

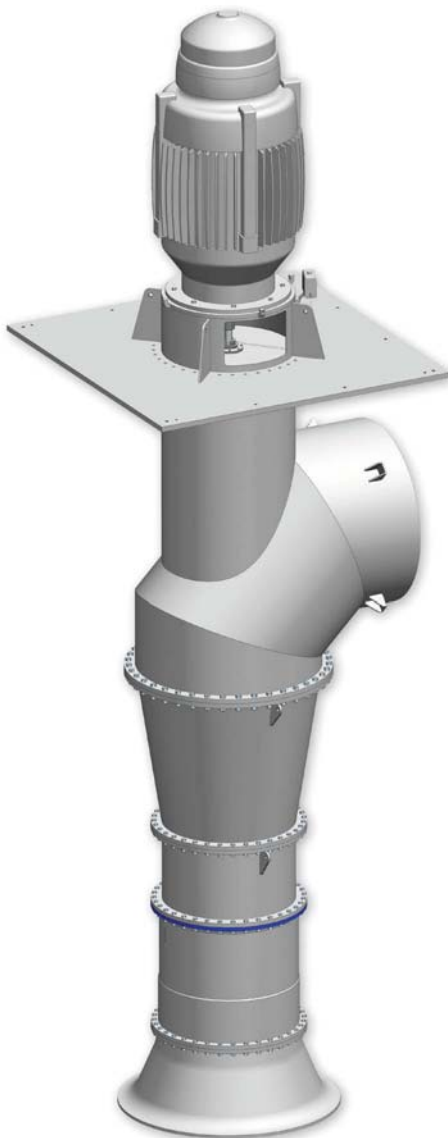
**motralec**

4 rue Lavoisier . ZA Lavoisier . 95223 HERBLAY CEDEX  
Tel. : 01.39.97.65.10 / Fax. : 01.39.97.68.48  
Demande de prix / e-mail : [service-commercial@motralec.com](mailto:service-commercial@motralec.com)  
[www.motralec.com](http://www.motralec.com)

**SULZER**

**Sulzer Pumps**

## **SJP Vertical Propeller Pumps**



**The Heart of Your Process**

# 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 Houston manufacturing site

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 /QNBDRRHMF
- q /TKO @MC /@ODQ
- q /NVDQ &DMDQ@SHNM
- q &DMDQ@K (MCTRSQX
- q "GDLHB@K /QNBDRR (MCTRSQX
- q 6@SDQ @MC 6@RSDV@SDQ

## \$SSOLF DWLRQ .QRZOHGJH IRU %HWWHU

### Vertical Propeller Pumps

Vertical propeller pumps are typically used whenever a liquid needs to be pumped upward at low pressure from open bodies of liquid such as oceans, rivers, lakes, cooling ponds, tanks and sumps. Special design and new materials have made propeller pumps ideal for municipal water supply, drainage and industrial uses of all types. There is an ever increasing demand for water resources. A better understanding of water applica-

tion problems, increased production demands plus sophisticated facility and equipment design have created the need for superior high capacity low head pumping capabilities

### Advantages

q ,HMHLTL TRD NE kNNC  
 q 3GD -/2' @U@HK@AK  
 OKINVDOR S K@MS H N R @S  
 requirements of the pump.  
 q -N OQHLHMF QDPTHQDC  
 SGD kTHC ADHMF OTLODC  
 q 3GD U@QHDSX NE L@SDQH@KR @MC

construction possibilities to meet special requirements (such as corrosion resistance) is virtually unlimited.

q 3GD UDQSHB@K OQNODKK  
 adaptable to various design codes.  
 q \$@RHKX LNCHjDC ENQ BG  
 q R@Li@oD  
 B@M NADD @S SHMDF RODDCR  
 SHTREYD Q GDX C/Q @TKHBR CD  
 OTLO DEjBHDMBHDR  
 SGD OTLO  
 L @ M@ S@D@M@S@U@E@G@D  
 @MC

# Extensive Product Range

The SJP propeller pump is an “en- FHMDDQDC SN NQCDQ ta vadey s f h b @ k g i e w e k t e n k k N V pump and has a capacity range up to 54,500 m<sup>3</sup>/h (240,000 USgpm) with a total maximum single stage head up to 12 m (40 ft) in sizes ranging from 200 to 2,120 mm (8 to 72 inches) in bowl diameter.

