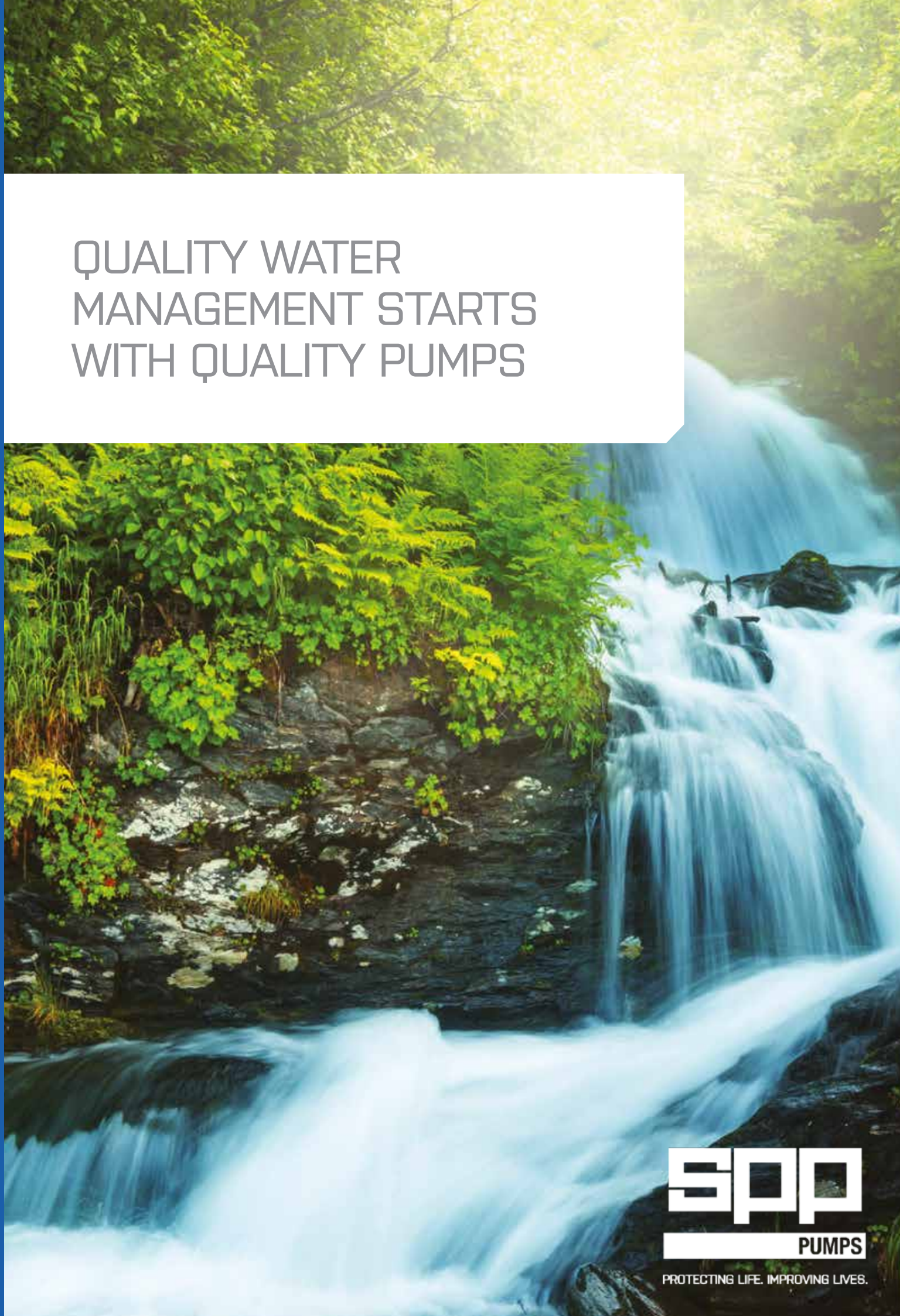


QUALITY WATER MANAGEMENT STARTS WITH QUALITY PUMPS

spp PUMPS

PROTECTING LIFE. IMPROVING LIVES.

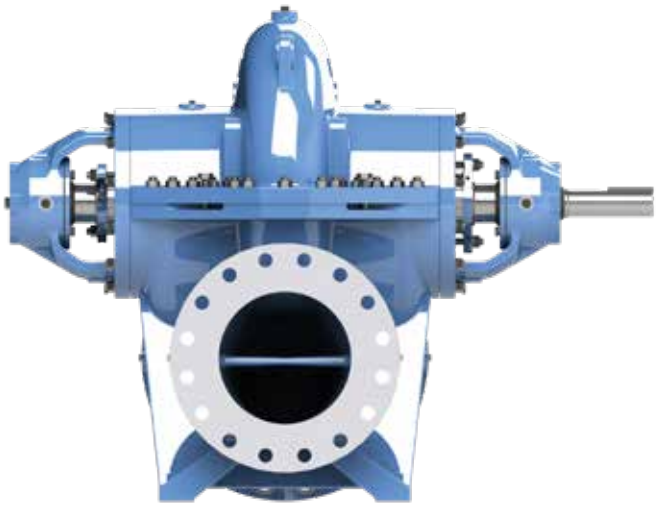
EXCEPTIONAL PUMP HYDRO ENGINEERING. BRITISH DESIGNED AND CUSTOM-BUILT.

SUPPLYING EVERY MAJOR UK UTILITY COMPANY AND SPECIALIST WATER CONTRACTORS, QUALITY WATER MANAGEMENT STARTS WITH SPP PUMPS.

Designed and developed specifically for the varying applications and continuous operation demands of the water industry, choosing SPP Pumps products ensures instant compliance with mandatory UK and European regulations and approvals such as WRAS (the Water Regulation Advisory Scheme), DWI (the Drinking Water Inspectorate), ACS (Attestation de Conformité Sanitaire) and the EuP (Energy Using Products) directive.

RAPID FLEXIBILITY

Local UK manufacture backed by research, test and engineering facilities in-house put SPP Pumps ahead. Standard pre-engineered products and spares are on call ex-stock.



Custom pump design and performance modification is second nature. Expect exceptional quality, performance tested units delivered on schedule - without unexpected delays.

ABOUT SPP PUMPS

SPP PUMPS HAS LED THE DESIGN AND MANUFACTURE OF CENTRIFUGAL PUMPS AND ENGINEERED PUMPING SOLUTIONS FOR OVER 145 YEARS. SERVING CHALLENGING INDUSTRY APPLICATIONS ACROSS OIL AND GAS, WATER, POWER GENERATION, CONSTRUCTION, MINING AND FIRE PROTECTION, THE BRAND IS SYNONYMOUS WITH PUMP PERFORMANCE, QUALITY AND RELIABILITY.

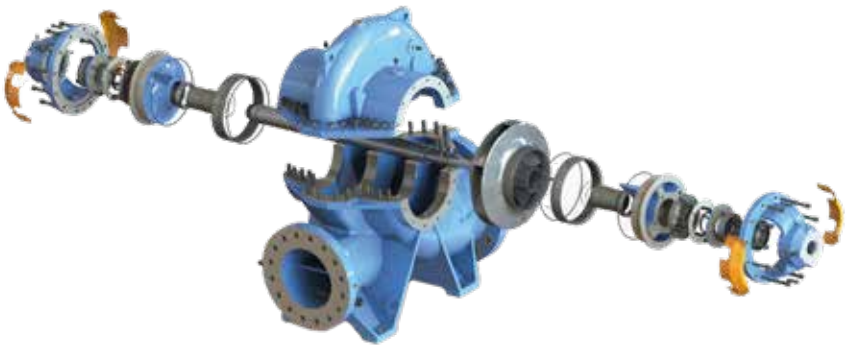
A global company, SPP Pumps operates R&D, manufacturing, test facilities and service sites in the UK, USA, India, France, South Africa, UAE and Egypt, and local sales offices in Singapore, Italy, Poland, Holland and The Czech Republic. Over 500 staff, including 50 specialist engineers, ensure round-the-clock advice and support for critical pumping operations.

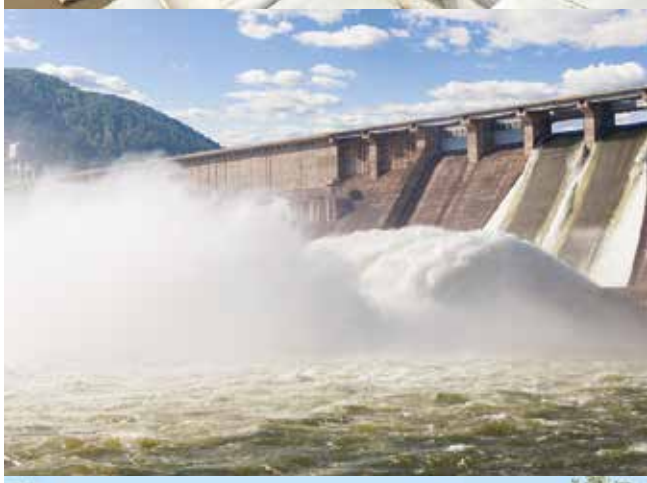
WATER SECTOR APPLICATIONS

- Water treatment
- Potable water supply
- Sewage lift and transfer
- Package wastewater pumping systems
- Turbines for power generation
- Flood prevention

WATER SECTOR PUMP SOLUTIONS

- Lowest Life-cycle Cost split case pumps
- Lowest Life-cycle Cost vertical turbines
- End suction pumps
- Sewage pumps
- Waste water/storm pumps
- Pumps as Turbines (for power generation)
- Multistage pumps
- Autoprime electric pumps
- Packaged booster sets





RECOMMENDATIONS, PERFORMANCE CURVES PLUS QUOTATIONS.

