

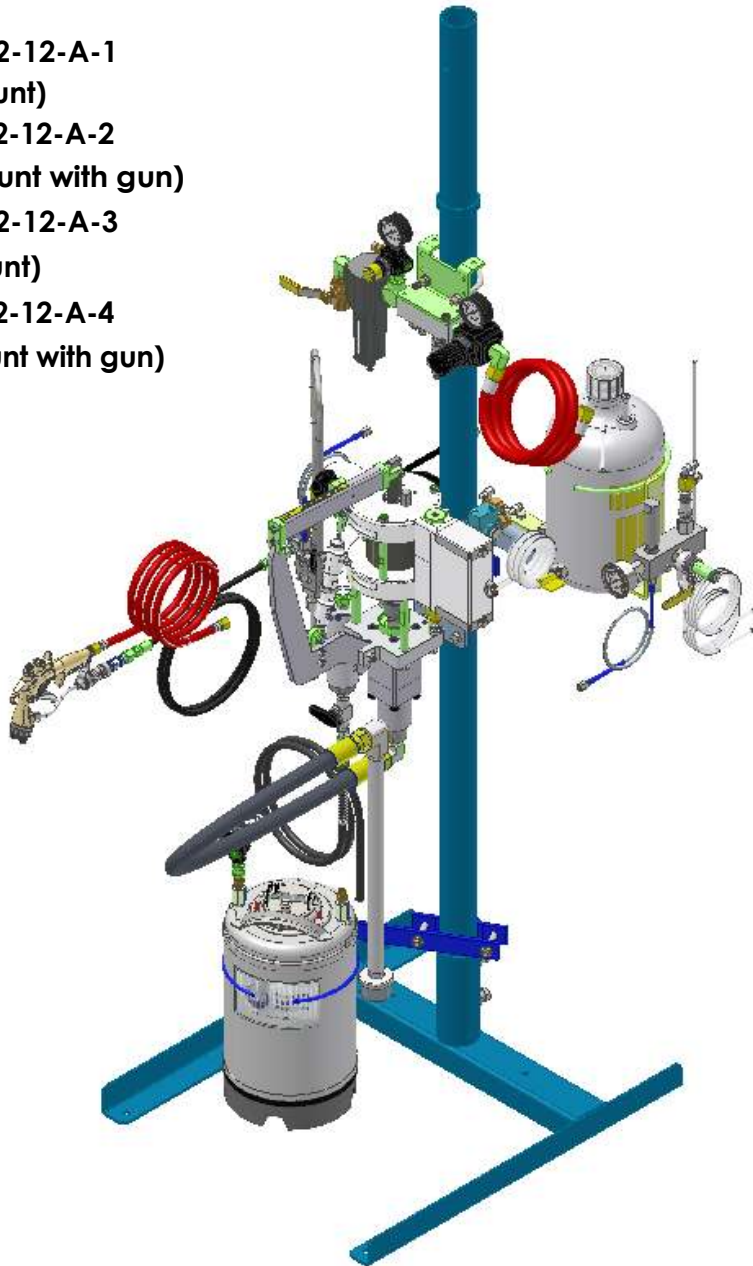
# ACE - Spray System

## Operations Manual

This manual is applicable to the following models:

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- ACE-PRO2-12-A-1  
(floor mount)
- ACE-PRO2-12-A-2  
(floor mount with gun)
- ACE-PRO2-12-A-3  
(wall mount)
- ACE-PRO2-12-A-4  
(wall mount with gun)





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# Safety & Warning Information

## Warnings

Due to the vast number of chemicals that could be used and their varying chemical reactions, the buyer and user of this equipment should determine all factors relating to the fluids used, including any of the potential hazards involved. Particular inquiry and investigation should be made into potential dangers relating to toxic fumes, fires, explosions, reaction times, and exposure of human beings to the individual components or their resultant mixtures. MVP assumes no responsibility for loss, damage, expense, or claims for bodily injury or property damage, direct or consequential, arising from the use of such chemical components.

The end user is responsible for ensuring that the end product or system complies with all the relevant laws in the country where it is to be used and that all documentation is adhered to.

### **Recommended Occupational Safety & Health Act (OSHA) Documentation:**

- 1910.94                      Pertaining to ventilation
- 1910.106                    Pertaining to flammable liquids
- 1910.107                    Pertaining to spray finishing operations, particularly paragraph (m), Organic Peroxides and Dual Component Coatings

For Additional information, contact the Occupational Safety and Health Administration (OSHA) at <https://www.osha.gov/about.html>.

### **Recommended National Fire Protection Association (NFPA) Documentation:**

- NFPA No.33 Chapter 14              Organic Peroxides and Dual Component Materials
- NFPA No. 63                          Dust Explosion Prevention
- NFPA No. 70                          National Electrical Code
- NFPA No. 77                          Static Electricity
- NFPA No. 91                          Blower and Exhaust System
- NFPA No. 654                          Plastics Industry Dust Hazards

**Fire Extinguisher** – code ABC, rating number 4a60bc using Extinguishing Media –Foam, Carbon Dioxide, Dry Chemical, Water Fog, is recommended for this product and applications.

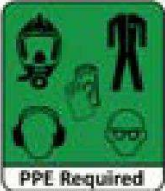
The following general warnings and guidelines are for the setup, use, grounding, maintenance, and repair of equipment. Additional product-specific warnings may be found throughout this manual as applicable. Please contact your nearest MVP Technical Service Representative if additional information is needed.

## Safety Precautions

- Avoid skin contact and inhalation of all chemicals.
- Review the Material Safety Data Sheet (MSDS) to promote the safe handling of chemicals in use.
- Restrict the use of all chemicals in designated areas with good ventilation.
- Chemicals are flammable and reactive.
- Noxious fumes released when combusted.
- Operate equipment in a ventilated environment only.
- Uncured liquid materials are highly flammable unless specifically labeled otherwise.
- Cured laminate, accumulations of overspray, and laminate sandings are highly combustible.
- Do not operate or move electrical equipment when flammable fumes are present.
- Ground all equipment.
- If a spark is seen or felt, immediately halt operation. Do not operate the equipment until the issue has been identified and repaired.
- Contaminated catalyst may cause fire or explosion.
- Containers may explode if exposed to fire/heat.
- Use and store chemicals away from heat, flames, and sparks.
- Do not smoke in work areas or near stored chemicals.
- Do not mix Methyl Ethyl Ketone Peroxide (MEKP) with materials other than polyethylene.
- Do not dilute MEKP.
- Keep food and drink away from the work area.



| Physical Hazards                                                                    |                                                                                                                                                                                                                                                               |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                     | <ul style="list-style-type: none"> <li>Never look directly into the spray gun fluid tip. Serious injury or death can result.</li> </ul>                                                                                                                       |
|                                                                                     | <ul style="list-style-type: none"> <li>Never aim the spray gun at or near another person. Serious injury or death can result.</li> </ul>                                                                                                                      |
|                                                                                     | <ul style="list-style-type: none"> <li>Chemical compounds can be severely irritating to the eyes and skin.</li> </ul>                                                                                                                                         |
|                                                                                     | <ul style="list-style-type: none"> <li>Inhalation, ingestion, or injection may damage internal organs and lead to pulmonary disorders, cancers, lymphomas, and other diseases or health conditions.</li> </ul>                                                |
|                                                                                     | <ul style="list-style-type: none"> <li>Other potential health effects include irritation of the eyes and upper respiratory tract, headache, light-headedness, dizziness, confusion, drowsiness, nausea, vomiting, and occasionally abdominal pain.</li> </ul> |
|                                                                                     | <ul style="list-style-type: none"> <li>Eye contact: Immediately flush with water for at least 15 minutes and seek immediate medical attention.</li> </ul>                                                                                                     |
|                                                                                     | <ul style="list-style-type: none"> <li>Skin Contact: Immediately wash with soap and water and seek immediate medical attention.</li> </ul>                                                                                                                    |
|                                                                                     | <ul style="list-style-type: none"> <li>Inhalation: Move the person to fresh air and seek immediate medical attention.</li> </ul>                                                                                                                              |
|                                                                                     | <ul style="list-style-type: none"> <li>Do not remove shields, covers, or safety features on equipment that is in use.</li> </ul>                                                                                                                              |
|                                                                                     | <ul style="list-style-type: none"> <li>Never place fingers, hands, or any body part near or directly in front of the spray gun fluid tip. The force of the liquid as it exits the spray tip can shoot liquid through the skin.</li> </ul>                     |
|                                                                                     | <ul style="list-style-type: none"> <li>Keep hands and body parts away from any moving equipment or components.</li> </ul>                                                                                                                                     |
|                                                                                     | <ul style="list-style-type: none"> <li>Do not stand under plunger</li> </ul>                                                                                                                                                                                  |
|                                                                                     | <ul style="list-style-type: none"> <li>An improperly loaded drum may lead to an imbalance, causing a unit to tip over</li> </ul>                                                                                                                              |
|  |                                                                                                                                                                            |

| Personal Protective Equipment (PPE)                                                 |                                                                                                                                         |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                     | <ul style="list-style-type: none"> <li>MVP recommends the use of personal safety equipment with all products in our catalog.</li> </ul> |
|                                                                                     | <ul style="list-style-type: none"> <li>Wear safety goggles, hearing protection, a respirator, and chemical resistant gloves.</li> </ul> |
|                                                                                     | <ul style="list-style-type: none"> <li>Wear long sleeve shirts or jackets and pants to minimize skin exposure.</li> </ul>               |
|                                                                                     | <ul style="list-style-type: none"> <li>PPE should be worn by operators and service technicians to reduce the risk of injury.</li> </ul> |
|  |                                                                                                                                         |

For Additional information, contact the Occupational Safety and Health Administration (OSHA).  
<https://www.osha.gov/about.html>

## Symbol Definitions



Indicates the risk of contact with chemicals that are hazardous, which may lead to injury or death.



Indicates the risk of contact with voltage/ampereage that may lead to serious injury or death



Indicates that the materials being used are susceptible to combustion



Indicates the risk of contact with moving components that may lead to serious injury or death.



Indicates that the system or component should be grounded before proceeding with use or repair.



Indicates the use of lit cigarettes or cigars is prohibited, because the materials being used are susceptible to combustion.



Indicates that the materials and/or the process being performed can lead to ignition and explosion.



A recommendation for the use of Personal Protective Equipment (PPE) before using or repairing the product.

## Polymer Matrix Materials: Advanced Composites

Potential health hazards associated with the use of advanced composites can be controlled through the implementation of an effective industrial hygiene and safety program.

[https://www.osha.gov/dts/osta/otm/otm\\_iii/otm\\_iii\\_1.html#t\\_iii:1\\_1](https://www.osha.gov/dts/osta/otm/otm_iii/otm_iii_1.html#t_iii:1_1)

| <b>Materials</b>                     |                                              |                                                                                         |
|--------------------------------------|----------------------------------------------|-----------------------------------------------------------------------------------------|
| <b>Composite Component</b>           | <b>Organ System Target (Possible Target)</b> | <b>Known (Possible) Health Effect</b>                                                   |
| Epoxy materials                      | Skin, lungs, eyes                            | Contact and allergic dermatitis, conjunctivitis                                         |
| Polyurethane materials               | Lungs, skin, eyes                            | Respiratory sensitization, contact dermatitis, conjunctivitis                           |
| Phenol formaldehyde                  | Skin, lungs, eyes                            | As above (potential carcinogen)                                                         |
| Bismaleimides (BMI)                  | Skin, lungs, eyes                            | As above (potential carcinogen)                                                         |
| Polyamides                           | Skin, lungs, eyes                            | As above (potential carcinogen)                                                         |
| <b>Reinforcing materials</b>         |                                              |                                                                                         |
| <b>Composite Component</b>           | <b>Organ System Target (Possible Target)</b> | <b>Known (Possible) Health Effects</b>                                                  |
| Aramid fibers                        | Skin (lungs)                                 | Skin and respiratory irritation, contact dermatitis (chronic interstitial lung disease) |
| Carbon/graphite fibers               | Skin (lungs)                                 | As noted for aramid fibers                                                              |
| Glass Fibers (continuous filament)   | Skin (lungs)                                 | As noted for aramid fibers                                                              |
| <b>Hardeners and curing agents</b>   |                                              |                                                                                         |
| <b>Composite Component</b>           | <b>Organ System Target (Possible Target)</b> | <b>Known (Possible) Health Effects</b>                                                  |
| Diaminodiphenylsulfone               | N/A                                          | No known effects with workplace exposure                                                |
| Methylenedianiline                   | Liver, skin                                  | Hepatotoxicity, suspect human carcinogen                                                |
| <b>Other aromatic amines</b>         |                                              |                                                                                         |
| <b>Composite Component</b>           | <b>Organ System Target (Possible Target)</b> | <b>Known (Possible) Health Effect</b>                                                   |
| Meta-phenylenediamine (MPDA)         | Liver, skin (Kidney, bladder)                | Hepatitis, contact dermatitis (kidney and bladder cancer)                               |
| Aliphatic and cyclo-aliphatic amines | Eyes, skin                                   | Severe irritation, contact dermatitis                                                   |
| Polyaminoamide                       | Eyes, skin                                   | Irritation (sensitization)                                                              |
| Anhydride                            | Eyes, lungs, skin                            | Severe eye and skin irritation, respiratory sensitization, contact dermatitis           |

## Catalyst - Methyl Ethyl Ketone Peroxide (MEKP)

MEKP is among the more hazardous materials found in commercial channels. The safe handling of the “unstable (reactive)” chemicals presents a definite challenge to the plastics industry. The highly reactive property which makes MEKP valuable to the plastics industry in producing the curing reaction of polyester materials also produces hazards which require great care and caution in its storage, transportation, handling, processing, and disposal. MEKP is a single chemical. Various polymeric forms may exist which are more or less hazardous with respect to each other. These differences may arise not only from different molecular structures (all are, nevertheless, called “MEKP”) and from possible trace impurities left from the manufacture of the chemicals, but may also arise by contamination of MEKP with other materials in its storage or use. Even a small amount of contamination with acetone, for instance, may produce an extremely shock-sensitive and explosive compound.



### **WARNING**

***Contamination with promoters, materials containing promoters (such as laminate sandings), or with any readily oxidizing material (such as brass or iron) will cause exothermic redox reactions which can be explosive in nature. Heat applied to MEKP or heat buildup from contamination reactions can cause the material to reach its Self-Accelerating Decomposition Temperature (SADT).***

Researchers have reported measuring pressure rates-of-rise well over 100,000 psi per second when certain MEKP's reach their SADT. For comparison, the highest-pressure rate-of-rise listed in NFPA Bulletin NO.68, “Explosion Venting”, is 12,000 psi per second for an explosion of 12% acetylene and air. The maximum value listed for a hydrogen explosion is 10,000 psi per second. Some forms of MEKP, if allowed to reach their SADT, will burst even an open-topped container. This suggests that it is not possible to design a relief valve to vent this order of magnitude of pressure rate-of-rise. The user should be aware that any closed container, be it a pressure vessel, surge chamber, or pressure accumulator, could explode under certain conditions. There is no engineering substitute for care by the user in handling organic peroxide catalysts. If, at any time, the pressure relief valve on top of the catalyst tank should vent, the area should be evacuated at once and the fire department called. The venting could be the first indication of heat, and therefore, pressure build-up that could eventually lead to an explosion. Moreover, if a catalyst tank is sufficiently full when the pressure relief valve vents, some catalyst may spray out, which could cause eye injury. Anyone in an area where this vented spray might go, should always wear full eye protection even when laminating operations are not taking place.

Safety in handling MEKP depends to a great extent on employee education, proper safety instructions, and safe use of the chemicals and equipment. Workers should be thoroughly informed of the hazards that may result from improper handling of MEKP, especially regarding contamination, heat, friction, and impact. They should be thoroughly instructed regarding the proper action to be taken in the storage, use, and disposal of MEKP and other hazardous materials used in the laminating operation. In addition, users should make every effort to:

- Store MEKP in a cool, dry place in original containers away from direct sunlight and away from other chemicals.
- Keep MEKP away from heat, sparks, and open flames.
- Prevent contamination of MEKP with other materials, including polyester overspray and sandings, polymerization accelerators and promoters, brass, aluminum, and non-stainless steels.

- Never add MEKP to anything that is hot, since explosive decomposition may result.
- Avoid contact with skin, eyes, and clothing. Protective equipment should be worn at all times. During clean-up of spilled MEKP, personal safety equipment, gloves, and eye protection must be worn. Firefighting equipment should be at hand and ready.
- Avoid spillage, which can heat up to the point of self-ignition.
- Repair any leaks discovered in the catalyst system immediately, and clean-up the leaked catalyst at once in accordance with the catalyst manufacturer's instructions.
- Use only original equipment or equivalent parts from Magnum Venus Products in the catalyst system (i.e.: hoses, fitting, etc.) because a dangerous chemical reaction may result between substituted parts and MEKP.
- Catalyst accumulated from the purging of hoses, or the measurement of fluid output deliveries should never be returned to the supply tank, such catalyst should be diluted with copious quantities of clean water and disposed of in accordance with the catalyst manufacturer's instructions.

The extent to which the user is successful in accomplishing these ends and any additional recommendations by the catalyst manufacturer determines largely the safety that will be present in his operation.

## Important Acid Catalyst Information:

Corrosion-resistant wetted materials of construction are required and must be used without substitution, to withstand the increased corrosive properties of these acids. Acid Catalyst is flammable, and spraying or dispensing acid creates potentially harmful mists, vapors, and atomized particulates. To help prevent fire and explosion and serious injury:

- Read and understand the fluid manufacturer's warnings and Safety Data Sheet (SDS) to know specific hazards and precautions related to the acid.
- Use only genuine, manufacturer's recommended acid-compatible parts in the catalyst system (hoses, fittings, etc.). A reaction may occur between any substituted parts and the acid.

### First Aid Measures:

**Eye contact:** Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

**Inhalation:** Get medical attention immediately. Call a poison center or physician. Remove the victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Skin Contact:** Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion:** Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If the material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in the recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt, or waistband.

### Storage & Handling:

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

There are three key elements to the Halogenated Hydrocarbon (HHC) solvent hazard.

1. The presence of HHC solvents. 1,1,1 – Trichloroethane and Methylene Chloride are the most common of these solvents. However, other HHC solvents are suspect if used; either as part of paint or adhesives formulation or for clean-up flushing.
2. Aluminum or Galvanized Parts. Most handling equipment contains these elements. In contact with these metals, HHC solvents could generate a corrosive reaction of a catalytic nature.
3. Equipment capable of withstanding pressure. When HHC solvent contacts aluminum or galvanized parts inside a closed container such as a pump, spray gun, or fluid handling system, the chemical reaction can, over time, result in a build-up of heat and pressure, which can reach explosive proportions. When all three elements are present, the result can be an extremely violent explosion. The reaction can be sustained with very little aluminum or galvanized metal; any amount of aluminum is too much.

- The reaction is unpredictable. Prior use of an HHC solvent without incident (corrosion or explosion) does NOT mean that such use is safe. These solvents can be dangerous alone (as a clean-up or flushing agent) or when used as a component or a coating material. There is no known inhibitor that is effective under all circumstances. Mixing HHC solvents with other materials or solvents such as MEKP, alcohol, or toluene may render the inhibitors ineffective.
- The use of reclaimed solvents is particularly hazardous. Reclaimers may not add any inhibitors. The possible presence of water in reclaimed solvents could also feed the reaction.
- Anodized or other oxide coatings cannot be relied upon to prevent explosive reaction. Such coatings can be worn, cracked, scratched, or too thin to prevent contact. There is no known way to make oxide coatings or to employ aluminum alloys to safely prevent chemical reactions under all circumstances.
- Several solvent suppliers have recently begun promoting HHC solvents for use in coating systems. The increasing use of HHC solvents is increasing the risk. Because of their exemption from many state implementation plans as Volatile Organic Compounds (VOCs), their low flammability hazard, and not being classified as toxic or carcinogenic substances, HHC solvents are very desirable in many respects.



### **WARNING**

***Do not use Halogenated Hydrocarbon (HHC) solvents in pressurized fluid systems having aluminum or galvanized wetted parts.***

***Magnum Venus Products is aware of NO stabilizers available to prevent HHC solvents from reaction under all conditions with aluminum components in closed fluid systems. HHC solvents are dangerous when used with aluminum components in a closed fluid system.***

- Consult your material supplier to determine whether your solvent or coating contains Halogenated Hydrocarbon solvents.
- Magnum Venus Products recommends that you contact your solvent supplier regarding the best non-flammable clean-up solvent with heat toxicity for your application.
- If, however, you find it necessary to use flammable solvents, they must be kept in approved, electrically grounded containers.
- Bulk solvent should be stored in a well-ventilated, separate building, 50 feet away from your main plant.
- You should only allow enough solvent for one day's use in your laminating area.
- NO SMOKING signs must be posted and observed in all areas of storage or where solvents and other flammable materials are used.
- Adequate ventilation (as covered in OSHA Section 1910.94 and NFPA No. 91) is important wherever solvents are stored or used, to minimize, confine and exhaust the solvent vapors.
- Solvents should be handled in accordance with OSHA Section 1910.106 and 1910.107.

## Catalyst Diluents

Magnum Venus Products spray-up and gel-coat systems currently produced are designed so that catalyst diluents are not required. Magnum Venus Products therefore recommends that diluents not be used to avoid possible contamination which could lead to an explosion due to the handling and mixing of MEKP and diluents. In addition, it eliminates any problems from the diluent being

contaminated through rust particles in drums, poor quality control on the part of the diluents suppliers, or any other reason. If diluents are absolutely required, contact the catalyst supplier and follow their instructions explicitly. Preferably the supplier should premix the catalyst to prevent possible “on the job” contamination while mixing.



### **WARNING**

***If diluents are not used, remember that catalyst spillage and gun, hose, and packing leaks are potentially more hazardous since each drop contains a higher concentration of catalyst and will therefore react more quickly with overspray and the leak.***

## **Cured Laminate, Overspray and Laminate Sandings Accumulation**

- Remove all accumulations of overspray, Fiberglass Reinforced Plastic (FRP) sandings, etc. from the building as they occur. If this waste is allowed to build up, spillage of catalyst is more likely to start a fire; in addition, the fire would burn hotter and longer.
- Floor coverings, if used, should be non-combustible.
- Spilled or leaked catalyst may cause a fire if it comes in contact with an FRP product, oversprayed chop or material, FRP sandings or any other material with MEKP.

To prevent spillage and leakage, you should:

- |                                                                                                                                           |                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Maintain your Magnum Venus Products System.                                                                                            | Check the gun several times daily for catalyst and material packing or valve leaks. REPAIR ALL LEAKS IMMEDIATELY.                                                                         |
| 2. Never leave the gun hanging over or lying inside the mold.                                                                             | A catalyst leak in this situation would certainly damage the part, possibly the mold, and may cause a fire.                                                                               |
| 3. Inspect material and catalyst hoses daily for wear or stress at the entry and exits of the boom sections and at the hose and fittings. | Replace if wear or weakness is evident or suspected.                                                                                                                                      |
| 4. Arrange the hoses and fiberglass roving guides so that the fiberglass strands DO NOT rub against any of the hoses at any point.        | If allowed to rub, the hose will be cut through, causing a hazardous leakage of material which could increase the danger of fire. Also, the material may spew onto personnel in the area. |

## **Toxicity of Chemicals**

## ACE – Accurate Coating Equipment Operations Manual

- Magnum Venus Products recommends that you consult OSHA Sections 1910.94, 1910.106, 1910.107 and NFPA No.33, Chapter 14, and NFPA No.91.
- Contact chemical supplier(s) and determine the toxicity of the various chemicals used as well as the best methods to prevent injury, irritation, and danger to personnel.
- Also determine the best methods of first aid treatment for each chemical used in your plant.

## Equipment Safety

Magnum Venus Products suggest that personal safety equipment such as EYE GOGGLES, GLOVES, EAR PROTECTION, and RESPIRATORS be worn when servicing or operating this equipment. Ear protection should be worn when operating a fiberglass chopper to protect against hearing loss since noise levels can be as high as 116 dB (decibels). This equipment should only be operated or serviced by technically trained personnel!



### CAUTION

***Never place fingers, hands, or any body part near or directly in front of the spray gun fluid tip. The force of the liquid as it exits the spray tip can cause serious injury by shooting liquid through the skin. NEVER LOOK DIRECTLY INTO THE GUN SPRAY TIP OR POINT THE GUN AT OR NEAR ANOTHER PERSON OR AN ANIMAL.***



### DANGER

***Contaminated catalyst may cause fire or explosion. Before working on the catalyst pump or catalyst accumulator, wash hands and tools thoroughly. Be sure work area is free from dirt, grease, or material. Clean catalyst system components with clean water daily.***



### DANGER

***Eye, skin, and respiration hazard. The catalyst MEKP may cause blindness, skin irritation, or breathing difficulty. Keep hands away from face. Keep food and drink away from work area.***

## Treatment of Chemical Injuries



### CAUTION

***Refer to your catalyst manufacturer's safety information regarding the safe handling and storage of catalyst. Wear appropriate safety equipment as recommended.***

Great care should be used in handling the chemicals (materials, catalyst and solvents) used in polyester systems. Such chemicals should be treated as if they hurt your skin and eyes and as if they are poison to your body. For this reason, Magnum Venus Products recommends the use of protective clothing and eyewear in using polyester systems. However, users should be prepared in the event of such an injury.

#### ***Precautions include:***

1. Know precisely what chemicals you are using and obtain information from your chemical supplier on what to do in the event the chemical gets onto your skin or into the eyes, or if swallowed.
2. Keep this information together and easily available so that it may be used by those administering first aid or treating the injured person.
3. Be sure the information from your chemical supplier includes instructions on how to treat any toxic effects the chemicals have.

**WARNING**

**Contact your doctor immediately in the event of an injury. If the product's MSDS includes first aid instructions, administer first aid immediately after contacting a doctor.**

Fast treatment of the outer skin and eyes that contact chemicals generally includes immediate and thorough washing of the exposed skin and immediate and continuous flushing of the eyes with lots of clean water for at least 15 minutes or more. These general instructions of first aid treatment may be incorrect for some chemicals; you must know the chemicals and treatment before an accident occurs. Treatment for swallowing a chemical frequently depends upon the nature of the chemical.

## Emergency Stop Procedure

In an emergency, follow these steps to stop a system:

1. The ball valve located where the air enters the power head of the material pump, should be moved to the "OFF" or closed position.

**Note**      **The "open" or "on" position is when the ball valve handle is parallel (in line) with the ball valve body. The "closed" or "off" position is when the ball valve handle is perpendicular (across) the ball valve body.**

2. Turn all system regulators to the "OFF" position (counterclockwise) position.
3. Verify/secure the catalyst relief line, located on the catalyst relief valve.
4. Verify/secure the material return line, located on the material filter.
5. Place a container under the material pump ball valve to catch ejected material.
6. Locate the ball valve on the material pump.
7. Rotate the ball valve 90° to the "On" or open position.

## Grounding

Grounding an object means providing an adequate path for the flow of the electrical charge from the object to the ground. An adequate path is one that permits charge to flow from the object fast enough that it will not accumulate to the extent that a spark can be formed. It is not possible to define exactly what will be adequate path under all conditions since it depends on many variables. In any event, the grounding means should have the lowest possible electrical resistance.

Grounding straps should be installed on all loose conductive objects in the spraying area. This includes material containers and equipment. Magnum Venus Products recommends grounding straps be made of AWG No.18 stranded wire as a minimum and the larger wire be used where possible. NFPA Bulletin No77 states that the electrical resistance of such a leakage path should be 1 meg ohm ( $10^6$  ohms) or less.

**CAUTION**

**Whenever flammable or combustible liquids are transferred from one container to another, or from one container to the equipment, both containers or container and equipment shall be effectively bonded and grounded to dissipate static electricity. For further information, see National Fire Protection Association (NFPA) 77, titled "Recommended Practice on Static Electrical". Refer especially to section 7-7 titled "Spray Application of Flammable and Combustible Materials".**

# Introduction

This manual provides information for the operation, maintenance, and simple repair of the MVP ACE Accurate Coatings System. ACE is a coatings application system for wood finishings such as cabinetry, furniture, windows, and doors. The system was uniquely designed to reduce material waste and increase production output. During trials, customers have experienced up to 15% material savings compared to traditional pressure pots. The following procedures are included:

- Step-by-step assembly and disassembly
- Installation, start-up, and shut-down instructions
- Step-by-step operation instructions



Please read this manual carefully and retain for future reference. Follow the steps in the order given, otherwise you may damage the equipment or injure yourself.



**WARNING: This unit is not rated for explosive atmospheres.**

This manual covers the two main ACE unit configurations:

| ACE (ACCURATE COATING EQUIPMENT) |                                              |
|----------------------------------|----------------------------------------------|
| PART NUMBER                      | DESCRIPTION                                  |
| ACE-PRO2-12-A-2                  | ACE Unit Floor Mount – w/FMM-1000 – with Gun |
| ACE-PRO2-12-A-4                  | ACE Unit Wall Mount – w/WMM-1000 – with Gun  |

| ACE Main Components |                               |
|---------------------|-------------------------------|
| PART NUMBER         | DESCRIPTION                   |
| 651780-B3A-B        | High-Pressure Fluid Regulator |
| CPMB-2000-A         | Classic Pro Mix Block         |
| CM2-3000-316        | Acid Catalyst Manifold        |
| FF-5000R-100-A      | Filter W Relief Valve         |
| MA2-1-ACE           | Air Manifold                  |
| PAT-CJ-316          | Catalyst Jug                  |
| PAT-CP-0550-316     | Special Cat Pump              |
| PAT-SV-1            | Patriot Safety Valve          |
| PRO2-LS-06010-17-4  | Fluid Section - 17-4 SS       |
| PRO2-PH-3250        | Power Head - 3.25"            |
| PRO2-SD-3100        | Slave Drive Assembly          |

| ACE standard Hose Set |                                                 |
|-----------------------|-------------------------------------------------|
| PART NUMBER           | DESCRIPTION                                     |
| 01443                 | 1/4 Yellow Poly                                 |
| HA-0444-27            | Hose Assy.                                      |
| HA-0888-3             | Air Hose Assy 3'                                |
| HAW-0344-25           | Hose Assy. 25'                                  |
| HAW-0344-5            | Hose Assy. 5'                                   |
| HAW-0444-5            | Hose Assy. 5'                                   |
| HCSS-0203J-5          | SS Hose Assembly                                |
| HCSS-0606J-4          | SS Hose Assembly                                |
| HAW-044-4             | Hose Assembly                                   |
| HSA-1000-5-4          | Hose Siphon Assembly - 18" Pickup Wand Assembly |
| MS-2052-1             | 1/4 Uncut Tubing By Foot                        |

## Specifications

| Accurate Coating Equipment (ACE) |                |
|----------------------------------|----------------|
| Specification                    | Measurement    |
| Width                            | 24" (61 cm)    |
| Depth                            | 28" (71 cm)    |
| Height                           | 81" (206 cm)   |
| Weight                           | 180lbs (49 kg) |
| Flush Material Capacity          | 3 Gal (11.3 L) |
| Catalyst Capacity                | 2 Gal (7.57 L) |

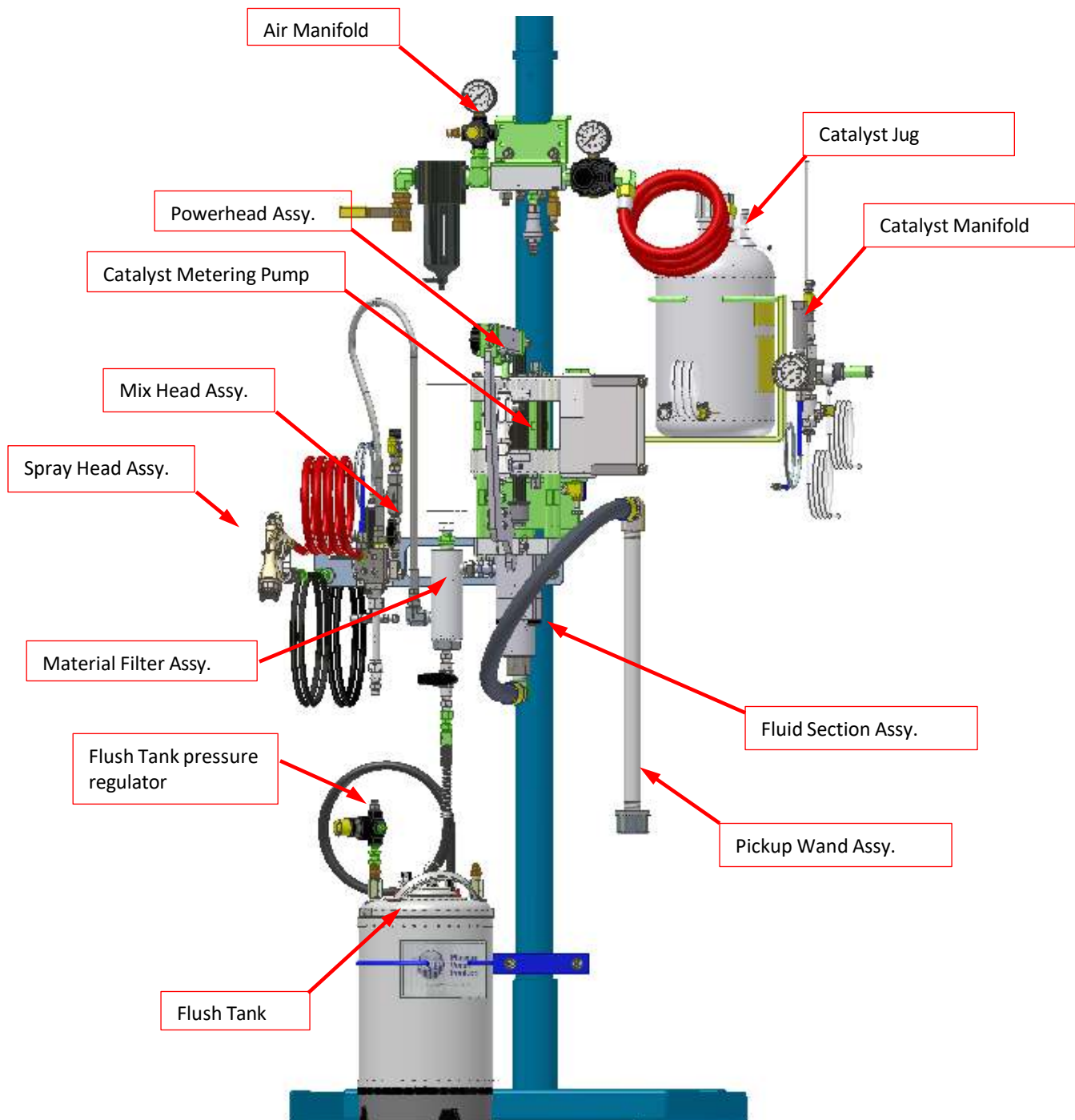
## Air Requirements

1. The system requires a 30 cfm supply of air but not to exceed 100 psi (7 bar).
2. The unit requires a ½" (12 - 13 mm) inside diameter air hose minimum. Use caution when using quick disconnects as they may restrict air flow.
3. The air should be clean, dry, and oil free. The system is supplied with an air filter moisture trap. An optional high-efficiency air filter extractor is available. Contact your sales representative for more information.

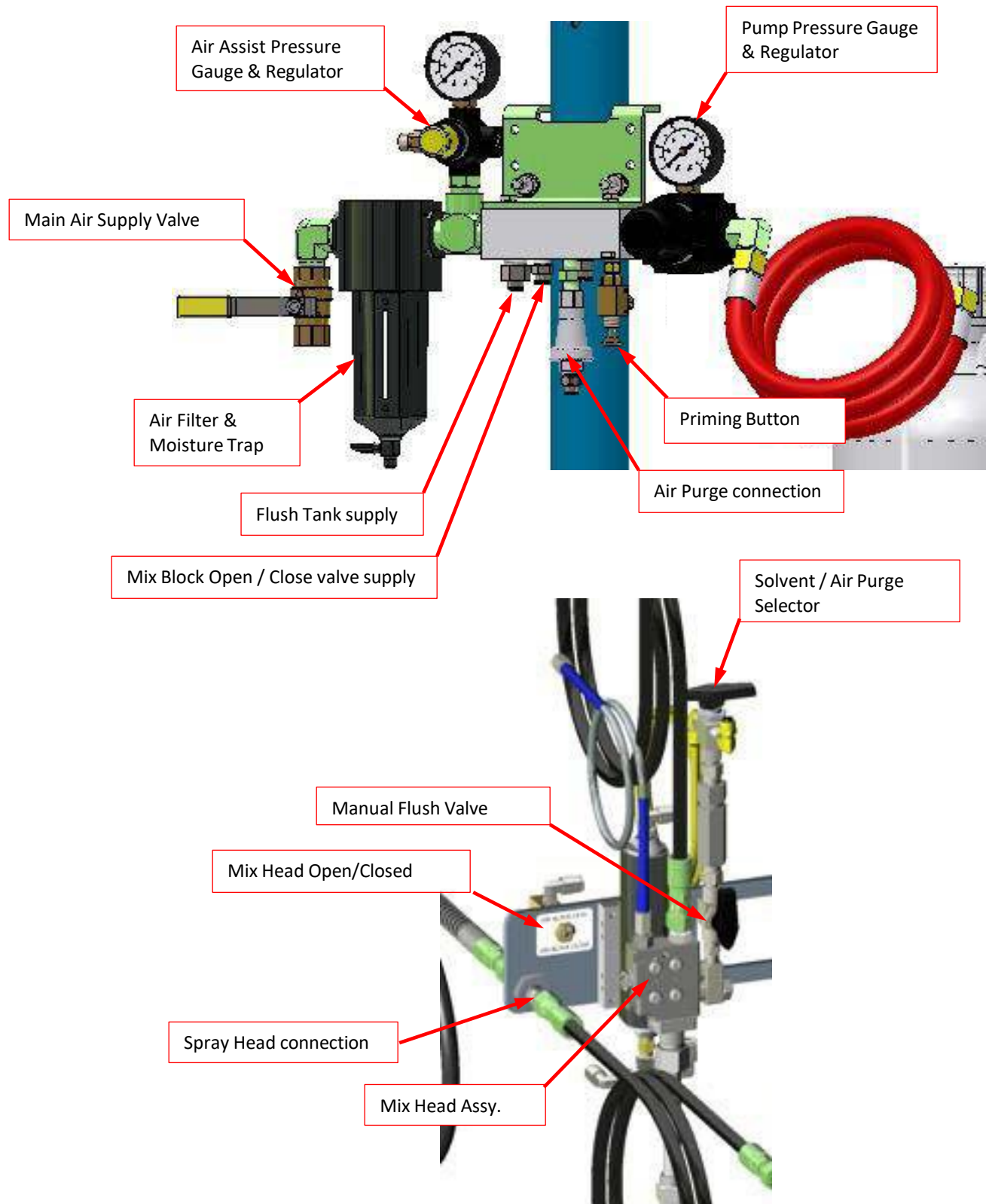
## Unit Overview

The following drawings identify the main components and controls operators need to know for proper operation for the unit.

This unit can be ordered with an ARO fluid regulator and/or the Sames Kremlin gun. Not all steps within the procedures will need to be followed if these options are not selected. Refer to the manuals at the end of this document for more information.



## Overview of Controls



## Overview of Controls – continued

| <b>Air Manifold</b>               |                                                                                                                                                                                                        |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>                | <b>Function</b>                                                                                                                                                                                        |
| Main Air Inlet Valve              | This is where the air supply to the unit is connected. The valve turns the air supply to the unit on or off.                                                                                           |
| Pump Pressure Gauge and Regulator | This is the regulator used to control the air pressure for the powerhead and the gauge to monitor the amount of pressure in use.                                                                       |
| Pump Pressure Release Valve       | Not adjustable – regulates the pump air pressure to 60 psi (4 bar) max.                                                                                                                                |
| Air-Assist Gauge and Regulator    | This gauge and regulator are used to set the pressure dispense Gun.                                                                                                                                    |
| Priming Button                    | The priming button is used to operate the pump without the gun being open. The button sends an air signal to the safety override valve to operate the air motor and pump while the gun remains closed. |

| <b>Mix Head / Block</b>      |                                                                             |
|------------------------------|-----------------------------------------------------------------------------|
| <b>Description</b>           | <b>Function</b>                                                             |
| Mix Block Open/Close         | The valve Opens and Closes the Mix Head to allow the material to flow.      |
| Solvent / Air Purge Selector | This valve changes between solvent purge and air purge                      |
| Ball Valve Flush On/Off      | Opens or Closes the flush valve to allow solvent or air to purge mix & guns |

| <b>Miscellaneous Controls</b>                                   |                                                                                                                                                                     |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>                                              | <b>Function</b>                                                                                                                                                     |
| Fluid Regulator Adjustment                                      | Adjusts or sets the pressure of the material to the dispense gun                                                                                                    |
| Material Pressure release Ball valve                            | This ball valve located at the bottom of the material filter assembly allows material to flow freely back to the source when opened.                                |
| Recirculation Valve                                             | This ball valve located on the outlet of the fluid regulator allows material flow freely back to the material source when opened.                                   |
| Catalyst Pressure dump valve – located on the catalyst manifold | This ball valve located on the catalyst manifold allows catalyst to flow freely back to the catalyst jug when opened.                                               |
| Catalyst Overpressure – located on the catalyst manifold        | PLV-1000-1500 – in a catalyst overpressure situation (1500 psi / 103 bar) it leaks the start signal to the Mix Block and Pump Safety Valve causing the unit to stop |

# Assembling the Unit



## **WARNING**

*The unit should not be lifted/moved by personnel. If the unit needs to be lifted or moved, use a forklift and appropriate safety precautions to prevent tipping or falling.*

*Never pull hoses to move the system. This can cause damage to the equipment and personal injury from pressurized hoses.*



## **WARNING**

*Do not exceed 100 psi (7 bar) pressure to the system. Do not assemble or operate the equipment in an environment that is outside the humidity and ambient temperature range provided by the manufacturer of your materials. Refer to the Material Safety Data Sheets (MSDS) supplied by our material manufacturer(s).*



## **CAUTION**

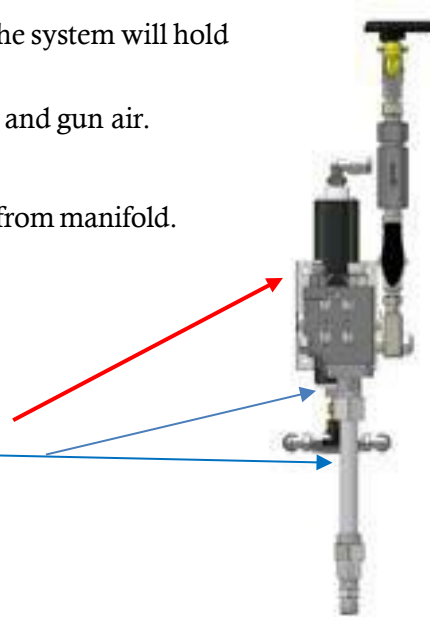
*Always wear proper safety equipment (glasses, gloves, respirator, etc.) when working with dispensing equipment and before startup of the unit. Refer to and follow the requirements of the Material Safety Data Sheets (MSDS) supplied by your material manufacturer(s).*

1. Unpack the unit and components on a flat even surface.

**Note** *Do not attempt to operate the unit on an inclined surface.*

2. Carefully remove the Column with the unit attached from the box and mount into the Floor mount bracket.
3. Install catalyst jug into the jug bracket.
4. Check all hoses and fittings to make sure they are secure, and the system will hold pressure.
5. Attach hoses to material supply, catalyst manifold, mix block, and gun air.
6. Attach pickup hoses to the inlet of the pump.
7. Place flush tank in holder on base of unit and attach air hose from manifold.
8. Connect yellow flush tube from mix block to flush tank.
9. Double check all hose fittings and connections are tight.
10. Disconnect the mixer tubes from the mix block assembly.

**Note:** *Do not have the **mixer tubes** connected to the **mix block**.*



## Optional Guarding

Guards may be included to shield moving parts around the slave arm and fluid section. Some local codes do not require guards, but they are available for the unit upon request when not included. See the Parts Drawing for your unit to determine the part numbers to order.

If your unit includes guards, review the information in this section for proper operation, installation, and maintenance of the guards.

### Install Guards

11. To attach the slave arm guard, insert the four hex cap screws through the brackets and into the top of the powerhead and tighten.



#### CAUTION

*Slave arm cover has a hinged opening. Keep digits clear when opening the cover to access the equipment to avoid pinching.*



12. Place the coupler guard around the fluid section beneath the powerhead and secure with cap screws.



**Note** You can access the packing nut oil cavity through the openings to refill with the guard in place if you are using the standard oil dispenser obtained from MVP. It should not be necessary to remove the guard after installation.

### Maintain Guards

13. Inspect the guards monthly after installation to make sure they do not show signs damage or missing fasteners.
14. Replace parts as needed.



#### WARNING

*Do not modify either guard. Doing so may change safety distances and can lead to personal injury. Refer to the parts drawing for the guard for part numbers. Use only the same rated fasteners and MVP parts to repair guards.*

## Remove Guards



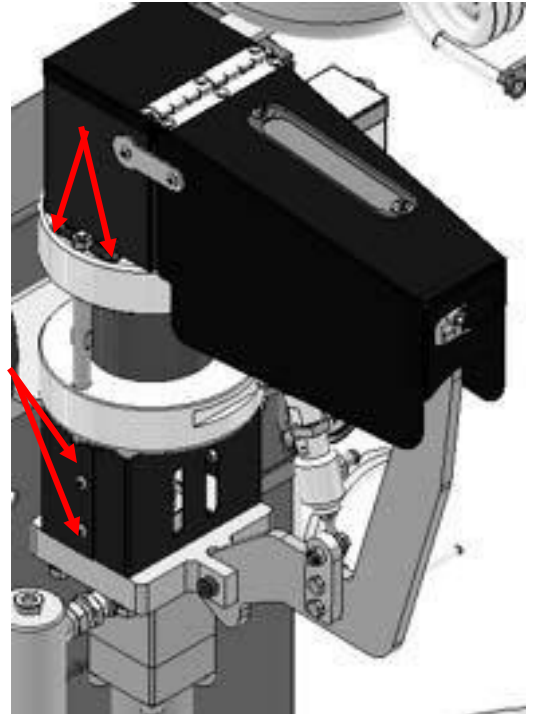
### CAUTION

*Do not operate unit without all proper guarding required by local safety standards in place. To avoid injury do not reach inside guards while system is in operation.*

15. If you need to remove either guard to adjust settings or access equipment for maintenance, shut off main air supply to the unit and release fluid pressure.
16. Remove screws holding the guards in place.

**Note** *Do not remove guards unless it is necessary for maintaining the unit. Be careful not to lose the screws that hold the guard in place.*

17. Replace both guards according to the instructions in the Install Guards section above.



# Priming the Unit

## Pre-Startup Instructions

1. Open the incoming air supply ball valve all the way.

**Note** *The main air supply ball valve is a safety valve and must be fully closed or open. When the ball valve is closed, the air pressure remaining in the air manifold and air system will be released.*



### WARNING

*Avoid excessive force when operating valves to prevent damage to equipment.*



### CAUTION

*Noise levels can exceed 85 dB(A), depending on operating conditions and site. Wear earplugs as necessary when operating system.*

## Prime Solvent to Mix Block

2. Open the solvent tank lid and fill  $\frac{3}{4}$  with appropriate solvent.
3. Replace the lid on the tank and close the relief valve located on top of the lid.

**Note** *Be sure the pressure relief valve is completely closed, and the lever is in a horizontal position.*



4. Set the flush tank pressure regulator to 60 psi (4 bar).



### WARNING

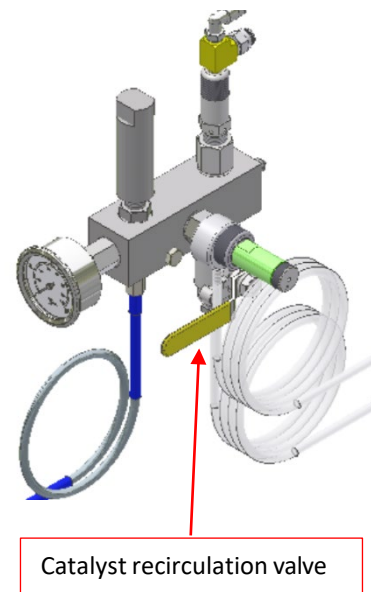
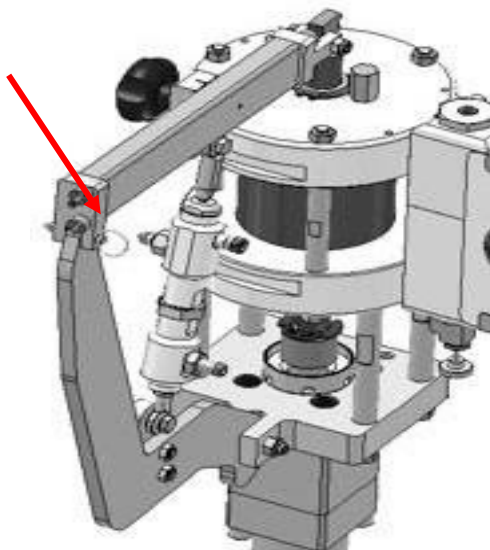
*Do not exceed 70 psi (5 bar) pressure in the flush tank to avoid risk of injury or system damage.*

5. Check flush system for leaks and fix as necessary.
6. Turn the air/solvent selector to solvent. Hold an appropriate container under the mix block and turn the flush valve to the On position, flush the block for 5 to 7 seconds, making sure the flush tank pressure does not exceed 70 psi (5 bar). Turn the air/solvent selector to Air and test.

## Prime Catalyst to Mix Block

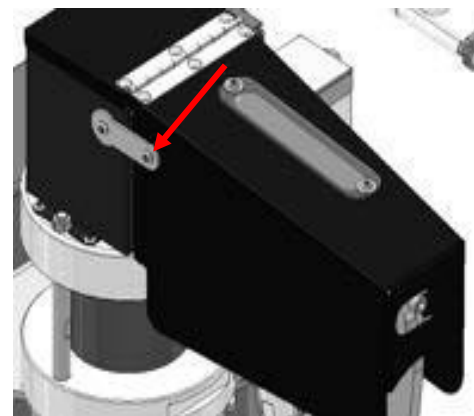
**Note** *The flush system must be primed and operating as outlined above before you put any material or catalyst into the pumps to avoid the material setting up in the equipment.*

7. Fill the catalyst jug at least  $\frac{3}{4}$  full.
8. Open the recirculation valve on the catalyst manifold.
9. Remove the pivot pin for the catalyst drive linkage.



**Note** *If the unit has a guard installed, you will need to lift the hinged cover to access the catalyst drive. To lift the cover, remove the front hex cap screw from the side bracket to allow movement. Use caution not to lose the screw.*

10. Using the catalyst drive, prime catalyst back to the jug through the recirculation valve until there is no air in the tube.



### CAUTION

**Keep hands/digits clear of moving parts to avoid risk of injury.**

11. Close the recirculation valve.
12. With the mix block in the open position over an appropriate container, hand prime catalyst out of the mix chamber until a steady stream is achieved.

**Note** *To prevent over pressurizing the system, do not reinstall the pivot pin at this time or open the catalyst recirculation valve at the catalyst manifold.*

## Prime Material to Mix Block

**Note** *The material pump was tested using oil. It may require up to ½ gallon (1-2 liters) of Material to purge any remaining oil from the system the first time used.*

13. Fill the packing nut cavity  $\frac{3}{4}$  full of throat seal oil (TSL).
14. Place a material container onto or near the unit.
15. Insert the suction/pickup wand into the container.
16. Secure the material return hose to the pail.
17. Place a waste or appropriate container under the mix block
18. With the mix block in the open position, slowly increase the pump pressure until the pump is running at a slow but steady rate.



### CAUTION

***Keep hands clear of moving parts to avoid risk of injury.***



19. Allow the pump to run until a steady stream of material is being dispensed.
20. Close the mix block and allow the system to pressurize.
21. Flush the mix chamber with solvent then air to thoroughly clean
22. Allow the unit to set under static load for 15 to 30 minutes to seat the material packing.
23. Turn the pump regulator to zero ("0").
24. Slowly open the material recirculation valve to drain the fluid pressure.

