NIOCOM PARTS

FIBER REINFORCED COMPOSITE
PUMP COMPONENTS

ENGINEERED TO OUTPERFORM. BUILD TO LAST.

High performance composite components for centrifugal pumps in the most demanding environments.

OUTSTANDING RESITANCE

against sea and brackish water

LONGER SERVICE LIFE

through superior material performance

LOWER COSTS & CO_2 EMISSIONS

through maximum efficiency

APPLICATIONS

Pump components for every centrifugal pump –
reliable performance in critical applications.

- SEA GOING VESSELS
- SEA WATER DESALINATION PLANTS
- OFFSHORE PLANTS
- HYDRO POWER PLANTS
- OIL & GAS RIGS
- SEWAGE TREATMENT PLANTS
- SHIPYARD DOCKS
- SALT MINES
- DRAINAGE SYSTEMS
- RIVER VESSELS

COMPONENTS

FOR EVERY SIZE AND GEOMETRY

IMPELLER HYDRAULIC FOR

- SINGLE SUCTION
- DOUBLE SUCTION
- CLOSED
- OPEN
- STAR

ADVANCED COMPOSITE MATERIALS

Our high performance composites are engineered for extreme conditions and maximum reliability.

HIGH PERFORMANCE POLYMERS

Base polymers are crucial for wear resistance.

FIBERS & FILLERS

Reinforce the materials and can withstand high force and continuous stress.

SOLID LUBRICANTS

Distributed in very small particles throughout the material. They lubricate independently.

TOP ADVANTAGES

OUTSTANDING RESITANCE
against sea and brackish water

VERY LOW HYDROPHILICITY
Low swelling only

EXCELLENT RESITANCE
against cavitation

NON CONDUCTIVE
reduces electrolysis and galvanic corrosion

LIGHTWEIGHT
only about ¼ of the weight of metallic impellers

SMOOTH SURFACES
minimized friction losses, maximum efficiency

DRY-RUN CAPPABLE
for short periods without risk of damage

LONGER SERVICE LIFE
reduces maintenance cost and downtimes

CAVITATION

NO IMPACT ON OUR COMPOSITE IMPELLERS.

Thanks to the unique structure of our composite material, cavitation has no destructive effect on our impellers. The inherent surface flexibility absorbs the energy of collapsing bubbles and prevents fiber erosion – ensuring exceptional durability and long service life, even in in the most challenging conditions.

HOW OUR IMPELLERS HANDLE CAVITATION

1 BUBBLE FORMATION
Pressure drops cause vapor bubbles to form in the fluid near the impeller surface.

2 BUBBLE IMPACT
Bubbles collapse near the Surface but are met with Material flexibility.

3 BUBBLE IMPACT
Bubbles collapse near the Surface but are met with Material flexibility.

NON-CONDUCTIVE
BUILD TO PROTECT.

Our composite impellers are non-conductive by nature. Unlike metallic impellers, they do not create galvanic currents – dramatically reducing the risk of galvanic corrosion inside the pump.

NO GALVANIC CURRENTS

Non-conductive composites prevent electrochemical reactions between impeller and pump casing.

DRASTICALLY REDUCED CORROSION RISK

Protects critical pump components and ensures reliable performance over time.

LONGER SERVICE LIFE. LOWER COSTS

Less corrosion means fewer downtimes, lower maintenance costs and extended pump lifetime.

COMPOSITE IMPELLERS.
SMARTER BY DESIGN.
By eliminating the risk of galvanic corrosion, our non-conductive composite impeller help protect the entire pump system – even in the most aggressive water conditions.

LIGHTER IMPELLER.
STRONGER SYSTEM.

Our composite impellers weigh only about ¼ of comparable metallic impellers. This significantly reduces the load on critical pump components – extending their life and improving reliability, especially in horizontal pumps.

¼ THE WEIGHT

Composite impellers weigh only about ¼ of metal impellers.

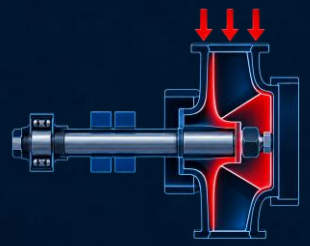
LESS LOAD. MORE DURABILITY.

Less weight on the shaft reduces stress and extends the life of key components.

LESS WEAR. LESS DOWNTIME.

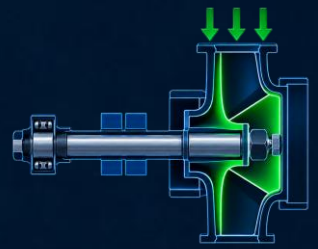
Reduced wear on components – even under conditions of imbalance or vibrations.

