



water solutions



HIGH EFFICIENCY
SUBMERSIBLE PUMPS
WITH CUTTING SYSTEM

CHOPPER

zenit.com

Chopper series



The definitive solution to pump and pipeline fouling problems in systems for lifting heavily soiled water containing solid waste.

Large amounts of even large pieces of solid and fibrous waste may often accumulate in waste-water collection tanks, and they may jam the impeller and block pipelines, making the lifting station more or less unusable.

When this occurs at a time when large amounts of water are entering the tank, a pump blockage is a serious problem, which may jeopardise the system's safety and cause immense damage to infrastructures in the event of overflow.

The use of strainers is not an effective answer, since with heavily soiled water these components require constant monitoring and the expensive removal of the trapped solid waste.

The only way of removing obstructions is to clean the pump and pipelines regularly, which requires skilled staff and involves shutting down the system for the entire duration of the procedure, with a consequent increase in operating costs.

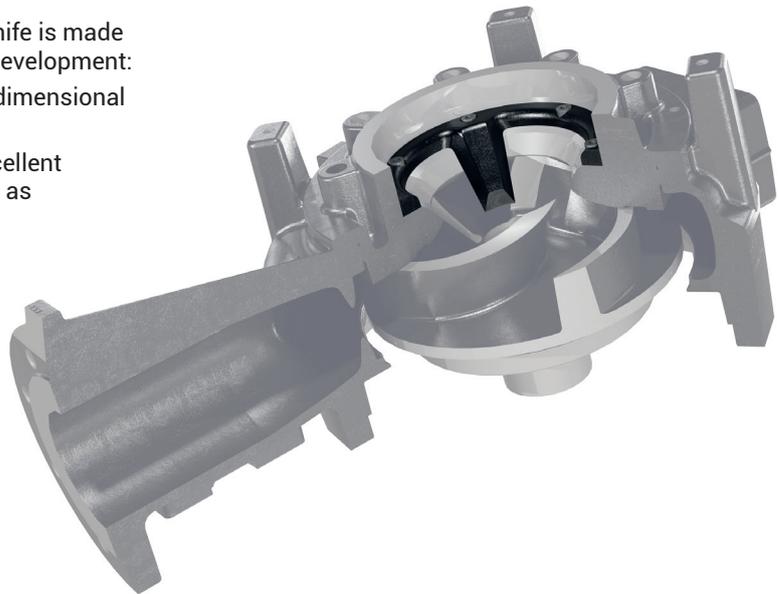
To solve this problem, Zenit has extended its UNIQA range by developing models with high-efficiency motors and a hydraulic "Chopper" specifically for heavily soiled waters, capable of cutting up and expelling any destructible solid body in the waste-water thanks to an efficient chopping system.

The heart of the system comprises a strong knife with sharp edge flush against the blade of the grinder impeller, capable of finely chopping solid bodies of any shape and material, preventing not only jamming of the impeller but also the build-up of residues inside the hydraulics and pipeline, guaranteeing trouble-free operation of the system and perfect functioning of the lifting station.

The effective combined action of the impeller and knife is made possible by 3 key factors included in the product's development:

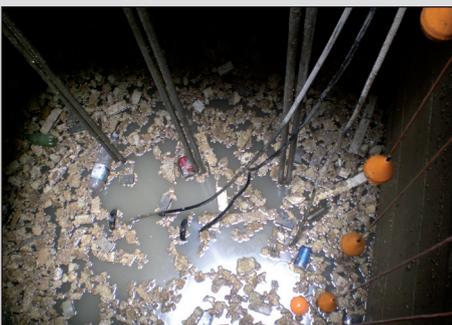
- special component design, achieved using three-dimensional fluid dynamical modelling software
- the use of innovative materials that guarantee excellent resistance to mechanical stresses and wear, such as molybdenum carbide
- High efficiency hydraulic to supply the best performances in heavy duty conditions