## Final Mix Block Set Up



### **WARNING**

***To avoid contamination of the material, do not apply grease to any part that will contact wetted parts. Never use HHC solvents as noted in the safety information section.***

1. Install the turbulent mixer into the mix chamber of the mix block.
2. Screw mixer adapter onto the mix block.
3. Attach hose from the back connection port next to the mix block valve onto mix chamber.

***Note For longer turbulent mixer life, do not over tighten the mixer adapter to mix housing.***

4. Connect the material hose from the connection port next mix block Open/Close valve to the spray gun.
5. Connect the air supply hose from Air Assist regulator to the Spray gun.

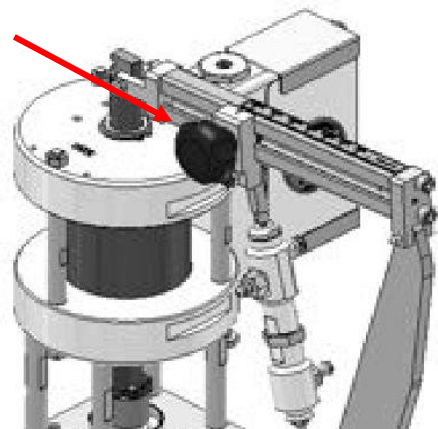
## Pressurize Fluid

***Note Remove catalyst pivot pin before pressurizing material to the pump. Do not reinstall pivot pin or open the catalyst recirculation valve at this time to prevent over pressurizing the catalyst system.***

6. Set the desired catalyst percentage using the knob on the slave arm
7. While holding the Priming Button slowly increase the Material pump regulator to 40 psi (3 bar).
8. Using the catalyst drive arm, use slow up and down motion to pressurize the catalyst pump to about 100 psi (7 bar).

***Note There should be a gain in pressure on both the up and down strokes. The catalyst for touch-up jobs should be run at slightly lower pressures (100 PSI) than for standard or larger jobs.***

9. Pin the catalyst drive into the pivot arm.
10. If your unit has a safety guard installed, close the cover after pinning the drive in place and reinsert the front hex cap screw.
11. Set the Air-Assist regulator to 20 psi (1.38 bar) on the air manifold.
12. Switch the mix block valve to the Open position.
13. Hold the gun appropriate distance from the test surface and spray a test pattern.
14. Switch the mix block valve to the Closed position before releasing the trigger.



**WARNING**

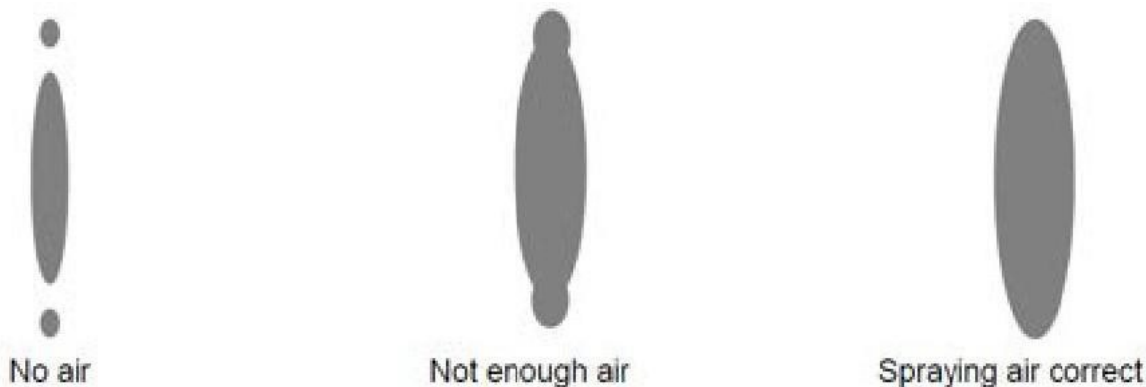
***Close the mix block when releasing the gun trigger for more than 2 seconds. If the block remains open when not actively spraying, catalyst can travel back up the hose and harden material, causing damage to the equipment.***

***Note Since this gun is operated at low air pressure, high transfer efficiency will not be obtained if the spray distance is too far.***

***Note Hold the gun perpendicular to the work surface at all times and move in a straight horizontal line. Arcing the gun causes uneven coating.***

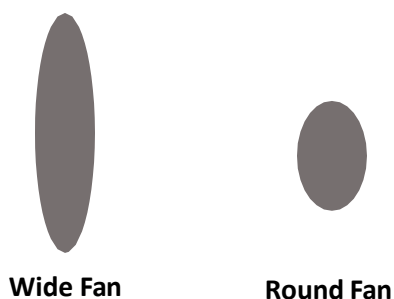
## Analyzing and Adjusting the Spray Fan

1. Analyze the spray pattern to determine adjustments needed.
2. Pump pressure setting – use just enough pump pressure to achieve a good spray fan – too much pump pressure will cause seals / pump to wear out faster.
  - To increase the material output, use larger spray tip orifice size
3. Adjust pump air pressure regulator or if applicable, adjust the fluid regulator (system option) as needed to achieve the desired pressure using a 3/8" hex key.
4. Adjust the air-assist knob and repeat the spray test until the desired width is achieved.



**Note** *Too much air-assist to the gun will cause porosity in the material laminate. If you encounter uneven application or air bubbles, decrease air-assist supply with the knob on the handle of the spray gun until you achieve the desired results in your spray test.*

5. Air knob closed = larger fan  
Air knob open = narrow fan \ round fan



Adjust width of spray fan





# Starting Up

## Daily Start Up

1. Check all hoses for damage.
2. Check all material supplies and fill or replace as needed.

**Note** *Refill all materials before starting the unit. If the supply runs out, turn the powerhead pressure regulator to zero ("0") before replacing.*

3. Close the flush tank relief valve.
4. Ensure mix block is closed.
5. Open the recirculation valve on the catalyst manifold.
6. Open the main inlet valve on the air manifold.
7. Open the material recirculation valve and run the pump at low pressure for 30 seconds.
8. Close the material recirculation valve.
9. Check to make sure the powerhead pressure is 40 psi (3 bar). Press and hold the priming button while adjusting pump pressure if needed.



### CAUTION

***Powerhead pressure should not exceed 60 psi (4 bar) for proper operation and to avoid risk of injury. The powerhead cycles at a rate of 1 – 20 cycles per minute, depending on operating settings.***

10. Remove the quick pin from the catalyst drive.
11. Manually pump the catalyst pump with the catalyst drive, observe catalyst returning to the catalyst jug, and pump until the stream is air free.
12. Close the recirculation valve on the catalyst manifold.
13. Manually pump the catalyst pump with the slave arm drive, bringing the catalyst to an operating pressure of 100 psi (7 bar).
14. Check the fluid pressure regulator pressure and adjust to operating pressure.
15. Replace the pivot pin into the catalyst pump drive.

## Start Up Following a Long-Term Shutdown

In addition to the daily start-up steps, perform the following steps when restarting a unit that has been idle for a long period or that has never been previously started:

1. Insert the distribution ring into the mix chamber locating rim.
2. Place mix housing seal into the mix chamber locating rim.
3. Insert the catalyst injector and injector seal into the aperture in the distribution ring.
4. Place mix chamber and catalyst injector onto the front of the gun and secure it with the 2 screws.
5. Apply a small amount of red grease to the threads of the mix chamber.
6. Install the mixer onto the mix chamber.
7. Attach the clear mix tube assembly onto the mix chamber using the adapter fitting.



# Shutting Down

## Daily Shut Down

**Note** *Cleaning the gun head is necessary if you are stopping production or there will be long pauses in operation for any reason. Follow these steps whenever the gun will be idle for at least the standard gel time of your materials. If the gun will be idle for longer than one week, follow the steps in the Long-Term Shut-Down section.*

1. Close the mix block then release the trigger on the gun.



### CAUTION

***If the pump continues to cycle when the gun trigger is released, contact MVP for service on the fluid pressure regulator immediately. Do not attempt to service the fluid pressure regulator yourself.***

2. Turn air assist air regulator down to zero (0). Remove air cap and tip from gun.
3. Flush the mix assembly and mix hose by turning the flush option 3-way valve to air. Open the 2-way flush ball valve that is attached to the side of the mix block. Pull gun trigger until material in hose is pushed out by air. Turn 3-way flush valve to solvent. Pull gun trigger until clean solvent runs out of gun.
4. Wipe off the head of the gun, then reinstall the tip and air cap. Pull the gun trigger and flush through the tip until clear. Wipe off the air cap and front of the tip.
5. Open the catalyst manifold relief valve. Turn the pump pressure to zero (0), then open the material recirculation valve.
6. Slowly increase the pump pressure and run the pump slowly until the pump is at the bottom of the stroke. Close both material and catalyst relief valves.
7. Turn off the main air ball valve at the air manifold and turn the pump pressure regulator back to zero (0).
8. Open the relief valve on top of the flush tank to release the solvent flush tank pressure.

## Long-Term Shut-Down

Follow long-term shut-down procedures when any of the following apply:

- When the gun will be idle for one week or longer
- When the gun will be idle for longer than the storage life of your materials
- When you are shipping the unit

If the gun will be idle for more than 20 minutes but less than any of the above, follow the steps in the Daily Shut Down section above.

9. Drain the moisture filler by holding a small empty container under the air filter and turning the filter valve until water drains out.
10. When the water is no longer draining, close the filter valve.
11. Place the material wand into 2 gal (9 L) of solvent and clean the wand thoroughly.

### Clean Mix Block

12. Open the catalyst recirculation valve on the catalyst manifold.
13. Remove clear mix tubing and thread adapter.
14. Remove the turbulent mixer from the mix chamber.
15. Push the open flush ball valve on the block and flush into an appropriate container.
16. Remove mix chamber by removing 2 screws.
17. Remove mix housing seal, distribution ring, catalyst injector, and injector seal.

**Note** *When using solvent for cleaning or flushing, store the used solvent in a manufacturer-approved container with a tight-fitting lid to avoid evaporation.*



#### WARNING

*Solvents may be extremely flammable. Only operate and/or flush the system in a well-ventilated area away from any ignition sources.*



#### CAUTION

*Follow all warnings and suggestions regarding the use of respirators, clothing, and other appropriate safety procedures recommended by the manufacturers of your material.*

18. Visually inspect the open ports of the mix block for signs of gelled material after flushing.
19. Wipe mix block face with solvent.

### Remove Fluid Pressure

20. Turn the pump pressure regulator knob counterclockwise until it reads zero ("0").
21. Flush the gun block into an appropriate container.
22. Slowly open the material recirculation valve.

## Clean Catalyst System

23. Pull out the quick pin in the upper slave arm of the catalyst drive.
24. Empty any remaining catalyst from the catalyst jug.
25. Fill the catalyst jug with clean distilled water.
26. Slowly and gently pump the distilled water through the system by moving the catalyst drive up and down by hand.
27. Hand pump until a stream of clean water flows from the system on both the upstroke and downstroke.
28. Empty the water from the catalyst jug and continue hand pumping until no more water exits the system.
29. Blow clean compressed air into the catalyst jug lines to remove moisture.
30. Disable the catalyst pump – do not replace the quick pin on the catalyst drive.

## Flush Material from System

31. Remove the pickup wand from the supply and allow the wand to drain into an appropriate container.
32. Open the mix block.
33. Slowly increase pressure to the material pump and pump and extra material from the system.
34. Turn pump pressure to zero (“0”), then close the mix block.
35. Place an appropriate container under the mix block, then open the mix block.
36. Place the wand into a container of flush solvent.
37. Turn the pump pressure regulator knob clockwise until the pump begins to stroke (slow, even strokes).
38. When clean solvent flows from the mix block, close the pump pressure regulator knob by turning it counterclockwise until the pump pressure gauge reads zero (“0”).
39. Place a container under the material filter and hose, open the material pressure dump valve.
40. Turn the pump pressure regulator knob clockwise until the pump begins to stroke (slow, even strokes).
41. When clean solvent flows from the pressure dump hose, close the pump pressure regulator knob by turning it counterclockwise until the pump pressure gauge reads zero (“0”).
42. Slowly unscrew the filter tank from the filter body.
43. Clean the filter tank, spring, screen, and filter core in solvent.
44. Reassemble accumulator and filter assembly.
45. Close mix block.
46. Open the flush valve on the side of the mix block to flush the mix block.

## Shutdown Flush System

47. Turn the flush regulator knob on the manifold until the gauge reads zero (“0”).
48. Relieve the pressure in the solvent tank by gently pulling up on the pressure relief valve lever.
49. Cover the unit with clean plastic sheeting to protect while not in use.



# Performing Maintenance

**Note** *No components require lubrication on this system. Avoid using any material that may contaminate your Material.*



## **WARNING**

**Disconnect air supply to the unit before attempting to perform service.**

## Daily Maintenance

1. Drain the water trap.
2. Remove the nozzle and air cap from the gun and clean.
3. Lightly dampen a rag with solvent and wipe down the gun head, handle, and mix block.

**Note:** *Do not soak the gun or mix block in solvent.*



**CAUTION** *To avoid injury do not touch the tip of the fluid gun needle.*

## Weekly Maintenance:

### Material Pump Seals

1. Check Material pump piston rod oil reservoir and inspect for material bypassing upper seals.
2. Clean any hard material and oil from reservoir, replace oil
3. Open ball valve at Material filter to release Material pressure.

### Mix Block

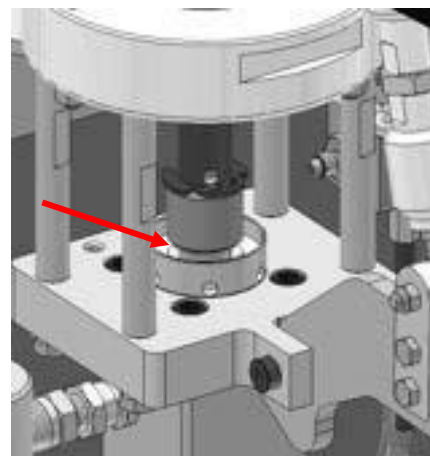
4. Open recirculation valve to relieve Material fluid pressure.
5. Open catalyst recirculation valve at the catalyst manifold to relieve catalyst fluid pressure.
6. Check for leaks and tighten mix block packing nuts as needed.

### Filter and Accumulator

7. Turn Material pump regulator to zero.
8. Open ball valve at the Material filter to relieve Material fluid pressure.
9. Remove the return hose from the ball valve, unscrew the material filter and clean the filter screen.
10. Use red grease on the filter housing threads when reinstalling.

### Catalyst Pump

11. Inspect the catalyst pump packing nut and leak port tube of the catalyst pump for catalyst leaking through the packing set. Empty the leak port tube as needed.
12. Wipe catalyst pump piston rod off with a clean dry towel.



## Six Month Maintenance:

### Flush Tank

1. Turn pump pressure regulator knob counterclockwise until the gauge reads zero (“0”).
2. Flush the mix block into an appropriate container.
3. Turn solvent pressure until gauge reads zero (“0”).
4. Open solvent tank relief valve
5. Use a clean towel to wipe the inside of the tank clean.
6. Wipe out any solid debris.
7. Inspect the flush tank O-ring for cracking or other damage; replace as needed.

### Hose Set

8. Inspect the hose set for any kinks or wear and replace hoses as needed.

***Note: Replace the flush hose once a year.***

### Catalyst Jug and Feed Hose

9. Drain catalyst from jug.
10. Wash the jug out with distilled water and drain.
11. Repeat rinsing with distilled water.
12. Replace the feed and return hose as needed.

***The following components should be rebuilt after six months of full-time use (8 hours a day, 5 days a week).***

| For this component | Minimum rebuild should include:                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Catalyst Pump      | <ul style="list-style-type: none"><li>• All O-rings</li><li>• All balls</li><li>• Piston seal</li><li>• Packing set</li></ul> |
| Material Pump      | <ul style="list-style-type: none"><li>• Packing set</li><li>• Piston cups</li><li>• Cylinder O-rings</li></ul>                |
| Mix Block          | <ul style="list-style-type: none"><li>• All seals</li><li>• All O-rings</li></ul>                                             |

# Troubleshooting



## CAUTION

***Release all air and fluid pressure prior to attempting to service equipment. Do not touch the tip of the gun fluid needle; it has a sharp point and can cause injury.***

| Gun Troubleshooting                                               |                                                   |                                                                              |
|-------------------------------------------------------------------|---------------------------------------------------|------------------------------------------------------------------------------|
| Symptom                                                           | Possible Cause                                    | Remedy                                                                       |
| No fluid out of the gun                                           | Tip is partially clogged or completely blocked    | Shut off pressure on pump.<br>Depressurize the hoses.                        |
| Spray fan is not uniform                                          | Tip is partially clogged                          | Remove and clean with solvent and brush spray tip.                           |
| Spray fan is not uniform                                          | Air holes in air cap are partially blocked        | Remove and clean with solvent. Blow all air holes clear with compressed air. |
| Pattern width narrows during reversing phase of pump              | Too much air                                      | Check connection and suction hose quality.                                   |
|                                                                   | Viscosity too high                                | Reduce viscosity.                                                            |
| Air cap becomes dirty frequently                                  | Too much air                                      | Reduce air pressure.                                                         |
| Fluid seeping from the air holes of the air cap                   | Defective tip seal                                | Replace it.                                                                  |
|                                                                   | Loose tip                                         | Tighten it.                                                                  |
| Fluid leak through needle cartridge                               | Needle cartridge worn                             | If leak persists, replace the needle assembly.                               |
| Fluid leak in front of the gun, trigger released                  | Dirt in the fluid                                 | Trigger the gun 3 or 4 times by returning to its original state.             |
|                                                                   | Needle worn or/and tip worn                       | Replace needle or/and tip.                                                   |
| Air leak through the valve                                        | Valve worn                                        | Replace valve                                                                |
| Permanent airleak in front of the dispense head, trigger released | Friction on the needle                            | Disassembly the trigger and check the needle slides freely.                  |
|                                                                   | Valve worn                                        | Replace valve                                                                |
| Excessive fluid fog                                               | Too much atomizing air                            | Reduce air pressure                                                          |
| Fluid leaks from fluid needle                                     | Needle not returning due to packing set too tight | Adjust fluid needle packing set                                              |

| System Troubleshooting                    |                                                              |                                                                                                                                                                       |
|-------------------------------------------|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Symptom                                   | Possible Cause                                               | Remedy                                                                                                                                                                |
| Slow cure during upstroke                 | S.S. ball in catalyst pump piston body not seating           | Clean ball and inspect seat. Replace ball, piston seal, or piston body as applicable.                                                                                 |
| Slow cure during downstroke               | S.S. ball in catalyst pump inlet body not seating            | Clean ball and inspect seat. Replace ball or have seat repaired if questionable.                                                                                      |
| No cure or slow overall cure              | Catalyst pump set at too low or too high a percentage        | Move the catalyst pump to an appropriate setting. Verify the pump is in a vertical position.                                                                          |
|                                           | Catalyst supply is slower than the outlet fitting on the jug | Fill the catalyst jug 1/3 full.                                                                                                                                       |
|                                           | Quick pin not attached to pump or slave arm                  | Install the quick pin, making sure the catalyst pump is in a vertical position.                                                                                       |
|                                           | Catalyst leaking                                             | Check all fittings. The catalyst system must be fluid tight                                                                                                           |
|                                           | Catalyst relief valve on catalyst pump is leaking            | Relieve pressure from the catalyst pump. Clean and repair the relief valve                                                                                            |
|                                           | Catalyst suction screen in the catalyst jug is clogged       | Clean the suction screen and verify catalyst supply is not contaminated                                                                                               |
|                                           | Air lock in catalyst pump                                    | Remove air lock                                                                                                                                                       |
|                                           | Catalyst pump piston seal worn or damaged                    | Replace piston seal (spring in seal faces top of pump)                                                                                                                |
|                                           | Catalyst pump outlet body damaged                            | Replace catalyst pump outlet body and piston seal. During reassembly, verify spring in seal faces top of pump and the pump is reconnected vertically                  |
|                                           | Catalyst hose plugged                                        | Relieve pressure from the system and then replace catalyst hose                                                                                                       |
|                                           | Material too cold                                            | Consult your material supplier for proper temperature. Maintain a draft-free environment of about 70° F. An auxiliary heat source may be required to reduce gel time. |
| Low output on upstroke of fluid section   | Piston cups, piston ball, or pump cylinder worn              | Clean and inspect parts; replace any damaged components.                                                                                                              |
|                                           | Clogged pump pick-up wand screen                             | Unscrew screen from hose and clean                                                                                                                                    |
| No fan, constant low output, or fast cure | Filter screen restricted                                     | Remove and clean filter screen and body                                                                                                                               |
|                                           | Material filter clogged                                      | Disassemble and clean filter body and screen with solvent                                                                                                             |
|                                           | Material hose plugged                                        | Disassemble and clean the material filter                                                                                                                             |
|                                           | Leaking pick-up wand assembly                                | <b>Relieve pressure</b> from system and then flush the hose with solvent. If material is hard, replace hose.                                                          |
|                                           | Tighten assembly fittings                                    |                                                                                                                                                                       |
| Material cold or air pressure low         |                                                              |                                                                                                                                                                       |
|                                           |                                                              | Heat material or increase pump pressure                                                                                                                               |

|                                                      |                                                                  |                                                                                                                                                                                                  |
|------------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pump jumps on upstroke                               | Piston ball worn or not seating properly                         | Replace piston ball and piston cups. Be sure to lubricate ball and cups thoroughly.                                                                                                              |
| Pump dives on downstroke                             | Foot valve, spring retainer, or foot valve ball damaged or dirty | Clean or replace parts as applicable. Be sure to lubricate ball thoroughly.                                                                                                                      |
|                                                      | Pick-up wand assembly not tight                                  | Tighten or seal joints of pick-up wand                                                                                                                                                           |
|                                                      | Air in material                                                  | Agitate material to remove air pockets                                                                                                                                                           |
|                                                      | Material too high a viscosity                                    | Reduce the viscosity                                                                                                                                                                             |
| Low output on upstroke                               | Piston cups, piston ball, or pump cylinder worn                  | Inspect and clean the parts; replace as applicable                                                                                                                                               |
| Pump does not run                                    | Blocked Mix Block                                                | Check Mix Block Mix chamber                                                                                                                                                                      |
|                                                      | Catalyst Overpressure                                            | Check catalyst system for blockage or OP valve                                                                                                                                                   |
|                                                      | Powerhead damaged                                                | Check the shift block and Pilot valves                                                                                                                                                           |
|                                                      | Air signals or Safety Valve                                      | Check Mix Block Open/Close valve and signal lines                                                                                                                                                |
|                                                      | Fluid section or hose plugged                                    | Relieve fluid pressure from the system, then disassemble and clean pump. Replace any worn parts.                                                                                                 |
|                                                      | Air not connected                                                | Check that air hose is connected to manifold and regulator is at 20 psi or more                                                                                                                  |
|                                                      | Air restricted                                                   | Straighten any kinks in air hoses                                                                                                                                                                |
| Material in oil reservoir                            | Worn Upper Seal assembly                                         | Rebuild the fluid section                                                                                                                                                                        |
|                                                      | Fluid rod worn or scored                                         | Replace fluid rod / rebuild fluid section                                                                                                                                                        |
| No material delivery on downstroke                   | Foot valve, spring retainer, or foot valve ball damaged or dirty | Clean or replace parts as needed                                                                                                                                                                 |
|                                                      | Pickup wand blocked                                              | Check pickup wand for kinks or blocked filter                                                                                                                                                    |
| Hose leaks at fittings                               | Fitting loose                                                    | Tighten fitting. Always check all fittings before operating                                                                                                                                      |
|                                                      | Fitting or nipple damaged                                        | Relieve fluid pressure from the system before attempting to inspect and replace damaged parts                                                                                                    |
|                                                      | Crimped hose                                                     | Relieve fluid pressure from the system before attempting to inspect and replace damaged parts. If the hose has been sharply bent, the plastic liner may be ruptured, and hose should be replaced |
| Pump continues to cycle when gun trigger is released | Fluid pressure regulator malfunction                             | Contact MVP for service                                                                                                                                                                          |
|                                                      | Leaking at piston body or inlet                                  | Rebuild the fluid section                                                                                                                                                                        |



## System Components/Drawings

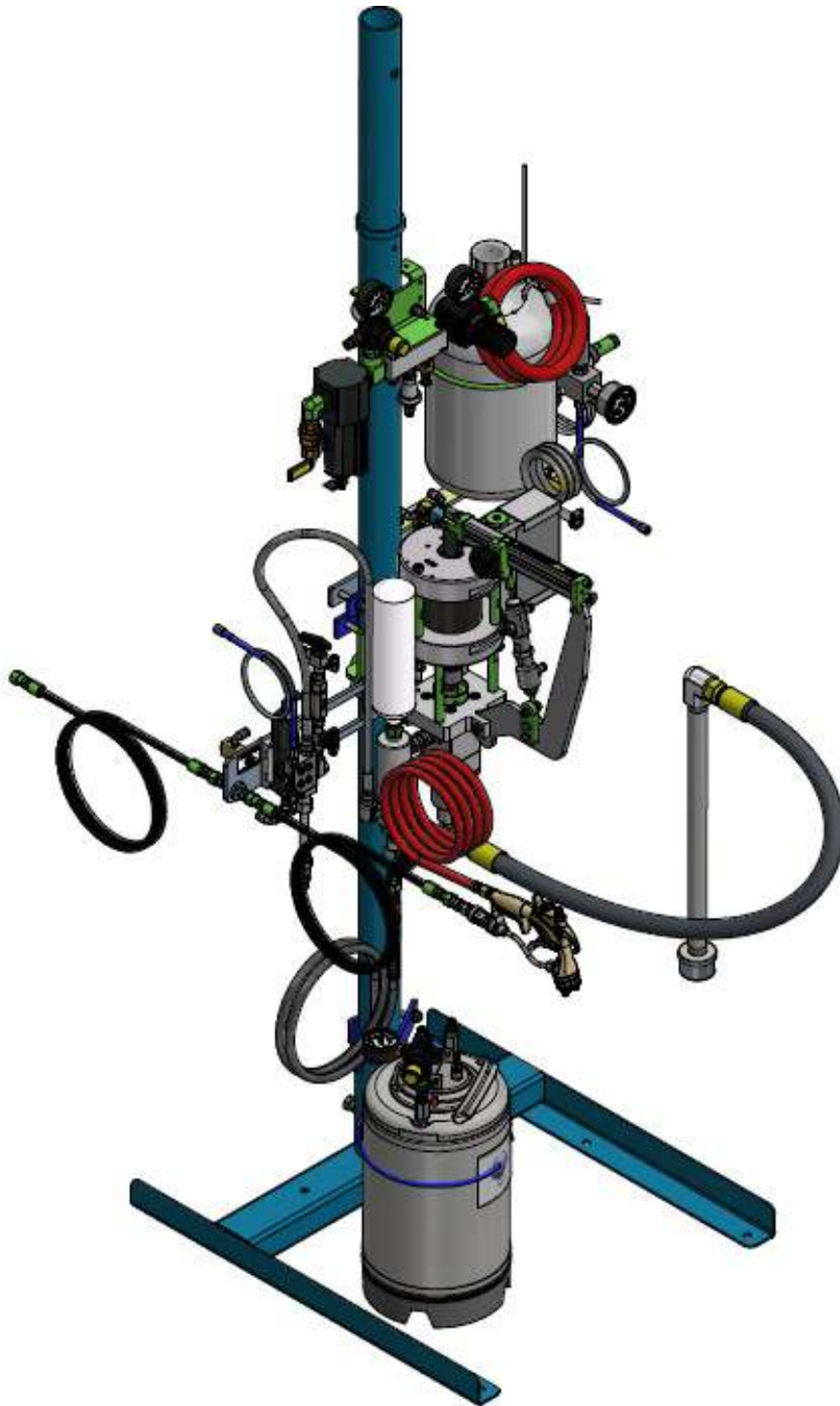
All components must be serviced with original equipment manufacturer (OEM) parts supplied by MVP to maintain certification. For additional information about parts, visit our website at <http://www.mvpind.com/application-support/technical-documents/>.

| ACE Main Components |                          |
|---------------------|--------------------------|
| PART NUMBER         | DESCRIPTION              |
| 6101-01-01          | Assy - 3 Gal             |
| CPMB-2000-A         | Classic Pro Mix Block    |
| CM2-3000-316        | Acid Catalyst Manifold   |
| FF-5000R-100-A      | Filter with Relief Valve |
| MA2-1-ACE           | Air Manifold             |
| PAT-CJ-316          | Catalyst Jug             |
| PAT-CP-0550-316     | Special Cat Pump         |
| PAT-SV-1            | Patriot Safety Valve     |
| PRO2-LS-06010-17-4  | Fluid Section - 17-4 SS  |
| PRO2-PH-3250        | Power Head - 3.25"       |
| PRO2-SD-3100        | Slave Drive Assembly     |

| ACE Miscellaneous Items |                                |
|-------------------------|--------------------------------|
| PART NUMBER             | DESCRIPTION                    |
| 1105-5-01               | Column Weldment                |
| ACE-BRKT-FR-1           | Fluid Regulator Bracket        |
| ACE-BRKT-MB-1           | Mixing Block Mounting Bracket  |
| ACE-TV-DECAL-1          | Decal - Toggle Valve           |
| BV-44-XHP-SS            | Valve, 3000 P.S.I.             |
| COL-CLMP                | Column Clamp                   |
| COL-CLMP-FR             | Column Clamp - Fluid Regulator |
| PAT-BRKT-MA-1           | Air Manifold Bracket           |
| PAT-BRKT-PM-5           | Pump Mount Bracket             |
| PAT-RS-0601-055         | Ratio Sticker                  |
| PNE-TOG-105             | 4-Way Toggle Valve             |
| SFB-VDC-TANK-1          | Flush Tank Bracket             |
| VDC-BRKT-CJ-100         | Catalyst Jug Bracket Assembly  |
| FMM-1000                | Floor Mount                    |
| WMM-1000                | Wall Mount Assy.               |

| <b>ACE Component Kits</b> |                                 |
|---------------------------|---------------------------------|
| <b>PART NUMBER</b>        | <b>DESCRIPTION</b>              |
| 135-720-120               | Xcite Airmix Spray Gun          |
| 129-729-901               | Xcite Airmix Fluid Seal Kit     |
| 129-729-908               | Xcite Airmix Air Seal Kit       |
| 129-729-920               | Gun – Complete Repair Kit (Gun) |
| PAT-PH-3250-SK            | Patriot Powerhead Seal Kit      |
| PRO2-LS-06010-17-4-SK     | Patriot Fluid Section Seal Kit  |
| PAT-CP-0550-316-SK        | Patriot Metering Pump Seal Kit  |
| CPMB-2000-A-RK            | Mix Block Repair Kit            |
| RV-1000-316-SK            | Catalyst Relief Valve Kit       |

| <b>ACE (ACCURATE COATING EQUIPMENT) Parts Drawings</b> |                                   |
|--------------------------------------------------------|-----------------------------------|
| <b>PART NUMBER</b>                                     | <b>DESCRIPTION</b>                |
| ACE-PRO2-12-A-2                                        | ACE Unit Floor Mount – w/FMM-1000 |
| ACE-PRO2-12-A-4                                        | ACE Unit Wall Mount – w/WMM-1000  |



## MAGNUM VENUS PRODUCTS

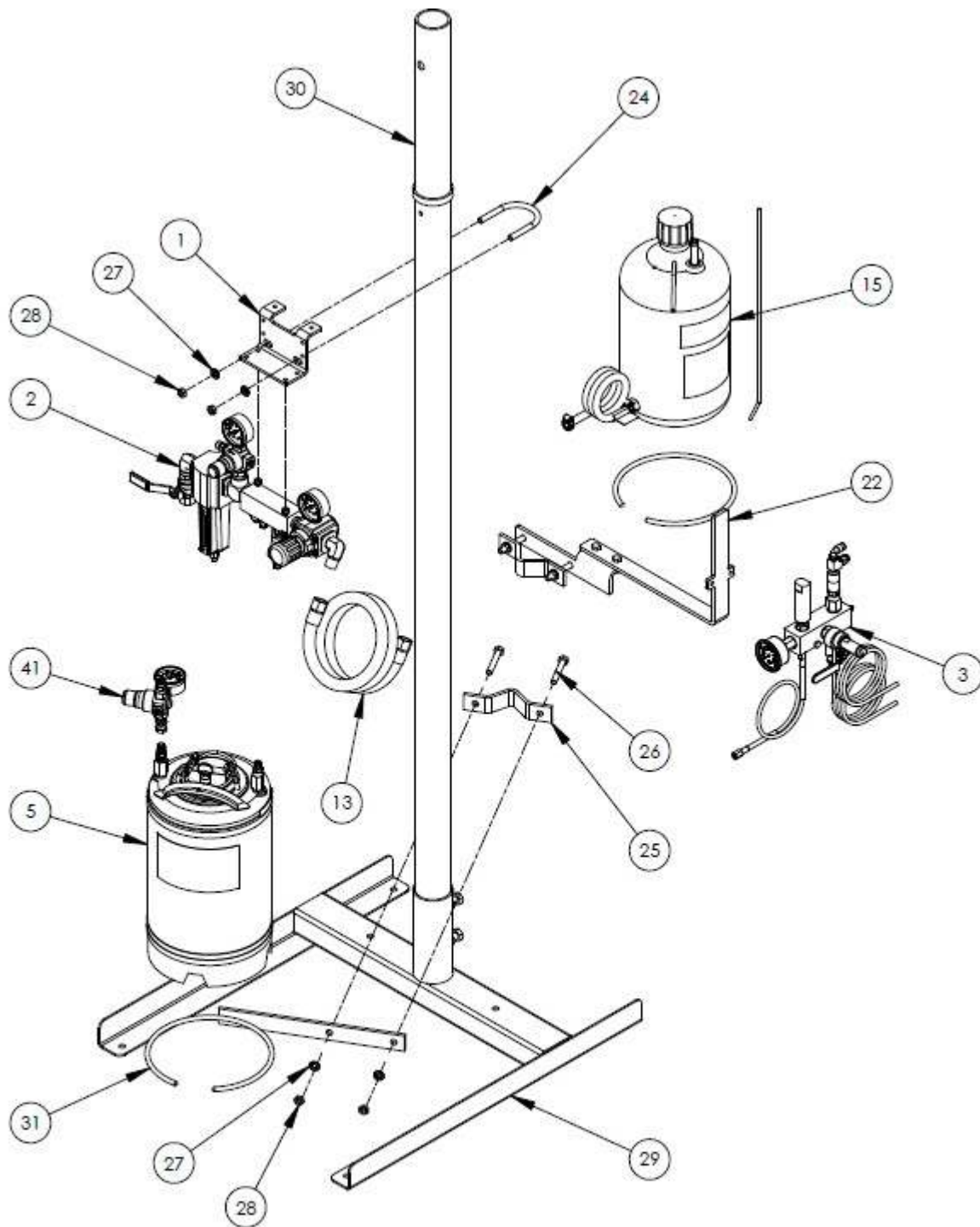
ACCURATE COATINGS SYSTEM - FLOOR MOUNT

ACE-PRO2-12-A-2

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## MAGNUM VENUS PRODUCTS

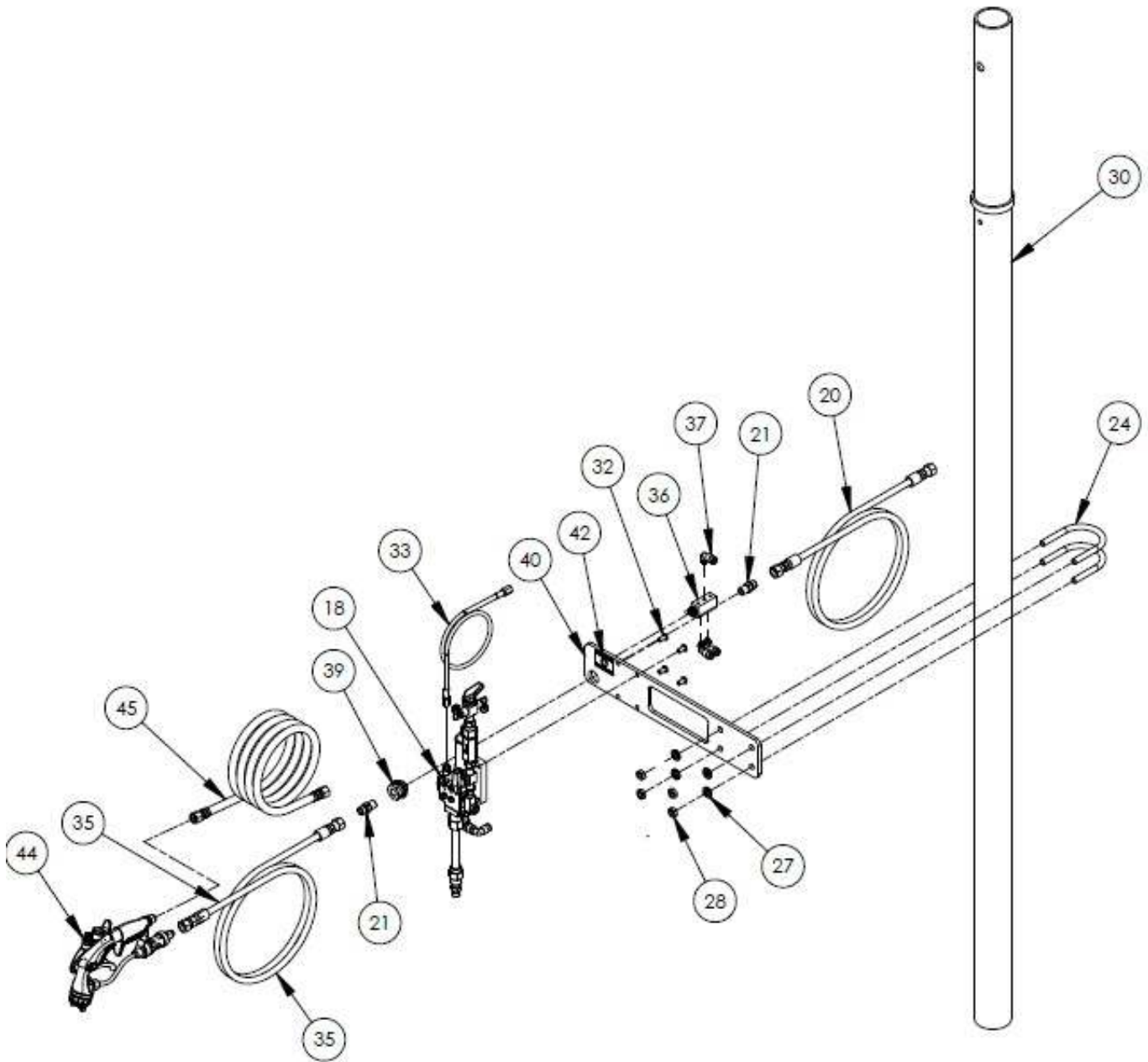
ACCURATE COATINGS SYSTEM - FLOOR MOUNT

ACE-PRO2-12-A-2

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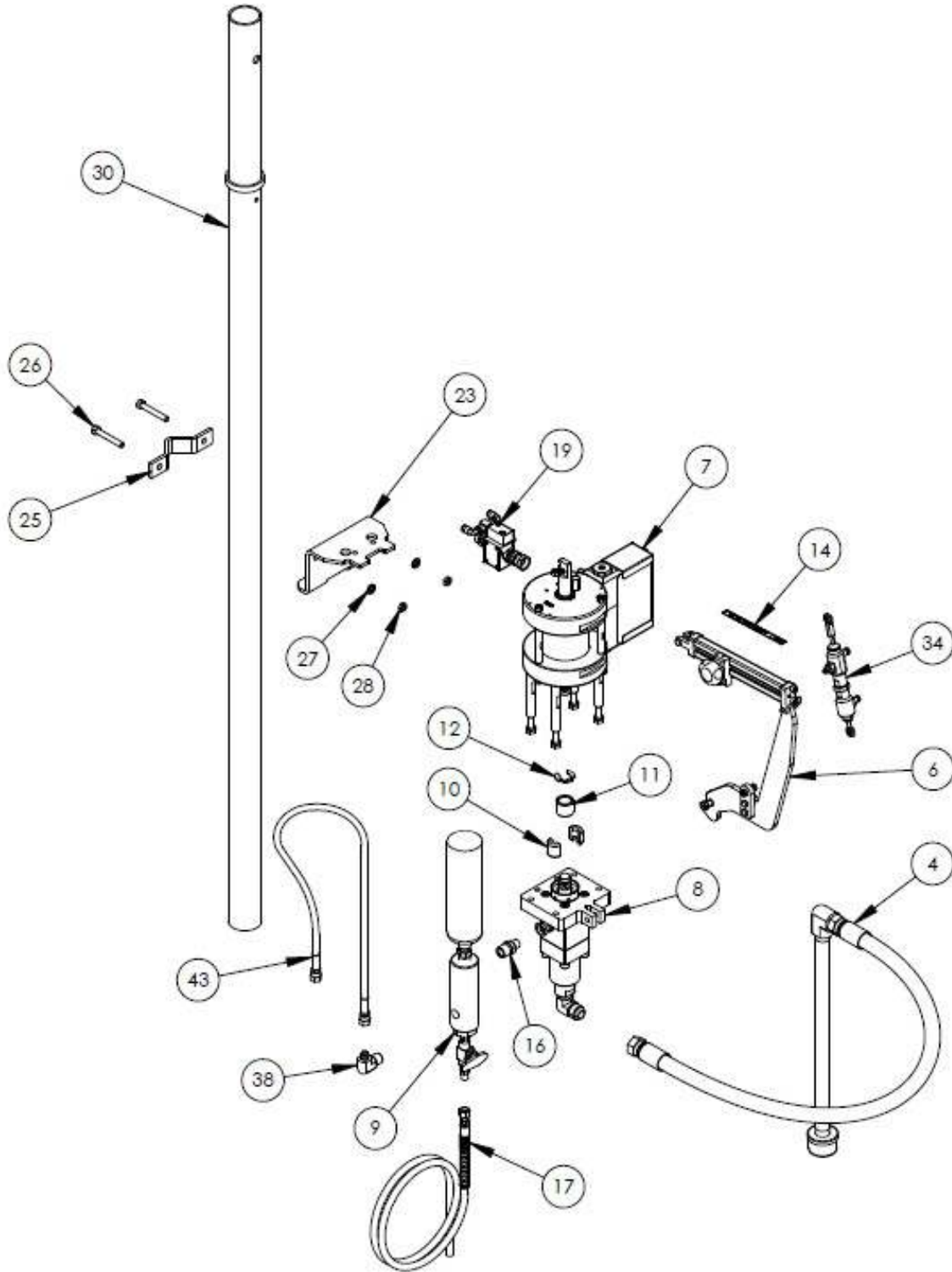
ACCURATE COATINGS SYSTEM - FLOOR MOUNT

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ACCURATE COATINGS SYSTEM - FLOOR MOUNT

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| Parts List |                    |     |                                           |
|------------|--------------------|-----|-------------------------------------------|
| ITEM       | PART NUMBER        | QTY | DESCRIPTION                               |
| 1          | PAT-BRKT-MA-1      | 1   | AIR MANIFOLD BRACKET                      |
| 2          | MA2-1-ACE          | 1   | AIR MANIFOLD - ACCURATE COATINGS UNIT     |
| 3          | CM2-3000-316       | 1   | ACID CATALYST MANIFOLD                    |
| 4          | HSA-1000-5-4       | 1   | 3/4 SIPHON ASSEMBLY - 4 FT HOSE           |
| 5          | 6101-01-01         | 1   | FLUSH TANK ASSEMBLY - 3 GALLON            |
| 6          | PRO2-SD-3100       | 1   | SLAVE DRIVE ASSEMBLY                      |
| 7          | PRO2-PH-3250       | 1   | POWER HEAD - 3-1/4" DIA                   |
| 8          | PRO2-LS-06010-17-4 | 1   | FLUID SECTION                             |
| 9          | FF-5000R-100-A     | 1   | FLUID FILTER WITH RELIEF VALVE            |
| 10         | APP-9096           | 2   | HALF SHELL                                |
| 11         | PAT-PA-9109        | 1   | SHELL RETAINER                            |
| 12         | F-ER-1.00-HD       | 1   | Ø1" E-RING HEAVY DUTY                     |
| 13         | HA-0888-3          | 1   | AIR HOSE ASSEMBLY                         |
| 14         | PAT-RS-0601-055    | 1   | RATIO STICKER                             |
| 15         | PAT-CJ-316         | 1   | ACID CATALYST JUG ASSEMBLY                |
| 16         | PF-HN-06-08-SS     | 1   | HEX NIPPLE                                |
| 17         | HAW-044-4          | 1   | HP HOSE ASSEMBLY                          |
| 18         | CPMB-2000-A        | 1   | CLASSIC PRO MIX BLOCK - ACCURATE COATINGS |
| 19         | PAT-SV-1           | 1   | PATRIOT SAFETY VALVE                      |
| 20         | HAW-0344-5         | 1   | HOSE ASSEMBLY                             |
| 21         | PF-HN-04-04S-SS    | 2   | HEX NIPPLE                                |
| 22         | VDC-BRKT-CJ-100    | 1   | CATALYST JUG BRACKET - GRAVITY FEED       |
| 23         | PAT-BRKT-PM-5      | 1   | PUMP MOUNT BRACKET - COLUMN 3-1/4 PH      |
| 24         | F-UB-06C-40        | 3   | U-BOLT                                    |
| 25         | COL-CLMP           | 2   | COLUMN CLAMP                              |
| 26         | F-HB-06C-40-GR5    | 4   | HEX BOLT                                  |
| 27         | F-SW-06            | 10  | LOCK WASHER                               |
| 28         | F-HN-06C           | 10  | HEX NUT                                   |
| 29         | FM-1000            | 1   | FLOOR MOUNT ASSY.                         |
| 30         | 1105-5-01          | 1   | COLUMN WELDMENT 79"                       |
| 31         | SFB-VDC-TANK-1     | 1   | MOUNTING BRACKET WELDMENT                 |
| 32         | F-BHCS-04C-08      | 4   | BUTTON HEAD CAP SCREW                     |
| 33         | HC316-0203J-5      | 1   | SS HOSE ASSEMBLY                          |
| 34         | PAT-CP-0550-316    | 1   | CATALYST PUMP ASSEMBLY                    |
| 35         | HAW-0344-25        | 1   | HOSE ASSEMBLY                             |
| 36         | PNE-TOG-105        | 1   | 2 POSITION TOGGLE VALVE                   |
| 37         | 06020              | 3   | MALE ELBOW                                |
| 38         | PF-ME-08-06J-SS    | 1   | MALE ELBOW                                |
| 39         | PF-BH-04-316       | 1   | BULKHEAD FITTING                          |
| 40         | ACE-BRKT-MB-1      | 1   | MIXING BLOCK MOUNT BRACKET                |
| 41         | PAT-FT-REG         | 1   | FLUSH TANK REGULATOR                      |
| 42         | ACE-TV-DECAL-1     | 1   | MIXING BLOCK DECAL                        |
| 43         | HC316-0606J-4      | 1   | SS HOSE ASSEMBLY                          |
| 44         | 135-720-120        | 1   | SPRAY GUN                                 |
| 45         | HA-0444-27         | 1   | AIR HOSE ASSEMBLY                         |
| 46         | PF-SW-05JF-04M     | 1   | PIPE FITTING SWIVEL                       |

## MAGNUM VENUS PRODUCTS

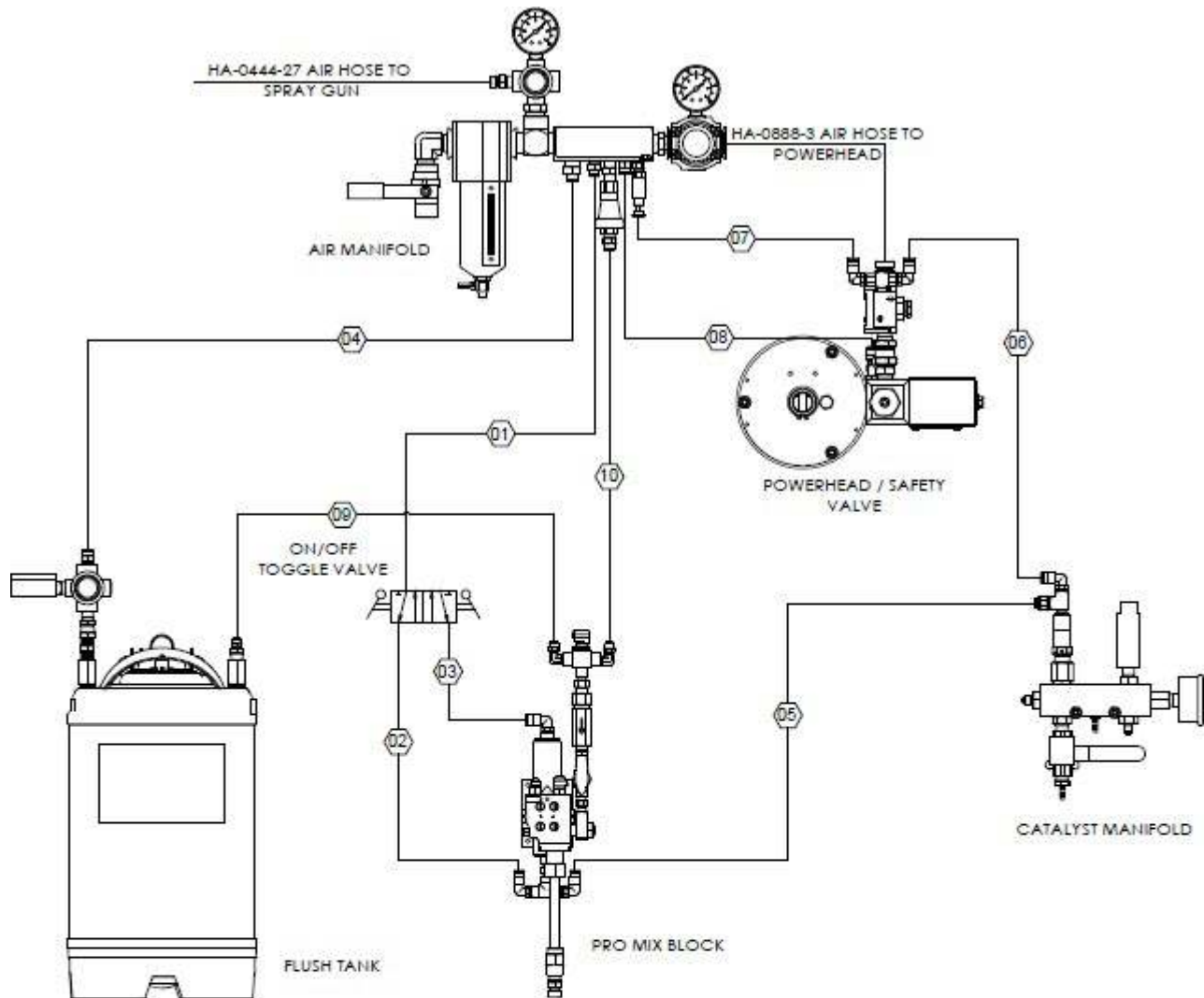
ACCURATE COATINGS SYSTEM - FLOOR MOUNT

ACE-PRO2-12-A-2

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| TUBING ROUTING CHART |             |        |
|----------------------|-------------|--------|
| ITEM                 | PART NUMBER | LENGTH |
| 01                   | MS-2052-1   | 3 FT   |
| 02                   | 01444       | 2 FT   |
| 03                   | 01449       | 2 FT   |
| 04                   | MS-2052-1   | 6 FT   |
| 05                   | 01444       | 4 FT   |
| 06                   | 01444       | 3 FT   |
| 07                   | 01444       | 3 FT   |
| 08                   | MS-2052-1   | 3 FT   |
| 09                   | 01443       | 3 FT   |
| 10                   | MS-2052-1   | 3 FT   |

