PARTS MANUAL

FOR HALE SMARTATP

125 GPM AND 225 GPM

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MANUAL P/N FSG–MNL–00195 Revision A

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FSG–MNL–00195 REVISION HISTORY		
CHANGE	**DATE**	**AFFECTED PAGES**
Revision A	18 October 2019	All – Initial Release

Abbreviations And Acronyms

The abbreviations used in this manual are limited to standard (commonly used and accepted) scientific units of measure and therefore are NOT defined or listed. The acronyms used in this manual are defined in this listing (in numerical-alphabetical order) and are NOT defined within the text.

AHJ	Authority Having Jurisdiction
AKA	Also Known As
ATP	Around The Pump
AWG	American Wire Gauge
CAN	Controller Area Network (Bus)
GPM	Gallons Per Minute
IDEX	IDEX Corporation
KZCO	KZ Valve Incorporated
OIM	Operation Installation Maintenance (Manual)
P/N	Part Number
QTY	Quantity
SAE	Society of Automotive Engineers
SGX	Starter or Ground Cross-Linked Polyethylene
VIC	Victaulic
w/	With

1. SAFETY

This section provides definitions and a listing of the safety headings used in this Parts Manual (FSG–MNL–00195) and the OIM (FSG–MNL–00193) and Technical (FSG–MNL–00194) manuals.

The Hale SmartATP 125 GPM (P/N 550–00022) and 225 GPM (P/N 550–00023) models design focuses on optimum safety for its operators and provides reliable and safe foam concentrate proportioning. For added protection and before attempting installation, repair, or operation, please follow the safety guidelines listed in this section and ad- here to all cautions, dangers, notices, and warnings found in the manuals.

All installers, operators, and maintainers must read the safety section carefully, understand and adhered to it strictly before attempting to install or operate the SmartATP system.

DANGERS, WARNINGS, CAUTIONS, or NOTICES that immediately precede a step apply directly to that step and all sub steps. DANGERS, WARNINGS, CAUTIONS, or NOTICES that precede an entire procedure apply to the entire procedure. DANGERS, WARNINGS, CAUTIONS, and NOTICES consist of two parts: a heading (that identifies possible result if disregarded) and a statement of the hazard (that provides the minimum precautions). The headings used and their definitions are.

ATTENTION ⚠ DANGER

INDICATES A HAZARDOUS SITUATION, WHICH IF NOT AVOIDED WILL RESULT IN SERIOUS INJURY OR DEATH.

ATTENTION ⚠ WARNING

INDICATES A HAZARDOUS SITUATION, WHICH IF NOT AVOIDED COULD RESULT IN SERIOUS INJURY OR DEATH.

ATTENTION ⚠ CAUTION

INDICATES A POTENTIALLY HAZARDOUS SITUATION, WHICH IF NOT AVOIDED MAY RESULT IN MINOR OR MODERATE INJURY.

IMPORTANT ⚠ NOTICE

ADDRESSES PRACTICES NOT RELATED TO PERSONAL INJURY.

NOTE

Highlights an essential aspect of an operating or maintenance procedure, condition, or statement and/or provides pertinent ancillary information.

1.1. Safety Summary

The following warnings and cautions are used throughout the Hale SmartATP manuals (and/or the items they references) and are provided here as a safety summary.

ATTENTION ⚠ DANGER

ALL ELECTRICAL SYSTEMS HAVE THE POTENTIAL TO CAUSE SPARKS DURING SERVICE. TAKE CARE TO ELIMINATE EXPLOSIVE OR HAZARDOUS ENVIRONMENTS DURING SERVICE AND/OR REPAIR.

ATTENTION ⚠ WARNING

A PRESSURE HAZARD MAY EXIST EVEN WHEN THE PUMP IS NOT RUNNING. PRIOR TO REMOVING HOSES OR CAPS FROM PUMP CONNECTIONS, RELIEVE PRESSURE BY OPENING DRAINS. BLEEDER VALVES SHOULD ALSO BE USED WHEN CONNECTING TO AN INTAKE FROM A PRESSURIZED SOURCE.

ATTENTION ⚠ WARNING

ALWAYS FOLLOW LOCAL GUIDELINES FROM THE AHJ AND THE APPARATUS MANUFACTURER.

ATTENTION ⚠ WARNING

ALWAYS FOLLOW PROPER OPERATING PROCEDURES. THE PUMP OPERATOR MUST BE FAMILIAR WITH THE PUMP OPERATING INSTRUCTIONS AS WELL AS OTHER OPERATING GUIDELINES FOR THE APPARATUS AND ACCESSORIES.

ATTENTION ⚠ WARNING

DO NOT EXCEED OPERATING PRESSURE LIMITS OF PUMP, INSTALLED PLUMBING, HOSE(S), OR EQUIPMENT IN USE.

ATTENTION ⚠ WARNING

OPERATORS, INSTALLERS, AND MAINTENANCE PERSONNEL MUST BE TRAINED AND QUALIFIED FOR ALL THE ACTIVITIES THEY PERFORM.

ATTENTION ⚠ WARNING

TO PREVENT SYSTEM DAMAGE OR ELECTRICAL SHOCK THE MAIN POWER SUPPLY WIRE IS THE LAST CONNECTION MADE TO THE HALE FOAM CONTROLLER. ALWAYS DISCONNECT THE PRIMARY POWER SOURCE BEFORE ATTEMPTING TO SERVICE ANY PART OF THE HALE FOAM SYSTEM.

ATTENTION ⚠ CAUTION

ALWAYS USE PROPER PPE. FOAM MAY BE TOXIC TO PEOPLE AND/OR THE ENVIRONMENT. CATCH AND DISPOSE OF FOAM PROPERLY. IMPROPER FOAM HANDLING MAY RESULT IN HEALTH RISKS AND/OR LIABILITY.

ATTENTION ⚠ CAUTION

FAILING TO REDUCE SYSTEM PRESSURE BEFORE SYSTEM SHUTDOWN OR FLUSHING COULD RESULT IN WATER HAMMERING.

ATTENTION ⚠ CAUTION

THE SMARTATP SYSTEMS SHIPPING CONTAINER WEIGHS OVER 50 LBS. LIFT THE SHIPPING CONTAINER USING THE APPROPRIATELY LIFTING METHOD. (TWO PERSON RECOMMENDED)

ATTENTION ⚠ CAUTION

TO PREVENT SYSTEM DAMAGE OR ELECTRICAL SHOCK THE MAIN POWER SUPPLY WIRE IS THE LAST CONNECTION MADE TO THE HALE FOAM CONTROLLER. ALWAYS DISCONNECT THE PRIMARY POWER SOURCE BEFORE ATTEMPTING TO SERVICE ANY PART OF THE HALE FOAM SYSTEM.

IMPORTANT ⚠ NOTICE

ALWAYS DISCONNECT THE POWER CABLE, GROUND STRAPS, ELECTRICAL WIRES AND CABLES FROM THE CONTROL UNIT OR OTHER HALE SMARTATP EQUIPMENT BEFORE ELECTRIC ARC WELDING AT ANY POINT ON THE APPARATUS.

IMPORTANT ⚠ NOTICE

AN ACCURATE FLOW MEASURING DEVICE MUST BE USED TO MEASURE THE WATER FLOW WHEN CALIBRATING THE FLOW SENSOR. USE A SUITABLE SIZE, SMOOTH BORE NOZZLE AND AN ACCURATE AND CALIBRATED PITOT GAUGE INSTRUMENT OR MASTER FLOW METER. HAND HELD PITOT GAUGES ARE USUALLY NOT VERY ACCURATE. MAKE SURE THE SYSTEM IS CALIBRATED WITH AN ACCURATE FLOW MEASURING DEVICE.

IMPORTANT ⚠ NOTICE

CONNECT THE PRIMARY POSITIVE LEAD FROM THE HARNESS TO THE MASTER SWITCH TERMINAL OR RELAY TERMINAL USING MINIMUM 12 AWG TYPE SGX (SAE J1127), CHEMICAL RESISTANT, BATTERY CABLE PROTECT BY WIRE LOOM.

IMPORTANT ⚠ NOTICE

DO NOT CONNECT THE MAIN POWER LEAD TO SMALL LEADS THAT ARE SUPPLYING SOME OTHER DEVICE, SUCH AS A LIGHT BAR OR SIREN.

IMPORTANT ⚠ NOTICE

DO NOT RUN THE PRIMER FOR MORE THAN 45 SECONDS. IF PRIME IS NOT ACHIEVED IN 30 - 45 SECONDS, STOP AND LOOK FOR AIR LEAKS OR BLOCKED SUCTION HOSE.

IMPORTANT ⚠ NOTICE

EXCESSIVE LENGTHS OF PIPE AND/OR USE OF MANY ELBOWS IN THE FOAM AND/OR WATER PLUMBING CAN DEGRADE SYSTEMS PERFORMANCE.

IMPORTANT ⚠ NOTICE

FAILING TO REDUCE SYSTEM PRESSURE BEFORE SYSTEM SHUTDOWN OR FLUSHING COULD RESULT IN WATER HAMMERING.

IMPORTANT ⚠ NOTICE

IF THE PUMP LOOSES PRIME AS A RESULT OF PRIMING THE SMARTATP SIMPLY PRIME THE PUMP AGAIN.

IMPORTANT ⚠ NOTICE

NEVER MIX CLASS A AND CLASS B FOAM. MIXING THE FOAMS CAUSES THE FOAM TO SOLIDIFY.

IMPORTANT ⚠ NOTICE

OPENING THE TANK FILL (OR COOLING VALVES) WITH THE FOAM SYSTEM OPERATING CAN PLACE FOAM IN THE WATER TANK.

IMPORTANT ⚠ NOTICE

OTHER ELECTRICAL COMPONENTS MUST NOT BE SUPPLIED FROM THIS WIRE. DO NOT CONNECT THE PRIMER AND HALE SMARTATP TO THE SAME POWER WIRE.

IMPORTANT ⚠ NOTICE

PRIMING THE SMARTATP DISPLACES THE AIR IN THE FOAM SYSTEM WHICH WHEN PASSED THRU THE PUMP MAY CAUSE THE PUMP TO LOOSE PRIME.

IMPORTANT ⚠ NOTICE

SYSTEM SHOULD BE CALIBRATED AFTER INSTALLATION TO VERIFY VALUES WITH THE ACTUAL FOAM CONCENTRATE BEING USED. ONLY CALIBRATE USING ACTUAL FOAM CONCENTRATES. DO NOT USE WATER, TRAINING, OR TEST FOAMS FOR CALIBRATION VERIFICATION.

IMPORTANT ⚠ NOTICE

THE CONTROLLER REQUIRES A 51 MM (2 IN) MINIMUM CLEARANCE AT THE REAR OF THE OPERATOR PANEL TO ALLOW PROPER CONNECTION OF CABLES.

IMPORTANT ⚠ NOTICE

THE CONTROLLER UNIT DEUTSCH CONNECTORS ARE KEYED TO PREVENT INTERCHANGE OR REVERSE DIRECTION INSERTION. DO NOT FORCE A CONNECTOR WITHOUT FIRST VERIFYING THE CONNECTORS ORIENTATION.

IMPORTANT ⚠ NOTICE

THE CONTROLLER UNIT MUST BE MOUNTED IN A DRY ENVIRONMENT AND NOT BE SUBJECTED TO EXCESSIVE HEAT.

IMPORTANT ⚠ NOTICE

THE FOAM CHEMICAL CAN BE HIGHLY CORROSIVE AND POTENTIALLY DAMAGE THE PUMP IF LEFT INSIDE THE PUMP FOR AN EXTENDED PERIOD.

2. HALE SMARTATP SYSTEM ILLUSTRATED BREAKDOWN

The Hale SmartATP system is available in two models: 125 GPM (P/N 550–00022) or 225 GPM (P/N 550–00023). NOTE: dash numbers [–XXX] are added to identify unique configurations for each model. The system diagram (Figure 1) breaks down the SmartATP system (either model) into eight sections for parts identification.

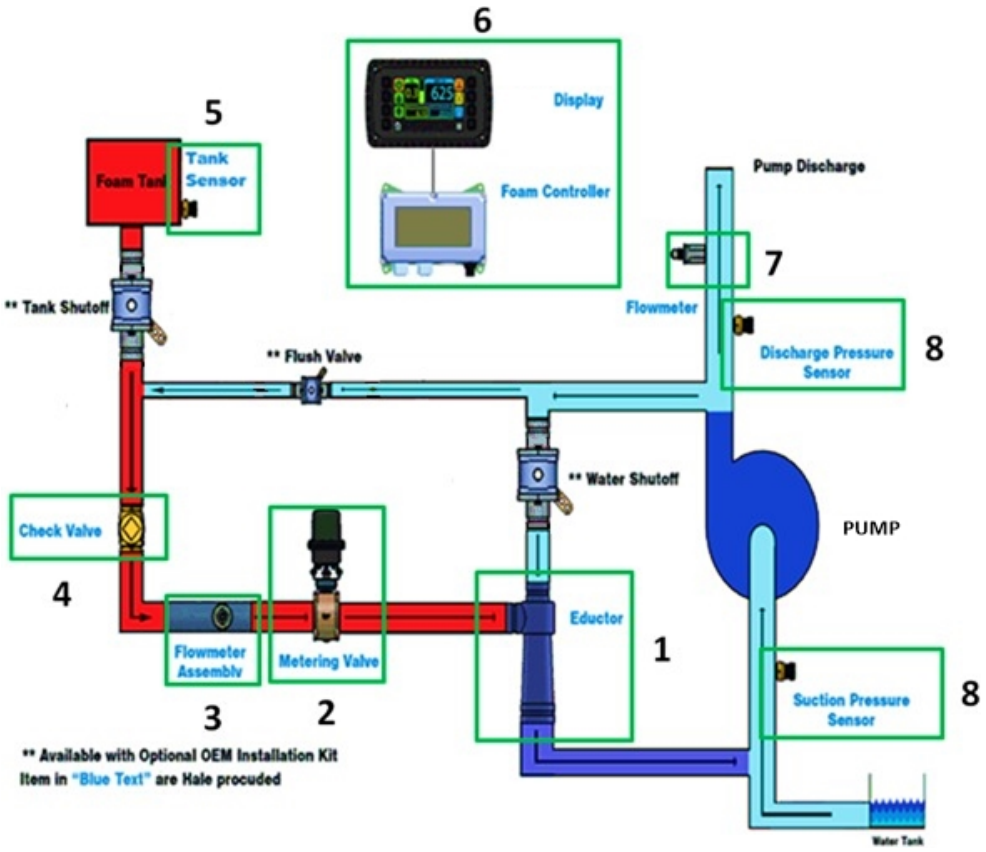

Figure 1. SmartATP System Diagram

The system breakdown (Table 1) lists the eight sections for parts identification purposes.

