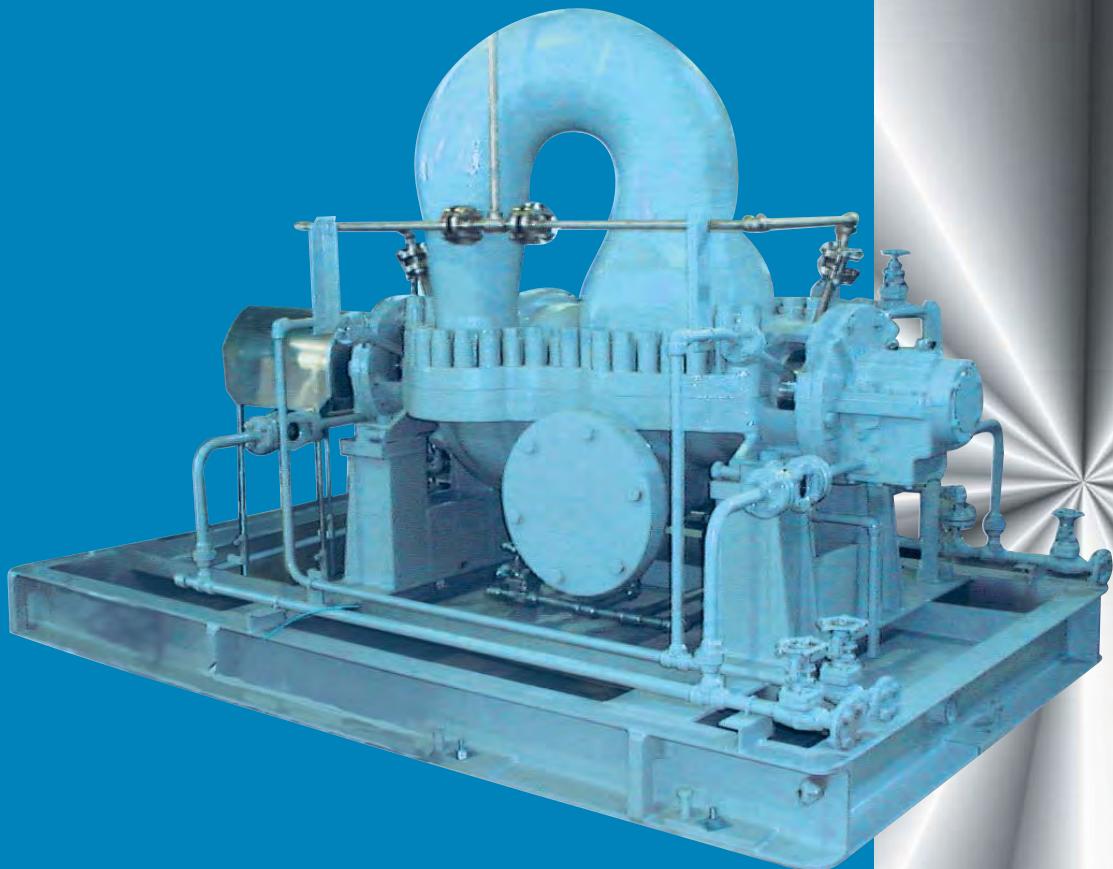


SNM Axially Split two Stage Pumps

Model RTH

API 610 11th Edition Process Pump



SHIN NIPPON MACHINERY CO.,LTD.

MODEL RTH Axially Split two Stage Between Bearings Pumps (API Class BB1)

■ Design Feature

- The model RTH is horizontal, axially split, two stage, single or double suction, double volute, centerline support, between bearings process pump.
- The RTH is suitable for low NPSH, large capacity and middle pressure application.
- Heavy duty construction is in full compliance with API 11th edition.

• Seal chamber

Seal chamber dimensions are in full compliance with API682 and API610 standards. Dual seals can be installed with our standard seal chamber dimension.

• Easy maintenance

Overhaul can be carried out without disturbing main pipings and driver. Jack bolt is furnished at rabbeted fit area in order to prevent obstruction of disassembly by sticking.

• Long bearing life

Double volute casing design and double suction impeller design or opposite impeller stage arrangement produce pumps with optimum radial and axial forces balance. This ensures smooth operation and long bearing life.

