Manual No: **577014-449** ● Revision: F

Probe Products

Application Guide

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Example Illustrations

Illustrations used in this guide for example sensor installations may contain components that are customer supplied and not included with the sensor. Please check with your Veeder-Root Distributor for recommended installation accessories.

Third Party Evaluations

Third party evaluations of the Veeder-Root sensors contained in this application guide can be found under the Veeder-Root vendor name on the National Work Group on Leak Detection Evaluations (NWGLDE) website: https://neiwpcc.org/nwglde/

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Density Mag Plus In-Tank Probe for Monitoring Gasoline Products in both USTs & ASTs

Probe Description & Product Application	Density Mag Plus In-Tank Probe for Monitoring **Gasoline & Diesel Products** in both USTs and ASTs	

Specific Products Monitored / Product Compatibility

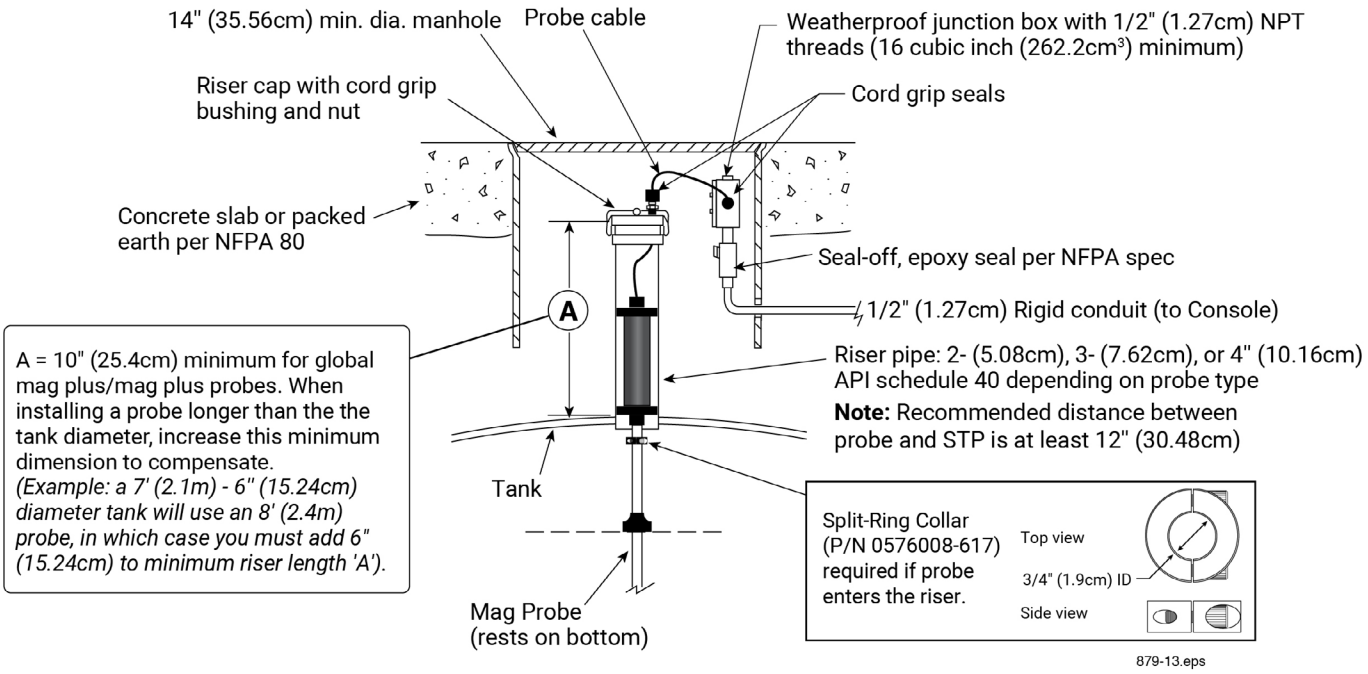
Part # & Description	Approved Products	Monitoring Functionality
<u>Leak Detection / BIR – Accuchart Probes</u> 1. 0846397-7xx Stainless Steel (SS) with High Grade Polymer (HGP) Canister with Water Detection & 0.1GPH Testing Capability, UL 2. 0846397-8xx SS with HGP Canister with Water Detection & 0.2 GPH Testing Capability, UL **<u>No Leak Detection/Inventory Only Probes</u>** 1. 0846397-9xx SS with HGP Canister with Water Detection & No Leak Detection/Inventory Only, UL	Gasoline with <=20% Ethanol	0.1 GPH static in-tank testing
	Gasoline with <=7% Methanol and 8% TBA	0.2 GPH static in-tank testing
	Gasoline with <=15% MTBE	0.2 GPH Continuous Statistical Leak Detection (CSLD)
	Gasoline with <=17% TAME	No Leak Detection / Inventory Only
	Regular Unleaded Gasoline	BIR – AccuChart
	Premium Unleaded Gasoline	Density Range = 700 - 800 kg/m^3
	Aviation Gasoline	
	Gasoline with <=15% ETBE	
	Gasoline with <=12% TBA	
	Leaded Gasoline	

Console Compatibility	**Maximum Probes / Console**	**Probe Interface Modules**				
		Module Part #	**Module Description**	**# of Modules per Console**	**# of Probe Inputs per Module**	**Availability**
TLS-450PLUS (8600 Series) – Minimum Software Version 5B with TLS-XB installed (3 max per system)	64	0332812-001	Universal Sensor Module (USM) Interface for Probes, Sensors, and DPLLD	Up to 4	16	Sold Separately (either Factory Installed or as a Spare Module)
TLS4 (8601 Series)	12	No module required, probe input capability factory installed				
TLS4B (8601 Series)	6					

Float Installation Kits	**Form # & Description**	**Float Size**	**Cable Lengths**	**Min/Max Probe Length**
	0886001-1x0 Mag-D Gasoline Float Kit w/ EU Seal Kit	2” (5.08cm)	5’ (1.5m), 10’ (3.05m),	48” (1.2m) - 144” (3.66m)
	0886000-1x0 Mag-D Gasoline Float Kit w/ US Seal Kit			
Other Installation Accessories	0312020-952 4” (10.16cm) NPT Riser Cap and Ring Kit for In-Tank Probes 0330020-282 4” (10.16cm) Threaded NPT Riser Cap for In-Tank Probes			

Specifications	Product	Water
Measurement Accuracy	+/- 0.0300” (0.762mm)	+/- 0.0300” (0.762mm)
Resolution – One Sample Reading	+/- 0.002857” (0.072571mm)	+/- 0.002857” (0.072571mm)
Minimum Measurement – 2” (5.08cm) Float Kits	8.00” (20.32cm)	1.495” (3.797cm)
Operating (Working) Temperature Range	-40 to +122°F (-40 to +50°C)	
Temperature Accuracy	**Accuracy 1.8°F/1°C** +104°F to +140°F (+40°C to +60°C)	**Accuracy 0.54°F/0.3°C** +14°F to +104°F (-10°C to +40°C)
Third Party Evaluation / Agency Listings & Links	UL, cUL, ATEX, IECEx	
	https://neiwpcc.org/nwglde-files/evals/veeder_root_j.html	
Product Installation Guide Link	https://www.veeder.com/us/technical-document-library	

Example Installation



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Density Mag Plus In-Tank Probe for Monitoring Diesel & Other Products in both USTs & ASTs

Probe Description & Product Application	Density Mag Plus In-Tank Probe for Monitoring **Diesel & Other Products** in both USTs and ASTs	