Table 1. SmartATP System Breakdown (Sections)

Part / Assembly Number	Description
1	Eductor Assembly
2	Metering Valve Assembly
3	Flowmeter Assembly
4	Check Valve
5	Tank Sensor
6	Display and Controller Assembly
7	Water Flowmeter Assembly
8	Pressure Sensors

Table 2 lists the core components of both models along with the available optional items.

Table 2. SmartATP Components/Options

Core/Optional Component	P/N (P/O 125 GPM System)	P/N (P/O 225 GPM System)
Core		
Metering Valve Assembly	C20-0808-34-0-ATP	C30-0808-34-0-ATP
(Flowmeter Assembly)	178-00585-000	178-00585-001
(Flowmeter – Paddlewheel)	102714	102714
(Flowmeter – Mounting Boss)	082-3060-00-0	082-3060-00-0
Display Assembly	610-00059	610-00059
Tank Sensor	200-00093	200-00093
Check Valve	538-00068-000	538-00069-000
Pressure Sensors	200-00092	200-00092
SmartATP Harness (Standard System) (Akron Brass Valve Option)	 513-00137-000 513-00137-001	 513-00137-000 513-00137-001
Eductor Assembly	178-00657-000	178-00658-000
Controller Assembly	610-00044-001	610-00044-001
Optional		
Input Module (Multiple Flowmeter Module)	610-00033 (QTY depends on configura-tion)	610-00033 (QTY depends on configura-tion)
Extender Harness Even No. of Flowmeters) Odd No. of Flowmeters)	 513-00156-000 513-00156-001	 513-00156-000 513-00156-001
2-inch Akron Brass Valve	A86205028	A86205028
2-1/2-inch Akron Brass Valve	A86255059	A86255059
3-inch Akron Brass Valve	A86305055	A86305055
Autofill Assembly	546-00049-101	546-00049-101
Autofill Harness	513-00097-000	513-00097-000
Air Installation Kit – (Single Tank)	546-00078-000	546-00079-000
Air Installation Kit – (Dual Tank) (or Single Tank With Draft Installation Kit)	546-00078-001	546-00079-001

2.1. Connection Diagrams

IMPORTANT ⚠ NOTICE

THE CONTROLLER UNIT DEUTSCH CONNECTORS ARE KEYED TO PREVENT INTERCHANGE OR REVERSE DIRECTION INSERTION. DO NOT FORCE A CONNECTOR WITHOUT FIRST VERIFYING THE CONNECTORS ORIENTATION.

Figure 2 depicts the two main wiring harnesses used for the SmartATP and includes the associated connections. Use care when connecting the harness to the SmartATP control unit, verify the connector orientation (the connectors are keyed to prevent reverse orientation) before applying the force required to seat the connector. The force required to seat a connector is very close to the force that defeats the connector keying.

NOTE

All SmartATP harnesses appear similar; however, they utilize different gauge wires depending on the run length and the current draw of each component used for that system (125 or 225 GPM).

As stated above, the SmartATP utilizes two different harnesses (each harness has a unique P/N) to connect the two types of valves available for the SmartATP 125 GPM and 225 GPM system.

When standard solenoid/air actuated valves are utilized ONLY the components shown using solid lines (on Figure 2) are supported and the system uses the 513-00137-000 wiring harness. The SmartATP does NOT include the eight (8) open/close relays/solenoids which are required but OEM supplied.

When the optional Akron Brass valves are utilized additional CAN connections are required for the valves, ONLY the valves shown using dotted lines (on Figure 2) are supported, and the system uses the 513-00137-001 wiring harness. Additionally, the Akron Brass valves require CAN bus registration. (Refer to Section 5.16, Optional Akron Brass Valves, in the SmartATP OIM manual [FSG-MNL–00193].)

Additionally, when multiple flowmeters are required/utilized, the SmartATP utilizes two different extension harnesses (each harness has a unique P/N) to connect the added flowmeters and the associated input modules. When an even number of flowmeters are utilized, one (or more) of the 513–00156–000 extension harnesses are required. When an odd number of flowmeters are utilized, one (or more) of the 513–00156–001 extension harnesses are required. The input modules also require CAN bus registration. (Refer to Section 4.5.4, Bench Procedure For Optional Input Module, in the SmartATP Technical Manual [FSG-MNL–00194].)

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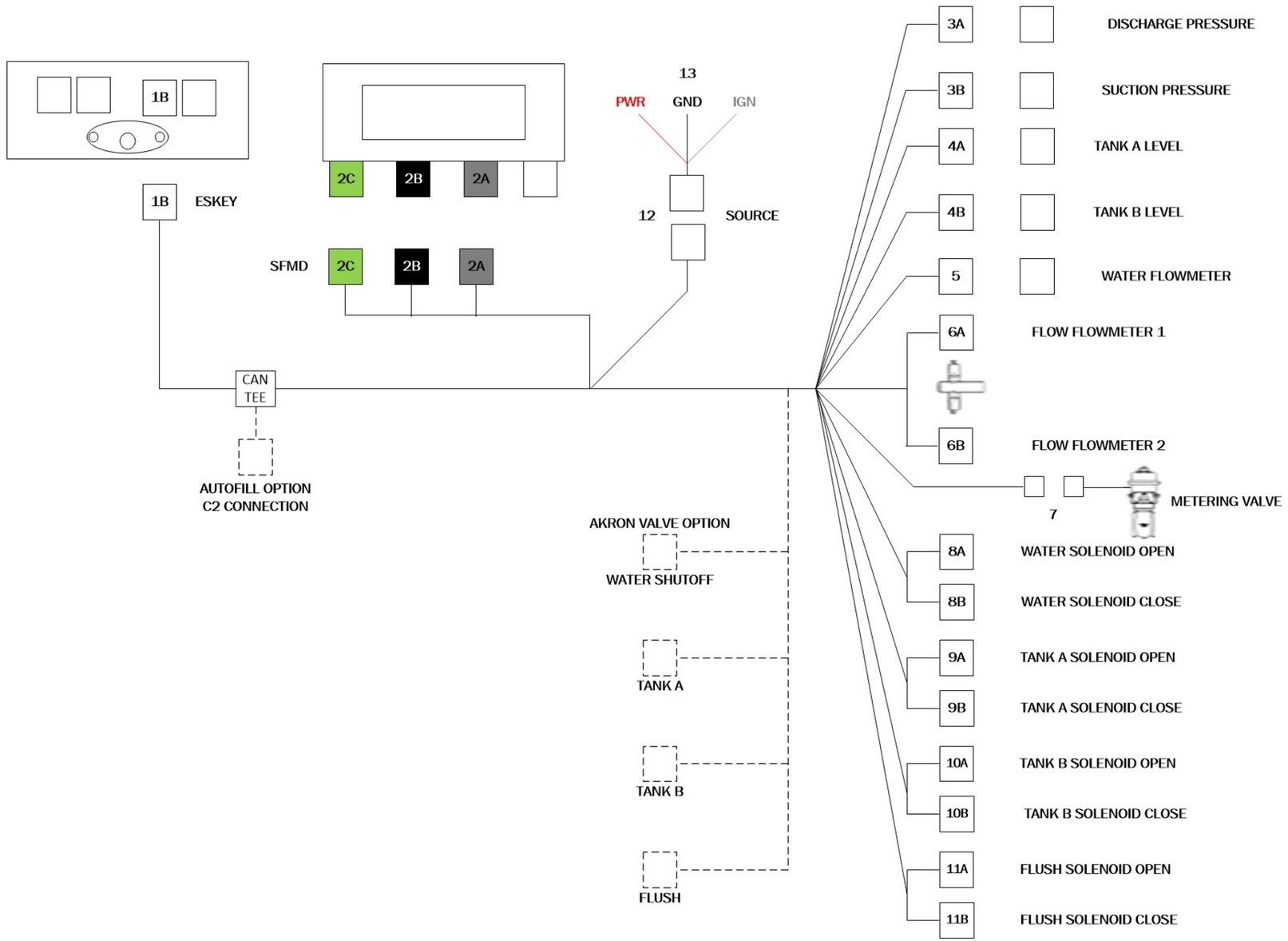

Figure 2. SmartATP Connection Diagram

Figure 3 shows the autofill wiring harness (P/N 513–00097–000) and its connections, which is optionally available for the SmartATP as an automatic tank fill system. The Hale autofill is an integrated tank filling system designed to begin filling the onboard water tank when the tank level drops to 75% of FULL and then shutoff when the tank is within one–eighth of FULL capacity. The SmartATP display provides the operator the tanks fill level by displaying the liquid volume accurate to 1/8 of the tanks volume on the autofill screen.

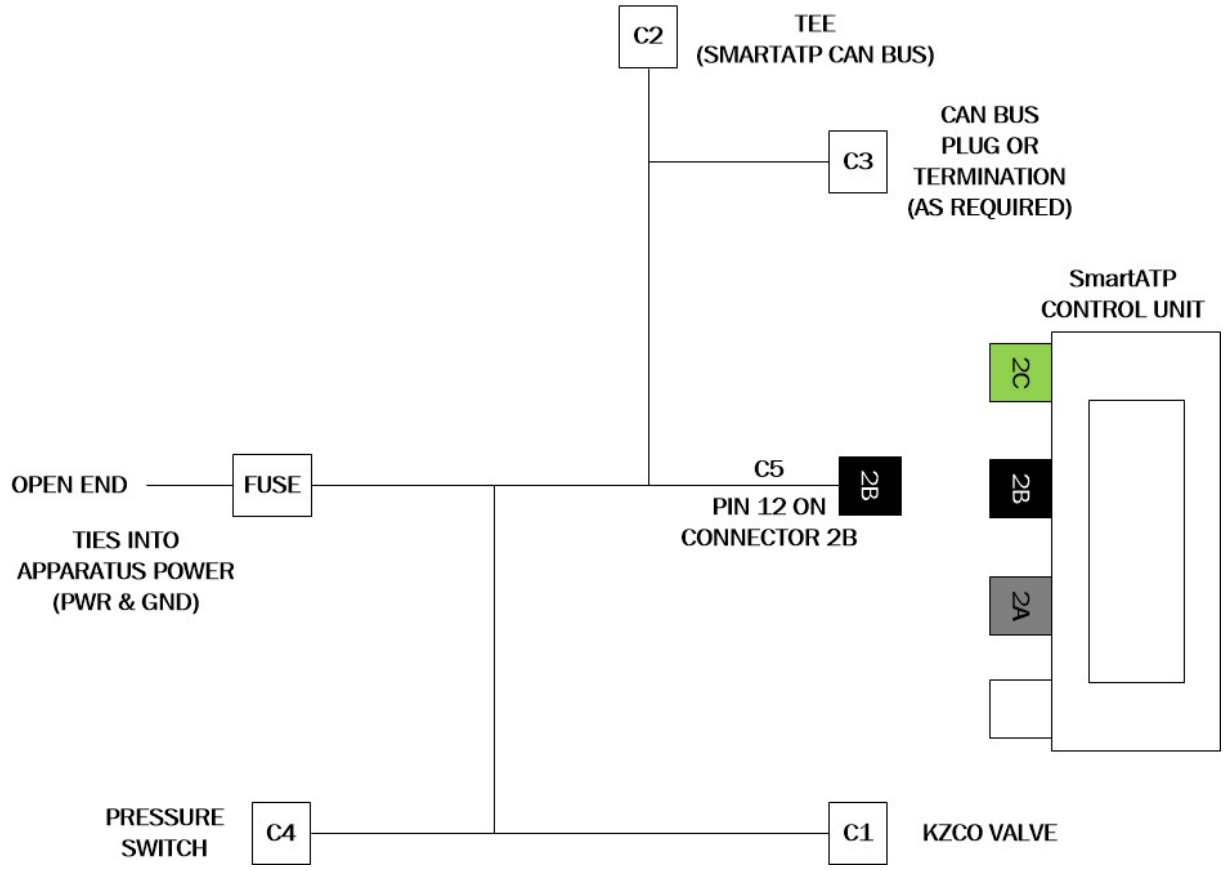

Figure 3. Autofill Connection Diagram

2.2. Eductor Assembly (Section 1)

The 125 GPM eductor assembly (P/N 178-00657-000, Figure 4) consists of two items: The eductor (Item Number 1) and the eductor nozzle (Item Number 2).

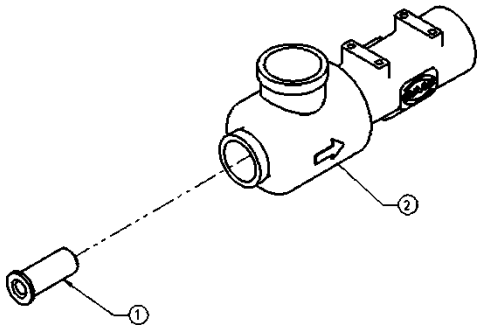

Figure 4. 125 GPM Eductor Assembly

The 225 GPM eductor assembly (P/N 178-00658-000, Figure 5) consists of four items: The eductor (Item Number 1), the eductor nozzle (Item Number 2), the eductor outlet (Item Number 3), and the O-ring (Item Number 4).

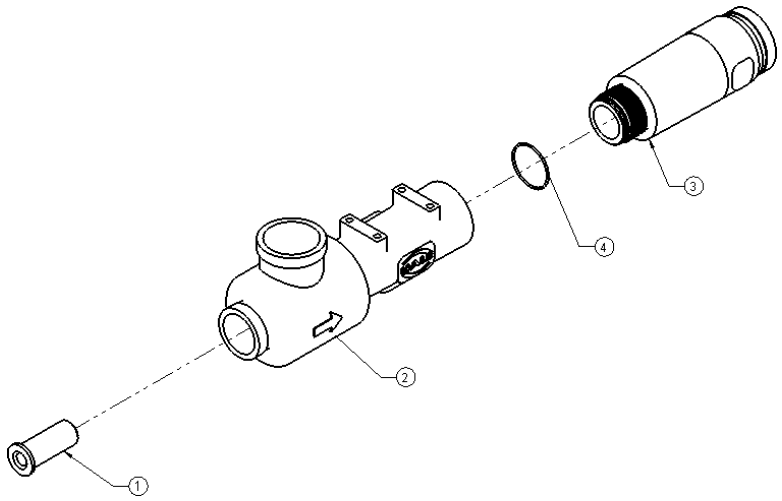

Figure 5. 225 GPM Eductor Assembly

The eductor breakdown (Table 3) lists the eductor assembly components.

