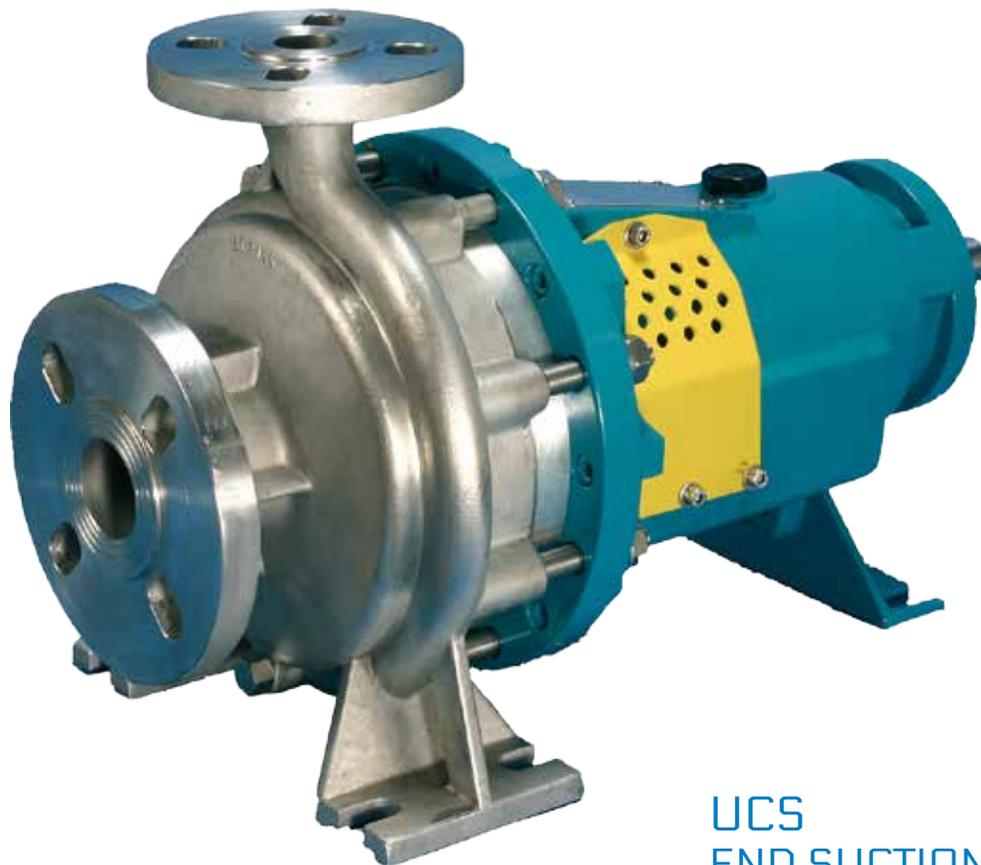


UCS / UCS-B



UCS
END SUCTION EXECUTION



Comply to :
2006/42/CE

Design to :
EN 22858 / ISO 2858
(ex DIN 24256)

ISO 5199

ATEX 100 
Directive 94/9/EC

Flanged
UNI 1092-1 (ISO 7005-1)
PN16 RF type B

Metallic Process Horizontal - Single Stage - Centrifugal pumps with Mechanical Seal

Material : AISI 316 (1.4408)

Close-coupled and End-suction executions

Mechanical seal arrangement

The shaft seal chamber (available on conical and cylindrical design ISO 3069) can accommodate all usual mechanical seal types :

- Single acting or Double acting mechanical seal according to EN 12756 (DIN 24960)
- Cartridge mechanical seals.



UCS

End-suction pumps use the back pull-out principle and a strong bearing housing with flexible coupling

Versatility

Suitable for handling aggressive and hazardous liquids (low viscosity, clean or slightly contaminated) in the chemical, petrochemical and pharmaceutical industries.



UCS-B

Close coupled pumps are furnished with standard motors

Reliability

The UCS are made by stainless steel AISI 316 (as alternative material Hastelloy C) and they offer a wide range of shaft sealing : the pump is also equipped with reliable bearing bracket, especially developed to be suitable even under heavy duty service.

Design

UCS range shares the same hydraulic design with the UTS series (magnetic drive pumps) which have been developed focusing on chemical industry's requests.

