



SPX INDUSTRIAL PROCESSES

Pumping Solutions for Reverse Osmosis Desalination

INNOVATION, DESIGN, MANUFACTURE + AFTERMARKET
SERVICES: PUMPING SOLUTIONS FOR A BETTER WORLD

> ClydeUnion Pumps



SPX - An introduction

SPX is a Fortune 500 multi-industry manufacturing leader, headquartered in Charlotte, North Carolina. SPX manufactures and markets products, components, services and technologies that are integral to meeting today's challenges and tomorrow's needs. We are a place where innovation is fostered, and the real needs of business are understood. We transform ideas into powerful solutions to help our customers meet their goals, overcome business challenges and thrive in a complex, always changing marketplace.

SPX's Flow Technology segment designs, manufactures and markets engineering solutions and products used to process, blend, meter and transport fluids. We also offer equipment for air and gas filtration and dehydration. Our leading brands have global operations which service the food + beverage, power + energy, and industrial processes.

SPX INDUSTRIAL PROCESSES

CLYDEUNION PUMPS, AN SPX BRAND - GENERATIONS OF EXPERIENCE

Whilst the name is relatively new, the ClydeUnion Pumps brand is known worldwide for supplying reliable and robust engineered pumping solutions stemming from over 140 years of industry expertise. Our experience spans across several complex industries including oil and gas, nuclear and conventional power generation, desalination and other key markets relevant to our product portfolio.

› ClydeUnion Pumps



Weir Pumps - Clyde Pumps - Mather & Platt -
Drysedale - WH Allen - Girdlestone -
Allen Gwynnes - Harland



Union Pump - David Brown Pumps
DB Guinard Pumps - American Pump - Pumpline



› ClydeUnion Pumps



Driven by customer satisfaction

ClydeUnion Pumps, an SPX Brand, understands the needs of the desalination market. After its formation in 2008, ClydeUnion Pumps brought together engineering expertise and experience from throughout its global organisation to create a specialist team focused solely on serving the desalination industry and meeting its specific requirements. ClydeUnion Pumps delivers best efficiency, performance and quality at market leading pricing.

