



Department of Environmental Protection

2600 Blair Stone Road • Tallahassee, Florida 32399-2400

DEP Form: 62-762.901(9)
Form Title: Storage Tank Equipment
Registration Form
Effective Date: July 2019
Incorporated in Rule 62-762.851, F.A.C.

Storage Tank System Equipment Registration Form

Fill out completely

General Information

Company Name:	Rochester Sensors	Contact Name:	Yelena Musheghyan	
Company Address:	1025 S. Belt Line Rd.	City, State:	Coppell, TX	Zip: 75019
E-mail:	ymushgeghyan@rochestersensors.com	Contact Number:	972-845-4208	
Product Name:	6540 and 6200 Series Liquid Level Gauges			
Model Number(s):	6540 and 6200 Series	Product Type:	Mechanical Liquid Level Gauges	
Rule(s) citation that registration is being requested within Chapter 62-761 (UST), and/or 62-762 (AST), F.A.C.:				
Rule 62-762.502, Rule 62-762.702, Rule 62-762.851				

Write a brief description of equipment registration request including product limitations:

The 6540 and 6200 Series are Liquid Level Gauges designed generally for use in several applications, but also specifically for shop-fabricated aboveground storage tanks regulated by FDEP containing diesel and other regulated substances.

Information Checklist (Choose Yes, No, or N/A - Not Applicable):

	Yes	No	N/A
1. Third-party Certification by a Nationally Recognized Testing Laboratory? (Required)	☒	☐	☐
2. Documentation of third-party evaluation that the equipment meets DEP Rules?	☒	☐	☐
3. Documents included about the qualifications of the Nationally Recognized Testing Laboratory?	☒	☐	☐
4. Technical information and drawings included?	☒	☐	☐
5. Installation instructions included?	☒	☐	☐
6. Annual Operability Testing Requirements (Rules 62-761.500, 62-762.501, & 62-762.502 F.A.C.)?	☐	☐	☒
7. Integrity Testing Requirements (Rules 62-761.700, 62-762.701, & 62-762.702, F.A.C.)?	☐	☐	☒
8. Compatible with fuel blends containing >10% ethanol or >20% biodiesel?	☐	☒	☐
9. Has the product been approved or registered in other countries or states? (If so provide list)	☒	☐	☐
10. Any requirements for company-certified installers or trainers?	☐	☒	☐
11. Was this product(s) previously approved or registered by the Department? If yes, EQ- _____	☐	☒	☐
12. Any changes or modifications to the equipment since the last submittal to DEP?	☐	☒	☐

Document Information: Provide supporting documents indicated as "Yes" above including this form via email to Tanknotify@floridadep.gov, or documents can be sent to FDEP, Division of Waste Management, 2600 Blair Stone Road, MS 4560, Tallahassee, FL 32399.

Write a brief description of equipment installation and performance in the U.S.:

The sensors have years of successful use widely around the world and provide accurate information about the levels of liquids in storage tanks and similar containers. The 6540 series is for middle distillates, and the 6200 series is for diesel, gasoline, ethanol, and other motor fuels.

Equipment Registration Certification:

To the best of my knowledge and belief, all information submitted on this form is true, accurate and complete.

Quality Compliance Engineering, Supervisor

Printed Name and Title

Yelena Musheghyan

Signature (right click to sign)

11/05/2025

Date

For Department Use Only:

Date Application Received: 11/07/2025

Application complete:

Yes: ☒ No: ☐

EQ- 1041

Date of complete or incomplete letter sent: 11/07/2025

Date Equipment Requires Renewal: 11/07/2030

Storage tank system equipment requires renewal every 5 years in accordance with subsection 62-762.851(2), F.A.C.



Equipment Registration for the
6540 and 6200 Series Liquid Level Gauges
And associated components
to the
Florida Department of Environmental Protection
from
Rochester Sensors

Submitted by

Marshall T. Mott-Smith, President
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November 5, 2025





November 5, 2025

Amanda Dorsett,
Environmental Administrator
Florida Department of Environmental Protection
Division of Waste Management
Compliance Assistance Program
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Equipment Registration Request for Rochester Sensors 6540 and 6200 Series Liquid Level Gauges

Dear Amanda,

We are submitting an Equipment Registration for the Rochester Sensors 6540 and 6200 Series Liquid Level Gauges. We would appreciate the expedient processing of this request, and appreciate your consideration in this matter. Please feel free to contact me if you have any questions or if we need to provide additional information.

Best Regards,

Marshall Mott-Smith, President
Mott-Smith Consulting Group, LLC

111 North Calhoun Street

Tallahassee, FL 32301

850.391.9835

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Global Organization

Rochester Sensors is a global organization with the expertise, resources and capabilities to solve any challenge related to liquid level measurement.

[North America](#) | [Latin America](#) | [Europe / Middle East](#) | [Asia](#)



1. Overview and Request

This Equipment Registration request is sought in accordance with Florida Administrative Code (F.A.C.) Rule 62-762.851(2), for the Rochester Sensors 6540 and 6200 Series. Both of these series are liquid level sensors that can measure the level of the contents in a tank. This registration request includes all of the components and other sensors within the series. The Rochester Sensors 6540 and 6200 Series meet the FDEP's requirements of Chapter 62-762.501, F.A.C., and have Third Party Listings from Underwriters Laboratories. System information, installation instructions and other requirements for the Rochester Sensors 6540 and 6200 Series Sensor are contained in the other Attachments listed in this document. There are both Junior and Senior Gauges. "Junior" and "senior" gauges refer to different sizes and applications. Junior models are typically smaller or have a broader range of applications, while senior models are designed for specific, often larger or more robust, applications like industrial tanks.

2. Rochester Sensors 6540 Series

The Rochester Sensors 6540 Series Gauge is a 4 Bolt Gauge for Low Pressure Tanks (0 – 25 PSIG containing diesel fuel, fuel oil, lubricating oils, and other middle distillates. They can be used in many applications such as fleet management, construction equipment, stationary generators, and other shop-fabricated aboveground storage tank systems.

The 6540 Series Senior gauges are available in gear-action models for top, centerline or angle mounting. In lever-action models, the centerline mount is only available. The standard float is nitrile rubber. Aluminum or stainless-steel floats are available at extra cost. The gauge is mounted to a mating Senior flange 2 1/2" bolt circle [63,5mm] using four 1/4"-28 x 9/16" long bolts. The standard gasket supplied is Buna-N, other materials can be specified as required.

Rochester Sensors dials are magnetically driven and hermetically sealed. Therefore, moisture and fuel vapor cannot reach inside of the gauge lens and degrade the UV rated lens material. The 6540 Series can be equipped with a standard top reading fractional dial or Rochester Remote Ready (R3D®) dial for telemetry application. Also available is an easy-to-read, side-view fractional dial for select gauge models. The 6540, 6543 and L6543 gauges incorporate a strong nickel-plated Neo magnet to drive the TwinSite® sender for electrical signal output (ohm or voltage) to a panel indicator or remote receiver while also providing a direct read, fractional reading.

