Section: B
Marine Fuel Filtration

aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding

Parker Racor

ENGINEERING YOUR SUCCESS.

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Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

Don't be caught in the water without a quality Racor Marine Accessory. Whether it's hoses, gauges, or electronic water detection systems, Racor offers it all. All accessory parts are engineered to precisely fit and enhance your Racor product. Experienced sailors trust their engines, their livelihood and even their lives to Racor. Shouldn't you?

ABS TYPE APPROVAL PROGRAM

American Bureau of Shipping (ABS), Product Type Approval (Certification #00-SF37508-X)

Diesel Fuel Filter/Water Separators: 500MAM, 900MAM, 1000MAM, 731000MAM, 75500MAXM, 75900MAXM, 751000MAXM, 771000MAM, 791000MAVM, 804MA, 75804MA and 79804MA.

MEMBER ABYC

American Boat and Yacht Council (ABYC), Inc., Individual Standard, H-33 (diesel fuel systems) and H-24 (gasoline fuel systems).

ASTM INTERNATIONAL

American Society for Testing and Materials (ASTM), ASTMF-1201.

NMMA TYPE ACCEPTED

National Marine Manufacturing Association (NMMA), member.

BUREAU VERITAS

Bureau Veritas Marine, Product Type Approval (05634/BXBV)

Racor Fuel Filter/Water Separators: 500MAM, 900MAM, 1000MAM, 731000MAM, 75500MAXM, 75900MAXM, 751000MAXM, 771000MAM, 791000MAVM, 812MA, 75812MA and 79812MA.

UL Recognized Component

Marine Electrical and Fuel Systems

Diesel fuel filter cartridges: B32001M to B32012M, S3201UL to S3212UL and S3234UL.

Gasoline fuel filter cartridges: S3201UL, S3204UL, S3220UL, S3221TUL, S3228TUL, S3232UL, B32020MAM and B32021MAM .

Diesel/Gasoline filter cartridges: R12SUL, S3201UL, S3204UL, R24SUL, R26SUL, R15TUL, R20TUL and R25TUL.

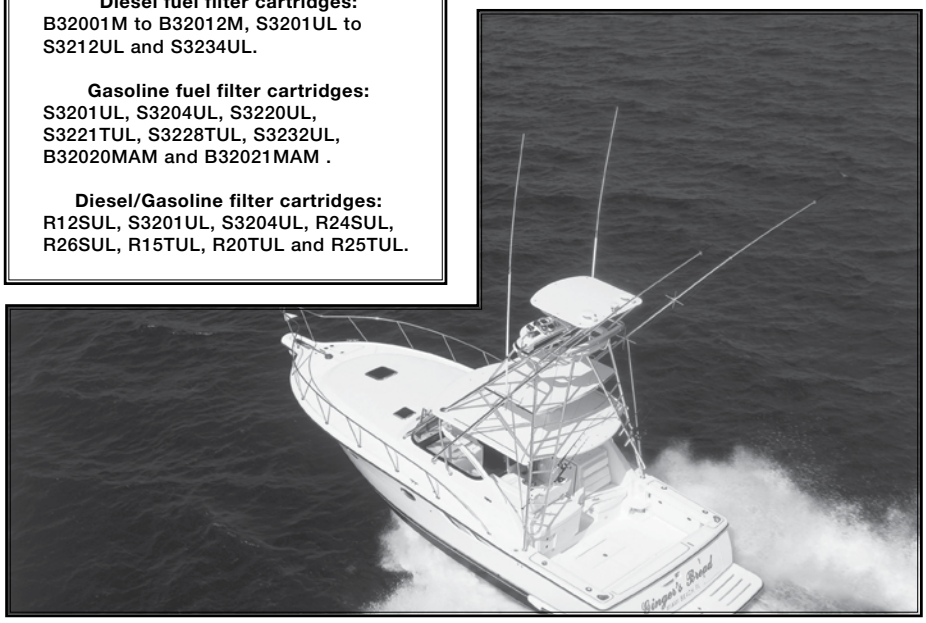
USCG US Coast Guard Approved

United States Coast Guard accepted for use aboard inspected vessels per 33 CFR (Code of Federal Regulations).

500MA, 900MA, 900MAM, 1000MA, 1000MAM, 731000MA, 731000MAM and 771000MA.

MARINE UL LISTED

See next page.



The identities above are part of a Type Approval System and may be applicable to many Racor products. Marine certifications that are specific to certain Racor models are listed below their respective logo and certification number (or program).

Fuel Standards

FBO-14-MA

Underwriters Laboratories (UL), Inc. UL classified for CE systems.
In accordance with ISO 11088.

Diesel fuel filters/water separators:

110, 110A, 120RMAM, 220CMAM, 220RMAM, 225CMAM, 225RMAM, 445MAM, 460MAM, 490MAM, 4120MAM, 500MA, 500MAM, 900MA, 900MAM, 1000MA, 1000MAM, 75900MA, 75900MAM, 75900MAV, 731000MA, 731000MAM, 751000MA, 751000MAM, 751000/MAV, 751000MAVM, 771000MA, 771000MAM, 791000MA, 791000MAM, 791000MAV, 800D-12, 850, 320R-MAM-01, 320R-MAM-04, 75500MAX, 75500MAXM, 75900MAX, 75900MAXM, 751000MAX, 751000MAXM, 215RMAM, 230RMAM and 245RMAM.

Diesel fuel filters/water separators additionally classified in accordance with ISO 10088:

110, 110A, 120RMAM, 220CMAM, 220RMAM, 225CMAM, 225RMAM, 445MAM, 460MAM, 75900MA, 75900MAM, 75900MAV, 731000MA, 731000MAM, 751000MA, 751000MAM, 751000/MAV, 751000MAVM, 751000MAX, 751000MAXM, 771000MA, 771000MAM, 791000MA, 791000MAM, 791000MAV, 800D-12, 850, 320R-MAM-01, 320R-MAM-04, 75500MAX, 75500MAXM, 75900MAX, 75900MAXM, 500MA, 500MAM, 900MA, 900MAM, 1000MA and 1000MAM.

Gasoline fuel filters/water separators:

110, 110A, 120RMAM, 220MAMG, 225MAMG, 500MAM, 900MAM, 1000MAM, 731000MAM, 75900MAM, 751000MAM, 751000MAVM, 771000MAM, 791000MAM, 791000MAVM, 32ORMAM-01, 32ORMAM-04, 320R-RAC-02, 660RRAC02, 75500MAXM, 75900MAXM, 751000MAXM, 3120R-RAC-32 and 120R-RAC-02.
Gasoline fuel filters/water separators additionally classified in accordance with ISO 10088:

110, 110A, 120RMAM, 220MAMG, 225MAMG, 500MAM, 900MAM, 1000MAM, 731000MAM, 75900MAM, 751000MAM, 751000MAVM, 771000MAM, 791000MAM, 32ORMAM-01, 32ORMAM-04, 320R-RAC-02, 660RRAC02, 75500MAXM, 75900MA, 75900MAXM, 751000MAXM and 791000MAVM.

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025-RAC

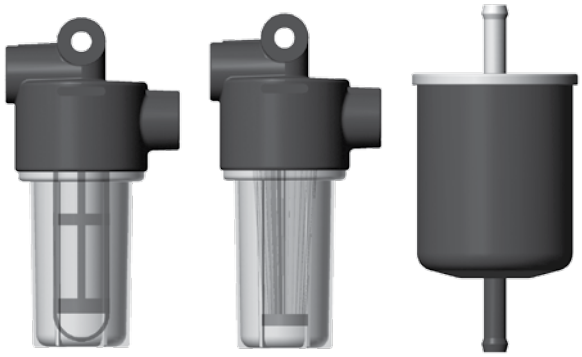
The 025-RAC In-line Gasoline Filter Series keeps your fuel clean and dry, because having grime and water in your fuel spells disaster. More than ever, today's high performance gasoline engines require clean, dry fuel. Standard fuel filters simply succumb from normal usage, and don't offer the improved features, durability and peace-of-mind that comes with Racor fuel filters. Experienced sailors trust their engines, their livelihood, and even their lives to Racor's high quality marine products. Shouldn't you?

Features and Benefits

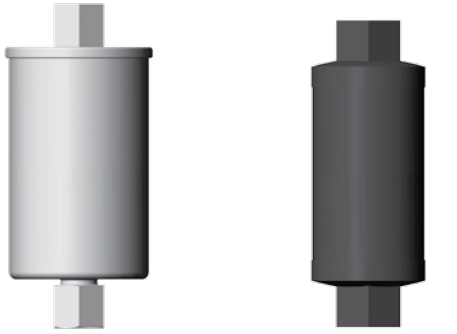
- **Installs quickly.**
- **Filters gasoline or gasoline/oil blended fuels.**
- **Separates water (025-RAC-02 model only).**
- **Compact design.**
- **Heavy duty construction.**
- **Easy to service.**

Applications

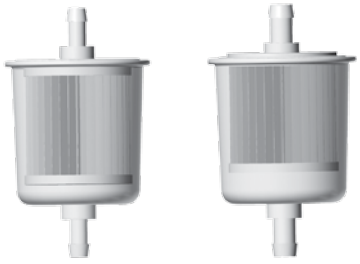
- **Small outboard engines.**
- **Personal watercraft.**
- **Small gensets.**
- **Snow machines.**
- **Lawn mowers.**
- **Any small gasoline engine.**



025-RAC-01 **025-RAC-02** **025-RAC-05**



025-RAC-09 **025-RAC-10A**



025-RAC-11 **025-RAC-12**

ASTM INTERNATIONAL

MEMBER ABYC Setting Standards for Safer Boating

NMMA TYPE ACCEPTED

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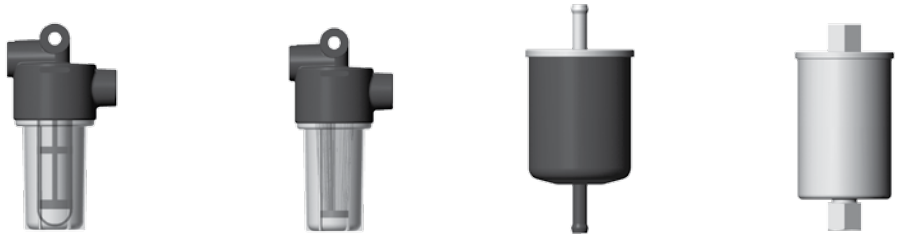
Parker Racor

In-Line Gasoline Series

In-Line Gasoline Series Overview



Specifications	025-RAC-01	025-RAC-02	025-RAC-05	025-RAC-09
Maximum Flow Rate	25 GPH (95 LPH)	25 GPH (95 LPH)	25 GPH (95 LPH)	35 GPH (132 LPH)
Application	Outboard	Outboard	Inboard	Inboard
Port Size	1/4”-18 NPT	1/4”-18 NPT	5/16” Hose Bead	3/8” NPT
Housing Material	[1]Anodized diecast aluminum head with clear, reusable plastic bowl.	[1]Anodized diecast aluminum head with clear, reusable plastic bowl. Separates water.	All steel with black “E” coating for corrosion resistance.	All stainless steel.
Replacement Element	S2501 (straining element)	S2502 (Aquabloc®II element)	N/A	N/A
Micron Rating	250	10	10	116
Min. Service Clearance	3.0 in. (7.6 cm)	3.0 in. (7.6 cm)	1.0 in. (2.5 cm)	1.0 in. (2.5 cm)
Height	4.3 in. (10.9 cm)	4.3 in. (10.9 cm)	4.8 in. (12.1 cm)	4.5 in. (11.4)
Diameter	2.1 in. (5.3 cm)	2.1 in. (5.3 cm)	2.3 in. (5.7 cm)	2.2 in. (5.6 cm)
Weight (dry)	0.3 lb (0.14 kg)	0.3 lb (0.14 kg)	0.3 lb (0.14 kg)	0.3 lb (0.14 kg)
Max. Working Pressure[2]	100 PSI (690 kPa)	100 PSI (690 kPa)	30 PSI (207 kPa)	30 PSI (207 kPa)
H_2O Removal Efficiency	12%	99%	N/A	N/A
Case Quantity	6	6	12	6
Ambient Fuel Temperature	-10° to +180°F (-23° to +82°C)			

Special Notes: [1]Anodizing is a chemical process that provides corrosion resistance.
[2]Pressure installations acceptable up to maximum amount shown - vacuum installations recommended.

Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

In-Line Gasoline Series Overview

Specifications	025-RAC-10A	025-RAC-11	025-RAC-12
Maximum Flow Rate	35 GPH (132 LPH)	12 GPH (45 LPH)	12 GPH (45 LPH)
Application	Inboard	Outboard	Outboard
Port Size	1/2” NPT	1/4” Hose Bead	5/16” Hose Bead
Housing Material	All steel, painted black.	Plastic	Plastic
Replacement Element	N/A	N/A	N/A
Micron Rating	104	12	12
Min. Service Clearance	1.0 in. (2.5 cm)	1.0 in. (2.5 cm)	1.0 in. (2.5 cm)
Height	4.2 in. (10.7 cm)	3.5 in. (8.9 cm)	3.5 in. (8.9 cm)
Diameter	1.9 in. (4.8 cm)	2.1 in. (5.3 cm)	2.1 in. (5.3 cm)
Weight (dry)	0.6 lb (0.27 kg)	0.1 lb (0.05 kg)	0.1 lb (0.05 kg)
Max. Working Pressure[1]	100 PSI (690 kPa)	10 PSI (69 kPa)	10 PSI (69 kPa)
H_2O Removal Efficiency	N/A	N/A	N/A
Case Quantity	6	1	1
Ambient Fuel Temperature	-10° to +180°F (-23° to +82°C)		

Special Notes: [2]Pressure installations acceptable up to maximum amount shown - vacuum installations recommended.

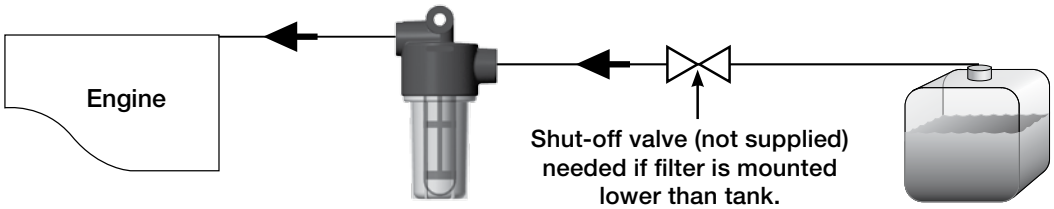
In-Line Gasoline Series

How to Order

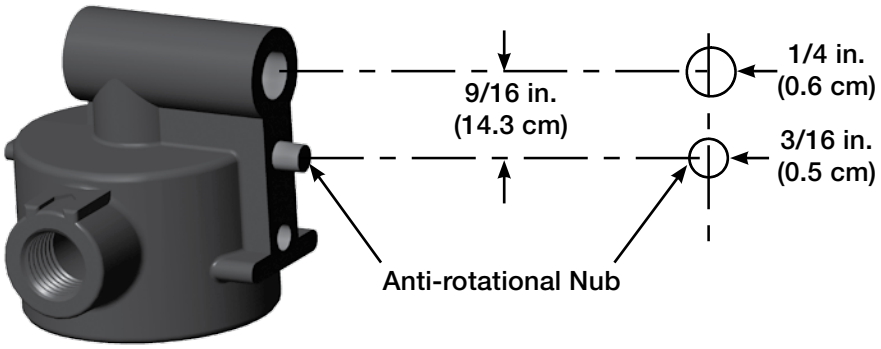
(The example below illustrates how a part number is constructed).

(Basic Model Number)	Specify a Micron Rating: (for 250 micron) or (for 10 micron)
Warning! For outboard engines, personal watercraft and other applications, do not use this filter with inboard engines or stern drive boats; use Racor U.L. listed marine filters.	

Mounting Information



Mounting Bolt Pattern



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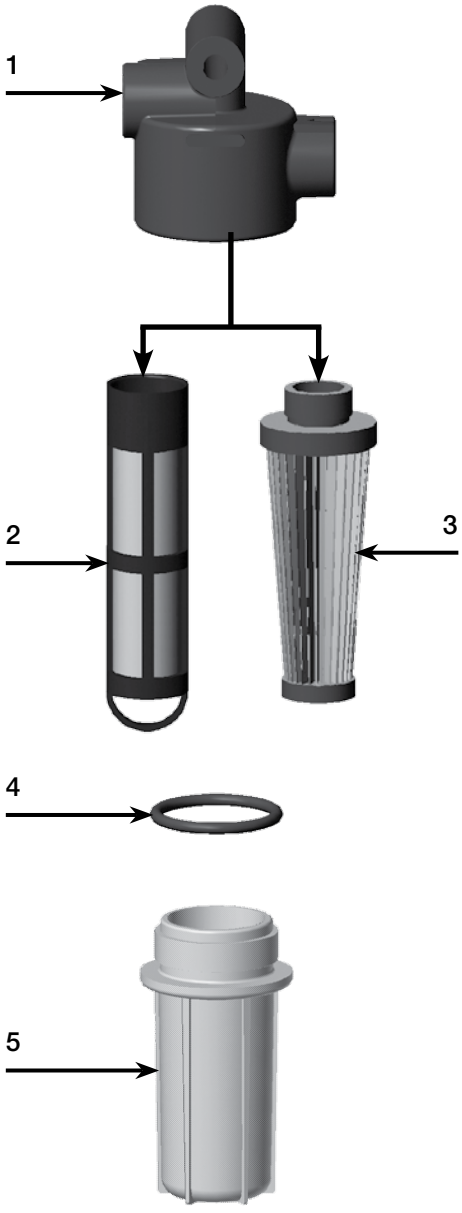
Replacement Parts

025-RAC-01 and 025-RAC-02

	Part Number	Description
1.	**RK 31390-05-03**	Mounting Head Kit (¼"-18 NPT Ports) (includes #4)

Replacement Elements (includes #4)

2.	**S2501**	250 micron (for 025-RAC-01)
3.	**S2502**	10 micron (for 025-RAC-02)
4.	**N/A**	Bowl O-ring
5.	**RK 31391**	Clear Bowl Kit (includes #4)

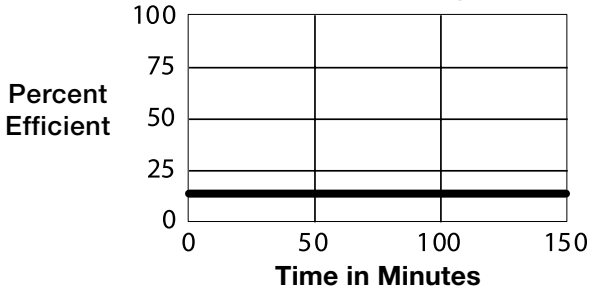


In-Line Gasoline Series

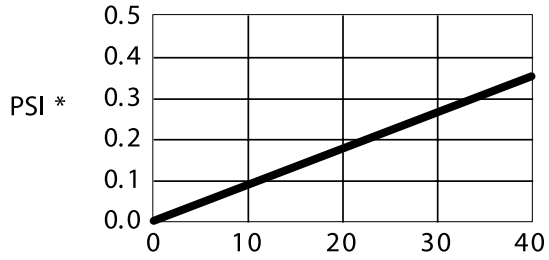
Test Data

Test data not available for all assemblies.

SEA J1839 Water Separation

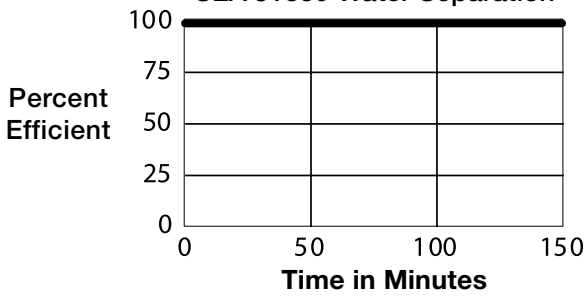


SEA J905 Fuel Flow Restriction

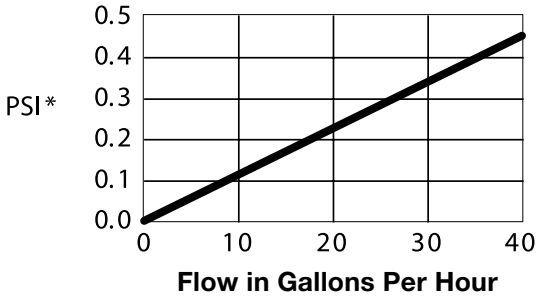


025-RAC-02 only

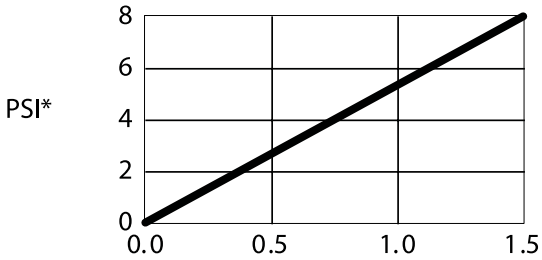
SEA J1839 Water Separation



SEA J905 Fuel Flow Restriction



SEA J905 Solids Capacity
(using fine test dust @ 25 GPH)



(PSI X 2.036 = inHg) (PSI X 6.895 = kPa)

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

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OEM Gasoline Series

Now, owners of inboard or outboard engines can get smoother operation and longer life - all in one easy spin onto their existing engine filter heads. There's a choice of rugged, reusable clear bowl with a self-venting drain or a metal bowl with drain plug for inboard applications. Metal bowls are UL-listed and USCG accepted, clear bowls are for outboard applications only. These filters also feature high capacity Aquabloc®II elements that remove 99% of free water, and sediment down to 10 micron.

These OEM Spin-On gasoline filters were designed to fit most Quicksilver, MerCruiser and OMC applications. See Specification chart on next page for more information.

- **Inboard gasoline engines must use filters equipped with metal bowls (MAM models).**
- **Outboard gasoline engines use either clear or metal bowls.**

B32013

B32014

B32020MAM

B32021MAM

OEM Gasoline Series

OEM Gasoline Series Overview

Underwriter's Laboratories Recognized Component

Underwriter's Laboratories Recognized Component

Specifications	B32013	B32014	B32020MAM	B32021MAM
Typical Application	Quicksilver	OMC	MerCruiser	OMC
Engine Type	Outboard (only)	Outboard (only)	Inboard/Outboard	Inboard/Outboard
UL Recognized Component	No	No	Yes	Yes
Maximum Flow Rate	60 GPH (227 LPH)	60 GPH (227 LPH)	60 GPH (227 LPH)	60 GPH (227 LPH)
Replacement Element	S3213	S3214	S3220UL	S3221TUL
Center Threads	11/16”-16	1”-12	11/16”-16	1”-12
Height	7.2 in. (18.2 cm)	7.2 in. (18.2 cm)	6.5 in. (16.5 cm)	6.5 in. (16.5 cm)
Diameter	3.8 in. (9.7 cm)	3.8 in. (9.7 cm)	3.8 in. (9.7 cm)	3.8 in. (9.7 cm)
Weight (dry)	1.2 lbs (0.5 kg)	1.2 lbs (0.5 kg)	1.6 lbs (0.7 kg)	1.6 lbs (0.7 kg)
Clean Pressure Drop	0.6 PSI (4.32 kPa)	0.6 PSI (4.32 kPa)	0.6 PSI (4.32 kPa)	0.6 PSI (4.32 kPa)
Under Bowl Clearance	1.0 in. (2.5 cm)	1.0 in. (2.5 cm)	1.0 in. (2.5 cm)	1.0 in. (2.5 cm)
Bowl Type	Clear	Clear	Metal	Metal
Water Removal Efficiency	99%	99%	99%	99%
Case Quantity	12	12	12	12
Ambient Fuel Temperature	-40° to +250°F (-40° to +121°C)			

Questions? Contact Technical Support:
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e-mail: racortech@parker.com

B32013 Cross-Reference

Aquapower	Baldwin	Fram	Quicksilver	OMC	Sierra	Wix	Yamaha
6001	BF791	PS3808	35-805269-1 35-807172	N/A	18-7845	33225	ABA-FUEL-FLTR

B32014 Cross-Reference

Aquapower	Baldwin	Fram	Quicksilver	OMC	Sierra	Wix	Yamaha
6040	N/A	N/A	N/A	502905	N/A	N/A	N/A

OEM Gasoline Series

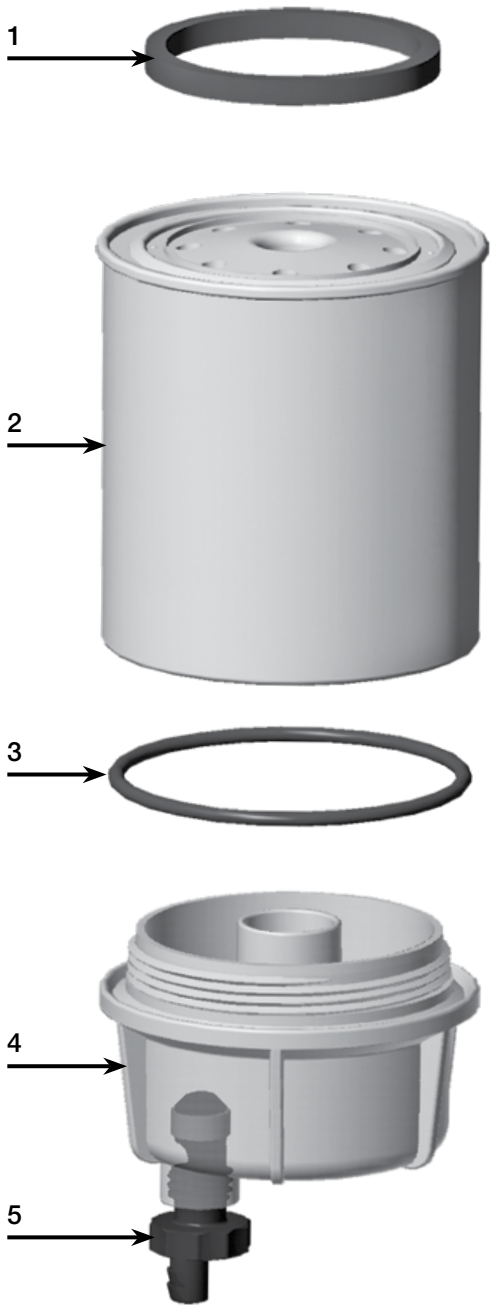
Replacement Parts

B32013 and B32014

	Part Number	Description
1.	**30768**	Square Cut Gasket
2.	Replacement Elements (includes #'s 1 and 3)	
	S3213	For B32013 (10 micron)
	S3214	For B32014 (10 micron)
3.	**RK 30076**	Bowl O-ring
4.	**RK 30475**	Clear Bowl Kit (includes #'s 3 and 5)
5.	**RK 30476**	Self-venting Drain Kit

Additional Parts (not shown)

22099	Drain Gasket
22313	O-ring/Gasket Pack (includes #'s 1 and 3)



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B32020MAM Cross-Reference

Aquapower	Baldwin	Fram	Quicksilver	OMC	Sierra	Volvo	Wix
6031	BF791	PS3808	35-807172 35-60494-1	N/A	1807850	855686-0/-2	33225
Yamaha: MAR-23452-00-00 (S3220UL - no bowl)							

B32021MAM Cross-Reference

Aquapower	Baldwin	Fram	Quicksilver	OMC	Sierra	Volvo	Wix
6040	N/A	N/A	N/A	174144	N/A	N/A	N/A

Underwriter's Laboratories
Recognized Component

OEM Gasoline Series

Replacement Parts

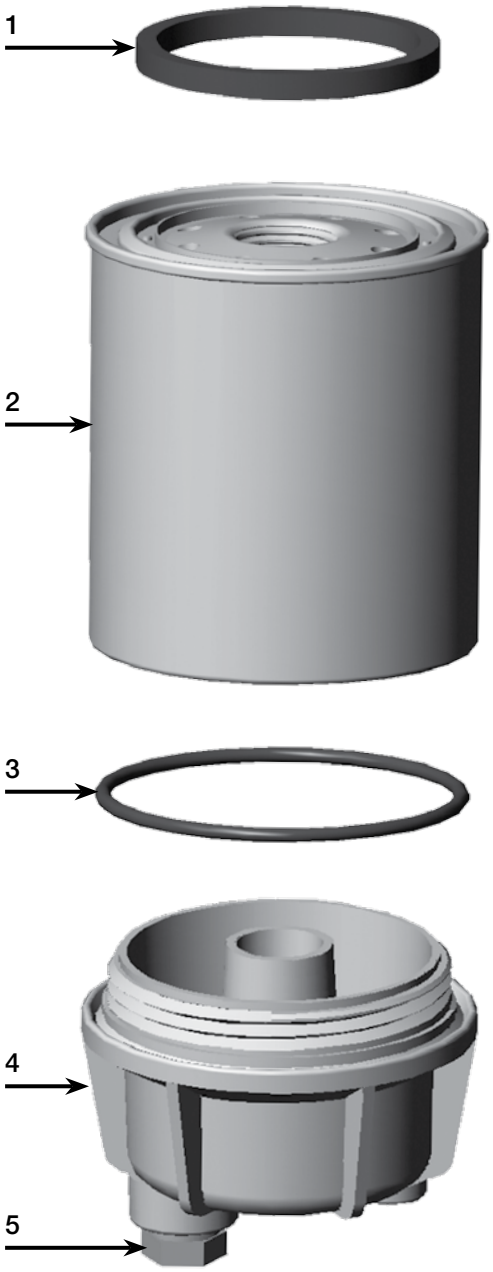
B32020MAM and **B32021MAM**

	Part Number	Description
1.	**30768**	Square Cut Gasket
2.	Replacement Elements (includes #'s 1 and 3)	
	S3220UL	For B32020MAM (10 micron)
	S3221TUL	For B32021MAM (10 micron)
3.	**RK 30076**	Bowl O-ring
4.	**RK 30473-02**	Metal Bowl Kit (includes #'s 3 and 5)
5.	**918-N6**	Metal Plug (3/8" NPT)

Additional Parts (not shown)

22313	O-ring/Gasket Pack (includes #'s 1 and 3)

Underwriter's Laboratories
Recognized Component



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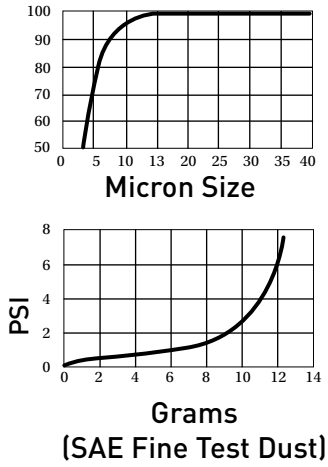
PFF5510

The PFF5510 gasoline fuel filter/water separator replaces standard fuel filters found on most Mercury, Mercruiser, Yamaha, Suzuki, Honda and Tohatsu marine gasoline applications. It fits these popular engine applications with it's 11/16"-16 center threads and features 10 micron Aquabloc®II media to outperform other gasoline fuel filters in inboard or outboard, two or four cycle applications. In fact, the PFF5510 performance exceeds all OEM requirements, and is suitable for all low or high pressure injection systems.

Developed by Racor engineers, the PFF5510 provides a durable, high performance filter element that is treated inside and out with a highly corrosion resistant coating to eliminate rust-through. Just by installing Racor filters, you know you're doing everything you can to protect your equipment, extend its life cycle and effectiveness, and improve your bottom line.

Specifications	PFF5510
Micron Rating	10
Center Threads	11/16"-16
Height	4.2 in (10.7 cm)
Diameter	3.6 in. (9.1 cm)
Weight (dry)	0.9 lb (0.4 kg)
H_2O Removal Efficiency	99%
Ambient Fuel Temperature	-40° to +250°F (-40° to +121°C)
Max Fuel Temperature	190°F (88°C)

SAE J1985 Particle Removal Efficiency



Cross Reference Information					
Fleet Guard	Wix	Luber Finer	Baldwin	Donaldson	Fram
PF5059	33225	LFF3808	BF791	P550677	PS3808

Gasoline Spin-On Series

Gasoline Spin-On Series

Don't be caught in the water without one of these Racor gasoline Spin-On series filters. These filters are designed for high performance applications, and with flow rates between 30 and 120 GPH your engine will perform better than ever with clean, water-free fuel. These filters are coated with a durable electrostatically applied powder coating for superior corrosion resistance. That's the quality you've learned to expect and get only from Racor.

