

# HTA HELI-TURBO agitators

A unique combination  
for your dispersion operations



TOGETHER BRING LIFE TO YOUR PROJECTS



# HTA HELI-TURBO Agitators, a unique combination for your dispersion operations

## An inventive design:

“Provided by the unique combination of the PIERRE GUERIN propeller and the SC Saw disc turbine”

## Generalities about dispersion operations

Two essential and complementary hydrodynamic parameters have to be considered for the operations of dispersions:

- **Tip speed** that directly relates to the shearing rate imposed on the powder to be dispersed by the impeller. This speed varies between 7 and 20 m/s depending on the application...
- **Circulation rate** that determines agitator capability to increase the number of particle passes through the disperser.

Amongst others factors, this circulation rate is linked to the viscosity of the product mix.

In actual industrial processes, **two main classes** of impeller devices: the turbines and the propellers, cover the majority of mixing operations. Turbines provide radial flux and shearing actions while propellers generate axial flux and pumping actions.

**The turbines**, in particular the disc type, are the typical impellers used for dispersion operations but this configuration only provides a limited circulation flow while consuming high power.

## The HTA range is unique in the market...

With the Heli-Turbo Agitator PIERRE GUERIN has differentiated itself taking the dual action approach of the **highly effective pumping action of its patented HTPG4™ impeller** with the SC saw disc turbine to achieve exceptional dispersion results.

## Characteristics and advantages of this design

### Pumping effect

HTPG4 impeller generates a vortex assuring an **optimum feeding** of powder to the SC saw disc turbine dynamic region.

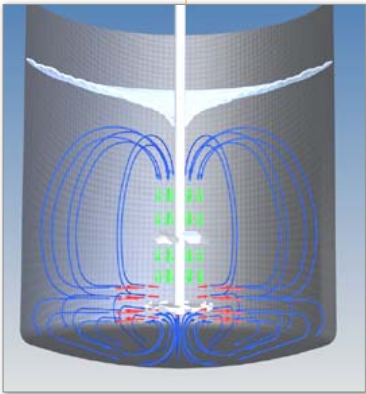
It is possible to control the extent of the vortex using a frequency inverter.

### Dispersion effect (tank bottom)

HTPG4 propeller also enables fast powder wetting thus increasing dispersion rates through the saw disc turbine. Under these hydrodynamics conditions, the SC saw disc turbine works at its optimum cutting efficiency, either in a turbulent or laminar flow.

## Combined flow dynamics

The dual function design has the advantage of maintaining homogeneous product but with relatively low rotation speed thus avoiding possible breakage of three-dimensional mix structures.



## Users benefits

- \_ HTA agitator efficiently blends powder into liquid without generation of lumps thus reducing losses of raw materials
- \_ the high powder wetting rate gives an assurance of fast dispersion meaning optimum productivity
- \_ power input required for dispersion is minimized.

## Main technical features

- \_ gearbox motor with IP55 protection, voltage 400 or 230/400 three phase, 50 Hz
- \_ HTPG4 propellers Ø 60 to 300 mm / saw disc turbines Ø 80 to 400mm
- \_ wide choice of material finishing according to User requirements
- \_ tank mounting via a stainless steel flange provided with leakage detector device
- \_ sealing: lip seal or lubricated mechanical seal

## Applications

- \_ dispersions of products such as Xanthan gum, Guar gum, Carob, Pectin, Carrageenans, Starch
- \_ applications: milk desserts, mustard, puree, tomato sauces...



*Dispersion of texturizing agent  
in a raspberry puree*

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