Application Fields

Petrochemical Processing



Fertilizer Processing



Basic chemical Processing



Pesticide Processing



Fine Chemical Processing



Detergents Processing



Fibre Processing



Waste Water Treatment



Pharmaceutical Industry





CASING

- Top centerline discharge for air handling, self-venting and integral cast feet provides maximum resistance to pipe loads and prevent pipe load misalignment, maximizing seal and bearing life
- Standard casing drain for a complete and fast draining of the casing
- Bonus casing thickness : minimum 3 mm corrosion allowance maximizes casing life against corrosion and erosion
- Heating \ Cooling jacket option available



IMPELLER

- Investment casted AISI 316 (1.4408) closed impeller design provides maximum efficiency and reliability
- The problem of reverse rotation during start-up has been eliminated thanks to the key driven system
- Standard back vanes reduce axial thrust and seal chamber pressures to guarantee an extraordinary bearing and seal life

UCS-B

MOTOR'S SHAFT LOCKING SYSTEM

- Shaft collett design incorporates easy maintenance system and allows to use a standard IEC frame electrical motor
- Close coupled design saves costs for baseplate and coupling, granting same performances and reliability



SHAFT

- Rigid shaft designed for less than 0.05 mm shaft deflection increases the seal life
- Standard 400 series stainless steel shaft (1.4057) provides reliable power transmission and corrosion resistance at both the pump and coupling ends.
- The shaft sleeve arrangement allows to get a 'dry' shaft: there is no contact between the shaft and the pumped liquid
- As variant, a wet shaft design made by AISI 316 (1.4401) can be supplied, without shaft protecting sleeve



SEAL CHAMBER

- ISO 3069 wide conical design equipped with breaking ribs.
- The conical seal chamber is designed to push solids and slurry away from the seal and back into the flow path of the process liquid.
- Self-venting, self-flushing, self-draining.
- As an alternative, a Cylindrical enlarged chamber equipped with internal flushing is available.
- Heating \ Cooling jacket option available on cylindrical seal chamber shape allow to keep under control the seal chamber temperature.

MECHANICAL SEAL

(ISO 12756 - ex DIN 24960)

- Wide choice of sealing arrangements for maximum sealing flexibility.
- Standard mechanical seals in single- and double-acting design will be fitted.
- The seal chamber can comply also to ISO 3069-C, allowing a Cartridge Type seal to be fitted into.
- Single-acting mechanical seals can be feed with quenching media.

SINGLE CARTRIDGE SEAL TAPERED SEAL CHAMBER INTERNALLY FLUSHED

Suitable to PLAN 01\11 and\or 62

Option : Heating\cooling jacketed seal chamber

- Suitable to work with low\moderate dirty liquid
- Non-corrosive to moderate corrosive liquids
- Easy maintenance thanks to cartridge design

DOUBLE CARTRIDGE SEAL TAPERED SEAL CHAMBER EXTERNAL FLUSHED

Suitable to PLAN 52-53-54

- Same applications as conventional double seal
- Easy maintenance thanks to cartridge design

SINGLE MECHANICAL SEAL TAPERED SEAL CHAMBER INTERNALLY FLUSHED

Suitable to PLAN 01

- Non-corrosive to moderate corrosive liquids
- Suitable to work with low to moderate dirty liquids

SINGLE MECHANICAL SEAL CYLINDRICAL SEAL CHAMBER INTERNAL FLUSHED

Suitable to PLAN 01-11

Option : Heating \ cooling jacketed seal chamber

- Recommended for clean fluids
- Non-corrosive to moderate corrosive liquids

CONVENTIONAL DOUBLE SEAL CYLINDRICAL SEAL CHAMBER EXTERNAL FLUSHED

Suitable to PLAN 52-53-54

Option : Heating \ cooling jacketed seal chamber

Pumping Ring option

- Applications where no leakage to atmosphere can be tolerated e.g. hazardous, toxic, inflammable media
- When pump is operating under cavitation or low flows
- For dirty, abrasive or polymerizing products where media is unsuitable as a lubricant for inboard seal faces

MECHANICAL SEAL CHART

| DESIGN | BRAND | TAPERED SEAL CHAMBER | CYLINDRICAL SEAL CHAMBER |
|----------------------------|----------|--------------------------------------|--------------------------|
| SINGLE ACTING | BURGMANN | MG12 - M7N HJ92N - HJ977N HRZ1 | M7N HJ92N-HJ977N |
| | CRANE | 502-59U | 502-59U |
| | FLUITEN | SA | |
| DOUBLE ACTING B.T.B | BURGMANN | | M7N-M7N* |
| | CRANE | | 59U-59U* |
| SINGLE ACTING CARTRIDGE | BURGMANN | CARTEX SE | |
| | CRANE | 5610 | |
| | AES | CURC | |
| | FLUITEN | C2K-C2DQ | |
| DOUBLE ACTING CARTRIDGE | BURGMANN | CARTEX DE | |
| | CRANE | 5620 | |
| | AES | CSDA | |
| | FLUITEN | C2D | |