This series features a high capacity Aquabloc®II filter element that removes sediment down to 10 micron and 99% of water. This Spin-On filter design is simple to replace and the reusable clear plastic or metal contaminant collection bowls feature a self-venting drain, or metal plug, for removing unwanted muck and water.

ASTM INTERNATIONAL

NMMA™ TYPE ACCEPTED

MEMBER ABYC Setting Standards for Safer Boating®

120R-RAC-01

120R-RAC-02

320R-RAC-01

320R-RAC-02

490R-RAC-01

660R-RAC-01

660R-RAC-02

3120R-RAC-32

Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

Gasoline Spin-On Series Overview

Applies to all models.

Specifications	120R-RAC-01	120R-RAC-02	320R-RAC-01	320R-RAC-02
Application:				
Inboard	No	Yes	No	Yes
Outboard	Yes	Yes	Yes	Yes
Max. Flow Rate	30 GPH (114 LPH)	30 GPH (114 LPH)	60 GPH (227 LPH)	60 GPH (227 LPH)
Center Threads	M18 x 1.5	M18 x 1.5	1”-14	1”-14
Port Size	¼”-18 NPTF	¼”-18 NPTF	¼”-18 NPTF	¼”-18 NPTF
Number of Ports:				
Inlets	2	2	2	2
Outlets	2	2	1	1
Height	6.5 in. (16.5 cm)	6.0 in. (15.2 cm)	9.3 in. (23.6 cm)	9.0 in. (22.9 cm)
Width	3.2 in. (8.1 cm)	3.2 in. (8.1 cm)	4.0 in. (10.2 cm)	4.0 in. (10.2 cm)
Depth	3.2 in. (8.1 cm)	3.2 in. (8.1 cm)	4.0 in. (10.2cm)	4.0 in. (10.2cm)
Weight (dry)	1.1 lbs (0.5 kg)	1.1 lbs (0.5 kg)	2.0 lbs (0.90 kg)	2.0 lbs (0.90 kg)
Clean Pressure Drop	0.15 PSI (1.03 kPa)	0.15 PSI (1.03 kPa)	0.61 PSI (4.23 kPa)	0.61 PSI (4.23 kPa)
Max. Pressure	7 PSI (0.5 bar)	7 PSI (0.5 bar)	7 PSI (0.5 bar)	7 PSI (0.5 bar)
Underbowl Clearance	1.0 in. (2.5 cm)	1.0 in. (2.5 cm)	1.0 in. (2.5 cm)	1.0 in. (2.5 cm)
H_2O Removal Efficiency	99%	99%	99%	99%
Ambient Fuel Temperature	-40° to +250°F (-40° to +121°C)			
Max. Fuel Temperature	190°F (88°C)			

Gasoline Spin-On Series

Gasoline Spin-On Series Overview

Applies to all models.

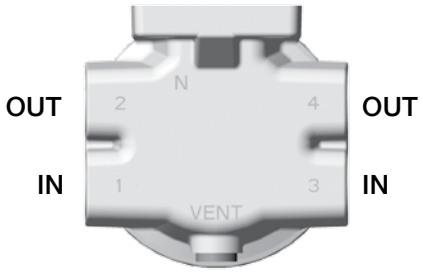
Specifications	490R-RAC-01	660R-RAC-01	660R-RAC-02	3120R-RAC-32
Application: *Inboard* *Outboard*	 No Yes	 No Yes	 Yes Yes	 Yes Yes
Max. Flow Rate	90 GPH (340 LPH)	90 GPH (340 LPH)	90 GPH (340 LPH)	120 GPH (454 LPH)
Center Threads	1”-14	1”-14	1”-14	1”-14
Port Size	3/8”-18 NPTF	3/8”-18 NPTF	3/8”-18 NPTF	1/2”-14 NPTF
Number of Ports: *Inlets* *Outlets*	 2 2	 2 2	 2 2	 1 1
Height	9.9 in. (25.1 cm)	11.0 in. (27.9 cm)	10.5 in. (26.7 cm)	10.4 in. (26.4 cm)
Width	4.5 in. (11.4 cm)	4.2 in. (10.7 cm)	4.2 in. (10.7 cm)	4.0 in. (10.2 cm)
Depth	4.8 in. (12.2 cm)	4.5 in. (11.4 cm)	4.5 in. (11.4 cm)	5.0 in. (12.7 cm)
Weight (dry)	2.6 lbs (1.2 kg)	3.0 lbs (1.4 kg)	3.0 lbs (1.4 kg)	2.0 lbs (0.90 kg)
Clean Pressure Drop	0.95 PSI (6.5 kPa)	0.61 PSI (4.23 kPa)	0.61 PSI (4.23 kPa)	0.15 PSI (1.03 kPa)
Max. Pressure	7 PSI (0.5 bar)	7 PSI (0.5 bar)	7 PSI (0.5 bar)	7 PSI (0.5 bar)
Underbowl Clearance	1.0 in. (2.5 cm)	1.0 in. (2.5 cm)	1.0 in. (2.5 cm)	1.0 in. (2.5 cm)
H_2O Removal Efficiency	99%	99%	99%	99%
Ambient Fuel Temperature	-40° to +250°F (-40° to +121°C)			
Max. Fuel Temperature	190°F (88°C)			

How to Order

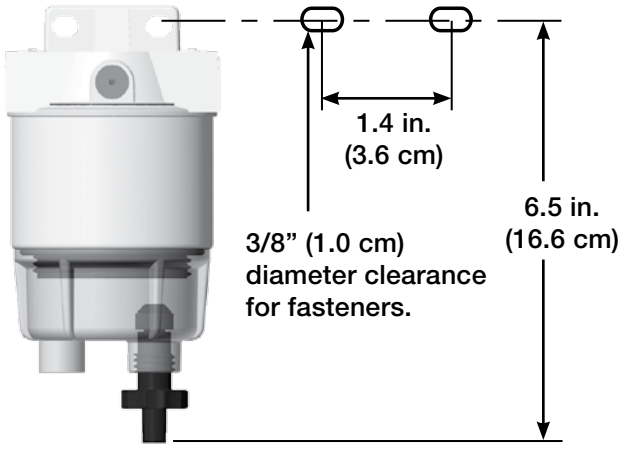
(The example below illustrates how a part number is constructed).

120R-RAC	-01
Basic Model Number	**-01** (for clear bowl) **-02** (for metal bowl)

Mounting Information

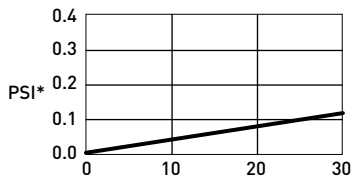


Top View

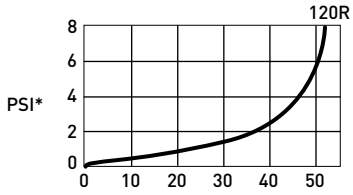


Test Data

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



Flow (GPH)
SAE J905 Flow Restriction



Grams
SAE J905 Solid Capacity Test
(using SOFTC-2A; S3240 Element)

PSI x 2.036 = inHg. (PSI x 6.895 = kPa)

Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

Parker Racor

Gasoline Spin-On Series

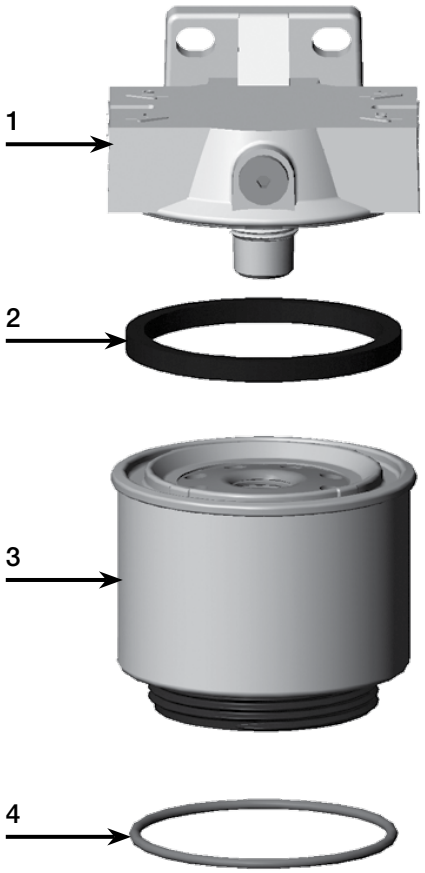
Replacement Parts

120R-RAC-01 and 120R-RAC-02

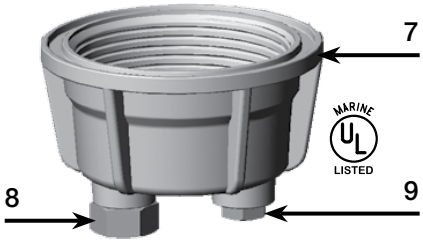
	Part Number	Description
1.	**RK 10214-01**	Head Kit (includes #2)
	10224	3/8” SAE Plug
2.	**RK 10503**	Gasket Kit
3.	Replacement Element (includes #2)	
	S3240	10 micron
4.	**RK 10012**	Bowl O-ring Kit
5.	**RK 10222**	Clear Bowl Kit (includes #’s 4 and 6)
6.	**RK 30476**	Self-venting Drain Kit
7.	**RK10553**	Metal Bowl (includes #’s 4, 8 and 9)
8.	**20022**	Drain Port Plug
9.	**01SP-2S**	Probe Port Plug

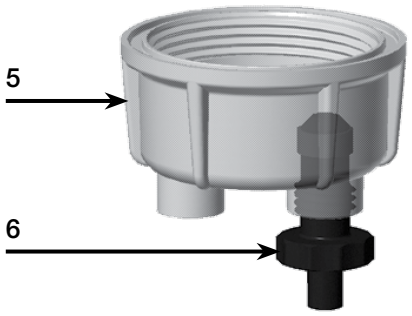
Additional Parts (not shown)

10223	Installation Instructions



Metal Bowl Kit





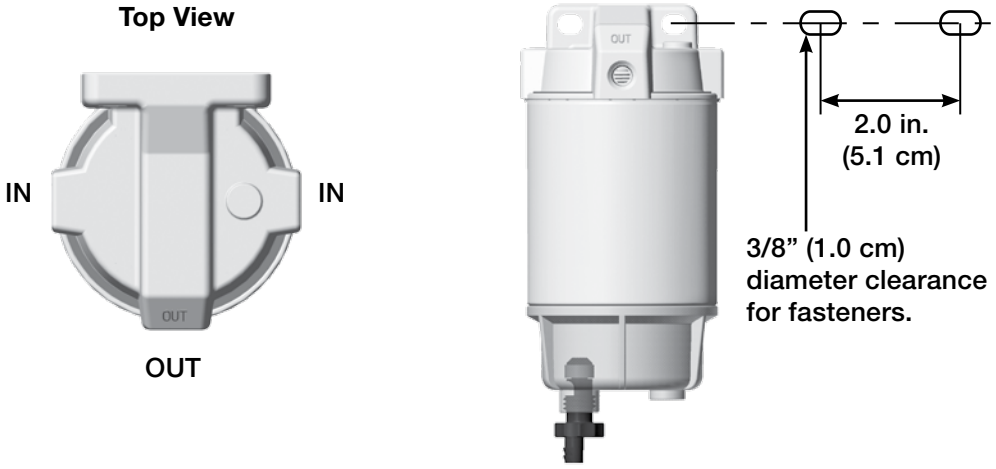
Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

How to Order

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

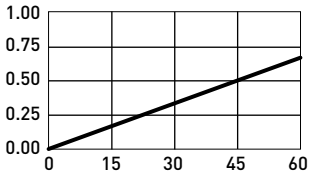
320R-RAC	-01
Basic Model Number	**-01** (for clear bowl) **-02** (for metal bowl)

Mounting Information

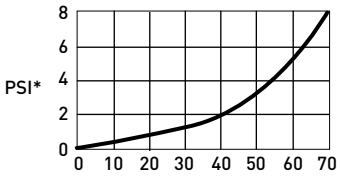


Test Data

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



Flow (GPH)
SAE J905 Flow Restriction



Grams
Racor Gasoline Solid Capacity Test
(using SOFTC-2A; 10 mic. Element)

PSI x 2.036 = inHg. (PSI x 6.895 = kPa)

Gasoline Spin-On Series

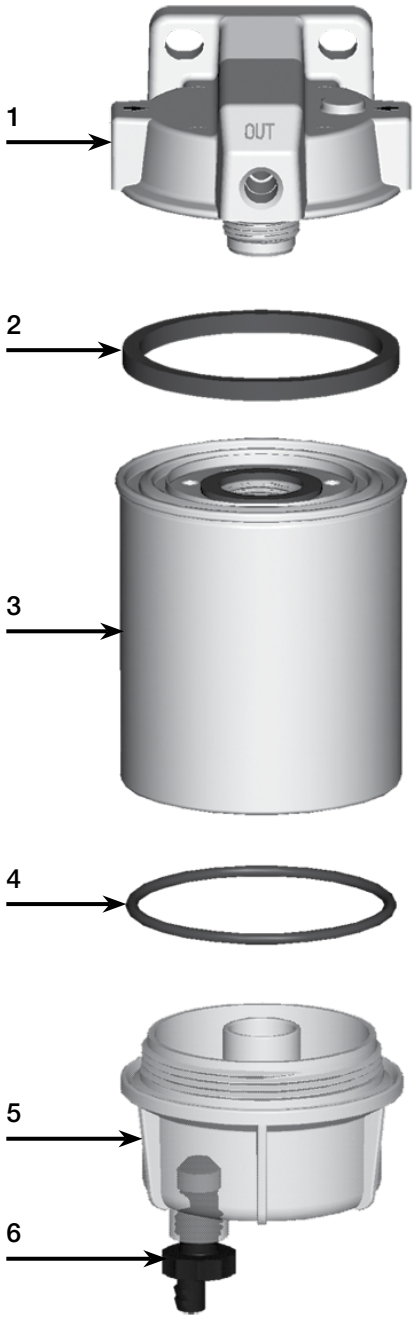
Replacement Parts

320R-RAC-01 and 320R-RAC-02

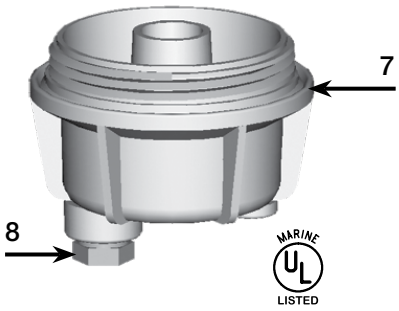
	Part Number	Description
1.	**RK 20180**	Mounting Head Kit
2.	**20707**	Gasket Kit
3.	Replacement Elements	
	S3227	10 Micron
	S3228TUL	10 Micron (UL Marine)
4.	**RK 30076**	Bowl O-ring Kit
5.	**RK 30475**	Clear Bowl Kit
6.	**RK 30476**	Self-venting Drain Kit
7.	**RK 30473-02**	Metal Bowl Kit
8.	**918-N6**	Steel Port Plug

Additional Parts (not shown)

22237	Installation Instructions



Metal Bowl Kit



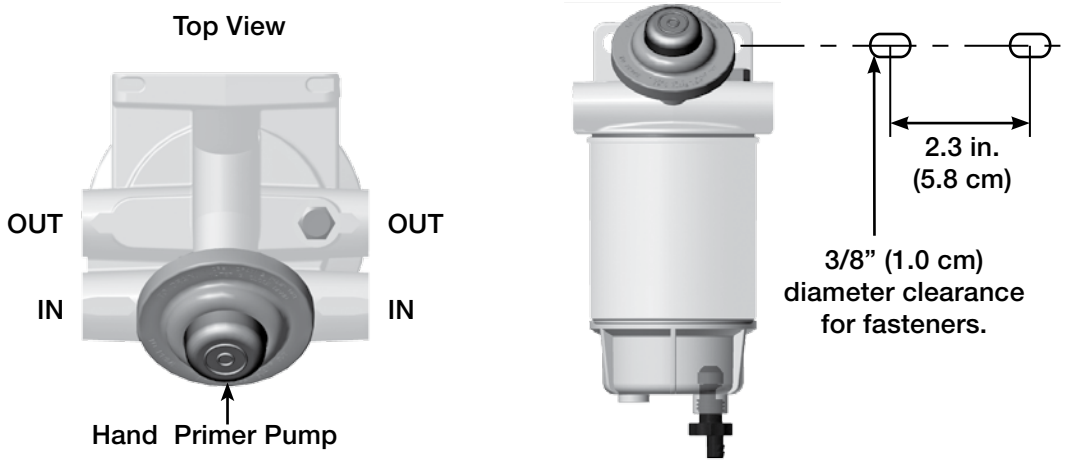
Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

How to Order

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

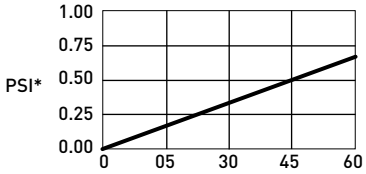
490R-RAC	-01
Basic Model Number	**-01** (for clear bowl)

Mounting Information

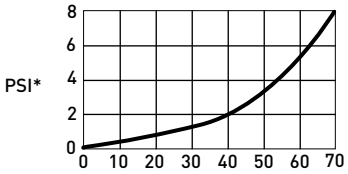


Test Data

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



SAE J905 Flow Restriction



Racor Gasoline Solid Capacity Test
(using SOFTC-2A; 10 mic. Element)

PSI x 2.036 = inHg. (PSI x 6.895 = kPa)

Gasoline Spin-On Series

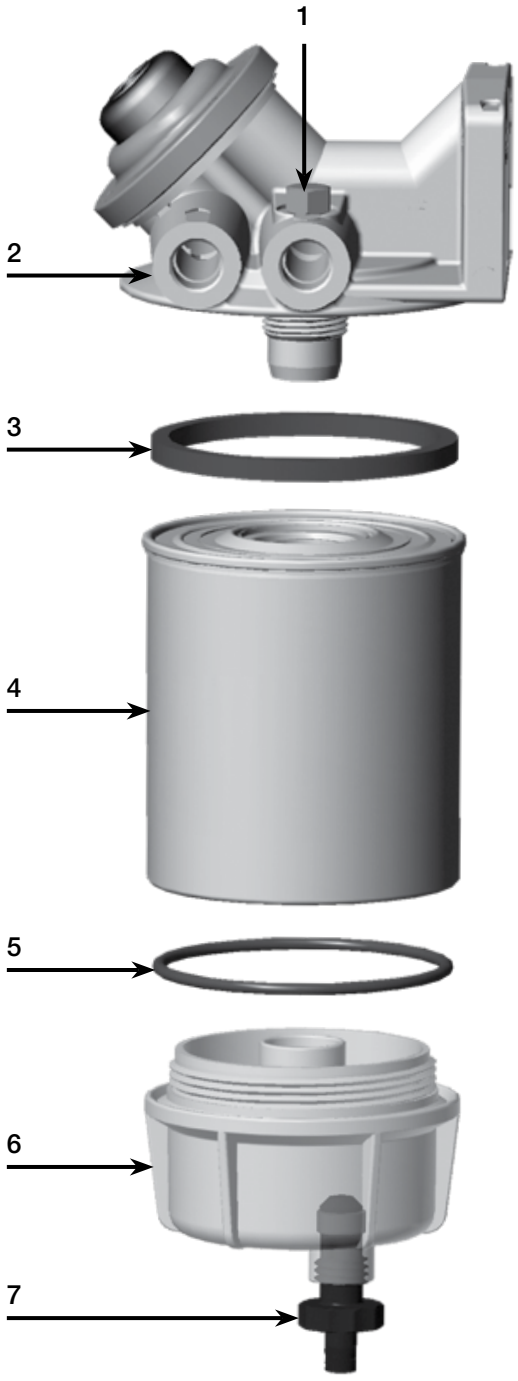
Replacement Parts

490R-RAC-01

	Part No.	Description
1.	**10110**	Vent Plug (3/8" SAE)
2.	**N/A**	Mounting Head Kit (3/8"-18 NPTF ports) (includes #'s 1-3)
3.	**20505**	Gasket Kit
4.	Replacement Elements (includes #'s 3-5)	
	S3227	10 Micron
5.	RK **30076**	Bowl O-ring Kit
6.	**RK 30475**	Clear Bowl Kit (includes #'s 5-7)
7.	**RK 30476**	Self-venting Drain Kit

Additional Parts (not shown)

14345	Installation Instructions



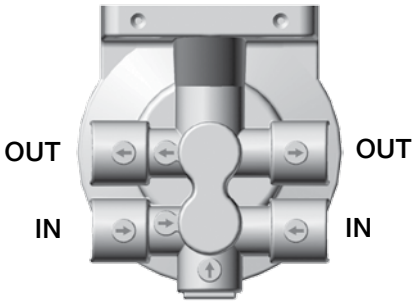
Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

How to Order

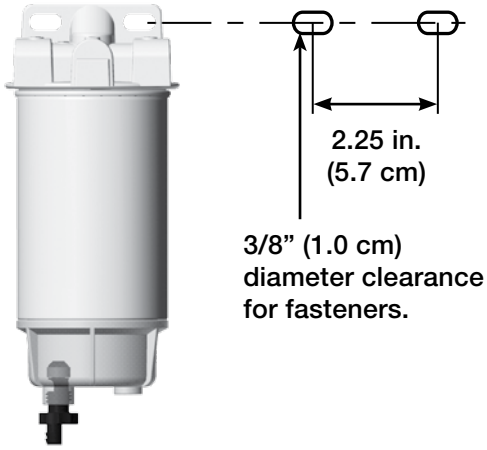
(The example below illustrates how a part number is constructed).

660R-RAC	-01
Basic Model Number	**-01** (For Clear Bowl) **-02** (For Metal Bowl)

Mounting Information

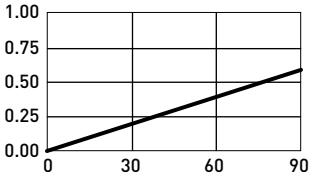


Top View

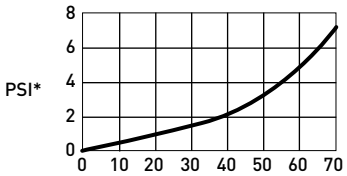


Test Data

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



Flow (GPH)
SAE J905 Flow Restriction



Grams
Racor Gasoline Solid Capacity Test
(using SOFTC-2A; 10 mic. Element)

PSI x 2.036 = inHg. (PSI x 6.895 = kPa)

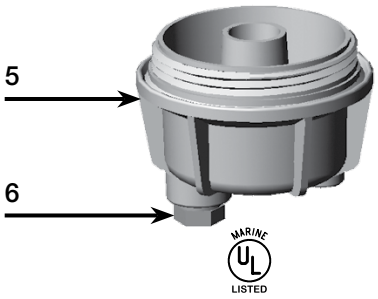
Gasoline Spin-On Series

Replacement Parts

660R-RAC-01 and **660R-RAC-02**

	Part Number	Description
1.	**RK 21411**	Mounting Head Kit
2.	**20707**	Gasket Kit
3.	Replacement Elements	
	S3232	10 Micron
	S3232UL	10 Micron (02)
4.	**RK 30076**	Bowl O-ring Kit
5.	**RK 30475**	Clear Bowl Kit
	RK 30473-02	Metal Bowl Kit (02)
6.	**RK 30476**	Self-venting Drain Kit
	918-N6	Steel Port Plug (02)

Metal Bowl Kit



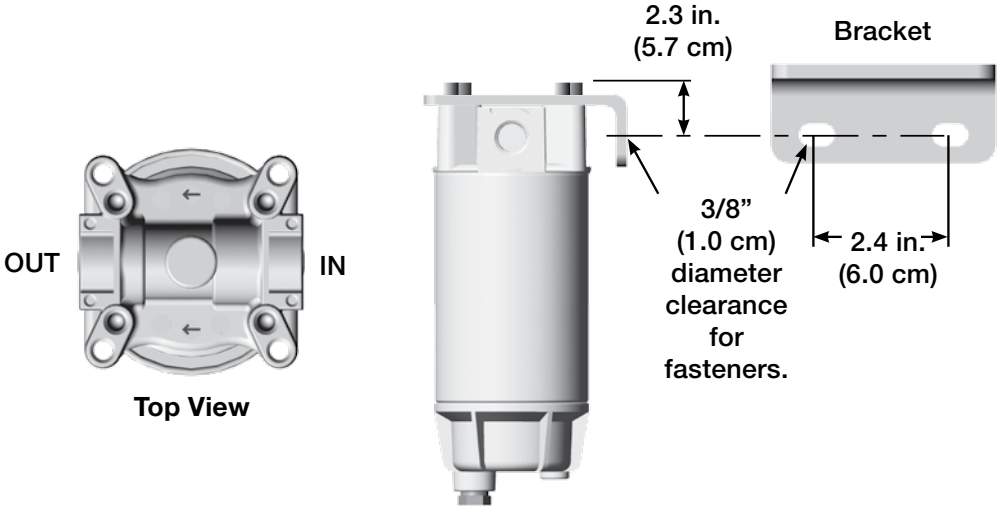
Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

How to Order

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

3120R-RAC	-32
Basic Model Number	120 GPH (454 LPH)

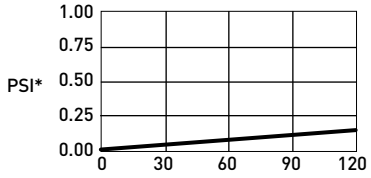
Mounting Information



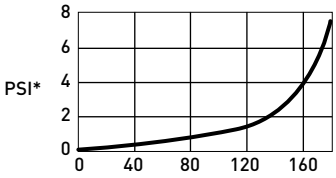
Top View

Test Data

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



Flow (GPH)
SAE J905 Flow Restriction



Grams
SAE J905 Solid Capacity
(using SOFTC-2A; 3232UL Element)

PSI x 2.036 = inHg. (PSI x 6.895 = kPa)

Gasoline Spin-On Series

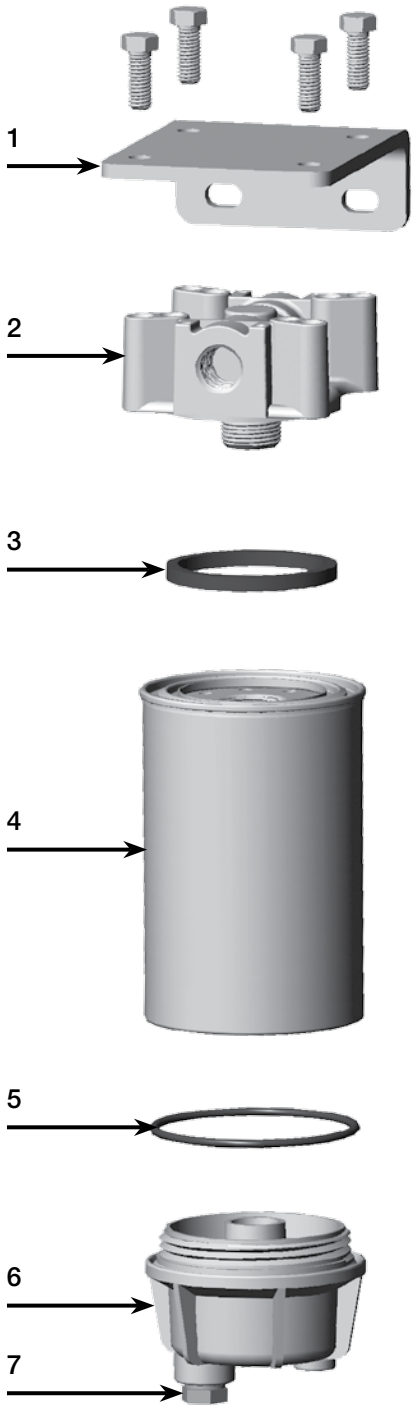
Replacement Parts

3120R-RAC-32

	Part Number	Description
1.	**30288-01**	Mounting Bracket Kit (includes (4) 3/8”-16x1 fasteners)
2.	**30308-01**	Mounting Head Kit (includes #3)
3.	**30768**	Gasket Kit
4.	Replacement Element (includes #3 and 5) **S3232UL**	10 Micron
5.	**RK 30076**	Bowl O-ring Kit
6.	**RK 30473-02**	Metal Bowl Kit (includes #’s 5 and 7)
7.	**21430**	Steel Plug, 38” NPT

Additional Parts (not shown)
30941 Installation Instructions

MARINE UL LISTED

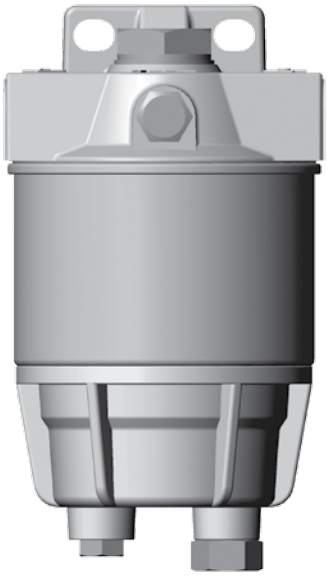


Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

120 RMAM

The 120RMAM fuel filter/water separator features 1/4"-18 NPTF inlet and outlet fuel ports and a unitized mounting bracket for mounting versatility. It also features an Aquabloc®II replacement element that repels water and removes solid contamination down to 2 micron. This rugged, compact filter assembly fits a variety of engine applications and comes with the peace-of-mind you've learned to expect from Racor filters. Experienced sailors trust their engines, their livelihood, and even their lives to Racor. Shouldn't you?

An optional UL Recognized petcock drain valve is also available to aid in the removal of water and contaminants. See Marine Accessories section.



120RMAM

How to Order

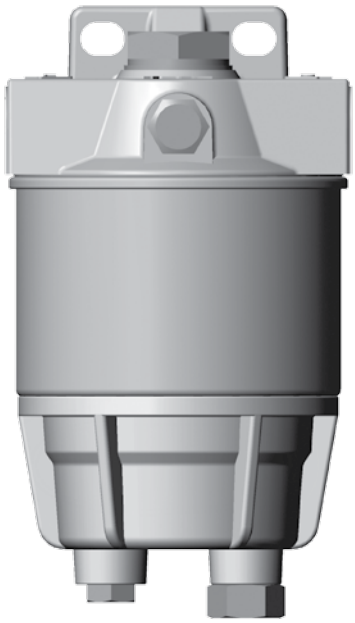
(The example below illustrates how a part number is constructed.)

