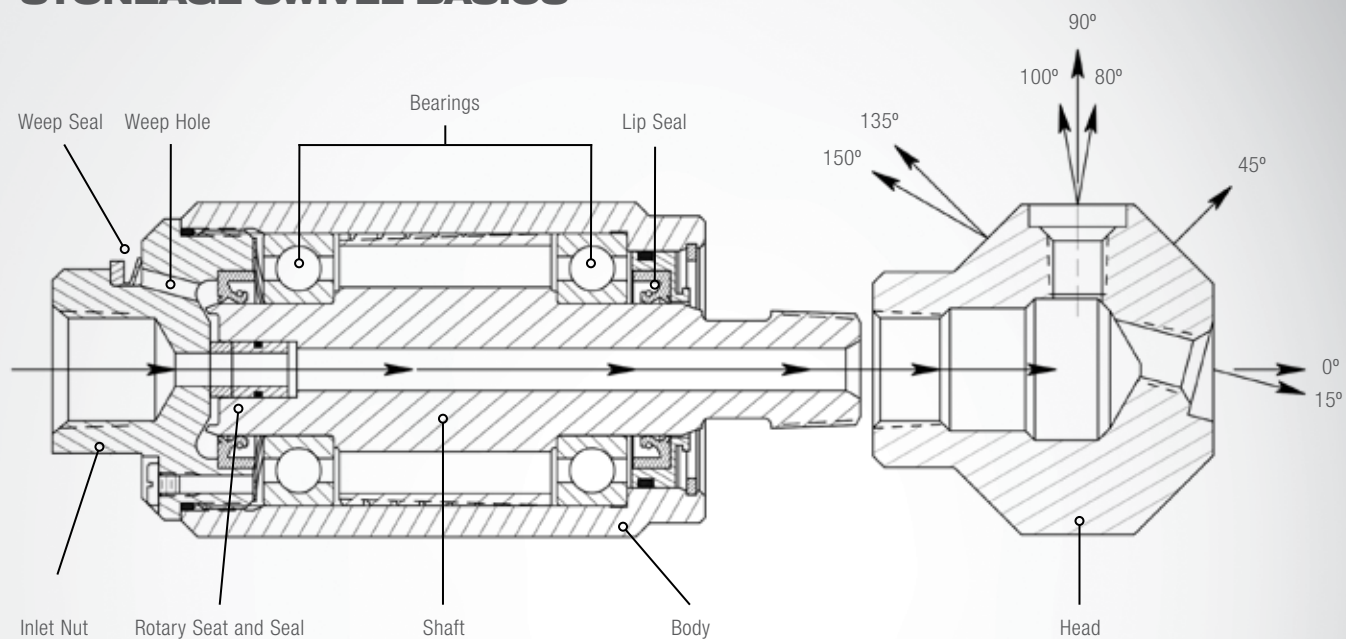


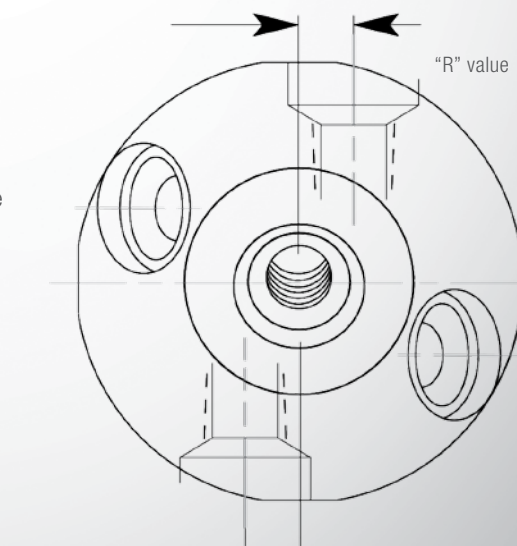
# TECHNICAL REFERENCE

## STONEAGE SWIVEL BASICS



### StoneAge swivels are designed for optimal delivery of high pressure water for cleaning applications:

- Water flows in a direct path through the tool from the inlet
- Weep seals keep contaminants out of the high pressure seat area
- Weep holes allow water that may leak past the high pressure seat to escape – if a seat leaked and the nut was unable to release pressure, it could “wash out” the viscous fluid or blow the inlet nut off the end of the tool.
- In our rotary seat and seal design, brass or carbide seats seal against inlet nut. The plastic seal under the seat “swells” and rotates with the shaft and against the seat so the seat does not rotate against the nut
- Lip seals seal in governor fluid (the fluid helps to control rotation speed) and keep contaminants out
- Jet ports are called by degree, zero being in a straight line with the inlet side of the tool



- The “R” value on our heads is the offset at 90°, even if the head has no ports there

## ⚠ WARNING ⚠

Operations with waterblast equipment can be potentially hazardous. Caution **MUST** be exercised prior to and during machine and water jet tool use.

