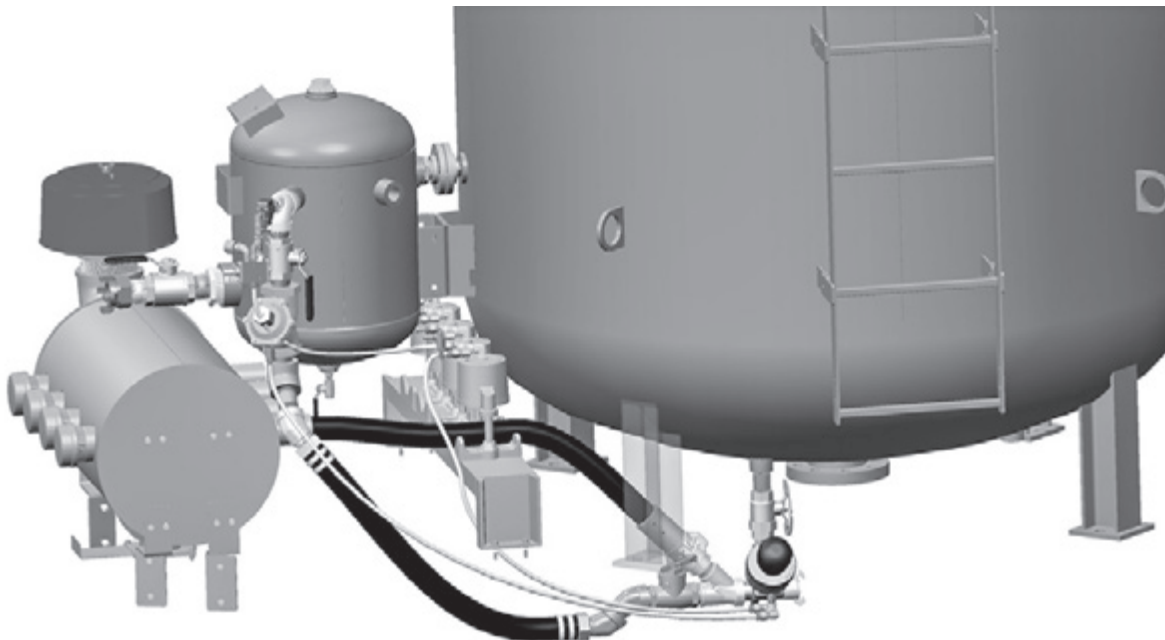


# OPERATOR'S MANUAL

## **BLASTMASTER® KWIKSTOP DEPRESSURIZATION SYSTEM – S-STYLE BLAST POTS**



**BUILT MARCO  
TOUGH**  
MARCO MANUFACTURED

### **⚠ WARNING**

Before using this equipment, read, understand and follow all instructions in the Operator's Manuals provided with this equipment. If the user and/or assistants cannot read or understand the warnings and instructions, the employer of the user and/or assistants must provide adequate and necessary training to ensure proper operation and compliance with all safety procedures pertaining to this equipment. If Operator's Manuals have been lost, please visit [www.marco.us](http://www.marco.us), or contact Marco at 563.324.2519 for replacements. Failure to comply with the above warning could result in death or serious injury.



## Company Profile

Since 1944, Marco has developed a strong tradition of providing innovative and reliable products and services to the surface preparation and protective coatings industries. We are the world's premier provider of Abrasives, Blasting, Coating, Dust Collectors, Engineered Systems, Rental, Safety, Service, Repair, & Modernization, and Vacuums.

Through innovative designs and a total commitment to quality, Marco manufactures products that increase production rates, create a safer workplace, and reduce maintenance costs. Marco's industry experience, manufacturing capabilities, legendary customer service, product availability, logistics services, and technology leadership is your assurance that we deliver high quality products and services, providing the best value to you, our customer.

## The Marco Difference

- **Industry Experience** – With Marco on your team, you have access to expertise which can only come from decades of industry leadership. We have organized our engineering department, production specialists, customer operations, and safety support into a “Center of Competence.” As a Marco customer, you have access to hundreds of years of cumulative experience related to your operations.
- **Manufacturing Excellence** – Marco is a U.S. based, ISO 9001:2008 certified manufacturer of equipment for the Surface Preparation and Protective Coatings industries. Marco's engineers benchmark the industry to ensure that we design and manufacture superior products that set the “Gold Standard” for performance, safety, and quality.
- **Legendary Customer Service** – Marco's legendary customer service team is staffed by friendly, highly-trained individuals who are focused on providing the highest level of product support, order accuracy, and customer satisfaction.
- **Product Availability** – We stock over 10,000 SKU's and have more than 45 shipping locations to serve North American and International markets for all major brands of blasting and coating equipment. As the largest provider of surface preparation and protective coatings equipment in the world, our inventory levels and product availability are unmatched.
- **Logistics Services** – Marco's in-house logistics team is dedicated to moving your shipment anywhere in the world. We move more than 14,000 truckloads every year, allowing you to save on freight costs by leveraging our buying power. Lower your process costs with a single invoice, which includes product and freight.
- **Technology Leadership** – Our website provides: Operator's Manuals, Part Numbers and Schematics Guides, SDS information, and Features & Specifications Guides, providing access to information 24/7. Our Extranet application allows you to receive quotes and place orders online. Our Intranet maintains a complete record of your purchase history to assist with ongoing support of your existing equipment and future purchasing decisions.

## Vision Statement

Marco is the world's premier provider of Abrasives, Blasting, Coating, Dust Collectors, Engineered Systems, Rental, Safety, Service, Repair, & Modernization, and Vacuums.

## Mission Statement

Marco provides strong leadership and innovation to the surface preparation and protective coatings industries. We dedicate our efforts to the continuous improvement of our products, services, processes, people, and most importantly, the quality of our customer's experience.

## Quality Statement

Marco is committed to providing superior quality in the design, manufacturing, distribution, rental, service, and repair of our products. Our ISO 9001:2008 certification extends throughout all operations in all locations. Continuous improvement of our processes and supply chain Integration comprise the core of our business strategy for delivering exceptional quality and value in all Marco products and services.

## Management Philosophy

We are a company dedicated to the success of every customer and associate. We discuss, debate, challenge, measure, and test our ideas. We will be boundless and limitless in our passion to improve. Through sound leadership and dedicated associates, we will ensure a long term, profitable future for Marco, our associates, customers, and suppliers.

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## DEFINITION OF TERMS

### **DANGER**

This is an example of danger. This indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

### **CAUTION**

This is an example of a caution. This indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It can also be used to alert against unsafe practices.

### **WARNING**

This is an example of a warning. This indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

### **NOTICE**

This is an example of a notice. This indicates policy or practice directly related to safety of personnel or protection of property.

# HAZARD IDENTIFICATIONS

## **WARNING**

### **Failure to comply with ANY WARNING listed below could result in death or serious injury.**

- ▶ OSHA sets exposure limits to protect workers from exposure to respirable crystalline silica, 29 CFR 1910.1053. Airborne dust could increase the exposure levels beyond permissible limits. Breathing dust containing silica could cause silicosis, a fatal lung disease. Breathing dust during abrasive blasting operations, post-blast cleaning operations, and/or servicing equipment within the abrasive blasting area may expose an individual to conditions that could cause asbestosis, lead poisoning and/or other serious or fatal diseases. Harmful dust containing toxic material from abrasives or surfaces being abrasive blasted can remain suspended in the air for long periods of time after abrasive blasting has ceased. A NIOSH-approved, well-maintained, respirator designed for the specific operation being performed must be used by anyone abrasive blasting, handling or using the abrasive, and anyone in the area of the dust.
- ▶ Contact NIOSH and OSHA offices to determine the proper respirator for your specific application. The air supplied to the respirator must be at least Grade D quality as described in Compressed Gas Association Commodity Specification G-7.1 and as specified by OSHA Regulation 1910.134. Ensure air filter and respirator system hoses are not connected to non-air sources or in-plant lines that may contain nitrogen, oxygen, acetylene or other non-breathable gases. Before removing respirator, use an air monitoring instrument to determine if the atmosphere is safe to breathe.
- ▶ You must comply with all OSHA, local, City, State, Province, Country and jurisdiction regulations, ordinances and standards, related to your particular work area and environment. Keep unprotected individuals out of the work area.
- ▶ Abrasive blasting operators must receive thorough training on the use of abrasive resistant attire which includes: supplied-air respirator, abrasive blasting suit, safety shoes, gloves, ear protection and eye protection. Protect the operator and bystanders by complying with NIOSH and OSHA Safety Standards.
- ▶ Inspect all equipment for wear or damage before and after each use. Failure to use Original Equipment Manufacturer repair parts and failure to immediately replace worn or damaged components could void warranties and cause malfunctions.
- ▶ OSHA requires abrasive blasting nozzles be equipped with an operating valve, which shall be designed to be held open only by continuous hand pressure and shall close immediately upon release of hand pressure (i.e., a “deadman” control). The valve shall not be modified in any manner that would allow it to remain open without the application of continuous hand pressure by the operator. Failure to comply with the above warning could result in release of high speed abrasive and compressed air resulting in death or serious injury. OSHA 29CFR 1910.244(b)
- ▶ Point the abrasive blasting nozzle only at the surface being abrasive blasted. Never point the abrasive blasting nozzle or abrasive stream at yourself or others.
- ▶ Unless otherwise specified, maximum working pressure of abrasive blasting pots and related components must not exceed 150 psi. Exceeding maximum working pressure of 150 psi could cause the abrasive blasting pot and components to burst. Failure to comply with the above warning could result in death or serious injury.
- ▶ Never weld, grind or drill on the abrasive blasting pot (or any pressure vessel). Doing so will void ASME certification and manufacturer’s warranty. Welding, grinding or drilling on the abrasive blasting pot (or any pressure vessel) could weaken the vessel causing it to burst. Failure to comply with the above warning could result in death or serious injury. (ASME Pressure Vessel Code, Section VIII, Division 1)
- ▶ This equipment is not intended for use in any area that might be considered a hazardous location, as described in the National Electric Code NFPA 70, Article 500. Use of this equipment in a hazardous location could cause an explosion or electrocution.
- ▶ Never attempt to move an abrasive blasting pot containing abrasive. Never attempt to manually move abrasive blasting pots greater than 6.5 cubic foot capacity. Always use at least two capable people to manually move an abrasive blasting pot on flat, smooth surfaces. A mechanical lifting device must be used if an abrasive blasting pot is moved in any other manner.

