



STATE OF WISCONSIN
Department of Agriculture,
Trade and Consumer Protection

Approval # 20230001R1
(Replaces 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, 2027

SCOPE OF EVALUATION

Liquid sensors to be used in conjunction with Veeder Root (VR) EMC, ProMax, TLS-300, TLS-350, and TLS-450 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, and 63303 and 63304 hydrostatic sensors can be used with Veeder Root (VR) EMC, ProMax, TLS-300, TLS-350, and TLS-450 monitoring systems.

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-450, 450Plus, TLS-350, 350Plus, 350R, 350J, ProMax, EMC
63228	Sumps	12' & 30' Cable	X
63229	Sumps	12' & 30' Cable	X
63409	Fiberglass Tank Interstitial	For Use in tanks 4' to 12' diameter	X
63420	Steel Tank Interstitial	16' & 30' Cable	X
63460	Steel Tank Interstitial	16 & 30' Cable	X
63303	Dual-Point Hydrostatic Sensor	Float switch that indicates both high- and low-level conditions	X
63304	Mini-Hydrostatic Sensor	Float switch that indicates only low- level conditions	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, 2027, 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: 3/21/2024

Reviewed by: _____ Signature on File _____

Erik Otterson
Environmental Engineering Specialist

Date: 3/21/2024

Approved by: _____ Signature on File _____

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

Date: 3/21/2024

Secondary Containment Volumes by Manufacturer

Type	Volume	Type	Volume
Ameron	0.2186 Gal / Ft	Modern Welding	
Duroy 3000L 3' over 2" piping	0.2652 Gal / Ft	Steel welded tank w/ FRP exterior (Model 10)	
Duroy 3000L 4' over 3" piping	0.8398 Gal / Ft	520 Gallon Tank, 4 ft dia	41 Gal / Tank
Duroy 3000L 5' over 4" piping	0.0133 Gal / Ft	1,000 Gallon Tank, 5 ft 4 in dia	64 Gal / Tank
Duroy 3000L CX 2" piping	0.0196 Gal / Ft	2,000 Gallon Tank, 5 ft 4 in dia	75 Gal / Tank
Duroy 3000L CX 3" piping	0.0252 Gal / Ft	3,000 Gallon Tank, 5 ft 4 in dia	82 Gal / Tank
Duroy 3000L CX 4" piping	0.0031 Gal / Ft	4,000 Gallon Tank	120 Gal / Tank
APT	0.0042 Gal / Ft	5,000 gallon tank	140 Gal / Tank
0.5" Double Wall Pipe	0.0019 Gal / Ft	6,000 gallon tank	152 Gal / Tank
1.0" Double Wall Pipe	0.0042 Gal / Ft	8,000 gallon tank	167 Gal / Tank
1.5" Double Wall Pipe	0.0052 Gal / Ft	10,000 Gallon Tank	173 Gal / Tank
1.75" Double Wall Pipe	0.0182 Gal / Ft	12,000 Gallon Tank	182 Gal / Tank
2.5" Double Wall Pipe	0.0104 Gal / Ft	15,000 Gallon Tank	239 Gal / Tank
Bravo	1.25 Gal / Sump	20,000 Gallon Tank	294 Gal / Tank
Small Foot Print Double Well UDC	1.429 Gal / Ft	30,000 Gallon Tank	307 Gal / Tank
Large Foot Print Double Well UDC	1.3061 Gal / Ft	35,000 gallon tank	389 Gal / Tank
48" Double Well Tank Sump		40,000 Gallon Tank	426 Gal / Tank
48" Double Well Tank Sump		45,000 gallon tank	471 Gal / Tank
Small Vent Box	1.25 Gal/Sump	50,000 Gallon Tank	501 Gal / Tank
Large Vent Box	2.00 Gal/Sump	Steel welded composite tanks (Columbus 14, Model 19)	
Containment Solutions		560 Gallon Tank	3 Gal / Tank
Double Wall Tanks		1,000 Gallon Tank	4 Gal / Tank
48" Diameter 550 Gallon Capacity	5.8 Gal / Tank	2,000 Gallon Tank	5 Gal / Tank
48" Diameter 600 Gallon Capacity	5.9 Gal / Tank	3,000 Gallon Tank	6 Gal / Tank
48" Diameter 1,000 Gallon Capacity	6.1 Gal / Tank	4,000 Gallon Tank	7 Gal / Tank
72" Diameter 2,000 Gallon Capacity	25.1 Gal / Tank	6,000 Gallon Tank	9 Gal / Tank
72" Diameter 2,500 Gallon Capacity	33.4 Gal / Tank	8,000 Gallon Tank	10 Gal / Tank
72" Diameter 3,000 Gallon Capacity	41.7 Gal / Tank	10,000 Gallon Tank	13 Gal / Tank
72" Diameter 3,500 Gallon Capacity	45.8 Gal / Tank	12,000 Gallon Tank	15 Gal / Tank
72" Diameter 4,000 Gallon Capacity	49.9 Gal / Tank	15,000 Gallon Tank	17 Gal / Tank
72" Diameter 4,500 Gallon Capacity	58.1 Gal / Tank	20,000 Gallon Tank	22 Gal / Tank
72" Diameter 5,000 Gallon Capacity	66.4 Gal / Tank	Nugit	
72" Diameter 6,000 Gallon Capacity	82.9 Gal / Tank	2' over 1.5" piping (2.48" OD x 1.969" OD)	0.0546 Gal / Ft