## MAGNUM VENUS PRODUCTS

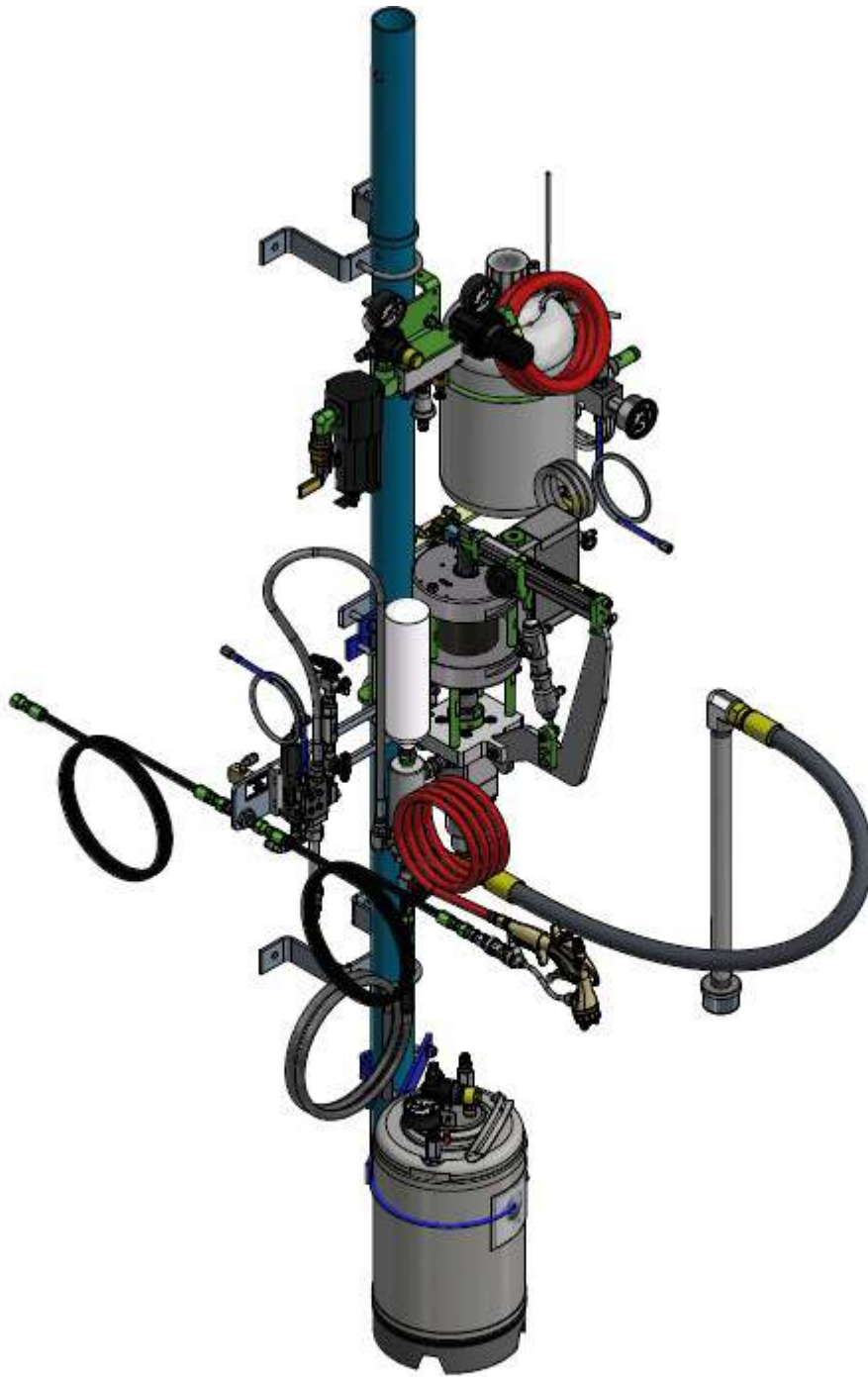
ACCURATE COATINGS SYSTEM - FLOOR MOUNT

ACE-PRO2-12-A-2

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## MAGNUM VENUS PRODUCTS

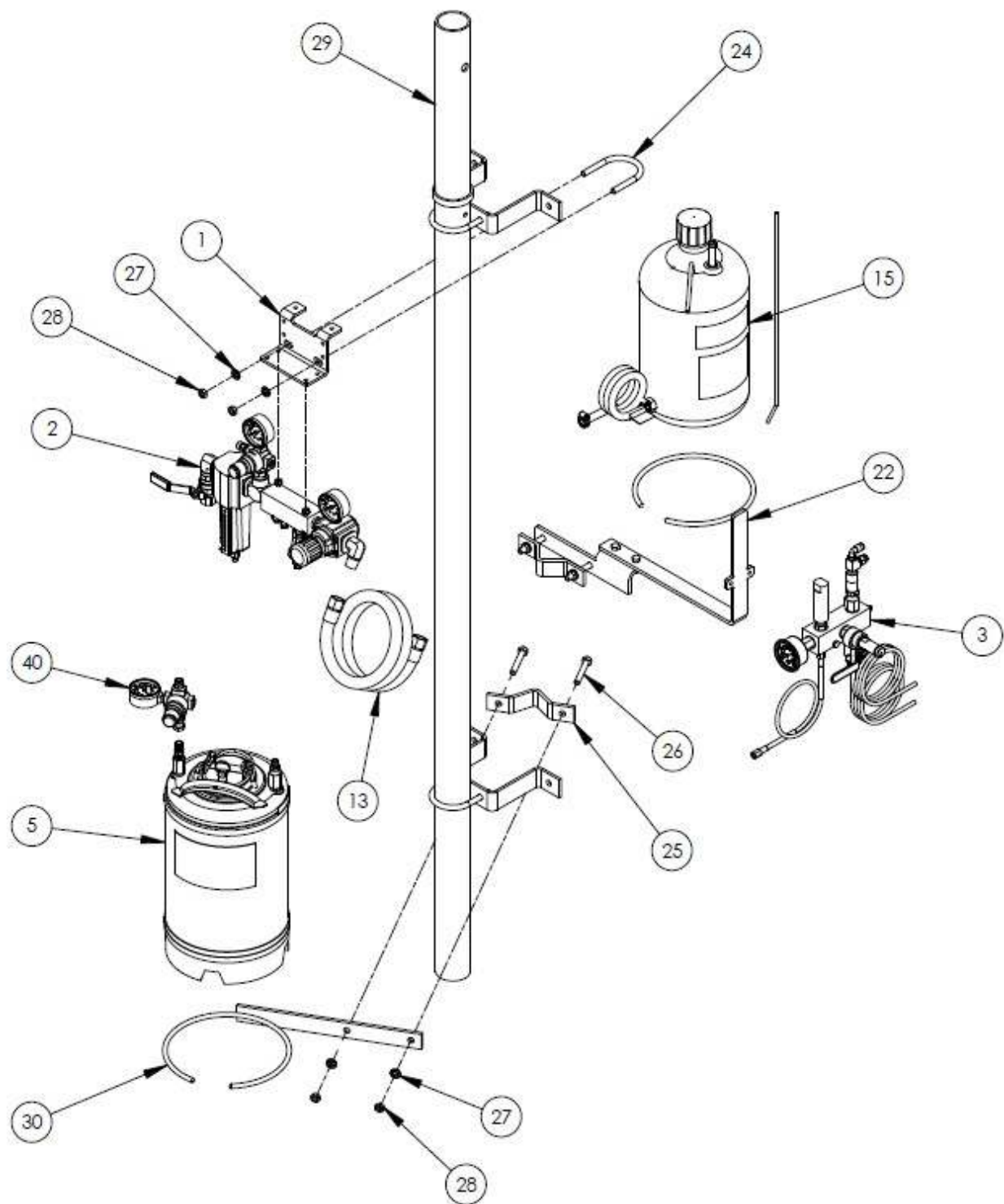
ACCURATE COATINGS SYSTEM - WALL MOUNT

ACE-PRO2-12-A-4

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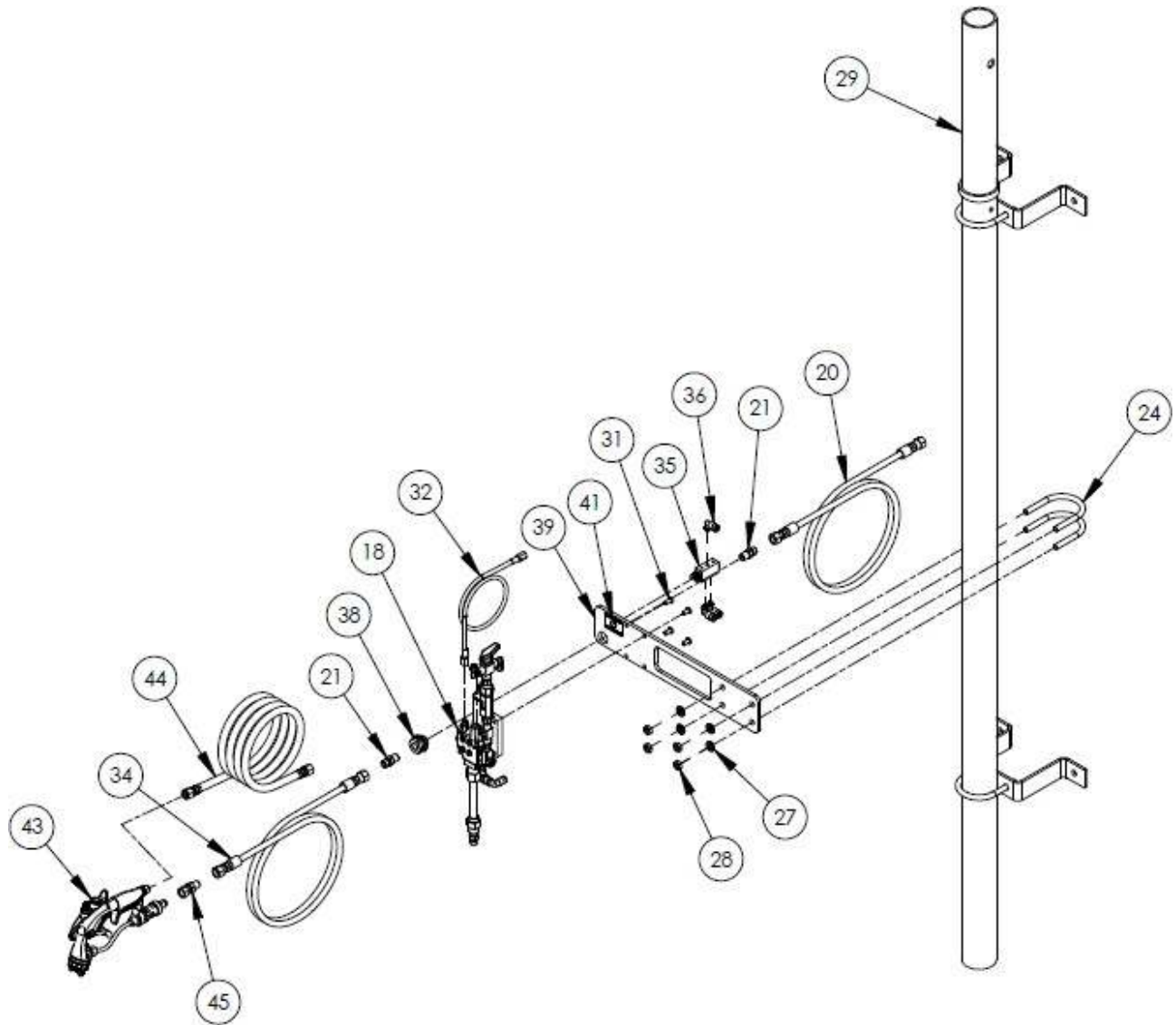
## ACCURATE COATINGS SYSTEM - WALL MOUNT

ACE-PRO2-12-A-4

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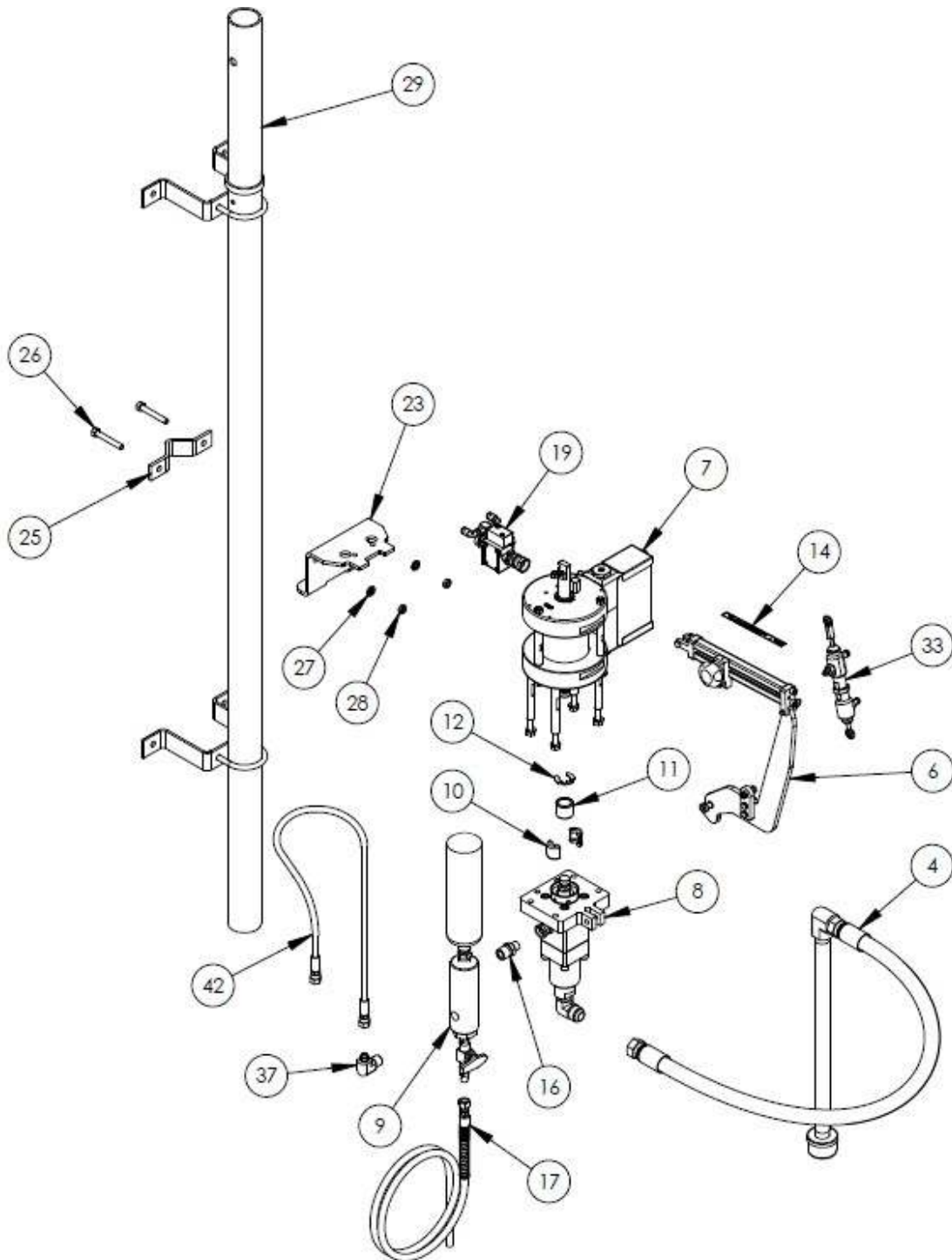
ACCURATE COATINGS SYSTEM - WALL MOUNT

ACE-PRO2-12-A-4

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## MAGNUM VENUS PRODUCTS

ACCURATE COATINGS SYSTEM - WALL MOUNT

ACE-PRO2-12-A-4

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| Parts List |                    |     |                                           |
|------------|--------------------|-----|-------------------------------------------|
| ITEM       | PART NUMBER        | QTY | DESCRIPTION                               |
| 1          | PAT-BRKT-MA-1      | 1   | AIR MANIFOLD BRACKET                      |
| 2          | MA2-1-ACE          | 1   | AIR MANIFOLD - ACCURATE COATINGS UNIT     |
| 3          | CM2-3000-316       | 1   | ACID CATALYST MANIFOLD                    |
| 4          | HSA-1000-5-4       | 1   | 3/4 SIPHON ASSEMBLY - 4 FT HOSE           |
| 5          | 6101-01-01         | 1   | FLUSH TANK ASSEMBLY - 3 GALLON            |
| 6          | PRO2-SD-3100       | 1   | SLAVE DRIVE ASSEMBLY                      |
| 7          | PRO2-PH-3250       | 1   | POWER HEAD - 3-1/4" DIA                   |
| 8          | PRO2-LS-06010-17-4 | 1   | FLUID SECTION                             |
| 9          | FF-5000R-100-A     | 1   | FLUID FILTER WITH RELIEF VALVE            |
| 10         | APP-9096           | 2   | HALF SHELL                                |
| 11         | PAT-PA-9109        | 1   | SHELL RETAINER                            |
| 12         | F-ER-1.00-HD       | 1   | Ø1" E-RING HEAVY DUTY                     |
| 13         | HA-0888-3          | 1   | AIR HOSE ASSEMBLY                         |
| 14         | PAT-RS-0601-055    | 1   | RATIO STICKER                             |
| 15         | PAT-CJ-316         | 1   | ACID CATALYST JUG ASSEMBLY                |
| 16         | PF-HN-06-08-SS     | 1   | HEX NIPPLE                                |
| 17         | HAW-044-4          | 1   | HP HOSE ASSEMBLY                          |
| 18         | CPMB-2000-A        | 1   | CLASSIC PRO MIX BLOCK - ACCURATE COATINGS |
| 19         | PAT-SV-1           | 1   | PATRIOT SAFETY VALVE                      |
| 20         | HAW-0344-5         | 1   | HOSE ASSEMBLY                             |
| 21         | PF-HN-04-04S-SS    | 2   | HEX NIPPLE                                |
| 22         | VDC-BRKT-CJ-100    | 1   | CATALYST JUG BRACKET - GRAVITY FEED       |
| 23         | PAT-BRKT-PM-5      | 1   | PUMP MOUNT BRACKET - COLUMN 3-1/4 PH      |
| 24         | F-UB-06C-40        | 3   | U-BOLT                                    |
| 25         | COL-CLMP           | 2   | COLUMN CLAMP                              |
| 26         | F-HB-06C-40-GR5    | 4   | HEX BOLT                                  |
| 27         | F-SW-06            | 10  | LOCK WASHER                               |
| 28         | F-HN-06C           | 10  | HEX NUT                                   |
| 29         | WMM-1000           | 1   | WALL MOUNT MAST ASSEMBLY                  |
| 30         | SFB-VDC-TANK-1     | 1   | MOUNTING BRACKET WELDMENT                 |
| 31         | F-BHCS-04C-08      | 4   | BUTTON HEAD CAP SCREW                     |
| 32         | HC316-0203J-5      | 1   | SS HOSE ASSEMBLY                          |
| 33         | PAT-CP-0550-316    | 1   | CATALYST PUMP ASSEMBLY                    |
| 34         | HAW-0344-25        | 1   | HOSE ASSEMBLY                             |
| 35         | PNE-TOG-105        | 1   | 2 POSITION TOGGLE VALVE                   |
| 36         | 06020              | 3   | MALE ELBOW                                |
| 37         | PF-ME-08-06J-SS    | 1   | MALE ELBOW                                |
| 38         | PF-BH-04-316       | 1   | BULKHEAD FITTING                          |
| 39         | ACE-BRKT-MB-1      | 1   | MIXING BLOCK MOUNT BRACKET                |
| 40         | PAT-FT-REG         | 1   | FLUSH TANK REGULATOR                      |
| 41         | ACE-TV-DECAL-1     | 1   | MIXING BLOCK DECAL                        |
| 42         | HC316-0606J-4      | 1   | SS HOSE ASSEMBLY                          |
| 43         | 135-720-120        | 1   | SPRAY GUN                                 |
| 44         | HA-0444-27         | 1   | AIR HOSE ASSEMBLY                         |
| 45         | PF-SW-05JF-04M     | 1   | PIPE FITTING SWIVEL                       |

## MAGNUM VENUS PRODUCTS

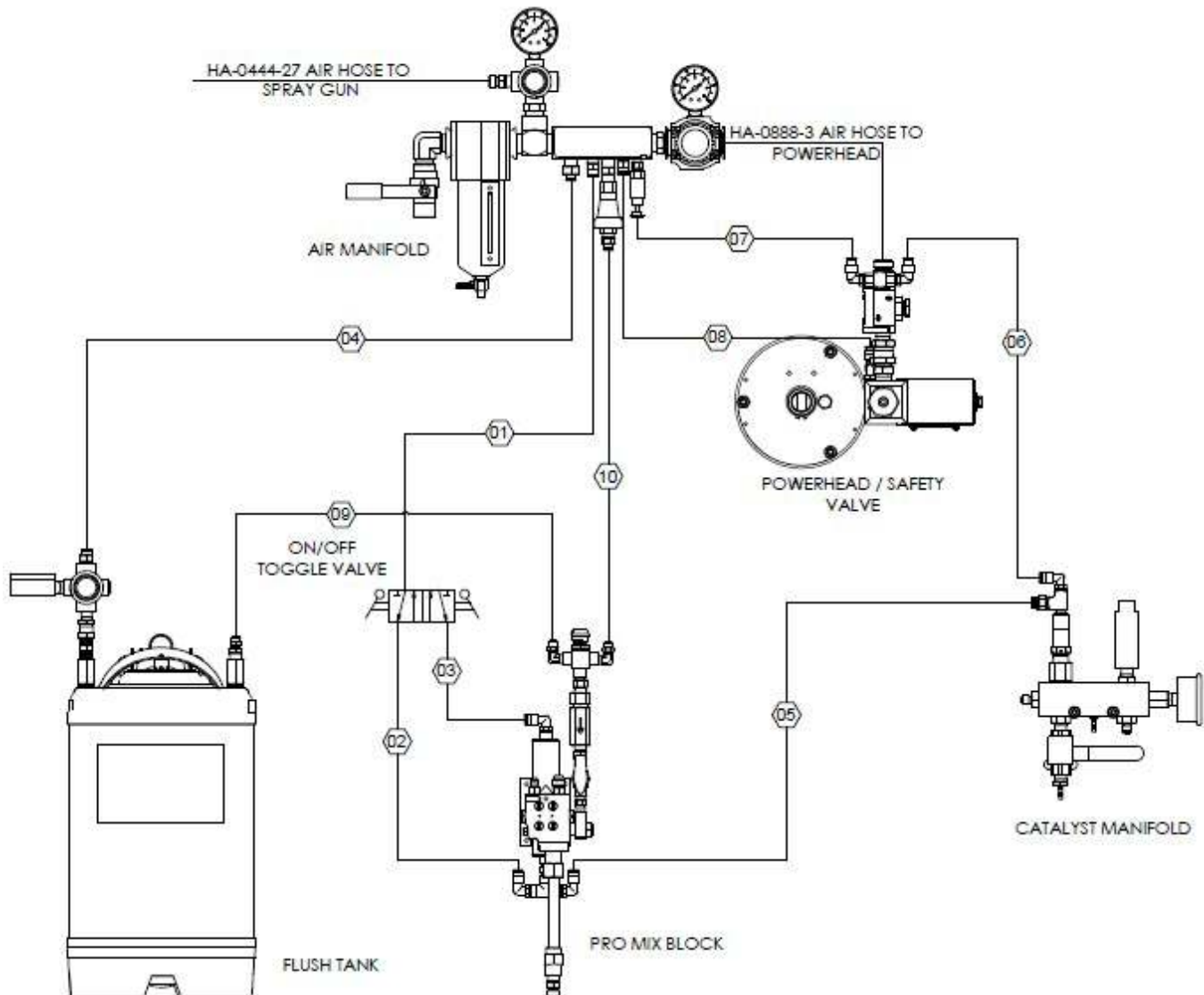
ACCURATE COATINGS SYSTEM - WALL MOUNT

ACE-PRO2-12-A-4

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| TUBING ROUTING CHART |             |        |
|----------------------|-------------|--------|
| ITEM                 | PART NUMBER | LENGTH |
| 01                   | MS-2052-1   | 3 FT   |
| 02                   | 01444       | 2 FT   |
| 03                   | 01449       | 2 FT   |
| 04                   | MS-2052-1   | 6 FT   |
| 05                   | 01444       | 4 FT   |
| 06                   | 01444       | 3 FT   |
| 07                   | 01444       | 3 FT   |
| 08                   | MS-2052-1   | 3 FT   |
| 09                   | 01443       | 3 FT   |
| 10                   | MS-2052-1   | 3 FT   |

## MAGNUM VENUS PRODUCTS

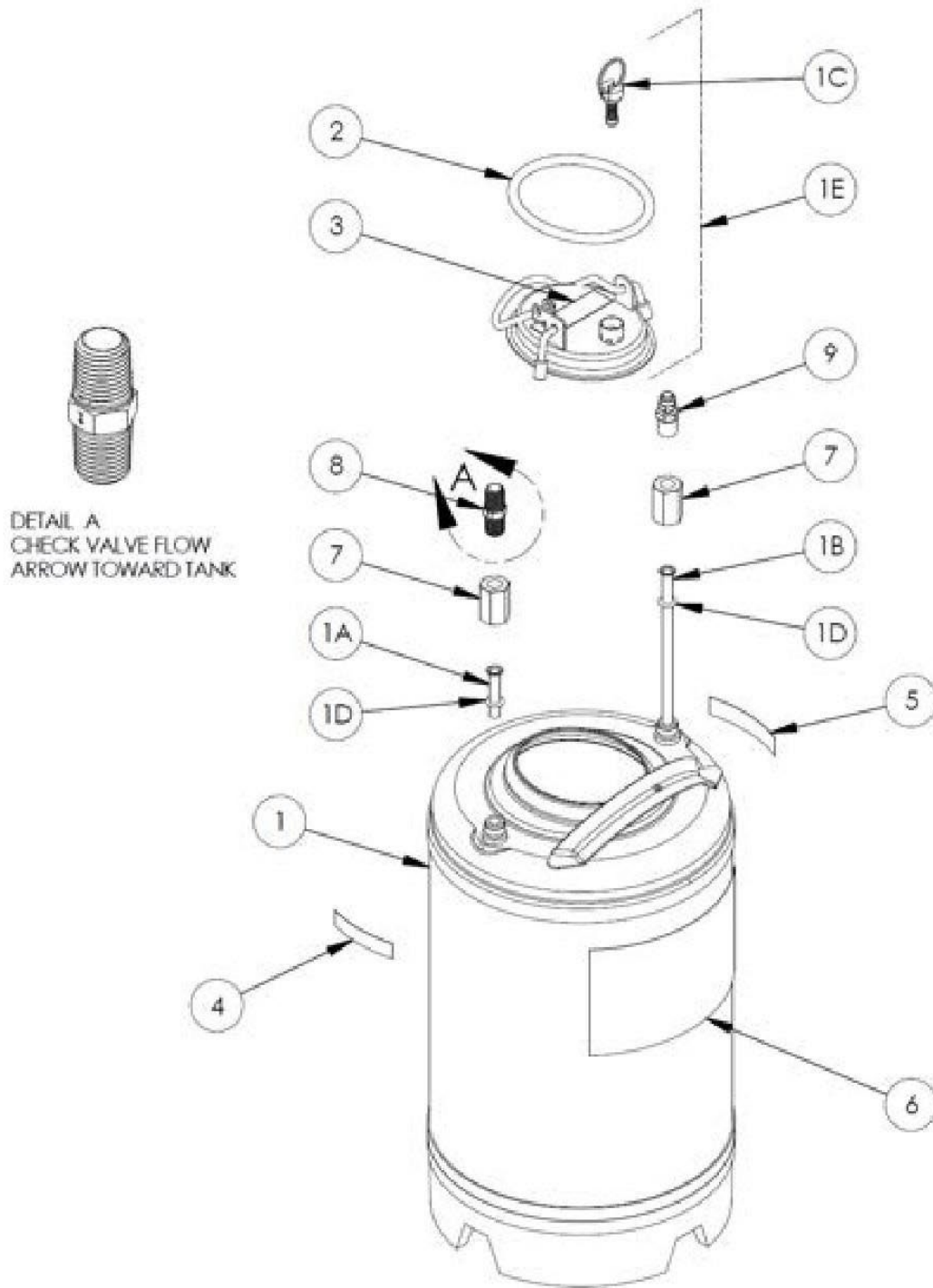
ACCURATE COATINGS SYSTEM - WALL MOUNT

ACE-PRO2-12-A-4

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## MAGNUM VENUS PRODUCTS

FLUSH TANK ASSEMBLY - 3 GALLON

6101-01-01

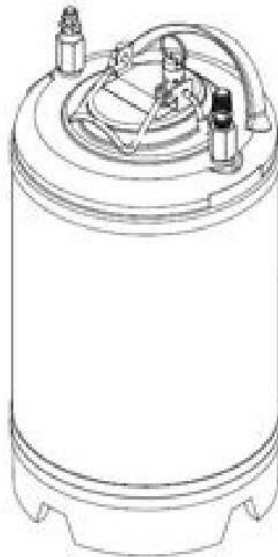
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| Parts List |             |     |                                              |
|------------|-------------|-----|----------------------------------------------|
| ITEM       | PART NUMBER | QTY | DESCRIPTION                                  |
| 1          | 8703-2-1    | 1   | 3 GALLON FLUSH TANK                          |
| 2          | O-E-5-381   | 2   | O-RING (1 SPARE INCLUDED)                    |
| 3          | 6701-12-EN  | 1   | FLUSH TANK DECAL PRESSURE RELIEF INSTRUCTION |
| 4          | 6701-13-EN  | 1   | FLUSH TANK DECAL AIR                         |
| 5          | 6701-14-EN  | 1   | FLUSH TANK DECAL SOLVENT                     |
| 6          | 95172-EN    | 1   | FLUSH TANK DECAL                             |
| 7          | 55210-3     | 2   | FLUSH TANK FITTING                           |
| 8          | CV-04-101   | 1   | 1 PSI CHECK VALVE                            |
| 9          | 00383       | 1   | MALE CONNECTOR                               |

| Parts Included in 8703-2-1 |             |     |              |
|----------------------------|-------------|-----|--------------|
| ITEM                       | PART NUMBER | QTY | DESCRIPTION  |
| 1A                         | 8703-3-1    | 1   | INLET TUBE   |
| 1B                         | 8703-4-1    | 1   | OUTLET TUBE  |
| 1C                         | 8703-5-1    | 1   | RELIEF VALVE |
| 1D                         | O-E-109     | 2   | O-RING       |
| 1E                         | 6101-02-01  | 1   | LID ASSEMBLY |



## MAGNUM VENUS PRODUCTS

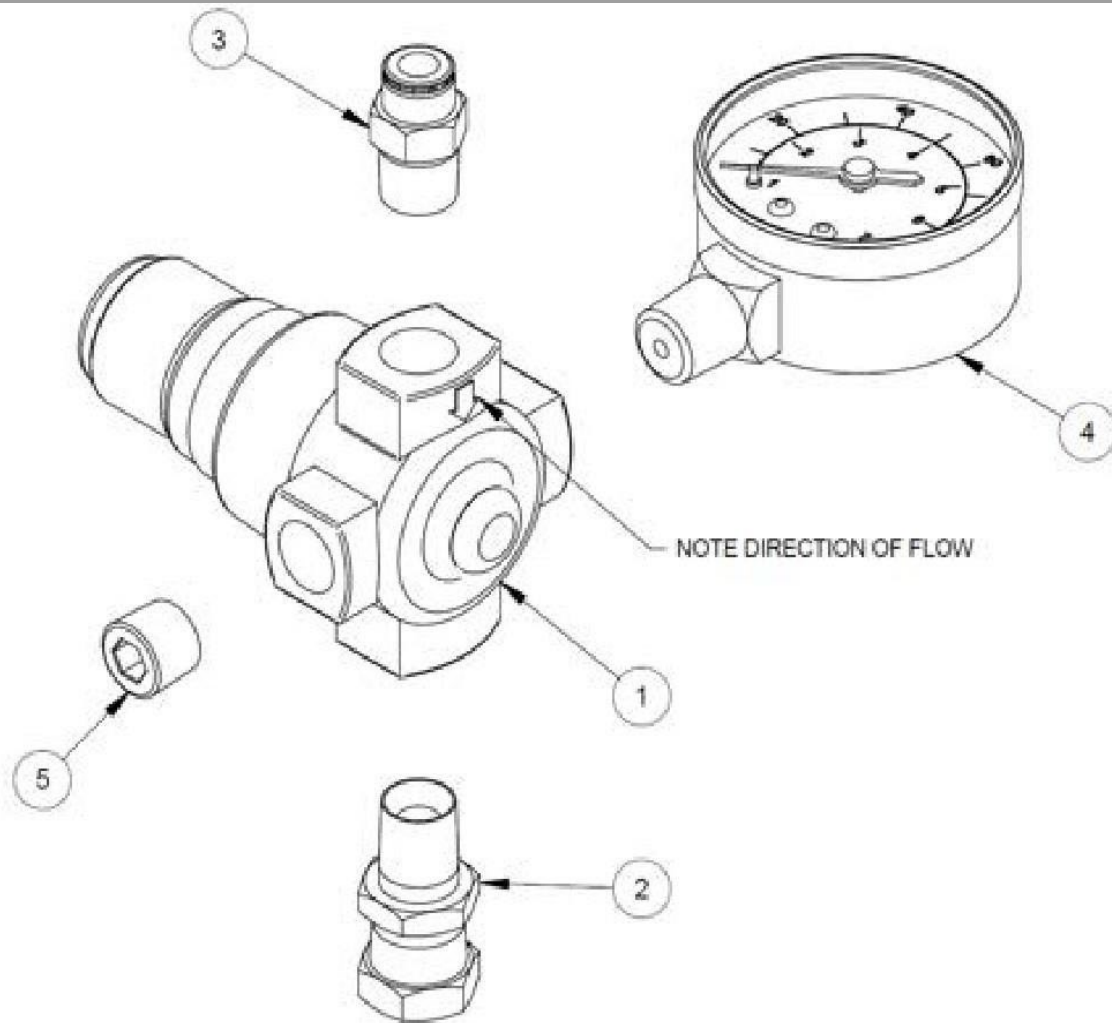
FLUSH TANK ASSEMBLY - 3 GALLON

6101-01-01

REV:

SHEET 2 / 2

6/30/2020



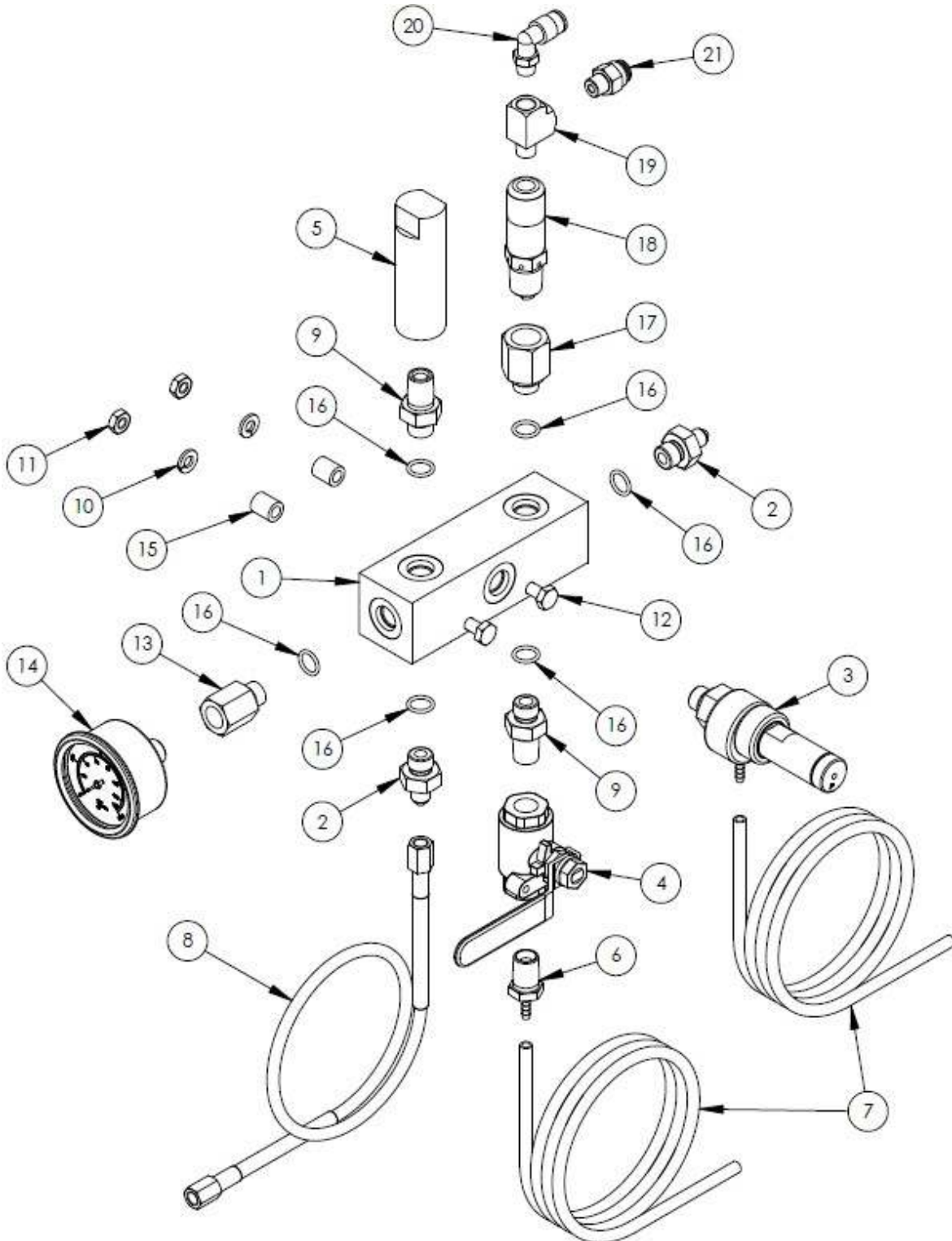
| Parts List |             |     |                     |
|------------|-------------|-----|---------------------|
| ITEM       | PART NUMBER | QTY | DESCRIPTION         |
| 1          | 09218       | 1   | REGULATOR - 1/4 NPT |
| 2          | PF-SW-04    | 1   | PIPE SWIVEL         |
| 3          | 07224       | 1   | MALE CONNECTOR      |
| 4          | AG-B2-100   | 1   | 2" AIR GAUGE        |
| 5          | PF-AP-04    | 1   | ALLEN PLUG          |

## MAGNUM VENUS PRODUCTS

PATRIOT FLUSH TANK REGULATOR

PAT-FT-REG

REV:A 01/21/2013



## MAGNUM VENUS PRODUCTS

ACID CATALYST MANIFOLD

CM2-3000-316

REV:B 05/25/2023

SHEET 1 / 2

7/14/2021

| Parts List |                    |     |                                  |
|------------|--------------------|-----|----------------------------------|
| ITEM       | PART NUMBER        | QTY | DESCRIPTION                      |
| 1          | CM-1051-316        | 1   | CATALYST MANIFOLD                |
| 2          | CM-1052-316        | 2   | JIC FITTING                      |
| 3          | RV-1000-1500-316   | 1   | CATALYST RELIEF VALVE - 1500 PSI |
| 4          | CM-1005            | 1   | SS BALL VALVE                    |
| 5          | MS-1000-SCA-316    | 1   | SURGE CHAMBER                    |
| 6          | CPRV-1002-A-316    | 1   | CPRV HOSE FITTING                |
| 7          | MS-2052-30IN       | 2   | CLEAR POLY TUBE                  |
| 8          | HC316-0203J-3      | 1   | SS HOSE ASSEMBLY                 |
| 9          | CM-1056-316        | 2   | FITTING                          |
| 10         | F-SW-04            | 2   | LOCK WASHER                      |
| 11         | F-HN-04C           | 2   | HEX NUT                          |
| 12         | F-HB-04C-40-GR5    | 2   | HEX BOLT                         |
| 13         | CM-1055-316        | 1   | FITTING                          |
| 14         | CG-2000            | 1   | Ø2" GAUGE 0-2000 PSI             |
| 15         | RC-1003            | 2   | SPACER                           |
| 16         | O-F-013            | 6   | O-RING                           |
| 17         | PF-RA-06-05ORB-316 | 1   | REDUCER ADAPTER                  |
| 18         | PLV-1000-1500      | 1   | PRESSURE LIMIT VALVE - 1500 psi  |
| 19         | PF-ST-02-BR        | 1   | TEE FITTING                      |
| 20         | MPH-2539           | 1   | MALE ELBOW                       |
| 21         | PNE-FCO-101        | 1   | FLOW CONTROL ORIFICE             |

## MAGNUM VENUS PRODUCTS

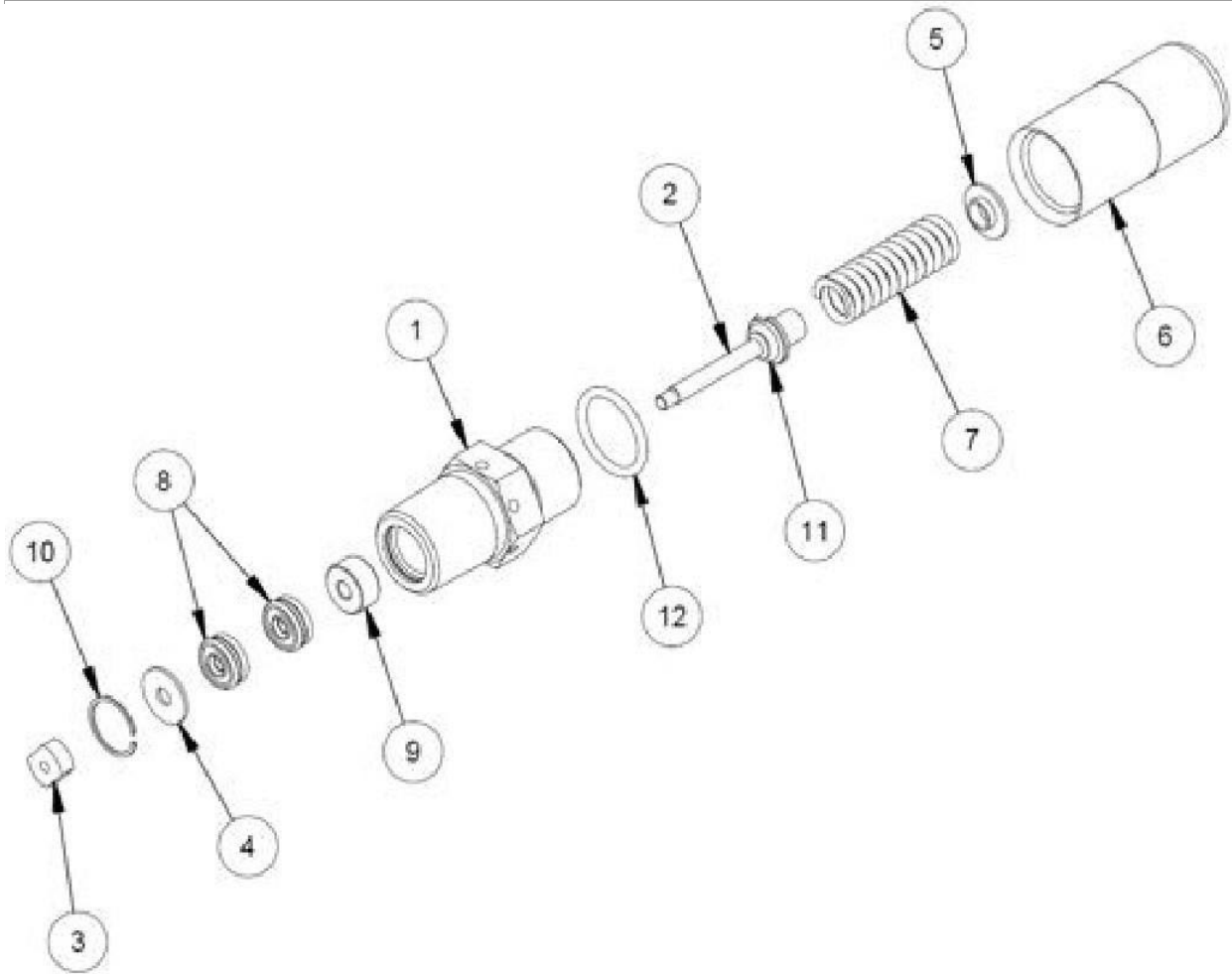
ACID CATALYST MANIFOLD

CM2-3000-316

REV:B 05/25/2023

SHEET 2 / 2

7/14/2021



## MAGNUM VENUS PRODUCTS

PRESSURE LIMIT VALVE

PLV-1000-1000, PLV-1000-1500, PLV-1000-1700, PLV-1000-2700

REV: A 08/08/2014

SHEET 1 / 2

3/28/2008

| Common Parts List |                |     |                 |
|-------------------|----------------|-----|-----------------|
| ITEM              | PART NUMBER    | QTY | DESCRIPTION     |
| 1                 | PLV-1001       | 1   | VALVE BODY      |
| 2                 | PLV-1002       | 1   | POPPET STEM     |
| 3                 | PLV-1003       | 1   | POPPET NUT      |
| 4                 | PLV-1004       | 1   | SEAL RETAINER   |
| 5                 | PLV-1005       | 1   | SPRING RETAINER |
| 6                 | PLV-1006       | 1   | SPRING HOUSING  |
| 8                 | PLV-1008       | 2   | SEAL ASSY       |
| 9                 | PLV-1007       | 1   | NEEDLE GUIDE    |
| 10                | F-RR-VH-43-S02 | 1   | RETAINING RING  |
| 11                | O-B-007        | 1   | O-RING          |
| 12                | O-B-015        | 1   | O-RING          |

| PLV-1000-1000 - 1000 psi SHUT-OFF |             |     |             |
|-----------------------------------|-------------|-----|-------------|
| ITEM                              | PART NUMBER | QTY | DESCRIPTION |
| 7                                 | SPR-C-1014  | 1   | SPRING      |

| PLV-1000-1500 - 1500 psi SHUT-OFF |             |     |             |
|-----------------------------------|-------------|-----|-------------|
| ITEM                              | PART NUMBER | QTY | DESCRIPTION |
| 7                                 | SPR-C-1015  | 1   | SPRING      |

| PLV-1000-1700 - 1700 psi SHUT-OFF |             |     |             |
|-----------------------------------|-------------|-----|-------------|
| ITEM                              | PART NUMBER | QTY | DESCRIPTION |
| 7                                 | SPR-C-1016  | 1   | SPRING      |

| PLV-1000-2700 - 2700 psi SHUT-OFF |             |     |             |
|-----------------------------------|-------------|-----|-------------|
| ITEM                              | PART NUMBER | QTY | DESCRIPTION |
| 7                                 | SPR-C-1004  | 1   | SPRING      |

## MAGNUM VENUS PRODUCTS

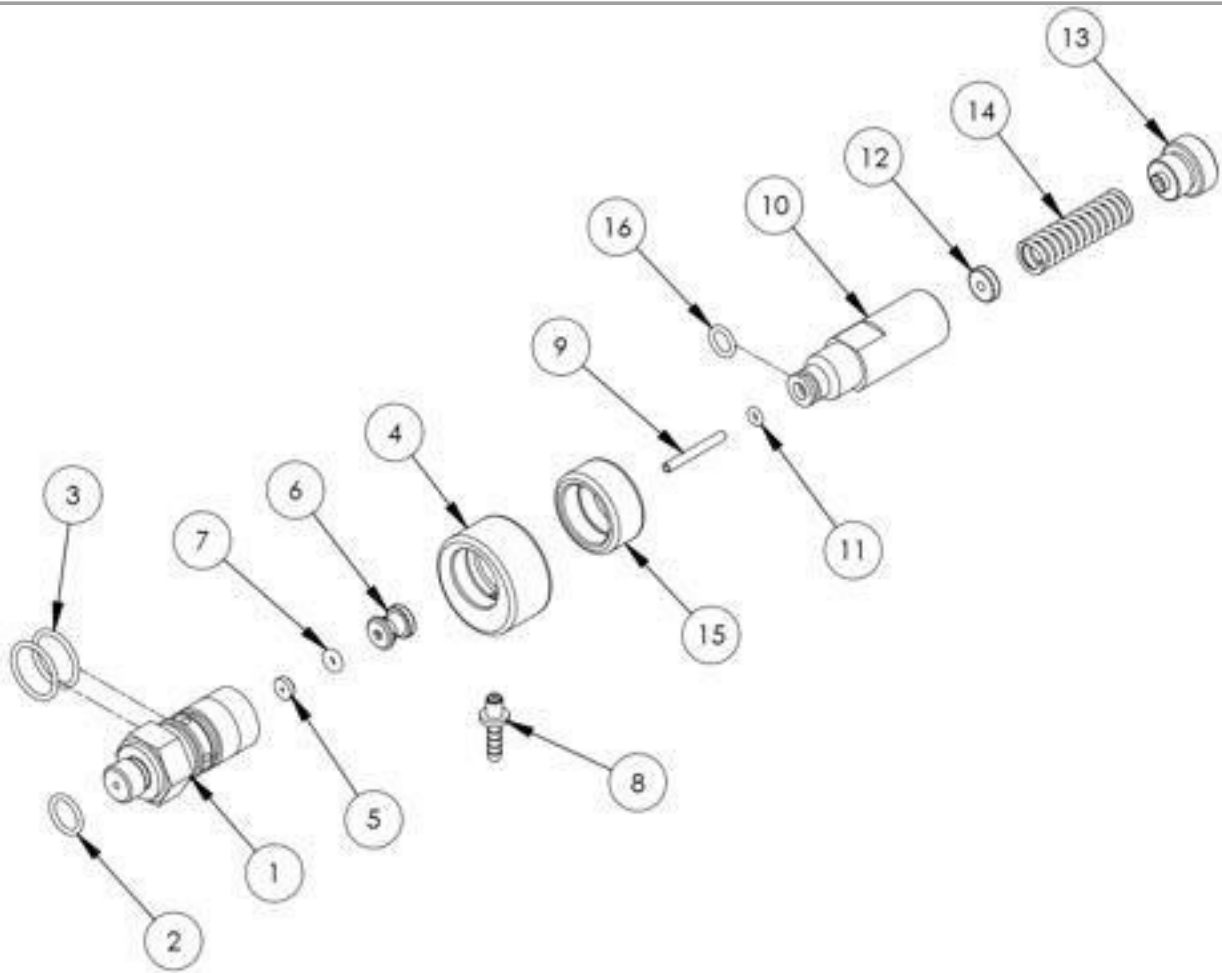
PRESSURE LIMIT VALVE

PLV-1000-1000, PLV-1000-1500, PLV-1000-1700, PLV-1000-2700

REV: A 08/08/2014

SHEET 2 / 2

3/28/2008



## MAGNUM VENUS PRODUCTS

CATALYST RELIEF VALVE - 1500 PSI

RV-1000-1500-316

REV: -

SHEET 1 / 3

8/9/2017

| Parts List |                |     |                                  |
|------------|----------------|-----|----------------------------------|
| ITEM       | PART NUMBER    | QTY | DESCRIPTION                      |
|            | 1 RV-1001-316  | 1   | VALVE BODY                       |
| *          | 2 O-F-013      | 1   | O-RING                           |
| *          | 3 O-F-017      | 2   | O-RING                           |
|            | 4 RV-1003-PPS  | 1   | DRAIN RING                       |
|            | 5 RV-1009-316  | 1   | PIN STOP                         |
|            | 6 RV-1008-316  | 1   | PIN ALIGNMENT SPOOL              |
| *          | 7 O-F-104      | 1   | O-RING                           |
|            | 8 RV-1004-316  | 1   | DRAIN TUBE FITTING               |
|            | 9 RV-1006-316  | 1   | PIN                              |
|            | 10 RV-1002-316 | 1   | SPRING HOUSING                   |
| *          | 11 O-F-006     | 1   | O-RING                           |
|            | 12 RV-1007     | 1   | SPRING STOP                      |
|            | 13 RV-1014     | 1   | ADJUSTING SCREW (PURPLE 1500 lb) |
|            | 14 RV-1011     | 1   | SPRING (1500 lb PURPLE)          |
|            | 15 RV-1005     | 1   | DRAIN RETAINER RING              |
| *          | 16 O-F-011     | 1   | O-RING                           |

## REPAIR KIT

\* RV-1000-316-SK (ASTERISKS DENOTE PARTS IN KIT)

