

# CS 11 PUMP

Centrifugal | Single stage  
End suction pump

CZ

EN

RU



**RENETRA®**  
PUMP UNIT MANUFACTURER



# KEY FEATURES

CS 11 pumps are designed according to norm ISO 5199. Pumps are mainly used for **chemical, petrochemical industry** and **heavy duty** general services. Single-stage, single-flow volute casing pumps in back pull out design.

Wide selection of materials and shaft sealing systems suitable to handle nearly all kinds of liquids which are usual in the above mentioned industries

## INLET AND OUTLET FLANGES

- ASME B16.5 Class 150RF, EN 1092 or GHOST standards flanges are available

## IMPELLER

- dynamically balanced
- designed according to the best possible efficiency and NPSH3 value

## HEAVY DUTY SHAFT

- designed for long lifetime of pump
- robust design and smaller deflection to avoid excessive stress of mechanical seals, wear rings and bearings
- the shaft is fully sealed to avoid leakage of oil, dust, humidity etc

## HEAVY DUTY RADIAL AND ANGULAR CONTACT BEARINGS

- 1x NU bearing and 2x angular contact ball bearings is the standard arrangement
- long life of bearings even under the most critical operations
- oil lubrication as standard
- grease lubrication upon request

## BEARING HOUSING

- self-cooled oil lubricated bearing bracket
- fan or water cooling is available

## MECHANICAL SEALS OR GLAND PACKING

- single or double mechanical seal arrangement
- cartridge or non-cartridge design
- split seal design available
- gland packing

# ADVANCED OPTIONS

## 1 SEMI-OPEN OR OPEN IMPELLER

- dynamically balanced
- designed according to the best possible efficiency
- impeller is designed according to the best possible NPSH3 value

## 2 HEATING/COOLING JACKET

- possibility of fan or water cooling of oil lubrication
- heating/cooling of casing and/or cover available