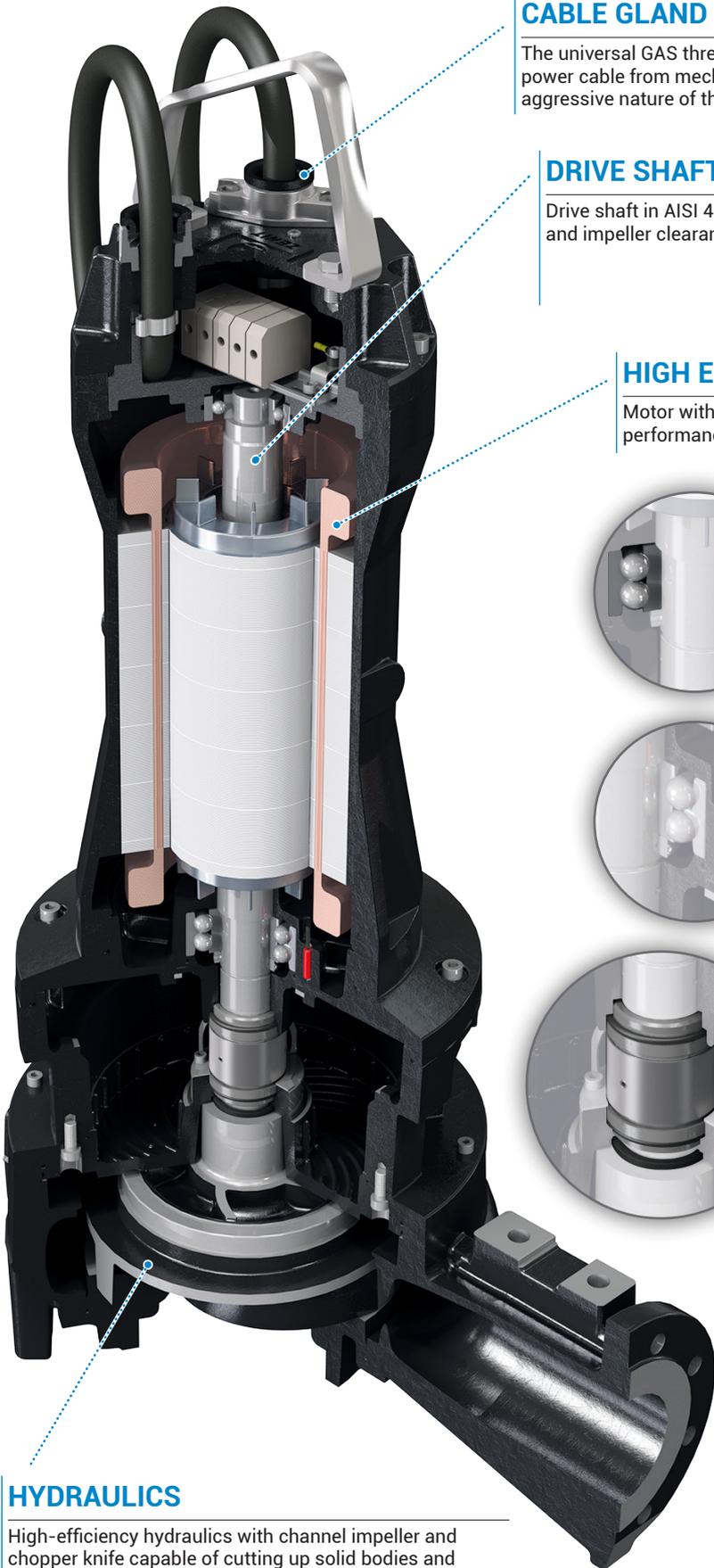
Field tests are also currently ongoing in particularly critical systems and installations, to prove that the laboratory performances are reproduced in real life.



Applications

Chopper models are recommended for heavy-duty applications in civil and industrial waste-water treatment plants, pumping stations handling water with heavy soil and solid bodies, effluent pumping on livestock and other farms, in meat processing facilities, and in the fish-farming and paper industries.





CABLE GLAND

The universal GAS thread is able to take a sheathing pipe to protect the power cable from mechanical or chemical damage due to turbulence or the aggressive nature of the liquid.

DRIVE SHAFT

Drive shaft in AISI 431 steel with connection to impeller via tapered coupling and impeller clearance adjustment system

HIGH EFFICIENCY MOTOR

Motor with PREMIUM IE3 efficiency rating, guaranteeing high performance levels and low energy use.

BEARINGS

Oversized bearings to guarantee 50,000 working hours.

PROBES

One or more water/humidity probes can be installed inside the motor, the cable compartment and the oil sump. Probes are available to detect the temperature and the vibrations of the bearings.

MECHANICAL SEALS + V-RING

Two mechanical seals in silicon carbide (SiC-SiC) enclosed in an inspectable oil sump. In this way, the mechanical seals are not affected by solid or fibrous materials contained in the wastewater.

HYDRAULICS

High-efficiency hydraulics with channel impeller and chopper knife capable of cutting up solid bodies and filaments in the waste-water, preventing all risk of blockages and fouling.

PATENTED COOLING SYSTEM

In DRY version models, the motor is cooled by means of a PATENTED internal "closed circuit" system. This ensures that there is no adulteration of the fluid used even if contaminated liquid accidentally enters the oil sump due to wear of the first mechanical seal. Continuous duty is ensured even in dry and partially submerged working conditions.

