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Add: No.13 Hancheng Road, Qingdao Free Trade Zone, Shandong Province, 266555. P.R. China Tel: +86 (0)5328689 4009 E-mail: catherine@alptec.com www.alptec.com Safety Expert

for Oil Storage & Transportation

Leading Manufacturer

of Overfill Protection & Grounding Systems





The Leading Manufacturer of Overfill Protection & Grounding Systems in China

Established in 1996, Qingdao Alptec Safety Equipment Co., Ltd specialises in the design, manufacture, and supply of high-quality Overfill Protection as well as Static Grounding Systems, Earthing Clamps, Reels and accessories for the chemical, petrochemical, oil and gas and process industries that transport, store, transfer and use flammable liquids, solvents or combustible liquids in hazardous areas.

Alptec is Sinopec and PetroChina's preferred brand and we have secured more than 50% of the market share in China. Internationally we began exporting in 2006 to Germany, Spain, USA, Canada, Australia&New Zealand, Korea, Singapore, Thailand, Vietnam, Mexico, Brazil, South-Africa, India, and many other countries.

We aspire to be your trusted supplier.

Safety Expert for Oil Storage & Transportation

01~07 Static Grounding Devices

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- 03 Static Grounding Reels
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19 Sister Companies

Static Grounding Devices 🐎

Static Grounding Monitoring Systems

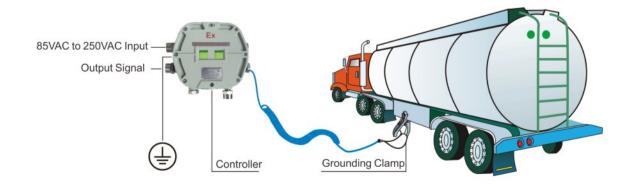
Model: SLA-S-Y

The "Static Grounding Monitoring System" functions as a part of an Overfill Protection & Earthing System. These provide a visual green light indicating a confirmed grounding condition of road tanker vehicles during the transfer of flammable and combustible materials. A red light indicates the absence of a dependable grounding. An interlock circuit inside the control panel will prevent pumps and equipment from starting until a satisfactory ground is established. The interlock circuit will also shut off pumps and equipment if the ground is lost during the pumping operation.



Specifications

Innut Dower	05) (A O to 050) (A O 50) In
Input Power	85VAC to 250VAC 50Hz
Input Current	<60mA
Output Signal	On-off signal
Monitoring Set Point	10 ohms
Alarm	Visible alarm
Spiral Cable	Extendable to 5.3m (17.4ft.)
Output Safety Parameters	Um:250VAC,Uo:14.28VDC,Io:27.2mA,Po:97mW,Co:4.17µF,Lo:192mH
Indicator	Lamp (Green=satisfactory ground and red=no ground)
Operation Temperature	-20°C to +55°C (-4°F to +131°F)
Eu-Type Examinate Certificate No.	Presafe 16 ATEX 8909X
QAN Certificate No.	Presafe 16 ATEX 7744Q
Standard	EN 60079-0,EN60079-1,EN60079-11
Applicable Directive	2014/34/EU



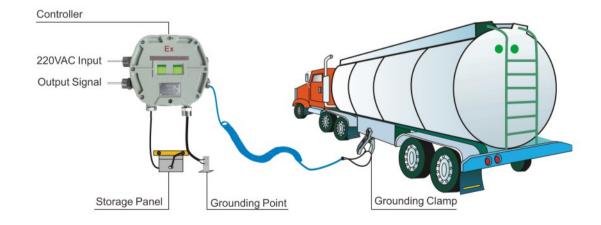
Model: SLA-S-Y

During fuelling, loading and unloading operations, the vehicles should always be grounded. The "Static Grounding Monitoring System" will automatically shut off the loading and unloading operations if the grounding is broken at any time during the operation.



Specifications

nput Power	220 VAC or 24VDC
Input Current	<60mA
Output Signal	On-off signal
Monitoring Set Point	10 ohms
Alarms	Audible and visible alarms
Spiral Cable	Extendable to 5.3m (17.4ft.)
Indicator	Lamp (Green=satisfactory ground and red=no ground)
Operation Temperature	-40°C to +60°C (-40°F to +140°F)
Alarm Volume	>90dB
Certification	ExdiaIIBT4 Gc



01 ALPTEC

Model: SA-YF (Fixed)

Static Grounding Reels

Model: S-RL

The ATEX approved "Static Grounding Reels" have a self-retracting cable drum and an instant locking mechanism to prevent the cable from becoming tangled.