120RMAM	2
Basic Model	Specify a micron rating: **2** (for 2 micron) **30** (for 30 micron)

120 RMAM

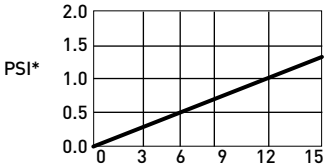
Specifications	120RMAM
Maximum Flow Rate:	15 GPH (57 LPH)
Port Size (SAE J476)	¼"-18 NPTF
Number of Ports: *Inlets* *Outlets*	 2 2
Replacement Element: *2 Micron* *30 Micron*	 R12SUL R12PUL
Center Threads	M18 x 1.5
Height	5.7 in. (14.5 cm)
Width	3.2 in. (8.1 cm)
Depth	3.2 in. (8.1 cm)
Weight	1.4 lbs (0.6 kg)
Clean Pressure Drop	0.15 PSI (1.08 kPa)
Maximum Operating Pressure	7 PSI (48 kPa)
Bowl Capacity	1.8 oz (52 ml)
H_2O Removal Efficiency	99%
Ambient Fuel Temperature	-40° to +250°F (-40° to +121°C)
Max. Fuel Temperature	190°F (88°C)

MARINE UL LISTED



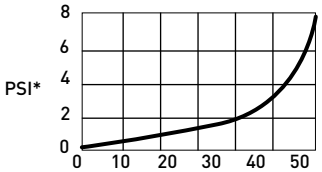
Test Data

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



Flow (GPH)

SAE J905 Fuel Flow Restriction



Grams

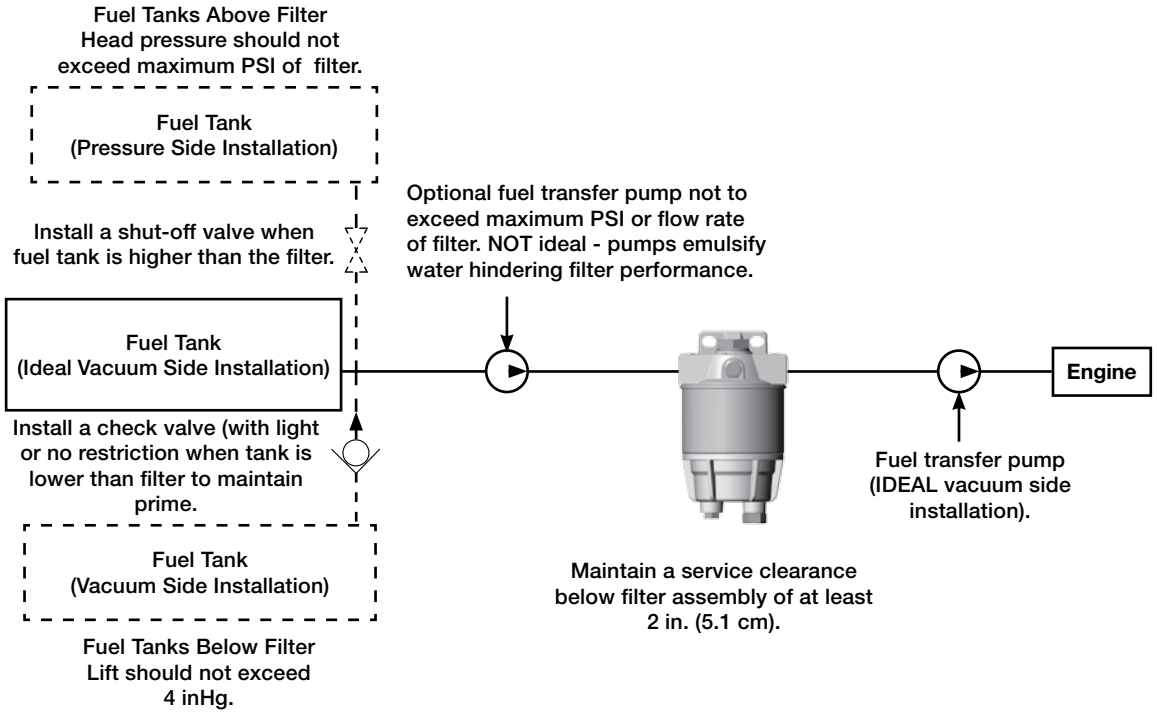
SAE J905 Solids Capacity

(using SOFTC-2A; R12T Element)

*PSI X 2.036 = inHg. / PSI X 6.895 = kPa

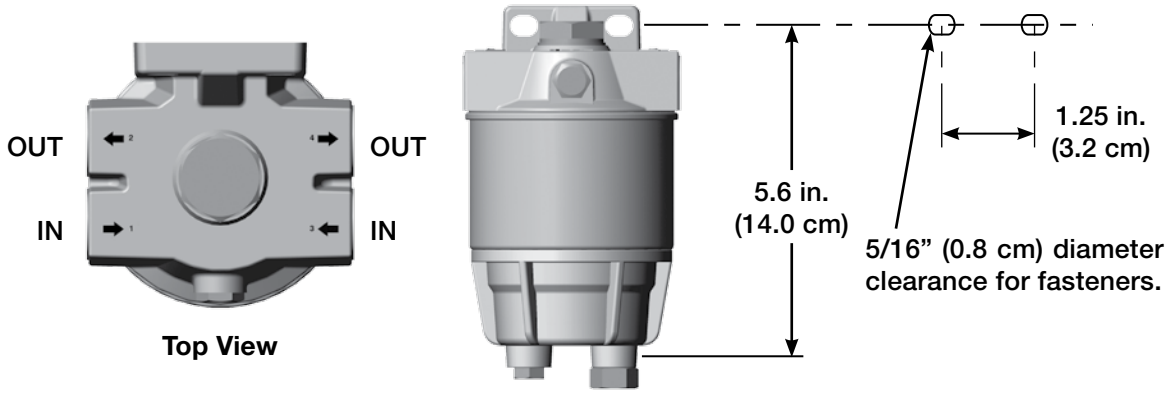
Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

Installation Diagram



Racor offers hose and fittings to complete an installation. See Marine Accessories.

Mounting Information



120 RMAM

Replacement Parts

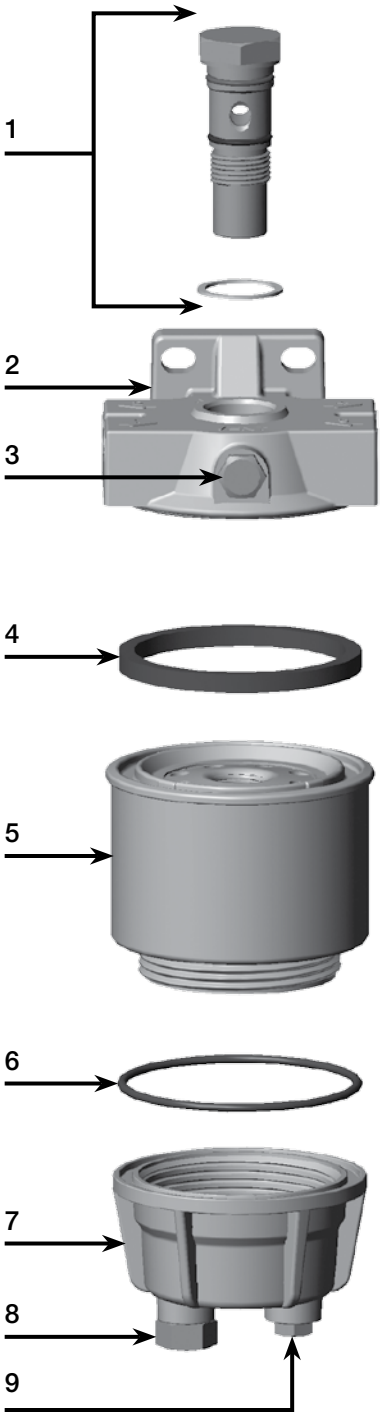
120RMAM

	Part Number	Description
1.	**RK 10006**	Head Bolt Assembly Kit (includes washer and o-rings)
2.	**RK 10117**	Head Kit (1/4”-18 NPTF Ports) (includes #’s 3 and 4)
3.	**RK 10110**	Metal Vent Plug Kit (3/8”-24 UNF)
4.	**RK 10503**	Element Gasket Kit
5.	Replacement Element (includes #’s 4 and 6)	
	R12SUL	(2 Micron) UL Recognized
	R12PUL	(30 Micron) UL Recognized
6.	**RK 10012**	Bowl O-ring Kit
7.	**RK10226**	Metal Bowl Kit (includes #’s 6, 8 and 9)
8.	**RK 20022**	Metal Plug Kit (1/2”-20 UNF)
9.	**01SP-2S**	Steel Drain Plug (1/8” NPT)

Additional Parts (not shown)

RK 10063	Gasket and O-ring Kit
10210	Installation Instructions

MARINE UL LISTED



Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

200 Series

Racor's Marine Spin-On 200 Series fuel filter/water separators are available in three sizes to fit any engine compartment. All three assemblies feature 1/4"-18 NPTF inlet and outlet fuel ports, a unitized mounting bracket for mounting versatility, an in-head primer pump for quick fuel system priming, a metal sediment and water collection bowl (safe for inboard use), a vent plug to easily evacuate trapped air, and a 10 micron Aquabloc™ II filter element which repels nearly 100% of all free water found in fuel.

If quality is what you want and filtration is what you need, than a Racor 200 Series fuel filter/water separator is the answer. Experienced sailors trust their engines, their livelihood and even their lives to Racor. Shouldn't you?

215RMAM

230RMAM

245RMAM

ASTM INTERNATIONAL

MARINE UL LISTED

MEMBER ABYC Setting Standards for Safer Boating®

NMMA™ TYPE ACCEPTED

Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

Parker Racor

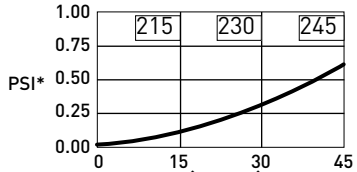
200 Series

200 Series Overview

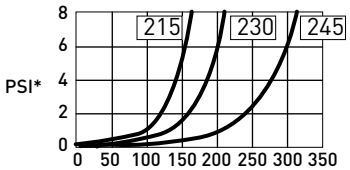
Specifications	215RMAM	230RMAM	245RMAM
Maximum Flow Rate	15 GPH (57 LPH)	30 GPH (114 LPH)	45 GPH (170 LPH)
Port Size	¼"-18 NPTF	¼"-18 NPTF	¼"-18 NPTF
Number of Ports:			
Inlets	1	1	1
Outlets	2	2	2
Replacement Element	R15TUL	R20TUL	R25TUL
Center Threads	1"-14	1"-14	1"-14
Height	8.3 in. (21.1 cm)	9.0 in. (22.9 cm)	10.5 in. (26.7 cm)
Width	4.0 in. (10.2 cm)	4.0 in. (10.2 cm)	4.0 in. (10.2 cm)
Depth	4.0 in. (10.2 cm)	4.0 in. (10.2 cm)	4.0 in. (10.2 cm)
Weight	1.8 lbs (0.8 kg)	2.0 lbs (0.9 kg)	2.2 lbs (1.0 kg)
Clean Pressure Drop	0.12 PSI (0.83 kPa)	0.31 PSI (2.14 kPa)	0.61 PSI (4.21 kPa)
Maximum Operating Pressure	30 PSI (207 kPa)	30 PSI (207 kPa)	30 PSI (207 kPa)
Bowl Capacity	2.0 oz (58 ml)	2.0 oz (58 ml)	2.0 oz (58 ml)
Water Removal Efficiency	99%	99%	99%
Ambient Fuel Temperature	-40° to +250°F (-40° to +121°C)		
Max. Fuel Temperature	190°F (88°C)		

Test Data

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



SAE J905 Fuel Flow Restriction



SAE J905 Solids Capacity
(using SOFTC-2A; 10 mic. Element)

*PSI X 2.036 = inHg. / PSI X 6.895 = kPa

Questions? Contact Technical Support:
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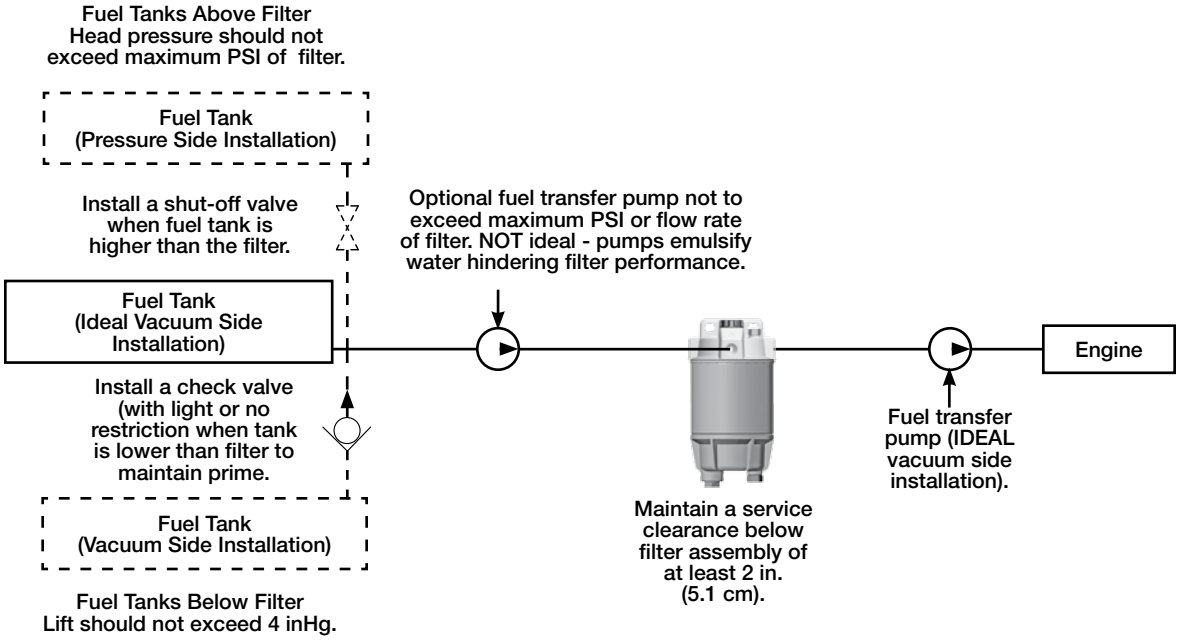
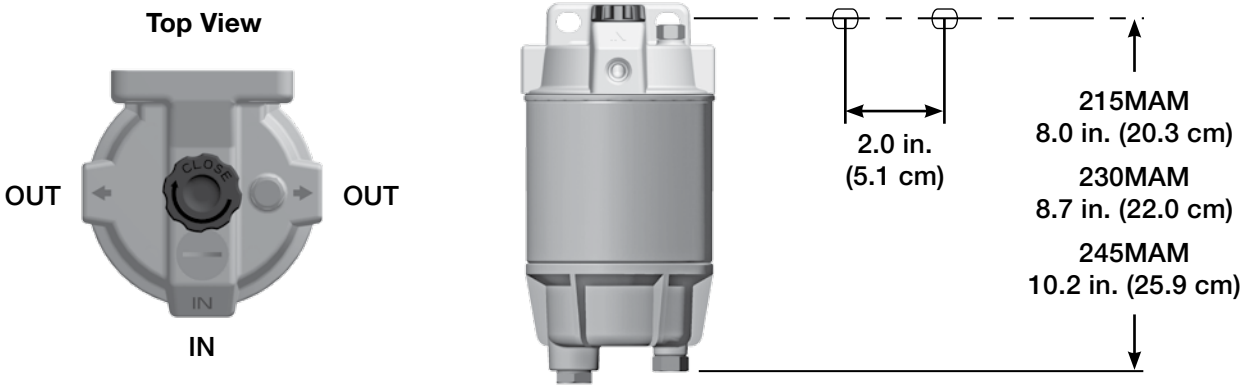
e-mail: racortech@parker.com

Installation Diagram



Installation diagram applies to all 200 Series filters. Model 215RMAM shown above. Racor offers hose and fittings to complete this installation. See Marine Accessories.

Mounting Information



200 Series

Replacement Parts

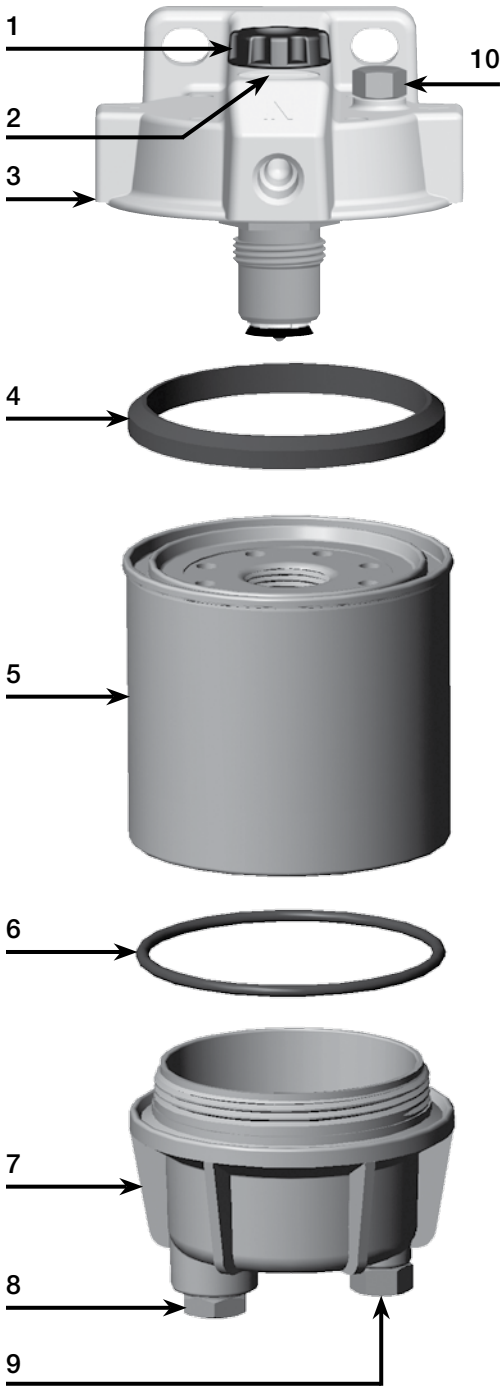
215RMAM, 230RMAM and 245RMAM

	Part No.	Description
1.	**RK20025-01**	Primer Pump Kit
2.	**RK20011-01**	Checkball Kit with Plastic Cap
	RK 20742	Metal Cap Kit
3.	**RK20046-01**	Head Kit (1/4” NPTF Ports) (includes #’s 1-4)
4.	**RK 22061**	Gasket Kit
5.	Replacement Elements (includes #’s 4 and 6)	
	R15TUL	10 Micron (UL Recognized)
	R20TUL	10 Micron (UL Recognized)
	R25TUL	10 Micron (UL Recognized)
6.	**RK 30076**	Bowl O-ring Kit
7.	**RK 22368**	Metal Bowl Kit (includes #’s 6, 8 and 9) (3/8” NPT drain Plug) (1/2”-20 probe port)
8.	**918-N6**	Steel Plug (3/8” NPT)
9.	**RK 20022**	Metal Plug Kit (1/2”-20 UNF)
10.	**RK 10110**	Metal Vent Plug Kit (3/8”-16 UNF)

Additional Parts (not shown)

RK20075-01	Complete Seal Service Kit
RK 12041	Port Plug Kit (1/4” NPT)
22360	Installation Instructions

MARINE UL LISTED



Questions? Contact Technical Support:
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e-mail: racortech@parker.com

Hand Primer Pump Upgrade

Old Head Kit RK 20046
Old Primer Pump Kit# RK 20025

New Head Kit RK20046-01
New Primer Pump Kit# RK20025-01

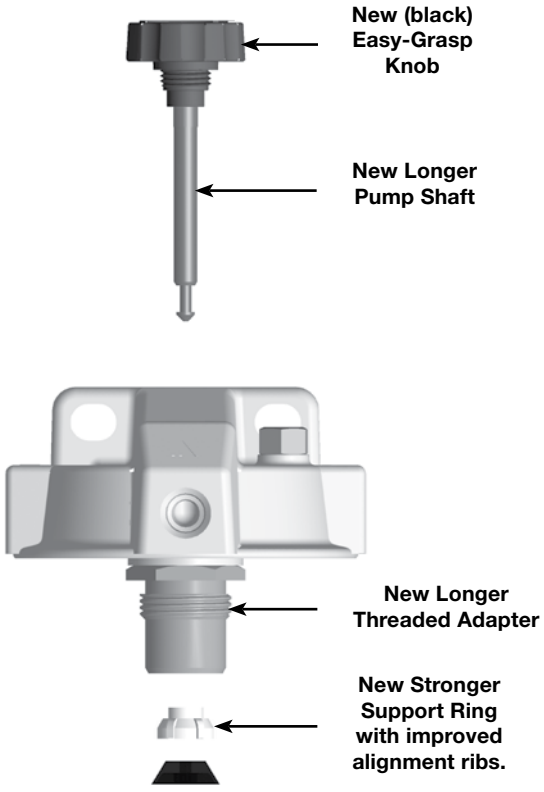
Benefits

- **Up to 37% increase in volume of fuel pumped per stroke**
- **Improved strength and alignment**
- **Improved ease of operation**
- **Reduced restriction in fuel flow**
- **Changeable in the field**

This enhancement is possible by increasing the stroke length, by about 1/2″, on the pump shaft and the element threaded adapter. Additionally, the knob and support ring have been redesigned to be more robust.

This change also affects replacement kits for the primer pump and head assemblies. The new style primer pump requires an additional 0.5 inch of space above the assembly (2 inches total) to utilize the added length of stoke; however, the primer pump will perform as always without any mounting modifications.

The new easy-grasp pump knob is larger than current knobs and the color will be changed from white to black to make a clear visual change between current pumps and newer versions.



New Primer Pump Assembly Exploded View

400 Series

400 Series

Marine 400 Series Spin-On fuel filter/water separators are available in 4 sizes to fit any engine compartment. 400 Series mounting heads feature 4 ports (2 inlets and 2 outlets), a unitized mounting bracket for mounting versatility and a built-in, hand operated fuel priming pump to simplify servicing and repriming procedures.

Also featured on these assemblies are Aquabloc®II water repelling elements that remove sediment down to 10 micron, a vent plug to remove trapped air and a metal water and sediment collection bowl. Experienced sailors trust their engines, their livelihood, and even their lives to Racor. Shouldn't you?

445MAM10

460MAM10

490MAM10

4120MAM10

ASTM INTERNATIONAL

MARINE UL LISTED

MEMBER ABYC Setting Standards for Safer Boating®

NMMA™ TYPE ACCEPTED

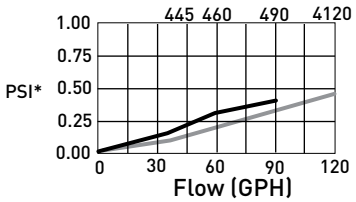
Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

400 Series Overview

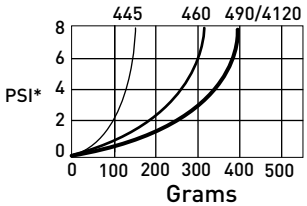
Specifications	445MAM10	460MAM10	490MAM10	4120MAM10
Maximum Flow Rate	45 GPH (170 LPH)	60 GPH (227 LPH)	90 GPH (341 LPH)	120 GPH (454 LPH)
Port Size	3/8" NPTF	3/8" NPTF	3/8" NPTF	3/4" UNF
Number of Ports:				
Inlet	2	2	2	2
Outlet	2	2	2	2
Replacement Element	S3204TUL	S3211TUL	S3201TUL	S3201TUL
Center Threads	1"-14	1"-14	1"-14	1"-14
Height	9.4 in. (23.9 cm)	10.8 in. (27.4 cm)	12.8 in. (32.5 cm)	12.8 in. (32.5 cm)
Width	4.5 in. (11.4 cm)	4.5 in. (11.4 cm)	4.5 in. (11.4 cm)	4.5 in. (11.4 cm)
Depth	4.8 in. (12.2 cm)	4.8 in. (12.2 cm)	4.8 in. (12.2 cm)	4.8 in. (12.2 cm)
Weight	2.9 lbs (1.3 kg)	3.1 lbs (1.4 kg)	3.3 lbs (1.5 kg)	3.3 lbs (1.5 kg)
Clean Pressure Drop	0.2 PSI (1.2 kPa)	0.3 PSI (2.1 kPa)	0.4 PSI (2.4 kPa)	0.5 PSI (3.1 kPa)
Max. Operating Pressure	15 PSI (103 kPa)	15 PSI (103 kPa)	15 PSI (103 kPa)	15 PSI (103 kPa)
H_2O Removal Efficiency	99%	99%	99%	99%
Bowl Capacity	2.0 oz (58 ml)	2.0 oz (58 ml)	2.0 oz (58 ml)	2.0 oz (58 ml)
Ambient Fuel Temperature	-40° to +250°F (-40° to +121°C)			
Max. Fuel Temperature	190°F (88°C)			

Test Data

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



SAE J905 Fuel Flow Restriction

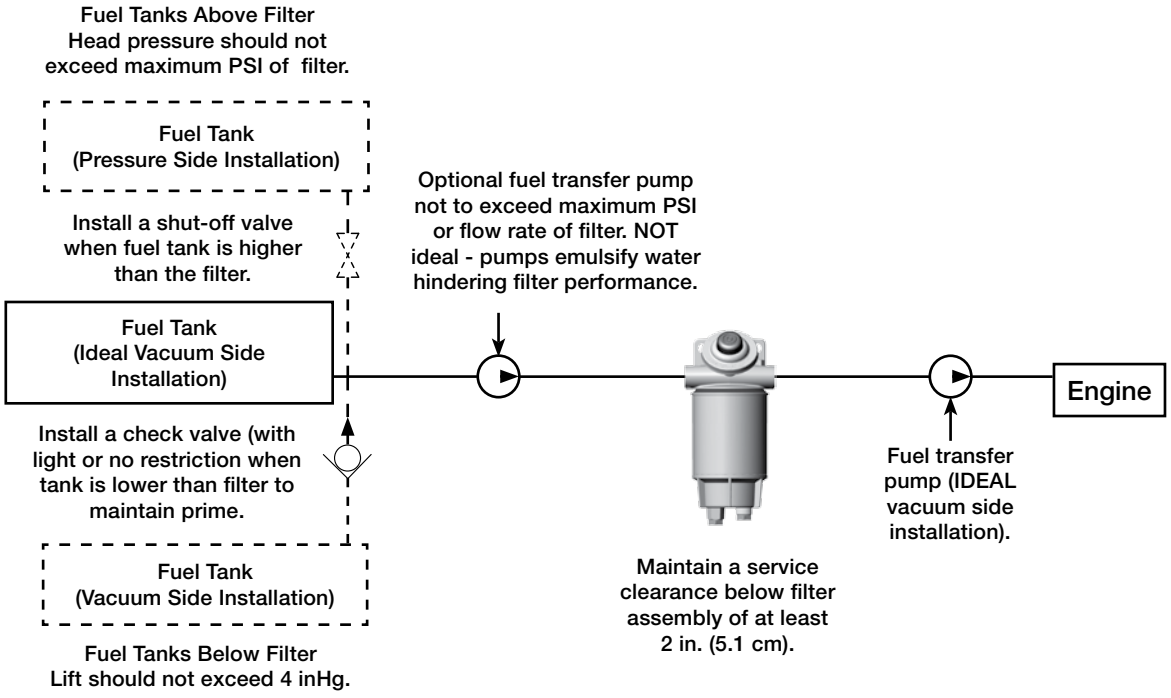


SAE J905 Solids Capacity
(using SOFTC-2A; 10 mic. element)

*PSI x 2.036 = inHg. / PSI x 6.895 = kPa

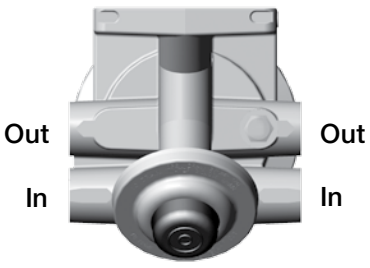
400 Series

Installation Diagram

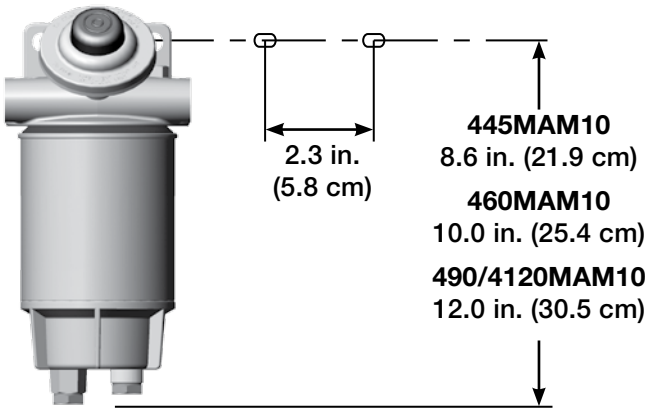


Installation diagram applies to all 400 Series filters. Model 445MAM10 shown above. Racor offers hose and fittings to complete this installation. See Marine Accessories.

Mounting Information



Top View



Replacement Parts

445MAM10, 460MAM10,
490MAM10 and 4120MAM10

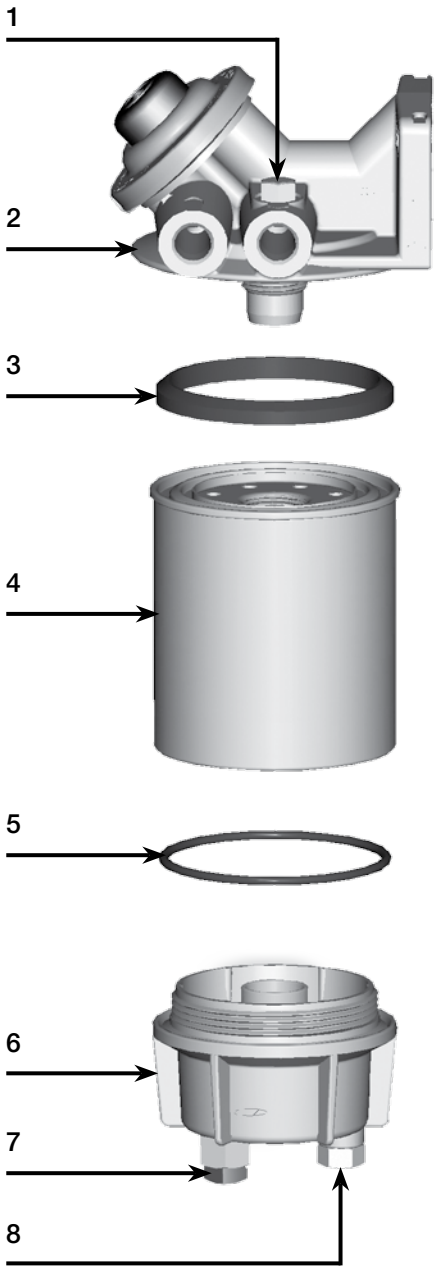
	Part Number	Description
1.	**RK 10110**	Metal Vent Plug Kit
2.	Mounting Head Kits (includes primer pump & #'s 1 & 3)	
	RK 22425	with (3/8" NPTF ports) for 445MAM10, 460MAM10, 490MAM10
	RK 22270	4120MAM (¾" UNF ports)
3.	**RK 22061**	Element Gasket Kit
4.	Replacement Elements 10 micron (includes #'s 3 and 5)	
	S3204TUL	For 445MAM10
	S3211TUL	For 460MAM10
	S3201TUL	For 490MAM10
	S3201TUL	For 4120MAM10
5.	**RK 30076**	Bowl O-ring Kit
6.	**RK 30495**	Metal Bowl Kit (includes #'s 5-8)
7.	**918-N4**	Steel Plug (1/4" NPT)
8.	**RK 20022**	Metal Plug Kit (1/2"-20 UNF)

Additional Parts (not shown)

01SP-6S	Metal Plug (3/8" NPT)

Applies to all models.

MARINE UL LISTED



Marine 800 Series

Marine 800 Series

Racor Marine 800 Series recyclers offer large diesel engine operators both ease of maintenance and continuous engine operation. Continuous operations include filter change-outs and the draining of accumulated water from the handy drain valve. Manifold systems have sufficient fuel flow for prime or standby power operations, commercial marine engines, or other large engine applications.

This recycling series includes the 812MA, the dual manifolded 75812MA and the triple manifolded 79812MA. The Marine 800 Series is designed to filter water and solid contaminants from diesel fuel.

These assemblies utilize proven Racor technology with Aquabloc®II filtration, which filters down to 40 micron, to purify diesel fuel before OEM engine filters are used. Protecting high tolerance injection components keeps engines running at peak performance and lowers maintenance costs. Large inlet and outlet ports allow for improved flow and less fuel flow restriction.

Features and options may include clear contaminant collection bowls; but not marine units, water sight glasses, manual drains and vacuum or compound gauges the marine units are powder coated white.

Determine the fuel flow rate

Selection should be made by considering the primary use for the unit. Recycling/filtering the fuel in storage tanks cleans the fuel while removing particulates and sediment accumulations. The fuel may be recycled numerous times, depending on the severity of contamination. Filter/recycling clock times can be reduced by selecting a larger capacity unit. Severely contaminated tanks may require more than one "cycle" to clean them properly.

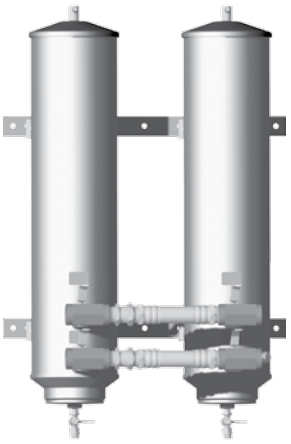
For example, the 812MA filters up to 720 gallons per hour or 12 gallons per minute. It would take about 8.5 minutes to filter 100 gallons. To cycle the tank 3 times would take about 26 minutes. One cycle of 100 gallons of fuel with a 75812MA would take approximately 4 minutes.