Specific Products Monitored / Product Compatibility

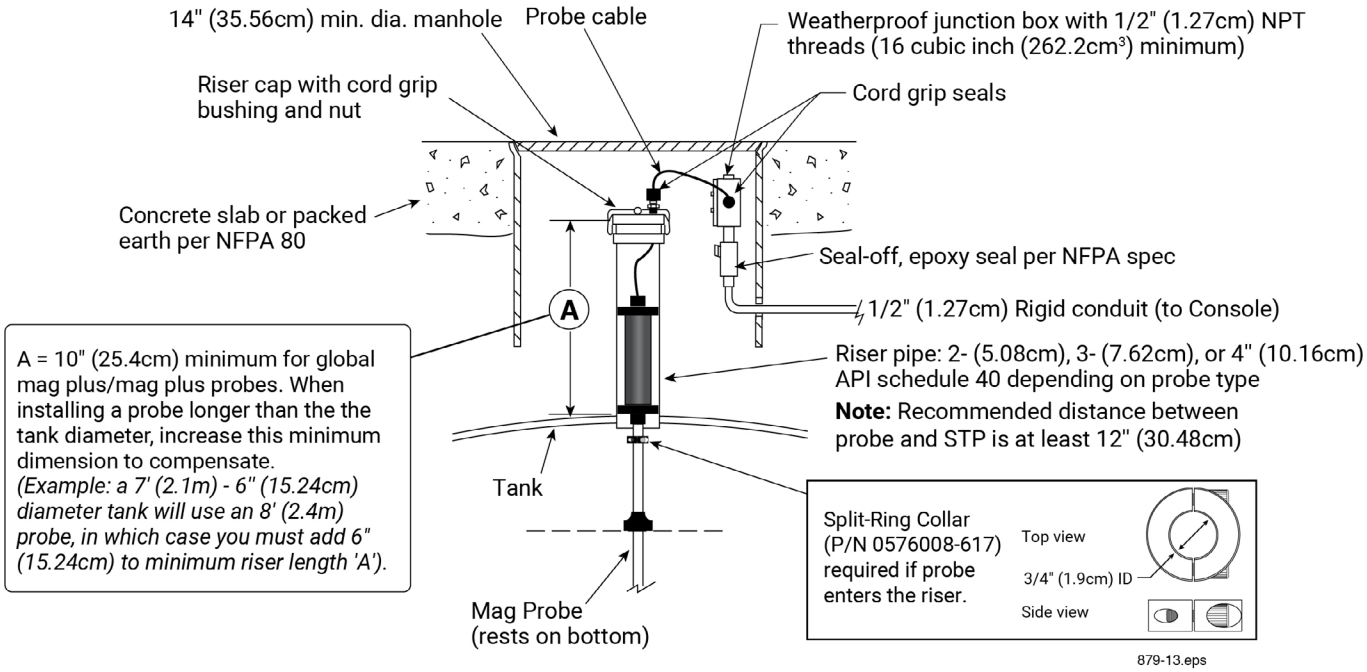
Part # & Description	Approved Products	Monitoring Functionality Options
<u>Leak Detection / BIR – Accuchart Probes</u> 1. 0846397-7xx Stainless Steel (SS) In-Tank Probe with High Grade Polymer (HGP) Canister with Water Detection & 0.1 GPH Testing Capability, UL 2. 0846397-8xx SS In-Tank Probe with HGP Canister with Water Detection & 0.2 GPH Testing Capability, UL **<u>No Leak Detection/Inventory Only Probes</u>** 1. 0846397-9xx SS In-Tank Probe with HGP Canister with Water Detection & No Leak Detection/Inventory Only, UL	Diesel (Fuel Oil #2)	0.1 GPH static in-tank testing
	Bio Diesel (Low Density) *	0.2 GPH static in-tank testing
	Bio Diesel (High Density) *	0.2 GPH Continuous Statistical Leak Detection (CSLD)
	Kerosene (Fuel Oil #1)	No Leak Detection / Inventory Only
	Jet Fuel (JP8)	BIR – AccuChart
	Fuel Oil #4	Density Range = 800 - 900 kg/m^3
** Tank testing approved for: B6-B20 meeting ASTM D7467 and B100 meeting ASTM D6751*		

Console Compatibility	**Maximum Probes / Console**	**Probe Interface Modules**				
		Module Part #	**Module Description**	**# of Modules per Console**	**# of Probe Inputs per Module**	**Availability**
TLS-450PLUS (8600 Series) – Minimum Software Version 5B with TLS-XB installed (3 max per system)	64 (32 with BIR)	0332812-001	Universal Sensor Module (USM) Interface for Probes, Sensors, and DPLLD	Up to 4	16	Sold Separately (either Factory Installed or as a Spare Module)
TLS4 (8601 Series)	12	No module required, probe input capability factory installed				
TLS4B (8601 Series)	6					

Float Installation Kits	**Part # & Description**	**Float Size**	**Cable Lengths**	**Min/Max Probe Length**
	0886001-1x1 Mag-D Diesel Float Kit w/ EU Seal Kit	2” (5.08cm)	5’ (1.5m), 10’ (3.05m)	48” (1.2m) - 144” (3.66m)
	0886000-1x1 Mag-D Diesel Float Kit w/ US Seal Kit			
Other Installation Accessories	0312020-952 4” NPT Riser Cap and Ring Kit for In-Tank Probes 0330020-282 4” Threaded NPT Riser Cap for In-Tank Probes			

Specifications	Product	Water
Measurement Accuracy	+/- 0.0300” (0.762mm)	+/- 0.0300” (0.762mm)
Resolution – One Sample Reading	+/- 0.002857” (0.072571mm)	+/- 0.002857” (0.072571mm)
Minimum Measurement – 2” (5.08cm) Float Kits	6.367” (16.17cm)	1.495” (3.797cm)
Operating (Working) Temperature Range	-40°F to +122°F (-40°C to +50°C)	
Temperature Accuracy	**Accuracy 1.8°F/1°C** +104°F to +140°F (+40°C to +60°C)	**Accuracy 0.54°F/0.3°C** +14°F to +104°F (-10°C to +40°C)
Third Party Evaluation / Agency Listings & Links	UL, cUL, ATEX, IECEx	
	https://neiwpcc.org/nwglde-files/evals/veeder_root_j.html	
Product Installation Guide Link	https://www.veeder.com/us/technical-document-library	

Example Installation



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Mag Plus In-Tank Probe for Monitoring Chemical Products in both USTs & ASTs

Probe Description & Product Application	Mag Plus In-Tank Probe for Monitoring **Chemical Products** in both USTs and ASTs	

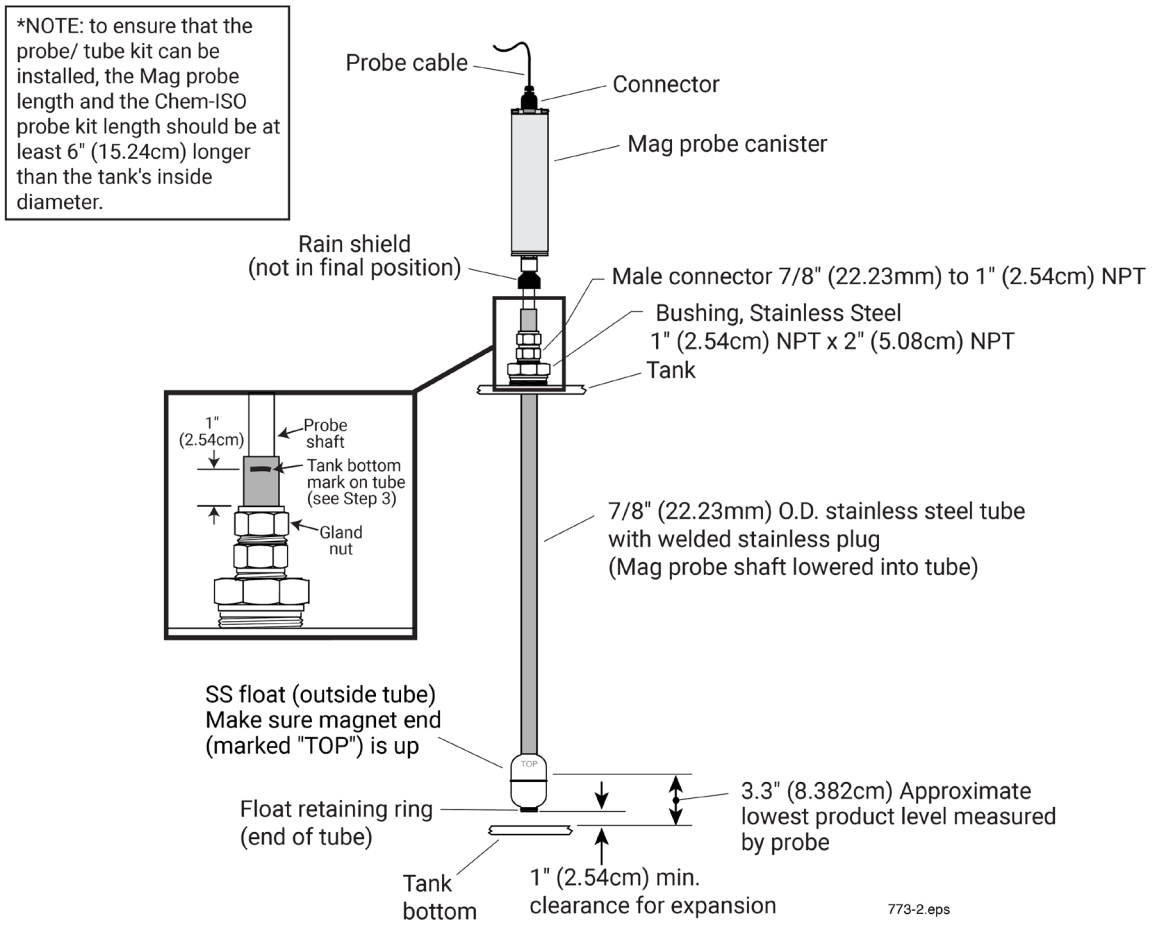
	Part # & Description	**Approved Products**	**Monitoring Functionality Options**
Specific Products Monitored / Product Compatibility	0846397-6xx Stainless Steel (SS) In-Tank Probe with High Grade Polymer (HGP) Canister No Water Detection, UL	Acetone Xylene Acetate (Ethyl, Butyl, n-Propyl) Dichloromethane Petroleum Naphtha Isopropyl Alcohol Dimethyl formamide 1-Butyl (butyl alcohol) Butanol Methyl Ethyl Ketone Ethyl Benzene Methyl Isobutyl Ketone	No Leak Detection / Inventory Only

