



# High Speed Dispersers

for Industrial Mixing Applications

[www.greaves.co.uk](http://www.greaves.co.uk)

## How does a High Speed Disperser work?

High Speed Dispersers play an important role in processes where rotor stator high shear mixers may not provide the most effective solution.

A common example of this is the incorporation of "difficult to wet" powders in liquid bases, that are prone to agglomeration. The HSD mixer features a serrated tooth impeller. The high peripheral speed of the impeller causes centrifugal displacement of the base fluid, resulting in a powerful vortex. Powder is drawn down into the vortex and subjected to intense shear at the tip of the impeller blade, resulting in rapid dispersion.



## What are the key features of Greaves High Speed Dispersers?

- Rapid dispersion of solids, powders, prills and pigments
- Consistent, repeatable particle size and distribution
- Easy clean, hygienic construction
- Extensive optional blade profiles
- Low wear, low maintenance
- Scalable from Laboratory to Bulk production, delivering consistent results regardless of batch size.
- CE compliant safety system
- ATEX variants to Zone 0 & Zone 20 IIC T4
- De-aeration options
- Abrasive and corrosive resistant options.
- High Pressure & Vacuum shaft sealing options.
- Automation for Minimal Operator input
- Integration with other processes

## Serrated Impeller Options



D6 SERRATED IMPELLER



D4 SERRATED IMPELLER



X2 SERRATED IMPELLER



P2 SERRATED IMPELLER



### Benefits:

- High Speed, rapid batch change
- Easy cleaning, hygienic construction
- Low wear, low maintenance
- High Viscosity Capability
- Automated lift system (Electric /Pneumatic)
- Variable Speed with digital display
- Viscosity monitor (amps display)
- CE compliant safety system

### Options:

- Interchangeable serrated impellers
- Full Vacuum de-gassing / Pressure processing
- Product temperature display
- Heated mobile vessels
- High abrasive variant
- Full PLC process control
- ATEX variants to Zone 0 & Zone 20 IIC T4

## Greaves Batch Dispersers

Batch dispersers are commonly referred to as “change-pan” or “rise and fall” type mixers. These fixed mixing stations deliver high productivity and flexibility. Individual production batches are brought to the HSD for mixing in mobile tanks or vessels up to 3000L.

The nature of the process means the Greaves unique safety system is absolutely critical.

Change Pan Model	kW	Speed (RPM)	Capacity** (Litres)
VHSD-5	4	3000	5-30
VHSD-10	7.5	3000	30-200
VHSD-15	11	1500	80-500
VHSD-25	18.5	1500	100-1000
VHSD-40	30	1200	300-1500
VHSD-50	37	1500	500-2000
VHSD-60	45	1200	700-2500
VHSD-75	55	1200	900-3000
VHSD-100	75	1000	1200-3500

\*\* The Capacities shown indicate the maximum batch quantity at the maximum viscosity (30,000cps) and minimum viscosities.



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## Fixed Dispersers

Permanently fixed in a process vessel, bulk dispersers are typically used in high output, high volume applications. Process vessels often feature thermal jacket and/or vacuum de-gassing.

For high viscosity and/or thermal applications other mixing tools are often featured working together.

### Benefits:

- Consistent high volume processing
- Easy cleaning, hygienic construction
- Low wear, low maintenance
- High Viscosity Capability
- CE compliant safety system

### Options:

- Full Vacuum de-gassing /Pressure processing
- Custom Thermal Reactors
- Dual / Triple Action mixing tools
- Variable Speed with digital display
- Product temperature monitoring
- Load cell integration
- Full PLC process control
- Clean in place system (CIP)
- ATEX variants to Zone 0 & Zone 20 IIC T4



Change Pan Model	kW	Speed (RPM)	Capacity** (Litres)
HSD-5 DD	4	3000	10-30
HSD-10 DD	7.5	3000	30-200
HSD-15 DD	11	1500	80-500
HSD-25 DD	18.5	1500	100-1000
HSD-30 DD	22	1500	200-1250
HSD-40 DD	30	1200	300-1500
HSD-50 DD	37	1500	500-2000
HSD-75 DD	55	1200	1000-3000
HSD-100 DD	75	1200	1500-4000
HSD-160 DD	132	1000	2500-6000
HSD-250 DD	185	800	3000-8000

\*\* The Capacities shown indicate the maximum batch quantity at the maximum viscosity (30,000cps) and minimum viscosities.



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## Pilot Scale Dispersers

For manufacturers of high value, low volume or short life products Greaves offers high specification pilot scale dispersers.

Directly scaled down from large batch dispersers, these customised mixers achieve identical results at reduced volumes.

### Benefits:

- Rapid upscale of Laboratory formulations
- Flexible small batch production
- Easy cleaning, hygienic construction
- Low wear, low maintenance
- High Viscosity Capability
- Automated lift system (Electric /Pneumatic)
- Variable Speed with digital display
- Viscosity monitor (amps display)
- CE compliant safety system



### Options:

- Fully mobile mixing station
- Interchangeable serrated impellers
- Full Vacuum de-gassing / Pressure processing
- Product temperature display
- Heated mobile vessels
- High abrasive variant
- Full PLC process control
- ATEX variants to Zone 0 & Zone 20 IIC T4



Change Pan Model	kW	Speed (RPM)	Capacity** (Litres)
VHSD-3	2.2	4500	3-20
VHSD-5	4	3000	5-30
VHSD-10	7.5	3000	30-200
VHSD-15	11	1500	80-500

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