## HAZARD IDENTIFICATIONS

### **WARNING**

#### **Failure to comply with ANY WARNING listed below could result in death or serious injury.**

- ▶ This product is not for use in wet environments. Always use a Ground Fault Interrupter Circuit (GFI) for all electrical power source connections. Use of this product in wet environments could create a shock or electrocution hazard.
- ▶ Frozen moisture could cause restrictions and obstructions in pneumatic control lines. Any restriction or obstruction in the pneumatic control lines could prevent the proper activation and deactivation of the remote control system, resulting in the release of high speed abrasive and compressed air. In conditions where moisture may freeze in the control lines an antifreeze injection system approved for this application can be installed.
- ▶ Do not cut, obstruct, restrict or pinch pneumatic control lines. Doing so could prevent the proper activation and deactivation of the remote control system, resulting in the release of high speed abrasive and compressed air.
- ▶ Use of Marco remote control switches with other manufacturer's remote control systems could cause unintended activation of remote control systems resulting in the release of high speed abrasive and compressed air. Only Marco remote control switches should be used with Marco remote control systems.
- ▶ Always be certain to have secure footing when abrasive blasting. There is a recoil hazard when abrasive blasting starts that may cause user to fall and misdirect the abrasive stream at operator or bystander.
- ▶ Never use an abrasive blasting pot or attachments as a climbing device. The person could slip and fall. The abrasive blasting pot could become unstable and tip over.
- ▶ For equipment manufactured by entities other than Marco, you must consult the Original Equipment Manufacturer operator's manuals, information, training, instructions and warnings, for the proper and intended use of all equipment.
- ▶ Flammable fumes, such as solvent and paint fumes in the work area can present an ignition or explosion hazard if allowed to collect in adequate concentrations. To reduce conditions that could result in a fire or an explosion, provide adequate ventilation, eliminate all ignition or spark sources, keep the work area free of debris, store solvents and solvent contaminated rags in approved containers, follow proper grounding procedures, do not plug/unplug power cord or turn on/off power switches when flammable fumes are present, keep a working fire extinguisher or provide another fire suppression system in the work area. Cease all operations and correct condition if a spark or ignition source is identified during operation.
- ▶ Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.
- ▶ Moving parts can present an area where crushing, pinching, entanglement or amputation may occur. Do not place body parts or foreign objects in any area where there are moving parts.
- ▶ Surfaces of heated supply tanks, drums and/or lines as well as the adjoining plumbing may become hot during normal use. Do not touch these heated surfaces without proper protection. Deactivate and allow sufficient time for all surfaces to cool before attempting any maintenance.
- ▶ High-pressure fluid from gun, hose leaks, or ruptured components can pierce skin and can cause a serious injury that may result in amputation. Do not point gun or spray tip at anyone or at any part of the body. Keep clear of any leaks or ruptures. Depressurize the entire system before attempting cleaning, inspecting, or servicing equipment.
- ▶ Exposure to toxic fluids or fumes may occur during the normal operation of this system. Before attempting to fill, use, or service this system, read SDS's to know the specific hazards of the fluids you are using. Always use proper Personal Protective Equipment when attempting to fill, use, or service this system.
- ▶ The use of this product for any purpose other than originally intended or altered from its original design is prohibited.
- ▶ Never hang objects from the abrasive blasting pot handle. Doing so may cause the abrasive blasting pot to become unstable and tip over.

## HAZARD IDENTIFICATIONS

### **⚠ CAUTION**

**Failure to comply with ANY CAUTION listed below may result in minor or moderate injury.**

- ▶ Static electricity can be generated by abrasive moving through the abrasive blasting hose causing a shock hazard. Prior to use, ground the abrasive blasting pot and abrasive blasting nozzle to dissipate static electricity.
- ▶ High decibel noise levels are generated during the abrasive blasting process which may cause loss of hearing. Ensure appropriate Personal Protective Equipment and hearing protection is in use.

### **NOTICE**

**Failure to comply with ANY NOTICE listed below could pose a hazard to personnel or property.**

- ▶ See Air & Abrasive Consumption Chart for estimated abrasive consumption rates and required air flow (cubic feet per minute). Your system must meet these minimum requirements to ensure proper function and performance.
- ▶ Always use abrasive that is dry and properly screened. This will reduce the potential for obstructions to enter the remote control system, abrasive metering valve and abrasive blasting nozzle.
- ▶ Moisture build-up occurs when air is compressed. Any moisture within the abrasive blasting system will cause abrasive to clump, clogging metering valves, hoses and nozzles. Install an appropriately sized moisture separator at the inlet of the abrasive blasting system. Leave the moisture separator petcock slightly open to allow for constant release of water. If insufficient volume of air exists and petcock is unable to be left open (at all times) petcock should be opened frequently to release water.
- ▶ To reduce abrasive intrusion in the air supply hose, depressurize the abrasive blasting pot before shutting off air supply from compressor.
- ▶ Inspect abrasive blasting nozzle before placing into service. Damage to abrasive blasting nozzle liner or jacket may occur during shipping. If you receive a damaged abrasive blasting nozzle, contact your distributor immediately for replacement. Abrasive blasting nozzles placed into service may not be returned. Abrasive blasting nozzle liners are made of fragile materials and can be damaged by rough handling and striking against hard surfaces. Never use a damaged abrasive blasting nozzle.
- ▶ Abrasive blasting at optimal pressure for the abrasive used is critical to productivity. Example: For an abrasive with an optimal abrasive blasting pressure of 100 psi at the abrasive blasting nozzle, one pound per square inch of pressure loss will reduce abrasive blasting efficiency by 1.5%. A 10 psi reduction in air pressure will cause a 15% loss of efficiency. Use a Needle Pressure Gauge to identify pressure drops in your system. Consult with your abrasive supplier for the requirements of your abrasive.
- ▶ Replace abrasive blasting nozzle if liner or jacket is cracked or damaged. Replace abrasive blasting nozzle if original orifice size has worn 1/16" or more. Determine abrasive blasting nozzle wear by inserting a drill bit 1/16" larger than original size of abrasive blasting nozzle orifice. If the drill bit passes through abrasive blasting nozzle, replacement is needed.

# AIR & ABRASIVE CONSUMPTION CHART

## NOTICE

Failure to comply with ANY NOTICE listed below could pose a hazard to personnel or property.

- ▶ See Air & Abrasive Consumption Chart for estimated abrasive consumption rates and required air flow (cubic feet per minute). Your system must meet these minimum requirements to ensure proper function and performance.
- ▶ When it comes to air & abrasive mixtures, more is not necessarily better. Optimum abrasive blasting efficiency takes place when a lean air & abrasive mixture is used. To correctly set the abrasive metering valve, begin with the valve fully closed and slowly increase the amount of abrasive entering the airstream. As you increase the abrasive flow, watch for a “blue flame” at the exit of the abrasive blasting nozzle. Faster cutting, reduced abrasive consumption and lower clean up costs, are benefits of the “blue flame”.
- ▶ Abrasive blasting at optimal pressure for the abrasive used is critical to productivity. Example: For an abrasive with an optimal abrasive blasting pressure of 100 psi at the abrasive blasting nozzle, one pound per square inch of pressure loss will reduce abrasive blasting efficiency by 1.5%. A 10 psi reduction in air pressure will cause a 15% loss of efficiency. Use a Needle Pressure Gauge to identify pressure drops in your system. Consult with your abrasive supplier for the requirements of your abrasive.



## NOTICE

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## NOTICE

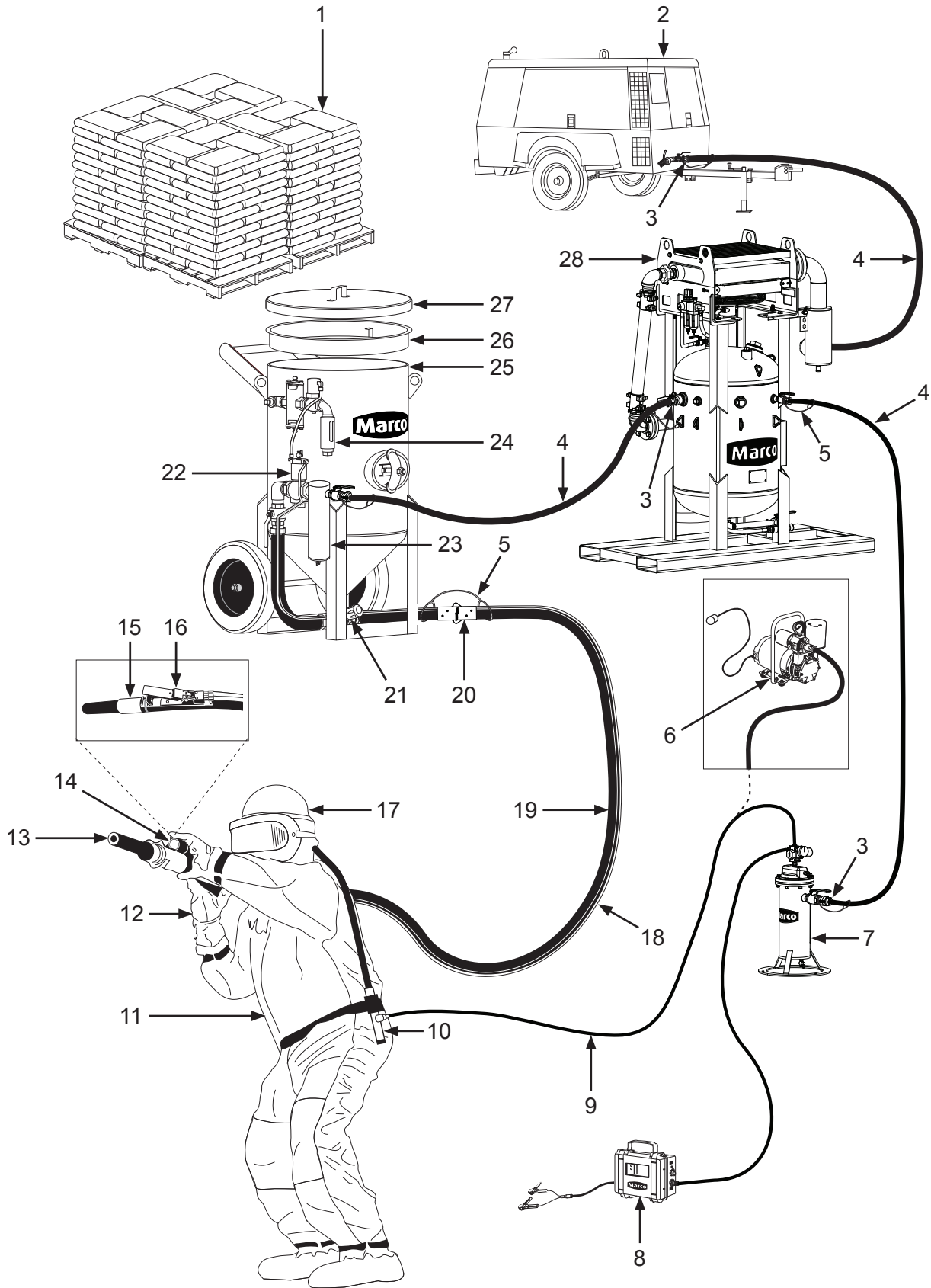
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## Air & Abrasive Consumption Chart\*