• Low vibration

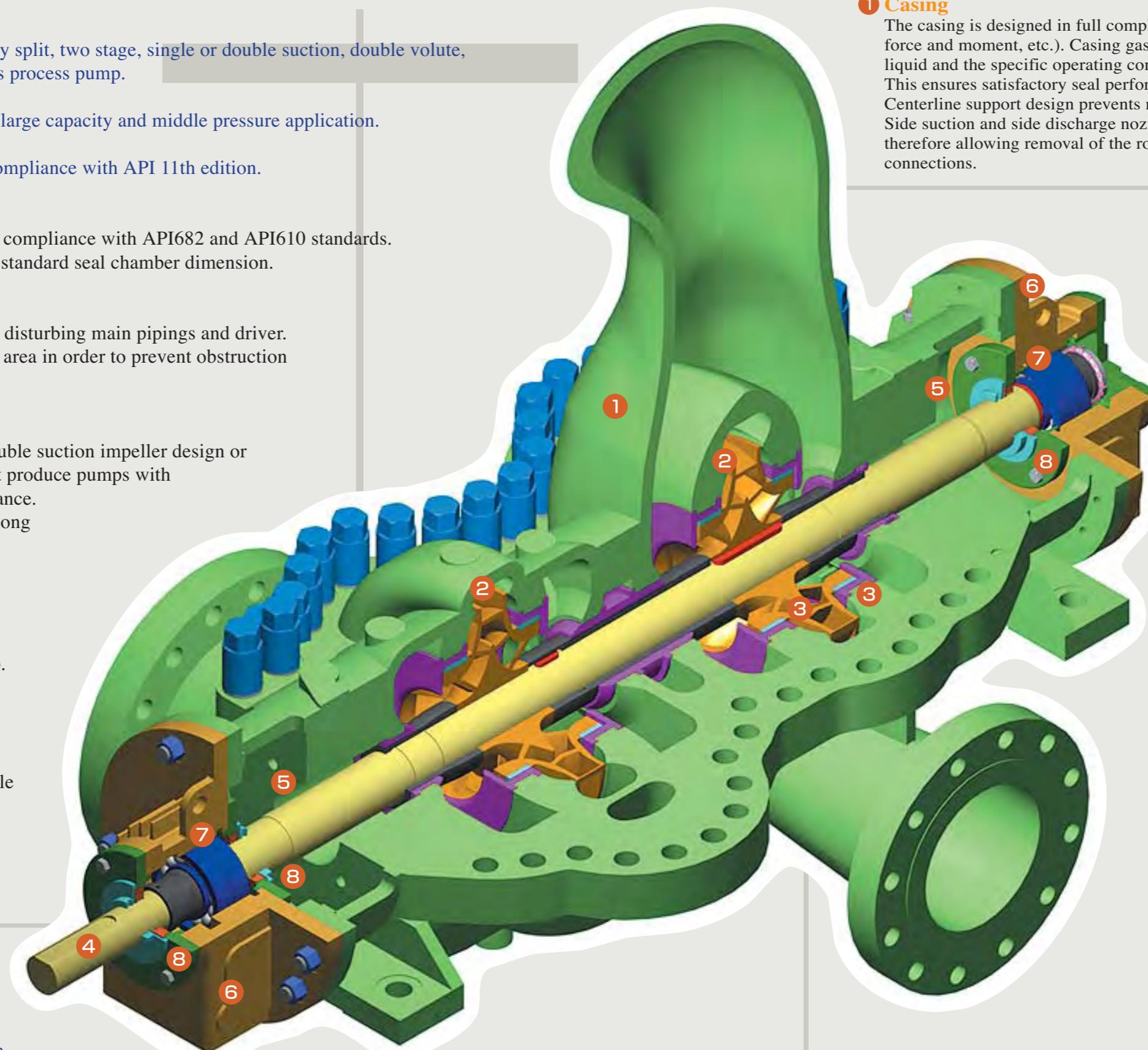
Full circular construction of bearing housing and optimum clearance design minimizes vibration of pump.

• Minimal variety of spare parts

By standardizing our horizontal, between bearings pumps, replacement parts are interchangeable and can be provided with little or no lead time.

■ Specification

- Max. flow rate up to 2000m³/h
- Max. differential Head up to 650 m
- Max. operation temperature up to 200 °C



① Casing

The casing is designed in full compliance with API610 (design pressure, nozzle force and moment, etc.). Casing gasket is appropriately selected to meet the specific liquid and the specific operating condition. This ensures satisfactory seal performance. Centerline support design prevents misalignment caused by thermal expansion. Side suction and side discharge nozzles are integrally cast with lower half casing, therefore allowing removal of the rotor without disrupting driver and piping connections.

