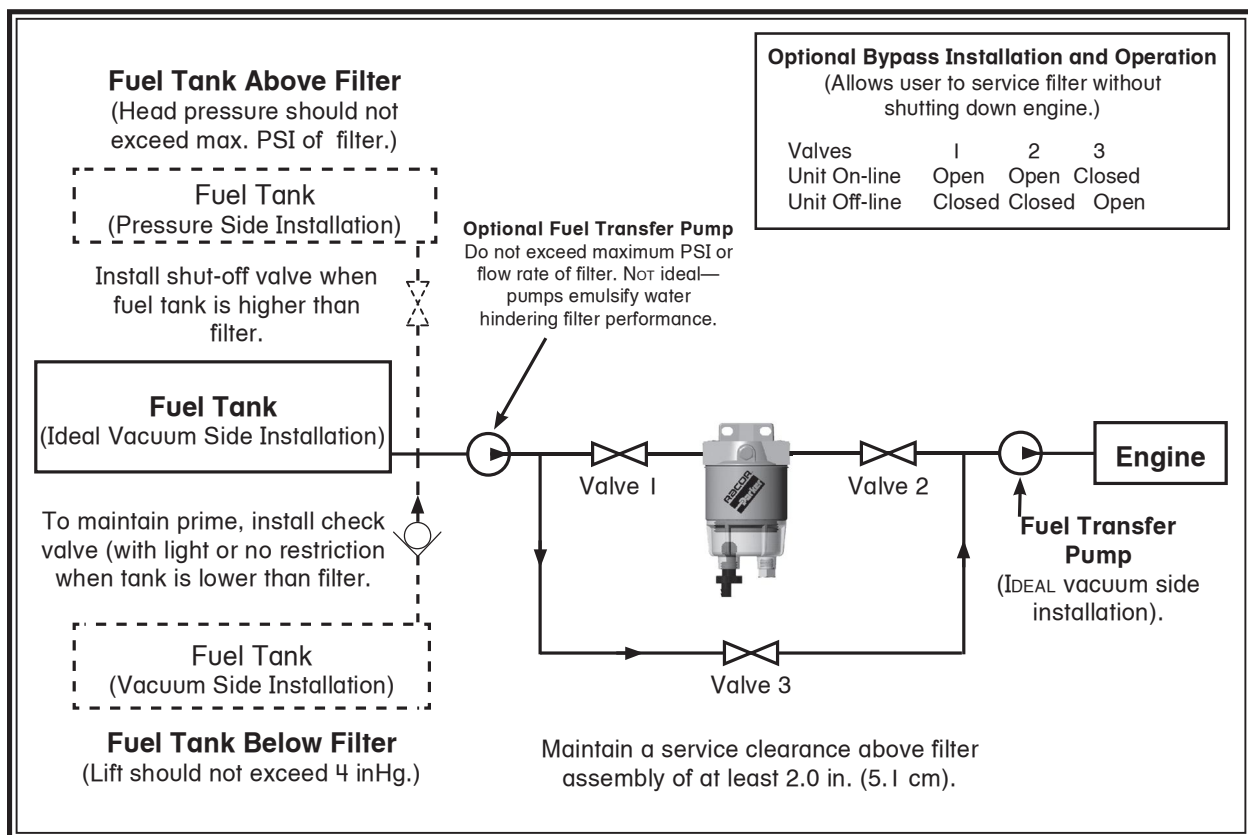
### Back View



# Mobile Fuel Filtration

## 100 Series

### Installation Diagram



Installation diagram applies to all 100 Series filters. Model 120A shown above. Racor offers hose and fittings to complete this installation—see Accessories.

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## I 00 Series

### *Installation*

**Note:** exercise great caution when installing a I 00 Series fuel filter/water separator to avoid a fire hazard. Do not smoke, or allow any open flame or excessive heat which could ignite a fire. Perform installation in a well ventilated area.

Refer to mounting instructions and installation diagram and install as follows:

1. Make sure engine is off and cool to touch.
2. Apply thread sealant to 1/4" NPTF fittings.

**Warning:** do not use thread tape as particles may break off and contribute to clogging element. Also, tape particles on outlet side of filter will jam or foul injectors.