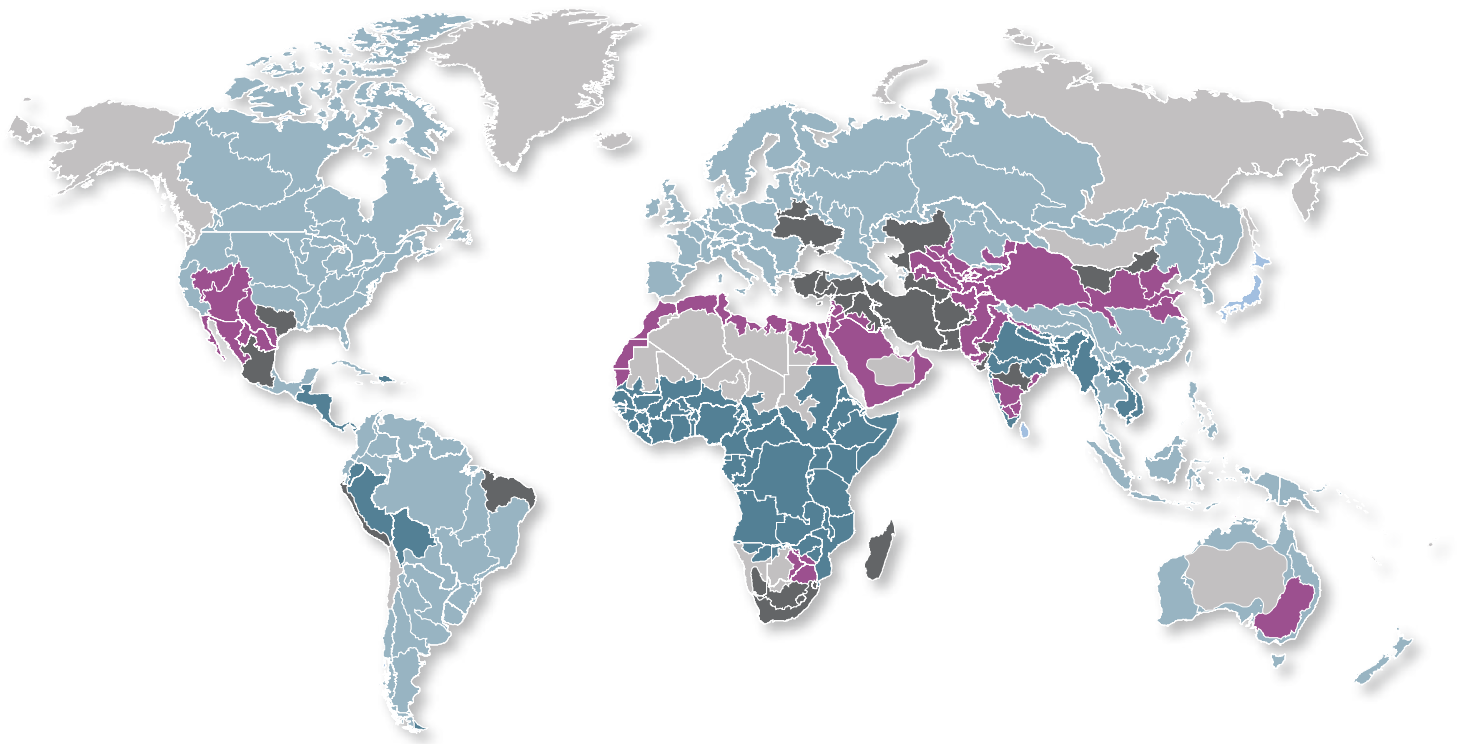
The company is strategically aligned with customers' requirements and is fully committed to the working practices, and demands

of scheduling, efficiency and reliability, prevailing within the desalination industry. This allows ClydeUnion Pumps to build considerable advantages into the services offered.

Within the desalination market, ClydeUnion Pumps offers a comprehensive range of products to cover all applications from intake pumps through to product distribution and pipeline pumps. ClydeUnion Pumps is the complete one-stop-shop pump provider for all your needs.



HPRO PUMP



Water availability map

More than 70% of the Earth's surface is covered by water. Fresh water constitutes only 2.7% of the total water available on Earth, of which less than 1% is readily accessible for direct human use. It is estimated that the world's water consumption rate will exceed its supply by over 50% to 2025.

WATER AVAILABILITY MAP KEY

LITTLE OR NO WATER SCARCITY

PHYSICAL WATER SCARCITY

APPROACHING PHYSICAL WATER SCARCITY

ECONOMIC WATER SCARCITY

NOT ESTIMATED





Desalination - a global requirement supported by ClydeUnion Pumps

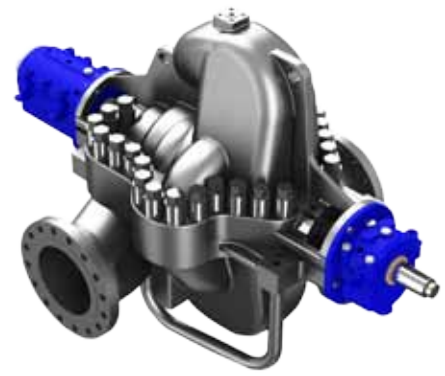
ClydeUnion Pumps, an SPX Brand, understands the growing needs for fresh water and its impact on the environment and global economy. ClydeUnion Pumps focuses on the desalination market as a key area for cutting-edge technology and continuous improvement.

ClydeUnion Pumps is proud to present a comprehensive range of pumps for desalination plants covering all applications from seawater pre-treatment to fresh water distribution into pumping stations. ClydeUnion Pumps is a world leader in the supply of reliable pumping solutions. Through a culture of engineering excellence and a customer-centred approach, ClydeUnion Pumps has positioned itself at the cutting edge of pump design in the desalination market.

