



*Specialist for Pumping Technology*

INNOVATION  
EFFICIENCY  
QUALITY



**JTN**

Heavy Duty, Multi-Stage,  
API 610 Process Pump

For more than 60 years the name Ruhrpumpen™ has been synonymous worldwide with innovation and reliability for pumping technology

Ruhrpumpen is an innovative and efficient centrifugal pump technology company and offers operators of Pump Systems, a wide range of quality products. Ruhrpumpen is committed to global excellence with a complete range of Pumps, Fire Pump packages and related products, such as Decoking Systems and Tools to support the core markets, namely Oil & Gas, Petrochemical, Power, Heavy Industry applications, Mining and Water services. The broad product line complies with the most demanding quality specifications and go beyond stringent industry standards such as API, ANSI, Hydraulic Institute, Underwriter's Laboratories, Factory Mutual and ISO 9001.

## Heavy Duty, Multi-Stage Process Pumps

The JTN Pump Model is a heavy duty line of between bearing multistage axially split case pumps suitable for a variety of applications.

The pumps meet the stringent specifications of API Standard 610 and reflect the many years of our experience in the design, manufacture, quality assurance and operation of process pumps under heavy duty conditions. These pumps also comply with the requirements specified in ISO 9905.

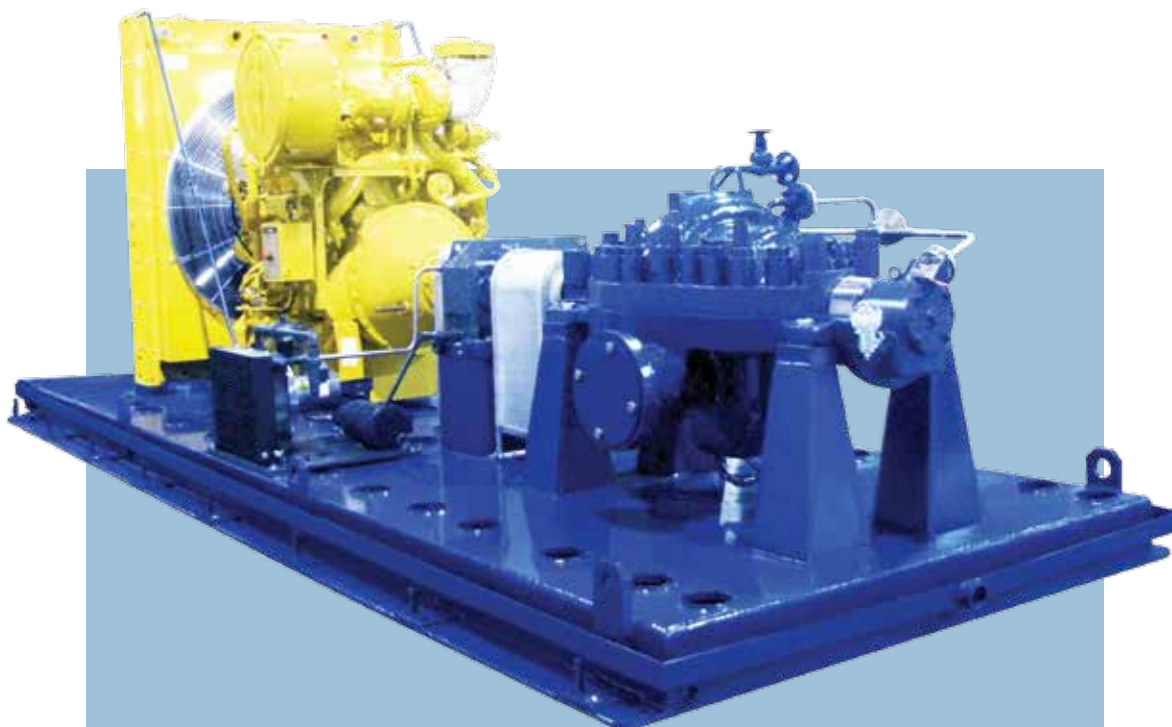
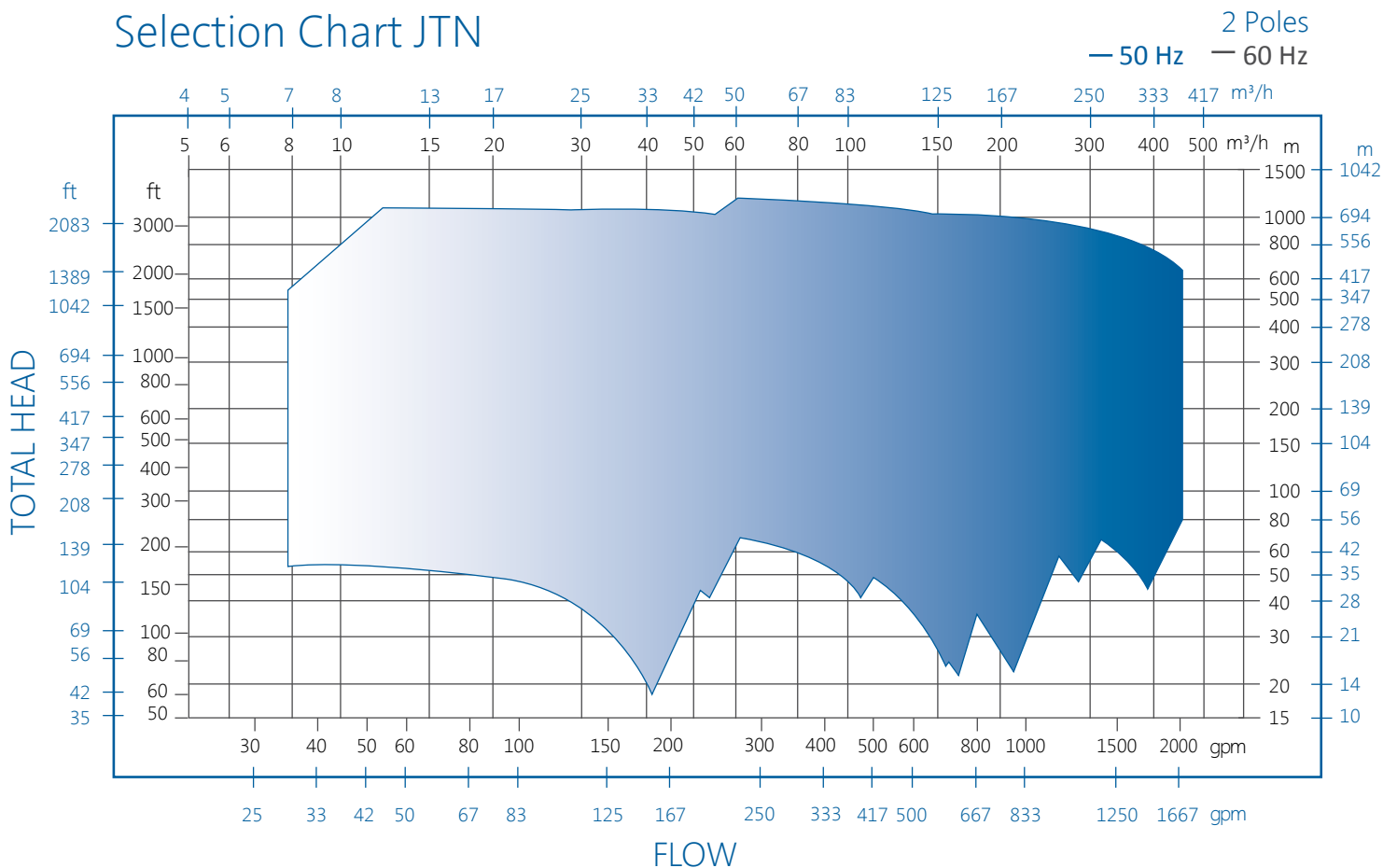
Intensive research and development guarantees that the products of Ruhrpumpen are continuously improved to meet the latest technical requirements.

