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ROTAMAC HCF (PVDF) , HCFP (PP-H/GFRPP)
Non-metallic pumps according to ISO2858/5199

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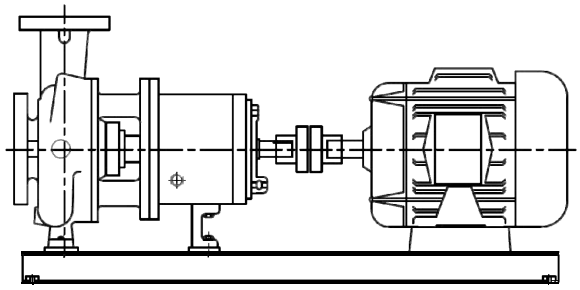
INTRODUCTION

This data booklet deals with HCF/HCFP model, horizontal non-metallic end suction centrifugal pumps for chemical process.



The HCF/HCFP is non-metallic centrifugal pump, single stage, centerline discharge, foot mounted which meets ISO2858/5199 requirements.

■ Pump casing: HCF, the entire volute casing is enclosed in a metal casing which protects against mechanical forces and UV light. Additionally the armoured pump casing absorbs the forces and moments acting on the pump flanges. HCFP, volute type with flanged and semi -armoured pump casing.
■ Impeller: semi-open impeller design for the chemical process industries services. Ideally suited for corrosives and small solids handling.
■ Shaft and sleeve: the shaft protection sleeve is sealed by sleeve sealing to prevent wetting of the shaft, shaft is guided and supported by heavy duty bearings increase bearing life.
■ Seal: advanced seal designs of the ROTAMAC plastic pumps make maintenance simple and operations safe for an economic standardised chemical pump.
■ Coupling to the motor: the pumps can be coupled to IP 55 standard electric motors with B3 motor mounting.
■ The back pull out constructional concept, connection to the motor with a flexible coupling, spacer coupling available on request.
The wet end to be disassembled from the rear for inspection purposes and repairs without disconnecting the motor or the pump casing from the piping.
■ Direction of rotation: clockwise viewed from drive side.

APPLICATIONS

The HCF/HCFP standardized pumps have been designed for several applications, such as chemical process, corrosives and wastewater treatment for industrial uses.

STANDARDISED

■ Pump designed and manufactured in accordance with ISO2858/5199
■ Balanced impeller according to ISO1940 grade G6.3, ensures smooth operation.
■ Full compliance with ISO9908 / ISO5199 shaft run-out and ISO10816-7 vibration requirement.
■ Performance test of pumps based on ISO9906 and ANSI/HI14.6 grade 2B

ADVANTAGES

■ Robust armoured protects the volute casing and absorbs the forces and moment acting.
■ Improved efficiency and low NPSHr.
■ Low vibration levels and excellent smooth running characteristics.
■ Variety of shaft seal solutions for difference solutions.
■ A robust bearing bracket ensures only minor deflection on the shaft and a long working life for the roller bearings and the mechanical seal.

WORKING CONDITION

■ Liquid pumping temperature up to 82 °C for PP-H, 90 °C for GFRPP and 120 °C for PVDF
■ Maximum permissible pressure: 12 barg
■ Flow rate: up to 500 m3/h
■ TDH: up to 120 m
■ Speed: 1450 / 2900 rpm for frequency 50 Hz, 1750 / 3500 rpm for frequency 60 Hz
■ Suction left: up to 8 m with priming chamber