## MAGNUM VENUS PRODUCTS

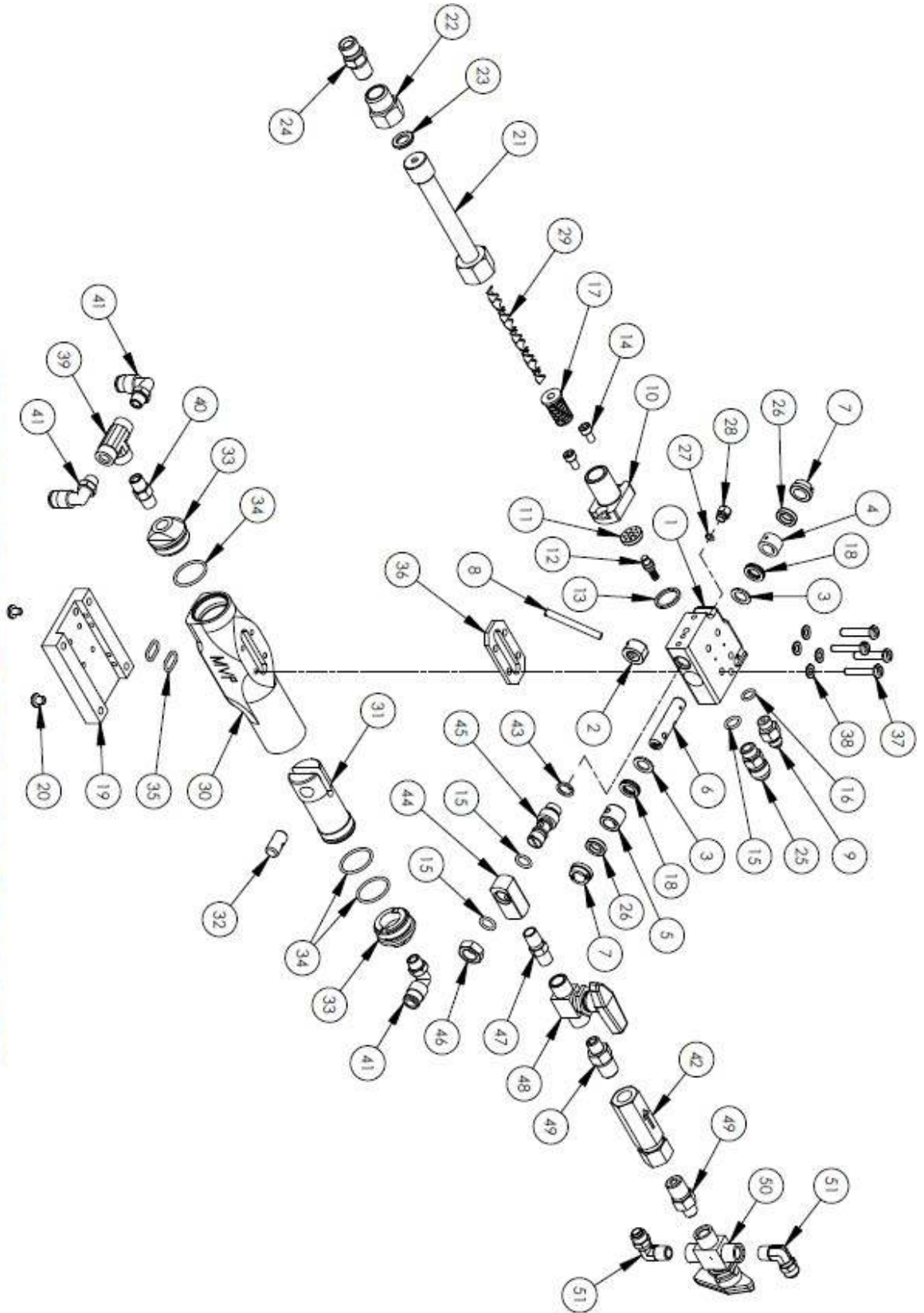
CATALYST RELIEF VALVE - 1500 PSI

RV-1000-1500-316

REV: -

SHEET 2 / 3

8/9/2017



# MAGNUM VENUS PRODUCTS

CLASSIC PRO MIX BLOCK - ACCURATE COATINGS

CPMB-2000-A

REV: A 05/25/2023

SHEET 1 / 3

7/15/2021

| Parts List |                    |     |                        |
|------------|--------------------|-----|------------------------|
| ITEM       | PART NUMBER        | QTY | DESCRIPTION            |
|            | 1 5104-1-1-316     | 1   | PRO GUN BLOCK          |
|            | 2 5104-10-1        | 1   | CENTER SPACER          |
| *          | 3 5104-3-1         | 2   | SECONDARY SEAL         |
| *          | 4 5104-6-1         | 1   | TEFLON CATALYST SEAL   |
| *          | 5 5104-5-1         | 1   | RESIN SEAL             |
|            | 6 5104-2-1-316     | 1   | VALVE ROD              |
|            | 7 5104-8-1         | 2   | PACKING NUT            |
|            | 8 5104-11-1        | 1   | ACTUATING STEM         |
|            | 9 7701-3-6         | 1   | CONNECTOR FITTING      |
|            | 10 5104-20-1       | 1   | MIX HOUSING            |
|            | 11 5104-17-1-316   | 1   | DISTRIBUTION RING      |
|            | 12 5104-03-01-316  | 1   | INJECTOR ASSEMBLY      |
| *          | 13 5104-12-1       | 1   | MIX HOUSING SEAL       |
|            | 14 F-CS-1024-06    | 2   | CAP SCREW              |
| *          | 15 O-E-3-904       | 3   | O-RING                 |
| *          | 16 O-F-3-903       | 1   | O-RING                 |
| *          | 17 5107-27-3       | 1   | TURBULENT MIXER        |
|            | 18 5104-4-1        | 2   | RELIEF SPACER          |
|            | 19 58704-1         | 1   | MOUNTING PAD           |
|            | 20 02806-2         | 2   | 10-24 PAN HEAD SCREW   |
|            | 21 50091-1-TSE     | 1   | MIXER HOUSING          |
|            | 22 RTM-1004        | 1   | GUN ADAPTER FITTING    |
| *          | 23 02030-1         | 1   | TIP SEAL               |
|            | 24 PF-HN-04-04S-SS | 1   | HEX NIPPLE             |
|            | 25 VPG-1066        | 1   | ADAPTER                |
| *          | 26 5104-7-1-PPS    | 2   | PACKING RING           |
| *          | 27 O-E-5-125       | 1   | O-RING                 |
|            | 28 5104-32-1       | 1   | PLUG                   |
|            | 29 JTD-4025        | 1   | STAINLESS MIXER        |
|            | 30 58631-1         | 1   | CYLINDER BODY ASSEMBLY |
|            | 31 5106-7-1        | 1   | ACTUATING PISTON       |
|            | 32 5106-5-1        | 1   | ACTUATOR BUSHING       |
|            | 33 5106-4-1        | 2   | CYLINDER CAP           |
| *          | 34 O-V-020         | 3   | O-RING                 |
| *          | 35 O-V-013         | 2   | O-RING                 |
|            | 36 5106-2-1        | 1   | ACTUATOR SEAL          |
|            | 37 5106-6-1        | 4   | MOUNTING SCREW         |
| *          | 38 5106-3-1        | 4   | MOUNTING SEAL          |
|            | 39 PF-FT-02        | 1   | TEE FEMALE 1/8         |
|            | 40 PF-HN-02        | 1   | HEX NIPPLE             |
|            | 41 MPH-2539        | 3   | MALE ELBOW             |
|            | 42 CV-HP-04F-SS    | 1   | CHECK VALVE            |
| *          | 43 5104-21-1       | 1   | FLUSH VALVE SPLIT SEAL |
|            | 44 BVF-1001        | 1   | FLUSH VALVE NECK       |
|            | 45 BVF-1002        | 1   | FLUSH VALVE BODY       |

## MAGNUM VENUS PRODUCTS

CLASSIC PRO MIX BLOCK - ACCURATE COATINGS

CPMB-2000-A

REV:A 05/25/2023

SHEET 2 / 3

7/15/2021



| Parts List |                |     |                  |
|------------|----------------|-----|------------------|
| ITEM       | PART NUMBER    | QTY | DESCRIPTION      |
| 46         | 01073          | 1   | THIN NUT         |
| 47         | PF-HN-02-SS    | 1   | HEX NIPPLE       |
| 48         | MRD-1017       | 1   | BALL VALVE       |
| 49         | PF-HN-02-04-SS | 2   | HEX NIPPLE       |
| 50         | 8407-6-1       | 1   | 3-WAY BALL VALVE |
| 51         | MPH-2534       | 2   | POLY ELBOW       |

**REPAIR KIT**

\* CPMB-2000-A-RK (ASTERISKS DENOTE PARTS IN KIT)

## MAGNUM VENUS PRODUCTS

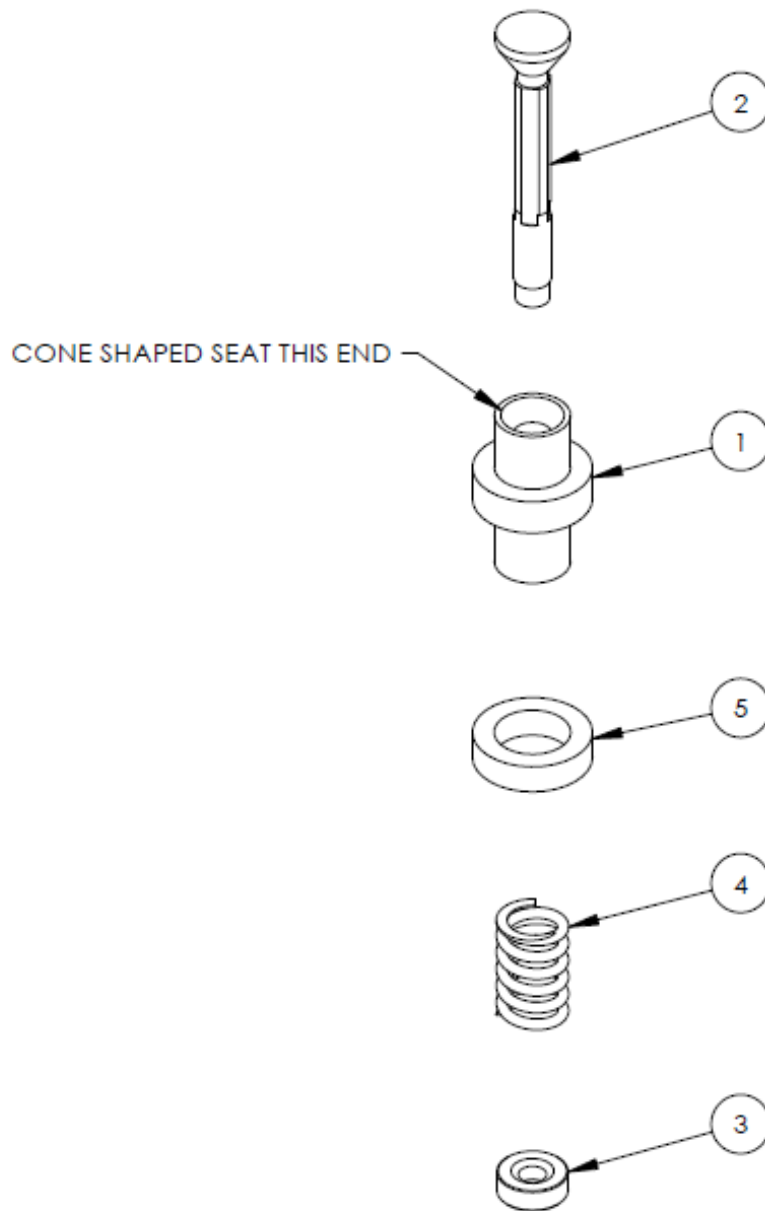
CLASSIC PRO MIX BLOCK - ACCURATE COATINGS

CPMB-2000-A

REV:A 05/25/2023

SHEET 3 / 3

7/15/2021



## MAGNUM VENUS PRODUCTS

INJECTOR ASSEMBLY

5104-03-01-316

REV:-

SHEET 1 / 2

7/16/2021

| Parts List |                |     |                    |
|------------|----------------|-----|--------------------|
| ITEM       | PART NUMBER    | QTY | DESCRIPTION        |
| 1          | 5104-15-1-316  | 1   | INJECTOR BODY      |
| 2          | 5104-16-1-316  | 1   | INJECTOR PLUNGER   |
| 3          | 5104-14-1-316  | 1   | PLUNGER RETAINER   |
| 4          | 9203-2-2-316   | 1   | COMPRESSION SPRING |
| 5          | 5104-13-1-PTFE | 1   | INJECTOR SEAL      |

## MAGNUM VENUS PRODUCTS

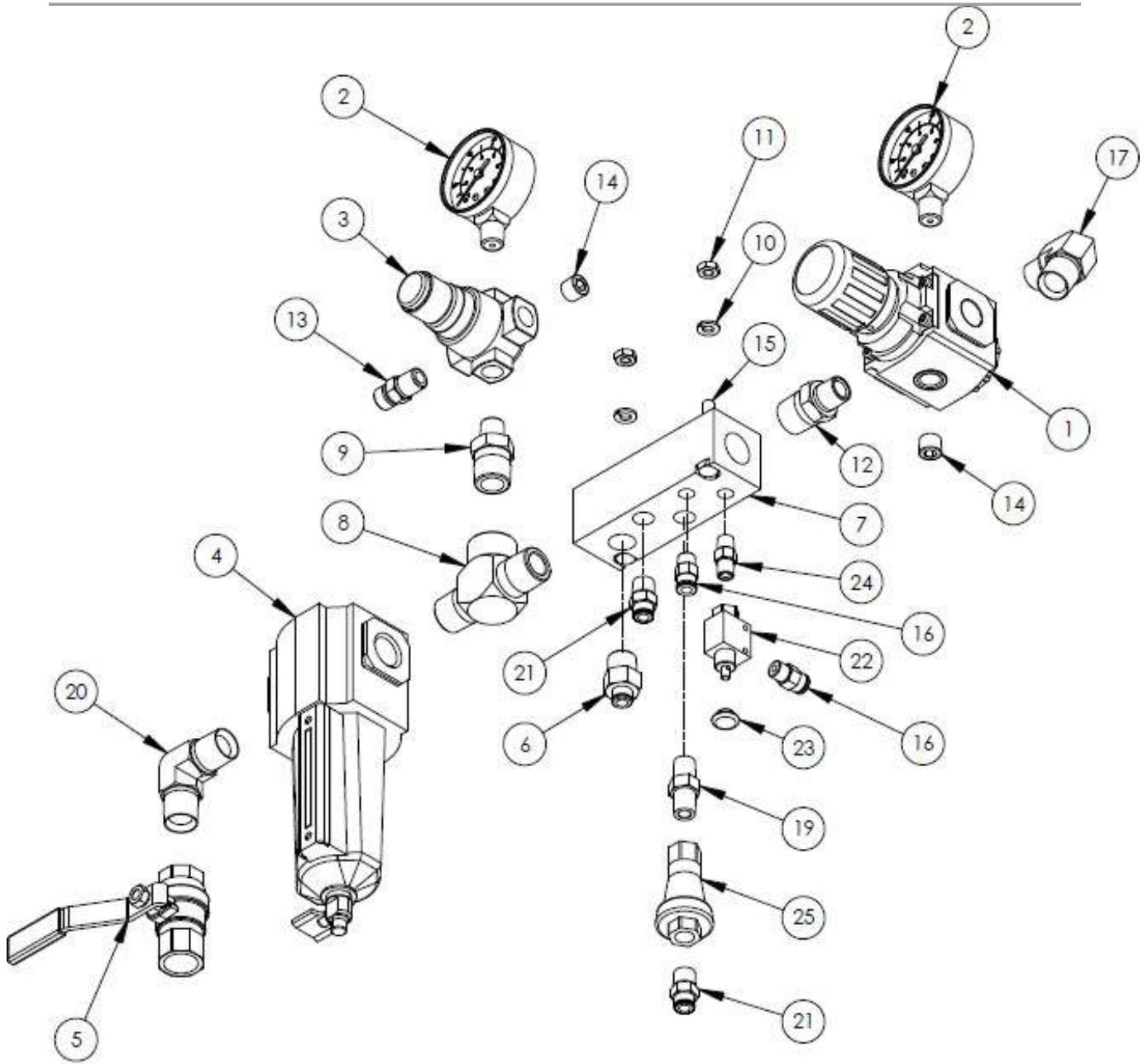
INJECTOR ASSEMBLY

5104-03-01-316

REV:-

SHEET 2 / 2

7/16/2021



# MAGNUM VENUS PRODUCTS

AIR MANIFOLD - ACCURATE COATINGS UNIT

MA2-1-ACE

REV:B 05/25/2023

SHEET 1 / 2

7/13/2021

| Parts List |              |     |                     |
|------------|--------------|-----|---------------------|
| ITEM       | PART NUMBER  | QTY | DESCRIPTION         |
| 1          | NOR-06       | 1   | REGULATOR           |
| 2          | AG-B2-100    | 2   | 100 PSI AIR GAUGE   |
| 3          | 09218        | 1   | REGULATOR - 1/4 NPT |
| 4          | NOF-08       | 1   | FILTER              |
| 5          | 7702-2-2     | 1   | BALL VALVE 1/2 NPT  |
| 6          | 06976        | 1   | MALE CONNECTOR      |
| 7          | PAT-MA-1001  | 1   | AIR MANIFOLD BLOCK  |
| 8          | PF-PT-08MMF  | 1   | PIPE TEE            |
| 9          | PF-HN-08-04  | 1   | HEX NIPPLE          |
| 10         | F-SW-04      | 2   | LOCK WASHER         |
| 11         | F-HN-04C     | 2   | HEX NUT             |
| 12         | PF-HN-08-06  | 1   | HEX NIPPLE          |
| 13         | PF-HN-04-04S | 1   | HOSE ADAPTER        |
| 14         | PF-AP-04     | 2   | ALLEN PLUG          |
| 15         | F-HB-04C-28  | 2   | 1/4 HEX BOLT        |
| 16         | 07223        | 2   | MALE CONNECTOR      |
| 17         | PF-ME-08-06  | 1   | MALE ELBOW          |
| 19         | PF-HN-04     | 1   | HEX NIPPLE          |
| 20         | PF-ME-08     | 1   | MALE ELBOW          |
| 21         | 07224        | 2   | MALE CONNECTOR      |
| 22         | 8407-4-1     | 1   | 3-WAY VALVE         |
| 23         | 8407-5-1     | 1   | PUSH BUTTON         |
| 24         | PF-HN-02     | 1   | HEX NIPPLE          |
| 25         | PNE-IPR-101  | 1   | REGULATOR 45 PSI    |

## OPTIONAL PARTS

- 4A    MOD-107    AIR EXTRACTOR, 1/2"    (SUBSTITUTE FOR NOF-08)  
       MOD-500-FD    AUTOMATIC FLOAT DRAIN    (FOR MOD-107)

## MAGNUM VENUS PRODUCTS

AIR MANIFOLD - ACCURATE COATINGS UNIT

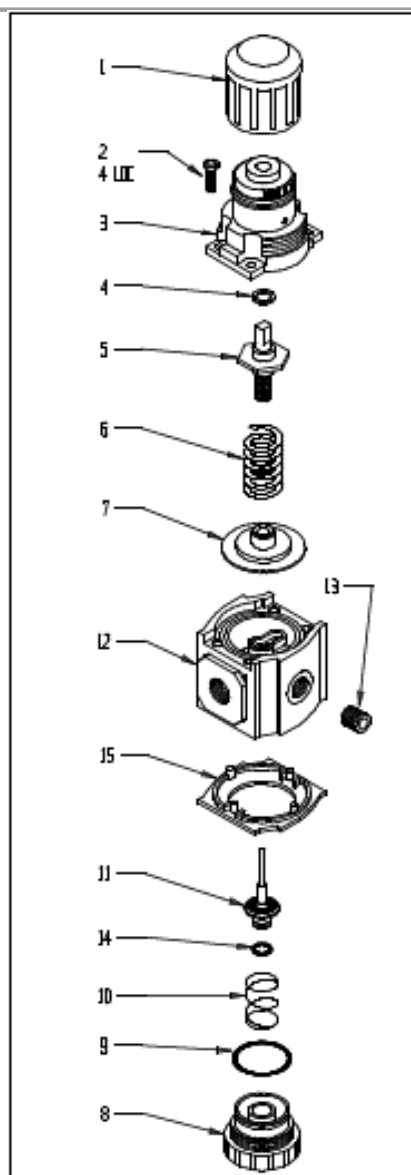
MA2-1-ACE

REV:B 05/25/2023

SHEET 2 / 2

7/13/2021





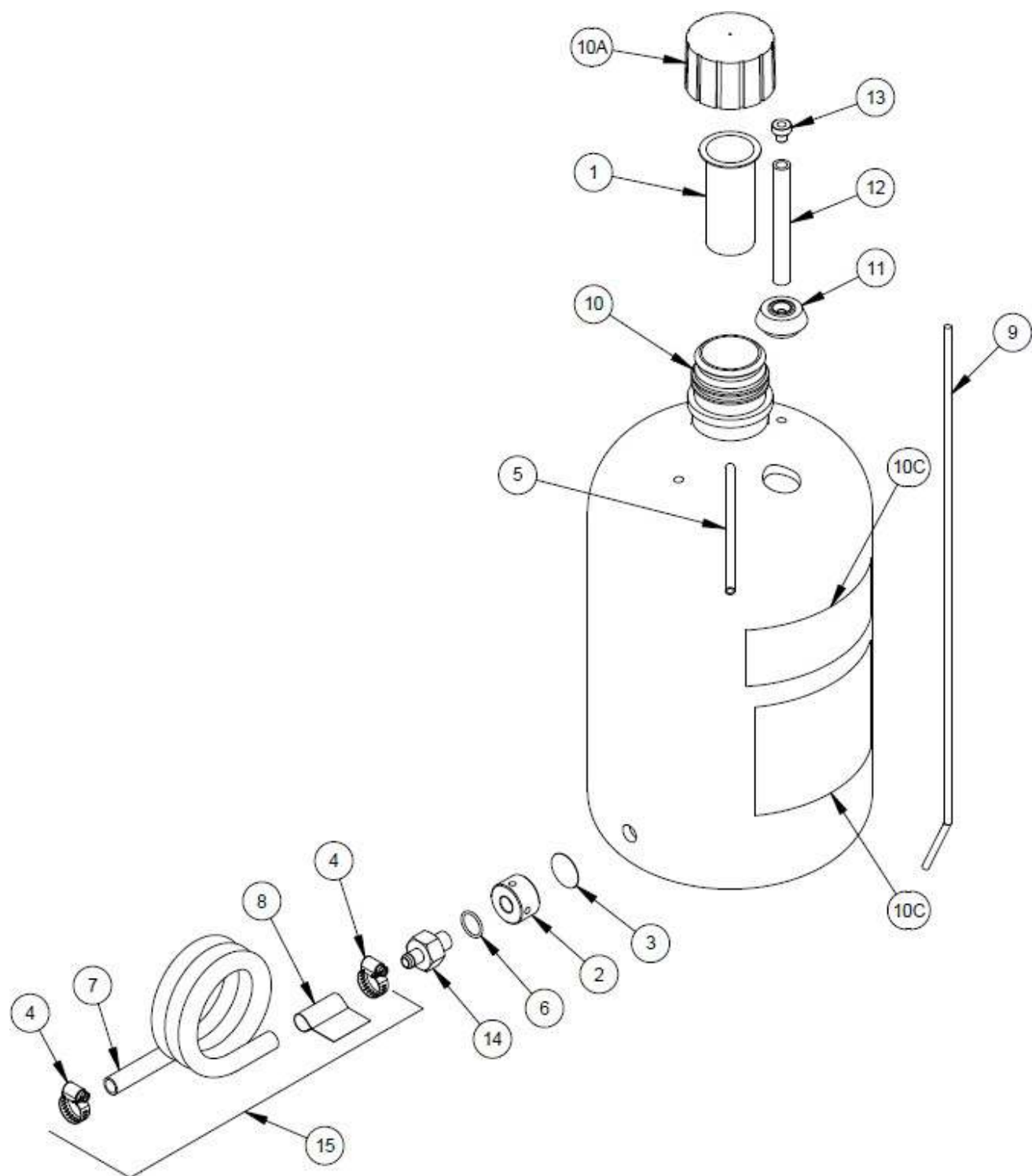
## NOR-06 AIR REGULATOR

09-22-98 (BT2 FILE: IPBNOR06)

| ITEM | PART #   | DESCRIPTION               | QTY. |
|------|----------|---------------------------|------|
| 1    | NOR-06-A | ADJUSTING KNOB            | 1    |
| 2    | NOR-06-B | SCREW                     | 4    |
| 3    |          | NOT NORMALLY REPLACED     | 1    |
| 4    | NOR-06-C | WASHER                    | 1    |
| 5    | NOR-06-D | ADJUSTING SCREW           | 1    |
| 6    | NOR-06-E | SPRING                    | 1    |
| *7   |          | DIAPHRAGM ( IN KIT ONLY ) | 1    |
| 8    | NOR-06-G | BOTTOM PLUG               | 1    |
| *9   |          | O' RING ( IN KIT ONLY )   | 1    |
| *10  |          | SPRING ( IN KIT ONLY )    | 1    |
| *11  |          | VALVE ( IN KIT ONLY )     | 1    |
| 12   |          | NOT NORMALLY REPLACED     | 1    |
| 13   | PF-AP-04 | ALLEN PLUG                | 1    |
| *14  | O-E-011  | O' RING ( IN KIT ONLY )   | 1    |
| 15   |          | NOT NORMALLY REPLACED     | 1    |

### \*ITEMS SOLD ONLY IN KIT

NOR-06-RK REPAIR KIT (ITEMS 7,9,10,11,14)



## MAGNUM VENUS PRODUCTS

ACID CATALYST JUG ASSEMBLY

PAT-CJ-316

REV:A 05/25/2023

SHEET 1 / 2

7/15/2021

| Parts List |                |      |                             |
|------------|----------------|------|-----------------------------|
| ITEM       | PART NUMBER    | QTY  | DESCRIPTION                 |
| 1          | 8801-1-100     | 1    | 100 MESH CAT JUG SCREEN     |
| 2          | 4105-10-1-PTFE | 1    | FILTER SCREEN NUT           |
| 3          | 4105-7-1       | 1    | 60 MESH SCREEN              |
| 4          | MEC-WDC-101    | 2    | WORM DRIVE CLAMP            |
| 5          | MS-2052-1      | 3 FT | 1/4" CLEAR POLY TUBE        |
| 6          | O-F-016        | 1    | O-RING                      |
| 7          | 01419          | 4 FT | 1/2" POLY TUBE              |
| 8          | 6701-16-EN     | 1    | SUCTION HOSE DECAL          |
| 9          | 4105-8-1       | 1    | PIN WRENCH                  |
| 10         | PAT-CJ-4       | 1    | 2 GAL JUG WITH CAP          |
| 11         | 6634           | 1    | SEAL                        |
| 12         | 6049           | 1    | SIGHT GLASS                 |
| 13         | 6655           | 1    | PLUG                        |
| 14         | 59371-1-316    | 1    | TUBE FITTING - GRAVITY FEED |

## ASSOCIATED PARTS AND ASSEMBLIES

| ITEM | PART No.   | QTY. | DESCRIPTION         |
|------|------------|------|---------------------|
| 10A  | 8802-1-1   | 1    | CAP ONLY            |
| 10B  | 6701-4-EN  | 1    | CAUTION DECAL       |
| 10C  | 6701-15-EN | 1    | MAINTENANCE DECAL   |
| 15   | 4105-2-01  | 1    | 1/2" x 4' FEED LINE |

# MAGNUM VENUS PRODUCTS

ACID CATALYST JUG ASSEMBLY

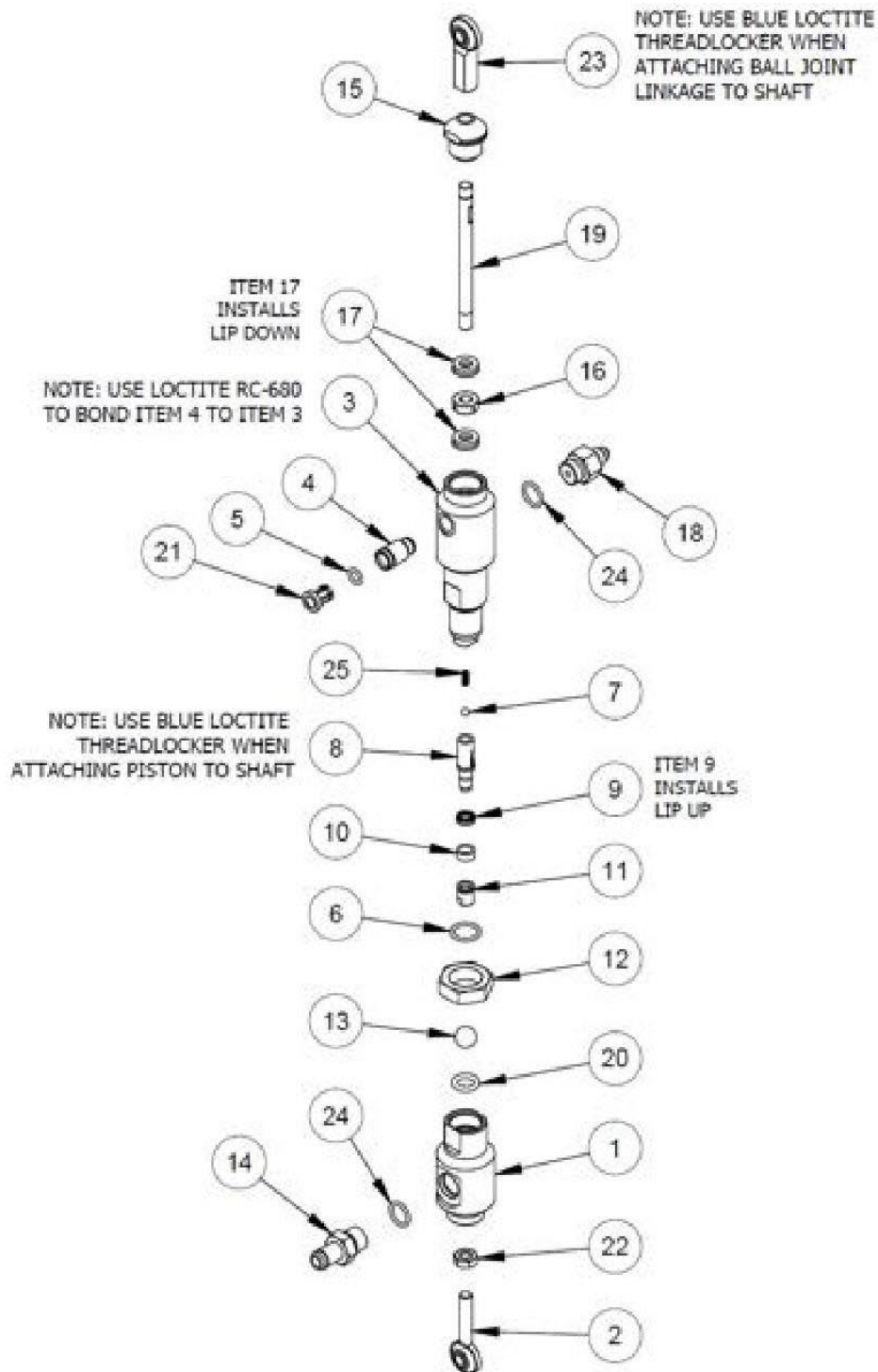
PAT-CJ-316

REV:A 05/25/2023

SHEET 2 / 2

7/15/2021





## MAGNUM VENUS PRODUCTS

ACID CATALYST PUMP ASSEMBLY

PAT-CP-0550-316

REV:-

SHEET 1 / 2

7/20/2021

| Parts List |                  |     |                     |
|------------|------------------|-----|---------------------|
| ITEM       | PART NUMBER      | QTY | DESCRIPTION         |
| 1          | PAT-CP-0502-316  | 1   | INLET BODY          |
| 2          | PAT-CP-0504      | 1   | BALL JOINT LINKAGE  |
| 3          | PAT-CP-0503-316  | 1   | OUTLET BODY         |
| 4          | PAT-CP-0505-316  | 1   | FITTING BODY        |
| * 5        | O-F-010          | 1   | O-RING              |
| * 6        | O-F-014          | 1   | O-RING              |
| 7          | 9201-1-5         | 1   | SS BALL             |
| 8          | 4102-7-1-316     | 1   | PISTON BODY         |
| * 9        | 7304-1-1         | 1   | PISTON SEAL (C72)   |
| * 10       | 4102-8-1         | 1   | PISTON GUIDE        |
| 11         | 4102-9-1-316     | 1   | SEAL RETAINER       |
| 12         | 4101-1-1         | 1   | LOCK NUT            |
| 13         | 9201-1-14        | 1   | SS BALL             |
| 14         | 4101-8-1-316     | 1   | INLET FITTING       |
| 15         | PAT-CP-0506-PPS  | 1   | RETAINING NUT       |
| * 16       | PAT-CP-0507-PTFE | 1   | LEAK SPACER         |
| * 17       | PAT-CP-0501-PTFE | 2   | CUP SEAL ASSEMBLY   |
| 18         | 51501-1-316      | 1   | OUTLET FITTING      |
| 19         | PAT-CP-0508-316  | 1   | CATALYST ROD        |
| * 20       | O-F-110          | 1   | O-RING              |
| 21         | 4105-5-1-316     | 1   | TUBE LOCK COLLAR    |
| 22         | F-HN-04F         | 1   | HEX NUT             |
| 23         | MS-1022          | 1   | BALL JOINT - FEMALE |
| * 24       | O-F-013          | 2   | O-RING              |
| 25         | 4101-3-1         | 1   | SPRING              |

## REPAIR KIT

\* PAT-CP-0550-316-SK (ASTERISKS DENOTE PARTS IN KIT)

**MAGNUM VENUS PRODUCTS**

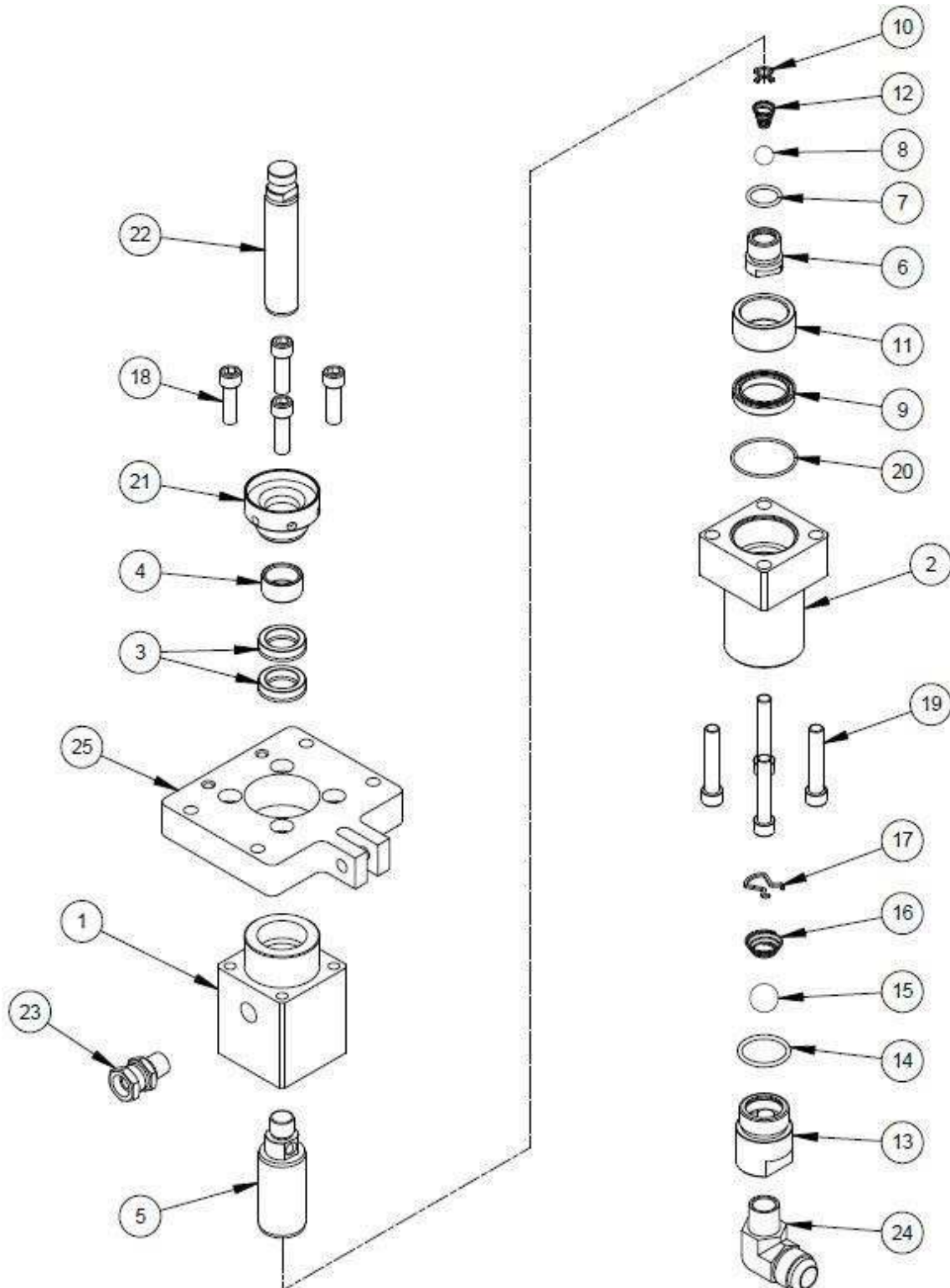
ACID CATALYST PUMP ASSEMBLY

PAT-CP-0550-316

REV:-

SHEET 2 / 2

7/20/2021



## MAGNUM VENUS PRODUCTS

FLUID SECTION

PRO2-LS-06010-17-4

REV:-

SHEET 1 / 2

7/15/2021

| Parts List |                     |     |                  |
|------------|---------------------|-----|------------------|
| ITEM       | PART NUMBER         | QTY | DESCRIPTION      |
| 1          | PAT-LS-0601-NA      | 1   | OUTLET BODY      |
| 2          | PAT-LS-0602-NA      | 1   | INLET BODY       |
| * 3        | PAT-LS-0616-SP-PTFE | 2   | ROD SEAL         |
| 4          | PAT-LS-0605         | 1   | ROD BUSHING      |
| 5          | PAT-LS-0607-17-4    | 1   | PISTON           |
| 6          | PAT-LS-0609-17-4    | 1   | PISTON VALVE     |
| * 7        | O-E-116             | 1   | O-RING           |
| 8          | VLS-2426            | 1   | 1/2" CHROME BALL |
| * 9        | PAT-LS-1016-SP-PTFE | 1   | PISTON SEAL      |
| 10         | PAT-LS-0611-301     | 1   | SPRING RETAINER  |
| 11         | PAT-LS-0613         | 1   | PISTON BUSHING   |
| 12         | PAT-LS-0610-302     | 1   | CONICAL SPRING   |
| 13         | PAT-LS-0615-17-4    | 1   | INLET VALVE      |
| * 14       | O-E-3-916           | 1   | O-RING           |
| 15         | VLS-2427            | 1   | 3/4" CHROME BALL |
| 16         | PAT-LS-1010-316     | 1   | SPRING           |
| 17         | PAT-LS-1011-301     | 1   | SPRING RETAINER  |
| 18         | F-CS-06C-20         | 4   | CAP SCREW        |
| 19         | F-CS-06C-32         | 4   | ALLEN CAP SCREW  |
| * 20       | O-E-030             | 1   | O-RING           |
| 21         | PAT-LS-0604         | 1   | SOLVENT CUP      |
| 22         | PAT-LS-0608-17-4    | 1   | FLUID ROD        |
| 23         | PF-SW-06-55         | 1   | PIPE SWIVEL      |
| 24         | PF-ME-08-12J-55     | 1   | MALE ELBOW       |
| 25         | PAT-LS-0603         | 1   | TRANSITION PLATE |

## REPAIR KIT

\* PRO2-LS-06010-17-4-SK (ASTERISKS DENOTE PARTS IN KIT)

**MAGNUM VENUS PRODUCTS**

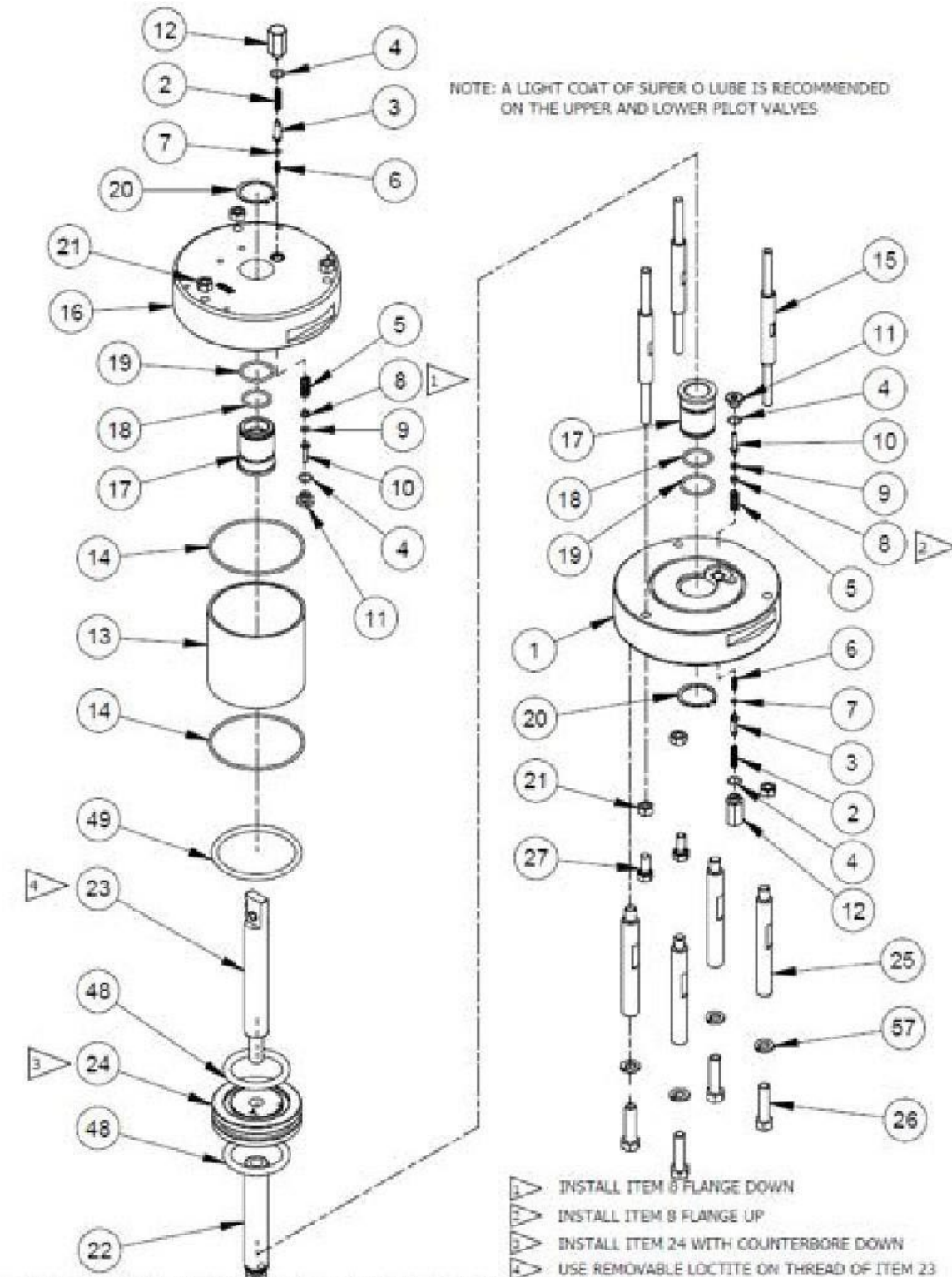
FLUID SECTION

PRO2-LS-06010-17-4

REV:-

SHEET 2 / 2

7/15/2021



# MAGNUM VENUS PRODUCTS

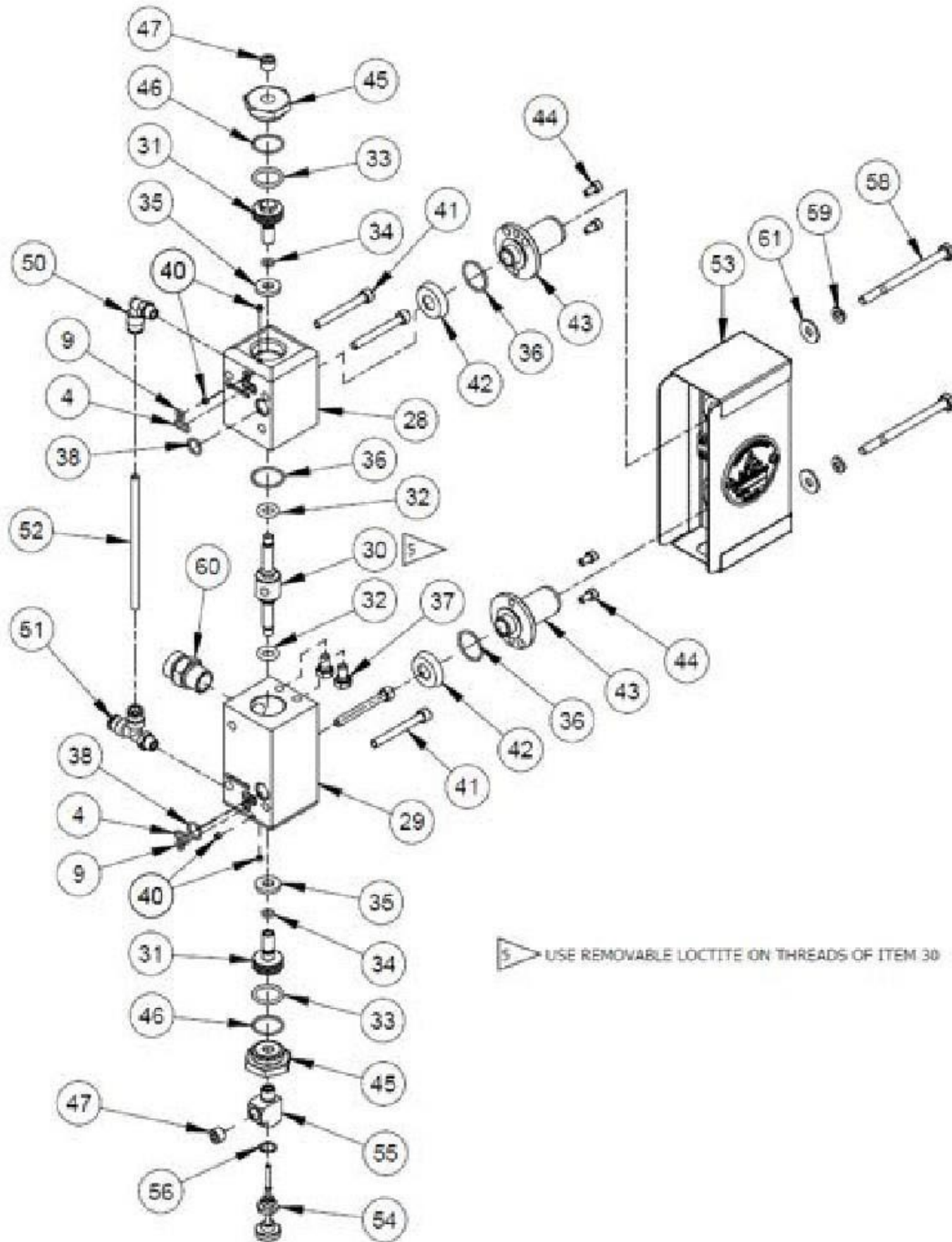
POWER HEAD - 3-1/4" DIA

PRO2-PH-3250

REV:

SHEET 1 / 3

5/30/2007



## MAGNUM VENUS PRODUCTS

POWER HEAD - 3-1/4" ODA

PRO2-PH-3250

REV:

SHEET 2 / 3

5/30/2007

| PAT-PH-3250 PARTS LIST |                 |       |                              |
|------------------------|-----------------|-------|------------------------------|
| ITEM                   | PART NUMBER     | QTY   | DESCRIPTION                  |
| 1                      | PRO2-PH-3204    | 1     | LOWER END CAP                |
| 2                      | MPH-2511        | 2     | COMPRESSION SPRING           |
| 3                      | MPH-2540        | 2     | INLET ROD- PILOT VALVE       |
| * 4                    | O-B-012         | 6     | O-RING                       |
| 5                      | MPH-2518        | 2     | SPRING                       |
| 6                      | MPH-2526        | 2     | SPRING                       |
| * 7                    | O-U-006         | 2     | O-RING                       |
| 8                      | MPH-2512        | 2     | SEAL GUIDE- PILOT VALVE      |
| * 9                    | O-B-008         | 4     | O-RING                       |
| 10                     | MPH-2513        | 2     | VALVE STEM- PILOT VALVE      |
| 11                     | MPH-2511-01     | 2     | STEM SEAL ASSY- PILOT VALVE  |
| 12                     | MPH-2541        | 2     | SPRING HOUSING- PILOT VALVE  |
| 13                     | PAT-PH-3203     | 1     | CYLINDER - Ø3-1/4" 2" STROKE |
| * 14                   | O-B-152         | 2     | O-RING                       |
| 15                     | PAT-PH-3206     | 3     | TIE ROD                      |
| 16                     | PRO2-PH-3212    | 1     | UPPER END CAP                |
| 17                     | MPH-4254        | 2     | BUSHING- 7/8 DIA. PISTON ROD |
| * 18                   | O-B-118         | 2     | O-RING                       |
| * 19                   | O-B-121         | 2     | O-RING                       |
| 20                     | MPH-3261        | 2     | SNAP RING - EXTERNAL         |
| 21                     | F-HN-05F        | 6     | HEX NUT                      |
| 22                     | PAT-PH-5009     | 1     | LOWER ROD                    |
| 23                     | PAT-PH-5008     | 1     | UPPER ROD ASSY               |
| 24                     | MPH-3251        | 1     | PISTON - 3-1/4" POWER HEAD   |
| 25                     | PAT-PH-5011     | 4     | TIE ROD                      |
| 26                     | F-HB-06C-24-GRD | 4     | HEX BOLT                     |
| 27                     | F-HB-05C-12     | 2     | HEX BOLT - 1/2" Inch         |
| 28                     | PRO2-PH-3201    | 1     | UPPER VALVE BLOCK            |
| 29                     | PRO2-PH-3202    | 1     | LOWER VALVE BLOCK            |
| 30                     | PAT-PH-9205     | 1     | VALVE ROD POPPET             |
| 31                     | MPH-2517        | 2     | VALVE PISTON                 |
| * 32                   | O-U-204-90      | 2     | O-RING                       |
| * 33                   | O-B-116         | 2     | O-RING                       |
| * 34                   | O-D-010-90      | 2     | O-RING                       |
| 35                     | MPH-3262        | 2     | PISTON STOP                  |
| * 36                   | O-B-020         | 2     | O-RING                       |
| 37                     | F-HB-04C-08     | 2     | HEX BOLT - 1/2" Inch         |
| * 38                   | O-B-013         | 2     | O-RING                       |
| 40                     | F-SS-631-01-SS  | 4     | SS SET SCREW                 |
| 41                     | F-CS-04C-32-SS  | 4     | SOCKET HEAD CAP SCREW        |
| * 42                   | MPH-2529        | 2     | DIAPHRAGM                    |
| 43                     | MPH-2523        | 2     | VALVE EXHAUST PORT           |
| 44                     | F-CS-1024-06-SS | 4     | CAP SCREW                    |
| 45                     | MPH-2521        | 2     | VALVE END CAP                |
| * 46                   | O-B-019         | 2     | O-RING                       |
| 47                     | PF-AP-02-SS     | 2     | PIPE PLUG                    |
| * 48                   | O-B-404         | 2     | O-RING                       |
| * 49                   | O-B-336         | 1     | O-RING                       |
| 50                     | MPH-2539        | 1     | MALE ELBOW                   |
| 51                     | MPH-2538        | 1     | MALE POLY TEE FITTING        |
| 52                     | MS-2052-1       | 40 FT | TUBING                       |
| 53                     | PAT-PH-3210-01  | 1     | MUFFLER ASSY. -2" STROKE     |
| 54                     | MPH-2546-01     | 1     | RESET STEM ASSEMBLY          |
| 55                     | PF-ST-02-BR     | 1     | TEE FITTING                  |
| 56                     | MPH-2545        | 1     | SEAL                         |
| 57                     | F-SW-08         | 4     | LOCK WASHER                  |
| 58                     | F-HB-04C-56-SS  | 2     | HEX BOLT                     |
| 59                     | F-SW-04-SS      | 2     | LOCK WASHER                  |
| 60                     | PF-HN-08-08S    | 1     | HOSE ADAPTER                 |
| 61                     | F-FW-08         | 2     | FLAT WASHER                  |

