**OPERATOR’S MANUAL**

**BLASTMASTER® REGULATOR**  
**ABRASIVE METERING VALVE**

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**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, or contact Marco at 563.324.2519 for replacements. Failure to comply with the above warning could result in death or serious injury.

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**BUILT MARCO TOUGH**  
**MARCO MANUFACTURED**

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**Marco**  
**Experience, Trust, Service**
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 Equipment, Coating and Painting Equipment, Engineered Systems, Rental Equipment, Safety Equipment, Service, and Repair.

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 over 65 years 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 over 45 shipping locations to serve North American and International markets for all major brands of blasting and painting 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 over 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, MSDS information, and Features, Advantages, and Benefits 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 Equipment, Coating and Painting Equipment, Engineered Systems, Rental Equipment, Safety Equipment, Service, and Repair.

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.

⚠️ 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.

⚠️ 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.

⚠️ 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 ⚠️

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 125 psi. Exceeding maximum working pressure of 125 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 hang objects from the abrasive blasting pot handle. Doing so may cause the abrasive blasting pot to become unstable and tip over.

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.

The use of this product for any purpose other than originally intended or altered from its original design is prohibited.
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 (GFIC) 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 MSDS’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.
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 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 nozzle liners are made of fragile materials and can be damaged by rough handling and striking against hard surfaces. Never use a 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 air-blast 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.
**NOTICE**

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

- See Air & Abrasive 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 air-blast 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.

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**AIR & ABRASIVE CONSUMPTION CHART**

**NOTICE**

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 abrasive blasting nozzle.

**NOTICE**

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.

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**Air & Abrasive Consumption Chart***

<table>
<thead>
<tr>
<th>Nozzle Orifice</th>
<th>Pressure at the Nozzle (PSI)</th>
<th>Air (in cfm), Abrasive &amp; Compressor Requirements</th>
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<tbody>
<tr>
<td></td>
<td>50</td>
<td>60</td>
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<tr>
<td>No. 2 (1/8”)</td>
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<td>13</td>
</tr>
<tr>
<td></td>
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<td>77</td>
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<tr>
<td></td>
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<td>3</td>
</tr>
<tr>
<td>No. 3 (3/16”)</td>
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<td></td>
<td>150</td>
<td>171</td>
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<tr>
<td></td>
<td>6</td>
<td>7</td>
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<td>No. 4 (1/4”)</td>
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<td>54</td>
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<td>268</td>
<td>312</td>
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<tr>
<td></td>
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<td>12</td>
</tr>
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<td>No. 5 (5/16”)</td>
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<tr>
<td></td>
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<td>534</td>
</tr>
<tr>
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<tr>
<td>No. 6 (3/8”)</td>
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<td>No. 7 (7/16”)</td>
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<td></td>
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<td>79.5</td>
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<tr>
<td>No. 12 (3/4”)</td>
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<td>2672</td>
<td>3056</td>
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<td></td>
<td>96</td>
<td>112</td>
</tr>
</tbody>
</table>

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


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

An abrasive metering valve regulates the flow of abrasive from an abrasive blasting pot. Metering valves create optimum abrasive blasting efficiency by controlling the desired amount of abrasive entering the air stream. A lean air and abrasive mixture provides faster cutting, reduced abrasive consumption, increased productivity, and lower clean-up costs. The Blastmaster® Regulator Abrasive Metering Valve adjusts the flow of abrasive easily with the adjustment of the metering handle. A clean-out port allows the operator to easily dislodge abrasive clogs without removing the valve from the abrasive blasting pot. Typical applications include blast rooms, blast yards, bridges, oil refineries, pipelines, and storage tanks. Common abrasives used include crushed glass, garnet, mineral abrasives, and slags.

Operational Requirements

The following may cause safety hazards or reduced performance:

- Improper installation of valve to abrasive blasting pot.
- Improper maintenance.
- Improper disassembly or incorrect assembly.
- Use of ferrous abrasives.

Operating Instructions

Fig. 2

Before using:

- Set up abrasive blasting pot and remote control system per instructions provided in the operator's manuals.
- Inspect Blastmaster® Regulator Abrasive Metering Valve components to ensure no cracks, leaks, or debris is in the valve.
- Verify Blastmaster® Regulator Abrasive Metering Valve is securely installed on the abrasive blasting pot.
- Ensure no steel abrasive is being used with the Blastmaster® Regulator Abrasive Metering Valve. Use of steel grit or shot may cause internal components to bind and render the valve inoperable.

During use:

- Ensure air & abrasive mixture is correct. (See "Blue Flame" section on page 6.) To adjust the air & abrasive mixture, move Handle (1) to the fully closed position, to the right or left of the abrasive metering valve. Activate the remote control system and slowly move the handle toward the center, fully open position, of the valve. Once the appropriate setting is attained, move the Locator Pin (2) on the gauge to the fully open side of the handle. This provides a guide for the next start up.
- Evaluate the air & abrasive mixture during blasting and make adjustments to abrasive flow as necessary.

After use:

- When abrasive blasting is completed, move handle to the fully closed position to stop abrasive loss when not abrasive blasting.
- Inspect abrasive metering valve and piping for wear or damage. Replace components as necessary.
**NOTICE**

To reduce abrasive intrusion in the air supply hose, depressurize the abrasive blasting pot before shutting off air supply from compressor.

**NOTICE**

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”.

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**OPERATING INSTRUCTIONS**

Figure 2

- **1** Fully Closed
- **2** Fully Open

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”.