## Materials

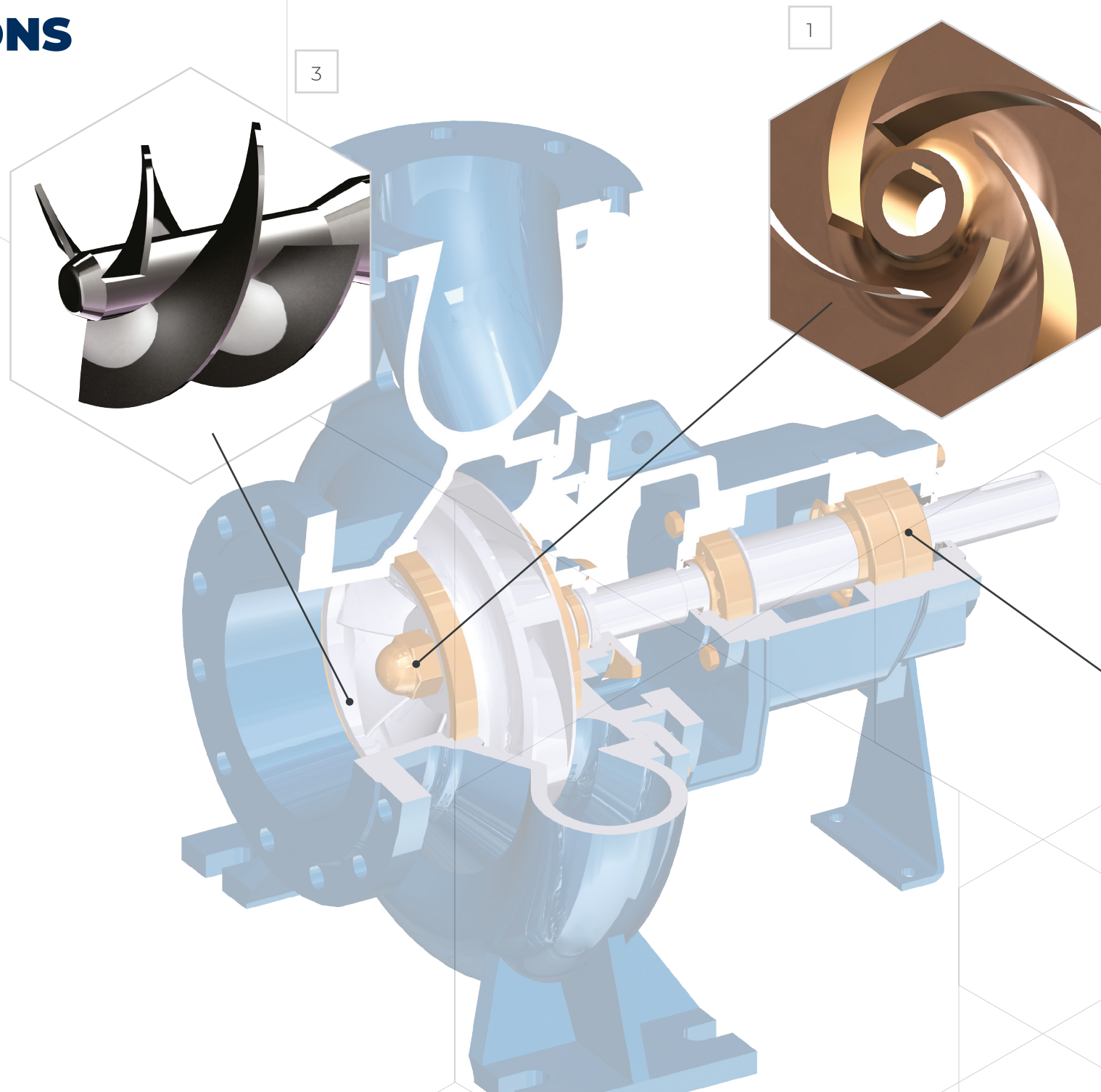
CAST IRON

CARBON STEEL

12% CR STAINLESS STEEL

AUSTENITIC STAINLESS STEEL

Other materials available on request

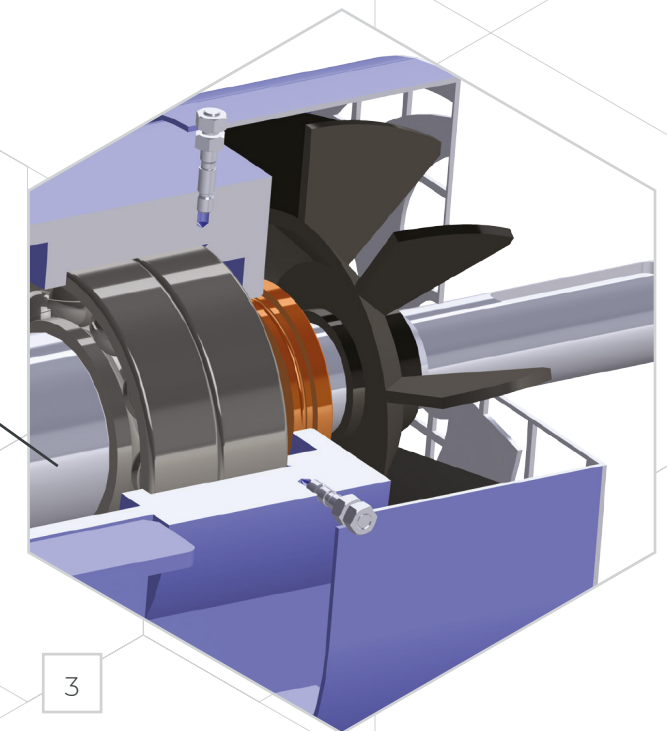


## 3 INDUCER

- for low NPSHr application, an inducer can be mounted
- an inducer is basically an axial impeller with high specific speed and is designed specifically for requested flow

