



**STATE OF WISCONSIN**  
Department of Agriculture,  
Trade and Consumer Protection

Approval # 20230001

*Bureau of Weights and Measures*  
*Storage Tank Regulation*  
P.O. Box 7837  
Madison, WI 53707-7837

## **Wisconsin ATCP 93 Material Approval**

**Equipment:** Liquid Sensors for Secondary Containment Leak  
Detection Systems

**Manufacturer:** PMP Corporation  
25 Security Dr  
Avon, CT 06001

**Expiration of Approval:** December 31, 2026

### **SCOPE OF EVALUATION**

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Liquid sensors to be used in conjunction with Veeder Root (VR) TLS-350 systems for secondary containment sumps and tank interstitial monitoring.

This evaluation summary is condensed to provide the specific installation, application and operation parameters necessary to maintain the subject systems in compliance with the Wisconsin Administrative Code – ATCP 93.

### **DESCRIPTION AND USE**

PMP liquid sump sensor model numbers 63228 and 63229 and tank interstitial sensor model numbers 63409, 63420, and 63460 can be used with the VR TLS-350 monitoring system.

## **Liquid Sensors**

The following chart shows the appropriate consoles to be used with sensing probes, and the typical application/capability for each sensor.

### **Sensor-Console Application Chart**

Sensor No.	Application	Notes	TLS-350, 350Plus, 350R, 350J, ProMax, Gilbarco EMC
63228	Sumps	12' Cable	X
63229	Sumps	30' Cable	X
63409	Fiberglass Tank Interstitial	For Use in tanks 4' to 12' diameter	X
63420	Steel Tank Interstitial	16' Cable	X
63460	Steel Tank Interstitial	30' Cable	X

## **Liquid Sensors**

- The Liquid Sensors shall be placed such that a release from any portion of the tank or piping will be detected.

### **Installation Notes:**

- When monitoring double-wall tanks or sumps, a liquid sensor must be located at the lowest point of interstitial space or sump.

This approval will be valid through December 31, 2026, unless manufacturing modifications are made to the product or a re-examination is deemed necessary by the department. The Wisconsin Material Approval Number must be provided when plans that include this product are submitted for review.

## **DISCLAIMER**

The Department is in no way endorsing or advertising this product. This approval addresses only the specified applications for the product and does not waive any code requirement unless specified in this document.

Effective Date: 11/21/2022

Reviewed by:   
Erik Otterson  
Environmental Engineering Specialist

Date: 11/21/2022

Approved by: Greg Bareta

Greg Bareta, P. E.  
Section Manager  
Storage Tank Regulation  
Bureau of Weights and Measures

Date: 11/21/2022

Secondary Containment Volumes by Manufacturer

Type	Volume
Ameron	
Duroy 3000L 3' over 2' piping	0.2186 Gal / Ft
Duroy 3000L 4' over 3' piping	0.2652 Gal / Ft
Duroy 3000L 5' over 4' piping	0.8398 Gal / Ft
Duroy 3000L CX 2' piping	0.0133 Gal / Ft
Duroy 3000L CX 3' piping	0.0196 Gal / Ft
Duroy 3000L CX 4' piping	0.0252 Gal / Ft
APT	
0.5' Double Wall Pipe	0.0031 Gal / Ft
0.75' Double Wall Pipe	0.0042 Gal / Ft
1.00' Double Wall Pipe	0.0119 Gal / Ft
1.5' Double Wall Pipe	0.0062 Gal / Ft
1.75' Double Wall Pipe	0.0182 Gal / Ft
2' Double Wall Pipe	0.0218 Gal / Ft
2.5' Double Wall Pipe	0.0104 Gal / Ft
Bravo	
Small Foot Print Double Wall UDC	1.25 Gal / Sump
Large Foot Print Double Wall UDC	2 Gal / Sump
42' Double Wall Tank Sump	1.1429 Gal / Ft
48' Double Wall Tank Sump	1.3061 Gal / Ft
Small Vent Box	1.25 Gal/Sump
Large Vent Box	2.00 Gal/Sump
Containment Solutions	
Double Wall Tanks	
48' Diameter 550 Gallon Capacity	5.8 Gal / Tank
48' Diameter 600 Gallon Capacity	5.9 Gal / Tank
48' Diameter 1,000 Gallon Capacity	6.1 Gal / Tank
72' Diameter 2,000 Gallon Capacity	25.1 Gal / Tank
72' Diameter 2,500 Gallon Capacity	33.4 Gal / Tank
72' Diameter 3,000 Gallon Capacity	41.7 Gal / Tank
72' Diameter 3,500 Gallon Capacity	45.8 Gal / Tank
72' Diameter 4,000 Gallon Capacity	49.9 Gal / Tank
72' Diameter 4,500 Gallon Capacity	53.1 Gal / Tank
72' Diameter 5,000 Gallon Capacity	56.4 Gal / Tank
72' Diameter 6,000 Gallon Capacity	62.9 Gal / Tank
72' Diameter 7,000 Gallon Capacity	71.2 Gal / Tank
72' Diameter 8,000 Gallon Capacity	79.5 Gal / Tank
72' Diameter 9,000 Gallon Capacity	87.8 Gal / Tank
72' Diameter 10,000 Gallon Capacity	96.1 Gal / Tank
92' Diameter 4,000 Gallon Capacity	32.2 Gal / Tank
92' Diameter 5,000 Gallon Capacity	42.7 Gal / Tank
92' Diameter 6,000 Gallon Capacity	53.2 Gal / Tank
92' Diameter 7,000 Gallon Capacity	63.7 Gal / Tank
92' Diameter 8,000 Gallon Capacity	74.2 Gal / Tank
92' Diameter 10,000 Gallon Capacity	95.2 Gal / Tank
92' Diameter 12,000 Gallon Capacity	116.2 Gal / Tank
92' Diameter 14,000 Gallon Capacity	137.2 Gal / Tank
92' Diameter 15,000 Gallon Capacity	147.7 Gal / Tank
92' Diameter 16,000 Gallon Capacity	158.2 Gal / Tank
92' Diameter 18,000 Gallon Capacity	179.4 Gal / Tank
92' Diameter 20,000 Gallon Capacity	210.7 Gal / Tank

