

VSH1230 Component Submittal Sheets

Table of Contents

Caution Labels.....	2
Agent Tanks (Pressurized at 360 psi (25 bar)).....	3
Agent Tanks (Pressurized at 725 psi (50 bar)).....	4
Mounting Bracket	5
Nozzles.....	6
Tank Valves 2 ½ in.-12UN (Replacement).....	7
Tank Valves 1 7/8 in.-12UN (Replacement)	8
Pneumatic Release.....	9
Manual Release.....	10
Manual/Pneumatic Release.....	11
Electric Release.....	12
Check Valve	13
Pilot Hose.....	14
Discharge Hose.....	15
Contact Pressure Gauge/Low Pressure Switch - VSH1230.....	16
Pilot Hose/Valve Adaptor.....	17
Safety Malfunction Device	18
Swivel Adaptor (Tank to Pipe).....	19
Pneumatic Limit/Pressure Switch	20
Solenoid Monitoring Switch (SMS)	21

Caution Labels

Two caution labels are available for indicating the presence of a Viking VSH1230 suppression system. Each caution label is made of aluminum. Label must be located in areas visible to the personnel located within or near the protected areas.

Technical Data

Material.....Aluminum
 Thickness....0.02 in.
 Weight.....0.26 lb.
 Dimensions 10 in. x 10 in.

Listings/Approvals

UL Listed.....EX-5248
 ULC Listed.....EX-5248
 FM Approved....File No. 3035914

Shipping Assembly

<u>Part No.</u>	<u>Description</u>
16988	WARNING: This area is protected by a VSH1230 Fire Suppression system
16988-S	Spanish Version
16989	WARNING: Do <u>NOT</u> re-enter until area is thoroughly ventilated
16989-S	Spanish Version



Agent Tanks (Pressurized at 360 psi (25 bar))

The agent tank assemblies are manufactured in accordance with DOT/TC and includes the finished tank, shipping cap, valve assembly, and siphon tube and Pressure Gauge/Low Pressure Switch. A nameplate is adhered to the finished tank displaying the agent weight and gross weight of the complete charged assembly. Tanks are super-pressurized with dry nitrogen at 360 psi (25 bar) at 70 °F (21 °C).

When ordering charged tank assemblies, the quantity of agent must be ordered with tank part number hyphen agent quantity in lbs. i.e. 889109 – 100, quantity is in 1 lb. increments.

Nominal Volume	Shipping Part No.	"A"	"B"	Dia.	Min. Fill (lb)	Max. Fill (lb)	Empty Weight (lb)
60 lb	914147	40.8 in.	23.2 in.	10 in.	20 lb	58 lb	88 lb
140 lb	889109	65.4 in.	47.8 in.	10 in.	46 lb	137 lb	108 lb
280 lb	889111	61.4 in.	40.9 in.	16 in.	94 lb	280 lb	190 lb
390 lb	889113	74.5 in.	54.0 in.	16 in.	130 lb	388 lb	229 lb
500 lb	910510	86.0 in.	65.5 in.	16 in.	159 lb	476 lb	313 lb
With Liquid Level Indicator							
280 lb	914151	61.4 in.	40.9 in.	16 in.	94 lb	280 lb	210 lb
390 lb	914152	74.5 in.	54.0 in.	16 in.	130 lb	388 lb	251 lb
500 lb	914153	86.0 in.	65.5 in.	16 in.	159 lb	476 lb	286 lb

Technical Data

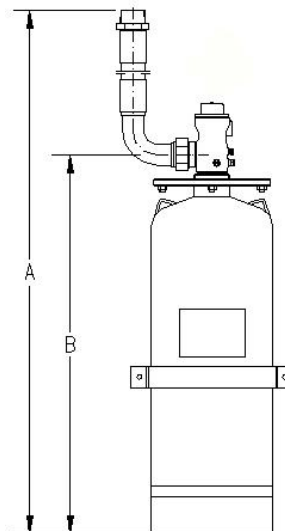
Tank Material.....Steel
 Tank Finish.....Red
 Nameplate.....PVC foil self adhesive
 Valve.....Brass

Listings/Approvals

UL Listed.....EX-5248
 ULC Listed.....EX-5248
 FM Approved....File No. 3035914

Shipping Assembly

See chart above



Agent Tanks (Pressurized at 725 psi (50 bar))

The agent tank assemblies are manufactured in accordance with DOT and include the finished tank, shipping cap, valve assembly, and siphon tube and pressure gauge/low pressure switch. A nameplate is adhered to the finished tank displaying the agent weight and gross weight of the complete charged assembly. Tanks are super-pressurized with dry nitrogen at 725 psi (50 bar) at 70 °F (21 °C).

When ordering charged tank assemblies, the quantity of agent must be ordered with tank part number hyphen agent quantity in lbs. i.e. 888591 – 100, quantity is in 1 lb. increments.