\* ASTERISKS DENOTE PARTS INCLUDED IN PAT-PH-3250-SK SEAL KIT  
OPTIONAL PARTS AND ASSEMBLIES

| PART No.  | QTY. | DESCRIPTION       |
|-----------|------|-------------------|
| MPH-2542  | 1    | RESET PUTTON ASSY |
| PAT-PH-SB | 1    | SHIFT BLOCK ASSY  |

## MAGNUM VENUS PRODUCTS

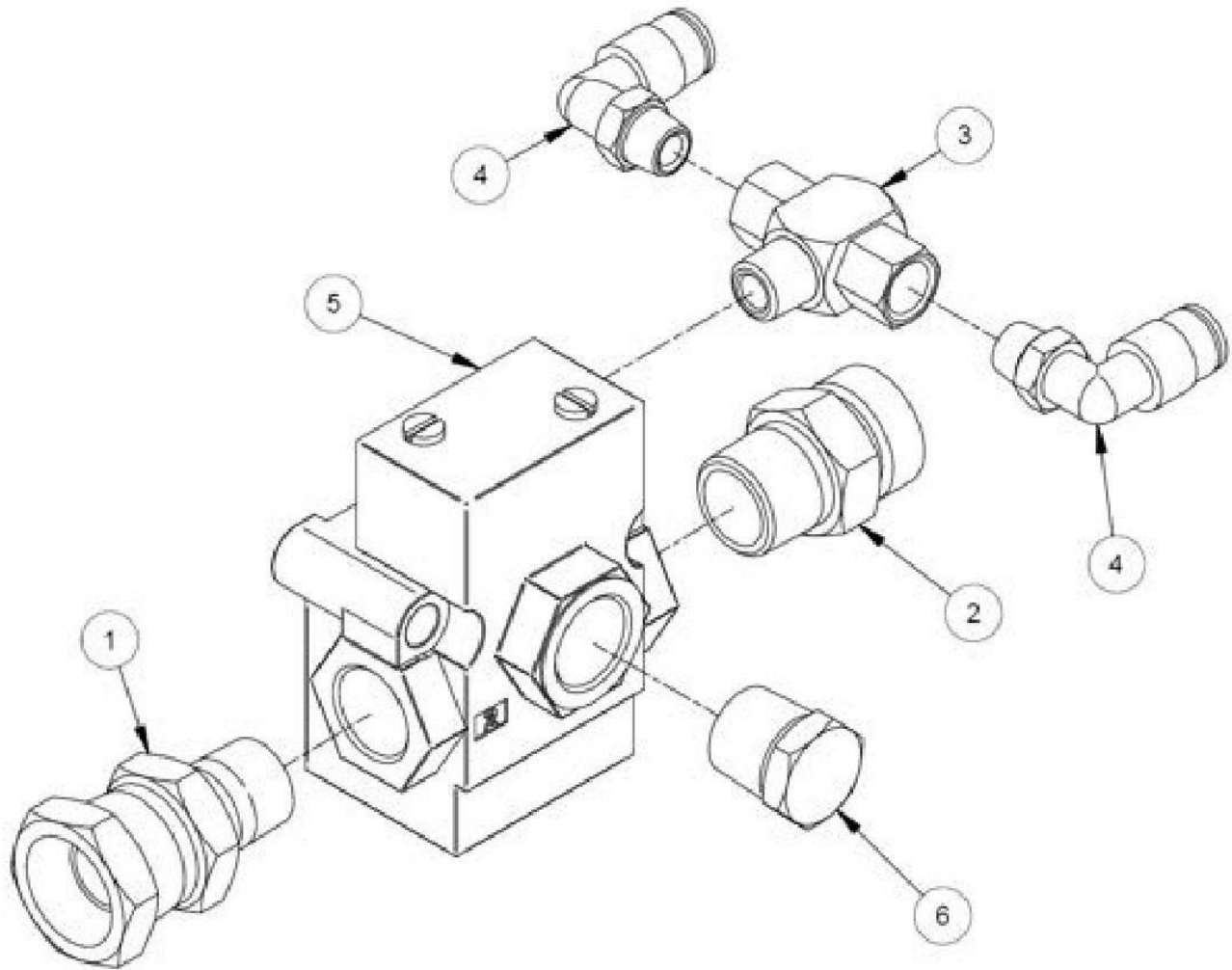
POWER HEAD - 3-1/4" DIA

PRO2-PH-3250

REV:

SHEET 3 / 3

5/30/2007



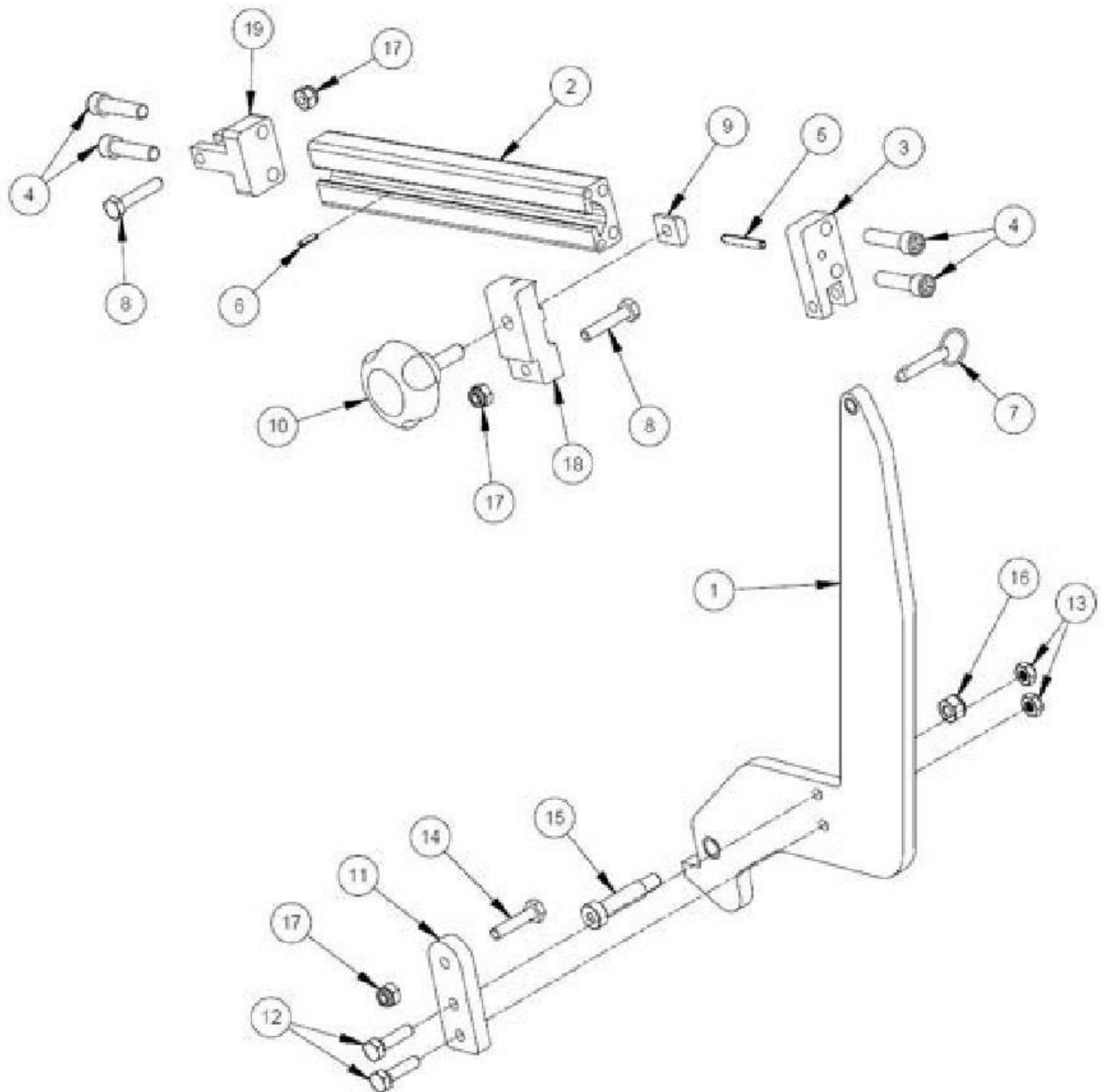
| Parts List |               |     |                     |
|------------|---------------|-----|---------------------|
| ITEM       | PART NUMBER   | QTY | DESCRIPTION         |
| 1          | PF-SW-06M-08F | 1   | PIPE SWIVEL         |
| 2          | PF-HN-06-08S  | 1   | HOSE ADAPTER        |
| 3          | 8407-3-1      | 1   | SHUTTLE VALVE       |
| 4          | MPH-2539      | 2   | MALE ELBOW          |
| 5          | PV-101        | 1   | PILOTED VALVE 2-WAY |
| 6          | PF-HP-06      | 1   | HEX PIPE PLUG       |

## MAGNUM VENUS PRODUCTS

ASSY - PATRIOT SAFETY VALVE

PAT-SV-1

REV:01/19/12



## MAGNUM VENUS PRODUCTS

SLAVE DRIVE ASSEMBLY

PRO2-SD-3100

REV:

SHEET 1 / 2

2/13/2019

| Parts List |               |     |                       |
|------------|---------------|-----|-----------------------|
| ITEM       | PART NUMBER   | QTY | DESCRIPTION           |
| 1          | PRO2-SD-3101  | 1   | L-ARM ASSEMBLY        |
| 2          | PRO2-SD-3102  | 1   | SLAVE ARM             |
| 3          | PAT-SD-3103   | 1   | CLEVIS BLOCK          |
| 4          | F-CS-05C-20   | 4   | SOCKET HEAD CAP SCREW |
| 5          | F-RP-03-20    | 1   | ROLL PIN              |
| 6          | F-RP-02-08    | 1   | ROLL PIN              |
| 7          | F-QP-04-16-SS | 1   | QUICK PIN             |
| 8          | 02966         | 2   | AIRCRAFT BOLT         |
| 9          | PAT-SD-3108   | 1   | T-NUT                 |
| 10         | PAT-SD-3105   | 1   | KNOB                  |
| 11         | PAT-SD-3107   | 1   | ALIGNMENT PLATE       |
| 12         | F-HB-04C-16   | 2   | HEX BOLT              |
| 13         | F-TLN-04C     | 2   | THIN LOCK NUT         |
| 14         | F-AB-04F-19   | 1   | AIRCRAFT BOLT         |
| 15         | APS-1018      | 1   | SHOULDER BOLT         |
| 16         | F-LN-05C      | 1   | LOCK NUT              |
| 17         | F-LN-04F      | 3   | LOCK NUT              |
| 18         | PAT-SD-3113   | 1   | SLIDE CLEVIS          |
| 19         | PAT-SD-3109   | 1   | CLEVIS BLOCK          |

## MAGNUM VENUS PRODUCTS

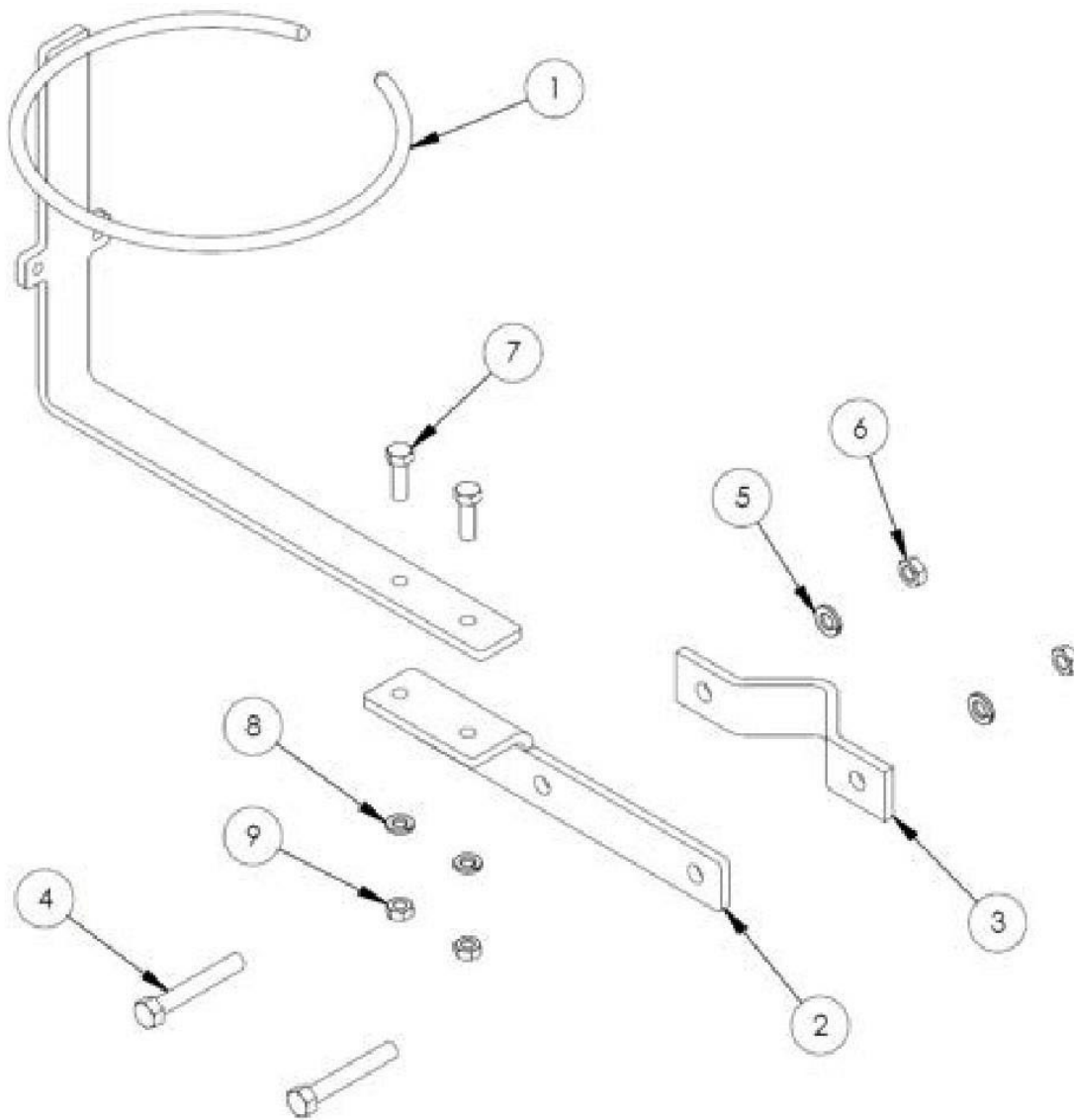
SLAVE DRIVE ASSEMBLY

PRO2-SD-3100

REV:

SHEET 2 / 2

2/13/2019



## MAGNUM VENUS PRODUCTS

CATALYST JUG BRACKET - GRAVITY FEED

VDC-BRKT-CJ-100

REV:

SHEET 1 / 2

4/16/2019

| Parts List |                 |     |                 |
|------------|-----------------|-----|-----------------|
| ITEM       | PART NUMBER     | QTY | DESCRIPTION     |
| 1          | VDC-BRKT-CJ-1   | 1   | CAT JUG BRACKET |
| 2          | VDC-BRKT-CJ-4   | 1   | MOUNT ADAPTER   |
| 3          | COL-CLMP        | 1   | COLUMN CLAMP    |
| 4          | F-HB-06C-40-GR5 | 2   | HEX BOLT        |
| 5          | F-SW-06         | 2   | LOCK WASHER     |
| 6          | F-HN-06C        | 2   | HEX NUT         |
| 7          | F-HB-05C-16     | 2   | HEX BOLT        |
| 8          | F-SW-05         | 2   | LOCK WASHER     |
| 9          | F-HN-05C        | 2   | HEX NUT         |

## MAGNUM VENUS PRODUCTS

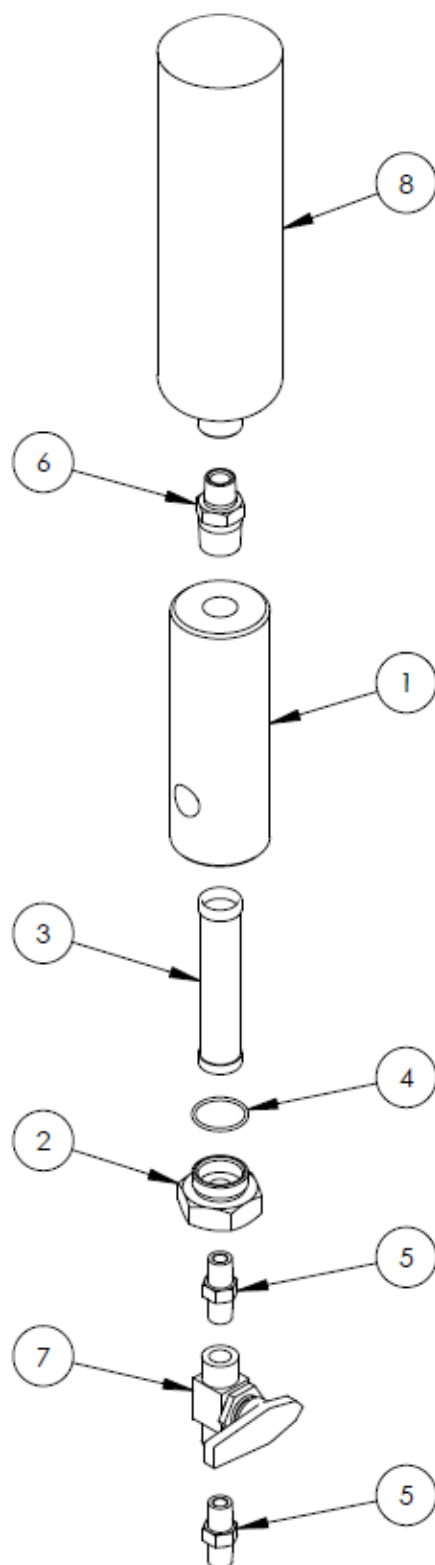
CATALYST JUG BRACKET - GRAVITY FEED

VDC-BRKT-CJ-100

REV:

SHEET 2 / 2

4/16/2019



## MAGNUM VENUS PRODUCTS

FLUID FILTER WITH RELIEF VALVE

FF-5000R-100-A

REV:A 05/25/2023

SHEET 1 / 2

7/15/2021



| Parts List |              |     |                        |
|------------|--------------|-----|------------------------|
| ITEM       | PART NUMBER  | QTY | DESCRIPTION            |
| 1          | FF-5001      | 1   | FILTER BODY            |
| 2          | FF-5002-SS   | 1   | FILTER CAP             |
| 3          | FF-5099-100  | 1   | FILTER SCREEN 100 MESH |
| 4          | O-E-022      | 1   | O-RING                 |
| 5          | PF-HN-04-SS  | 2   | HEX NIPPLE             |
| 6          | PF-HN-08-06  | 1   | HEX NIPPLE             |
| 7          | BV-44-XHP-SS | 1   | BALL VALVE             |
| 8          | SC-2510      | 1   | SURGE CHAMBER          |

## MAGNUM VENUS PRODUCTS

FLUID FILTER WITH RELIEF VALVE

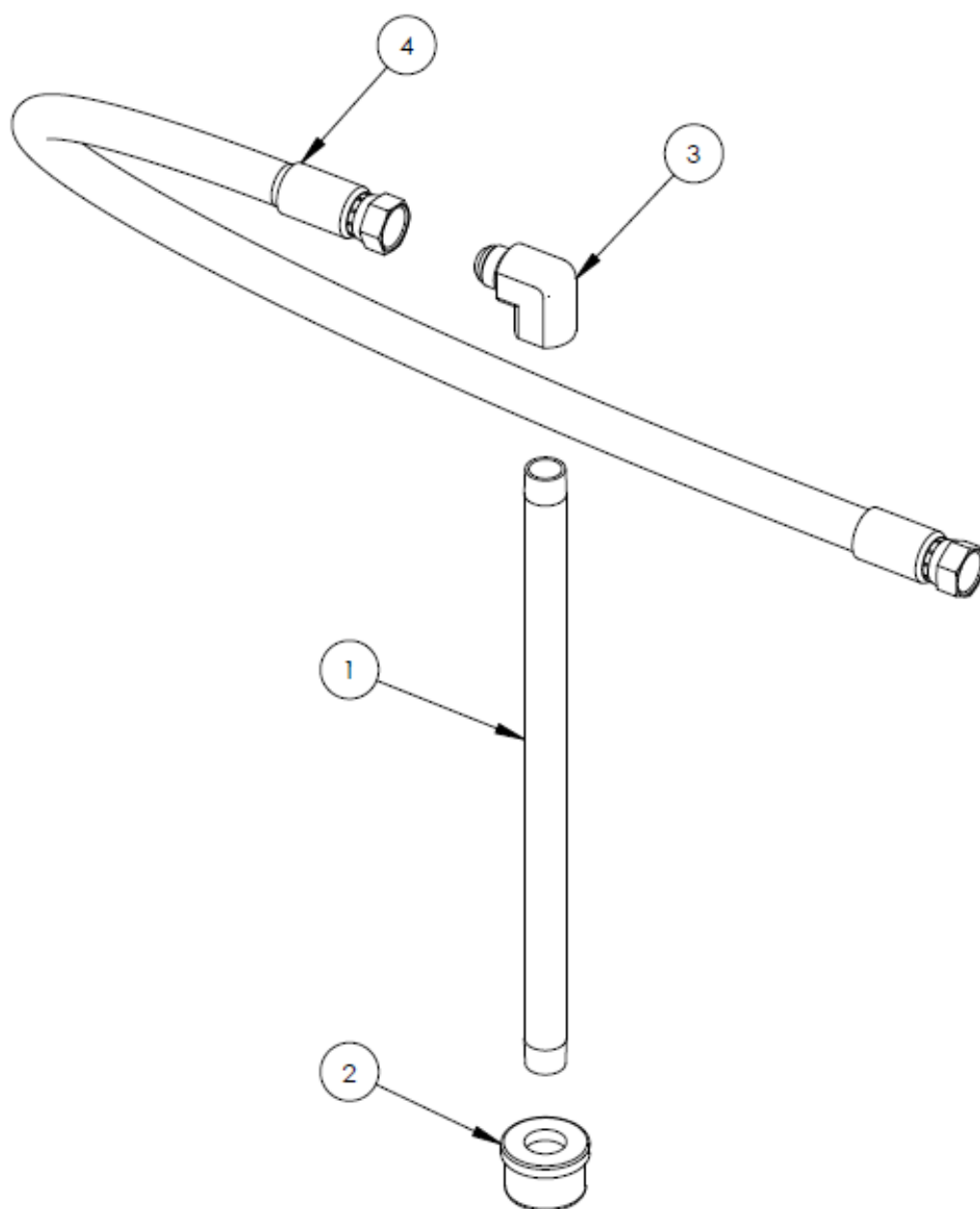
FF-5000R-100-A

REV:A 05/25/2023

SHEET 2 / 2

7/15/2021





## MAGNUM VENUS PRODUCTS

3/4 SIPHON ASSEMBLY - 4 FT HOSE

HSA-1000-5-4

REV:-

SHEET 1 / 2

2/21/2019

| Parts List |                |     |               |
|------------|----------------|-----|---------------|
| ITEM       | PART NUMBER    | QTY | DESCRIPTION   |
| 1          | HSA-1001-5     | 1   | SIPHON TUBE   |
| 2          | BF-14-467      | 1   | BASKET FILTER |
| 3          | PF-SE-12-12J   | 1   | STREET ELBOW  |
| 4          | HFL-1212J12J-4 | 1   | HOSE ASSEMBLY |

## MAGNUM VENUS PRODUCTS

3/4 SIPHON ASSEMBLY - 4 FT HOSE

HSA-1000-5-4

REV:-

SHEET 2 / 2

2/21/2019



## Kits Drawings

### CPMB-2000-A-RK REPAIR KIT

|       |                                                                                     |                              |      |                                                                                    |                               |
|-------|-------------------------------------------------------------------------------------|------------------------------|------|------------------------------------------------------------------------------------|-------------------------------|
| 3 PCS |    | O-E-3-904 O-RING             | 1 PC |   | 5104-6-1 TEFLON CATALYST SEAL |
| 1 PC  |    | O-E-5-125 O-RING             |      |                                                                                    |                               |
| 1 PC  |    | O-F-3-903 O-RING             | 1 PC |  | 5107-27-3 TURBULENT MIXER     |
| 2 PCS |    | O-V-013 O-RING               | 1 PC |  | 6705-1-1 PACKING BIT          |
| 3 PCS |    | O-V-020 O-RING               |      |                                                                                    |                               |
| 1 PC  |    | 5104-13-1-PTFE INJECTOR SEAL |      |                                                                                    |                               |
| 4 PCS |  | 5106-3-1 GUN BLOCK SEAL      |      |                                                                                    |                               |
| 2 PCS |  | 5104-3-1 SECONDARY SEAL      |      |                                                                                    |                               |
| 1 PC  |  | 5104-21-1 SPLIT SEAL         |      |                                                                                    |                               |
| 1 PC  |  | 5104-12-1 MIX HOUSING SEAL   |      |                                                                                    |                               |
| 2 PCS |  | 5104-7-1-PPS PACKING RING    |      |                                                                                    |                               |
| 1 PC  |  | 02030-1 SEAL                 |      |                                                                                    |                               |
| 1 PC  |  | 5104-5-1 TEFLON RESIN SEAL   |      |                                                                                    |                               |

## PAT-CP-0550-316-SK SEAL KIT



1 PC  
O-F-014 O-RING



2 PCS  
O-F-013 O-RING



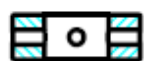
1 PC  
O-F-010 O-RING



1 PC  
O-F-110 O-RING



1 PC  
7304-1-1 PISTON SEAL



1 PC  
PAT-CP-0507-PTFE LEAK SPACER



2 PCS  
PAT-CP-0501-PTFE CUP SEAL



1 PC  
4102-8-1 PISTON GUIDE

PAT-PH-3250-SK  
SEAL KIT 3-1/4" AIR MOTOR

2 PCS  
O-U-006 O-RING

4 PCS  
O-B-008 O-RING

6 PCS  
O-B-012 O-RING

2 PCS  
O-B-013 O-RING

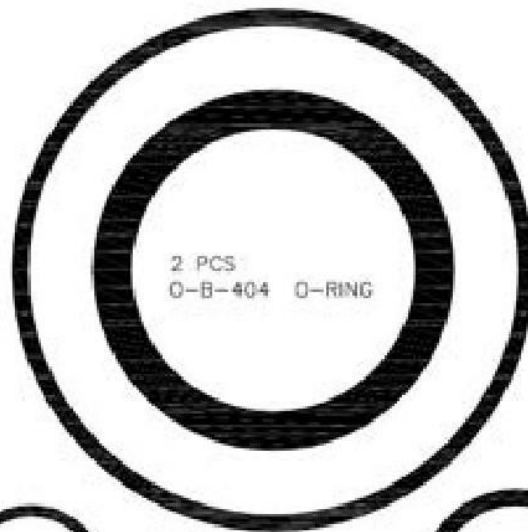
2 PCS  
O-B-116 O-RING

2 PCS  
O-B-019 O-RING

2 PCS  
O-B-118 O-RING

2 PCS  
O-U-204-90 O-RING

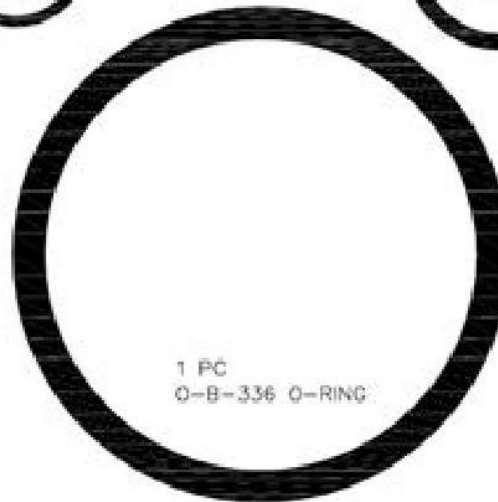
2 PCS  
O-D-010-90 O-RING



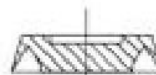
3 PCS  
O-B-020  
O-RING

2 PCS  
O-B-152 O-RING

2 PCS  
O-B-121  
O-RING



1 PC  
O-B-336 O-RING



2 PCS  
MPH-2529 1/4" DIAPHRAGM

PRO2-LS-06010-17-4-SK  
SEAL REPAIR KIT



2 PCS  
PAT-LS-0616-SP-PTFE SEAL



1 PC  
PAT-LS-1016-SP-PTFE SEAL



1 PC  
O-E-030 O-RING



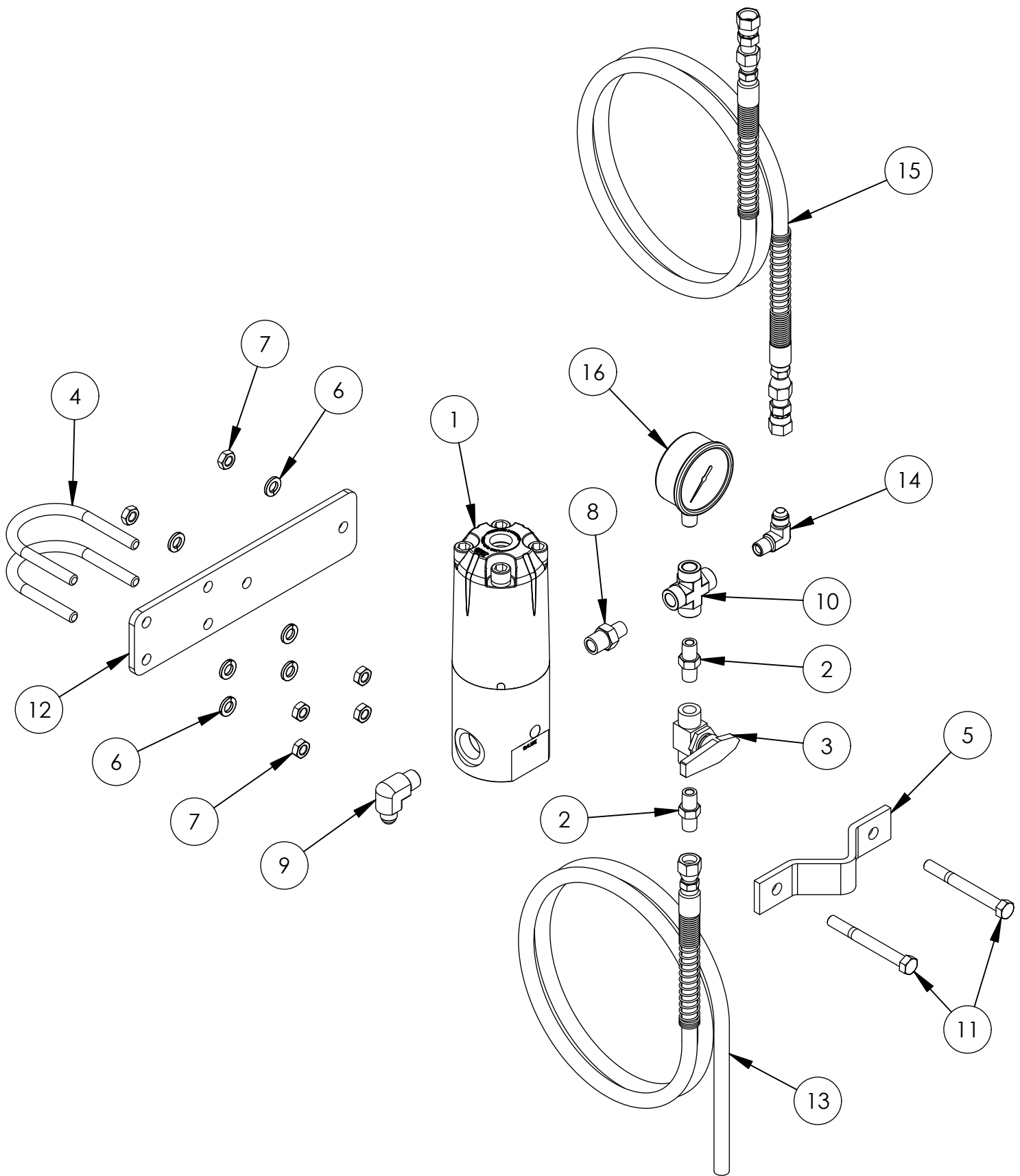
1 PC  
O-E-3-916 O-RING



1 PC  
O-E-116 O-RING

## RV-1000-316-SK SEAL KIT

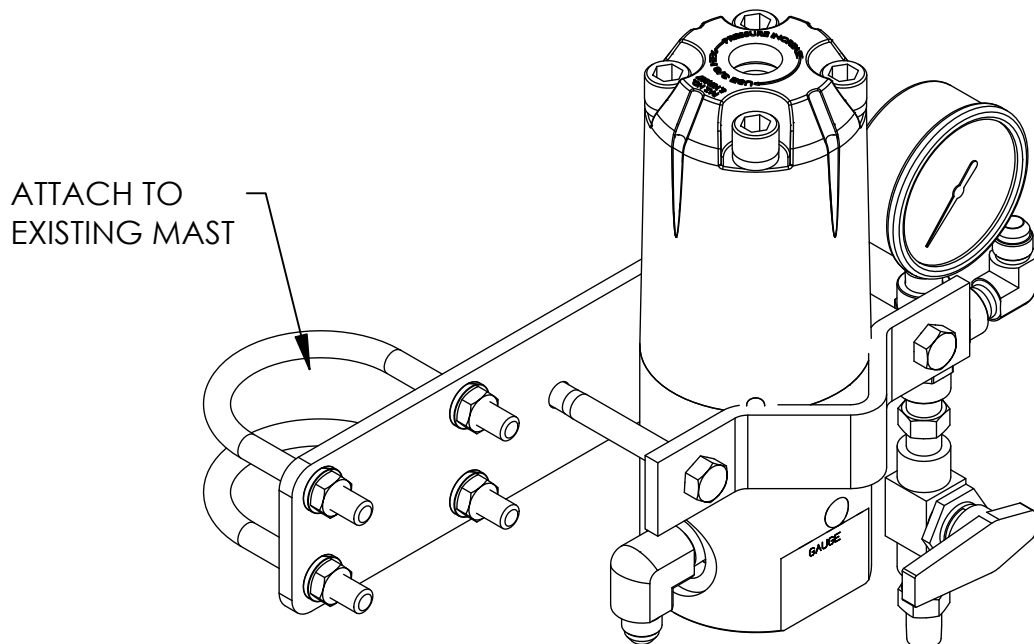
|       |                                                                                    |         |        |
|-------|------------------------------------------------------------------------------------|---------|--------|
| 1 PC  |   | O-F-006 | O-RING |
| 1 PC  |   | O-F-104 | O-RING |
| 1 PC  |   | O-F-011 | O-RING |
| 1 PC  |   | O-F-013 | O-RING |
| 2 PCS |  | O-F-017 | O-RING |



# MAGNUM VENUS PRODUCTS

|                         |             |
|-------------------------|-------------|
| FLUID REGULATOR PACKAGE | ACE-FR-1000 |
|-------------------------|-------------|

| Parts List |                 |     |                         |
|------------|-----------------|-----|-------------------------|
| ITEM       | PART NUMBER     | QTY | DESCRIPTION             |
| 1          | 651780-B3A-B    | 1   | FLUID REGULATOR         |
| 2          | PF-HN-04-SS     | 2   | HEX NIPPLE              |
| 3          | BV-44-XHP-SS    | 1   | BALL VALVE              |
| 4          | F-UB-06C-40     | 2   | U-BOLT                  |
| 5          | COL-CLMP        | 1   | COLUMN CLAMP            |
| 6          | F-SW-06         | 6   | LOCK WASHER             |
| 7          | F-HN-06C        | 6   | HEX NUT                 |
| 8          | PF-HN-06-04-SS  | 1   | HEX NIPPLE              |
| 9          | PF-ME-06-06J-SS | 1   | MALE ELBOW              |
| 10         | PF-CF-04-SS     | 1   | FEMALE CROSS            |
| 11         | F-HB-06C-56     | 2   | HEX BOLT - Inch         |
| 12         | ACE-BRKT-FR-1   | 1   | FLUID REGULATOR BRACKET |
| 13         | HAW-044-4       | 1   | HP HOSE ASSEMBLY        |
| 14         | PF-ME-04-06J-SS | 1   | MALE ELBOW              |
| 15         | HAW-046J6J-5    | 1   | HOSE ASSEMBLY           |
| 16         | MRD-1005-2000   | 1   | 2000 LB. GAUGE          |



# MAGNUM VENUS PRODUCTS

FLUID REGULATOR PACKAGE

ACE-FR-1000

# OPERATOR'S MANUAL

# 65178X-XXX-B

INCLUDING: SERVICE KITS, TROUBLESHOOTING, PARTS LIST,  
DISASSEMBLY & REASSEMBLY.

RELEASED: 2-12-93  
REVISED: 1-11-08  
(REV. F)

## HIGH PRESSURE MATERIAL REGULATOR



**READ THIS MANUAL CAREFULLY BEFORE INSTALLING,  
OPERATING OR SERVICING THIS EQUIPMENT.**

It is the responsibility of the employer to place this information in the hands of the operator. Keep for future reference.

### SERVICE KITS

- Use only genuine ARO® replacement parts to assure compatible pressure rating and longest service life.
- Order 637219-XXX-B rebuild kit (see chart below) for general repair of the regulator. This includes a diaphragm kit and a valve kit.
- Fluid diaphragm kit 61962-1 can be ordered separately (see page 4).
- Valve kit can be ordered separately (see page 4).

### REBUILD KIT DESCRIPTION CHART

637219 - X X 1 - B

**Type**  
0 - Downstream  
1 - Back Pressure

**Ball Size**  
A - 0.1875"  
B - 0.250"  
C - 0.500"

**Ball & Seat Material**  
1 - Tungsten Carbide

**Rebuild Kit Selection**  
Example: Model # 651780-A3B-B  
Rebuild Kit # 637219-0A1-B

### SPECIFICATIONS

|                               |                                                                   |
|-------------------------------|-------------------------------------------------------------------|
| <b>Model Series</b> .....     | 65178X-XXX-B                                                      |
| <b>Type</b> .....             | 651780-XXX-B ..... Downstream<br>651781-XXX-B ..... Back Pressure |
| <b>Material Inlet</b> .....   | see model chart                                                   |
| <b>Material Outlet</b> .....  | see model chart                                                   |
| <b>Dimensional Data</b> ..... | see figure 10                                                     |

### PERFORMANCE DATA

|                                         |                              |
|-----------------------------------------|------------------------------|
| <b>Regulated Pressure Range</b> .....   | see model chart              |
| <b>Maximum Regulated Pressure</b> ..... | see model chart              |
| <b>Maximum Inlet Pressure</b>           |                              |
| 651780-XXA-B .....                      | 3000 p.s.i. (206.9 bar)      |
| 651780-XXB-B, -XXC-B, -XXR-B .....      | 6000 p.s.i. (413.8 bar)      |
| 651781-XXX-B .....                      | 3000 p.s.i. (206.9 bar)      |
| <b>Maximum Temperature Limits</b> ..... | 0° to 200° F (-18° to 93° C) |

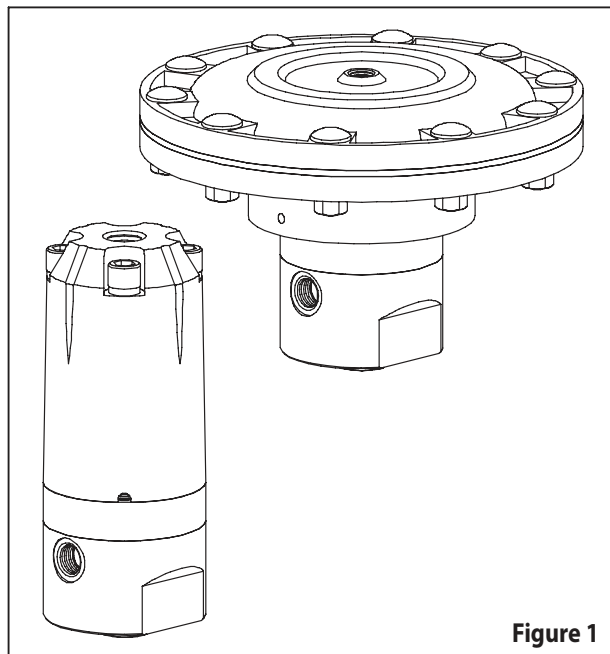


Figure 1

### MODEL DESCRIPTION CHART

65178 X - X X X - B

**Type**  
0 - Downstream  
1 - Back Pressure

**Port Size, (Ball Size)**  
A - 3/8 - 18 N.P.T.F. (0.1875")  
B - 3/8 - 18 N.P.T.F. (0.2500")  
C - 3/4 - 14 N.P.T.F. (0.500")

**Body Material, (Seat Material)**  
1 - Carbon Steel (Tungsten Carbide)  
3 - 316 Stainless Steel (Tungsten Carbide)

**Regulated / Maximum Pressure Range**  
A - 400 - 1250 p.s.i. (27.6 - 86.2 bar)  
B - 100 - 3000 p.s.i. (6.9 - 206.9 bar) Back Pressure models  
- 1000 - 3000 p.s.i. (69 - 206.9 bar) -AXB and -BXB  
Downstream models  
- 750 - 2500 p.s.i. (51.7 - 172.4 bar) -CXB Downstream models  
C - 2000 - 5000 p.s.i. (137.9 - 344.8 bar)  
R - 400 - 5000 p.s.i. (27.6 - 344.8 bar) -AXR and -BXR models  
- 750 - 5000 p.s.i. (51.7 - 344.8 bar) -CXR models

## OPERATING AND SAFETY PRECAUTIONS



EXCESSIVE AIR PRESSURE  
STATIC SPARK



HAZARDOUS MATERIALS  
HAZARDOUS PRESSURE

- Read and heed all warnings, cautions and safety precautions before operation of this unit.
- Be certain anyone operating this equipment or fluid system has been trained to use it safely.

**⚠ WARNING HIGH PRESSURE DEVICE.** Improper usage of this equipment could result in serious injury. The possibility of injection into the flesh is a potential hazard. Wear approved safety glasses or face shield and other equipment as needed to prevent injury. Never allow any part of the human body to come in front of or in contact with the material outlet, the tip, or the material outlet of the dispensing device. An injection injury can be serious. If an injection accident should occur, it is very important that you contact a qualified physician for immediate treatment.

**⚠ WARNING MISAPPLICATION HAZARD.** Do not use the regulator when the fluid inlet pressure is too high for the designed operating range. Excessive inlet pressure can cause a lock-out situation. Lock-out occurs when the inlet pressure is beyond the regulator's spring capacity. The valve will not open. Attempts to disassemble components while in a lock-out condition may result in injury.

**⚠ WARNING COMPONENT RUPTURE.** Do not operate regulator at an inlet pressure greater than specified. To avoid possible damage or personal injury do not operate this unit at pressure higher than the stated operating range as it appears on the model plate.

**⚠ WARNING DISASSEMBLY HAZARD.** Do not disassemble this regulator when it is under pressure. Relieve pressure in the pumping system before attempting service or disassembly procedures. Disconnect air lines and carefully bleed pressure off the system. Be certain the system is not maintaining pressure due to a material restriction in the hose, line, dispensing device, or the spray or extrusion tip. Failure to relieve pressure both up stream and downstream may result in an injury upon disassembly.

**⚠ WARNING BONNET REMOVAL HAZARD.** Do not attempt to remove the four bonnet retaining bolts without first relieving the tension on the main spring. Failure to relieve tension could result in an accident upon disassembly.

**⚠ WARNING PREVENT FIRES.** Keep solvents away from heat, sparks or open flame. Keep containers closed when not in use. When pumping, flushing or recirculating volatile solvents, be certain the area is adequately ventilated.

**⚠ CAUTION FLUSH SUPPLY LINE.** Before installing fluid regulator blow the supply lines clear and flush to remove contaminants.

**⚠ WARNING** = Hazards or unsafe practices which could result in severe personal injury, death or substantial property damage.

**⚠ CAUTION** = Hazards or unsafe practices which could result in minor personal injury, product or property damage.

**NOTICE** = Important installation, operation or maintenance information.

## INSTALLATION

- Refer to the typical installation view which best applies.
- Locate the regulator as close as possible to the spray gun or dispensing device for best pressure control.
- Identify the regulator INLET / OUTLET (flow direction). The regulator is marked with an arrow on the body base (refer to figure 10).
- When flexible fluid lines are used, mount the regulator securely using the (2) 1/4" - 20 threaded holes in the base (see figure 10).
- Flush supply line before installing regulator.
- Remote models require maximum 100 p.s.i. (6.9 bar) signal pressure. Start with a signal pressure as low as possible and adjust upward until proper flow is reached.

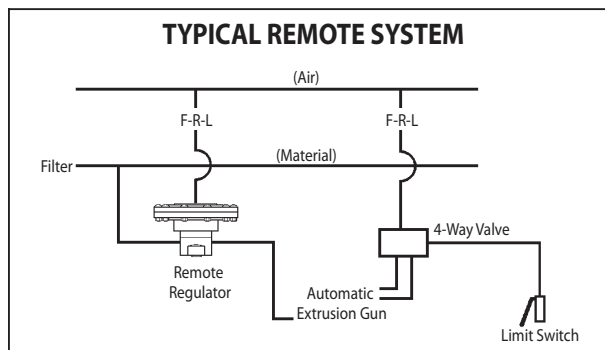
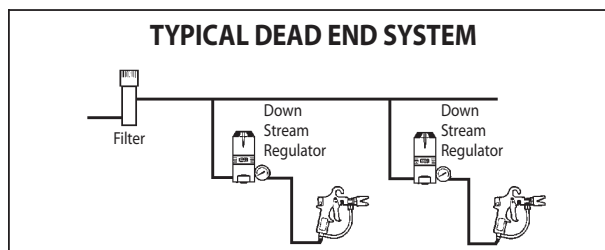
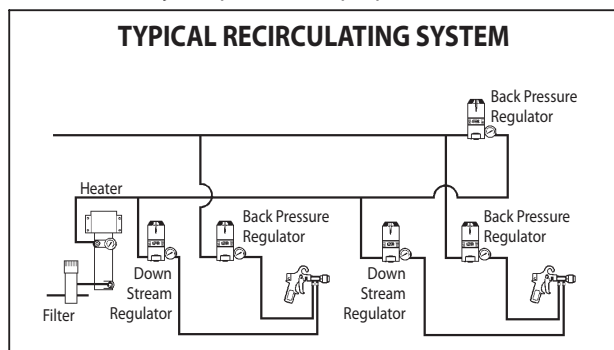


Figure 2

• ARO® is a registered trademark of Ingersoll Rand Company • Loctite® and 242® are registered trademarks of Henkel Loctite Corporation •  
• 271™ and 680™ are trademarks of Henkel Loctite Corporation • Hytrel® is a registered trademark of the DuPont Company •  
• Perma-lok® is a registered trademark of National Starch and Chemical Corporation •

## OPERATING INSTRUCTIONS

Refer to pages 4 and 5 for parts reference.

- To **INCREASE** outlet pressure, turn the (6) adjusting screw **CLOCKWISE** (see figure 3).
- To **DECREASE** outlet pressure, turn the (6) adjusting screw **COUNTERCLOCKWISE** (see figure 3).

NOTE: Part Y106-109 Allen wrench is included to make necessary pressure adjustments.

### FLUSH-OUT FEATURE FOR DOWNSTREAM MODELS ONLY.

See figure 4.

- Flush the regulator periodically. The interval may vary depending on the amount and type of material used.
- By using a wrench and "flush-out" plug (provided), the operator is able to move the entire spindle downward and force the ball off the seat which should purge the regulator of particle build-up.

NOTE: The flush-out procedure temporarily overrides the adjusted pressure. It will not, however, affect the regulator setting when flushing operation is completed.

### FLUSH-OUT PROCEDURE

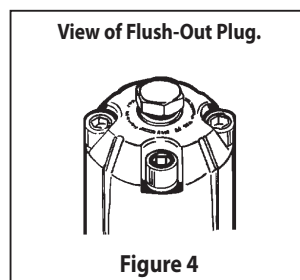
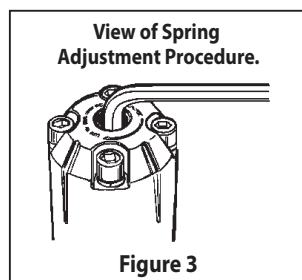
1. Remove spray gun or dispensing device, this will allow any particles to clear from the system.
2. Insert (21) flush-out plug and turn clockwise until it touches the (4) washer (see view on page 5).
3. Turn up to two turns maximum. This will allow the ball to unseat and pass material at free flow (unregulated). **DO NOT** attempt to turn further to avoid damage.
4. Turn the plug back to its original position.

### SEAT PLUG FEATURE

The (47) plug, located at the base of the regulator, can be removed for access to the ball and seat assembly for cleaning and inspection for wear. With this feature, the regulator does not have to be unthreaded from the pumping system. Be certain to relieve system pressure (See "WARNING: DISASSEMBLY HAZARD").

## MAINTENANCE

- Disassembly should be done on a clean work bench and use clean cloths.
- If replacement parts are necessary, refer to the parts list and drawings on pages 4 and 5.
- Upon reassembly, lubricate parts and use Loctite where indicated. Follow the torque specifications as shown.
- Service kits are available, which include parts typically needed for an overhaul.
- Keep good records of service activity and include the regulator in a preventive maintenance program.
- Certain "Smart Parts" are indicated with a "□" in the parts list, these parts should be available for fast repair and reduction of down time.



## TROUBLE SHOOTING

### No fluid pressure.

- Check for damaged or worn diaphragms.
- Look for possible obstruction by hardened material or foreign matter, periodically use the regulator "Flush-out" feature (Downstream models only). Use a fluid filter upstream from the regulator.

### Pressure creeps above the setting when system is dead ended and in a static (no flow) mode.

- Check for dirty seat and clean as appropriate.
- Check for worn or damaged seat and replace if necessary.

### Outlet pressure drops below setting.

- Check pump for proper operation and check for possible leakage problems.
- Look for a clogged supply line problem, flush the supply line.

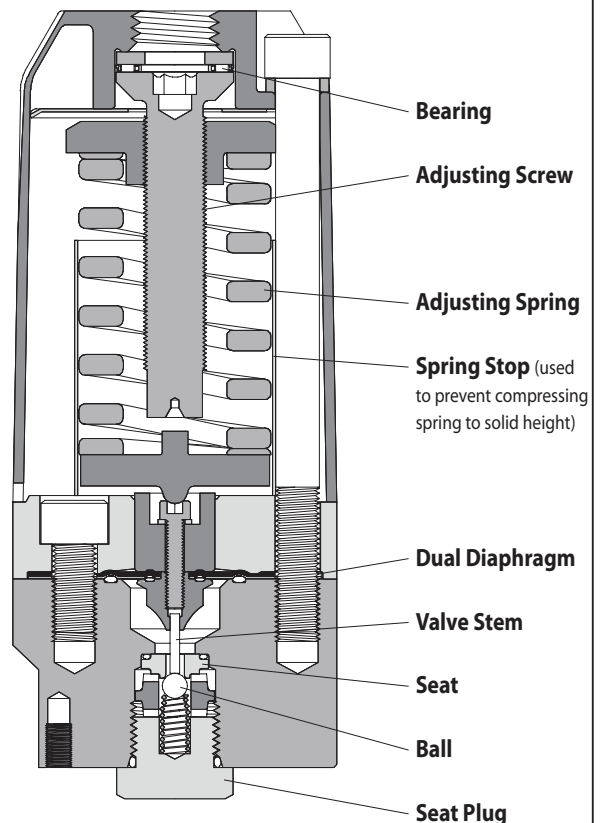
### Fluid leakage from spring housing.

