

HYPERCLASSIC[®] - Mixer/Aerator

m i x i n g t e c h n o l o g y



invent[®]
umwelt und verfahrenstechnik

- Fluid mechanically optimized
- Highly efficient & energy saving
- Lifiable
- Robust & proven
- Easy installation

HYPERCLASSIC®

The Hyperboloid-Mixer/Aerator

An Overview

Combine the **HYPERCLASSIC®** - Mixer/Aerator with our especially developed **HYPERCAGE** and you can install it in and retrieve it from filled basins without interrupting the operation of your plant.

The **HYPERCLASSIC®/HYPERCAGE** - combination can be supplied pre-assembled for minimum installation and start-up times. This unique design which combines all the advantages of having a dry-mounted drive and a lift able system can be used in any type of activated sludge process and plant such as:

- squared, rectangular or circular basins
- carrousel basins
- aerated lagoons, lined or earthen basins
- UNOX- or OASIS-plants using pure oxygen
- Sequencing Batch Reactors (SBRs)

Function

The **HYPERCAGE** has several functions. It integrates the **HYPERCLASSIC®** - Mixer/Aerator, improves and guides the flow above and underneath the hyperboloid mixer-body and it provides sufficient weight to keep the whole system in position during mixing and aeration mode.

Design

The design of the **HYPERCLASSIC®/HYPERCAGE** - construction is simple, robust and proven. Figure 1 shows the main components in an exploded view.

GEAR-DRIVE

We only use heavy duty helical gear-drives with reinforced bearings and high service factors from renowned manufacturers. This allows for trouble-free operation, long maintenance periods and ensures longevity.

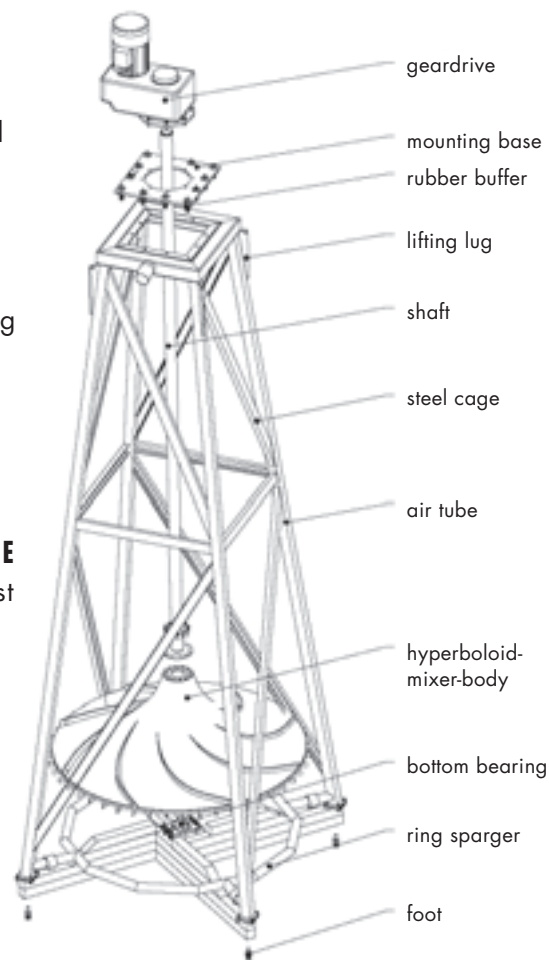


Figure 1:
HYPERCLASSIC® - Mixer/Aerator
in a cage - Exploded view

Robust and proven design

HYPERCLASSIC®

MOUNTING BASE

The helical gear drive sits on a mounting base which is elastically supported by twelve heavy rubber buffers. They allow for perfect leveling of the drive and they also can absorb little vibrations which might be transferred to the gear-drive.

SHAFT

The shaft is made from stainless steel. For wastewater with high salt-content we can supply Derakane®-coated shafts.

HYPERBOLOID-MIXER-BODY

The hyperboloid – mixer body is made from high quality fiber reinforced plastic. The transport-ribs are integrated into the mixer body. The adjustable shear-ribs underneath the mixer-body are made from stainless steel. They serve to shear the air or gas to fine bubbles. The main flow generated by the rotating transport-ribs distributes these bubbles and mixes the entire tank.

BOTTOM-BEARING

Under the hyperboloid-mixer there is a gliding bearing which holds the mixer body in its central position during operation. The bearing is designed as low loaded radial bearing with minimum wear and long maintenance periods. For heavy duty conditions or for abrasive conditions we offer a water flushed version of this bearing.

AIR SUPPLY

The air supply is realized as two or more pipe outlets or as ring sparger underneath the mixer-body. Depending on the cage design the downtube(s) is/are integrated into the cage or an extra pipe is fixed to one leg of the cage. Above the water level the air supply is connected with a flexible hose.

CAGE

The cage is designed as a heavy structure made from stainless or coated carbon steel. The heavy foot construction serves as weight and

baffle. It is always made from coated cast-iron. Depending on the application we provide several custom-designs of the feet which allow for safe operation and leveling even in earthen or lined basins.

Installation

The installation of the **HYPERCLASSIC®/HYPERCAGE-**combination is simple and timesaving. Just erect the mixer/aerator, lift it up and put it in position. This works reliably even in filled basins without interrupting the operation of the plant. The weight of the **HYPERCAGE** will keep the system in position safely. No extra supports, bridges or other additional devices are required.

Technical Specifications for HCRB/2500-Series in HYPERCAGE

Type	Diameter	Installed power	Power intake	Max. SOTR	Max. air flow
HCRBKG/2500-30.0	2500 mm	30.0 kW	21 - 30.0 kW	300 kg/h	2500 m ³ /h
HCRBKG/2500-22.0	2500 mm	22.0 kW	15 - 21.0 kW	250 kg/h	2000 m ³ /h
HCRBKG/2500-18.5	2500 mm	18.5 kW	13 - 18.0 kW	200 kg/h	1500 m ³ /h
HCRBKG/2500-15.0	2500 mm	15.0 kW	12 - 16.0 kW	185 kg/h	1400 m ³ /h
HCRBKG/2500-11.0	2500 mm	11.0 kW	8 - 11.5 kW	160 kg/h	1200 m ³ /h

Important Note:

All technical data are guiding values and subject to change. The achievable field values are depending on the actual and boundary conditions, especially water depth, tank geometry, and altitude of the plant. For detailed layouts and designs please consult **INVENT** or your local dealer.

Contact

For further information or detailed technical and commercial offers please contact our head office or your local representative.

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