The use of modern and reliable engineering and production methods, offers our customers high reliability and speed in all working processes, from planning and production to the delivery of pumping systems and spare parts. The instant availability of spare parts, together with first class service, ensures customers that they have selected the right partner.



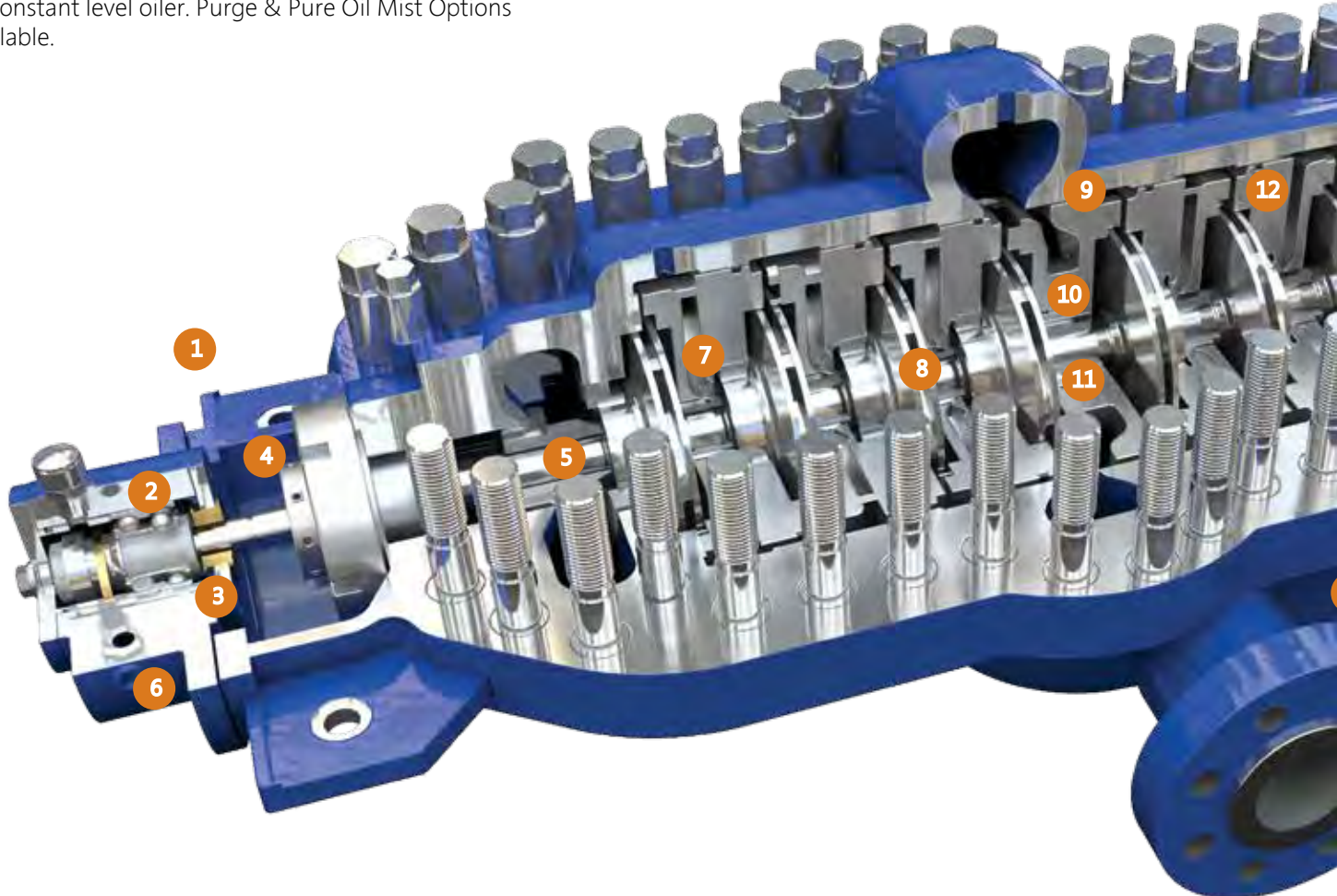
## Performance Range

### Selection Chart JTN



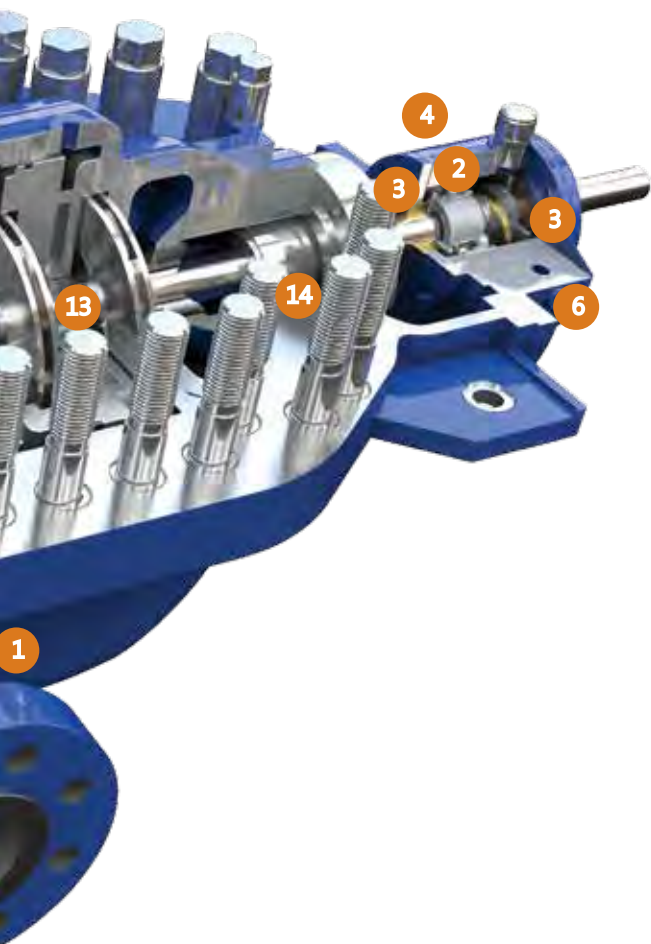
## Characteristics

- 1 All process connections are flanged including suction & discharge nozzles and auxiliary piping. Flange connection sizes to ASME B 16.5 (DIN and BS also possible). Discharge flange size up to 6 in (152 mm). Flange ratings up to 900#.
- 2 Anti-friction bearings with a service L10 Bearing Life of more than 25,000 hours even under arduous conditions.
- 3 Sealing of Bearing Housing with Bearing Isolators.
- 4 Single-piece bearing housing, air cooled. Alternatively, cooling by integrally cast cooling channels with external piping connections for cooling water pipes according to API 610, Annex B fan cooling available.
- 5 Shaft deflection less than 0.03 mm in the area of the mechanical seal due to the ample pump shaft dimensions and the balancing of the hydrodynamic radial loads.
- 6 Ring Oil Lubrication with automatic monitoring of oil level by constant level oiler. Purge & Pure Oil Mist Options available.
- 7 Interchangeable interstage bushings. Clearances according to API 610.
- 8 Impellers machined to a high accuracy, providing for excellent surface finish resulting in high efficiencies and low NPSH values.
- 9 Near-centerline mounted.
- 10 The impellers are arranged in opposed groups to reduce axial forces and thus help to reduce bearing loads.
- 11 Renewable wear rings on the suction side of each impeller are standard. Clearances according to API 610.