Table 3. Eductor Assembly Breakdown

Item Number	Description	QTY	SmartATP 125 GPM P/N	SmartATP 225 GPM P/N
1	Eductor Inlet	1	178-00602-001	178-00603-000
2	Eductor Nozzle	1	178-00602-002	178-00603-002
3	Eductor Outlet	1	N/A	187-00617-001
4	O-ring	1	N/A	040-00142-000

NOTE: The Eductor drain port is NOT shown and the drain plug (bulk item) is NOT listed.

2.3. Metering Valve Assembly (Section 2)

The metering valve assembly (Figure 6) consists of the ten components.

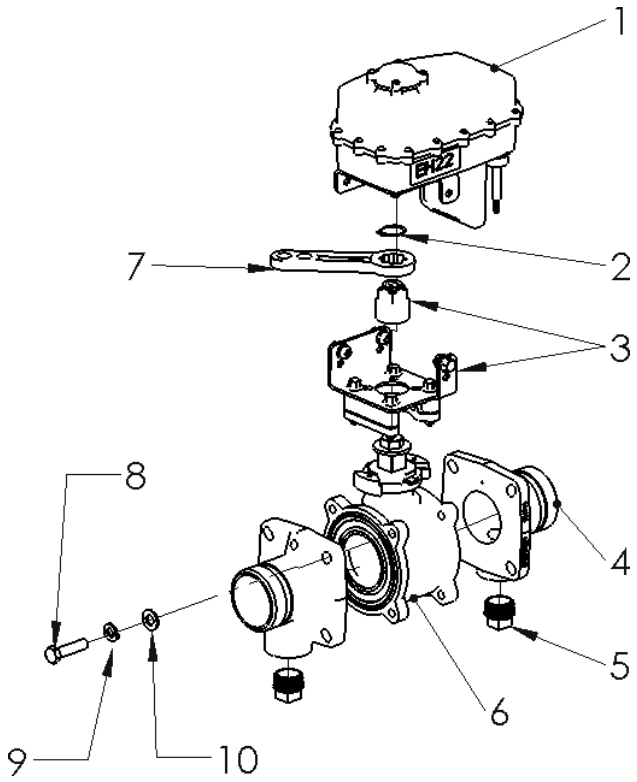

Figure 6. Metering Valve Assembly

The metering valve assembly breakdown (Table 4) lists the metering valve assembly components.

Table 4. Metering Valve Assembly Breakdown

Item Number	Description	QTY	SmartATP 125 GPM P/N	SmartATP 225 GPM P/N
1	Electric Motor	1	123016	123017
2	7/8-inch Snap Ring	1	077-0780-21-0	077-0780-21-0
3	KZCO Mounting Kit	1	117234-004	117234-001
4	Victaulic Valve Flange	2	112392	112394
5	3/4-inch Plug (Drain)	2	217-0501-01-0	217-0501-01-0
6	Valve (See 119138 manual for parts breakdown)	1	2-inch Valve	3-inch Valve
7	Override handle	1	115164-001	115164-001
8	Screw, 3/8-16 x 1.5-inch	8	018-1614-25-0	018-1614-25-0
9	3/8-inch Lock Washer	8	097-0140-02-0	097-0140-02-0
10	3/8-inch Washer	8	097-5730-01-0	097-5730-01-0

2.4. Flowmeter Assembly (Section 3)

The flowmeter assembly (Figure 7) consists of two items: The flowmeter manifold (Item Number 1) and the flowmeter (Item Number 2).

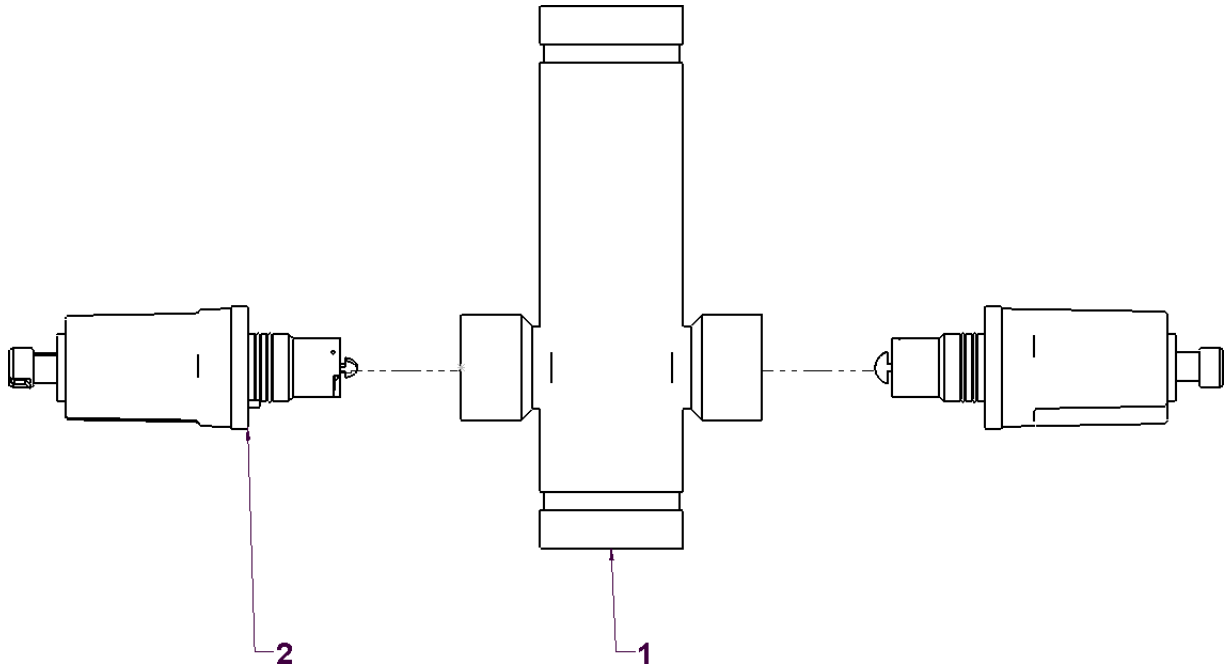

Figure 7. Flowmeter Assembly

The flowmeter breakdown (Table 5) lists the flowmeter assembly components.

Table 5. Flowmeter Assembly Breakdown

Item Number	Description	QTY	SmartATP 125 GPM P/N	SmartATP 225 GPM P/N
1	Flowmeter Manifold	1	178-00585	178-00585-001
2	Flowmeter (see 114634 manual for parts breakdown)	2	102714	102714

NOTE: Flowmeter (AKA Paddlewheel Model 100)

2.5. Check Valve (Section 4)

The check valve is shown on (Figure 8).

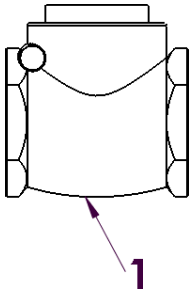

Figure 8. Check Valve

Table 6 lists check valve part number.

Table 6. Check Valve

Item Number	Description	QTY	SmartATP 125 GPM P/N	SmartATP 225 GPM P/N
1	Check Valve	1	538-00068	538-00069

2.6. Tank Sensor (Section 5)

IMPORTANT ⚠ NOTICE

THE TANK LEVEL AND PRESSURE SENSORS APPEAR SIMILAR, DO NOT INSTALL A TANK LEVEL SENSOR IN THE DISCHARGE (OR SUCTION) WATERWAY OF A PUMP. (THE TANK LEVEL SENSOR HAS A BURST PRESSURE OF 15 PSI.)

The tank sensor (transducer) is shown on (Figure 9).

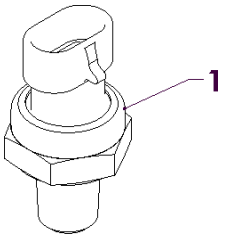

Figure 9. Tank Sensor

Table 7 lists tank transducer part number.

Table 7. Tank Sensor

Item Number	Description	Single Tank QTY	Dual Tank QTY	SmartATP 125 GPM P/N	SmartATP 225 GPM P/N
1	Tank Level Transducer	1	2	200-00093	200-00093

2.7. Display and Controller Assembly (Section 6)

The display and controller assembly (Figure 10) consists of four items: The UltraView display (Item Number 1), controller (Item Number 2), harness (Item Number 3), and the plug (Item Number 4).

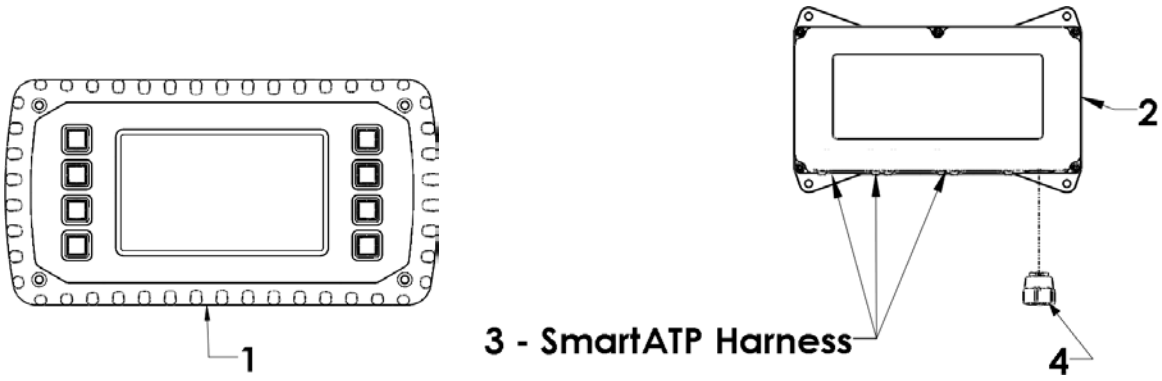

Figure 10. Display and Controller Assembly

The display and controller assembly breakdown (Table 8) lists the assembly components.

Table 8. Display and Controller Assembly Breakdown

Item Number	Description	QTY	SmartATP 125 GPM P/N	SmartATP 225 GPM P/N
1	SmartATP Display	1	610-00059	610-00059
2	SmartATP Controller	1	610-00044-001	610-00044-001
3	SmartATP Harness	1	513-00137-000	513-00137-000
4	Controller Plug	1	513-00142	513-00142

The foam controller label (see Figure 11) provides a ready reference (at hand info) for the wiring of the three connectors and the modules status.

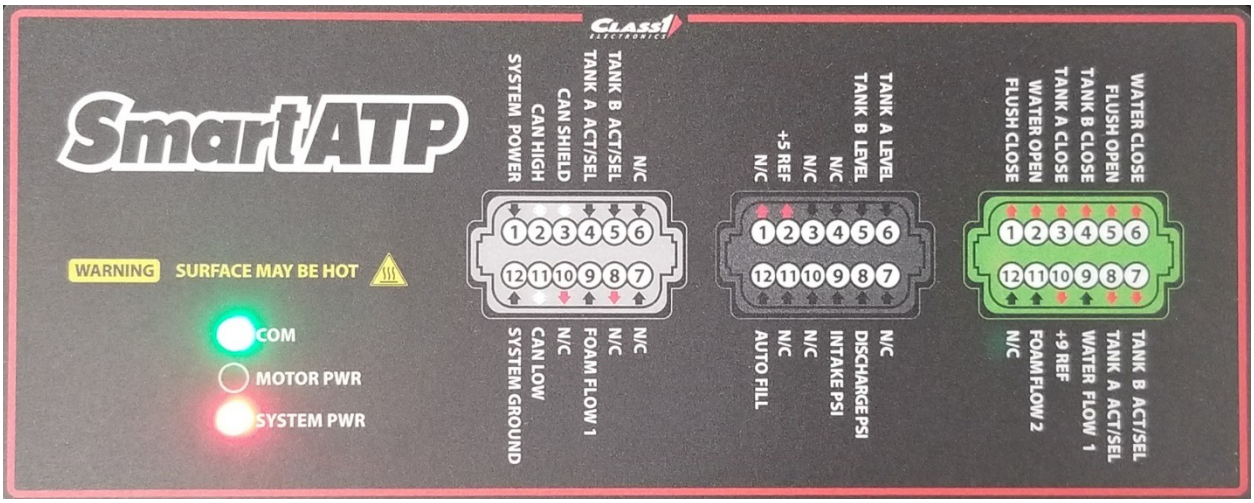

Figure 11. Foam Controller Label

2.8. Water Flowmeter Assembly (Section 7)

The water flowmeter assembly (Figure 12) consists of two items: The flowmeter (Item Number 1) and the mounting weldment (Item Number 2).

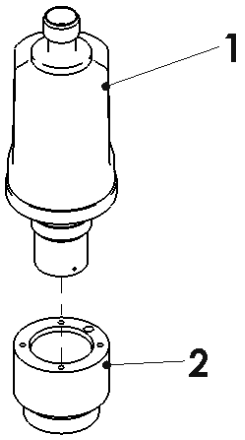

Figure 12. Water Flowmeter Assembly

The water flowmeter breakdown (Table 9) lists the water flowmeter assembly components.

Table 9. Water Flowmeter Assembly Breakdown

Item Number	Description	QTY	SmartATP 125 GPM P/N	SmartATP 225 GPM P/N
1	Flowmeter (see 114634 manual for parts breakdown)	1	102714	102714
2	Mounting Boss (Weldment)	1	082-3060-00-0	082-3060-00-0

NOTE: Flowmeter (AKA Paddlewheel Model 100)

2.9. Pressure Sensors (Section 8)

The pressure sensor (transducer) is shown on Figure 13.

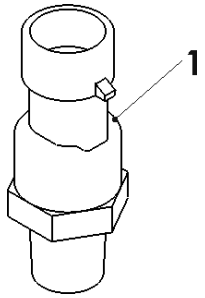

Figure 13. Pressure Sensor

Table 10 lists the pressure sensor part number.

Table 10. Pressure Sensor

Item Number	Description	QTY	SmartATP 125 GPM P/N	SmartATP 225 GPM P/N
1	Pressure Sensor	1	200-00092	200-00092

2.10. Wire Harness And Mating Connector Information

Hale supplies a wire harness (see Figure 2 or Figure 3) based on the SmartATP option(s) selected at the time of purchase (one tank vs two tanks, with autofill, electric vs air valves, etc.) The installer may need to supply connectors that mate with connectors on the Hale SmartATP wiring harness. Table 11 lists the mating connector and the associated terminal part numbers used with the Hale SmartATP harness.

Table 11. Typical Wire Harness Mating Connector Information

Connection Number	Mating Connector P/N	Terminal P/N	Seal P/N
C2	DT04-3P-P007 (Y Connector)	N/A	N/A
C3	DT06-36-P006 (Termination) DT06-3S W3S-1939 (Plug)	N/A	N/A
7	DT04-4P	0462-201-16141 (tin) 0462-201-1631 (gold)	W4S (Lock)
8A & 8B	12015792	12124582	15324980
9A & 9B	12015792	12124582	15324980
10A & 10B	12015792	12124582	15324980
11A & 11B	12015792	12124582	15324980
13	N/A	N/A	N/A

NOTE: **If a connection number is NOT listed (or mating connector is listed as N/A), a mating connector does NOT apply (or the harness connector mates directly to a device).**

3. OPTIONS

This section shows the parts list for optional add-ons and provides programming information for the optional Akron Brass valves.

