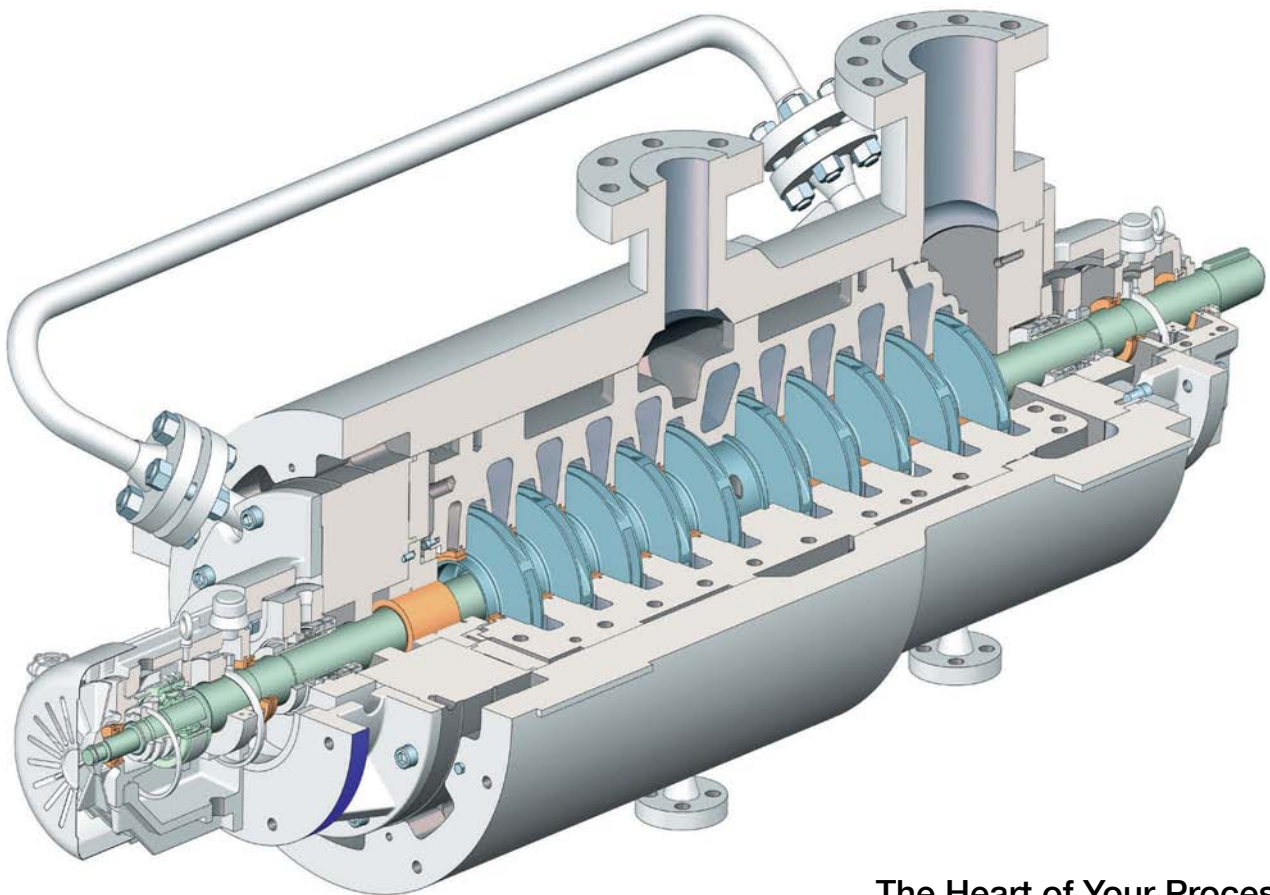


CP Horizontal Double Casing Radially Split Multistage Pump



The Heart of Your Process

motralec

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Sulzer Pumps

Sulzer Pumps is a world leader in reliable products and innovative pumping solutions. Our advanced research and development, detailed process and application knowledge together with a comprehensive understanding of market demands keeps us consistently at the leading edge of technical development. Our global network of modern manufacturing and packaging facilities together with sales representatives located close to major markets provide fast responses to customer needs.