CLARITY WITHIN FIVE BUSINESS DAYS.

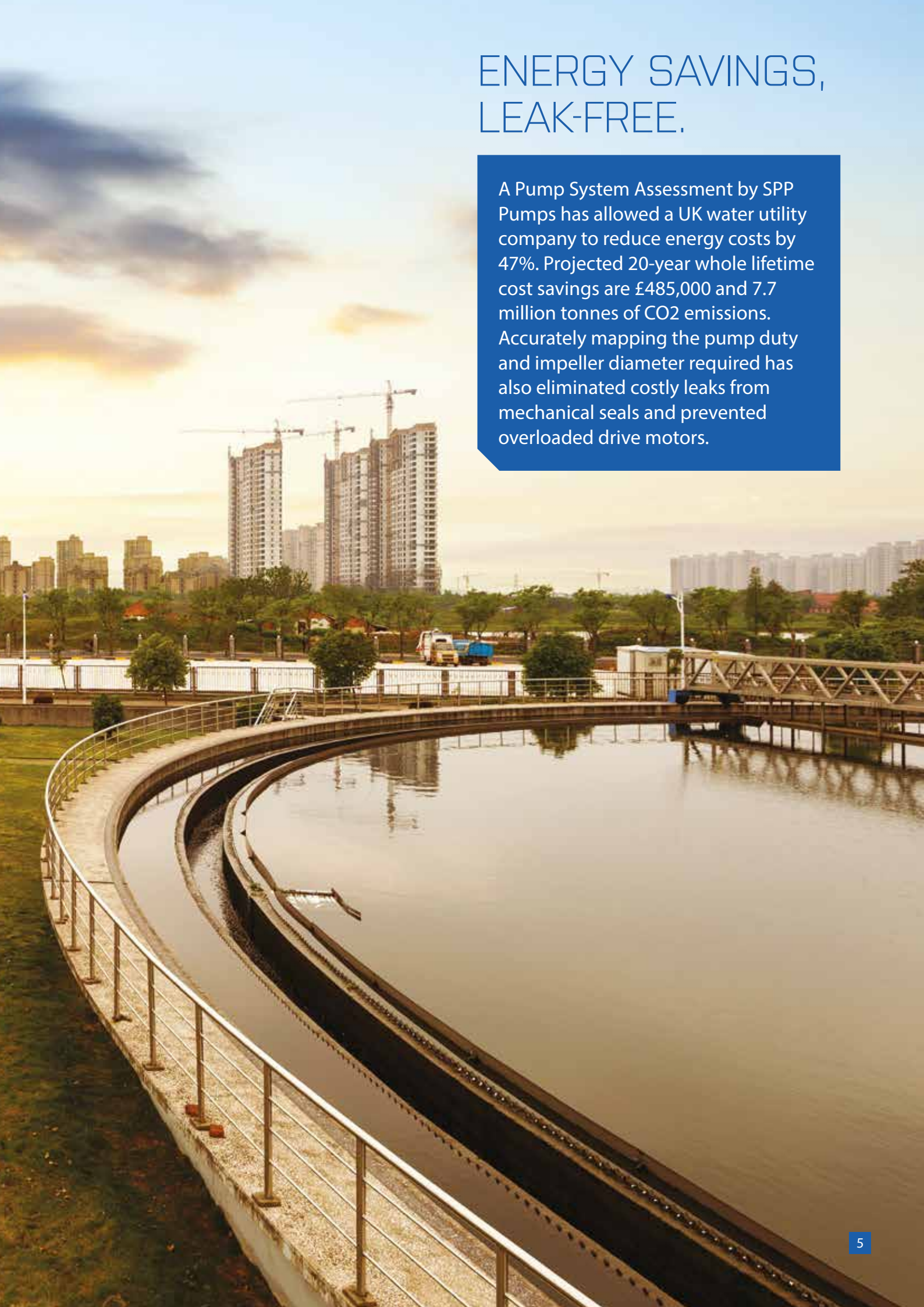
Planning and maintaining critical infrastructure for water requires pro-active, informed, professional suppliers. SPP Pumps aims to respond to application requests with comprehensive technical recommendations, system options and quotations within five business days.

Allocating an experienced sales engineer to each customer account ensures in-depth understanding, accuracy, continuity and speed. Advanced selection software supports flow/head calculations and performance curves.
Where needed, presales technicians have instant access to SPP Pumps' in-house design, manufacturing and performance analysis teams.

As well as confirming the correct pump duty is specified at the outset, SPP Pumps also considers the implications of whole life cycle costs. Recommendations include advanced pump options that, by achieving greater operating efficiency, save energy, minimise maintenance and reduce CO2.

ENERGY SAVINGS, LEAK-FREE.

A Pump System Assessment by SPP Pumps has allowed a UK water utility company to reduce energy costs by 47%. Projected 20-year whole lifetime cost savings are £485,000 and 7.7 million tonnes of CO2 emissions. Accurately mapping the pump duty and impeller diameter required has also eliminated costly leaks from mechanical seals and prevented overloaded drive motors.



BESPOKE, FLEXIBLE, ON-TIME MANUFACTURE.

SAY GOODBYE TO UNEXPECTED DELAYS.

SPP Pumps is unique in its ability to design and deliver bespoke, fully integrated packaged water pump solutions. Every system is individually tailored to the specific application and operating environment.

Close consultation ensures needs are scoped accurately. Creating customised components or sub-assemblies is routine – as is managing late-notice customer modifications, adjustments or change requests. SPP Pumps has an enviable record for meeting and often beating agreed delivery schedules.

Home to more than 50 engineers, SPP Pumps' ISO9001:2015 approved UK design and manufacturing facility in Coleford has attained the highest industry standards for quality and reliability. Investment in state-of-the-art prototyping, 3D printing for moulds, lean production and test facilities underpins manufacturing excellence for consistent performance over the full system life cycle.

FULLY TESTED.

Every pump is tested in SPP Pumps' own extensive facility. Rigorous duty tests, witnessed by customers and contractors where required, ensure performance criteria are met. Boasting a 1.4 million litre well six metres deep, engineers can test pressures up to 50 bar; flows up to 2000 l/s; and at 50Hz powers up to 800kW at 415V and 2MW at 11kV, 10kV, 6.6kV, 5kV, 3.3kV - with generators available for even higher powers or voltages.

12-WEEK FAST-TRACK MANUFACTURE.

To comply with the UK Drinking Water Inspectorate (DWi) directive, South East Water needed a new UV treatment facility at its Hazards Green Water Treatment Works. To lift filtered water through the UV plant called for 3 variable speed vertical suspended bowl pumps complete with IE2 motors – a technically complex challenge. By utilising both stock and custom-made components within a DWi compliant design, SPP Pumps was able to manufacture and witness test the new pumps in just 12 weeks – 3 weeks ahead of schedule.

INSTALLED, COMMISSIONED, MAINTAINED AND REPAIRED.

FULL LIFECYCLE SUPPORT FROM SPP PUMPS ENGINEERING SERVICES.

SPP Pumps is a leading provider of specialist Engineering Services for the water industry. Service agreements, spare parts, testing, diagnostics and repairs are just the start.

CORRECT INSTALLATION AND COMMISSIONING

Routine mechanical maintenance will significantly improve pump reliability. But so do other factors. Poor or incorrect installation, poor pump and system matching or changing operating parameters after commissioning can all lead to premature problems and potentially costly failure or down-time. Pump installation is a specialist skill not always available from general mechanical installation companies. That's why SPP Pumps offers a full installation and commissioning service, or can supervise the installation process.

BEST EFFICIENCY POINT: ENSURING THE RIGHT SYSTEM MATCH

A pump's Best Efficiency Point (BEP) should closely match the flow rate duty an application needs. Operating a pump away from the BEP will increase loads, wear, vibration, energy use and the risk of damage by cavitation. SPP Pumps Engineering Services undertake pump and system assessments to determine the actual installed pump operating regime and offer advice where relevant to optimise energy usage. Computerised Fluid Dynamics analysis, surge analysis, sump analysis, piping analysis and natural frequency analysis are also available to optimise performance and reliability.

PREVENTATIVE MAINTENANCE AND MONITORING

Maintenance and repair and failure elimination both help to keep pump systems operating efficiently and economically. For instance, between 40%-70% of pump issues are attributed to bearing failure. Early diagnosis of potential problems by pre-empting unexpected repairs and unplanned downtime can save several thousands of pounds. By detecting, analysing and evaluating key equipment performance, SPP Pumps condition monitoring systems minimise the ownership costs of capital equipment.

BEARING REBUILDS AND VALVE SERVICING

SPP Pumps' experience is recognised and trusted by leading OEMs. SPP Pumps Engineering Services is the only UK approved Certified Rebuilder of Pumps for SKF Bearings, and also the only UK Service Provider for Descote Valves.

