

## A Complete Aftermarket Service

Our customer focussed aftermarket organisation is positioned to provide comprehensive care for our varied and diverse product lines. Heritage and obsolete products benefit from the same level of attention and expertise in order that reliability and availability is maximised irrespective of service length.

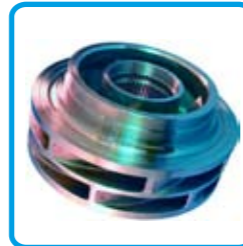
## Customer Satisfaction

Prompt and accurate quotation service and progress reporting during contract execution, facilitates ease of doing business. Promise to deliver and accelerated service are recognised as key customer requirements. We therefore offer a Rapid Response option with component deliveries from as little as 24hrs on selected parts.



## Genuine High Quality

Original or upgraded specification spare parts, coupled with full engineering design capability, enables longevity of reliable operation. Highly skilled and experienced service engineers ensure accuracy in build and optimised performance. The worldwide presence of CLYDEUNION Pumps offers local service facilities in over 40 countries.



## Service Solutions

CLYDEUNION Pumps is committed to supporting our installed base wherever it may be. Depending on your location we will provide either direct service support or support via our local authorised service partners. Whichever option is provided, you can be assured of the best attention from fully qualified and experienced engineers.



- Upgrades & Re-rates
- Service & Overhaul
- Installation & Commissioning
- Technical Support
- Inventory Management
- 3rd Party Equipment

Worldwide sales contacts  
www.clydeunion.com



Sales: Aftermarket: Manufacturing:

Region	Sales	Aftermarket	Manufacturing	Contact
Europe	✓	✓	✓	Annecey: Tel: + (33) 45 005 5600 Fax: + (33) 45 005 5880 Email: annecy@clydeunion.com
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Middle East / Africa	✓	✓	✓	UAE: Tel: + (97) 12 631 1959 Fax: + (97) 12 635 1242 Email: uae@clydeunion.com
	✓	✓	✓	Algeria: Tel: + (213) 21 69 2319 Fax: + (213) 21 69 3046 Email: algeria@clydeunion.com

CLYDEUNION Pumps - offers the following heritage products:



\* This is a heritage product acquired when the Weir Pumps business transferred to Clyde Pumps in May 2007

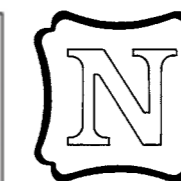
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We are constantly endeavouring to improve the performance of our equipment and as a result, we reserve the right to make alterations from time to time, and equipment may differ from that detailed in this brochure.

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CLYDEUNION Pumps in the Nuclear Power Industry



## Global nuclear pump leaders

CLYDEUNION Pumps one of the largest manufacturers of pumps in the world - has over 125 years experience in supplying major items of capital equipment to the power generation industry as well as over 50 years experience supplying pumps to the nuclear industry worldwide (PWR, ABWR and CANDU).

The CLYDEUNION Pumps 'mission' is to provide customers with reliable, competitive, quality pumpsets, which will assure continued safe operation of all nuclear power plant safety systems.

### CLYDEUNION Pumps is able to offer:

- All nuclear & turbine island pumps
- High efficiency & proven reliable nuclear pump designs
- Dedicated nuclear design department
- In-house seismic, environmental and operability qualification
- Commitment to quality - ASME 'N', 'NPT' and 'NA'
- Compliance with international standards
- Qualified welders & NDE operators in-house
- Modern manufacturing & extensive test facilities
- Prompt after sales service
- Installation & commissioning capability
- Large, innovative in-house research & development facilities
- Comprehensive in-house software & analytical capability
- Shaker testing



Vertical canister safety pump



CR pump

### Typical ASME III Class 2 & 3 safety applications include:

- Safety injection & containment spray
- Residual heat removal
- Charging & CVCS
- Auxiliary feed
- Essential service water
- Component cooling water
- Lube oil priming
- Reactor core isolation cooling
- High pressure core flooder
- Moderator
- Emergency core cooling
- Auxiliary building water



Barrel casing safety pump

### Balance of plant includes:

- Reactor feed
- Main cooling water
- Condensate extraction
- Auxiliary cooling water

## Pumpset qualification:

Our experience as a supplier of specialist safety related pumping plant for major types of nuclear reactors in commercial operation has enabled CLYDEUNION Pumps to acquire a thorough understanding of the steady state, transient system modes and environmental conditions under which safety equipment is required to perform.