Nozzle Orifice	Pressure at the Nozzle (PSI)								Air (in cfm), Abrasive & Compressor Requirements
	50	60	70	80	90	100	125	140	
<b>No. 2</b> (1/8")	11 67 2.5	13 77 3	15 88 3.5	17 101 4	18 112 4.5	20 123 5	25 152 5.5	28 170 6.2	Air (cfm) Abrasive (lbs/hr) Compressor Horsepower
<b>No. 3</b> (3/16")	26 150 6	30 171 7	33 196 8	38 216 9	41 238 10	45 264 10	55 319 12	62 357 13	Air (cfm) Abrasive (lbs/hr) Compressor Horsepower
<b>No. 4</b> (1/4")	47 268 11	54 312 12	61 354 14	68 408 16	74 448 17	81 494 18	98 608 22	110 681 25	Air (cfm) Abrasive (lbs/hr) Compressor Horsepower
<b>No. 5</b> (5/16")	77 468 18	89 534 20	101 604 23	113 672 26	126 740 28	137 812 31	168 982 37	188 1100 41	Air (cfm) Abrasive (lbs/hr) Compressor Horsepower
<b>No. 6</b> (3/8")	108 668 24	126 764 28	143 864 32	161 960 36	173 1052 39	196 1152 44	237 1393 52	265 1560 58	Air (cfm) Abrasive (lbs/hr) Compressor Horsepower
<b>No. 7</b> (7/16")	147 896 33	170 1032 38	194 1176 44	217 1312 49	240 1448 54	254 1584 57	314 1931 69	352 2163 77	Air (cfm) Abrasive (lbs/hr) Compressor Horsepower
<b>No. 8</b> (1/2")	195 1160 44	224 1336 50	252 1512 56	280 1680 63	309 1856 69	338 2024 75	409 2459 90	458 2754 101	Air (cfm) Abrasive (lbs/hr) Compressor Horsepower
<b>No. 10</b> (5/8")	308 1875 68.5	356 2140 79.5	404 2422 90	452 2690 100.5	504 2973 112	548 3250 122	663 3932 146	742 4405 165	Air (cfm) Abrasive (lbs/hr) Compressor Horsepower
<b>No. 12</b> (3/4")	432 2672 96	504 3056 112	572 3456 127	644 3840 143	692 4208 154	784 4608 174.5	948 5570 209	1062 6238 236	Air (cfm) Abrasive (lbs/hr) Compressor Horsepower

\*Abrasive consumption is based on abrasive with a bulk density of 100 lbs per Cubic Foot

# "THE BIG PICTURE"





# DAILY PRE-OPERATION CHECKLIST

## Daily Pre-operation Checklist

- 1. Abrasive
- 2. Air Compressor
- 3. Air Hose Couplings & Gaskets
- 4. Air Hose
- 5. Safety Cable
- 6. Ambient Air Pump\*
- 7. Breathing Air Filter
- 8. CO Monitor
- 9. Breathing Line
- 10. Climate Control Device
- 11. Abrasive Blasting Suit
- 12. Gloves
- 13. Abrasive Blasting Nozzle
- 14. Lighting System\*
- 15. Abrasive Blasting Nozzle Holder
- 16. Remote Control Switch
- 17. Supplied-Air Respirator
- 18. Control Line
- 19. Abrasive Blasting Hose
- 20. Abrasive Blasting Hose Couplings & Gaskets
- 21. Abrasive Metering Valve
- 22. Remote Control System
- 23. Moisture Separator
- 24. Abrasive Blasting Pot Exhaust Muffler
- 25. Abrasive Blasting Pot
- 26. Abrasive Blasting Pot Screen
- 27. Abrasive Blasting Pot Lid
- 28. Aftercooler\*

\* *Optional or alternative device. Ask your Marco Representative for more details.*

**Abrasive** – Select the correct Abrasive (1) for the application. Review the MSDS (*Material Safety Data Sheet*) to ensure the correct PPE (*Personal Protective Equipment*) and Environmental Controls have been selected and are in place.

**Air Compressor** – Select an Air Compressor (2) of adequate size to support all equipment requirements. Refer to “Air & Abrasive Consumption Chart” for Abrasive Blasting Nozzle (13) air consumption requirements. Before connecting Air Hose (4), sample the air being produced by the air compressor (2) to ensure it is free of petroleum contaminants.

**Air Hose, and Air Hose Couplings & Gaskets** – Select Air Hoses (4) of sufficient size to support all subsequent volumetric requirements and with a sufficient PSI (*pound per square inch*) rating. Inspect all Air Hoses (4), and Air Hose Couplings & Gaskets (3) for damage or wear. Repair or replace damaged or worn components.

**Abrasive Blasting Hose, Abrasive Blasting Hose Couplings & Gaskets, and Abrasive Blasting Nozzle Holder** – Select an Abrasive Blasting Hose (19) that has an inner diameter 3 to 4 times larger than your Abrasive Blasting Nozzle (13). Inspect Abrasive Blasting Hose (19), Abrasive Blasting Hose Couplings & Gaskets (20), and Abrasive Blasting Nozzle Holder (15) for damage or wear. Repair or replace damaged or worn components.

**Safety Cables** – Install a Safety Cable (5) at each Abrasive Blasting Hose (19), and Air Hose (4) connection points.

**Aftercooler and Moisture Separator** – Ensure Aftercooler (28) is positioned on stable ground. Keep petcock drain of Moisture Separator (23) slightly open during use. Drain both devices after each use.

**Supplied-Air Respirator, Breathing Line, Breathing Air Filter, Climate Control Device, CO Monitor, Ambient Air Pump** – You MUST consult the Operator’s Manual supplied with your Respiratory Equipment (6, 7, 8, 9, 10, 17) for ALL applicable instructions and warnings. Inspect all Respiratory Equipment components for damage or wear. Repair or replace damaged or worn components.

**Abrasive Blasting Suit and Gloves** – Select an abrasive-resistant Abrasive Blasting Suit (11) that is slightly oversized to allow ease of movement and allows air to flow around your body. Select abrasive-resistant Gloves (12) with a tight fit and a long cuff that overlaps the sleeve of the Abrasive Blasting Suit (11).

**Abrasive Metering Valve and Abrasive Blasting Pot** – Confirm Abrasive Blasting Pot (25) is positioned on stable ground. Inspect Abrasive Blasting Pot (25) and Abrasive Metering Valve (21) for damage or wear. Repair or replace damaged or worn components.

**Abrasive Blasting Pot Screen and Abrasive Blasting Pot Lid** – Always use an Abrasive Blasting Pot Screen (26) when filling Abrasive Blasting Pot (25) with Abrasive (1) to prevent debris from entering the Abrasive Blasting Pot (25). Remove Abrasive Blasting Pot Lid (27) before operating the Abrasive Blasting Pot (25). Install Abrasive Blasting Pot Lid (27) after use to protect the Abrasive Blasting Pot’s (25) interior.

**Remote Control System, Remote Control Switch, Control Line,** – Inspect Remote Control System (22) and Control Line (18) for damage or wear. Repair or replace damaged or worn components. Ensure Control Line (18) fittings connected to the Remote Control System (22) are tight and free of leaks. Ensure Remote Control Switch (16) is functioning properly. Consult Remote Control Switch Operator’s Manual for applicable instructions.

**Abrasive Blasting Pot Exhaust Muffler** – Inspect Abrasive Blasting Pot Exhaust Muffler (24) at start and end of daily use. Replace element of Abrasive Blasting Pot Exhaust Muffler (24) per Operator’s Manual instructions.

**Lighting System** – Ensure the Lighting System (14) is connected to a proper power supply before use.

# OPERATING INSTRUCTIONS

## **WARNING**

W-562

Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

## **WARNING**

W-506

OSHA requires blast cleaning nozzles be equipped with an operating valve, which shall be designed to be held open only by continuous hand pressure and shall close immediately upon release of hand pressure (i.e., a “deadman” control). The valve shall not be modified in any manner that would allow it to remain open without the application of continuous hand pressure by the operator. Failure to comply with the above warning could result in release of high speed abrasive and compressed air resulting in death or serious injury. OSHA 29CFR 1910.244(b)

## **WARNING**

W-511

For equipment manufactured by entities other than Marco, you must consult the Original Equipment Manufacturer operator’s manuals, information, training, instructions and warnings, for the proper and intended use of all equipment. Failure to comply with the above warning could result in death or serious injury.

## Description

The Blastmaster® KwikStop Depressurization System decreases the time to completely exhaust all pressure from the blast hose after releasing the remote control switch. This allows the operator to reposition more quickly by eliminating the time required to wait for the hose to depressurize. This is particularly important as hose lengths increase creating a larger volume of air to exhaust. Typical applications include blast rooms, blast yards, bridges, offshore oil refineries, pipelines, shipyards, storage tanks, and water treatment plants.

## Operational Requirements

- Compressed air, 150 psi maximum working pressure.

### *The following may cause safety hazards or reduced performance:*

- Improper installation and/or maintenance of components
- Improper air supply pressure (operating pressure: 50–150 PSI)

## Operating Instructions

Operating Instructions are limited to the instructions found in the Original Equipment Manufacturer’s Operator’s Manuals. Please refer to all literature included with your Blastmaster® KwikStop Depressurization System at time of delivery. If this literature is unavailable, please contact Marco for a replacement set before use.

### **Before using:**

- Ensure blast pot is depressurized. (See blast pot Operator's Manual for instructions.)
- Inspect all control lines ensuring they are free of obstructions or damage. Remove obstructions or replace control lines before use.
- Inspect components of Blastmaster® KwikStop Depressurization System for damage and air leaks. Repair or replace damaged components before use.

### **During use:**

- Monitor all components of the Blastmaster® KwikStop Depressurization System for proper functioning.

### **After use:**

- Inspect Blastmaster® KwikStop Depressurization System components for damage. Repair or replace damaged components.