Type	Volume
Containment Solutions	
Double Wall Tanks - continued	
120' Diameter 10,000 Gallon Capacity	131 Gal / Tank
120' Diameter 12,000 Gallon Capacity	163.1 Gal / Tank
120' Diameter 15,000 Gallon Capacity	227.2 Gal / Tank
120' Diameter 18,000 Gallon Capacity	243.3 Gal / Tank
120' Diameter 17,000 Gallon Capacity	259.3 Gal / Tank
120' Diameter 18,000 Gallon Capacity	291.4 Gal / Tank
120' Diameter 19,000 Gallon Capacity	307.4 Gal / Tank
120' Diameter 20,000 Gallon Capacity	323.5 Gal / Tank
120' Diameter 21,000 Gallon Capacity	339.5 Gal / Tank
120' Diameter 22,000 Gallon Capacity	355.6 Gal / Tank
120' Diameter 23,000 Gallon Capacity	387.7 Gal / Tank
120' Diameter 24,000 Gallon Capacity	403.7 Gal / Tank
120' Diameter 25,000 Gallon Capacity	419.8 Gal / Tank
120' Diameter 26,000 Gallon Capacity	435.8 Gal / Tank
120' Diameter 28,000 Gallon Capacity	483.9 Gal / Tank
120' Diameter 30,000 Gallon Capacity	516.0 Gal / Tank
120' Diameter 31,000 Gallon Capacity	532.1 Gal / Tank
120' Diameter 32,000 Gallon Capacity	548.1 Gal / Tank
120' Diameter 35,000 Gallon Capacity	612.3 Gal / Tank
120' Diameter 40,000 Gallon Capacity	708.6 Gal / Tank
120' Diameter 45,000 Gallon Capacity	804.9 Gal / Tank
120' Diameter 50,000 Gallon Capacity	901.1 Gal / Tank
Double Wall Sumps	
42' Double Wall Tank Sump	0.8216 Gal / Ft
48' Double Wall Tank Sump	0.9372 Gal / Ft
EFS Jacketed Tanks	
500 Gallon Standard Ebluron Tank	3 Gal / Tank
1,000 Gallon Standard Ebluron Tank	4 Gal / Tank
2,000 Gallon Standard Ebluron Tank	6 Gal / Tank
3,000 Gallon Standard Ebluron Tank	6 Gal / Tank
4,000 Gallon Standard Ebluron Tank	7 Gal / Tank
5,000 Gallon Standard Ebluron Tank	8 Gal / Tank
6,000 Gallon Standard Ebluron Tank	9 Gal / Tank
8,000 Gallon Standard Ebluron Tank	10 Gal / Tank
10,000 Gallon Standard Ebluron Tank	13 Gal / Tank
12,000 Gallon Standard Ebluron Tank	15 Gal / Tank
15,000 Gallon Standard Ebluron Tank	17 Gal / Tank
20,000 Gallon Standard Ebluron Tank	22 Gal / Tank
Ebluron	
GeoFlex Piping	
GeoFlex Piping 7.5' Dia. (GFP-2075)	0.0028 Gal / Ft
GeoFlex Piping 1.0' Dia. (GFP-2100)	0.0039 Gal / Ft
GeoFlex Piping 1.5' Dia. (GFP-2150)	0.0064 Gal / Ft
GeoFlex Piping 2.0' Dia. (GFP-2200)	0.0094 Gal / Ft
GeoFlex Piping 3.0' Dia. (GFP-2300)	0.0164 Gal / Ft
Dispenser Sump	
Dispenser Sump FDS-2014-DW	5 Gal
Dispenser Sump FDS-2414-DW	6.5 Gal
Dispenser Sump FDS-2716-DW	6.5 Gal
Dispenser Sump FDS-2922-DW	10 Gal
Dispenser Sump FDS-3215-DW	7 Gal
Dispenser Sump FDS-3621-DW	8 Gal
Dispenser Sump FDS-4021-DW	10 Gal
Dispenser Sump FDS-4422-DW	8.5 Gal
Dispenser Sump FDS-4822-DW	10.5 Gal
Dispenser Sump FDS-4614-DW	8 Gal
Dispenser Sump FDS-4714-DW	8 Gal
Dispenser Sump FDS-4715-DW	8 Gal
Dispenser Sump FDS-4721-DW	9 Gal

