

MULTICRETE TWISTER™ HIGH SHEAR GROUT PLANT

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Multicrete[™] Colloidal Mixers were developed to efficiently mix cement based grouts. 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 re-circulation immediately assimilates fresh materials to be drawn through the mixer mill and are shear mixed.

The basic simplicity of the machine allows for effortless maintenance procedures. The plant can produce pumpable/flowable mixes. It will mix a wide range of materials such as cement/PFA, pre-blends, bentonite, lime or chemicals. The plants illustrated above are skid mounted for tunnel or mining applications to allow for easy transportation in all types of landscapes. Design and construction are robust to withstand hazardous site conditions.

General Specifications

	Twister™	Power Pack
Width:	64 1/2"	56 1/2"
Length:	90"	60"
High	74 1/2"	64 1/2"

Power Unit: 68 HP Diesel Motor

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.

Higher Strength

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

Cost Savings

The combined effect of the highly efficient mixing action and the ability to mix low water/solids ratios allow reductions in the cement content for a given strength requirement. The cement is replaced by a less expensive filler such as PFA.





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... Continued from Page 1:

Optimum Mixing

The unmixed grout is repeatedly re-circulated 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.

Minimal Bleed

The combination of low water/cement ratios and efficient mixing ensures 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 conditions because the dilution is minimized.

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 in 3-5 minutes.

The high shear grout plant can be powered by air, electric or diesel over hydraulic.

1. Electric motor 20 HP 3 phase, 575v, 480v or 360v. (We can design engineer to any voltage).

2. 19 HP air motor requires a supply of compressed air with a flow rate of 600 cfm at 90 psi.

3. 68 HP diesel over hydraulic stand alone, skid mounded 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. Pressures range from 175 psi to 3500 psi.

5. All colloidal mixing units are rotating at approximately 2100 rpm.

The sequence of adding materials is most important:

- 1 Water
- 2 Cement
- 3 Filler material

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 for your specific needs.

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