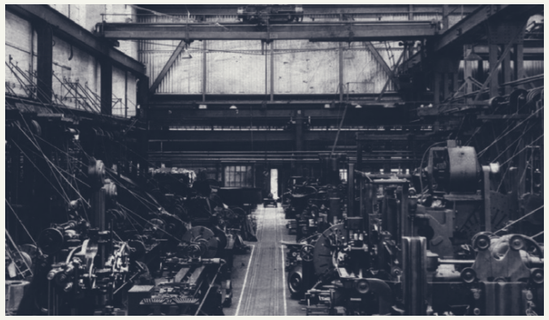
Protecting Life. Improving Lives.

Process & Chemical Solutions

spp

RODELTA



SPP Pumps Ltd

Founded in 1878, SPP Pumps Ltd has established itself as a leader in the global pumping solutions industry. With over 140 years of expertise, we specialise in designing, manufacturing, and providing world-class pumps for the demanding and ever changing requirements of the international pump market.

SPP Pumps are renowned for its cutting-edge engineering, high-performance standards, and commitment to serving critical sectors such as power, water, oil and gas, and construction. Our heritage is rooted in our employees, who for nearly one and a half centuries have been providing trusted, long-lasting solutions, bolstered by a strong tradition of customer satisfaction and innovation.

140+

years of expertise

Rodelta Pumps International BV

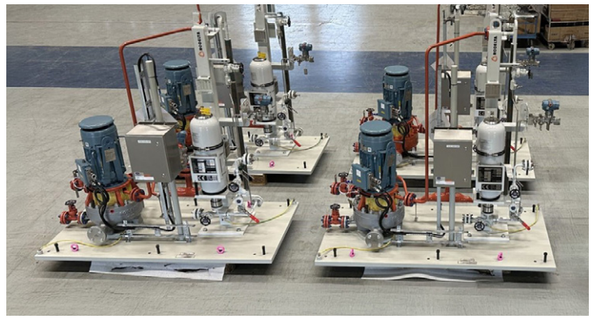
Founded in 1946, Rodelta Pumps International BV has earned its reputation as a trusted provider of industrial pumps and systems. The company has consistently focused on creating high-quality, energy-efficient pumps for a variety of industries, including oil and gas, water treatment, and process industries.

Rodelta is known for its highly customisable pump solutions, providing clients with tailored designs that meet specific needs, from small-scale operations to large industrial applications. Their long-standing success is driven by a commitment to technological advancement, exceptional service, and the ability to adapt to changing market demands.

The Next Chapter

In an exciting new chapter for both organisations, SPP and Rodelta are now joined in their mission to provide market leading solutions for the process, chemical and energy markets, combining their decades of expertise and leadership in the pump manufacturing industry.

This collaboration marks the beginning of an exciting future, where the strengths and resources of both companies will be harnessed to create even greater value for both the corporate group and for customers worldwide. By joining forces, the two companies can expand their product offerings, share cutting-edge technologies, and strengthen their global presence in key markets such as energy, water, oil and gas, and process industries.



Protecting Life. Improving Lives.

Protecting Life, Improving Lives is our mission statement and is the core ethos on which all of our activities are shaped.

From our base in Coleford, UK, SPP manufacture precision-engineered pumps and associated systems for the world market, providing high integrity services for diverse industries, such as water treatment, fire protection, energy, construction and industry. Our solutions are installed worldwide, powering essential services that sustain human life, providing critical life-saving infrastructure and supporting industries that provide the critical services and resources necessary for our daily lives and for advancing future innovations.

Fuelling a sustainable future

SPP is at the forefront of the global movement toward a more sustainable future, offering advanced, efficient, and reliable pumping solutions tailored to the energy and chemical industries.

Our commitment to innovation drives us to deliver high-performance solutions that reduce environmental impact while optimising operational efficiency.

The strategic partnership between SPP and Rodelta combines decades of industry experience and technical expertise, enabling us to leverage the strengths of both companies.

Sustainability

Sustainability is key to everything we do at SPP and we strive continuously to improve the sustainability of our own organisation, our local community and the wider environment in which our products are installed.

