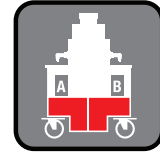


DISPENSING EQUIPMENT, PACKERS AND ACCESSORIES





SealBoss® supplies a wide variety of professional injection pumps and equipment to match the injection product properties, the application and the budget of the applicator. The choice of the right pump for the injection resins or grouts to be used is an important factor that may determine if a job will be accomplished successfully and if it will be finished within the given deadlines.

Essentially, we identify three categories of pumps. Single component pumps for most hydrophobic polyurethanes, fixed ratio two component pumps for epoxy injection, and multi-ratio pumps for hydrophilic polyurethanes.

Single component pumps are characterized by a one piston or diaphragm operation, capable of pumping one material at a time. Hydrophobic polyurethanes like the **SealBoss® 1510 WaterStopFoam**, **SealBoss® 1570 WaterStopFoam** and the **SealBoss® 1403 SLV Resin** can be pumped with single component equipment. The moisture in the area to be injected will induce reaction of the material. Pumps for polyurethane injection should be capable of creating at least 1500 psi, since injection into fine cracks sometimes requires very high initial pressures in order to achieve sufficient penetration.

Some hydrophilic polyurethanes and gels require a high ratio system able to pump two components of grout or grout and water at 1:10 for example. Due to the short pot life, premixing of the components with water is not possible. Acrylate Gels should be injected with a high ratio stainless steel components machine only. **SealBoss® FlexGel Hydrophilic Gel** can be pumped either with single or high ratio equipment depending on the application.

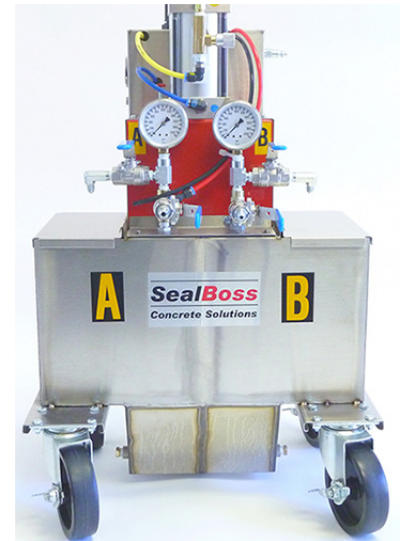
Two component pumps with a fixed ratio such as 2:1 or 1:1 are generally used for epoxy injection resins such as **SealBoss® 4040 LV Epoxy Resin** and related products. Some epoxy jobs can be done with a single component pump (watch the pot life closely).

A dedicated two component epoxy pump is recommended for larger jobs. The injection machine will provide an accurate mix ratio and the components are kept separately until thoroughly mixed in the static mixer thus allowing the contractor to focus on the injection rather than on mixing procedures and pot life. Due to the nature of the epoxy resin and the injection techniques, injection pressures are usually lower than those for polyurethane injection. 300 psi or less might be sufficient, but it doesn't hurt if the pump offers a little more "power", especially if the material is of higher viscosity, in colder climates and if long pressure lines are necessary.

As alternatives, the Epoxy Cartridge System and Polyurethane Cartridge System offers amazing capabilities without investing in expensive equipment.

The size and frequency of injection jobs and the conditions on the job site should determine which pump to select. Initial cost is not always an accurate indicator of total expenses. Where hand operated systems may do the job just fine, electric or pneumatic equipment may pay for itself by reducing the time and labor costs dramatically.

Accessories such as packers, ports, grout lines and valves are just as important as the pumps. The right combination of pumps, accessories and grouts, results in an "Injection System" which enables the contractor to do his job in a professional, efficient, successful and profitable manner. SealBoss® is dedicated to supply you with the best professional and job approved injection equipment and materials. Not just the chemicals, not just the equipment, but complete proven and innovative injection systems.





SealBoss® Packer Advantages

- SealBoss® Brand Standards & Quality Since 1988
- Largest Selection & Inventory in the Industry
- Your Port Authority: Millions Sold
- Competitive Prices
- Custom Fabrication

Like thousands of contractors world wide you will be using a SealBoss® quality packer for your injection job. Packers come in many sizes and shapes. Prices range widely and more expensive is not always better, plastic may not be as effective as metal and rubber or vice versa.

There is a reason for our large selection. The injection method and material properties will determine the hardware. Are your cracks actively leaking, are they dry, do you use epoxy or do you inject polyurethane? How much pressure will be used, how do you connect your grout line?

There are two primary categories of packers available. Insertable packers (mechanical packers) and surface mounted ports. Mechanical packers are typically used for polyurethane injection and high pressure epoxy injection. Since they are not glued to the surface, they work well in wet areas and with decayed 'problem' concrete.

Mechanical packers come with zerk fittings and button heads (slide fittings). The zerk type is more commonly used and is less costly. It easily connects and disconnects and works nicely with medium to high injection pressures. The button head type can be of advantage in high volume applications and it offers a superior connection which is helpful for single operator injection and large applications. Injection pressure is the keyword. To determine a quality packer it must withstand high injection pressures without leaking and moving out of it's drill hole. A snug fit and solid connection are mandatory. Nobody likes packers to fail at injection pressures of 1000 psi and more. Now, realistically speaking even the best packer may slightly leak at the connection at extreme pressures. But there is the difference between a drip and a gush.

SealBoss® premium packers are mostly made of metal and an expandable rubber sleeve to minimize concrete spalls and packer blow outs. A medium soft, 'made to stick' rubber that evenly expands diameter while compressed provides the best grip. Mechanical packers made of plastic and a plastic sleeves are typically at a disadvantage at very high pressures, but may suffice at lower pressure, high volume injection jobs. Keep in mind, a snug and reliable fit is always essential for the safety

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of the technician and the key factor for successful injection work. Do not compromise safety.

The size of the packer you need depends on the volume to be pumped, drill depth, injection pressures to be applied as well as cosmetic and other considerations. Common diameters are 1/4 inch, 6 mm, 3/8 inch, 8 mm, 10 mm, 1/2 inch, 13 mm, 5/8 inch, 16 mm and sometimes 3/4 inch or even larger. (In mining applications for example, packers can be several feet long and several inches thick) For concrete injection, typically the 1/2" and 5/8" packer seem to be the best compromise in strength and size and can be called a standard. The smaller 3/8" (10mm) types have been gaining in popularity though. Long versions and extensions are also available. It is good practice to keep the drill-holes rather smaller than larger when selecting your packer size.

Design considerations such as location of an anti-return valve, ease of use etc. may be of concern. We generally recommend mechanical type packers for most jobs. Their design can cope with most demands found at an injection job and the 'problem rate' is very low - a packer for all conditions. If high product flow at lower pressures is desired, the 5/8" button head packers achieve good results. The 3/8 Hammer-In packer performs at low pressures in excellent concrete. Precise round drill holes are important for a snug fit. Surface ports are commonly used for epoxy injection at low injection pressures. They are glued to the concrete surface. A spread out base with holes is recommended for good adhesion. The grout line can then be attached with a quick-connect system. Since most surface ports lack an anti-return valve, a seal cap is provided for use after injection.

SealBoss® provides unique ports for specialty applications such as a surface port with a zerk fitting to utilize single component injection systems for small epoxy and polyurethane jobs, the injection screw for the SealBoss Inject Tube System 2000 for cold joints and other specialty packers.

SealBoss® is a leading supplier of injection packers. We keep a large inventory of different sizes, shapes, materials and connections. Our great turnover rate permits us to offer packers at the most competitive prices possible. Call us and request your free samples. Get the right packers for your job and save money now!

