



SPX[®]

HIGH QUALITY OEM
PARTS, SERVICE, REPAIR,
UPGRADES + RE-RATES

Aftermarket Solutions for Pumping Technologies



> 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.

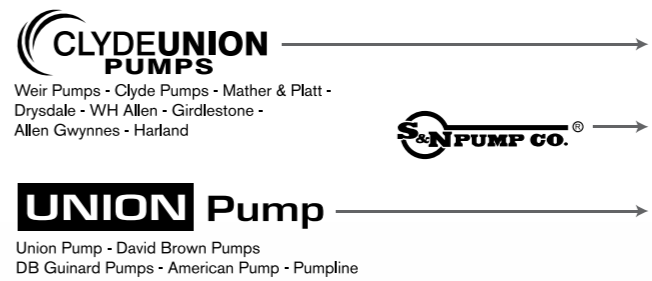


CLYDEUNION PUMPS, AN SPX BRAND - GENERATIONS OF EXPERIENCE

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

Our Extensive Brand Heritage:





ABOVE - MULTI-STAGE PUMP RE-BUILD

TOP RIGHT - DYNAMIC BALANCING OF IMPELLER AT GLASGOW FACILITY

LOWER RIGHT - PROGRAMMING CNC ON STATE OF THE ART 5-AXIS DMG MACHINING CENTRE

DELIVERING VALUE FOR OUR CUSTOMERS

ClydeUnion Pumps, an SPX Brand, is committed to providing world class aftermarket support for all current and heritage products via our worldwide network of manufacturing facilities, service centres and approved service providers. No matter where you are located globally, we are committed to having a service engineer attend your site within 48 hours of a request.

ClydeUnion Pumps has a team of dedicated aftermarket personnel in place worldwide to support our customers in all industry sectors.

Our objective is to add value to our customers' operations and our key services include:

- Industry leading Site Technical Services Team utilising Pump System Assessment methodology
- OEM warranted parts to original or upgraded specification
- Rapid Response solution provider on turned and cast items in emergency situations
- Equipment repair, maintenance, overhaul, re-rates, problem solving and technical support
- Global presence offering local service facilities in over 40 countries by ClydeUnion Pumps or Approved Service Providers
- Our customer focused aftermarket organisation is well positioned to provide comprehensive care for our varied and diverse product lines
- Heritage products benefit from the same level of attention and expertise in order that reliability and availability are maximised irrespective of length of service
- Genuine high quality original or upgraded specification spare parts, coupled with full engineering design capability providing reliable efficient operation
- Highly trained, skilled and experienced service engineers ensure accuracy in build and optimised performance

ClydeUnion Pumps, an SPX Brand, provides high quality pumps delivered with superior technical and customer support. Our comprehensive range of pumps are designed to provide the highest levels of reliability for a wide range of applications within the oil and gas, power and industrial process markets.

Centrifugal Pumps

ClydeUnion Pumps provides a wide range of centrifugal pump designs covering most major market applications. From simple end suction pumps used for clean water duties to main reactor feed pumps for nuclear plants, our range is extensive and proven. Spare parts are readily available in original or enhanced materials for any make or model and are fully supported by a dedicated servicing and engineering team, all backed with a full OEM guarantee.

Standard Units

- Comprehensive range of robust API 610 compliant overhung, between bearings and vertically suspended units for oil and gas duties
- Boiler feed, condensate extraction, circulating water and auxiliaries for conventional and renewable power applications
- Broad range of highly efficient single and two stage, multi-stage and vertical units for water and industrial duties

Specialist Offerings

- Coded pumps for nuclear applications (to ASME Class II or III)
- Downhole multiphase pumps and submersible motor designs
- Cryogenic designs for LNG and other specialist applications
- Bespoke pumps for desalination and mining duties

Reciprocating Pumps

ClydeUnion Pumps has over 125 years experience specialising in the design and manufacture of reciprocating power pumps and direct acting pumping packages. Our technologies are API 674 compliant with a global installed base across multiple industries.