Nominal Volume	Shipping Part No.	"A"	"B"	Dia.	Min. Fill (lb)	Max. Fill (lb)	Empty Weight (lb)
220 lb	926274 888591*	58.5 in.	34.9 in.	16.0 in.	71 lb	211 lb	218 lb
390 lb	926278 888593*	80.2 in.	53.8 in.	16.0 in.	124 lb	370 lb	289 lb
500 lb	926280 888595*	88.0 in.	67.5 in.	16.0 in.	159 lb	476 lb	395 lb

*Limited availability.

Technical Data

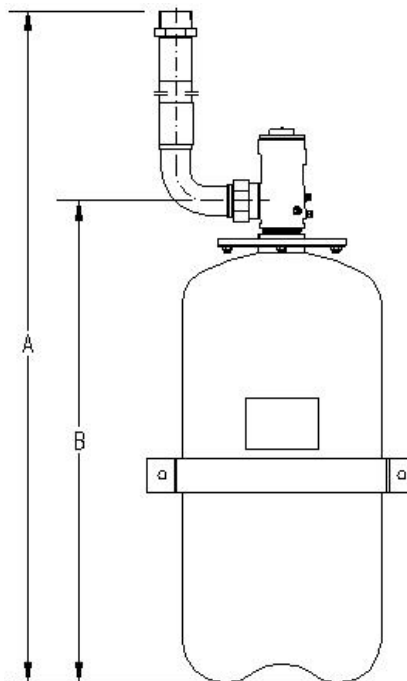
Tank Material.....Steel
 Tank Finish.....Red
 Nameplate.....PVC foil self adhesive
 Valve.....Brass

Listings/Approvals

UL Listed.....EX-5248
 ULC Listed.....EX-5248
 FM Approved....File No. 3035914

Shipping Assembly

See chart above



The Viking Corporation
 210 N. Industrial Park Drive
 Hastings, MI 49058

Telephone: (269) 945-9501
 Toll Free: (800) 968-9501
 Facsimile: (269) 945-9599

Mounting Bracket

The mounting bracket is required to properly and safely secure the agent tank assemblies to a rigid vertical mounting surface.

Brackets are available for 360 psi (25 bar) and 725 psi (50 bar) agent tanks. Each size tank requires only one bracket.

Size Tank Used On	Shipping Assembly Part No.	Radius (R)	"B"	Weight
60 lb.....360 psi 140 lb....360 psi	19368W/B* or 923157	5.3 in. or 5.1	4.72 in.	3.2 lb
280 lb....360 psi 390 lb....360/725 psi 220 lb....725 psi 500 lb....725 psi	887639	8.1 in.	7.87 in.	4.6 lb

Technical Data

Material.....Steel

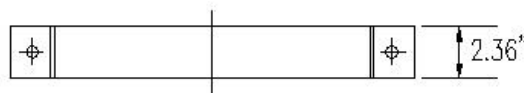
Finish.....Matt-finish or powder-coated, graphite black

Listings/Approvals

UL Listed.....EX-5248

ULC Listed.....EX-5248

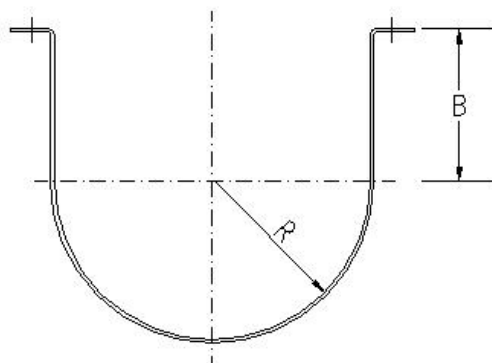
FM Approved....File No. 3035914



Shipping Assembly

See chart above

*Limited availability



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Nozzles

The Viking VSH-1230 Fire Suppression System offers several sizes of both 180° and 360° agent discharge nozzles. All nozzles are manufactured in brass and are available with NPT threads. A wide range of drilled orifice sizes are available to meet any discharge rate requirement. Orifice plates are drilled per VSH DesignManager calculations.

180° Nozzle

Size	Part No.		Orifice Diameter Min.....Max. (0.004 in. increments unless noted in parentheses)	"A"	"B"	SW (Across Flats)
	Brass	Stainless Steel				
½ in. NPT	889061	889065	0.118 in.....0.512 in. (0.510 &0.512)	2.2 in.	0.9 in.	1.2 in.
1 in. NPT	889062	889066	0.118 in.....0.886 in.	3.8 in.	2.0 in.	2.0 in.
1 ½ in. NPT	889063	889067	0.118 in.....1.398 in.	3.8 in.	3.4 in.	3.4 in.
2 in. NPT	889064	889068	0.118 in.....1.752 in. (1.750 &1.752)	3.8 in.	3.4 in.	3.4 in.