- Check the bonnet hold-down screws and the plate hold down screws and re-torque as needed.
- Check for damaged diaphragm, replace as needed.

### Regulator will not function, even when dispensing device is opened.

- Check for possible obstruction in the fluid line.
- Inlet pressure is too high, causing a "Lock-Out" situation. Read "WARNING: MISAPPLICATION HAZARD" found on page 2.

### Typical Downstream Regulator Cross Section View Showing Major Components.



## PARTS LIST / 65178X-XXX-B

### 65178X-XXX-B COMMON PARTS

| Item | Description (size)                                | (Qty) | Part No.  | [Mtl] | Item | Description (size)                                          | (Qty) | Part No. | [Mtl] |
|------|---------------------------------------------------|-------|-----------|-------|------|-------------------------------------------------------------|-------|----------|-------|
| 1    | Housing - 651780-XXX-B (downstream)               | (1)   | 93534-1 ☆ | [A]   | 14   | Screw (7/16" - 20 x 7/8")                                   | (2)   | Y157-778 | [C]   |
|      | 651781-XXX-B (back pressure)                      | (1)   | 93534-2 ☆ | [A]   | 15   | Plate                                                       | (1)   | 93532-1  | [C]   |
| 2    | Bolt (7/16" - 20 x 5-1/2")                        | (4)   | 93487-1   | [C]   | ✓ 16 | Diaphragm (0.048" thick, cream)                             | (1)   | 93498-1  | [H]   |
| 3    | Washer (7/16" i.d.)                               | (4)   | Y79-716   | [C]   | ✓ 17 | Diaphragm (0.020" thick, white)                             | (1)   | 93497-1  | [T]   |
| 4    | Washer (1.162" o.d. x 0.125" thick)               | (1)   | 93485-1   | [C]   | ✓ 18 | "O" Ring (3/32" x 1-3/8" o.d.)                              | (1)   | Y328-123 | [T]   |
| 5    | Thrust Bearing (1.173" o.d.)                      | (1)   | 93484-1   | [C]   | ✓ 19 | "O" Ring (1/16" x 9/16" o.d.)                               | (1)   | Y328-13  | [T]   |
| 6    | Adjusting Screw (5/8" - 24, left hand)            | (1)   | 93486-1   | [C]   | ❖ 20 | 3/8" Allen Wrench (not shown)                               | (1)   | Y106-109 | [C]   |
| 7    | Plate                                             | (1)   | 93818     | [SS]  | ❖ 21 | Flush-Out Plug (not shown) used on models 651780-XXX-B only | (1)   | 93819    | [C]   |
| 8    | Adjusting Nut                                     | (1)   | 93481-1   | [C]   | 22   | Spring Stop                                                 | (1)   | 96348-5  | [SS]  |
| 9    | Spring - 65178X-XXA-B (green, 100 - 1250 in. lbs) | (1)   | 93477-1   | [C]   | ✓    | Indicates parts included in the diaphragm service kit       |       | 61962-1  |       |
|      | 65178X-XXB-B (red, 1000 - 3000 in. lbs)           | (1)   | 93478-1   | [C]   | ❖    | Except models 651780-XXR-B                                  |       |          |       |
|      | 65178X-XXC-B (yellow, 2000 - 5000 in. lbs)        | (1)   | 93026     | [C]   |      |                                                             |       |          |       |
| 10   | Screw (#10 - 32 x 7/8")                           | (1)   | Y191-107  | [C]   |      |                                                             |       |          |       |
| 11   | Lockwasher (0.196" i.d.)                          | (1)   | Y14-10    | [C]   |      |                                                             |       |          |       |
| 12   | Small Plate                                       | (1)   | 93820     | [C]   |      |                                                             |       |          |       |
| 13   | Piston                                            | (1)   | 93821     | [C]   |      |                                                             |       |          |       |

#### MATERIAL CODE

[A] = Aluminum [SS] = Stainless Steel  
[C] = Carbon Steel [T] = PTFE  
[H] = Hytrel®

### 651780-XXX-B DOWNSTREAM REGULATORS

| Flow / Size | -XXX | Port Size N.P.T.F. | Ball Size | • Rebuild Kit | □ Valve Stem (40) | □ Valve Kit (41, 42, 43, 44) (see below) | □ Flow Tube (45) | "O" Ring (46) | □ Base Plug Ass'y (47) ○ | Base (48) | Pipe Plug (52) (2 req'd) |
|-------------|------|--------------------|-----------|---------------|-------------------|------------------------------------------|------------------|---------------|--------------------------|-----------|--------------------------|
| Standard    | -A1X | 3/8                | 0.1875"   | 637219-0A1-B  | 92985             | 62169                                    | 93489-1          | 93492-1       | 62168                    | 93540-1   | -----                    |
|             | -A3X | 3/8                | 0.1875"   | 637219-0A1-B  | 92985             | 62169                                    | 93489-1          | 93492-1       | 62168                    | 93541-1   | -----                    |
| Hi-Flow     | -B1X | 3/8                | 0.250"    | 637219-0B1-B  | 92985             | 62237                                    | 93489-1          | 93492-1       | 62168                    | 93540-1   | -----                    |
|             | -B3X | 3/8                | 0.250"    | 637219-0B1-B  | 92985             | 62237                                    | 93489-1          | 93492-1       | 62168                    | 93541-1   | -----                    |
| Mastic      | -C1X | 3/4                | 0.500"    | 637219-0C1-B  | 93778             | 61963-1                                  | 93490-1          | 93491-1       | 61956-1                  | 93536-1   | Y17-51-N                 |
|             | -C3X | 3/4                | 0.500"    | 637219-0C1-B  | 93778             | 61963-1                                  | 93490-1          | 93491-1       | 61957-1                  | 93537-1   | Y17-51-S                 |

### 651781-XXX-B BACK PRESSURE REGULATORS

| Flow / Size | -XXX | Port Size N.P.T.F. | Ball Size | • Rebuild Kit | □ Valve Stem (40) | □ Valve Kit (41, 42) (see below) | □ Flow Tube (45) | "O" Ring (46) | □ Base Plug Ass'y (47) ○ | Base (48) | Pipe Plug (52) |
|-------------|------|--------------------|-----------|---------------|-------------------|----------------------------------|------------------|---------------|--------------------------|-----------|----------------|
| Hi-Flow     | -B1X | 3/8                | 0.250"    | 637219-1B1-B  | 93565-1           | 61985-1                          | 93489-1          | 93492-1       | 62168                    | 93540-1   | -----          |
|             | -B3X | 3/8                | 0.250"    | 637219-1B1-B  | 93565-1           | 61985-1                          | 93489-1          | 93492-1       | 62168                    | 93541-1   | -----          |
| Mastic      | -C1X | 3/4                | 0.500"    | 637219-1C1-B  | 93518-1           | 61967-1                          | 93490-1          | 93491-1       | 61956-1                  | 93536-1   | Y17-51-N       |
|             | -C3X | 3/4                | 0.500"    | 637219-1C1-B  | 93518-1           | 61967-1                          | 93490-1          | 93491-1       | 61957-1                  | 93537-1   | Y17-51-S       |

#### DOWNSTREAM VALVE KITS

| Valve Kit | (41) "O" Ring | (42) Seat | (43) Ball | (44) Spring |
|-----------|---------------|-----------|-----------|-------------|
| 61963-1   | Y328-19       | 93522-1   | 93510-1   | 93480-1     |
| 62169     | Y328-14       | 93885     | 93508-1   | 93881       |
| 62237     | Y328-14       | 93558-1   | 93561-1   | 93881       |

#### BACK PRESSURE VALVE KITS

| Valve Kit | (41) "O" Ring | (42) Seat |
|-----------|---------------|-----------|
| 61967-1   | Y328-19       | 93522-1   |
| 61985-1   | Y328-14       | 93558-1   |

- NOTE: 637219-XXX-B rebuild kits include both 61962-1 diaphragm service kit and valve kit shown in the chart.
- "Smart parts", keep these items on hand in addition to the service kits for fast repair and reduction of down time.
- Includes item 46.
- ☆ See note on page 7.

# **ASSEMBLY TORQUE REQUIREMENTS**

NOTE: DO NOT OVERTIGHTEN FASTENERS.

(2) Torque alternately.

1.) Snug.

2.) 20 - 25 ft lbs. (27.1 - 33.9 Nm).

(10) 65 - 75 in. lbs. (7.3 - 8.5 Nm).

(14) Torque alternately.

1.) Snug.

2.) 20 - 25 ft lbs. (27.1 - 33.9 Nm).

3.) 50 - 55 ft lbs. (67.8 - 74.6 Nm).

## **LUBRICATION / SEALANTS**

① Apply "DRI-SLIDE" upon assembly.

② Apply Loctite® nickel anti-seize to threads.

③ Apply 40036 grease to threads.

④ Apply Loctite 271™ to threads.

⑤ Apply Perma-Lok® LH150 anaerobic pipe sealant to threads.

⑥ Apply Loctite nickel anti-seize to threads (except on models 65178X-X1X-B).

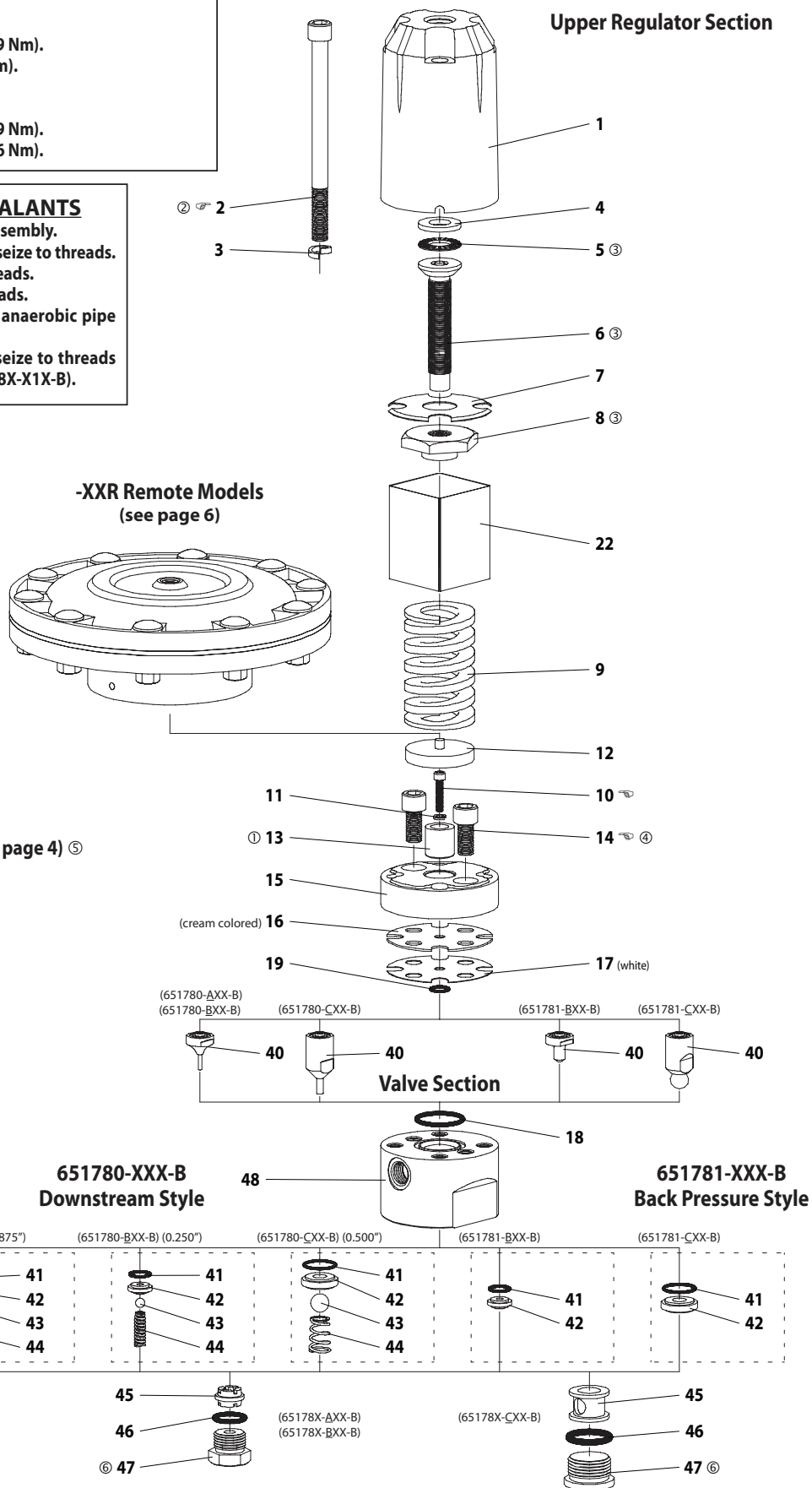


Figure 6

## PARTS LIST

### 651780-XXR-B REMOTE MODELS

| Item | Description (size)               | (Qty) | Part No. | [Mtl] |
|------|----------------------------------|-------|----------|-------|
| 25   | Ribbed Bolt (3/8" - 16 x 1-1/2") | (10)  | 93750-1  | [C]   |
| 26   | Air Cap                          | (1)   | 93753-1  | [A]   |
| □ 27 | Diaphragm                        | (1)   | 93754-1  | [N]   |
| 28   | Plate                            | (1)   | 94573    | [C]   |
| □ 29 | Piston                           | (1)   | 93751-1  | [C]   |
| 30   | Air Cap                          | (1)   | 93753-2  | [A]   |
| 31   | Nut (3/8" - 16)                  | (10)  | Y12-6-C  | [C]   |
| 32   | Cap Screw (7/16" - 20 x 2")      | (4)   | Y157-76  | [C]   |
| 33   | Adapter                          | (1)   | 93752-1  | [A]   |
| 34   | Cap Screw (5/16" - 18 x 1")      | (4)   | Y99-52   | [C]   |

#### MATERIAL CODE

[A] = Aluminum    [C] = Carbon Steel    [N] = Neoprene

#### ASSEMBLY TORQUE REQUIREMENTS

**NOTE: DO NOT OVERTIGHTEN FASTENERS.**

(31) Torque in sequence.

- 1.) Snug.
- 2.) 20 ft lbs (27.1 Nm).

(32) Torque alternately.

- 1.) Snug.
- 2.) 20 - 25 ft lbs (27.1 - 33.9 Nm).

(34) Torque alternately.

- 1.) Snug.
- 2.) 10 ft lbs (13.6 Nm).

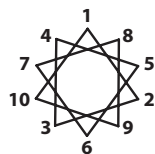


Figure 7

#### LUBRICATION / SEALANTS

- ④ Apply Loctite 242® to threads.
- ⑦ Secure (29) piston to (28) plate with Loctite 680™ Retaining Compound. Apply "DRI-SLIDE" upon reassembly.

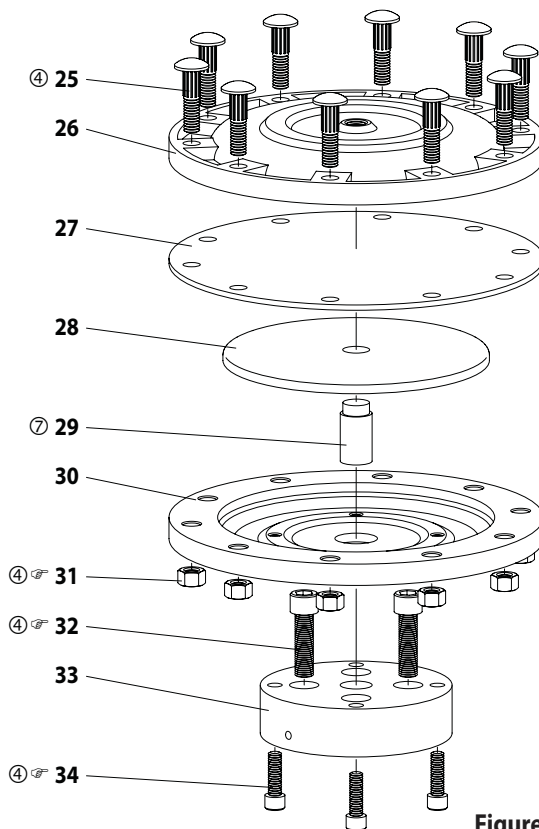


Figure 8

- "Smart parts", keep these items on hand in addition to the service kits for fast repair and reduction of down time.

## REGULATOR DISASSEMBLY

(refer to pages 4 and 5)

**FOR "WARNINGS", REFER TO "OPERATING AND SAFETY PRECAUTIONS" ON PAGE 2 FOR DETAILS.**

**BEFORE SERVICING, READ "WARNING: DISASSEMBLY HAZARD." FOUND ON PAGE 2.**

**TOOLS REQUIRED:** Small bench vise, 3/8" Allen wrench (Y106-109 is included), 5/32" Allen wrench, a 9/16" Allen wrench for -CXX-B models, torque wrench and Loctite 242.

**NOTE:** It is not always necessary to remove the regulator from the fluid line to service or inspect only the valve section.

**BEFORE DOING ANY IN-LINE SERVICE, ALL FLUID PRESSURE MUST BE RELIEVED. HEED ALL WARNINGS FOUND ON PAGE 2.**

**ALLEN WRENCH NOTE:** The Y106-109 (3/8") Allen wrench is included and can be used for several functions including: Regulator adjustment (spring type models), removal and assembly of the long bonnet bolts and the short plate bolts.

**VALVE SEAT NOTE:** Before deciding to order a general repair kit to service the whole regulator, check the easiest things first. Remove and inspect the valve seat for dirt, foreign matter, damage or wear (steps 1 - 3).

#### DOWNSTREAM STYLE MODELS

1. Remove the (46 / 47) base plug / "O" ring assembly, which will allow removal of the (44) spring, (43) ball, (45) flow tube, (42) seat and (41) "O" ring.

#### BACK PRESSURE STYLE MODELS

2. Remove the (46 / 47) base plug / "O" ring assembly, which will allow the removal of the (45) flow tube, (42) seat and (41) "O" ring.

3. Inspect the (42) seat for dirt, damage or wear.

**READ "WARNING: BONNET REMOVAL HAZARD" FOUND ON PAGE 2.**

4. Remove the four (2) long bolts to allow removal of the bonnet / adjusting screw assembly.

**NOTE:** The (6) adjusting screw, (5) thrust bearing and (4) washer are retained by (7) plate, which is pressed into place. It should not be necessary to disassemble these parts during normal service.

5. Remove the (9) regulator spring and (12) small plate.
6. Remove the (14) bolts.
7. Remove the (15) plate.
8. Remove the stem / diaphragm and piston assembly.
9. Place the stem in a vise, locate and secure on the stem flats provided.
10. Using a 5/32" hex Allen wrench, remove the (10) screw.
11. Remove the (11) lockwasher, (13) piston, two (16, 17) diaphragms and (18 and 19) "O" rings from the (40) valve stem.

#### REMOTE MODELS (Refer to figure 8)

1. Remove four (34) screws from (30) air cap and separate the diaphragm assembly from the (33) adapter.
2. Disassemble the diaphragm assembly by removing the ten (31) nuts.
3. Separate the two halves to allow inspection of the (27) diaphragm and replace, if necessary.
4. Reassemble in reverse order.

## REGULATOR REASSEMBLY

Also refer to parts list and views on pages 4 and 5.

1. Place the (40) stem in a vise. Use the flats provided.
2. Position the (19) "O" ring in the groove.
3. Place the (17) white diaphragm onto the (40) stem center.
4. Place the (16) cream colored diaphragm onto the (40) stem.
5. Place the (13) piston on the assembly.
6. Install the (11) lockwasher and the (10) screw.

NOTE: Make certain the diaphragm holes are in alignment before tightening the (10) screw. Torque to 65 - 75 in. lbs (7.3 - 8.5 Nm).

SERVICE HINT: Use the (14) screw to help align the diaphragm holes.

7. Remove the diaphragm / piston / stem assembly from the vise.

### UPPER REGULATOR BODY SECTION REASSEMBLY

☆ NOTE: (from page 4 parts list) If the (1) housing has been removed and disassembled, the (7) plate should be re-placed.

8. Place the (48) base in a vise, using the flats.
9. Place the (15) plate over the diaphragm / piston / stem assembly.

10. Apply Loctite 271 to the (14) screw.

11. Install the (14) screws.

NOTE: Tighten the short bolts alternately and evenly.

- Tighten snug.
  - Tighten to 20 - 25 ft lbs (27.1 - 33.9 Nm).
  - Tighten to 50 - 55 ft lbs (67.8 - 74.6 Nm).
12. Place the (12) plate (ball side down) into the hex of the (10) screw.

13. Place the (9) spring on top of the (12) plate.
14. Place the (22) spring stop over the (9) spring.
15. Place the bonnet / adjusting screw assembly over the spring.
16. Retain the bonnet with the (3) lockwashers and (2) bolts. Tighten alternately until snug, then torque to 20 - 25 ft lbs (27.1 - 33.9 Nm).
17. Place the (18) "O" ring into the groove.
18. Apply "DRI-SLIDE" to the surface of the (13) piston.
19. Install the diaphragm / piston / stem assembly and align with the base hole pattern.
20. Turn the regulator over and vise on flats.

### REGULATOR VALVE SECTION REASSEMBLY DOWNSTREAM MODELS

- Install (41) "O" ring.
- Install (42) seat.
- Install the (45) flow tube.
- Install the (43) ball.
- Install the (44) spring with the narrow end against the ball.
- Install the (47) valve plug and "O" ring assembly.
- Tighten until snug.

### BACK PRESSURE MODELS

- Install (41) "O" ring.
- Install (42) seat.
- Install the (45) flow tube.
- Install the (47) valve plug and "O" ring assembly.
- Tighten until snug.

## PERFORMANCE DATA

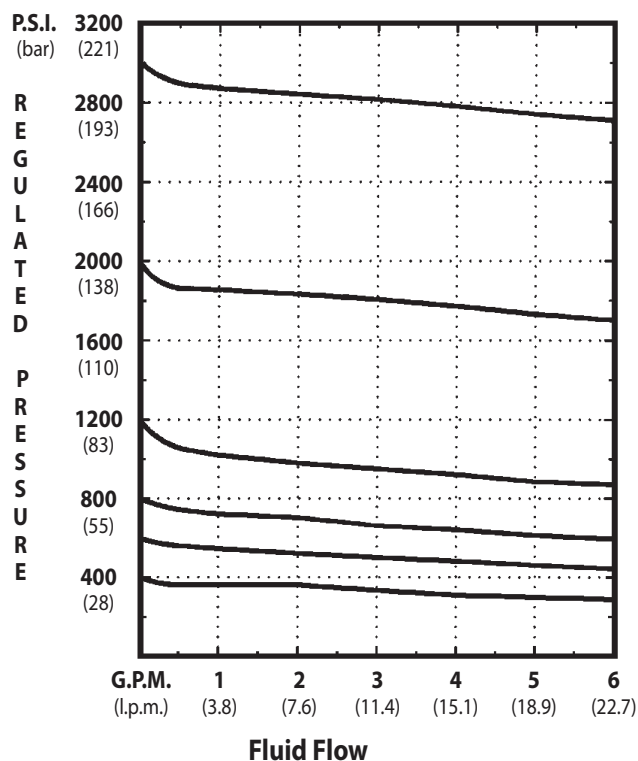
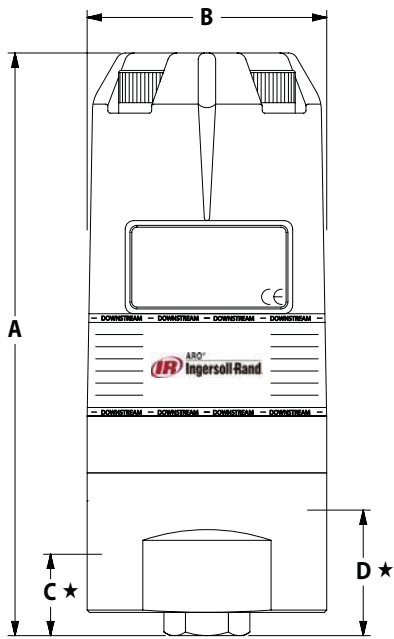


Figure 9

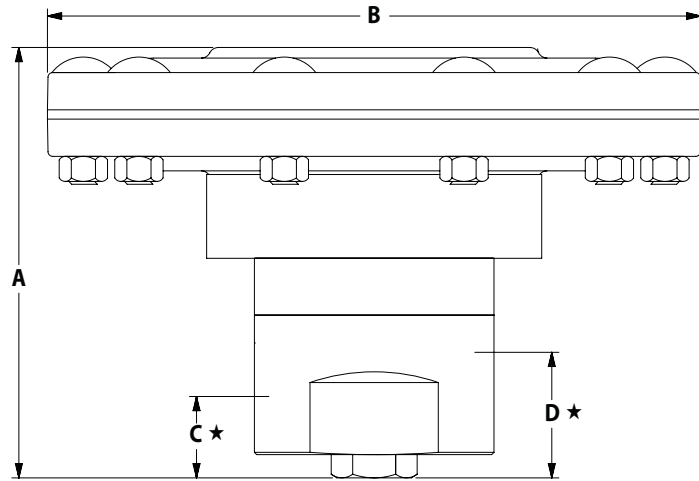
SERVICE NOTE: "DRI-SLIDE", FXR is a commercially available anti-rust lubricant (contains 9% Molybdenum Disulfide) or Molybdenum Disulfide powder with or without light oil carrier.

## DIMENSIONAL DATA

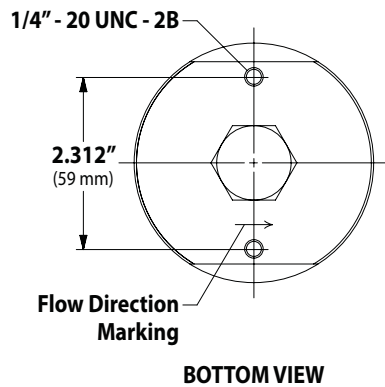


**STANDARD STYLE**

Figure 10



**REMOTE STYLE**



**BOTTOM VIEW**

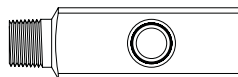
| Ref. | -XXA, -XXB<br>Standard Models |                   | -XXR<br>Remote Models |                   |
|------|-------------------------------|-------------------|-----------------------|-------------------|
|      | -AXX / -BXX                   | -CXX              | -AXX / -BXX           | -CXX              |
| A    | 7.827" (198.8 mm)             | 8.797" (223.4 mm) | 5.780" (146.8 mm)     | 6.750" (171.5 mm) |
| B    | 3.218" (81.7 mm)              | 3.218" (81.7 mm)  | 8.781" (223.0 mm)     | 8.781" (223.0 mm) |
| C    | 1.093" (27.8 mm)              | 1.219" (31.0 mm)  | 1.093" (27.8 mm)      | 1.219" (31.0 mm)  |
| D    | 1.686" (42.8 mm)              | 2.438" (61.9 mm)  | 1.686" (42.8 mm)      | 2.438" (61.9 mm)  |
| ★    | 3/8 - 18 N.P.T.F.             | 3/4 - 14 N.P.T.F. | 3/8 - 18 N.P.T.F.     | 3/4 - 14 N.P.T.F. |

**NOTE:**

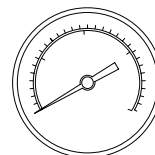
- 651780-XXX-B (downstream models): "C" is the **INLET** port, "D" is the **OUTLET** port.
- 651781-XXX-B (back pressure models): "D" is the **INLET** port, "C" is the **OUTLET** port.

## OPTIONAL ACCESSORIES

**Models 65178X-AXX-B and 65178X-BXX-B**  
**Gauge and Auxiliary port**



**92968 Outlet Adapter**  
**3/8 - 18 N.P.T.F. - 1**



**Rear Mount Gauge**

|         |                               |                 |
|---------|-------------------------------|-----------------|
| 93505-1 | 0 - 3000 p.s.i. (0 - 210 bar) | Brass           |
| 93506-1 | 0 - 3000 p.s.i. (0 - 210 bar) | Stainless Steel |
| 93507-1 | 0 - 5000 p.s.i. (0 - 350 bar) | Brass           |

**DOCUMENTATION**

**AIRMIX MANUAL GUN**

**XCITE™**

**Manual : 582.006.110-UK - 2011**

*Date: 16/11/20*

*Supersede : 11/09/19*

*Modif.: 573.512.050*

**TRANSLATION FROM THE ORIGINAL MANUAL**

***IMPORTANT : Before assembly and start-up, please read and clearly understand all the documents relating to this equipment (professional use only).***

THE PICTURES AND DRAWINGS ARE NON CONTRACTUAL. WE RESERVE THE RIGHT TO MAKE CHANGES WITHOUT PRIOR NOTICE..

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578.003.130 1908

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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>FR</b></p> <p><u>Pour une utilisation sûre, il est de votre responsabilité de :</u></p> <ul style="list-style-type: none"><li>• Lire attentivement tous les documents contenus dans le CD joint avant la mise en service de l'équipement,</li><li>• D'installer, d'utiliser, d'entretenir et de réparer l'équipement conformément aux préconisations de SAMES KREMLIN ainsi qu'aux réglementations nationales et/ou locales,</li><li>• Vous assurez que les utilisateurs de cet équipement ont été formés, ont parfaitement compris les règles de sécurité et qu'ils les appliquent.</li></ul> | <p><b>UK</b></p> <p><u>To ensure safe use of the machinery, it is your responsibility to:</u></p> <ul style="list-style-type: none"><li>• Carefully read all documents contained on the enclosed CD before putting the machinery into service,</li><li>• Install, use, maintain and repair the machinery in accordance with SAMES KREMLIN's recommendations and national and/or local regulations,</li><li>• Make sure that the users of the machinery have received proper training and that they have perfectly understood the safety rules and apply them.</li></ul>            | <p><b>DE</b></p> <p><u>Eine sichere Nutzung setzt voraus, dass Sie :</u></p> <ul style="list-style-type: none"><li>• alle in der CD enthaltenen Dokumente vor der Inbetriebnahme der Anlage aufmerksam lesen,</li><li>• die Anlage im Einklang mit den Empfehlungen von SAMES KREMLIN sowie mit den nationalen und/oder lokalen Bestimmungen installieren, verwenden, warten und reparieren,</li><li>• sich vergewissern, dass die Nutzer dieser Anlage angemessen geschult wurden, die Sicherheitsbestimmungen verstanden haben und sie anwenden.</li></ul>                                                            |
| <p><b>ES</b></p> <p><u>Para una utilización segura, será de su responsabilidad:</u></p> <ul style="list-style-type: none"><li>• leer atentamente todos los documentos que se incluyen en el CD adjunto antes de la puesta en servicio del equipo,</li><li>• instalar, utilizar, efectuar el mantenimiento y reparar el equipo con arreglo a las recomendaciones de SAMES KREMLIN y a la normativa nacional y/o local,</li><li>• cerciorarse de que los usuarios de este equipo han recibido la formación necesaria, han entendido perfectamente las normas de seguridad y las aplican.</li></ul>     | <p><b>IT</b></p> <p><u>Per un uso sicuro, vi invitiamo a:</u></p> <ul style="list-style-type: none"><li>• leggere attentamente tutta la documentazione contenuta nel CD allegato prima della messa in funzione dell'apparecchio,</li><li>• installare, utilizzare, mantenere e riparare l'apparecchio rispettando le raccomandazioni di SAMES KREMLIN, nonché le normative nazionali e/o locali,</li><li>• accertarvi che gli utilizzatori dell'apparecchio abbiano ricevuto adeguata formazione, abbiano perfettamente compreso le regole di sicurezza e le applichino.</li></ul> | <p><b>PT</b></p> <p><u>Para uma utilização segura, é da sua responsabilidade:</u></p> <ul style="list-style-type: none"><li>• Ler atentamente todos os documentos incluídos no CD em anexo antes de pôr o equipamento em funcionamento,</li><li>• Proceder à instalação, utilização, manutenção e reparação do equipamento de acordo com as preconizações de SAMES KREMLIN, bem como com outros regulamentos nacionais e/ou locais aplicáveis,</li><li>• Assegurar-se que os utilizadores do equipamento foram devidamente capacitados, compreenderam perfeitamente e aplicam as devidas regras de segurança.</li></ul> |
| <p><b>NL</b></p> <p><u>Voor een veilig gebruik dient u:</u></p> <ul style="list-style-type: none"><li>• alle document op de bijgevoegde cd aandachtig te lezen alvorens het apparaat in werking te stellen,</li><li>• het apparaat te installeren, gebruiken, onderhouden en repareren volgens de door SAMES KREMLIN gegeven aanbevelingen en overeenkomstig de nationale en/of plaatselijke reglementeringen,</li><li>• zeker te stellen dat de gebruikers van dit apparaat zijn opgeleid, de veiligheidsregels perfect hebben begrepen en dat zij die ook toepassen.</li></ul>                     | <p><b>SE</b></p> <p><u>För en säker användning av utrustningen ansvarar ni för följande:</u></p> <ul style="list-style-type: none"><li>• Läs noga samtliga dokument som finns på den medföljande cd-skivan innan utrustningen tas i drift.</li><li>• Installera, använd, underhåll och reparera utrustningen enligt anvisningarna från SAMES KREMLIN och enligt nationella och/eller lokala bestämmelser.</li><li>• Försäkra er om att användare av denna utrustning erhållit utbildning, till fullo förstått säkerhetsföreskrifterna och tillämpar dem.</li></ul>                 | <p><b>FI</b></p> <p><u>Käytön turvallisuuden varmistamiseksi velvollisuutesi on:</u></p> <ul style="list-style-type: none"><li>• Lukea huolella kaikki CD:llä olevat asiakirjat ennen laitteiston käyttöönottoa,</li><li>• Noudattaa laitteiston asennuksessa, käytössä, kunnossapidossa ja huollossa SAMES KREMLIN in suosituksia sekä kansallisia ja/tai paikallisia määräyksiä,</li><li>• Varmistaa, että laitteiston käyttäjät ovat koulutettuja ja ymmärtävät täysin turvallisuusmääräykset ja miten niitä sovelletaan.</li></ul>                                                                                  |
| <p><b>PL</b></p> <p><u>Dla zapewnienia bezpiecznego użytkowania na użytkownika spoczywa obowiązek:</u></p> <ul style="list-style-type: none"><li>• Uważnego zapoznania się ze wszystkimi dokumentami znajdującymi się na załączonej płycie CD przed pierwszym uruchomieniem urządzenia,</li><li>• Instalowania, użytkowania, konserwacji i naprawy urządzenia zgodnie z zaleceniami firmy SAMES KREMLIN oraz z przepisami miejscowymi,</li><li>• Upewnienia, że wszyscy przeszkoleni użytkownicy urządzenia zrozumieli zasady bezpieczeństwa i stosują się do nich.</li></ul>                        | <p><b>CS</b></p> <p><u>Pro bezpečné používání jste povinni:</u></p> <ul style="list-style-type: none"><li>• Před uvedením zařízení do provozu si pozorně přečíst veškeré dokumenty obsažené na příloženém CD,</li><li>• Nainstalovat, používat, udržovat a opravovat zařízení v souladu s pokyny firmy SAMES KREMLIN a s národními a/nebo místními legislativními předpisy,</li><li>• Ujistit se, že uživatelé tohoto zařízení byli vyškoleni, že dokonale pochopili bezpečnostní pravidla a že je dodržují.</li></ul>                                                             | <p><b>SL</b></p> <p><u>Za varno uporabo ste dolžni:</u></p> <ul style="list-style-type: none"><li>• natančno prebrati vse dokumente na CD pred zagonom stroja,</li><li>• inštalirati, uporabljati, vzdrževati in popravljati opremo po določilih SAMES KREMLIN in v skladu z veljavnimi nacionalnimi in/ali lokalnimi predpisi,</li><li>• poskrbeti, da so uporabniki te opreme ustrezno usposobljeni, poznajo varnostne predpise in da jih upoštevajo.</li></ul>                                                                                                                                                       |
| <p><b>SK</b></p> <p><u>V záujme bezpečného je vašou povinnosťou:</u></p> <ul style="list-style-type: none"><li>• pozorne si prečítať všetky dokumenty obsiahnuté na príloženom CD predtým, ako zariadenie uvediete do prevádzky,</li><li>• nainštalovať, používať, udržiavať a opravovať zariadenie v súlade s odporúčaniami spoločnosti SAMES KREMLIN a národnými a/alebo miestnymi predpismi,</li><li>• uistiť sa, že používatelia tohto zariadenia boli zaškolení, riadne porozumeli pravidlám bezpečnosti a používajú ich.</li></ul>                                                             | <p><b>HU</b></p> <p><u>A biztonságos használat érdekében az Ön felelőssége, hogy:</u></p> <ul style="list-style-type: none"><li>• a berendezés üzembe helyezése előtt figyelmesen elolvassa a mellékelt CD által tartalmazott összes dokumentumot,</li><li>• a berendezést a SAMES KREMLIN ajánlásainak valamint a nemzeti és/vagy helyi szabályozásoknak megfelelően helyezze üzembe, használja, tartsa karban és javítsa,</li><li>• megbizonyosodjon róla, hogy a berendezés felhasználói képzettek, tökéletesen megértették és alkalmazzák a biztonsági előírásokat.</li></ul>  | <p><b>RO</b></p> <p><u>Pentru o utilizare sigură, este responsabilitatea dvs. să:</u></p> <ul style="list-style-type: none"><li>• Citiți cu atenție toate documentele de pe CD-ul anexat, înainte de punerea în funcțiune a echipamentului,</li><li>• Instalați, utilizați, întrețineți și reparați echipamentul conform instrucțiunilor SAMES KREMLIN precum și reglementărilor naționale și/sau locale,</li><li>• Vă asigurați că utilizatorii acestui echipament au fost instruiți, au înțeles perfect regulile de securitate și le aplică integral.</li></ul>                                                       |

Déclaration(s) de conformité au verso de ce document / Declaration(s) of conformity at the back of this document / Konformitätserklärung(en) auf der Rückseite dieser Unterlage / Declaración (es) de conformidad en el reverso de este documento / Dichiarazione/i di conformità sul retro del presente documento / Declaração(ões) de conformidade no verso do documento / Conformiteitsverklaring(en) op de keerzijde van dit document / Försäkran om överensstämmelse på omstående sida av detta dokument / Vaatimustenmukaisuusvakuutukset tämän asiakirjan kääntöpuolella / Deklaracja(e) zgodności na odwrocie dokumentu / Prohlášení o shodě se nachází/nacházejí na zadní straně tohoto dokumentu / Deklaracija(e) o skladnosti na hrbtni strani tega dokumenta / Vyhlasenie/-a o zhode sa nachádzajú na zadnej strane dokumentu / A dokumentum hátlapján szereplő megfeleléségi nyilatkoz(ok) / Declarații de conformitate pe versoul acestui document



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Déclare que le matériel désigné ci-après / Herewith declares that the equipment / erklart hiermit, dass die / Declara que el material designado a continuación / Dichiaro che il materiale sottoindicato / Declara que o material a seguir designado / verklaart dat de hieronder aangeduide apparatuur / Kungör att den utrustning som anges här nedan / ilmoittaa, että alla mainitut laitteistot / Oświadczam, że wymienione poniżej urządzenia / Prohlašuje, že níže uvedené vybavení / Izjavlja, da je opisana oprema spodaj / Vyhlasuje, že zariadenie uvedené nižšie / Kijelenti, hogy a megjelölt anyag a továbbiakban / Declară că echipamentul precizat mai jos:

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**DIE AIRMIX® HAND-SPRITZPISTOLE / PISTOLA MANUAL DE PULVERIZACIÓN AIRMIX®**

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Est conforme à la législation d'harmonisation de l'Union applicable suivante / Is in conformity with the relevant Union harmonisation legislation / Erfüllt die einschlägigen Harmonisierungsrechtsvorschriften der Union / es conforme con la legislación de armonización pertinente de la Unión / è conforme alla pertinente normativa di armonizzazione dell'Unione / in overeenstemming met de desbetteffende harmonisatiewetgeving van de Unie / med den relevanta harmoniserade unionslagstiftningen / on asiaa koskevan unionin yhdenmukaistamislaainsäädännön vaatimusten mukainen / jest zgodny z odnosnymi wymaganiami unijnego prawodawstwa harmonizacyjnego / Shoduje se s následující příslušnou evropskou harmonizační legislativou / V skladu s harmonizirano zakonodajo Unije / Je v súlade s uplatniteľnými harmonizačnými právnymi predpismi EÚ / Megfelel a következõ alkalmazandó uniós harmonizációs szabályozásnak / Este conform cu legislația aplicabilă de armonizare de mai jos

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Directive ATEX / ATEX Directive / ATEX Richtlinie / Directiva ATEX / Direttiva ATEX / Diretiva ATEX / ATEX-Richtlijn / ATEX-direktivet / ATEX-direktivi / Dyrektywa ATEX / Směrnice ATEX / Direktiva ATEX / Smernica ATEX / ATEX-irányelv                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |
| <div> II 2G Ex h IIA T6 X Gb</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
| EN 1953                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <p>Procédure d'évaluation de la conformité : Module A Documentation technique (Annexe VIII) archivée par : / Conformity assessment procedure: Module A Technical documentation (ANNEX VIII) recorded by: / Verfahren zur Konformitätsbewertung: Modul A Technische Unterlagen (ANLAGE VIII) archiviert durch: / Procedimiento de evaluación de la conformidad: Módulo A Documentación técnica (ALLEGATO VIII) archivada por: / Procedura di valutazione della conformità: Modulo A Documentazione tecnica (ALLEGATO VIII) archiviata a cura di: / Procedimento de avaliação da conformidade: Módulo A Documentação técnica (ANEXO VIII) arquivada por: / Conformiteitsbeoordelingsprocedure: Module A Technische documentatie (BIJLAGE VIII) gearhiveerd door: / Förfarande för bedömning av överensstämmelse: Modul A Teknisk dokumentation (BILAGA VIII) arkiverad av: / Vaatimusten mukaisuusarviointimenetelmä: moduuli A Tekninen dokumentaatio (LIITE VIII) arkistoitu: / Procedura oceny zgodności: Modul A Dokumentacji technicznej (ZAŁĄCZNIK VIII) zarchiwizowane przez: / Postup posuzování shody: Modul A Technická dokumentace (PŘÍLOHA VIII) archivována: / Postopek preverjanja skladnosti: Modul A Tehnična dokumentacija (PRILOGA VIII), arhiviral: / Postup posudzovania zhody: Modul A Technická dokumentácia (PRÍLOHA VIII) archivovaná prostredníctvom: / Megfelelőségértékelési eljárás: A. modul Műszaki dokumentáció (VIII. MELLÉKLET) archiválta: / Procedura de evaluare a conformității: Modulul A Documentația tehnică (ANEXA VIII) este arhivată de:</p> |  |
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| INERIS 0080 - 60550 Verneuil-en-Halatte - France                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |

La présente déclaration de conformité est établie sous la seule responsabilité du fabricant / This declaration of conformity is issued under the sole responsibility of the manufacturer / Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller / La presente declaración de conformidad se expide bajo la exclusiva responsabilidad del fabricante / La presente dichiarazione di conformità è rilasciata sotto la responsabilità esclusiva del fabbricante / A presente declaração de conformidade é emitida sob a exclusiva responsabilidade do fabricante / Deze conformiteitsverklaring wordt verstrekt onder volledige verantwoordelijkheid van de fabrikant / Denna försäkran om överensstämmelse utfärdas på tillverkarens eget ansvar / Tämä vaatimustenmukaisuusvakuutus on annettu valmistajan yksinomaisella vastuulla / Niniejsza deklaracja zgodności wydana zostaje na wyłączną odpowiedzialność producenta / Toto prohlášení o shodě se vydává na výhradní odpovědnost výrobce / Za izdajo te izjave o skladnosti je odgovoren izključno proizvajalec / Toto vyhlásenie o zhode sa vydáva / na vlastnú zodpovednosť výrobcu / Ezt a megfelelőségi nyilatkozatot a gyártó kizárólagos felelőssége mellett adják ti / Prezenta declarație de conformitate este emisă pe răspunderea exclusivă a producătorului.



Hervé WALTER

Directeur Innovation & Développement / Innovation & Development Director / Direktor für Innovation & Entwicklung / Director de Inovación y Desarrollo / Direttore Innovazione e sviluppo / Diretor de Inovação / Manager Innovatie en Ontwikkeling / Direktör för Forskning och Utveckling / Innovaatio- ja kehitysohjaaja / Dyrektor ds. Innowacji i Rozwoju / Ředitel pro inovace a vývoj / Direktor za inovacije in razvoj / Riaditeľ pre inováciu a rozvoj / Innovációs és fejlesztési igazgató / Director Inovație și Dezvoltare

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# INSTALLATION AND SAFETY INSTRUCTIONS

## TRANSLATION FROM THE ORIGINAL MANUAL

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# 1. SAFETY INSTRUCTIONS

## GENERAL SAFETY INSTRUCTIONS



**CAUTION :** The equipment can be dangerous if you do not follow our instructions concerning installation and servicing described in this manual and in accordance with applicable European standards and local national safety regulations.

Please carefully read all the instruction literature before operating your equipment.

### Only trained operators can use the equipment.

The foreman must ensure that the operator has understood the safety instructions for this equipment as well as the instructions in the manuals for the different parts and accessories.

Read carefully all instruction manuals, label markings before operating the equipment.

Incorrect use may result in injury. This equipment is for professional use only. It must be used only for what it has been designed for. Never modify the equipment. The parts and accessories supplied must be regularly inspected. Defective or worn parts must be replaced.

**Guards (motor cover, coupling shields, connectors,...) have been designed for a safe use of the equipment.**

**The manufacturer will not be held responsible for bodily injury or failure and / or property damage due to destruction, the overshadowing or the partial or total removal of the guards.**

### Never exceed the equipment components' maximum working pressure.

Comply with regulations concerning safety, fire risks, electrical regulations in force in the country of final destination of the material. Use only products or solvent compatible with the parts in contact with the material (refer to data sheet of the material manufacturer).

## PICTOGRAMS

|                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |  |  |
| NIP HAZARD                                                                          | WARNING MOVING ELEVATOR                                                             | WARNING MOVING PARTS                                                                | WARNING MOVING SHOVEL                                                                | DO NOT EXCEED THIS PRESSURE                                                           | HIGH PRESSURE HAZARD                                                                  |
|  |  |  |  |  |  |
| RELIEF OR DRAIN VALVE                                                               | WARNING HOSE UNDER PRESSURE                                                         | WEAR GLASSES OBLIGATORY                                                             | WEAR OF GLOVES IS OBLIGATORY                                                         | PRODUCT VAPOR HAZARDS                                                                 | WARNING HOT PARTS OR AREAS                                                            |
|  |  |  |  |  |  |
| ELECTRICAL HAZARD                                                                   | WARNING FIRE HAZARDS                                                                | EXPLOSION HAZARDS                                                                   | GROUNDING                                                                            | WARNING (USER)                                                                        | WARNING SERIOUS INJURIES                                                              |

## PRESSURE HAZARDS



Current legislation requires that an **air relief** valve be fitted in the air supply circuit to the air motor to prevent over pressurisation. This safety feature ensures that it is not possible to supply the air motor with excessive air pressure that may cause injury.

Please ensure that a **material drain valve** is fitted in the fluid circuit to drain and depressurise the circuit. Once depressurised and drained, work /servicing may then commence on the equipment. Please remember to close these valves when restarting the system.

## HIGH PRESSURE INJECTION HAZARDS



When working with high pressure equipment, special care is required. Fluid leaks can occur. There is a risk of material being injected to any exposed parts of body, this could cause severe injury :

- medical care must be sought immediately if paint is injected under the skin or in other parts of the body (eyes, fingers).
- never point the spray gun at any one. Never try to stop the spray with your hands or fingers nor with rags or similars.
- **follow the shut down procedure and always depressurize air and fluid circuits** before carrying out any servicing on the gun (cleaning, checking, maintenance of the material or cleaning of the gun nozzles).
- for the guns equipped with a safety device, always lock the trigger when not in use.

## FIRE - EXPLOSION - SPARKS - STATIC ELECTRICITY HAZARDS



A poor earth connection, inadequate ventilation, sparks or static electricity can cause an explosion or fire. to avoid these risks when using or servicing SAMES KREMLIN equipment, the following safety procedures must be followed :

- ensure a good earth connection and ground the parts to be handled i.e. solvents, materials, components and equipment,
- ensure adequate ventilation,
- keep working area clean and free from waste solvents, chemicals, or solid waste i.e. rags, paper and empty chemicals drums,
- never use electrical switches / power if in an atmosphere of volatile solvent vapour,
- stop working immediately in case of electrical arcs,
- never store chemicals and solvents in the working area.
- use paint whose flash point is the highest possible to prevent from any formation of gas and inflammable vapours (refer to materials' safety instructions),
- install a cover on the drums to reduce the diffusion of gas and vapours in the spraybooth.

## TOXIC PRODUCT HAZARDS



Toxic products or vapours can cause severe injury not only through contact with the body, but also if the products are ingested or inhaled. It is imperative :

- to know the material products and their risks,
- notified or hazardous materials must be stored in accordance with the regulations,
- the material must be stored in an appropriate container, never place materials in a container where there is a risk of spillage or leakage,
- a procedure must be applied for the safe disposal of waste material. It must comply with all prevailing regulations and legislations of the country where the equipment is to be used,
- protective clothing should always be worn in compliance with the material manufacturers' recommendations,
- depending on the application and chemical safety instructions, safety glasses, hearing protective earplug, gloves, foot wear, protective masks and possible breathing equipment should be worn to comply with the regulations (Refer to chapter "Safety equipment of SAMES KREMLIN selection guide).



### CAUTION!

It is forbidden to use material containing high concentrations of halogenated hydrocarbon solvents with **aluminium** or **zinc fillers**. Non-compliance with the instructions may cause explosion risk causing serious or fatal injury.



### EQUIPMENT REQUIREMENTS

**Guards (motor cover, coupling shields, connectors,...) have been designed for a safe use of the equipment.**

**The manufacturer will not be held responsible for bodily injury or failure and / or property damage due to destruction, the overshadowing or the partial or total removal of the guards.**

### PUMP



Before carrying out any work, it is imperative to read and clearly understand the disassembly and reassembly instructions before servicing. The operator must understand the equipment and the safety instructions. These instructions are available in the equipment manuals.



The air motor is designed to be mounted with a pump. Never modify any components or couplings. When operating, please keep hands away from moving parts. Before starting up the equipment, please read the PRESSURE RELIEF instructions. Please ensure that any relief or drain valves fitted are in good working order.

### HOSES

- Keep hoses out of circulation areas, moving parts or hot surfaces,
- Never expose product hoses to temperature higher than + 60°C / 140° F or lower than 0°C / 32° F,
- Never pull or use the hoses to move the equipment,
- Tighten all fittings as well as the hoses before operating the equipment,
- Check the hoses regularly; change them if they are damaged,
- Never exceed the maximum working pressure (MWP) indicated on the hose.

### USED PRODUCTS

Considering the wide variety of products that are available and can be used in our equipment it is impossible to check and make recommendations for all chemical data, regarding the risks of possible chemical attack and their long term chemical reaction

SAMES KREMLIN can not be held liable for :

- compatibility of wetted parts,
- risks to staff and the surroundings,
- for worn or defective parts, for faulty equipment or units, or the quality of final product.

It is the responsibility of the user to know and prevent any possible risks such as toxic vapours, fires or explosions. He shall determine the risks of immediate reactions or pursuant to repeated exposures of the staff,

SAMES KREMLIN shall not be liable for physical injuries, direct or indirect material damages caused by the use of chemicals.

## 2. HANDLING



### **Check the weight and the dimensions of the equipment**

**(☞ refer to 'Technical features' section of the instruction manual**

If weight and dimensions are too important, the unloading must be carried out by means of a forklift or any other appropriate means with a qualified personnel and in a clear horizontal area to prevent from risks of damage injury or an accident.

The centre of gravity is not in the centre of the machine : carry out by hand a stability-test after having lifted the whole at 10 cm / 3.937" maximum.