Sulzer Pumps has a long history of providing innovative pumping solutions to business partners in the following industries:

- q . HK @ MC & @ R
- q 'XCQNB@QANM /QNB
- q /TKO @ MC /@ODQ
- q /NVDQ & DMDQ@SHNM
- q & DMDQ@K (MCTRSQX
- q "GDLHB@K /QNBDRR (MCTRSQX
- q 6@SDQ @MC 6@RSDV@SDQ

Core CP Manufacturing Centers



Portland, USA



Leeds, UK

Superior Reliability in Pumping Ensures Improved Productivity

Oil and Gas

There are thousands of CP pumps operating around the world on water flood, crude shipping, product pipeline, LPG pipeline, supercritical ethylene and supercritical CO₂ duties. Onshore or offshore, the CP is widely used in all applications where ISO 13709 (API 610) BB5 pumps are specified.

Hydrocarbon Processing

CP pumps are found in crude charge, boiler feed and lean amine services in most gas plants, refin-

eries and petrochemical plants around the globe. They may also be used as power recovery turbines in hydrotreaters to save energy.

Power Generation

The CP is used in boiler feed, condensate extraction and startup boiler feed services in both fossil fired and combined cycle power plants. It may also be used for safety related auxiliary feedwater duties in nuclear power plants.



Applications

Oil & Gas

- q 6 @ SDQ (MIDBSHNM)
- q Crude oil transfer
- q Pipeline

Power

- q Boiler Feed
- q 'HFG /QDRRTQD 2 @ EDSX (MIDBSHNM)

Hydrocarbon Processing

- q 1 DEHMDQX
- q /DSQNBGDLHB @ K

The CP is a horizontal, ISO 13709 (API 610) BB5 axially split double case multistage barrel pump, with an opposed impeller, between bearing design. It is suitable for high pressure, high speed, high temperature services requiring reliability and long service life.

The CP's rotating element is housed in a horizontally split inner case, which is itself contained in a cast or forged outer barrel. This design provides for easy maintenance and element removal without piping disturbance. Suction and discharge nozzles are normally positioned at top centerline, but can be rotated to meet specific



application requirements. Also, the CP can be supplied with a double-RTBSHNM EHQRS RS @ The opposed impeller and double volute inner case minimize axial thrust and control radial balance. These pumps are principally used in oil production, specialized refinery applications and for boiler feed applications in power plants. They are particularly suited to low specific gravity applications where the back-to-back design and center bushing provide natural axial balance and additional shaft support.

Sulzer Twistlock™ Design

The CP pump discharge cover and end covers utilize the innovative Sulzer Twistlock™ design, which significantly reduces the pump assembly and disassembly time. This feature also leads to a decrease in the weight of the pump unit compared with the traditional heavy bolted design. The suction cover is a simple design that provides effective sealing and again eliminates the usual requirement of heavy bolting. End covers contain integral seal chambers that comply with the requirements of of ISO 13709 (API 610) Table 6 and ISO 21045 (API 682). The traditional bolted design end covers can be made available for customers who mandate the arrangement as a technical requirement.



Sulzer Twistlock™ technology for superior functionality, reduced overall weight and proven time savings for assembly and disassembly.

&3 'HVLJQ)HDWXUHV DQG %HQHđWV

Flanges

q 1 @ SHMFR TO SN 2, \$! " K @ RR
have suction end rated equal to discharge.
q Graylok and other flange designs available.

Sealing

q . 1 HMF NQ OTQD FQ @ OGHSD RD @ K HMF Q H MFR ENQ
operating temperatures up to 425 °C (800 °F)

Cover Fixing Options

q Bolted or Twistlock™ discharge
cover (Twistlock design illustrated
here)