Please read and follow all of these instructions, in addition to the guidelines in the WJTA Recommended Practices handbook, available online at [www.wjta.org](http://www.wjta.org). Deviating from safety instructions and recommended practices can lead to severe injury and/or death.

- Do not exceed the maximum operating pressure specified for any component in a system.
- The immediate work area **MUST** be marked off to keep out untrained persons.
- Inspect the equipment for visible signs of deterioration, damage, and improper assembly. Do not operate if damaged, until repaired.
- Make sure all threaded connections are tight and free of leaks.
- Always de-energize the system before opening a door to service or replace any parts. Failure to do so can result in severe injury and/or death.

### Pre-Run Safety Check

Install mechanical stops, stingers and back out preventers as appropriate when doing any tube, pipe or vessel cleaning. See the WJTA-IMCA's Recommended Practices for the use of high-pressure water jetting equipment and/or the water jetting association's, WJA Code of Practice for additional safety information.

- Complete a job specific risk assessment and act on the resulting actions.
- Adhere to all site specific safety procedures.
- Ensure the waterblasting zone is properly barricaded and that warning signs are posted.
- Ensure the work place is free of unnecessary objects (e.g. loose parts, hoses, tools).
- Ensure all Operators are using the correct Personal Protective Equipment (PPE).
- Check that the air hoses are properly connected and tight.
- Check all hoses and accessories for damage prior to use. Do not use damaged items. Only high quality hoses intended for waterblast applications should be used as high-pressure hoses.
- Check all high-pressure threaded connections for tightness.
- Operate the high-pressure water at full pressure and use the Pneumatic Foot Pedal Dump Control to verify that the dump valve is working properly.
- Ensure that Operators never connect, disconnect, or tighten hoses, adapters, or accessories with the high-pressure water pump unit running.
- Ensure no personnel are in the hydroblasting zone.

### Personal Protective Equipment

Use of Personal Protective Equipment (PPE) is dependent on the working pressure of water and the cleaning application. Managers, Supervisors, and Operators **MUST** carry out a job specific risk assessment to define the exact requirements for PPE. See Protective Equipment for Personnel (Section 6) of WJTA-IMCA's Recommended Practices For The Use Of High-pressure Water jetting Equipment for additional information.

- Hygiene—Operators are advised to wash thoroughly after all waterjetting operations to remove any waterblast residue which may contain traces of harmful substances.
- First aid provision—users **MUST** be provided with suitable first aid facilities at the operation site.

### PPE MAY INCLUDE:

- Eye protection: Full face visor
- Foot protection: Kevlar® brand or steel toe capped, waterproof, non-slip safety boots
- Hand protection: Waterproof gloves
- Ear protection: Ear protection for a minimum of 85 dBA
- Head protection: Hard hat that accepts a full face visor and ear protection
- Body protection: Multi-layer waterproof clothing approved for water jetting
- Hose protection: Hose shroud
- Respiratory protection: May be required; refer to job specific risk assessment

StoneAge has designed and manufactured this equipment considering all hazards associated with its operation. StoneAge assessed these risks and incorporated safety features in the design. StoneAge **WILL NOT** accept responsibility for the results of misuse.

- IT IS THE RESPONSIBILITY OF THE INSTALLER/OPERATOR to conduct a job specific risk assessment prior to use. Job specific risk assessment **MUST** be repeated for each different set up, material, and location.
- The risk assessment **MUST** conform to the Health and Safety at Work Act 1974 and other relevant Health and Safety legislation.
- The risk assessment **MUST** consider potential material or substance hazards including: **Aerosols, Biological and microbiological (viral or bacterial) agents, Combustible materials, Dusts, Explosion, Fibers, Flammable substances, Fluids, Fumes, Gases, Mists, Oxidizing Agents.**