After the unloading, the handling of the whole (eg: elevator pump) is carried out by means of a pallet truck taking the bottom part of the frame.

**Remark : Each pump motor is fitted with a ring. The ring is designed for the hoisting of one pump and can not be used for the handling of the complete assembly.**

## 3. STORING

Storing before installation :

- Storing ambient temperature : 0 / +50 °C / 0 / +122°F
- Protect the whole against dust, water trickling, dampness and shocks.

Storing after installation :

- Operating temperature : +15 / +35 °C / +59 / +138.2° F
- Protect the whole against dust, water trickling, dampness and shocks.

## 4. INSTALLATION OF THE EQUIPMENT

The machine is installed on a stable horizontal floor (for eg a concrete flag).

The machine shall be made stable by the use of holding down bolts or by the use of other anchoring methods, strong enough to prevent unintended bodily movement of the equipment.



**To avoid risks caused by static electricity, the equipment as well as its components must be grounded.**

- **For the pumping equipments** (pumps, pneumatic rams, frame...), a section wire of 2.5 mm<sup>2</sup> is fixed on the material. Use this wire to connect the material to "the general ground". In case of severe environments (mechanical protection of the wire of earthing insufficient, vibrations, mobile material...) where function damages at the ground are probable, the user have to replace the provided wire of 2.5 mm<sup>2</sup> by a device more adapted to its environment (wire with a more important section, bonding strip, fixing by thimble with eyelet...).

The continuity of the ground must be controlled by a qualified electrician. If the continuity of the ground is not ensured, check the terminal, the wire and the earthing point. **Never** use the material without have solved this problem.

- In the severe cases of environments (mechanical protection of the wire of earthing insufficient, vibrations, mobile material...) where damages of the function put at the ground are probable, the user will have to replace the wire of 2.5 mm<sup>2</sup> provided, by a device more adapted to its environment (wire of more important section, bonding strip, fixing by thimble with eyelet...),
- **The gun** must be 'grounded' via a material hose or an air hose. In case of spraying by means of a gun with cup, the air hose must be conductive,
- **The materials to be painted** must also be grounded.

**All the materials situated in the working area shall be grounded.**



- **Never store** more than necessary inflammable materials inside the working area,
- The materials must be stored into **approved drums** and grounded,
- Use only grounded **metals containers** for the use of cleaning solvents,
- **Cardboard and paper are prohibited.**

## 5. MARKING OF THE EQUIPMENT



Each equipment has a label plate with the name of the manufacturer, the equipment part number, the interesting informations to use correctly the equipment (pressure, voltage,...) and sometimes the above pictogram.

The equipment is designed with and consists of high quality materials and components which can be re-used.

The 2012/19/UE European Directive covers all equipments with a crossed-out bin pictogram. Please inform yourself about the collection systems for electric and electronic equipments.

Please act in accordance with local rules and **do not dispose of old equipment with household wastes**. A correct disposal of old equipment will help prevent negative consequences for the environment and health.



# **SPECIFIC SAFETY INSTRUCTIONS**

## **Airmix® and Airless Guns**

### **TRANSLATION FROM THE ORIGINAL MANUAL**

***IMPORTANT : Before assembly and start-up, please read and clearly understand all the documents relating to this equipment (professional use only).***

THE PICTURES AND DRAWINGS ARE NON CONTRACTUAL. WE RESERVE THE RIGHT TO MAKE CHANGES WITHOUT PRIOR NOTICE.

**SAMES KREMLIN SAS**

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38 240 - MEYLAN - France  
 : 33 (0)4 76 41 60 60

**[www.sames-kremlin.com](http://www.sames-kremlin.com)**

## ■ SPECIFIC SAFETY INSTRUCTIONS



Install a conductive fluid hose or a conductive air hose on the Airmix® gun to ground the gun.  
Install a conductive fluid hose on the Airless gun to ground the gun.



**Never exceed the maximum operating pressures of the equipment components.**  
(For the Airless guns - ASB : maximum working pressure = 240 bar / 3480 psi).  
(For the Airless guns - SFLOW™ : maximum working pressure = 450 bar / 6526 psi).  
(For the Airmix ® guns - AVX : maximum working pressure = 200 bar / 2900.6 psi).



**Always depressurize air and hoses before carrying out any servicing on the gun.**



**Never wipe the end of the nozzle with the fingers.**  
**Never point the spray gun at anyone or at any part of the body.**  
**Always use the safety trigger lock when leaving the gun unattended.**



**Always use the equipment in a well ventilated area to protect health and to minimise the risks from fire and explosions.**



**To protect the operator, protective clothing (gloves, respirator mask, glasses, clothes...) are required.**

## ■ GENERAL SAFETY INSTRUCTIONS



**CAUTION : The equipment can be dangerous if not used in accordance to the rules mentioned in this instruction manual. Please ensure you carefully read all the instructions before operating your equipment.**

**Only trained operators can use the equipment.**

The foreman must ensure that the operator has perfectly understood the safety instructions for this equipment as well as the instructions in the manuals for the different parts and accessories.

Read carefully all instruction manuals, label markings before operating the equipment.

Comply with regulations concerning safety, fire risks, electrical supply and voltage in force in the country of final destination of the equipment.



 **Refer to the document**  
**"Installation and safety instructions"**  
**(doc. 578.001.130-UK)**



## AIRMIX MANUAL GUN

**XCITE™**

*Disassembly / Reassembly*

### TRANSLATION FROM THE ORIGINAL MANUAL

***IMPORTANT : Before assembly and start-up, please read and clearly understand all the documents relating to the equipment (professional use only).***

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**CAUTION :**

Before any intervention on the gun, shut off the compressed air supply and depressurize the circuits controlling the opening of the gun.

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**The gun is manufactured under the ATEX agreement and can no be modified. SAMES KREMLIN will no be held responsible for any failure to comply with that instruction.**

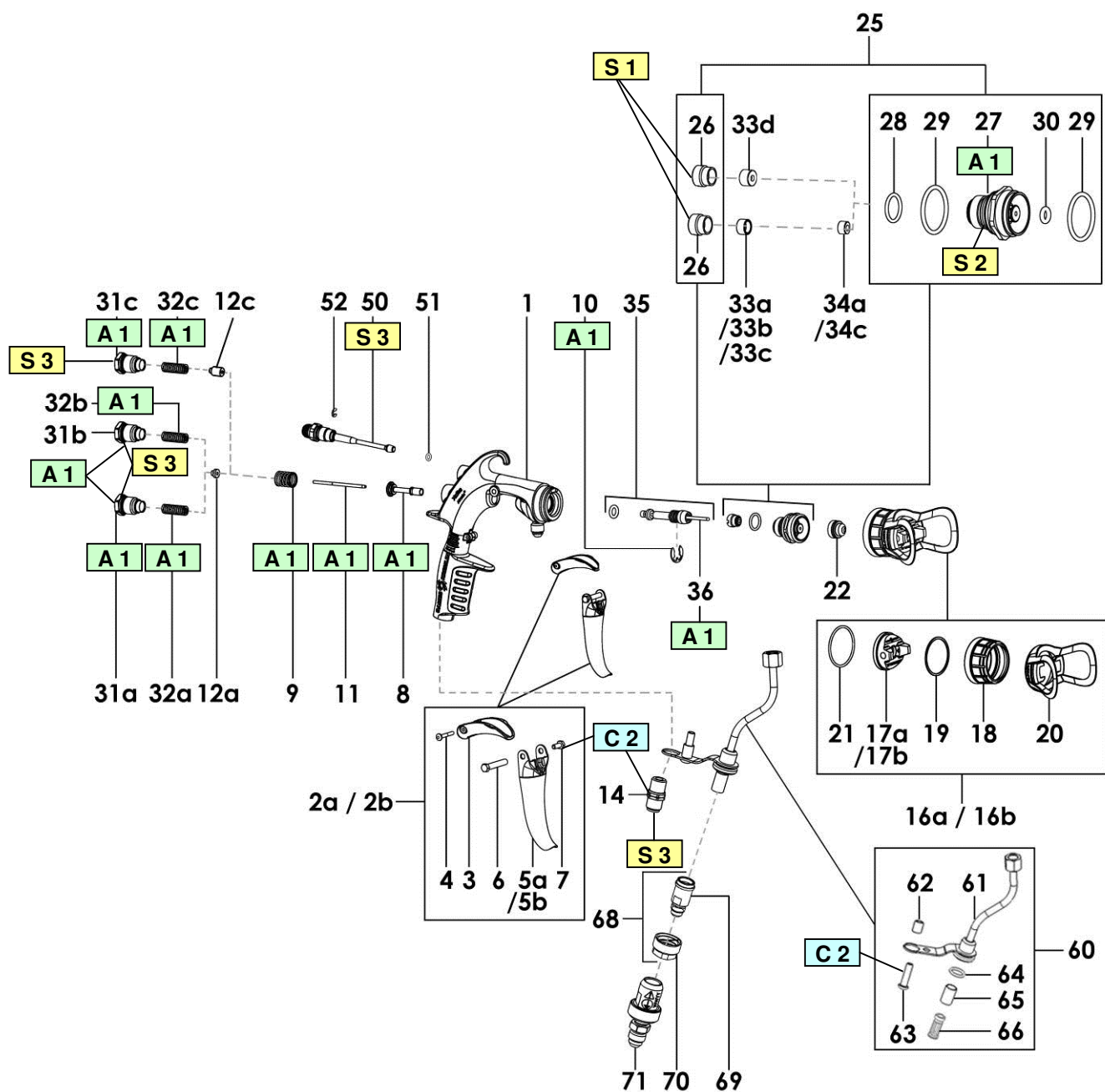
Before removing a component of the gun, some precautions have to be taken :

- Shut off the pump main supply,
  - Lock the gun trigger with the safety device,
  - Relieve pressure from circuit by opening pump pressure relief valve,
  - Carefully loosen the gun swivel.
- ☞ **IMPORTANT : never work on gun when connected to hose.**

Always engage the trigger lock-off when gun is not spraying.

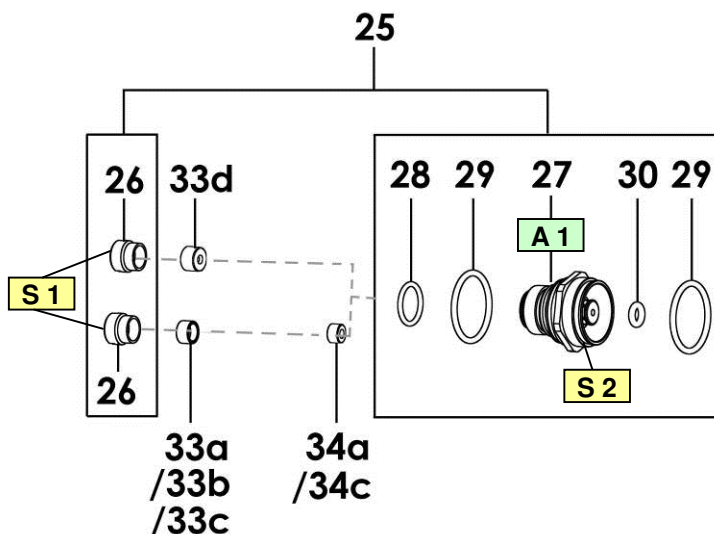
**Before reassembling the different components, some precautions must be taken :**

- **Clean all the parts with the appropriate cleaning solvent and a brush.**
- **Install new seals if it is necessary after having lubricated them with PTFE grease.**
- **Install new parts if it is necessary.**



| Index | Instructions                               | Description                         | Part number |
|-------|--------------------------------------------|-------------------------------------|-------------|
| A 1   | PTFE grease                                | PTFE grease (10 ml / 0.0026 US gal) | 560.440.101 |
| C 2   | Low strength<br>- Anaerobic Adhesive       | Loctite 222 (50 ml / 0.013 US gal)  | 554.180.010 |
| S 1   | Torque screwing :<br>2 Nm / 1.4752 Ft/Lbs  |                                     |             |
| S 2   | Torque screwing :<br>24 Nm / 17.70 Ft/Lbs  |                                     |             |
| S 3   | Torque screwing :<br>10 Nm / 7.3756 Ft/Lbs |                                     |             |

▪ **SEAT HOLDER ASSEMBLY (IND. 25) REPLACEMENT**



Remove the air cap (16a or 16b), then unscrew the seat holder assembly (25) by means of the wrench supplied with the gun.

Unscrew the screw (26) by means of a screwdriver.

Check parts' and the rings (28, 29 and 30) conditions. Change them if necessary.

Lubricate the starter seal tool (42) with grease.

Mount the seal (30) on the starter seal tool (42) and insert the seal onto the seat holder (25) by means of the seal installation tool (43).

Mount the seat (33a or 33b or 33c or 33d and 34a or 34c).

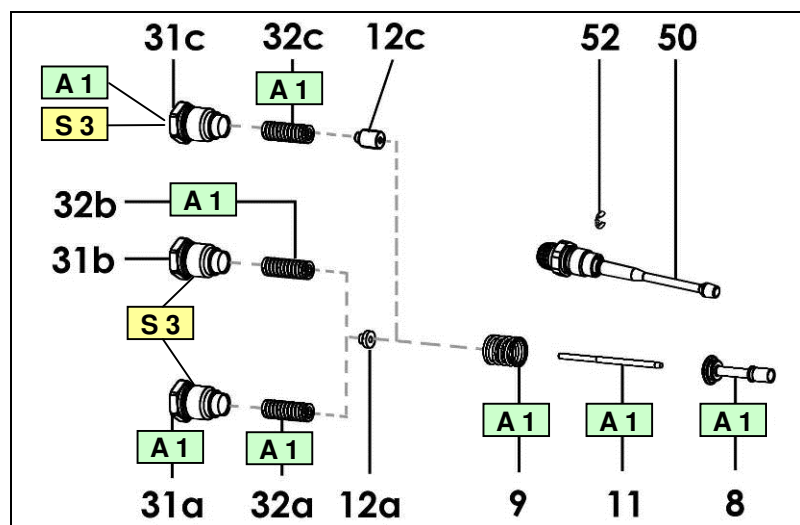
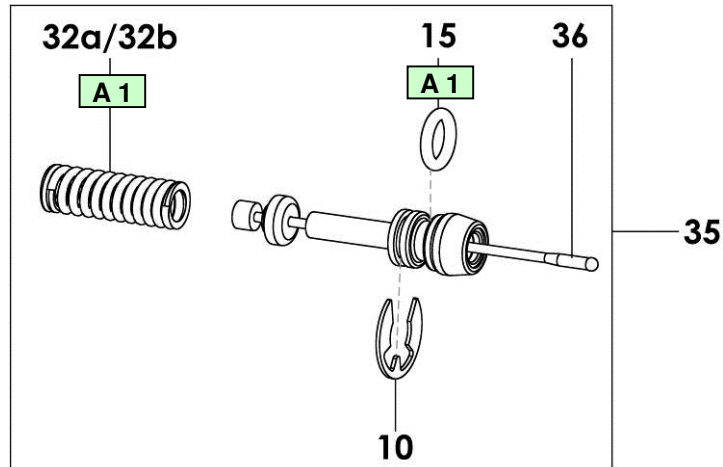
Tighten the screw (26) - screwing torque : 2 Nm / 1.4752 Ft/Lbs.

Lubricate the seat holder thread (25) with grease.

Tighten the seat holder (25) in the gun by means of the wrench  
- screwing torque : 24 Nm / 17.70 Ft/Lbs.

Tighten the head (16a or 16b).

▪ **NEEDLE ASSEMBLY (IND. 35) AND VALVE ASSEMBLY (IND. 8) REPLACEMENT**



Remove the sleeve (31a or 31b or 31c) by means of the wrench and remove the springs (9 & 32a or 32b or 32c), the needle carrier (12a or 12c) and the needle rod (11).

Pull the trigger (5a or 5b).

Remove the valve (8).

Remove the trigger (5a or 5b) by removing the screw (7), by means a 5.5mm open-end wrench, and remove the spindle (6).

Remove the ring (10).

Remove the seat holder (25).

Remove the needle assembly (35) and remove from the front of the gun by means a pin punch.

If necessary, change the seal (15) or the complete needle assembly (35).

Lubricate the seal (15) with grease.

Mount the new needle assembly (35) gun frontwards.

When installing the seat holder, the needle assembly (35) must abut.

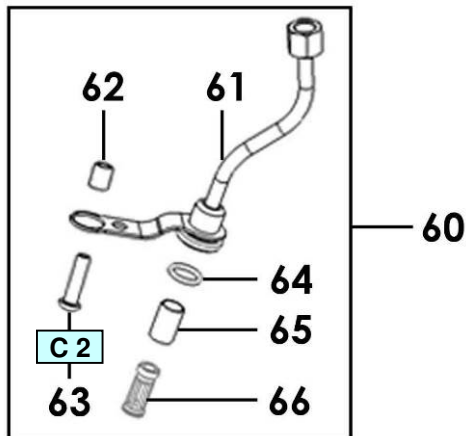
Lubricate the springs (9 & 32a or 32b or 32c), the needle rod (11), the valve (8) and the sleeve thread (31a or 31b or 31c).

Replace and mount the valve (8), the needle carrier (12), the needle rod (11) and the springs (9 & 32a or 32b or 32c).

Screw the sleeve (31a or 31b or 31c) - screwing torque : 10 Nm / 7.3756 Ft/Lbs.

Apply glue on the screw thread (7) and remount the trigger (5a or 5b) and the spindle (6).

## ■ **PROTECTIVE TUBE ASSEMBLY (IND. 60) REPLACEMENT**



Unscrew the nut (70) by means of the wrench supplied with the gun.

Remove the support screen (66) and the screen (65).

Remove the seal (64).

Unscrew the fitting (14).

Unscrew the screw (63) by means of a hexagon key size 4 mm.

Unscrew the protective tube (61).

Check parts' and the ring. Change them if necessary.

Screw the protective tube (61).

Apply glue on the screw thread (63) and screw on the gun's body (1).

Apply glue on the fitting thread (14).

Tighten the fitting (14) on the gun's body (1) - screwing torque : 10 Nm / 7.3756 Ft/Lbs.

Mount the screen (65) in the support screen (66).

Mount the seal (64) and mount the support screen (66) in the protective tube (61).

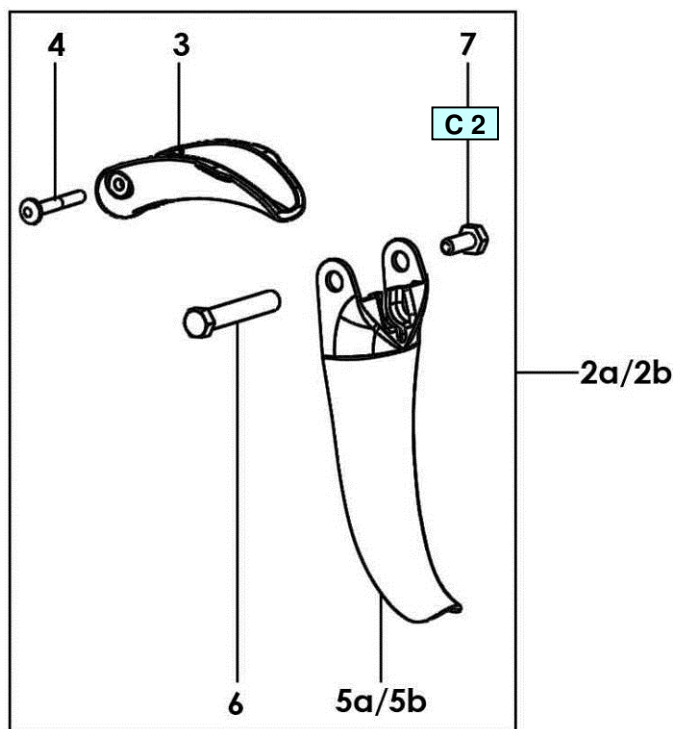
Tighten the nut (70) by means of the wrench.

## ■ **FAN ADJUSTMENT VALVE (IND. 50) REMPLACEMENT**

Unscrew the fan adjustment valve (50) by means of the wrench supplied with the gun.

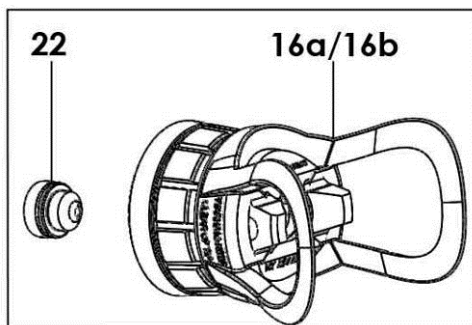
Screw the new fan adjustment valve (50) by means of the wrench  
- screwing torque : 10 Nm / 7.3756 Ft/Lbs.

- **SAFETY LEVER (IND. 3) REPLACEMENT**



Remove the pin (4) by means a pin punch, remove the safety lever (3).  
Reinstall the parts in the reverse order of the disassembly sequence.

- **DISASSEMBLY OF THE TIP (22)**

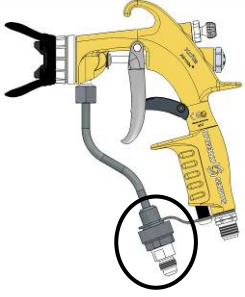
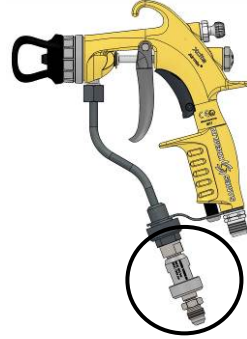
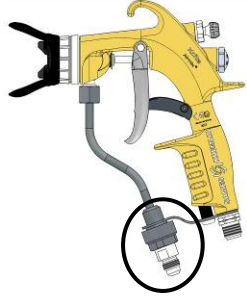


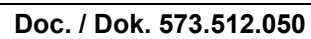
Untighten the head ring.  
Remove the tip (22) from the head (16a or 16b).  
Clean and/or change the parts.  
Reinstall the parts in the reverse order of the disassembly sequence.

|                                                                                                      |                                                                       |                                                                                                             |
|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| <b>Doc. 573.512.050</b><br>Date/Datum/Fecha : 13/11/20<br>Annule/Cancel/<br>Ersetzt/Anula : 12/12/18 | <b>Modif. / Änderung :</b><br>+#150 040 329 (x1) ->+#150 040 329 (x2) | <b>Pièces de rechange</b><br><b>Spare parts list</b><br><b>Ersatzteilliste</b><br><b>Piezas de repuesto</b> |
|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|

|                                |                                |
|--------------------------------|--------------------------------|
| <b>PISTOLET AIRMIX® XCITE™</b> | <b>XCITE™ AIRMIX SPRAY GUN</b> |
| <b>AIRMIX® PISTOLE XCITE™</b>  | <b>PISTOLA AIRMIX® XCITE™</b>  |

## TABLEAU DES CONFIGURATIONS - CONFIGURATION CHART - KONFIGURATION - CUADRO DE LAS CONFIGURACIONES

|                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b><u>120 bar / 1740 psi</u></b><br/><b># 135.720.120</b></p>  <p><u>Sans raccord tournant</u><br/><u>Without swivel fitting</u><br/><u>Ohne Drehgelenk</u><br/><u>Sin racor giratorio</u></p> | <p><b><u>120 bar / 1740 psi</u></b><br/><b># 135.720.100</b></p>  <p><u>Avec raccord tournant</u><br/><u>With swivel fitting</u><br/><u>Mit Drehgelenk</u><br/><u>Con racor giratorio</u></p> | <p><b><u>200 bar / 2900 psi</u></b><br/><b># 135.720.220</b></p>  <p><u>Sans raccord tournant</u><br/><u>Without swivel fitting</u><br/><u>Ohne Drehgelenk</u><br/><u>Sin racor giratorio</u></p> | <p><b><u>200 bar / 2900 psi</u></b><br/><b># 135.720.200</b></p>  <p><u>Avec raccord tournant</u><br/><u>With swivel fitting</u><br/><u>Mit Drehgelenk</u><br/><u>Con racor giratorio</u></p> |
| <p><b><u>400 bar / 5800 psi</u></b><br/><b># 135.720.400</b></p>  <p><u>Avec raccord tournant</u><br/><u>With swivel fitting</u><br/><u>Mit Drehgelenk</u><br/><u>Con racor giratorio</u></p>    |                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                   |

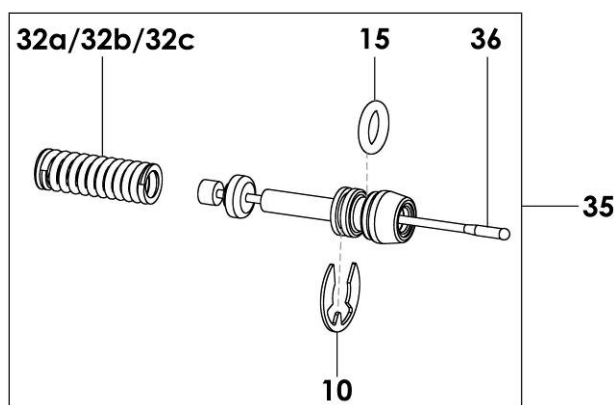


**Pièces communes - Common parts - Gleiche Teile - Partes comunes**

| Ind          | #                  | Désignation                            | Description                                | Bezeichnung                               | Denominación                                | Qté      |
|--------------|--------------------|----------------------------------------|--------------------------------------------|-------------------------------------------|---------------------------------------------|----------|
| <b>*1</b>    | <b>NC / NS</b>     | <b>Corps de pistolet équipé</b>        | <b>Body assembly</b>                       | <b>Kompletter Pistolenkörper</b>          | <b>Cuerpo pistola equipado</b>              | <b>1</b> |
| <b>*2b</b>   | <b>129 725 909</b> | <b>Gâchette + levier de sécurité</b>   | <b>Trigger + safety lever</b>              | <b>Abzugshebel + Sicherungshebel</b>      | <b>Gatillo + leva de seguridad</b>          | <b>1</b> |
| 3            | NC / NS            | ▪ Levier de sécurité                   | ▪ Safety lever                             | ▪ Sicherungshebel                         | ▪ Leva de seguridad                         | 1        |
| 4            | NC / NS            | ▪ Goupille                             | ▪ Pin                                      | ▪ Splint                                  | ▪ Pasador                                   | 1        |
| 5b           | 129 740 006        | ▪ Gâchette                             | ▪ Trigger                                  | ▪ Abzugshebel                             | ▪ Gatillo                                   | 1        |
| 6            | NC / NS            | ▪ Axe de gâchette                      | ▪ Spindle, trigger                         | ▪ Abzugsachse                             | ▪ Eje de gatillo                            | 1        |
| 7            | NC / NS            | ▪ Vis                                  | ▪ Screw                                    | ▪ Schraube                                | ▪ Tornillo                                  | 1        |
| <b>*8</b>    | <b>129 720 030</b> | <b>Soupape d'air complète</b>          | <b>Air valve assembly</b>                  | <b>Luftventil kpl.</b>                    | <b>Válvula de aire completa</b>             | <b>1</b> |
| 9            | 050 311 321        | ▪ Ressort de soupape                   | ▪ Spring, valve                            | ▪ Ventildfeder                            | ▪ Muelle de válvula                         | 1        |
|              |                    |                                        |                                            |                                           |                                             |          |
| 10           | 102 202 113        | Circlip Ø 8 (x 10)                     | Ring Ø 8 (x 10)                            | Sicherungsring Ø 8 (x 10)                 | Anillo truarc Ø 8 (x 10)                    | 1        |
| 11           | NC / NS            | Tige de pointeau                       | Needle rod                                 | Nadelstange                               | Eje de aguja                                | 1        |
| 13           | NC / NS            | Bouchon                                | Plug                                       | Stopfen                                   | Tapón                                       | 1        |
| 14           | 050 102 624        | Raccord d'air M 1/4 NPS                | Air fitting, model M 1/4 NPS               | Luftanschluss AG1/4NPS                    | Racor de aire, tipo M 1/4 NPS               | 1        |
| 15           | 109 420 298        | Joint (x 10)                           | Seal (x 10)                                | Dichtung (x 10)                           | Junta (x 10)                                | 1        |
| <b>*16 a</b> | <b>132 720 020</b> | <b>Tête complète VX24</b>              | <b>VX24 head assembly</b>                  | <b>Zerstäuberkopf kpl. VX24</b>           | <b>Cabezal completo VX24</b>                | <b>1</b> |
| 17b          | NC / NS            | ▪ Tête                                 | ▪ Head                                     | ▪ Luftkappe                               | ▪ Cabezal                                   | 1        |
| 18           | NC / NS            | ▪ Bague                                | ▪ Ring                                     | ▪ O-ring                                  | ▪ Anillo                                    | 1        |
| 19           | 129 720 075        | ▪ Joint de tête (x 2)                  | ▪ Seal, aircap (x 2)                       | ▪ O-Ring, Luftkappe (x 2)                 | ▪ Junta del cabezal (x 2)                   | 1        |
| 20           | 132 720 003        | ▪ Protection tête (x 3)                | ▪ Head protection (x 3)                    | ▪ Berührungsschutz (x 3)                  | ▪ Protección cabezal (x 3)                  | 1        |
| 21           | 150 040 330        | ▪ Joint de bague (x 10)                | ▪ Seal, ring (x 10)                        | ▪ O-Ring (x 10)                           | ▪ Junta del anillo (x 10)                   | 1        |
| <b>*25</b>   | <b>129 729 907</b> | <b>Porte-siège équipé (sans siège)</b> | <b>Seat-holder assembly (without seat)</b> | <b>Düsennadelsitz, kpl (ohne Einsatz)</b> | <b>Porta-asiento equipado (sin asiento)</b> | <b>1</b> |
| 26           | 029 600 106        | ▪ Vis                                  | ▪ Screw                                    | ▪ Schraube                                | ▪ Tornillo                                  | 1        |
| 27           | NC / NS            | ▪ Porte siège                          | ▪ Seat-holder                              | ▪ Düsennadelsitz                          | ▪ Porta-asiento                             | 1        |
| 28           | 129 729 913        | ▪ Joint torique (x 10)                 | ▪ O-Ring (x 10)                            | ▪ O-Ring (x 10)                           | ▪ Junta tórica (x 10)                       | 1        |
| 29           | 150 040 329        | ▪ Joint torique (x 10)                 | ▪ O-Ring (x 10)                            | ▪ O-Ring (x 10)                           | ▪ Junta tórica (x 10)                       | 2        |
| 30           | 129 729 912        | ▪ Joint (x 5)                          | ▪ Seal (x 5)                               | ▪ Dichtung (x 5)                          | ▪ Junta (x 5)                               | 1        |
| <b>*50</b>   | <b>129 720 020</b> | <b>Pointeau d'air assemblé</b>         | <b>Fan adjustment valve</b>                | <b>Spritzstrahl-Regulierventil kpl.</b>   | <b>Aguja de aire montada</b>                | <b>1</b> |
| 51           | 150 040 328        | ▪ Joint torique (x 10)                 | ▪ O-Ring (x 10)                            | ▪ O-Ring (x 10)                           | ▪ Junta tórica (x 10)                       | 1        |
| 52           | 102 202 101        | ▪ Circlip Ø 5 (x 10)                   | ▪ Ring Ø 5 (x 10)                          | ▪ Sicherungsring Ø 5 (x 10)               | ▪ Anillo truarc Ø 5 (x 10)                  | 1        |

| Ind | #           | Désignation            | Description              | Bezeichnung                  | Denominación             | Qté |
|-----|-------------|------------------------|--------------------------|------------------------------|--------------------------|-----|
| 60  | 129 720 085 | Tube produit assemblé  | Protective tube assembly | Farbrohr kpl.                | Tubo producto equipado   | 1   |
| 61  | NC / NS     | ▪ Tube produit         | ▪ Protective tube        | ▪ Farbrohr                   | ▪ Tubo producto          | 1   |
| 62  | 029 670 072 | ▪ Entretoise           | ▪ Spacer                 | ▪ Buchse                     | ▪ Tirante                | 1   |
| 63  | 934 081 332 | ▪ Vis                  | ▪ Screw                  | ▪ Schraube                   | ▪ Tornillo               | 1   |
| 64  | 129 529 918 | ▪ Joint (x 10)         | ▪ Seal (x 10)            | ▪ Dichtung (x 10)            | ▪ Junta (x 10)           | 1   |
| *65 | 129 609 908 | ▪ Tamis n° 6 (x 5)     | ▪ Screen n° 6 (x 5)      | ▪ Sieb, Größe 6 (x 5)        | ▪ Tamiz de 6 (x 5)       | 1   |
| 66  | 029 720 083 | ▪ Support tamis        | ▪ Support, screen        | ▪ Stützschraube für Sieb     | ▪ Soporte tamiz          | 1   |
| 68  | 129 520 370 | Ensemble cuve et écrou | Cup and nut assembly     | Filterkörper und Mutter kpl. | Conjunto cubeta y tuerca | 1   |
| 69  | 029 520 372 | ▪ Corps de filtre      | ▪ Body filter            | ▪ Filterkörper               | ▪ Cuerpo de filtro       | 1   |
| 70  | 029 520 306 | ▪ Ecou                 | ▪ Nut                    | ▪ Mutter                     | ▪ Tuerca                 | 1   |

**Pièces spécifiques - Specific parts - Spezifische Teile - Partes específicas**



**Mod. Xcite - 120b / 1740 psi**

| Ind  | #           | Désignation                         | Description                                       | Bezeichnung                            | Denominación                      | Qté |
|------|-------------|-------------------------------------|---------------------------------------------------|----------------------------------------|-----------------------------------|-----|
| 12a  | NC / NS     | Entraîneur de pointe                | Needle carrier                                    | Federführung                           | Arrastre de aguja                 | 1   |
| 31a  | NC / NS     | Fourreau (120 bar)                  | Sleeve, needle stop (120 bar / 1740 psi)          | Nadelführung (120 bar)                 | Manguito (120 bar)                | 1   |
| 32a  | 129 729 914 | Ressort de pointe (120 bar) (x 5)   | Spring, fluid needle (120 bar / 1740 psi) (x 5)   | Farbnadelfeder (120 bar) (x 5)         | Muelle de aguja (120 bar) (x 5)   | 1   |
| *33a | 129 729 905 | Siège en inox avec joint (x 2)      | Seat with seal, stainless steel (x 2)             | Edelstahl Einsatz mit Dichtung (2 St.) | Asiento en inox con junta (x 2)   | 1   |
| *34a | 129 629 922 | ▪ Joint de siège (x 10)             | ▪ Seal, seat (x 10)                               | ▪ Dichtung (x 10)                      | ▪ Junta asiento (x 10)            | 1   |
| *35  | 129 720 150 | Ligne pointe                        | Needle assembly                                   | Farbnadel mit Packung                  | Conjunto aguja                    | 1   |
| 36   | NC / NS     | ▪ Pointe                            | ▪ Needle                                          | ▪ Farbnadel                            | ▪ Aguja                           | 1   |
| 10   | 102 202 113 | ▪ Circlip Ø 8 (x 10)                | ▪ Ring Ø 8 (x 10)                                 | ▪ Sicherungsring Ø 8 (x 10)            | ▪ Anillo truarc Ø 8 (x 10)        | 1   |
| 15   | 109 420 298 | ▪ Joint                             | ▪ Seal                                            | ▪ Dichtung                             | ▪ Junta                           | 1   |
| 32a  | 129 729 914 | ▪ Ressort de pointe (120 bar) (x 5) | ▪ Spring, fluid needle (120 bar / 1740 psi) (x 5) | ▪ Farbnadelfeder (120 bar) (x 5)       | ▪ Muelle de aguja (120 bar) (x 5) | 1   |

**Mod. Xcite - 200b / 2900 psi**

| Ind         | #                  | Désignation                              | Description                                       | Bezeichnung                                    | Denominación                           | Qté      |
|-------------|--------------------|------------------------------------------|---------------------------------------------------|------------------------------------------------|----------------------------------------|----------|
| 12a         | NC / NS            | Entraîneur de pointeau                   | Needle carrier                                    | Federführung                                   | Arrastre de aguja                      | 1        |
| 31b         | NC / NS            | Fourreau (200 bar)                       | Sleeve, needle stop (200 bar / 2900 psi)          | Nadelführung (200 bar)                         | Manguito (200 bar)                     | 1        |
| 32b         | 129 729 915        | Ressort de pointeau (200 bar) (x 5)      | Spring, fluid needle (200 bar / 2900 psi) (x 5)   | Farbnadelfeder (200 bar) (x 5)                 | Muelle de aguja (200 bar) (x 5)        | 1        |
| <b>*33b</b> | <b>129 679 906</b> | <b>Siège en carbure avec joint (x 2)</b> | <b>Seat with seal, carbide (x 2)</b>              | <b>Hartmetall-Einsatz mit Dichtung (2 St.)</b> | <b>Asiento carburo con junta (x 2)</b> | <b>1</b> |
| *34a        | 129 629 922        | ▪ Joint de siège (x 10)                  | ▪ Seal, seat (x 10)                               | ▪ Dichtung (x 10)                              | ▪ Junta asiento (x 10)                 | 1        |
| <b>*35</b>  | <b>129 720 250</b> | <b>Ligne pointeau</b>                    | <b>Needle assembly</b>                            | <b>Farbnadel mit Packung</b>                   | <b>Conjunto aguja</b>                  | <b>1</b> |
| 36          | NC / NS            | ▪ Pointeau                               | ▪ Needle                                          | ▪ Farbnadel                                    | ▪ Aguja                                | 1        |
| 10          | 102 202 113        | ▪ Circlip Ø 8 (x 10)                     | ▪ Ring Ø 8 (x 10)                                 | ▪ Sicherungsring Ø 8 (x 10)                    | ▪ Anillo truarc Ø 8 (x 10)             | 1        |
| 15          | 109 420 298        | ▪ Joint                                  | ▪ Seal                                            | ▪ Dichtung                                     | ▪ Junta                                | 1        |
| 32b         | 129 729 915        | ▪ Ressort de pointeau (200 bar) (x 5)    | ▪ Spring, fluid needle (200 bar / 2900 psi) (x 5) | ▪ Farbnadelfeder (200 bar) (x 5)               | ▪ Muelle de aguja (200 bar) (x 5)      | 1        |

**Mod. Xcite - 400b / 5800 psi**

| Ind         | #                  | Désignation                              | Description                                       | Bezeichnung                                    | Denominación                           | Qté      |
|-------------|--------------------|------------------------------------------|---------------------------------------------------|------------------------------------------------|----------------------------------------|----------|
| 12c         | NC / NS            | Entraîneur de pointeau                   | Needle carrier                                    | Federführung                                   | Arrastre de aguja                      | 1        |
| 31c         | NC / NS            | Fourreau (400 bar)                       | Sleeve, needle stop (400 bar / 5800 psi)          | Nadelführung (400 bar)                         | Manguito (400 bar)                     | 1        |
| 32c         | 129 729 916        | Ressort de pointeau (400 bar) (x 5)      | Spring, fluid needle (400 bar / 5800 psi) (x 5)   | Farbnadelfeder (400 bar) (x 5)                 | Muelle de aguja (400 bar) (x 5)        | 1        |
| <b>*33c</b> | <b>129 729 917</b> | <b>Siège en carbure avec joint (x 2)</b> | <b>Seat with seal, carbide (x 2)</b>              | <b>Hartmetall-Einsatz mit Dichtung (2 St.)</b> | <b>Asiento carburo con junta (x 2)</b> | <b>1</b> |
| *34c        | NC / NS            | ▪ Joint Peek (x 2)                       | ▪ Peek seal (x 2)                                 | ▪ Peek Dichtung (x 2)                          | ▪ Junta Peek (x 2)                     | 1        |
| <b>*35</b>  | <b>129 720 450</b> | <b>Ligne pointeau</b>                    | <b>Needle assembly</b>                            | <b>Farbnadel mit Packung</b>                   | <b>Conjunto aguja</b>                  | <b>1</b> |
| 36          | NC / NS            | ▪ Pointeau                               | ▪ Needle                                          | ▪ Farbnadel                                    | ▪ Aguja                                | 1        |
| 10          | 102 202 113        | ▪ Circlip Ø 8 (x 10)                     | ▪ Ring Ø 8 (x 10)                                 | ▪ Sicherungsring Ø 8 (x 10)                    | ▪ Anillo truarc Ø 8 (x 10)             | 1        |
| 15          | 109 420 298        | ▪ Joint                                  | ▪ Seal                                            | ▪ Dichtung                                     | ▪ Junta                                | 1        |
| 32c         | 129 729 916        | ▪ Ressort de pointeau (400 bar) (x 5)    | ▪ Spring, fluid needle (400 bar / 5800 psi) (x 5) | ▪ Farbnadelfeder (400 bar) (x 5)               | ▪ Muelle de aguja (400 bar) (x 5)      | 1        |

**Mod. Avec raccord tournant / With swivel fitting / Mit Drehgelenk / Con racor giratorio**

| Ind | #           | Désignation      | Description    | Bezeichnung | Denominación    | Qté |
|-----|-------------|------------------|----------------|-------------|-----------------|-----|
| 71  | 129 670 425 | Raccord tournant | Swivel fitting | Drehgelenk  | Racor giratorio | 1   |

| Ind | #           | Désignation                   | Description            | Bezeichnung                    | Denominación                | Qté |
|-----|-------------|-------------------------------|------------------------|--------------------------------|-----------------------------|-----|
| *2a | 129 729 909 | Gâchette + levier de sécurité | Trigger + safety lever | Abzugshebel + Sicherungsshebel | Gatillo + leva de seguridad | 1   |
| 3   | NC / NS     | ▪ Levier de sécurité          | ▪ Safety lever         | ▪ Sicherungsshebel             | ▪ Leva de seguridad         | 1   |
| 4   | NC / NS     | ▪ Goupille                    | ▪ Pin                  | ▪ Splint                       | ▪ Pasador                   | 1   |
| 5a  | 129 740 007 | ▪ Gâchette                    | ▪ Trigger              | ▪ Abzugshebel                  | ▪ Gatillo                   | 1   |
| 6   | NC / NS     | ▪ Axe de gâchette             | ▪ Spindle, trigger     | ▪ Abzugsachse                  | ▪ Eje de gatillo            | 1   |
| 7   | NC / NS     | ▪ Vis                         | ▪ Screw                | ▪ Schraube                     | ▪ Tornillo                  | 1   |

**POCHETTES - KITS - SÄTZE - BOLSAS**

| Ind | #           | Désignation                                                             | Description                                               | Bezeichnung                                                   | Denominación                                                       | Qté |
|-----|-------------|-------------------------------------------------------------------------|-----------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------------------------------|-----|
| *   | 129 729 919 | Pochette levier de sécurité (ind. 3 et 4) (x5)                          | Safety lever kit (ind. 3 and 4) (x5)                      | Sicherungsshebel Dichtungssatz (Pos. 3 und 4) (x5)            | Bolsa leva de seguridad (ind. 3 y 4) (x5)                          | 1   |
| *   | 129 729 908 | Pochette de joints air (ind. 19, 21, 29 (x2), 51, 52 + tube de graisse) | Air seal kit (ind. 19, 21, 29 (x2), 51, 52 + grease tube) | Luft Dichtungssatz (Pos. 19, 21, 29 (x2), 51, 52 + Tube Fett) | Bolsa de juntas aire (ind. 19, 21, 29 (x2), 51, 52+ tubo de grasa) | 1   |

**Mod. Xcite 120 bar / 1740 psi**

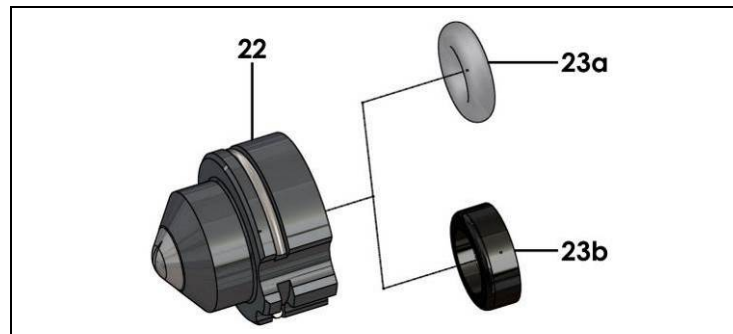
| Ind | #           | Désignation                                                                                    | Description                                                                   | Bezeichnung                                                                         | Denominación                                                                              | Qté |
|-----|-------------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-----|
| *   | 129 729 901 | Pochette de joints produit (ind. 10, 15, 23a, 23b, 28, 30, 34a, 42, 43, 64 + tube de graisse)  | Fluid seal kit (ind. 10, 15, 23a, 23b, 28, 30, 34a, 42, 43, 64 + grease tube) | Material Dichtungssatz (Pos. 10, 15, 23a, 23b, 28, 30, 34a, 42, 43, 64 + Tube Fett) | Bolsa de juntas producto (ind. 10, 15, 23a, 23b, 28, 30, 34a, 42, 43, 64 + tubo de grasa) | 1   |
| *   | 129 729 920 | Pochette de maintenance (ind. 3, 4, 6, 7, 8, 9, 10, 32a, 36, 50, 51, 65 + pochettes de joints) | Servicing kit (ind. 3, 4, 6, 7, 8, 9, 10, 32a, 36, 50, 51, 65 + seal kits)    | Reparatursatz (Pos. 3, 4, 6, 7, 8, 9, 10, 32a, 36, 50, 51, 65 + Dichtungssatz)      | Bolsa de reparación (ind. 3, 4, 6, 7, 8, 9, 10, 32a, 36, 50, 51, 65 + bolsas de juntas)   | 1   |
| *   | 129 729 910 | Pochette de maintenance ligne arrière (ind. 11, 12a, 31a, 32a)                                 | Servicing kit - rear line - (ind. 11, 12a, 31a, 32a)                          | Reparatursatz - Rückseite (Pos. 11, 12a, 31a, 32a)                                  | Bolsa de reparación - línea trasera (ind. 11, 12a, 31a, 32a)                              | 1   |

**Mod. Xcite 200 bar / 2900 psi**

| Ind | #           | Désignation                                                                                    | Description                                                                   | Bezeichnung                                                                         | Denominación                                                                              | Qté |
|-----|-------------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-----|
| *   | 129 729 901 | Pochette de joints produit (ind. 10, 15, 23a, 23b, 28, 30, 34a, 42, 43, 64 + tube de graisse)  | Fluid seal kit (ind. 10, 15, 23a, 23b, 28, 30, 34a, 42, 43, 64 + grease tube) | Material Dichtungssatz (Pos. 10, 15, 23a, 23b, 28, 30, 34a, 42, 43, 64 + Tube Fett) | Bolsa de juntas producto (ind. 10, 15, 23a, 23b, 28, 30, 34a, 42, 43, 64 + tubo de grasa) | 1   |
| *   | 129 729 921 | Pochette de maintenance (ind. 3, 4, 6, 7, 8, 9, 10, 32b, 36, 50, 51, 65 + pochettes de joints) | Servicing kit (ind. 3, 4, 6, 7, 8, 9, 10, 32b, 36, 50, 51, 65 + seal kits)    | Reparatursatz (Pos. 3, 4, 6, 7, 8, 9, 10, 32b, 36, 50, 51, 65 + Dichtungssatz)      | Bolsa de reparación (ind. 3, 4, 6, 7, 8, 9, 10, 32b, 36, 50, 51, 65 + bolsa de juntas)    | 1   |
| *   | 129 729 911 | Pochette de maintenance ligne arrière (ind. 11, 12a, 31b, 32b)                                 | Servicing kit - rear line - (ind. 11, 12a, 31b, 32b)                          | Reparatursatz - Rückseite (Pos. 11, 12a, 31b, 32b)                                  | Bolsa de reparación - línea trasera (ind. 11, 12a, 31b, 32b)                              | 1   |

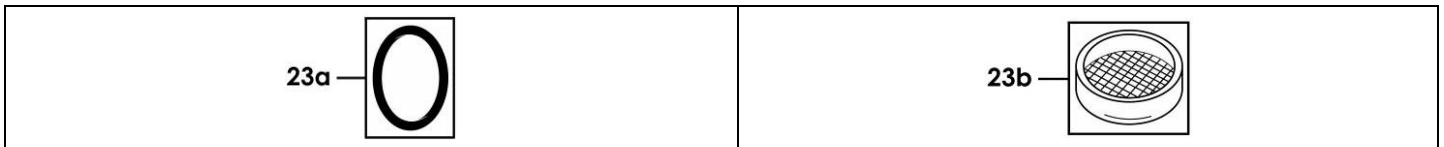
| Ind | #           | Désignation                                                                                    | Description                                                                   | Bezeichnung                                                                         | Denominación                                                                              | Qté |
|-----|-------------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-----|
| *   | 129 729 941 | Pochette de joints produit (ind. 10, 15, 23a, 23b, 28, 30, 34c, 42, 43, 64 + tube de graisse)  | Fluid seal kit (ind. 10, 15, 23a, 23b, 28, 30, 34c, 42, 43, 64 + grease tube) | Material Dichtungssatz (Pos. 10, 15, 23a, 23b, 28, 30, 34c, 42, 43, 64 + Tube Fett) | Bolsa de juntas producto (ind. 10, 15, 23a, 23b, 28, 30, 34c, 42, 43, 64 + tubo de grasa) | 1   |
| *   | 129 729 918 | Pochette de maintenance ligne arrière (ind. 11, 12c, 31c, 32c)                                 | Servicing kit - rear line - (ind. 11, 12c, 31c, 32c)                          | Reparatursatz - Rückseite (Pos. 11, 12c, 31c, 32c)                                  | Bolsa de reparación - línea trasera (ind. 11, 12c, 31c, 32c)                              | 1   |
|     | 129 729 943 | Pochette de maintenance (ind. 3, 4, 6, 7, 8, 9, 10, 32c, 36, 50, 51, 65 + pochettes de joints) | Servicing kit (ind. 3, 4, 6, 7, 8, 9, 10, 32c, 36, 50, 51, 65 + seal kits)    | Reparatursatz (Pos. 3, 4, 6, 7, 8, 9, 10, 32c, 36, 50, 51, 65 + Dichtungssatz)      | Bolsa de reparación (ind. 3, 4, 6, 7, 8, 9, 10, 32c, 36, 50, 51, 65 + bolsa de juntas)    | 1   |

**BUSES - TIPS - DÜSEN - BOQUILLAS**



| Ind | #           | Désignation | Description | Bezeichnung | Denominación | Qté |
|-----|-------------|-------------|-------------|-------------|--------------|-----|
| 22  | 134 5xx xxx | Buse        | Tip         | Düse        | Boquilla     | 1   |

**Joint et micro-tamis - Microfilter and seal - Dichtungen und Mikrosieb - Junta y microtamiz**

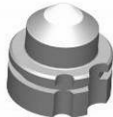


| Ind   | #           | Désignation                                                           | Description                                                    | Bezeichnung                                                  | Denominación                                                       | Qté |
|-------|-------------|-----------------------------------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------------|-----|
| 23 a  | 129 529 903 | Joint PTFE (x 10)<br>- Seulement pour buse de 09 et calibre supérieur | PTFE seal (x 10)<br>- Only for tips size 09 and above          | PTFE-Düsendichtungen (x 10) - Nur für Düsentyp 09 und größer | Junta PTFE (x 10)<br>- Sólo para boquilla de 09 y calibre superior | 1   |
| *23 b | 129 609 901 | Micro-tamis 100 µ (x 10)<br>- Seulement pour buses 03, 04 et 06       | Microfilter 100 µ (x 10)<br>- Only for tips size 03, 04 and 06 | Micro-Sieb 100 µ (x 10)<br>- Nur für Düsentyp 03, 04 und 06  | Micro-tamiz 100 µ (x 10)<br>- Sólo para boquillas 03, 04 y 06      | 1   |

# **TABLEAU DES BUSES - TIP CHART - DÜSENTABELLE - CUADRO DE BOQUILLAS**

(Buses avec porte-insert inox / Tips with stainless steel insert-holder  
Düsen mit Edelstahlfassung / Boquillas con porta inserto de inox)