- Highly efficient and reliable pumping technologies designed for the arduous conditions of the oil and gas industry including applications such as high pressure seawater injections and disposal, methanol injections, blowout preventer charge pumps, subsea hydraulic systems, gas processing systems for dehydration and gas sweetening
- Specialised reciprocating pumps for extremes of temperature, high pressure and the ability to handle volatile fluids in the refining industry
- Reciprocating power pumps for a wide range of industrial services including high pressure water blasting, cleaning and cutting, metals descale, mine dewatering, hydraulic charge, hydrostatic test, chemical processing and high pressure mixing
- Reliable pumps, combined with energy recovering systems, providing the most efficient solution for high pressure reverse osmosis pumping requirements

Specialist Pumps

ClydeUnion Pumps offers a range of specialised units available for niche applications ranging from high capacity volute pumps for flood prevention or land irrigation schemes to field proven electric submersible pumps with run lives three times longer than the industry average. Our range of specialised pumps offer superior performance such as:

- Downhole multiphase pumps for oil and gas recovery in difficult wells
- Submersible motor driven pumps with superior corrosion resistance
- Specialised pump sealing systems to minimise environmental emissions
- Cryogenic designs for LNG and other specialist systems
- Anti-fouling equipment to inhibit marine growth
- Innovative reel system for jack-up rigs and semi-submersibles
- High temperature refinery pump systems



CUP-OH2
Single stage API end suction pump



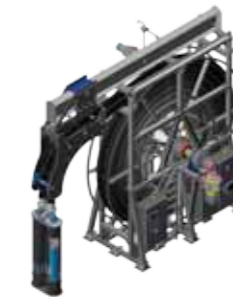
CUP-BB5
Heavy duty, radially split, multi-stage pump



QD400 w/gear & motor
Heavy duty, horizontal, simplex, duplex, triplex, quintuplex



DX5 w/top mount
Heavy duty, horizontal, simplex, duplex, triplex, quintuplex



Seawater lift reel system
Fully automated, safe, overboard deployment seawater lift reel system



CUP-TWL
Integral steam turbine, water lubricated pump

RIGHT - CENTRIFUGAL PUMP ROTATING ELEMENT
FAR RIGHT - RECIPROCATING PUMP



RELIABLE PRODUCTS WITH FULL AFTERMARKET SUPPORT

The strength of our product ranges lies in the superiority of designs, materials and components that make up our offering. Our robust designs have a deserved reputation for efficiency, reliability and durability. This durability extends mean time between maintenance, increasing pump availability.

When spare parts or upgrades are required however, we have a full range of aftermarket services to offer.

ClydeUnion Pumps, an SPX Brand, incorporates over 140 years of engineering expertise. Our extensive range of heritage products are providing reliable and economic solutions to our global customer base. We guarantee highest quality OEM parts for all our heritage products, which ensures the maximum lifespan of your equipment, providing both reliability and operational efficiency.

HERITAGE BRANDS

ClydeUnion Pumps, as the recognised Original Equipment Manufacturer (OEM), guarantees supply of parts for all our heritage brands including:

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



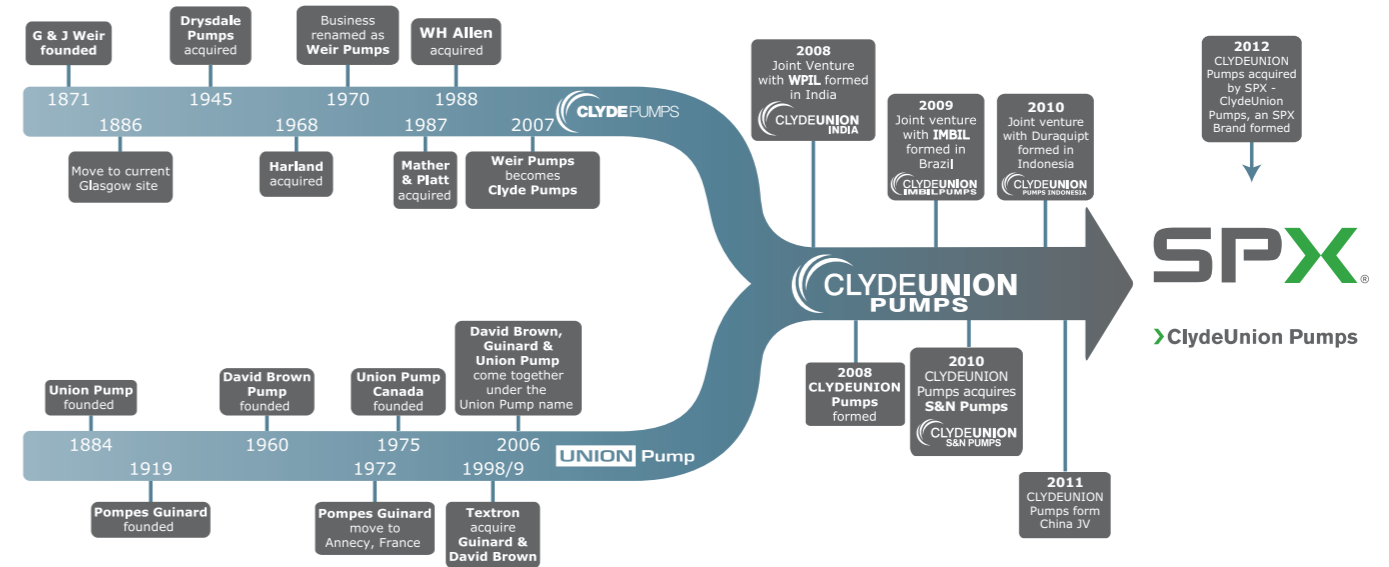
TOP - FINAL INSPECTION OF BRONZE IMPELLER

ABOVE - CONCENTRICITY CHECK AT FINAL INSPECTION

RIGHT - VARIOUS SPARE PARTS FROM OUR RANGE OF CLYDEUNION PUMPS TECHNOLOGY

FAR RIGHT - TABLE OF CLYDEUNION PUMPS HERITAGE BRAND PUMP RANGES

OUR EXTENSIVE BRAND HERITAGE TIMELINE



OEM PARTS

We provide comprehensive care for ClydeUnion Pumps diverse product range through our customer focused aftermarket team. Original or upgraded specification spare parts, coupled with full engineering design capability, provide reliable efficient performance whatever the requirement. Our experienced engineers in our global manufacturing facilities ensure accuracy in build for performance optimisation.

Our global manufacturing facilities provide worldwide build capability for pumps and spare parts to ISO 9001 or ISO 14001 standards. ClydeUnion Pumps has three ASME 'N Stamp' and/or RCC-M qualification facilities; Glasgow, Anancy and Battle Creek, which all have a long history of excellence serving nuclear sector customers.



PRODUCT TYPE	CLYDEUNION PUMPS HERITAGE BRAND RANGES
BB1	DB30, DVDS, DVSS, RBMX, SB/MG, Uniglide, Duoglide and FA
BB2	DB21, DB22, HOL, HOS, KSMK and KSKMO
BB3	HFH, FH, DB34, DB38, DVMX and M
BB4	FT and HFT
BB5	HMBS, OK, DB36, FK and HOK
ISO	Uniglide, Duoglide, RP, Aquaglide, Isoglide and Swallowglide
OH2	HOP, HHS, HTS, 988 and DB10 - DB17
OH3	VLK-BB and DB64
OH4	VHK, VLK, VTK and DB41 - DB42
OH5	Lynavane
VS4	VS4
OH5	SBWM, VLK, VLBX, VMX, VX and BX DB51 -DB59 and DB62, DB66 - DB68
ANSI	VCM

The Technical Services Team is a dedicated group of experienced pump engineers specialising in providing expert pump systems advice to our customers across all industries.

Possessing a wealth of pump and system design knowledge, fully equipped with the latest design, analytical and pump testing equipment, our Technical Services Team can be employed across a range of services to ensure your critical rotating plant is operating reliably, safely and at optimal levels of efficiency. Working in partnership with our customers the focus of these important aspects of pump operation deliver increased MTBF and plant life, reduced parts consumption, increased production and very importantly minimise energy costs and carbon emissions.

