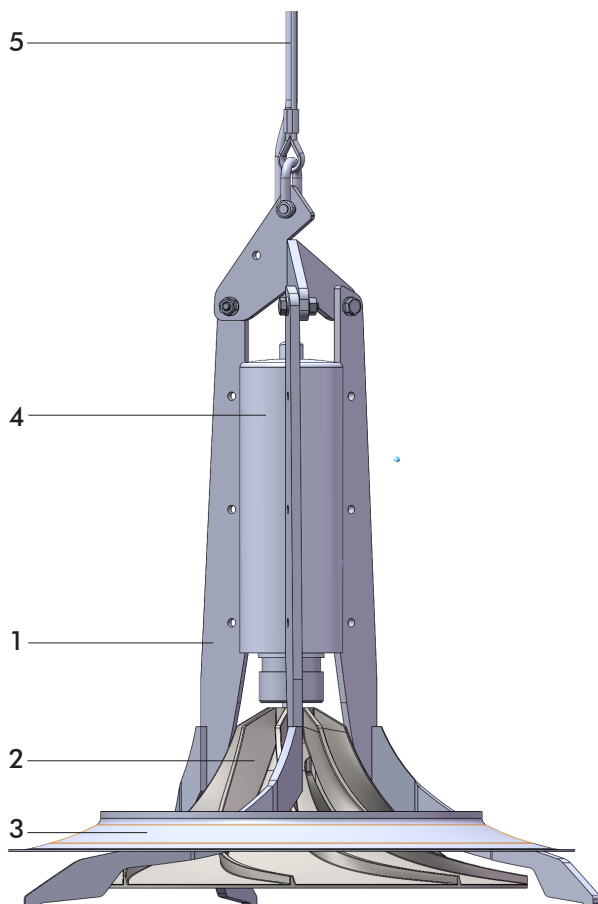


# INVENT HYPERMIX<sup>®</sup>-Agitator

Efficient mixing in drinking water reservoirs

Drinking water reservoirs play a central role in the implementation of safe access to drinking water in our cities and communities. The treatment and filtration processes to produce drinking water can be costly, and to ensure the final product to the consumers is of the highest standard, quality must be maintained within the storage facilities. Within the storage facilities the water can deteriorate through “stratification” leading to undesirable odour and taste variations, as well as critical chemical concentration variations which can result on the delivered water being outside regulatory guidelines.

Stratification in drinking water reservoirs impacts water quality. During the stratification process, different water layers with different temperatures occur. There is no fluid exchange between these layers. This leads to longer dwell times for a part of the water and thus to algal formation, subsequent germination and/or uncontrolled chemical concentrations. All this can easily be prevented by the implementation of a mixing element developed especially for complete volume movement. This mixing system helps to displace the water layers and to prevent them re-forming.



HYPERMIX<sup>®</sup>-Agitator: Side view

## CONSTRUCTION AND DESIGN

The construction and the design of our **HYPERMIX<sup>®</sup>**-Agitator for drinking water reservoirs is based on our successful hyperboloid mixing technology evo 7 that has now been adapted for the use in drinking water reservoirs. For this reason, all the essential parts as well as the mixer-body are made from stainless steel SS 316 as well as the drive that is situated below the water surface and are designed to meet hygienic design directives DIN EN 1672-2:2009-07.

### 1 Tripod and lifting frame

The hyperboloid mixer-body is implemented into a tripod stand that adapts perfectly to the shape of the stainless steel mixer-body. Not only does it integrate the mixing element, it also directs the flow in the radial direction. Thus, the tripod and lifting frame contribute to a higher efficiency of the mixer.

### 2 Hyperboloid mixer-body

The hyperboloid mixer-body is – in terms of its geometry and shape – equivalent to the well known Evo 7 design. Nevertheless, it is made from monolithic stainless steel SS 316. Therefore, the mixer-body has a high degree of shape accuracy and rigidity.

### 3 Vortex Deflector

The additional vortex-deflector – as well as the tripod and lifting frame – prevents flow short circuits and guarantees optimal reactor behavior.

#### 4 Hygiene Design Drive Unit

For hygienic design the drive unit consists of a heavy duty DC drive, which is enclosed in a stainless steel housing, a planetary gear-reducer, and a mechanical seal package. The output shaft on which the hyperboloid mixer-body is attached is also made from stainless steel SS 316.

#### 5 Lifting wire

The **INVENT HYPERMIX®**-Agitator is supplied, as standard, with a SS 316 Stainless Steel lifting wire. This allows simple installation and removal of the unit. The lifting wire is also used as the guide for the power and control cable and if required chemical dosing lines.

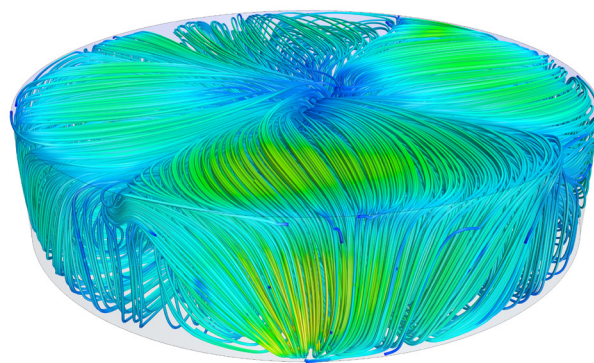


Drinking water reservoir in steel construction

#### INSTALLATION & OPERATION

The **INVENT HYPERMIX®**-Agitator has also been specifically engineered for quick and simple installation requiring no special tools or equipment. The **HYPERMIX®**-Agitator is lowered through any existing maintenance opening and rests under its own design weight on the tank floor.

The **INVENT HYPERMIX®**-Agitator is supplied with an external control system that is used for start stop and speed setting. The speed setting can be used for optimising chemical dosing, allowing the **HYPERMIX®**-Agitator to provide maximum fluid volume flow during the dosing process. This, in combination with the optional integrated dosing point within the high turbulent zone ensures complete micro mixing prior to distribution to the entire tank contents.



**HYPERMIX®**-Agitator: Flow pattern of a drinking water reservoir with a diameter of 30 m

#### TECHNICAL DATA

|             |               |
|-------------|---------------|
| Motor power | 500 W         |
| Diameter    | 500 mm        |
| Mixer speed | 100 - 500 UpM |
| Weight      | 40 kg         |



**HYPERMIX®**-Agitator: HM 500 in full stainless steel construction