

## Dust-free .....

Contaminated working areas!  
Inconvenience and health hazards! Product losses  
and additional filtering systems!  
Annoying and expensive when treating powder!  
TDS - the system for the future  
Prevents dust development during powder  
induction.

## Effective .....

Lumps, agglomerates! Incomplete wetting!  
Variable product quality!  
Disadvantage when using conventional  
processing!

TDS - the system for consistent quality  
Immediate, complete wetting and dispersing.  
Better distribution and more efficient use of raw  
materials. Higher quality

## Versatile .....

Powder emptying systems restricted to one type of  
container! Manual adding of different types of  
powder! Inconvenient and costly process technology!  
TDS - the system that is quick and easy  
Inducts from BigBags, silo or paper sack. Fine  
and coarse powders as well as liquids. Into one or  
several production vessels. Machine in horizontal  
or vertical position or moveable on casters.

## Environmental .....

What to do with the empty containers?  
Storage or disposal? A big question mark!

TDS - The system for today

The new packing regulations demand -  
the Conti-TDS delivers. Reusable BigBags, con-  
tainers or barrels.

## Simple .....

Powder remnants on the wall of the vessel, stator  
tube or mixing shaft! Re-working is necessary!  
Stirring, dispersing, grinding! Disagreeable and  
disruptive during processing!

TDS - the system of Inline wetting

Even spontaneous swelling and sticky powders are  
inducted and dispersed without trouble. Cellulose,  
Titanium Dioxide, Dextrin, starches and pigments  
- no problem.

## Economical .....

Product loss because of dust! Expensive filter  
systems! High energy consumption! Additional  
cleaning and re-working cost! Unnecessary  
loss of time! Superfluous!

TDS - the system of the present

Offers high rationalising potential by integrating  
the different processing steps. Container emptying,  
feeding powder, adding and wetting. Dispersing  
to complete disagglomeration.



# POWDER WETTING

### TECHNICAL DATA

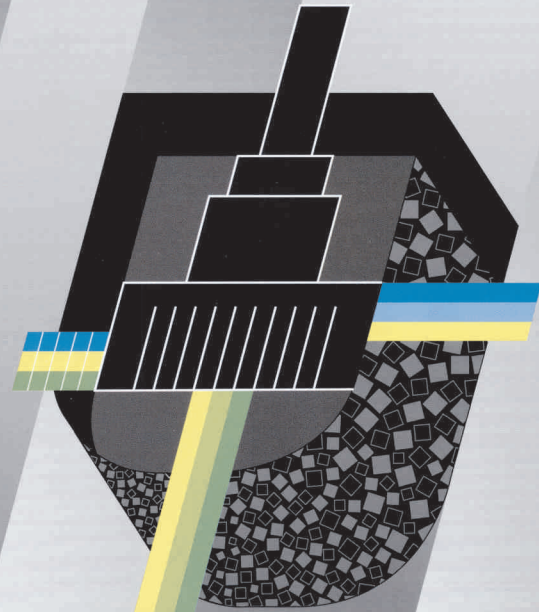
Electrical data	5.5 to 200 kW 230/400/500 V, 50 Hz, also in ex- other voltages and frequency on request variable up to 3.600 rpm
Speed	fixed 3000 rpm pole switch able 1.500/3.000 Stainless steel 1.4571 (316 Ti)
Dispersing chamber	Generators exchangeable Fast clamping connections Type of seal and material depends on the application CIP feasibility
Induction hose	vacuum resistant PVC hose with grounding connection to eliminate static surcharge
Flow rate liquid	2.4 to 90 m <sup>3</sup> /h
Induction rate powder	up to 15 t/h
Maximum viscosity	2 000 to 200 000 mPas (depending on size and use of the machine)
Maximum concentration of non-soluble powders	approx. 70 to 80%

### The ystral program

- Jetstream mixers
- Dispersing mixers
- Batch dispersers
- Inline dispersers
- Powder wetting machines
- Laboratory dispersers
- Stands
- Processing Systems

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# Ystral



# Ystral

## CONTI TDS

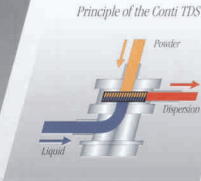
Many problems, one solution

# POWDER WETTING

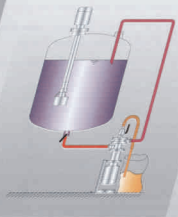
Dust-free emptying of containers, feeding of powder, dosing and adding, wetting and dispersing to a completely agglomerate-free result - all processing steps integrated in one machine - the ystral Conti-TDS.