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**Figure 2**
**INSTALLATION INSTRUCTIONS**

**Installation Instructions**

*Fig. 3*

**Installation:**
1) Install 1-1/2" NPT Close Nipple (1) in port at bottom of abrasive blasting pot.
2) Install Abrasive Metering Valve (2) on 1-1/2" NPT Close Nipple (1).
3) Install 1-1/4" x 5" Pipe Nipple (3) in Abrasive Metering Valve (2).
4) Install 1-1/4" I.D. "Y" Pipe (4) on 1-1/4" x 5" Pipe Nipple (3).

**NOTE:** A minimum distance (A) of 13" from exit port of abrasive blast pot to the ground is required for proper installation of Blastmaster® Regulator Abrasive Metering Valve.

**NOTE:** Additional plumbing components may be required to attach the Blastmaster® Regulator Abrasive Metering Valve to the bottom of the abrasive blasting pot.

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**WARNING**
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**
Always depressurize the entire blasting 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.

**NOTICE**
Apply pipe thread sealant to all pipe threads to ensure an airtight seal.

---

**Figure 3**
If the Blastmaster® Regulator Abrasive Metering Valve does not function properly, check the following:

### SYMPTOM (Cause) | ACTION
--- | ---
Valve meters incorrectly (Damaged components, Excessive moisture in system, Improper air pressure balance (chugging). Valve handle will not rotate to meter abrasive) | Refer to Operator’s Manuals for abrasive blasting pot and moisture separator system. Disassemble abrasive metering valve and inspect openings in stainless disc and valve core for wear. Replace parts as necessary. Abrasive can become lodged between stainless disc and valve core. Disassemble abrasive metering valve and clean all internal components thoroughly.  

Air exits the abrasive blasting nozzle but abrasive does not (Blockage) | Open abrasive metering valve to fully open position. Pressurize abrasive blasting pot, and rapidly open and close abrasive blasting pot choke valve until obstruction is cleared, and abrasive is flowing smoothly. Depressurize abrasive blasting pot, and remove inspection plate of abrasive metering valve. Clear any obstruction from valve. Depressurize abrasive blasting pot, and remove abrasive metering valve. Clear any obstruction from outlet of abrasive blasting pot. Abrasive blasting nozzle is worn, or too large for compressor size. Replace abrasive blasting nozzle.

### Intermittent abrasive flow (Wet abrasive, Abrasive Blasting Nozzle) | Open abrasive metering valve to fully open position. Pressurize abrasive blasting pot, and rapidly open and close abrasive blasting pot choke valve until obstruction is cleared, and abrasive is flowing smoothly. Damp or wet abrasive. Remove abrasive from abrasive blasting pot. Refer to abrasive blasting pot Operator’s Manual. Abrasive Blasting Nozzle is worn, or too large for compressor size. Replace Abrasive Blasting Nozzle.

---

**WARNING**

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**WARNING**

Always depressurize the entire blasting 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.

**NOTICE**

To reduce media intrusion in the air supply hose, depressurize the blast machine before shutting off air from compressor.
MAINTENANCE

Disassemble and Assemble Blastmaster® Regulator Abrasive Metering Valve

Maintenance of the Blastmaster® Regulator Abrasive Metering Valve is limited to the daily cleaning and the immediate replacement of damaged or worn parts.

**Disassemble:**

**Fig. 4**
1) Remove Blastmaster® Regulator Abrasive Metering Valve from the abrasive blasting pot.
2) Remove 1-1/2" NPT Close Nipple (28).
3) Remove two Wing Nuts (26), Inspection Plate (25), O-ring (24), and two Bolts (27) from Upper Body (2).
4) Remove 1-1/4" NPT "Y" Pipe (15), and 1-1/4" x 5" Pipe Nipple (16).
5) Remove Pin Clip (14), Pin (13) and Handle (12).
6) Remove Spring (11), Packing Gland (10), and Packing Rope (9).
7) Remove six Nuts (1), four Bolts (8), Gauge Assembly, and Upper Body (2).
8) Remove Valve Core (4), Disc (5), two Body Gaskets (3), and Shaft Gasket (6) from Lower Body (7).
9) Remove Wing Nut (18), Washer (19), Spacer (20), and Bolt (21) from Gauge (23).
10) Remove two Set Screws (22), and Gauge (23) from two Studs (17).
11) Clean and inspect all parts. Replace damaged or worn parts as necessary.

**Assemble:**

1) Install Valve Core (4) in Disc (5).
2) Install Shaft Gasket (6) on stem of Valve Core (4).
3) Place a Body Gasket (3) on each side Disc (5) and align holes.
4) Install Lower Body (7) on stem of Valve Core (4). Align two large holes in Disc (5) and Valve Core (4) with hole in Lower Body (7).
5) Align bolt holes in Upper Body (2) and Lower Body (7) with bolt holes in Disc (5), and install four Bolts (8) using Nuts (1).
6) Install Gauge (23) on two Studs (17) using two Set Screws (22).
7) Place Spacer (20) on Bolt (21) and install on Gauge (23) using Washer (19), and Wing Nut (18).
8) Install Gauge Assembly and secure using two Nuts (1).
9) Install O-ring (24) on Inspection Plate (25), and install them on Upper Body (2) using two Bolts (27) and Wing Nuts (26).
10) Install Packing Rope (9), Packing Gland (10), Spring (11), and Handle (12). Install Pin (13), and Pin Clip (14) to retain Handle (12).
11) Install 1-1/4" x 5" Pipe Nipple (16) in Lower Body (7), and 1-1/4" "Y" Pipe (15) on 1-1/4" x 5" Pipe Nipple (16).
12) Install 1-1/2" NPT Close Nipple (28) in Upper Body (2).
13) Move handle left and right to ensure free movement.

**WARNING**

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.

Always depressurize the entire blasting system, disconnect all power sources and lockout/lockout 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.

**NOTICE**

Apply pipe thread sealant to all pipe threads to ensure an airtight seal.

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# ASSEMBLY PART NUMBERS

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