3. Thread fittings into appropriate fuel ports and tighten snugly. Plug unused ports, if any, with port plugs and tighten snugly.
4. Mount filter vertically in a protected area and away from heat sources. Maintain at least 2 in. (5.1 cm) of clearance below filter for servicing.
5. Attach fuel lines to filter. Avoid tight bends and rubbing areas when routing fuel hose.
6. Follow priming instructions on next page.

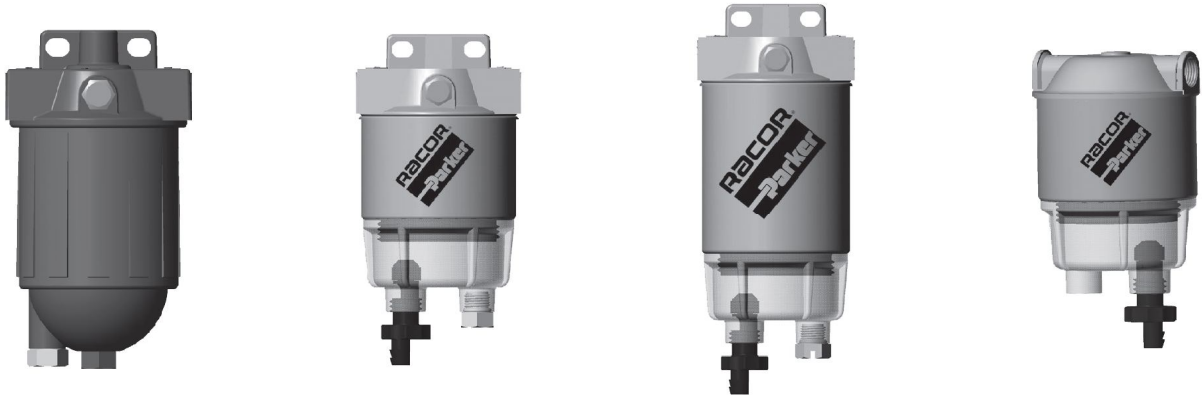
### *Service*

Element replacement frequency is determined by contamination level in fuels. Fuel flow to engine becomes restricted as element gradually plugs with contaminants, resulting in noticeable power loss and/or hard starting. As a guideline, change element every 500 hours, 10,000 miles, every other oil change, annually, or at first indication of power loss, whichever occurs first. Always carry extra replacement elements as one tankful of excessively dirty fuel can quickly plug a filter.

1. Make sure engine is off and cool to touch.
2. Close all fuel valves, if applicable, to ensure excess fuel does not spill during servicing.
3. Open vent plug on mounting head, if applicable.
4. Drain unit of fuel.
5. Remove bowl and element. Dispose of element properly. Bowl is reusable.
6. Lubricate new element seals with motor oil or clean fuel and install new element.
7. Re-install bowl and tighten by hand only - do not use tools.
8. Close vent plug, if applicable and tighten snugly.
9. Open all fuel valves, if applicable.
10. Follow priming instructions on the next page.

# Mobile Fuel Filtration

## I 100 Series



## Draining

Water is heavier than fuel and will settle to bottom of bowl and appear different in color if collected in a clear jar. In high humidity environments, check bowl frequently (daily if a poor fuel source is suspected). I 100 Series bowls are equipped with a water sensor port that accepts a water probe (sold separately) and alerts operator of a high water condition in the filter (except I 40R—no water probe port available).

**Warning! Do NOT use water probe electronics in gasoline applications—an explosion could occur.**

1. Make sure engine is off and cool to touch.
2. Open vent plug, if applicable.
3. Drain water from filter by opening self-venting drain (I 10A users: remove probe plug). Close as soon as all water has evacuated. **Note:** if drain is open too long, the entire filter assembly may drain completely of water *and* fuel.
4. Close and tighten vent plug snugly.
5. Follow priming instructions.

## Priming

1. Remove bowl and element together, and fill with clean fuel.
2. Re-install bowl and element.
3. Verify all other connections are tight.
4. Start engine and check for leaks. Correct as necessary with engine off.