# OPERATING INSTRUCTIONS

## **WARNING**

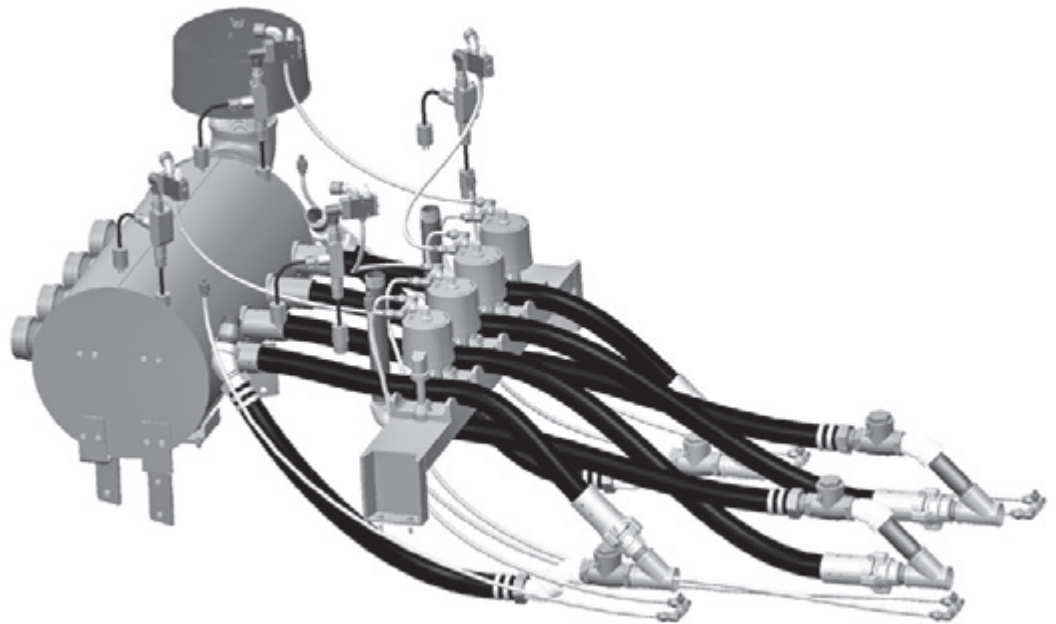
W-505

Inspect all equipment for wear or damage before and after each use. Failure to use Original Equipment Manufacturer repair parts and failure to immediately replace worn or damaged components could void warranties and cause malfunctions. Failure to comply with the above warning could result in death or serious injury.

## **WARNING**

W-577

Before using this equipment, read, understand and follow all instructions in the Operator's Manuals with this equipment. If the user and/or assistants cannot read or understand the warnings and instructions, the employer of the user and/or assistants must provide adequate and necessary training to ensure proper operation and compliance with all safety procedures pertaining to this equipment. If Operator's Manuals have been lost, visit [www.marco.us](http://www.marco.us) or call (563) 324-2519 for replacements. Failure to comply with the above warning could result in death or serious injury.



Four Outlet Trailer Model Shown

## **CAUTION**

C-517

Muffler exhausts automatically. Ensure appropriate Personal Protective Equipment is in use. Failure to comply with the above caution may result in minor or moderate injury.

# INSTALLATION

## KwikStop Depressurization System Assembly - Mounting Bracket

### WARNING

W-562

Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

### WARNING

W-511

For equipment manufactured by entities other than Marco, you must consult the Original Equipment Manufacturer operator's manuals, information, training, instructions and warnings, for the proper and intended use of all equipment. Failure to comply with the above warning could result in death or serious injury.

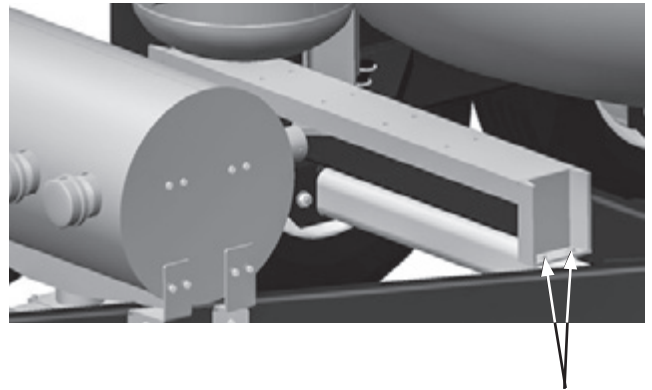
### WARNING

W-563

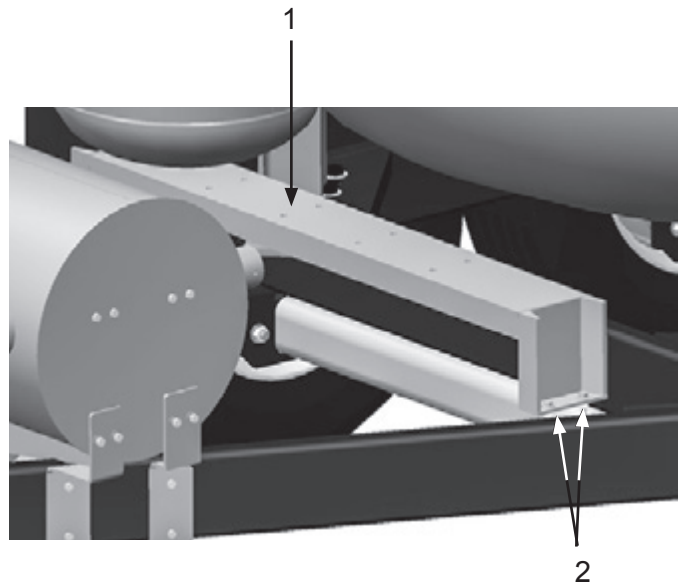
Moving parts can present an area where crushing, pinching, entanglement or amputation may occur. Do not place body parts or foreign objects in any area where there are moving parts. Failure to comply with the above warning could result in death or serious injury.

*Note: Additional components may be required to install the Blastmaster® KwikStop Depressurization System.*

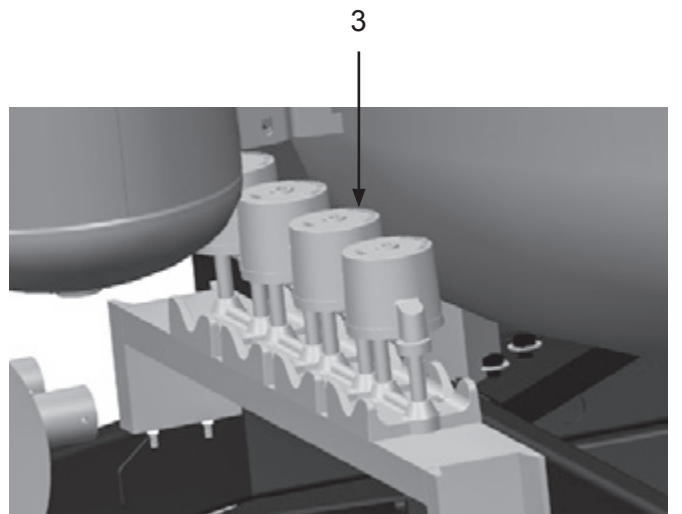
- 1) Drill four 7/16" through holes through trailer tube as shown, two per side of frame.



- 2) Install Base (1) using four Bolts, Washers, Lock Washers, and Nuts (2) (*two not shown*).
- 3) Tighten all hardware.



- 4) Install PV400's (3) to Base. Secure from underneath base using attaching hardware (*not shown*).



# INSTALLATION

## Chamber Assembly

### ⚠ WARNING

W-562

Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

### ⚠ WARNING

W-511

For equipment manufactured by entities other than Marco, you must consult the Original Equipment Manufacturer operator's manuals, information, training, instructions and warnings, for the proper and intended use of all equipment. Failure to comply with the above warning could result in death or serious injury.

### ⚠ WARNING

W-563

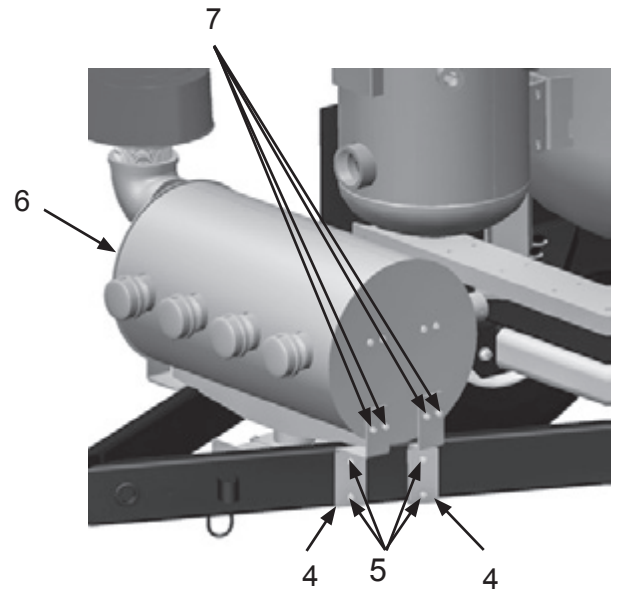
Moving parts can present an area where crushing, pinching, entanglement or amputation may occur. Do not place body parts or foreign objects in any area where there are moving parts. Failure to comply with the above warning could result in death or serious injury.

*Note: Approximate weight of Chamber Assembly is 300 lbs. Use suitable lifting devices to support or maneuver Chamber Assembly.*

- 1) Install Plates (4) onto Chamber Assembly (6) using attaching Hardware (7).

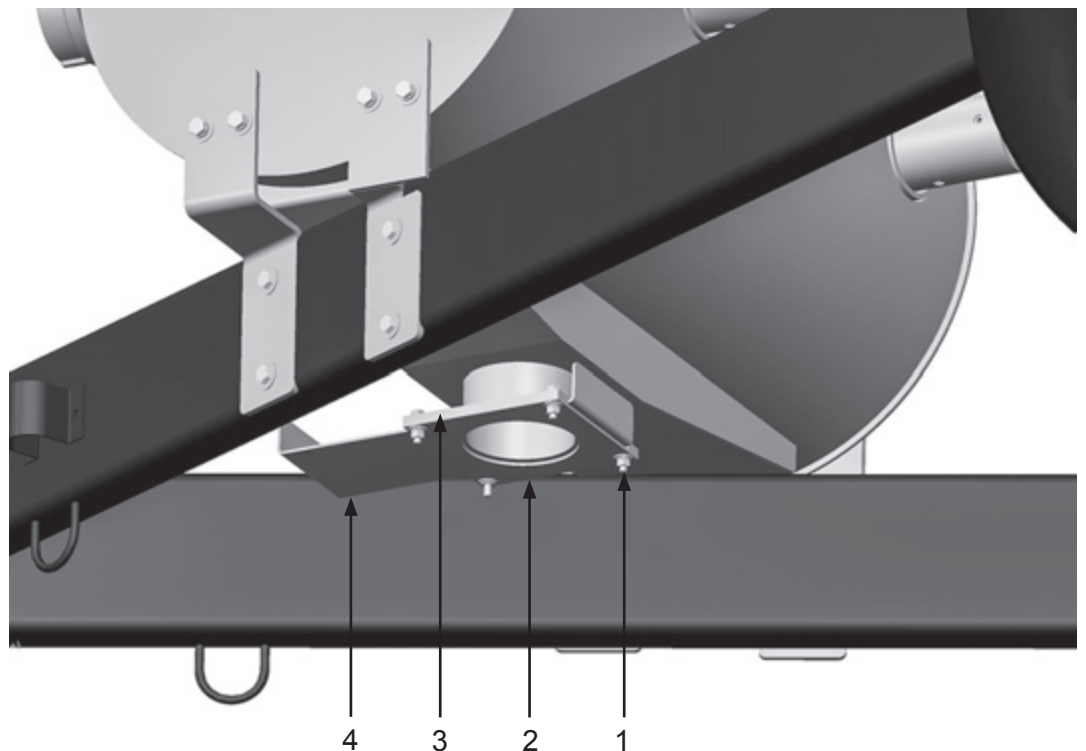
*Note: Drill eight 7/16" through-holes through trailer tube using chamber and brackets as location guide.*

- 2) Install Chamber Assembly (6) onto trailer using Brackets (4) and attaching Hardware (5).