The Accuracy of the 6540 Series depends upon proper gauge sizing. The Senior dials have an accuracy of $\pm 6\%$, and the TwinSite® dials have an accuracy of $\pm 10\%$. Accuracy may be less depending upon tank shape. Accuracy may be less near full and empty. Also, accuracy may be less if tank is not level.

The Rochester Sensors 6540 Series Gauge is designed to be used in a temperature range of -40°F to 158°F (-40°C to 70°C), tank pressures up to 25 PSIG [1,7 Bar] and are UL listed for flammable liquids. They are designed to operate in humid conditions as well as marine applications, and they are suitable to mobile applications. The TwinSite versions require electric power with a maximum of 0.5 watts.

The following are the materials of construction for the Rochester Sensors 6540 Series. The head is die-cast aluminum, and the centershaft, support tube and float rod are tempered aluminum. The gears, cross stud and bearing are stainless steel. The drive magnet is made from Alnico, a powerful permanent magnet alloy made primarily of aluminum, nickel, and cobalt, with additions of iron, copper, and sometimes titanium. The gear housing is made with acetal plastic or aluminum, the float is nitrile rubber, and the gasket is Buna-N. The direct reading dial is aluminum with acrylic crystal that is hermetically sealed. The side reading dial is also aluminum, but it has a polycarbonate crystal that is hermetically sealed. The TwinSite® Sender is made of Polyamide. The mounting bolts are zinc-plated steel.

All materials in contact with the stored product are compatible with diesel, biodiesel, kerosene, water, or any other liquid compatible with its materials of construction. The materials used in the Rochester Sensors 6540 Series Fuel Level Sensors and their components are impervious, able to withstand deterioration, and have sufficient strength and durability to be in contact regulated substances for the design life of the system. There are fuel type restrictions for the use of the Rochester Sensors 6540 Series that limit its use to middle distillates. The materials of construction are compatible with middle distillates and are not capable of being penetrated by the liquids used in the storage tank system the Rochester Series 6540 Fuel Level Sensors are measuring.

The Rochester Sensors 6540 Series are designed for liquid level gauging and to prevent overfills during the monitored delivery of fuels. They should be installed by experienced and qualified individuals at the discretion of the AST owner and should be installed in accordance with Department rules and the manufacturer's specifications in the manuals. Installation instructions are provided in **Attachment II**. Technical and Engineering drawings of the system are provided in **Attachment III**, and Product Specifications are listed in **Attachment IV**.

The 6540-series is the same as the 6580-series, but it uses the TwinSite® dials. The 6540 Series is on the same data sheet and the previous registered 6580 Series. 6500-1 is the data sheet which shows the TS dial as an option. The two wire TS dial is now included. The installation instructions are provided in MS-501_502 attachment, a shared multi product document. The attachments also provide the 3 resistive options dial drawings (5675S02556P, 5640S02543P, and 5642S02544P) as well as the TS010 data sheet. The 6540-series can also use the TS Voltage Divider Dial (VD003) and the Hall Effect (HE) TwinSite (TS) dial. The TD014 data sheet and most common dial is the 5AAKS02770P.

3. Rochester Sensors 6200 Series

The Rochester Sensors 6200 Series are four-bolt gauges for shop-fabricated aboveground storage tanks, DOT Cylinders, and motor fuel tanks containing motor fuels regulated by FDEP (Diesel, Gasoline, Ethanol, etc.). The Junior gauges are supplied standard with a 0015-00007 Buna-N gasket and four 0040-00414 zinc-plated steel mounting bolts (1/4" — 28 x 7/8") for attachment to a gauge adapter with 2.03" [51,5] diameter bolt circle. The installation instructions (MS-501/502) are provided in **Attachment II**.

Models 6281 and 6284 Junior gauges used on aboveground ASME storage tanks are equipped with R3D® Remote Ready 5909S02733 percentage dials. Models 6241 and 6244 Junior gauges used on ASME motor fuel tanks come with the option of direct read, TwinSite®, or Hall Effect dials. All gauges in the 6240 series and B6240 series incorporate a stronger magnet necessary to drive remote reading TwinSite® senders in motor fuel applications.

All Senior gauges except models 6290 and 6293 come equipped with 0015-00004 Buna-N gaskets and four 0040-00415 zinc plated steel mounting bolts, (5/16" — 24 x 7/8"), for attachment to a gauge adapter with 2.5" [63,5] diameter bolt circle (see Rochester Adapter Machining Standard MS-502). Model 6280 and 6283 Senior gauges used on above ground ASME storage tanks are equipped with direct-reading 5001S00001 percentage dials.

Models 6290 and 6293 Senior gauges with stainless steel heads may be used on above ground horizontal or vertical ASME storage tanks over 3500 [13250 liters] gallon capacity and are equipped with cap bolts, Teflon-filled, stainless steel gaskets, stronger magnets and direct-reading 4" diameter percentage dials. Tank drawings must be furnished for all vertical tanks so Rochester Sensors can recommend computer generated gauge adapter placement to correspond with an assortment of standard dials and dial sets calibrated for vertical tanks.

Junior Models

6281	For top mounting, includes standard magnet to drive direct-reading dials.
6284	Same as 6281, except for side, end, or angle mounting.
6241	For top mounting, includes stronger magnet to drive TwinSite® senders.
6244	For side, end, or angle mounting, otherwise same as 6241
B6244	Same as 6244, except with brass head

Senior Models

6280	For top mounting, includes standard magnet to drive direct-reading dials.
6283	Same as 6280, except for side, end, or angle mounting.
6290	For top mounting, includes stronger magnet to drive large 4" dial.
6293	Same as 6290, except for side, end, or angle mount.

The Rochester Sensors 6200 Series Gauge is designed to be used in a temperature range of -40°F to 176°F, -40°C to 80°C with optional stainless steel mounting bolts which may be required for temperatures below -20°F, -29°C. The accuracy depends upon proper gauge sizing. Junior and Senior dials have an accuracy of $\pm 5\%$. Four inch dials have an accuracy of $\pm 4\%$. TwinSite® dials have an accuracy of $\pm 8\%$, while Hall dial output has an accuracy of $\pm 4\%$ of visual reading. Accuracy may be less depending upon tank shape, and may be less near full and empty. Also, accuracy may be less if tank is not level, and may be less due to variations in liquid temperature. All accuracy estimates are expressed as percent of full scale.

For high humidity applications, brass, stainless steel or painted aluminum heads are recommended. Rochester Sensors 6200 Series Gauges are suitable for mobile service applications, and like the 6540 Series, the TwinSite® versions require 0.5 watts of power. The work pressure rating is 375 psi. [25,5 Bar].