Console Compatibility	**Maximum Probes / Console**	**Probe Interface Modules**				
		Module Part #	**Module Description**	**# of Modules per Console**	**# of Probe Inputs per Module**	**Availability**
TLS-450PLUS (8600 Series)	64	0332812-001	Universal Sensor Module (USM) Interface for Probes, Sensors, and DPLLD	Up to 4 – TLS-4xx	16	Sold Separately (either Factory Installed or as a Spare Module)
TLS4 (8601 Series)	12	No module required, probe input capability factory installed				
TLS4B (8601 Series)	6					
TLS-350/R/PLUS	16	0329356-002	4-Input Probe Interface Module	4	4	Sold Separately (either Factory Installed or as a Spare Module)
TLS-300i	4	No module required, probe input capability factory installed				
TLS-300C	2					

	Part # & Description	**Float Size**	**Cable Lengths**	**Min/Max ProbeLength**	**Min/Max Chemical Tank Diameter**
Float Installation Kits	0331824-xxx Chemical-ISO Probe Inventory Only Installation Kits	2" (5.08cm)	5' (1.5m), 10' (3.05m), 20' (6.1m)	48" (1.2m) - 144" (3.66m)	42" (106.68cm) - 138" (350.52cm)
Other Installation Accessories	N/A				

Specifications	Product	
Measurement Accuracy	+/- 0.0300" (0.762mm)	
Resolution – One Sample Reading	+/- 0.002857" (0.072571mm)	
Minimum Measurement – 2" (5.08cm) Float Kits	3.3" (8.382cm)	
Operating (Working) Temperature Range	-40°F to +122°F (-40°C to +50°C)	
Temperature Accuracy	**Accuracy 1.8°F/1°C** +104°F to +140°F (+40°C to +60°C)	**Accuracy 0.54°F/0.3°C** +14°F to +104°F (-10°C to +40°C)
Third Party Evaluation / Agency Listings & Links	https://neiwpcc.org/nwglde-files/evals/veeder_root_j.html	
Product Installation Guide Link	https://www.veeder.com/us/technical-document-library	

Example Installation



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Mag Plus In-Tank Probe for Monitoring Light & Heavy Oil Products with & without Water Detection in both USTs & ASTs

Probe Description & Product Application	Mag Plus In-Tank Probe for Monitoring **Light & Heavy Oil Products with & without Water Detection** in both USTs and ASTs	

Specific Products Monitored / Product Compatibility	**Part # & Description**	**Approved Products (Use with Light Oil Float Kit)**	**Monitoring Functionality Options**
	<u>No Leak Detection/Inventory Only Probes with Water Detection</u> 1. 0846397-3xx Stainless Steel (SS) In-Tank Probe with High Grade Polymer (HGP) Canister with Water Detection & No Leak Detection/Inventory Only, UL **<u>No Leak Detection/Inventory Only Probes with No Water Detection</u>** 1. 0846397-6xx SS In-Tank Probe with HGP Canister with No Water Detection & No Leak Detection/Inventory Only, UL	Bio Diesel (High Density – Specific Gravity > 0.865) *	No Leak Detection / Inventory Only
		Fuel Oil #4	
		Motor Oil **	
		Gear Oil, 90W	
		Toluene	
		Transmission Fluid	

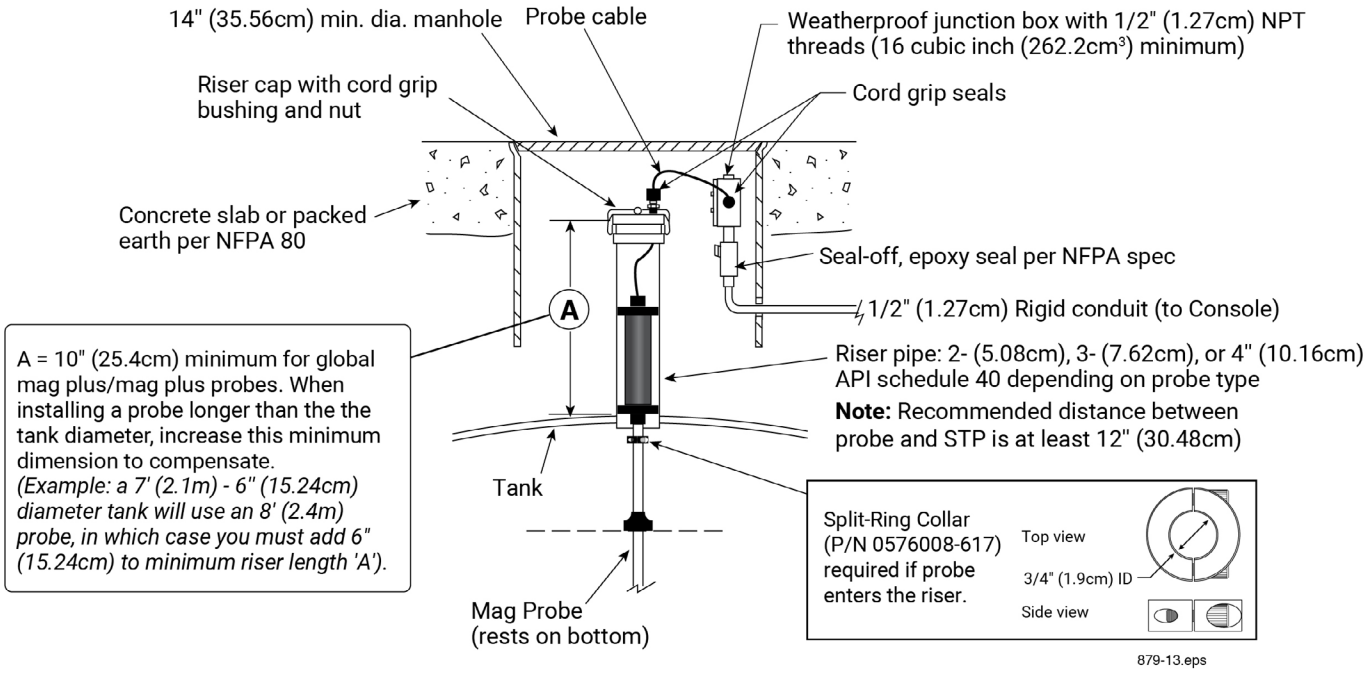
Console Compatibility	**Maximum Probes / Console**	**Probe Interface Modules**				
		Module Part #	**Module Description**	**# of Modules per Console**	**# of Probe Inputs per Module**	**Availability**
TLS-450PLUS (8600 Series) with TLS-XB installed (3 max per system)	64	0332812-001	Universal Sensor Module (USM) Interface for Probes, Sensors, and DPLLD	Up to 4	16	Sold Separately (either Factory Installed or as a Spare Module)
TLS4 (8601 Series)	12	No module required, probe input capability factory installed				
TLS4B (8601 Series)	6					
TLS-350/R/PLUS	16	0329356-002	4-Input Probe Interface Module	4	4	Sold Separately (either Factory Installed or as a Spare Module)
TLS-300i	4	No module required, probe input capability factory installed				
TLS-300C	2					