Type	Volume
Modern Welding	
Steel welded tank w/ FRP exterior (Model 19)	
520 Gallon Tank, 4 ft dia	41 Gal / Tank
1,000 Gallon Tank, 5 ft dia	64 Gal / Tank
2,000 Gallon Tank, 5 ft dia	75 Gal / Tank
3,000 Gallon Tank, 5 ft dia	82 Gal / Tank
4,000 Gallon Tank	120 Gal / Tank
5,000 Gallon Tank	142 Gal / Tank
6,000 Gallon Tank	150 Gal / Tank
8,000 Gallon Tank	157 Gal / Tank
10,000 Gallon Tank	172 Gal / Tank
12,000 Gallon Tank	183 Gal / Tank
15,000 Gallon Tank	239 Gal / Tank
20,000 Gallon Tank	284 Gal / Tank
25,000 Gallon Tank	294 Gal / Tank
30,000 Gallon Tank	307 Gal / Tank
35,000 Gallon Tank	389 Gal / Tank
40,000 Gallon Tank	428 Gal / Tank
45,000 Gallon Tank	471 Gal / Tank
50,000 Gallon Tank	501 Gal / Tank
Steel welded composite tanks (Classified II, Model 19)	
560 Gallon Tank	3 Gal / Tank
1,000 Gallon Tank	4 Gal / Tank
2,000 Gallon Tank	5 Gal / Tank
3,000 Gallon Tank	6 Gal / Tank
4,000 Gallon Tank	7 Gal / Tank
6,000 Gallon Tank	9 Gal / Tank
8,000 Gallon Tank	10 Gal / Tank
10,000 Gallon Tank	13 Gal / Tank
12,000 Gallon Tank	15 Gal / Tank
15,000 Gallon Tank	17 Gal / Tank
20,000 Gallon Tank	22 Gal / Tank
Nugli	
2' over 1.5' piping (2.48' OD x 1.989' OD)	0.0546 Gal / Ft
3' over 2' piping (2.963' OD x 2.489' OD)	0.0518 Gal / Ft
4' over 3' piping (4.921' OD x 3.543' OD)	0.3299 Gal / Ft
4' over 2' piping (4.3' OD x 2.45' OD)	0.401 Gal / Ft
OPW	
Double Wall Dispenser Sump, DST series	1.9 Gal / Ft
Tank Sump 42' Dia x 42' Ht. TRFSDW-4248	0.8 Gal
Tank Sump 42' Dia x 60' Ht. TRFSDW-4260	1 Gal
Tank Sump 42' Dia x 72' Ht. TRFSDW-4272	1.3 Gal
Tank Sump 48' Dia x 42' Ht. TRFSDW-4848	0.9 Gal
Tank Sump 48' Dia x 60' Ht. TRFSDW-4860	1.2 Gal
Tank Sump 48' Dia x 72' Ht. TRFSDW-4872	1.4 Gal
Double Wall Vent Stack Sump, TST-4536	1.9 Gal
CD15DW, 1-1/2" Ribbed Double Wall Pipe	0.0089 Gal / Ft
CD15RB, 1-1/2" Ribbed Double Wall Pipe	0.006 Gal / Ft
CP20RB, 2" Ribbed Double Wall Pipe	0.0086 Gal / Ft
PHK-Title	
42' Double wall Tank Sump	0.974 Gal / Ft
48' Double wall Tank Sump	1.128 Gal / Ft
Double wall UDC	3.986 Gal / Sump
Smith	
3' over 2" Fiberglass piping	0.23 Gal / Ft
4' over 3" Fiberglass piping	0.276 Gal / Ft
6' over 4" Fiberglass piping	0.823 Gal / Ft
Total Containment	
OmniFlex 1.5' (CP1503)	0.0052 Gal / Ft
OmniFlex 2.5' (CP2503)	0.0079 Gal / Ft

