

## Radially Split Diffuser Multistage Pump

The CLYDEUNION Pumps HPRO (High Pressure Reverse Osmosis) is a radially split diffuser multi-stage pump designed for the requirements of desalination plants. In addition to superior efficiencies, the HPRO has numerous unique design features including:

- Optimised efficiency levels with hydraulics designed for each specific project duty
- Extensive options for branch orientation
- Minimised foot print
- Minimum through life costs along with maximum reliability in service
- Self-contained bearings eliminate the requirement and associated costs for lubricating oil module
- Enhanced efficiency achieved through full radial diffusers, volute discharge and closed clearance composite wear rings

### TYPICAL APPLICATIONS

- Reverse Osmosis Desalination

### TECHNICAL DATA

Capacity: up to 3,000 m<sup>3</sup>/hr/13,200 USGPM

Delivery head: up to 800 m /2,660 feet

Speeds: up to 3,600 rpm

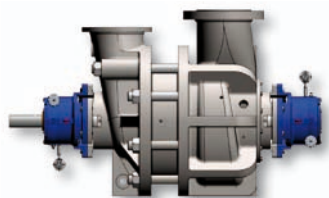
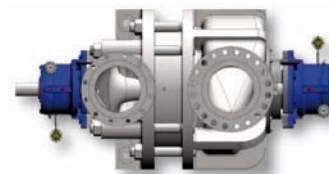
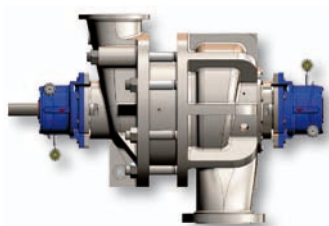
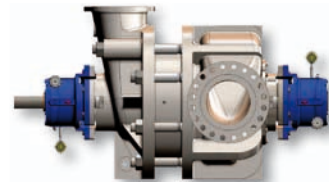
### MATERIALS OF CONSTRUCTION & COMPONENTS:

Material Specification	Casing	Impeller	Shaft
Spec D2	Super Duplex	Super Duplex	Super Duplex

Please Note: A wide range of additional materials is available on request



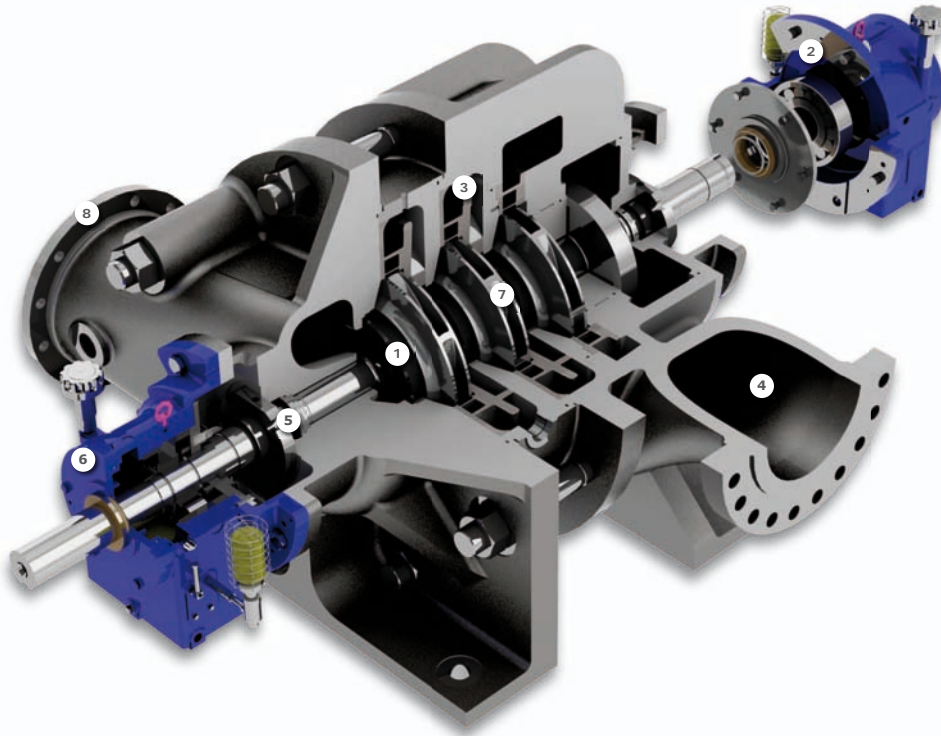
Pictured main: HPRO Pump  
Pictured right: HPRO plan views showing side-side, top-top, side-side opposing & side-top arrangements