ENGINEERING SERVICES AVAILABLE INCLUDE:

- Pump lifecycle management
- Installation and commissioning
- Monitoring and analysis
- Tailored Service Contracts
- Pump Testing
- Computational Fluid Dynamics
- Pump Repairs, Upgrades and Re Rating
- Efficiency & Protective Coatings
- Valve Repairs & Test
- Reverse Engineering
- Training
- OEM support and advice

ENERGY AUDITS

Cut system energy consumption and running costs by up to 30%. Following a comprehensive site audit, let our energy team deliver a succinct report detailing recommendations that will save you money.

UK utility company South West Water turned to SPP Pumps to resolve cavitation issues at its Hayle Final Effluent Pumping Station. Following an assessment using Thermodynamic and Ultrasonic Test equipment, SPP Pumps replacement pumps are now generating savings worth £70,000 per year.

"Product reliability, energy reduction, reducing CO2 emission and financial savings are all vitally important to us in helping to reduce our carbon footprint. This is why we work with SPP Pumps."

Shayne Fielding, Efficiency Manager, South West Water

LOWEST LIFE-CYCLE COST RANGE.

ENGINEERED TO SAVE.

Around 13%* of the UK's total annual electricity is consumed by pumps. SPP's Lowest Life-Cycle Cost pump range is saving customers millions of pounds - and dramatically reducing their carbon footprint.

Over the last 20 years life cycle cost analysis and total expenditure (Totex) considerations have changed the way operations view capital projects to replace pump systems and plant. The rising cost of energy, government levies imposed on CO2 production and the expense of service outages mean that, in most instances, capital cost is barely 10% of the total life cycle spend.

Incorporating both split case and vertical suspended bowl pumps, SPP Pumps' Lowest Life-cycle Cost range has been engineered to provide the most efficient, minimal maintenance, lowest cost solution over a pump's typical 25-year lifetime. Benefits include:

- Superior operating and energy efficiency
- Extended bearing and seal life expectancy
- Minimised shaft deflection across a wide operating range
- Ease of maintenance designed-in

With energy costs alone accounting for up to 90% of Totex, annual power and CO2 savings with lowest life-cycle products, especially for large pump systems that run continuously, are substantial. For example, a 1% efficiency improvement on a 200kW pump will save per annum the CO2 equivalent to a car driving 20,000 miles.

*BPMA Data

RENEWED EFFICIENCY.

Following a UK factory performance test by SPP Pumps on one of three steel roll coolant pumps, a major UK steel producer discovered operating efficiency was only 73%. With all three pumps now replaced, SPP Pumps expects to generate 20-year whole lifetime cost savings of £1,615,000; 84.2% overall efficiency; and a payback period of just 63 weeks. Installation was completed during routine plant shutdown. After 4 years, the cartridge mechanical seals in all pumps remain leak-free, further reducing maintenance costs.

PROVIDING VISIBILITY FOR INSTALLED PUMP EQUIPMENT, SPP PUMPS' CONDITION MONITORING SYSTEMS PINPOINT EFFICIENCY AND PERFORMANCE DEGRADATION, HELPING TO IDENTIFY AND MINIMISE ENERGY WASTE.

SPLIT CASE PUMPS

Delivering all the efficiency benefits of Lowest Life-cycle Cost Series engineering, SPP Split Case Pumps combine robust hydraulic performance with the lowest cost of ownership.

With the benefit of a high quality stainless steel impeller, rigid stainless steel shaft, reduced bearing span and coated internals, the range maximises efficiency and reduces performance degradation and component wear. Maintenance free spacer couplings on both horizontal and vertical configurations enable drive end seal replacement without disturbing the motor.

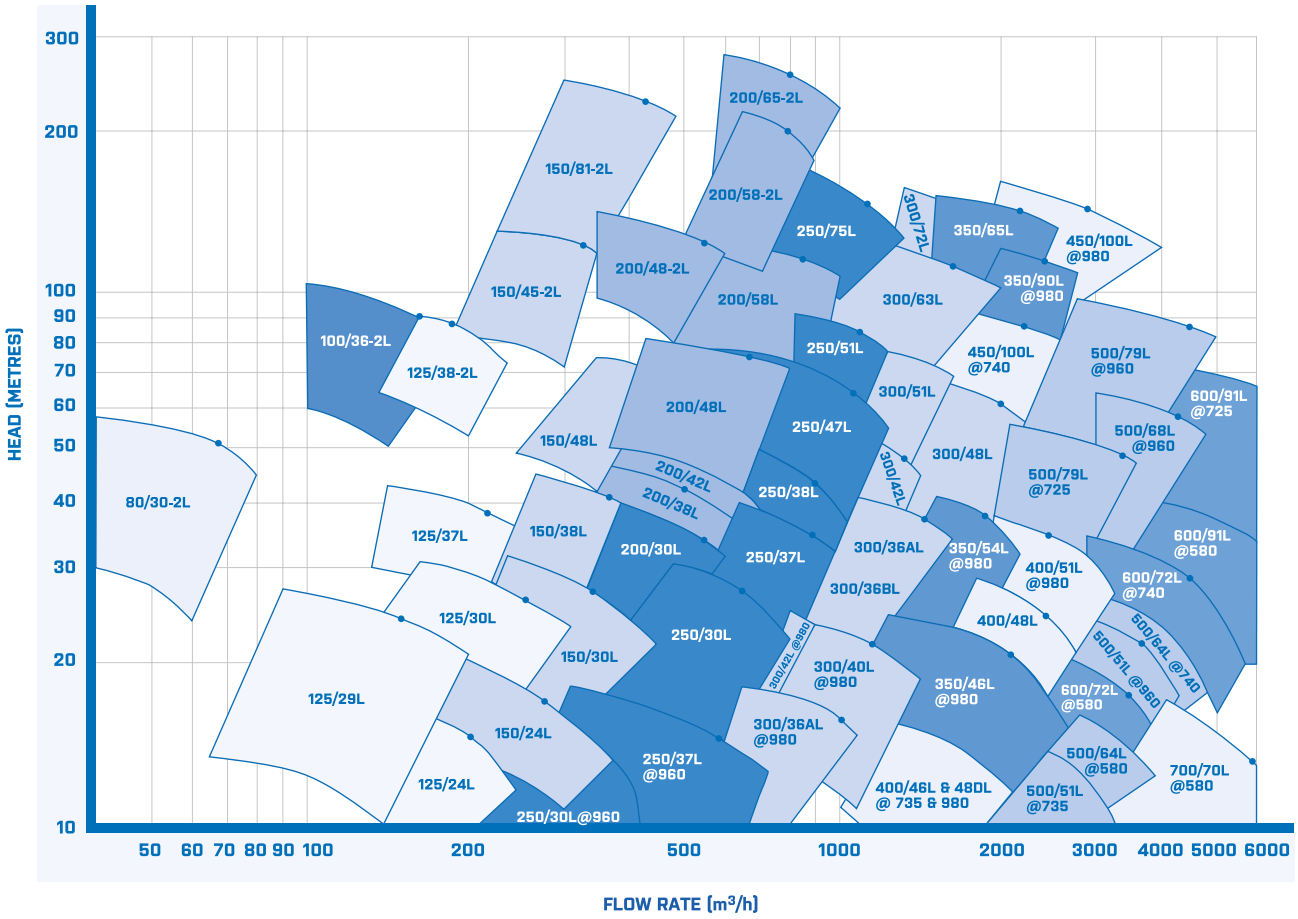
CONFIGURATION

Horizontal, vertical open shaft; vertical direct mounted electric motor or horizontal engine drive

PERFORMANCE AND CAPACITY

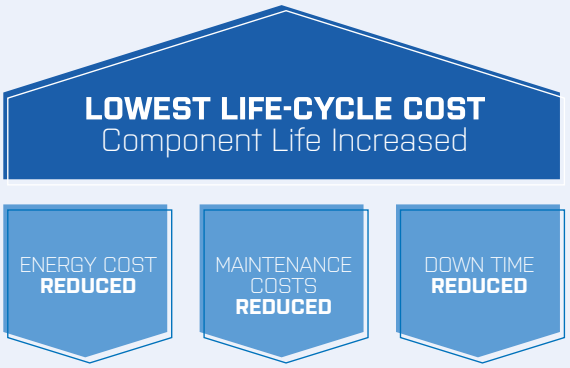
Flow Rates:	Up to 6500 m3/hr
Heads:	Up to 270 m
Liquid Temperature:	- 10°C to 80°C Standard Build (Optional up to 120°C)
Ambient Temperature Range:	- 10°C to 45°C
Maximum Solids Content:	1,000 ppm (fines)
Maximum Suction Pressures:	Mechanical Seal 14 barg Soft Packed Gland 5 barg

PERFORMANCE AT 50HZ UP TO 1500RPM



STANDARD MATERIALS OF CONSTRUCTION

Casing:	Cast Iron*
Impeller:	Stainless Steel
Wear Rings:	Cast iron / Zinc Free Bronze
Shaft:	Stainless Steel