## Trouble Shooting

If a I 100 Series filter fails to hold prime, first check vent plug, drain plug, fittings and head/element/bowl are properly tightened. Next, check fuel line connections and verify that they are free of pinches or unnecessary bends and check to see if fuel tank strainer (or pick-up tube) is clogged. If problems persist and element is new, call Racor Technical Support at 1.800.344.3286 ext. 7555.

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## I 00 Series

# Replacement Parts

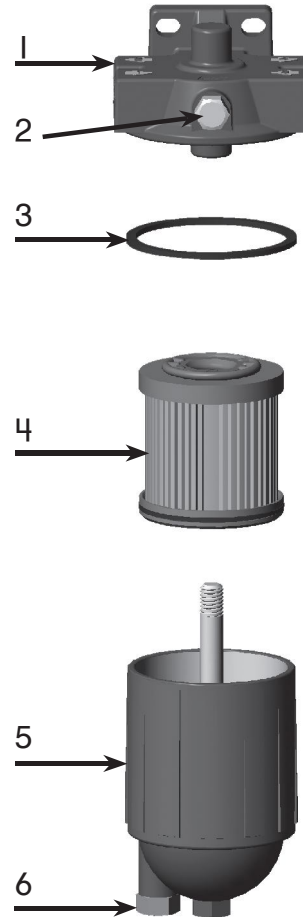
### I 10A

- | Part No.          | Description   |
|-------------------|---|
| 1. <b>RK21361</b> | Head Kit (includes #'s 2 and 3)<br>(1/4"-18 NPTF Ports) |
| 2. <b>RK10110</b> | Metal Vent Plug Kit<br>(3/8"-24 UNF)                    |
| 3. <b>RK21363</b> | Gasket/O-ring Kit                                       |
| 4.                | Replacement Element (includes #3)                       |
| <b>RIIS</b>       | 2 Micron  |
| <b>RIIT</b>       | 10 Micron   |
| 5. <b>RK21364</b> | Housing Kit<br>(includes #'s 5 and 6)                   |
| 6. <b>RK20022</b> | Metal Plug Kit<br>(1/2"-20 UNF)                         |

Additional Parts (not shown)

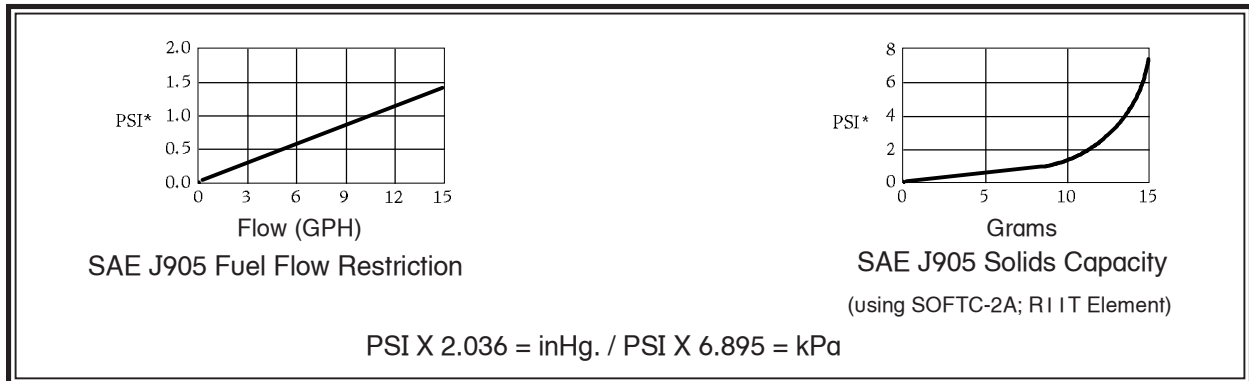
- RK30964**<sup>1</sup> Water Probe
- RK30817** Port Plug Kit  
(2 plugs per kit)
- 21410** Installation Instructions

<sup>1</sup> Do not use on gasoline applications. Water probe must be used with a water detection module—see Accessories.



# Test Data

(Test results are from controlled laboratory testing. Field results may vary.)