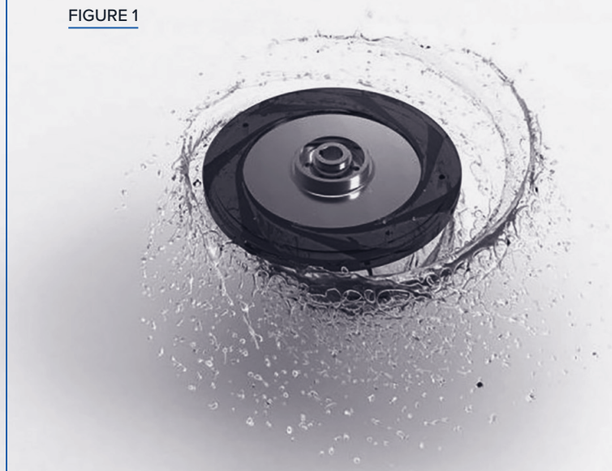
Sustainability Goals

SPP Subscribe to the United Nations Sustainable Development Goals initiative and we are committed to continuing our journey towards Carbon Net Zero. This is a critical and long-term project that underpins our commitment to sustainability and the environment.

Why choose our diffuser technology?

Our designed diffuser philosophy delivers an expertly crafted, sustainable, and dependable solution that meets the demands of an evolving world.

FIGURE 1



- Higher efficiencies
- Higher head rise to shut off (HRTS)
- Steeper curve
- Reduced radial load
- Possibility of retrofitting and rerating existing designs
- Lower vibration
- Reduced noise

How does it work?

Rotodynamic pumps work by adding energy to a medium via a rotating impeller, increasing both static pressure and fluid velocity. The velocity of the fluid exiting the impeller can be partially converted into static pressure by slowing the fluid, often achieved using a volute, a spiral casing around the impeller that guides the fluid towards the discharge pipe while reducing its speed.

A volute pump casing serves two purposes: providing the hydraulic flow path and the pressure casing for the fluid. In diffuser pumps, these roles are divided. A casing creates the pressure boundary, while a diffuser, a ring with diverging channels around the impeller, handles the velocity-pressure conversion, offering more guidance for the decelerating flow.

Diffuser pumps, particularly those operating at lower flow rates, are more efficient than volute pumps. They maintain efficiency better under part load conditions (as seen in Figure 2) and can accommodate various diffuser impeller configurations, allowing optimal efficiency configuration for a given system.

FIGURE 2

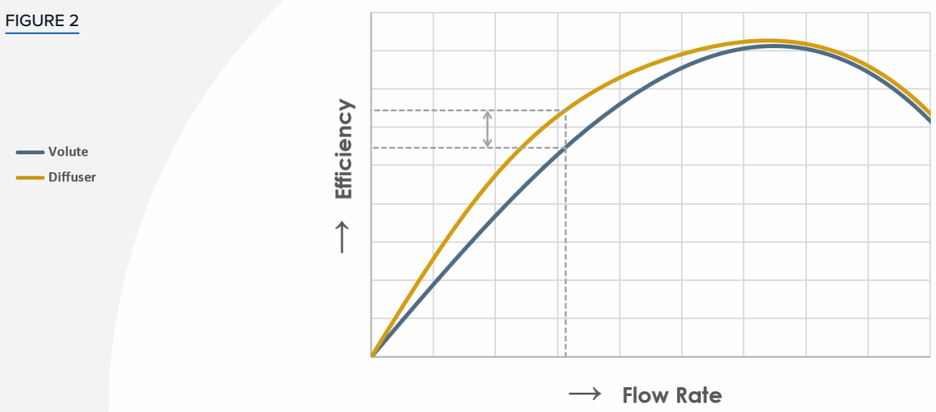
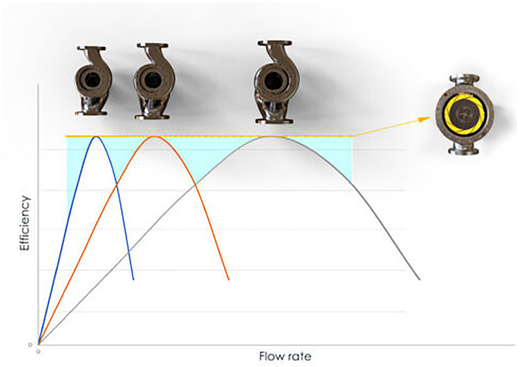