This understanding is critical, enabling the CLYDEUNION Pumps team of engineers when preparing the necessary seismic, environmental and operational qualification reports to prove and ensure reliability, availability and maintainability of our equipment throughout its working life.

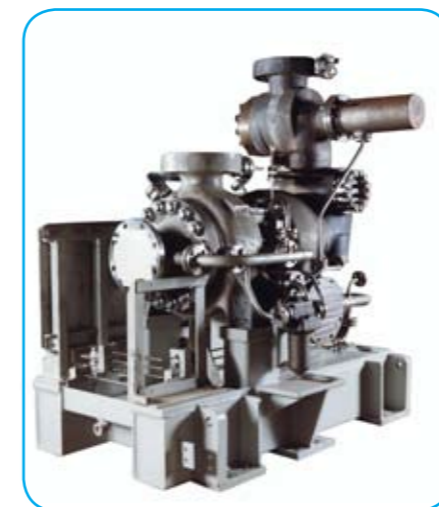
### CLYDEUNION can meet your pumping requirements.

#### Vertical canister safety pumps

Our range of vertical safety pumps are selected with the appropriate first stage impeller and suction guide to obtain the best suction performance and shortest pit depth. Our ASME III Class 2 or 3 pumps are designed to meet the site environmental/seismic conditions and operability criteria, and be capable of withstanding thermal transients and debris ingestion.

#### CLYDEUNION Pumps 'TWL' pumps

The unique CLYDEUNION Pumps TWL pump is a single wheel steam turbine, two-stage pump, where both the turbine and impellers are mounted on a rigid shaft, supported by a central bearing assembly integral within a monobloc turbine/pump casing. This compact proven design will withstand water slugs in the steam line. It requires no external services or electrical supplies to operate and is one fifth the size of a conventional pump and turbine unit. Units are designed to ASME III Class 2 or 3 requirements.



'TWL' pump



Close inspection with CR Volute

#### Main reactor feed pumps

CLYDEUNION Pumps offers reliable, high efficiency radially split, single or two-stage barrel casing pumps of proven design, capable of dry running, thermal shock and extended periods between overhauls.



C.A.D Rended Volute

#### Auxiliary safety pumps

CLYDEUNION Pumps has a comprehensive range of axially split, in-line and end-suction pumps specifically designed to meet the design requirements ASME III Class 2 or 3.



End Suction



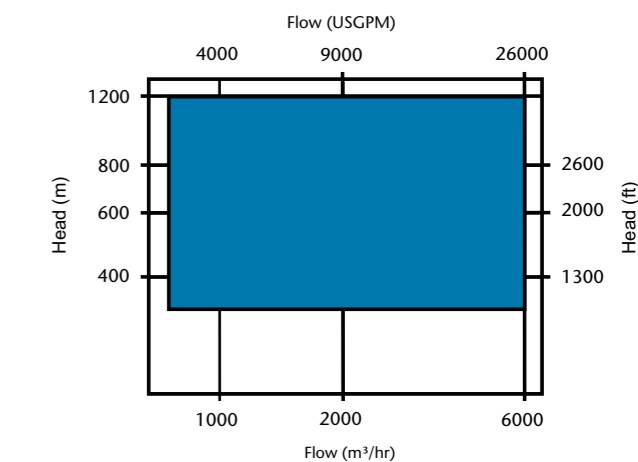
Single Stage Feedwater



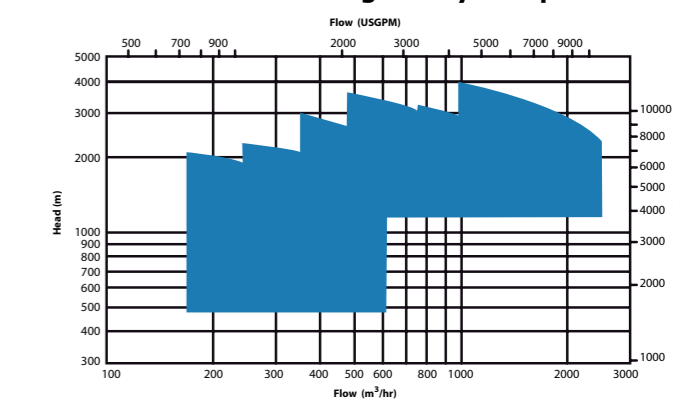
## Certification & Qualifications

## Range Coverage Charts

### Single Stage Feedwater Pumps



### Barrel Casing Safety Pumps



### Auxiliary Safety Pumps

