



# ROTOTRON RTS Jet Flow Agitator



**designed**  
to work perfectly

# IKA® ROTOTRON RTS Jet Flow Agitator

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The IKA® ROTOTRON RTS jet flow agitator is a universal batch mixer that combines the functionality of a conventional stirrer and a dispersing machine with a rotor-stator system and narrow shear gap.

RTS-type machines are used for tasks such as homogenization, dispersing, suspension, emulsification, aeration and dissolving, and to facilitate heat transfer.



**IKA® +**

- > Rapid mixing and dispersing results at a viscosity of up to 15,000 mPas
- > Fully homogeneous mixing, even in containers with disadvantageous geometries

Can be designed according to user requirements and customer-specific dimensions

## Mode of Action

While a conventional propeller stirrer distributes drive energy widely throughout the entire container contents, a RTS jet flow agitator features a high-speed propeller surrounded by a jet tube. This generates a directed axial flow with high flow volumes, and a high energy density is achieved locally between the propeller and jet tube. The jet flow agitator intensively circulates and mixes the product in the container while consuming little energy, making it a particularly energy-efficient machine. The mounting rods for the jet tube ensure that there is no undesirable whirlpool formation.

The RTS is suitable for operation in both directions of rotation. With the standard direction of rotation, the medium is drawn into the jet tube from above and discharged downwards. The way the device operates is particularly well-suited to mixing floating substances and preventing sedimentation.

Switching the direction of rotation enables the flow direction to be changed and the medium to be drawn in from below. This mode of operation prevents any air from being drawn in when the filling level is low. Thanks to the fully open cross-section, it also allows the medium to flow into the stirrer at high viscosities.



## Technical Benefits

In the case of large containers, the RTS is an ideal alternative to conventional overhead stirrers. When using large containers, the RTS can also be mounted on the side of the container wall as an option. The excellent vertical mixing performance means that fluids are mixed well even where large differences in density are present. Thanks to the high circulation rate, even viscous products that display shear thinning or thixotropic properties, for example, remain in motion. The design and mode of operation mean that no baffles are necessary. The strong, directed flow makes the RTS especially ideal for containers with disadvantageous geometries. Using an RTS jet flow agitator enables both shorter production times and improved product quality. The device delivers an exceptional mixing performance while keeping heat transfer to a minimum.



### Paint and dye industry

- > Ink
- > Water colors
- > Soot
- > Paper industry
- > Adhesives
- > Raw paper mixtures

### Chemical industry

- > Dyes
- > Fertilizers
- > Plant protection products
- > Pesticides
- > Clay
- > Shampoo



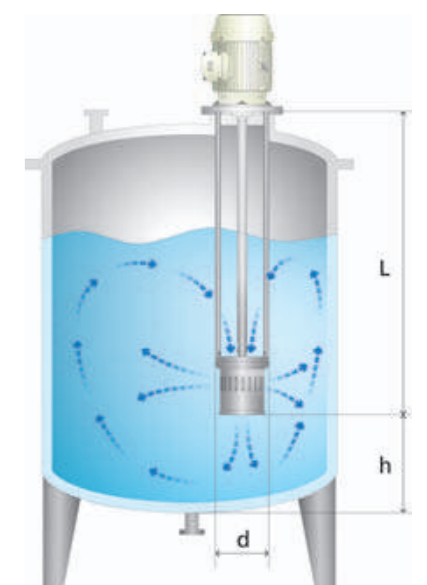
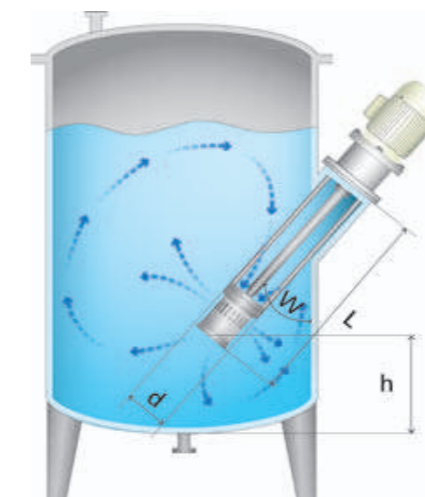
### Food industry

- > Ice cream
- > Chocolate
- > Flavorings
- > Drinks
- > Pectins

## Installation Guidelines

Install eccentrically from above or laterally at an angle. The device should be located in the lower third of the fill level. The ground clearance  $h$  should be at least two to three times the value of  $d$ . The angle  $W$  should be 0–10° for installation from above, and 30–45° from vertical for side mounting.

- $L$  = installation length
- $d$  = jet tube diameter
- $h$  = ground clearance
- $W$  = installation angle



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	RTS 115	RTS 150	RTS 220	RTS 280
<b>Technical Data</b>				
Motor power [kW]	2.2	4	5.5	15
Rotational speed [rpm]	3,000	3,000	1,500	1,500
Batch size [l]	1,000	5,000	10,000	20,000
Max. viscosity [mPas]	15,000	15,000	15,000	15,000
Pressure [bar]	2.5	2.5	2.5	2.5
Vacuum [mbar]	100	100	100	100
Max. temperature [°C]	120	120 </td <td>120</td> <td>120</td>	120	120
Max. installation length [mm]	1,600	1,600	2,300	2,300
Weight [kg]	55	70	150	270



## Jet tube with slits

The distance between the propeller and jet tube already generates a moderate shear. Additional slits in the jet tube increase the shear effect to solubilize lumps of powder in the product quickly, for example.



## Additional stirring elements on the shaft

There is a range of different mixing element designs for special requirements. These can be used for applications such as processing powders in liquids. The way the mixing elements are arranged ensures that floating powder is drawn in and incorporated into the liquid effectively. Additional stirrers can be attached to the shaft even when processing products with high viscosity or when the product container is very deep.