The SJP can be manufactured from cast iron, carbon steel, 316SS, duplex, super duplex, bronze pump life and performance. Above and below base discharge connections are available to suit all existing pipe design variants.

(QJLQH HUH G IRU \$SSOLF DWLRQ )OH[LEL

Sulzer industrial vertical propeller pumps are high capacity, low head units widely used for circulating services in nuclear and conventional power plants, raw water supply SN OQNBDRR OK@MSR HQQHf@SHNM OQNIDB MTLDQNTR NSGDQ @O LNM SXODR NE kTHCR water, service water, and waste water. Performance and hydro test- HMF @QD HM @BBNQC CQ@TKHB (MRSHSTSD be witnessed or non-witnessed, depending on customer preference. The SJP pump is engineered SN A@K@MBD GHFG DEjBHDMBX KNV RTALDQFDMBD @MC -/2' BNMRHC- erations. SJP pumps are designed for continuous service for extended periods of time.



Materials	
" @ R S O @ Q S	Cast iron, carbon steel, 316SS, duplex, super duplex, bronze
Shafts	" GQNL D 22 CTOKDW RTODQ C
% @ AQHB@SHNMR	B@QANM RSDDK + CT
Bearings	rubber lined bronze, duplex, super duplex

# 6-3 'HVLJQ )HDWXUHV DQG %HQHõWV

## Shaft Seal

As a standard, a packed stuffing box is provided for reliable sealing and simple maintenance.

,TKSHOKD RSTEmF ANW NOSHNMR @ QD available to include shaft enclosure HMF STAD ENQ NHK NQ V@SDQ kTRG or various types of mechanical seals.

## Headshaft

Precision machined and sized for the application power input. The headshaft can be supplied with a MTS NQ k@MFDC BNTOKHMF adjustment to maximize sustained DEjBHDMBX 'D@CRG@ES L@ RDKDBSDC SN RTHS SGD OT

## Discharge Head

A below ground discharge head is standard featuring a segmented elbow designed to optimize pump DEjBHDMBX 3GD DKANVR @ cated in various materials to meet many required applications.

## Pumpshaft

The shaft is tailor-made to the service needs and sized individually for each installation; sized for maximum torque. A stepped shaft with sleeves can be supplied.

## &ROXPQ \$VVHPEO\

"NKTLM OHODR @ QD k@MFD shafts are connected by split ring, JDx @MC RKDDUD BNTOKHM shaft bearings are replaceable. "NKTLM @RRDLAKHDR G@UD spiders.

## Bowl Bearing

!NVKR @QD jSSDC VHSG CT@K LDS@K and rubber bearings.

## Bowl

3GD ANVK HR k@MFDC @MC directly to the column pipe. The design combines the energy conversion and diffusion functions of the intermediate bowl and discharge case all in one casing. Replaceable nickel aluminum bronze bearings are provided to extend bowl and shaft life. A replaceable liner is available to increase pump life.