- Multiple Flowmeter
- Autofill
- Air Actuated Valve Installation Kits
- Electric Valve Installation Kits

3.1. Multiple Flowmeters

The multiple flowmeter assembly (Figure 14) consists of four items: The flowmeter (Item Number 1), the mounting boss [weldment] (Item Number 2), Multiple Flow Module (Item Number 3), and Harness (Item Number 4).

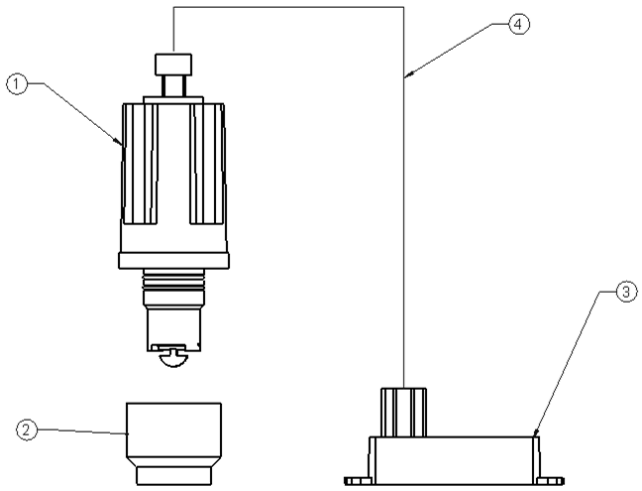

Figure 14. Multiple Flowmeter Assembly

The flowmeter breakdown (Table 12) lists the flowmeter assembly components and assigns dash numbers for flowmeter extension harness configurations.

Table 12. Multiple Flowmeter Assembly Breakdown

Item Number	Description	Module w/ 1 Flowmeter	QTY	Module w/ 2 Flowmeters	QTY
1	Flowmeter (see 114634 manual for parts breakdown)	102714	1	102714	2
2	Mounting Weldment	082-3060-00-0	1	082-3060-00-0	2
3	Multiple Flowmeter Module 1/	610-00033	1	610-00033	1
4	Multiple Flowmeter Module Harness 2/	513-00156-001	1	513-00156-000	1

NOTE 1/: Refer to Dual Analog to CAN With Accelerometer OPERATION MANUAL (P/N FSG–MNL–00106).

NOTE 2/: All configurations totaling an odd number of flowmeters utilize multiple (-001) harnesses and all those totaling an even number of flowmeters utilize multiple (–000) harnesses. (Remember the system always includes one flowmeter that counts toward this total.)

Table 12 lists the 599–00043–000 (Module w/1 Flowmeter) and 599–00043–001 (Module w/2 Flowmeters) configurations. Table 13 lists the remaining available multiple flowmeter optional configurations with Item 5 representing all of the P/Ns and QTYs listed under Module w/1 Flowmeter (see Table 12) and Item 6 representing all of the P/Ns and QTYs listed under Module w/2 Flowmeters (see Table 12) above.

Table 13. Multiple Flowmeter Options Listing

Item Number	Description	P/N	QTY
Quantity 3 additional flowmeters		599–00043–0002	N/A
5	See NOTE 1	599–00043–000	1
6	See NOTE 2	599–00043–001	1
Quantity 4 additional flowmeters		599–00043–003	N/A
6	See NOTE 2	599–00043–001	2
Quantity 5 additional flowmeters		599–00043–004	N/A
5	See NOTE 1	599–00043–000	1
6	See NOTE 2	599–00043–001	2
Quantity 6 additional flowmeters		599–00043–005	N/A
6	See NOTE 2	599–00043–001	3
Quantity 7 additional flowmeters		599–00043–006	N/A
5	See NOTE 1	599–00043–000	1
6	See NOTE 2	599–00043–001	3
Quantity 8 additional flowmeters		599–00043–007	N/A
6	See NOTE 2	599–00043–001	4
Quantity 9 additional flowmeters		599–00043–008	N/A
5	See NOTE 1	599–00043–000	1
6	See NOTE 2	599–00043–001	4
Quantity 10 additional flowmeters		599–00043–009	N/A
6	See NOTE 2	599–00043–001	5
Quantity 11 additional flowmeters		599–00043–010	N/A
5	See NOTE 1	599–00043–000	1
6	See NOTE 2	599–00043–001	6
Quantity 12 additional flowmeters		599–00043–011	N/A
6	See NOTE 2	599–00043–001	6

NOTE 1: Items 1 thru 4 listed under Module w/1 Flowmeter in Table 11.
NOTE 2: Items 1 thru 4 listed under Module w/2 Flowmeter in Table 11.

3.2. Autofill Assembly

The autofill assembly (Figure 15) consists of six items: The tee (Item Number 1), check valve (Item Number 2), Victaulic connector (Item Number 3), relief valve (Item Number 4), pressure switch (Item Number 5) and the KZCO valve (Item Number 6).

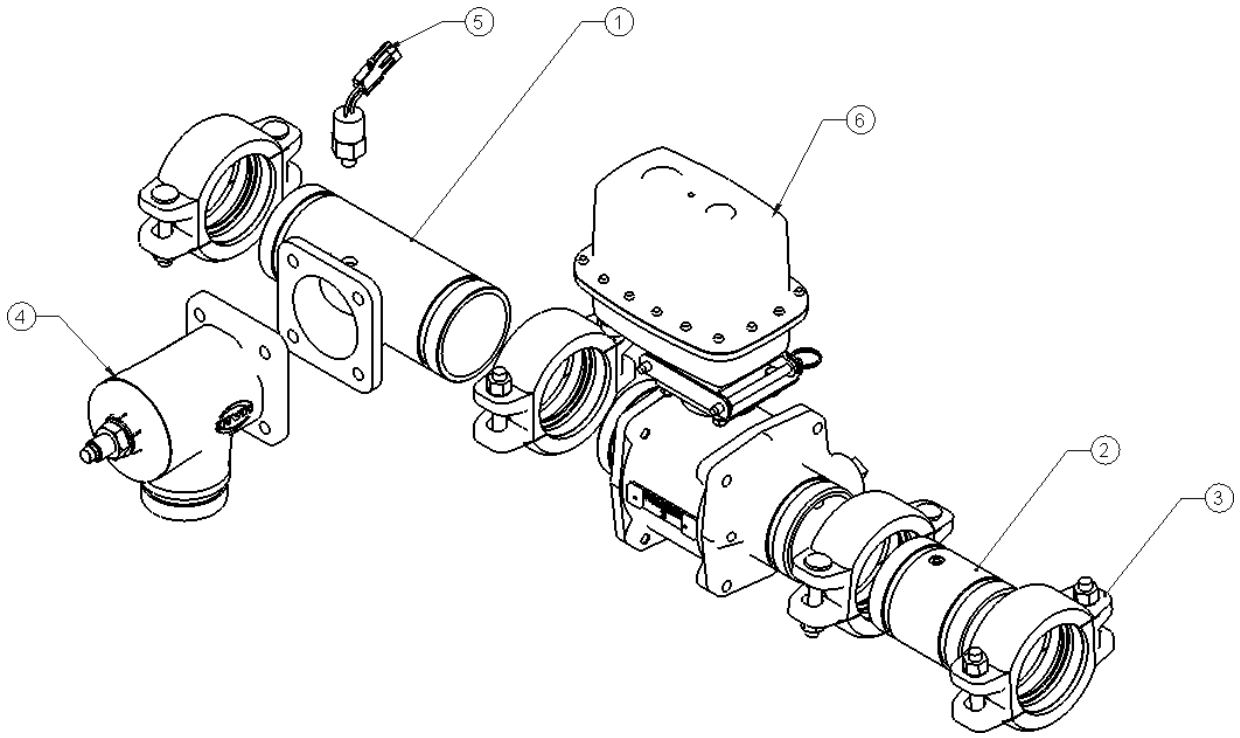

Figure 15. Autofill Assembly

The autofill assembly breakdown (Table 14) lists the autofill assembly components.

Table 14. Autofill Assembly Breakdown

Item Number	Description	546-00049-100 3-inch Autofill P/N	QTY	546-00048-100 2.5-inch Autofill P/N	QTY
1	Tee, VIC	178-0510-00-0	1	178-0510-00-0	1
2	Check Valve	538-1780-01-0	1	538-1780-01-0	1
3	VIC	088-0590-10-0	4	088-0780-00-0	4
4	Relief Valve	538-1920-00-0	1	538-1920-00-0	1
5	Pressure Switch	200-2560-00-0	1	200-2560-00-0	1
6	KZCO Valve	831-1108-34-3	1	831-1108-34-3	1
N/A	Autofill Harness	513-00097-000	1	513-00097-000	1

3.3. Air Actuated Valve Installation Kits

Three solenoid (OEM provides the relays/ solenoids) controlled air actuated valve assemblies (available optional kit) are required for the Hale SmartATP system. All three valve assemblies are configured the same (see Figure 16).

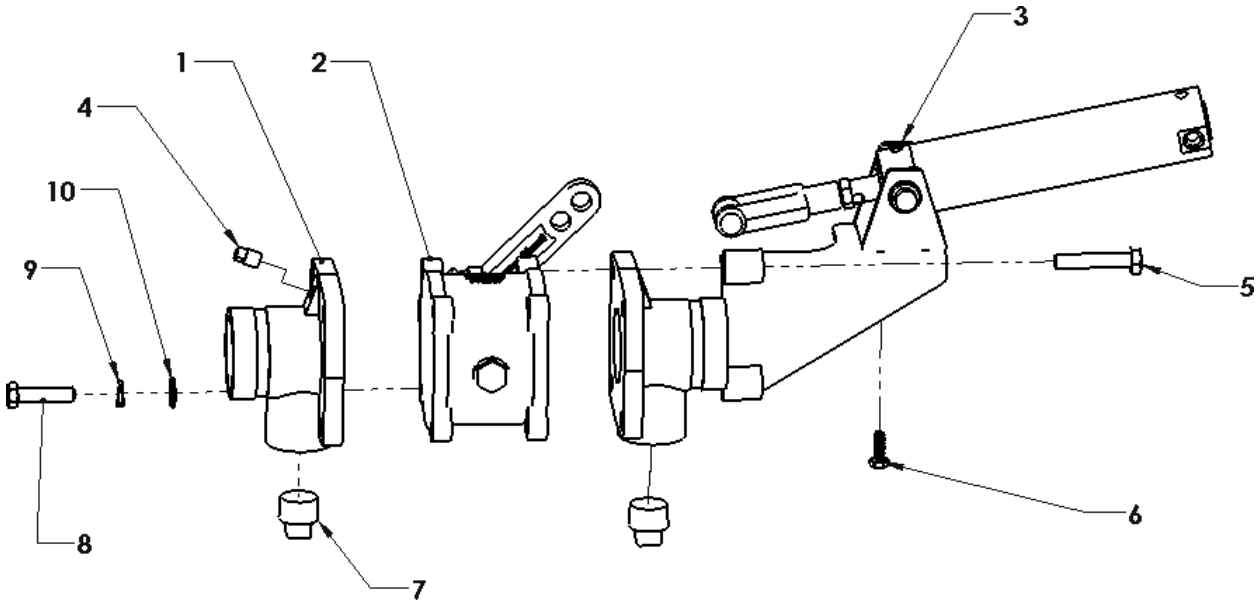

Figure 16. Solenoid Valve Assembly (Air Controlled)

Table 15 lists the tank shutoff solenoid controlled valve assembly components. Table 16 lists the water shutoff solenoid controlled valve assembly components. Table 17 lists the flush solenoid controlled valve assembly components.

Table 15. Tank Shutoff Valve Assembly (Air Controlled)

Item Number	Description	QTY	SmartATP 125 GPM P/N	SmartATP 225 GPM P/N
1	Victaulic Valve Flange	2	112392	112394
2	Valve (See 119138 manual for parts breakdown)	1	C20-0000-00-0 (2-inch Valve)	C30-0000-00-0 (3-inch Valve)
3	Air Solenoid Kit	1	550722	550722
4	1/8-inch Plug	2	102669	102669
5	Screw, 3/8-16 x 2-inch	2	018-1620-25-0	018-1620-25-0
6	Screw, 1/4-20 x 0.75-inch	4	018-1206-12-0	018-1206-12-0
7	3/4-inch Plug	2	217-0501-01-0	217-0501-01-0
8	Screw, 3/8-16 x 1.5-inch	6	018-1614-25-0	018-1614-25-0
9	3/8-inch Lock Washer	8	097-0140-02-0	097-0140-02-0
10	3/8-inch Washer	8	097-5730-01-0	097-5730-01-0

Table 16. Water Shutoff Assembly (Air Controlled)

Item Number	Description	QTY	SmartATP 125 GPM P/N	SmartATP 225 GPM P/N
1	Victaulic Valve Flange	2	112393	112393
2	Valve (See 119138 manual for parts breakdown)	1	C20-0000-00-0 (2-inch Valve)	C30-0000-00-0 (3-inch Valve)
3	Air Solenoid Kit	1	550723	550723
4	1/8-inch Plug	2	102669	102669
5	Screw, 3/8-16 x 2-inch	2	018-1620-25-0	018-1620-25-0
6	Screw, 1/4-20 x 0.75-inch	4	018-1206-12-0	018-1206-12-0
7	3/4-inch Plug	2	217-0501-01-0	217-0501-01-0
8	Screw, 3/8-16 x 1.5-inch	6	018-1614-25-0	018-1614-25-0
9	3/8-inch Lock Washer	8	097-0140-02-0	097-0140-02-0
10	3/8-inch Washer	8	097-5730-01-0	097-5730-01-0

Table 17. Flush Assembly (Air Controlled)

Item Number	Description	QTY	SmartATP 125 GPM P/N	SmartATP 225 GPM P/N
1	Victaulic Valve Flange	2	120991	120991
2	Valve (See 119138 manual for parts breakdown)	1	C15-0000-00-0 (1.5-inch Valve)	C15-0000-00-0 (1.5-inch Valve)
3	Air Solenoid Kit	1	550721	550721
4	1/8-inch Plug	2	102669	102669
5	Screw, 3/8-16 x 2-inch	2	018-1620-25-0	018-1620-25-0
6	Screw, 1/4-20 x 0.75-inch	4	018-1206-12-0	018-1206-12-0
7	3/4-inch Plug	2	217-0501-01-0	217-0501-01-0
8	Screw, 3/8-16 x 1.5-inch	6	018-1614-25-0	018-1614-25-0
9	3/8-inch Lock Washer	8	097-0140-02-0	097-0140-02-0
10	3/8-inch Washer	8	097-5730-01-0	097-5730-01-0

3.4. Electrically Controlled Valve Assemblies

The same three valves (required for the Hale SmartATP system — see paragraph 3.3) can be electrically controlled. All three valve assemblies are configured the same (see Figure 17).