DESALINATION FILTERS

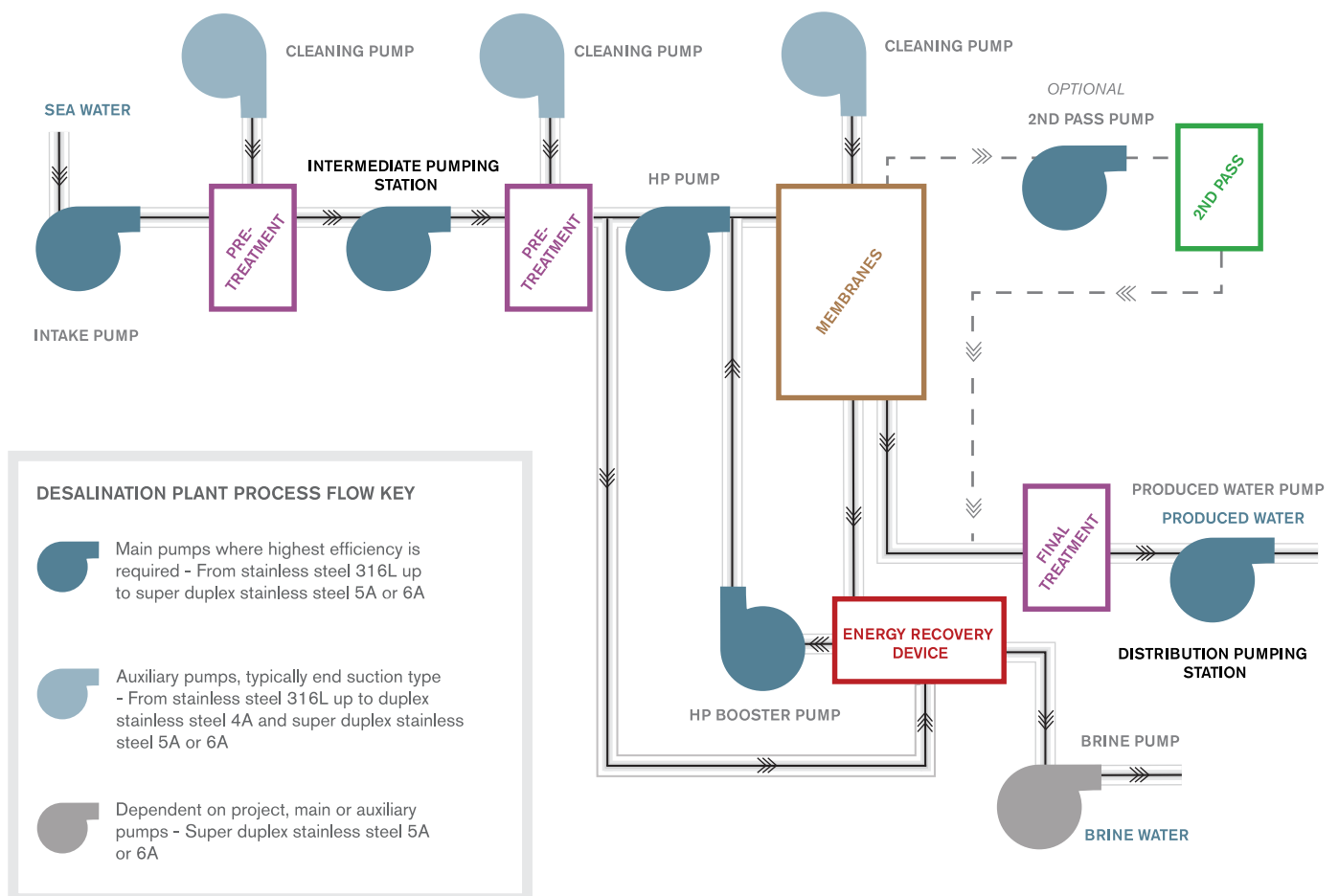
ABOVE: PERTH DESALINATION PLANT, CONTRACT AWARDED TO CLYDEUNION PUMPS FOR ITS CUP-OH4 (VHK), CUP-BB3 DESAL + UNIGLIDE CENTRIFUGAL PUMPS