TECHNICAL SERVICES TEAM	CUSTOMER BENEFITS
PUMP SYSTEM ASSESSMENTS	Increased reliability and efficiency across entire system - reduction in energy costs/emissions
THERMOMETRIC AND FLOWMETER BASED PUMP TESTING	Verification of actual pump and system performance before and after improvement works
MATERIAL AND DESIGN UPGRADES FOR ALL BRANDS OF ROTATING EQUIPMENT	Improved reliability and extended plant life
HYDRAULIC RE-DESIGN AND RE-RATES	Enhanced efficiency, reliability and reduction in pump energy costs and emissions
CLYDEUNION ACADEMY - PUMP TRAINING	Greater operator knowledge to ensure optimal pump operation, maintenance and reliability
EXPERIENCED ON-SITE SUPERVISION	Expert technical management of complex large machine installations, commissioning and outages
ASSET MANAGEMENT	Support for turnkey asset management programmes
CONDITION MONITORING (including using wireless real time data acquisition)	Ongoing remote and manual data sampling and expert trend analysis to assist reliability programmes
RE-ENGINEERING AND UPGRADING OF ANY 3RD PARTY PUMPS AND PARTS	Improved reliability, quick supply with leading OEM quality and design guarantees

PUMP SYSTEM ASSESSMENTS

The Technical Services Team deploys pump system methodology. Our objective in this method of assessment is to ensure a uniform and systematic approach in the assessment of industrial pumping systems to identify opportunities for reducing energy consumption and carbon emissions in line with legislative and government targets.



ABOVE - ON-SITE CONDITION MONITORING
 LOWER RIGHT - OPTIMISATION OF VOLUTE CASING EFFICIENCY USING COMPUTATIONAL FLUID DYNAMICS (CFD)
 BELOW - REVIEW OF PUMP VIBRATION FREQUENCY SPECTRA