360° Nozzle

Size	Part No.		Orifice Diameter Min.....Max. (0.004 in. increments unless noted in parentheses)	"A"	"B"	SW (Across Flats)
	Brass	Stainless Steel				
½ in. NPT	889069	889074	0.118 in.....0.512 in. (0.510 &0.512)	2.2 in.	0.9 in.	1.2 in.
1 in. NPT	889070	889075	0.118 in.....0.886 in.	3.8 in.	2.0 in.	2.0 in.
1 ½ in. NPT	888071	889076	0.118 in.....1.398 in.	3.8 in.	3.4 in.	3.4 in.
2 in. NPT	889073	889077	0.118 in.....1.752 in. (1.750 &1.752)	3.8 in.	3.4 in.	3.4 in.

Technical Data

Material.....Brass
Finish.....Brass

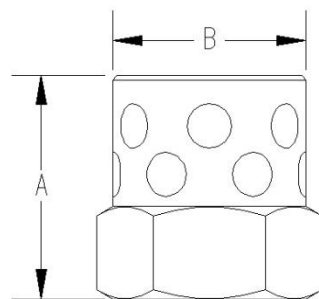
Installation height 14' and 17'9" with adjusted design concentration
Max Nozzle Area Coverage 1,024 ft

Listings/Approvals

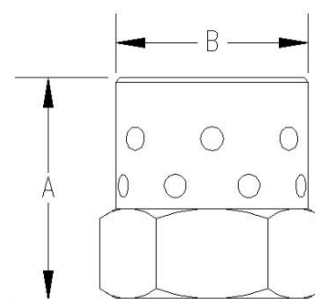
UL Listed.....EX-5248
ULC Listed.....EX-5248
FM Approved....File No. 3035914

Shipping Assembly

See chart above



180° Nozzle - Radius 35.77 ft



360° Nozzle – Radius 22.6 ft

Ordering Information

Order nozzle part no. – orifice code (i.e. 889061-0512)

Tank Valves 2 1/2 in.-12UN (Replacement)

Tank valves are available for field replacement. All replacement valves have been 100% factory tested, fully assembled with all required internal components. Contact pressure gauge is not included with replacement valve.

Valves can be electrically, pneumatically, and manually actuated using the proper actuators.

Replacement valves are available for 360 psi (25 bar) and 725 psi (50 bar) systems.

Technical Data

Valve body.....Brass
 Bursting disc....Nickel
 Spring.....Steel
 O-rings/Seal.....NBR
 Weight.....9.7 lb.
 Outlet thread....2 1/2"-12 UN
 Outlet 2" with 17563 Swivel Adaptor
 Outlet 2" with 912076 90° Discharge Hose

Listings/Approvals

Use with part 17563 or 912076

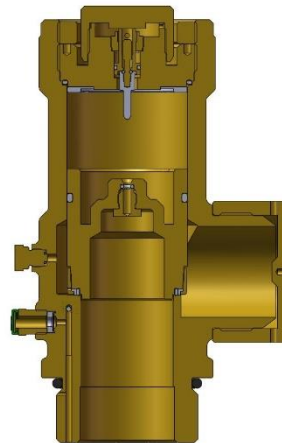
UL Listed.....EX-5248

ULC Listed.....EX-5248

FM Approved....File No. 3035914

Shipping Assembly

<u>Part No.</u>	<u>Description</u>
887966	360 psi (25 bar) valve
887664	725 psi (50 bar) valve



Tank Valves 1 7/8 in.-12UN (Replacement)

Tank valves are available for field replacement. All replacement valves have been 100% factory tested, fully assembled with all required internal components. Contact pressure gauge is not included with replacement valve.

Valves can be electrically, pneumatically, and manually actuated using the proper actuators.

Replacement valves are available for 360 psi (25 bar) and 725 psi (50 bar) systems.

Technical Data

Valve body.....Brass
 Bursting disc....Nickel
 Spring.....Steel
 O-rings/Seal.....NBR
 Weight.....19.6 lb.
 Outlet.....1 7/8-12 UN

Listings/Approvals

Use with part 17562 or 912075

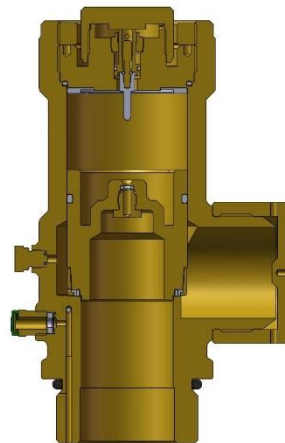
UL Listed.....EX-5248

ULC Listed.....EX-5248

FM Approved....File No. 3035914

Shipping Assembly

<u>Part No.</u>	<u>Description</u>
887964	360 psi (25 bar) valve



Pneumatic Release

The pneumatic release can be used to actuate the agent tank valves. The release operates from pilot line pressure received from the control tank. When pressurized, the release pin is forced into the down position which then causes the agent tank valve to open. The release is spring loaded, therefore will reset itself when the pilot line pressure is relieved.