Float Installation Kits	**Part # & Description**	**Float Size**	**Cable Lengths**	**Min/Max Probe Length**
	0846400-0x4 Mag Plus Alternative Fluids Float Kit – No Water Float	4” (10.16cm)	5’ (1.5m), 10’ (3.05m)	48” (1.2m) - 144” (3.66m)
	0846400-1x4 Mag Plus Alternative Fluids Float Kit – No Water Float	2” (5.08cm)		
	0846400-002 Light Oil	4” (10.16cm)		
	0846400-102 Light Oil	2” (5.08cm)		
	0846400-007 Heavy Oil	4” (10.16cm)		
	0846400-107 Heavy Oil	2” (5.08cm)		

** Tank testing approved for: B6-B20 meeting ASTM D7467 and B100 meeting ASTM D6751*
*** Compatible with tank testing*

Other Installation Accessories	0312020-952 4" NPT Riser Cap and Ring Kit for In-Tank Probes 0330020-282 4" Threaded NPT Riser Cap for In-Tank Probes	
Specifications	**Product**	**Water**
Measurement Accuracy	+/- 0.0300" (0.762mm)	+/- 0.0300" (0.762mm)
Resolution – One Sample Reading	+/- 0.002857" (0.072571mm)	+/- 0.002857" (0.072571mm)
Minimum Measurement – 2" (5.08cm)Float Kits	3.23" (8.2cm)	0.867" (2.2cm)
Minimum Measurement – 4" (10.16cm) Float Kits	3.04" (7.72cm)	0.630" (1.6cm)
Operating (Working) Temperature Range	-40°F to +122°F (-40°C to +50°C)	
Temperature Accuracy	**Accuracy 1.8°F/1°C** +104°F to +140°F (+40°C to +60°C)	**Accuracy 0.54°F/0.3°C** +14°F to +104°F (-10°C to +40°C)
Third Party Evaluation / Agency Listings & Links	https://neiwpcc.org/nwglde-files/evals/veeder_root_j.html	
Product Installation Guide Link	https://www.veeder.com/us/technical-document-library	

Example Installation



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Mag Plus In-Tank Probe for Monitoring LPG Products in both USTs & ASTs

Probe Description & Product Application	Mag Plus In-Tank Probe for Monitoring **LPG Products** in both USTs and ASTs	

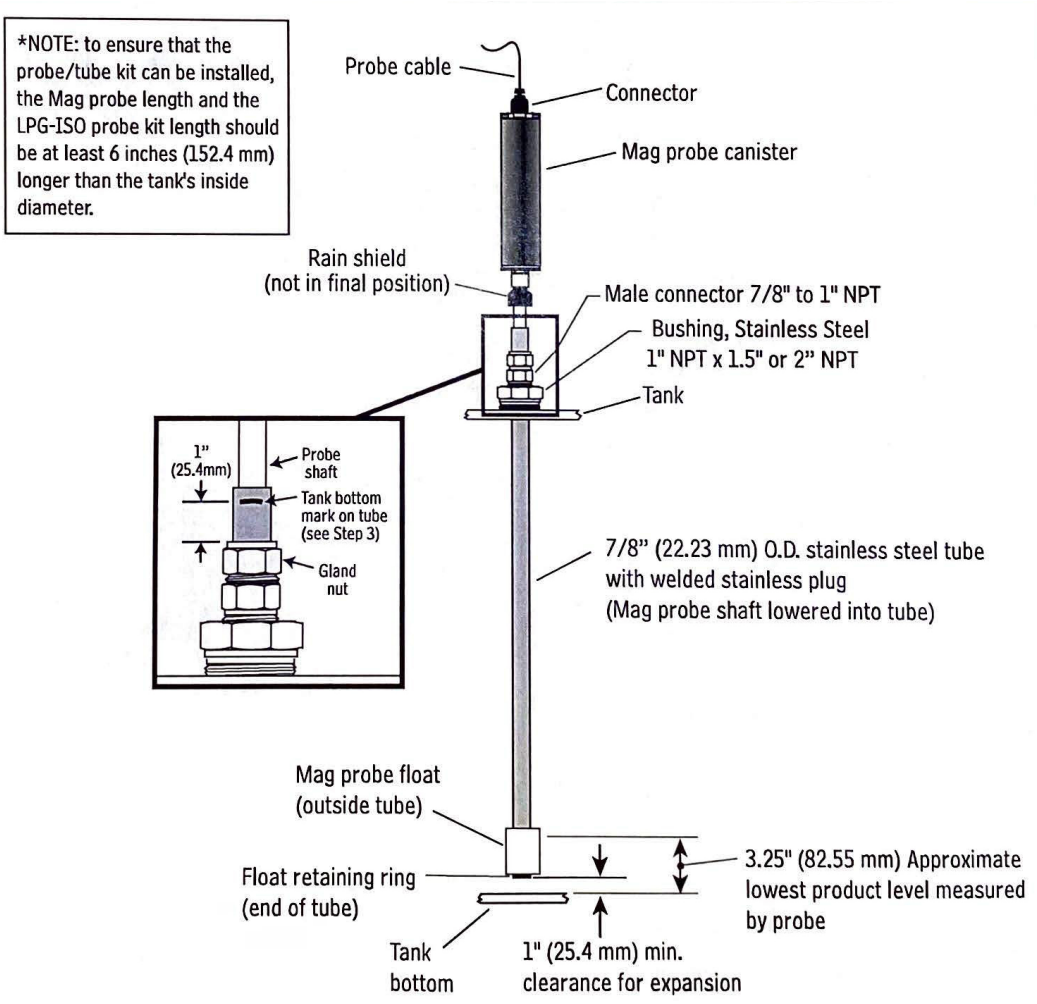
Specific Products Monitored / Product Compatibility	**Part # & Description**	**Approved Products**	**Monitoring Functionality Options**
	1. 0846397-6xx Stainless Steel (SS) In-Tank Probe with High Grade Polymer (HGP) Canister, No Water Detection, UL	Liquified Petroleum Gas Propane	No Leak Detection / Inventory Only

Console Compatibility	**Maximum Probes / Console**	**Probe Interface Modules**				
		Module Part #	**Module Description**	**# of Modules per Console**	**# of Probe Inputs per Module**	**Availability**
TLS-450PLUS (8600 Series)	64	0332812-001	Universal Sensor Module (USM) Interface for Probes, Sensors, and DPLLD	Up to 4	16	Sold Separately (either Factory Installed or as a Spare Module)
TLS4 (8601 Series)	12	No module required, probe input capability factory installed				
TLS4B (8601 Series)	6					
TLS-350/R/PLUS	16	0329356-002	4-Input Probe Interface Module	4	4	Sold Separately (either Factory Installed or as a Spare Module)
TLS-300i	4	No module required, probe input capability factory installed				
TLS-300C	2					

Float Installation Kits	**Part # & Description**	**Float Size**	**Cable Lengths**	**Min/Max Probe Length**	**Min/Max Chemical Tank Diameter**
	0333083-xxx LPG-ISO Probe Inventory Only Installation Kits	1.5" (3.81cm)	5' (1.5m), 10' (3.05m), 20' (6.1m)	48" (1.2m) - 144" (3.66m)	42" (106.68cm) - 138" (350.52cm)
	0333082-xxx LPG-ISO Probe Inventory Only Installation Kits	2.0" (5.08cm)			
Other Installation Accessories	N/A				

Specifications	Product	
Measurement Accuracy	+/- 0.0300" (0.762mm)	
Resolution – One Sample Reading	+/- 0.002857" (0.072571mm)	
Minimum Measurement – 1.5" (3.81cm) Float Kits	3.25" (82.55mm)	
Minimum Measurement – 2.0" (5.08cm) Float Kits	3.25" (82.55mm)	
Operating (Working) Temperature Range	-40°F to +122°F (-40°C to +50°C)	
Temperature Accuracy	**Accuracy 1.8°F/1°C** +104°F to +140°F (+40°C to +60°C)	**Accuracy 0.54°F/0.3°C** +14°F to +104°F (-10°C to +40°C)
Working Pressure	375 psi	
Third Party Evaluation / Agency Listings & Links	https://neiwpcc.org/nwglde-files/evals/veeder_root_j.html	
Product Installation Guide Link	https://www.veeder.com/us/technical-document-library	