The Standard S-RL model includes a 7m (23ft.) polyurethane jacketed stainless steel cable. An ATEX approved, heavy duty grounding clamp (with replaceable stainless steel tips) is connected to the cable for a solid connection to the grounding surface. S-RL Reels are also available with 15m (49ft.) and 20m (65ft.) cable lengths.



C€ ⟨Ex II 2G Ex h IIC T6 Gb

> Features & Benefits

- Stainless steel housing and base plate.
- The sealed housing prevents the cable from being exposed to corrosive and harsh environments.
- The self-storing cable design prevents personnel from being exposed to trip hazards. The self-retracting cable mechanism keeps the cable stored in a safe, organized manner.
- An instant locking mechanism holds the cable at the desired extended length.
- Applicable Directive: 2014/34/EU

Static Grounding Reel with Alarm Battery Operated

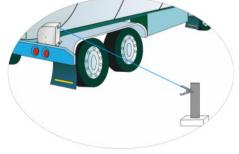
Model: SA-YL

The model SA-YL includes all of the features included in our S-RL models with the following **special features**:

Alarm	Audible alarm
Alarm Volume	>90dB (Alarm sounder 90dB at 30cm)
Monitoring Set Point	60 ohms
Battery	Lithium battery (3.6V)
Clamp Cable Length	7m (23ft.)
Certification	ExialICT4 Ga







Self-testing Grounding Clamp with Visible & Audible Alarms

Battery Operated

The accumulation of static charges during the fuelling transfer process can lead to costly explosions, fire and personnel injury. The "Self-testing Grounding Clamp" with visible & audible alarms is designed to dissipate static charge accumulation and verify proper grounding. It is intrinsically safe and designed for use in hazardous locations.

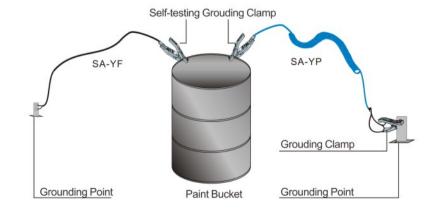


Model: SA-YP (Mobile)

Cable length	5m (16.4ft.) spiral cable	Cable Length	5m (16.4ft.)
Clamp 1	SA- Y (visible and audible alarms)	Clamp	SA-Y (visible and audible alarms)
Clamp 2	SC-02	Lug	60A (SC35-10,Φ10MM)

> Features & Benefits

- Low energy consumption design makes battery replacement unnecessary during normal operation. Digitron resistance display.
- After 60 seconds of continuous alarm it will go to rest status and will return to normal in a closed circuit.
- The electrical circuitry is totally covered by epoxy resin, making it damp-proof, rust-proof, corrosion-proof and shock-proof.



03 ALPTEC

Grounding Clamps

Model: SC-01

- Die-cast aluminum construction with 2 stainless steel points.
- Strong spring pressure allows the clamp to penetrate multiple layers of paint or corrosion build-up to ensure proper bonding.
- Suitable for grounding and bonding for a wide range of containers, drums and machinery.

Opening: 20 mm Size: 112mm X 80mm Weight: 140g



- Die-cast aluminum construction with 2 stainless steel points.
- The sensing clamp can be connected to an electronic apparatus via a two-core cable.
- Suitable for grounding and bonding a wide range of tanker trucks and railcars.

Opening: 28 mm Size: 160mm X 86mm Weight: 295g



Model: SC-02

- Die-cast aluminum construction with 3 stainless steel points.
- The sensing clamp can be connected to an electronic apparatus via a two-core cable.
- Suitable for grounding and bonding a wide range of tanker trucks and railcars.

Opening: 30 mm Size: 160mm X 86mm Weight: 300g

Model: SC-04

- Die-cast aluminum construction with brass jaws.
- Brass jaws are designed to allow proper contact onto unpainted surfaces, posts or thin materials.
- Suitable for grounding and bonding of refueling vehicles and aircraft.

