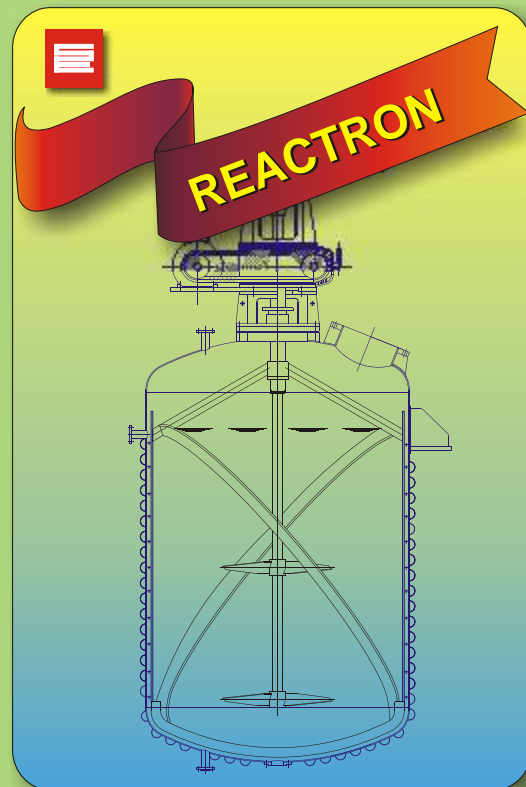
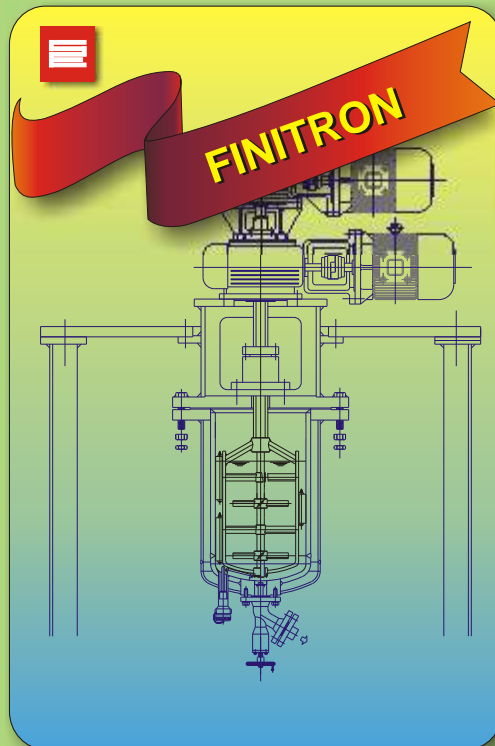


UNIVERSAL MIXING MACHINES

One Machine For Any Mixing Duty



Standard Engineers

UNIVERSAL MIXING MACHINES

FEATURES

Universal Mixer

One Mixer can handle almost any mixing duty. Extreme requirements of high viscosity, bulk physical motion as well as high shear micro mixing dispersion of gases liquids or solids, can all be done in one mixing system.

Co-Axial System

The duty is divided into 2 parts. One is handled by the high flow, slow speed mixer; a higher speed high shear mixer does the other. Both these are arranged co-axially to ensure a smooth flow pattern.

Rotation

Both these mixing systems can be provided in co-current or counter-current orientations.

Wall Scraping

Minimum build-up / fouling on reactor wall is achieved by a scraping mechanism ensuring high heat transfer.

Operating Pressures

System suitable up to 20 bar operating pressure

Operating Temperatures

System suitable up to 250deg C operating Temperature

Small Batch Sizes

The machines are designed to operate with smaller batch sizes

Independent Variable Speed for both drives

Both the co-axial drives are provided with independent speed variators

Multiple Operations

Multiple operations can be done simultaneously or sequentially in these machines



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APPLICATION

High Shear and High Bulk Motion

Universal Mixer is the optimal choice when both extremes of High Shear and High Flow, especially in the high viscosity / laminar regime are required.

De-Agglomeration

Another application area is when dispersion, including particle de-agglomeration is required with a solids loading as high as 70%.

Intense Contacting

The Dispertron is the machine of choice also when immiscible liquids are to be intimately contacted for reaction or emulsification followed by other operations within the same machine.

Dispersion

Difficult dispersions in viscous pastes can also be carried out in this machine.

Difficult Heat Transfer

When good heat transfer needs to be provided in the high viscosity regime this machine is ideal.

Sticky Precipitates

When solids tend to precipitate out on the vessel wall and tend to form hard, difficult to break build-up, this machine can provide continuous wall cleaning.

Multiple Tasks

When multiple tasks need to be carried out in one reactor, without multiple handling, to minimize degradation / loss of product, the Universal Mixer is right selection.

Particle Size Distribution

With this machine, full choice is available for carrying out crystallization with minimal particle breakage as well as for providing high shear to enable very fine particles.

Offerings:

Pilot Facility: Can be offered for testing of applications at our works

MOC: Any MOC can be offered

Sealing: Mechanical Sealing for up to 20bar pressure can be offered

Temperature: Up to 250 Deg. C can be offered



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SELECTION

Dispertron-R

The Dispertron-R is the machine of choice when gas, liquid or solid Dispersions need to be done in fluid with high viscosity or with high solids content. This machine is particularly useful when particle de-agglomeration needs to be done

Reactron

The Reactron is to be selected when initial reaction duties are to be carried out in low viscosity turbulent flow regimes but ending with fluids of high viscosity, or high solids concentration or sticky material formation or vice versa. This machine is particularly useful when starting or ending stages require mixing with controlled shear.

Finitron

This machine is to be selected when the duty is in pasty material domain, with intimate mixing required while blending solid as well as liquid additives

| Sr.No | Dispertron- R | Reactron | Finitron |
|-------|---------------------------|--------------------------------|---------------------------|
| 1 | High Viscosity dispersion | Low or High Viscosity Reaction | Pasty material Processing |
| 2 | High Shear | Medium Shear | Low to medium shear |
| 3 | Up to 70% solids loading | Around 40% solids loading | Up to 15% Solids loading |
| 4 | Gas-Liq-Solid | Gas-Liq-Solid | Liq-Solid |
| 5 | High Power | Medium to Low Power | Medium Power |

Available in Sizes : 1.0 KL, 2.0 KL, 3.0 KL, 6.0 KL, 10.0 KL and 100 Ltrs, 200 Ltrs, 500 Ltrs.



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