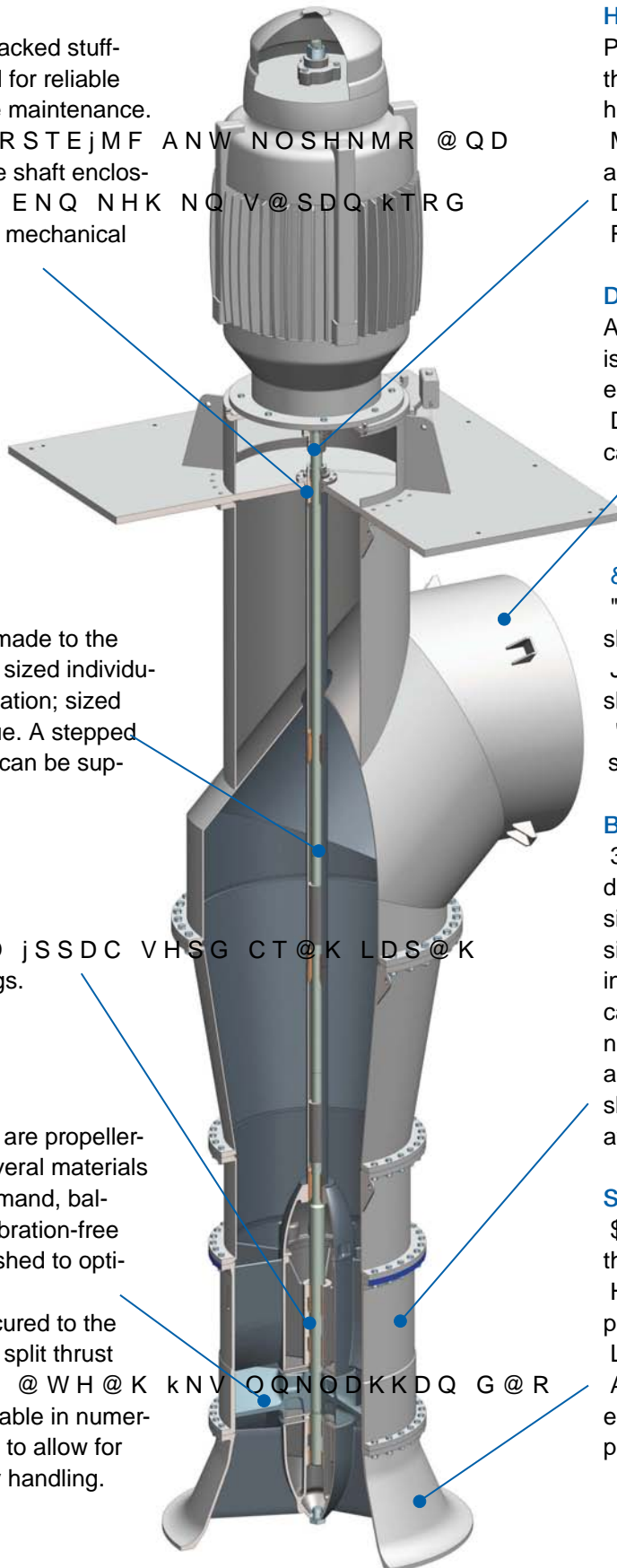
## Propeller

The SJP impellers are propeller-type, offered in several materials as applications demand, balanced to assure vibration-free operation and polished to optimize performance.

The impeller is secured to the shaft by a key and split thrust QHMF 3GD @WH@K kNV OQNODKKDQ G@R a single inlet, available in numerous pitch positions to allow for maximum capacity handling.

