

## Data Sheet

### ULTRA-TURRAX® UTL 2000/20

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The IKA Ultra-Turrax UTL 2000 is an in-line high-performance single-stage dispersing machine used for the production of emulsions and suspensions. The UTL 2000 uses the rotor-stator principle and is best suited for continuous applications that cannot be accomplished using conventional stirring methods.

The UTL single stage dispersing machine is equipped with a mixing tool (generator) that provides moderate shear for the general purpose of blending and homogenizing processes. In order to configure the UTL to meet a variety of application needs, IKA offers a wide selection of generators for all machine sizes. Different generator designs allow adjusting the level of dispersing energy. In addition, they are also designed to accommodate materials of different viscosities and initial particle size.

The ULTRA-TURRAX in-line machine UTL uses similar shear principles as the popular Ultra-Turrax machines UTC for batch operation. The UTL can be used for single pass operation or in recirculation loop with a batch tank or reactor. Minimized volume of the mixing chamber ensures uniform shear on the product.

In batch process the machine UTL is arranged in recirculation over a mixing vessel.

During the full continuous process the components to be mixed are fed into the machine at an appropriate rate through various inlet operations. These components are then thoroughly mixed, dispersed or homogenized within the machine and discharged from the machine through the outlet. Thus, all particles or droplets are treated producing a narrow particle or droplet size distribution with minimal concentration/quality variations. Additionally, the UTL 2000 creates a pumping action which can be used for transfer purposes at low to moderate viscosities with a maximum of about 20 m (ca. 2 bar).

The high shear dispersing machine ULTRA-TURRAX UTL 2000 is available in eight sizes. The possible throughput varies from 0.3 gpm to 550 gpm. All sizes of machines work with the same circumferential speed of the rotor which provides for reliable scale-up.

Advantages of the ULTRA-TURRA UTL machine:

- Simple, yet robust design, which is synonymous with long service life
- Improved dispersing and pumping performance
- Simple speed adjustment by use of belt drive
- Easy scale-up of processes developed with laboratory machine UTL to production machines UTL
- High-value seal with wear-resistant materials
- High quality surface finishes for easy cleaning
- Machine is self-draining and CIP-SIP capable
- All wetted parts are 316/316Ti stainless steel
- Capable of operation under pressure of up to 16 bar
- Other materials and finishes are available upon request
- Low noise levels
- Can be converted to a variety of other modules
- 3A-Sanitary conformed and certified
- Pharmaceutical execution available upon request
- Explosion protected execution available

IKA engineers and application experts are available to assist you with selection of machine type, execution and dispersing tools as well installation into existing process systems or extension to the new production plants.



### Technical Data

Flow rate (max)	90 gpm
Base motor power	30 Hp
Motor speed	3,600 rpm
Tip speed	23 m/s
Speed regulation possible	Yes
Dispersing tools	Variable
Single mechanical seal	Yes
Double mechanical seal	Yes
Ex-proof possible	Yes
Process pressure (max)	16 bar
Process Temp. (max)	160° C
Cleaning	Yes, CIP
Sterilization	Yes, SIP
Inlet	3"
Outlet	2 ½"

**Ident. No. UTL 2000/20**