② Impeller

Closed single or double suction impeller is designed to meet the specific operating condition with the maximum efficiency and low NPSH-required (NPSH3). The impeller is dynamically balanced to meet the API610 requirement. Opposite impeller layout or balanced construction of double suction impeller reduces thrust loads and prolongs bearing life.

③ Renewable wear rings

Renewable wear rings are furnished.

④ Stiff shaft

Minimizes shaft deflection for longer bearing and seal life.

⑤ Shaft seals

Mechanical seal is applicable to all seal types and plans in accordance with API682 and API610. Upon request, gland packing can be installed.

⑥ Bearing housing

Full circular bracket construction minimizes vibration of bearing housing. So pump vibration is much lower than the limit of API610. If high temperature service is specified, suitable cooling system is furnished.

⑦ Bearings

Bearings and lubrication systems are available in three configurations to meet service conditions and the requirements of API610.

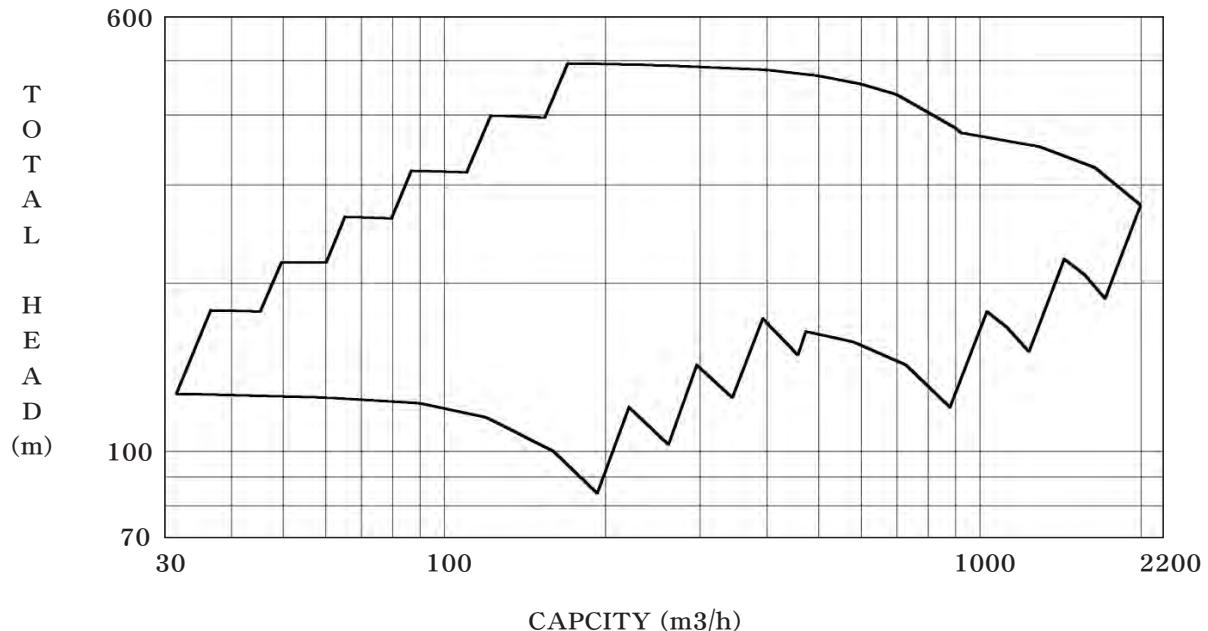
1. ball radial and angular contact ball thrust / flooded lubrication
2. sleeve radial and angular contact ball thrust / oil ring lubrication
3. sleeve radial and tilting pad thrust / pressurized lubrication