## Suction Bell

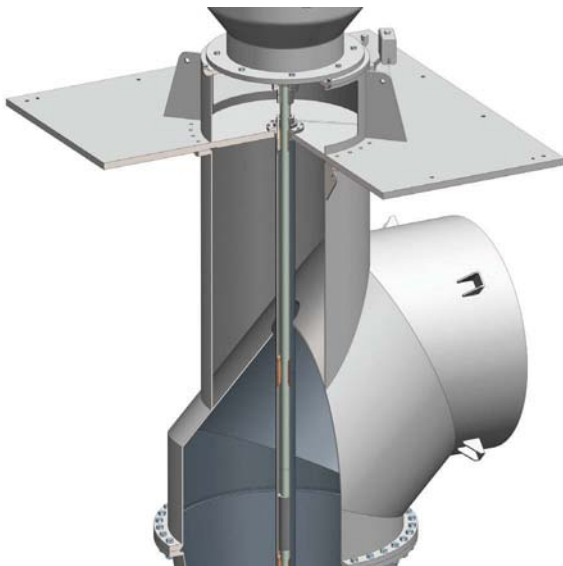
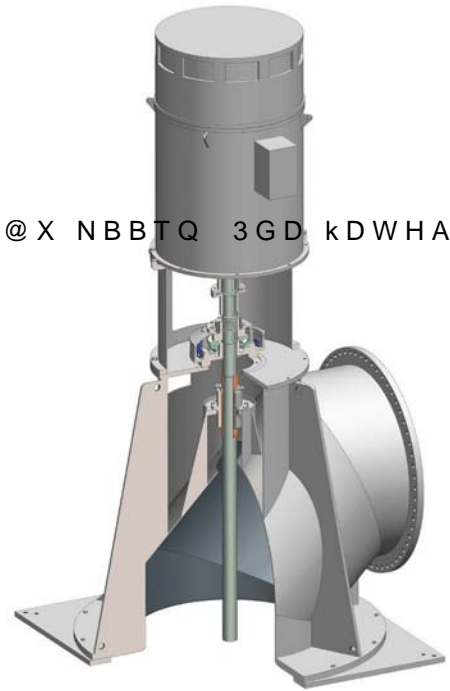
\$@BG RTBSHNM ADKK HMBK that lend support to the tail bearing HMF VGHKD FTHCHMF SGD parallel to the drive shaft for maximum LTL DEjBHDMBX 2TBShNM A AD jSSDC VHSG RSQ@HMDQ entry of foreign objects during pump operation.



### 7KUXVW %HDULQJ \$VVHPEO\

Thrust bearing assemblies are available when required by the application. They are built to handle all the down thrust produced by the OTLO @MC @MX LNLDM@SX TO SGQTRS L@X NBBTQ 3GD kDWHAKD BNT with spacer allows servicing the thrust bearing and mechanical seal as needed. A one-piece fabricated motor stand housing is bolted down over the discharge head to protect the bearing and support the motor.

Optional features include sandstorm protection, special means for cooling and a constant level oil lubricator.



### Discharge Head

3GD CHRBG@QFD MNYYKD B@M AD DHSGDC motor stand is mounted above ground and is designed to support the motor weight and provide maximum clearance ENQ LTKSHOKD RSTejMF ANW NOSHNR 3C packing, shaft enclosing tube and mechanical seal.