Example Installation



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Mag-FLEX In-Tank Probes for Monitoring Gas, Diesel, & Alternative Fluids

Probe Description & Product Application	Mag-FLEX In-Tank Probes for Monitoring **Gas, Diesel, & Alternative Fluids** in both USTs and ASTs	

Specific Products Monitored / Product Compatibility

Part # & Description	Approved Products	Monitoring Functionality Options
1. 0889591-4xx Mag-FLEX probe with gasoline & water floats, wired, UL/cUL *	Gasohol (<=15% Ethanol)	No Leak Detection / Inventory Only
2. 0889591-5xx Mag-FLEX probe with diesel & water floats, wired, UL/cUL *	Gasoline with <=7% Methanol and 8% TBA	
3. 0889591-6xx Mag-FLEX probe with no water float, wired, UL/cUL *	Gasoline with <=15% MTBE	
4. 0889591-8xx Mag-FLEX probe for methanol tanks with no water float, wired, UL/cUL	Gasoline with <=17% TAME	
5. 0889591-9xx Mag-FLEX probe for plastic tanks with no water floats, wired, UL/cUL	Leaded Gasoline	
6. 0889591-0xx Mag-FLEX probe for plastic tanks with no water floats, wireless, UL/cUL	Mineral Spirits	
7. 0889591-1xx Mag-FLEX probe with gasoline & water floats, wireless, UL/cUL	Premium Unleaded Gasoline	
8. 0889591-2xx Mag-FLEX probe with diesel & water floats, wireless, UL/cUL	Regular Unleaded Gasoline	
9. 0889591-3xx Mag-FLEX probe with no water float, wireless, UL/cUL	Gasoline with <=15% ETBE	
10. 0889591-7xx Mag-FLEX probe for methanol tanks with no water float, wireless, UL/cUL	Gasoline with <=12% TBA	
11. 0889561-4xx Mag-FLEX probe with gasoline & water floats, wired, ATEX/IECEx	Diesel (Fuel Oil #2) **	
12. 0889561-5xx Mag-FLEX probe with diesel & water floats, wired, ATEX/IECEx	Kerosene (Fuel Oil #1) **	
13. 0889561-6xx Mag-FLEX probe with no water float, wired, ATEX/IECEx	Bio Diesel (Low Density) **	
14. 0889561-8xx Mag-FLEX probe for methanol tanks with no water float, wired, ATEX/IECEx	Methanol ***	
15. 0889561-9xx Mag-FLEX probe for plastic tanks with no water floats, wired, ATEX/IECEx	Diesel Exhaust Fluid (DEF/AdBlue™[1]) ****	
16. 0889561-0xx Mag-FLEX probe for plastic tanks with no water floats, wireless, ATEX/IECEx		
17. 0889561-1xx Mag-FLEX probe with gasoline & water floats, wireless, ATEX/IECEx		
18. 0889561-2xx Mag-FLEX probe with diesel & water floats, wireless, ATEX/IECEx		
19. 0889561-3xx Mag-FLEX probe with no water float, wireless, ATEX/IECEx		
20. 0889561-7xx Mag-FLEX probe for methanol tanks with no water float, wireless, ATEX/IECEx		

** Only compatible with TLS4, TLS4B, and TLS-450PLUS consoles, software version 6.A or higher*
*** Only compatible with the Diesel Float Kit*
**** Applicable to 0889591-8xx, 0889561-8xx, 0889591-7xx, and 0889561-7xx part numbers only*
***** Applicable to 0889591-0xx, 0889591-9xx, 0889561-0xx and 0889561-9xx part numbers only*

[1] *AdBlue™ is a trademark of the Verband der Automobilindustrie e.V. (VDA).*

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Mag-FLEX In-Tank Probes for Monitoring Gas, Diesel, & Alternative Fluids

Console Compatibility	Maximum Probes / Console	Probe Interface Modules				
		Module Part #	Module Description	# of Modules per Console	# of Probe Inputs per Module	Availability
TLS-450PLUS (8600 Series) with TLS-XB installed (3 max per system)	64	0332812-001	Universal Sensor Module (USM) Interface for Probes, Sensors, and DPLLD	Up to 4	16	Sold Separately (either Factory Installed or as a Spare Module)
TLS4 (8601 Series)	12	No module required, probe input capability factory installed				
TLS4B (8601 Series)	6					
TLS-350/R/PLUS	16	0329356-002	4-Input Probe Interface Module	4	4	Sold Separately (either Factory Installed or as a Spare Module)
TLS-300i	4	No module required, probe input capability factory installed				
TLS-300C	2					

Float Installation Kits	Part # & Description	Float Size	Special Instructions	Min/Max Probe Length
	0330020-776 Kit – Low Level Water Float (1.9" for Gasoline)	4" (10.16cm)	Low level water float kits require a 4" tank opening and connect directly to the existing water float. Wall guide included.	5' - 72.1' (1.5m - 22m)
	0330020-777 Kit – Low Level Water Float (1.9" for Diesel)	4" (10.16cm)		
	0330020-824 Kit – Low Level Water Float (1.9" for Bio-Diesel)	4" (10.16cm)		

Other Installation Accessories	0848100-004 Over voltage protection device 1 per probe recommended 0576008-708 2" (5.08cm) NPT Adapter for installation of Mag-FLEX AST probes (req'd 1/probe)

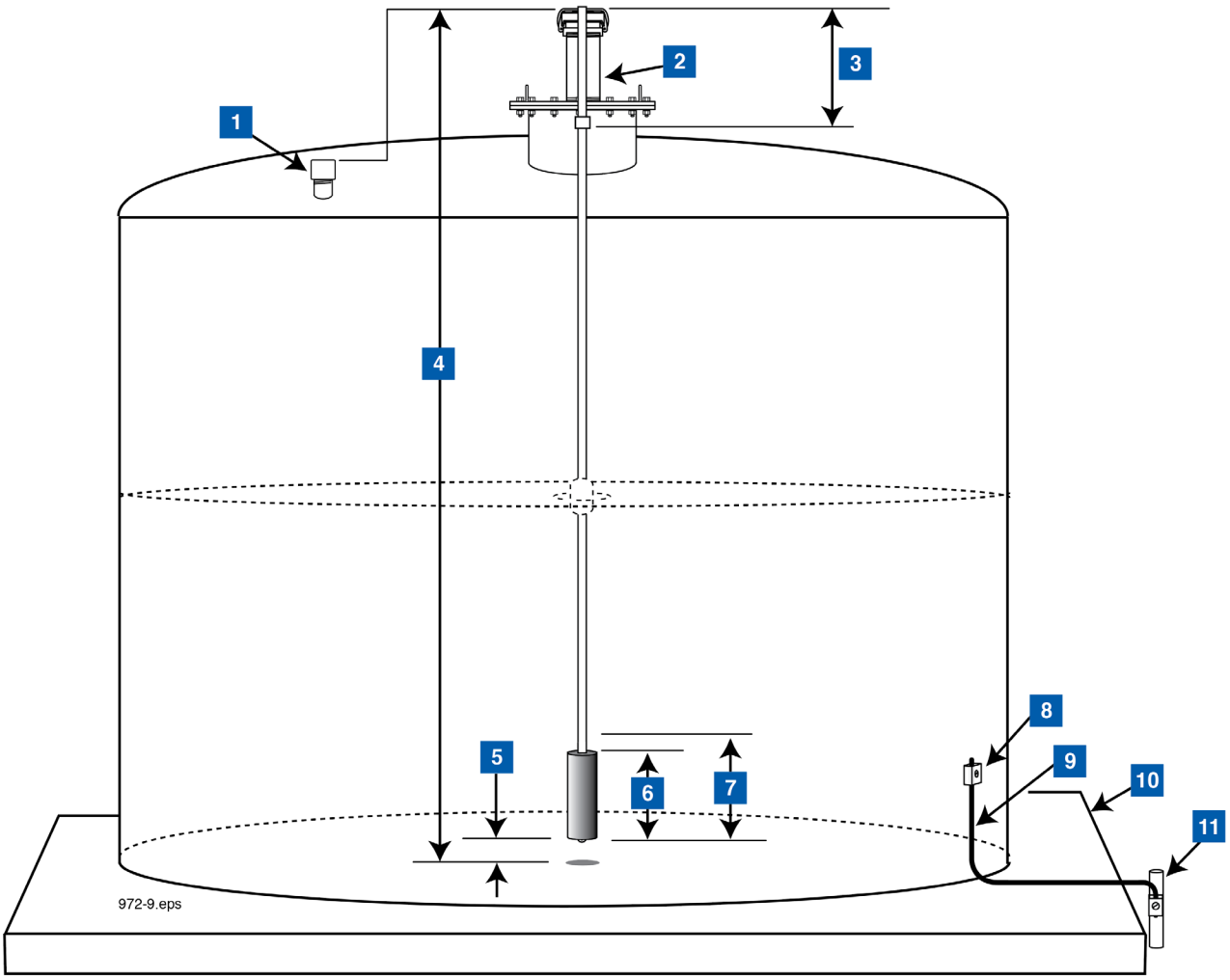
Specifications	Product	Water
Measurement Accuracy	+/- 0.0800" (2.032mm)	+/- 0.12" (3.048mm)
Resolution – One Sample Reading	+/- 0.02" (0.508mm)	+/- 0.02" (0.508mm)
Minimum Measurement *	7.3" (18.542cm)	5.5" (13.97cm) Standard Float; 1.9" (4.826cm) Low Level Float
Operating (Working) Temperature Range	-40°F to +140°F (-40°C to +60°C)	
Thermistors	5 Thermistors	