The following are the materials of construction for the Rochester Sensors 6200 Series. The standard head is aluminum die casting. Model B6244 has a brass head, and Models 6290 and 6293 have stainless steel heads. The gear housing is aluminum die-casting or acetal. The centershaft bearings, gear, pinion, cross stud and bearing, and dial screws are all stainless steel. The support, centershaft and float rod are tempered aluminum. The float bulb is either nitrile rubber or one piece aluminum. The counterweight is steel-plated, while the magnet is neo. A neodymium magnet (also known as NdFeB, NIB or Neo magnet) is a permanent magnet made from an alloy of neodymium, iron, and boron. The standard gasket is Buna-N, but is spiral wound, Teflon-filled, and stainless steel on models 6290 and 6293. The mounting bolts are zinc-plated steel, but stainless steel is optional. The Junior Direct Reading Dials and

TwinSite® Senders are ultrasonically sealed polycarbonate. The Senior Dials are aluminum with acrylic or polycarbonate crystal, and are sealed with a rubber gasket. The four inch dials are aluminum with glass crystal, sealed with a rubber gasket.

Technical drawings of the system are provided in Attachment III, and Product Specifications are listed in Attachment IV. The Rochester Sensors website is <https://rochestersensors.com/>

4. Third Party Approval

The Rochester Sensors 6540 and 6200 Series Liquid Level Gauges that the Equipment Registration is being sought for in this request meet the demonstration of equivalent protection and certification as required by DEP Rule 62-762.851(2)(b), F.A.C. The Third-Party Approvals by Underwriters Laboratories provided in **Attachment I** show the UL Listings.

5. Installation

There is no company-established requirement for the service technicians to perform the installation or commissioning of the Rochester Sensors 6540 and 6200 Series Liquid Level Gauges. Usually, the installation is performed by a local contractor, and Rochester Sensors service technicians provide technical support for the work. Owners installing and using the system should comply with the applicable Reference Standards referenced by the Florida Department of Environmental Protection, as well as manufacturer's instructions and state, local, and federal rules. Installation instructions and installation testing requirements for the Rochester Sensors 6540 and 6200 Series Liquid Level Gauges are contained in **Attachment II**.

6. Annual Operability Testing

There are no requirements for Annual Operability Testing. Accuracy of the liquid level gauges can be determined by gauge-sticking the tank and correlating the gauge stick reading with the liquid level gauge.

7. General

The Rochester Sensors 6540 and 6200 Series Liquid Level Gauges provide equivalent protection for the liquid level gauging requirements specified in current and previous versions of Florida DEP Rule 62-762, F.A.C. The systems are constructed with non-corrosive and corrosion-protected materials and have strict quality controls during the manufacturing. The Quality Control specifications are provided in the company

website. The systems are similar in design and construction to other Rochester Sensors DEP-approved systems that have proven to be able to withstand deterioration from external elements and internal fuel environments for many years. The product photographs are provided in **Attachment V**, and are provided in **Attachment VI**.

Attachment I
Third Party Approvals

Recognized Component Marking Data Page (RCMDP)

(FILE IMMEDIATELY AFTER AUTHORIZATION PAGE)

RECOGNIZED COMPONENT MARKING

Products Recognized under UL's Component Recognition Service are identified by marking elements consisting of:

1. The Recognized Company's identification specified in this document.
2. A catalog, model or other applicable product designation specified in the descriptive sections of this document.
3. The UL Recognized Component Mark shown below is optional unless required elsewhere in the Procedure.

Only those components, which actually bear the Marking, should be considered as being covered under the Recognition Program. The UL Listing or Classification Mark is not authorized for use on or in connection with Recognized Components.

Recognized Component Mark



Minimum size of the Recognized Component Mark is not specified as long as it is legible. Minimum height of the registered symbol ® shall be 3/64 inch but may be omitted if it is out of proportion to the Recognized Component Mark or not legible to the naked eye.

The manufacturer may reproduce the Mark electronically. Any decision regarding the acceptability of the manufacturer's Mark reproduction will be made at the Reviewing Office.

DESCRIPTION

PRODUCTS COVERED:

*Fuel or Liquid Level Indicators Float Gauges, Models 6540, 6560, 6580, 6741, 6781, 8240, 8260, 8280, 8440, 8460, 8480, 8640, 8660 and 8680.

MARKING:

1. The manufacturer's name is shown on the dial or dial cover of each gauge. In place of manufacturer's name, one of the following trademarks may be used:

or

2. The model designation and date of manufacture is stamped in the side of the gauge head.
3. "Ignition Protected" may also appear on the gauge or packing carton.

ENGINEERING CONSIDERATIONS ONLY (Not For Field Representative's Use):

These are direct reading, float-operated liquid level gauges intended for use on vented type marine tanks. These gauges are used with adapters to facilitate removal.

CONSTRUCTION DETAILS:

The assembly and construction details shall conform to those shown by the illustrations.

The lengths of the center shaft and/or support rods may vary (to accommodate tank sizes) up to a maximum of 36 inches.

Plastic dial covers are formed of Recognized Component Plastic Material (QMFZ2) General Electric Co., "Lexan", Series 100, 130 or 140; Dupont de Nemours & Co., "Lucite" No. 140NC-10; or Rohm and Haas Co., "Plexiglass", Grade 920.

File MQ400

Vol. 1 Sec. 3
and Report

*Ill. 10B

Issued: 03-09-81
Revised: 09-26-96

REPLACES ILLUSTRATION 10B

KK/DB/kk

File MQ400

Vol. 1 Sec. 3
and Report

*Ill. 10P

Issued: 03-09-81
Revised: 09-26-96

REPLACES ILLUSTRATION 10P

KK/DB/kk

File MQ400

Vol. 1 Sec. 3
and Report

*Ill. 10U

Issued: 03-09-81
Revised: 09-26-96

REPLACES ILLUSTRATION 10U

KK/DB/kk

File MQ400

Vol. 1 Sec. 3
and Report

*Ill. 11

Issued: 03-09-81
Revised: 09-26-96

REPLACES ILLUSTRATION 11

KK/DB/kk

This page replaces Illustration 12E

ECH/NM

File MQ400

Vol. 1 Sec. 3
and Report

*Ills. 20-21

Issued: 03-09-81
Revised: 05-09-97

This page replaces Illustrations 20-21

ECH/NM

Gauge Adapters

<u>Ill.</u>	<u>Drawing No.</u>	<u>Material</u>
10	0022-00001	Zinc
10A	0022-00002	Brass
10B	0022-00003	Cold Rolled Steel
10C	0022-00005	Brass
10D	0022-00007	Zinc
10E	0022-00008	Cold Rolled Steel
10F	0022-00015	Cold Rolled Steel
10G	0022-00043	Brass
10H	0022-00070	Cold Rolled Steel
10I	0022-00071	Cold Rolled Steel
10J	0022-00072	Brass
10K	0022-5100 & 02	Stainless Steel 304 & Al
10L	0022-5101	Stainless Steel 304
10M	0022-5201	Forging Steel
10N	0022-5211	Forging Steel
10O	0022-5246	Zinc
10P	0022-5247	Stainless Steel (304)
10Q	0022-5248	Zinc
10R	0022-5250	Zinc
10S	0022-5251	Zinc
10T	0022-5264	Aluminum
10U	0022-5270	Stainless Steel (304)

Gauge Gaskets

<u>Ill.</u>	<u>Drawing No.</u>	<u>Material</u>
11	0015-00742	Rubber
11A	0015-00004	Rubber
11B	0015-00423	Rubber
11C	0015-00716	Rubber

For installation instructions refer to Ill. 12, 12A - 12E.