MATERIAL AND CONSTRUCTION

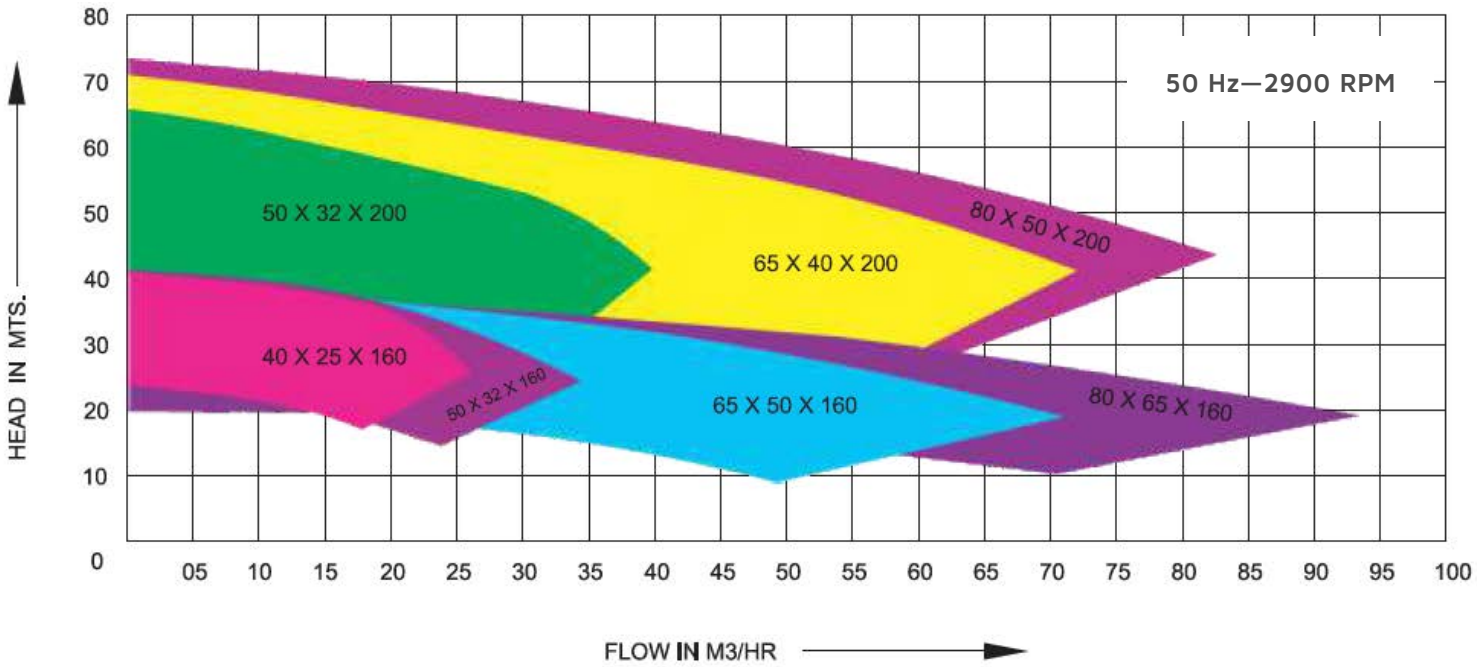
■ Pump casing & impeller: PVDF, PP-H, GFRPP
■ Shaft: EN19, stainless steel 410 or 316
■ Sleeve: ceramic, hastelloy C, alloy 20
■ Shaft seal: single or double mechanical seal
■ Lubrication: oil, grease
■ Nozzles: DIN or ANSI B16.5

The pump is driven by a standard IEC foot mount motor or diesel engine. The power is transmitted through a standard or spacer coupling.