## Remove and Install Slide Assembly

- 1) Remove four Bolts, Lock Washers, Nuts, and eight Washers (1). Remove Bolt Plate (2), Side Bars (3), and Slide Plate (4).
- 2) Inspect all parts for damage. Replace as needed.
- 3) Install parts in reverse order.



# INSTALLATION

## KwikStop Depressurization System Assembly - 12-Volt DC 190 Electric Control Assembly

### **WARNING**

W-562

Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

### **WARNING**

W-511

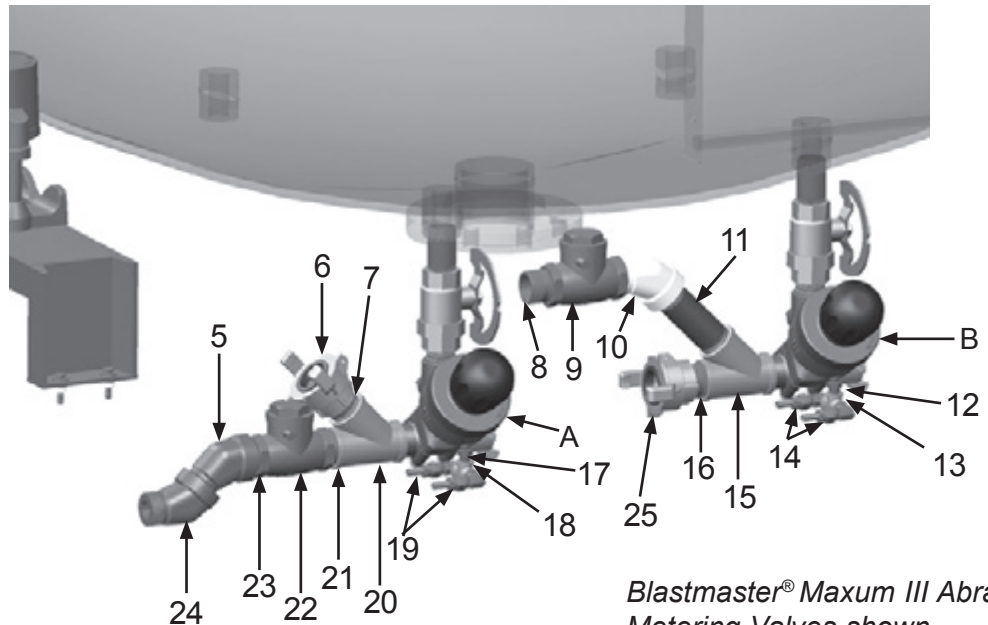
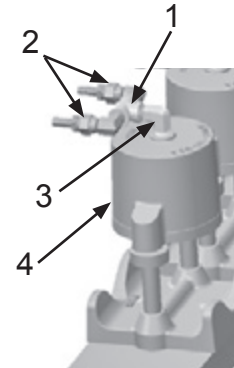
For equipment manufactured by entities other than Marco, you must consult the Original Equipment Manufacturer operator's manuals, information, training, instructions and warnings, for the proper and intended use of all equipment. Failure to comply with the above warning could result in death or serious injury.

### **WARNING**

W-563

Moving parts can present an area where crushing, pinching, entanglement or amputation may occur. Do not place body parts or foreign objects in any area where there are moving parts. Failure to comply with the above warning could result in death or serious injury.

- 1) On PV400 (4), attach Elbow (3), Tee Fitting (1) and 90° Swivel Unions (2). Repeat for all PV400's.



*Blastmaster® Maxum III Abrasive Metering Valves shown.*

- 2) On left front metering valve (A), attach Hex Nipple (17), Tee (18), and 90° Swivel Unions (19). Attach Wye Fitting (20), Close Nipples (7,21), Tank Coupling (6), Check Valve (22), Close Nipple (23) and 45° Elbows (5,24). Repeat on right front metering valve (*not shown*).
- 3) On left rear metering valve (B), attach Hex Nipple (12), Tee (13), and 90° Swivel Unions (14). Attach Wye Fitting (15), Close Nipple (16), and Coupling (25). Attach Nipple (11), Elbow (10), Check Valve (9), and Close Nipple (8). Repeat on right rear metering valve (*not shown*).

# INSTALLATION

## KwikStop Depressurization System Assembly - 12-Volt DC 190 Electric Control Assembly (Cont.)

### **WARNING**

W-562

Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

### **WARNING**

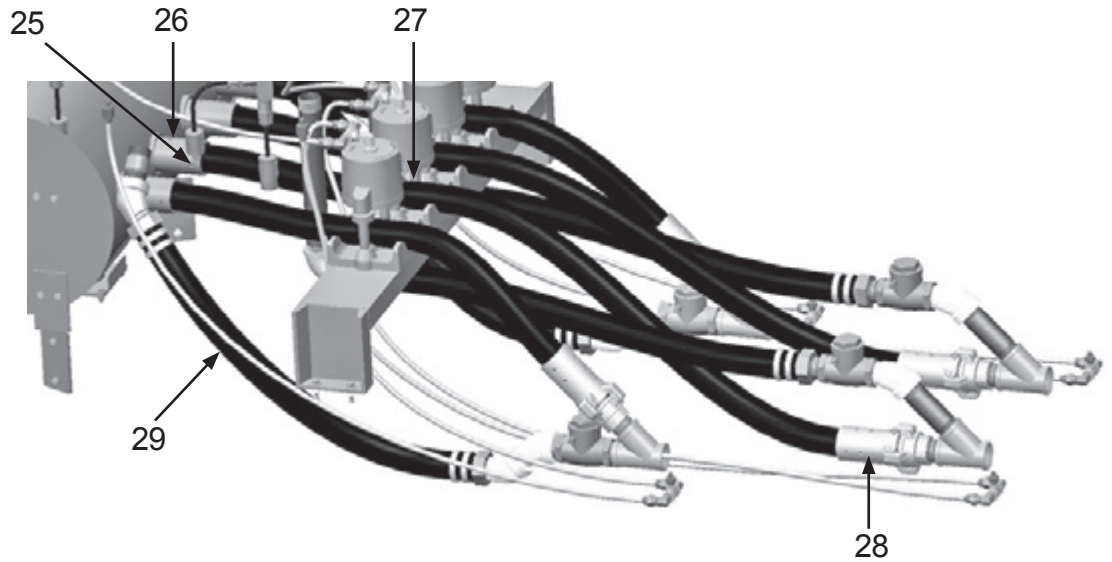
W-511

For equipment manufactured by entities other than Marco, you must consult the Original Equipment Manufacturer's manuals, information, training, instructions and warnings, for the proper and intended use of all equipment. Failure to comply with the above warning could result in death or serious injury.

### **WARNING**

W-563

Moving parts can present an area where crushing, pinching, entanglement or amputation may occur. Do not place body parts or foreign objects in any area where there are moving parts. Failure to comply with the above warning could result in death or serious injury.



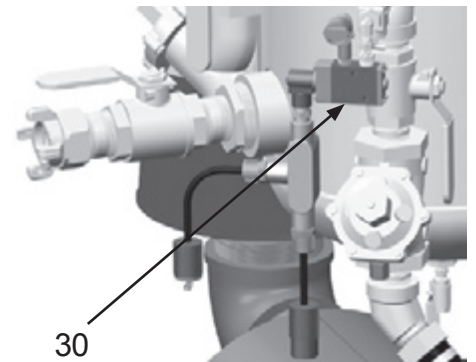
- 4) Attach Coupling (28) to Hose (27).
- 5) Install Hose (27) through PV400 and in to corresponding Inlet (26) on chamber. Secure Hose with Screws (25). Repeat for all PV400's.

*Note: Start with inner ports and assemble outward.*

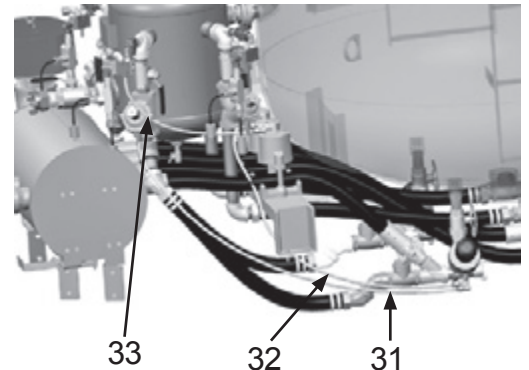
- 6) Assemble Pusher Lines (29) and install as shown. Repeat for each port.

- 7) Attach 190 12-Volt DC Assembly (30). Repeat for each port.

*Note: Start with inner ports and assemble outward.*



- 8) Install Control Lines (31,32,33). Repeat for each port.



# INSTALLATION

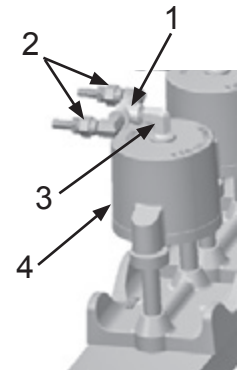
## KwikStop Depressurization System Assembly - 190 Pneumatic Control Valve

### WARNING

W-562

Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

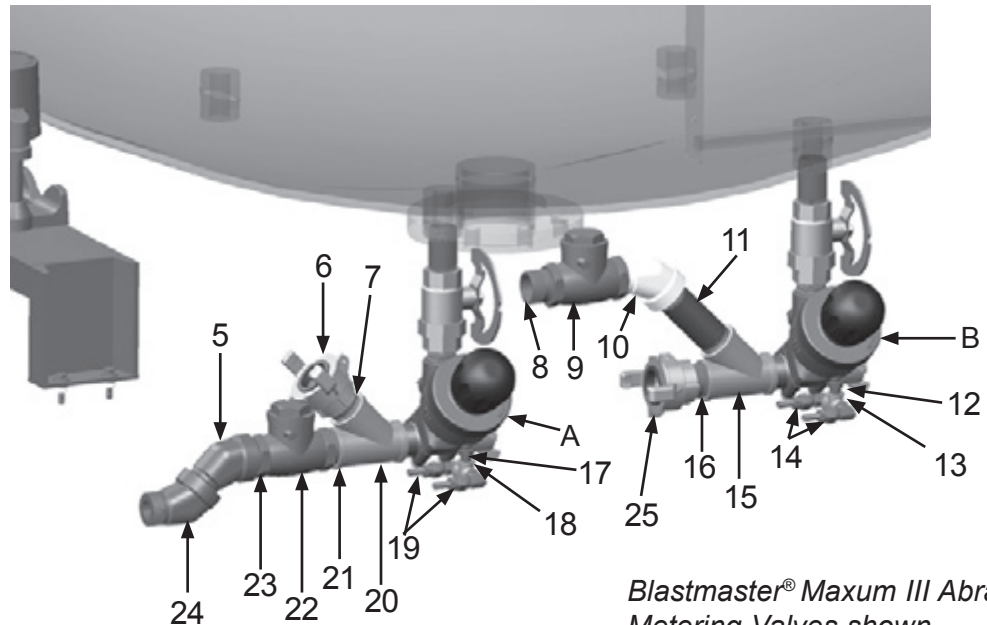
- 1) On PV400 (4), attach Elbow (3), Tee Fitting (1) and 90° Swivel Unions (2). Repeat for all PV400's.