FIGURE 3



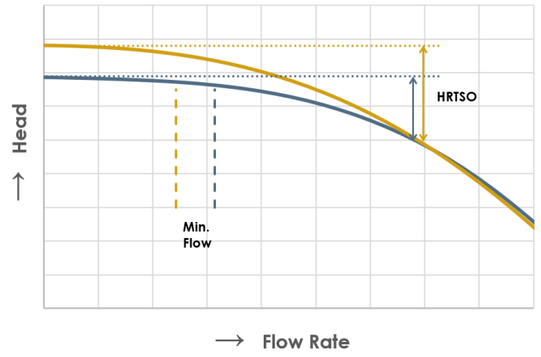
In conventional volute pumps, adjusting the impeller diameter to meet specific flow and head conditions leads to an increased clearance between the impeller vane tips and the casing, which in turn decreases efficiency.

The designed diffuser approach allows us to closely align the hydraulic design with specific requirements.

This is achieved by adjusting the number and profile of the diffuser vanes whilst maintaining a minimal clearance between the impeller vane tips and the diffuser.

We accomplish this by designing the diffuser's internal diameter to match that of the impeller. This method not only broadens the performance range at the Best Efficiency Point (BEP), but also reduces the need for a larger quantity of casing and impeller sizes (as seen on Figure 3).

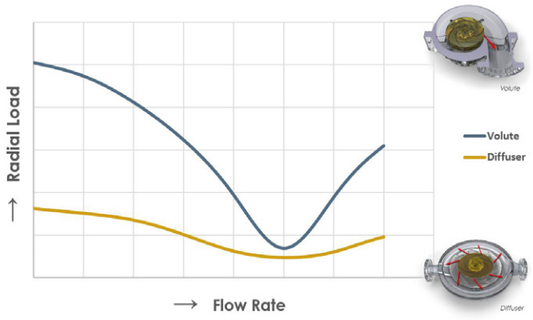
FIGURE 4



Diffuser pumps typically exhibit a higher head rise to shut off (HRTSO) and an increased steepness and stability of the head curve (as seen on figure 4).

These characteristics are particularly important for pumps used in the API market and for pumps utilised in parallel operation.

FIGURE 5



Diffuser pumps offer benefits beyond just efficiency. The multi-channel diffuser designs exhibit more axial symmetry compared to the asymmetric forms of volute.

This axial symmetry, which is also reflected in the pressure distribution of the flow field, effectively neutralises most radial loads (as seen on figure 5).

Diffuser Technology

The ETL (OH5) range is a heavy-duty centrifugal process pump that features a vertically mounted, inline, close-coupled design. It features a radially split casing with diffuser, single stage, and single suction impeller design.

Its design adheres to the latest edition of the American Petroleum Institute's standard 'Centrifugal Pumps For General Refinery Services', also known as API 610/ ISO13709. The inline configuration, which involves mounting the impeller to an extended motor drive shaft, provides a compact and efficient pumping solution.

The ETL (OH5) pump offers a space-saving footprint and eliminates the need for costly baseplates. For high-temperature applications, this pump is also available in a long-coupled pump type, ETLS (OH3).