# Mobile Fuel Filtration

## I 100 Series

### How To Order

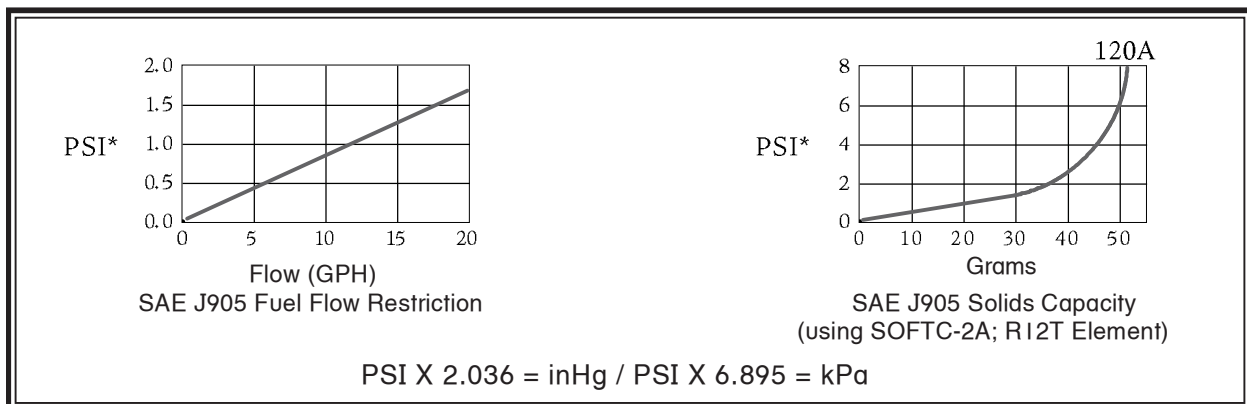
(The example below shows how a part number is constructed.)

I 20A	S
Specify a model: <b>I 20A</b> for 15 GPH (57 LPH) <b>I 20B</b> for 20 GPH (76 LPH)	Specify a micron rating: <b>S</b> for 2 micron <b>T</b> for 10 micron <b>P</b> for 30 micron



I 20B

### Test Data



(Test results are from controlled laboratory testing. Field results may vary.)



## I00 Series

### Replacement Parts

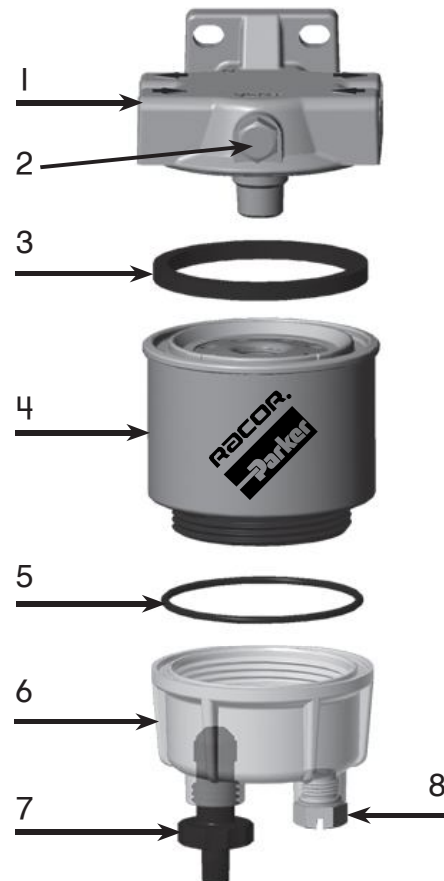
#### I20A and I20B

<u>Part Number</u>	<u>Description</u>
1. <b>RK10214</b>	Mounting Head Kit (1/4"-18 NPTF ports)
2. <b>RK10110</b>	Metal Vent Plug Kit (3/8"-24 SAE threads)
3. <b>RK10503</b>	Head Gasket Kit
4. Replacement Element (includes #'s 3 and 5)	
<b>R12S</b>	I20A: 2 micron
<b>R12T</b>	I20A: 10 micron
<b>R12P</b>	I20A: 30 micron
<b>R13S</b>	I20B: 2 micron
<b>R13T</b>	I20B: 10 micron
<b>R13P</b>	I20B: 30 micron
5. <b>RK10012</b>	Bowl O-ring Kit
6. <b>RK10215</b>	Clear Bowl Kit
7. <b>RK30476</b>	Self-venting Drain Kit
8. <b>RK20126</b>	Plastic Plug Kit (1/2"-20 SAE threads)

#### Additional Parts (not shown)

<b>RK30964<sup>1</sup></b>	Water Probe Kit
<b>RK10109</b>	Metal Bowl Kit
<b>I0219</b>	Installation Instructions

<sup>1</sup> Do not use on gasoline applications. Water probe must be used with a water detection module—see accessories.