UNIGLIDE-E PUMP
SUPER DUPLEX,
VERTICAL
ARRANGEMENT +
CUP-BB3 DESAL



Reverse Osmosis Desalination

Reverse Osmosis (RO) Desalination is a viable and cost effective technique used to meet fresh water needs as the population increases by 2% per year and simultaneously counterbalances the decrease in conventional resources available. RO Desalination uses electrical energy to feed the drive pump motors which are essential in the process. ClydeUnion Pumps is fully qualified to install pumps on RO Desalination plants and ensures the coverage of all stages of the RO Desalination process, from the seawater pre-treatment to the distribution of produced water.



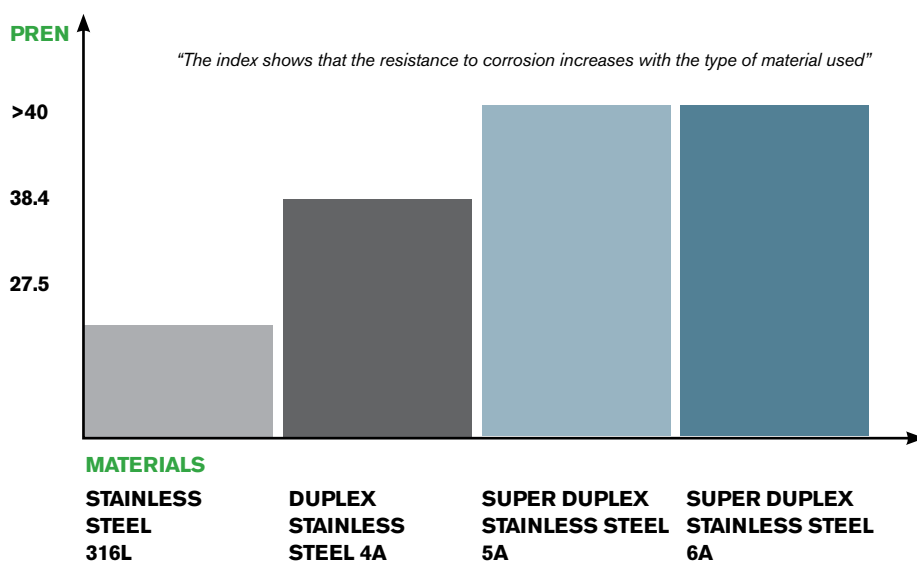


IRRIGATION FIELD + CUP-OH4 (VHK) PUMP



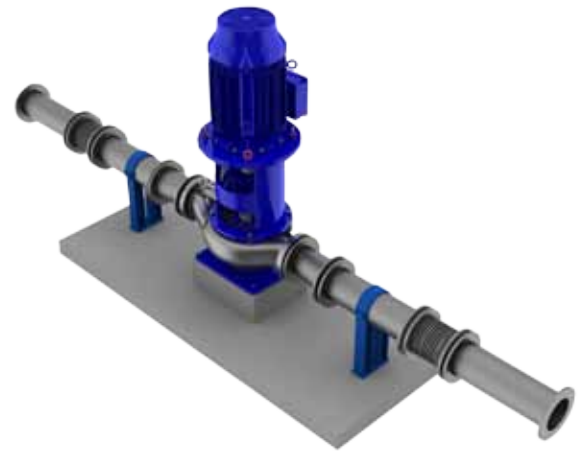
ClydeUnion Pumps expertise applied to the desalination industry

PITTING RESISTANCE EQUIVALENT NUMBER (PREN) V MATERIALS



CUTTING - EDGE MATERIALS TO MAXIMISE DESALINATION PUMPS RELIABILITY

ClydeUnion Pumps, through its heritage links, understands the desalination market and other arduous sea water applications where pumps can be affected by stress corrosion cracking, crevice corrosion and pitting in chloride bearing environments. Through continuous investment in R&D, ClydeUnion Pumps ensures correct material selection to overcome the issues of corrosion and abrasion.