Senders

<u>Ill.</u>	<u>Drawing No.</u>
18	P5642S02544
19	P5675S02556
20	P5764S02611
21	P5807S02626
22	P5632S02539
23	P5640S02543

Attachment II

Installation



Jr. & Sr. Bolted Gauge Installation

READ COMPLETELY BEFORE ATTEMPTING INSTALLATION

WARNING: Improper installation or misuse of this product may cause serious injury or property damage.

THESE INSTRUCTIONS ARE PREPARED TO ASSIST TRADESMEN AND OTHERS QUALIFIED TO SERVICE LIQUID STORAGE TANK EQUIPMENT. CONSUMERS ARE NOT QUALIFIED TO PERFORM THE INSTALLATION DESCRIBED BELOW. IF YOU HAVE ANY QUESTIONS CONCERNING INSTALLATION OR OPERATION OF THE GAUGE OR GASKET, CONTACT ROCHESTER GAUGES, INC. OR ONE OF OUR AUTHORIZED DISTRIBUTORS FOR ASSISTANCE. CHECK SIDE OF GAUGE HEAD FOR MODEL NUMBER AND ASK FOR GAUGE INSTALLATION INSTRUCTIONS FOR YOUR MODEL.

IS THE GAUGE RIGHT FOR YOUR APPLICATION?

Gauges should only be installed in applications recommended by the manufacturer. Verify that the gauge is the proper gauge for your application prior to attempting installation.

The float may or may not have a counterbalance depending on the intended application. Applications for light specific gravity liquids or large tanks normally require counterbalancing of the float.

The gauge, mounting gasket and mounting adapter (if applicable) must be constructed of materials compatible with the liquid to be measured and the service environment. The float, mounting bolts and head must be adequately rated for your specific pressure and temperature service.

IS THE GAUGE THE PROPER SIZE?

As a general rule, the float pivot point should be on the horizontal centerline of the tank when installed. The float length dimension (measured from the float pivot point to the end of the float) should be proportional to the inside tank height and is usually slightly less than $\frac{1}{2}$ of the vertical inside height of the tank.

Gauges can be constructed for side, top or angle mounting but must be installed in the position for which they are constructed. Hold the gauge by the support (see Figure A) in the intended mounting attitude and operate the float to see if it is correct for your application (see Figure B).

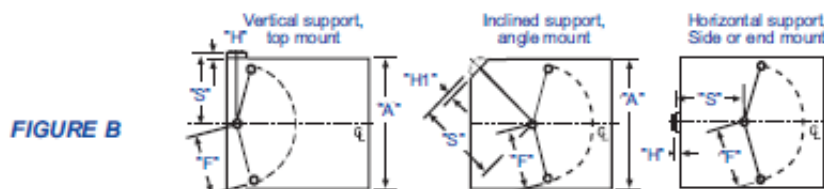
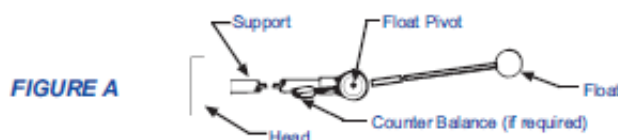
CAUTION: Improper gauge or dial selection or application may result in inaccurate readings. Release of tank contents as well as damage to equipment and safety hazard may result if tank is overfilled. Fuel exhaustion may occur if tank contents are less than indicated. LP Gas & NH₃ gauge dials require an appropriate temperature chart.

WARNING: Determine and install the appropriate gauge & gasket based on system requirements. The gasket type supplied may not be suitable for all applications and for those applications other gasket materials may be available. The information contained herein is intended for guideline use only and the suitability of any part for a particular application must be determined by the user prior to installation. Improper gasket selection or application may result in seal failure, subsequent release of tank contents and serious injury and or property damage.

WARNING: This gauge is not a substitute for a fixed liquid level gauge or weight measurement device, which may be required for filling. This document is not instructions for tank filling.

GAUGE REMOVAL WARNING: Should it appear necessary, to remove the gauge from the tank, do not attempt removal unless under competent supervision with all due precautions taken against the hazards of released liquid or high pressure and/or flammable gas.

HAZARDS: Even if a gauge registers empty, tank may contain high pressure and flammable gas. A hazard of fire or explosion may exist if proper methods are not used when removing or installing the gauge or gasket. Replace gasket if gauge is removed. Do not reuse gasket.



See reverse side for dimensional data, materials of construction, performance, and advice on how to order.

The Measure of Excellence

Installation*

A. Gauges are normally fastened to tank using a mounting adapter which has previously been welded or otherwise installed into the tank or its fittings. Check adapter for correct dimensions and finish, see dimensions below. Check color stripe on O.D. of gasket for material.

BLUE STRIPE = NEOPRENE. Order Senior part # 0015-00836 or Junior part # 0015-00855 recommended for anhydrous ammonia and specific refrigerant applications.

CAUTION: Adjustable gauges are NOT intended for ammonia service.

RED STRIPE = BUNA-N. Order Senior part # 0015-00004 or Junior part # 0015-00007, recommended for specific LP Gas & petroleum applications.

GREEN OR BROWN STRIPE = VITON. Order Senior part # 0015-00415 or Junior part # 0015-00039.

WHITE GASKET = TEFLON. Order Senior part # 0015-00401 or Junior part # 0015-00405.

SPIRAL WOUND TEFLON AND STAINLESS STEEL. Order Senior part # 0015-00462.

YELLOW STRIPE = NEOPRENE. Narrow, Senior part # 0015-01008 for special refrigerant service applications.

WHITE STRIPE = BUNA N. Narrow, Senior part # 0015-01010 for special refrigerant service applications.

CAUTION: Use spiral wound gasket only with stainless steel gauge head and allen head cap screws.

B. Fit gasket onto gauge boss.

C. Carefully insert float into adapter or coupling and work gauge's gear housing and support through adapter being careful not to bend or damage them.

D. Check to see that gasket is properly seated in adapter gasket recess.

E. Align head for proper orientation of float inside of tank. Torque bolts evenly in several steps to the desired torque value. When torquing, use a crossing torque pattern.