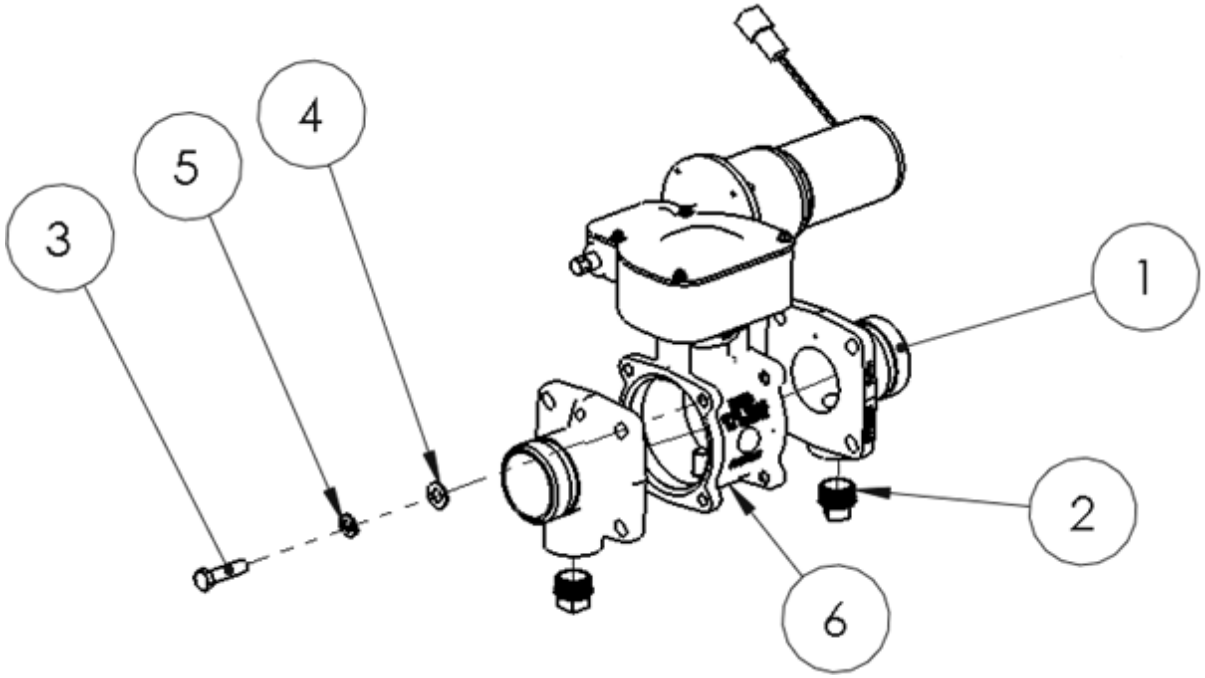

Figure 17. Valve Assembly (Electrically Controlled)

Table 18 lists the tank shutoff electrically controlled valve assembly components. Table 19 lists the water shutoff electrically controlled valve assembly components. Table 20 lists the flush electrically controlled valve assembly components.

Table 18. Tank Shutoff Valve Assembly (Electric)

Item Number	Description	QTY	SmartATP 125 GPM P/N	SmartATP 225 GPM P/N
1	Victaulic Valve Flange	2	112392	112394
2	3/4-inch Plug	2	217-0501-01-0	217-0501-01-0
3	Screw, 3/8-16 x 1.5-inch	8	018-1614-25-0	018-1614-25-0
4	3/8-inch Washer	8	097-5730-01-0	097-5730-01-0
5	3/8-inch Lock Washer	8	097-0140-02-0	097-0140-02-0
6	Valve (See Akron manual, 123292, for parts breakdown.)	1	A86205028 8600 Series 2.0- inch Valve	A86305055 8600 Series 3.0- inch Valve

Table 19. Water Shutoff Assembly (Electric)

Item Number	Description	QTY	SmartATP 125 GPM P/N	SmartATP 225 GPM P/N
1	Victaulic Valve Flange	2	112392	112394
2	3/4-inch Plug	2	217-0501-01-0	217-0501-01-0
3	Screw, 3/8-16 x 1.5-inch	8	018-1614-25-0	018-1614-25-0
4	3/8-inch Washer	8	097-5730-01-0	097-5730-01-0
5	3/8-inch Lock Washer	8	097-0140-02-0	097-0140-02-0
6	Valve (See Akron manual, 123292, for parts breakdown.)	1	A86255059 8600 Series 2.5- inch Valve	A86255059 8600 Series 2.5- inch Valve

Table 20. Flush Assembly (Electric)

Item Number	Description	QTY	SmartATP 125 GPM P/N	SmartATP 225 GPM P/N
1	Victaulic Valve Flange	2	112392	112394
2	3/4-inch Plug	2	217-0501-01-0	217-0501-01-0
3	Screw, 3/8-16 x 1.5-inch	8	018-1614-25-0	018-1614-25-0
4	3/8-inch Washer	8	097-5730-01-0	097-5730-01-0
5	3/8-inch Lock Washer	8	097-0140-02-0	097-0140-02-0
6	Valve (See Akron manual, 123292, for parts breakdown.)	1	A86205028 8600 Series 2.0- inch Valve	A86205028 8600 Series 2.0- inch Valve