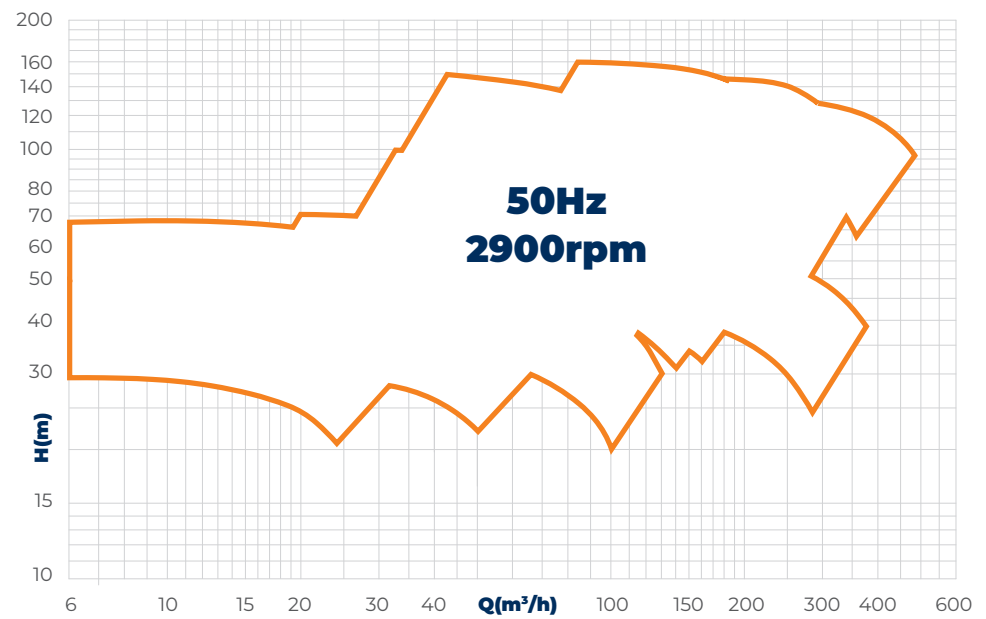
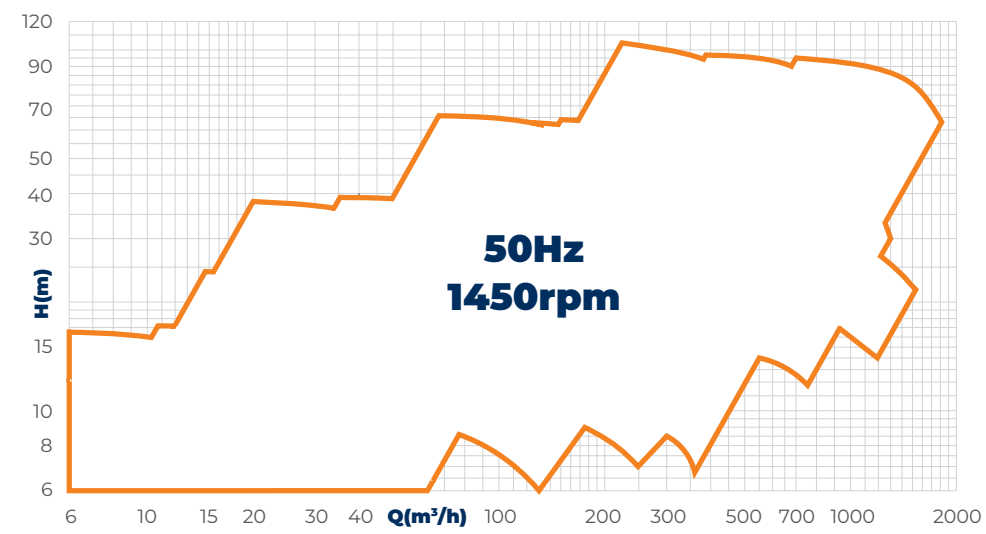
## 4 CSE DESIGN

