

**BEDU**  
≡ POMPEN ≡

# Multi-channel centrifugal pumps

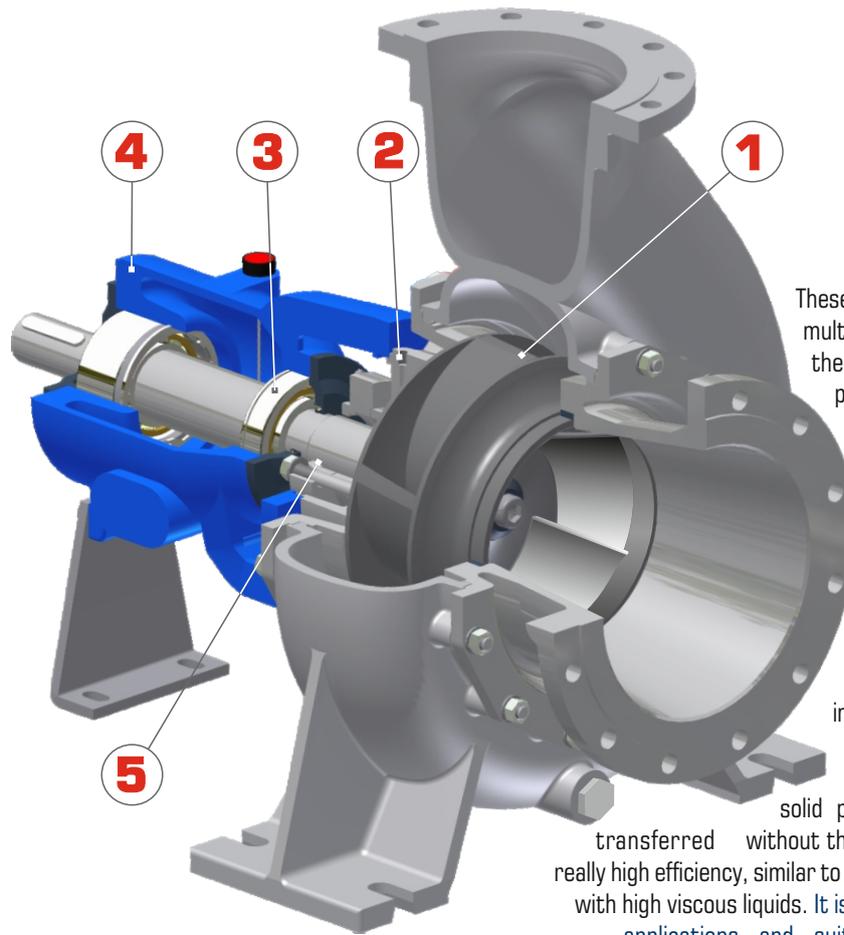
**RB**



**made for your process**



# MULTI-CHANNEL IMPELLER RB



## Passage of solid parts

High viscous liquids

Low NPSH

High efficiency

## No pulsation - No noise

These are the main features of the RB multi-channel impellers whose allow these pumps type to reach high performances also in critical conditions. The big suction inlet and the few blades reduce inlet speed and grant very good suction characteristics also when there are gas or air dissolved in the pumped liquid. The large impeller wideness and the blades shape reduce the internal crossing speed and improves efficiency when used with viscous liquids. Besides, multi-channel impeller allows solid parts (not filamentous) can be transferred without the pump clogging, and it grants really high efficiency, similar to a closed impeller, and also higher with high viscous liquids. It is used in a wide range of different applications and suitable for a lot of different installations.

- USE:

- ⇒ FOOD INDUSTRY for evaporation plants, raw juice, tomato souce transfer. Enology etc... Pasteurisation plants with water temperature until 98°C
- ⇒ WASHING PLANTS for torbid liquids or containing solid parts.
- ⇒ COOLING and CONDENSATION PLANTS
- ⇒ SUGAR MILLS
- ⇒ WASTE WATER TREATMENTS, included evaporation plants, ultra-filtration plants, forced oxigenation, desalinisation.
- ⇒ PAPER MILLS for paper pulp until 5% solids.
- ⇒ CHEMICAL INDUSTRY for concentration/evaporation plants, viscous and waste liquids, circulation, critical suction applications, Biodiesel an bio-ethanol plants etc...
- ⇒ STEEL MILLS
- ⇒ TEXTILE INDUSTRY