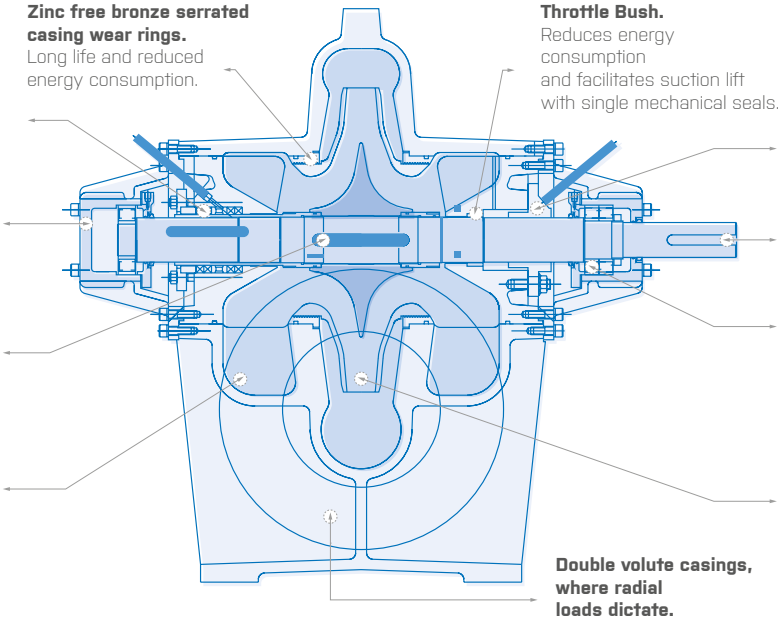
Universal seal chamber.
Accepts most commercially available single or double cartridge mechanical seals or traditional gland packing.

Externally removable bearing housing.
Ease of maintenance. Bearings and seals can be replaced without removing top half casing.

Impeller positively locked and key to pump shaft.
Easily removable and positively driven.

Efficiency enhancing drinking water approved coating.
Standard on water industry applications, optional for industrial pumps.

Zinc free bronze serrated casing wear rings.
Long life and reduced energy consumption.



Throttle Bush.
Reduces energy consumption and facilitates suction lift with single mechanical seals.

Double volute casings, where radial loads dictate.
Enhanced bearing life

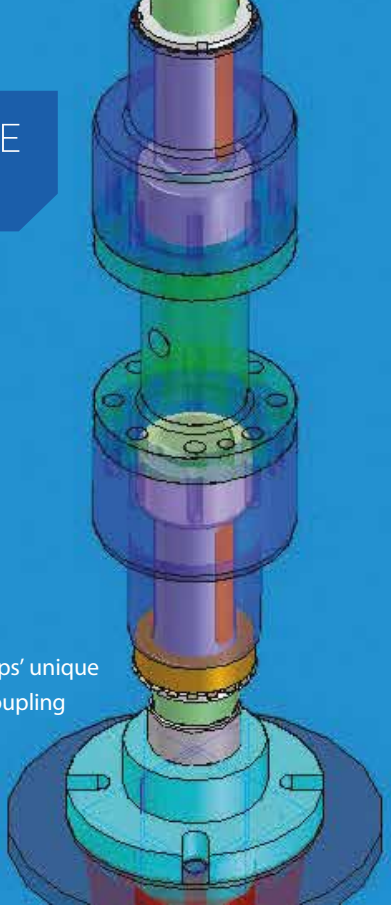
Customer specified mechanical seals.
Site standards and customer specified options accommodated.

Corrosion resistant rigid stainless steel shaft as standard.
Increased bearing and shaft life.

API type double row thrust bearing assembly.
L10 life in excess of 50,000 hours under all design load conditions.

Precision casting in austenitic stainless steel as standard.
Increased component life.

LOWEST LIFE-CYCLE COST SERIES



SPP Pumps' unique spacer coupling

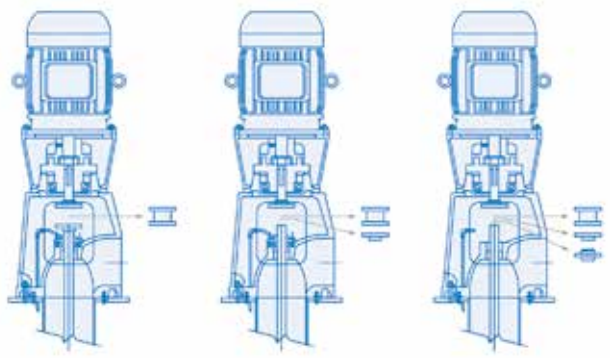
OPTIMISED PERFORMANCE.

UK utility company Yorkshire Water wished to review, re-specify and replace a total of eight pumps at its Moor Monkton and Wetherby Pumping Stations. SPP Pumps analysed the needs, recommending and fitting a Low Lifetime Cost upgraded pump design with an enhanced operating efficiency of 85.8%.

VERTICAL TURBINE PUMPS

Designed for maximum ease of maintenance and exploiting advanced Lowest Life-cycle Cost Series technology and materials, SPP Vertical Turbine pumps are optimised for efficiency and lasting reliability.

Cartridge mechanical seals are easily removed, inspected or replaced without dismantling the headpiece or removing the thrust bearing or driver thanks to an innovative spacer coupling that sits between the thrust assembly and seal chamber. High quality components including stainless steel impellers and shafts guarantee durability and stainless muff couplings aid assembly/disassembly whilst reducing the risk of component damage.



REMOVE SPACER

REMOVE PUMP SHAFT COUPLING

REMOVE MECHANICAL SEAL

Heavy duty thrust bearing assembly Anti-friction or Michell type thrust bearings dependant on load. Minimum L10 life in excess of 50,000 hours under all design load conditions.

Spacer coupling as standard Facilitates removal of cartridge type mechanical sealswithout disturbing thrust bearings assembly or driver and negates the need for expensive split mechanical seals.

Mechanical seals or Soft packed. Site standards and customer specified options.

Drinking water approved coatings. Available for water industry applications.

Stiff shaft construction. Pumps designed to operate below first critical speed. Enhances bearing life and facilitates variable speed operation.

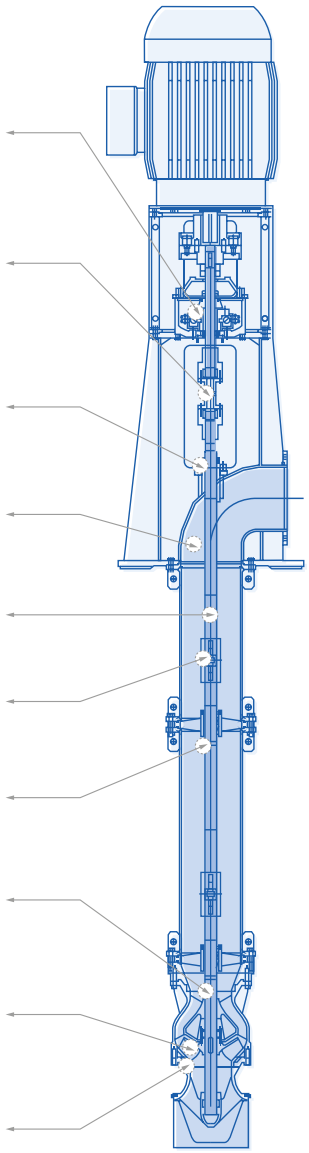
Keyed muff couplings fitted as standard. Easliy removable, unlike lower cost screwed couplings.

Hard stainless steel shaft sleeves as standard. Renewable hardened sleeves enhance shaft life.

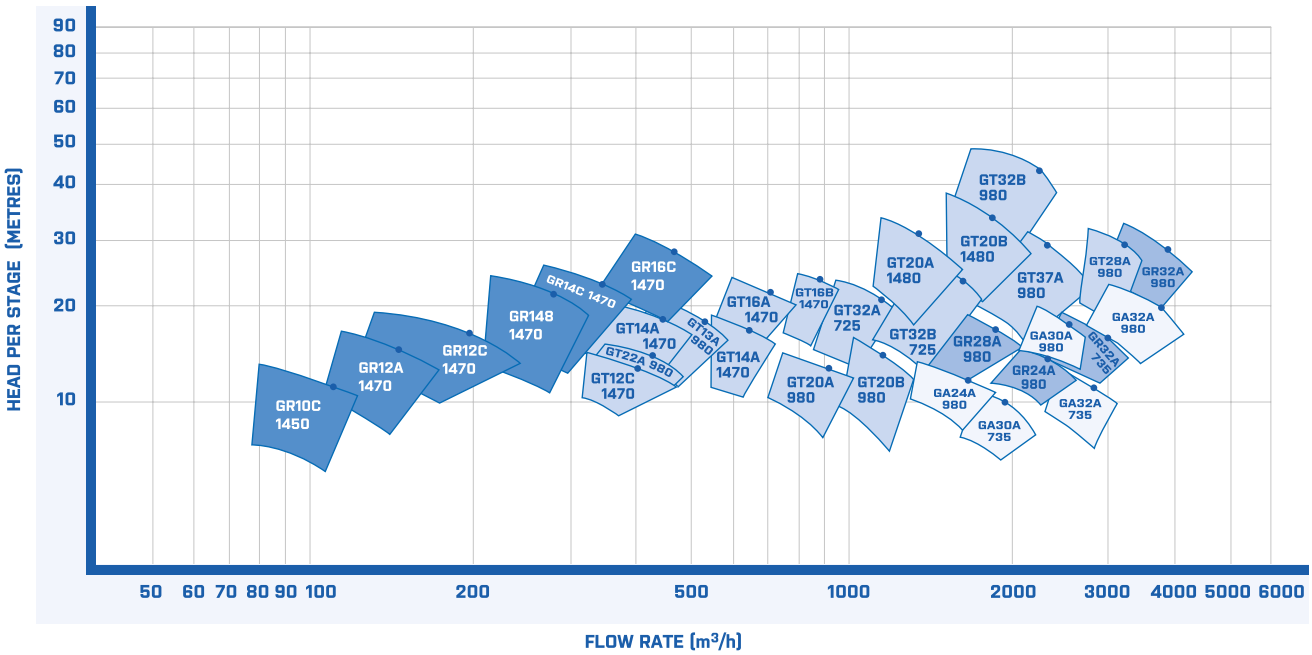
Corrosion resistant rigid stainless steel pump shaft as standard. Increased bearing and shaft life.