Technical Data

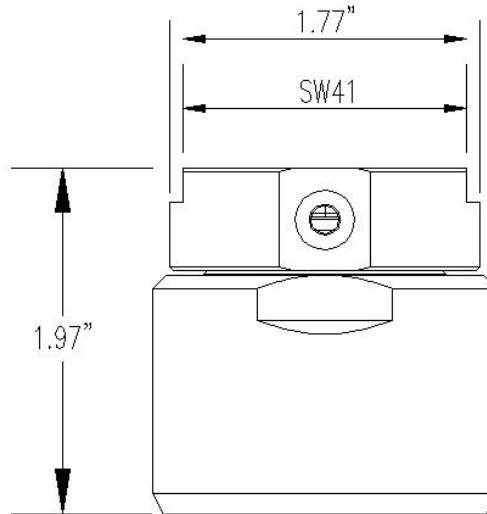
Body.....Brass
 Spring.....Stainless Steel

Listings/Approvals

UL Listed.....EX-5248
 ULC Listed.....EX-5248
 FM Approved....File No. 3035914

Shipping Assembly

<u>Part No.</u>	<u>Description</u>
887669	Pneumatic release



The Viking Corporation
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 Telephone: (269) 945-9501
 Toll Free: (800) 968-9501
 Facsimile: (269) 945-9599

Manual Release

The manual release assembly contains a hand lever which can be used to manually actuate the tank valve. When the ring pin is pulled from the lever, the lever can be pushed down, moving the internal pin down, which will cause the tank valve to actuate. The release is not spring-loaded, therefore it must be reset manually after actuation. Manual reset requires pushing the pin up, back into the body of the release.

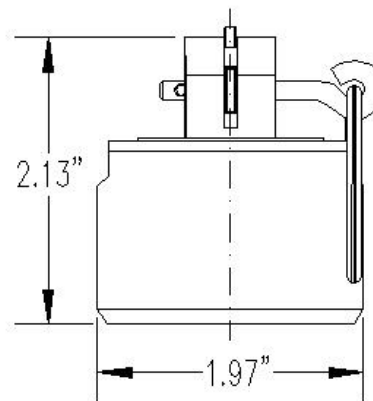
Technical Data

Body.....Brass
 Handle.....Stainless Steel
 Spring.....Stainless Steel

Listings/Approvals

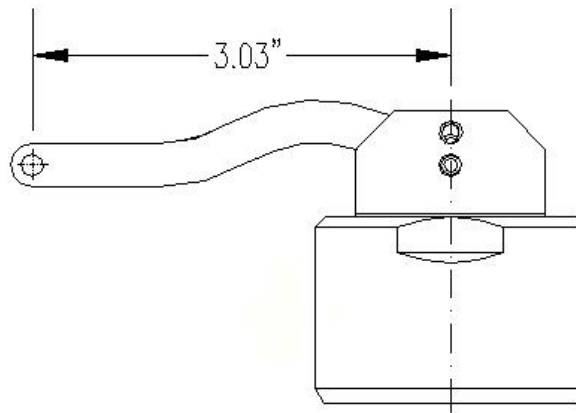
UL Listed.....EX-5248
 ULC Listed.....EX-5248
 FM Approved....File No. 3035914

Shipping Assembly



<u>Part No.</u>	<u>Description</u>
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887668	Manual release
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Manual/Pneumatic Release

The manual/pneumatic release can be used to actuate the agent tank valves. The pneumatic portion of the release operates from pilot line pressure received from the control tank. When pressurized, the release pin is forced into the down position which then causes the agent tank valve to open. The manual portion of the release contains a hand lever which can be used to manually actuate the tank valve. When the ring pin is pulled from the lever, the lever can be pushed down, moving the internal pin down, which will cause the tank valve to actuate. The release is not spring loaded, therefore it must be reset manually after actuation. Manual reset requires pushing the pin up, into the body of the release.

Technical Data

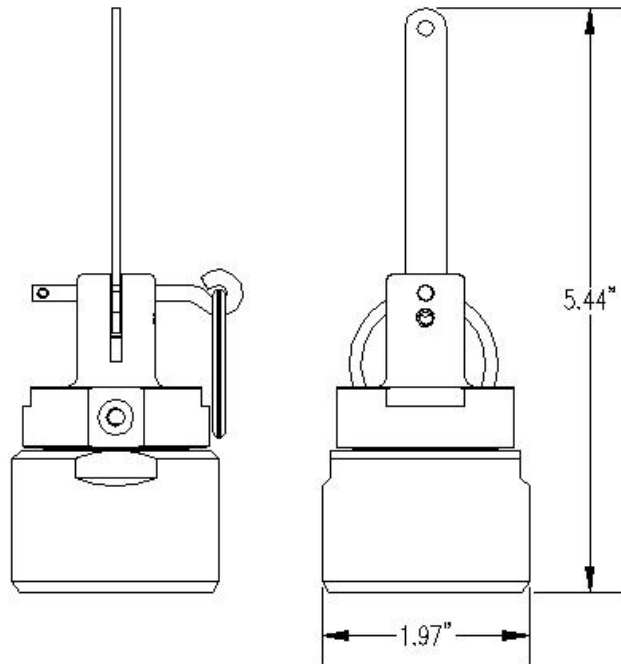
Body.....Brass
 Spring.....Stainless Steel