* pumping screw available

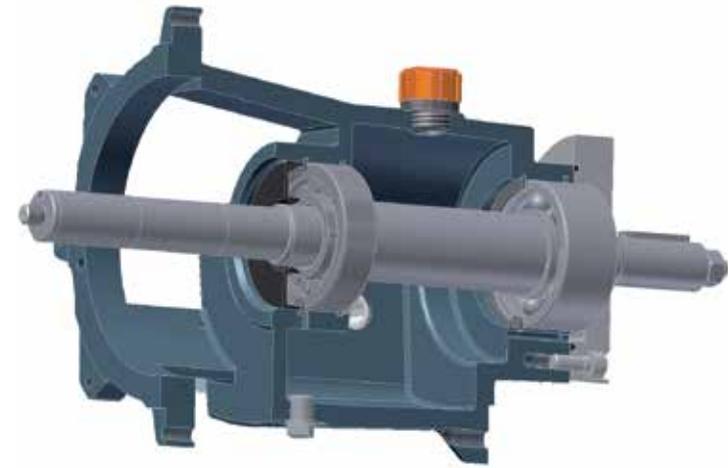
PAINTING COATING QUALITY

The metal surfaces are protected by a high performance three coating layers (240 micron)

- Epoxy zinc paint
- Epoxy amidic modified vinyl
- Epoxy enamel paint or aliphatic acrylic polyurethane

Available upon request :

EN ISO 12944-5 C5M and C5I protecting paint system grades



BEARING BRACKET FOR BARE SHAFT EXECUTION

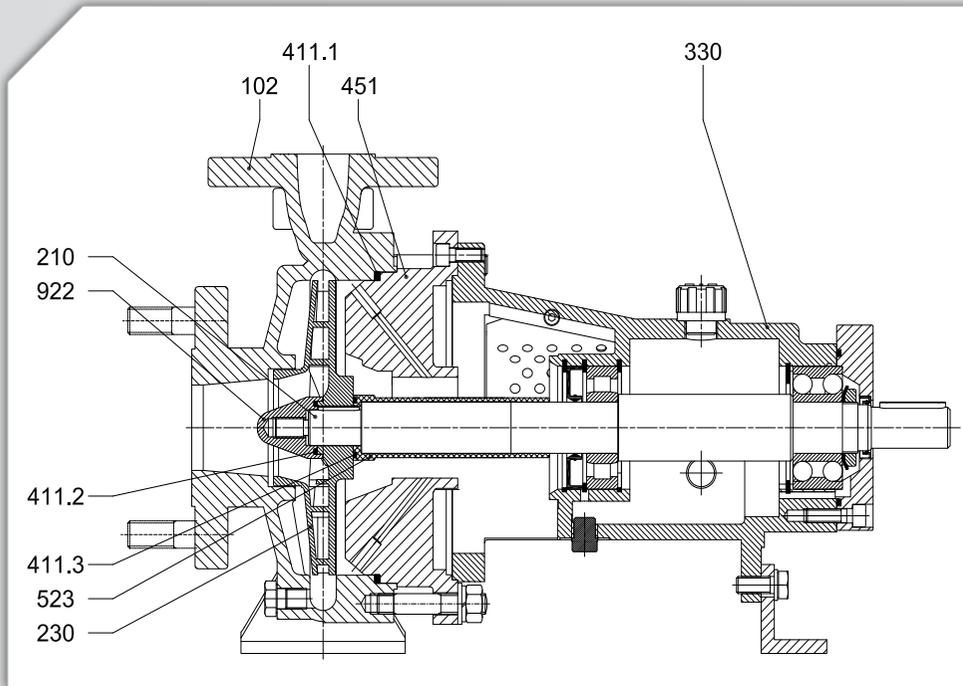
- Extra-Large Oil Sump design allows to get a large oil capacity.
- Breather / filling plug on top .
- Oil sight glass grants a proper oil level.
- Large drain plug.
- The bearing frame can be equipped with 3 different type of protections :
 - Standard oil seal
 - Labyrinth seal
 - Non-contacting labyrinth seal
- Constant level oiler (as an option).
- Conditions monitoring (as an option).