Type	Volume
UFP	
63/75 piping	0.0762 Gal / Ft
90/160 piping	0.9824 Gal / Ft
Western Fiberglass	
CoFlex 1.5" piping	0.0077 Gal / Ft
CoFlex 2" piping	0.0094 Gal / Ft
42' Double Wall FRP Tank Sump	2.50 Gal / Ft
48' Double Wall FRP Tank Sump	2.75 Gal / Ft
Double Wall Dispenser Sump DS1840	10.5 Gal
Double Wall Dispenser Sump DS1836	10 Gal
Double Wall Dispenser Sump DS1842	9 Gal
Double Wall Dispenser Sump DS1630	8 Gal
Double Wall Dispenser Sump DS1142	8 Gal
Double Wall Dispenser Sump DS1323	7 Gal
Double Wall Dispenser Sump DS1320	7 Gal
Double Wall Dispenser Sump DS1130	7 Gal
Double Wall Dispenser Sump DS1129	7 Gal
Double Wall Dispenser Sump DS1125	7 Gal
Double Wall Dispenser Sump DS1123	7 Gal
Double Wall Dispenser Sump DS1122	7 Gal
Double Wall Dispenser Sump DS1121	7 Gal
Double Wall Dispenser Sump DS1120	7 Gal
Double Wall Dispenser Sump DS1118	5 Gal
Double Wall Dispenser Sump DS1117	5 Gal
Double Wall Dispenser Sump DS1115	5 Gal
Double Wall Dispenser Sump DS1114	5 Gal
Double Wall Dispenser Sump DS1112	5 Gal
Double Wall Dispenser Sump DS9711	3 Gal
Small Vent Box (24x30x30)	3.5 Gal
Large Vent Box (24x42x28)	5.5 Gal
Xerox	
Double Wall Tanks	
48' Diameter 600 Gallon Capacity	8 Gal / Tank
48' Diameter 1,000 Gallon Capacity	10 Gal / Tank
72' Diameter 2,500 Gallon Capacity	48 Gal / Tank
72' Diameter 3,000 Gallon Capacity	59 Gal / Tank
72' Diameter 4,000 Gallon Capacity	76 Gal / Tank
72' Diameter 5,000 Gallon Capacity	93 Gal / Tank
72' Diameter 6,000 Gallon Capacity	110 Gal / Tank
Xerox	
Double Wall Tanks - continued	
96' Diameter 4,000 Gallon Capacity	76 Gal / Tank
96' Diameter 5,000 Gallon Capacity	95 Gal / Tank
96' Diameter 6,000 Gallon Capacity	114 Gal / Tank
96' Diameter 8,000 Gallon Capacity	152 Gal / Tank
96' Diameter 10,000 Gallon Capacity	189 Gal / Tank
96' Diameter 12,000 Gallon Capacity	227 Gal / Tank
96' Diameter 15,000 Gallon Capacity	284 Gal / Tank
120' Diameter 10,000 Gallon Capacity	144 Gal / Tank
120' Diameter 12,000 Gallon Capacity	167 Gal / Tank
120' Diameter 15,000 Gallon Capacity	213 Gal / Tank
120' Diameter 20,000 Gallon Capacity	280 Gal / Tank
120' Diameter 25,000 Gallon Capacity	325 Gal / Tank
120' Diameter 30,000 Gallon Capacity	375 Gal / Tank
120' Diameter 35,000 Gallon Capacity	498 Gal / Tank
120' Diameter 40,000 Gallon Capacity	579 Gal / Tank
Double Wall Sumps	
42' Double Wall Tank Sump	0.5714 Gal / Ft
48' Double Wall Tank Sump	0.6631 Gal / Ft