Precision casting in austenitic stainless steel as standard. Superior hydraulic performance and increased component life.

Zinc free bronze serrated wear rings. Long life and reduced energy consumption.



PERFORMANCE AND CAPACITY 50HZ UP TO 1500RPM



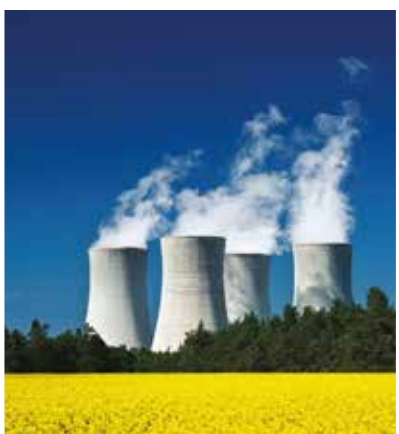
PERFORMANCE AND CAPACITY

Flow Rates:	Up to 4000 m3/hr
Heads:	Up to 200 m
Liquid Temperature:	- 10°C - 80°C
Ambient Temperature Range:	- 10°C to 45°C
Maximum Solids Content:	2,000 ppm (fines)

STANDARD MATERIALS OF CONSTRUCTION

Bellmouth Inlet:	Cast Iron*
Bowls:	Cast Iron*
Impellers:	Stainless Steel
Wear Rings:	Cast Iron / Zinc free Bronze
Shaft:	Stainless Steel
Shaft Sleeves:	Hardened Stainless Steel
Column Shaft Bearings:	Drinking Water Approved non-metallic bushes
Column Pipes:	Carbon Steel
Headpieces:	Carbon Steel
Thrust Bearing Assembly:	Anti-friction or Michell type thrust bearings
Strainer:	Stainless Steel

* Non-standard material options available, consult SPP Pumps for alloy irons, bronzes or stainless and duplex steels

END SUCTION PUMPS

SPP's End Suction pumps for water applications are specifically developed to meet the varied duty and unique compliance needs of different water industry markets worldwide.

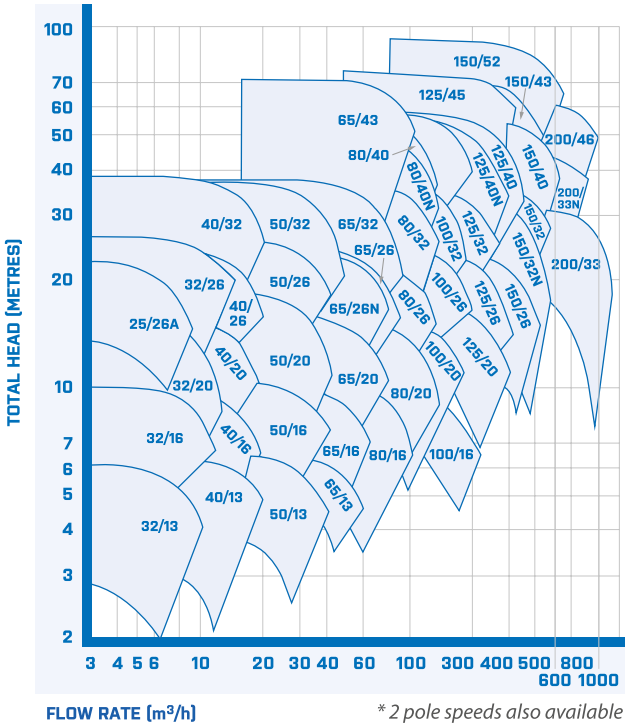
Comprising horizontal shafts with an overhung impeller and grease or oil lubricated bearings, the space-saving end suction configuration is well proven and used extensively in a variety of applications. Designed to EN 22858 (ISO 2858) and ISO 5199, the pumps are mechanically sealed and feature stainless steel impellers. All materials meet the DWi/WRAS compliance necessary for use in water applications and a back pull out design with spacer coupling allows ready access to the impeller.

STANDARD MATERIALS OF CONSTRUCTION

Casing	*Cast Iron
Impeller	Stainless Steel
Shaft	Stainless Steel
Wear rings	Stainless Steel
Shaft seal	Cartridge Mechanical Seal

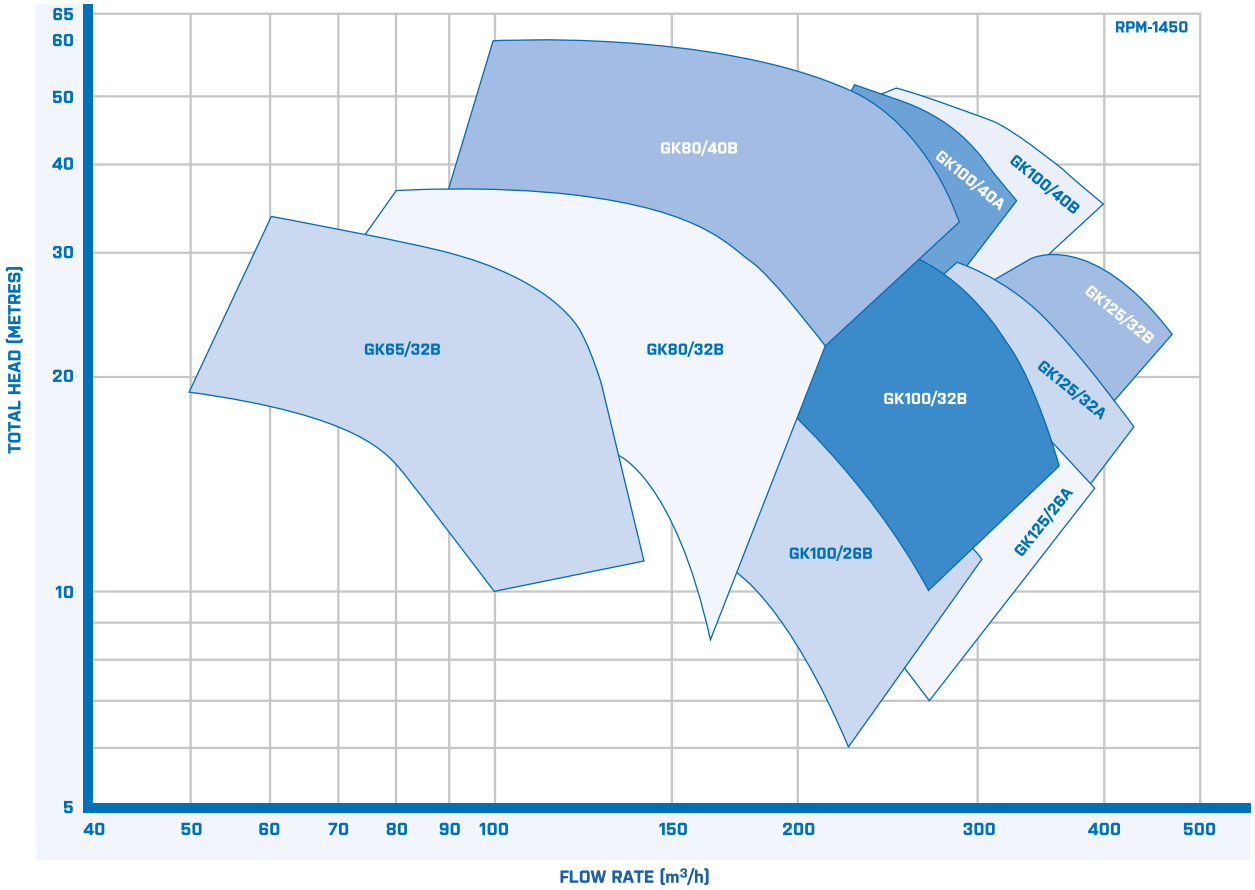
* Non-standard material options available, consult SPP Pumps for alloy irons, bronzes or stainless and duplex steels