Bearings

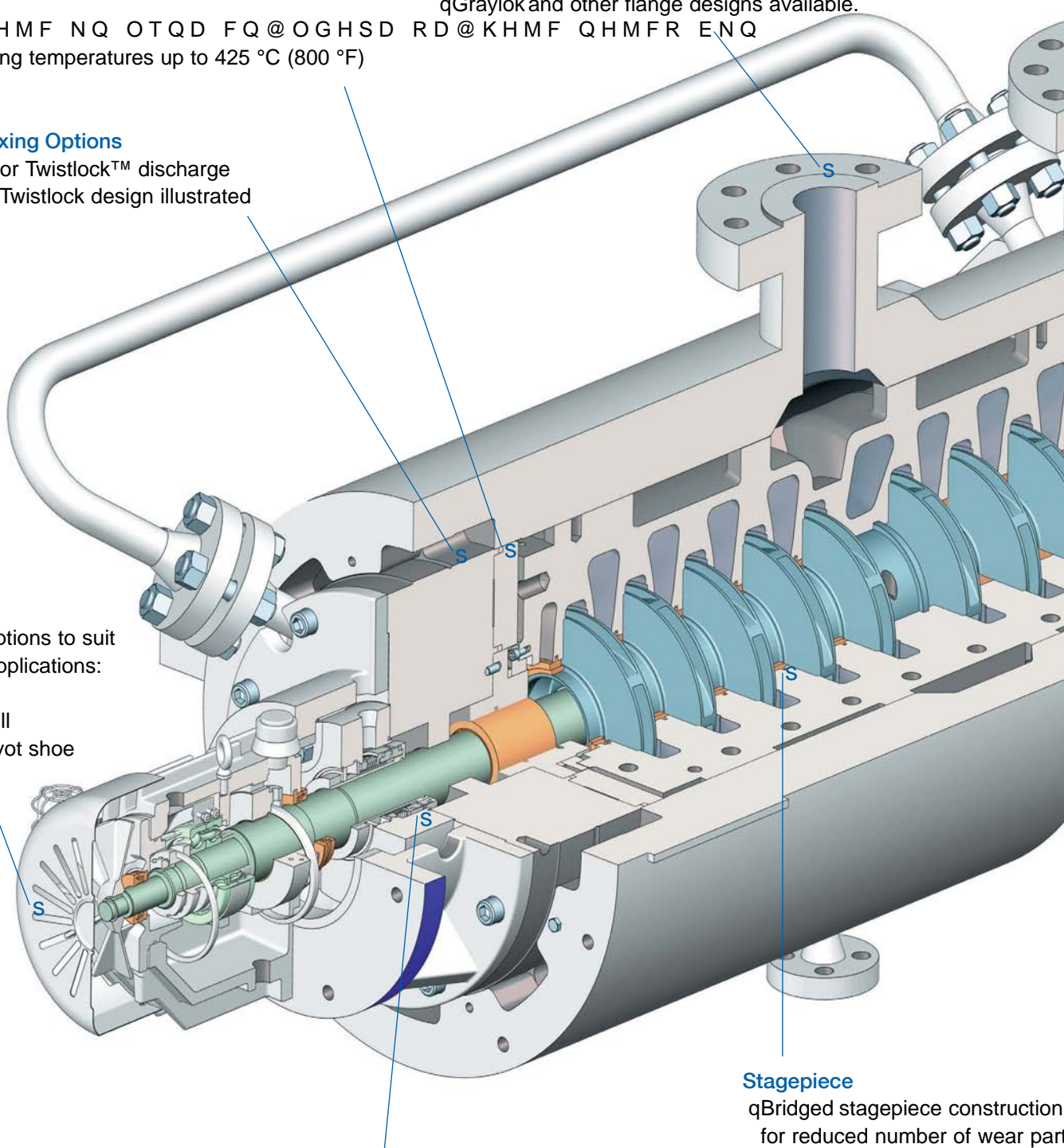
q Bearing options to suit
specific applications:
Ball/ball
Sleeve/ball
Sleeve/pivot shoe