Product ranges

Product ranges

	CUP DESIGNATION	FLOWS UP TO M ³ /HR	USGPM	HEADS UP TO M	FT	INTAKE PUMP	BOOSTER PUMP	HP PUMP	HP BOOSTER (ERD) BOOST PUMP	INTERSTAGE PRESSURE 2ND PASS PUMP	BRINE PUMP	PRODUCED WATER PUMP	CLEANING + FLUSHING
SINGLE + TWO STAGE PUMPS						PUMP SOLUTIONS							
Single stage end suction pump	Isoglide	1,000	4,400	200	670								
Single stage large end suction pump	Aquaglide	10,000	44,000	200	670								
Single stage axially split between bearings pump	Uniglide - e	4,000	17,600	200	670								
Single / two stage axially split between bearings pump	Uniglide	20,000	88,000	200	670								
Two stage axially split between bearings pump	Duoglide - e	1,350	5,950	275	910								
Two stage axially split between bearings pump	Duoglide	2,500	11,000	320	1,050								
Single stage vertical in-line pump	CUP-OH4 (VHK)	1,365	6,000	335	1,100								
Single stage end suction pump	CUP-OH2 - HHS	1,365	7,200	400	1,310								
MULTI-STAGE PUMPS													
Multistage - radially split diffuser pump	HPRO	3,000	13,212	800	2,660								
Multistage axially split	CUP-BB3 Desal	2,750	12,000	800	2,660								
Submersible motor driven pump	Ulectriglide	3,400	15,000	200	670								
Vertical turbine pump	SBWM	40,000	176,000	100	330								
RECIPROCATING PUMPS													
Power driven small (single acting plunger) - simplex/duplex/triplex	Small Power	17	75	6,900	23,000								
Power driven medium (single acting plunger) - triplex/quintex	Medium Power	87	385	6,900	23,000								
Power driven large (single acting) - triplex/quintex	Large Power	146	645	6,900	23,000								
Power driven geared (internally geared)	Geared Power	142	625	5,200	17,300								

ClydeUnion Pumps, an SPX Brand, product detail - single + two stage pumps

ISOGLIDE

The ClydeUnion Pumps Isoglide range of end suction pumps complies with international standard ISO 2858. The modular design of this range ensures minimal spares holding and optimum delivery times can be achieved.

APPLICATION

- Intake pump
- Brine pump
- Booster pump
- Cleaning + flushing pump

AQUAGLIDE

Aquaglide is a large end suction pump, developed for high capacity water pumping applications. Tailored to your needs, Aquaglide covers duties from 250 m³/hr to 10,000 m³/hr.

APPLICATION

- Intake pump
- Brine pump
- Booster pump
- Cleaning + flushing pump

UNIGLIDE-E

Developed following major consultation with end users the Uniglide-e is our latest generation of axially split double entry pumps, providing highest efficiency, total reliability and reduced through life costs. It is available in horizontal and vertical arrangements.

APPLICATION

- Intake pump
- Brine pump
- Booster pump
- Produced water pump
- 2nd pass pump
- Cleaning + flushing pump

UNIGLIDE

Uniglide is an engineered to order axial split, double suction pump. This traditional range is available in large capacities up to 20,000 m³/hr / 88,000 USgpm.