## **Buses standards / Standard tips / Standard Düsen / Boquillas estándar**

|                                                                                   |          |                                                                           |                       |                        |                        |                                                                                                              |                                 |                                                                                                                                                                                         |        |        |        |        |        |        |         |        |         |  |
|-----------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------|-----------------------|------------------------|------------------------|--------------------------------------------------------------------------------------------------------------|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|--------|--------|--------|---------|--------|---------|--|
|  |          | Débit d'eau<br>Water output<br>Wasserdurchsatz<br>Caudal agua<br>(l / mn) |                       |                        |                        | Repères tamis<br>pour filtre<br>Mesh number<br>for filter<br>Siebgrösse für<br>Filter<br>Índices para filtro |                                 | Largeur de jet à 25 cm / Spray fan width at 25 cm (10 ")<br>Strahlbreite bei 25 cm Abstand / Ancho abanico à 25 cm<br><b>Avec tête / with aircap / mit Zerstäuberkopf / con cabezal</b> |        |        |        |        |        |        |         |        |         |  |
|                                                                                   |          |                                                                           |                       |                        |                        |                                                                                                              |                                 | Maxi (cm)                                                                                                                                                                               |        |        |        |        |        |        |         |        |         |  |
|                                                                                   |          |                                                                           |                       |                        |                        |                                                                                                              |                                 | 9                                                                                                                                                                                       | 12     | 17     | 21     | 25     | 29     | 33     | 37      | 44     | 56      |  |
|                                                                                   |          |                                                                           |                       |                        |                        |                                                                                                              |                                 | Maxi (")                                                                                                                                                                                |        |        |        |        |        |        |         |        |         |  |
| Calibre<br>Size<br>Grösse                                                         | Ø.<br>mm | Pression / Pressure<br>/ Druck / Presión                                  |                       |                        |                        | Pistolet<br>Gun<br>Pistole<br>Pistola                                                                        | Pompe<br>Pump<br>Pumpe<br>Bomba | 3.5                                                                                                                                                                                     | 4.7    | 6.7    | 8      | 10     | 12     | 13     | 14.5    | 17.3   | 22      |  |
|                                                                                   |          | 35 bar<br>500<br>psi                                                      | 70 bar<br>1000<br>psi | 120 bar<br>1740<br>psi | 200 bar<br>2900<br>psi |                                                                                                              |                                 |                                                                                                                                                                                         |        |        |        |        |        |        |         |        |         |  |
|                                                                                   |          |                                                                           |                       |                        |                        |                                                                                                              |                                 | Nombre gravé sur la buse / Number engraved on the tip<br>Eingravierte Kennzahl auf der Düse<br>/ índice gravado sobre la boquilla                                                       |        |        |        |        |        |        |         |        |         |  |
| 02                                                                                | 0,15     | 0,07                                                                      | 0,10                  | 0,13                   | 0,17                   | 4                                                                                                            | 2                               | 02.034                                                                                                                                                                                  | 02.054 |        |        | 02.114 |        |        |         |        |         |  |
| 03                                                                                | 0,18     | 0,11                                                                      | 0,15                  | 0,20                   | 0,26                   | 4                                                                                                            | 2                               | 03.034                                                                                                                                                                                  | 03.054 | 03.074 |        |        | 03.134 |        |         |        |         |  |
| 04                                                                                | 0,23     | 0,16                                                                      | 0,22                  | 0,29                   | 0,38                   | 4                                                                                                            | 2 ou 4                          | 04.034                                                                                                                                                                                  | 04.054 | 04.074 | 04.094 | 04.114 | 04.134 |        |         |        |         |  |
| 06                                                                                | 0,28     | 0,23                                                                      | 0,33                  | 0,43                   | 0,57                   | 4                                                                                                            | 4 ou 6                          | 06.034                                                                                                                                                                                  | 06.054 | 06.074 | 06.094 | 06.114 | 06.134 | 06.154 |         |        |         |  |
| 07                                                                                | 0,30     | 0,28                                                                      | 0,39                  | 0,51                   | 0,66                   | 6                                                                                                            | 4 ou 6                          |                                                                                                                                                                                         |        |        |        |        |        | 07.154 |         |        |         |  |
| 09                                                                                | 0,33     | 0,32                                                                      | 0,45                  | 0,59                   | 0,77                   | 6                                                                                                            | 6 ou 8                          | 09.034                                                                                                                                                                                  | 09.054 | 09.074 | 09.094 | 09.114 | 09.134 | 09.154 | 09.174  |        |         |  |
| 12                                                                                | 0,38     | 0,42                                                                      | 0,60                  | 0,79                   | 1,03                   | 6                                                                                                            | 8 ou 12                         |                                                                                                                                                                                         |        | 12.074 | 12.094 | 12.114 | 12.134 | 12.154 | 12.174  |        |         |  |
| 14                                                                                | 0,41     | 0,51                                                                      | 0,72                  | 0,94                   | 1,23                   | 12                                                                                                           | 8 ou 12                         |                                                                                                                                                                                         | 14.054 | 14.074 | 14.094 | 14.114 | 14.134 | 14.154 | 14.174  |        |         |  |
| 18                                                                                | 0,48     | 0,67                                                                      | 0,95                  | 1,24                   | 1,63                   | 12                                                                                                           | 12                              |                                                                                                                                                                                         |        |        |        |        | 18.134 | 18.154 | 18.174  | 18.194 |         |  |
| 20                                                                                | 0,50     | 0,76                                                                      | 1,06                  | 1,39                   | 1,82                   | 12                                                                                                           | 12                              |                                                                                                                                                                                         |        | 20.074 | 20.094 | 20.114 | 20.134 | 20.154 | 20.174  | 20.194 |         |  |
| 25                                                                                | 0,56     | 0,94                                                                      | 1,33                  | 1,74                   | 2,28                   | 12                                                                                                           | 15                              |                                                                                                                                                                                         |        |        |        |        | 25.134 |        | 25.174  |        |         |  |
| 30                                                                                | 0,61     | 1,13                                                                      | 1,60                  | 2,09                   | 2,74                   | 12                                                                                                           | 15                              |                                                                                                                                                                                         |        |        |        | 30.114 | 30.134 | 30.154 | 30.174  | 30.194 |         |  |
| 40                                                                                | 0,72     | 1,54                                                                      | 2,18                  | 2,85                   | 3,73                   | 12                                                                                                           | 20                              |                                                                                                                                                                                         |        |        |        |        |        |        | 40.174  |        |         |  |
| 45                                                                                | 0,76     | 1,68                                                                      | 2,38                  | 3,12                   | 4,08                   | 12                                                                                                           | 20                              |                                                                                                                                                                                         |        |        |        | 45.114 |        | 45.154 | 45.174  | 45.194 |         |  |
| 100                                                                               | 1,04     | 3,96                                                                      | 5,68                  | 7,33                   | 9,47                   | 12                                                                                                           | 20-30                           |                                                                                                                                                                                         |        |        |        |        |        |        | 100.174 |        | 100.214 |  |

## **Buses spéciales pour peintures hydrodiluables / Specific tips for water-based paints Spezifische Düsen für Wasserlacke / Boquillas específicas para pinturas hidrosolubles**

|    |      |      |      |      |      |    |         |        |        |        |        |        |        |        |        |  |  |
|----|------|------|------|------|------|----|---------|--------|--------|--------|--------|--------|--------|--------|--------|--|--|
| 04 | 0,23 | 0,16 | 0,22 | 0,29 | 0,38 | 4  | 2 ou 4  | 04.032 | 04.052 | 04.072 | 04.092 | 04.112 | 04.132 |        |        |  |  |
| 06 | 0,28 | 0,23 | 0,33 | 0,43 | 0,57 | 4  | 4 ou 6  | 06.032 | 06.052 | 06.072 | 06.092 | 06.112 | 06.132 | 06.152 |        |  |  |
| 07 | 0,30 | 0,28 | 0,39 | 0,51 | 0,66 | 6  | 4 ou 6  |        |        |        |        |        |        | 07.152 |        |  |  |
| 09 | 0,33 | 0,32 | 0,45 | 0,59 | 0,77 | 6  | 6 ou 8  | 09.032 | 09.052 | 09.072 | 09.092 | 09.112 | 09.132 | 09.152 |        |  |  |
| 12 | 0,38 | 0,42 | 0,60 | 0,79 | 1,03 | 6  | 8 ou 12 |        |        | 12.072 | 12.092 | 12.112 | 12.132 | 12.152 | 12.172 |  |  |
| 14 | 0,41 | 0,51 | 0,72 | 0,94 | 1,23 | 12 | 8 ou 12 |        | 14.052 | 14.072 | 14.092 | 14.112 | 14.132 | 14.152 | 14.172 |  |  |

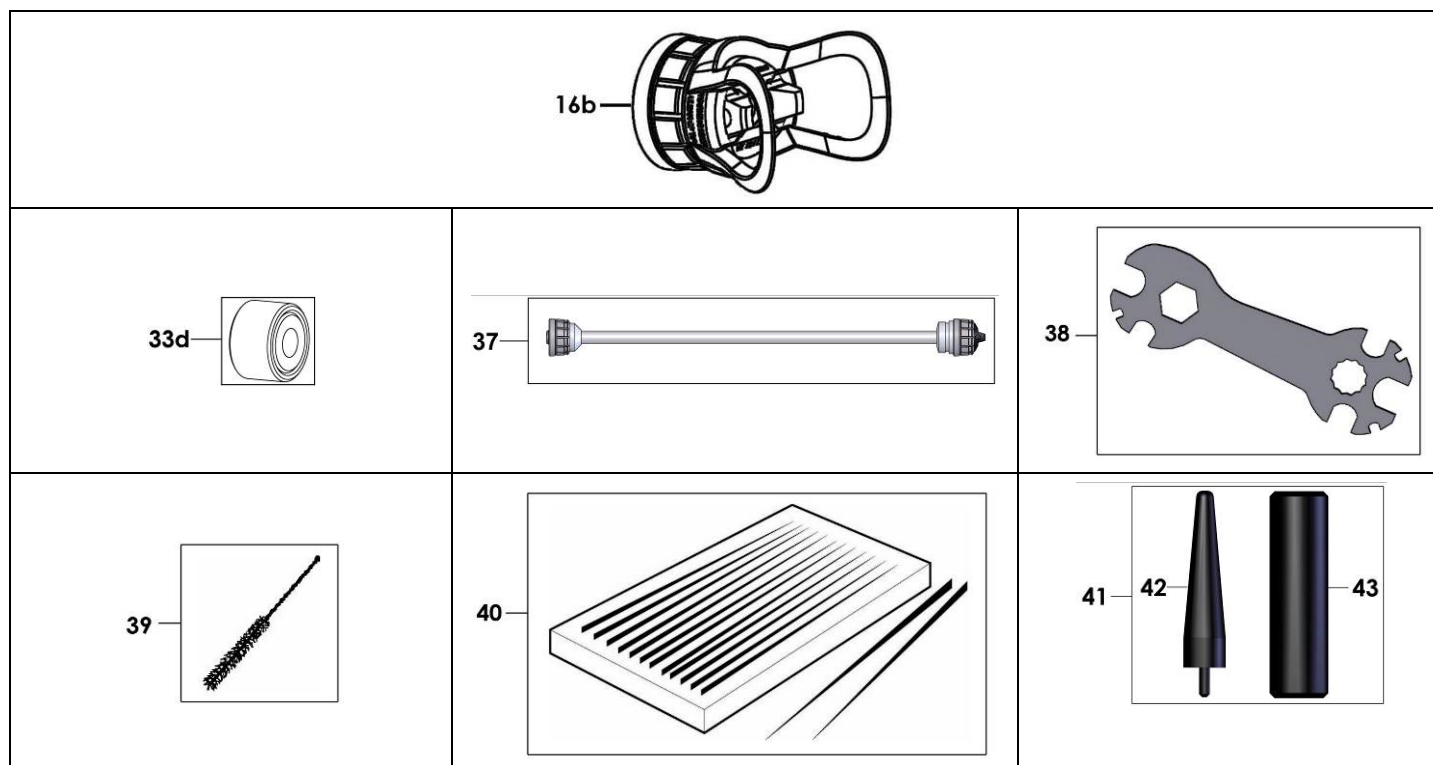
Réglage de jet optimal / Optimum fan adjustment / Optimale Strahlregulierung / Ajuste de abanico óptimo

Pour établir la référence d'une buse, remplacer les croix par le nombre repère de la buse précédé de 134.5XX.XXX  
Exemple : pour commander une buse 09.094, utiliser la référence : 134 509 094

To obtain tip part number, replace the crosses by the engraved tip number preceded by 134.5XX.XXX  
Example : use part number 134 509 094 to obtain Tip N° 09.094

Die Bestell-Nr. erhält man, indem man die Kreuze durch die vorgenannte Kennzahl ersetzt : 134.5XX.XXX  
Beispiel : für eine Düse 09.094 ergibt sich die Bestell-Nr. : 134 509 094

Para establecer la referencia de una boquilla reemplazar las cruces por el número de la boquilla precedido por 134.5XX.XXX  
ejemplo : para pedir una boquilla 09.094 emplear la referencia : 134 509 094



***Pièces communes - Common parts - Gleiche Teile - Partes comunes***

| Ind  | #           | Désignation                                                                                       | Description                                                          | Bezeichnung                                                            | Denominación                                                          | Qté    |
|------|-------------|---------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|------------------------------------------------------------------------|-----------------------------------------------------------------------|--------|
| *16b | 132 720 055 | Tête complète VX124                                                                               | VX124 head assembly                                                  | Zerstäuberkopf kpl. VX124                                              | Cabezal completo VX124                                                | 1      |
| 17b  | NC / NS     | ▪ Tête                                                                                            | ▪ Head                                                               | ▪ Luftkappel                                                           | ▪ Cabezal                                                             | 1      |
| 18   | NC / NS     | ▪ Bague                                                                                           | ▪ Ring                                                               | ▪ O-ring                                                               | ▪ Anillo                                                              | 1      |
| 19   | 129 720 075 | ▪ Joint de tête (x 2)                                                                             | ▪ Seal, aircap (x 2)                                                 | ▪ O-Ring, Luftkappe (x 2)                                              | ▪ Junta de cabezal (x 2)                                              | 1      |
| 20   | 132 720 003 | ▪ Protection tête (x 3)                                                                           | ▪ Head protection (x 3)                                              | ▪ Berührungsschutz (x 3)                                               | ▪ Protección cabezal (x 3)                                            | 1      |
| 21   | 150 040 330 | ▪ Joint de bague (x 10)                                                                           | ▪ Seal, ring (x 10)                                                  | ▪ O-Ring (x10.)                                                        | ▪ Junta del anillo (x 10)                                             | 1      |
| 37   | 075 810 010 | Allonge<br>Longueur : 400mm                                                                       | Extension<br>Lenght : 400 mm / 16 "                                  | Verlängerung<br>Länge : 400 mm                                         | Alargadera<br>Longitud : 400 mm                                       | 1      |
| 38   | 049 030 042 | Clé plate                                                                                         | Gun wrench                                                           | Pistolenschlüssel                                                      | Llave para pistola                                                    | 1      |
| 39   | 906 300 101 | Goupillon                                                                                         | Large size brush                                                     | Pistolenreinigungsbürste                                               | Cepillo grande                                                        | 1      |
| 40   |             | Aiguilles de débouchage<br>(x12) pour buses :<br>de 06 à 09<br>000 094 000<br>000 094 002<br>> 09 | Unclogging needles<br>(x12) for tips :<br>size 06 to 09<br>size > 09 | Düsenreinigungs-Nadeln<br>(x12) für Düsen:<br>Von 06 bis 09<br>ab > 09 | Agujas desobturadoras<br>(x12) para boquillas :<br>De 06 a 09<br>> 09 | 1<br>1 |
| 41   | 129 729 922 | Kit outils                                                                                        | Tools kit                                                            | Montage-Werkzeugsatz                                                   | Kit herramientas                                                      | 1      |
| 42   | NC / NS     | ▪ Flamme : outillage pour montage joint                                                           | ▪ Starter seal tool                                                  | ▪ Konus für Dichtungsmontage                                           | ▪ Herramienta para montaje junta                                      | 1      |
| 43   | NC / NS     | ▪ Poussoir montage joint                                                                          | ▪ Seal installation tool                                             | ▪ Dorn für Dichtungsmontage                                            | ▪ Herramienta para montaje junta                                      | 1      |

**Pièces spécifiques - Specific parts - Spezifische Teile - Partes específicas**

**Mod. Xcite 120 bar / 2900 psi**

| Ind      | #           | Désignation                                             | Description                                                                            | Bezeichnung                                                    | Denominación                                                         | Qté |
|----------|-------------|---------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------------|-----|
| *33<br>d | 129 729 904 | Siège acétal (x 10)                                     | Seat, acetal (x 10)                                                                    | Acetal Einsatz (x 10)                                          | Asiento acetal (x 10)                                                | 1   |
| -        | 155 010 000 | Filtre produit MM 1/2 JIC<br>(200 bar max.)             | Fluid filter MM 1/2 JIC<br>(200 bar<br>/ 2900.6 psi max.)                              | Materialfilter<br>AG AG1/2 JIC<br>(200 bar max.)               | Filtro product MM 1/2 JIC<br>(200 bar máx.)                          | 1   |
| -        | 050 450 853 | Tuyau AIRMIX®<br>(Ø 4,8 mm - Lg. 7,5 m<br>- 120 bar)    | AIRMIX® hose<br>(Ø 4,8 mm / 3/16" - 7,5 m<br>/ 24.6 ft length<br>- 120 bar / 1740 psi) | AIRMIX® - Schlauch<br>(Ø 4,8 mm - Länge<br>7,5m - 120 bar)     | Tubería AIRMIX®<br>(Ø 4,8 mm - Longitud 7,5m<br>- 120 bar)           | 1   |
| -        | 050 382 114 | Tuyau air<br>(Ø 6,5x10,5 mm -<br>Lg. 7,5 m - F 1/4 NPS) | Air hose<br>(Ø 6.5x10.5 mm<br>- 7,5 m / 24.6 ft length<br>- F 1/4 NPS)                 | Luftschlauch<br>(Ø 6.5x10.5mm -<br>Länge 7,5m -<br>IG 1/4 NPS) | Tubería de aire<br>(Ø 6,5x10,5 mm<br>- Longitud 7,5m<br>- H 1/4 NPS) | 1   |
| -        | 129 270 087 | Protection tuyaux                                       | Hose protection                                                                        | Schutzschlauch                                                 | Protección tuberías                                                  | 1   |

**Mod. Xcite 200 bar / 2900 psi**

| Ind      | #           | Désignation                                             | Description                                                                            | Bezeichnung                                                    | Denominación                                                         | Qté |
|----------|-------------|---------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------------|-----|
| *33<br>d | 129 729 904 | Siège acétal (x 10)                                     | Seat, acetal (x 10)                                                                    | Acetal Einsatz (x 10)                                          | Asiento acetal (x 10)                                                | 1   |
| -        | 155 010 000 | Filtre produit MM 1/2 JIC<br>(200 bar max.)             | Fluid filter MM 1/2 JIC<br>(200 bar<br>/ 2900.6 psi max.)                              | Materialfilter<br>AG AG1/2 JIC<br>(200 bar max.)               | Filtro product MM 1/2 JIC<br>(200 bar máx.)                          | 1   |
| -        | 050 450 653 | Tuyau AIRMIX®<br>(Ø 4,8 mm - Lg. 7,5 m<br>- 240 bar)    | AIRMIX® hose<br>(Ø 4,8 mm / 3/16" - 7,5 m<br>/ 24.6 ft length<br>- 240 bar / 3480 psi) | AIRMIX® - Schlauch<br>(Ø 4,8 mm - Länge<br>7,5m - 240 bar)     | Tubería AIRMIX®<br>(Ø 4,8 mm - Longitud 7,5m<br>- 240 bar)           | 1   |
| -        | 050 382 114 | Tuyau air<br>(Ø 6,5x10,5 mm -<br>Lg. 7,5 m - F 1/4 NPS) | Air hose<br>(Ø 6.5x10.5 mm<br>- 7,5 m / 24.6 ft length<br>- F 1/4 NPS)                 | Luftschlauch<br>(Ø 6.5x10.5mm -<br>Länge 7,5m -<br>IG 1/4 NPS) | Tubería de aire<br>(Ø 6,5x10,5 mm<br>- Longitud 7,5m<br>- H 1/4 NPS) | 1   |
| -        | 129 270 087 | Protection tuyaux                                       | Hose protection                                                                        | Schutzschlauch                                                 | Protección tuberías                                                  | 1   |

\* Pièces de maintenance préconisées.

\* Preceding the index number denotes a suggested spare part.

\* Bezeichnete Teile sind empfohlene Ersatzteile.

\* Piezas de mantenimiento preventivas.

N C : Non commercialisé.

N S : Denotes parts are not serviceable.

N S : Bezeichnete Teile gibt es nicht einzeln, sondern nur komplett.

N S : no suministrado.

**ACCESSOIRES - ACCESSORIES - ZUBEHÖR - ACCESORIOS**

**FILTRE A LA CROSSE - GUN FILTER - SIEB FÜR PISTOLENFILTER - FILTRO A LA EMPUÑADURA (x 5)**

| Ind. | #           | Tamis - Screen - Sieb - Tamiz | Calibre - Mesh - Feinheit | Buse - Tip - Düse - Boquilla |
|------|-------------|-------------------------------|---------------------------|------------------------------|
| 65   | 129 609 907 | N° 4                          | 99 µ                      | 03 - 04 - 06                 |
| 65   | 129 609 908 | N° 6                          | 168 µ                     | 09 - 12                      |
| 65   | 129 609 909 | N° 12                         | 280 µ                     | 14 - 18 - ....               |



# **MANUAL AIRMIX® GUN**

## **PREVENTIVE MAINTENANCE**

### **TRANSLATION FROM THE ORIGINAL MANUAL**

***IMPORTANT : Before assembly and start-up, please read and clearly understand all the documents relating to this equipment (professional use only).***

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#### **Safety instructions :**

- Never try to stop the spray fan with any part of the body (hands, fingers...) or with rags.
- The operator will need medical attention if the high pressure material spray is in contact with the body (eyes, fingers...).
- **Always lock the gun trigger with the safety device when not operating the gun.**
- **Always depressurize air and hoses** before carrying out any servicing on the gun.



**In order to protect the operator, protective clothing (gloves, respirator mask, glasses, hearing protective earplug, clothes...) are required.**

**Use the equipment in a properly ventilated area.**

This spray gun is a precision tool. Its correct functioning requires regular maintenance, carried out with care. When it is carried out directly after use, the cleaning of the gun is faster and easier.

- ➡ **Never use metallic brushes, files or pliers when dismantling the gun.**



#### **Before any action on the gun,**

- Shut off the compressed air supply,
- Depressurize the systems by triggering the gun.

Do not use fluid which would quickly clog the nozzle.

Air supply should be clean and dry.

- ➡ **Check for the presence of the seal or microfilter in the tip at every reassembly**

#### ■ **SHORT DURATION SHUTDOWN (LESS THAN 3 HOURS)**

Leave the equipment as it is. In any case, if the aircap becomes a little clogged with material, it is best to clean it with a brush and some solvent.

#### ■ **LONG DURATION SHUTDOWN**

Shut off the gun air and fluid supply.

Change material with solvent and trigger the gun to depressurize the hoses and flush the pump, the hoses and the gun.

Unscrew the air cap. Remove the needle and then remove the fluid nozzle with the wrench provided. Soak the needle, aircap, fluid nozzle in solvent and brush them carefully, as they are precision parts.

With a brush soaked in solvent, clean the internal parts of the gun. Wash and carefully brush the threaded parts.

- ➡ **Do not soak the gun in solvent.**

- ➡ **Use only products or solvent compatible with the parts in contact with the material (refer to data sheet of the material manufacturer).**

| OPERATION TO CARRY OUT                                                                                                                          | FREQUENCY |   |   |   |   |   |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------|---|---|---|---|---|
|                                                                                                                                                 | D         | W | M | Q | H | Y |
| <b>GENERAL</b>                                                                                                                                  |           |   |   |   |   |   |
| Check earthings.                                                                                                                                | X         |   |   |   |   |   |
| Check all fittings to be sure they are tight.                                                                                                   |           | X |   |   |   |   |
| Check leakage from the fittings.                                                                                                                |           | X |   |   |   |   |
| Check hoses.                                                                                                                                    |           |   | X |   |   |   |
| Operate the valves.                                                                                                                             |           |   | X |   |   |   |
| <b>GUN</b>                                                                                                                                      |           |   |   |   |   |   |
| Clean the outside of the spray nozzle with a soft brush and solvent.                                                                            | X         |   |   |   |   |   |
| Clean the filter and its support.                                                                                                               | X         |   |   |   |   |   |
| Flush the spray gun.                                                                                                                            | X         |   |   |   |   |   |
| When the spraying system will not be used for an extended period of time, take off the nozzle and immerse it in a solvent-filled container.     | X         |   |   |   |   |   |
| Remove the air valve, clean it if necessary. Grease it as well as the spring before assembling.                                                 |           |   | X |   |   |   |
| Change the air valve. Grease it as well as the spring before assembling.                                                                        |           |   |   |   |   | X |
| Change the filter.                                                                                                                              |           |   |   | X |   |   |
| Remove the needle as well as the rear line and the complete air valve. Clean the parts and grease them before assembling.                       |           |   | X |   |   |   |
| Remove the gun, clean the parts, change the seals and the defective parts. Grease them before assembling (refer to seal kit and servicing kit). |           |   |   |   |   | X |
| D : daily<br>W : weekly<br>M : monthly<br>Q : quarterly<br>H : half-yearly<br>Y : yearly                                                        |           |   |   |   |   |   |

**Nota : Frequencies are given as a clue. They must be adapted by the maintenance service of the user for every installation according to the product, the working cadence and the working pressure.**



# **AIRMIX® MANUAL GUN**

## **TROUBLESHOOTING GUIDE**

### **TRANSLATION FROM THE ORIGINAL MANUAL**

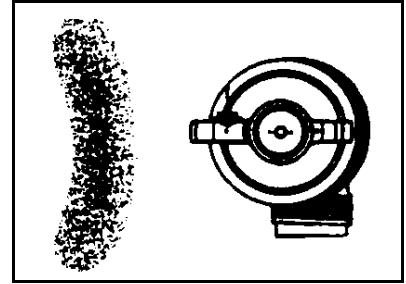
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#### ■ **DISTORTED SPRAY**

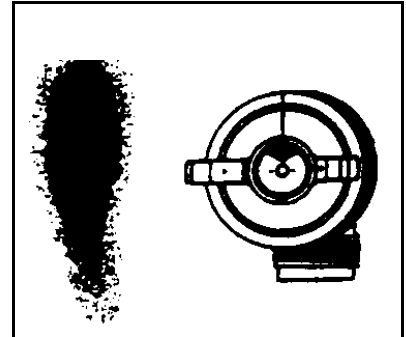
Slightly unscrew the aircap retaining ring and rotate the aircap by one half turn. If the defect is reversed, one of the lateral air holes is plugged up or deformed. Clean the gun aircap with solvent and unclog the air holes with a compressed air. If the defect is not reversed, it means that the fluid nozzle is damaged.



#### ■ **DISPLACED SPRAY**

This comes from a defect in the central fan. Clean the aircap and the fluid nozzle. Make sure that :

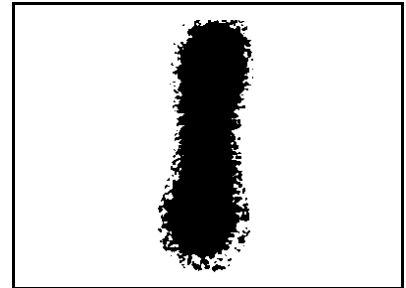
- the aircap is correctly centered on the nozzle,
- the nozzle is not too big for the needle,
- when work is done with a large needle opening and the needle almost closed, the spray pattern is not even in all directions.



#### ■ **FRAGMENTED PATTERN**

The fan air pressure is too big at the holes in the air cap horns :

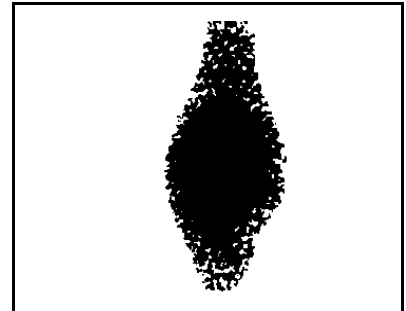
- Reduce the fan air pressure.
- increase the paint output.



#### ■ **FAN TOO THICK IN THE CENTER**

This is the reverse of the above defect :

- the paint output is too high for the selected air pressure : increase the spraying air pressure and reduce the paint output.
- if the paint is too thick, dilute it.



#### ■ **INTERMITTANT SPRAY PATTERN**

An air inlet in the paint circuit creates an intermittant pattern when :

- the paint cup is nearly empty,
- when the nozzle is not tightened on its seat : clamp it.

If the problem persists, remove the nozzle and clean it. Check that the seat and the cone are not damaged, remount the nozzle and clamp it.

When using a cup, air can get into the paint circuit :

through the passage seal of the needle into the gun body  $\Rightarrow$  tighten it.

through various fittings between the gun and the cup if these are not correctly tightened.

| TROUBLE                                                  | CAUSE                                          | SOLUTION                                                                           |
|----------------------------------------------------------|------------------------------------------------|------------------------------------------------------------------------------------|
| No fluid out of the gun                                  | Tip is partially clogged or completely blocked | Shut off pressure on pump.<br>Depressurize the hoses.                              |
| Spray fan is not uniform                                 | Tip is partially clogged                       | Remove and clean with solvent and brush spray tip.<br>Check condition of the seal. |
| Spray fan is not uniform                                 | Air holes in air cap are partially blocked     | Remove and clean with solvent.<br>Blow all air holes clear with compressed air.    |
| Pattern width narrows during reversing phase of pump     | Too much air                                   | Check connection and suction hose quality.                                         |
|                                                          | Viscosity too high                             | Reduce viscosity.                                                                  |
| Air cap becomes dirty frequently                         | Too much air                                   | Reduce air pressure.                                                               |
| Fluid seeping from the air holes of the air cap          | Defective tip seal                             | Replace it.                                                                        |
|                                                          | Loose tip                                      | Tighten it.                                                                        |
| Fluid leak through needle cartridge                      | Needle cartridge worm                          | If leak persist, replace the needle assembly.                                      |
| Fluid leak in front of the gun, trigger released         | Dirt in the fluid                              | Trigger the gun 3 or 4 times by return to its original state.                      |
|                                                          | Needle worm or/and tip worm                    | Replace needle or/and tip.                                                         |
| Air leak through the valve                               | Valve worm                                     | Replace valve                                                                      |
| Permanent air leak in front of the gun, trigger released | Friction on the needle                         | Disassembly the trigger and check the needle slides freely.                        |
|                                                          | Valve worm                                     | Replace valve                                                                      |
| Excessive fluid fog                                      | Too much atomizing air                         | Reduce air pressure                                                                |



# **AIRMIX® MANUAL SPRAY GUN**

## ***START-UP AND HANDLING***

### **TRANSLATION FROM THE ORIGINAL MANUAL**

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## START-UP



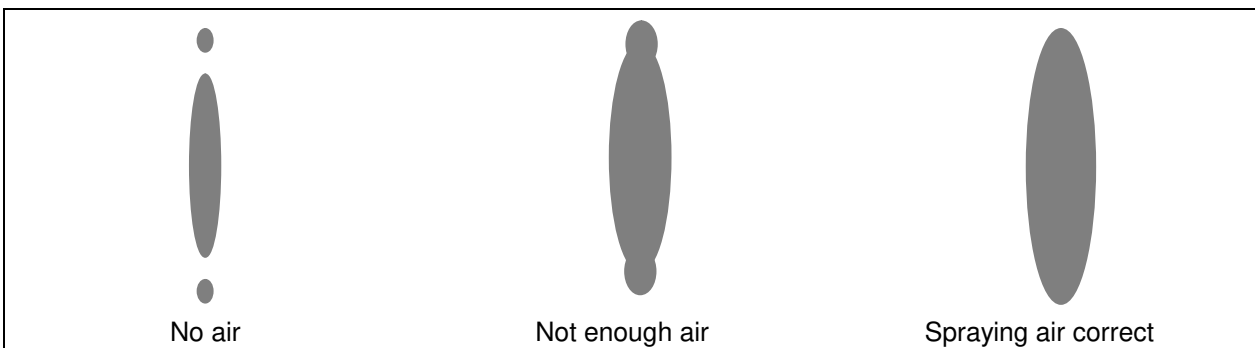
### Safety instructions :

- Never try to stop the spray fan with any part of the body (hands, fingers...) or with rags. Never point the spray gun at anyone or at any part of the body.
- The operator will need medical attention if the high pressure material spray is in contact with the the body (eyes, fingers...).
- **Always lock the gun trigger with the safety device when not operating the gun.**
- **Always depressurize air and hoses** before carrying out any servicing on the gun.



**In order to protect the operator, protective clothing (gloves, hearing protective earplug, respirator mask, glasses, clothes...) are required.**  
**Use the equipment in a properly ventilated area.**

- 1 - Prepare the paint (blend and filter the paint to the appropriate viscosity - refer to the material technical data).
- 2 - Connect the air supply to the equipment (clean dry air, maximum air pressure = 6 bar / 87 psi).
- 3 - Connect the gun to the pump.
- 3 - Prime the pump (refer to pump instruction manual).
- 4 - Unlock the safety device to release the gun trigger. Point the gun into a waste container and and open the gun by using the trigger until clean material flows.
- 5 - Lock the safety device.
- 6 - Select a spray nozzle (refer to AIRMIX ®.nozzle chart).
- 7 - Make sure white seal or micro-filter is in place in the spray nozzle.
- 8 - Install the spray nozzle inside the air cap being certain the locating pins are aligned with mating recesses of the nozzle.
- 9 - Insert the air cap with its nozzle into the retaining ring. Screw retaining ring and air cap firmly onto the spray gun positioning the air cap to obtain the desired pattern orientation.
- 10 - Unlock the safety device and trigger the gun.
- 11 - Adjust the pump air pressure for the desired flow rate.  
*NB: Increase fluid pressure until the spray fan is correct. Stop adjustment when the spray fan is giving the best results.*
- 12 - Adjust spraying air pressure until the pattern is even.  
*NB: The drawing shows the relation between fan pattern and spraying air pressure.*



➤ **To optimize Airmix® spraying , do not increase spraying air pressure once the correct fan is obtained. It would lead to more spraying mist.**

- 13 - Optimize fan width by means of the air adjusting knob located at the rear part of the gun (it does not apply for Xcite™ Light gun).

Air knob closed → large fan

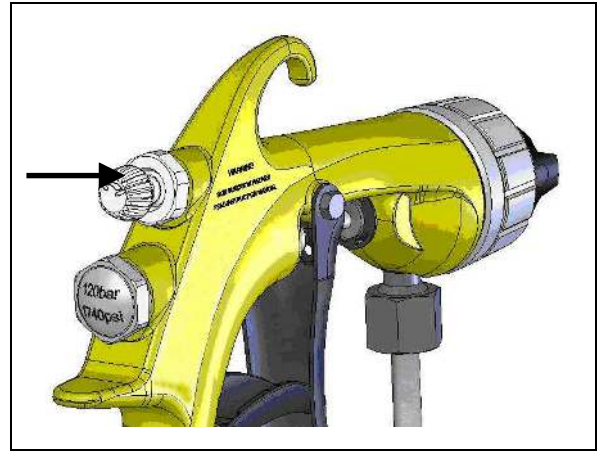
Air knob open → narrow fan → round fan



Wide fan



round fan



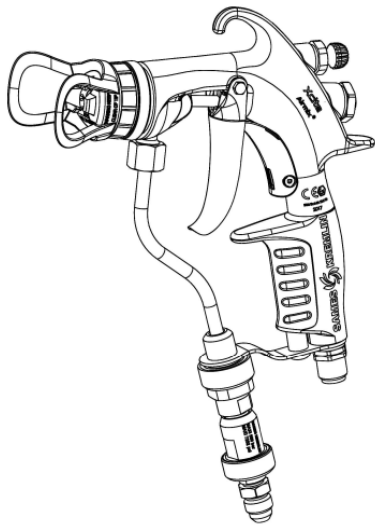
**NB : if more material or less material is required, select another spray nozzle (refer to AIRMIX® spray nozzle chart).**

## **GUN HANDLING**

Keep the gun perpendicular to the surface to be painted and where possible keep the spray fan parallel to the work piece to give an equal coating thickness.

When spraying from a stationary gun position start the spray pass and trigger just before the leading edge. Release the trigger just before the spray pass ends, i.e. just after the trailing edge of the object.

Make sure that overlapping spray passes are even and regular.



## AIRMIX® GUN

***Xcite™***

### ***TECHNICAL FEATURES***

#### **TRANSLATION FROM THE ORIGINAL DOCUMENT**

**IMPORTANT :** before assembly and start-up, Please read and clearly understand all documents relating to this equipment (professional use only).

*PICTURES AND DRAWINGS ARE NON CONTRACTUAL. WE RESERVE THE RIGHT TO MAKE CHANGS WITHOUT PRIOR NOTICE.*

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## 1. DESCRIPTION

The Xcite™ gun is a manual AIRMIX® gun for professional use only.

There are three versions of the gun based upon the working pressure (120 bar / 1740 psi, 200 bar / 2900.6 psi or 400 bar / 5801.2).

The Xcite™ gun is an Airmix® spray gun with adjustable fan pattern, a swivel fitting and / or a inline-filter

It is recommended for spraying :

- for the versions, model 120 bar / 1740 psi and 200 bar / 2900.6 psi : varnishes, lacquers, colours, solvented or water-based products, high solid materials and is suitable for a wide range of 1K and 2K materials,
- for the version, model 400 bar / 5801.2 psi : single component adhesives and sealants, M.S.polymers, water-based adhesives, greases, waxes and a large range of thick materials.

## 2. TECHNICAL FEATURES

| FEATURES                                                                                                                                                                                              | GUN<br>Xcite™ - 120 bar<br>/ 1740 psi                     | GUN<br>Xcite™ - 200 bar<br>/ 2900.6 psi   | GUN<br>Xcite™ - 400 bar<br>/ 5801.2 psi   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|-------------------------------------------|-------------------------------------------|
| Air supply pressure                                                                                                                                                                                   | Maximum 6 bar / 87 psi                                    |                                           |                                           |
| Maximum fluid supply pressure                                                                                                                                                                         | 120 bar / 1740 psi                                        | 200 bar / 2900.6 psi                      | 400 bar / 5801.2 psi                      |
| Fluid flow rate                                                                                                                                                                                       | Depending on tip size (refer to Doc. : Spare parts)       |                                           |                                           |
| Weight (gun + air cap + nozzle)                                                                                                                                                                       | 517 g (with inline filter)<br>585 g (with swivel fitting) |                                           | 600 g (with nozzle protection)            |
| Maximum operating temperature                                                                                                                                                                         | 50°C / 117° F                                             |                                           |                                           |
| Air consumption<br>(for a 22° C / 71.6° F temperature)<br>(with air cap VX 24 K HVLP)<br><br>Air pressure = 1 bar / 14.5 psi at the gun handle<br><br>Air pressure = 2 bar / 29 psi at the gun handle | 3.8 m3/h / 2.237 c.f.m<br><br>5.9 m3/h / 3.473 c.f.m      |                                           |                                           |
| Transfer efficiency (α)<br>according to standard (EN 13966-1)                                                                                                                                         | 86 (± 2 %)                                                |                                           |                                           |
| Wetted parts                                                                                                                                                                                          | Stainless steel, PTFE                                     |                                           |                                           |
| Seat (removable)                                                                                                                                                                                      | Stainless steel                                           | Carbide                                   |                                           |
| Fluid fitting                                                                                                                                                                                         | Inline filter or swivel fitting : M 1/2 JIC               |                                           |                                           |
| Air fitting                                                                                                                                                                                           | M 1/4 NPS                                                 |                                           |                                           |
| Safety device                                                                                                                                                                                         | Safety lever                                              |                                           | Safety lever<br>+ nozzle protection       |
| Filter                                                                                                                                                                                                | Screen n° 6 mounted at the gun handle                     |                                           |                                           |
| Weighted sound pressure (LAeq)<br>(under pressure / with nozzle 09/094<br>/ Handle air pressure = 1.5 bar /<br>21.75 psi)                                                                             | 80,7 dBa                                                  | 82,5 dBa                                  | 83,8 dBa                                  |
| Stress on the trigger (under<br>pressure / with nozzle 04/074)                                                                                                                                        | 13,7 N (± 1 N)<br>3.08 Lbs<br>(± 0.22 Lbs)                | 17,1 N (± 1 N)<br>3.8 Lbs<br>(± 0.22 Lbs) | 25,5 N (± 1 N)<br>5.7 Lbs<br>(± 0.22 Lbs) |

|                                                                                                                               |                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| (α) testing conditions :    Fluid pressure = 60 bar / 870 psi<br>Handle air pressure = 1.5 bar / 21.75 psi<br>Nozzle : 09/094 | Viscosity = 25 s (CA 4) or 50 mPas.s<br>Temperature = 20.5 °C / 68.9 ° F<br>Relative humidity = 54% |
|-------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|

NB : For HVLP compliance, the maximum inlet air pressure at the gun handle must not exceed 1 bar (14.5 psi) to maintain 0.7 bar (10.1 psi) or less at the air cap.

▪ **FAN WIDTH WITH VX24 AIR CAP**

Aircap with 2 pins and tip with 2 recesses



| Tips   | Pp = 35 bar / 507.6 psi |          | Pp = 70 bar / 1015.2 psi |          |
|--------|-------------------------|----------|--------------------------|----------|
|        | L 1 (cm)                | L 2 (cm) | L 1 (cm)                 | L 2 (cm) |
| 04/094 | 20                      | 7        | 20                       | 8        |
| 04/114 | 22                      | 7        | 23                       | 9        |
| 06/094 | 21                      | 7        | 21                       | 10       |
| 06/114 | 23                      | 8        | 23                       | 11       |
| 06/134 | 25                      | 8        | 27                       | 13       |
| 06/154 | 28                      | 8        | 31                       | 15       |
| 09/094 | 21                      | 8        | 23                       | 11       |
| 09/114 | 22                      | 7        | 23                       | 12       |
| 09/134 | 25                      | 8        | 27                       | 13       |
| 09/154 | 28                      | 9        | 29                       | 15       |
| 12/094 | 21                      | 8        | 22                       | 11       |
| 12/114 | 24                      | 8        | 26                       | 12       |
| 12/134 | 26                      | 9        | 28                       | 16       |
| 12/154 | 26                      | 9        | 30                       | 15       |
| 12/174 | 31                      | 10       | 33                       | 17       |
| 14/094 | 22                      | 8        | 22                       | 11       |
| 14/114 | 23                      | 8        | 24                       | 12       |
| 14/134 | 27                      | 9        | 28                       | 15       |
| 14/154 | 29                      | 9        | 32                       | 16       |
| 14/174 | 30                      | 12       | 33                       | 20       |
| 18/134 | 27                      | 13       | 29                       | 19       |
| 18/154 | 29                      | 15       | 32                       | 21       |
| 18/174 | 31                      | 15       | 33                       | 23       |

**L 1** : maximum fan width  
(fan air control closed)

**L 2** : reduced fan width  
(fan air control opened)

**Pp** : fluid pressure

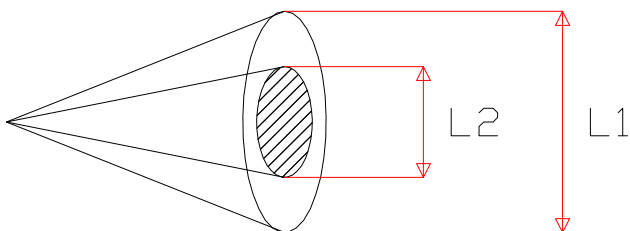
**Testing conditions :**

Gun handle air pressure = 1.5 bar / 21.75 psi

Viscosity = 45 s (CA 4) or 120 mPas.s

Temperature : 20°C / 68° F

Distance between the gun and the surface to be painted : 20 cm / 7.9"



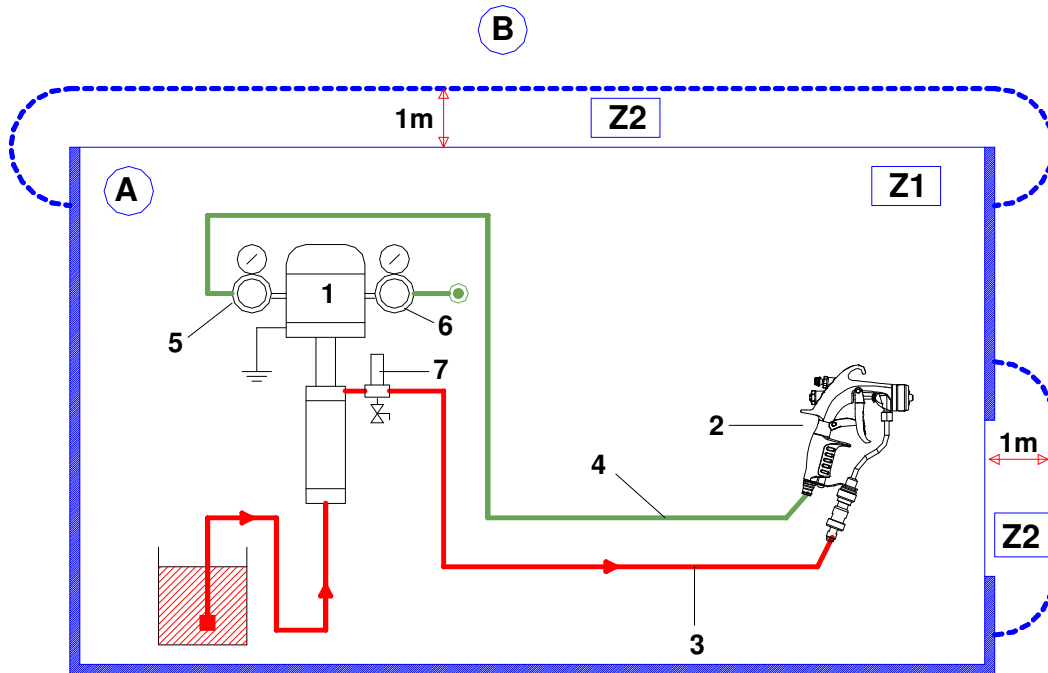
### 3. INSTALLATION

#### ■ DESCRIPTION OF THE LABEL MARKING

Marking in accordance with the ATEX regulation

|                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                  |             |
|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <b>SAMES KREMLIN<br/>FRANCE</b>                                                                              | Name and address of the manufacturer                                                                                                                                                                                                                                                                                                                                             |             |
| <b>CE</b> <br><b>II 2 G</b> | <b>CE</b> : European conformity  : For use in explosive area<br><b>II</b> : group II <b>2</b> : class 2 <b>G</b> : gas<br>Surface equipment meant to an area where explosive atmospheres due to gas, vapours, mists are liable to appear from time to time in usual operating.                  | On the body |
| <b>Ex h IIA T6 X</b>                                                                                         | <b>Ex</b> : Marking of conformity with European standards<br><b>h</b> : Mode of protection for non electrical device<br><b>IIA</b> : Gas group<br><b>T6</b> : Temperature class<br>- Maximum surface temperature : 85°C / 185° F<br><b>X</b> : Special conditions that apply for a safe use. Refer to instructions listed in the instruction manuals accompanying your purchase. |             |
| <b>Gb</b>                                                                                                    | <b>Gb</b> : Equipment protection level (Gas zone1)                                                                                                                                                                                                                                                                                                                               |             |
| <b>20xx</b>                                                                                                  | Marking of the manufacturing year (with 4 characters)                                                                                                                                                                                                                                                                                                                            |             |
| <b>P air : 6 bar / 87 psi</b>                                                                                | Gun air supply maximum pressure                                                                                                                                                                                                                                                                                                                                                  |             |
| <b>Xcite™</b>                                                                                                | Gun model                                                                                                                                                                                                                                                                                                                                                                        |             |
| <b>P prod : xx bar</b>                                                                                       | Maximum fluid pressure                                                                                                                                                                                                                                                                                                                                                           |             |

## ■ INSTALLATION DIAGRAM



|   |                                                          |
|---|----------------------------------------------------------|
| A | Explosive area : Area 1 (Z1) or area 2 (Z2) : spraybooth |
| B | Non-explosive area                                       |
| 1 | Airmix® pump                                             |
| 2 | Airmix® gun, model Xcite™                                |
| 3 | Airmix® fluid hose                                       |

|   |                                  |
|---|----------------------------------|
| 4 | <b>Conductive</b> air hose       |
| 5 | Air regulator (→ spraying air)   |
| 6 | Air regulator (→ fluid pressure) |
| 7 | Airmix® fluid filter             |



The 1 m / 39.37" distance indicated in these diagrams is given for information purposes only and hold harmless to SAMES KREMLIN. The user is responsible for the extraction and conditioning of the painting area where the equipment is used, for working conditions conditions (refer to EN 60079-10 standard). The 1 m / 39.37" distance may be modified if trials carried out by the user deem this necessary.



**NB:** Choose the appropriate pump to ensure that the working pressure supplied is suitable for the selected gun.

Please use a conductive air hose (minimum internal diameter : 6,5mm), for connecting the gun to the air regulator (capable of supplying at least 3 bar / 44 psi.).

Please ensure when fitting the **high pressure** paint hose, between the gun and the pump that the fittings are firmly tightened.



**NB :** In some particular cases, if the air hose (4) is a non-conductive hose, the fluid hose (3) must be conductive.

**One of the 2 hoses (air or fluid) for the gun must be conductive.**



# Warranty

## Product Warranty

Seller warrants that all Goods sold shall mechanically operate as specified and shall be free from faults in respect to materials and workmanship for a period of: (i) for parts, twelve (12) months from the date of invoice, and (ii) for systems, twelve (12) months from start-up, or, if earlier, eighteen (18) months from the date of the bill of lading. Seller also warrants that the Goods shall, upon payment in full by Buyer for the Goods, be free and clear of any security interests or liens. Buyer's exclusive remedy for breach of such warranties shall be limited to repair or replacement costs or termination of any security interests or liens, and Seller shall have no responsibility for reimbursing repair costs incurred by Buyer in connection with Goods without first giving written authorization for such charges. In any claims by the Buyer against the Seller in respect of the Goods, the liability of the Seller shall be limited to the value of the Goods. This warranty applies only to Goods properly used and maintained and does not apply to any Goods which are misused or neglected, or which has been installed, operated, repaired, altered or modified other than in accordance with instructions or written authorization by Seller. This warranty does not apply to any Goods not manufactured by Seller, and Buyer's sole warranty with respect to such Goods shall be that of the Seller's Vendor, if any.

## Vendor Warranty

Seller shall assign to Buyer any Vendor warranties and/or remedies provided to Seller by its Vendor.

## Intellectual Property Infringement

Seller disclaims any and all warranties and/or indemnifications against infringement of any intellectual property rights of any nature. Seller shall, if given prompt notice by buyer of any claim of intellectual property infringement with respect to any goods sold hereunder, request the applicable vendor to grant for the buyer such warranty or indemnity rights as such vendor may customarily give with respect to such goods.

## Limitations

There are no other warranties written or oral, express, implied or by statute. Seller specifically disclaims all implied warranties of merchantability or fitness for a particular purpose. No repair of goods or other costs are assumed by seller unless agreed to, in advance, in writing.

## Limitations of Liability

Unless applicable law otherwise requires, seller's and any vendor's total liability to buyer, buyer's customers or to any other person, relating to any purchases governed by these terms & conditions, from the use of the goods furnished or from any advice, information or assistance provided by seller (by any method, including a web site), is limited to the price of the goods giving rise to the claim. Neither seller nor its vendors shall be liable for any special, incidental, direct, consequential or penal damages, including, but not limited to back-charges, labor costs, costs of removal, replacement, testing or installation, loss of efficiency, loss of profits or revenues, loss of use of the goods or any associated goods,

damage to associated goods, lateness or delays in delivery, unavailability of goods, cost of capital, cost of substitute goods, facilities or services, downtime, or claims from buyer's customers or other parties. If seller furnishes buyer with advice or other assistance which concerns any goods supplied hereunder, or any system or equipment in which any such goods may be installed, and which is not required pursuant to these terms & conditions, the furnishing of such advice or assistance will not subject seller to any liability, whether based on contract, warranty, tort (including negligence) or other grounds.

## Warranty and Exceptions

Electrical connections for 220 VAC operation should be made by a qualified electrician per codes of local jurisdiction.



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