** Minimum measurement height with non-magnetic weight will be dependent on probe installation offset*

Product	Material
Probe Canister	Stainless Steel 303
Rigid Shaft Sections	Stainless Steel 304
Corrugated Flexible Shaft & Floats	Stainless Steel 316 Ti
Weight Material	Stainless Steel 303 for Steel Tall Tanks and Stainless Steel 316L for Plastic Tall Tanks
Magnet Casing	Conductive Plastic *
Product Installation Guide	https://www.veeder.com/us/technical-document-library

** Magnet casing not applicable for plastic tall tank probes*

Example Installation



1. Insertion measuring point for 2” (5.08cm) pipe cap installations (top of pipe cap to tank bottom)
2. Insertion measuring point for 4” (10.16cm) riser pipe installations (top of riser pipe to tank bottom). Add 2” (5.08cm) for brass ring/and riser cap.
3. Null zone - typical all probes
4. Measured insertion length (always order smaller probe if measured insertion length falls between two probes in table
5. Clearance off bottom only applicable when using non-magnetic weight in plastic tanks
6. Weight length
7. Dead zone
8. Tank grounding bracket
9. Grounding cable (configuration shown does not apply to plastic tanks)
10. Concrete tank pad
11. Earth grounded electrode with cable bracket

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Stainless Steel Mag Plus In-Tank Probe for Monitoring Alternative Fluids with No Water Detection in both USTs & ASTs

Probe Description & Product Application	**Stainless Steel** Mag Plus In-Tank Probe for Monitoring **Alternative Fluids with No Water Detection** in both USTs and ASTs	

Specific Products Monitored / Product Compatibility

Part # & Description	Approved Products	Monitoring Functionality Options
Leak Detection / BIR – Accuchart Probes 1. 0846397-4xx Stainless Steel (SS) In-Tank Probe with High Grade Polymer (HGP) Canister with No Water Detection & 0.1 GPH Testing Capability, UL 2. 0846397-5xx SS In-Tank Probe with HGP Canister with No Water Detection & 0.2GPH Testing Capability, UL **No Leak Detection/Inventory Only Probes** 1. 0846397-6xx SS with HGP Canister with No Water Detection & No Leak Detection/ Inventory Only, UL	Alcohol (<=100% Alcohol) *	A. 0.1 GPH static in-tank testing for USTs only
	Fuel Oil #6 **	B. 0.2 GPH static in-tank testing for USTs only
	Propylene Glycol **	C. 0.2 GPH Continuous Statistical Leak Detection (CSLD) for USTs only
	Methyl Alcohol *	
	Methanol (<=100% Alcohol) *	D. No Leak Detection / Inventory Only for USTs & ASTs
	ETBE (<=100% Ether)	E. BIR – Accuchart for USTs only
	Ethanol (<=100% Alcohol) includes E85 *	
	MTBE (<=100% Ether)	
	Used Oil	
	Ethylene Glycol **	
	Windshield Washer Fluid **	
	DEF (AdBlue™[1]) **	

** Limited to 85% for ATEX probes*
*** These products are not approved for leak detection*

Console Compatibility	Maximum Probes / Console	Probe Interface Modules				
		Module Part #	Module Description	# of Modules per Console	# of Probe Inputs per Module	Availability
TLS-450PLUS (8600 Series) with TLS-XB installed (3 max per system)	64 (32 with BIR)	0332812-001	Universal Sensor Module (USM) Interface for Probes, Sensors, and DPLLD	Up to 4	16	Sold Separately (either Factory Installed or as a Spare Module)
TLS4 (8601 Series)	12	No module required, probe input capability factory installed				
TLS4B (8601 Series)	6					
TLS-350/R/PLUS	16	0329356-002	4-Input Probe Interface Module	4	4	Sold Separately (either Factory Installed or as a Spare Module)
TLS-300i	4	No module required, probe input capability factory installed				
TLS-300C	2					

[1] *AdBlue™ is a trademark of the Verband der Automobilindustrie e.V. (VDA).*

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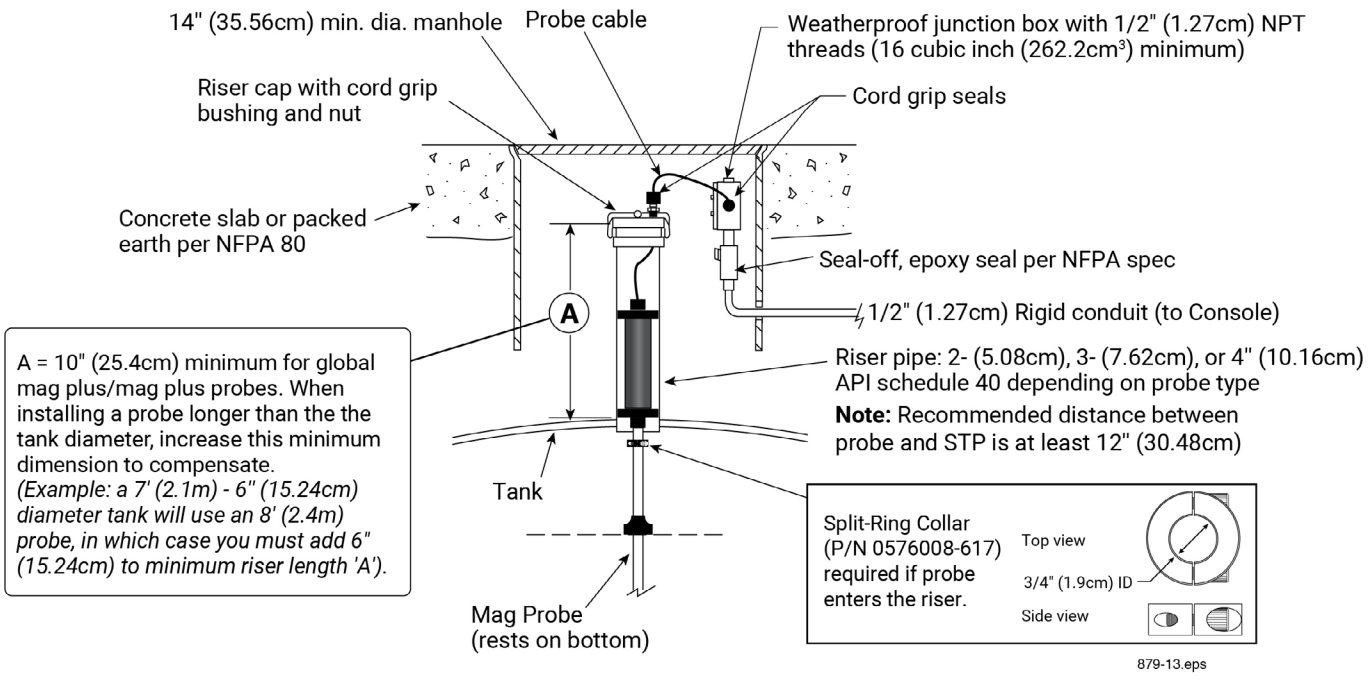
Stainless Steel Mag Plus In-Tank Probe for Monitoring Alternative Fluids with No Water Detection in both USTs & ASTs