## Description

- 12** One piece diffusers ensure proper balancing of the radial forces and thus help to reduce the bearing load.
- 13** Low-vibration operation due to dynamic balancing both of the individual impellers and the complete rotor to balancing grade G 2.5.
- 14** The Stuffing Boxes are designed to accommodate all cartridge, dual or single mechanical seals according to API 610 and API 682.



### PRODUCT DESCRIPTION

- Horizontal arrangement.
- Axially split casing.
- Modular design system.
- Multi-stage, single entry.
- Near centerline support.
- Impellers arranged in opposed groups.
- Heavy duty process design according to API 610 latest edition (BB3 type).

### BROAD APPLICATION RANGE

- Refineries
- Oil fields
- Petrochemical plants
- Chemical plants
- Pipeline
- Power Plants
- Boiler Circulation
- Desalination

### PERFORMANCE DATA

Capacity	10 to 480 m <sup>3</sup> /h	44 to 2,100 gpm
Head	100 to 1200 m	325 to 3900 ft
Disch. flange size	up to 1 1/2 to 6 in	
Max. Pressure	130 bar	1,880 psig
Temperature	-20 to 200 °C	-4 to 400 °F

Note: For pump operations outside this range, please contact a Ruhrpumpen representative.

### OTHER FEATURES & BENEFITS

- Easy of Maintenance - Axially Split Design enables easy access to pump internals for removal and maintenance.
- All materials according to ASME, DIN/ISO and BS are available.

## Optional Features

### SPECIAL BEARING DESIGNS

- **STANDARD:**  
Double angular contact Thrust Bearing and single row radial ball bearing oil lubricated.
- **OTHER DESIGNS AVAILABLE:**
  - a. Medium duty Double angular contact ball. Bearing Cartridge mounted and Radial sleeve bearing. Standard ring oil lubrication.
  - b. Heavy duty thrust Bearing tilting pad and Radial sleeve bearing. Oil Pressure lubrication.
- Pure oil mist and force feed lubrication are optional.
- Temperature and vibration measurements are optional.
- Sealing with Bearing housing with Labyrinth Seals. Other materials are available upon special request.



Pre-heated system arrangement or several types of steam Jacket options (photo) available.

### MECHANICAL SEAL OPTIONS

- Double back to back mechanical seal.
- Double tandem mechanical seal.
- Single acting, balanced in cartridge design mechanical seal.

## Ruhrpumpen Test Lab

Ruhrpumpen's test capabilities cover the full flow and head range of our pumps and we can test up to 20,000 Hp (15 MW), in both 50 and 60 Hz.

With the strictest standards, the following test types can be performed:

- Performance test
- NPSH
- Vibration Analysis
- Noise level
- Bearing temperature
- Hydrostatic
- Submergence



## Other Ruhrpumpen Products

### Horizontal Double Suction Pump

Between bearing, radially split single stage centrifugal pump, heavy duty process design according to API 610 latest edition (Type BB2).

Heavy Duty, High Temperature Process, Process and Industrial Applications.



### Vertical Barrel Pump

Low NPSH "Shockless Entry" first stage impeller (single or double suction), Single or multi-stage. Standard construction materials according to API latest edition (Type VS6).

Condensate, Power plants, Municipal, Hydrocarbons, Pipeline and Refineries.



### Multi-Stage, Barrel Pump

Radially split, horizontal multi-stage, centerline mounted, single suction, radial, closed impeller, Heavy duty process design according to API 610 latest edition (Type BB5).

Hydrocarbons, Chemical Solutions and Water.



### Vertical Inline Process Pump







Radially split, vertical in line centrifugal pump, heavy duty process design according to API 610 latest edition (Type OH3 / OH5).

Petroleum Refining / Distribution, Petrochemical and Chemical Applications.





## RUHRPUMPEN PLANTS

-  GERMANY, Witten
-  USA, Tulsa & Orland
-  MEXICO, Monterrey
-  EGYPT, Cairo
-  INDIA, Chennai
-  BRAZIL, Rio de Janeiro
-  ARGENTINA, Buenos Aires

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Represented by:

