Community Development Department

October 11, 2016

Jeff Cooper
Zahl-Petroleum Maintenance Co.
3101 Spring St. N.E.
Minneapolis, MN 55413

RE: Waterford Oil
1500 Riverview Drive, Northfield MN 55057
PID 2211101005

Dear Mr. Cooper:

This letter serves as notice of City of Northfield approval of a Minor Amendment to the Conditional Use Permit for Waterford Oil at 1500 Riverview Drive. According to the Northfield Land Development Code, the City Planner may approve minor amendments under the following authorization:

8.1.1 Minor amendments shall include changes in the site design of the applicable property that do not affect neighborhood compatibility or the public health, safety or welfare, and that do not violate any of the provisions of this LDC or the conditions attached to the conditional use permit. The city planner shall notify the planning commission of the minor amendment approval.

8.1.2 The city planner may review and make a decision on a minor amendment, and consult with members of the development review committee, if appropriate, as part of a Type 1 review procedure as established in Section 8.4.4, Type 1 Review Procedure (City Planner Decision without Development Review Committee Review)).

The proposed addition of two tanks has been found to be compatible with the neighborhood and does not violate any conditions of the existing CUP. Safety information was provided to the city which meets all applicable codes and confirms no additional risk to public health and safety.

If you have any questions, you may reach me directly at 507-645-3024.

Sincerely,

Scott Tempel
City Planner

ZAHL-PETROLEUM MAINTENANCE CO.
DIV. OF DAN LARSON ENTERPRISES, INC.
Sales, Service, Installation of Petroleum Equipment Since 1952
www.zahl-pmc.com

September 13, 2016

City of Northfield Insp.
Attn: Scott Tempel

Re: Waterford Oil
AST Safety Features

The two additional aboveground storage tanks that are proposal for Waterford Oil Bulk Station will be equipped with the following safety features

1) Collision Protection will be extending around new tanks as per MPCA requirements
2) Remote Spill Containment for off loading of fuel (515 Remote Spill Containment)
3) Overfill Prevention Valve installed for tight fill applications
4) Normal working pressure/vacuum vent (548 Series)
5) Emergency vents for primary and interstitial (244 Series)
6) Solenoid Valve to be installed at discharge of sub-pump for filling of delivery trucks and interface with the existing emergency stop (710 Series)
7) Tanks will be properly decaled and safety precautions identified

3101 SPRING STREET N.E. - MINNEAPOLIS, MN 55413
PHONE: (612) 331-8550 - FAX: (612) 331-8553

244 Series

Emergency Vent

Emergency vent (pressure relief only) used on aboveground storage tanks, as a code requirement that helps prevent the tanks from becoming over-pressurized and rupturing if exposed to fire.

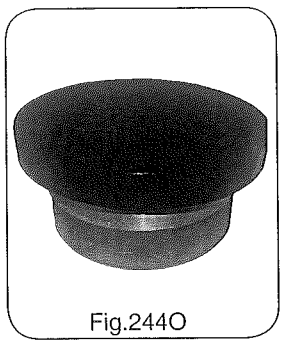


Fig.244O

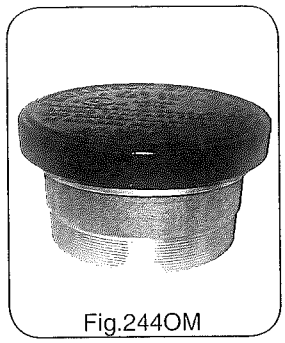


Fig.244OM


Fig.244OF

Description

The 244 emergency vent consists of a body and a black powder coated cover (2" not powder coated) that moves up and down on a center pin. Pressure inside the tank forces the cover to lift up off the vent seat, allowing air to exhaust. The center pin guides the movement. When pressure falls, the cover lowers back down onto seat and the vent is automatically reset.

Code Compliance

When properly sized for the tank, this vent will conform to the requirements of NFPA 30, 30A, UL 142, UL 2244, ULC S601, API 2000, and PEI RP200. California Air Resources Board Phase I AST EVR.

Fig. No.	Size	Opening Pressure Setting (oz/sq in)	Ship Weight (lbs)	Venting Capacity (*Est. CFH @ 2.5 PSI)	Mounting Connection
244O	4"	8.0	10.00	131,700	Female NPT
		16.0*	18.00	103,799	Female NPT
	5"	8.0	14.00	184,651	Female NPT
		16.0*	27.00	184,651	Female NPT
	6"	8.0*	19.00	278,660	Female NPT
		16.0*	36.00	278,660	Female NPT
	8"	8.0*	33.00	504,818	Female NPT
		16.0*	62.00	504,818	Female NPT
244OF	4"	8.0	11.00	131,700	Flanged
		16.0	20.00	103,799	Flanged
	6"	8.0	21.00	278,660	Flanged
		16.0	38.00	278,660	Flanged
	8"	8.0	33.00	504,818	Flanged
		16.0	67.00	504,818	Flanged
	10"	2.5	25.00	881,670	Flanged
		8.0	57.00	881,670	Flanged
		16.0	103.00	881,670	Flanged
244OM	2"	8.0	1.0	31,917	Male NPT
		16.0*	0.4	31,917	Male NPT
	3"	8.0	7.00	60,994	Male NPT
		16.0*	11.00	60,994	Male NPT
	4"	8.0	10.00	131,700	Male NPT
		16.0*	19.00	103,799	Male NPT
	5"	8.0	15.00	184,651	Male NPT
		16.0*	28.00	184,651	Male NPT
	6"	8.0*	20.00	278,660	Male NPT
		16.0*	37.00	278,660	Male NPT
	8"	8.0*	34.00	504,818	Male NPT
		16.0*	63.00	504,818	Male NPT

WARNING...The 244 emergency vent is for "emergency pressure relief only" and must be used in conjunction with a "normal vent" or pressure vacuum vent such as a Morrison Fig. 354, 548, 748, 749 or 922.

WARNING...The 244 emergency vent must be properly sized and selected for each specific tank application in order to meet the proper "venting capacity" requirements. See the Morrison Vent Guide for further instructions.

Material and Configuration Options

Aluminum Body or Iron Body...suffix (I) indicates iron.

Standard Seat (Viton®)...suffix (O) indicates o-ring. EVR models are Viton® B.

Male/Female NPT/BSP or Flanged Mounting Connection...suffix (M) indicates male, and suffix (F) indicates flanged. BSP threads available.

Opening Pressure Setting...settings indicated are approximate.

Screens... 4 mesh stainless steel screens available in 2". 3 mesh stainless steel screens available in 3", 4", 5", and 6".

Emergency vent should be set higher than the normal vent so the normal vent operates first.

Use EVR models to comply with pressure decay test. Contact factory for assistance.

Fig. No.	Size	Opening Pressure Setting (oz/sq in)	Ship Weight (lbs)	Venting Capacity (*Estimated CFH @ 2.5 PSI)	Mounting Connection
244OI	4"	8.0	12.00	131,700	Female NPT
		16.0	21.00	103,799	Female NPT
	6"	8.0	22.00	278,660	Female NPT
		16.0	39.00	278,660	Female NPT
	8"	8.0	39.00	504,818	Female NPT
244OMI	3"	8.0	8.00	60,994	Male NPT
	4"	8.0	13.00	131,700	Male NPT
		16.0	22.00	103,799	Male NPT
	6"	8.0	26.00	278,660	Male NPT
		16.0	43.00	278,660	Male NPT
	8"	8.0	42.00	504,818	Male NPT
		16.0	71.00	504,818	Male NPT

**** indicates EVR models available.***

WARNING...Do not fill or unload fuel from a storage tank unless it is certain that the tank vents will operate properly. Morrison tank vents are designed only for use on shop fabricated atmospheric tanks which have been built and tested in accordance with UL 142, NFPA 30 & 30A, and API 650 and in accordance with all applicable local, state and federal laws. In normal operation, dust and debris can accumulate in vent openings and block air passages. Certain atmospheric conditions such as a sudden drop in temperature, below freezing temperatures, and freezing rain can cause moisture to enter the vent and freeze which can restrict internal movement of vent mechanisms and block air passages. All storage tank vent air passages must be completely free of restriction and all vent mechanisms must have free movement in order to insure proper operation. Any restriction of airflow can cause excessive pressure or vacuum to build up in the storage tank, which can result in structural damage to the tank, fuel spillage, property damage, fire, injury, and death. Monthly inspection, and immediate inspection during freezing conditions, by someone familiar with the proper operation of storage tank vents, is required to insure venting devices are functioning properly before filling or unloading a tank. Normal vents such as pressure vacuum and updraft vents for aboveground storage tanks should be sized according to NFPA 30 (2008) 21.4.3.

548 Series

Pressure/Vacuum Vent

With Gauge Hatch...for "normal" venting of aboveground storage tanks. Allows tank to "breathe" during filling and discharging operations. Pressure/vacuum poppets seal vapors in the tank when pressure is equalized. This vent must be used in conjunction with an emergency vent and it is RECOMMENDED that the opening pressure setting is set below that of the emergency vent so the normal vent operates first. Settings are approximate.

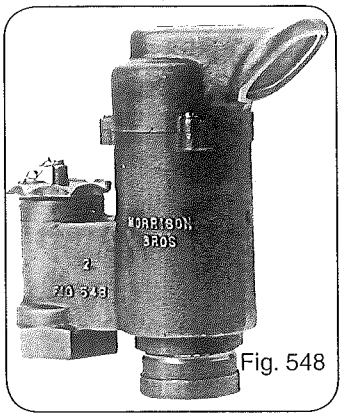


Fig. 548

Construction Details

Fig. 548...brass body and hood. Brass (raised) metal-to-metal seats/poppets.
Fig. 548A...aluminum body and hood. Brass (raised) metal-to-metal seats/poppets. 2" available with British Pipe Threads.

Standard Features

1. Brass (raised) metal-to-metal seats/poppets.
2. Threaded gauge hatch for manual gauging access.
3. Horizontal discharge with field-adjustable, tripolar orientation.

Size	Pressure Setting (oz/sq in)	Vacuum Setting (oz/sq in)	Fig. 548 Ship Weight (lbs)	Fig. 548A Ship Weight (lbs)	Venting Capacity (CFH) (@2.5 PSI)
2"	2.0	1.0	13.25	7.00	20,200
	4.0	1.0	13.75	8.75	20,200
	6.0	1.0	14.25	8.50	20,200
	8.0	1.0	14.75	9.50	20,200
	12.0	1.0	15.75	10.50	18,600
	16.0	1.0	17.00	11.25	18,600
3"	2.0	1.0	26.25	12.25	43,000
	4.0	1.0	27.25	13.75	43,000
	6.0	1.0	28.25	15.00	43,000
	8.0	1.0	28.75	15.75	43,000
	12.0	1.0	29.25	15.75	40,000
	16.0	1.0	33.25	20.50	40,000

WARNING...Do not fill or unload fuel from a storage tank unless it is certain that the tank vents will operate properly. Morrison tank vents are designed only for use on shop fabricated atmospheric tanks which have been built and tested in accordance with UL 142, NFPA 30 & 30A, and API 650 and in accordance with all applicable local, state and federal laws. In normal operation, dust and debris can accumulate in vent openings and block air passages. Certain atmospheric conditions such as a sudden drop in temperature, below freezing temperatures, and freezing rain can cause moisture to enter the vent and freeze which can restrict internal movement of vent mechanisms and block air passages. All storage tank vent air passages must be completely free of restriction and all vent mechanisms must have free movement in order to insure proper operation. Any restriction of airflow can cause excessive pressure or vacuum to build up in the storage tank, which can result in structural damage to the tank, fuel spillage, property damage, fire, injury, and death. Monthly inspection, and immediate inspection during freezing conditions, by someone familiar with the proper operation of storage tank vents, is required to insure venting devices are functioning properly before filling or unloading a tank.

Normal vents such as pressure vacuum and updraft vents for aboveground storage tanks should be sized according to NFPA 30 (2008) 21.4.3

748A Series

Pressure/Vacuum Vent

For "normal" venting of aboveground storage tanks. Allows tank to "breathe" during filling and discharging operations. Pressure/vacuum poppets seal vapors in the tank when pressure is equalized. This vent must be used in conjunction with an emergency vent and it is RECOMMENDED that the opening pressure setting is set below that of the emergency vent so the normal vent operates first.

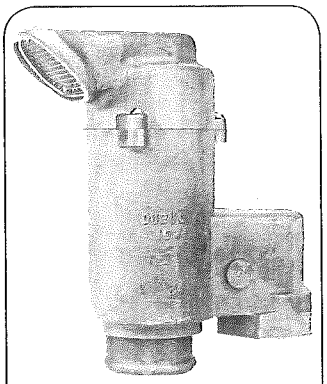


Fig. 748

Construction Details

1. Aluminum body and hood.
2. Brass poppets.

Standard Features

1. Horizontal discharge with field-adjustable, tripolar orientation.
2. Optional pressure discharge NPT hood.

Size	Pressure Setting (oz/sq in)	Vacuum Setting (oz/sq in)	Fig. 748A Ship Weight (lbs)	Venting Capacity (CFH) (@2.5 PSI)
2"	2.0	1.0	6.75	20,200
	4.0	1.0	7.5	20,200
	6.0	1.0	8.25	20,200
	8.0	1.0	9.25	20,200
	12.0	1.0	10.50	18,600
	16.0	1.0	11.00	18,600

748ALT

Pressure-Vacuum Vent

For Ag-Chemical...vent valve used with aqua-ammonia and ag-chemical products allowing tank to "breathe" during filling/discharging operations. Poppets seal vapors in the tank when pressure is equalized. Settings are approximate.

Construction Details

Size...2" NPT
Body and Cap...aluminum
Poppets...Teflon® coated aluminum
Screens...stainless steel
Option (must specify)...male NPT connection for dryer application
Option...pressure discharge NPT hood

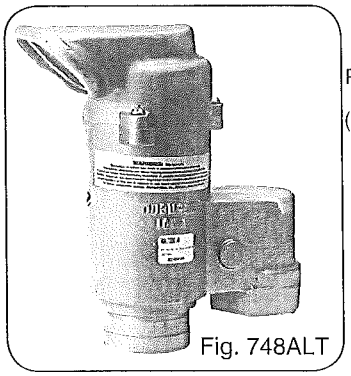


Fig. 748ALT

Pressure Setting (oz/sq in)	Vacuum Setting (oz/sq in)	Ship Weight (lbs)	Venting Capacity (CFH) (@ 2.5 PSI)
8.0	1.0	5.5	20,200
16.0	1.0	5.5	18,000
32.0	1.0	5.5	NA

9095A

AST Overfill Prevention Valve

Installed at the fill port of an aboveground storage tank. Used in a tight fill application, the valve terminates flow of product when the liquid level reaches a preset warning level (90-95% full). The valve is installed on a standard NPT male connection when used with the quick disconnect or female adaptor. When installed to manufacturers requirements, the OPV valve can help eliminate environmentally hazardous spills. All models are supplied with an adaptor to mount to Morrison Fig. 419 aluminum drop tubes. A test mechanism is also sold separately. The test mechanism allows a technician to pull on the test line at any time during the filling process to actuate the float and stop the fill. This allows a technician to verify the valve is working properly. ULC listed.

Typical flow rate for 2" is 183 GPM at 10 PSI pressure drop. Typical flow rate for 3" is 566 GPM at 10 PSI pressure drop.

Fig 9095A-AV...compatible with aviation fuel systems and the Morrison Fig. 539 Diffuser.

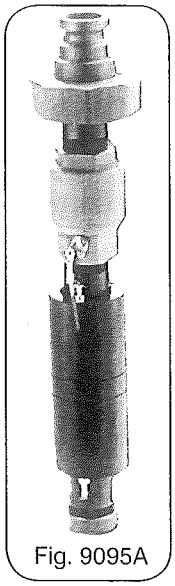


Fig. 9095A

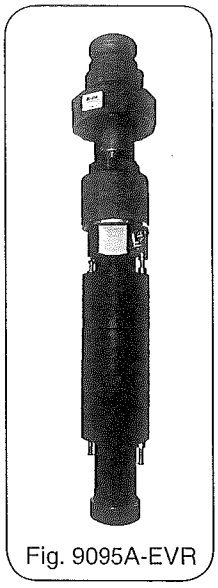


Fig. 9095A-EVR

Construction Details

Adaptor...aluminum (hard-coat anodized)
Female adaptor...ductile iron
Body...anodized aluminum
Plunger and dashpot...brass or nickel plated
Shaft, linkages and hardware...stainless steel
Piping...steel (epoxy coated)

Features

1. Adjustable float (1½")...for setting the precise level of shutoff in the field and allowing it to be done using standard length pipe nipples.
2. Immediate and cushioned shutoff...full flow up to within 1-2 seconds of closing and no abrupt kickback or jolt, or startling noise in the line when valve closes.
3. One piece adaptor/coupler casting...no extra seams and joints to leak when top portion is under pressure from closing.
4. Dry disconnect...after shut off product is allowed to automatically drain from the highest point so fill nozzle can be removed without spilling.
5. Simple mechanics...minimum moving parts. Shutoff is activated by basic hydraulic principle with no springs, levers or complicated sequence leading to closure.

Code Compliance

NFPA 30, 30A, UFC, BOCA, SBCCI/SFC and PEI RP200.

Florida DEP EQ 356. CARB VR 402A (some models).

NOTE...For use on clean product only. Not suitable for motor oil.

Size	Weight
2" valve w/2" male quick disconnect x 4" female threads*	14.1 lbs
2" valve w/2" female threads x 4" female threads	14.1 lbs
2" valve w/2" female threads x 4" female threads, EVR	14.1 lbs
2" valve w/2" male quick disconnect remote fill adaptor	12.6 lbs
2" valve w/3" male quick disconnect x 4" female threads	14.1 lbs
2" valve w/3" female threads x 4" female threads	14.1 lbs
2" valve w/3" female threads x 4" female threads, EVR	21.25 lbs
2" valve w/2" dry disconnect adaptor x 4" female thds, EVR	21.25 lbs
2" valve less top and upper pipe, EVR	14.1 lbs
3" valve w/3" male quick disconnect x 6" female threads*	29.0 lbs
3" valve w/3" female threads x 6" female threads	38.0 lbs
3" valve w/3" female threads x 6" female threads, EVR	38.0 lbs
3" valve w/3" male quick disconnect remote fill adaptor	26.0 lbs
3" valve less top and upper pipe, EVR	21.25 lbs

*BSP Threads Available

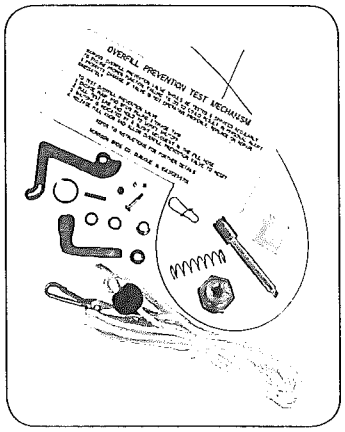
Size	Maximum Pressure	Maximum Viscosity
2"	100PSI	150 Centistokes
3"	100PSI	60 Centistokes

9095ATM

Mechanical Test Device

The 9095ATM Mechanical Test Mechanism allows a technician to pull the trip lever, activate the float and stop the fill at any time during the filling operation. The optional feature provides a simple verification the valve is operating properly.

Available for non-EVR 2" or 3" models only.



515 Series

AST Remote Spill Container

For use on aboveground storage tanks for the purpose of containing fuel spillage during remote tank filling operations. 15 gallon capacity. 12 gauge steel construction. Lockable lid, and powder coated white for durability. 1" NPT drain with locking ball valve included. Choice of one or two fill ports, 2", 3", 4" or combination. 2" bung for pump. Single column base is easily adjustable.

Fig. 515DS...same as 515 but stainless steel. Not ULC listed.

Fig. 515OEM...same as 515 but without the pedestal. Female threaded pipe openings enter on top of the container. Four ½" weld taps on the back. The 515OEM is not ULC Listed.

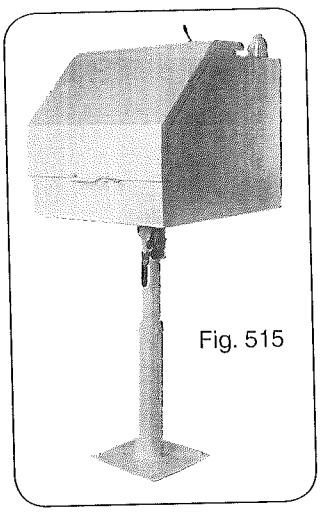


Fig. 515

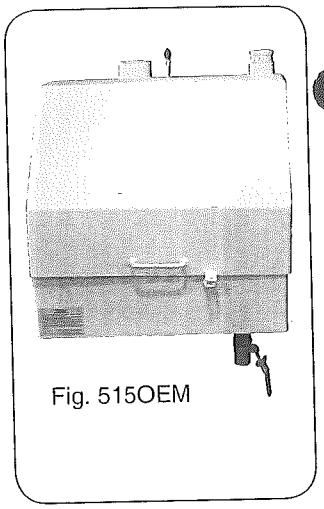


Fig. 515OEM

Code Compliance

Florida DEP EQ 325.