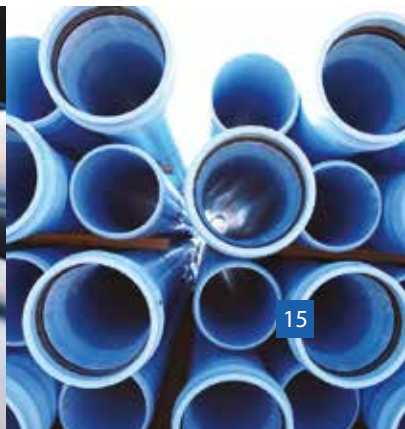
GK (P) PROCESS PUMP AT 1450 RPM



** 2 pole speeds also available*

GK (W) AT 1450 RPM





WASTE WATER/
STORM WATER PUMPS

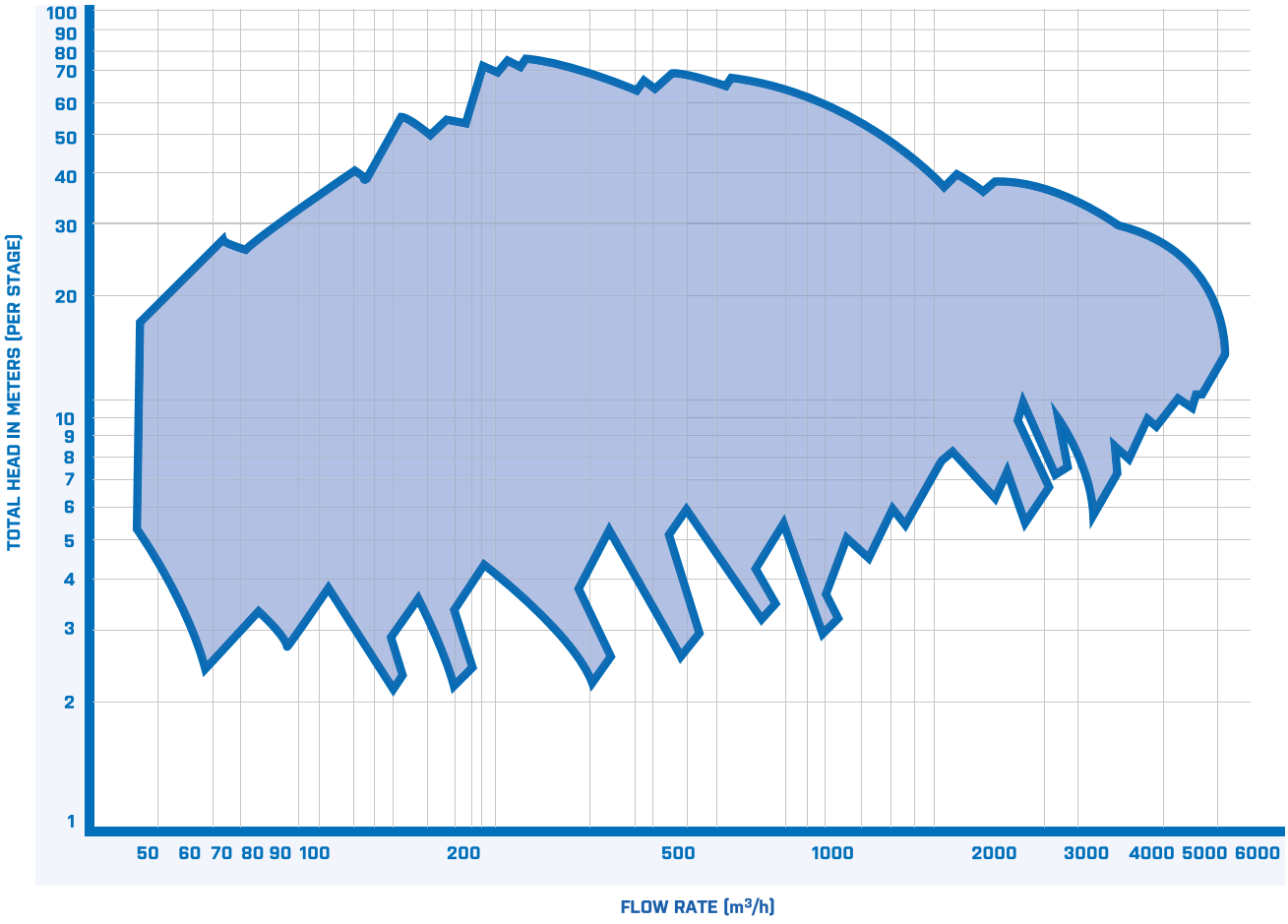
Pump reliability, performance and ease of maintenance are all critical attributes for managing waste and storm water. SPP Pumps solutions combine innovative design with a proven pedigree in many critical applications - including major flood prevention schemes - around the world.

Large vertical suspended bowl pumps, available in a variety of material combinations and having mechanical sealed or soft packed glands. Lineshaft bearings can be self-lubricated or on erosive applications clean water flushed to extend operational life.

CONFIGURATION

Vertical suspended bowl, wet well or dry well mounted, above floor or below floor discharge.

PERFORMANCE RANGE AT 50HZ



PUMPS AS TURBINES

Small hydro-electric power production provides a convenient, cost-effective source of renewable energy. SPP Pumps has extensive experience of designing and delivering highly efficient Pump as Turbine (PaT) solutions capable of rapid return on investment.

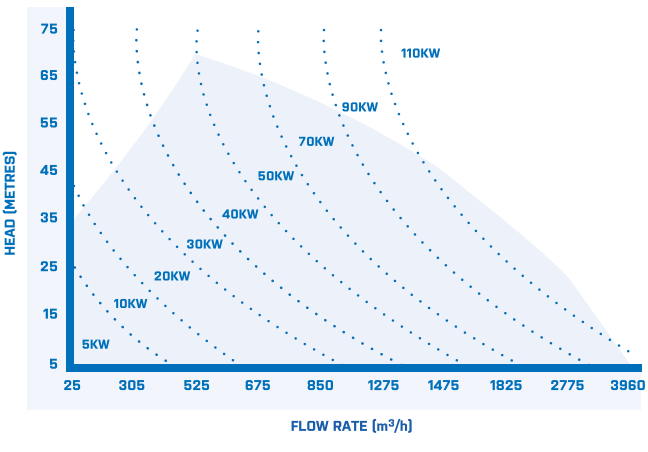
The pressure differential (head) of a water flow provides the opportunity to recover energy in the process.
A Pump as Turbine can be used to generate electricity that is fed back into the national grid network, directed for local supply, or even used directly to drive additional rotating equipment. With many years of advanced turbine engineering experience, SPP Pumps offers field-proven, affordable, low maintenance products based on simple, readily-available components and spares.

CONFIGURATION

End suction, split-case & multistage ring section pumps, in either horizontal or vertical configuration.

PUMP AS TURBINE RANGE CHART

With indicative power outputs



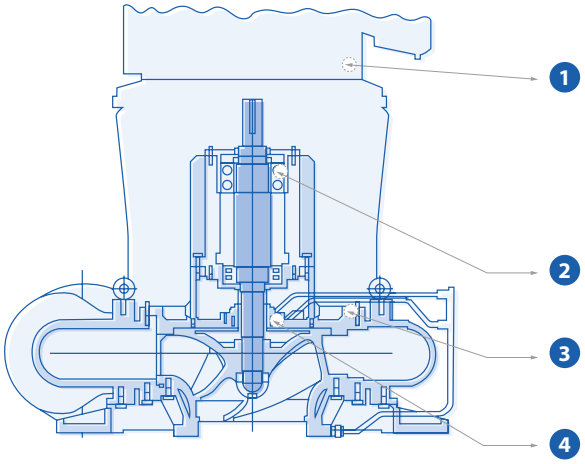
SEWAGE PUMPS

SPP Dry Well Sewage pumps are designed to deal effectively with a wide range of diverse, typically solid or rag-laden substrates including raw sewage, screened sewage, storm water and fibrous liquids.

Dry well pump configurations for sewerage are well-proven to deliver greater longevity and reliability than submersible counterparts. SPP Pumps' design approach features low speed impellers. By reducing leading edge velocities, the pumps offer exceptional durability and wear resistance.