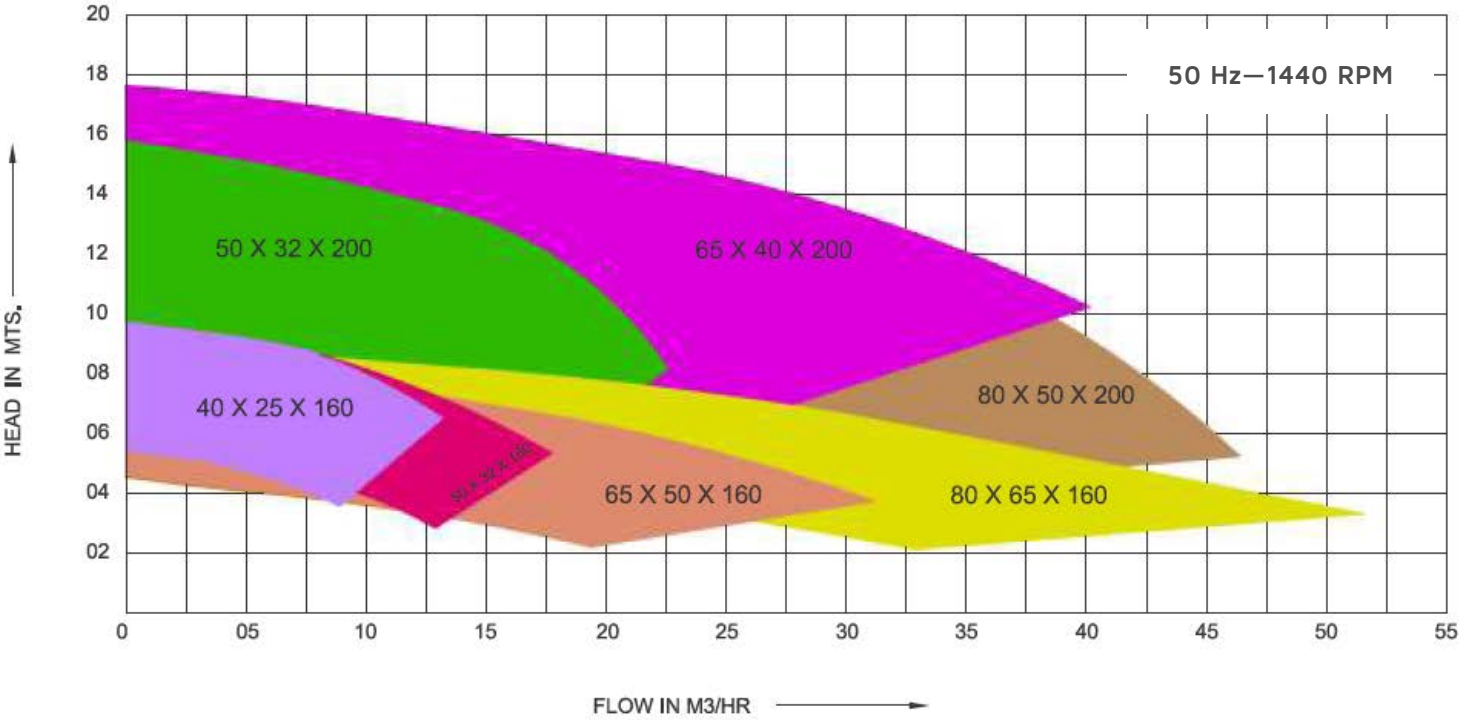
The baseplate is fabricated from steel, drill and tap bases, secure pump and motor to base, made more rigid and pre-alignment before delivery.

Selection Charts

Curves on this page are for guidance only.
Refer to the performance curves on each model.



Note : Smaller impeller sizes are available in 40x25x125, 50x32x125.
TDH is around 15-20 m at running speed for 2900 rpm.



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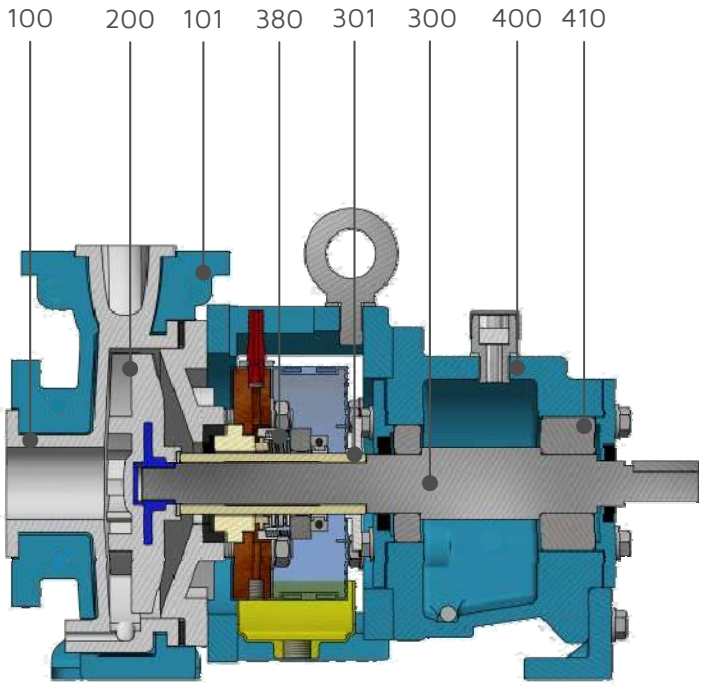
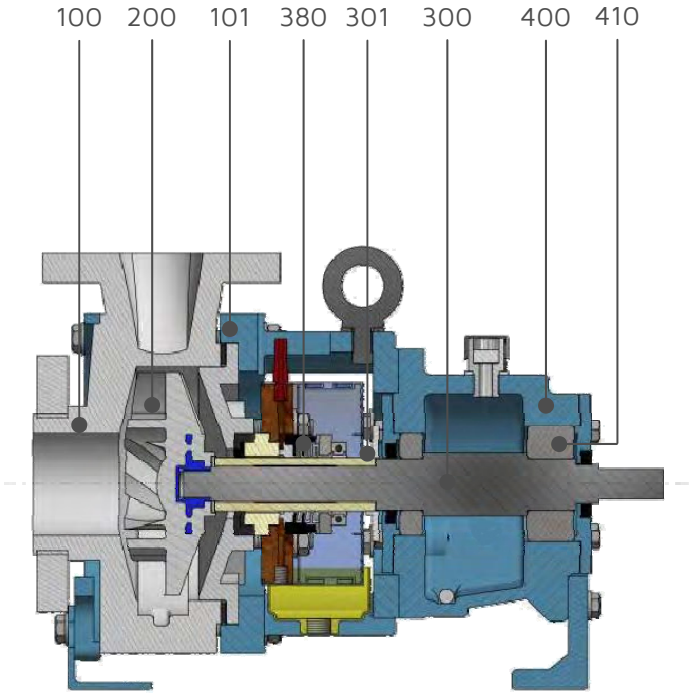
PUMP SECTIONAL DRAWING AND PARTS LIST