	Part # & Description	Float Size	Cable Lengths	Min/Max Probe Length
Float Installation Kits	0846400-0x4 Mag Plus Alternative Fluids Float Kit – No Water Float	4” (10.16cm)	5’ (1.5m), 10’ (3.05m)	48” (1.2m) - 144” (3.66m)
	0846400-1x4 Mag Plus Alternative Fluids Float Kit – No Water Float	2” (5.08cm)		
Other Installation Accessories	0312020-952 4” (10.16cm) NPT Riser Cap and Ring Kit for In-Tank Probes 0330020-282 4” (10.16cm) Threaded NPT Riser Cap for In-Tank Probes			

Specifications	**Product**	**Water**
Measurement Accuracy	+/- 0.0300” (0.762mm)	N/A
Resolution – One Sample Reading	+/- 0.002857” (0.072571mm)	N/A
Minimum Measurement – 2” (5.08cm) Float Kits	3.23” (8.2cm)	N/A
Minimum Measurement – 4” (10.16cm) Float Kits	3.04” (7.72cm)	N/A
Operating (Working) Temperature Range	-40°F to +122°F (-40°C to +50°C)	
Temperature Accuracy	**Accuracy 1.8°F/1°C** +104°F to +140°F (+40°C to +60°C)	**Accuracy 0.54°F/0.3°C** +14°F to +104°F (-10°C to +40°C)
Third Party Evaluation / Agency Listings & Links	UL, cUL, ATEX, IECEx	
	https://neiwpcc.org/nwglde-files/evals/veeder_root_j.html	
Product Installation Guide Link	https://www.veeder.com/us/technical-document-library	

Example Installation



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Stainless Steel Mag Plus In-Tank Probe for Monitoring Gasoline & Retail Diesel Products, with Water Detection in both USTs & ASTs

Probe Description & Product Application	**Stainless Steel** Mag Plus In-Tank Probe for Monitoring **Gasoline & Retail Diesel Products,** with Water Detection in both USTs & ASTs	

Specific Products Monitored / Product Compatibility

Part # & Description	Specific Products	Monitoring Functionality
Leak Detection / BIR – Accuchart Probes 1. 0846397-1xx Stainless Steel (SS) In-Tank Probe with High Grade Polymer (HGP) Canister with Water Detection & 0.1GPH Testing Capability, UL 2. 0846397-2xx SS In-Tank Probe with HGP Canister with Water Detection & 0.2GPH Testing Capability, UL **No Leak Detection/Inventory Only Probes** 1. 0846397-3xx SS with HPG Canister with Water Detection & No Leak Detection/ Inventory Only, UL	Gasohol (<=20% Ethanol) *	A. 0.1 GPH static in-tank testing for USTs only
	Gasoline with <=7% Methanol and 8% TBA *	B. 0.2 GPH static in-tank testing for USTs only
	Gasoline with <=15% MTBE	C. 0.2 GPH Continuous Statistical Leak Detection (CSLD) for USTs only
	Gasoline with <=17% TAME	
	Leaded Gasoline	D. No Leak Detection / Inventory Only for USTs & ASTs
	Premium Unleaded Gasoline *	E. BIR – AccuChart for USTs only
	Regular Unleaded Gasoline *	
	Gasoline with <=15% ETBE	
	Gasoline with <=12% TBA *	
	Aviation Gas	
	Only compatible with the Diesel Float Kit	
	Diesel (Fuel Oil #2)	
	Kerosene (Fuel Oil #1)	
	Bio Diesel (Low Density) **	
	Mineral Spirits	

** Compatible with Phase Separation Float Kit*
*** Tank testing approved for: B6-B20 meeting ASTM D7467 and B100 meeting ASTM D6751*

Console Compatibility	Maximum Probes / Console	Probe Interface Modules				
		Module Part #	Module Description	# of Modules per Console	# of Probe Inputs per Module	Availability
TLS-450PLUS (8600 Series) with TLS-XB installed (3 max per system)	64 (32 with BIR)	0332812-001	Universal Sensor Module (USM) Interface for Probes, Sensors, and DPLLD	Up to 4 - TLS-4xx	16	Sold Separately (either Factory Installed or as a Spare Module)
TLS4 (8601 Series)	12	No module required, probe input capability factory installed				
TLS4B (8601 Series)	6					
TLS-350/R/PLUS	16	0329356-002	4-Input Probe Interface Module	4	4	Sold Separately (either Factory Installed or as a Spare Module)
TLS-300i	4	No module required, probe input capability factory installed				
TLS-300C	2					

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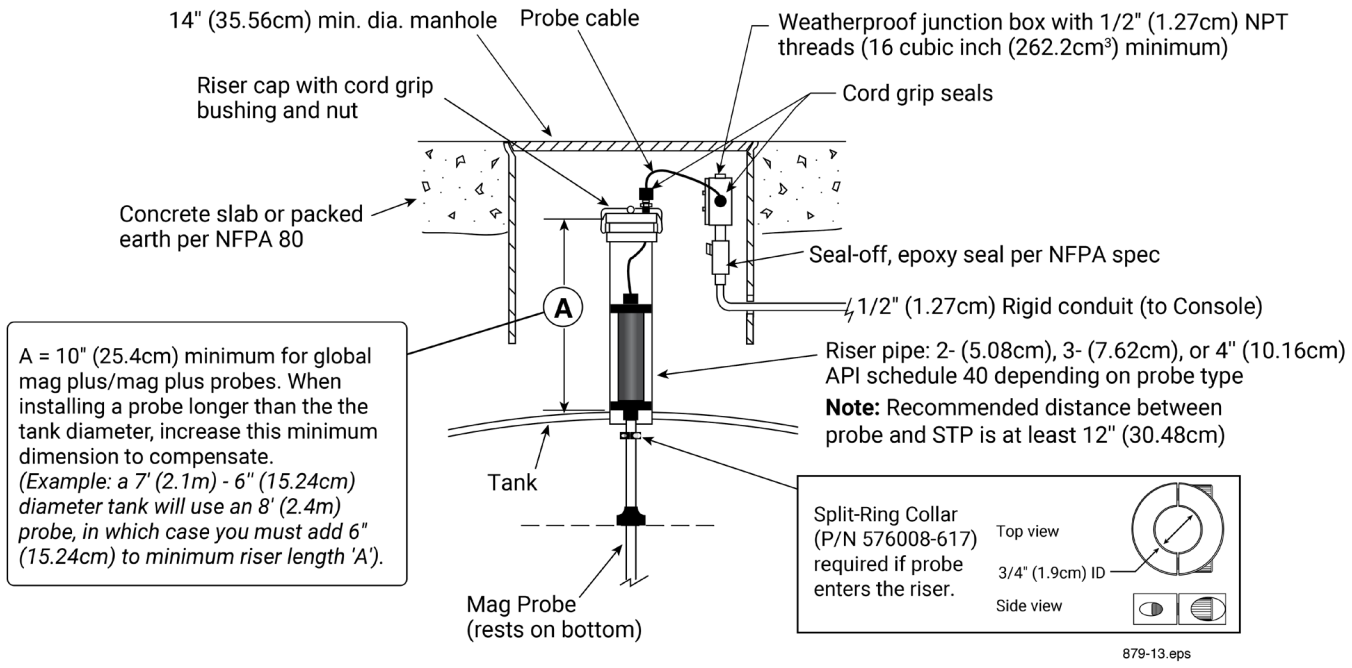
Stainless Steel Mag Plus In-Tank Probe for Monitoring Gasoline & Retail Diesel Products, with Water Detection in both USTs & ASTs

	Part # & Description	Float Size	Cable Lengths	Min/Max Probe Length
Float Installation Kits	0886100-xx0 Mag Plus Phase Separation Float Kit	4" (10.16cm)	5' (1.5m), 10' (3.05m)	48" (1.2m) - 144" (3.66m)
	0846400-1x0 Mag Plus Gasoline Float Kit	2" (5.08cm)		
	0846400-0x1 Mag Plus Diesel Float Kit	4" (10.16cm)		
	0846400-1x1 Mag Plus Diesel Float Kit	2" (5.08cm)		
Other Installation Accessories	0312020-952 4" (10.16cm) NPT Riser Cap and Ring Kit for In-Tank Probes 0330020-282 4" (10.16cm) Threaded NPT Riser Cap for In-Tank Probes			