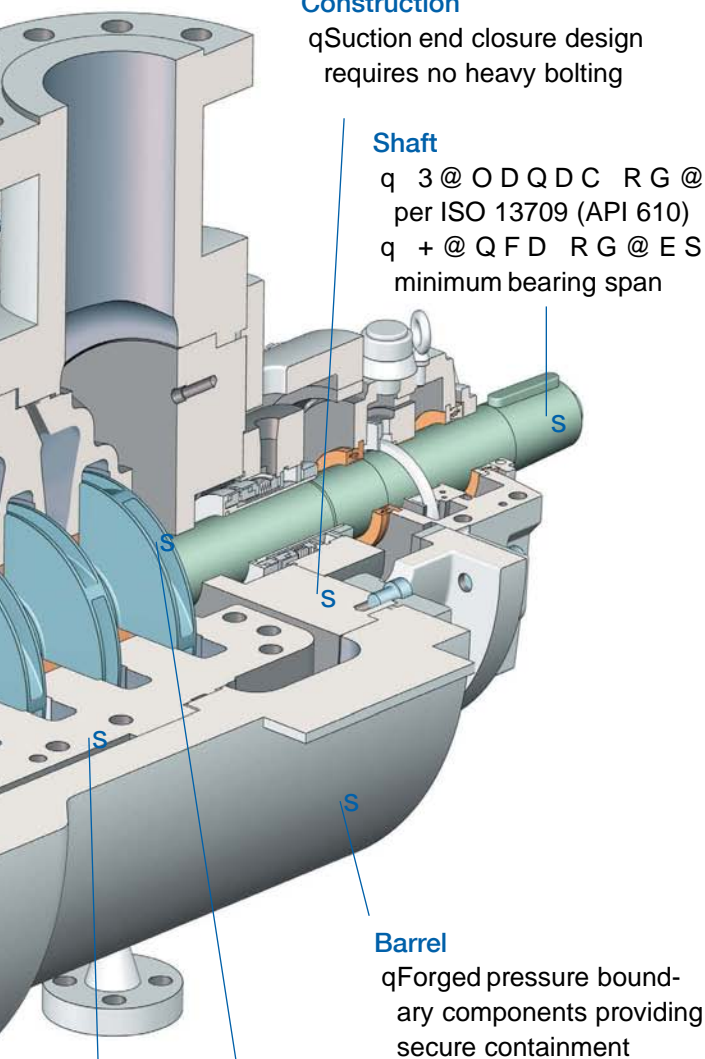
Stagepiece

q Bridged stagepiece construction
for reduced number of wear part
components

Seal Chambers

q ISO 13709 (API 610) seal cham-
ber dimensions.
q Seal chamber is designed for ISO
21049 (API 682) cartridge type
seals and seal systems





Construction

q Suction end closure design requires no heavy bolting

Shaft

q 3" OD QDC RG@ES 316L SS BHN M
per ISO 13709 (API 610)
q + @ QFD RG@ES CH @ g e DSDQ VHSG
minimum bearing span

Barrel

q Forged pressure boundary components providing secure containment

Impellers

q Double suction first stage impeller @ U@HK@AKD ENQ KNV -/2'@ BNMCHSHNM
q .00NRDC HLODKKDQ BNMRSQTBSHNM ENQ reduced axial thrust

Volute

q Axially split volute style inner case allowing optimization of performance

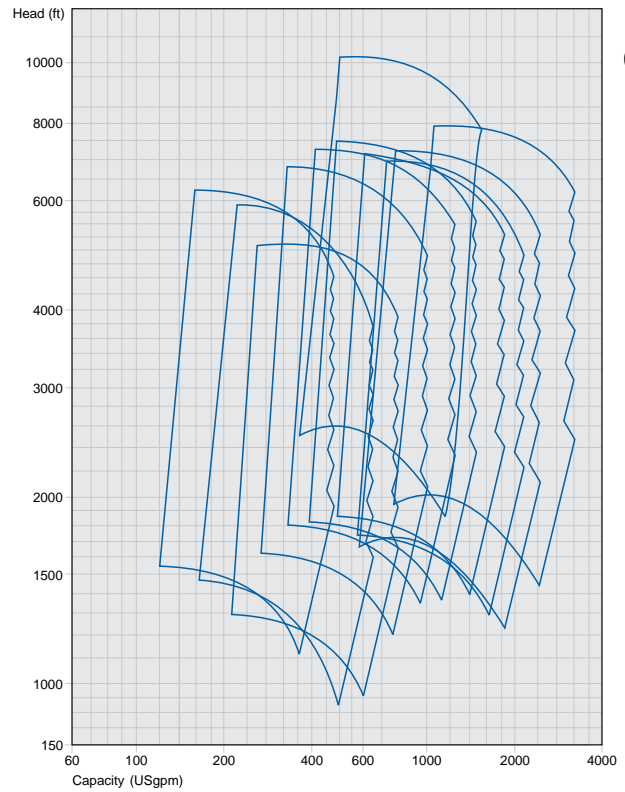
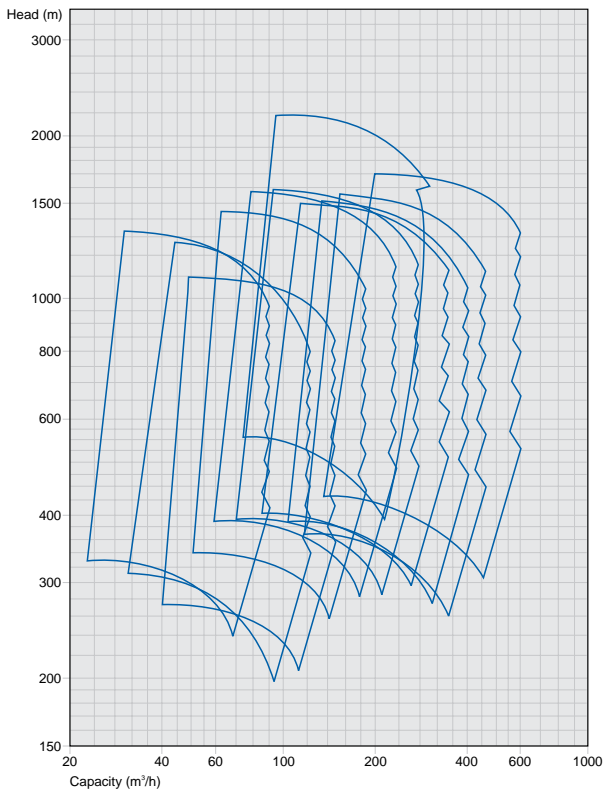
Standard Features