72" Diameter 7,000 Gallon Capacity	91.2 Gal / Tank	3' over 2" piping (2.95" OD x 2.497" OD)	0.0518 Gal / Ft
72" Diameter 8,000 Gallon Capacity	107.7 Gal / Tank	4' over 3" piping (4.92" OD x 3.543" OD)	0.3299 Gal / Ft
72" Diameter 9,000 Gallon Capacity	116.1 Gal / Tank	4' over 2" piping (4.3" OD x 2.48" OD)	0.401 Gal / Ft
72" Diameter 10,000 Gallon Capacity	132.4 Gal / Tank	OPW	
92" Diameter 4,000 Gallon Capacity	32.2 Gal / Tank	Double Well Dispenser Sump, DST series	
92" Diameter 5,000 Gallon Capacity	42.7 Gal / Tank	Tank Sump 42" Dia x 42" Ht. TRFSDW-4248	1.9 Gal / Ft
92" Diameter 6,000 Gallon Capacity	53.2 Gal / Tank	Tank Sump 42" Dia x 60" Ht. TRFSDW-4260	0.8 Gal
92" Diameter 7,000 Gallon Capacity	63.7 Gal / Tank	Tank Sump 42" Dia x 72" Ht. TRFSDW-4272	1.3 Gal
92" Diameter 8,000 Gallon Capacity	74.2 Gal / Tank	Tank Sump 48" Dia x 42" Ht. TRFSDW-4848	0.9 Gal
92" Diameter 10,000 Gallon Capacity	95.2 Gal / Tank	Tank Sump 48" Dia x 60" Ht. TRFSDW-4860	1.2 Gal
92" Diameter 12,000 Gallon Capacity	105.7 Gal / Tank	Tank Sump 48" Dia x 72" Ht. TRFSDW-4872	1.4 Gal
92" Diameter 13,000 Gallon Capacity	126.7 Gal / Tank	Double Well Vent Stack Sump, TST-4536	1.9 Gal
92" Diameter 15,000 Gallon Capacity	147.7 Gal / Tank	CD150RW, 1-1/2" Ribbed Double Well Pipe	0.0089 Gal / Ft
92" Diameter 17,000 Gallon Capacity	168.8 Gal / Tank	CD15RBR, 1-1/2" Ribbed Double Well Pipe	0.006 Gal / Ft
92" Diameter 18,000 Gallon Capacity	179.4 Gal / Tank	CP20RB, 2" Ribbed Double Well Pipe	0.0086 Gal / Ft
92" Diameter 20,000 Gallon Capacity	210.7 Gal / Tank	Phi-Tite	
		42" Double Well Tank Sump	0.974 Gal / Ft
		48" Double Well Tank Sump	1.1128 Gal / Ft
		Double well UDC	3.3896 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	Type	Volume
UPP		Double Well Tanks	
6375 piping	0.0762 Gal / Ft	48" Diameter 600 Gallon Capacity	8 Gal / Tank
907160 piping	0.8624 Gal / Ft	48" Diameter 1,000 Gallon Capacity	10 Gal / Tank
Western Fiberglass		72" Diameter 2,500 Gallon Capacity	48 Gal / Tank
CoFlex 1.5" piping	0.0077 Gal / Ft	72" Diameter 3,000 Gallon Capacity	59 Gal / Tank
CoFlex 2" piping	0.0094 Gal / Ft	72" Diameter 4,000 Gallon Capacity	76 Gal / Tank
42" Double Wall FRP Tank Sump	2.50 Gal / Ft	72" Diameter 5,000 Gallon Capacity	93 Gal / Tank
48" Double Wall FRP Tank Sump	2.75 Gal / Ft	72" Diameter 6,000 Gallon Capacity	110 Gal / Tank
Double Wall Dispenser Sump DS1840	10.5 Gal	Norris	
Double Wall Dispenser Sump DS1836	10 Gal	Double Wall Tanks - continued	
Double Wall Dispenser Sump DS1842	9 Gal	96" Diameter 4,000 Gallon Capacity	76 Gal / Tank
Double Wall Dispenser Sump DS1630	8 Gal	96" Diameter 5,000 Gallon Capacity	95 Gal / Tank
Double Wall Dispenser Sump DS1142	8 Gal	96" Diameter 6,000 Gallon Capacity	114 Gal / Tank
Double Wall Dispenser Sump DS1523	7 Gal	96" Diameter 8,000 Gallon Capacity	152 Gal / Tank
Double Wall Dispenser Sump DS1130	7 Gal	96" Diameter 10,000 Gallon Capacity	189 Gal / Tank
Double Wall Dispenser Sump DS1129	7 Gal	96" Diameter 12,000 Gallon Capacity	227 Gal / Tank
Double Wall Dispenser Sump DS1126	7 Gal	96" Diameter 15,000 Gallon Capacity	284 Gal / Tank
Double Wall Dispenser Sump DS1122	7 Gal	120" Diameter 10,000 Gallon Capacity	144 Gal / Tank
Double Wall Dispenser Sump DS1121	7 Gal	120" Diameter 12,000 Gallon Capacity	167 Gal / Tank
Double Wall Dispenser Sump DS1120	7 Gal	120" Diameter 15,000 Gallon Capacity	213 Gal / Tank
Double Wall Dispenser Sump DS1117	5 Gal	120" Diameter 20,000 Gallon Capacity	280 Gal / Tank
Double Wall Dispenser Sump DS1115	5 Gal	120" Diameter 25,000 Gallon Capacity	325 Gal / Tank
Double Wall Dispenser Sump DS1114	5 Gal	120" Diameter 30,000 Gallon Capacity	375 Gal / Tank
Double Wall Dispenser Sump DS0711	3 Gal	120" Diameter 35,000 Gallon Capacity	488 Gal / Tank
Small Vent Box (23x30x60)	3.5 Gal	120" Diameter 40,000 Gallon Capacity	579 Gal / Tank
Large Vent Box (24x42x29)	5.5 Gal	Double Well Sumps	
		42" Double Well Tank Sump	0.5714 Gal / Ft
		48" Double Well Tank Sump	0.8631 Gal / Ft