Specifications	**Product**	**Water**
Measurement Accuracy	+/- 0.0300" (0.762mm)	+/- 0.0300" (0.762mm)
Resolution – One Sample Reading	+/- 0.002857" (0.072571mm)	+/- 0.002857" (0.072571mm)
Minimum Measurement – 2" (5.08cm) Float Kits	3.23" (8.2cm)	0.867" (2.2cm)
Minimum Measurement – 4" (10.16cm) Float Kits	3.04" / 7.0" for Phase Sep.	0.630" (1.6cm)
Operating (Working) Temperature Range	-40°F to +122°F (-40°C to +50°C)	
Temperature Accuracy	**Accuracy 1.8°F/1°C** +104°F to +140°F (+40°C to +60°C)	**Accuracy 0.54°F/0.3°C** +14°F to +104°F (-10°C to +40°C)
Third Party Evaluation / Agency Listings & Links	UL, cUL, ATEX, IECEx	
	https://neiwpcc.org/nwglde-files/evals/veeder_root_j.html	
Product Installation Guide Link	https://www.veeder.com/us/technical-document-library	

Example Installation



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Stainless Steel Mag Plus In-Tank Probe for Monitoring Jet Fuel Products with Water Detection in both USTs & ASTs

Probe Description & Product Application	**Stainless Steel** Mag Plus In-Tank Probe for Monitoring **Jet Fuel Products with Water Detection** in both USTs and ASTs

Specific Products Monitored / Product Compatibility

Part # & Description	Approved Products	Monitoring Functionality Options
Leak Detection with Water Detection 1. 0846397-1xx Stainless Steel (SS) with High Grade Polymer (HPG) Canister with Water Detection & 0.1GPH Testing Capability 2. 0846397-2xx SS with HPG Canister with Water Detection & 0.2GPH Testing Capability **No Leak Detection/Inventory Only Probes** 1. 0846397-3xx SS with HPG Canister with Water Detection & No Leak Detection/Inventory Only	Jet Fuel (JP8) Jet Fuel (JP10)	A. 0.1 GPH static in-tank testing for USTs only B. 0.2 GPH static in-tank testing for USTs only C. 0.2 GPH Continuous Statistical Leak Detection (CSLD) for USTs only D. No Leak Detection / Inventory Only for USTs & ASTs E. BIR – Accuchart for USTs only

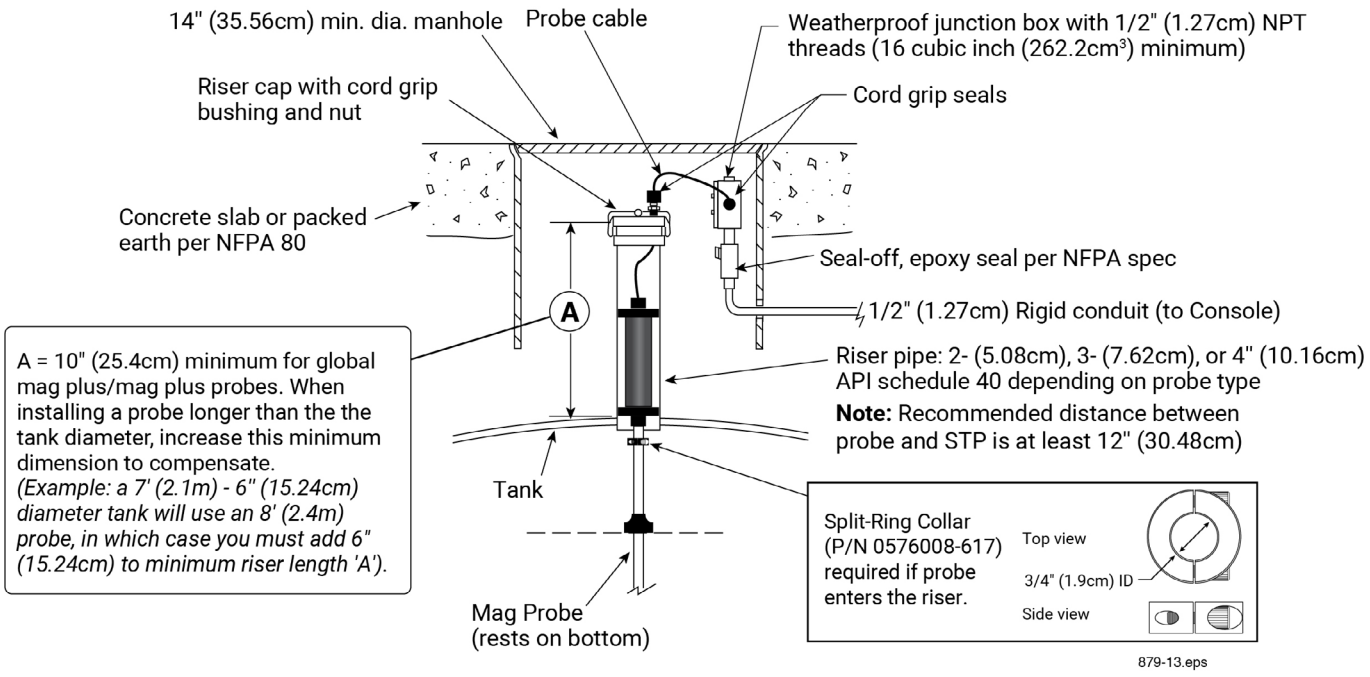
Console Compatibility	**Maximum Probes / Console**	**Probe Interface Modules**				
		Module Part #	**Module Description**	**# of Modules per Console**	**# of Probe Inputs per Module**	**Availability**
TLS-450PLUS (8600 Series)	64	0332812-001	Universal Sensor Module (USM) Interface for Probes, Sensors, and DPLLD	Up to 4	16	Sold Separately (either Factory Installed or as a Spare Module)
TLS4 (8601 Series)	12	No module required, probe input capability factory installed				
TLS4B (8601 Series)	6					
TLS-350/R/PLUS	16	0329356-002	4-Input Probe Interface Module	4	4	Sold Separately (either Factory Installed or as a Spare Module)
TLS-300i	4	No Module required, probe input capability factory installed				
TLS-300C	2					

Float Installation Kits	**Part # & Description**	**Float Size**	**Cable Lengths**	**Min/Max Probe Length**	**Min/Max Chemical Tank Diameter**
	Diesel Float Kits for JP8:				
	0846400-0x1 Mag Plus Diesel Float Kit	4” (10.16cm)	5’ (1.5m), 10’ (3.05m)	48” (1.2m) - 144” (3.66m)	N/A
	0846400-1x1 Mag Plus Diesel Float Kit	2” (5.08cm)			
	Heavy Oil Float Kits for JP10:				
	0846400-0x7 Mag Plus Heavy Oil Float Kit	4” (10.16cm)	5’ (1.5m), 10’ (3.05m)	48” (1.2m) - 144” (3.66m)	N/A
	0846400-1x7 Mag Plus Heavy Oil Float Kit	2” (5.08cm)			

Other Installation Accessories	0312020-952 4” (10.16cm) NPT Riser Cap and Ring Kit for In-Tank Probes 0330020-282 4” (10.16cm) Threaded NPT Riser Cap for In-Tank Probes

Specifications	Product	Water
Measurement Accuracy	+/- 0.0300” (0.762mm)	+/- 0.0300” (0.762mm)
Resolution – One Sample Reading	+/- 0.002857” (0.072571mm)	+/- 0.002857” (0.072571mm)
Minimum Measurement – 2” (5.08cm) Float Kits	3.23” (8.2cm)	0.867” (2.2cm)
Minimum Measurement – 4” (10.16cm) Float Kits	3.04” (7.72cm)	0.630” (1.6cm)
Operating (Working) Temperature Range	-40°F to +122°F (-40°C to +50°C)	
Temperature Accuracy	**Accuracy 1.8°F/1°C** +104°F to +140°F (+40°C to +60°C)	**Accuracy 0.54°F/0.3°C** +14°F to +104°F (-10°C to +40°C)
Third Party Evaluation / Agency Listings & Links	https://neiwpcc.org/nwglde-files/evals/veeder_root_j.html	
Product Installation Guide Link	https://www.veeder.com/us/technical-document-library	

Example Installation



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