# Mobile Fuel Filtration

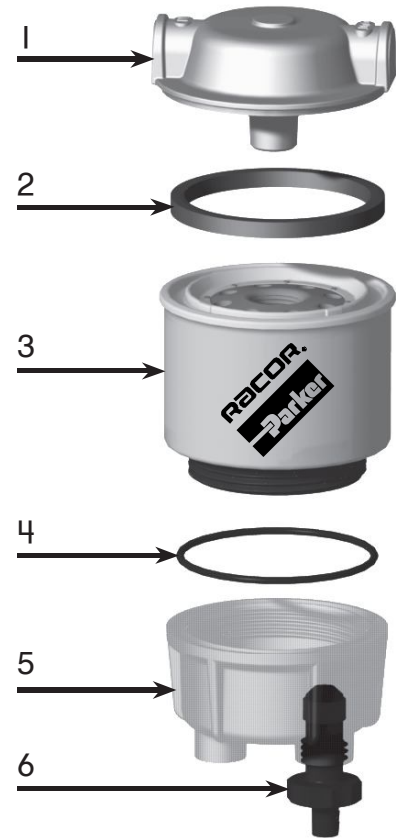
## I00 Series

### Replacement Parts

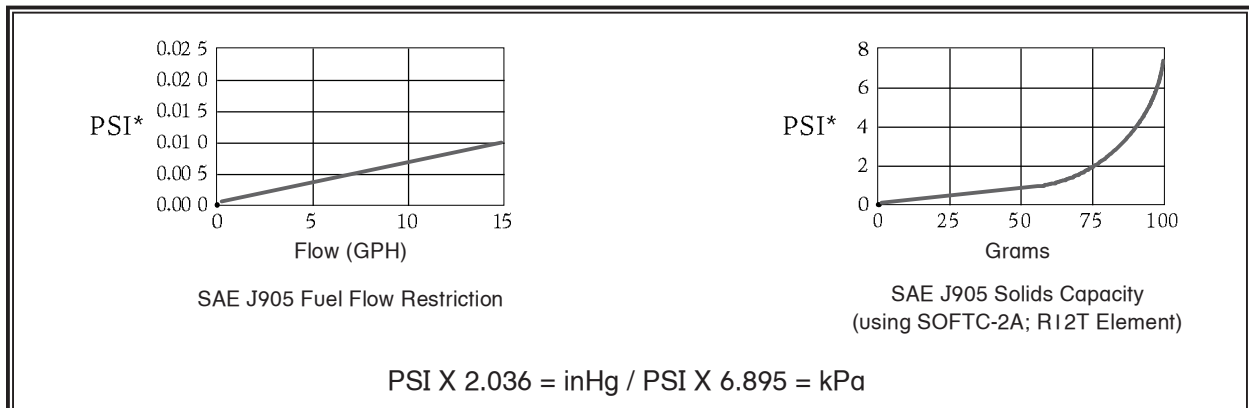
#### I40R

Part Number	Description
1. <b>RK10177</b>	Mounting Head Kit (1/4"-18 NPTF ports)
2. <b>RK10503</b>	Head Gasket Kit
3. Replacement Element (includes #'s 2 and 4)	
<b>R12S</b>	2 micron
<b>R12T</b>	10 micron
<b>R12P</b>	30 micron
4. <b>RK10012</b>	Bowl O-ring Kit
5. <b>RK10215</b>	Clear Bowl with Drain Kit
6. <b>RK30476</b>	Self-venting Drain Kit

