CUP-VS4
HEAVY DUTY, VERTICAL SUMP PUMPS, API 610 / ISO 13709

ClydeUnion Pumps
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 - An introduction**

**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
ClydeUnion Pumps, an SPX Brand, specialises in the design and manufacture of API 610 centrifugal pumps and pumping packages. At ClydeUnion Pumps you will find a commitment to quality throughout the company. Our Quality Management System is fully approved to ISO 9001:2008 and independently verified to comply with the latest quality standards. ClydeUnion Pumps has a worldwide reputation for providing optimised reliability in the most severe duty applications.

REFINERIES
Today’s complex refinery processes demand specialised pumping solutions. Extremes of temperature, high pressure and the ability to handle volatile fluids, calls for highly engineered pumps that can perform reliably in such arduous conditions. ClydeUnion Pumps has many years of worldwide experience in supplying process pumps to the refinery industry and is committed to providing its customers with solutions for the most complex of pumping requirements.

PETROCHEMICALS
ClydeUnion Pumps has worldwide experience of engineered pumping systems for petrochemical applications. The process and transferring of petrochemicals demands a high level of pumping reliability. ClydeUnion Pumps has a reputation for supplying reliable pumps which can be found working throughout the world in the most aggressive applications.

OIL + GAS PRODUCTION
High efficiency and reliability are major benefits of ClydeUnion Pumps equipment - both of which are vital considerations in the oil and gas industry. Pumps have been supplied to satisfy a wide range of pumping services including oily water separation, flare knock-out drum, sour water drum and amine sump pumps.

INDUSTRIAL
The ClydeUnion Pumps CUP-VS4 can be utilised in many other sump emptying applications across a wide variety of industrial applications, including slop transfer, drain drum and wastewater transfer.

CUP-VS4 - Heavy duty, long shaft, vertical sump pump
The ClydeUnion Pumps CUP-VS4 is a vertical suspended, single-casing volute, line-shaft driven sump pump. All units comply with API 610.

There are hundreds of ClydeUnion Pumps CUP-VS4 pumps operating worldwide, on a variety of sump applications, manufactured in a variety of alloys. The units have been designed to suit customer requirements with lengths available up to 6m sump depth.

ADVANTAGES OF WET SUMP INSTALLATION
- The ability to pump fluids with high vapour pressure
- Extraction from depths that would be impossible with conventional pumps
- A permanently submerged and fully primed pump end
- Sealing problems minimised and as a primary pump a seal is not required
- Space saving

EASE OF MAINTENANCE
The simple construction of the CUP-VS4 pump offers ease of maintenance and reliability. Options are available for non-spacer and spacer couplings dependant on sealing option.

PUMP CONFIGURATION
With a wide variety of materials, pump and motor combinations along with an extensive range of column lengths, the CUP-VS4 is already established as the first choice for many customers.

This, combined with an unsurpassed international service network, clearly reflects our commitment to be the “Best in Class” for your pump supply.

PUMP DESIGN SPECIFICATION
The CUP-VS4 pump comes in two design specifications. We offer pumps in accordance with the latest edition of API 610 and an industrial standard range, both of which offer ease of maintenance and reliability.

GIRDLESTONE COMPANY HISTORY
1889 Girdlestone & Co. was founded in England by W.O Girdlestone
1928 Girdlestone Pumps was established
1955 Girdlestones ongoing reputation for pumps capable of operating at an extremely low NPSH opened up whole new industrial process markets
1985 The first 900 Series pumps were launched
1991 Within six years the 900 Series had grown in sales to allowing Girdlestone to be able to claim market leading status in the chemical and API 610 markets
1992 Girdlestone acquired by Warman, confirming the Company’s position as a truly international supplier of industrial process, chemical and API 610 pumps
1999 Girdlestone acquired by The Weir Group Plc.
2007 Clyde Pumps acquires Weir Pumps business in Glasgow
2008 Clyde Pumps changes its name to CLYDEUNION Pumps after several more acquisitions and successful joint ventures
2011 CLYDEUNION Pumps acquired by US Fortune 500 company SPX - ClydeUnion Pumps, an SPX Brand is formed
CUP-VS4 - Features

1. **FLANGE / PLATE**
   - ANSI Class 150 or rectangular plate options
   - ANSI B16.5 or ANSI B16.47
   - Two earthing points
   - Carbon or 316L stainless steel options
   - Other material options available

2. **SUCTION STRAINER**
   - 316L stainless steel as standard. Other material options available

3. **CASING**
   - Replaceable suction cover design, integral wear rings as standard and conventional wear ring option available
   - Bellmouth suction flange construction

4. **IMPELLER**
   - Precision cast impellers, keyed drive with lock nut and washer fixing
   - Axial adjustment via lock nut above mounting plate
   - Balance holes for hydraulic balance as per API 610
   - Integral wear ring design and conventional wear ring option available

5. **SHAFTS**
   - Duplex stainless steel. Other options available
   - Robust keyed and pinned couplings

6. **COLUMNS**
   - Fully welded with flange and spigoted joints
   - 316L stainless steel as standard. Other material options available

7. **LINE BEARINGS**
   - Grooved carbon / PTFE bearings. Pumped fluid or external flush options
   - Individually flushed bearings
   - Maximum distance between bearings as per API 610