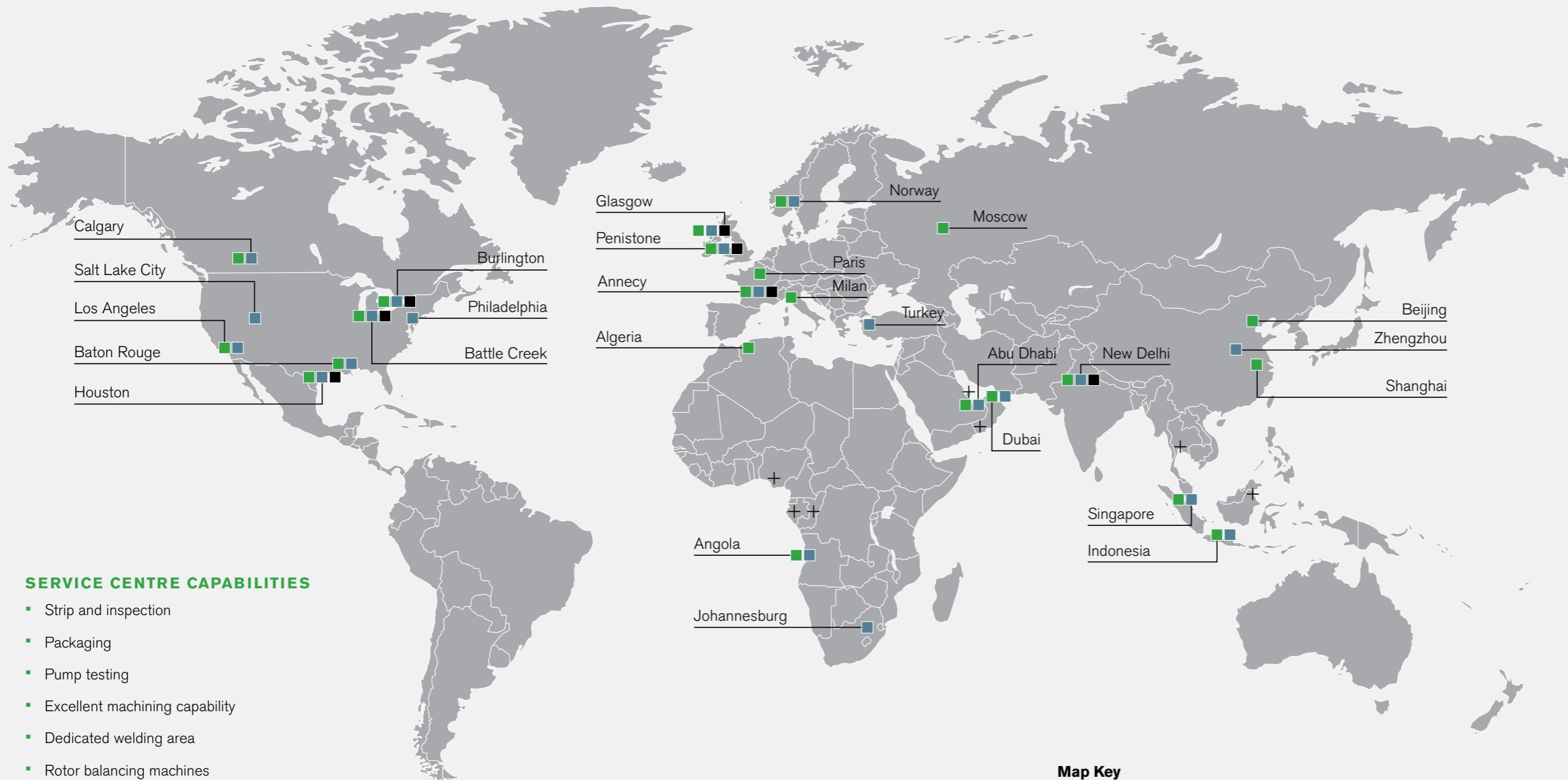


ClydeUnion Pumps Global Footprint

ClydeUnion Pumps global service centre footprint is second to none. Fully equipped to support the service, repair and overhaul requirements of customers, wherever their operations are in the world. Located on every continent globally, our service centres provide an industry leading OEM presence within easy reach of your operation, with guaranteed quick response and turnaround of equipment regardless of pump make or model.

GLOBAL OVERVIEW OF CLYDEUNION PUMPS & APPROVED SERVICE CENTRES

- Global network of service centres
- OEM guarantee on all work
- Service, repair and overhaul
- Presence in over 40 countries
- Any make or model of pump



SERVICE CENTRE CAPABILITIES

- Strip and inspection
- Packaging
- Pump testing
- Excellent machining capability
- Dedicated welding area
- Rotor balancing machines
- Service and overhaul on all pump types
- 3rd party pump re-engineering
- Pump training
- Customer viewing and inspection

Map Key

- Sales
- Service facility / Authorised Service Provider
- Manufacturing
- + Service facility in development



TOP - HOUSTON SERVICE CENTRE
 MIDDLE - GLASGOW SERVICE CENTRE
 BOTTOM - CARTRIDGE COMPONENT REMOVAL

ClydeUnion Pumps, an SPX Brand, provides world class field service for our customers

We offer a comprehensive range of on-site services such as installation, inspection, commissioning, removal, preventative and scheduled maintenance, emergency breakdown service and full turnkey projects all designed to deliver optimum pump lifecycle results with minimum downtime. Our field engineers are highly trained and experienced working to minimise unscheduled shutdowns for customers, while considering all factors associated with the pump duty conditions, age and demands on the pump system.

Depending on the requirements we will provide either direct service support at our customers location or via our worldwide network of service centres or approved service providers. ClydeUnion Pumps history and breadth of experience, as well as our geographical coverage and expertise, make us the natural first choice for any pump related enquiry, no matter where the location, the scale of the task or the original manufacturer.

- OEM trained service engineers
- Installation and commissioning services
- 48 hour call response
- Site overhauls and repairs
- Servicing any make or model of pump
- Pump alignment
- Vibration analysis and performance testing
- Full engineering and technical support



ABOVE - OFFSHORE RIG
LEFT - FINAL CHECKS PRIOR TO
COMMISSIONING PUMP



Global locations

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