Listings/Approvals

UL Listed.....EX-5248
 ULC Listed.....EX-5248
 FM Approved....File No. 3035914

Shipping Assembly

Part No.	Description
887670	Manual/pneumatic release



Electric Release

The 24V electric release can be used to electrically actuate the agent tank valve. An electric signal is required from the detection panel. This signal operates an internal solenoid which actuates the release mechanism. The release mechanism then opens tank valve. Only one electric release is required on multiple tank system. The remaining tank valves are opened by agent pressure through the pilot line.

Technical Data

Nominal Voltage.....24VDC
 Nominal Current.....0.5 A
 IP Code.....P65
 Max. Permitted Test Current...20 mA
 Electrical Inlet.....1/2 in. NPT
 Weight.....5.5 lb

Listings/Approvals

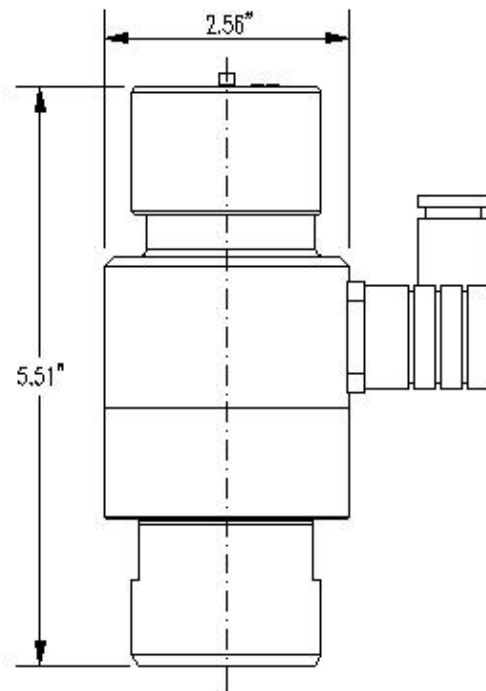
UL Listed.....EX-5248
 ULC Listed.....EX-5248
 FM Approved....File No. 3035914

Shipping Assembly

Part No.	Description
889323D	Release without diode
17096	(see Notes) Electric release screw reset tool

Notes:

- **17096 becomes 887645 effective 2020**
- **Polarity must be observed when wiring the release to control panel. The release will not operate if installed with reverse polarity.**
- **To reset the electric release, the reset tool Must be threaded into the base of the release until it stops. Remove the reset tool and visually inspect the pin inside the release. If the red marking on the pin is not visual, the release has been correctly reset.**



Check Valve

The agent piping network for multiple tank (manifold) systems requires a check valve at each tank outlet. The check valve is required to prevent the loss of agent during a system discharge if, for some reason, a tank has been removed or disconnected from the piping network. The valve is installed between the agent tank valve and the piping manifold.

Technical Data

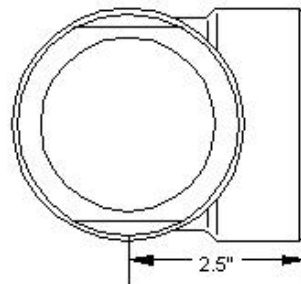
Body.....galvanized steel
 Internal components....stainless steel
 Spring.....stainless steel
 Seal.....NBR

Listings/Approvals

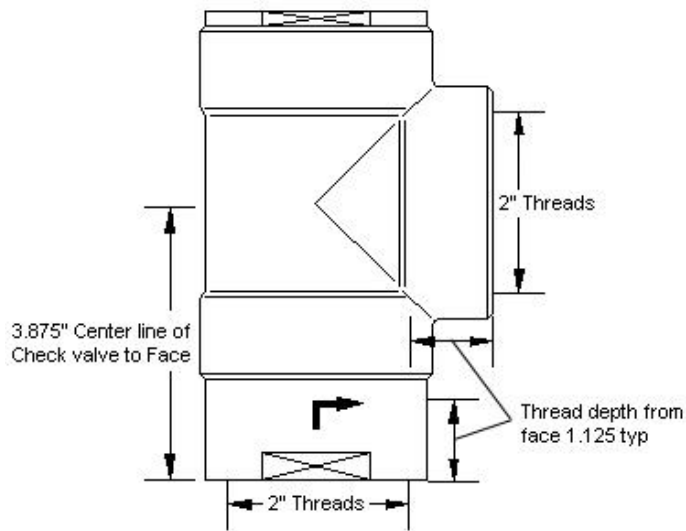
UL Listed.....EX-5248
 ULC Listed.....EX-5248
 FM Approved....File No. 3035914

Shipping Assembly

Part No.	Description
912071	2" Check Valve



2.5" Center Line of Check valve to Face



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Pilot Hose

The pilot hose is required for pneumatic actuation of multiply tanks. The pressure from the control tank, upon actuation, is routed through the pilot hose to actuate the remaining tanks in the system. The hose requires the use of an adaptor for attaching to agent tank valves.