Fig. 515 Front

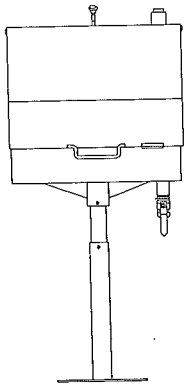


Fig. 515 Back (Single)

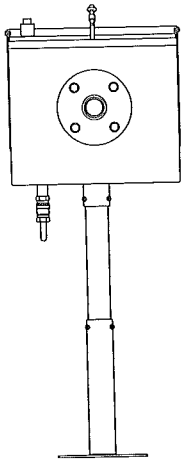


Fig. 515 Back (Double)

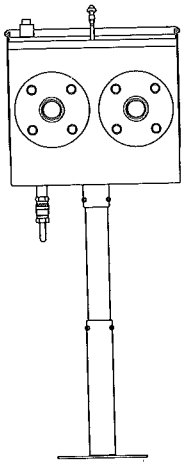
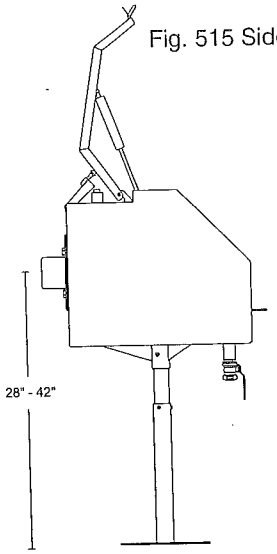


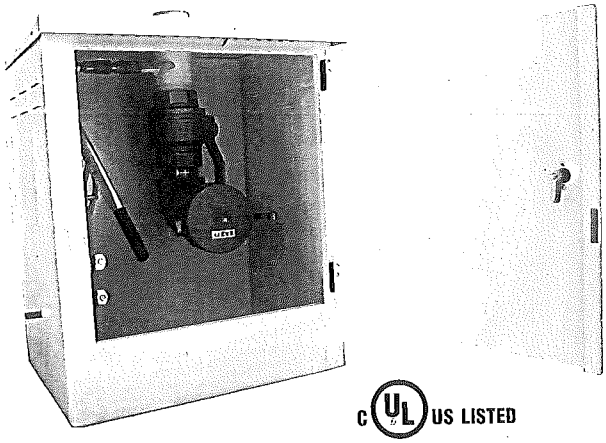
Fig. 515 Side



715 Series

AST Remote Fill Box

The Morrison 715 Series remote fill box is a simple 10 gallon capacity cabinet that provides containment of small spills during tank filling operations. The vented, weatherproof, lockable box is made of rugged 14 gauge steel and is powder coated for long lasting corrosion protection. The bottom is sloped toward the optional manually operated hand pump inlet allowing for easy product return of small spills to the tank. All models are supplied with a male threaded connection inside and outside. The 715 may be ordered with a ball valve and a choice between a female quick disconnect check valve coupler with dust plug, or a dry disconnect adaptor and cap factory installed. Vapor Recover adaptor and cap kit with U-bolts are also available. Each Unit is supplied with tank mount brackets for easy installation on storage tanks. Stainless steel models available.



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Size	Weight
3" 715 male threads (threads only)	101 lbs
2 & 3" 715 male threads with hand pump, female quick disconnect check and dust plug, and ball valve	
2 & 3" 715 male threads with hand pump, female quick disconnect check and dust plug, and ball valve, and vapor recovery cap & adaptor kit	
2 & 3" 715 male threads with hand pump, male dry disconnect adaptor, and ball valve	
2 & 3" 715 male threads with hand pump, male dry disconnect adaptor and ball valve, and vapor recovery cap & adaptor kit	

**Refer to our website for further details.*

Construction Details

Box & Door...14-gauge steel, powder coated white
Ball Valve...Morrison 691 series brass
Quick Disconnect Coupler & Cap...aluminum
Dry Disconnect Adaptor & Cap...aluminum
Vapor Recovery Adaptor...aluminum with Viton®
Vapor Recovery Cap...die cast aluminum, powder coated orange
Hand Pump... rugged steel construction, Teflon seals and Viton® o-rings

710 Series

Solenoid Valve (normally closed)

Installed on pipeline leading from an aboveground tank. This valve is used to help prevent accidental siphoning of product from the tank in the event of a fracture in the pipe or other cause for leak downstream and below the liquid level.