SPECIFICATIONS

Design Standard	API610, BS 4082-1, ISO 13709
Features	Vertical In-line, Close-coupled Overhung (OH5)
Capacity @ BEP	Up to 600 m^3/h (50Hz) ǀ Up to 720 m^3/h (60Hz)
Head	Up to 290 m (50Hz) ǀ Up to 420 m (60Hz)
Temperature Range	-40 - 250°C
Nozzle Orientation	In-line
Standard Motor Sync Speeds	1000 / 1500 / 300 rpm ǀ 1200 / 1800 / 3600 rpm
Materials of Construction	API Material Options / NACE / Hastelloy / Inconel
Suction Pressure	20 bar as standard (>20 bar on request)
Max Operating Speed	3600 rpm
Flange Rating (B16.5 RF) #	150 / 300 / 600

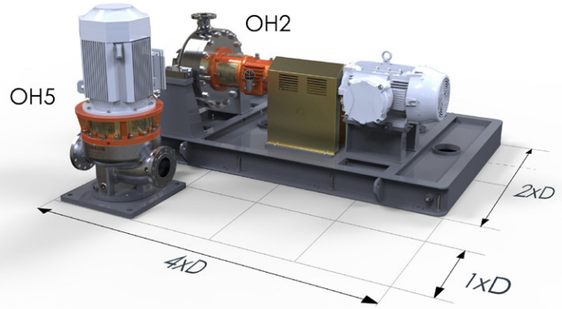
ETL DESIGN FEATURES

- Designed in accordance with API 610 (OH5) 12th edition (zero deviations)
- Diffuser design philosophy reduces radial loads
- L10 life of 50,000 hours
- Lower minimum continuous stable flow (MCSF)
- Higher efficiencies at any duty (designed diffuser philosophy)
- Alignment free construction
- In-line suction & discharge
- Closed impeller design as standard (semi-open impeller types available for liquids which are sensitive to clogging)
- Other nozzle configurations available: U-type (Acc BS4082), L/R, bottom suction, as per customer request
- Space saving construction
- Stable head characteristics
- Meets 2 x API nozzle load requirements
- Accommodates API 682 seal systems
- The connection dimensions of the pressure - and suction flange are made according to the British Standard BS4082. (ISO 13709)
- On customer requirement, the ETL can be equipped with personnel protection guards for hot liquid versions.
- Installation templates available, facilitating pre-installation works to reduce project lead times

In a world that's constantly evolving, where sustainability is becoming more and more important, the ETL (OH5) stands out as a top-tier solution thanks to its exceptional dependability and reduced carbon footprint.

The ETL series plays a significant role in our pledge to achieve the UN's sustainability targets, while offering our customers tangible enhancements in performance.

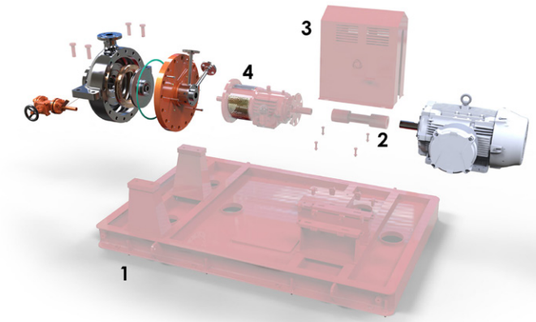
FIGURE 6 ■ REQUIRED FLOOR SPACE



Designs of the OH5 type provide a more compact and lighter alternative to the standard OH2 product of the same size. The use of an OH5 pump significantly reduces the need for carbon-intensive materials during manufacturing and installation compared to a standard OH2 pump.

The reduced quantity of wearing components, along with a reduction in steelwork and concrete needed to mount and house the machine, greatly contributes to a reduced carbon footprint (as seen in figures 6 & 7). This is achieved without any compromise on performance, and in many instances, offers significant performance and maintenance advantages in comparison to typical OH2 type designs.

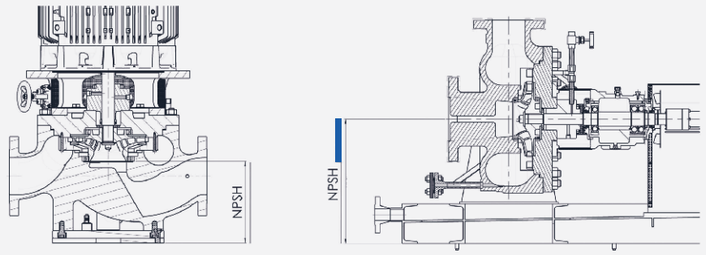
FIGURE 7 ■ SAME FUNCTION LESS PARTS



In addition to the initial cost and carbon saving benefits of an OH5 type pump. There are also other hydraulic and mechanical benefits such as:

- Lower NPSHa datums
- Misalignment proof
- Higher efficiencies
- Lower vibration
- Reduced noise
- Easier removal/installation
- Increased shaft rigidity
- Resistance against thermic influences

FIGURE 8 ■ DIFFERENCE IN NPSH AVAILABLE



ETLS

The ETLS (OH3) range is a heavy-duty centrifugal process pump that features a vertical, in-line, and flexibly coupled design. It features a radially split casing with diffuser, single stage, and single suction impeller design.