BEARINGS

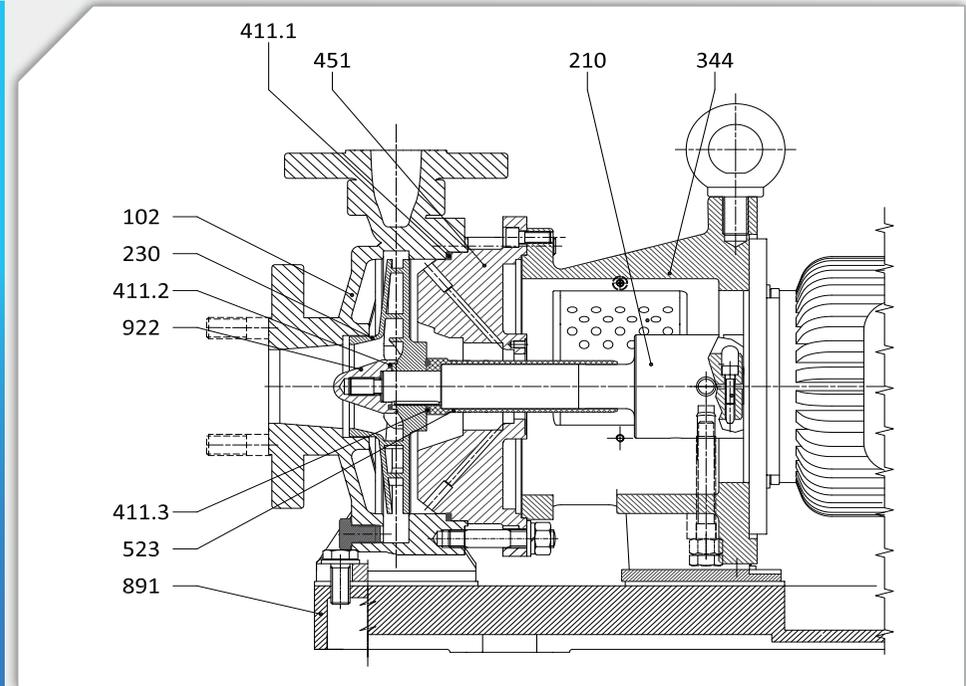
- Heavy duty ball bearings configuration to provide L10 bearing life in excess of 17,500 hours (up to 1.25 QBEP).
- Frontal (impeller side) : one row roller bearings type with high radial load rating.
- Rear (motor side) : pair of angular contact ball bearings with high axial load rating.