Technical Data

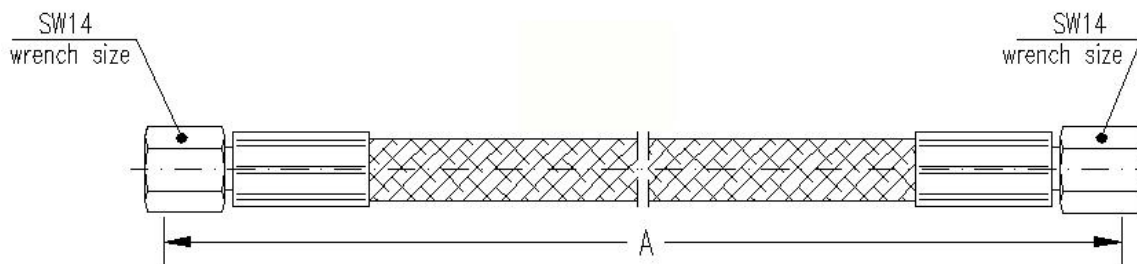
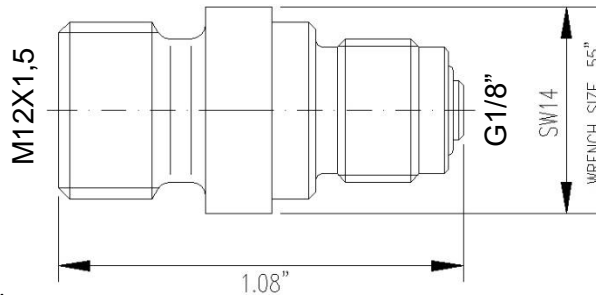
ID.....0.157 in.
 Material....Rubber
 Fittings.....Stainless Steel
 Min. bend radius....3.5 in.

Listings/Approvals

UL Listed.....EX-5248
 ULC Listed.....EX-5248
 FM Approved....File No. 3035914

Shipping Assembly

<u>Part No.</u>	<u>Description</u>
887834	Hose (23.6 in. long) (A)
887835	Hose (39.4 in. long) (A)
887836	Hose (59.1 in. long) (A)
887644	Pilot Hose Adaptor M12x1.5 – G1/8



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 Facsimile: (269) 945-9599

Discharge Hose

The agent discharge hose is required to connect the tank valve to the piping network, manifold or check valve. The hose allows for a secure connection between the agent tank(s) and the piping network. Two lengths of hoses are available.

Style	Part No.	Length (A)	Length (B)	SW1	SW2	Weight-lb
90° Bend	912075	17.7 in.	4.75 in.	2.4 in.	2.0 in.	3.1 lb
90° Bend	912076	20.5 in.	6 in.	2.8 in.	2.6 in.	6.0 lb

Technical Data

Material.....Rubber
 Fittings.....Stainless Steel

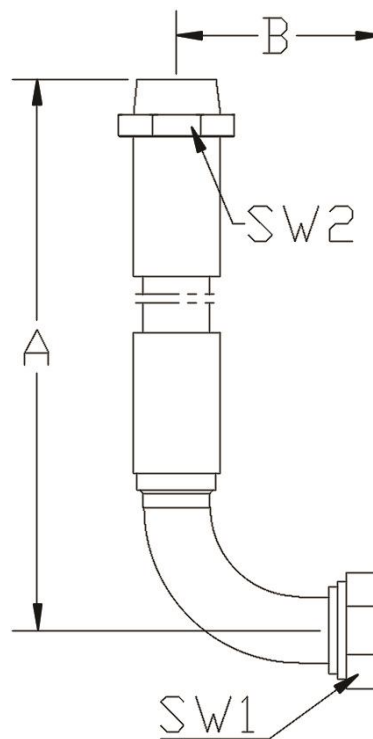
Listings/Approvals

UL Listed.....EX-5248
 ULC Listed.....EX-5248
 FM Approved....File No. 3035914

Shipping Assembly

See above

- 912075 1 ½" NPT Discharge Hose
- 912076 2" NPT Discharge Hose



Contact Pressure Gauge/Low Pressure Switch - VSH1230

The contact pressure gauge/low pressure switch is installed in the agent tank valve. The gauge is available in either normally open (NO) or normally closed (NC) contacts. The contacts are activated by the decrease in tank pressure during a system discharge or loss of tank pressure due to a leak. Switches are available for either 360 psi (25 bar) or 725 psi (50) tanks.

