OPERATOR'S MANUAL

ALLREDI® WATER RING



⚠ 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.allredi.com, or contact Allredi at 800.252.7848 for replacements. Failure to comply with the above warning could result in death or serious injury.

ALLREDI™

Company Profile

Allredi was formed in the early 2020, when two of the largest distributors in the blasting, coating, safety, and environmental industry, APE Companies and Allredi Group International, joined forces. While the qualities both companies are known for have not changed, a lot about our business is new. New abilities. New agilities. New ways to help you win. This calls for a new name, Allredi.

This name exemplifies what we have become. It is completely oriented to the needs of our customers. To your needs. It says that when you call us for anything – products, service, expert advice, anything – you can consider it done. Or even better, Allredi done.

We are your right-now supplier. From skills to SKUs, we deliver the goods fast. So you can be more agile every minute, every day. This is who we are. This is what our new name means. Go ahead and expect excellence, because we're bringing it.

Our Mission and Vision

To be the industry's preferred partner in surface preparation solutions through unrivaled technical expertise, customer experience, product availability, and tailored service offerings.

The Allredi Difference

- **Industry Experience** – With Allredi 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 an Allredi customer, you have access to hundreds of years of cumulative experience related to your operations.
- **Manufacturing Excellence** – Allredi is a U.S. based manufacturer of equipment for the Surface Preparation and Protective Coatings industries. Allredi'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** – Allredi'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, coating, environmental, and safety equipment. Allredi is your right-now supplier, so you can keep your projects moving. From our foundation of strong relationships, we have built a nationwide network that puts vast inventory and ready service close to our customers. We provide advanced expertise, and we deliver the goods fast – so you can easily access the products and services you need to me more agile every minute, every day.
- **Technology Leadership** – Our website provides: Operator's Manuals, Part Numbers and Schematics Guides, SDS information, and key product features and specifications, providing access to information 24/7.

TABLE OF CONTENTS

Company Profile **1**

Operating Instructions **9**

Description **9**

Operational Requirements **9**

Initial Setup **9**

Operating Instructions **10**

Maintenance **11**

Disassemble and Assemble Allredi® Water Ring **11**

Troubleshooting **12**

Limited Warranty **14**

Disclaimer of Warranty 14

Exclusive Remedy for Warranty Claims 14

Limitation of Remedies 14

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 (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 Allredi, 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.

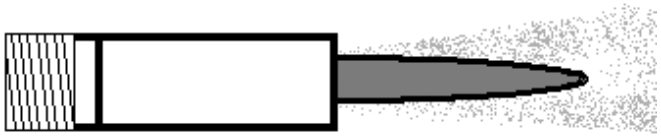
- See Air & Abrasive Consumption Chart for estimated abrasive consumption rates and required air flow (cubic feet per minute). Your system must meet these minimum requirements to ensure proper function and performance.
- Always use abrasive that is dry and properly screened. This will reduce the potential 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.



“Blue Flame”

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 damaged abrasive blasting nozzle.

