

Data Sheet

DISPAX-REACTOR® DR 2000/50



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The IKA DISPAX-REACTOR® DR 2000 is a three-stage high shear inline dispersing machine used for the production of very fine emulsions and suspensions. Shear forces that occur in the working chamber produce a drastic increase of mass transfer and accelerate the dissolving rates of mono and macromolecular substances. Three rotor-stator combinations (generators) in a series ensure small- droplet or particle size and a very narrow distribution spectrum. This process promotes a long stability of mixtures in a single pass, especially when working with emulsions.

The DISPAX-REACTOR® inline machine uses shear principles similar to the popular ULTRA-TURRAX® machines UTC and UTL. Minimized volume in the mixing chamber ensures uniform shear on the product.

For discontinuous processes, the inline machine DR can be installed with a batch tank or reactor containing the pre-mixed product. When the mixture passes through the dispersing machine, it is homogenized optimally.

For continuous processes, the components to be mixed are fed into the machine at an appropriate rate through the inlet connections. Here, the components are thoroughly mixed, dispersed or homogenized within the machine, and then discharged through the outlet.

In order to configure the DISPAX-REACTOR® DR to meet a variety of application needs, IKA offers a wide selection of generators. The standard rotor-stator (generator) combination consists of a coarse, medium and fine rotor-stator. When installed in a series, this configuration ensures satisfactory particle size reduction while providing optimum dispersing results in a single pass.

The high shear dispersing machine DISPAX-REACTOR® DR 2000 is available in eight sizes. The possible throughput varies from 80 (DR 2000/03) up to 125.000 l/h (DR 2000/50) when using water. All sizes of machines work with the same circumferential speed of the rotor which provides a reliable scale-up.

Technical Data

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| Flow rate (max.) | 125000 l/h |
| Viscosity (max.) | 5000 mPas |
| Motor power | 160 kW |
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| Motor speed | 1500 rpm |
| Tip speed | 23 m/s |
| Speed regulation possible | yes |
| Single mechanical seal | yes |
| Double mechanical seal | yes |
| Lipseal | no |
| Flame proof possible | yes |
| Dispersing tool | variable |
| Process pressure (max.) | 16 bar |
| Process temperature, max. | 160 °C |
| Cleaning | yes CIP |
| Sterilisation | yes SIP |
| Ident. No. | 00DR200050 |