SECTIONAL DRAWING

UCS



UCS-B



Technical Specifications

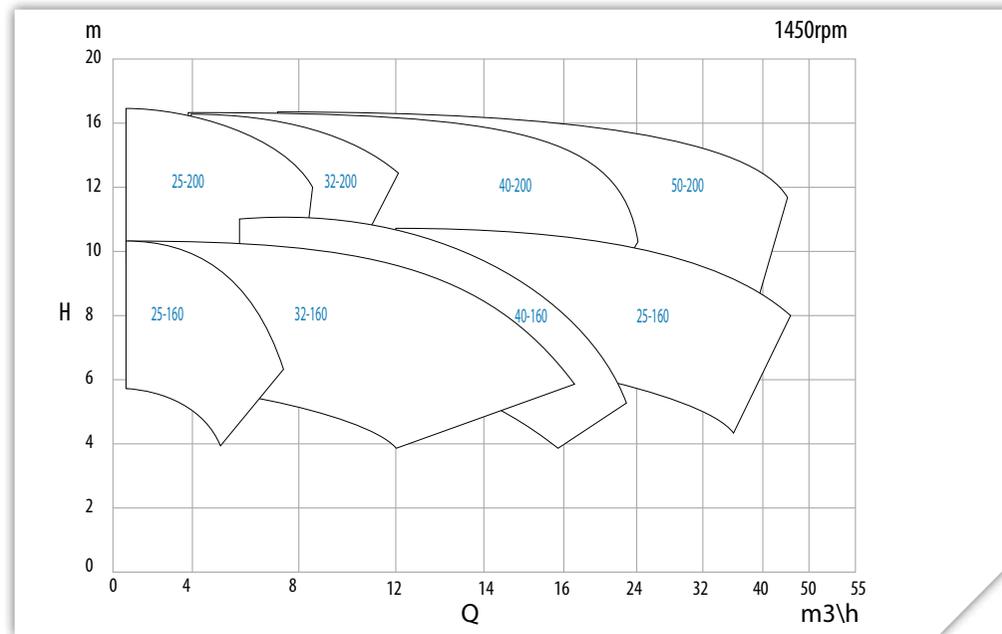
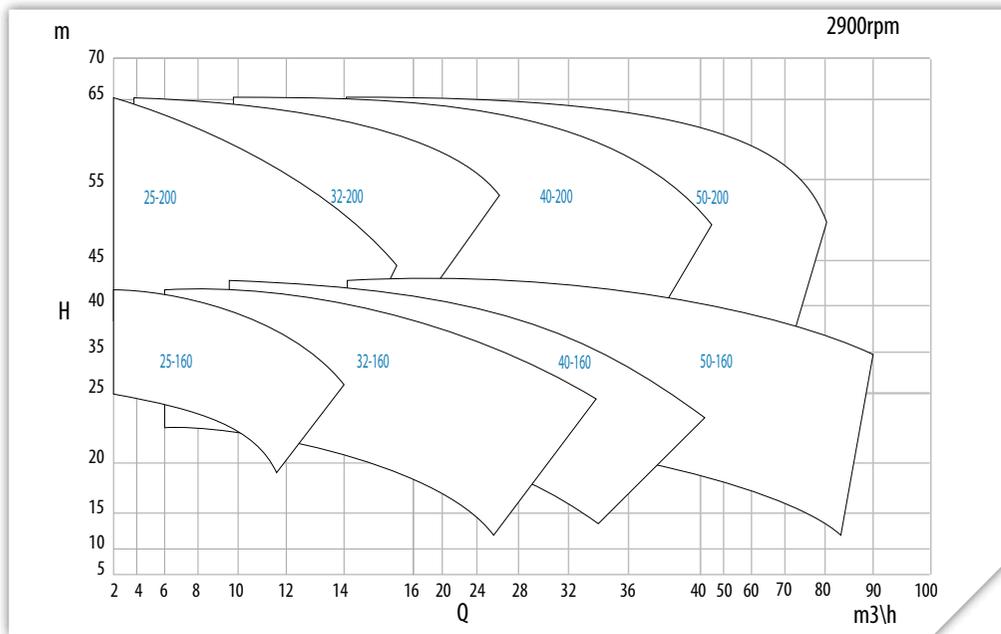
| | |
|---------------------------------|--|
| Performances 2900 rpm | Q max = 90 m3/h -> H max = 65 mcl |
| Electric Motors | <ul style="list-style-type: none"> • UCS-B : 1,1 kW (motor size 80) -> 18.5 kW (motor size 160) • UCS : 1,1 kW (motor size 80) -> 25 kW (motor size 200) |
| Temperature range | <ul style="list-style-type: none"> • UCS-B : -40 °C* -> +200 °C • UCS : -40 °C* -> +200 °C |
| Allowable Pressure Range | 16 bar (20 °C) |
| Flange Connections | <ul style="list-style-type: none"> • UNI 1092-1 / ISO 7005-1 PN 16, type B • upon request, drilling slotted to match ANSI 150 |
| Viscosity | min : 1cSt - max : 200 cSt |
| Stuffing box | Comply to ISO 3069 |
| Mechanical seal | Preferable standardised to EN 12756 (ex DIN 24960) |