ASTM INTERNATIONAL

MEMBER ABYC Setting Standards for Safer Boating

NMMA TYPE ACCEPTED

812MA



75812MA

79812MA

Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

Marine 800 Series Overview

Specifications	812MA	75812MA	79812MA
Maximum Flow Rate *(one unit online)* *(two units online)* *(three units online)*	720 GPH (2725 LPH) N/A N/A	720 GPH (2725 LPH) 1440 GPH (5450 LPH) N/A	720 GPH (2725 LPH) 1440 GPH (5450 LPH) 2160 GPH (8175 LPH)
Port Size	1" NPT	1" NPT	1" NPT
Replacement Elements	RK22610	RK22610[1]	RK22610[1]
Micron Rating nominal): *(upper element)* *(lower element)*	40 Coalescer	40 Coalescer	40 Coalescer
Height	33.2 in. (84.3 cm)	33.2 in. (84.3 cm)	33.2 in. (84.3 cm)
Width	6.6 in. (16.8 cm)	21.8 in. (55.4 cm)	33.3 in. (84.6 cm)
Depth	8.8 in. (22.4 cm)	16.0 in. (40.6 cm)	16.0 in. (40.6 cm)
Weight (dry)	36.0 lbs (16.3 kg)	89.0 lbs (40.4 kg)	133.0 lbs (60.4 kg)
Min. Service Clearance: *(above assembly)* *(below assembly)*	12.0 in. (30.5 cm) 4.0 in. (10.2 cm)	12.0 in. (30.5 cm) 4.0 in. (10.2 cm)	12.0 in. (30.5 cm) 4.0 in. (10.2 cm)
Max. Working Pressure	30 PSI (2.07 bar)	30 PSI (2.07 bar)	30 PSI (2.07 bar)
Differential Pressure	3.2 PSI (0.22 bar)	3.3 PSI (0.23 bar)	6.0 PSI (0.41 bar)
H_2O Removal Efficiency	99%	99%	99%
Operating Temperature	-10° to +180°F (-23° to +82°C)		

[1] **75812MA** assemblies require two **RK22610** element kits and the **79812MA** requires three.

Marine 800 Series

Installation Instructions

Before installing the filter assembly:

- **Obtain good ventilation and lighting.**
- **Maintain a safe working environment.**
- **The engine must be off for installation.**
- **DO NOT smoke or allow open flames near the installation.**

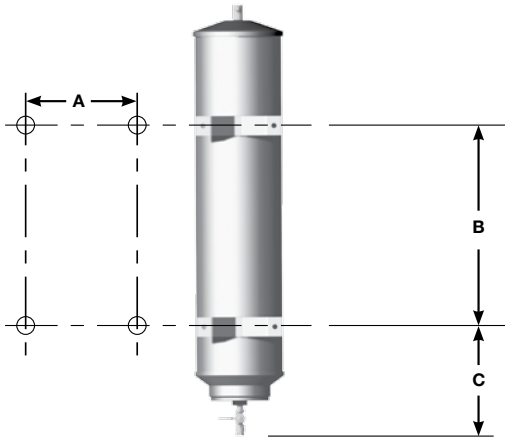
When positioning the filter assembly:

- **Filter assemblies should be installed on vacuum side of fuel transfer pump for optimum water separating efficiency. See Installation Diagram.**
- **Keep fuel line restrictions to a minimum. Locate filter assembly between horizontal planes of bottom of fuel tank and inlet of fuel pump, if possible. If filter assembly is installed in an application where fuel tank is higher than filter, a shut-off valve must be installed between tank and filter assembly INLET. This will be used when servicing replacement elements.**

Installing the filter assembly:

- **Install the unit in a location which provides accessibility and protection from heat, flames, oraccidental impacts. Always adhere to applicable local piping regulations or codes. Use the maximum line size possible and avoid reducers and elbows in order to keep restriction values as low as possible.**
- **Apply thread sealant (do not use thread tapes) to inlet and outlet fittings prior to installing onto filter assembly.**
- **When routing hose, avoid surfaces that move, have sharp edges, or get hot (such as exhaust piping).**

Mounting Information



A:	B:	C:
812MA: 5.5 in. (13.8 cm)	812MA: 15.5 in. (39.2 cm)	812MA: 8.3 in. (21.0 cm)
75812MA: 20.3 in. (51.4 cm)	75812MA: 15.5 in. (39.2 cm)	75812MA: 8.6 in. (21.8 cm)
79812MA: 31.8 in. (80.8 cm)	79812MA: 16.0 in. (40.6 cm)	79812MA: 8.1 in. (20.6 cm)

Questions? Contact Technical Support:
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e-mail: racortech@parker.com

Priming Instructions

1. **Close inlet fuel valve, if applicable.**
2. **Remove T-handle(s) and lid(s) from top of filter assembly.**
3. **Fill filter assembly with clean fuel.**
4. **Lubricate lid gasket(s) and T-handle O-ring(s) with clean fuel or motor oil.**
5. **Replace lid(s) and T-handle(s) and tighten snugly by hand only - do not use tools.**
6. **Open inlet fuel valve, if applicable.**
7. **Start engine and check for leaks. Correct as necessary with engine off.**

Draining Water

Drain water and contaminants by opening the self-venting drain. If more than 1.4 oz (40 ml) of fluid is drained, follow priming instructions above. Otherwise, start engine and allow air to purge from system prior to operating equipment at normal loads.

Element Replacement

Frequency of element replacement is determined by the contamination level in fuel. Recommended service intervals are as follows: every 10,000 miles, 500 hours, every other oil change, annually, or at the first indication of power loss, whichever comes first.

Foul smelling fuel is an indication of microbiological contamination. A change of fuel source and Racor fuel additives are recommended. Always carry extra replacement elements as one tankful of excessively dirty fuel can plug a filter quickly.

1. **Close inlet fuel valve, if applicable, and completely drain filter assembly.**
2. **Remove T-handle(s), lid(s) and lid gasket(s).**
3. **Remove elements from inside housing(s) and dispose properly.**
4. **Lubricate new element(s) seals with clean fuel or motor oil and insert coalescer element(s) first, then the 40 micron paper element(s).**

Insert new elements SLOWLY with a slight twisting motion. Inserting them too quickly may dislodge element seals.

5. **Install new lid gasket(s), supplied with new elements, into lid groove.**
6. **Follow priming instructions above.**

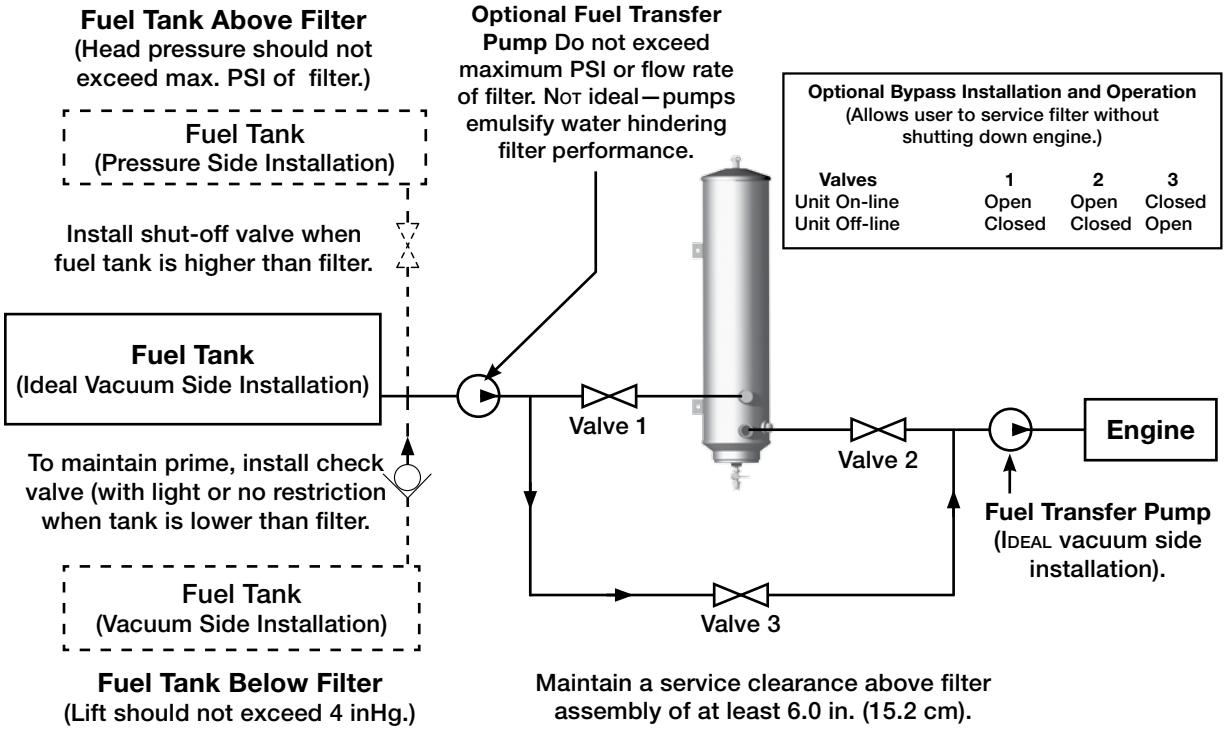
Recycling Filtering

Recycling or filtering fuel in storage tanks cleans the fuel while removing particulates and sediment accumulations. Fuel should be recycled numerous times, depending on the severity of contamination. Filter/recycling clock times can be reduced by selecting a larger capacity unit.

Severely contaminated fuel may require several cleaning cycles to clean the fuel properly. Cycle time (the amount of time it takes to clean an entire tank of fuel one time) can be reduced by installing a duplex (75812MA) or triplex (79812MA) recycling system. For example, the 812MA recycler filters up to 720 gallons per hour (GPH) or 12 gallons per minute. The cycle time for a 100 gallon tank of fuel would be about 8.3 minutes. Depending of the contamination level of the fuel, one cycle may be enough to clean the fuel properly. If the fuel requires additional cleaning (more cycles), cleaning the fuel can become time consuming, especially if your filtering tanks larger than 100 gallons. By installing a 75812MA (maximum flow rate is 1440 GPH), the same 100 gallons of fuel can be clean in a little over 4 minutes (one cycle); a 79812MA would cut the cycle time down to around 3 minutes. If time is the issue, installing a duplex or triplex recycling system is the answer.

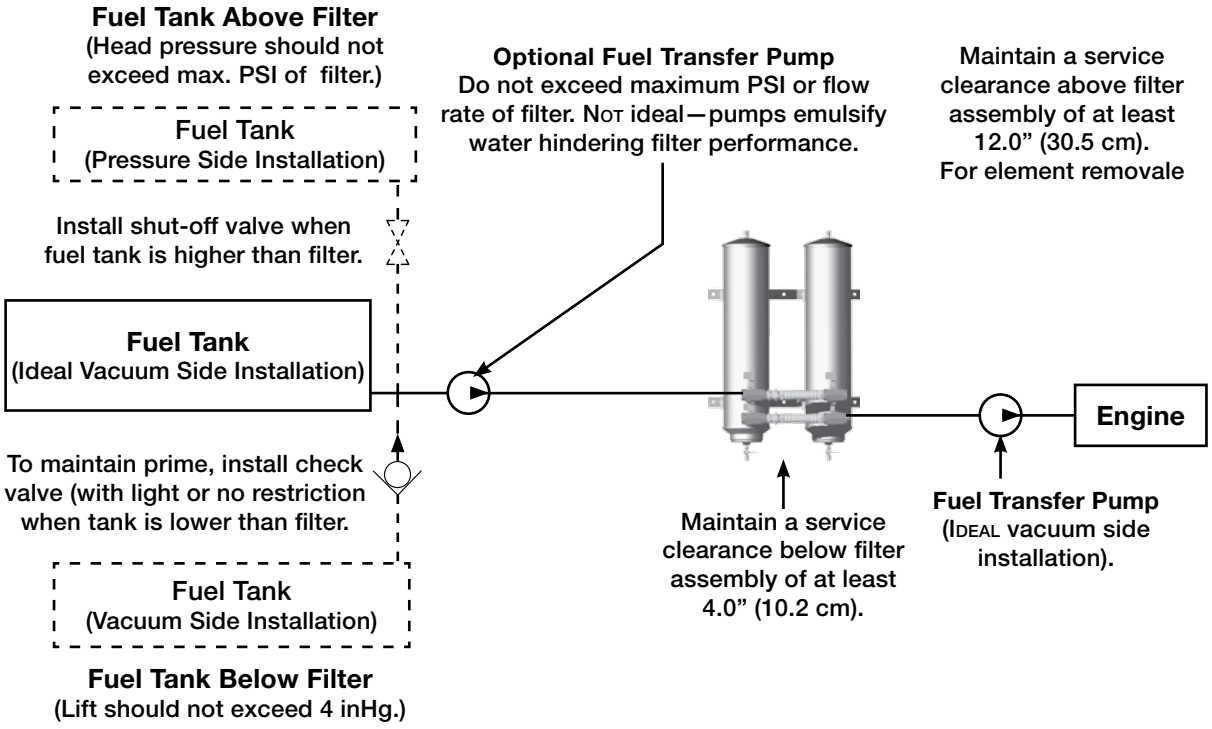
Marine 800 Series

Installation Diagram for 812MA



Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

Installation Diagram for 75812MA and 79812MA

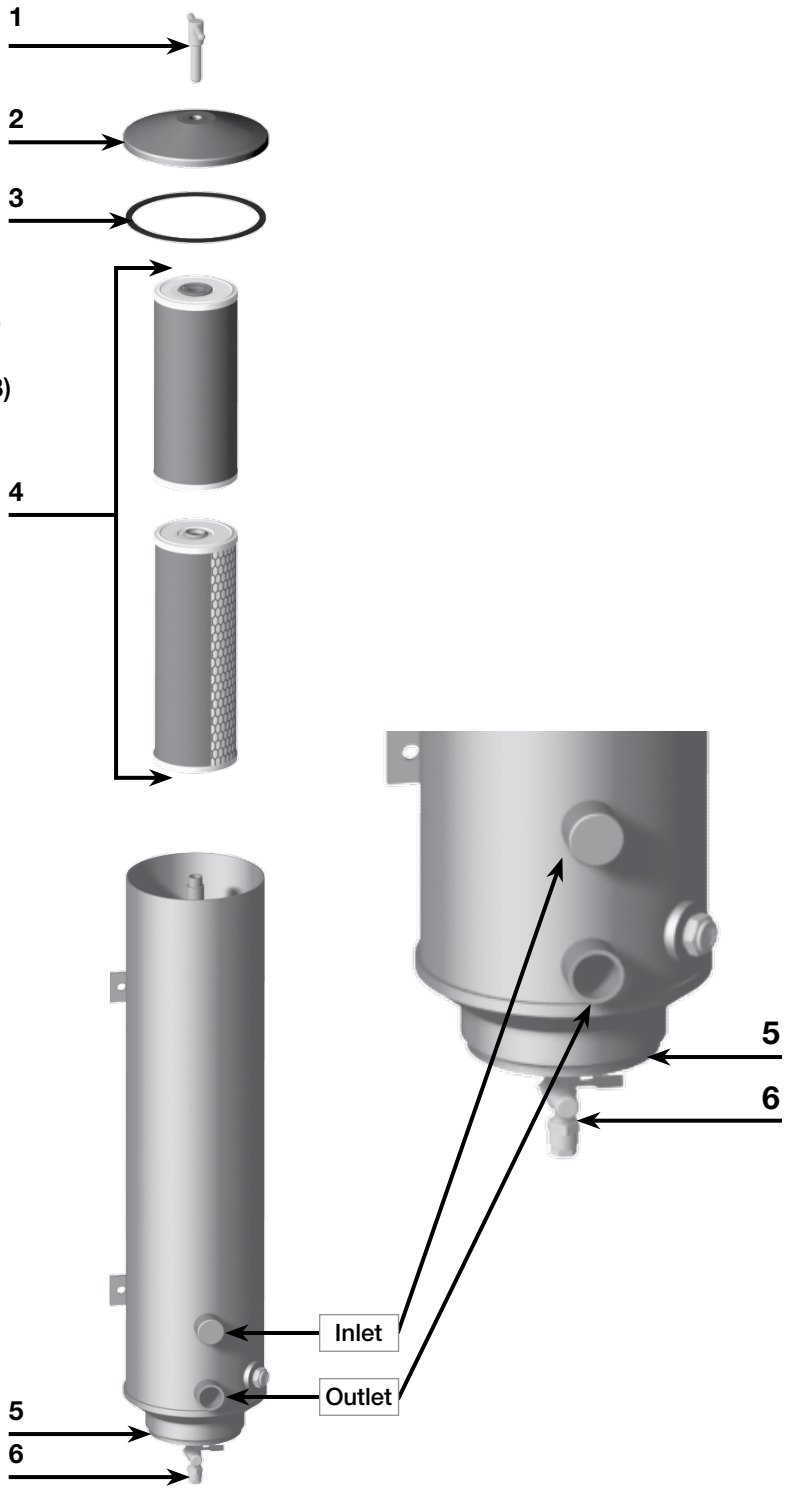


Marine 800 Series

Replacement Parts

812MA

	Part Number	Description
1.	**N/A** **11350**	T-handle Kit T-handle O-ring
2.	**RK 22682**	Lid Kit
3.	**RK 22609**	Lid Seal Kit
4.	**RK 22610**	812MA Element Kit (these kits include one 40 micron element, one coalescer element and #3)
5.	RK **22675**	Metal Collection Cap
6.	**RK 19492**	Valve Kit



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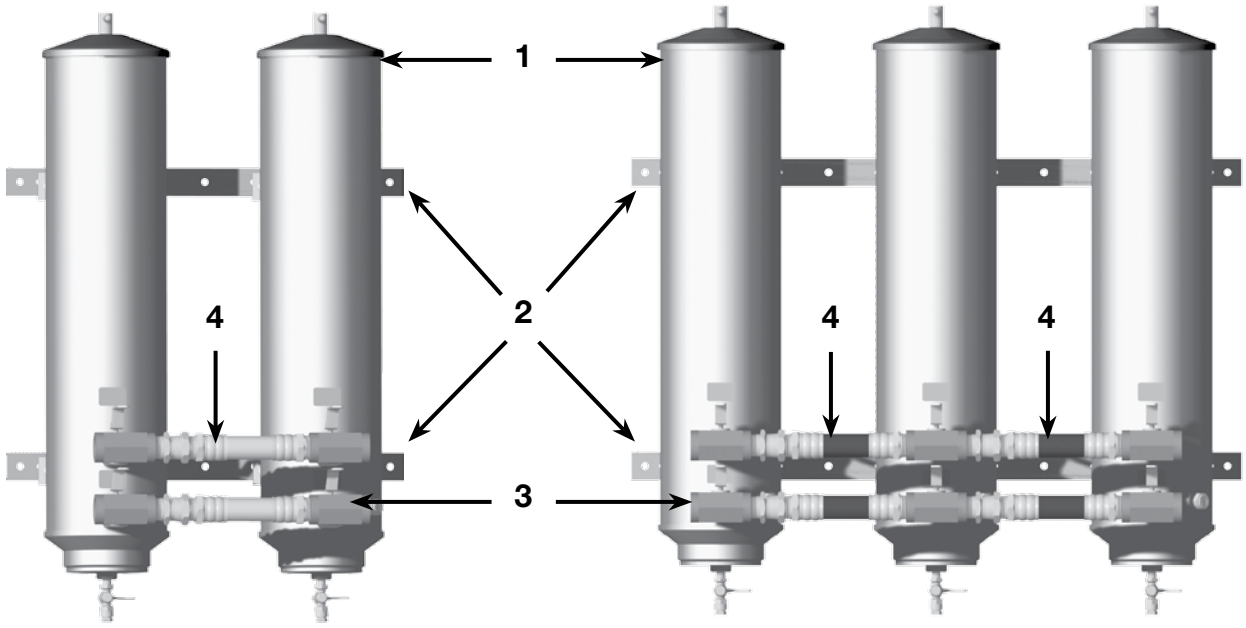
e-mail: racortech@parker.com

Replacement Parts

75812MA and 79812MA

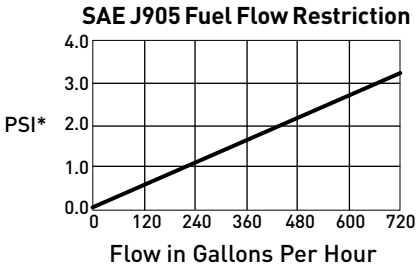
	Part Number	Description
1.	**812MA**	(See 812MA Replacement Part List)
2.	N/A	Mounting Bracket (call Racor)
3.	**RK22898**	Ball Valve Kit (includes one 1” NPTF ball valve and one 1” NPTF straight pipe adapter)
4.	**RK22897**	Hose and Fitting Kit (includes one 1” NPTF straight pipe adapter, one hose assembly and one 1” NPTF pipe tee)

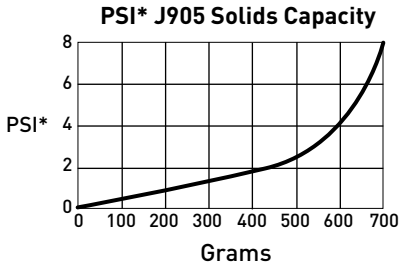


75812MA **79812MA**

Marine 800 Series

812MA Test Data





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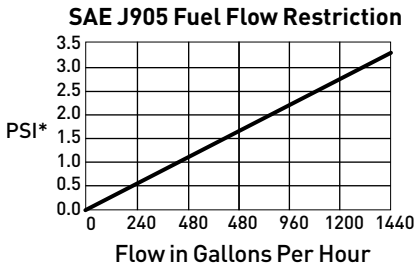
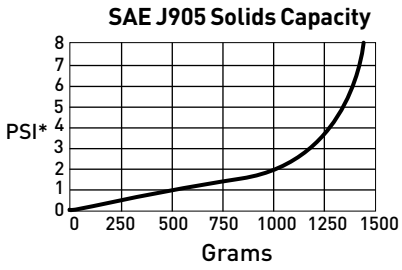
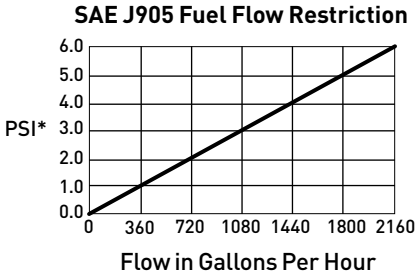
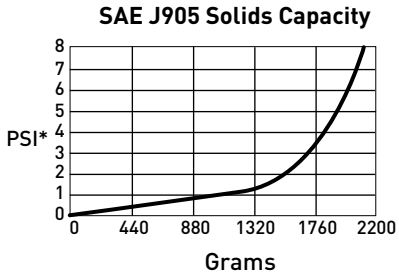




79812MA Test Data





PSI X 2.036 = inHg (PSI X 6.895 = kPa)

Test results are from controlled laboratory testing. Field results may vary by application.

Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

Marine FBO

The Racor Marine FBO assembly is specifically designed to meet the filtration requirements of today's high pressure common rail diesel injection systems. The unit is used for fuel dispensing pumps or as a primary fuel filter/water separator on large diesel engine applications.

Racor's new FBO-10-MA and FBO-14-MA filter assemblies were designed to meet the toughest conditions and offer ease of filter changeouts. The FBO assembly can flow from 10 GPM (38 LPM) to 75 GPM (284 LPM), depending on which model, the element, and the type of fuel to be filtered.

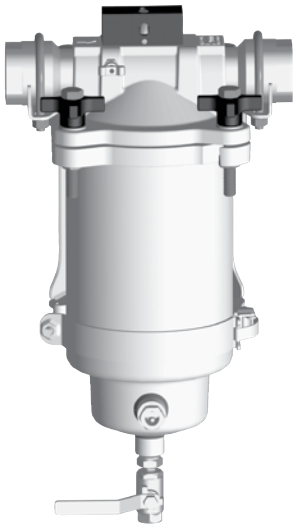
The assembly features a "locking ring collar", which attaches the filter housing to the aluminum die cast filter head with four bolts. The slotted "locking ring collar" allows maintenance personnel to hand loosen the four collar bolts, rotate, and lower the bowl assembly for element changeouts. With a new element installed, simply raise the bowl and rotate into position on the locking ring and hand tighten evenly (evenly torquing the 4 closure bolts to 100 lb-in is highly recommended).

The closure hardware consists of stainless steel nuts, bolts, and washers with metal hand knobs for ease of maintenance. No wrenches or other special tools are required, allowing one person to easily change the filter element (no V-band clamps are used).

Features:

- **Standard Differential Pressure Gauge**
- **Optional Water Sight Glass with Bowl**
- **Standard Mounting Bracket**
- **Viton seals and O-Rings**
- **Optional Water Sensor Available**

MARINE UL LISTED



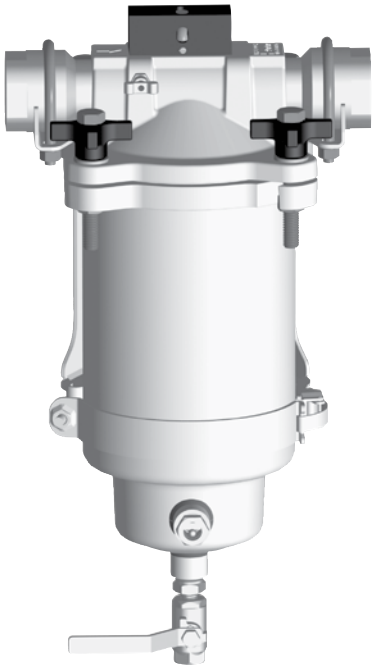
FBOMA-10

FBOMA-14

Marine FBO

Specifications	Maximum Flow Rates			Clean	Change
FBO-10-MA	Diesel	Gasoline	Kerosene	Delta P	Delta P
Microfilter	18 GPM (68 LPM)	52.5 GPM (199 LPM)	35 GPM (132 LPM)	< 2 PSID	15 PSID
Filter Separator	10 GPM (38 LPM)	31.5 GPM (119 LPM)	21 GPM (79 LPM)	< 2 PSID	15 PSID
Absorber	10 GPM (38 LPM)	31.5 GPM (119 LPM)	21 GPM (79 LPM)	< 2 PSID	15 PSID
FBO-14-MA	**Diesel**	**Gasoline**	**Kerosene**	**Delta P**	**Delta P**
Microfilter	25 GPM (95 LPM)	75 GPM (284 LPM)	50 GPM (189 LPM)	< 2 PSID	15 PSID
Filter Separator	15 GPM (57 LPM)	45 GPM (170 LPM)	30 GPM (114 LPM)	< 2 PSID	15 PSID
Absorber	15 GPM (57 LPM)	45 GPM (170 LPM)	30 GPM (114 LPM)	< 2 PSID	15 PSID

Element Chart	Micron Rating	FBO-10-MA (6 X 10 Element)	FBO-14-MA (6 X 14 Element)
Filter Separator	1	FBO 60327	FBO 60336
	5	FBO 60328	FBO 60337
	10	FBO 60353	FBO 60356
	25	FBO 60329	FBO 60338
Microfilter	1	FBO 60330	FBO 60339
	5	FBO 60331	FBO 60340
	10	FBO 60356	FBO 60357
	25	FBO 60332	FBO 60341
Absorptive Filter	1	FBO 60333	FBO 60342
	5	FBO 60334	FBO 60343
	10	FBO 60355	FBO 60358
	25	FBO 60335	FBO 60344



Questions? Contact Technical Support:
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e-mail: racortech@parker.com

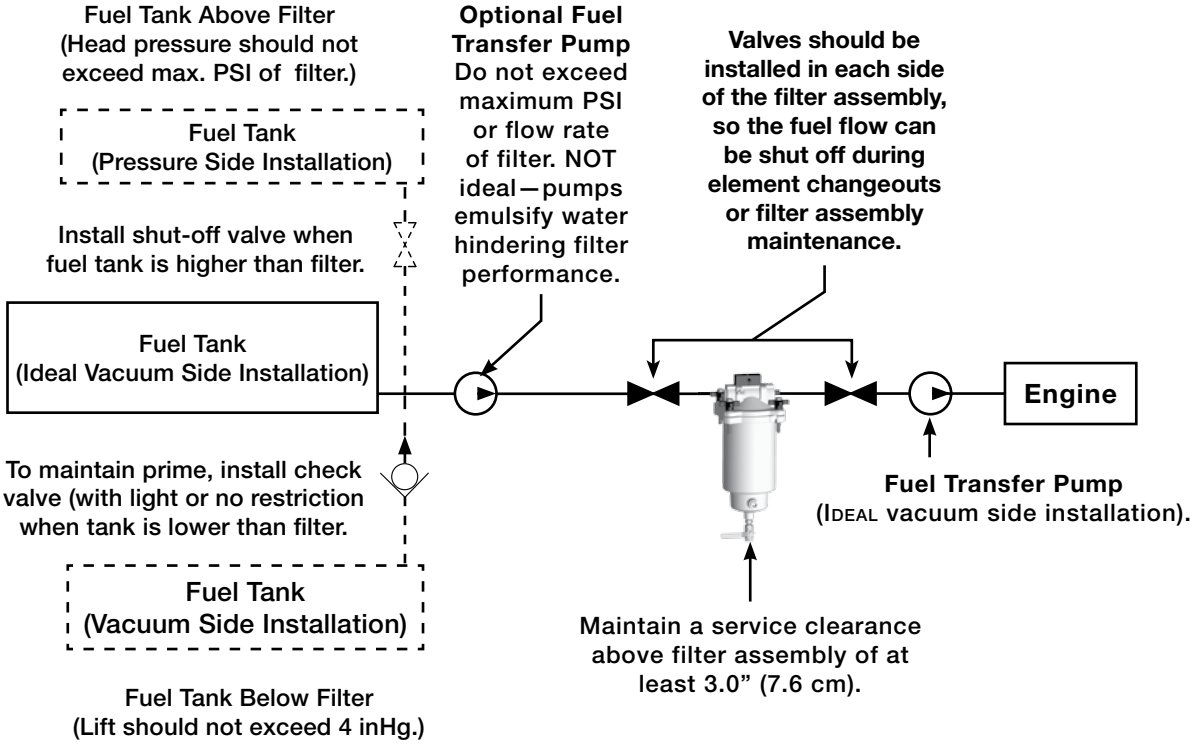
How to Order

FBO - 10 - MA

- **FBO** — Fixed Based Operation
- **10** — Flow Rates
  - 10 = 5-40 GPM (22-181 LPM)
  - 14 = 10-60 GPM (45-272 LPM)
- **MA** — None =
  - DP = Deferential Gauge
  - DPL = Delta P Gauge with Liquid Sight Glass
  - MA = Marine Unit Assembly
  - 25M = Unit with 25 Micron Element

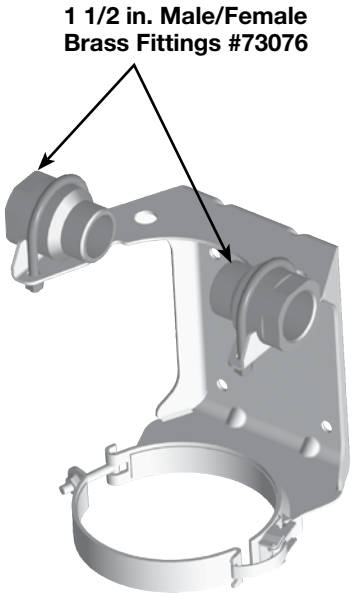
FBO	-10	-14	-MA
Basic Unit 1.5" NPT Inlet & Outlet Ports	add -10 For a 6x10 in. element and flow rate of 10-52 GPM	add -14 for a 6x14 in. element and flow rate of 15-75 GPM	add -MA for marine Assembly