Pump construction is a little different depending on size



Fully Armoured Design

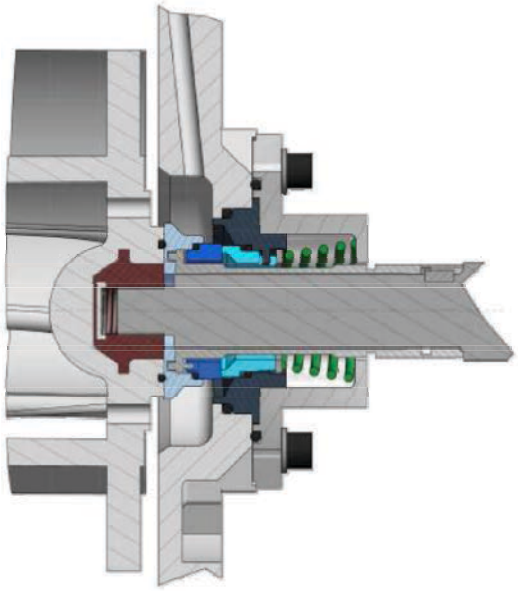


Semi Armoured Design

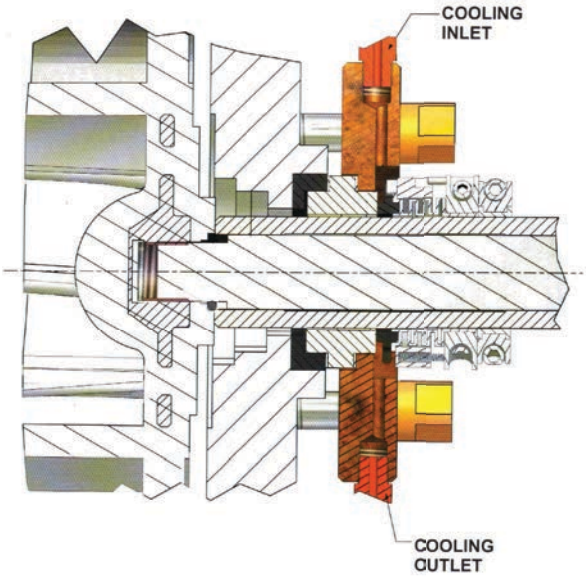
Item no.	Part name	Materials / Construction
100	Casing	PVDF, PP-H, GFRPP
101	Casing Armour	Cast iron
200	Impeller	PVDF, PP-H, GFRPP
300	Shaft	EN19, Stainless Steel 410, Stainless Steel 316
301	Shaft Sleeve	Ceramic, Hastelloy C, Alloy 20
380	Mechanical seal	Single Mechanical Seal, Double Mechanical Seal, Cartridge Seal
400	Bearing Housing	Cast iron
401	Pump Bearing	Ball Bearing (single row or double row) / Roller Bearing - depends on pump size