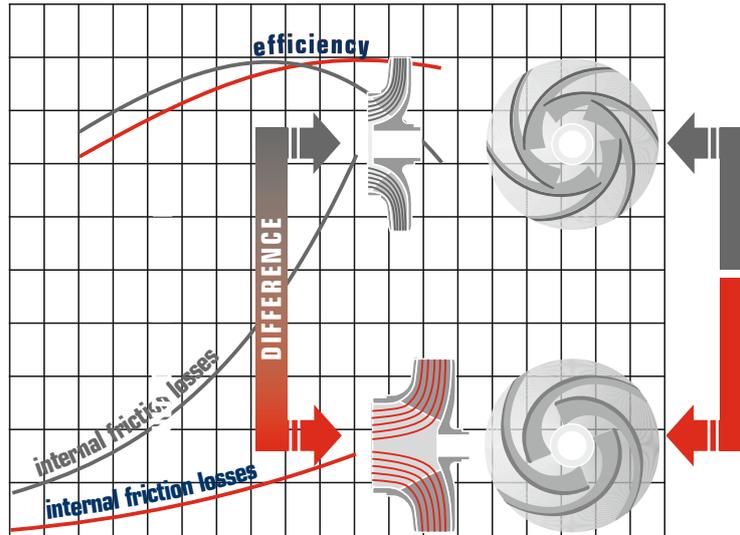
- MODULARITY: 4 bearing housing- shaft groups for 15 sizes from 65 to 300 mm discharge port size.

- MATERIALS:

- ⇒ standard in stock
- ✓ G-250 cast iron
- ✓ AISI 316 with shaft sleeve and seal seat in AISI 316L
- ⇒ DUPLEX (SAF 2205) e SUPERDUPLEX (SAF 2507)
- ⇒ AISI 304 L
- ⇒ AISI 904L
- ⇒ SANICRO 28
- ⇒ HASTELLOY B and C
- ⇒ CA6NM wear resistant material, 400 Brinnel hardness
- ⇒ Further ALLOYS on demand

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# MULTI-CHANNEL IMPELLER: Low NPSH, low friction losses, high efficiency



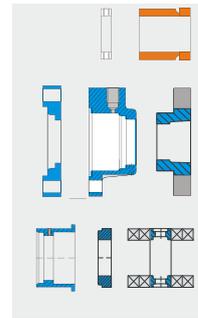
## MULTI-CHANNEL IMPELLER ADVANTAGES:

The inlet and outlet flow speeds of a multi-channel impeller are very low compared with a traditional impeller; and **efficiency** is near a closed one. The low speed also means **low friction losses** both in the suction and when the liquid cross the blades, **low NPSH** and higher efficiency when **viscous liquids** are pumped. Multi-channel impellers are also suitable to convey **liquids containing solid parts**, dirty liquids, purea, concentrates etc... These features allow these pumps to be used in a wide range of different uses and suitable for a lot of different installations.

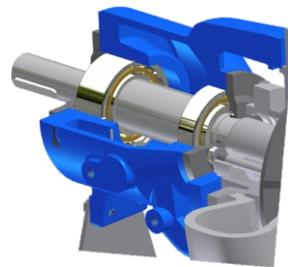
## 2- 1 COVER COVER, 14 seal systems



**ONLY ONE CASING COVER EVERY SIZE.** It can fit every seal type, brand and seal arrangement ( see section 6). The seal chamber, which is cylindrical, has diameters bigger than those suggested by the rule, to grant the max. liquid circulation. Different seal seat types can be obtained using few components, so it is always possible to change from an execution to another one: for example from single mechanical seal to double mechanical seal or packing-gland or cartridge, just replacing some components. In this way it is always possible to modify the pump for new plant requirements in a fast and cheap way. Besides, this modular system allows to have in stock only few spares to cover the whole pump range.



## 3- HEAVY DUTY BEARING

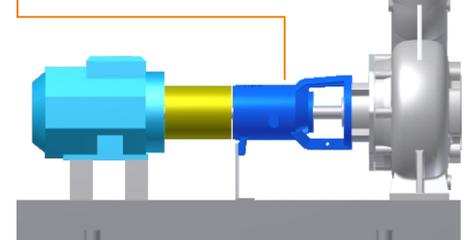
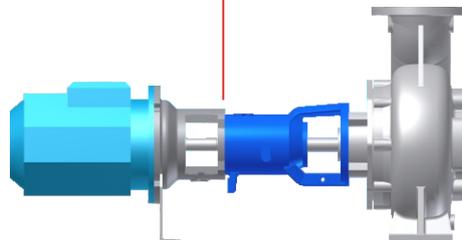
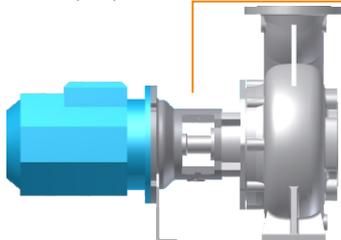
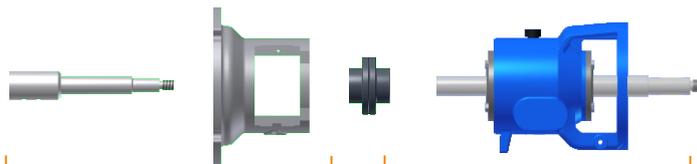


## ISO 5199 - EN 25199

**A UNIQUE BEARING HOUSING:** The same bearing housing can be used for pumps with closed, open, channel, vortex impellers. Building according to EN 25199, which ensures **shaft deflection < 0,05 mm** and **min. 18.000 operation hours**, has been studied also to balance axial and radial loads, to reduce working temperatures. Bearing housings are suitable to seat the heavy duty execution called «HD1» with ball bearings series 7000, combined with roller bearings. The series also include bigger bearing housings to work up to 100.000 hours.

## 4- MODULAR EXECUTION

**EASY MAINTENANCE:** to build the whole pumps' range (close-coupled, lantern bracket and on base plate execution) are necessary just 3 bearing housings and 6 lanterns. Oversized base-plates grant high stability; the lantern bracket execution avoids problems related to misalignment between pump and motor.

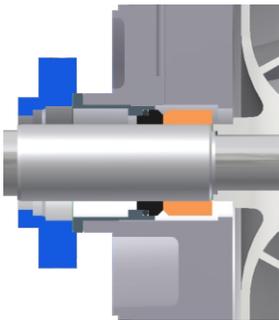


# 5- SEALS: one chamber, all seal systems

## U single seal close to the impeller - standard

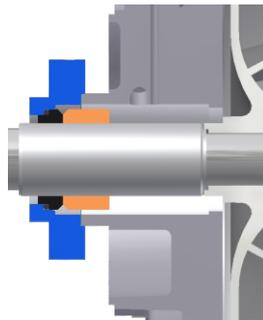
Single seal for dirty or viscous liquids. its position, close to the impeller, facilitates lubrication.

STANDARD for RB type



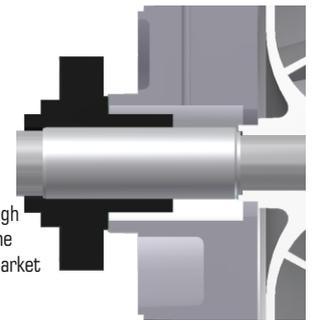
## M single seal

Self lubricated single mechanical seal PLAN 02



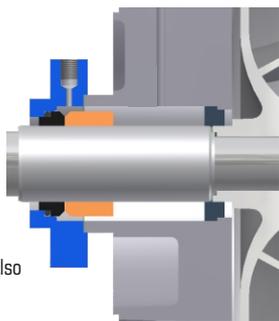
## K cartridge seal

Standard seal chamber is big enough to seat almost all the cartridges on the market



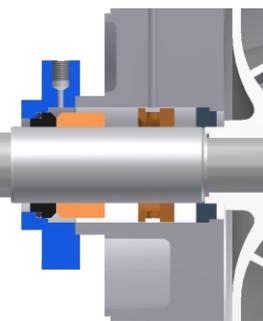
## A single seal + bottom ring

To use combined with PLAN 11 from the discharge or PLAN 32 from external circuit. Also available «E» execution without bottom ring.



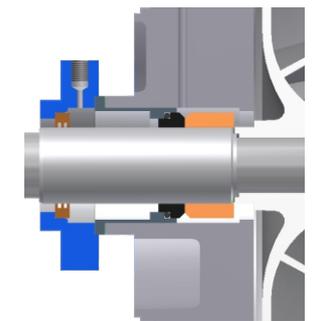
## T single seal + pumping ring + bottom ring

To use with hot or over-heated liquids and in combination with external heat exchanger. PLAN 23



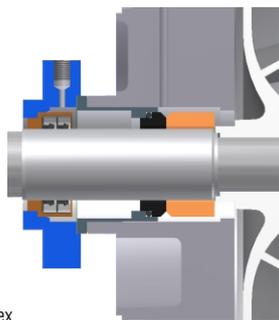
## Q single seal + quench

Quench mainly used for steam barrier



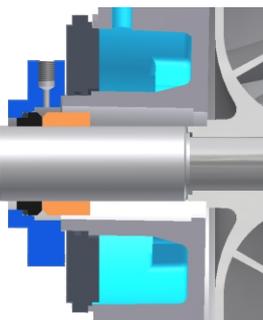
## W single seal + self lubric. lip seal quench

combined seal, for dry running without auxiliary liquids or for discontinuous flushing. Safety barrier for hazardous liquids or Atex zones.



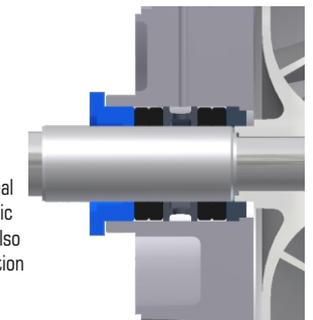
## H heating / cooling chamber

The heating or cooling chamber can be easily installed on all RB pumps



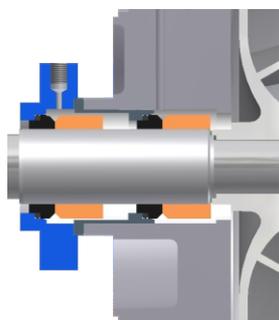
## S gland packing with hydraulic barrier

gland packing seal with barrier hydraulic ring and flushing. Also available «B» execution without ring.



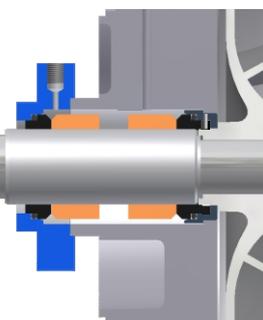
## L double tandem mechanical seal

double tandem mechanical seal. PLAN 52. Also suitable washing connection for the pump side seal.



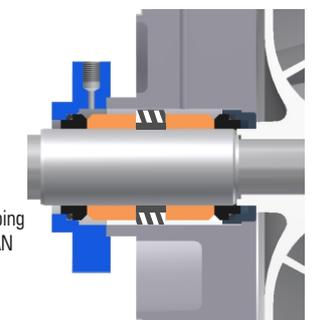
## C double back to back mechanical seal

double back to back seal. PLAN 53 - PLAN 54



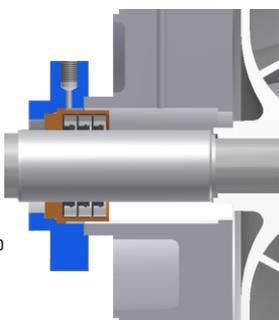
## P double back to back seal + pumping ring

double back to back seal with pumping ring. PLAN 53 - PLAN 54



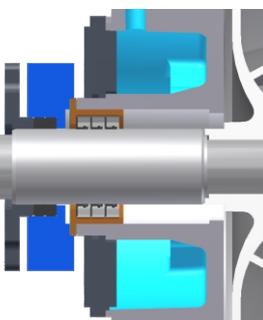
## V self lubricated lip seal

self-lubricated seal rings suitable for clean and viscous liquids. Also available on ceramized shaft sleeve.

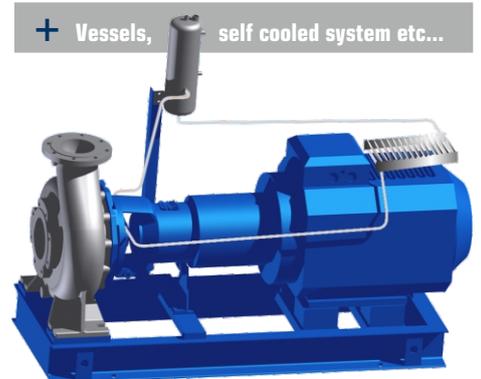


## J lip seal + quench + heating chamb.

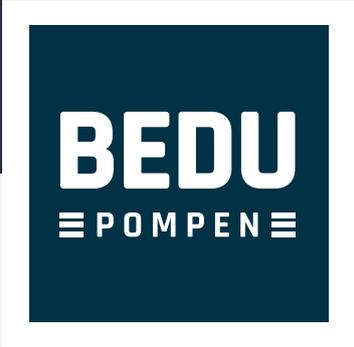
as «V» type, but with safety gland packing quench and heating chamber.



## + Vessels, self cooled system etc...







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