- cost-effective solution
- almost full compliance with ISO 5199





# PERFORMANCE RANGE CHARTS



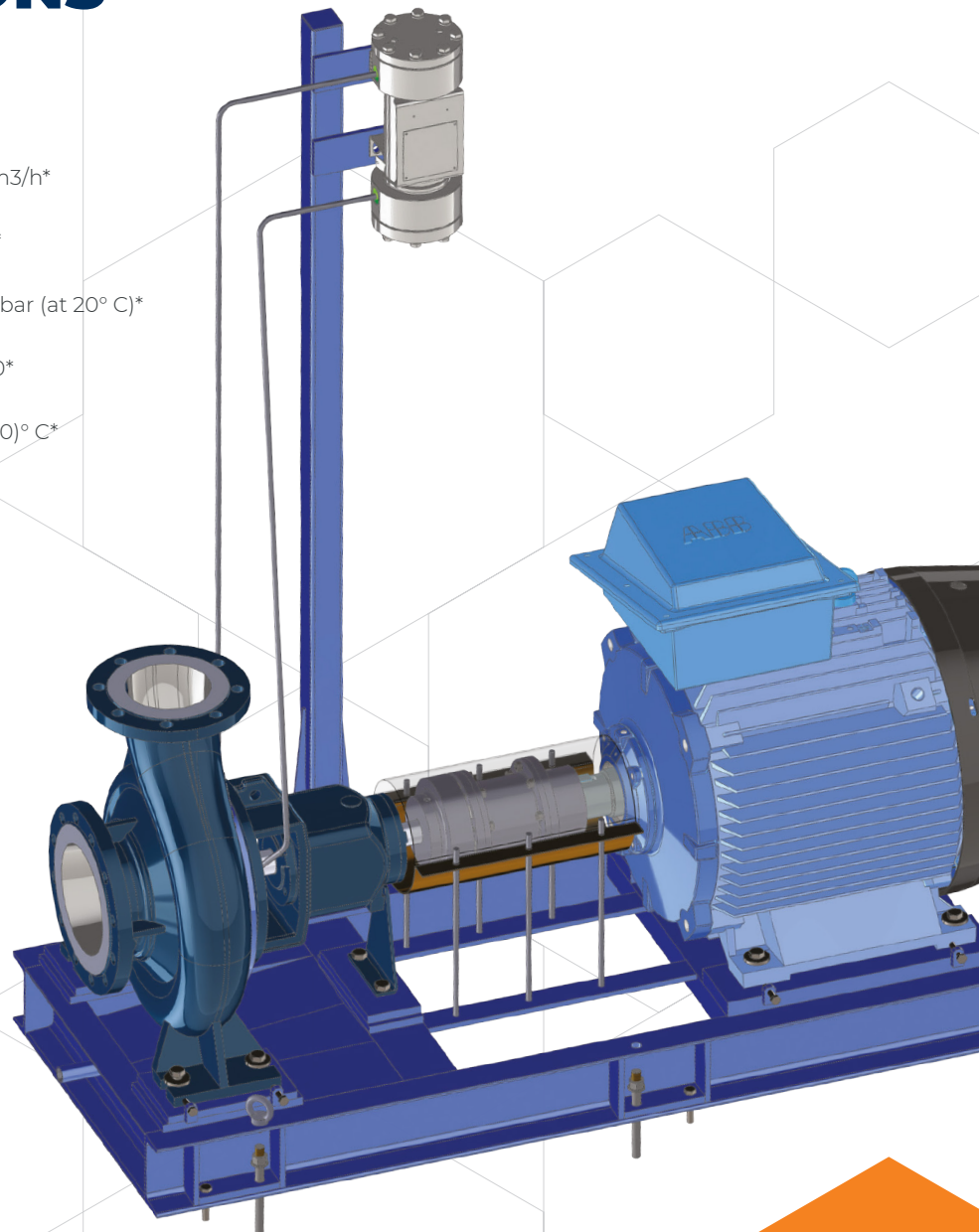
# OPERATING PARAMETERS AND DIMENSIONS

- OPERATING FREQUENCY → 50 HZ
- OPERATING FLOW → up to 1.700 m³/h\*
- OPERATING HEAD → up to 140 m\*
- OPERATING PRESSURES → up to 16 (25) bar (at 20° C)\*
- INLET AND OUTLET FLANGES → up to DN300\*
- OPERATING TEMPERATURES → up to 140 (180)° C\*

\*Special designs upon request.

## 3D Model

EXAMPLE OF USE  
OF OUR CS PUMPS



We manufacture industrial pump units that we sell to customers worldwide and we also have our own team of research and development experts who use modern technologies, diagnostics and software (3D Solidworks, Solidworks Flow Simulation, FEAT software Solidworks Simulation, OpenFoam, Adash Vibration Analyzer).



We offer a broad portfolio of pumps even for the most demanding applications and most extreme use. We aim to be a reliable and professional partner in constructions of new investment units and refurbishments of already existing plants.

RENETRA s. r. o. is a holder of the quality certificates ISO 9001:2016, ISO 14001:2016, ISO 18001:2008, TP TC 004/2011, TP TC 010/2011, TP TC 012/2011, ATEX 94/9/EC and the CE mark



## RENETRA S. R. O.

 753 53 Všechnovice 294, Czech Republic

 +420 581 655 111

 [renetra@renetra.cz](mailto:renetra@renetra.cz)

[WWW.RENETRA.CZ](http://WWW.RENETRA.CZ)