MECHANICAL SEALS

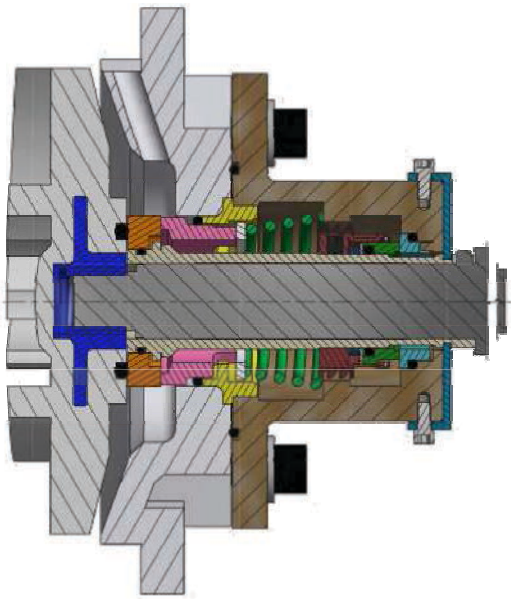
The ROTAMAC mechanical seal is of unique simple construction, highly effective and service friendly.
It can be equipped with quench and/or continuous flushing if required. Various single and double mechanical seal made by well know manufacturers are also available for special applications.



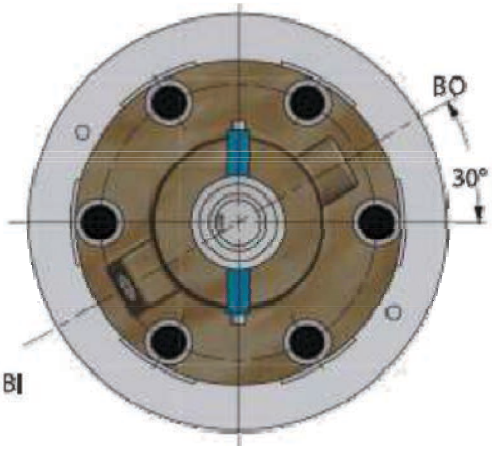
single inside mechanical seal
without external flushing



single outside teflon bellow
mechanical seal



double mechanical seal
side view sectional



BI and BO: 1/2" NPT for
barrier liquid inlet and outlet

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- Standardized End Suction Pumps EN733/DIN24255, ISO2858/ISO5199 ASME B73.1, API610
- Split Casing Double Suction Pumps
- Solid Handling Pumps Slurry/Vortex/Semi-open/Open/Non clog
- High Pressure Multi-Stage Pumps
- Self-Priming Pumps
- Submersible Pumps
- Close Coupled Pumps
- Vertical Multi-Stage / Immersible Pumps
- Vertical Sump Pumps
- Vertical Turbine Pumps
- Mixed / Axial Flow Pumps
- Liquid Ring Vacuum Pumps
- Chemical Process Plastic Pumps
- Fire Fighting Pump Packages (NFPA20)
- Booster Pump Packages
- Trailer Mounted Pumps

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ROTAMAC can help relieve the stresses and reduce the life cycle costs associated with the most important aspects of plant operation.

Dedicated to delivering the highest quality support, ROTAMAC services and solutions integrates hydraulic, mechanical and materials engineering knowledge with creative solutions to improve equipment reliability and system performance, reduce energy consumption and improve the safety and environmental impact of operations.

Pump Services and Repair

Installation

Commissioning

Laser alignment

Inspection

Overhaul

Testing

Capabilities Overview

Design
- Equipment Selection and Optimization
- Material Selection
- System Design
- System Optimization

Start-up
- Equipment Installation
- Laser Alignment
- Commissioning and Running test
- Operator Training
- On-site Project Supervision
- On-site Troubleshooting

Operation and Maintenance
- Equipment Inspection
- Repair & Overhaul
- Advanced Diagnostics
- Service Maintenance Contracts

Product information is subject to change; consult factory for details.