APPLICATION

- Intake pump
- Brine pump
- Booster pump
- Produced water pump
- 2nd pass pump
- Cleaning + flushing pump

TECHNICAL DATA

Capacity:	up to 1,000 m ³ /hr / 4,400 USgpm
Delivered head:	up to 120 m / 400 feet
Temperature:	up to 80°C / 180°F
Speeds:	up to 3,600 rpm
Flange drilling:	BS or ANSI



TECHNICAL DATA

Capacity:	up to 10,000 m ³ /hr / 44,000 USgpm
Delivered head:	up to 120 m / 400 feet
Temperature:	up to 80°C / 180°F
Speeds:	up to 1,500 rpm
Flange drilling:	BS or ANSI



TECHNICAL DATA

Capacity:	up to 4,000 m ³ /hr / 17,600 USgpm
Delivered head:	up to 200 m / 670 feet
Temperature:	up to 80°C / 180°F
Speeds:	up to 1,800 rpm
Flange drilling:	BS or ANSI



TECHNICAL DATA

Capacity:	up to 20,000 m ³ /hr / 88,000 USgpm
Delivered head:	up to 350 m / 1,100 feet
Temperature:	up to 80°C / 180°F
Speeds:	up to 3,600 rpm
Flange drilling:	BS or ANSI



DUOGLIDE

Duoglide is an axially split two stage pump. Designed for higher head / flow applications, Duoglide provides higher efficiency and lower maintenance than traditional ring section or high speed single stage pumps.

APPLICATION

- 2nd pass pump
- Intake pump
- Brine pump
- Booster pump
- Produced water pump

TECHNICAL DATA

Capacity: up to 2,500 m³/hr / 11,000 USgpm

Delivered head: up to 320 m / 1,050 feet

Temperature: up to 80°C / 180°F

Speeds: up to 1,800 rpm

Flange drilling: BS or ANSI



DUOGLIDE-E

Duoglide-e is the latest generation of axial split two stage pumps. The range has been developed using the latest 3D and FEA analysis software together with extensive consultation of major users, producing an advanced pump which will provide total reliability and reduced whole life costs.

APPLICATION

- 2nd pass pump
- Intake pump
- Brine pump
- Booster pump
- Produced water pump

TECHNICAL DATA

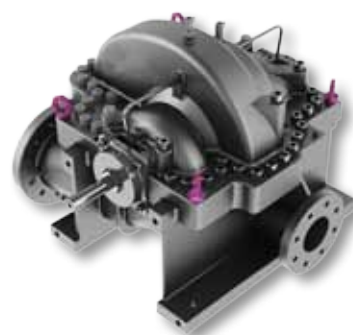
Capacity: up to 1,350 m³/hr / 5,950 USgpm

Delivered head: up to 275 m / 910 feet

Temperature: up to 80°C / 180°F

Speeds: up to 1,800 rpm

Flange drilling: BS or ANSI



CUP-OH4 (VHK)

CUP-OH4 (VHK) is an advanced design single stage vertical in-line centrifugal pump with exceptional flexibility and versatility to meet the requirements of a wide variety of pumping applications. CUP-OH4 (VHK) is designed for ERD boosting application with high suction pressure.

APPLICATION

- HP booster pump (ERD)
- Interstage pressure boost pump

TECHNICAL DATA

Capacity: up to 1,365 m³/hr / 1,100 USgpm

Delivered head: up to 335 m / 1,310 feet

Temperature: up to 80°C / 180°F

Speeds: up to 3,600 rpm

Flange drilling: BS or ANSI



CUP-OH2

CUP-OH2 is a heavy duty, single stage, radially split, overhung, end suction pump, designed and manufactured to the latest edition of API 610. CUP-OH2 is designed for ERD boosting application with high suction pressure.