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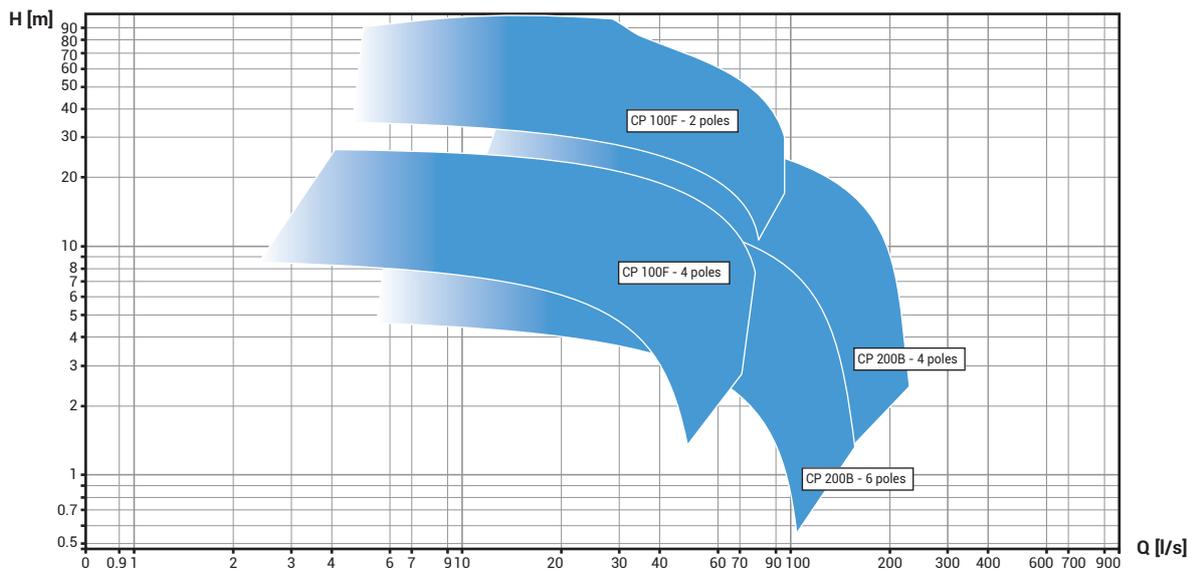
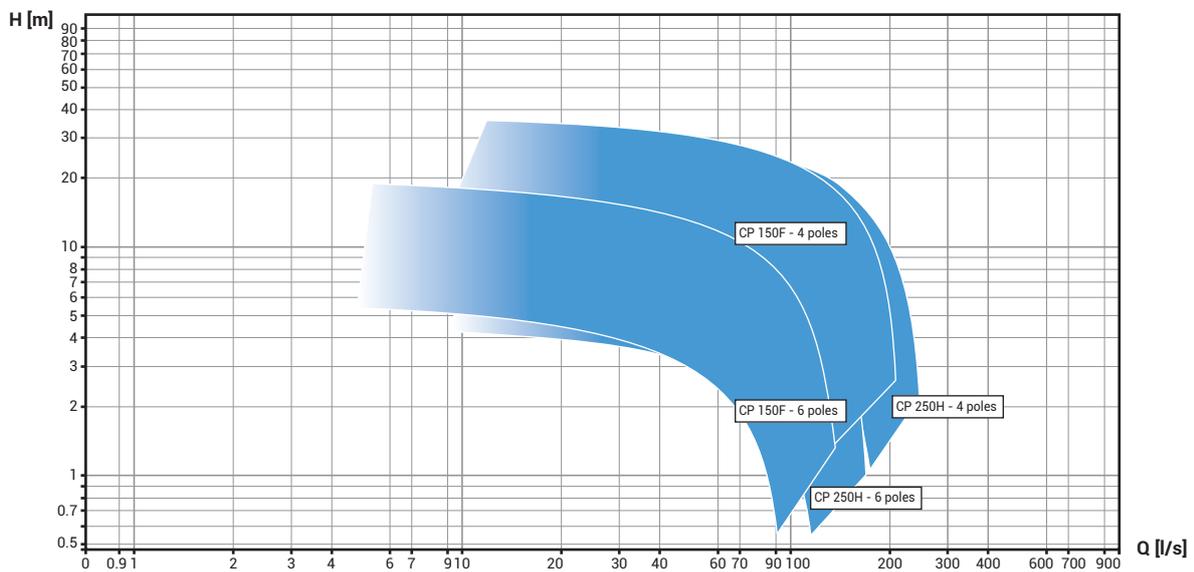
List of models:

- ZUG CP 100F - 2 poles
- ZUG CP 100F - 4 poles
- ZUG CP 150F - 4 poles
- ZUG CP 150F - 6 poles
- ZUG CP 200B - 4 poles
- ZUG CP 200B - 6 poles
- ZUG CP 250H - 4 poles
- ZUG CP 250H - 6 poles

Theoretically any ZUG OC model can be converted in Chopper version.



Operating ranges



The digital version of this catalogue is available for download at: www.zenit.com

The data provided are not binding.
Zenit reserves the right to modify the product without advance notification.

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For further information, visit www.zenit.com