Part list

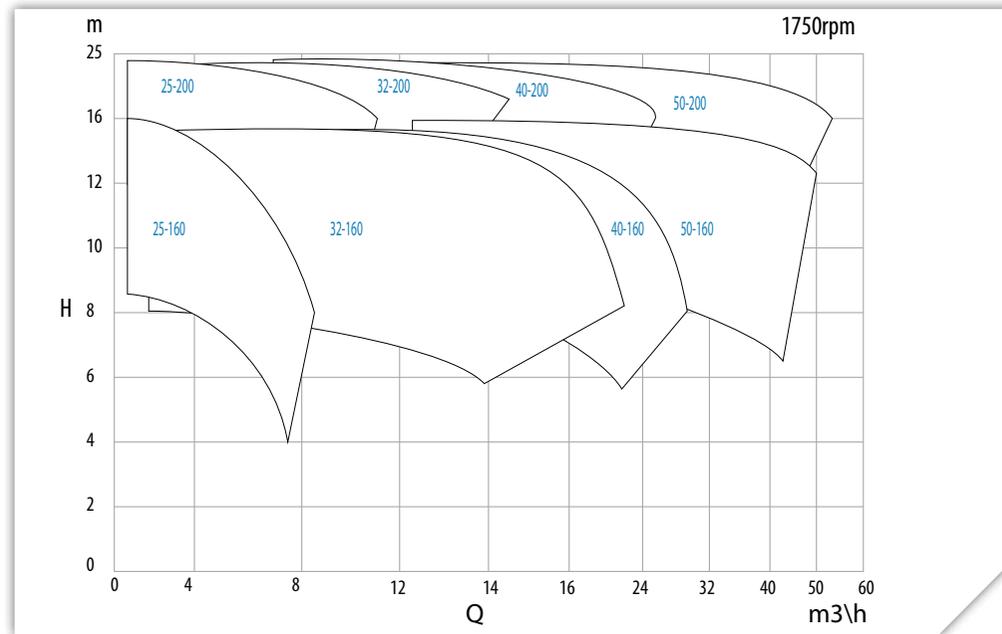
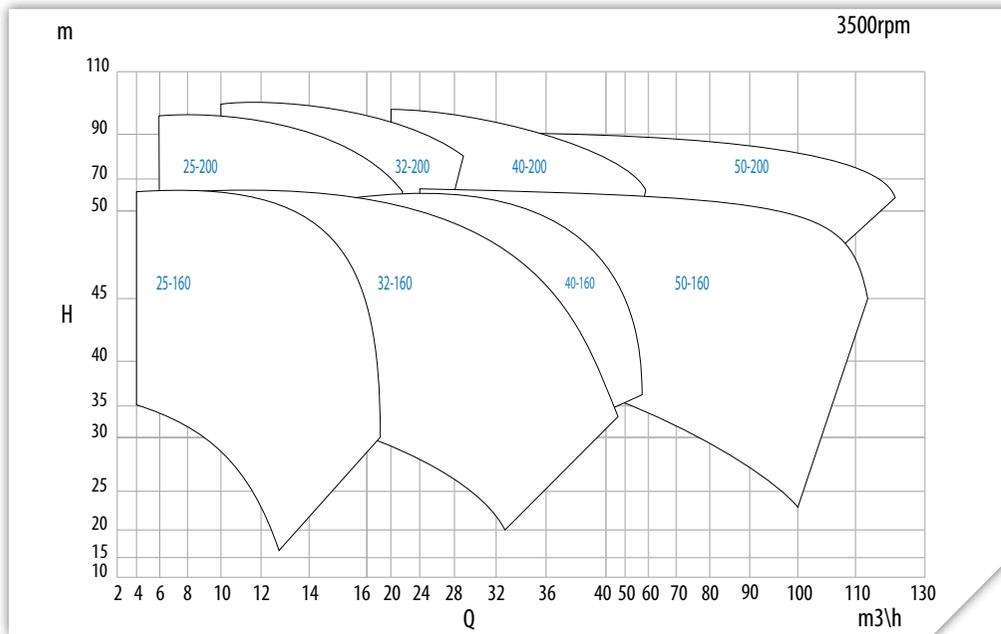
| DIN | Component | Material |
|-------|-----------------|------------------------|
| 102 | Volute Casing | AISI 316 (1.4408-CF8M) |
| 210 | Top Shaft | AISI 431 |
| 230 | Impeller | AISI 316 (1.4408-CF8M) |
| 330 | Bearing Bracket | GS400 |
| 344 | Lantern | GS400 |
| 411.x | Joint Ring | PTFE |
| 451 | Seal Chamber | AISI 316 (CF8M) |
| 523 | Shaft Sleeve | AISI 316 (1.4401) |
| 891 | Pump foot pad | GS400 |
| 922 | Dome Nut | AISI 316 (1.4401) |

PERFORMANCE FIELDS

50 Hz



60 Hz



Not binding data refers to water at room temperature. For specific performance curve contact CDR Pompe SpA.



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TB - UCS 2013_011



For further info, please visit
www.cdrpompe.com

Technical Characteristics

The technical data and characteristics stated in this General Catalogue are not binding. CDR Pompe S.p.a. reserves the right to make modifications with other stated issues are indicative only and not binding. Anyway for any technical details you must require an up-to-date product technical card.