### WARNING

W-511

For equipment manufactured by entities other than Marco, you must consult the Original Equipment Manufacturer operator's manuals, information, training, instructions and warnings, for the proper and intended use of all equipment. Failure to comply with the above warning could result in death or serious injury.



*Blastmaster® Maxum III Abrasive Metering Valves shown.*

- 2) On left front metering valve (A), attach Hex Nipple (17), Tee (18), and 90° Swivel Unions (19). Attach Wye Fitting (20), Close Nipples (7,21), Tank Coupling (6), Check Valve (22), Close Nipple (23) and 45° Elbows (5,24). Repeat on right front metering valve (*not shown*).
- 3) On left rear metering valve (B), attach Hex Nipple (12), Tee (13), and 90° Swivel Unions (14). Attach Wye Fitting (15), Close Nipple (16), and Coupling (25). Attach Nipple (11), Elbow (10), Check Valve (9), and Close Nipple (8). Repeat on right rear metering valve (*not shown*).

### WARNING

W-563

Moving parts can present an area where crushing, pinching, entanglement or amputation may occur. Do not place body parts or foreign objects in any area where there are moving parts. Failure to comply with the above warning could result in death or serious injury.



# INSTALLATION

## KwikStop Depressurization System Assembly - 190 Pneumatic Control Valve (Cont.)

### **WARNING**

W-562

Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

### **WARNING**

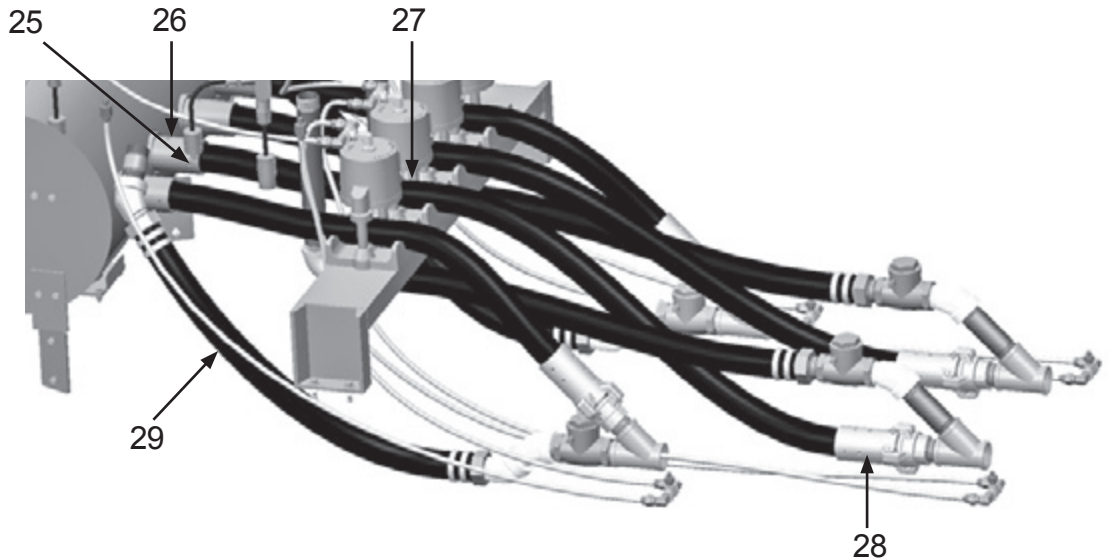
W-511

For equipment manufactured by entities other than Marco, you must consult the Original Equipment Manufacturer operator's manuals, information, training, instructions and warnings, for the proper and intended use of all equipment. Failure to comply with the above warning could result in death or serious injury.

### **WARNING**

W-563

Moving parts can present an area where crushing, pinching, entanglement or amputation may occur. Do not place body parts or foreign objects in any area where there are moving parts. Failure to comply with the above warning could result in death or serious injury.



- 4) Attach Coupling (28) to Hose (27).
- 5) Install Hose (27) through PV400 and in to corresponding Inlet (26) on chamber. Secure Hose with Screws (25). Repeat for all PV400's.

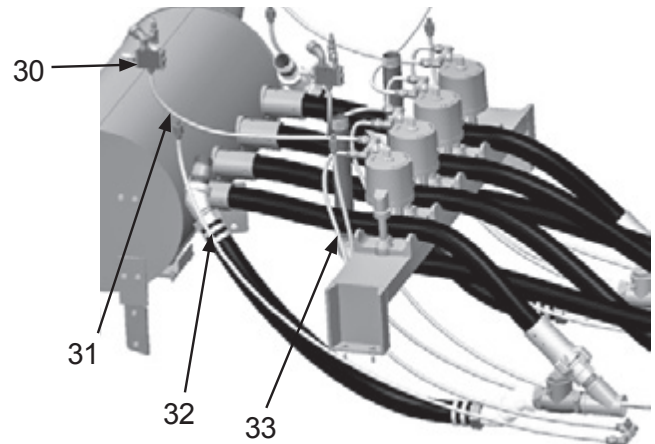
*Note: Start with inner ports and assemble outward.*

- 6) Assemble Pusher Lines (29) and install as shown. Repeat for each port.

- 7) Attach 190 12-Volt DC Assembly (30). Repeat for each port.

*Note: Start with inner ports and assemble outward.*

- 8) Install Control Lines (31,32,33). Repeat for each port.



# MAINTENANCE

## Remove and Install Chamber Assembly

### **WARNING**

W-562

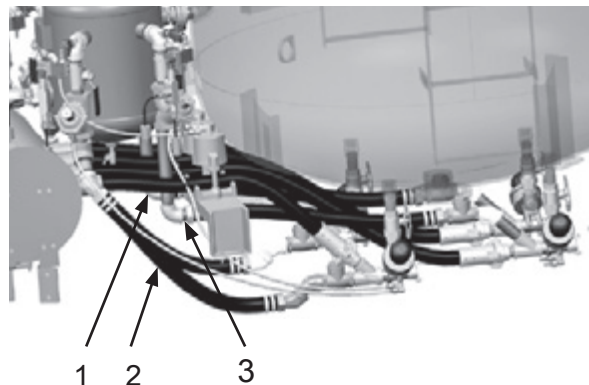
Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

### **WARNING**

W-605

For proper operation, maintenance should be performed with the assistance of a qualified technician. Failure to comply with the above warning could result in death or serious injury.

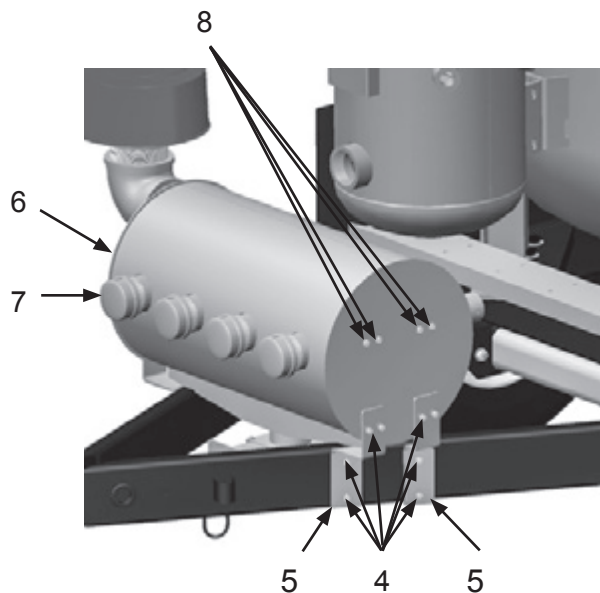
- 1) Remove Pinch Hose (1), Pusher Lines (2), and Control Lines (3). Repeat for each port.



*Note: Approximate weight of Chamber Assembly is 300 lbs. Use suitable lifting devices to support or maneuver Chamber Assembly.*

- 2) Remove Attaching Hardware (4) and Brackets (5). Remove Chamber Assembly (6).
- 3) Remove Attaching Hardware (8).
- 4) Remove Caps (7) and inspect tubes for damage.
- 5) Install parts in reverse order.

*Note: Drill eight 7/16" through holes through trailer tube prior to initial installation*



# MAINTENANCE

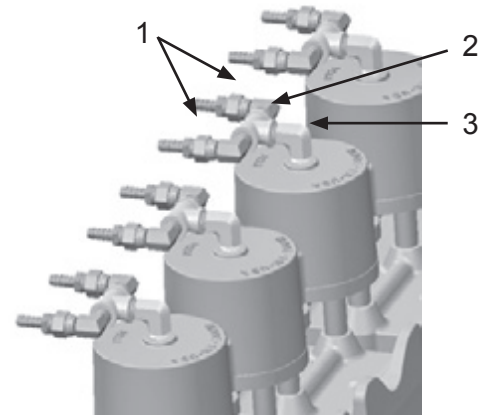
## Remove and Install PV400

### **WARNING**

W-562

Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

- 1) Remove all Control Lines from PV400's.
- 2) Remove Elbow (3), Tee Fitting (2), and 90° Swivel Unions (1). Repeat for all PV400's.