This design adheres to the most recent edition of the 'Centrifugal Pumps For General Refinery Services' standard by the American Petroleum Institute, also known as API 610/ ISO13709.

The inline configuration offers a compact pump solution that eliminates the need for a costly baseplate, thereby saving valuable floor space. This pump is also available in a close-coupled execution pump type ETL (OH5) for extremely compact applications.

SPECIFICATIONS

Design Standard	AP1610, BS 4082-1, ISO 13709
Features	Vertical In-line, Long-coupled Overhung (OH3)
Capacity @ BEP	Up to 600 m^3/h (50Hz) I Up to 720 m^3/h (60Hz)
Head	Up to 290 m (50Hz) I Up to 420 m (60Hz)
Temperature Range	-40 - 425°C
Nozzle Orientation	In-line
Standard Motor Sync Speeds	1000 / 1500 / 300 rpm I 1200 / 1800 / 3600 rpm
Materials of Construction	API Material Options / NACE / Hastelloy / Inconel
Suction Pressure	20 bar as standard (>20 bar on request)
Max Operating Speed	3600 rpm
Flange Rating (B16.5 RF) #	150 / 300 / 600 (higher ratings available on request)

ETLS DESIGN FEATURES

- Designed in accordance with API 610 (OH3) 12th edition (zero deviations)
- Diffuser design philosophy reduces radial loads
- High fluid temperature capacity
- Lower minimum continuous stable flow (MCSF)
- Higher efficiencies at any duty (designed diffuser philosophy)
- In-line suction & discharge
- Closed impeller design as standard (semi-open impeller types available for liquids which are sensitive to clogging)
- Space saving construction
- Stable head characteristics
- Meets 2 x API nozzle load requirements
- Accommodates API 682 seal systems
- The connection dimensions of the pressure - and suction flange are made according to the British Standard BS4082. (ISO 13709)

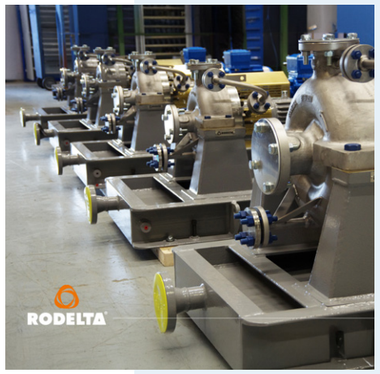
HZC

The HZC (OH2) range is a heavy-duty centrifugal process pump that features a horizontally overhung, centreline mounted design. It features a radially split casing with diffuser, single stage, and single suction impeller design.

The HZC design adheres to the most recent version of the 'Centrifugal Pumps For General Refinery Services' standard, also recognized as API 610/ ISO13709, set by the American Petroleum Institute. By meeting this standard, the HZC delivers the high-performance levels demanded by the refinery and petrochemical industries.

SPECIFICATIONS

Design Standard	API610, BS 4082-1, ISO 13709
Features	Horizontal, Centreline Mounted, Long-coupled Overhung (OH2)
Capacity @ BEP	Up to 600 m^3/h (50Hz) I Up to 720 m^3/h (60Hz)
Head	Up to 290 m (50Hz) I Up to 420 m (60Hz)
Temperature Range	-40 - 425°C
Nozzle Orientation	End/Top (Standard) I Top/Top (On Request)
Standard Motor Sync Speeds	1000 / 1500 / 300 rpm I 1200 / 1800 / 3600 rpm
Materials of Construction	API Material Options / NACE / Hastelloy / Inconel
Suction Pressure	20 bar as standard (>20 bar on request)
Max Operating Speed	3600 rpm
Flange Rating (B16.5 RF) #	150 / 300 / 600 (higher ratings available on request)