NOTICE

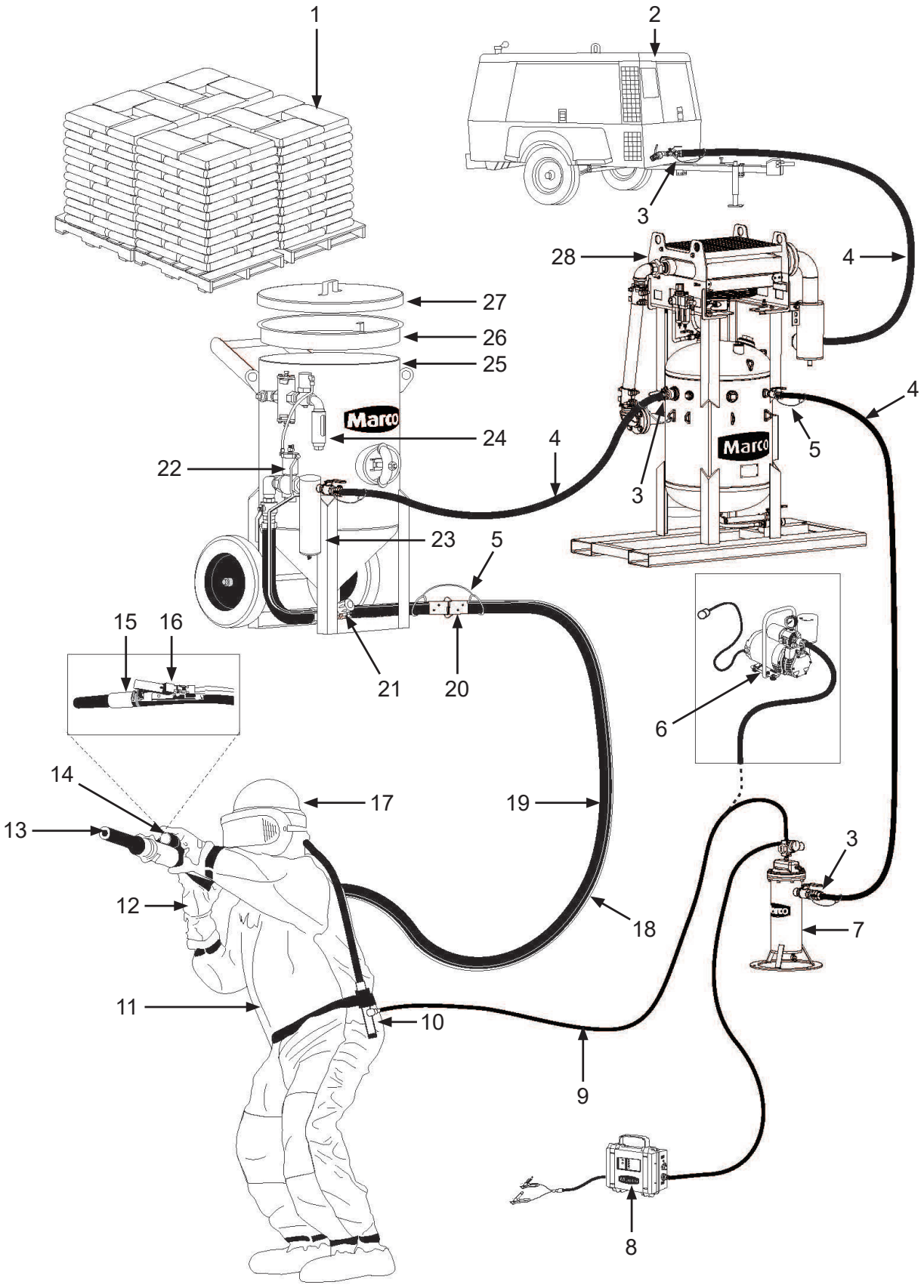
Replace abrasive blasting nozzle if liner or jacket is cracked or damaged. Replace abrasive blasting nozzle if original orifice size has worn 1/16” or more. Determine abrasive blasting nozzle wear by inserting a drill bit 1/16” larger than original size of abrasive blasting nozzle orifice. If the drill bit passes through abrasive blasting nozzle, replacement is needed.

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	
No. 2 (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
No. 3 (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
No. 4 (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
No. 5 (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
No. 6 (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
No. 7 (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
No. 8 (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
No. 10 (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
No. 12 (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 Allredi 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-557

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 or call (563) 324-2519 for replacements. Failure to comply with the above warning could result in death or serious injury.

⚠ 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-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.

Description

The Allredi® Water Ring is used as part of an abrasive blasting system to help reduce dust up to 80%. The tool is designed with no moving parts and works by simply injecting water into the abrasive stream as the abrasive exits the nozzle. The Allredi Water Ring easily attaches to most blast nozzles and can be setup in seconds by simply tightening three thumbscrews and attaching your water supply hose. The Allredi Water Ring can also be used to apply a rust inhibitor while you blast, which helps maintain a near white to white metal finish on a prepared surface. The use of the Allredi® Water Ring in combination with a rust inhibitor provides an alternative to the use of expensive, high volume dehumidification systems. Typical applications include blast booths, blast yards, offshore platforms, oil refineries, pipelines, storage tanks, and water towers.

Operational Requirements

- A water supply with 30–50 psi water pressure to operate Allredi Water Ring. Do not exceed 80 psi.
- A compatible Venturi Nozzle.

The following may cause safety hazards or reduced performance:

- Improper installation and/or maintenance of components.
- Use with a water supply with inadequate pressure.
- Use of any liquid other than water with or without an aqueous rust inhibitor.

Initial Setup

1) Insert Blast Nozzle (not included) through Collar (1), leaving end of Blast Nozzle recessed approximately 3/4” inside the Collar (1) .
2) Turn each Thumbscrew (2) until they make contact with and center the Blast Nozzle in the Collar.
3) Turn each Thumbscrew (2) until tightened. Excessive pressure may crack blast nozzle jacket.
4) Install optional Supply Line (5) between Hose Adapter Assembly (3) and Petcock (4).
5) Attach water supply to Hose Adapter (3).

⚠ 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.

⚠ 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.