Opening: 18 mm Size: 112mmX 80mm Weight: 160g

Model: SC-05

- 316L stainless steel construction with 3 stainless steel points.
- Ideal for use in the areas where high corrosion resistance is required.

Opening: 18mm Size: 160mm X82mm Weight: 300g

Model: SC-06

- 316L stainless steel construction with 3 stainless steel points.
- Ideal for use in the areas where high corrosion resistance is required.

Opening: 28mm Size: 236mm X 93mm Weight: 510g













C Clamps

We make a series of stainless steel C clamps with the sizes from 3/4" to 1 1/2".

- Provide semi-permanent connections on flat materials.
- Can be produced to specific sizes.

Model	Size	Range	Weight
CC-01	3/4"	1mm to 15mm	114 g
CC-02	1 1/2"	1mm to 33mm	173 g



Pipe Clamps

We make a series of bronze pipe clamps which can be adjusted from 1" to 3".

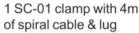
- The rugged design provides a positive connection to penetrate paint and rust
- Equipotential connection for loading arms and pipes.
- Can be produced to specific sizes.

Model	Size	Pipe Range	Weight
PC-02	1"	33mm to 35mm	50 g
PC-03	1 1/2"	47mm to 50mm	150 g
PC-04	2"	59mm to 62mm	200 g
PC-05	2 1/2"	75mm to 78mm	260 g
PC-06	3"	88mm to 92mm	280 g



Grounding Assemblies







2 SC-01 clamps with 4m of spiral cable



1 SC-01 clamp with 4m of spiral cable & 1"pipe clamp



1 SC-01 clamp with 4m of spiral cable & 3/4" C clamp



1 SC-01 clamp with 1m of stainless steel wire & lug



2 SC-01 clamps with 1m of stainless steel wire



1 SC-01 clamp with 1m of stainless steel wire & 1"pipe clamp



1 SC-01 clamp with 1m of stainless steel wire & 3/4" C clamp

Personal Electrostatic Eliminating Alarm

Red for Stop and Green for Go

Under certain conditions, a person's body can be electrostatically charged by friction and natural environmental conditions. The "Personal Electrostatic Eliminating Alarm" device is designed to prevent the accumulation and accidental discharge of static electricity from a person's body while providing audible and visible alarms.



Model: PS-Y

Specifications

Monitoring Electrostatic Voltage	-15KV to +15KV
Alarm Voltage	>150V
Height	1.1m (3.6ft.)
Certification	ExibIICT4 Gb

> Features & Benefits

- Handle: Constructed of electrostatic conductive material.
- Static electricity from a person's body will be continuously discharged without any spark or discomfort.
- Provides constant monitoring with audible and visible alarms.



Model: PS-A2

The model PS-A2 includes all of the features included in our PS-Y models with the additional *special features*:

- Audible voice warning when people approaching.
- OLED Display indicates the resistance value.

Leakage Detector >>

Model: UZK-SA-LD

Leakage Detectors are designed for detecting oil and water between two layers of double wall tanks and pipelines. Audible and visible alarms will be sent out once the sensors detect a leak.









Controller

Leak sensor for SF double wall tanks

Leak sensor for FF double wall tanks

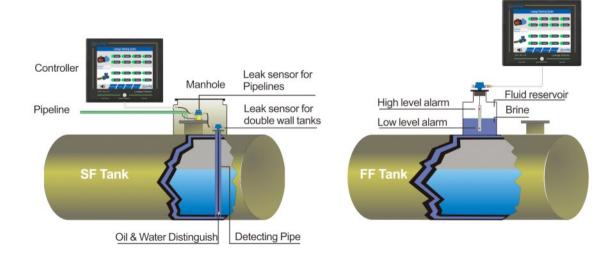
Leak sensor for Pipelines

Specifications

Detecting Accuracy	<3mm
Input Power	220VAC±10%
Signal Output	One relay (normally open / normally closed)
Operation Temperature	-40°C to +60°C (-40°F to +140°F)
Certification	ExialIBT4 Ga

> Features & Benefits

- · Audible and visible alarms.
- · Automatic self-check feature.
- A mute button will stop the sounder when necessary.
- · Easy to mount and install.
- · Oil and water distinguish.