Technical Data

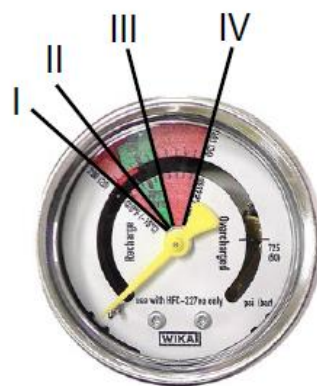
Material.....Aluminum
 Switching Voltage....4.5 – 24 VDC/VAC
 Switching Current.....5 – 100mA
 Contact Load.....Max. 3W, dry contact
 Switch Point 360 psi Gauge....324 psi
 Switch Point 725 psi Gauge....653 psi

Listings/Approvals

UL Listed.....EX-5248
 ULC Listed.....EX-5248
 FM Approved....File No. 3035914

Shipping Assembly

<u>Part No.</u>	<u>Description</u>
889303	360 psi (25 bar) Gauge (NC at switching point; NO under pressure)
889305	725 psi (50 bar) Gauge (NC at switching point; NO under pressure)



360 psi (25 bar)



725 psi (50 bar)

Pilot Hose/Valve Adaptor

The adaptor is required to connect pilot hose to tank valves, pneumatic/manual releases, and pneumatic releases.

Technical Data

Material.....Brass

Listings/Approvals

UL Listed.....EX-5248

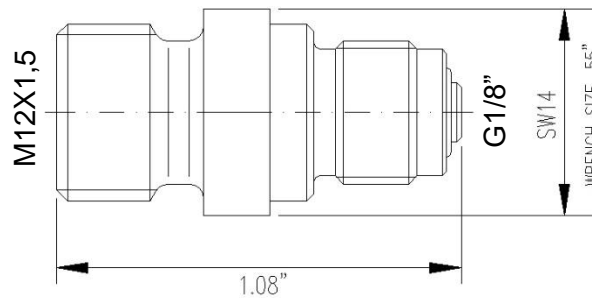
ULC Listed.....EX-5248

FM Approved....File No. 3035914

Shipping Assembly

<u>Part No.</u>	<u>Description</u>
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887644	Pilot Hose Adaptor M12x1.5 – G1/8
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Safety Malfunction Device

The safety malfunction device is designed to release small amounts of leakage pressure in pneumatic pilot lines. The device closes automatically on higher pressure. The device must be installed in the vertical position. Available as an assembly.

Technical Data

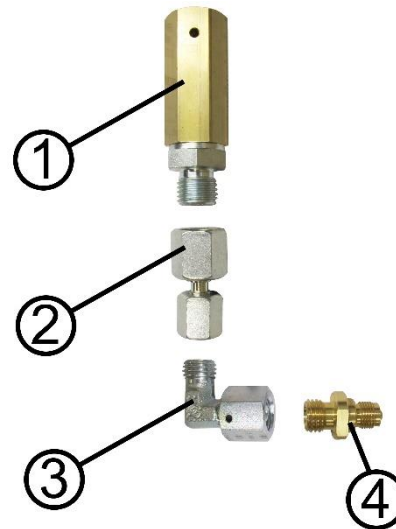
Material.....Brass
 Gasket.....NBR
 Weight.....0.33 lb.

Listings/Approvals

UL Listed.....EX-5248
 ULC Listed.....EX-5248
 FM Approved....File No. 3035914

Shipping Assembly

<u>Part No.</u>	<u>Description</u>
16010	Pressure Malfunction Safety Assembly



Pressure relief (individual parts)
 Item 1 Safety device malfunction pressure order no. 88 5869
 Item 2 Union, order no. 910650
 Item 3 Union order no. 889145
 Item 4 Adapter order no. 887644
 (for release device pneumatic or pneumatic/manual)

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Swivel Adaptor (Tank to Pipe)

The swivel adaptor is used to connect the agent tank valve outlet with the NPT piping network. Two sizes are available, 1 1/2 in. and 2 in. outlet size.

Technical Data

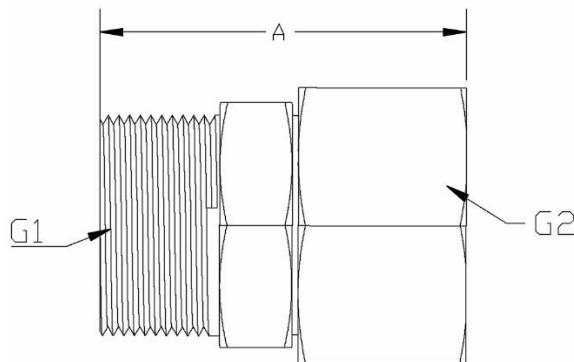
Material.....Galvanized Steel
 Weight.....1 1/2 in. size 2.2 lb
 2 in. size 2.9 lb

Listings/Approvals

UL Listed.....EX-5248
 ULC Listed.....EX-5248
 FM Approved....File No. 3035914

Shipping Assembly

<u>Part No.</u>	<u>Description</u>
17562	1 7/8" -12 UN. Valve Connection (G2) to 1 1/2" NPT Pipe Connection (G1) A=3"
17563	2" -12 UN. Valve Connection (G2) to 2" NPT Pipe Connection (G1) A=3 1/2"



Pneumatic Limit/Pressure Switch

The pneumatic operated limit/pressure switch can be mounted in the agent distribution piping. Upon system discharge, the agent pressure in the piping network will actuate the switch, causing the internal electrical contacts to either open or close. This action can be used to signal alarms, turn on warning lights, cause door closures to operate, etc.