BEFORE – METAL IMPELLER



- High axial and radial loads
- Increase wear on shaft, bearings and seal
- Higher risk of premature failure

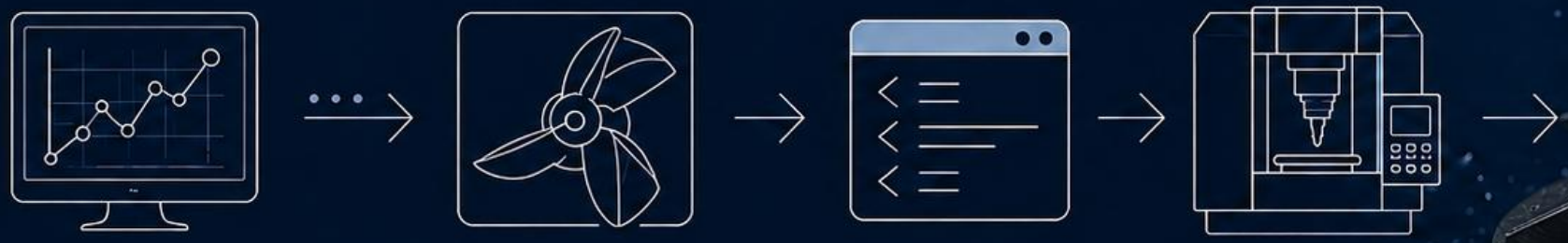
AFTER – COMPOSITE IMPELLER



- Low axial and radial loads
- Reduced wear on shaft, bearings and seal
- Extended component lifetime

PRECISION ENGINEERED.
PERFECTLY PRODUCED.

From hydraulic design to final component – our process stands for precision, efficiency and uncompromising quality.



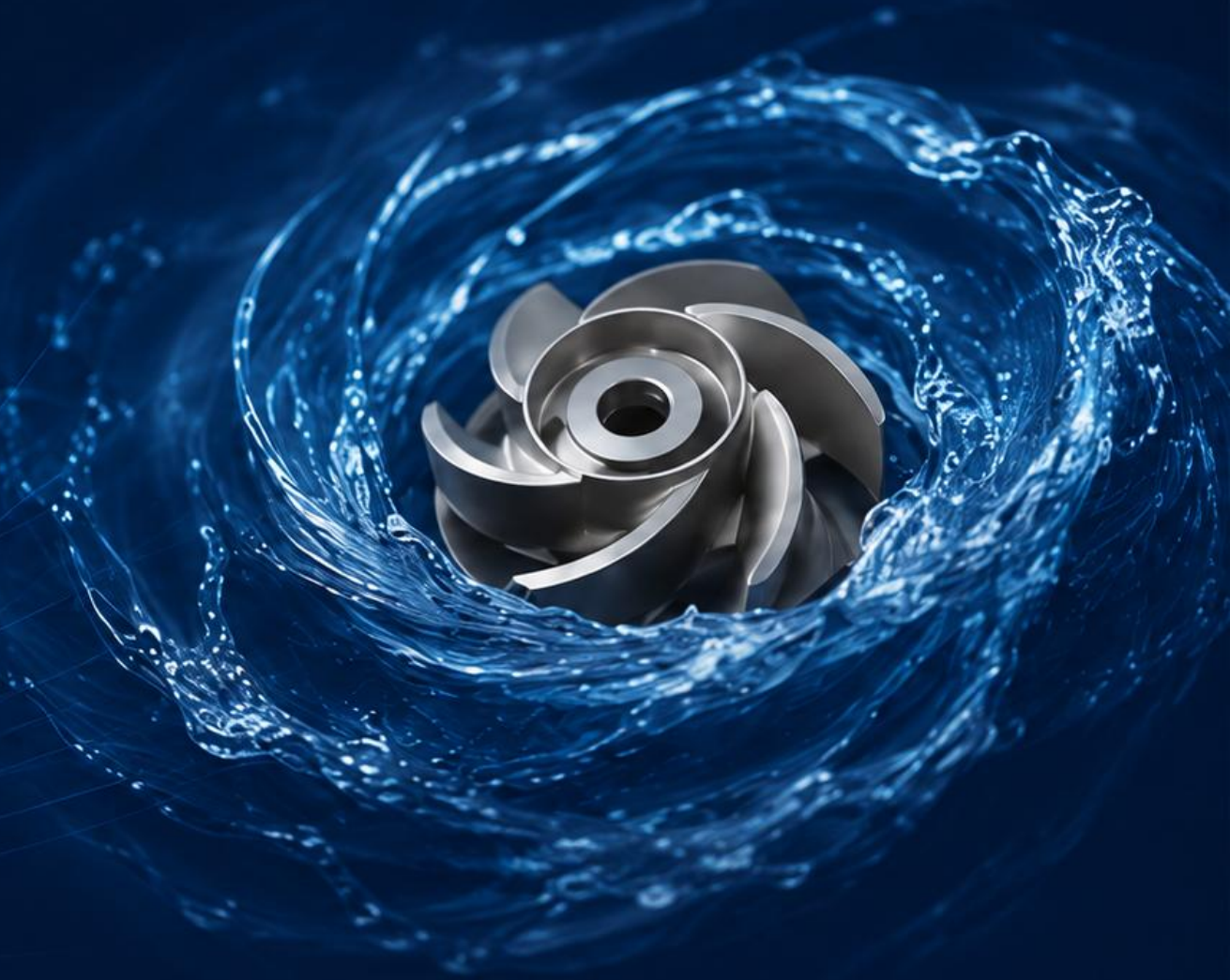
HYDRALUC DESIGN

3D MODELING & SIMULATION

CNC PROGRAMMING & OPTIMIZATION

CNC PRECISION MANUFACTURING

NIOCOM PARTS



THANK YOU
FOR YOUR ATTENTION

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