- q "NLOKH@MBD VHSG (2.5" / (QDP
- q 'NS @KHFMLDMS ED@STQD ENQ SDLODQ (250°F)
- q #DRHFMD C SN @BBNLLNC@SD SDLODQ@ -50 °C (-46 °F) to 425°C (800°F)
- q /TLO EDDS KNB@SDC NM GNQHYNMS@K
- q (MMDQ ATMCKD @QQ@MFDLDMS QNS@S case) for ease of changeouts
- q 2D@K BG@LADQR ENQ RHMFKD CNTAKD
- q 3" OD QDC RG@ES 316L SS BHN M
- q %K@MFDC RS@SHNM@QX VD@Q O@QSR
- q #NTAKD UNKTSD HMMDQ B@RD ENQ Q@
- q 1DOK@BD@AKD NQ HMSDFQ@K HLODKK
- q #XM@LHB@KKX A@K@MBDC HLODKKDQR
- q -\$, S@ODQ RG@ES DWSDMRHNMR ENQ
- q 1NS@SHNM BNTMSDQBKNBJVHRD @R U

Options

- q 3VHRSKNBJ¥ CHRBG@QFD BNUDQ ENQ P assembly
- q 2TODQ !NKS¥
- q !D@QHMF @QQ@MFDLDMSR @MC KTAD I
- q 2D@KR @MC OHOHMF
- q "NKHMF I@BJDSR
- q "TRSNL A@RDOK@SD ENQ RODBH@K CQ
- q ,DS@KKTQFX BNLAHM@SHNMR
- q 3NO RHCD NQ RHCD RHCD NQ ANSSNL M
- q !NKSDC DMCBNUDQR
- q -NM LDS@KKHB VD@Q O@QSR
- q #D RS@FDC BNMRSQTBSHNM
- q 'XCQ@TKHB EHS BNTOKHMFR
- q "KNBJVHRD QNS@SHNM @R UHVDVC EQ
- q %TKK B@QSQHCFD CDRHFM
- q CCHSHNM@K HMRODBSHNM @MC -#3 S (API 610) bulleted requirements)
- q (MRSQTLDMS@SHNM HMBKTCHMF UHAQ pressure monitoring
- q (2.5" / (RD@K EKTRG OK@MR

CP Performance Ranges



Note: 'D@C @MC B@O@BHSX KHMDR EQNL L@WHLTL QTMNTS SN LHMHLTL

Operating Data

| | 50 Hz | 60 Hz |
|--------------|-------------------------------|-------------------|
| Capacities | up to 1,000 m ³ /h | up to 4,400 USgpm |
| Heads | up to 7,000 m | up to 23,000 ft |
| Pressures | up to 425 bar | up to 6,250 psi |
| Temperatures | -50° to 425 °C | -46° to 800 °F |
| Speeds | up to 7,200 rpm | up to 7,200 rpm |

Note: 'HFGDQ ODQENQL@MBDR LDS VHSG BTRSNL CDRHFMR
'D@C @MC EKNV @S SGD ADRS DEEHBHDMBX ONHMS

Maintaining and Improving Pump Performance

Sulzer Pumps – Customer Support Services

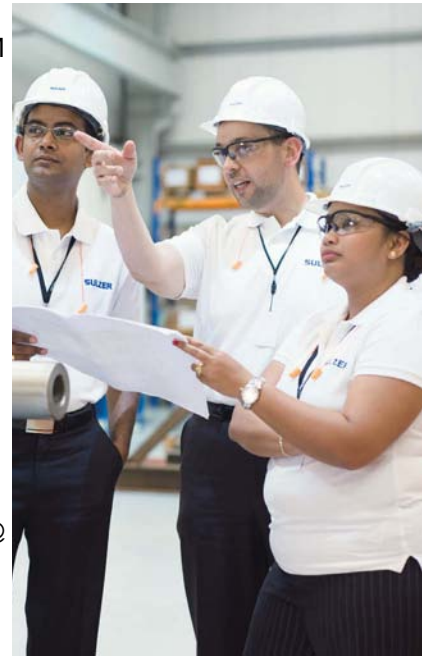
The continuous availability and high operating performance of pumps is the key target for our customer support service organization.