F. Leak test.

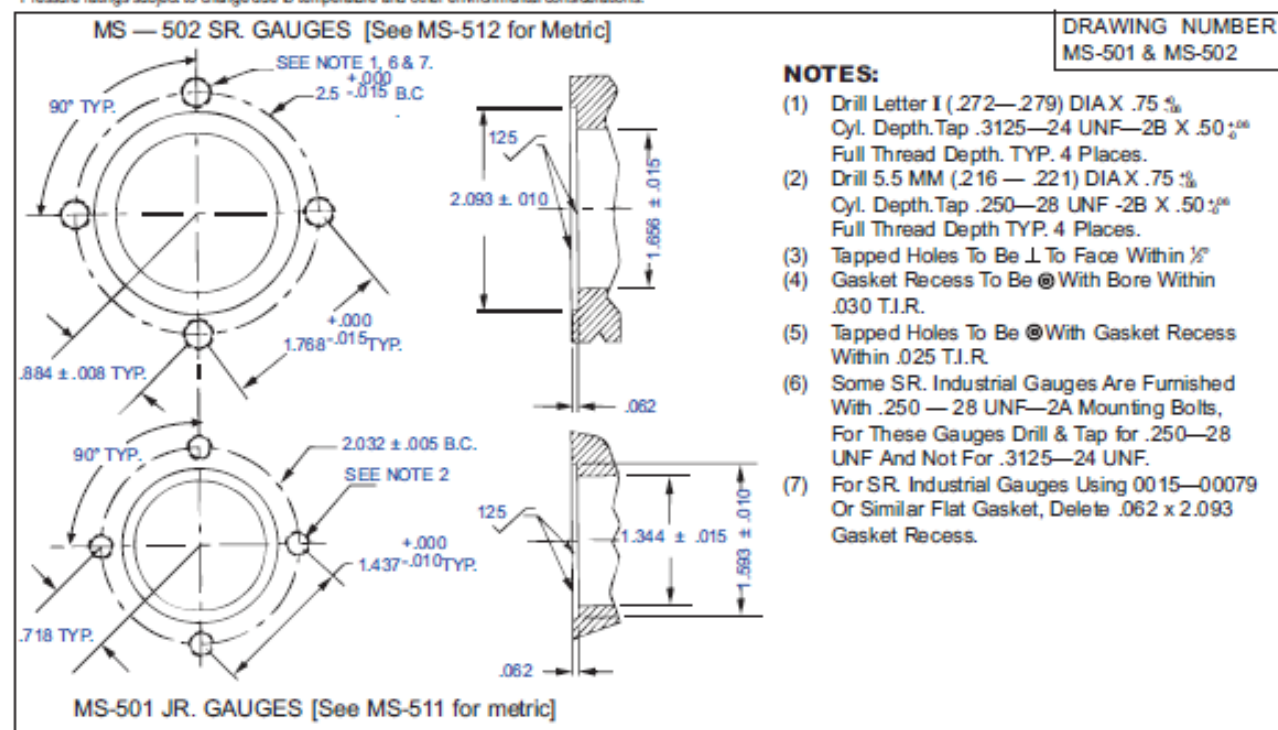
NOTE: See 115-793 for replacement gasket instructions. See 115-794 for replacement dial instructions.

CAUTION: Do not over torque. Do not re-torque later unless leaking. Over tightening may cause damage to head and gasket.

BOLT SIZE	DRY TORQUE	GASKET TYPE
1/8-28	35 In. Lb. [4 Nm]	BUNA, NEOPRENE, VITON, TEFLON
1/4-24	100 In. Lb. [11 Nm]	BUNA, NEOPRENE, VITON, TEFLON
1/4-24	125 In. Lb. [14 Nm]	NEOPRENE, NARROW, YELLOW STRIPE (Refrigerant Applications)
1/4-24	125 In. Lb. [14 Nm]	BUNA N, NARROW, WHITE STRIPE (Refrigerant Applications)
1/4-24	240 In. Lb. [27 Nm]	SPIRAL WOUND GASKET (used with stainless steel head and special mounting screws)

* Materials and specifications are subject to change without notice.

Pressure ratings subject to change due to temperature and other environmental considerations.



01/06/2018

Attachment III
Technical and Engineering Drawings

ORIGINAL

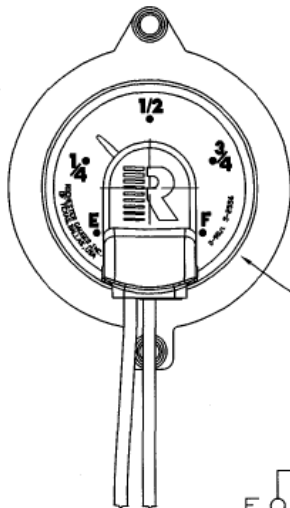
MATERIAL

DRAWING NUMBER
P 5675S02556

TERMINAL	WIRE COLOR	WIRE P/N
A	BLACK	0159-00671
B	BLACK	0159-00671
C	NO WIRE	

FUNCTIONAL SPECIFICATIONS

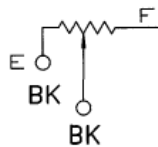
NOMINAL RESISTANCE RANGE: 0-90 OHMS
CONFORMITY: $\pm 3\%$
OPERATING TEMPERATURE: -40°C TO 80°C
CURRENT: 200 ma MAXIMUM



5674S02556 0-90 Ω SENDER

0023-00549
COVER, POTTING
(POLYAMIDE)

POTTING MATERIAL
EPOXY, 0072-00441



NOTES:

1. ASSEMBLE & POT WITH EPOXY PER DS-1014

A	23-513 WAS 23-503	3935	10-17 -96	B	CONVERT 0023-00513 TO 0023-00549	28385	1/17/ 12				
LET	REVISIONS	E.R.#	DATE	LET	REVISIONS	E.R.#	DATE	LET	REVISIONS	E.R.#	DATE
TOLERANCES 2 PLC NOT SHOWN ±.010		3 PLC ±.005	ANGLES MAT'L:COMMERCIAL TOLERANCES ±1°		DO NOT SCALE DRAWING	SUPERSEDES 5467S2249	DRAWN JJ	CHK.	E.R.# 3448	USED ON	0-90 OHM INDUSTRIAL
 ROCHESTER GAUGES, INC., OF TEXAS DALLAS, TEXAS, U.S.A.					SCALE FULL	DATE 5/20/96	PART NAME SR TS DIAL S/A, POTTED 0-90 OHM/IND		DRAWING NUMBER P 5675S02556		

ORIGINAL

MATERIAL				DRAWING NUMBER P 5640S02543			
TERMINAL	WIRE COLOR	WIRE PART NO.					
A	NO WIRE						
B	BLACK	0159-00671					
C	BLACK	0159-00671					

NOTES:

1. ASSEMBLE & POT WITH EPOXY PER DS-1014

FUNCTIONAL SPECIFICATIONS:

NOMINAL RESISTANCE RANGE: 240-33
 CONFORMITY: $\pm 3\%$
 OPERATING TEMPERATURE: -40°C TO 80°C
 CURRENT: 200 ma MAXIMUM

A	23-513 WAS 23-503	3935	10-17-96	B	5ANYS WAS 5639S P/N	27770	8/1/11	C	CONVERT 0023-00513 TO 0023-00549	28385	1/17/12
LET	REVISIONS	E.R.#	DATE	LET	REVISIONS	E.R.#	DATE	LET	REVISIONS	E.R.#	DATE
TOLERANCES 2 PLC $\pm .010$ 3 PLC $\pm .005$		ANGLES MAT'L: COMMERCIAL $\pm 1^{\circ}$		DO NOT SCALE DRAWING		SUPERSEDES 5469S02205		CHK. DRAWN GREH		E.R.# 3361	
ROCHESTER GAUGES, INC., OF TEXAS DALLAS, TEXAS, U.S.A.				SCALE FULL		DATE 4/11/96		PART NAME SR TS DIAL S/A, POTTED 240-30 OHM		DRAWING NUMBER P 5640S02543	