Installation Diagram

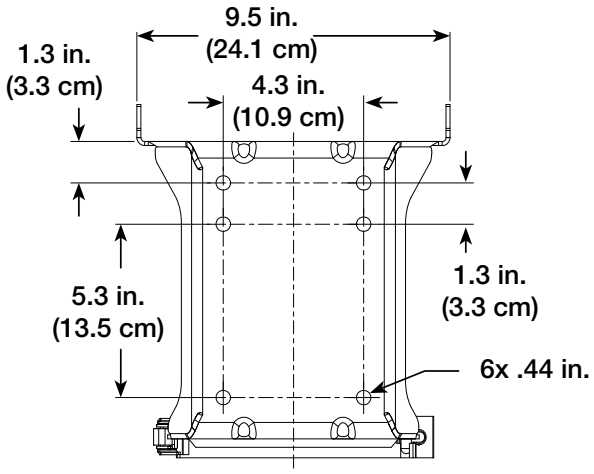


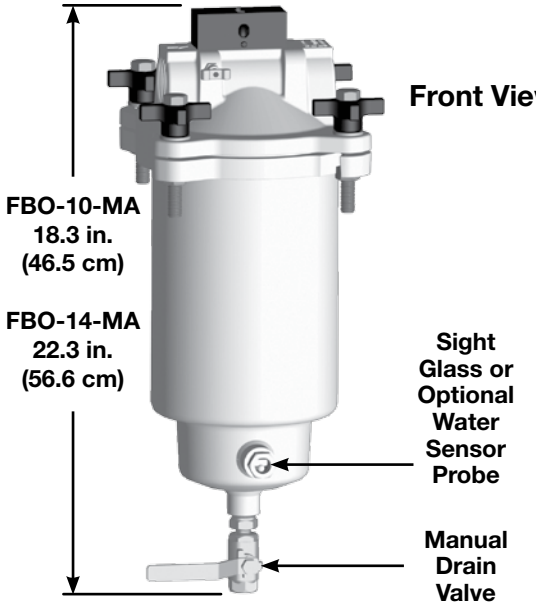
Marine FBO

Mounting Information



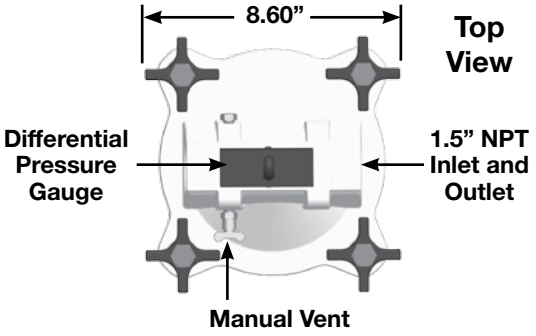
Mounting Bracket View
#73167





Front View

Top View



Questions? Contact Technical Support:
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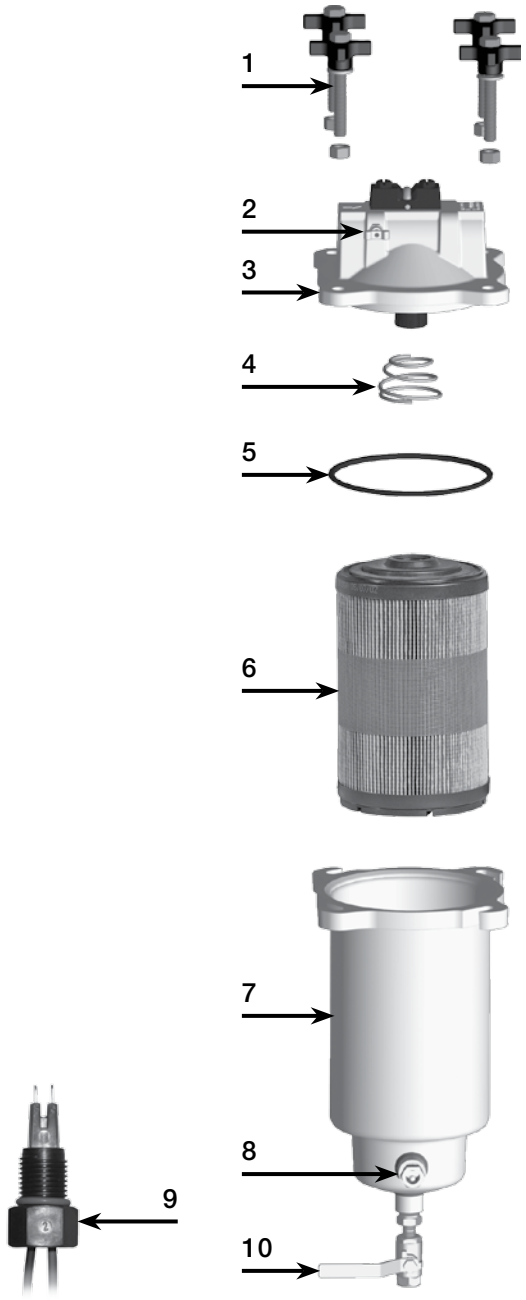
e-mail: racortech@parker.com

Replacement Parts

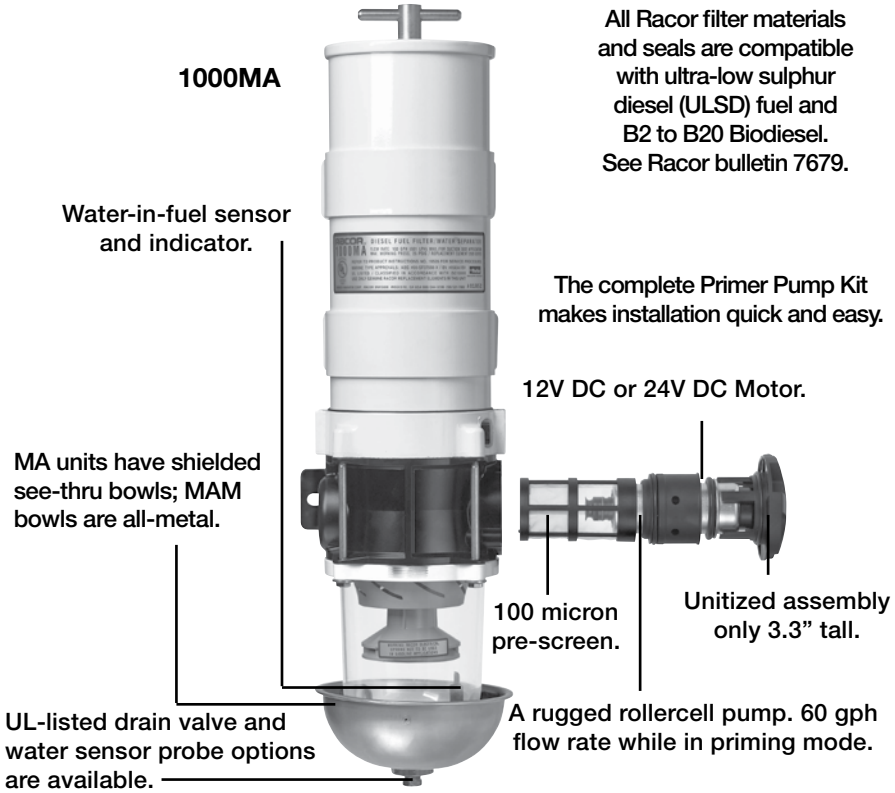
FBO-10-MA & FBO-14-MA

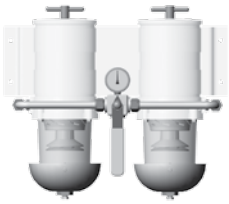
	Part Number	Description
1.	72712	Bolt Kit with Nobs
2.	72695	Pet Cock Assembly
3.	73152	Head Kit (1 1/2” NPT Ports)
4.	72368	Spring
5.	72896	Seal Kit (Viton)
6.	**Replacement Elements (see element chart)**	
	FBO-10-MA	Use a (6”x10”) Element
	FBO-14-MA	Use a (6”x14”) Element
7.	73160	FBO-10-MA Housing Assembly
	73161	FBO-14-MA Housing Assembly
8.	72710	Sight Glass Assembly (1/2” NPT)
9.	RK 21069	Water Sensor
10.	71943-.25	Brass Ball Valve



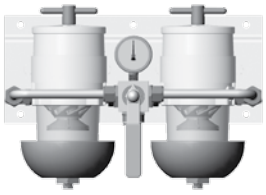
Marine Turbine Series

Marine Turbine Series

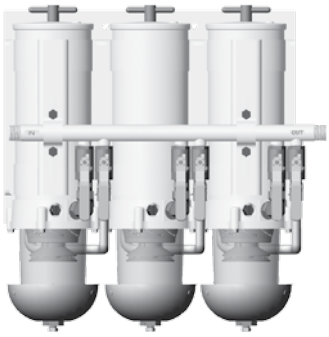




75900MAX



75500MAX



791000MAV

And more…

Turbine Series Electric Primer Pump

The Turbine Series Electric Primer Pump Kits can be retrofitted to many of the Racor 900 or 1000 series fuel filters already in service. The Filter Pump is an innovative and proprietary system consisting of a pre-screen filter, a flow bypass circuit and a roller cell pump powered by a DC motor. When the switch is activated the fuel is drawn into the pre-screen and then pumped through the housing, refilling the unit with fuel. When not in use the Filter Pump system is bypassed and the Racor fuel filter/water separator functions normally.

The RKP1912, 12V DC Kit, contains a traditional brushed motor design. The RKP1924, 24V DC Kit, contains innovative brushless motor technology.

The use of this primer pump kit allows the operator to easily re-prime the Racor Filter/Separator directly from the fuel storage tank with no mess

Marine Turbine Series filter assemblies are designed to be installed on the vacuum side of the fuel transfer pump for best efficiency and protect precision engine components from dirt, rust, algae, asphaltines, varnishes, and especially water, which is prevalent in engine fuels. They remove contaminates from fuel using the following legendary three stage process:

Stage One: Separation

As fuel enters the filter assembly, it moves through the centrifuge and spins off large solids and water droplets which fall to the bottom of the collection bowl.

Stage Two: Coalescing

Small water droplets bead-up on the surface of the conical baffle and cartridge element. When heavy enough, they too fall to the bottom of the bowl.

Stage Three: Filtration

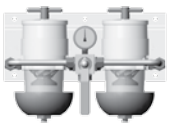
Proprietary Aquabloc®II cartridge elements repel water and remove contaminants from fuel down to 2 micron (nominal). They are waterproof and effective longer then water absorbing elements.

Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

500 Series Overview

Applies to all models.




Specifications	500MA[1]	500MAM	503MA	75500MAX	75500MAXM
Maximum Flow Rate *One Filter On-line* *Two Filters On-line*	60 GPH (227 LPH) N/A	60 GPH (227 LPH) N/A	60 GPH (227 LPH) N/A	60 GPH (227 LPH) 120 GPH (454 LPH)	60 GPH (227 LPH) 120 GPH (454 LPH)
Application	Diesel	Gasoline or Diesel	Diesel	Diesel	Gasoline or Diesel
Port Size	3/4"-16 (SAE J1926 female threads)	3/4"-16 (SAE J1926 female threads)	3/8" NPTF (female threads)	3/4"-16 (SAE J1926 female threads)	3/4"-16 (SAE J1926 female threads)
Height	11.5 in. (29.2 cm)	11.0 in. (27.9 cm)	11.5 in. (29.2 cm)	11.5 in. (29.2 cm)	11.0 in. (27.9 cm)
Width	5.8 in. (14.7 cm)	5.8 in. (14.7 cm)	5.8 in. (14.7 cm)	14.5 in. (36.8 cm)	14.5 in. (36.8 cm)
Depth	4.8 in. (12.2 cm)	4.8 in. (12.2 cm)	4.8 in. (12.2 cm)	9.5 in. (24.1 cm)	9.5 in. (24.1 cm)
Weight	4.0 lbs (1.8 kg)	5.0 lbs (2.3 kg)	4.0 lbs (1.8 kg)	17 lbs (7.7 kg)	18 lbs (8.2 kg)
Clean Pressure Drop	0.3 PSI (1.7 kPa)	0.3 PSI (1.7 kPa)	0.3 PSI (1.7 kPa)	0.7 PSI (4.8 kPa)	0.7 PSI (4.8 kPa)
Maximum Pressure	15 PSI (1.0 bar)	15 PSI (1.0 bar)	15 PSI (1.0 bar)	15 PSI (1.0 bar)	15 PSI (1.0 bar)
Water Capacity	3.7 oz (110 ml)	3.7 oz (110 ml)	3.7 oz (110 ml)	7.4 oz (220 ml)	7.4 oz (220 ml)
Overhead Clearance	4.0 in. (10.2 cm)	4.0 in. (10.2 cm)	4.0 in. (10.2 cm)	4.0 in. (10.2 cm)	4.0 in. (10.2 cm)
Water Removal Efficiency	99%	99%	99%	99%	99%
Ambient Fuel Temperature	-40° to +250°F[2] (-40° to +121°C)				
Max. Fuel Temperature	190°F (88°C)				

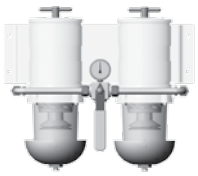
[1] Add * for optional 16MM ports. Example (*500MA30).
[2] With maximum fuel temperature 190°F (32°C).

Marine Turbine Series

900 Series Overview

Applies to all models.




Specifications	900MA	900MAM	903MA	75900MAX	75900MAXM
Max. Flow Rate: ***One Filter On-line*** ***Two Filter On-line***	 90 GPH (341 LPH) N/A	 90 GPH (341 LPH) N/A	 90 GPH (341 LPH) N/A	 90 GPH (341 LPH) 180 GPH (681 LPH)	 90 GPH (341 LPH) 180 GPH (681 LPH)
Application	Diesel	Gasoline or Diesel	Diesel	Diesel	Gasoline or Diesel
Port Size	7/8”-14 (SAE J1926 female threads)	7/8”-14 (SAE J1926 female threads)	1/2”-14 NPT (female threads)	7/8”-14 (SAE J514 male threads)	7/8”-14 (SAE J514 male threads)
Height	17.0 in. (43.2 cm)	16.5 in. (41.9 cm)	17.0 in. (43.2 cm)	17.0 in. (43.2 cm)	16.5 in. (41.9 cm)
Width	6.0 in. (15.2 cm)	6.0 in. (15.2 cm)	6.0 in. (15.2 cm)	18.8 in. (47.6 cm)	18.8 in. (47.6 cm)
Depth	7.0 in. (17.8 cm)	7.0 in. (17.8 cm)	7.0 in. (17.8 cm)	11.0 in. (27.9 cm)	11.0 in. (27.9 cm)
Weight	6.0 lbs (2.7 kg)	7.0 lbs (3.2 kg)	6.0 lbs (2.7 kg)	23 lbs (10.4 kg)	24 lbs (10.9 kg)
Clean Pressure Drop	0.34 PSI (2.4 kPa)	0.34 PSI (2.4 kPa)	0.34 PSI (2.4 kPa)	1.7 PSI (11.7 kPa)	1.7 PSI (11.7 kPa)
Maximum Pressure	15 PSI (1.0 bar)	15 PSI (1.0 bar)	15 PSI (1.0 bar)	15 PSI (1.0 bar)	15 PSI (1.0 bar)
Water Capacity	10.3 oz (305 ml)	10.3 oz (305 ml)	10.3 oz (305 ml)	20.6 oz (610 ml)	20.6 oz (610 ml)
Overhead Clearance	5.0 in. (12.7 cm)	5.0 in. (12.7 cm)	5.0 in. (12.7 cm)	5.0 in. (12.7 cm)	5.0 in. (12.7 cm)
Water Removal Efficiency	99%	99%	99%	99%	99%
Ambient Fuel Temperature	-40° to +250°F[1] (-40° to +121°C)				
Max. Fuel Temperature	190°F (88°C)				

[1] With maximum fuel temperature 190°F (32°C).

Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

1000 Series Overview

Applies to all models.





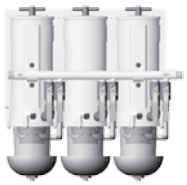
Specifications	1000MA	1000MAM	1003MA	731000MA	731000MAM
Maximum Flow Rate: *One Filter On-line* *Two Filters On-line*	180 GPH (681 LPH) N/A	180 GPH (681 LPH) N/A	180 GPH (681 LPH) N/A	N/A 360 GPH (1363 LPH)	N/A 360 GPH (1363 LPH)
Application	Diesel	Gasoline or Diesel	Diesel	Diesel	Gasoline or Diesel
Port Size	7/8”-14 (SAE J1926 female threads)	7/8”-14 (SAE J1926 female threads)	1/2”-14 NPT (female threads)	3/4”-14 (SAE J476 male threads)	3/4”-14 (SAE J476 male threads)
Height	22.0 in. (55.9 cm)	21.5 in. (54.6 cm)	22.0 in. (55.9 cm)	22.0 in. (55.9 cm)	21.5 in. (54.6 cm)
Width	6.0 in. (15.2 cm)	6.0 in. (15.2 cm)	6.0 in. (15.2 cm)	16.5 in. (41.9 cm)	16.5 in. (41.9 cm)
Depth	7.0 in. (17.8 cm)	7.0 in. (17.8 cm)	7.0 in. (17.8 cm)	12.0 in. (30.5 cm)	12.0 in. (30.5 cm)
Weight	10 lbs (4.5 kg)	11 lbs (5.0 kg)	10 lbs (4.5 kg)	26 lbs (11.8 kg)	27 lbs (12.2 kg)
Clean Pressure Drop	0.5 PSI (3.4 kPa)	0.5 PSI (3.4 kPa)	0.5 PSI (3.4 kPa)	1.7 PSI (11.7kPa)	1.7 PSI (11.7 kPa)
Maximum Pressure	15 PSI (1.0 bar)	15 PSI (1.0 bar)	15 PSI (1.0 bar)	15 PSI (1.0 bar)	15 PSI (1.0 bar)
Water Capacity	10.3 oz (305 ml)	10.3 oz (305 ml)	10.3 oz (305 ml)	20.6 oz (610 ml)	20.6 oz (610 ml)
Overhead Clearance	10.0 in. (25.4 cm)	10.0 in. (25.4 cm)	10.0 in. (25.4 cm)	10.0 in. (25.4 cm)	10.0 in. (25.4 cm)
Water Removal Efficiency	99%	99%	99%	99%	99%
Ambient Fuel Temperature	-40° to +250°F (-40° to +121°C)				
Max. Fuel Temperature	190°F (88°C)				

Marine Turbine Series

1000 Series Overview

Applies to all models.



Specifications	751000MAX	751000MAXM	771000MA	791000MAV
Maximum Flow Rate:One Filter *On-line* *Two Filters On-line* *Three Filters On-line*	180 GPH (681 LPH) 360 GPH (1363 LPH) N/A	180 GPH (681 LPH) 360 GPH (1363 LPH) N/A	N/A N/A 540 GPH (2044 LPH)	180 GPH (681 LPH) 360 GPH (1363 LPH 540 GPH (2044 LPH)
Application	Diesel	Gasoline or Diesel	Diesel	Diesel
Port Size	7/8”-14 (SAE J514 male threads)	7/8”-14 (SAE J514 male threads)	1”-11.5 (SAE J476 male threads)	3/4”-14 (SAE J476 male threads)
Height	22.0 in. (55.9 cm)	21.5 in. (54.6 cm)	22.0 in. (55.9 cm)	22.0 in. (55.9 cm)
Width	18.8 in. (47.8 cm)	18.8 in. (47.8 cm)	21.5 in. (54.6 cm)	21.5 in. (54.6 cm)
Depth	11.0 in. (27.9 cm)	11.0 in. (27.9 cm)	12.0 in. (30.5 cm)	11.8 in. (30.0 cm)
Weight	30 lbs (13.6 kg)	31 lbs (14.1 kg)	39 lbs (17.7 kg)	52 lbs (23.6 kg)
Clean Pressure Drop	3.7 PSI (25.5 kPa)	3.7 PSI (25.5 kPa)	1.7 PSI (11.7 kPa)	2.5 PSI (17.2 kPa)
Maximum Pressure	15 PSI (1.0 bar)	15 PSI (1.0 bar)	15 PSI (1.0 bar)	15 PSI (1.0 bar)
Bowl Capacity	20.6 oz (610 ml)	20.6 oz (610 ml)	30.9 oz (915 ml)	30.9 oz (915 ml)
Overhead Clearance	10.0 in. (25.4 cm)	10.0 in. (25.4 cm)	10.0 in. (25.4 cm)	10.0 in. (25.4 cm)
Water Removal Efficiency	99%	99%	99%	99%
Ambient Fuel Temperature	-40° to +250°F[1] (-40° to +121°C)			
Max. Fuel Temperature	190°F (88°C)			

Questions? Contact Technical Support:
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e-mail: racortech@parker.com

How to Order

(The example below illustrates how the part numbers are constructed).

*	500MA	M	10
Add * for optional 16MM ports	Basic Model Use model **503MA** for 3/8" NPTF Pipe Thread	Add **M** for metal bowl.	Specify: **2** (for 2 micron) **10** (for 10 micron) **30** (for 30 micron)

Replacement Element (seals included)		
2010SM-OR	2 micron	Final
2010TM-OR	10 micron	Secondary
2010PM-OR	30 micron	Primary[1]
[1] A secondary or final filter is required downstream.		

All 2010 Series filters are 2.7" tall by 3.1" in diameter.
Not all configurations are available - contact Technical Support for more information.

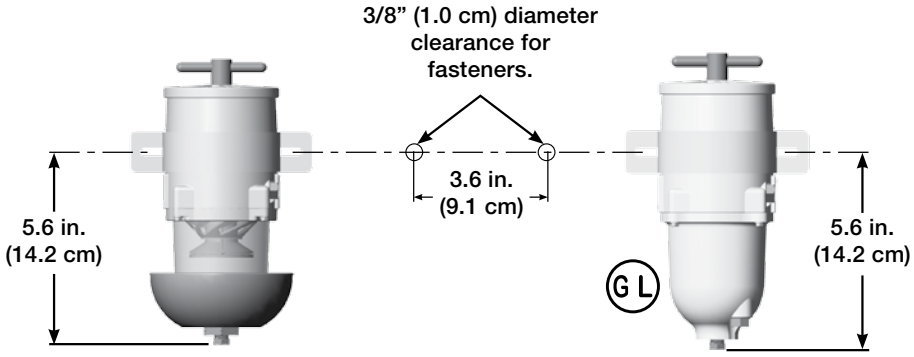
Mounting Information

500MA
Certifications

BUREAU VERITAS

USCG

ABS TYPE APPROVAL PROGRAM



Marine Turbine Series

Replacement Parts

500MA and 503MA

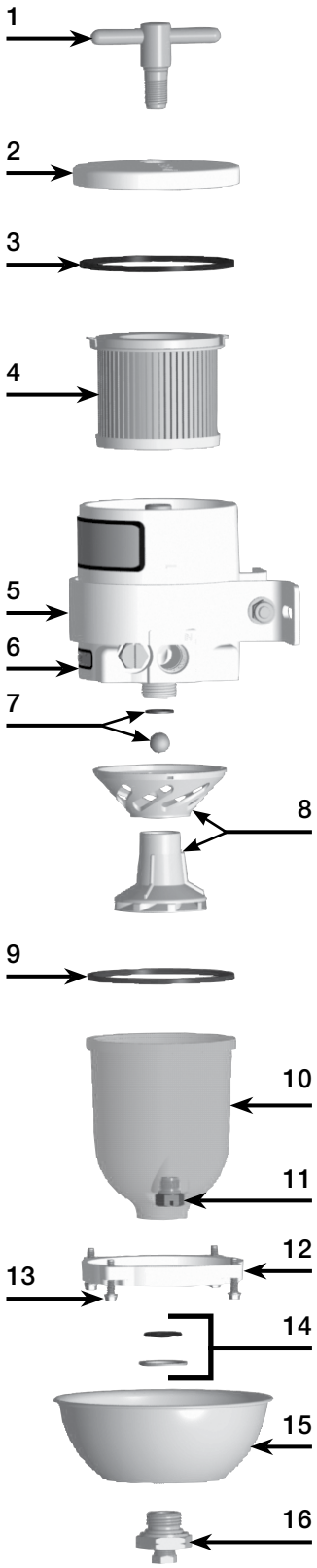
	Part Number	Description
1.	**RK 11888**	T-handle Kit (includes o-ring)
2.	**RK15078-02**	MA Lid Kit (white) (includes #3)
3.	**15005**	Lid Gasket
4.	Replacement Elements (includes #3)	
	2010SM-OR	2 Micron
	2010TM-OR	10 Micron
	2010PM-OR	30 Micron
5.	**RK 15090**	Mounting Bracket Kit
6.	**15418-09**	500MA Body (3/4"-16 UNF Ports)
	15418-08	500MA Body (16MM ports)
	15418-10	503MA Body (3/8" NPTF Ports)
7.	**RK 15010B**	Checkball Kit (includes seal)
8.	**RK 15013D**	Turbine/Centrifuge Kit
9.	**15374**	Bowl Gasket
10.	**RK 15279-01**	Clear Bowl Kit (includes #9)
	RK 15301-02	Metal Bowl Kit (includes #9)
11.	**RK 20022**	Probe Port Plug Kit
12.	**RK 15035-01**	Bowl Ring (includes # 9)
13.	**RK 15081**	Capscrew Kit (10-24 x 7/8") (includes 4 capscrews)
14.	**RK 11340**	Drain Fitting O-ring Kit
15.	**RK 15104**[1]	Heat Deflector Shield Kit (includes #'s 14 & 16)
16.	**RK 11-1910**	Drain Fitting Kit (includes # 14)

Additional Parts (not shown)

RK 11341	Drain Washer
RK 19492	Marine Shut-off Valve Kit
RK 21069[2]	Water Probe Kit
RK 15211	Complete Seal Service Kit
15335	Installation Instructions

[1]For replacement only. The Coast Guard does not accept 'FH' units converted to 'MA' configurations.

[2]For diesel service only. Must be used with a water Detection Kit.



Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

How to Order

(The example below illustrates how the part numbers are constructed).

900MA	M	10
Basic Model Number Use model **903MA** for 22x1.5 mm metric thread	Add **M** for metal bowl.	Specify: **2** (for 2 micron) **10** (for 10 micron) **30** (for 30 micron)

Replacement Element (seals included)		
2040SM-OR	2 micron	Final
2040TM-OR	10 micron	Secondary
2040PM-OR	30 micron	Primary[1]

[1] A secondary or final filter is required downstream.

All 2040 Series filters are 4.6" tall by 4.7" in. diameter.

Not all configurations are available - contact Technical Support for more information.

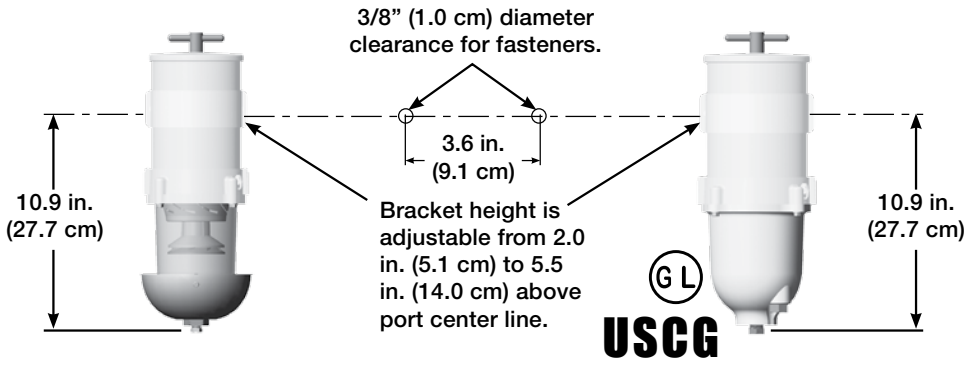
Mounting Information

900MA Certifications

BUREAU VERITAS

USCG

ABS TYPE APPROVAL PROGRAM



Marine Turbine Series

Replacement Parts

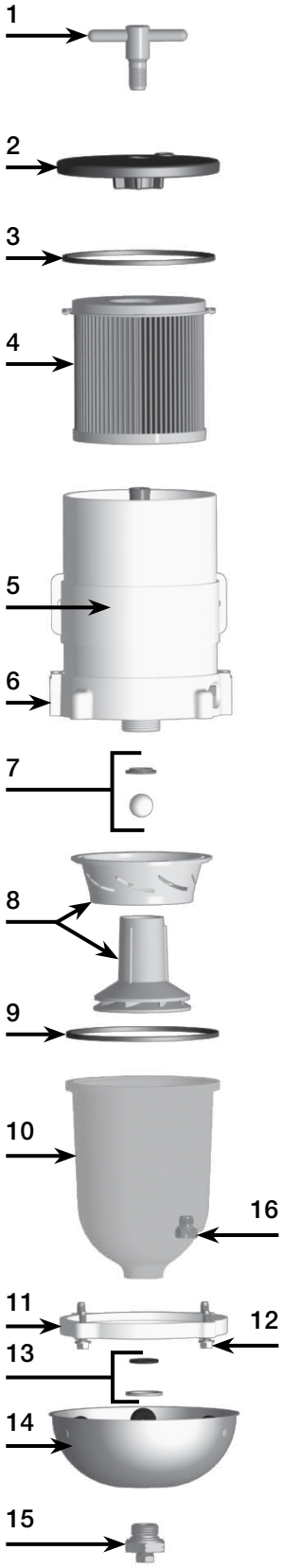
900MA and 903MA

	Part Number	Description
1.	**RK 11888**	T-handle Kit (includes o-ring)
2.	**RK 11-1933-04**	Lid Kit (includes #3)
3.	**11007**	Lid O-ring
4.	Replacement Element (includes #3)	
	2040SM-OR	2 Micron Element
	2040TM-OR	10 Micron Element
	2040PM-OR	30 Micron Element
5.	**RK11-2006**	Body Clamp Bracket Kit
6.	**N/A**	Base/Outer Cylinder Kit (includes # 9)
7.	**RK 11028B**	Checkball and Seal Kit
8.	**RK 11026D**	Turbine/Centrifuge Kit
9.	**11007**	Bowl O-ring
10.	**RK 11-1606-1**	Clear Bowl Kit (includes # 9)
	RK 11734-03	Metal Bowl (painted white)
11.	**RK 11037A**	Bowl Ring Kit
12.	**RK 11542**	Capscrew Kit (1/4"-20 x 1") (includes 4 capscrews)
13.	**RK 11341**	Bowl Drain Gasket Kit
	11041	Bowl Drain Washer
14.	**RK 11868**[1]	Heat Deflector Shield
15.	**RK 11-1910**	Drain Fitting Kit
	RK 11340	Drain O-ring Kit
16.	**RK 20022**	Probe Port Plug Kit

Additional Parts (not shown)

RK 19492	Marine Shut-off Valve Kit
RK 21069	Water Probe Kit
RK 11-1679	Plastic Body Plug Kit
RK 11-1404	Complete Seal Service Kit
19526	Installation Instructions
N/A	Base with 22x1.5 mm ports

[1]For replacement only. The Coast Guard does not accept 'FH' units converted to 'MA' configurations.



Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

How to Order

(The example below illustrates how the part numbers are constructed).

1000MA	M	10
Basic Model Use model **1003MA** for 22x1.5 mm metric thread	Add **M** for metal bowl.	Add: **2** (for 2 micron) **10** (for 10 micron) **30** (for 30 micron)

Replacement Element (seals included)		
2020SM-OR	2 micron	Final
2020TM-OR	10 micron	Secondary
2020PM-OR	30 micron	Primary[1]

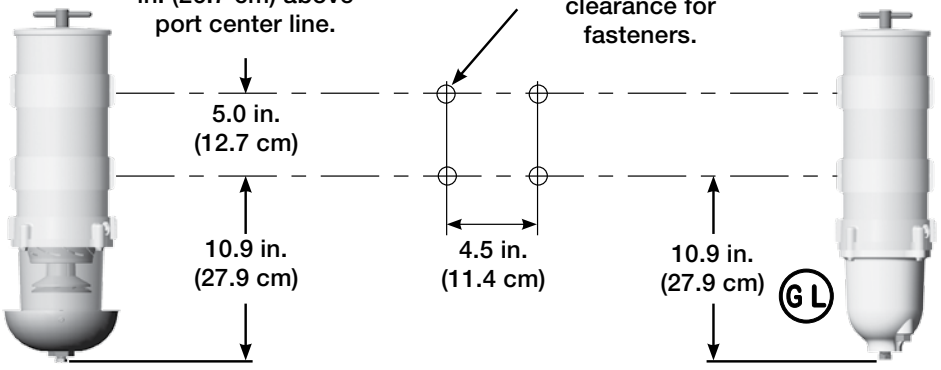
[1] A secondary or final filter is required downstream.

All 2020 Series filters are 9.6" tall by 4.7" in diameter.

Not all configurations are available - contact Technical Support for more information.