By combining all the processing steps into one machine, enormous rationalisation potential is offered. Production time is minimised, partial processing steps are completely avoided, production cost is reduced to a minimum.

The basic idea of the Conti-TDS technology is that not only is the powder wetted but also dispersed into a liquid under vacuum. Agglomerates are avoided, better reactivity, higher efficiency of the raw material and higher product quality are the result.



Installation Conti TDS



Principle of the Conti TDS

## SET-UP AND FUNCTION

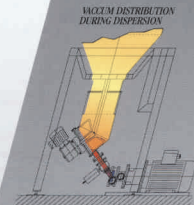
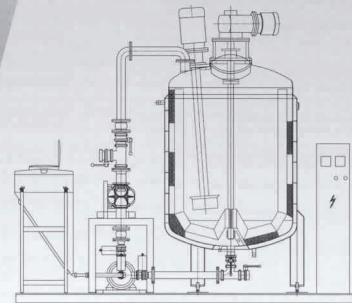
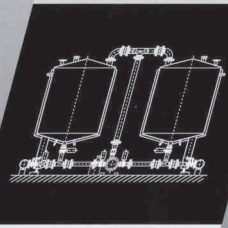
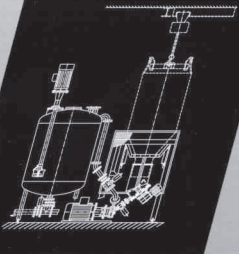
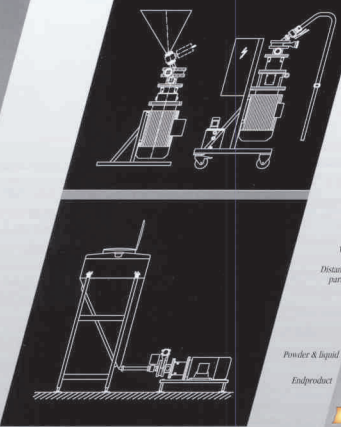
The Conti-TDS system is based on the principle of an in-line dispersing machine. A rotorstator system transports and disperses liquid with high shear energy. The liquid that flows through the dispersing chamber builds up a high induction vacuum. This vacuum induces powder dust- and loss-free from any possible container, directly into the liquid. Induction may be done directly from a paper sack, powder hopper, container, barrel, Bigbag or silo. After powder induction, the machine may be used as an in-line dispersing machine to circulate and further disperse the product.

## POWDER WETTING AND DISPERSING

Powder and liquid reach the wetting and dispersing chamber from two different sides. Only in the dispersing zone do they come together under intensive shear energy and under vacuum and are immediately and completely wetted and dispersed. As powder is a mixture of solid material and air, the vacuum causes an expansion of the air content in the powder to a multiple of the original volume. The distances inbetween the powder particles are enlarged proportionally which facilitates penetration and increases the wetting capability of the liquid. The speed of the powder particles is also accelerated by the increase of the volume. Dispersing of the liquid also increases the surface of the available liquid. The specific surface of the liquid is several hundred-thousand times larger compared to conventional addition of powder. Even difficult to wet powders, spontaneous swelling or sticky powders may be treated without any problem. Very high powder concentrations are possible. For products sensitive to shear energy, special dispersing tools with reduced shear activity are available.

## INSTALLATION

Typical installation is operation in circulation, attached to a vessel. The machine may be attached to several vessels or may be placed on casters and installed to vessels in different working areas. It is easy to integrate the machine into existing processing systems. A continuous process may be set-up by using two vessels working in flip-flop, a combination of batch and storage tank or as a min-max processing system. Several powders may be inducted and dosed in a given sequence, swelling and dispersing time can be adjusted. Ventilation is no problem. Continuous in-line operation is possible as well with the same machine. For extremely high viscosity products such as offset printing ink, silicon sealants, knitting filler or glue, the machine is used in combination with a volumetric pump.



Vacuum Speed Distance of particles



## CONTI TDS POWDER WETTING