APPLICATION

- HP booster pump (ERD)
- Product water pump

TECHNICAL DATA

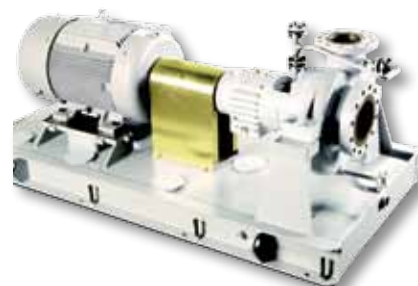
Capacity: up to 1,635 m³/hr / 7,200 USgpm

Delivered head: up to 400 m / 1,300 feet

Temperature: up to 80°C / 180°F

Speeds: up to 4,000 rpm

Flange drilling: BS or ANSI



ClydeUnion Pumps, an SPX Brand, product detail - multi-stage pumps

HPRO

The ClydeUnion Pumps HPRO (High Pressure Reverse Osmosis) pump is a radially split diffuser multi-stage pump designed specifically for the requirements of desalination plants. It features superior efficiencies and lower capital costs than equivalent pumps as well as numerous unique design features that ensure minimum through life costs and maximum reliability in service.

APPLICATION

- HP pump
- 2nd pass pump
- Produced water pump

TECHNICAL DATA

Capacity: up to 3,000 m³/hr / 13,000 USgpm
Delivered head: up to 800 m / 2,660 feet
Temperature: up to 180°C / 350°F
Speeds: up to 3,600 rpm
Flange drilling: BS or ANSI



CUP-BB3 DESAL

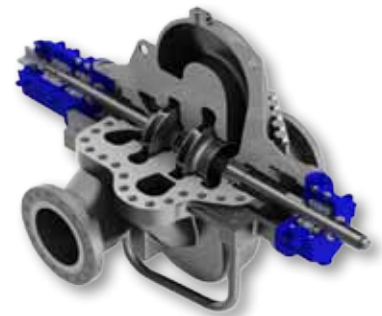
CUP-BB3 Desal is an axial split case horizontal pump with opposing impellers, designed for heavy duty, medium and high-pressure applications.

APPLICATION

- HP pump
- 2nd pass pump
- Produced Water pump

TECHNICAL DATA

Capacity: up to 3,000 m³/hr / 13,000 USgpm
Delivered head: up to 800 m / 2,660 feet
Temperature: up to 80°C / 180°F
Speeds: up to 3,600 rpm
Flange drilling: BS or ANSI



SBWM

SBWM is a vertically suspended lineshaft driven pump. Its extensive range of hydraulics gives a comprehensive range of heads & flows whilst various drive arrangements allow above and below floor discharge options.

APPLICATION

- Intake pump

TECHNICAL DATA

Capacity: up to 40,000 m³/hr / 176,000 USgpm
Delivered head: up to 100 m / 330 feet
Temperature: up to 80°C / 180°F
Speeds: up to 3,600 rpm
Flange drilling: BS or ANSI



ULECTRIGLIDE

Ulectriglide is a submersible motor driven pump. The pump set comprises a single or multi-stage submerged bowl pump directly coupled to a submerged water fled squirrel cage motor. This motor is supported by a rising main column pipe delivering water to the platform. This pipe is generally supplied in duplex or super duplex stainless steels.

APPLICATION

- Intake pump

TECHNICAL DATA

Capacity: up to 3,400 m³/hr / 15,000 USgpm
Delivered head: up to 200 m / 670 feet
Temperature: up to 80°C / 180°F
Speeds: up to 3,600 rpm
Flange drilling: BS or ANSI



Reciprocating pumps

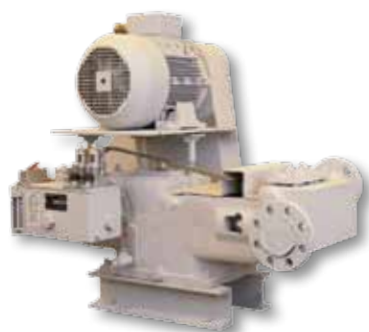
ClydeUnion Pumps reciprocating power pumps are ruggedly designed for minimum maintenance and meet all heavy duty requirements of continuous operation in the desalination industry. These units are driven via electric motors or diesel engines through V-belt or gear reduction. Stuffing boxes are specifically designed for applications to maximise packing life and minimise maintenance.