Overfill Protection Devices >

ATEX & IECEX Approved High Level Alarms Battery Operated

Model: UZK-A

The "High Level Alarms" provide audible and visible alarms for monitoring levels of liquids. It can be directly mounted on a fuel tank to provide a warning of a full tank high level. Optionally the alarm panel may be remote mounted from the sensor. The powerful audible alarm can be heard over background sound, for example, pumping equipment. The "High Level Alarms" are weather proof and can be mounted in wet environments.

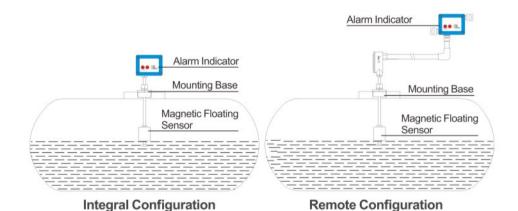


Specifications

Battery	6VDC (4XAAA)	
Alarms	Audible and visible alarms	
Alarm Volume	≥110dB	
Operation Temperature	-40°C to +60°C (-40°F to +140°F)	
Sensor	Float sensor	
EU-Type Examination Certificate No.	Presafe 18 ATEX 13423X	
IEC Certificate No.	IECEx PRE 18.0084X	
Applicable Directive	2014/34/EU	

Features & Benefits

- Low battery alarm.
- Adjustable sensor level.
- A standard 2 inch BSP fitting provided for mounting.
 Optional mounting fittings are available upon request.





EN II1G Ex ia IIBT4Ga

Specifications

Battery	3VDC (2XAA)
Alarms	Audible and visible alarms
Alarm Volume	>90dB
Operation Temperature	-40°C to +60°C (-40°F to +140°F)
Sensor	Piezoelectric sensor
Certification	ExiaIIBT4 Ga

> Features & Benefits

- Low battery alarm.
- Adjustable sensor level.
- It has a continuous self-check and alert feature to ensure the system is working properly.
- A standard 2 inch BSP fitting provided for mounting.
 Optional mounting fittings are available upon request.

Overfill Protection System

Model: SLA-S-Y

The "Overfill Protection Systems" are designed to detect a liquid point level signal from an overfill sensor. The system provides an automatic signal to the rack automation equipment to shut-off the flow of liquid, and warn of an impending overflow condition of a tank truck.

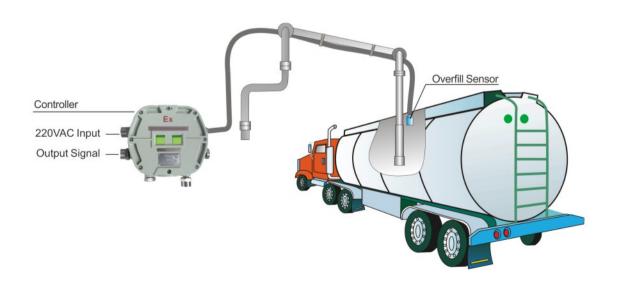


> Specifications

Input Power	220VAC±10%
Input Current	<15mA
Output Signal	On-off signal
Sensor Cable Length	8m (26ft.)
Operation Temperature	-40°C to +60°C (-40°F to +140°F)
Alarm Volume	>90dB
Certification	ExdiaIIBT4 Gc

> Features & Benefits

- Audible and visible alarms.
- The overfill sensor has a continuous self-check and alert feature to ensure the system is working properly.



Overfill Protection & Grounding Systems >>

The "Overfill Protection and Grounding Systems" are designed for top loading of road tankers, rail cars, etc. In the event of an overfill condition, the overfill sensors will send a signal through the output relay to the terminal automated loading system to shut down the loading operation. The systems provide overfill protection as well as grounding verification.