Operating Instructions

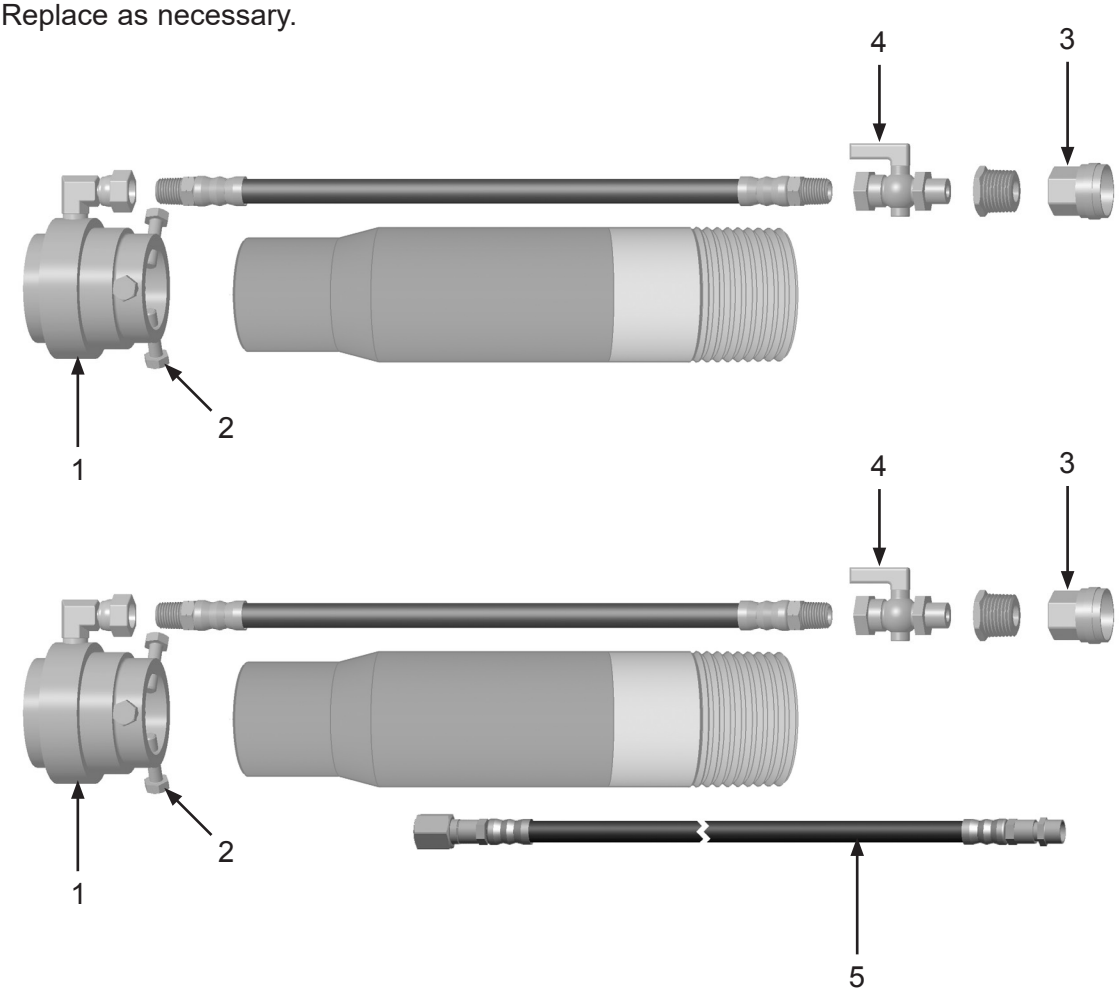
Operating Instructions are limited to instructions found in Original Equipment Manufacturer's Operator's Manuals. Please refer to all literature included with your Allredi® Water Ring at time of delivery. If this literature is unavailable, please contact Allredi for a replacement before use.

Before use:

- Inspect components for damage. Replace any damaged components before use.
- Ensure all connections are tight and secure before use.
- Turn on water supply to Petcock (4).
- Slowly open Petcock (4) to allow air to escape from line.
- Once all air has been vented from line, adjust Petcock (4) to nearly closed.
- Activate blast pot.
- Adjust water flow rate up or down until a satisfactory mix is achieved. If satisfactory water and abrasive mixture cannot be achieved, adjust position of water ring on blast nozzle.

After use:

- Close Petcock (4).
- Turn off water supply to Petcock (4).
- When abrasive blasting is concluded, inspect components for wear or damage. Replace as necessary.