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APPENDIX A.
SMARTATP COMPONENT INSTALL DIMENSIONS

1 Controller, Foam (P/N 610-00044-001)

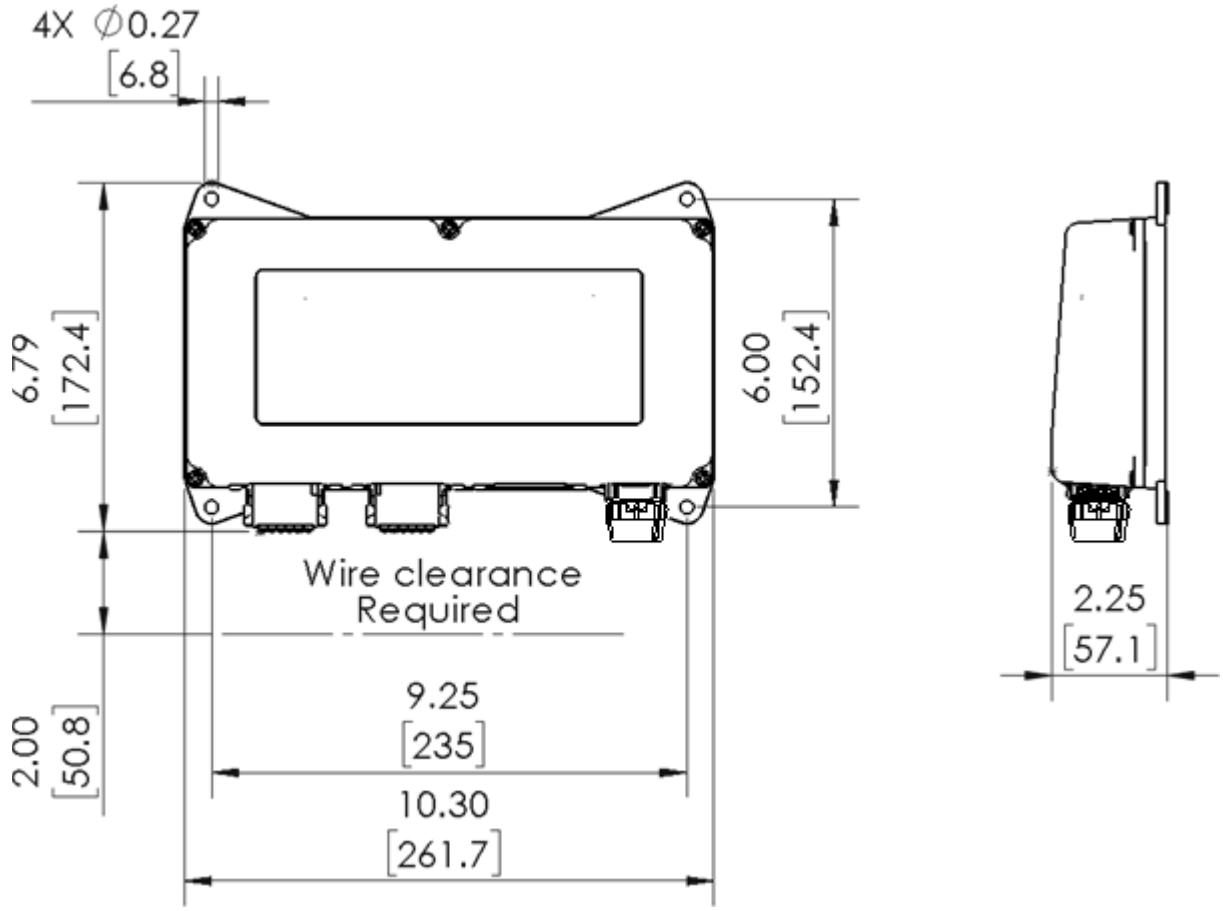

Figure 18. Foam Controller Dimensions And Cutout

2 Display, UltraView (P/N 610-00059)

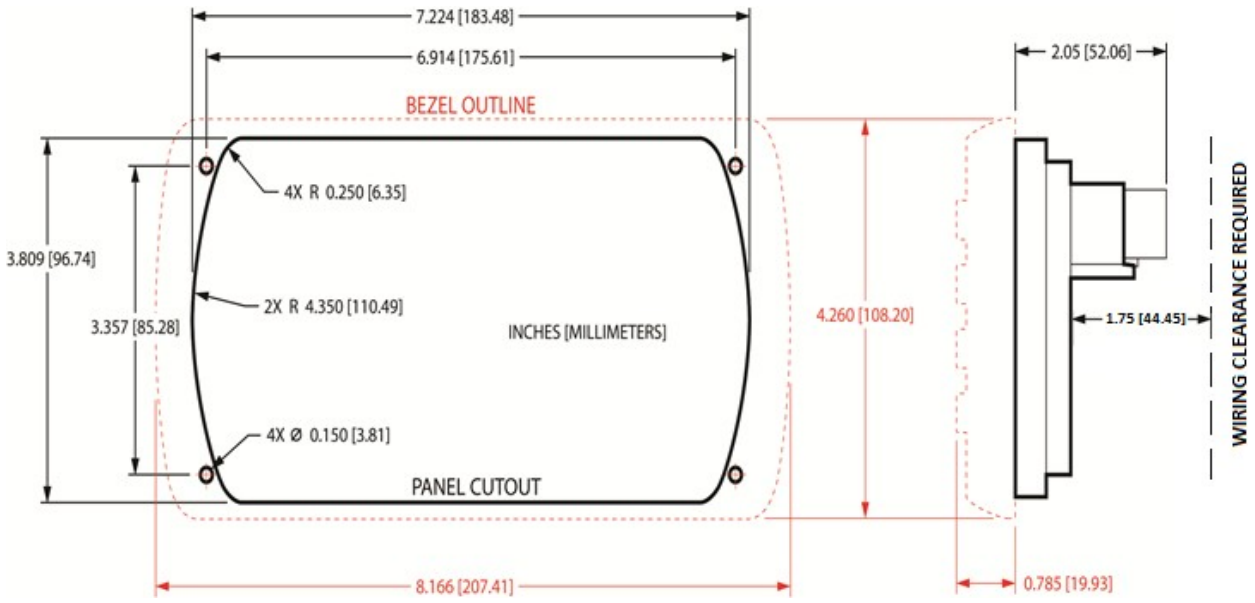

Figure 19. UltraView Display Dimensions And Cutout

3 Eductors

125 GPM Eductor (P/N 178–00657-000)

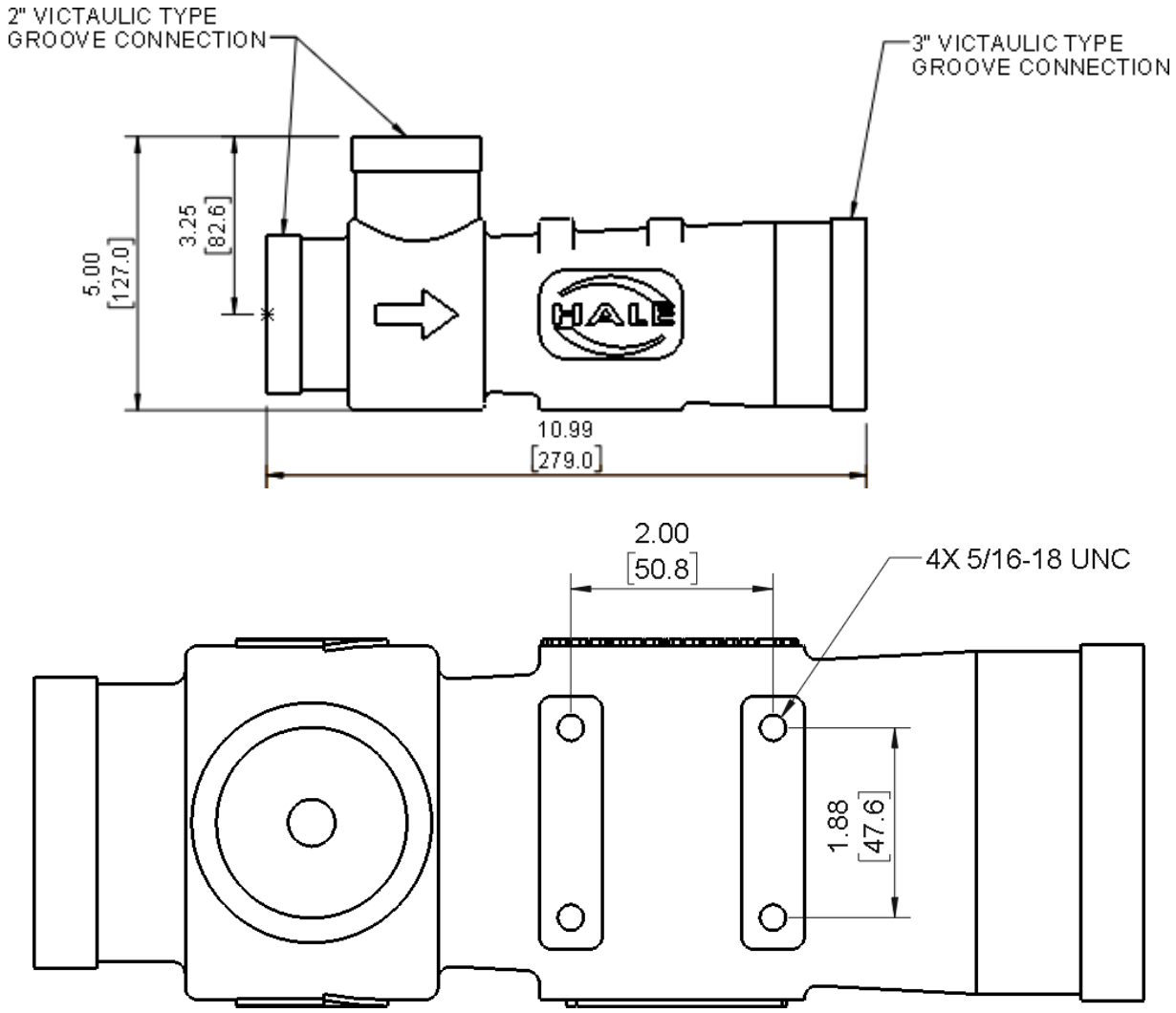

Figure 20. 125 GPM Eductor Dimensions

225 GPM Eductor (P/N 178-00658-000)

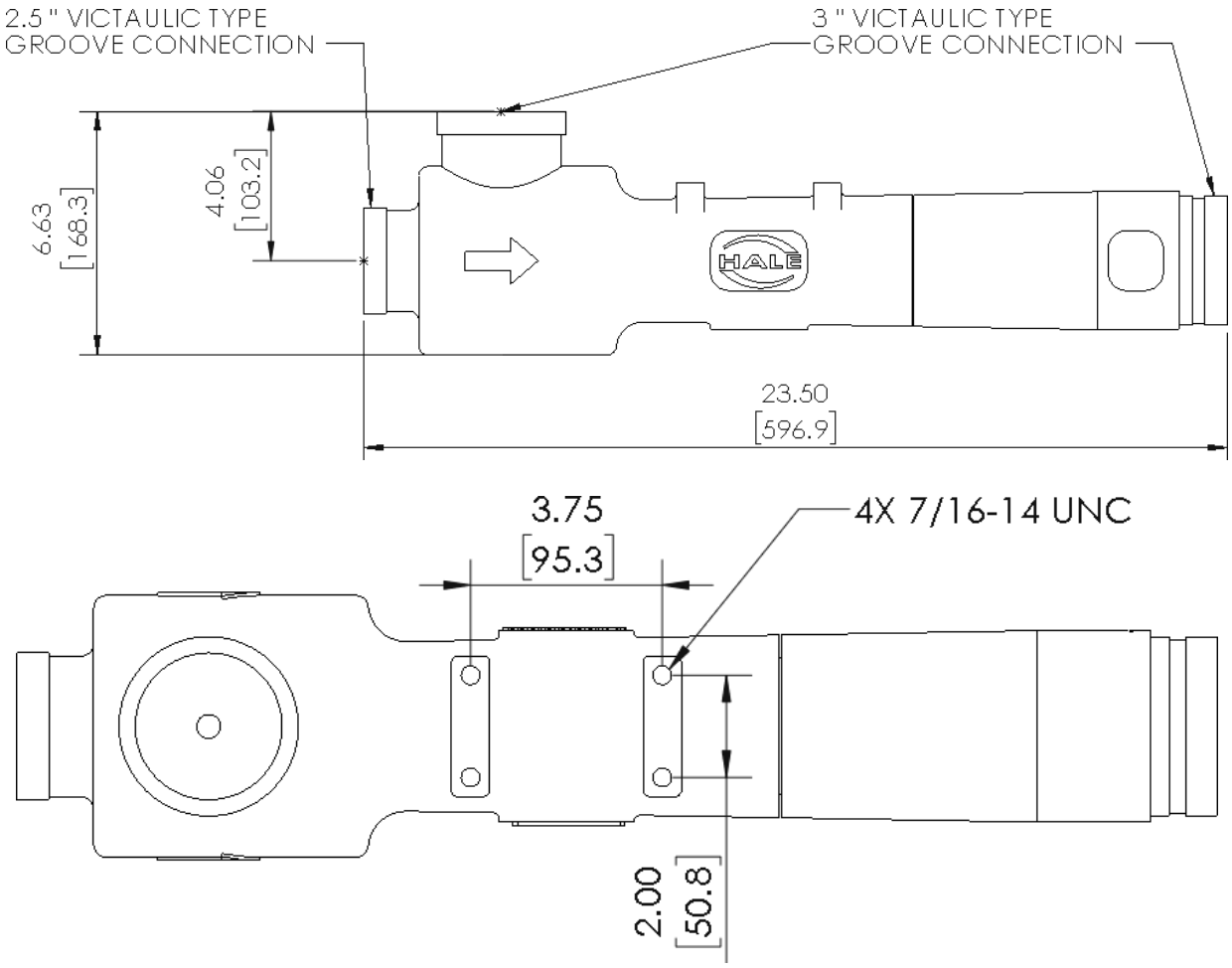

Figure 21. 225 GPM Eductor Dimensions

4 Flowmeters, Foam

125 GPM Foam Flowmeter Assembly (P/N 178-00585-000)

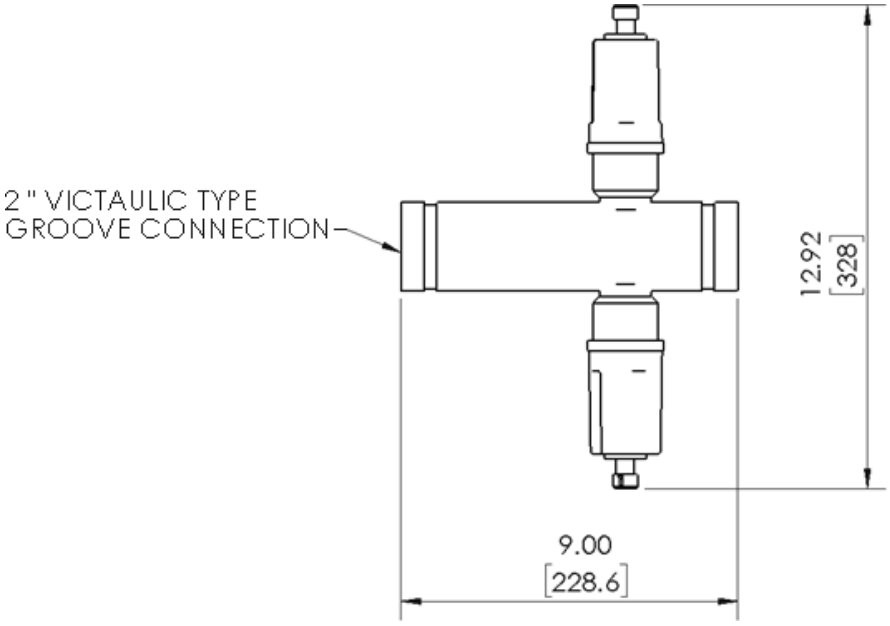

Figure 22. 125 GPM Foam Flowmeter Dimensions

225 GPM Foam Flowmeter Assembly (P/N 178-00585-001)

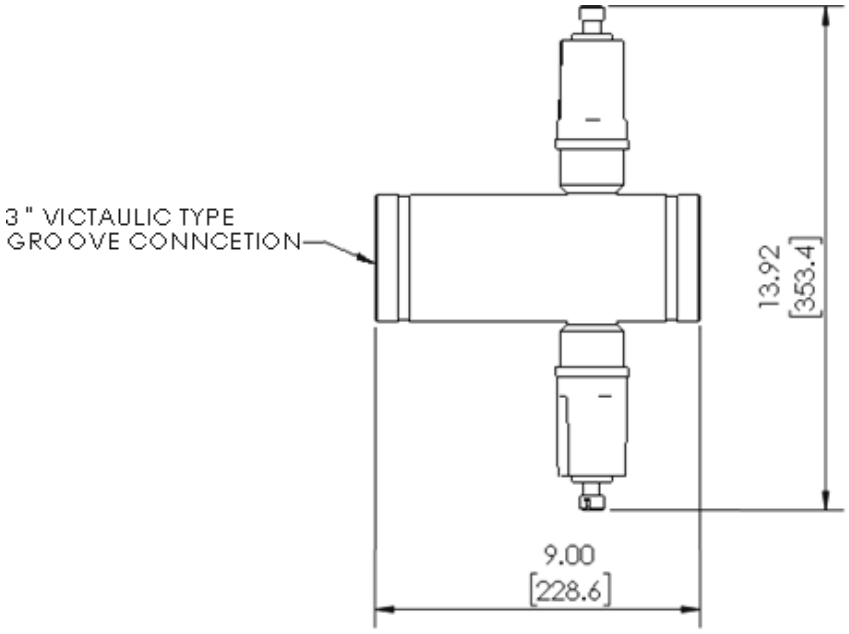

Figure 23. 225 GPM Foam Flowmeter Dimensions

5 Flowmeter, Water

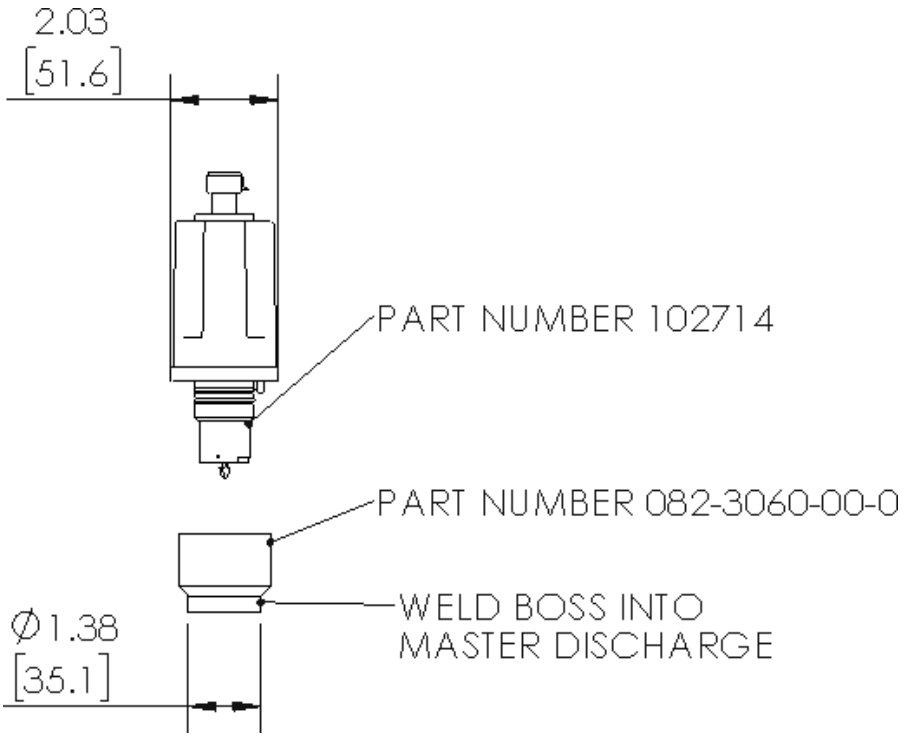

Figure 24. Water Flowmeter Assembly

NOTE

Assemble per instruction manual 114634 included with flowmeter.