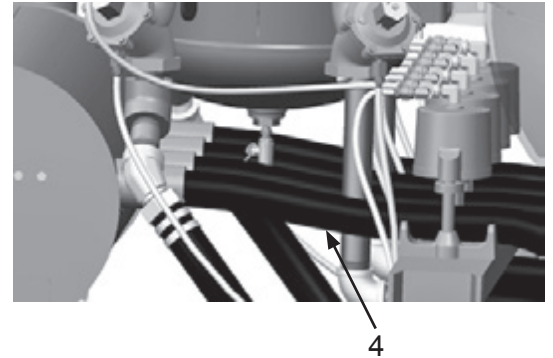


### **WARNING**

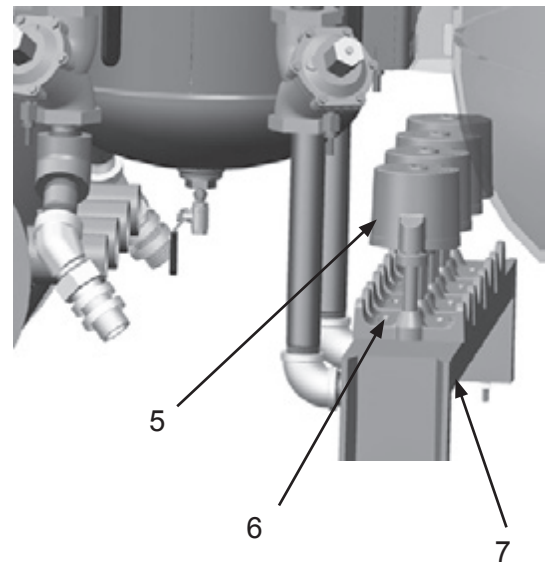
W-605

For proper operation, maintenance should be performed with the assistance of a qualified technician. Failure to comply with the above warning could result in death or serious injury.

- 3) Remove screws to remove four Pinch Hoses (4).



- 4) Remove eight Bolts, Washers, and Lock Washers (6) from underneath Base (7). Remove PV400's (5).
- 5) Install parts in reverse order.



# MAINTENANCE

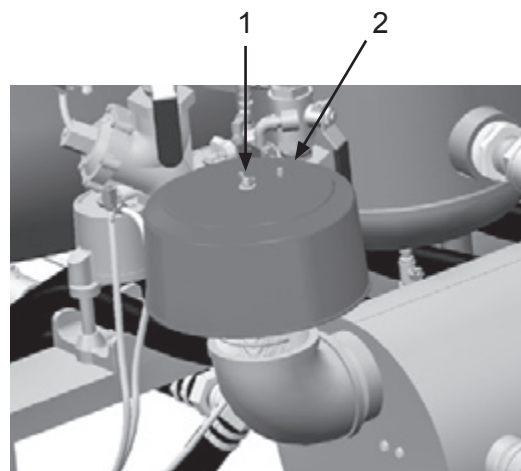
## Remove and Install Chamber Intake Filter

### **WARNING**

W-562

Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

- 1) Remove Wing Nut and Washer (1).
- 2) Remove Hood (2) and inspect for damage. Replace as needed.

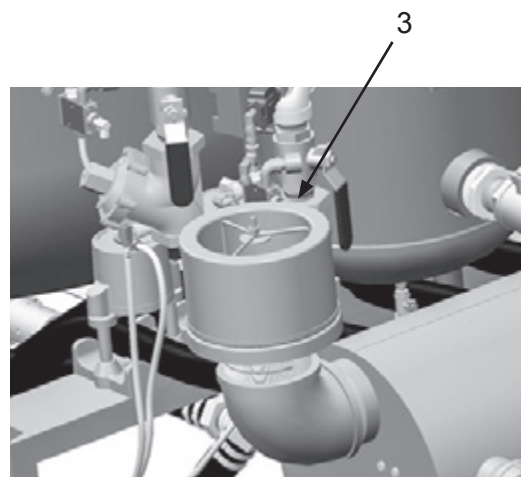


### **WARNING**

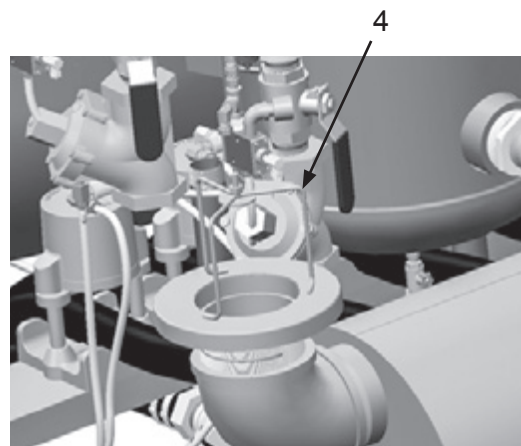
W-605

For proper operation, maintenance should be performed with the assistance of a qualified technician. Failure to comply with the above warning could result in death or serious injury.

- 3) Remove Intake Filter (3) and inspect for damage. Replace as needed.



- 4) Remove Filter Housing Assembly (4) and inspect for damage. Replace as needed.
- 5) Install parts in reverse order.



# MAINTENANCE

## Disassemble and Assemble Electric Control Valve

### **WARNING**

W-562

Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

### **WARNING**

W-520

The use of this product for any purpose other than originally intended or altered from its original design is prohibited. Failure to comply with the above warning could result in death or serious injury.

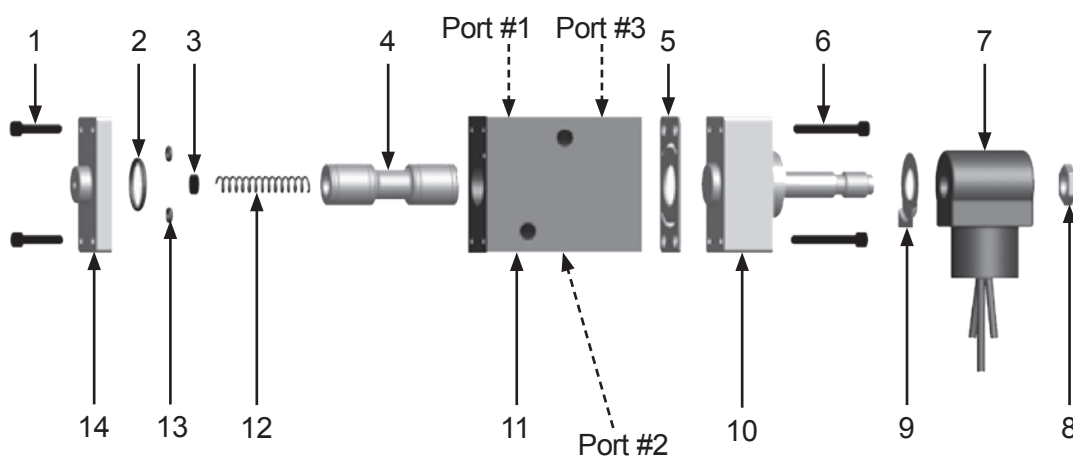
Maintenance of the Electric Control Valve is limited to the daily cleaning and the immediate replacement of damaged or worn parts.

#### **Disassemble:**

- 1) Remove four Screws (1) from End Cap (14). Remove Spring (12) from Valve Body (11).
- 2) Remove large O-ring (2) and two small O-rings (13) from End Cap (14).
- 3) Remove Felt (3) from End Cap (14).
- 4) Remove Nut (8) Slide Coil and Coil Housing (7) from Pilot (10). Remove Coil Washer (9).
- 5) Remove four Screws (6) from Pilot (10). Remove Gasket (5).
- 6) Ease Plunger (4) from Valve Body (11) by pushing Plunger (12) from Pilot (10) end.

#### **Assemble:**

- 1) Orient the Valve Body (11) so Port #1 and Port #3 are facing away. Insert Plunger (4) in Valve Body (11) from the left.
- 2) Place Gasket (5) on Valve Body (11) on the right. Place Pilot (10) on Gasket (5).
- 3) Ensure port in side of Pilot (10) is on the same side as Port #2 of Valve Body (11).
- 4) Install four Screws (6) to secure Pilot (10) to Valve Body (11). Do not overtighten.
- 5) Place Coil Washer (9) over stem of Pilot (10). Slide Coil and Coil Housing (7) onto stem of Pilot (10). Install Nut (8) on stem of Pilot (10). Do not overtighten.
- 6) Place two small O-rings (13), large O-ring (2), and Felt (3) in End Cap (14).
- 7) Insert Spring (12) in Valve Body (11). Place End Cap (14) on Spring (12) and compress Spring (12) until End Cap (14) meets Valve Body (11).
- 8) Install four Screws (1) in End Cap (14). Do not overtighten.



# MAINTENANCE

## Disassemble and Assemble Electric Control Assembly

### **WARNING**

W-562

Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

### **WARNING**

W-520

The use of this product for any purpose other than originally intended or altered from its original design is prohibited. Failure to comply with the above warning could result in death or serious injury.

Maintenance of the Electric Control Assembly is limited to the daily cleaning and the immediate replacement of damaged or worn parts.