Type	Volume	Type	Volume
Containment Solutions		Double Well Tanks - continued	
Double Well Tanks		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 16,000 Gallon Capacity	245.3 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	323.9 Gal / Tank	120" Diameter 21,000 Gallon Capacity	339.5 Gal / Tank
120" Diameter 22,000 Gallon Capacity	356.6 Gal / Tank	120" Diameter 23,000 Gallon Capacity	387.7 Gal / Tank
120" Diameter 24,000 Gallon Capacity	419.8 Gal / Tank	120" Diameter 25,000 Gallon Capacity	452.1 Gal / Tank
120" Diameter 26,000 Gallon Capacity	455.8 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 Well Sumps	
Double Well Sumps		42" Double Wall Tank Sump	0.8216 Gal / Ft
48" Double Wall Tank Sump	0.9372 Gal / Ft	48" Double Wall Tank Sump	0.9372 Gal / Ft
EFS Jacketed Tanks		500 Gallon Standard Eultron Tank	3 Gal / Tank
1,000 Gallon Standard Eultron Tank	4 Gal / Tank	2,000 Gallon Standard Eultron Tank	5 Gal / Tank
3,000 Gallon Standard Eultron Tank	6 Gal / Tank	4,000 Gallon Standard Eultron Tank	7 Gal / Tank
5,000 Gallon Standard Eultron Tank	8 Gal / Tank	6,000 Gallon Standard Eultron Tank	9 Gal / Tank
8,000 Gallon Standard Eultron Tank	10 Gal / Tank	10,000 Gallon Standard Eultron Tank	13 Gal / Tank
12,000 Gallon Standard Eultron Tank	15 Gal / Tank	15,000 Gallon Standard Eultron Tank	17 Gal / Tank
20,000 Gallon Standard Eultron Tank	22 Gal / Tank	Ewinton	
Ewinton		Georther Piping	
Georther Piping		GeoFlex Piping, 70" 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)	0.0094 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	8 Gal
Dispenser Sump FDS-4319-DW	10.5 Gal	Dispenser Sump FDS-4422-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-4715-DW	8 Gal
Dispenser Sump FDS-4721-DW	9 Gal		

Type	Volume	Type	Volume
Containment Solutions		Double Well Tanks	
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	58.1 Gal / Tank
72" Diameter 5,000 Gallon Capacity	66.4 Gal / Tank	72" Diameter 6,000 Gallon Capacity	82.9 Gal / Tank
72" Diameter 7,000 Gallon Capacity	91.2 Gal / Tank	72" Diameter 8,000 Gallon Capacity	107.7 Gal / Tank
72" Diameter 9,000 Gallon Capacity	116.1 Gal / Tank	72" Diameter 10,000 Gallon Capacity	132.4 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	105.7 Gal / Tank	92" Diameter 13,000 Gallon Capacity	126.7 Gal / Tank
92" Diameter 15,000 Gallon Capacity	147.7 Gal / Tank	92" Diameter 17,000 Gallon Capacity	168.8 Gal / Tank
92" Diameter 18,000 Gallon Capacity	179.4 Gal / Tank	92" Diameter 20,000 Gallon Capacity	210.7 Gal / Tank