

Low Pressure Pneumatic Packers

Model 800

These simple inexpensive packers inflate with a hand pump and are available in 1.8" and 3.7" (46 mm and 94 mm) diameters. Primarily for short term use in 2" and 4" (50 mm and 100 mm) monitoring wells, they can also be used in smooth boreholes and wells with 1.9 - 5" (48 - 127 mm) inside diameters. Typical inflation pressures for the 1.8" (46 mm) packers are from 20 - 40 psi (140 - 275 kPa) above hydrostatic pressure, and from 20 - 30 psi (140 - 205 kPa) for the 3.7" (94 mm) packers.

The Packers utilize a gland of black carbon reinforced rubber (BCR) on a Sch 80 PVC body. They are lowered on flexible low density polyethylene (LDPE) tubing or a rigid PVC drop pipe. If a rigid drop tube is not required for your application, it is recommended to attach a safety line to the eyebolt provided. The Solinst Model 103 Tag Line provides a convenient, graduated support cable that can be used for this purpose, as well as for measuring placement depth. The inflation line of 1/8" (3 mm) low density polyethylene (LDPE) is easily attached using the nylon compression fittings on each packer.



Single or Straddle Packers

Solinst packers are ideal for use with Solinst Bladder Pumps or Double Valve Pumps, which can be easily attached above the packers. The water inlet can be below a single packer, or through perforated pipe fitted between straddle packers. For hydraulic conductivity testing, Solinst Levelloggers can also be suspended, either below or between packers, from the eyebolt on the bottom of the packer.

| Packer Specifications | | |
|-----------------------|-------------------------|---------------------------|
| Packer Size OD | 1.8" (46 mm) | 3.7"(94 mm) |
| Access ID | 1/2" (12.7 mm) | 1" (25.4 mm) |
| Gland Length | 23" (584 mm) | 30" (762 mm) |
| Overall Length | 29" (737 mm) | 36" (914.4 mm) |
| - with centralizers | Same | 44" (1,117.6 mm) |
| Borehole Size | 1.9 - 2.4" (48 - 61 mm) | 3.8 - 4.4" (96 - 112 mm) |
| -with centralizers | 2.5 - 3.5" (63 - 89 mm) | 4.5 - 5.0" (114 - 127 mm) |
| Pipe Fittings | 1/2" NPT Female | 1" NPT Male |
| -with centralizers | Same | 1" NPT Female |

Accessories & Optional Equipment

- Perforated Straddle Pipe
- Inflation Valve Assembly
- Inflation Tubing 1/8" OD LDPE
- Tag Line (Model 103 - marked support cable)
- Water Level Meter (Models 101, 102)
- Pumps (Models 404, 407, 408, 410)
- Levelloggers (Model 3001)
- Inflation Pump

| Packer | 1.8" O.D. (46 mm) | 3.7" O.D. (94 mm) |
|--------------------------|------------------------------|------------------------------|
| Well Size | 1.9 - 2.4" (48 - 61 mm) | 3.8 - 4.4" (96 - 112 mm) |
| Inflation Pressure | 20 - 30 psi 140 - 205 kPa | 20 psi 140 kPa |
| With Centralizers | | |
| Well Size | 2.5 - 3.5" (63 - 89 mm) | 4.5 - 5.0" (114 - 127 mm) |
| Inflation Pressure | 35 - 40 psi 240 - 275 kPa | 25 - 30 psi 170 - 205 kPa |

Notes:

1. Inflation pressures must be added to hydrostatic pressure at the packer location.
2. Maximum submergence = 150 ft (46 m)
3. Maximum pressure for 1.8" (46 mm) packer, = 50 psi or 345 kPa above hydrostatic pressure. Maximum pressure for 3.7" (94 mm) packers = 30 psi or 205 kPa above hydrostatic pressure.
e.g.: Required pressure for: Packer placed 100 ft (30 m) below water
 - 1.8" packer in 2" well: 20 psi min + (100 ft x 0.43 psi) = 20 + 43 = 63 psi.
(46 mm packer: 140 kPa min + (30 x 9.8 kPa) = 140 + 294 = 434 kPa)
4. 1 ft water = 0.43 psi, 1 m water = 9.8 kPa

Applications

Isolating discrete zones for short term monitoring:

- Water sampling
- Hydraulic conductivity testing
- Datalogging with a Levellogger
- Minimizing purge volumes
- Reducing well development time
- Slug and pump tests
- Injection of tracers, amendments or other materials
- Air sparging (low pressure)

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