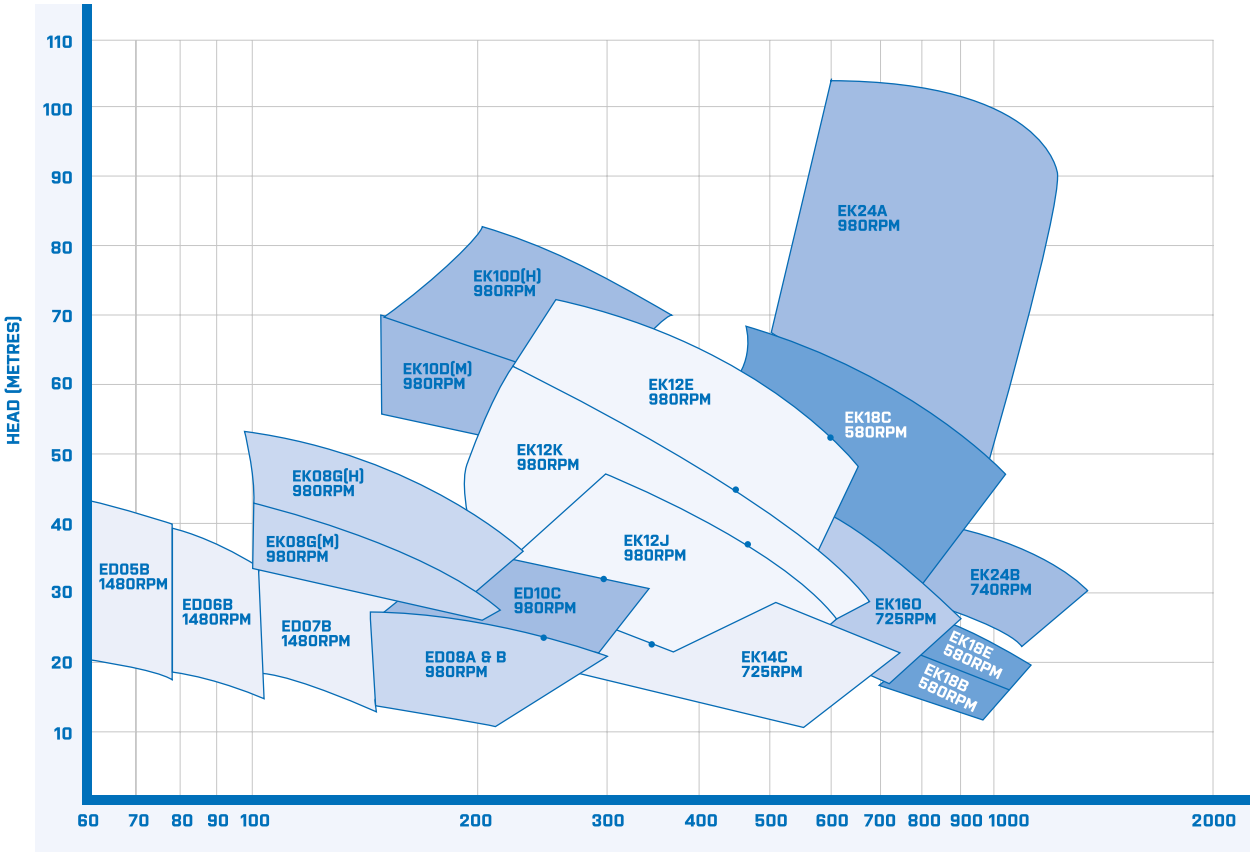
CONFIGURATION

Dry well; vertical open shaft, vertical direct mounted motor, horizontal baseplate mounted



1. Separate Pump and Motor
2. Pump rotating element and hydraulic loads taken by pump bearing assembly, not motor bearings
3. Back pullout design
4. Double cartridge mechanical seal option

PERFORMANCE AT 50HZ



MULTI-STAGE PUMPS

Ideal for high head applications, SPP's range of Horizontal and Vertical Multistage pumps is designed for applications that require a heavy duty long life pump.

A variety of construction material options and generously rated bearings meet the demands of both water and industrial applications. CFD-tuned hydraulics and state of the art manufacturing techniques optimise efficiencies and minimise running costs, whilst rigid, heavy duty, fabricated-steel baseplates prevent distortion.

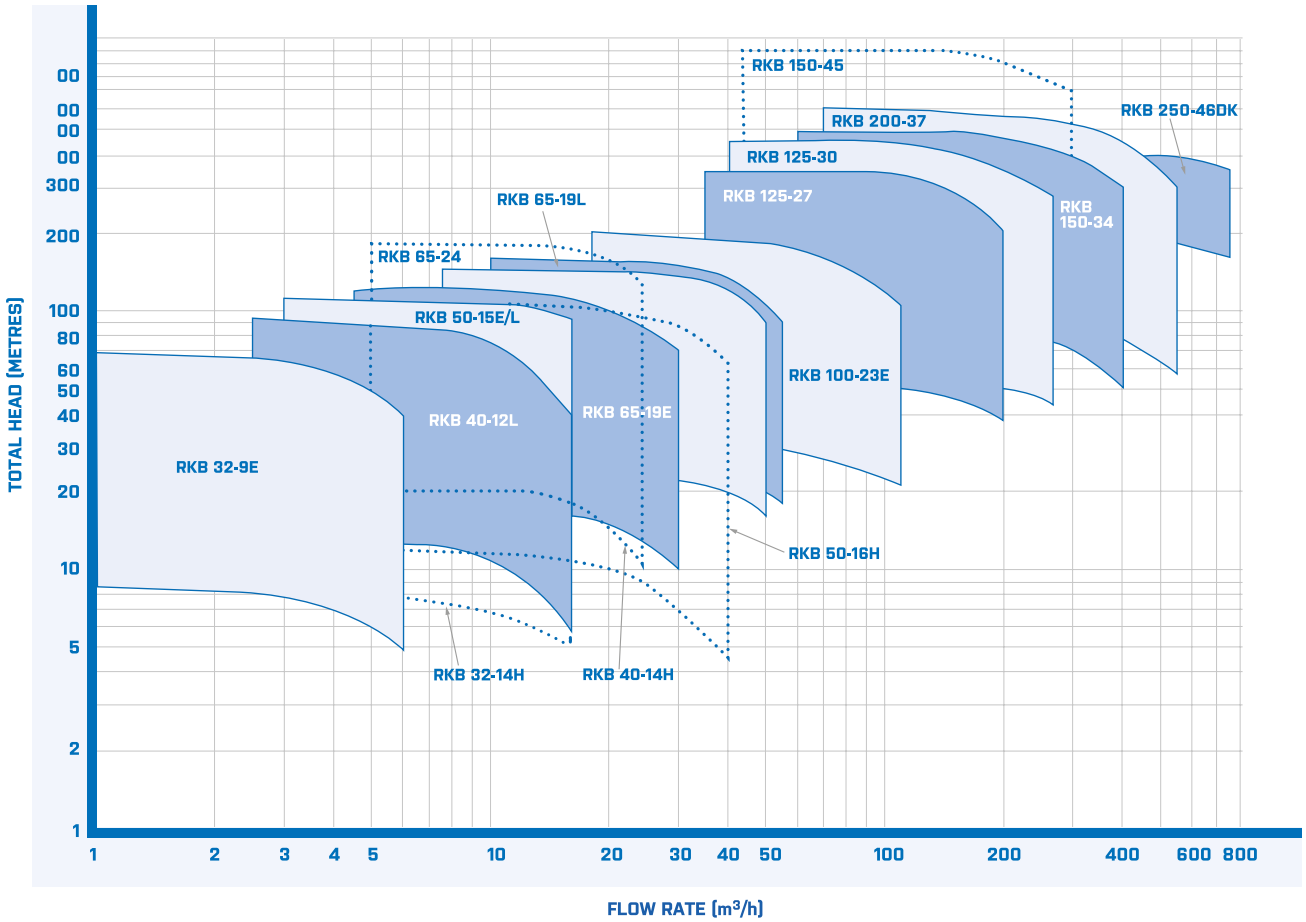
CONFIGURATION

Ring section diffuser casings in either horizontal or vertical configuration.

MATERIAL OPTIONS

Casing	C.I	Bronze	Ni-resist	Cast Steel	Duplex
Diffuser	C.I	Bronze	Ni-resist	Cast Steel	Duplex
Impeller	C.I	Bronze	Ni-resist	Cast Steel	Duplex
Shaft	H.T.S	St.St	St.St	St.St	Duplex
Wear rings	C.I	Bronze	Z.F.B	C.S	St.St
Shaft Sleeves	St.St	Bronze	St.St	St.St	Duplex

PERFORMANCE AT 50HZ, 1450RPM



PACKAGED BOOSTER SETS:

SPP PUMPS HYDROBOOST

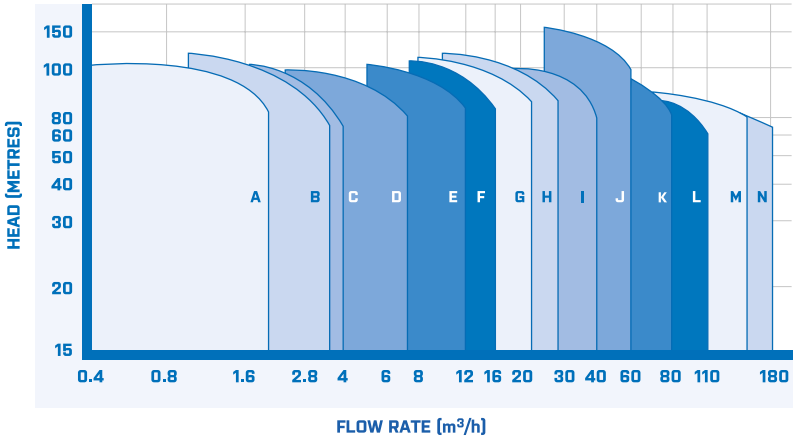
SPP Pumps Hydroboost is a comprehensive new range of fixed and variable speed booster sets. Designed and engineered specifically for use in the water utility sector, booster sets guarantee both the flow and water pressure needed for each application.

Incorporating WRAS-compliant components throughout, sets include all stainless steel vertical multistage pumps and stainless steel suction and delivery manifolds. Fitted with IE3 high efficiency motors, the set assembly is mounted onto a heavy duty engineered stainless steel baseplate. Dependant on the application, booster sets can be supplied with a local control panel or a form 4 panel. Available flow range is 0.5l/s to 70l/s, with a head capacity up to 232m.

CONFIGURATION

All stainless steel vertical multistage pumps and stainless steel suction and delivery manifolds.

PERFORMANCE AT 50HZ



AUTOPRIME PUMPS

Offering a choice of hydraulic designs, pumps in the SPP Pumps Autoprime range provide a cost effective, self-priming pump package for clean and dirty water applications.

