

## The 411 on Chemical Grout Pumps



By Peter White,  
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**C**hemical grouting has been a part of the trenchless industry for many years and includes the application of a wide range of products for various underground site conditions, including different types of urethanes, epoxies, silicates, acrylates, acrylamides and cements.

Trenchless professionals are innovative and utilize chemical grouting equipment and chemical grouting techniques to pump a wide range of both old and new products to deal with numerous trenchless applications, including soil stabilization, water cut-off and concrete repair.

Chemical grouting applications include remote application through drill holes, in-line applications through small diameter pipes and man-entry applications in large diameter tunnels and pipes.

**Hand-held Chemical Grout Pumps:** For small volume applications and spot repairs, applicators often choose between portable and easy-to-use cartridge systems and hand-operated lever guns. This type of equipment is inexpensive to purchase and popular with contractors who need to undertake

straight forward chemical grouting.

**Small-Volume Chemical Grout Pumps:** For man-entry projects involving crack injection, joint repairs and water cut-off, small-volume electric piston pumps are frequently used in conjunction with various accessory items to facilitate material placement. These pumps have also been used with underwater ROV equipment to deliver cement grouts considerable distances through small diameter hoses to repair defective pipe joints below the ocean floor.

**Large-Volume Chemical Grout Pumps:** Some trenchless projects involve soil stabilization or water cut-off applications that require large volumes of chemical grout, for which large diameter pneumatic pumps are utilized. Single-component large-volume chemical pumps are typically used with water-activated urethane grouts and pre-mixed, slow-curing chemical grouts where rapid thickening or curing of the grouting material is not an issue.

**Two-Component Chemical Grout Pumps:** For handling fast-curing chemical grouts, two-component chemical pumps are utilized to deliver

through hose systems consistent volumes of two separate components that are mixed in-line prior to the point of injection. Typical grout materials that are best placed with this type of equipment include two-component epoxy resins, urethane and polyol resin systems, as well as acrylates, acrylamides and silicates if fast reaction times are involved.

**Chemical Grout Pump Systems:** Chemical grout pumps utilize a wide range of innovative accessories that provide complete pumping systems that efficiently and effectively deliver chemical grouting materials to the required point of injection or repair in a predictable and controllable manner.

Trenchless professionals routinely develop innovative methods using various pumping systems to overcome a wide range of difficult, unique and complex challenges associated with their work.

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## CALENDAR

### MARCH

**29-Apr. 3 2009 International No-Dig,**  
Sheraton Centre Toronto, Toronto, Canada,  
(330) 467-7588; Fax: (330) 468-2289,  
Web: [www.nastt.org](http://www.nastt.org)

### APRIL

**26-30 PLCA-Canada's 55th Annual Convention,**  
Fairmont Empress Hotel, Victoria, B.C., Canada,  
Web site: [www.pipeline.ca](http://www.pipeline.ca)

### MAY

**3-6 NACWA National Clean Water Policy Forum,**  
Renaissance Washington DC Hotel,  
Washington, D.C., NACWA,  
Web: [www.nacwa.org](http://www.nacwa.org)

### JUNE

**14-18 AWWA Annual Conference and Exposition,**  
San Diego, Calif., AWWA  
(303) 794-7711, Web: [www.awwa.org](http://www.awwa.org)

### SEPTEMBER

**13-16 APWA International Public Works Congress & Exposition,**  
Columbus, Ohio,  
APWA, (816) 472-6100;  
E-mail: [apwa@bbs.pubworks.org](mailto:apwa@bbs.pubworks.org)

**14-18 2009 IPLOCA Convention,**  
Fairmont Hotel, San Francisco, IPLOCA,  
Web: [www.iploca.com](http://www.iploca.com)

**20-22 2009 Trenchless Australasia,**  
Melbourne Park, Australia, ASTT,  
Web: [www.trenchless2009.com](http://www.trenchless2009.com)

**23-25 Tunneling Short Course,**  
Colorado School of Mines, Golden, Colo.,  
(303) 444-2650,  
Web: [www.microtunneling.com](http://www.microtunneling.com)