Mounting Information

1000MA Certifications



Marine Turbine Series

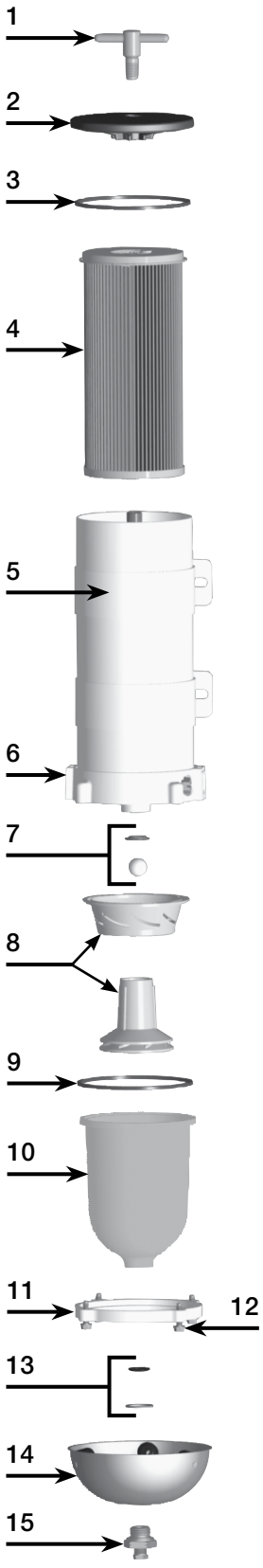
Replacement Parts

1000MA and 1003MA

	Part Number	Description
1.	**RK 11888**	T-handle Kit (includes o-ring)
2.	**RK 11-1933-04**	Lid Kit (includes #3)
3.	**11007**	Lid Gasket
4.	Replacement Element (includes #3)	
	2020SMOR	2 Micron Element
	2020TMOR	10 Micron Element
	2020PMOR	30 Micron Element
5.	**RK11-2006**	Turbine Body Bracket Kit
6.	**N/A**	Base/Outer Cylinder Kit
7.	**RK 11028B**	Checkball and Seal Kit
8.	**RK 11026D**	Turbine/Centrifuge Kit (includes # 7, 8 & 9)
9.	**11007**	Bowl O-ring
10.	**RK 11-1606-1**	Clear Bowl Kit (includes # 9 & 13)
	RK 11734-03	Metal Bowl (painted white)
11.	**RK 11037A**	Bowl Ring Kit (includes #12)
12.	**RK 11542**	Capscrew Kit (4 screws) (1/4”-20 x 1”)
13.	**RK 11341**	Bowl Drain Gasket Kit
	RK 11340	Drain Fitting O-ring
14.	**RK 11868**[1]	Heat Deflector Kit (includes #’s 13-15)
15.	**918-N4**	Bowl Plug (1/4” NPT)
	RK 11-1910	Bowl Drain Fitting Kit
Additional Parts (not shown)		
	RK 20022	Probe Port Plug Kit
	RK 19492	Shut-off Drain Valve Kit
	RK 21069[2]	Water Probe Kit (MA Bowls)
	RK 11-1679	Plastic Plug Kit
	RK 11-1404	Complete Service Kit
	19526	Installation Instructions

[1]For replacement only. The Coast Guard does not accept ‘FH’ units converted to ‘MA’ configurations.

[2]For diesel service only. Must be used with a Water Detection Kit.



Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

How to Order

(The example below illustrates how the part numbers are constructed).

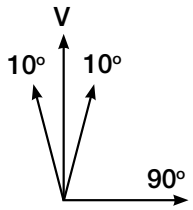
731000MA	M	10
Basic Model	Add **M** for metal bowl	Specify: **2** (for 2 micron) **10** (for 10 micron) **30** (for 30 micron)

Replacement Element (seals included)		
2020SM-OR	2 micron	Final
2020TM-OR	10 micron	Secondary
2020PM-OR	30 micron	Primary[1]

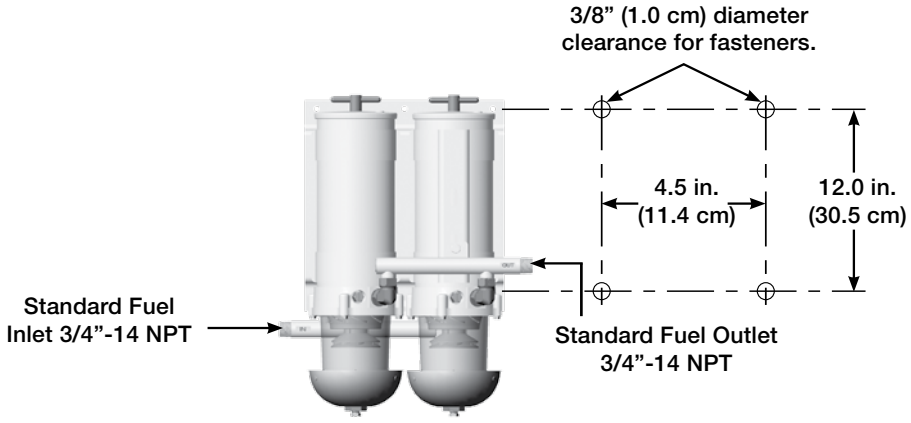
[1] A secondary or final filter is required downstream.

Not all configurations are available - contact Technical Support for more information.

Mounting Information



Note:
1. Mount filter assembly as close to vertical (V) as possible. For best efficiency, do not exceed 10° from V.
2. Do not remove valve fittings as they are integral components to the valve body.



Marine Turbine Series

Replacement Parts

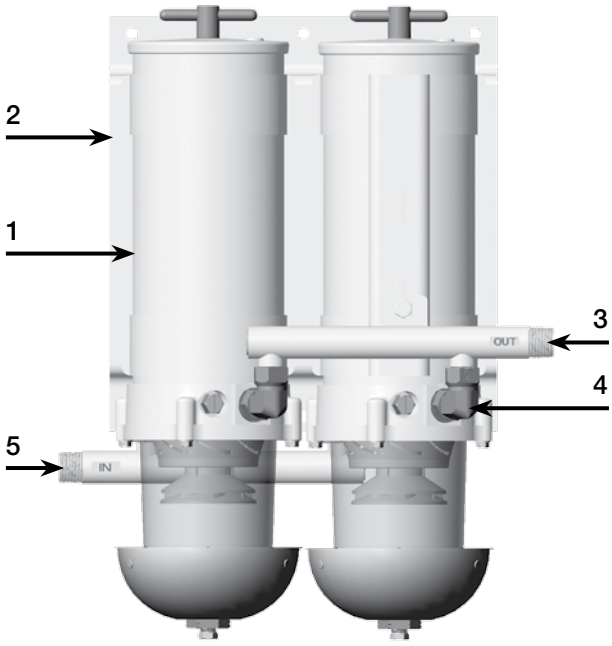
731000MA

	Part Number	Description
1.	**1000MA**	Refer to model 1000MA for a complete part breakdown.
2.	**11-1629-01** **11895-02**	Dual unit Bracket Clamp Bracket Assembly
3.	**11923**	Outlet Manifold
4.	**11072**	Elbow Fitting (Parker #2507-10-8)
5.	**11892**	Inlet Manifold

Additional Parts (not shown)

RK 19492	UL Listed Brass Marine Valve Kit (use two for use with this unit)
19531	Installation Instructions

For water detection kits see the marine Accessories.



731000MA
Certifications

BUREAU VERITAS

ABS TYPE APPROVAL PROGRAM

Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

How to Order

(The example below illustrates how the part numbers are constructed).

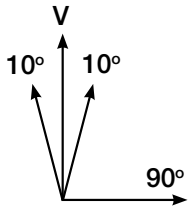
75500MAX	M	10
Basic Model	Add **M** for metal bowl	Add: **2** (for 2 micron) **10** (for 10 micron) **30** (for 30 micron)

Replacement Element (seals included)		
2010SM-OR	2 micron	Final/Secondary
2010TM-OR	10 micron	Primary/Secondary
2010PM-OR	30 micron	Primary[1]

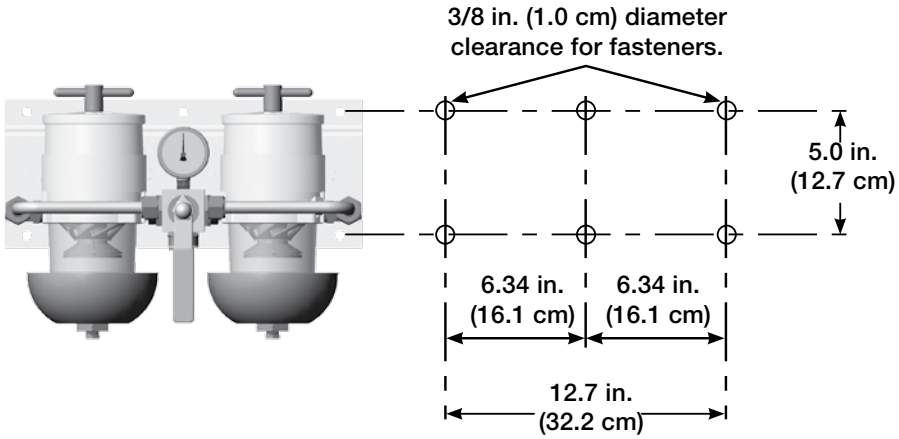
[1] A secondary/final filter is required downstream.

Not all configurations are available - contact Technical Support for more information.

Mounting Information



Note:
1. Mount filter assembly as close to vertical (V) as possible. For best efficiency, do not exceed 10° from V.
2. Do not remove valve fittings as they are integral components to the valve body.



Marine Turbine Series

Replacement Parts

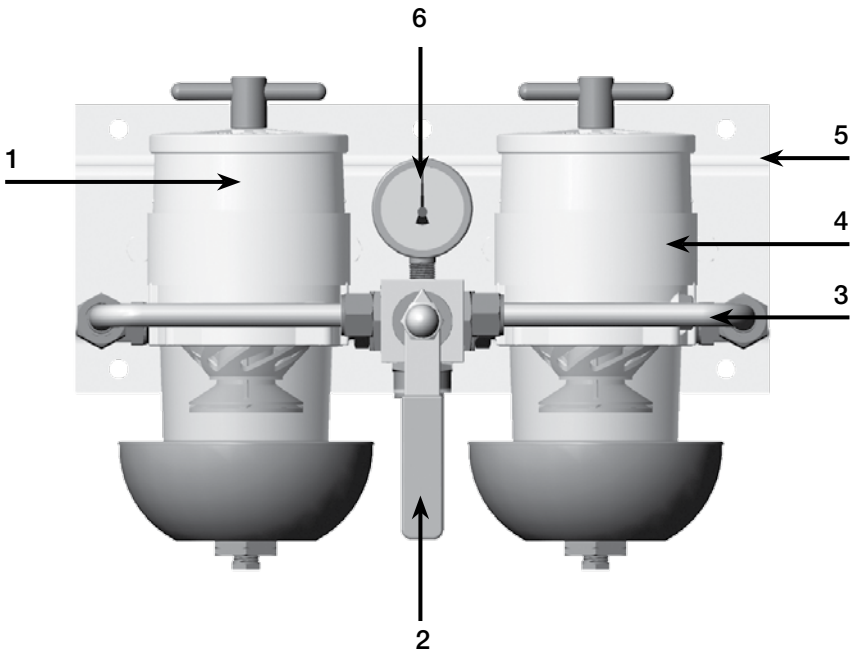
75500MAX

	Part Number	Description
1.	**500MA**	Refer to model 500MA for a complete part breakdown
2.	**RK 15390**	6 Port Valve Kit
3.	**RK 15391** **RK15419**	Rigid Tubing Kit
4.	**RK 15378** **RK 15300**	Body Clamp Bracket Kit (One-Piece) Body Clamp Bracket Kit (Three-Piece)
5.	**RK 15329**	Mounting Bracket Kit
6.	**RK11-1676E**	Gauge Kit

Additional Parts (not shown)

RK 19492	UL Listed Brass Marine Drain Kit (two for use with this unit)
15349	Installation Instructions

75500MAX
Certifications



Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

How to Order

(The example below illustrates how the part numbers are constructed).

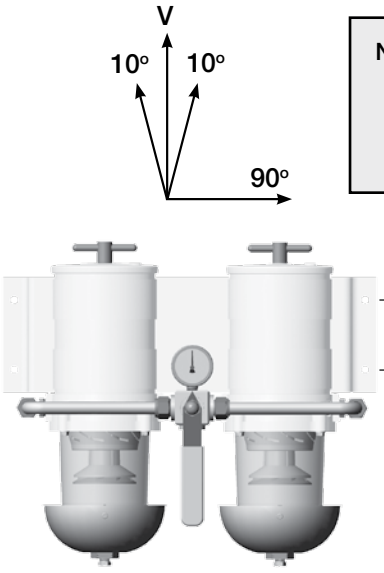
75900MAX	M	10
Basic Model	Add **M** for metal bowl	Add: **2** (for 2 micron) **10** (for 10 micron) **30** (for 30 micron)

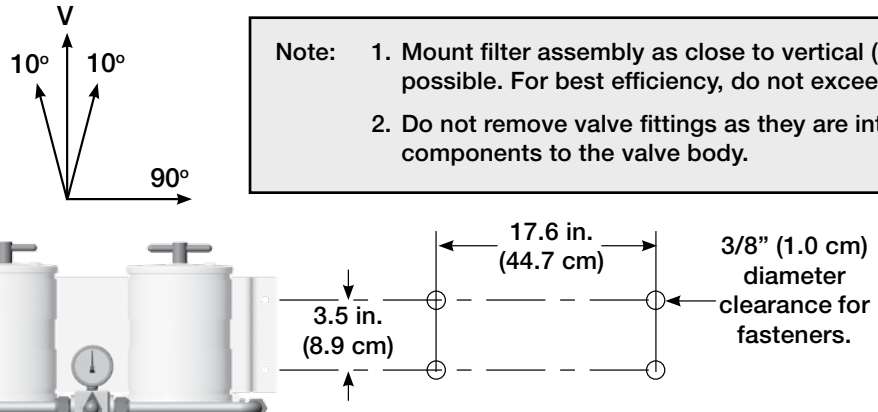
Replacement Element (seals included)		
2040SM-OR	2 micron	Final
2040TM-OR	10 micron	Secondary
2040PM-OR	30 micron	Primary[1]

[1] A secondary or final filter is required downstream.

Not all configurations are available - contact Technical Support for more information.

Mounting Information





Note:
1. Mount filter assembly as close to vertical (V) as possible. For best efficiency, do not exceed 10° from V.
2. Do not remove valve fittings as they are integral components to the valve body.

NOTE: The Inlet / Outlet Port Male Fittings are 7/8"-14 UNF threads with 37° Flare (JIC); SAEJ514. These permanent fittings must not be removed. Damage to the valve may result. See fittings selection chart in Accessories Section to adapt to your fuel system piping requirements.

Marine Turbine Series

Replacement Parts

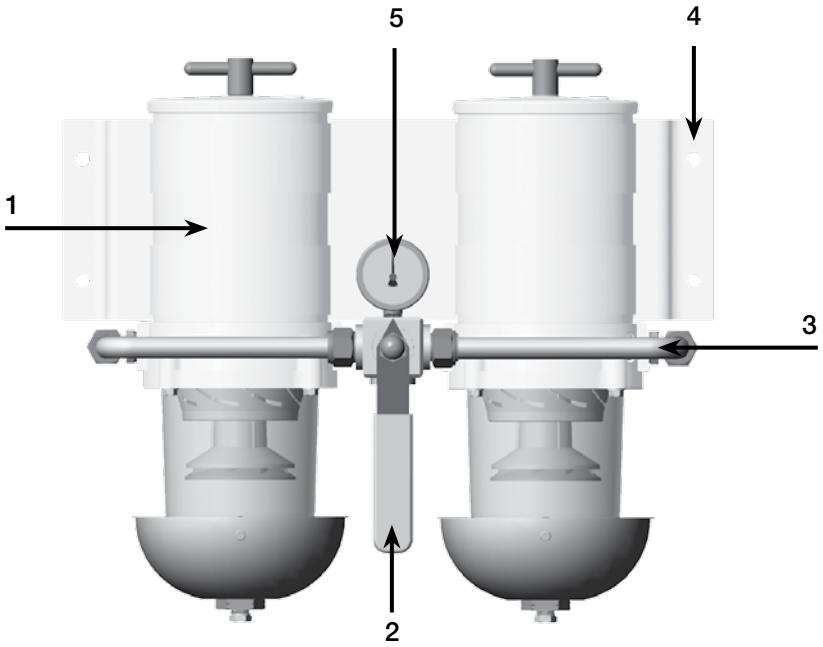
75900MAX

	Part Number	Description
1.	**900MA**	Refer to model 900MA for a complete part breakdown.
2.	**RK 19473**	6 Port Valve Kit
	RK 19506	Valve Service Kit
3.	**RK 19475**	Rigid Tubing Kit
4.	**RK 19486**	Dual unit Bracket Kit
5.	**RK11-1676E**	Gauge Assembly Kit

Additional Parts (not shown)

RK 19492	UL Listed Brass Marine Valve Kit (two for use with this unit)
19519	Installation Instructions

75900MAX
Certifications



Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

How to Order

(The example below illustrates how the part numbers are constructed).

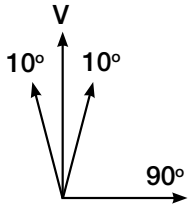
751000MAX	M	10
Basic Model	Add **M** for metal bowl.	Add: **2** (for 2 micron) **10** (for 10 micron) **30** (for 30 micron)

Replacement Element (seals included)		
2020SM-OR	2 micron	Final/Secondary
2020TM-OR	10 micron	Primary/Secondary
2020PM-OR	30 micron	Primary[1]

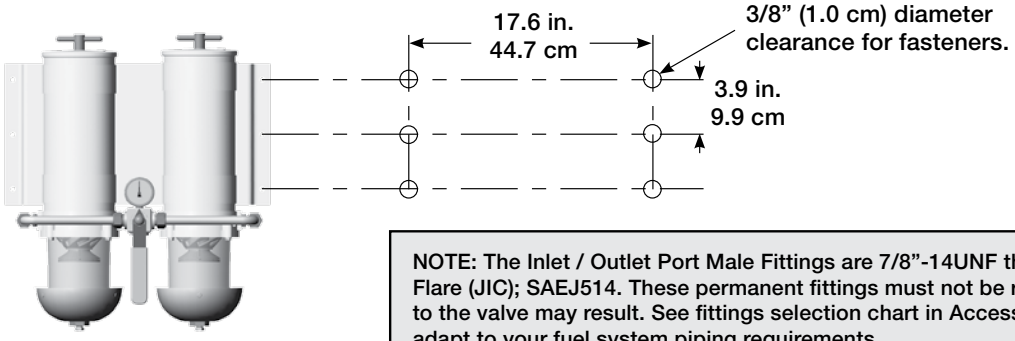
[1] A secondary or final filter is required downstream.

Not all configurations are available - contact Technical Support for more information.

Mounting Information



Note:
1. Mount filter assembly as close to vertical (V) as possible. For best efficiency, do not exceed 10° from V.
2. Do not remove valve fittings as they are integral components to the valve body.



NOTE: The Inlet / Outlet Port Male Fittings are 7/8"-14UNF threads with 37° Flare (JIC); SAEJ514. These permanent fittings must not be removed. Damage to the valve may result. See fittings selection chart in Accessories Section to adapt to your fuel system piping requirements.

Marine Turbine Series

Replacement Parts

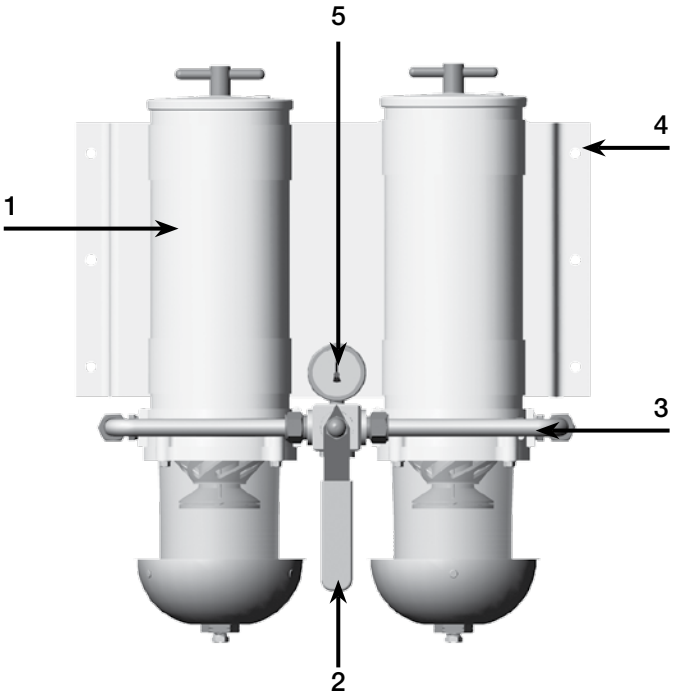
751000MAX

	Part Number	Description
1.	**1000MA**	Refer to model 1000MA for a complete part breakdown.
2.	**RK 19473**	6 Port Valve Assembly Kit
	RK 19506	Stem Service Kit
3.	**RK 19475**	Rigid Tubing Assembly Kit
4.	**RK 11-1777**	Dual unit Bracket Kit
5.	**RK11-1676E**	Gauge Assembly Kit

Additional Parts (not shown)

RK 19492	UL Listed Brass Marine Drain Valve Kit (two for use with this unit)
19519	Installation Instructions

751000MAX
Certifications



Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

How to Order

(The example below illustrates how the part numbers are constructed).

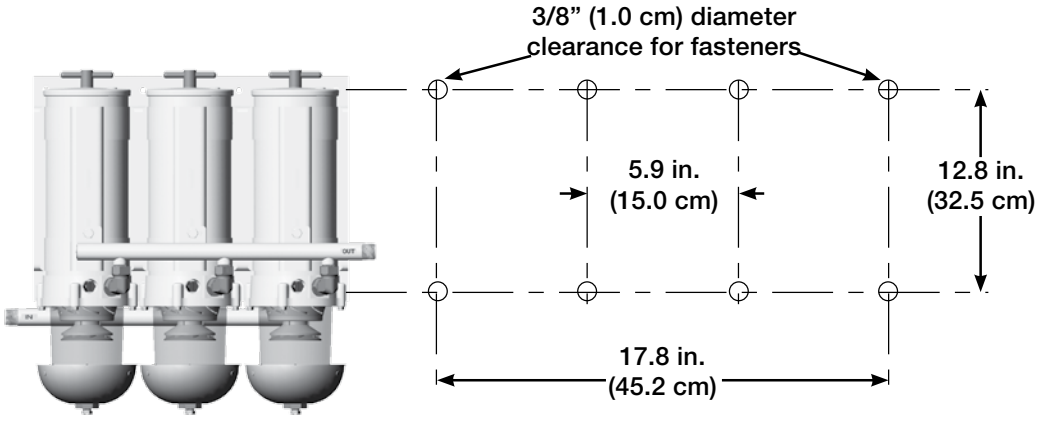
771000MA	M	10
Basic Model	Add **M** for metal bowl.	Add: **2** (for 2 micron) **10** (for 10 micron) **30** (for 30 micron)

Replacement Element (seals included)		
2020SM-OR	2 micron	Final/Secondary
2020TM-OR	10 micron	Primary/Secondary
2020PM-OR	30 micron	Primary[1]

[1] A secondary or final filter is required downstream.

Not all configurations are available - contact Technical Support for more information.

Mounting Information



Marine Turbine Series

Replacement Parts

771000MA

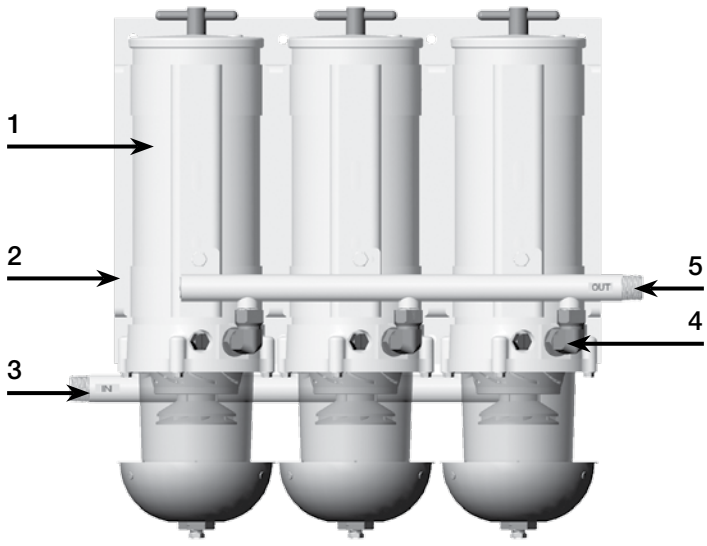
	Part Number	Description
1.	**1000MA**	Refer to model 1000MA for a complete part breakdown.
2.	**11895-02**	Clamp Bracket Kit
	11-1632-01	Triple unit Bracket
	11895	Clamp Bracket Assembly
3.	**11893**	Inlet Manifold
4.	**11072**	Elbow Fitting (Parker #2507-10-8)
5.	**11902**	Outlet Manifold

Additional Parts (not shown)

RK 19492	UL Listed Brass Marine Drain Valve Kit (three for use with this unit)
19531	Installation Instructions

For Water Detection Kits and Manifold Conversion Kits, see the Accessories Section.

771000MA
Certifications



Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

How to Order

(The example below illustrates how the part numbers are constructed).

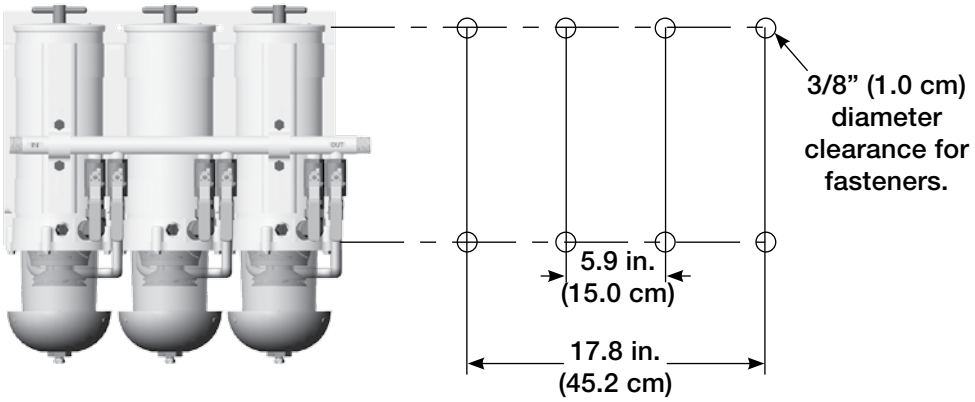
791000MAV	M	10
Basic Model	Add **M** for metal bowl.	Add: **2** (for 2 micron) **10** (for 10 micron) **30** (for 30 micron)

Replacement Element (seals included)		
2020SM-OR	2 micron	Final
2020TM-OR	10 micron	Secondary
2020PM-OR	30 micron	Primary[1]

[1] A secondary or final filter is required downstream.

Not all configurations are available - contact Technical Support for more information.

Mounting Information



Marine Turbine Series

Replacement Parts

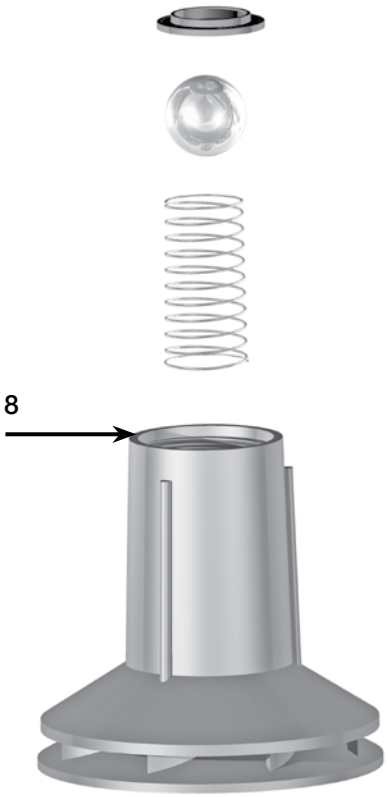
791000MAV

	Part Number	Description
1	**1000MA**	Refer to model 1000MA for a complete part breakdown.
2	**11-1632**	Triple unit Bracket
3	**19460**	Inlet Manifold
4	**RK11-2008**	Bracket Kit
5	**19461**	Outlet Manifold
6	**RK 11073**	1/2” Ball Valve Kit
7	**11-1626**	Formed Tubing Assembly

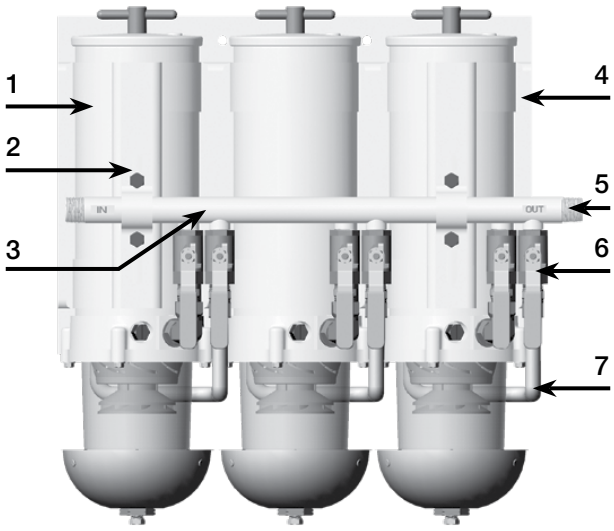
Additional Parts (not shown)

	RK 19492	UL Listed Brass Marine Drain Valve Kit (three for use with this unit)
	19523	Installation Instructions
8	**RK11-1978**	Checkball and spring kit for turbines

For water detection kits and manifold conversion kits - see the marine accessories section.