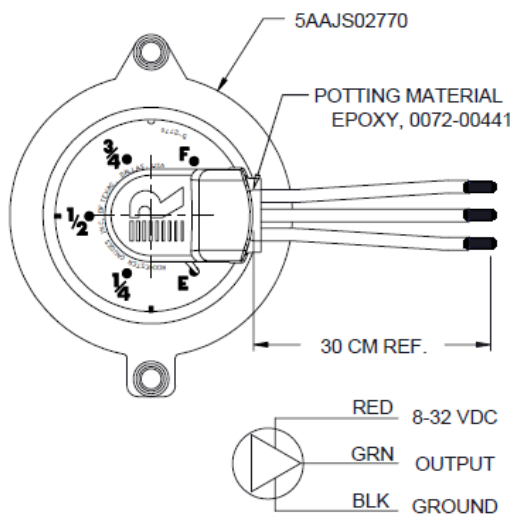
ORIGINAL

MATERIAL				DRAWING NUMBER P 5642S02544							
TERMINAL	WIRE COLOR	WIRE P/N	FUNCTIONAL SPECIFICATIONS NOMINAL RESISTANCE RANGE: 0-30 OHMS CONFORMITY: $\pm 3\%$ OPERATING TEMPERATURE: -40°C TO 80°C CURRENT: 200 ma MAXIMUM								
A	BLACK	0159-00671									
B	BLACK	0159-00671									
C	NO WIRE		5641S02544 0-30 Ω SENDER 0023-00549 COVER, POTTING (POLYAMIDE) POTTING MATERIAL EPOXY, 0072-00441 NOTES: 1. ASSEMBLE & POT WITH EPOXY PER DS-1014								
A	UPDATED	3113	5-9-96	B	23-513 WAS 23-503	3935	10-17-96	C	CONVERT 0023-00513 TO 0023-00549	28385	1/17/12
LET	REVISIONS	E.R.#	DATE	LET	REVISIONS	E.R.#	DATE	LET	REVISIONS	E.R.#	DATE
TOLERANCES ² PLC $\Delta\Delta$ NOT SHOWN $\pm.010$				3 PLC $\Delta\Delta\Delta$ $\pm.005$				ANGLES MAT'L COMMERCIAL TOLERANCES $\pm 1^{\circ}$			
DO NOT SCALE DRAWING				SUPERSEDES 5465S02197				DRAWN <i>RET-4</i> CHK. E.R.# 3361 USED ON MILITARY			
ROCHESTER GAUGES, INC., OF TEXAS DALLAS, TEXAS, U.S.A.				SCALE FULL		DATE 4/11/96		PART NAME SR TS DIAL S/A, POTTED 0-30 OHMS		DRAWING NUMBER P 5642S02544	

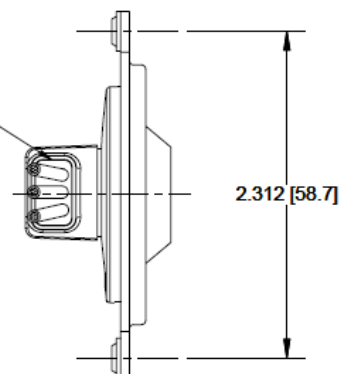
TERMINAL	WIRE COLOR	WIRE P/N
A	BLACK	0159-00672
B	GREEN	0159-00706
C	RED	0159-00707

FUNCTIONAL SPECIFICATIONS/VOLTAGE OUTPUT

CONFORMITY: $\pm 4\%$ @ 25°C
 OPERATING TEMPERATURE: -40°C TO 80°C
 RESOLUTION INFINITE
 OPERATING VOLTAGE: 8-32 VDC
 OPERATING CURRENT: 7-8mA @ Vcc=12V TYPICAL
 OUTPUT: 0.5-4.5 V.
 OUTPUT CURRENT: ± 1 MA



0023-00549
COVER, POTTING
(POLYAMIDE)



NOTES:

1. ASSEMBLE & POT WITH EPOXY PER DS-1014

REV C-1	CHANGE DESCRIPTION	ECO #	DATE	REV	CHANGE DESCRIPTION	ECO #	DATE	REV	CHANGE DESCRIPTION	ECO #	DATE
	SWITCH TERMINALS A AND C	43202	5/7/25						0023-00549		
REV A	CHANGE DESCRIPTION	ECO #	DATE	REV B	CHANGE DESCRIPTION	ECO #	DATE	REV C	CHANGE DESCRIPTION	ECO #	DATE
	0023-00513 WAS 0023-00502	15895	11/21/03		OUTPUT VOLTAGE WAS .3-4.7V	16139	2/9/04		CONVERT 0023-00513 TO	28385	1/17/12
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ROCHESTER SENSORS. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT WRITTEN PERMISSION OF ROCHESTER SENSORS IS PROHIBITED.				TOLERANCES NOT SHOWN 2 PLC 3 PLC FRAC. ANGLES $\pm .010"$ $\pm .005"$ $\pm 1/64"$ $\pm 3^\circ$			SUPERSEDES	ECO #	DRAWN BY	DATE	USED ON
							NEW	12661	SAGEN	8/2/02	VEHICULAR
				DESCRIPTION				DRAWING NUMBER			
SCALE 1:1				SR. TS HALL EFFECT S/A, REGULATED, POTTED.				5AAKS02770P			
								REV C	SIZE A	SHEET 1 OF 1	

Attachment IV
Product Specifications

Magnetic Liquid-Level Gauge



Applications

The 6500 Series Senior gauges are designed for use in low pressure tanks 0-25 psig [0-1,7Bar].

Used in many applications such as construction equipment, stationary generators, boats, farm equipment and home heating.

Gauge materials are intended for middle distillates such as diesel and are not intended for use in fuels containing ethanol. These gauges may be sized to fit stationary fuel tanks up to eight feet deep.

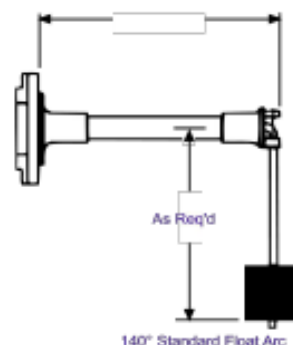
Rochester gauge dials are magnetically driven. Fuel vapor cannot reach inside of the gauge lens and attack the UV rated lens material. Rochester gauges may be easily converted remote output by simply installing the R3D replacement dial and plug-in Hall Effect sender module.