With significant proven reliability in the de-watering and contractors market, the Autoprime range has many innovative features. The integrated self-priming system enables the range to be used in applications where automated priming on a suction lift system is necessary.

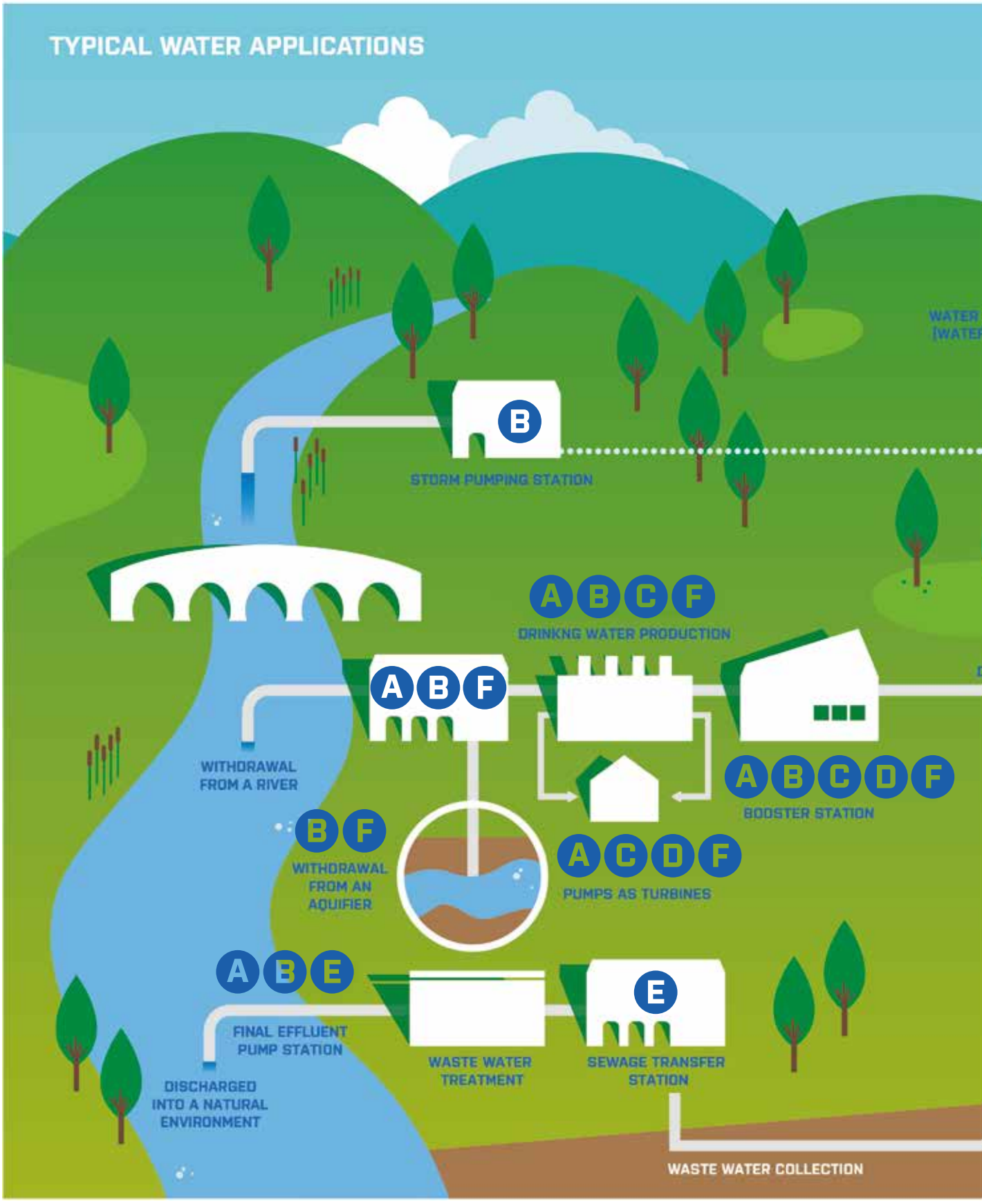
The spiral vane impeller option makes the Autoprime suitable for use in wastewater and sludge applications. Where used in clean water systems, split case and end suction pumps with DWi/WRAS approved materials are available to ensure regulatory compliance.

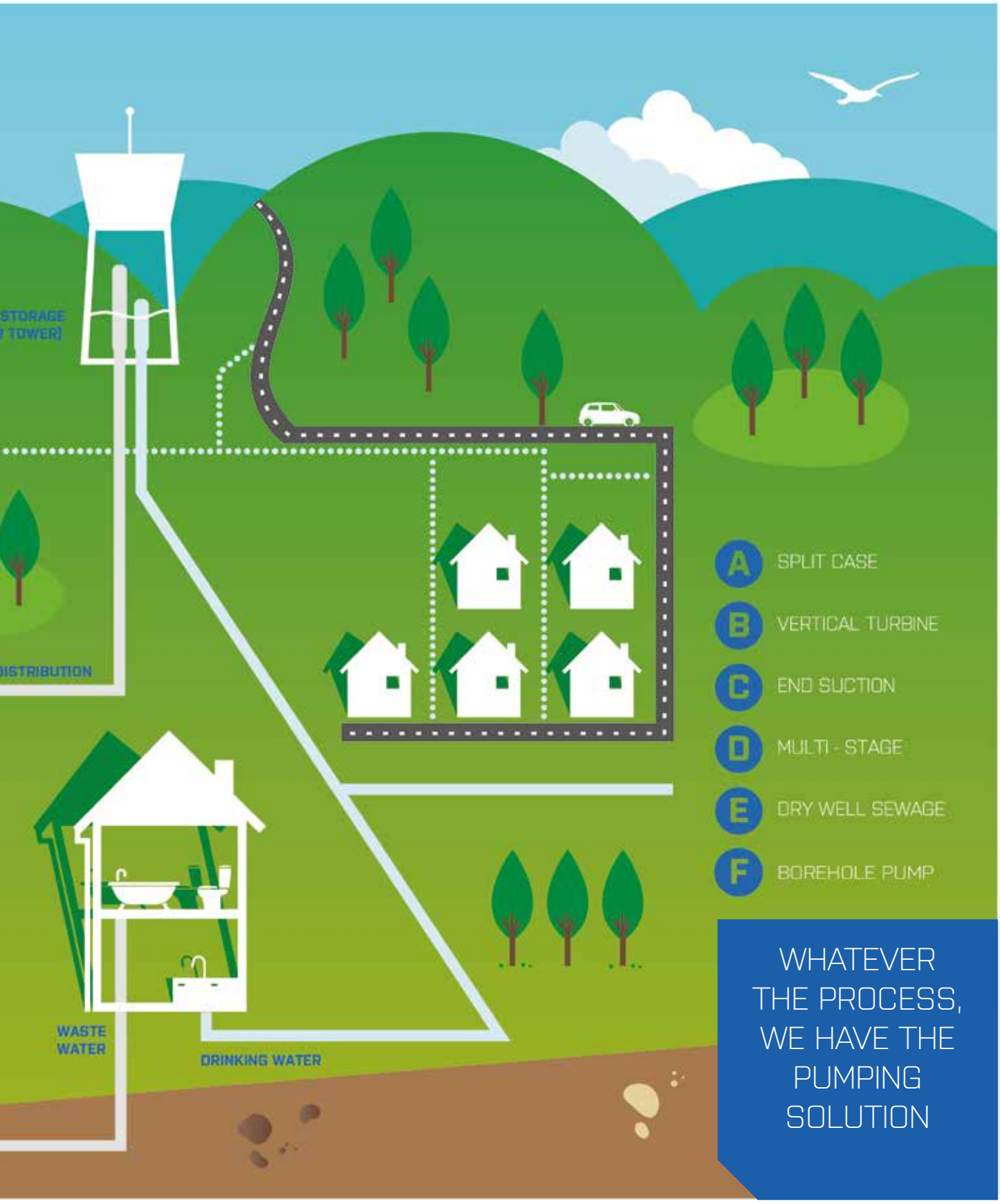
CONFIGURATION

Horizontal baseplate mounted electric motor driven

THE WATER TREATMENT CYCLE

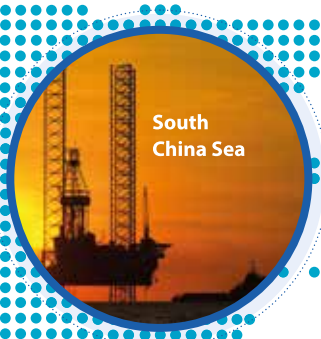
WHERE CAN SPP PUMPS SOLUTIONS SUPPORT YOUR WATER BUSINESS?





WHATEVER THE PROCESS, WE HAVE THE PUMPING SOLUTION

DELIVERING PERFORMANCE ACROSS THE WORLD



TOTAL COMMITMENT

At SPP Pumps we are committed to providing the very best in customer service support, it's what we pride ourselves upon. Customer support is our business. We have built our reputation by providing a fast, cost effective service whilst maintaining continually high standards of workmanship and quality. Available to you 24 hours a day, 365 days a year, we are only a phone call away.

www.spppumps.com | water@spppumps.com | tel: +44 (0) 118 932 3123

Certificate No. 111
ISO 9001: 2015

SPP PUMPS

PROTECTING LIFE. IMPROVING LIVES.