Through our highly experienced personnel and application knowledge, we provide a full range of innovative service solutions to our customers to keep their pumps running including:

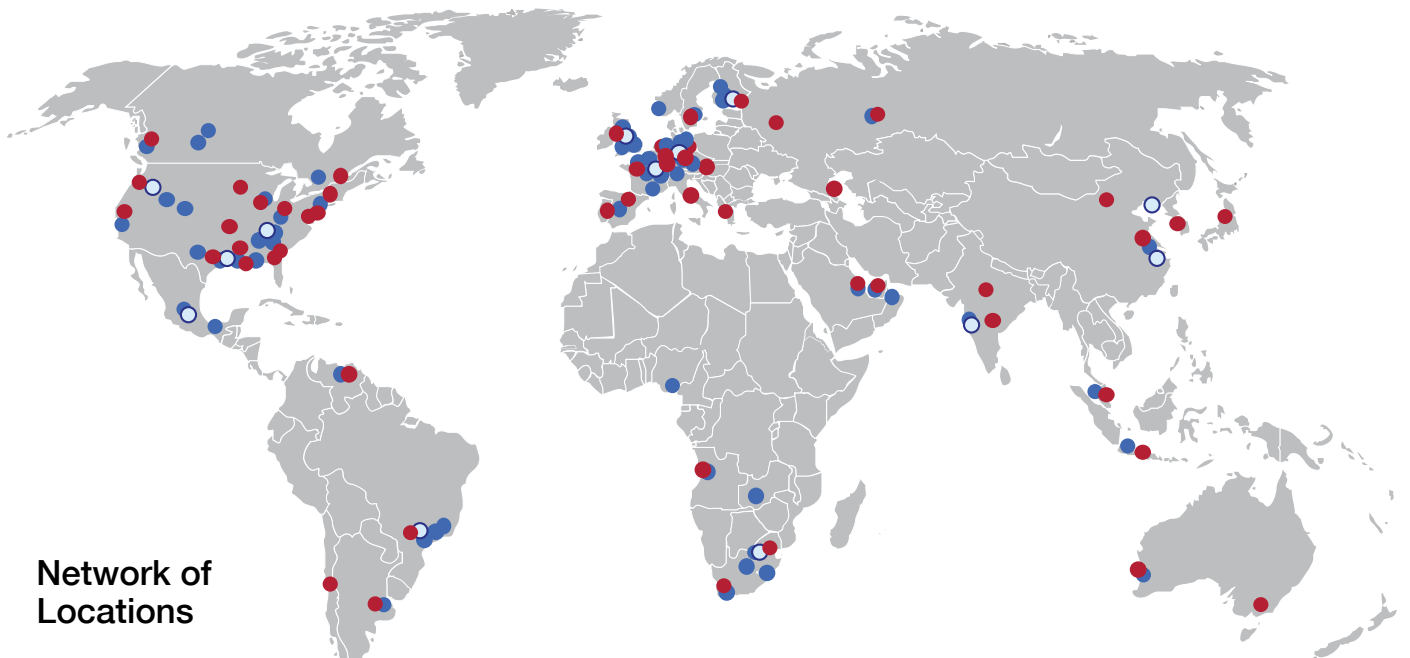
- q 2 O @ Q D / @ Q S R
- q % H D K C 2 D Q U H B D R
- q 1 D O @ H Q 2 D Q U H B D R
- q 1 D S Q N j S R
- q , @ H M S D M @ M B D F Q D D L D M S R
- q . O D Q @ S H N M F Q D D L D M S R

Flexibility

6 H S G R D Q U H B D R Q @ M
 supplying a spare part to operating the pump under contract, we are uniquely placed to make your process run smoother. A dedicated team of our service specialists based at either our manufacturing facilities or one of over 60 service centers located around the world is dedicated to maintaining the performance of our customers' pumps and associated equipment. This service is not just limited to Sulzer products, all the pumps our customers use are supported by Sulzer Pumps.



L



Network of Locations

- # H U H R H N M @ K D @ C P T @ Q S D Q R
- , @ M T E @ B S T Q H M F % @ B H K H S X
- Customer Support Service Center (CSS)
- 2 @ K D R . E j B D

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