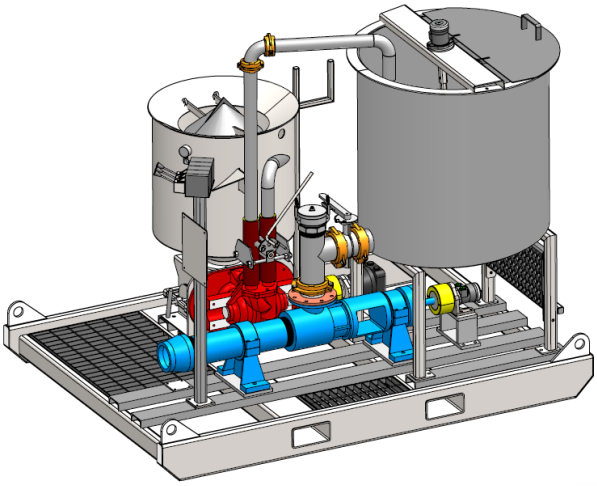
Multicrete Twister High Shear Grout Plant with Pump Options

Technical Data Sheet

Product Description

The Multicrete Twister was developed to efficiently mix cement-based grouts for fastened production purposes. The high speed, high shear mixing principle is incorporated into the design to ensure maximum wetting of the cement particles. The intense vortex action generated in the mixer tank combined with the recirculation immediately assimilates fresh materials to be drawn through the mixer mill and are shear mixed thoroughly.



The basic simplicity of the machine allows for ease of access and effortless maintenance procedures when necessary. The Twister High Shear Plant allows for the producing of pumpable and flowable mixes. This product can mix a wide range of materials including cement (PFA), pre-blends, bentonite, lime or chemicals. The imagery indicated is skid mounted, used for tunnel or mining applications to allow for easy transportation in all types of landscapes. The design and construction of the Twister High Shear Grout Plant are robust, ready to withstand hazardous site conditions.

General Specifications

	Twister	Power Pack
Width	64 ½”	56½”
Length	90”	60”
Height	74½”	64½”

Power Unit: 68 HP Diesel Motor

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Pressure Discharge

The pumping action of the mixer enables rapid transfer of mixed materials out of the mixer into a storage tank or directly to the point of use.

Reliability

The combination of robust design and availability of spare parts ensures long life and reliability for the equipment.

High Shear/Higher Strengths

The high shear mixing action is capable of mixing grouts of lower water to cement ratios, resulting in higher strength grouts.

Optimum Mixing

The unmixed grout is repeatedly recirculated through the zone of high shear within the mixer. This breaks down the clusters of dry particles (agglomerates) and ensures maximum inter-dispersion of fluids and solids.

Minimum Bleed

The combination of low water to cement ratios and efficient mixing ensure that more of the water is absorbed by hydration, minimizing bleed.

Minimal Dilution by Groundwater

BS8081 recommends the use of high shear mixing for the grouting of anchors in water bearing ground condition because the dilution is minimized.

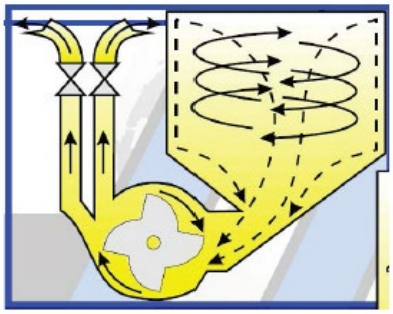
The sequence of adding materials is most important:

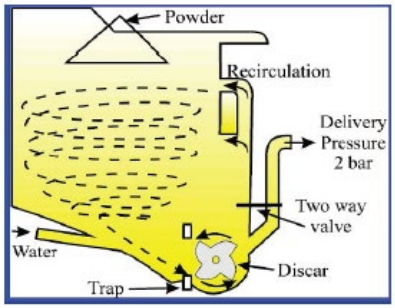
1. **Water**
2. **Cement**
3. **Filler supplementary cementitious materials (SCM's)**

A stable based group of minimum water solids ratio can be produced

Note: Unit must be kept clean for optimal performance

Multicrete can custom engineer a grout plant to your specific needs





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Cost Savings

The combined effect of the highly efficient mixing action and the ability to mix low water/solid ratios allows reduction in the cement content for a given strength requirement. The cement is replaced by a filler such as supplementary cementitious materials (SCM's).

Speed

The vortex action inside the mixing tank rapidly assimilates the powder materials into the high shear mixer. This results in very rapid mixing of a batch-in as little as 3-5 minutes. The high shear grout plant can be powered by air, electric or diesel over hydraulic. Below are the detailed Electric, Air, Diesel power options:

1. Electric motor 20 HP / 3 Phase, 575v, 480v, 360v (*We can design and engineer to any voltages*)
2. 19 HP Air Motor (With required flow rate of 600 CFM at 90 PSI)
3. 68 HP Diesel over hydraulic stand alone / Skid mounted power pack
4. Options are available for wide range of progressive cavity pumps and double acting piston pumps. Pumping can range from 8 GPM to 44 GPM (Gallons Per Minute.) Pressures range from 175 PSI to 3500 PSI (pound per square inch.)
5. All colloidal mixing units are rotating at approximately 2100 RPM (Revolutions Per Minute)

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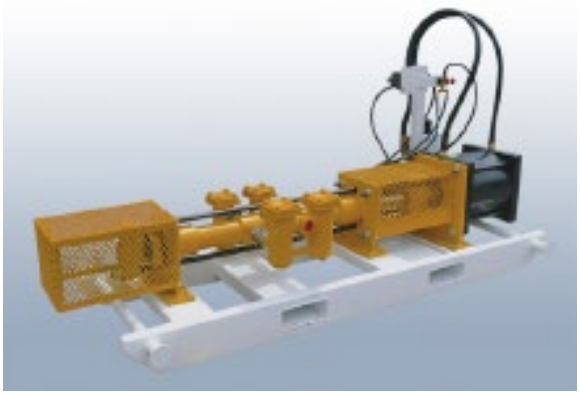
Piston Pumps

Twister Air Model with piston pump, progressive cavity (P/C) pump, double acting plunger pump. Hydraulic high pressure double plunger pumps (1000, 1500 & 2500 PSI)

Progressive Cavity Pump Options

Pump Options	GPM	PSI	RPM
2L8	44	176	350 (Closed Throat Pump)
3L8	44	261	350 (Closed Throat Pump)
2C6/2L6	22	176	350
3C6/3L6	22	261	350
2L4	8	176	350 (Closed Throat Pump



Double Acting Plunger Pump shown in image above

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