HZC DESIGN FEATURES

- Designed in accordance with API 610 (OH2) 12th edition (zero deviations)
- Diffuser design philosophy reduces radial loads
- High fluid temperature capacity
- Lower minimum continuous stable flow (MCSF)
- Higher efficiencies at any duty (designed diffuser philosophy)
- Centreline discharge nozzle
- Self-venting design
- End/Top suction & discharge
- Closed impeller design as standard (semi-open impeller types available for liquids which are sensitive to clogging)
- Stable head characteristics
- Meets 2 x API nozzle load requirements
- Accommodates API682 seal systems

The TAZN (VS4) range is a heavy-duty modular, vertically mounted, centrifugal sump pump. It features a single stage, single suction, radial flow impeller with either a single or double, radially split volute.

The modular design allows varying suspension and suction column lengths, in addition to varying cover plate and discharge flange configurations to suit the requirements of our customers.

The TAZN design adheres to the most recent version of the 'Centrifugal Pumps For General Refinery Services' standard, also recognized as API 610/ ISO13709, set by the American Petroleum Institute.

SPECIFICATIONS

Design Standard	AP1610, ISO 13709
Features	Vertical Suspended, Volute (VS4)
Capacity @ BEP	Up to 300 m^3/h
Head	Up to 220 m
Temperature Range	-20 - 250°C
Nozzle Orientation	Discharge through side pipe
Standard Motor Sync Speeds	1000 / 1500 / 300 rpm
Materials of Construction	API Material Options / NACE / Hastelloy / Inconel
Suction Pressure	Up to 20 bar
Max Operating Speed	3600 rpm
Flange Rating (B16.5 RF) #	150 / 300
Standard Maximum Suspension Length	10m

TAZN DESIGN FEATURES

- Designed in accordance with API 610 (OH2) 12th edition
- Double volute casing above 80mm reduces radial loads
- Low NPSHr
- Modular line shaft – lengths up to 10m
- Extended suction pipe option for deep sump applications
- Easy maintenance spacer coupling permits inspection and maintenance of the bearing assembly
- Top mounted mechanical seal option
- Media or external lubrication option
- Space saving construction
- Circular or rectangular cover plate to suit closed impeller design as standard (semi-open impeller types available for liquids which are sensitive to clogging)
- Accommodates API 682 seal systems

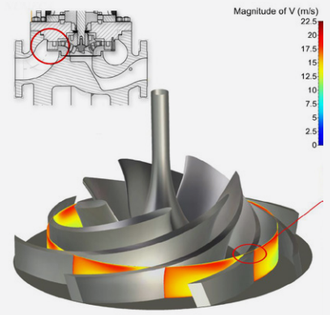
Capitalising on our comprehensive technical knowledge and engineering capabilities, we offer a broad spectrum of solutions that extend beyond our primary product suite. These solutions are specifically engineered for the process, chemical, and energy sectors, and meet the demanding, safety critical requirements of these markets.

Flexibility

We offer bespoke pump solutions tailored to meet almost any scenario, providing the flexibility to address the unique requirements of our customers and their specific applications. With our extensive knowledge and expertise, we specialise in solving complex problems, delivering customised solutions that effectively meet the challenges at hand. One such example being our retrofit solutions, whereby we design and manufacture pumps to match the dimensional interfaces of existing installations, ensuring seamless integration and minimising downtime during replacement or upgrades.

Ingenuity

Our engineers have the expertise and experience to fully understand the complexities of pumping challenging fluids, allowing us to identify and implement the necessary solutions to overcome these difficulties.



Safety

Safety is paramount in the process industry, especially given the hazardous nature of many pumping applications in this sector. We prioritise safety above all else and are committed to providing innovative solutions that protect equipment operators. Our bespoke safety measures include custom solutions such as personnel guarding for pumps handling high-temperature fluids, among others, to ensure the highest level of protection.

Fuelling a sustainable future.

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