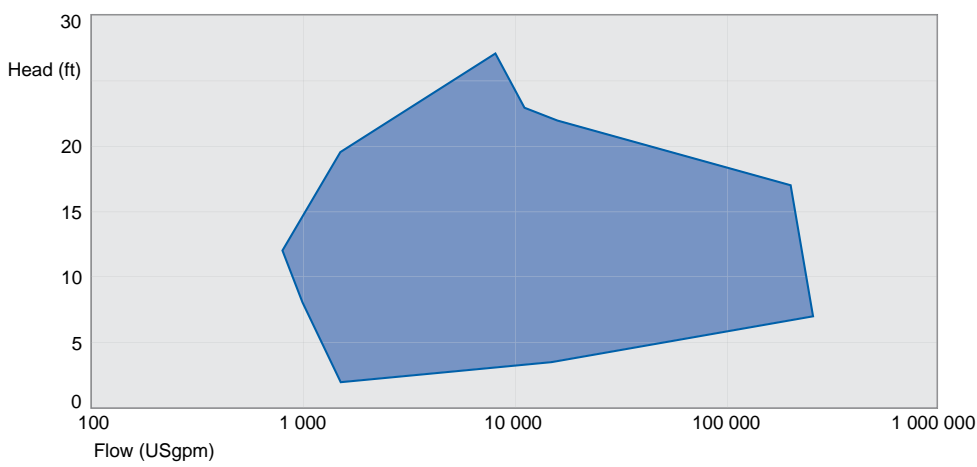
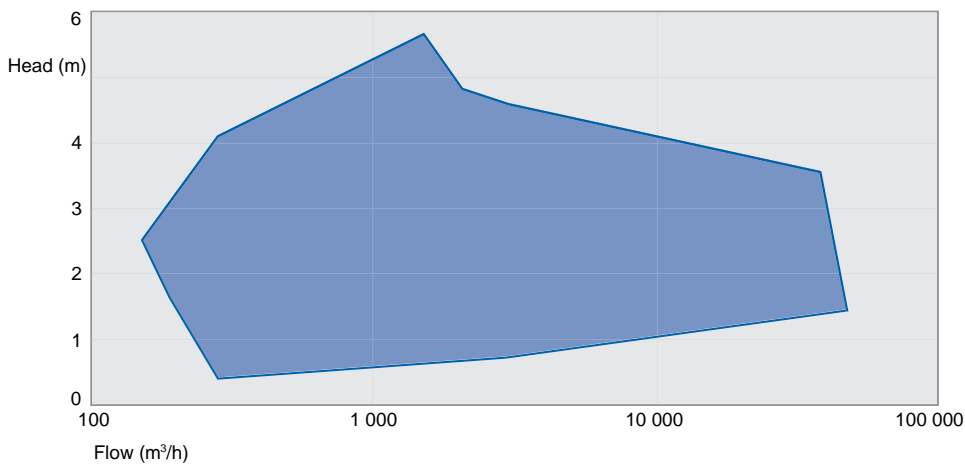
An above ground discharge head can also be provided. The integral driver stand allows easy access to removable pack-HMF RD@K ANW @MC BNTOKHMF \$@BG RS comes with a segmented bend/motor stool and utilizes a RSTejMF ANW CDRHFMD C SN @BBNLLNC@S seals.

### Fabricated Bowl and Bell

Fabricated bowls and suction bells are an available option for pumps sizes 1,450 mm (50 inches) and bigger. The fabricated bowls are pro-UHCDC VHSG CHEETRDQ U@MDR SN GDKO NOSHLHYD ANVK DEjBHDMBHD ADKK HMBKTCDR U@MDR SG@S KDMC RTOONQS SN SGD S@HK AD@QHMF ment is available in Steel, 316SS and Duplex to service many different applications.



# SJP Performance Range



## Operating Data

	SJP 50 Hz	SJP 60 Hz
Pump sizes	200 to 2,120 mm	8 to 72 inches
" @ O @ B H S H D R	S N    ³/h L	900 to 240,000 USgpm
' D @ C R	T O S N    L	T O S N    E D D S
Pressures	up to 2 bar	up to 30 psi
3 D L O D Q @ S T Q D R	T O S N    ! "	T O S N    ! %