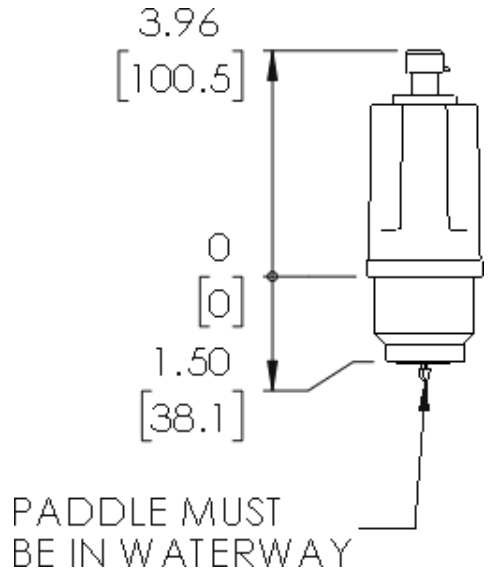

Figure 25. Water Flowmeter Dimensions

6 Valves, Check

125 GPM Check Valve (P/N 538-00068-000)

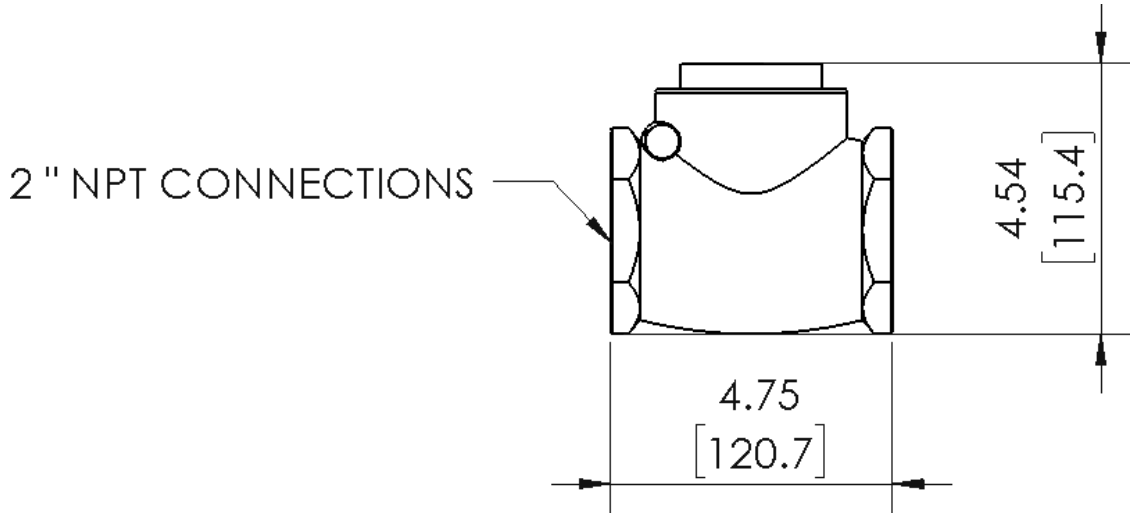

Figure 26. 125 GPM Check Valve Dimensions

225 GPM Check Valve (P/N 538-00069-000)

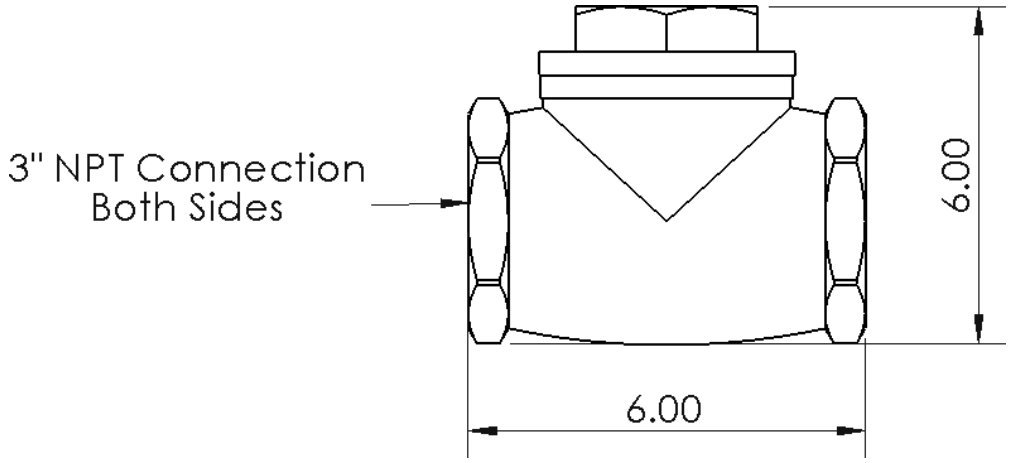

Figure 27. 225 GPM Check Valve Dimensions

125 GPM Metering Valve (P/N C20-0808-34-0- ATP)

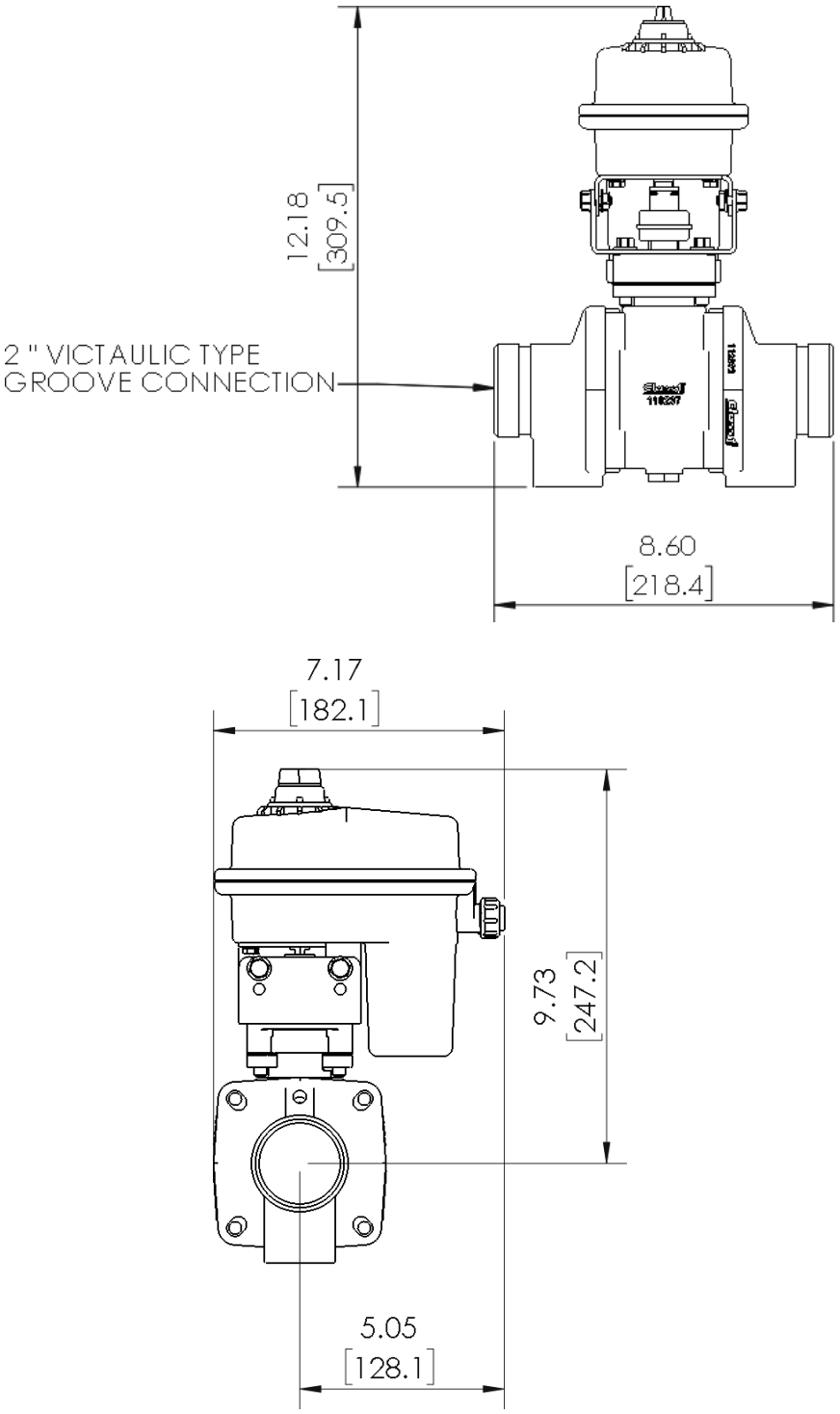

Figure 28. 125 GPM Metering Valve Dimensions

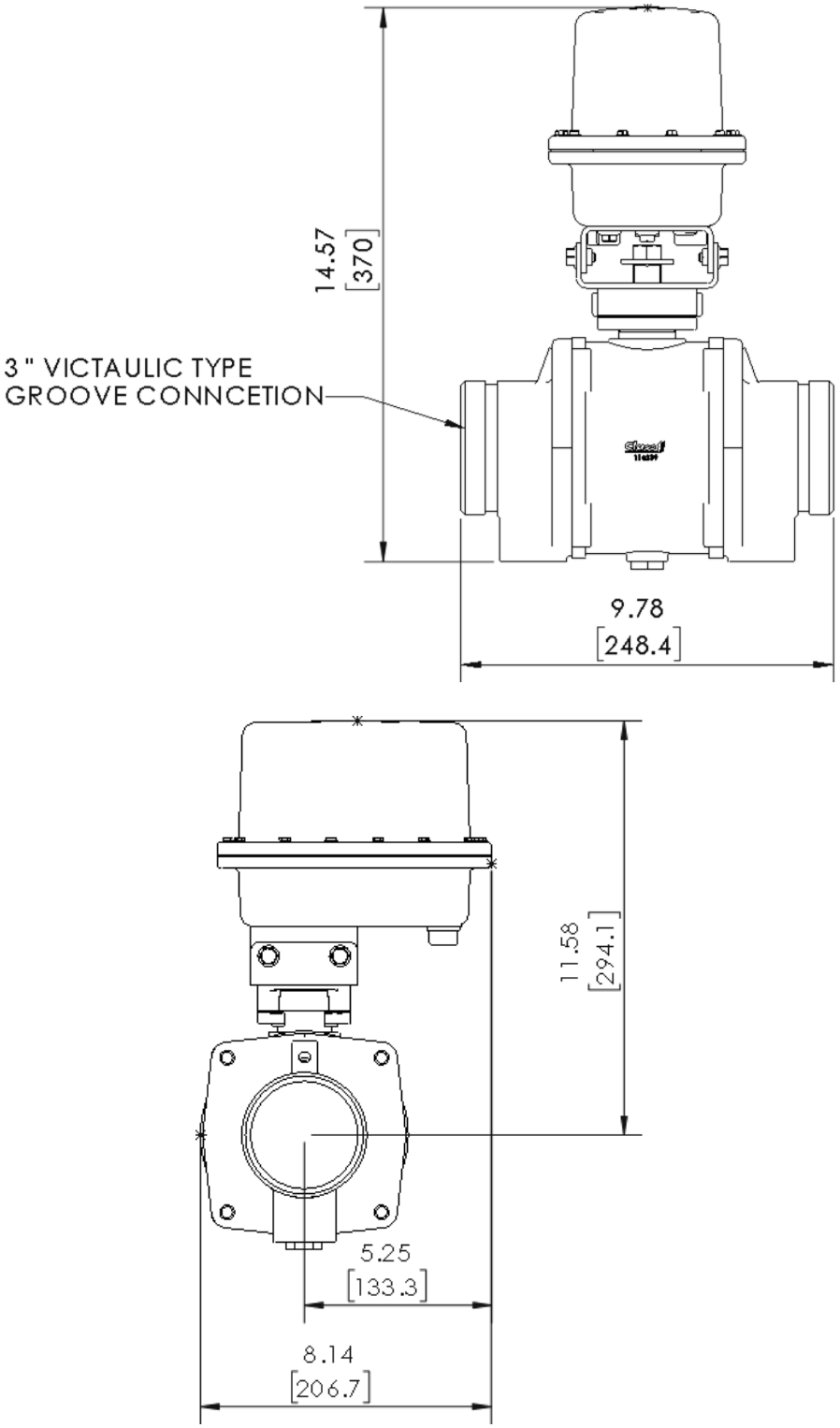

Figure 29. 225 GPM Metering Valve Dimensions

8 Multiple Flowmeter Module (P/N 610-00033)

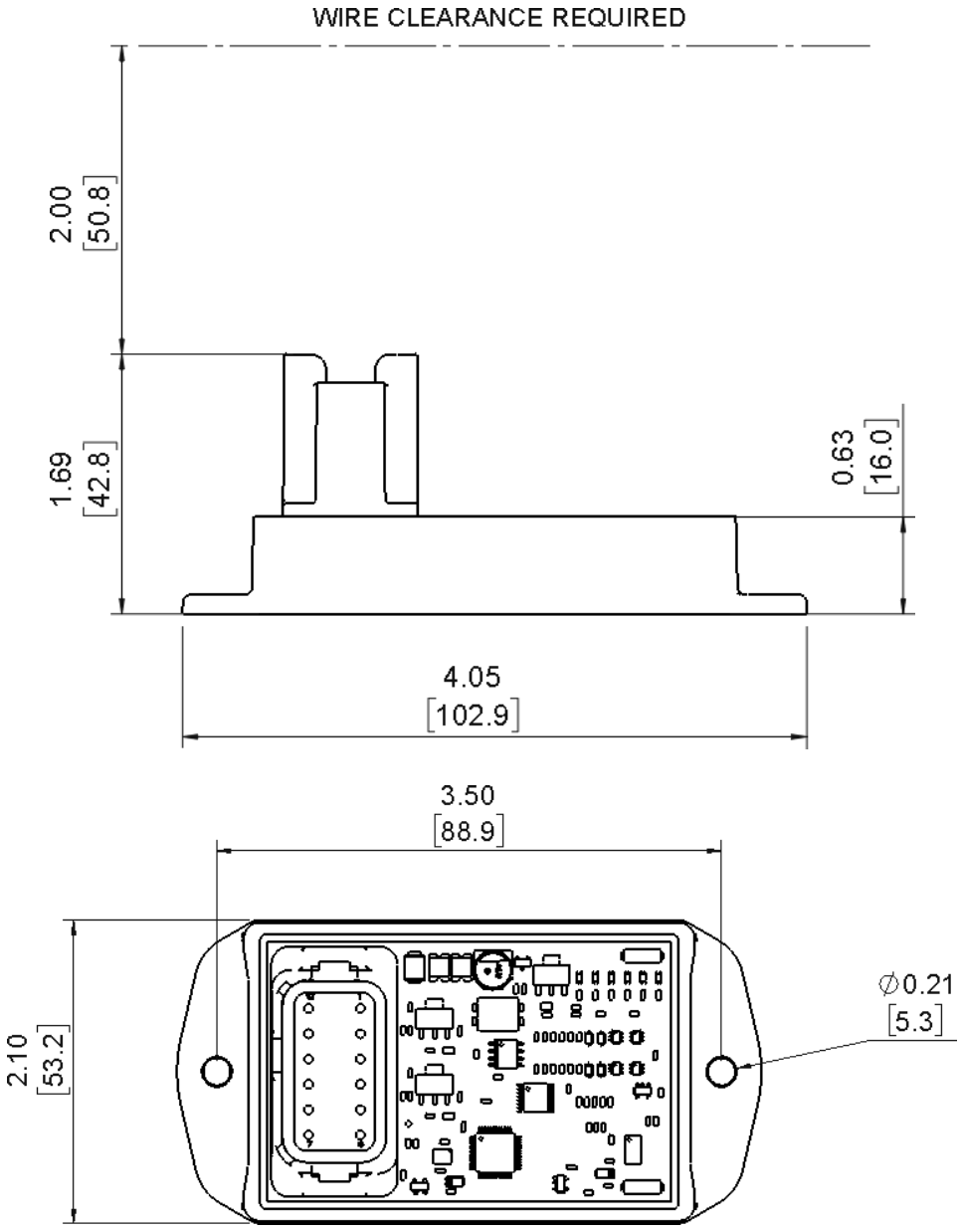

Figure 30. Multiple Flowmeter Module Dimensions

NOTE

All Akron Brass Valves are shown clocked at 90°, which provides the worst-case clearance dimensions. The mounting dimension requirements will vary if clocked to another position. (Requiring a slightly smaller footprint.)

Akron Brass Shutoff Valves (For Water, Tank A, Or Tank B).