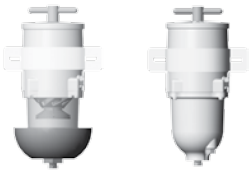
791000MAV
Certifications



Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

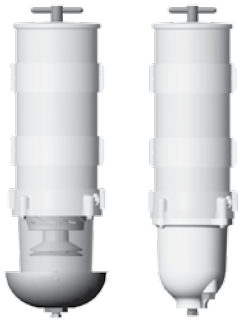
How to Order

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



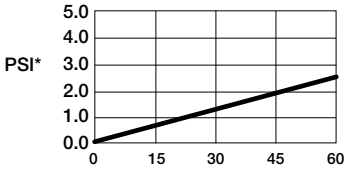
500MA 500MAM

900MA 900MAM

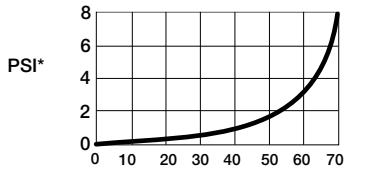


1000MA 1000MAM

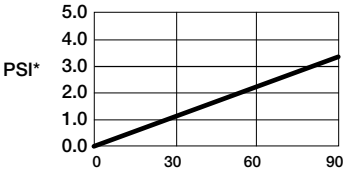
731000MA



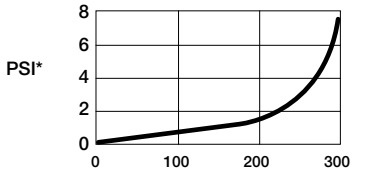
SAE J905 Fuel Flow Restriction



SAE J 905 Solids Capacity
(using SOFT C-2A; 2010TM Element)



SAE J 905 Fuel Flow Restriction



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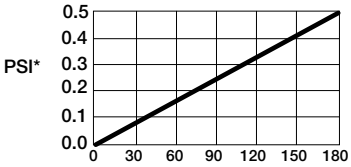
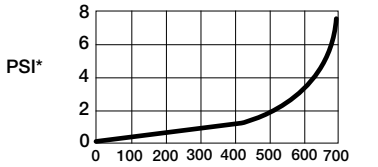


SAE J Fuel Flow Restriction



SAE J 905 Solids Capacity
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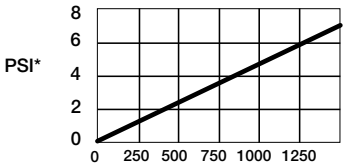
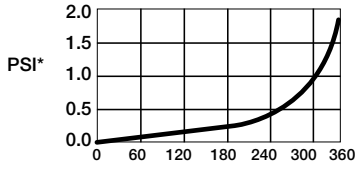


SAE J 905 Fuel Flow Restriction



SAE J 905 Solids Capacity
(using SOFT C-2A; 2020TM Element)

* PSI X 2.036 = inHg. / PSI X 6.895 = kPa

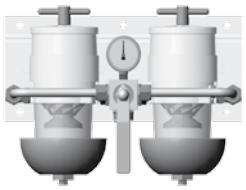
Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

Parker Racor

Marine Turbine Series

How to Order

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



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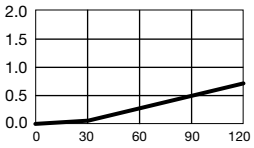
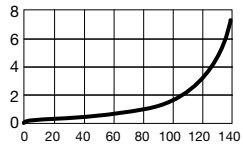
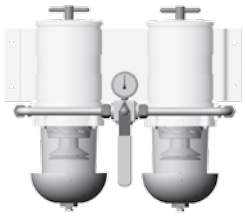


Flow (GPH)
SAE J 905 Fuel Flow Restriction



Grams
SAE J 905 Solids Capacity
(using SOFT C-2A; 2010TM Element)



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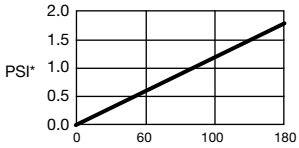
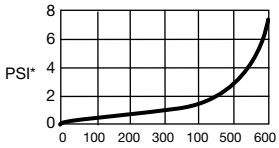


Flow (GPH)
SAE J 905 Fuel Flow Restriction



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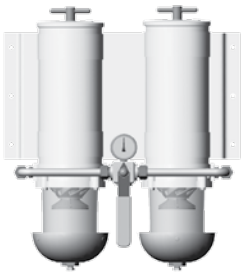
(using SOFT C-2A; 2040TM Element)



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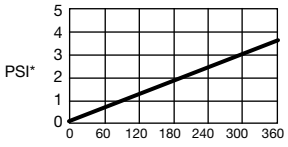
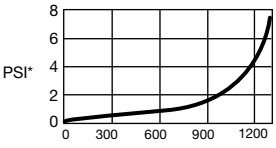
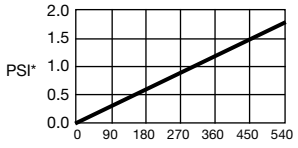


Flow (GPH)
SAE J 905 Fuel Flow Restriction

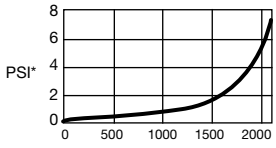


Grams
SAE J 905 Solids Capacity
(using SOFT C-2A; 2020TM Element)

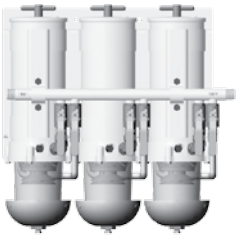
771000MA



Flow (GPH)
SAE J 905 Fuel Flow Restriction



Grams
SAE J 905 Solids Capacity
(using SOFT C-2A; 2020TM Element)



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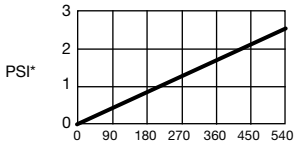
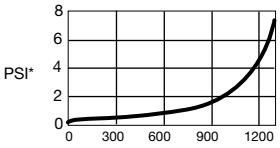


Flow (GPH)
SAE J 905 Fuel Flow Restriction



Grams
SAE J 905 Solids Capacity
(using SOFT C-2A; 2020TM Element)

*PSI X 2.036 = inHg. / PSI X 6.895 = kPa

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e-mail: racortech@parker.com

Installation Instructions

New filter installations must be filled with fuel and the fuel system must be adequately primed following the engine manufacturer's recommendations. Existing installation difficulties are usually associated with improper priming procedures or damage to the unit or fuel system. The result is either internal air suction or external fuel leakage. Diagnose with the following steps:

1. **Check fuel tank level and verify fuel delivery valves are open.**
2. **Verify T-handle, bowl fasteners and fuel fittings are tight and bowl drain is closed.**
3. **If element is new, check potential restriction at fuel tank draw tube. An in-tank strainer may be plugged.**
4. **Review other troubleshooting instructions to uncover other solutions.**

Correct external fuel leaks immediately! These conditions result in reduced engine performance such as: hard starting, stalling, reduced power and fire hazards.

Correct Application

It is very important that Turbine Series filter assemblies are not 'under specified' for the application. The maximum fuel flow rating of the filter assembly must not be exceeded; doing so will reduce efficiency and de-gas (pull air from) the fuel.

Filter Elements

Replacement elements are available in 2, 10 and 30 micron ratings (nominal). Filtration needs are based on application, fuel quality, maintenance schedules and operating climates. A simple rule to remember is... the finer the filtration, the more frequent the filter change interval.

Always carry extra replacement elements with your equipment as one tankful of excessively contaminated fuel can plug an element quickly. When clogged to maximum capacity, elements will have a brown to black color or tar like contaminants may be present - this is normal. An appearance of a multi-colored slime (which may have a foul odor) is an indication of microbiological contamination. This condition must be treated immediately. Racor offers a wide variety of gasoline and diesel additives to prevent and treat these problems; see 'Additives' section of this catalog. Severe conditions must be corrected by a repair facility.

Never operate a filter assembly without the element in place.

The element safety valve on the fuel return tube will not expose the outlet hole if the element is removed. Instead, punch the emergency tab on the top of the element and leave in place.

Warning! Puncturing the emergency tab will bypass all filtration and send unfiltered fuel to your engine. Service the element as soon as possible to avoid harmful contaminants flowing downstream to the engine.

Water Sensors

This feature alerts the operator of a high-water condition. The bowl must be drained of water at the earliest convenience.

A Racor water detection module is needed to work with the in-bowl sensor.

The unit should activate when the water reaches the sensor tips (and when they measure below 47,000 or 100,000 ohms of resistance, depending on the detection module used). If not, the tips may be fouled with a coating. Remove the sensor and clean the tips with a cloth. Run a jumper wire between the tips with the ignition ON to test the system. Difficulties usually lie in the wire connections, power source, or an independent ground.

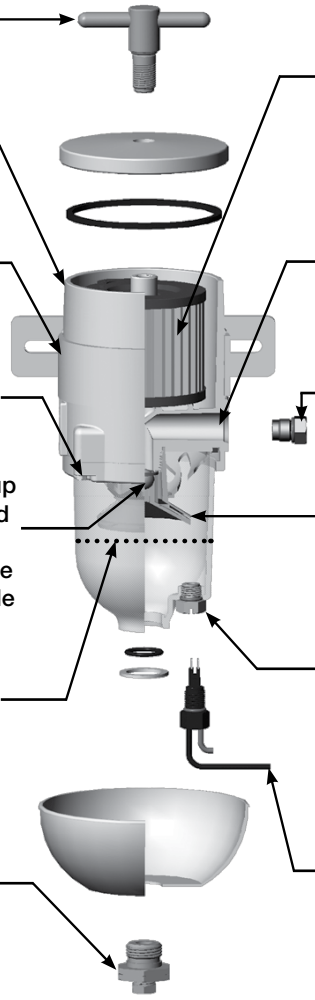
Marine Turbine Series

All Marine Turbine Series filters are 100% tested to ensure a leak-proof, quality product.

Apply Parker Super O-lube (part number RK31605) or equivalent to all seals at major attachment points to maintain integrity, seal elasticity, to fill small voids and provide protection from degradation.

Perform the following checks with the engine OFF (and applicable valves closed). For replacement parts, refer to the appropriate 'Replacement Parts' section of this catalog.

Damaged, worn, or dirty seals will allow air ingestion. Inspect and replace all seals as needed. Lube all seals with Parker Super O-lube. Clean sealing surfaces of dirt or debris every time element is replaced.



Hand tighten T-handle; do not use tools!

If element is changed or assembly drained for any reason, repriming assembly (filling with fuel) may be necessary. Fill to just above top of element before replacing lid.

Do not overtighten carriage bolt as this may distort cylinder roundness.

Do not overtighten self-tapping screws; this may strip the treads. After disassembly, start screws by hand prior to using tools. Specification: 55 to 65 in. lbs.

The hollow aluminum check-ball floats up against the seal when the fuel is stopped thus preventing fuel bleed-back. If your unit looses prime, inspect upstream hose connections first, otherwise, disassemble the unit and inspect the seal and ball.

Drain water before it reaches this level.

Air bubbles or fuel leakage appearing from drain may indicate that drain is closed completely or that seal has been clogged with contaminants. Tighten drain and inspect: If self-venting drain will not work when opened, it may be clogged. Cycle drain (open-close) or attach a hose and briefly apply air (<2-3 PSI with T-handle and lid removed) to dislodge contaminants.

Element should be replaced every 10,000 miles every 500 hours, every other oil change, annually or at first indication of power loss, whichever occurs first. Construction and agricultural equipment should change element every 300 hours.

SAE O-ring ports should have a smooth angled seat for sealing. Do not scratch this surface. Check O-ring for damage. Replace if necessary.

Heater feed-thru O-ring must not be damaged or swollen. Tighten snugly. Specification: 15 to 20 in. lbs.

Air bubbles appearing from turbine are an indication of an upstream leak between Racor inlet and fuel tank pick-up tube.

A water sensor plug is standard equipment on new assemblies. Water sensor kits are available as accessories; see the 'Accessories' section of this catalog. Tighten plug or water sensor snugly. Specification: 15 to 20 in. lbs.

Water sensors activate when water contacts the sensor tips. Air bubbles or fuel leakage appearing from sensor area may indicate that it is loose or O-ring is damaged. Tighten or diassemble and inspect. Specification: 15 to 20 in. lbs.

Questions? Contact Technical Support:
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e-mail: racortech@parker.com

LG Series

Eliminate Fuel Vent Line Overflow During Refueling!

Next time you fill up, watch your fuel vent line. A typical refueling will send up to a half a gallon of fuel spilling overboard. Fuel spillage is not only expensive, it's absolutely deadly to fragile lakes, rivers and waterways. Also, USCG and other regulations prohibit the discharge of oils and violators could face civil and criminal penalties.

Installed in the fuel tank vent line, the Racor Fuel/Air Separator efficiently separates air from fuel forced into the line. Air is vented, and fuel is returned to the tank. The Fuel/Air Separator captures fuel normally discharged due to agitation and thermal expansion (up to 2.4 PSI). It also eliminates damage to expensive striping and labels and protects finishes from fuel stains.

Applies to all models.

MARINE UL LISTED

MEMBER ABYC

Specifications	LG50	LG100
Application:		
Gasoline	Yes	Yes
Diesel	No	Yes
Maximum Air Flow Rate[1]	12 CFPM (5.6 LPS)	17 CFPM (8.0 LPS)
Hose Barb Size	5/8"	5/8"
Thermal Expansion	2.4 PSI (0.17 bar)	2.4 PSI (0.17 bar)
Height	6.0 in. (15.2 cm)	9.75 in. (24.8 cm)
Diameter	1.75 in. (4.5 cm)	4.0 in. (10.2 cm)
Weight (dry)	1.2 lbs (0.5 kg)	1.6 lbs (0.7 kg)
Case Quantity	12	9
Operating Temperature	-40° to +255°F (-40° to +121°C)	

Notes: [1]Flow rates are in cubic feet per minute (CFPM) and liters per second (LPS).

Fuel/Air Separators

LG50

How it Works

Stage One

Venting tank fuel is diffused by the flow diverter and air is allowed to bypass the diverter. Fuel is directed back to the tank.

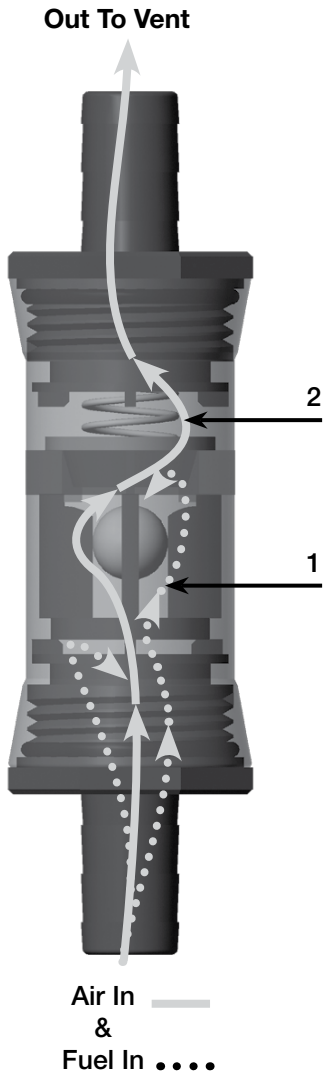
Stage Two

Vapor collects on the interior surfaces and coalesces. The fuel returns downward by gravity and air continues up and out of the unit.

The safety relief valve includes a floating check ball which will not permit a large in-rush of fuel to bypass. In the event of internal pressure reaching 2.4 PSI (0.17 bar), the spring will compress and open the safety seat.

Troubleshooting

Inspect the fuel system components and overboard vent annually. In the event of severe fuel tank biological or environmental contamination, the unit may be fouled and require inspection or cleaning. Also, flying insects are known to build nest in vent ports which may obstruct the escaping vapors. These situations may be evident by loss of power while underway or premature tripping of the fuel nozzle automatic shut-off during refueling.



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e-mail: racortech@parker.com

LG100

How it Works

Stage One

Venting tank fuel is deflected by the flow diverter and fuel is directed down to the drain ports. Air is allowed to bypass and continues to travel up and out.

Stage Two

Fuel defoams through a fine wire mesh screen which filters out large contaminants. Under the screen, the fuel collects temporarily until it can flow back down to the fuel tank.

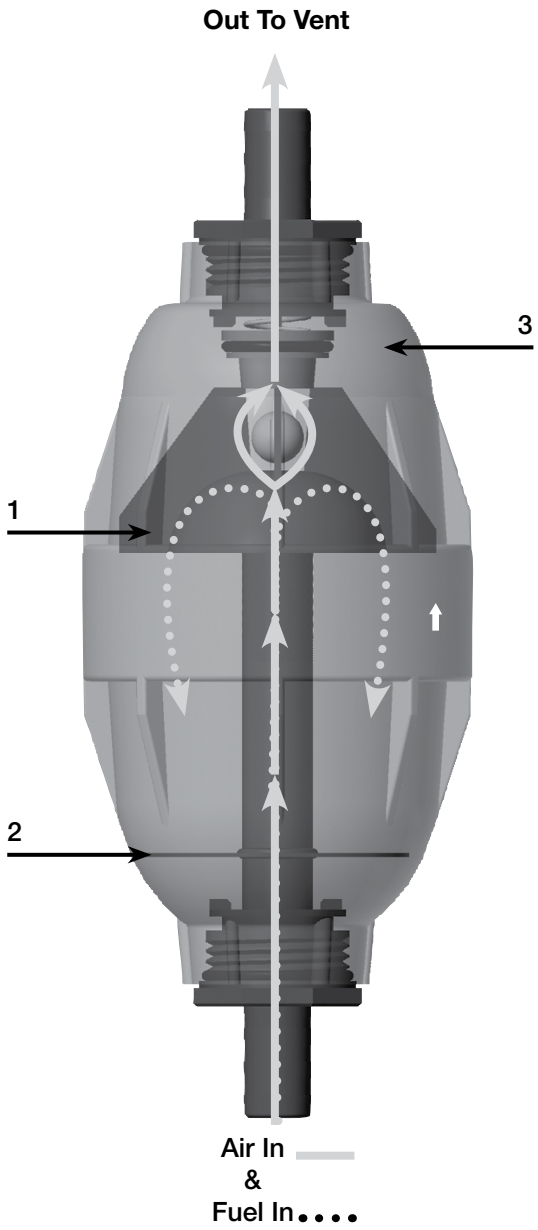
Stage Three

Vapor collects on the interior surfaces and coalesces. The fuel returns downward by gravity and air continues up and out of the unit.

The safety relief valve includes a floating check ball which will not permit a large in-rush of fuel to bypass. In the event of internal pressure reaching 2.4 PSI (0.17 bar), the spring will compress and open the safety seat.

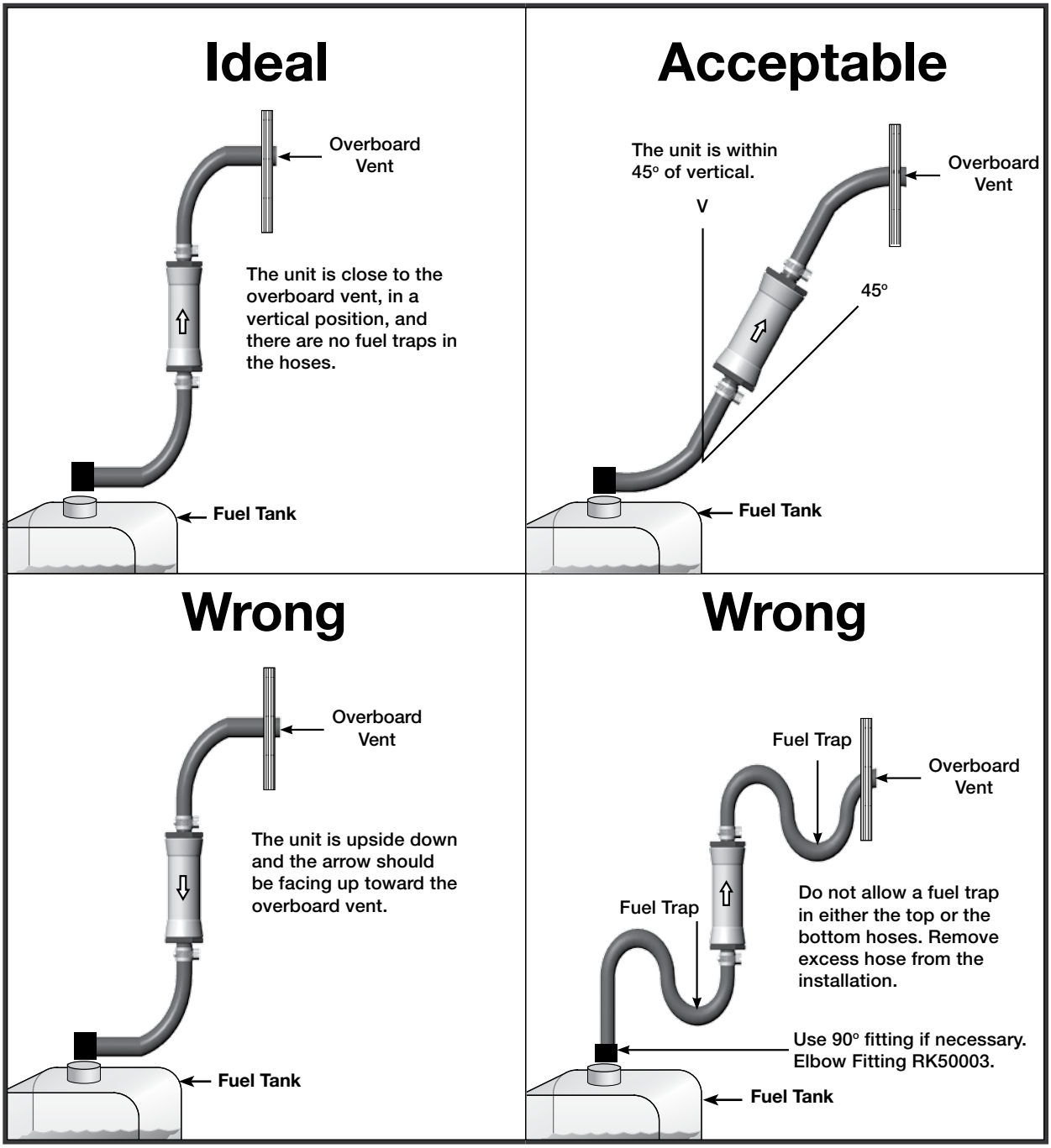
Troubleshooting

Inspect the fuel system components and overboard vent annually. In the event of servere fuel tank biological or environmental contamination, the unit may be fouled and require inspection or cleaning. Also, flying insects are known to build nest in vent ports which may obstruct the escaping vapors. These situations may be evident by loss of power while underway or premature tripping of the fuel nozzle automatic shut-off during refueling.



Fuel/Air Separators

LG50 Installation



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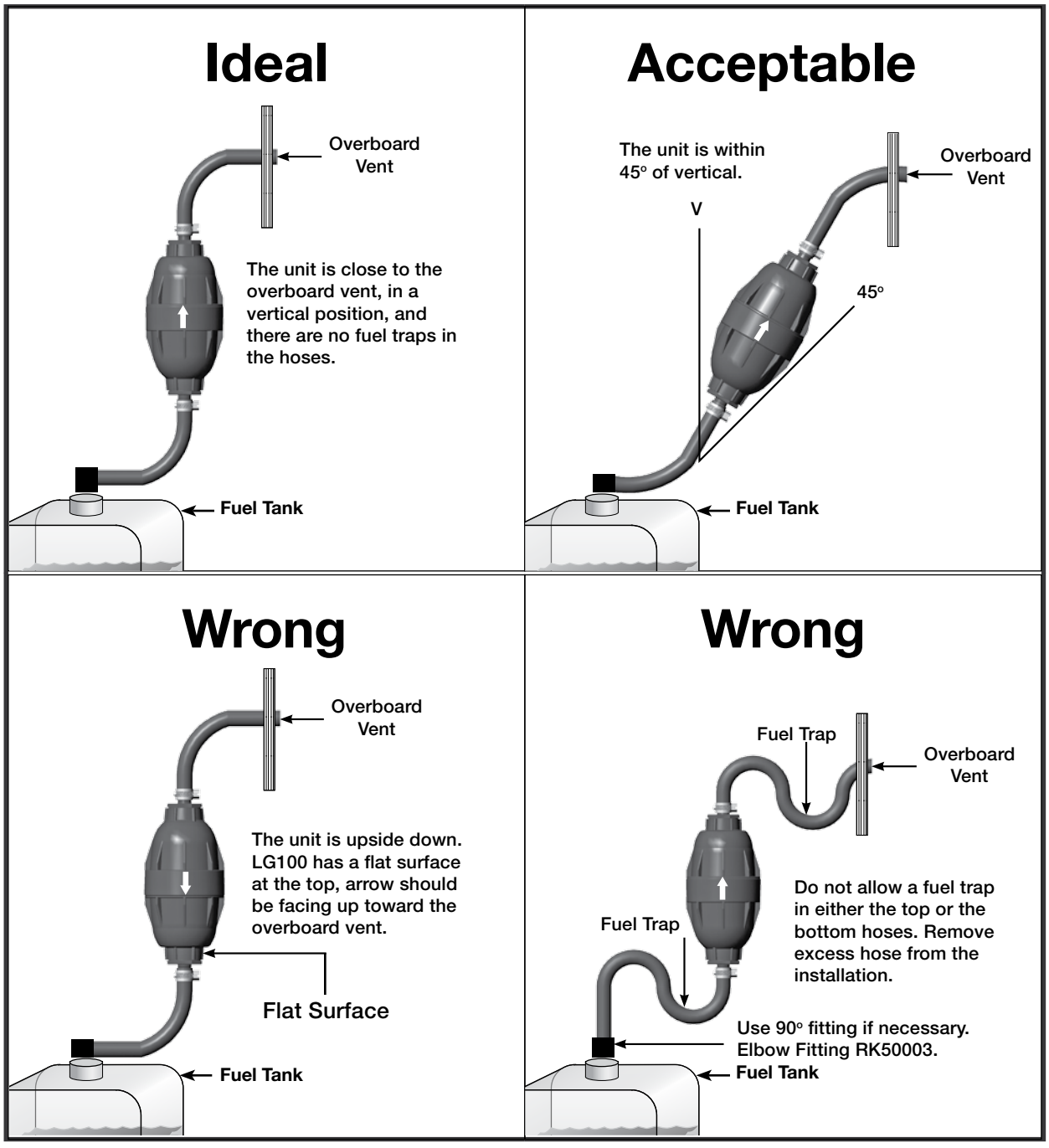
LG100 Installation



Fuel/Air Separators

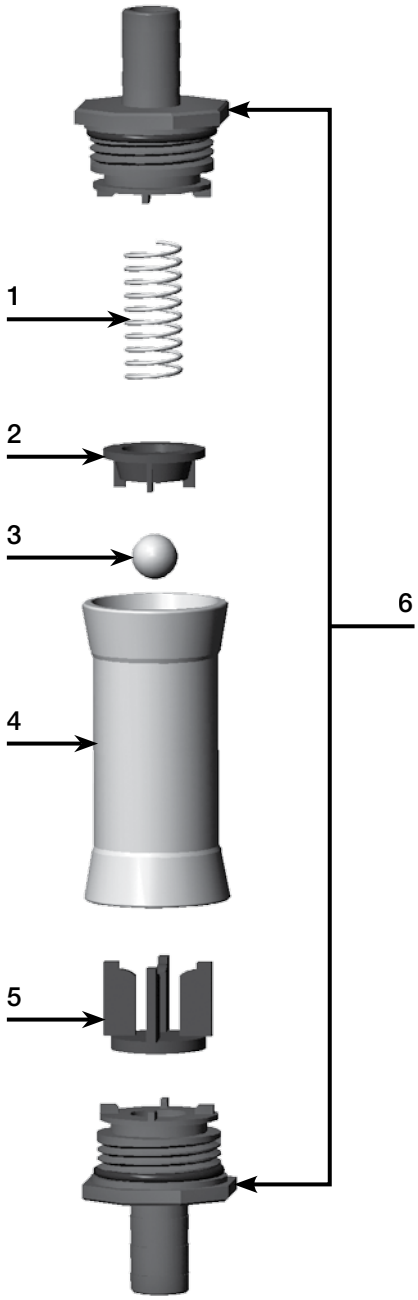
Replacement Parts

LG50 (No Serviceable Parts)

	Part Number	Description
1.	**N/A**	Spring
2.	**N/A**	Check Valve
3.	**N/A**	Check Ball
4.	**N/A**	Housing
5.	**N/A**	Flow Diverter
6.	**N/A**	Straight Hose Fitting (5/8” hose barb)

Additional Parts (not shown)

50017	Installation Instructions



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e-mail: racortech@parker.com

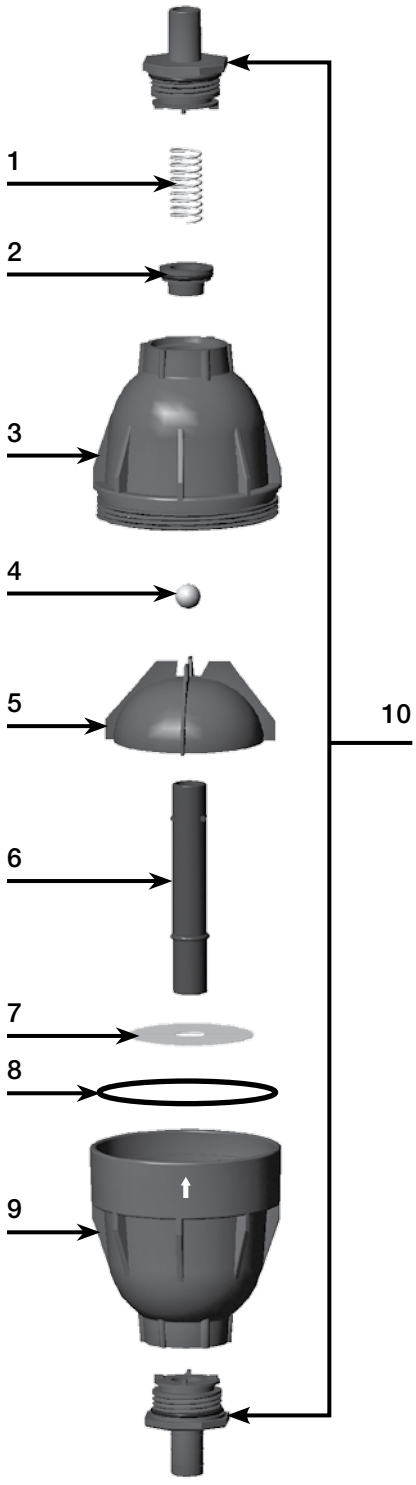
Replacement Parts

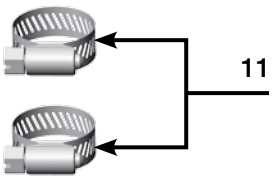
LG100

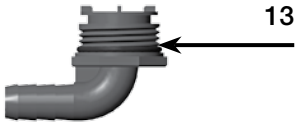
	Part Number	Description
1.	**N/A**	Spring
2.	**RK 50021**	Check Valve Kit (Includes 1, 4, 7, 8, and 10 ((2) Fitting O-rings)
3.	**N/A**	Top Housing
4.	**N/A**	Check Ball
5.	**N/A**	Flow Diverter
6.	**N/A**	Inlet Riser
7.	**N/A**	Screen
8.	**N/A**	Square Cut Gasket
9.	**N/A**	Bottom Housing
10.	**N/A**	Straight Hose Fitting (5/8” hose barb)
11.	**N/A**	Hose Clamp
12.	**RK 50033**	Straight Fitting Kit (female 1/2” NPT threads)
13.	**RK 50003**	Elbow Fitting Kit (5/8” hose barb) (Only use 1 per unit)

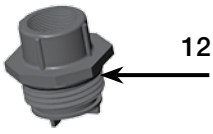
Additional Parts (not shown)

50017	Installation Instructions







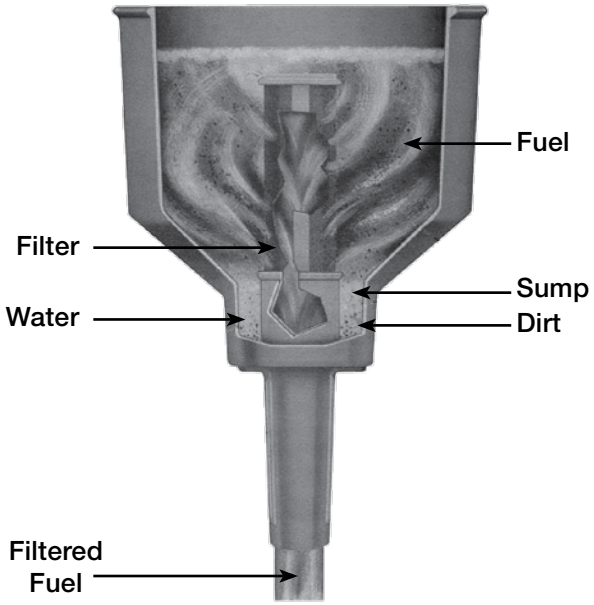


RFF Filter Funnels

RFF Filter Funnels

Racor RFF funnels include stainless steel filters that are permanently attached and designed to work with hydrocarbon fuels only. Other liquids may compromise the effectiveness of the filter. The purpose of this product is to remove solid contamination down to 50 micron inch and free water.

Free water is the collection of water molecules in the bottom of gas cans, tanks, or drums formed when fuel is stored for even short periods of time. The free water formation is due to condensation in the air and/or the separation of water molecules from fuel. Water may be present in hydrocarbon fuels as free water or as an emulsion, small droplets of water suspended in the fuel. Water may be emulsified in fuel by vibration or by emulsifying additives such as alcohol, or detergents. The RFF filter will not remove emulsified water. Install Racor fuel filter/water separators to remove emulsified water from your engine's fuel system. Always dispose of water, contaminates, or dirty fuel in a proper manner.



Specifications	RFF1C	RFF3C	RFF8C	RFF15C
Max. Flow Rate	2.5 GPM (9.4 LPM)	3.5 GPM (13.20 LPM)	5.0 GPM (19.0 LPM)	12.0 GPM (45.4 LPM)
Micron Rating	50 micron	50 micron	50 micron	50 micron
Height	6.0 in. (15.2 cm)	9.0 in. (22.9 cm)	10.0 in. (25.4 cm)	10.0 in. (25.4 cm)
Diameter	3.5 in. (8.9 cm)	5.5 in. (14.0 cm)	8.5 in. (21.6 cm)	8.5 in. (21.6 cm)
Weight	0.2 lb (0.09 kg)	0.3 lb (0.1 kg)	0.6 lb (0.3 kg)	1.0 lb (0.5)

Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

How to Order

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

T1 T2

911–O10–J10

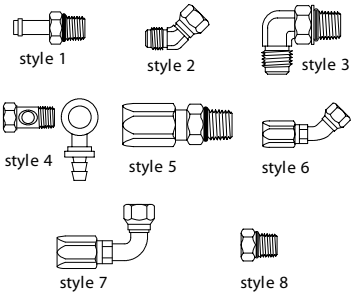
T1 thread | T2 thread

FAMILY:
9 = Fittings

MATERIAL:
1 = Steel
3 = Stainless Steel
5 = Brass
7 = Aluminum
9 = Polymer

STYLE:
(Suction/Low Pressure use)
1 = Straight
2 = 45 degree
3 = 90 degree
4 = Banjo Bolt/Union

(Low/Medium Pressure use)
5 = Hose Straight
6 = Hose 45 degree
7 = Hose 90 degree
8 = Plug



T2 FEATURE:
This end adapts to a fitting, hose or tube:
D = Drilled/Tapped NPT
H = Hose barb, male (hose I.D.)
F = NPT, female (tapered pipe thread)
N = NPT, male (tapered pipe thread)
J = J.I.C. 37o male straight thread
S = SAE 45o male straight thread
T = Tube, CPI female (Tube O.D.)