The Fig. 710 solenoid valve is a two-way, one directional flow, hung piston type valve with normally "closed at rest positioning." The valve opens upon receipt of an electronic signal such as when a dispenser or pump is switched on.

Fig. 710F...same as 710, flanged.

Fig. 710FSS...same as 710, flanged and stainless steel.

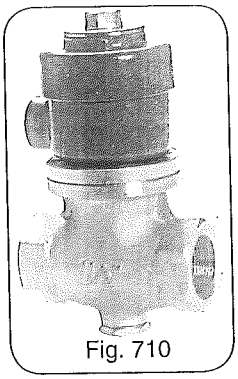


Fig. 710

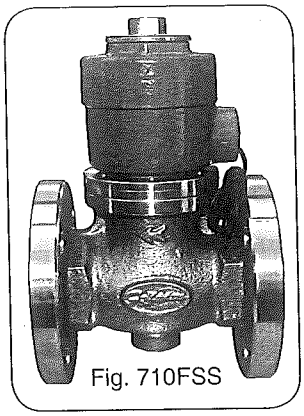


Fig. 710FSS

Characteristics and Options

1. Operates at 120 volts (240 volts available).
2. Includes a continuous duty Class H standard coil.
3. Must be mounted with solenoid vertical and upright.
4. No differential pressure is required to open the valve.
5. Connects to ½" conduit.
6. Enclosure is watertight and rated for hazardous locations—NEMA 3, 4X, 7 and 9; groups C and D.
7. A strainer with 100 mesh screen is recommended at the inlet.
8. Has built-in expansion relief.
9. Maximum viscosity of 60 centistokes.
10. Fig. 710SS is stainless steel.

Size	Construction	Weight
¾"	Brass with Viton® Seal	11.0 lbs
1"	Brass with Viton® Seal	13.0 lbs
1½"	Brass with Viton® Seal	16.0 lbs
2"	Brass with Viton® Seal	21.0 lbs
3"	Brass with Viton® Seal	44.0 lbs
1½"	Stainless Steel with Teflon® Seal	16.0 lbs
2"	Stainless Steel with Teflon® Seal	21.0 lbs
3"	Stainless Steel with Teflon® Seal	44.0 lbs

NOTE...Product can only be pumped in one direction, the direction of the flow arrow.

NOTE...Not designed for use as an overfill prevention or process control valve.

Construction Details

Body...cast bronze or stainless steel
Seals...Viton®,Teflon®,
Solenoid housed in an integral, watertight, explosion-proof shell.

Code Compliance

CSA Certified.

711 Series

Solenoid Valve (normally open)

General purpose valve for applications such as pressure systems, machine tools, water processing and steam systems.

The Fig. 711 solenoid valve is a high flow pilot operated piston valve that is "normally open." Install on horizontal line with the solenoid coil in the upright and vertical position. 3 PSI pressure differential required to keep valve open. It has a maximum viscosity rating of 60 centistokes.

Fig. 711NC...The Fig. 711NC Normally Closed Solenoid Valve is a pilot operated, normally closed valve when in the "at rest" position. This valve is used to prevent accidental siphoning of product from the tank in the event of a fracture in the pipe or due to a leak downstream and below the liquid level. The valve opens upon the receipt of an electronical signal such as when a dispenser or pump is switched on.