2-inch Akron Brass Valve (P/N A86205028)

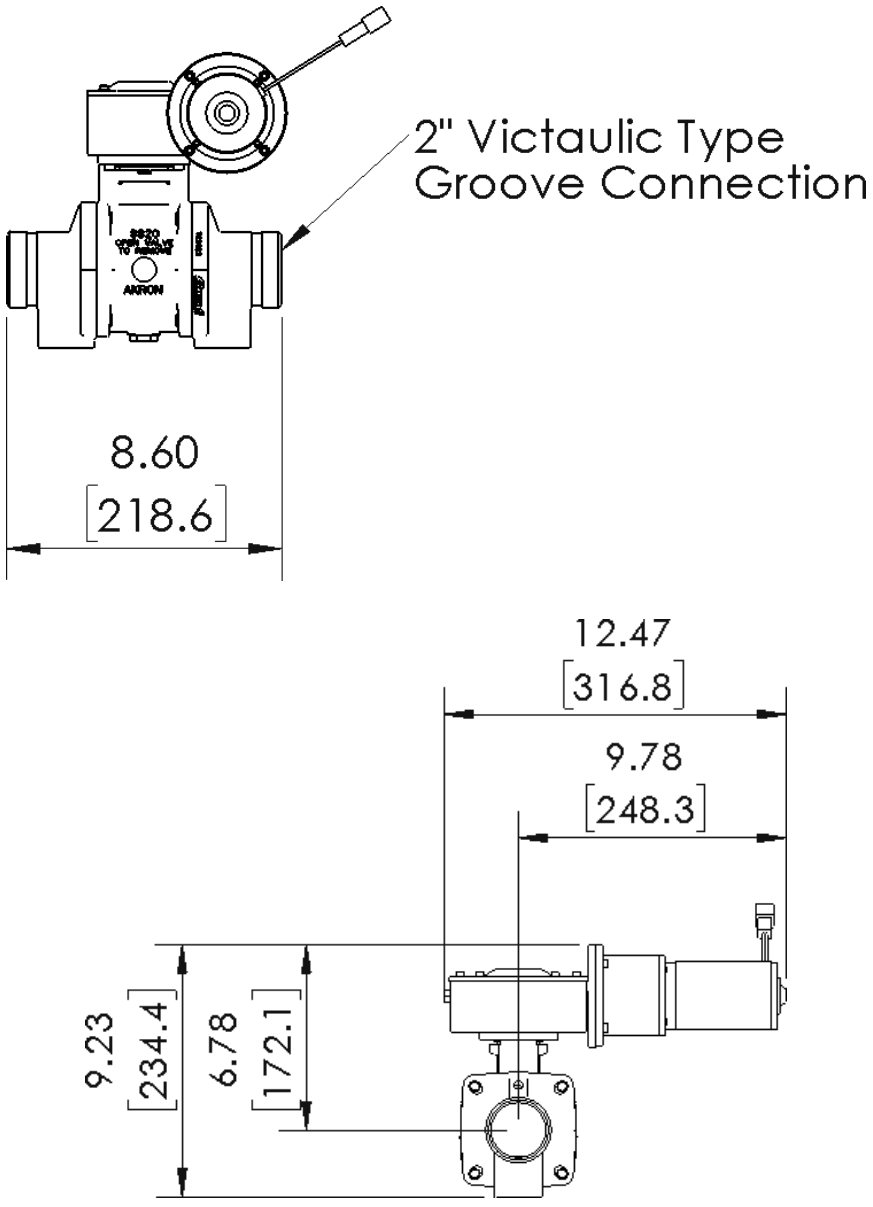

Figure 31. 2-inch Akron Brass Valve Dimensions

2 1/2-inch Akron Brass Valve (P/N A86255059)

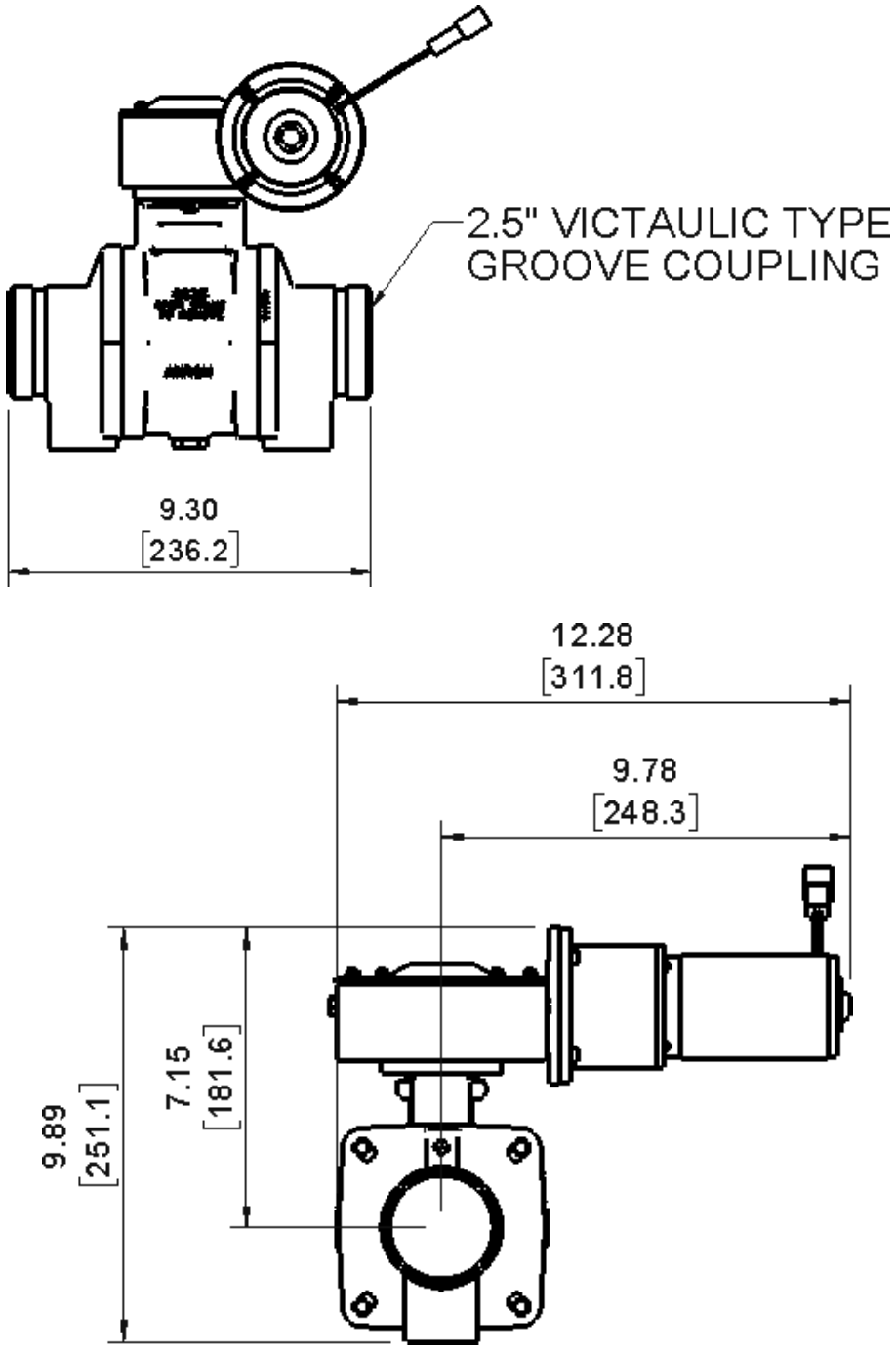

Figure 32. 2 1/2-inch Akron Brass Valve Dimensions

3-inch Akron Brass Valve (P/N A86305055)

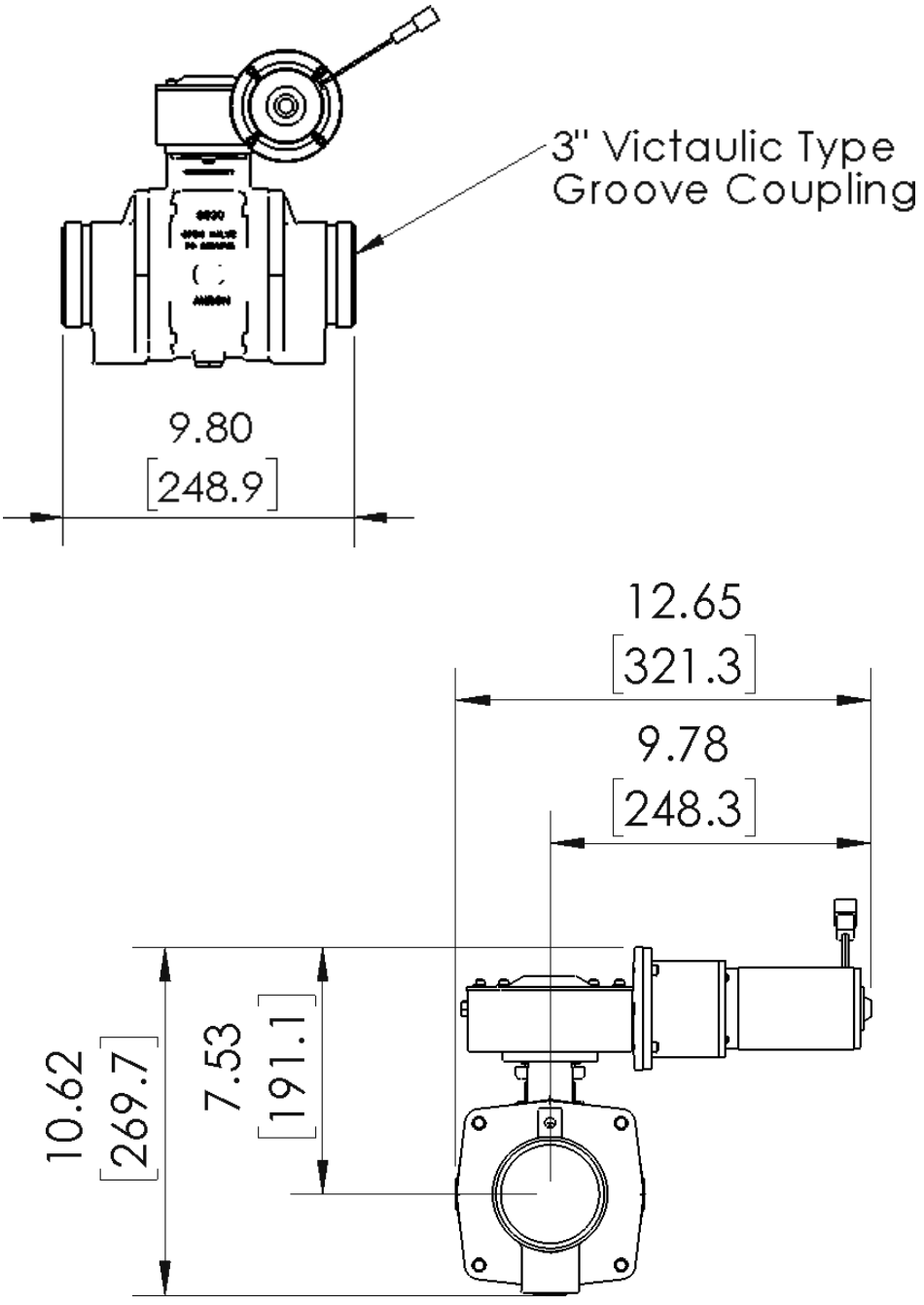

Figure 33. 3-inch Akron Brass Valve Dimensions

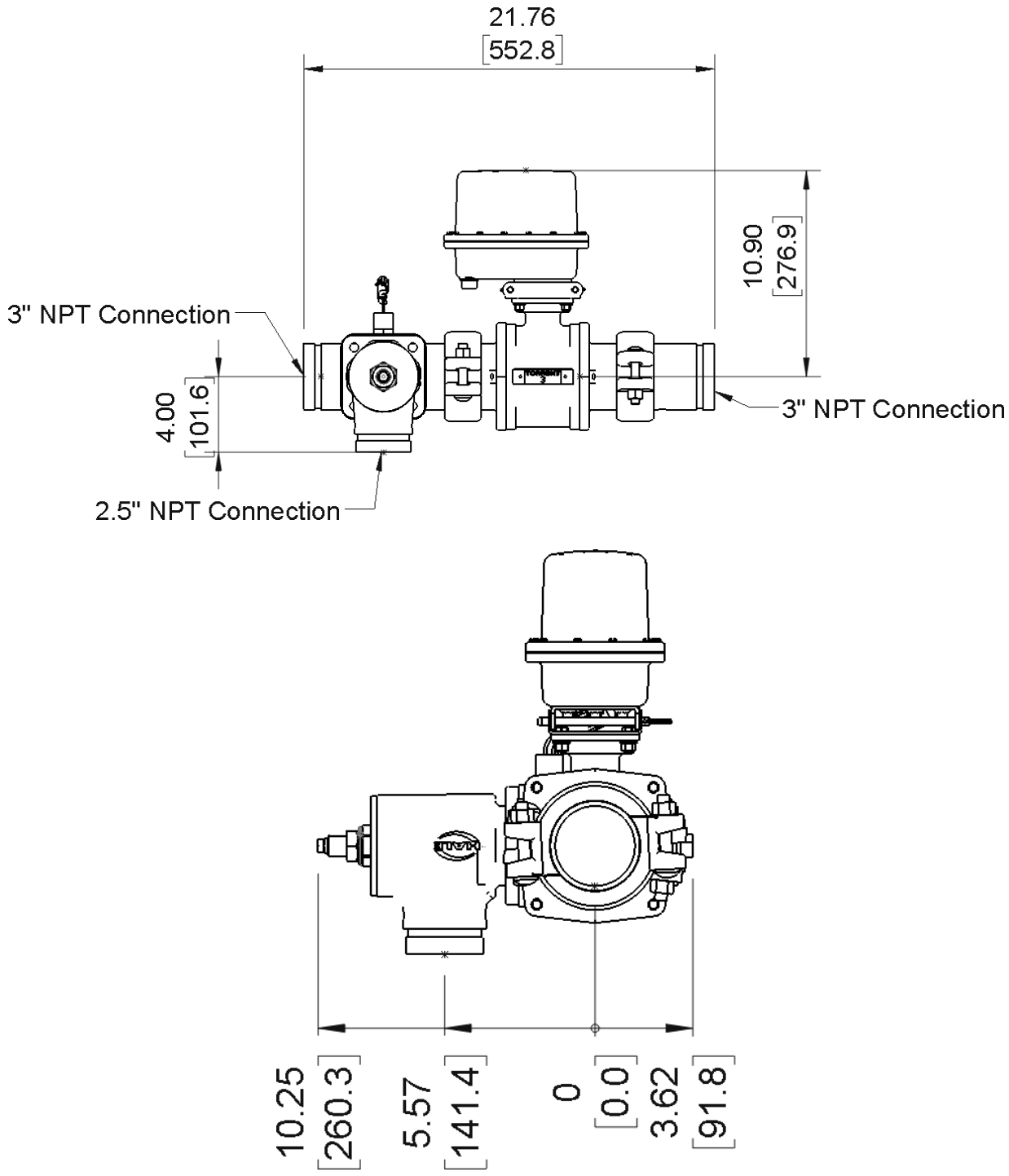

Figure 34. Autofill Dimensions

APPENDIX B.
MANUFACTURER'S INFORMATION

This section provides a list that includes the name, address, and telephone number of the manufacturer's points of contact. Each provides the name address and telephone number of the manufacturer's representative and/or service organization that can provide replacements and is most convenient to the project sight.

Additionally, included herein is warranty information.

MANUFACTURER'S INFORMATION

Division	Address	Telephone
Class 1	Mailing: 607 NW 27th Ave, Ocala, FL 34475 Email: https://www.haleproducts.com	(800) 533-3569
Hale Products	Mailing: 607 NW 27th Ave, Ocala, FL 34475 Email: https://www.haleproducts.com	(800) 533-3569
Godiva LTD (A Unit of IDEX Corp.)	Mailing: Charles Street, Warwick, England, CV34 5LR Email: godiva@idexcorp.com	Tel: +44 (0) 1926 623600 FAX: +44 (0) 1926 623666

WARRANTY

See the Hale website (www.haleproducts.com) for product specific warranty and warranty procedures.