General Information & Features

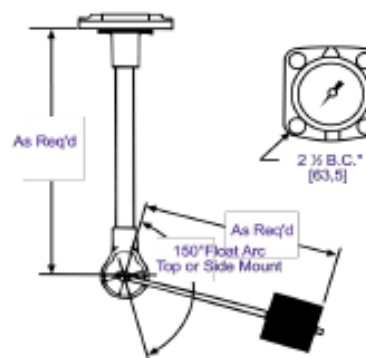
The 6500 Series Senior gauges are available in gear-action models for top, centerline or angle mounting. In lever-action models centerline mounting is only available.

The standard float is nitrile rubber. Aluminum or stainless steel floats are available at extra cost. The gauge is mounted to a mating Senior flange 2 1/8" bolt circle [63,5mm] using four 1/4"-28 x 9/16" long bolts. The gasket is Buna-N.

Models #	Action	Mounting	Dial, sender or Switch Data
6540	Gear	Top	Senior TwinSite® Sender in choice of 0-30, 0-90, or 240-30 Ohm ranges. #5002S00062 direct-reading dials may also be used.
6543		C/L or Angle	
L6543	Lever	C/L	#502SS00570 Senior side-reading fractional
6560	Gear	Top	#5002S00062 Senior direct-reading fractional
6580		C/L or Angle	
6583	Lever	C/L	#5002S00547 Senior direct-reading Fractional
L6583		C/L	



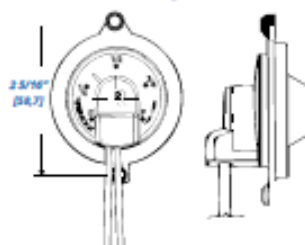
Gear Action Gauge



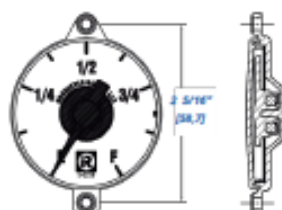
E. & O.E. ©Rochester Sensors.

Since the suitability of these products depends upon a wide range of factors not in our control, Rochester Sensors expects and understands that you will conduct the testing and evaluation necessary to determine that these products are suitable for your application. Whilst every effort is made to ensure the above details are correct at the time of printing, Rochester Sensors reserves the right to make material changes, and/or technical changes without notification.

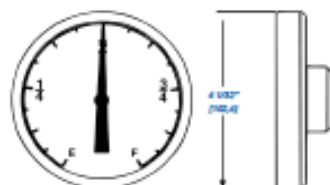
Sr. TwinSite® Sender



*# 5AWLS03239 or # 5AWMS03239
Sr. Direct-Reading Dial*

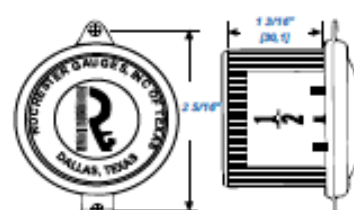


*# 5013500456
4" Dial*



Note: This dial is used in conjunction with 90-2 mounting bracket and 29-2 base.

*# 5025500570
Sr. Side-Reading Dial*



General Specifications*

Accuracy

Accuracy depends upon proper gauge sizing. Senior dials $\pm 6\%$, TwinSite® dials $\pm 10\%$. Accuracy may be less depending upon tank shape. Accuracy may be less near full and empty. Accuracy may be less if tank is not level. All accuracy estimates are expressed as a percent of full scale. **CAUTION:** This gauge is not a substitute for an automatic over-fill prevention device, which may be required for filling. This gauge is not to be used as an unattended means of determining tank overfilling. This document does not provide instructions for tank filling. Periodic operability checks may be required which are necessary to detect gauge malfunctions and/or inaccurate gauge readings. Gauge accuracy depends upon proper gauge sizing and installation. Release of tank contents as well as damage and safety hazard may result if tank is overfilled. Fuel exhaustion may occur if tank contents are less than indicated.

Temperature Range

-40°F to +158°F, -40°C to 70°C.

Humidity

Paint exposed portions of gauge, less dial, for marine applications.

Shock & Vibration

Suitable for mobile applications.

Power

0.5 watts maximum for TwinSite® versions.

Tank Pressure

Up to 25 psig [1,7 Bar]

Approvals

These direct indicating gauges 6560 and 6580 are UL listed for flammable liquids. Some models UL recognized for marine service.

Note: For installation instructions see MS-501/502 (Non-Pressurized Fuel Tanks).

Materials of Construction*

Head

Die cast aluminium.

Centershaft, Support Tube & Float Rod

Tempered aluminium.

Gears, Cross Stud & Bearings

Stainless Steel.

Drive Magnet

Alnico.

Gear Housing

Acetal plastic or aluminium.

Float

Nitrile rubber

Gasket

Buna-N, 0015-00004 or 0015-00079

Direct Reading

Polycarbonate or polyamide ultrasonically sealed.

Side Reading

Aluminum with polycarbonate crystal, hermetically sealed.

TwinSite® Sender

Polyamide.

Mounting Bolts

Zinc-plated steel $\frac{1}{4}$ "-28 x 9/16" long.

When ordering, specify:

1. Gauge model number.
2. Tank diameter and riser height.
3. Mounting location.
4. Ohm range on Twinsite® versions.
5. Preferred switch on switch gauges, if other than standard.
6. Any listed options or preferences.

Note: Materials and specifications are subjected to change without notice. Pressure ratings subject to change due to temperature and other environmental considerations.



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Magnetic Liquid-Level Gauges for LP Gas Service



Applications

Junior gauges are supplied standard with 0015-00007 Buna-N gasket and four 0040-00414 zinc-plated steel mounting bolts (1/4" – 28x 1/4") for attachment to a gauge adapter with 2.03" [52,5] diameter bolt circle (see installation instructions MS-501/502).

Models 6281 and 6284 Junior gauges used on above ground ASME storage tanks are equipped with R3D® Remote Ready 5909502733 percentage dials. Model 6281 Junior gauges used on below ground ASME storage tanks are equipped with R3D® Remote Ready 5909502799 percentage dials. Models 6241 and 6244 Junior gauges used on ASME motor fuel tanks come with the option of direct read, TwinSite®, or Hall Effect dials.

All gauges in the 6240 series and B6240 series incorporate a stronger magnet necessary to drive remote reading TwinSite® senders in motor fuel applications.

All Senior gauges except models 6290 and 6293 come equipped with 0015-00004 Buna-N gaskets and four 0040-00415 zinc plated steel mounting bolts, (5/16" – 24 x 7/8"), for attachment to a gauge adapter with 2.5" [63,5] diameter bolt circle (see Rochester Adapter Machining Standard MS-502). Model 6280 and 6283 Senior gauges used on above ground ASME storage tanks are equipped with direct-reading 5001500001 percentage dials.

Models 6290 and 6293 Senior gauges with stainless steel heads may be used on above ground horizontal or vertical ASME storage tanks over 3500 [13250 liters] gallon capacity and are equipped with cap bolts, teflon-filled, stainless steel gaskets, stronger magnets and direct-reading 4" diameter percentage dials. Tank drawings must be furnished for all vertical tanks so we can recommend computer generated gauge adapter placement to correspond with an assortment of standard dials and dial sets calibrated for vertical tanks.



Junior Models	Description
6281	For top mounting, includes standard magnet to drive direct-reading dials.
6284	Same as 6281, except for side, end, or angle mounting.
6241	For top mounting, includes stronger magnet to drive TwinSite® senders.
6244	For side, end, or angle mounting, otherwise same as 6241.
B6244	Same as 6244, except with brass head.

Junior Models	Description
6280	For top mounting, includes standard magnet to drive direct-reading dials.
6283	Same as 6280, except for side, end, or angle mounting.
6290	For top mounting, includes stronger magnet to drive large 4" dial.
6293	Same as 6290, except for side, end, or angle mounting.

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Advanced Heavy Duty TwinSite® for Industrial Applications

Application

The TwinSite® is a magnetically-driven, variable-resistance sender with potted lead wires. Senders are utilized on mobile applications where direct reading plus an electrical signal to a remote receiver are required. Models are available to fit all Rochester Junior® or Senior®, liquid-level gauges equipped with our large Alnico drive magnet.

General Information & Features

This 2-wire TwinSite® sender employs a laser trimmed, advanced heavy duty resistance element. The TwinSite® is capable of generating accurate and reliable signals to remote receivers in most common resistance ranges (see the back side for the technical specifications). The standard model of this TwinSite® comes with the premium harsh environment construction at the price of the previous standard unit.

The dedicated ground path terminal wire eliminates the major reliability fault found in most variable resistance sender designs.

Redundant wiper and collector contacts are used to improve reliability and reduce contact noise. In testing, this unit has greatly surpassed the competitive units in reliability and durability.

The TwinSite® also provides the easiest to read local indication of any TwinSite® sender Rochester has produced. The bright, user friendly dial face is divided into fractional units.

The case is hermetically sealed by ultrasonic heating to melt and fuse the case into one solid piece. This keeps weather out, ensuring "no-fog" readability while greatly extending mechanical life. The seal is a high reliability, no-gasket design. The plastic case is capable of withstanding vibration and shock that would render comparable metal designs useless.

The plastic case is far more resistant to corrosion than any metal-cased version and is capable of withstanding broad variations in temperature. The plastic lens (and the rest of the case) is a special, UV stabilized material.

Electrical connections are sealed with multiple epoxy chambers. The connecting wires are also sealed behind this epoxy barrier. This sealing process prevents sparks or other damage due to both galvanic and electrolytic corrosion, as well as, providing an impervious barrier to road salt.

The sender is mounted onto the Rochester Junior® gauge with #0040-00416 stainless steel dial screws (6 — 32 x 3/8"). An additional item available to ensure weatherproof connections from the TwinSite® to the receiver is a heat shrink solder sleeve part number 0025-00495.



U.S. & Foreign Patents

WARNING: Level Gauging devices and sensors sold by Rochester Gauges, Inc. are components only.

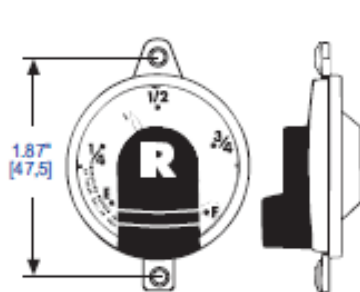
The purchaser/retailer is solely responsible for the application of these components and ensuring all necessary steps have been taken to assure each application and use meets all performance and applicable safety requirements and/or local, national and/or international safety codes as required by the application. Rochester Gauges, Inc. cannot certify that our products used solely or in conjunction with other Rochester Gauges, Inc. or other vendors' products will assure desired performance and safety for any application.

Any person using or applying any products sold by Rochester Gauges, Inc. is responsible for learning the perform-

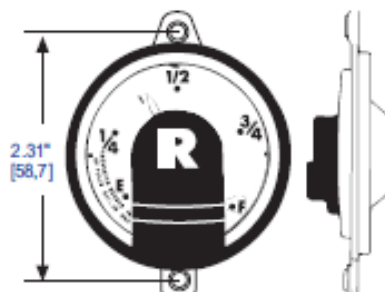
ance and safety requirements for their individual application and applying them, and therefore assumes all risks, and accepts full and complete responsibility for the suitability of the product for their respective application. Rochester Gauges, Inc. does not provide system design or consulting services, and cannot advise whether any specific application or use of our products would ensure compliance with all performance and safety requirements for any application.

See reverse side for dimensional data, materials of construction, performance, and advice on how to order.

The Measure of Excellence



Jr.® Screw-On Mount



Sr.® Screw-On Mount

General Specifications***Operating Temperature Range**

-40°F to 158°F, -40°C to 70°C.

Power

0.5 watts maximum.

Accuracy

±5% for all types. (Float gauge errors not included.)

Hysteresis

Less than 5% typical.

Repeatability

±2%.

Resolution

2% typical.

Resistance Change With Temperature

0° to ±100° PPM/°C.

Vibration

Tested for mobile applications, including off highway construction equipment.

When ordering, specify:

1. Gauge model number.
2. Tank diameter and riser height.
3. Mounting location.
4. Any listed options.

Note: For installation instructions see DS-923 (data sheet).

Materials of Construction***Crystal & Case**

Polycarbonate or polyamide.

Pointer

Acetal.

Magnet

Neodymium.

Contact and Contact Spring

Proprietary multi-fingered construction.

Resistance Element

Proprietary conductive ink.

Dial

Painted aluminum.

Connector Options

- Packard
- Sure-seal
- Deutsch
- 0.25" male tab

How To Order**Range †**

0-30Ω

0-90Ω

240-30 Ω

Jr.® Sender #

IP5668S02544

IP5677S02556

IP5632S02539 ††

Sr.® Sender #

IP5642S02544

IP5675S02556

IP5640S02543

* Materials and specifications are subject to change without notice.
Pressure ratings subject to change due to temperature and other environmental considerations.

† Other ranges available including 2 & 3 wire voltage output.
Contact Rochester for more information.

†† Fits models 6741 & 6741.

WARNING! This sensor is not to be used as the primary means of determining high or low fuel condition. It must not be used in the absence of redundant systems in critical applications where there may be significant safety risk or financial exposure in the event of fuel overfill or fuel exhaustion condition. This sensor is not to be used for tank filling.



04/30/2018

Attachment V
Photographs

6540 Series



6200 Series



Attachment VI
FDEP Form 62-761.900(9)

Attachment VII
Contact Information

Report completed by:

Marshall T. Mott-Smith, President, Mott-Smith Consulting Group, LLC
111 North Calhoun Street
Tallahassee, FL 32301

marshall@mott-smithconsulting.com 850-391-9835 work 850-591-1434 cell www.mott-smithconsulting.com

A Service-Disabled Veteran-Owned Small Business