Model: SLA-S-IIC For Top Loading

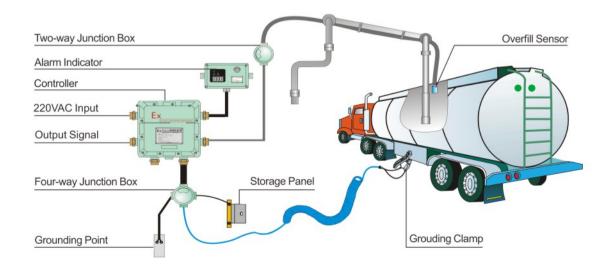


Specifications

Input Power	220VAC±10%	Spiral Cable	Extendable to 5.3 m (17.4ft.)
Input Current	<35mA	Operation Temperature	-40 °C to +60°C (-40°F to +140°F)
Monitoring Set Point	10 ohms	Sensor Cable Length	6m (20ft.)
Output Signal	30V DC, 10A/250V AC, 10A	Alarm Volume	>90dB
Ingress Protection	IP65	Certification	ExdiaIIBT6 Gc

> Features & Benefits

- Audible and visible alarms.
- Upon the loss of a ground connection or an overfill condition, the system will send a signal to immediately shut off the loading operation.
- LED display provides the resistance value of the ground connection.
- The overfill sensor has a continuous self-check and alert feature to ensure the system is working properly.



Model: SLA-S-Y For Top Loading

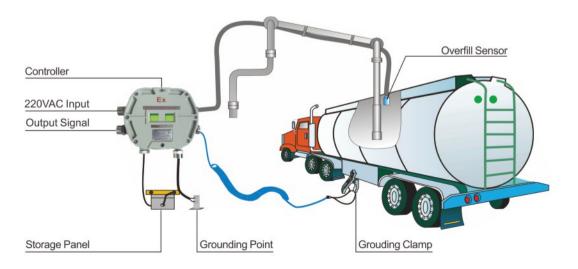


Specifications

Input Power	220VAC±10%	Spiral Cable	Extendable to 5.3 m (17.4ft.)
Input current	<15mA	Sensor Cable Length	6m (20ft.)
Monitoring Set Point	10 ohms	Operation Temperature	-40 °C to +60 °C (-40°F to +140°F)
Output Signal	30V DC, 10A/250V AC, 10A	Alarm Volume	>90dB
Ingress Protection	IP65	Certification	ExdiaIIBT4 Gc

Features & Benefits

- · Audible and visible alarms.
- Upon the loss of a ground connection or an overfill condition, the system will send a signal to immediately shut off the loading operation.
- The overfill sensor has a continuous self-check and alert feature to ensure the system is working properly.



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The "Overfill Protection and Grounding Systems" are designed for bottom loading of road tankers, rail cars, etc. In the event of an overfill condition, the overfill sensors will send a signal through the output relay to the terminal automated loading system to shut down the loading operation. The systems provides overfill protection as well as grounding verification.

Model: SLA-S-IVB For Bottom Loading

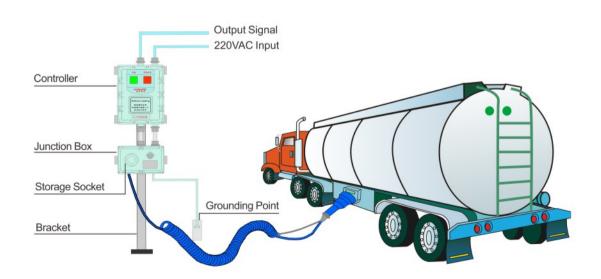


Specifications

Input Power	220VAC±10%	
Input Current	<50mA	
Output Signal	30VDC, 10A / 250V AC, 10A	
Ingress Protection	IP65	
Spiral Cable	Extendable to 8m (26ft.)	
Operation Temperature	-40°C to +60 °C (-40°F to +140°F)	
Certification	ExdialIBT4 Gc	

Features & Benefits

- Audible voice warning.
- LCD Display indicates the status of the system.
- Compatible with overfill sensors and sockets that meet API standards.
- Monitors up to 6 optic compartments.
- When the connector plug is stowed in the storage socket, the system will put out a homing signal to open or close an automatic gate.
- · Easy to mount and install.