SMALL POWER

Capacity: up to 17 m³/hr / 75 USgpm
Discharge pressure: up to 6,900 m / 23,000 feet (10,000 psi)
Temperature: up to 182 °C / 360 °F
Speeds: up to 440 rpm depending on model
Models include: SX3, DX5, TX10, TD28, TD30, TD60, TD90

APPLICATION

- HP pump



MEDIUM POWER

Capacity: up to 87 m³/hr / 385 USgpm
Discharge pressure: up to 6,900 m / 23,000 feet (10,000 psi)
Temperature: up to 177 °C / 350 °F
Speeds: up to 400 rpm depending on model
Models include: QD100, TD120, QD200

APPLICATION

- HP pump



LARGE POWER

Capacity: up to 146 m³/hr / 645 USgpm
Discharge pressure: up to 6,900 m / 23,000 feet (10,000 psi)
Temperature: up to 177 °C / 350 °F
Speeds: up to 290 rpm
Models include: TD240, QD400

APPLICATION

- HP pump

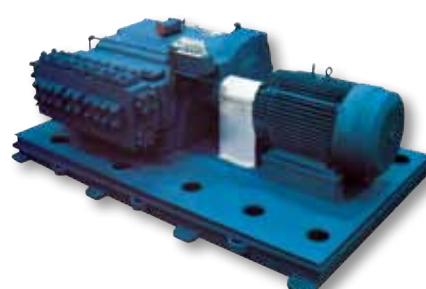


GEARED POWER

Capacity: up to 142 m³/hr / 625 USgpm
Discharge pressure: up to 5,200 m / 17,300 feet (7,500 psi)
Temperature: up to 177 °C / 350 °F
Speeds: up to 385 rpm depending on model
Models include: TX50, TX70, TX90, TX115, TX125, TX150, TX200, QX300

APPLICATION

- HP pump





**INSTALLATION + COMMISSIONING: TROUBLE FREE COMMISSIONING
ANYWHERE IN THE WORLD**



**PARTS: ANY BRAND, ANY MATERIAL,
ANYTIME**

Lifetime worldwide support

Every product ClydeUnion Pumps supplies is supported by a full lifetime commitment. ClydeUnion Pumps provides a full aftermarket service, drawing on either its own engineers or fully trained and highly experienced service partners, depending on the location of the installation. ClydeUnion Pumps has service facilities in over 40 countries spread throughout Europe, America, Asia, the Middle East and Africa.

ClydeUnion Pumps after sales support extends across all of its legacy brands as well as new equipment, and provides full backup for obsolete products and for third party equipment. The parts ClydeUnion Pumps supply meet the original specification, or are upgraded where appropriate, and many components can be covered by a Rapid Response option which can have parts on site within 24 hours.

ClydeUnion Pumps after sales support is subject to the same supply chain management as the pump manufacturing. This provides customers with the lowest lead times and costs whilst meeting the highest standards of quality assurance.

In addition to spare parts, routine servicing, overhauls and inventory control, the aftermarket support covers upgrades and comprehensive technical advice about the potential refitting of existing installations for greater efficiency and reliability. ClydeUnion Pumps can work with your own engineers to carry out meticulous inspections and advise on maintenance schedules, carry out full vibration analysis, pressure and pulsation testing, and train your service personnel.

ClydeUnion Pumps history and breadth of experience, as well as its geographical coverage and expertise, make it the natural first choice for any pump related problem or enquiry, no matter what the location, the scale of the task or the original manufacturer.

We guarantee supply of parts for all heritage brands and/or obsolete products, including:

- Weir Pumps
- Clyde Pumps
- Union Pump
- Girdlestone
- Mather & Platt
- Harland
- Drysdale
- WH Allen
- Allen Gwynnes
- David Brown Pumps
- DB Guinard Pumps
- American Pump
- Pumpline





PUMPING SOLUTIONS FOR REVERSE OSMOSIS DESALINATION

Global locations

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