#### **Disassemble:**

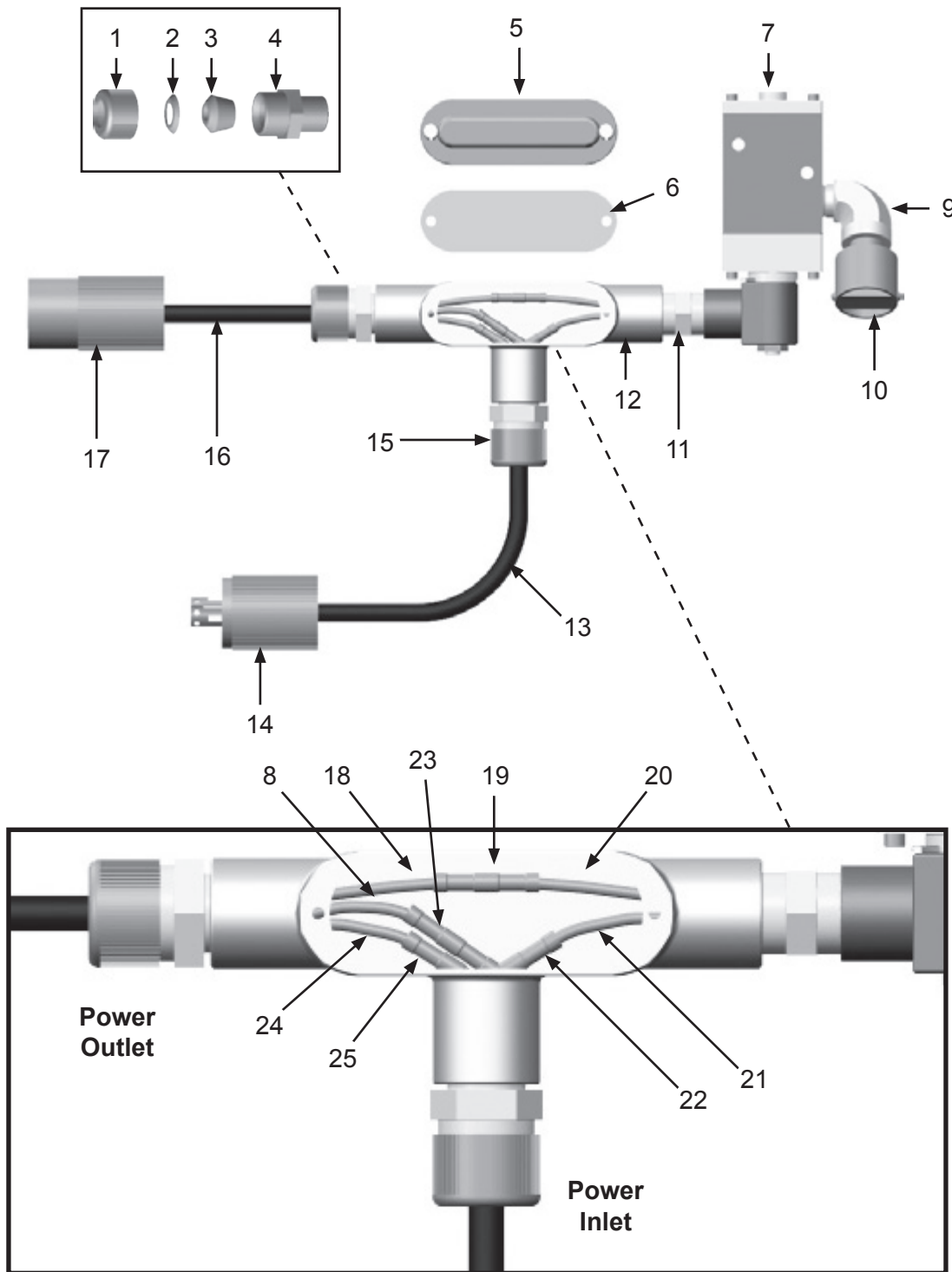
- 1) Remove Female Twist-Lock Plug (17), and Male Twist-Lock Plug (14).
- 2) Remove Dust Eliminator (10), and Pipe Elbow (9) from Electric Control Valve (7).
- 3) Remove Cover (5) and Gasket (6).
- 4) Cut Wire (18) and Wire (20) and remove Butt Splicer (19).
- 5) Cut Wire (8), Wire (21), and remove two Butt Splicers (22,23) from Power Inlet Power Cord (13).
- 6) Cut Wire (24) and remove Butt Splicer (25).
- 7) Remove Threaded Cap (1), Washer (2), Grommet (3), and 1/2" Hex Nipple (4), then remove Power Cord (16) from Conduit Box (12). Repeat for Cord Grip (15) and Power Cord (13).
- 8) Remove Electric Control Valve (7) from 1/2" Hex Nipple (11).
- 9) Remove 1/2" Hex Nipple (11) from Conduit Box (12).

#### **Assemble:**

- 1) Cut the green ground wire, of the Electric Control Valve (7), at the base of the Coil Housing and install a Butt Splicer on the wire.
- 2) Insert wires of Control Valve Assembly (7), into 1/2" Hex Nipple (11), and tighten Electric Control Valve (7) onto 1/2" Hex Nipple (12).
- 3) Insert two wires through end of Conduit Box (12). Install Conduit Box on 1/2" Hex Nipple (11) and tighten.
- 4) Install Cord Grip Hex Nipple (4) in Conduit Box (12) opposite Electric Control Valve (7).
- 5) Install Grommet (3), Washer (2), and Threaded Cap (1) on Power Cord (16).
- 6) Remove three inches of cover from Power Cord (16) to expose wires. Insert exposed wires through Cord Grip Hex Nipple (4). Repeat for Cord Grip (15) and Power Cord (13).
- 7) Install Butt Splicer (19) on Black Power Outlet Wire (18). Install Control Valve Wire (20) in Butt Splicer (19), and crimp wires in place.
- 8) Install Butt Splicer (23) on White Power Outlet Wire (8). Install White Power Inlet Wire in Butt Splicer (23) and crimp wires in place.
- 9) Install Butt Splicer (22) on Pilot Valve Wire (21). Install Black Power Inlet Wire in Butt Splicer (22), and crimp wires in place.
- 10) Install Butt Splicer (25) on remaining Power Outlet Wire (24). Install remaining Power Inlet Wire in Butt Splicer (25) and crimp wires in place.
- 11) Install Male Twist-Lock Plug (14) on Power Cord (13).
- 12) Install Female Twist-Lock Plug (17) on Power Cord (16).
- 13) Install Gasket (6), and Cover (5) on Conduit Box (12). Do not overtighten screws.
- 14) Install Pipe Elbow (9), and Dust Eliminator (10) on Electric Control Valve (7). Do not overtighten.

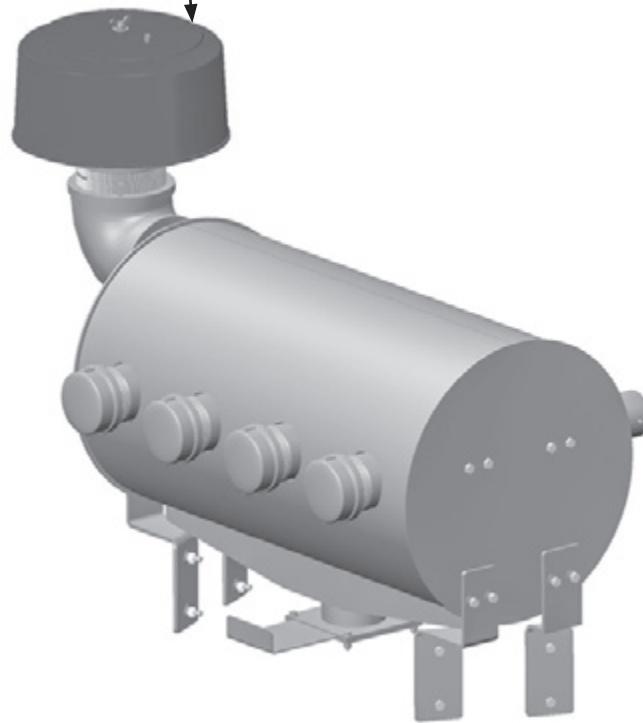
# MAINTENANCE

## Disassemble and Assemble Electric Control Assembly (Cont.)



# MAINTENANCE

## Hazard Identification Decals





# TROUBLESHOOTING

If the Blastmaster® KwikStop Depressurization System does not function properly, check the following:

## WARNING

Always depressurize the entire system, disconnect all power sources and lockout/tagout all components before any maintenance or troubleshooting is attempted. Failure to comply with the above warning could cause electrical shock and inadvertent activation of equipment resulting in death or serious injury.

## WARNING

Do not cut, obstruct, restrict or pinch pneumatic twinline or single line hoses. Doing so could prevent the proper activation and deactivation of the remote control system, resulting in the release of high speed abrasive and compressed air. Failure to comply with the above warning could result in death or serious injury.

## WARNING

Frozen moisture could cause restrictions and obstructions in pneumatic control lines. Any restriction or obstruction in the pneumatic twinline or single line hoses could prevent the proper activation and deactivation of the remote control system, resulting in the release of high speed abrasive and compressed air. In conditions where moisture may freeze in the pneumatic twinline or single line hoses an antifreeze injection system approved for this application can be installed. Failure to comply with the above warning could result in death or serious injury.

## SYMPTOM (Cause)

### Pinch Valve Fails to Actuate

*(Improper Air Supply, Damaged "U" Cup Gasket or Seal, Malfunctioning Remote Controls, Obstruction in Pinch Area)*

## ACTION

Inspect for restrictions and increase air pressure. Always use PSI gauge to ensure air pressure is between 80 PSI and 125 PSI.  
Replace gasket or seal.  
Ensure cover is installed over PV400's on electric systems.  
See remote control switch Operator's Manual.  
Remove debris.

### Pinch Valve Fails to Fully Pinch Blast Hose

*(Improper Air Supply, Damaged "U" Cup Gasket or Seal, Malfunctioning Remote Controls, Obstruction in Pinch Area, Frozen Blast Hose)*

Inspect for restrictions and increase air pressure. Always use PSI gauge to ensure air pressure is between 80 PSI and 125 PSI.  
Replace gasket or seal.  
See remote control switch Operator's Manual.  
Remove debris.  
Temperatures too cold to allow hose to be pliable.



## **ADDITIONAL TECHNICAL DATA**

The associations listed below offer information, materials and videos pertaining to abrasive blasting and safe operating practices.

- **American Society for Testing and Materials (ASTM)**  
100 Barr Harbor Drive  
West Conshohocken, PA 19428-2959  
  
Phone: (610) 832-9585  
FAX: (610) 832-9555  
www.astm.org
- **Occupational Safety & Health Administration (OSHA)**  
United States  
Department of Labor  
200 Constitution Avenue  
Washington, DC 20210  
  
Phone: (800) 321-OSHA  
(800) 321-6742  
www.osha.gov
- **The National Board of Boiler & Pressure Vessel Inspectors**  
1055 Crupper Avenue  
Columbus, Ohio 4322  
  
Phone: (614) 888-8320  
FAX: (614) 888-0750  
www.nationalboard.org
- **National Association of Corrosion Engineers (NACE)**  
1440 South Creek Drive  
Houston, TX 77084-4906  
  
Phone: (281) 228-6200  
FAX: (281) 228-6300  
www.nace.org
- **The Society for Protective Coatings (SSPC)**  
40-24th Street, 6th Floor  
Pittsburgh, PA 15222-4656  
  
Phone: (412) 281-2331  
FAX: (412) 281-9992  
www.sspc.org
- **American National Standards Institute (ANSI)**  
1899 L Street, NW, 11th Floor  
Washington, DC 20036  
  
Phone: (202) 293-8020  
FAX: (202) 293-9287  
www.ansi.org

## **LIMITED WARRANTY**

Seller warrants to the original purchaser that the Product covered by this Limited Warranty will remain free from defects in workmanship or material under normal commercial use and service for a period of one year from the date of shipment to the original Purchaser. This Warranty shall not apply to defects arising, in whole or in part, from any accident, negligence, alteration, misuse or abuse of the Product, operation of the Product which is not in accordance with applicable instructions or manuals or under conditions more severe than, or otherwise exceeding, those set forth in the written specifications for the Product, nor shall this Warranty extend to repairs or alterations of the Product and/or any maintenance part by persons other than Seller or Seller's authorized representatives. This warranty does not apply to accessory items. Further, this Warranty does not apply to damage or wear to the surface finish or appearance of the Product or normal wear and tear to the Product. This Warranty is limited to a purchaser who purchases the Product either directly from the Seller or from one of Seller's "Authorized Distributors". An Authorized Distributor is a Seller approved distributor that purchases the Product directly from the Seller for the sole purpose of re-selling the Product at retail, without any use or modifications whatsoever, to an end-purchaser. This warranty is specifically non-assignable and non-transferable.

## **DISCLAIMER OF WARRANTY**

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