# 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.

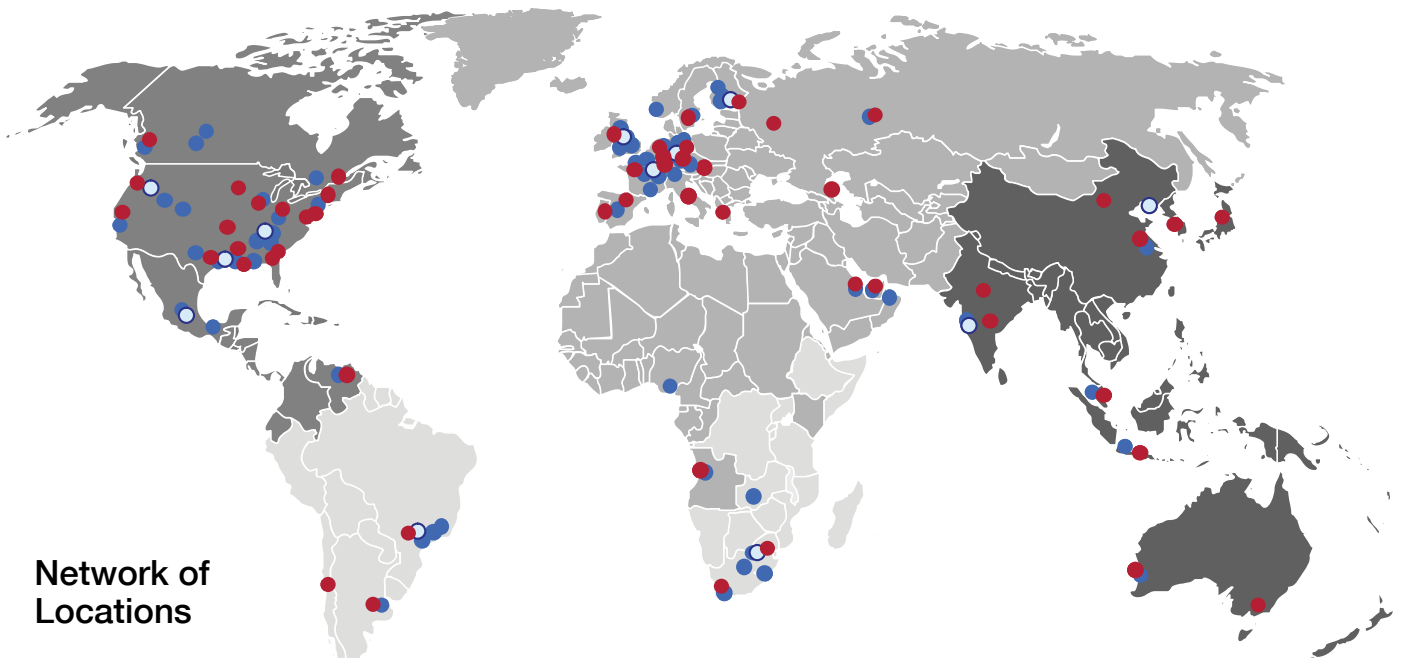
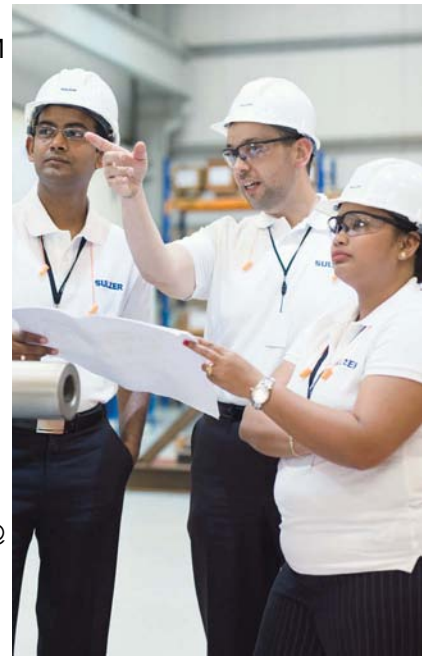
Through our highly experienced personnel and application knowledge, we provide a full range of innovative service solutions to our customers to keep their pumps running including:

- 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 I S D P M S & S u l z e r P u m p s .
- q . O D Q @ S H N M F Q D D L D M S R

) O H [ L E L O L W \

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 can be serviced by Sulzer Pumps.



### 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
- " T R S N L D Q 2 T O O N Q S 2 D Q U H B D " D M S D Q " 2 2
- 2 @ K D R . E j B D

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4 rue Lavoisier . ZA Lavoisier . 95223 HERBLAY CEDEX  
Tel. : 01.39.97.65.10 / Fax. : 01.39.97.68.48  
Demande de prix / e-mail : [service-commercial@motralec.com](mailto:service-commercial@motralec.com)  
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