Size	J,S	D,F,N	T,H(R4)	H(R5)
4	7/16-20	1/4-18	1/4	3/16
5	1/2-20	N/A	5/16	1/4
6	9/16-18	3/8-18	3/8	5/16
8	3/4-16	1/2-14	1/2	13/32
10	7/8-14	N/A	5/8	1/2
12	1 1/16-12	3/4-14	3/4	5/8
16	1 5/16-12	1-11 1/2	1	7/8

T1 THREAD:
This is always the thread that attaches to the Racor product port fitting:
B = BSPT (British Standard Pipe Thread)
N = NPT, or NPTF (tapered pipe)
M = Metric (straight)
O = SAE O-ring (straight)
W = Swivel with JIC 37o female threads (exception for T1).

Size	O,W	B,N*	M
3	3/8-24	N/A	N/A
4	7/16-20	1/4-18	N/A
5	1/2-20	N/A	N/A
6	9/16-18	3/8-18	N/A
8	3/4-16	1/2-14	N/A
10	7/8-14	N/A	M10x1.5
12	1 1/16-12	3/4-14	N/A
14	N/A	N/A	M14x1.5
16	1 5/16-12	1-11 1/2	N/A

NOTES:
* NPT/BSPT Threads for simplicity, these similar threads are shown in the same column, but differ in the angle of the thread from (i.e. NPT= 60o BSP= 55o) and are not interchangeable

N/A = Not currently available from Racor.

Questions? Contact Technical Support:
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e-mail: racortech@parker.com

Parker Racor

Marine Fittings

Racor fittings are available in various materials, styles and sizes to fit every filter we make and most installation requirements. The previous page is a helpful guide which outlines how part numbers are structured using the new Racor Part Numbering System.

Materials: Racor fittings are made of either brass (CA360 or CA345), or plated steel (C12L14 with zinc di-chomate). When the part number is listed using the part numbering system, the second digit indicates the material, such as 91X = steel, 93X = stainless steel, and 95X = brass.

Styles: Racor products feature several porting styles to external plumbing however the most common are SAE J1926 Straight Thread O-ring & SAE J476 National Pipe Thread (see next two pages for more info).

SAE J1926 & SAE J2244 Straight Thread O-ring

These designs utilize straight threads for holding power and an O-ring for superior sealing capability. Straight thread ports permit exact positioning of elbow fittings, provide a leak free joint, eliminate distortion and cracking of boss due to over tightening and are easier to maintain. The standard Parker O-ring material is compound No. N552-90, 90 durometer Buna-Nitrile (NBR). Apply a light coating of clean fuel or Parker Super O-lube (RK31605) to the O-ring prior to installation.

SAE J476 National Pipe Thread

Many Racor fuel ports feature the National Pipe Tapered for Fuels (NPTF - also known as DrySeal Piping Thread) design for best sealing efficiency in smaller filters. The crests of the threads flatten upon tightening and allow the flanks to make contact thus sealing the joint. Use of a thread sealant, such as Parker's Unipar, is recommended to ensure a leak-proof seal. To avoid system contamination, do not apply sealant onto the first few threads.

Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

Introduction

Today many different types of connectors are being used around the world. Most of these have come about through historical use and local preference for a certain design concept. Some connections of North American origin such as SAE straight thread and 37o flare, have found some degree of acceptance and use in Europe and Japan as a result of exports of U.S. machinery to these regions after World War II. However, a large majority of usage is made up of a variety of indigenous port and fitting connections. A quick review of the commonly used connections around the world reveals eight different port configurations.

Fortunately, the International Standards Organization (ISO) Technical Committee 131 (ISO/TC131) has developed standards for the most widely used ports and connectors to limit proliferation. The result is five port designs and Racor offers the four most popular, listed below:

Standard Fuel Ports

Racor's standard port configuration is the SAE J1926 (ISO 11926-1) design for straight thread with O-ring seal. This design sandwiches and compresses an O-ring between the angular sealing surface of the female port and the shoulder of the male end.

Also available is SAE J476, Dryseal American standard taper pipe thread. Racor provides this port in the NPTF (dryseal) configuration. In this design, the male/female thread crest and roots contact and then flatten allowing the flanks to make full contact. Thread sealants are recommended with this design.

Metric Fuel Ports

Available for a European or export market is the new 'world standard' ISO6149 (SAE J2244, DIN 3852-3) metric straight thread O-ring port, which is similar in the seal design to the SAE J1926 version above.
For Germany and other applications, the ISO 9974 (DIN 3852-1) configuration is available for sealing on the port surface or 'spot-face.' In this design, a captive seal is compressed against a smooth flat radial surface on the mating part.

Parker/Racor Connector Fittings

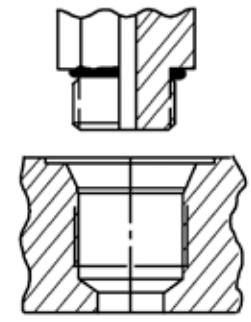
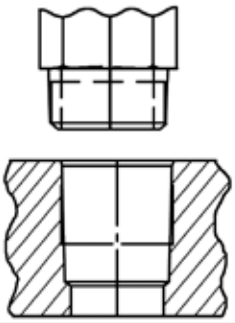
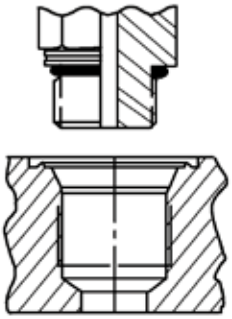
Racor primarily offers the JIC 37o flared fitting design because it can be used to connect to inch tubing, metric tubing and hose assemblies. This versatility offers customers a greater international acceptance as compared to other fitting styles.

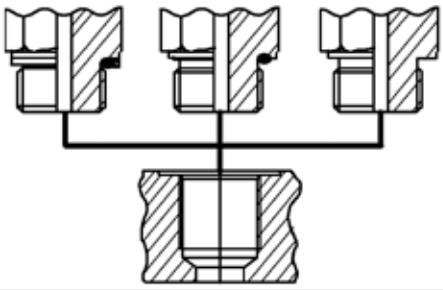
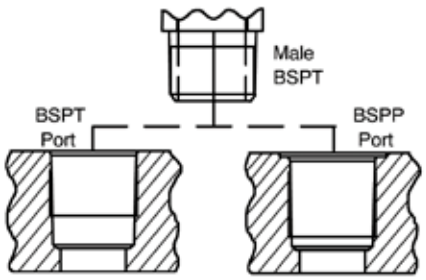
The standard rubber seals and O-rings used in Parker fittings are 90 durometer hard, low-swell buna-nitrile (NBR), which meets or exceeds Parker specification #N0552. This compound is suitable for use with all grades of diesel, gasoline, synthetic or petroleum based engine oils, and natural gas (CNG) applications. Typical temperature range is -30o to 225oF (-34o to 107oC). Note: not recommended for use with phosphate ester base hydraulic fluids, automotive brake fluids, strong acids, ozone, freons, ketones, halogenated hydrocarbons, and methanol.

The ports shown on the next page are the thread styles that Racor produces. The most common threads are from top-left to bottom-right.

Marine Fittings

Port & Thread Information

			
Port Description	**SAE Straight Thread O-ring Port**	**NPTF – Dryseal American Standard Taper Pipe**	**Metric Straight Thread O-ring Port**
Thread Type	ISO 263 ANSI B1.1, Unified	ANSI B1.20.3	ISO 261 Metric Fine
ISO Number	11926	N/A	6149
SAE Number	J1926	J476	J2244
DIN Number	N/A	N/A	3852-3 Form "W"
Current Use	Widely used in North America. Limited use in rest of the world.	Mainly used in North America with some use in the rest of the world.	Gaining use in U.S. and western Europe. Widely used in former Soviet block countries.

		
Port Description	**Metric Straight Thread Flat Face Port**	**BSPT/JIS British Standard Taper Pipe**
Thread Type	ISO 261 Metric Fine	ISO 7 BS 21 JIS B203
ISO Number	9974	N/A
SAE Number	N/A	N/A
DIN Number	3852-1 Form X or Y	Similar to: 3852-2 Form Z
Current Use	Moderate use in Europe, mainly used in Germany.	Mainly used in Japan and parts of western Europe.

Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

Torque Specifications

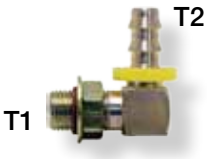
SAE J1926 & J2244 Fitting Torque Specs			
SAE Dash Size	Thread Size (UN/UNF)	Assembly Torque	
		in. lbs.	ft. lbs.
3	3/8 - 24	155	13
4	7/16 - 20	205	17
5	1/2 - 20	250	21
6	9/16 - 18	300	25
8	3/4 - 16	540	45
10	7/8 - 14	N/A	85

SAE J476 National Pipe Thread	
Assembly Turns From Finger Tight (T.F.F.T.) Values for Steel and Brass Fittings	
Pipe Thread Size NPTF	T.F.F.T.
1/4 - 18	2 - 2
3/8 - 18	2 - 3
1/2 - 14	2 - 3
3/4 - 14	2 - 3
1 - 11 1/2	1.5 - 2.5

SAE / JIC 37° Male Flare Torque Specs			
SAE Dash Size	Thread Size (UN/UNF	Assembly Torque	
		in. lbs.	in. lbs.
4	7/16 - 20	N/A	N/A
6	9/16 - 18	N/A	N/A
8	3/4 - 16	550 ± 50	1
10	7/8 -14	650 ± 50	1

Marine Fittings

Marine Plugs & Fittings

Part Number	Material	T1	T2	Image
918-N4	Yellow Zinc Di-chromate	1/4”-18 NPTF	N/A	
918-N6	Yellow Zinc Di-chromate	3/8”-18 NPTF	N/A	
913-N6-H6	Plated Steel	3/8”-18 (male)	3/8” (hose barb)	
913-N4-H6	Plated Steel	1/4”-18 (male)	3/8” (hose bead)	
911-N4-H6	Plated Steel	1/4”-18 (male)	3/8” (hose barb)	
911-N6-H6	Plated Steel	3/8”-18 (male)	3/8” (hose barb)	
911-N6-H8	Plated Steel	3/8”-18 (male)	1/2” (hose barb)	

Diesel Marine Shut-off Valve Kit

Specifications	RK19492
Material	Brass
Thread: T1 T2	 1/4”-18 NPT (male) 1/4”-18 NPT (female)1
Quantity per Kit	1
1 T2 port includes 1/4”-18 NPT plug. Plug must be in valve unless servicing.	

RK22936 No Spill Filler Spout

These versatile filler spouts have unlimited uses. They fit many Racor products including additives bottles and the flexible design allows users to bend the spout for flow control. This kit includes 4 hanging strips with 12 pieces on each strip; that's a total of 48 pieces per kit.

RK22628 Bowl Wrench

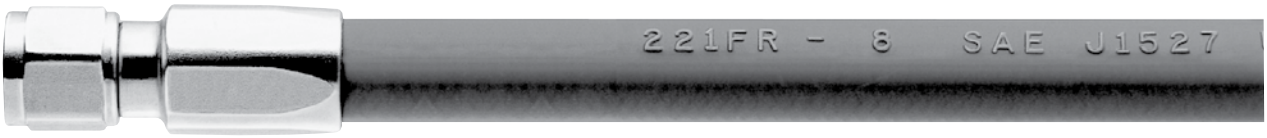
Racor offers a hand wrench to remove all metal and see-thru Spin-On bowls that feature external ribs. By simply fitting the wrench over the bowl ribs, the bowl can be removed from the replaceable Spin-On element, or filter housing with little effort. The wrench is made of a corrosion proof, high-impact, high-strength engineered polymer. One bowl wrench per kit.

RK31605 Parker Super O-lube

Another great product that helps with the installation of our filter assemblies and ensures a correct seal. Parker Super O-lube has a silicone base and will not harm O-rings, seals and other gaskets. Available in a 2 oz. tube which gives you plenty to go around. One 2 oz. tube per kit.

Marine Accessories

Hose Information



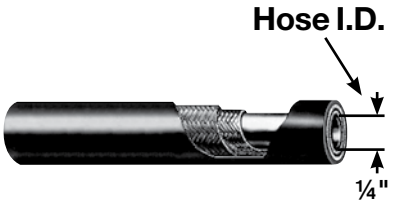
Specifications		CGH-5	CGH-6	CGH-8	CGH-10	CGH-12	CGH-16
Hose I.D.		1/4 in. (6.3 mm)	5/16 in. (8.0 mm)	13/32 in. (10.0 mm)	1/2 in. (12.5 mm)	5/8 in. (16.0 mm)	7/8 in. (22.0 mm)
Hose O.D.		0.58 in. (14.7 mm)	0.68 in. (17.3 mm)	0.77 in. (19.6 mm)	0.92 in. (23.4 mm)	1.08 in. (27.4 mm)	1.23 in. (31.2 mm)
Working Pressure		500 PSI (34.4 bar)	500 PSI (34.4 bar)	500 PSI (34.4 bar)	500 PSI (34.4 bar)	500 PSI (34.4 bar)	500 PSI (34.4 bar)
Burst Pressure		2000 PSI (137.8 bar)	2000 PSI (137.8 bar)	2000 PSI (137.8 bar)	2000 PSI (137.8 bar)	2000 PSI (137.8 bar)	2000 PSI (137.8 bar)
Minimum Bend Radius		1 in. (2.5 cm)	1 ¼ in. (3.0 cm)	1 ¾ in. (4.5 cm)	2 ¼ in. (5.5 cm)	2 ¾ in. (7.0 cm)	3 ½ in. (9.0 cm)
Weight per foot	kg	0.19 lb (0.09 kg)	0.23 lb (0.10 kg)	0.28 lb (0.13 kg)	0.39 lb (0.18 kg)	0.47 lb (0.21 kg)	0.41 lb (0.19 kg)
Inches of Mercury	InHg	20 InHg (68 kPa)	20 InHg (68 kPa)	20 InHg (68 kPa)	20 InHg (68 kPa)	20 InHg (68 kPa)	20 InHg (68 kPa)

Racor marine hose for fuel, oil, and hydraulic fluids is fire resistant and meets SAE J1527 Type A class and SAE J1942 standards. This hose delivers test-proven performance in a wide operating temperature range, constant working pressure in popular sizes, long-lasting reinforced construction, kink and cut resistance, and compatibility with a variety of standard 100R5 fittings.

Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

How to Order

CGH	-5		-50
Basic Part Number	Number	I.D. Size	Standard roll is 350 feet. (add -50 for a 50 foot roll.)
	-5	1/4”	
	-6	5/16”	
	-8	13/32”	
	-10	1/2”	
	-12	5/8”	
	-16	7/8”	



Construction:

Fuel and oil-resistant synthetic rubber tube with one braid of high-tensile steel wire, and a weather and fire resistant synthetic blue rubber cover. The layline is embossed for permanent identification.

No Skive:

1. Assembly of No-Skive hose and fittings does not require removal of outer cover of hose. This eliminates premature hose failure caused by skiving too long or short and protects vulnerable wire wrap during fitting assembly.

2. Cushion grip increases hose life-supporting cushion of compressed rubber between gripping threads on fitting reduces wire movement, minimizing stress.

3. Corrosion protection-steel wire braid of No-Skive hose is never exposed because outer rubber cover is not removed before assembling fitting.

4. No-Skive fittings are designed to allow socket threads to penetrate outer cover of hose and grip the wire braid of the hose.

5. Simple two step assembly-attached socket to hose, thread nipple to socket.

Hose Fittings

Part Number	Hose Size
915-W5-R5	SAE-5
915-W6-R6	SAE-6
915-W8-R8	SAE-8
915-W10-R10	SAE-10

Application and Temperature Range:

Low pressure service hose for use with gasoline, ethanol blends, diesel fuels, petroleum-base hydraulic fluids and lubricating oils within a temperature range of -4oF to 212oF (-20oC to 100oC). Water, water/glycol and water/oil emulsion hydraulic fluids up to 185oF (85oC). Meets Class 1 permeation requirements with gasoline and gasoline/ethanol blends, and passed a 2 ½ minute fire test. USCG accepted for commercial and recreational vessel applications.

Marine Accessories

Water Probe Kits

Underwriter's Laboratories Recognized Component

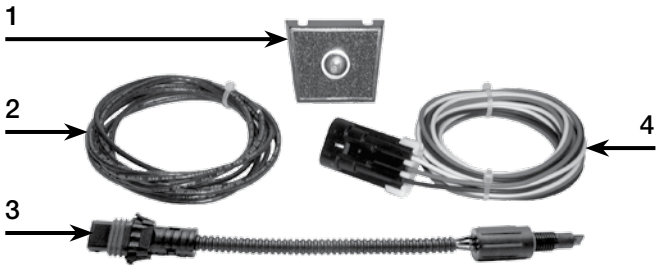
Specifications	RK21069	RK30880
Threads	½"-20 Threads	½"-20 Threads
Description	One piece design with two wires. Requires a detection module.	Built-in Detection Electronics. Sends a ground signal to the under-dash warning light kit (included - see below).
Voltage	12 or 24 vdc	12 or 24 vdc
Power Draw: ***(12 volt)*** ***(24 volt)***	N/A	 5 Milliamps 10 Milliamps
Maximum Load	N/A	1 Amp
Weight	0.03 lb (0.01 kg)	0.4 lb (0.2 kg)

Caution: Never wire a water probe directly to voltage or another brand of detection module.

RK30880 Part List

(individual components NOT sold separately)

1. Light Panel
2. 14GA Black Wire
3. Water Probe with Male Connector
4. Three Wire Female Connector



Questions? Contact Technical Support:
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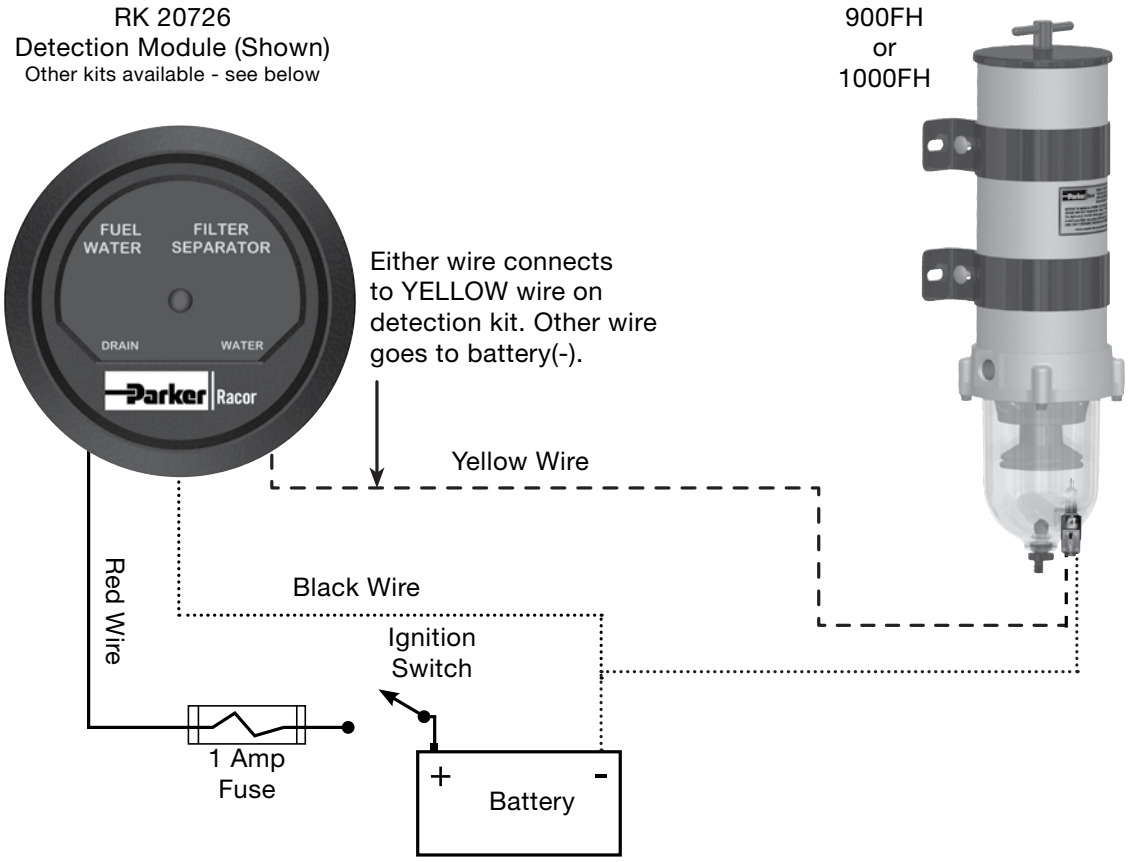
e-mail: racortech@parker.com

Water Sensor Diagram



Part Number	Description	Voltage	Picture
RK 12870	Under-dash mount. Light and audio. Illuminates and sounds when water is detected. Plastic enclosure measures 1.4" square by 1.25" deep. Power draw is 1 milliamp. Probe included.	12 vdc	
RK 12871	Same as above.	24 vdc	
RK 20726	In-dash mount. Light and audio. Red 'DRAIN' lamp illuminates continuously and horn sounds momentarily when water is detected. Initial power-up self diagnosis feature and circuit protection included. Plastic 2" gauge. Power draw is 3 milliamps for 12 vdc and 13 milliamps for 24 vdc. Probe included.	12 or 24 vdc	
RK 20725	Under-dash mount. Light only. Green 'ON' lamp illuminates with power and red 'DRAIN' lamp illuminates when water is detected. Initial power-up self diagnosis feature and circuit protection included. Plastic enclosure measures 2.75" by 1.0" by 1.5". Power draw is 10 milliamps. Probe included.	12 vdc	
RK 20725-24	Same as above.	24 vdc	

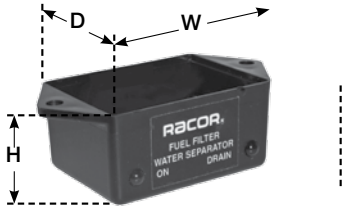
Note: Detailed installation instructions supplied with each kit.

Marine Accessories

Water Detection Modules

Under-dash

Specifications	RK20725
Voltage	12 vdc
Features	Light Only
Description	Green ON lamp illuminates with power and red DRAIN lamp illuminates when water is detected. Includes initial power-up self diagnosis feature & circuit protection.
Dimensions	1.0” H x 1.5” D x 2.0 W
Power Draw	10 Milliamps
Max. Internal Load	30 Milliamps
Weight	0.4 lb (0.2 kg)



In-dash

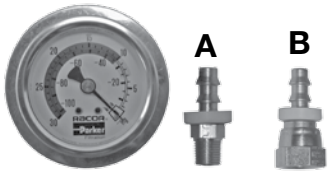
Specifications	RK20726
Voltage	12 or 24 vdc
Features	Light & Buzzer
Description	Red DRAIN lamp illuminates continuously and buzzer sounds momentarily when water is detected. Power-up self diagnosis feature and circuit protection included.
Dimensions1	2.2” Diameter x 3.2” Depth
Power Draw: *(12 volt)* *(24 volt)*	 3 Milliamps 13 Milliamps
Max. Internal Load	30 Milliamps
Weight	0.4 lb (0.2 kg)
1 Cut 2.0” diameter hole to mount gauges in instrument panel.	

Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

Vacuum Gauges

Vacuum gauges are available to monitor element condition and as the filter element slowly becomes clogged with contaminates the restriction (resistance to flow) increases. The fuel pump still tries to draw fuel (suction) but because of this restriction less fuel is delivered to the engine and instead more air is pulled from it (fuel de-gassing). These results can cause the engine to lose power and eventually stall.

By installing a vacuum gauge in your fuel system (at the outlet side of the Racor filter) visual monitoring of element condition is possible at a glance. At the first indication of decreased performance, note the dial reading or apply the 'red line' decal provided with most kits. This will assist in knowing when to change the filter at the next interval.



Specifications	RK11233	1606B	RK11-1676
Description	Silicone dampened, 0-30 inHg. Instrument panel installation.	**Includes gauge and two fittings (see below).** **RK11233** Vacuum Gauge. **A. 7232-4** Adapter Fitting ⅛" NPTM x #4 (¼") hose. **B. 7234-4** Adapter Fitting ¼" swivel x #4 (¼") hose. **11-1115** Instructions.	Silicone dampened, 0-30 inHg.
Threads	¼" NPT back bracket mount.	¼" NPT back bracket mount.	¼" NPT bottom boss mount.
Dimensions	2.0" W x 1.9" D	2.0" W x 1.9" D	2.0" W x 1.1" D
Dial	2 in.	2 in.	2 in.
Weight	0.4 lb (0.2 kg)	0.4 lb (0.2 kg)	0.3 lb (0.1 kg)

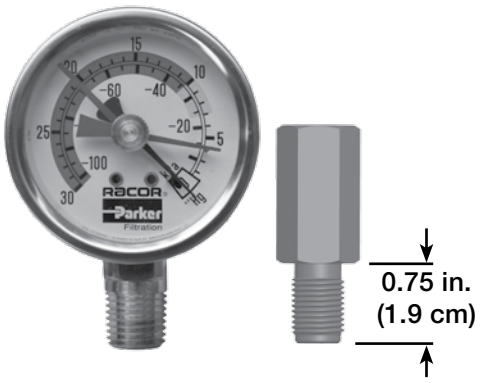
Special Notes: For severe vibration applications, mount the gauge on a stable, remote location and connect to the source using flexible tubing. After September 1999, Racor converted many liquid-filled gauges to new silicone dampened movement. This new (dry) technology provides a vibration resistant design that never leaks fluid or requires adjustments due to temperature or altitude variations.

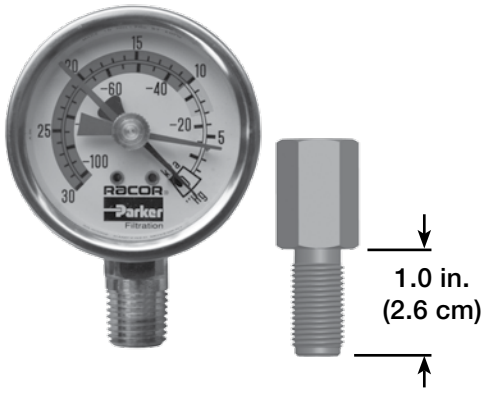
Marine Accessories

T-handle Vacuum Gauge

T-handle vacuum gauges are available to monitor element condition and as the filter element slowly becomes clogged with contaminates the restriction (resistance to flow) increases. The fuel pump still tries to draw fuel (suction) but because of this restriction less fuel is delivered to the engine and instead more air is pulled from it (fuel de-gassing). These results can cause the engine to lose power and eventually stall.

By installing a vacuum gauge in your fuel system (at the outlet side of the Racor filter) visual monitoring of element condition is possible at a glance. At the first indication of decreased performance, note the dial reading or apply the 'red line' decal provided with most kits. This will assist in knowing when to change the filter at the next interval.





Specifications	RK11-1969	RK11-1669
Description	**500 Turbine Series*** T-handle vacuum gauge kit includes gauge & **11-1969** Fitting 9/16"-18 UNF	**900 & 1000 Turbine Series*** T-handle vacuum gauge kit includes gauge & **11-1668** Fitting, 9/16"-18 UNF
Threads	¼" NPT bottom boss mount	¼" NPT bottom boss mount
Dimensions	2.0" W x 1.1" D	2.0" W x 1.1" D
Dial	2 in. (5.1 cm)	2 in. (5.1 cm)
Weight	0.3 lb (0.1 kg)	0.3 lb (0.1 kg)

Special Notes: For severe vibration applications, mount the gauge on a stable, remote location and connect to the source using flexible tubing. After September 1999, Racor converted many liquid-filled gauges to new silicone dampened movement. This new (dry) technology provides a vibration resistant design that never leaks fluid or requires adjustments due to temperature or altitude variations.

* Not for use on 'MA' applications that are used on commercial Vessels.

Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

2-Cycle Synthetic Engine Oil

Applications

Recommended for use in outboard marine engines, motorcycles, chain saws, lawn mowers, string trimmer, and applications that require nmma and tcw3 certified 2 cycle oils.

About the Product

This superior fully synthetic 2 cycle oil has been designed to meet the strict requirements associated with 2 cycle engines. The racor superior synthetic 2 cycle oil dramatically improves engine performance by reducing friction and wear, improve fuel economy and protection against high temperature extremes associated with 2 cycle engines.

Features and Benefits

- **Protects against piston deposits and scuffing– additive components prevent the damaging buildup of these power stealing deposits.**
- **Protects against wear and corrosion– the superior synthetic formulation protects vital engine components with a tough lubricating film.**
- **Keeps spark plugs and exhaust ports clean– by using quality synthetic blends this optimizes fuel efficiency, also reducing exhaust emissions.**
- **Provides high temperature protection– formulated to provide excellent lubrication under extreme work environments.**
- **Nmma certification– meets and exceeds the lubrication performance requirements set forth by tc-w3®**

Gal. (L) of Gasoline	oz. (ml) of Oil to be Added				
	16:1	32:1	40:1	50:1	100:1
1 (3.79)	8 (237)	4 (118)	3 (95)	3 (76)	2 (38)
2 (7.57)	16(473)	8 (237)	6 (189)	5 (151)	3 (76)
3 (11.36)	24 (710)	12 (355)	10 (284)	8 (237)	4 (114)
4 (15.14)	32 (946)	16 (473)	13 (379)	11 (303)	6 (151)
5 (18.93)	40 (1183)	20 (591)	16 (473)	13 (379)	7 (189)
6 (22.71)	18 (1419)	24 (710)	19(568)	16 (454)	8 (227)

Marine Accessories

FPM-PTC-12

Programmable Timer/Controller for FPM

Benefits:

- **Easy to install enclosure can be flush - or surface - mounted**
- **Programmable timer can control common appliances to save energy and increase safety and security**
- **Customize to any schedule with up to 8 daily switching cycles**
- **Compatible with 12 VDC systems and appliances**
- **Enables unattended fuel polishing when used with a Parker Fuel Polishing Module**
- **Splash proof enclosure protects timer from harsh environments**

Specifications	FPM-PTC-12
Switch Type	single pole/single throw
Switch Current Rating	10 A at 25˚C, 16 at 40˚C
Operating Voltage	12 VDC nominal
Connections	includes 18 AWG leads
Operating Range	**14˚ F (-10˚C) to 131˚F (55˚C)**
Overall Size	3.95" diameter x 1.68" deep (including cover)
Approximate Weight	0.75 lb (0.3 kg)
Mounting	#4 screws recommended

Questions? Contact Technical Support:
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e-mail: racortech@parker.com

FPM-050

Fuel Polishing Module

How it works, the advantages of daily fuel polishing

As diesel fuel warms through engine use or the daily heat of the sun, its natural capacity to absorb water increases, dissolving and dispersing a percentage of any water in the tank. When the fuel cools, this dissolved water desorbs into a bacteria harboring emulsified suspension. By flowing the fuel gently over many hours, the FPM maximizes your filter's ability to separate this difficult to remove emulsion and filter out particles.

Benefits:

- **Daily fuel maintenance keeps fuel dry, promoting a bacteria-free environment & preventing contaminant build-up**
- **Reduces the need to use expensive fuel treatments and additives**
- **Patented solid state technology consumes only 150 mA, minimizing battery drain and enabling continuous fuel maintenance. Unit can be run off a small solar panel**
- **Breakthrough technology allows for fuel maintenance during engine down time and off-season storage**

Specifications	FPM-050
Filtration Rate	50 gallons per day (up to 350 gallons per week)
Power Requirements	less than 2 watt (less than 3A-hrs per day)
Internal Pressure Drop	less than 0.5 PSI
Voltage Requirements	10-16 VDC, 12 VDC nominal
Approximate Dimensions (Body) *Approximate Dimensions (with Bracket)*	3.8" L x 2.47" H x 2.14" D 3.87" L x 4.48" H x 2.14" D
Ports (Inlet & Outlet)	$^3/_8$" NPTF, Recirculation - $^1/_4$" NPTF
Weight	less than 2 lbs.
Acceptable Fuels	diesel, biodiesel, kersone
Connections	includes 18 AWG leads

Note: Actual flow rate is system dependent
Note: Not compatible with gasoline or other flammable liquids

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