8. **BEARING ASSEMBLY**
   - Self contained bearing unit
   - Grease lubrication, option for oil
   - Temperature and vibration monitoring available

9. **SEALING OPTIONS**
   - Twin lip seals, grease packed as standard
   - Single mechanical seal cartridge with dry running optional
   - Dual mechanical seal complete with support systems available
Optional arrangements + features

**DUAL CARTRIDGE SEALS**
- For high integrity, zero emission sealing, the CUP-VS4 is available with dual seals in dry or wet configuration

**CP SEAL SYSTEM**
- CP System technology offers a proven history in improving seal life, particularly under varying suction pressures
- The unique CP System design provides an excellent mechanical sealing environment in the most demanding process conditions

**ROBUST BEARING HOUSING DESIGN**
- Designed for minimum 25,000 hour L10 life
- Self contained bearing unit
- Grease lubricated as standard, oil available as an option

**SEALING OPTIONS**
- The CUP-VS4 has a distinct advantage over a VS1 style pump. VS1 pumps discharge through a central column, generating high pressure in the gland area. By contrast, the CUP-VS4 does not pressurise this area and is therefore able to utilise reliable low cost seal arrangements

**TWIN LIP SEALS**
- Very reliable, cost efficient method of shaft sealing for CUP-VS4 on unpressurised, general sump applications

**SINGLE CARTRIDGE SEALS**
- Both contact and non-contact technology can be employed depending on duty conditions

**SHAFT COUPLING + LINE BEARING DESIGN**
- Grooved carbon/PTFE bearings
- Pumped fluid or external flush options
- Individually flushed bearing
- Maximum distance between bearings as per API 610
- Robust keyed and pinned couplings

**50HZ RANGE COVERAGE CHART**

**60HZ RANGE COVERAGE CHART**

These charts cover the CUP-VS4 standard pump range. Other engineering designs exist for extreme applications.
Parts + maintenance:
Any brand, any material, anytime. Heritage products, upgrades + improvements

Global aftermarket capability best in service + response

Our customer focused 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 ensuring that reliability and availability is maximised irrespective of a pump’s length of service.

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
Global locations

EUROPE

Annecy
P: +(33) 45 005 5600
F: +(33) 45 005 5880
E: cu.annecy@spx.com
Glasgow
P: +(44) 141 637 7141
F: +(44) 141 633 2399
E: cu.glasgow@spx.com
Milan
P: +(39) 02 64 672 230
F: +(39) 02 64 672 400
E: cu.milan@spx.com
Moscow
P: +(7) 495 967 3453
F: +(7) 495 785 0636
E: cu.moscow@spx.com
Paris
P: +(33) 14 717 1440
F: +(33) 14 717 1412
E: cu.paris@spx.com
Penistone
P: +(44) 122 676 3311
F: +(44) 122 676 6536
E: cu.penistone@spx.com

AMERICAS

Baton Rouge, LA
P: +(1) 225 775 2660
F: +(1) 225 774 7595
E: cu.batonrouge@spx.com
Battle Creek, MI
P: +(1) 269 966 4600
F: +(1) 269 962 5447
E: cu.battlecreek@spx.com
Burlington, ON
P: +(1) 905 315 5800
F: +(1) 905 336 2693
E: cu.burlington@spx.com
Calgary, AB
P: +(1) 403 236 8725
F: +(1) 403 236 7224
E: cu.calgary@spx.com
Los Angeles, CA
P: +(1) 562 622 2380
F: +(1) 562 622 2375
E: cu.downey@spx.com
Houston, TX
P: +(1) 281 372 5040
F: +(1) 281 372 5042
E: cu.houston@spx.com

SOUTH AMERICA

Itapira, SA
P: +(55) 19 3843 9820
F: +(55) 19 3863 3947
E: cu.brasil@spx.com

ASIA

Beijing
P: +(86) 106 598 9500
F: +(86) 106 598 9505
E: cu.beijing@spx.com
Indonesia
P: +(62) 21 753 6559
F: +(62) 21 753 6031
E: cu.indonesia@spx.com
New Delhi
P: +(91) 120 4640 400
F: +(91) 120 4640 401
E: cu.newdelhi@spx.com
Shanghai
P: +(86) 216 160 6966
F: +(86) 216 160 6968
E: cu.shanghai@spx.com
Singapore
P: +(65) 62 76 7117
F: +(65) 62 76 7117
E: cu.singapore@spx.com

MIDDLE EAST/AFRICA

Abu Dhabi
P: +(971) 2 659 1480
F: +(971) 2 659 1481
E: cu.uae@spx.com
Algeria
P: +(213) 21 69 2319
F: +(213) 21 60 3046
E: cu.algerie@spx.com
Angola
P: +(244) 923 516 224
F: +(213) 281 445 4061
E: cu.angola@spx.com
Dubai
P: +(971) 4 880 7755
F: +(971) 4 886 1133
E: cu.uae@spx.com

clydeunion pumps, an spx brand
149 newlands road, cathcart, glasgow, g44 4ex, united kingdom
p: +44 (0)141 637 7141
f: +44 (0)141 633 2399
e: cu.sales@spx.com

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