Technical Data

Material.....Alloy Die-cast Metal
 IP Rating.....IP65
 Nominal Isolation Voltage....500V
 Permanent Current....16A
 Nominal Operation Current....6A, 400 VAC
 Weight.....3.3 lb.

Listings/Approvals

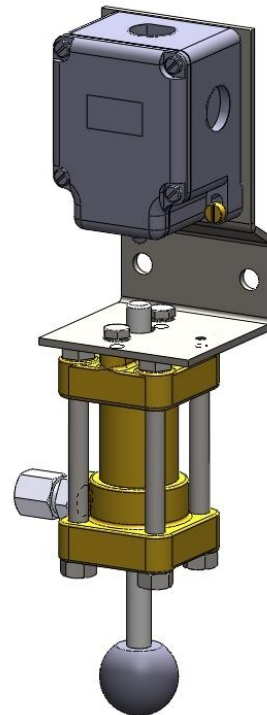
UL Listed.....EX-5248
 ULC Listed.....EX-5248
 FM Approved....File No. 3035914

Shipping Assembly

<u>Part No.</u>	<u>Description</u>
826758D	Pneumatic Discharge Pressure Switch Kit

Replacement Parts

826758	Pneumatic Discharge Pressure Switch
300057	Adapter M20 x 3/4" NPT
17553	Adapter G1/4 x M12 x 1.5
17552	Adapter 1/4" NPT x M12 x 1.5
887834	24" Hose (600 mm)
887835	39" Hose (1,000 mm)
887836	59" Hose (1,500 mm)
724420	US 432y-M20-2352 Replacement Limit Switch (2 Contact)



Solenoid Monitoring Switch (SMS)

The Solenoid Monitoring Switch (SMS) is mounted on the cylinder valve. When the system solenoid is mounted to the valve the SMS will supervise the connection. When the system solenoid is removed the contact will close. This action can be used to signal the disposition to the alarm control panel. The SMS complies with NFPA 2001.

Technical Data

Contact Rating	1 AMP @ 24 VDC
Temp. Range	-22°F to 176°F (-30°C to 80°C)
IP Rating	IP67

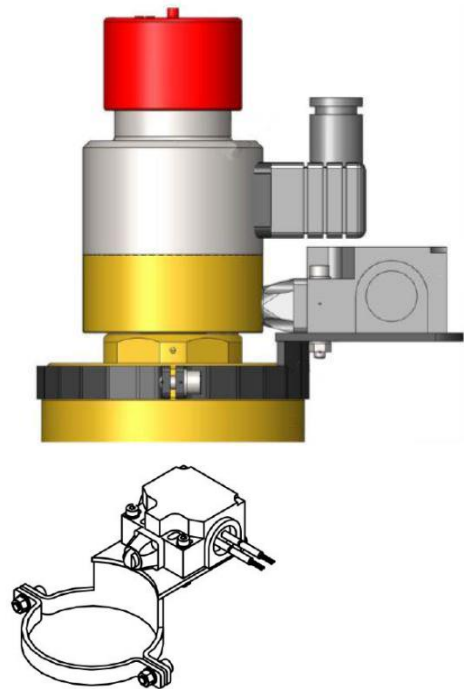
Listings/Approvals

UL Listed	EX5248
ULC Listed	EX5248
FM Approved	File No. 3035914

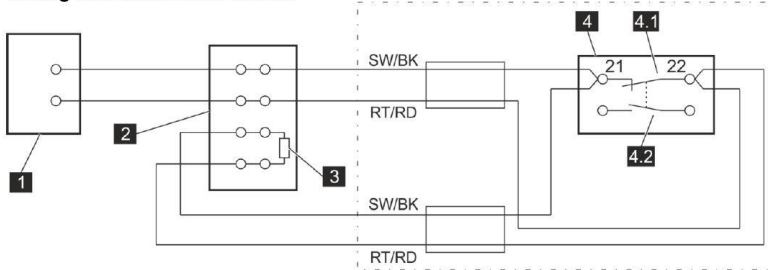
Shipping Assembly

Part No.	Description
922291D* or 932438D	Solenoid Monitor Switch 1 ½"
922290D* or 932437D	Solenoid Monitor Switch 2"

*Limited availability



Wiring with end of line device



- 1 Control panel
- 2 Junction box
- 3 End of line device
- 4 Supervisory switch
- 4.1 Make contact; if release device or valve lever are demounted an electric contact is closed
- 4.2 Break contact (not used)

