



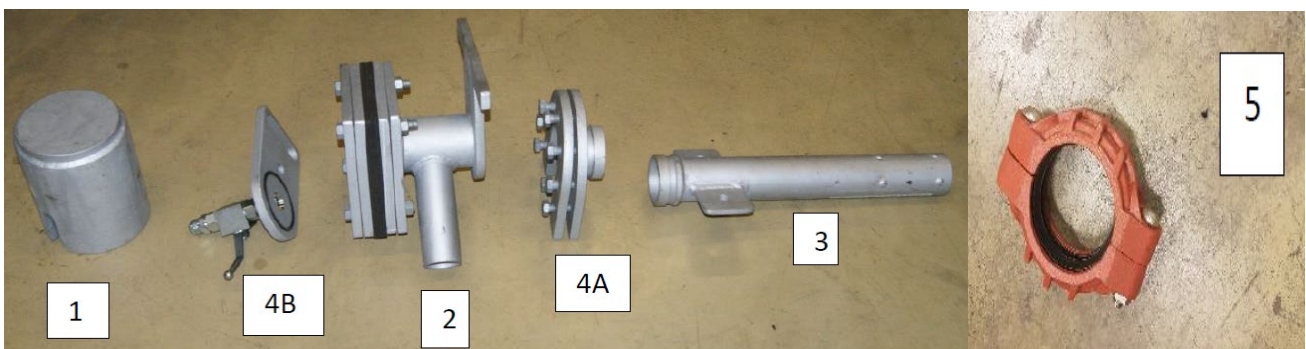
Principle description Stand-Pipe

The stand pipe is a security device to be used in case you might hit big inflow of water during probe drilling or injection/grouting drilling.

The basic idea is that a “Stand-pipe” is casted in a predrilled hole and that the “Stand-pipe” itself has a concrete plug inside. Then the actual probe, or injection/grouting, hole is drilled inside the Stand-pipe and through the concrete plug and further on to the rock. In case of big water inflow / leakage it is a possibility to rather quick seal the drill hole and later on make some injection/grouting.

A step-by-step description would look like following (parts with numbers shown in photo below):

1. The pipe, 3, is put into up-right position, filled with about 20-50 cm of concrete in the end so a solid and tight plug is casted inside the pipe. The pipe has a plastic lid in the top end in order to make the casting of concrete easy.
2. A spacious hole is drilled where the pipe, 3, is pressed in and cast with resin. Depth of the hole for the stand pipe is about 1,7-1,8 m. (For a stand pipe with outside diameter 76 mm a 102 mm drill hole is made, many times by enlarge a 64 mm a drill hole). For the correct choice of resin and number of resin cartridges, please check with your chemical supplier.
3. The rod /assembly tool (mounting sleeve), 1, is used to push the stand pipe into the drill hole and rotate the stand pipe to crack the resin cartridges. The rod assembly tool is welded to a drill rod/adaptor in order to be operated by the drilling machine / Jumbo. **Note:** Do check that casting of concrete plug has been made before installation if the pipe.
4. The quick release valve guide, 4A, is mounted to the stand pipe with the Victaulic coupling, 5, and the drilling can begin. In case of in coming water the drill rod is removed and slide plate, 4B, is pushed in the valve guide, 4A, and the inflow of water is stopped. Injection / grouting of the drill hole in order to stop water inflow can then take place through the ball valve with coupling that is mounted at the slide plate, 4B.
5. In case of heavy inflow of water, the water diverter, 2, can be installed during drilling. The diverter is then assembled in the valve guide, 4A, and inside of the diverter it is a rubber seal around the drill rod that seals off the water that instead is pushed out through the side outlet tube.
6. After the drilling is complete the water diverter, 2, is removed and the slide plate, 4B, is installed and the injection/grouting can take place.



Do notice: All parts, except part number 3, the Stand Pipe, can be reused for other drill holes.

If many stand pipes are installed in the face at the same time, we recommend to at least have 2-3 pcs extra of 4A, 4B and 5 available, while 1 pcs of part number 1 and 2 most likely is enough.

Parts description:

Part #	Description	Part # GMA	Weight	Note
1	Rod / Assembly tool (Mounting sleeve. <i>Note: Made in black steel, not galvanized</i>)	9024507	11 kg	
2	Water diverter with rubber seal	9024505	21 kg	
3	Stand pipe (<i>Note: Made in black steel, not galvanized</i>)	9024502	13 kg (2m)	Length according to customer specification
4A & 4B	Valve guide and Sliding plate	9024506	13 kg	
5	Victaulic coupling 3"	9024508	2 kg	

Additional information:

- a) All stand pipes shall be secured to the ground/rock by chain/wire like a normal high pressure injection pipe.
- b) For a stand pipe made of 76,1x3,6 mm tubes maximum drill bit diameter will be 64mm.
- c) Enlarged drilling diameter, 102 mm, is carried out for the actual stand pipe length minus 200-300 mm in order to have the stand pipe out from the face a little bit.
- d) In case of low, or medium, water inflow, injection/grouting according to step 4 can instead be done by using a regular packer and injection pipe that is put into place in end of the stand pipe where the concrete plug was casted.
- e) Rough estimation of needed resin cartridges, about 5-6 cartridges / stand pipe (one cartridge 38x500mm).



Stand pipes mounted in face



Water diverter mounted on stand pipe