Model: SLA-S-IIC For Bottom Loading

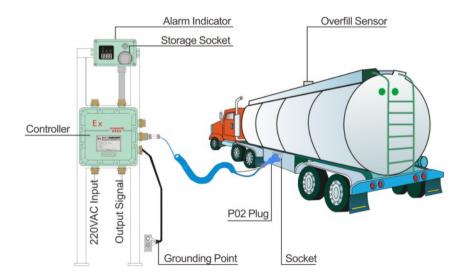


Specifications

Input Power	220VAC±10%
Input Current	<50mA
Monitoring Set Point	10 ohms
Output Signal	30V DC, 10A/250V AC, 10A
Ingress Protection	IP65
Spiral Cable	Extendable to 8m (26ft.)
Operation Temperature	-40 °C to +60 °C (-40°F to +140°F)
Alarm Volume	>90dB
Certification	ExdialIBT6 Gc

> Features & Benefits

- Audible and visible alarms.
- Compatible with overfill sensors and sockets that meet API standards.
- Monitors up to 6 five-wire optic sensors.
- LED display provides the resistance value of the ground connection.
- When the connector plug is stowed in the storage socket, the system will put out a homing signal to open or close an automatic gate.
- Easy to mount and install.



The ATEX approved "Overfill Protection and Earthing Systems" are designed for bottom loading of road tankers, rail cars, etc. In the event of an overfill condition, the overfill sensor will send a signal through the output relay to the terminal automated loading system to shut down the loading operation. The systems provide overfill protection as well as grounding verification.

Model: SLA-S-Y For Bottom Loading



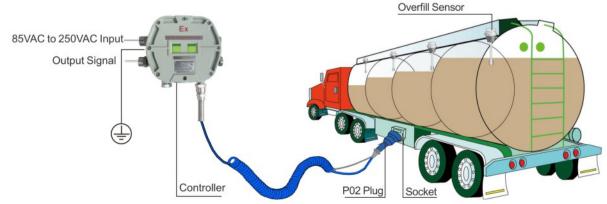
C€ 2460 (Il 2(1) G Ex db ia [ia Ga] IIB T5 Gb

Specifications

Input Power	85VAC to 250VAC 50Hz	
Input Current	<60mA	
Alarm Type	Visible alarm	
Spiral Cable	Extendable to 8m (26ft.)	
Output Safety Parameters	Um:250VAC,Uo:21.42VDC,Io:149mA,Po:798mW,Co:1.19µF,	
	Lo:6.4mH (for overfill sensor)	
	Um:250VAC,Uo:14.28VDC,Io:96.2mA,Po:343mW,Co:4.28µF,	
	Lo:15.4mH (for earthing senor)	
Operation Temperature	-20°C to +55°C (-4°F to +131°F)	
Eu-Type Examination Certificate No.	Presafe 16 ATEX 8909X	
QAN Certificate No.	Presafe 16 ATEX 7744Q	
Applicable Directive	2014/34/EU	

Features & Benefits

- Designed and manufactured according to API standards.
- Compatible with overfill sensors and sockets that meet API standards.
- Monitors up to 6 overfill sensors.



Overfill Sensors

Overfill sensors are designed to prevent overfill of liquid petroleum products.

Model: UZK-DM

> Features & Benefits

- Meets API Recommended Practice.
- Interchangeable with optical sensors that meet API standards.
- Easy to adjust.
- Optical sensor.



Self-testing Socket & Grounding Bolt

Socket and grounding bolt are designed to connect the Overfill Protection & Grounding Systems to the tank truck.

Model: S02

> Features & Benefits

- Checks the function of the overfill sensors and the earthing of the ground bolt. Performs the self-test of the overfill and electrostatic function without the connection of the associated apparatus.
- LEDs provide a visual indication of the status of each tank compartment.
- · Stainless-steel contact pins.
- Meets API recommended practice.
- · Audible and visible alarms.
- · Connect up to 6 overfill sensors.
- Durable housing.
- Certification: ExiaIIBT4 Ga



Model: S02L

Features & Benefits

- · Stainless-steel contact pins.
- Connects up to 6 Overfill Sensors.
- Meets API Recommended Practice.
- Durable Housing.



Retractable Grounding Reel for Floating Roof Storage Tanks 🐎

Risk Management for Floating Roof Storage Tanks

Model: RGR

The "Retractable Grounding Reel" (RGR for short) is designed to discharge the static electricity of floating roof storage tanks. It is used as the equipotential bonding between the floating roof and tank shell. The lightning current and bound charge will be effectively and rapidly dissipated to earth upon a lightning strike. Compared with the conventional bypass conductor, it will effectively decrease the possibility of a lightning-induced fire, and make it more reliable and safe.