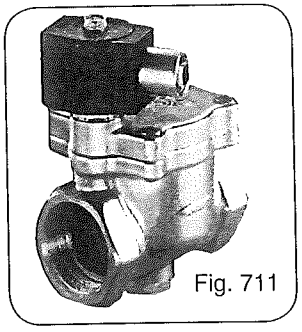
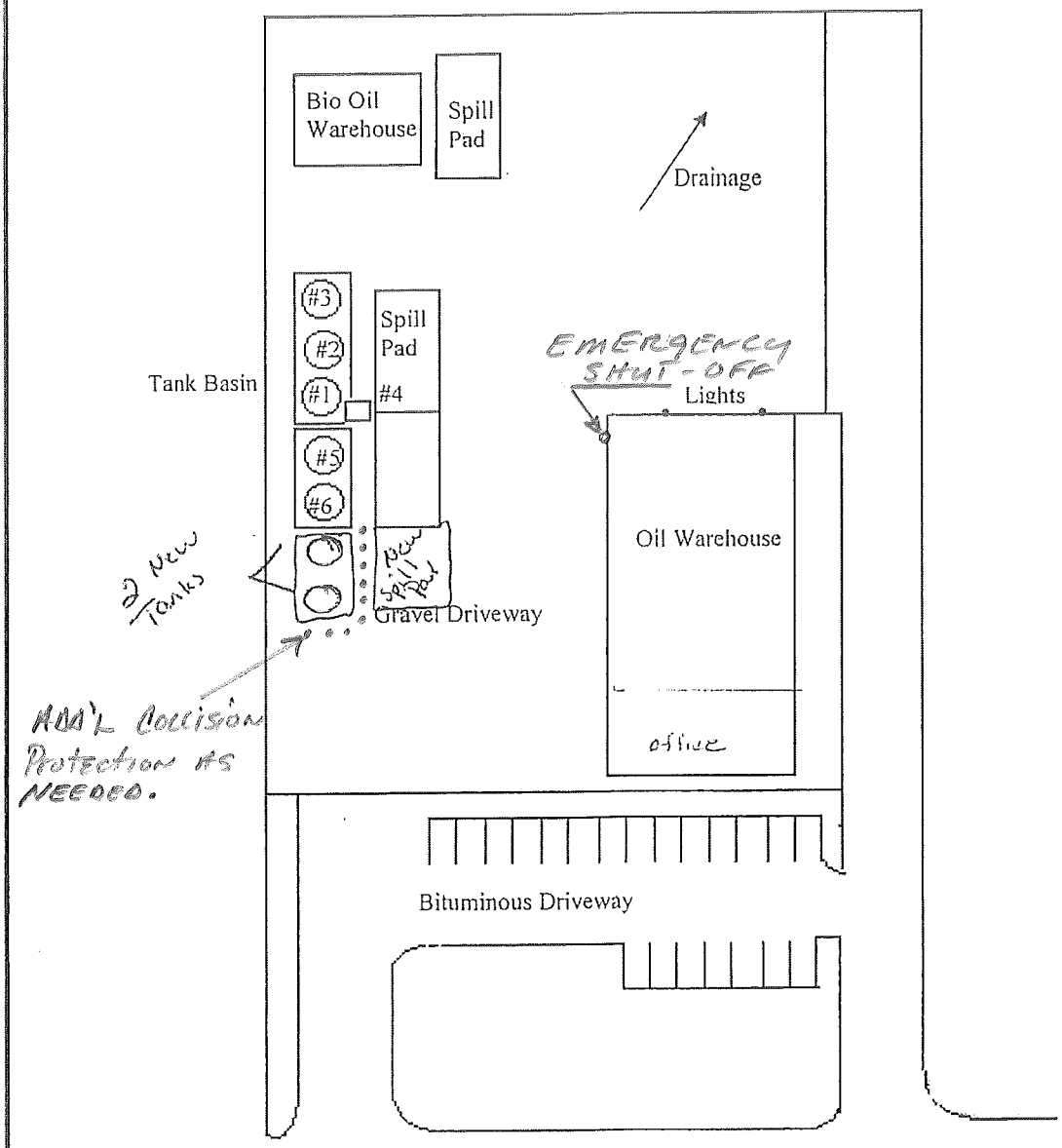


Fig. 711

Size	Construction	Weight
¾"	Brass with Viton® Seal	2.86 lbs
1"	Brass with Viton® Seal	5.5 lbs
1½"	Brass with Viton® Seal	8.6 lbs
2"	Brass with Viton® Seal	9.47 lbs

Construction Details

Body...forged brass
Cover...forged brass



N
W E
S

SITE PLAN

WATERFORD OIL
1500 RIVERVIEW LANE
NORTHFIELD, MINNESOTA

Figure 2

BRAMS ENGINEERING, LLC