Additional Parts (not shown)  
 10192 Installation Instructions



### Test Data



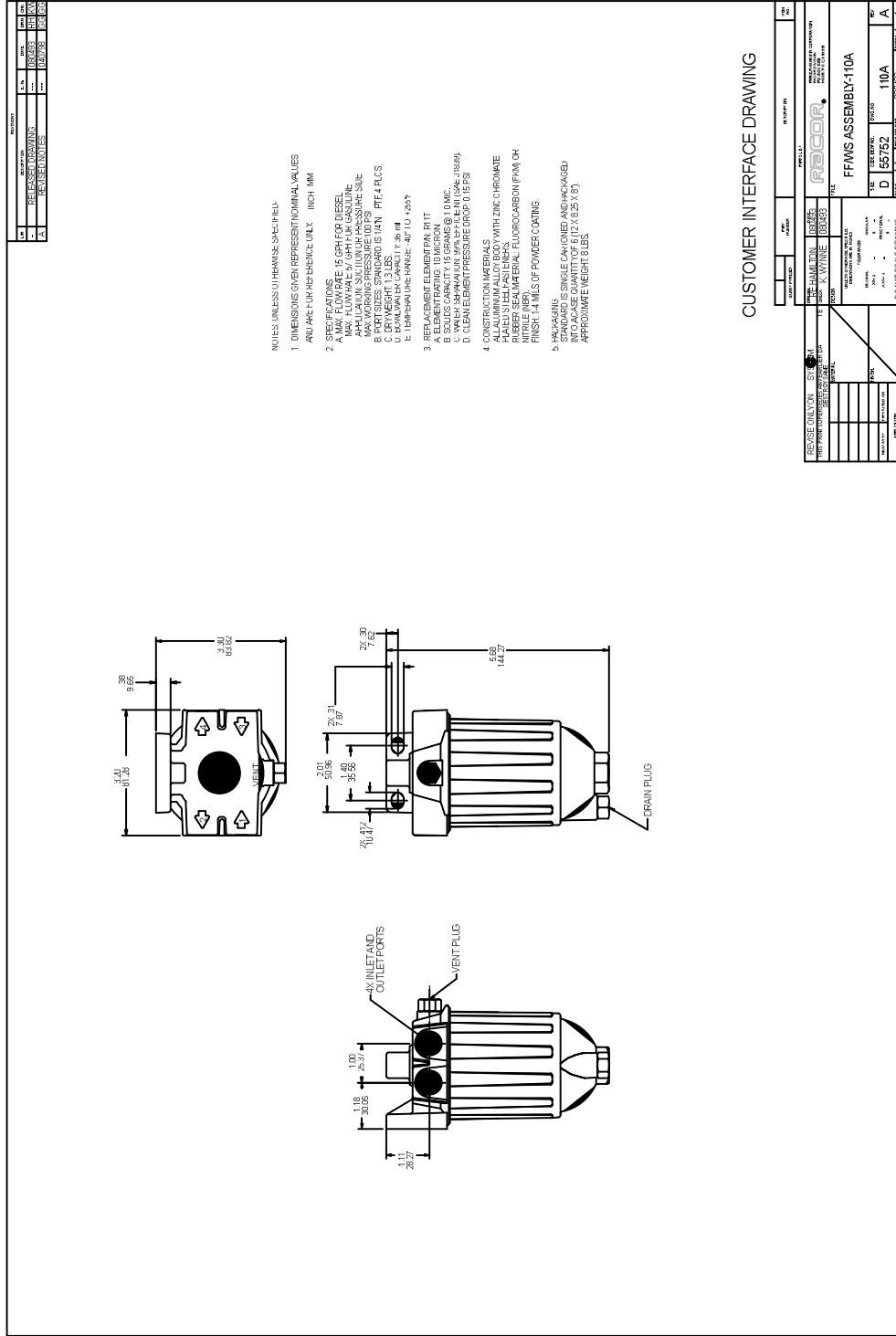
(Test results are from controlled laboratory testing. Field results may vary.)

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# Customer Interface Drawing



## CUSTOMER INTERFACE DRAWING

REV	DATE	BY	CHKD	DESCRIPTION
1	08/26/03	...	...	RELEASED DRAWING
2	08/26/03	...	...	RELEASED NOTES

REV	DATE	BY	CHKD	DESCRIPTION
D	05/752	...	...	FFMS ASSEMBLY-110A
A	110A	...	...	FFMS ASSEMBLY-110A



# Mobile Fuel Filtration