> Features & Benefits

- **(€ (E)** II 2GT5
- 316L stainless steels housing for corrosion resistance.
- Pre-Tensioned: The RGR is pretensioned at the factory, so no on-site tensioning is required.
- Overall mirror polishing, more beautiful, better corrosion resistance.
- Braided strip outer stainless steel braiding protection, better tensile resistance.
- China Patent No.: ZL 2016 2 1012793.X
- Applicable Directive: 2014/34/EU

Materials Materials				
Housing	316L stainless steel			
Axle Sleeve	H62 brass			
Spring	Spring steel			
Cable	Double braided cable 2880/34 Tinned braided copper cable (Inside layer) Braided 304 SS cable (Outside layer) Cross-sectional area 50 mm²			
Cable Length	20m (24.4m is available)			
Weight & Dimensions				
Net Weight	27.1 kg			
Shipping Plywood Case	8.0 kg			
Total Weight	39.6 kg			
Overall Dimensions	51*46*35 cm			
Other Parts	316 L stainless steel			

Tank Circumference, meters	Tank Diameter, meters	Quantity of Required RGR's
≤60	≤19.10	2
≤90	≤28.65	3
≤120	≤38.20	4
≤150	≤47.75	5
≤180	≤57.30	6
≤210	≤66.84	7
≤240	≤76.39	8
≤270	≤85.94	9
≤300	≤95.49	10
≤330	≤105.04	11
≤360	≤114.59	12
≤390	≤ 124.14	13
≤420	≤ 133.69	14
≤450	≤ 143.24	15
≤480	≤ 152.79	16
≤510	≤ 162.34	17
≤540	≤ 171.89	18
≤570	≤ 181.44	19
≤600	≤ 190.99	20





Reference

API Recommended Practice 545 First Edition, October 2009 Item 4.2.1.2.2 Number, Length and Electrical Resistance

The tank floating roof shall be bonded to the tank shell by direct electrical connection through an appropriate number of bypass conductors. Each conductor, including connections, shall have a maximum end-to-end electrical resistance of 0.03Ω . The bypass conductors shall be of the minimum length necessary to permit full movement of the floating roof. Bypass conductors should be evenly spaced not more than every 30 m (100 ft) around the tank circumference with a minimum of two.

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Sister Companies >>



Density Meter

The portable density meter DSM-PN-03 is designed for density and temperature measurements of any pure liquids directly in tanks, without sampling, at the depth up to 30 meters.

Advantages

- Density accuracy: ±0.0003g/cm³
- Temperature accuracy:0.1°C
- No sampling required
- Direct density measurement
- Automatic temperature compensation
- Local results storage and wireless data transfer
- At any depths up to 30 meters



Magnetic Price Signs

They are designed to show the prices at the gas stations. It is patented in the US.

Advantages

- Energy saving
- Economical and easy to operate
- Safe operation, low maintenance
- Excellent visibility in the day time and night time



Water particle removal fuel dispenser filter elements are designed for commercial fuelling dispensers in gasoline or diesel service stations.

Application

- Particulate filtration
- Monitors water
- For use with diesel, gasoline, and ethanol or methanol blends

Advantages

- Monitors water content of storage tank
- Removes particulate contaminants such as dirt, dust and rust
- Added protection to gasoline dispenser meter chambers

210 Tank Dryer will be.

Tank Dryer

Check for water in your tanks (storage tanks, above ground tanks and underground tanks etc.). Absorbs water out of diesel, biodiesel and fuel oil.

Application

- Sizes: 60cmX4.5cm can hold 300ml water (Other sizes are available)
- Easy to install
- Improving oil quality

Qingdao Autodisplay Co., Ltd.

Product: Price sign for gas station www.autodisp.com

Qinqdao AOBO-environment Technology Co.,LtD.

Product: Filters for fuel dispenser www.aobo-e.com

Qinqdao Aubon Instrument Co., Ltd.

Product: Level gauges for tanks www.aubon.net

Qingdao Add Value Flow Metering Co., Ltd.

Product: Flow meter www.addvalue.com.cn

Qingdao Allred Electronics Co.,LtD.

Product: Infrared combustible gas alarm www.qdallred.com

Qingdao Augreener Electronic Technology Co., Ltd

Product: Battery-free wireless doorbell

www.augreener.com