MAINTENANCE

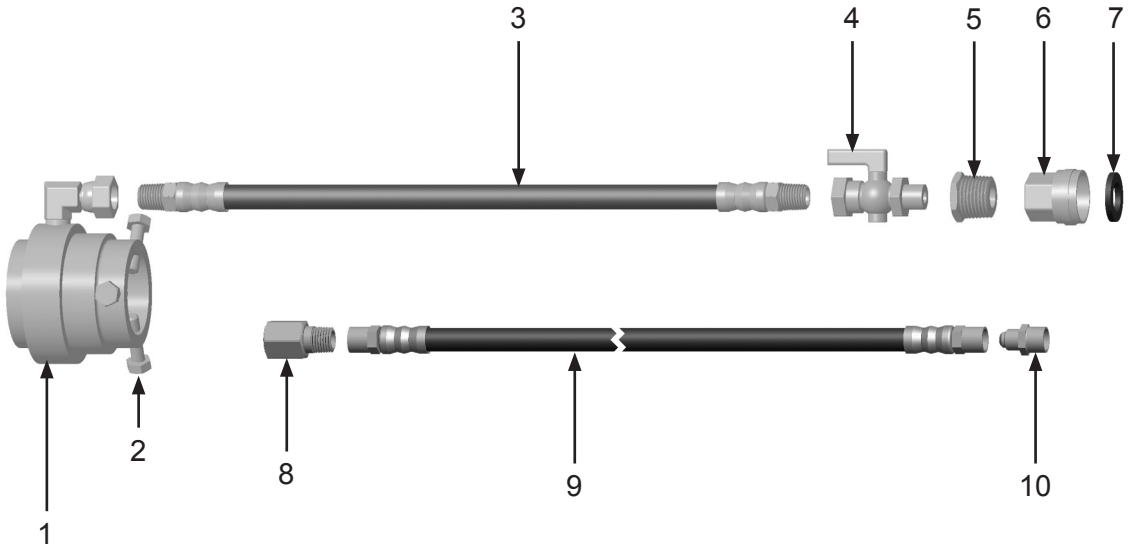
Disassemble and Assemble Allredi® Water Ring

⚠ 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) Unscrew Thumb Screws (2) from Collar (1).
2) Remove Washer (7) from Hose Adapter (6).
3) Remove Feed Hose (3) from Collar (1).
4) Remove Petcock (4) from Feed Hose (3).
5) Remove Petcock (4) from Reducer (5).
6) Remove Hose Adapter (6) from Reducer (5).
7) If equipped, remove 1/4” FNPT x 1/4” NPS Adapter (8) for Petcock from 30’ Water Supply Line (9).
8) If equipped, remove 1/4” NPT x 1/4” NPS Adapter (10) for 1/2” NPT to 1/4” NPT Reducer from 30’ Water Supply Line (9).
9) Install parts in reverse order.



TROUBLESHOOTING

⚠ 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-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.

If Allredi® Water Ring does not function properly, check following:

SYMPTOM (Cause)	ACTION
Water will not spray out of collar *(Supply Valve, Inadequate Pressure, Clog)*	Check all valves in water supply system to assure they are open. Check water supply to assure there is adequate pressure to deliver water to collar. If not, consider using a delivery pump to increase pressure. Inspect all hoses, connections, and orifices to assure no foreign matter is obstructing the water supply.
Water stream not properly mixing with abrasive stream *(Damaged Components, Improper Alignment, Inadequate pressure)*	Inspect collar for damage to orifices or machined face where the water exits. Adjust position of Allredi® Water Ring on nozzle to align point of intersection of water to abrasive stream. Check water supply to assure there is adequate pressure to deliver water to collar. If not, consider using a delivery pump to increase pressure.
Abrasive is producing too much dust *(Flow Rate Too Low, Inadequate Pressure)*	Adjust all valves leading to Allredi® Water Ring to full open, then regulate flow at Petcock until desired dust suppression is achieved. Check water supply to assure there is adequate pressure to deliver water to collar. If not, consider using a delivery pump to increase pressure.
Abrasive is too wet *(Flow Rate Too High, Excessive Pressure)*	Adjust all valves leading to Allredi® Water Ring to full open, then regulate flow at Petcock until desired water and abrasive mixture is achieved. The Allredi® Water Ring is compatible with the water pressure normally found in most water systems. Use with a high pressure water supply or with a pressure blaster may produce incompatible water pressure resulting in uncontrollable flow rates and excessive wear. If a water supply of compatible pressure is not available, use of a pressure regulator on the water supply will be needed to reduce pressure to proper levels.

MAINTENANCE NOTES

DATE	TYPE OF SERVICE	PART NUMBER

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

- **The Association for Materials Protection and Performance (AMPP)**
  800 Trumbull Drive
  Pittsburgh, PA 15205
  Phone: (277) 281-7772

  15835 Park Ten Place
  Houston, TX 77084
  Phone: (800) 797-6223

  4501 Mission Bay Drive
  Suite 2G
  San Diego, CA 92109
  Phone: (858) 768-0828
  www.ampp.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

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