⑧ Replaceable labyrinth end seals and deflectors

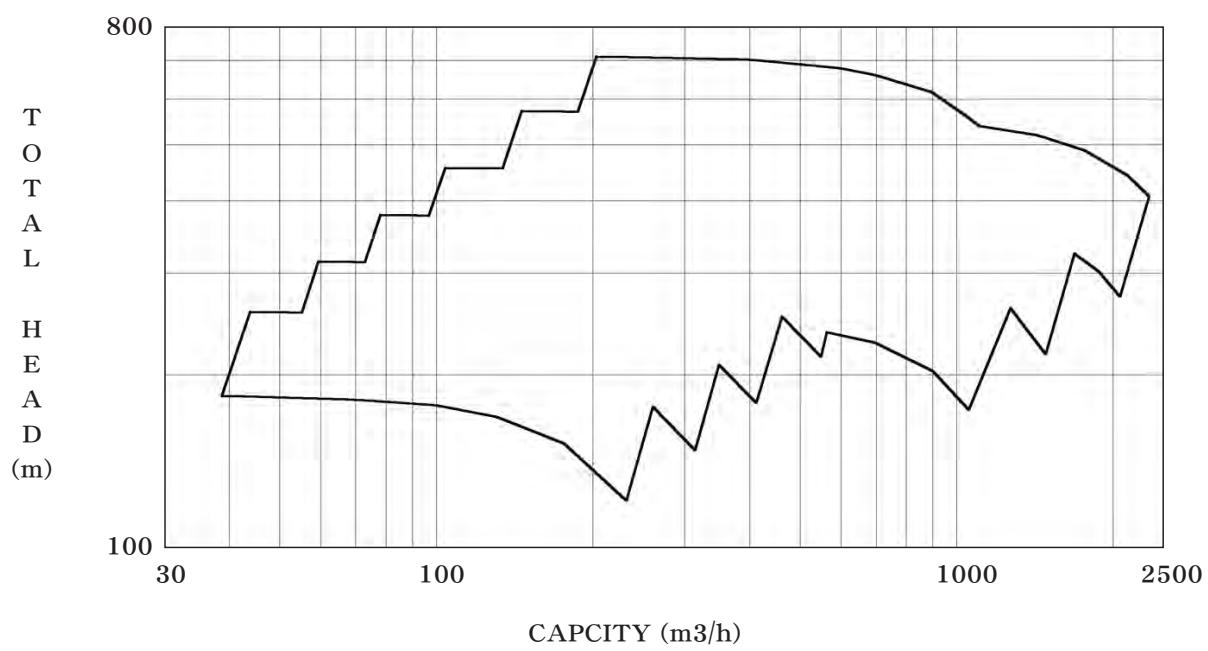
Labyrinth end seals and deflectors effectively retain oil in the housing and prevent entry of foreign material into the housing.

Model RTH performance chart

Coverage-50Hz



Coverage-60Hz



(※) In addition to above-mentioned chart, we will provide the best design for your application.

Optional Feature

■ Design for optimum operating condition

• 3D machined impeller

3D machined impellers^(*) can be designed and produced to meet specific operating condition by using advanced flow analysis method.

(*)Machining processes for fabricated impellers offer capabilities for more exact profiles and higher efficiency.



3D machined impeller

■ For higher efficiency requirement

• Non-metallic material wear rings

Use of non-metallic material wear rings ensures improvement of pump efficiency. Running clearance can be reduced with improved operating reliability as well as termination of seizure under specified operating conditions.

■ Special protector

- Special labyrinth seal and deflector
- Special gas breather
- Bearing protector

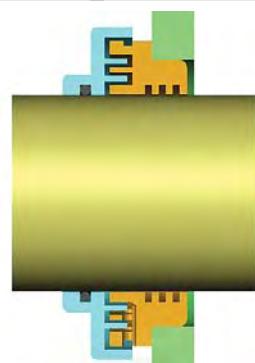
The above-mentioned parts will prevent lubricant contamination cased by cloudburst, sandstorm, entry of steam and other heavy condition.



Bearing protector



Special gas breather



Special labyrinth seal
And deflector

■ Optional lubrication

• Oil mist lubrication

Oil mist lubrication can be provided.



SHIN NIPPON MACHINERY CO.,LTD.

■Head Office

ThinkPark Tower, 1-1, Osaki 2-chome,
Shinagawa-ku, Tokyo, 141-6025, Japan
TEL. +81-3-6737-2631 FAX. +81-3-6866-5120

■Kure Works

1-2-10 Hiro Suehiro, Kure-shi, Hiroshima, 737-0133, Japan
TEL. +81-823-71-1111 FAX. +81-823-72-5267



新日本造機株式会社

■本社

〒141-6025 東京都品川区大崎2-1-1 (ThinkPark Tower)
TEL (03) 6737-2631 FAX (03) 6866-5120

■呉製作所

〒737-0133 広島県呉市広末広1-2-10
TEL (0823) 71-1111 FAX (0823) 72-5267

<http://www.snm.co.jp>

E-mail : turbine@snm.shi.co.jp
pump@snm.shi.co.jp