Technical Data



## Radially Split Diffuser Multistage Pump



**1 WEAR OPTIONS**

Casing wear rings with optimised clearances are supplied in composite materials as standard

**2 EASE OF MAINTENANCE**

Seals and bearings can be maintained in-situ without dismantling pump or disturbing pipe connections

**3 LOWER POWER CONSUMPTION**

Full radial diffusers are contract specific with enhanced surface finish providing higher efficiency utilising vaneless annular chambers

**4 VOLUTE DISCHARGE COVER**

Provides optimised efficiency

**5 OPTIMUM SEAL PERFORMANCE**

Cartridge seals are designed for seawater applications and fitted in a conventional stuffing box flushed from inter-stage tapping

**6 SELF CONTAINED BEARINGS**

Eliminates the requirement for lubricating oil module

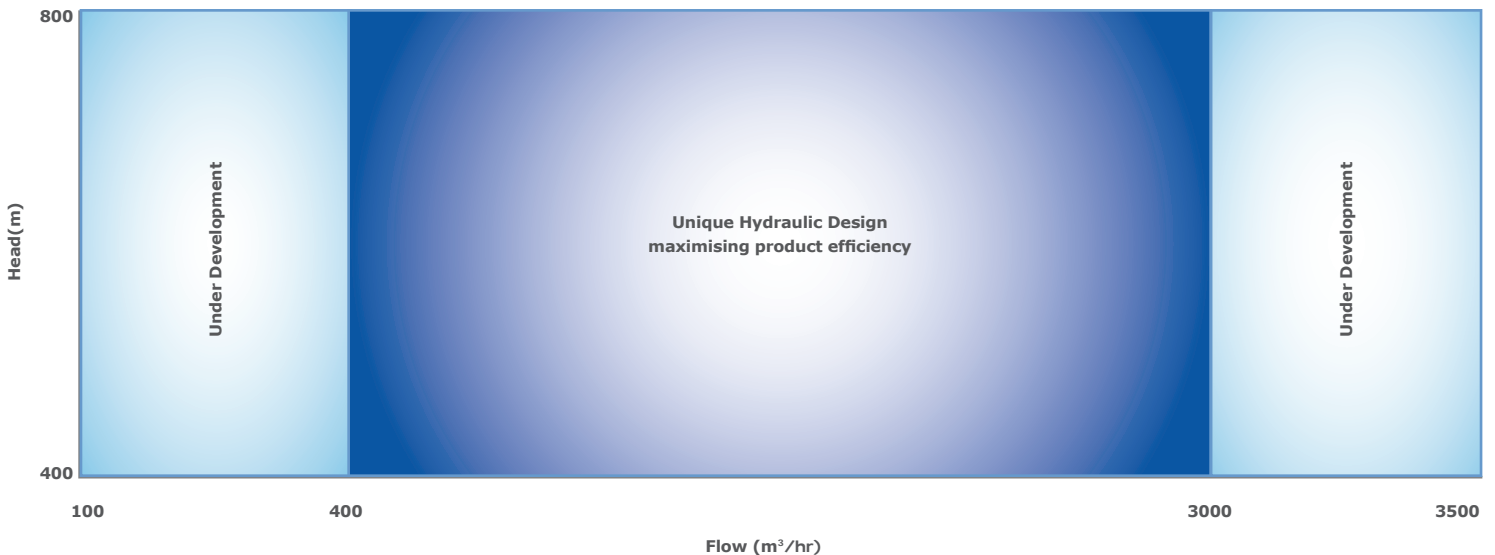
**7 CONTRACT SPECIFIC IMPELLER / DIFFUSER DESIGNS**

Impeller and diffuser hydraulic designs are contract specific with enhanced surface finish providing highest efficiency

**8 OPTIONAL BRANCH POSITIONS**

Maximise flexibility in matching pipe work preferences

RANGE COVERAGE CHART: HPRO 50Hz 2 Pole



Features & Benefits