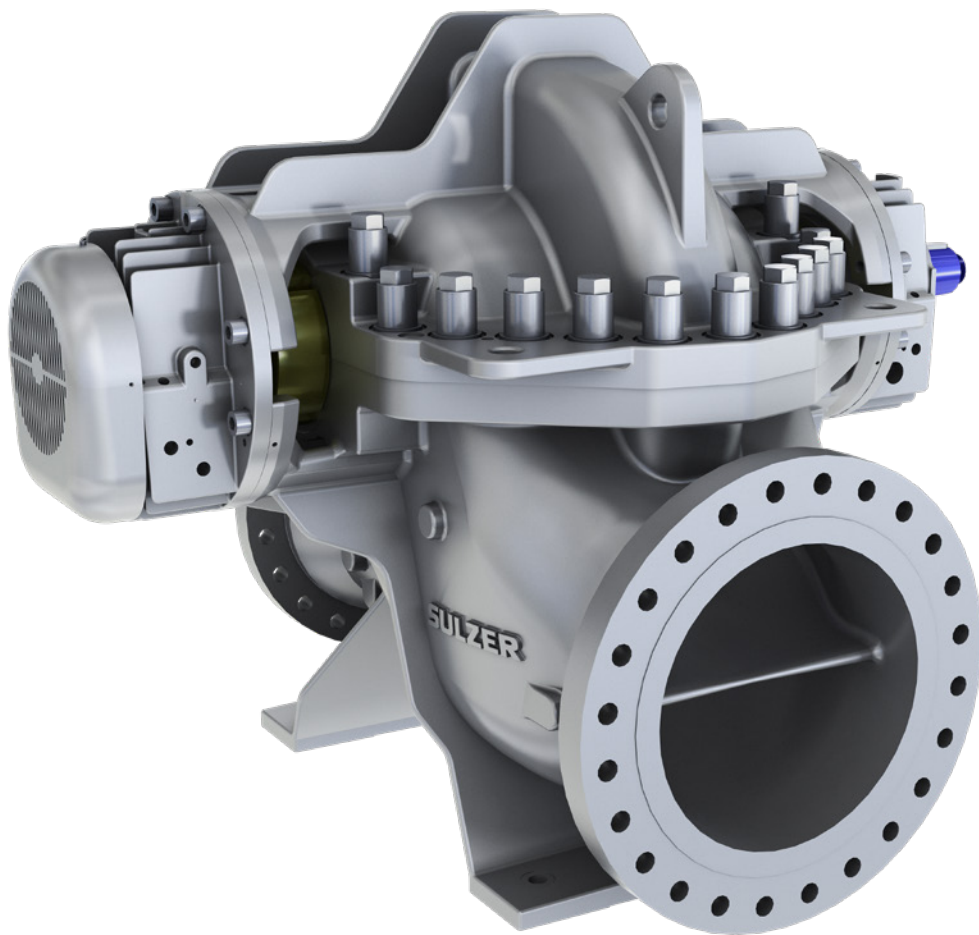


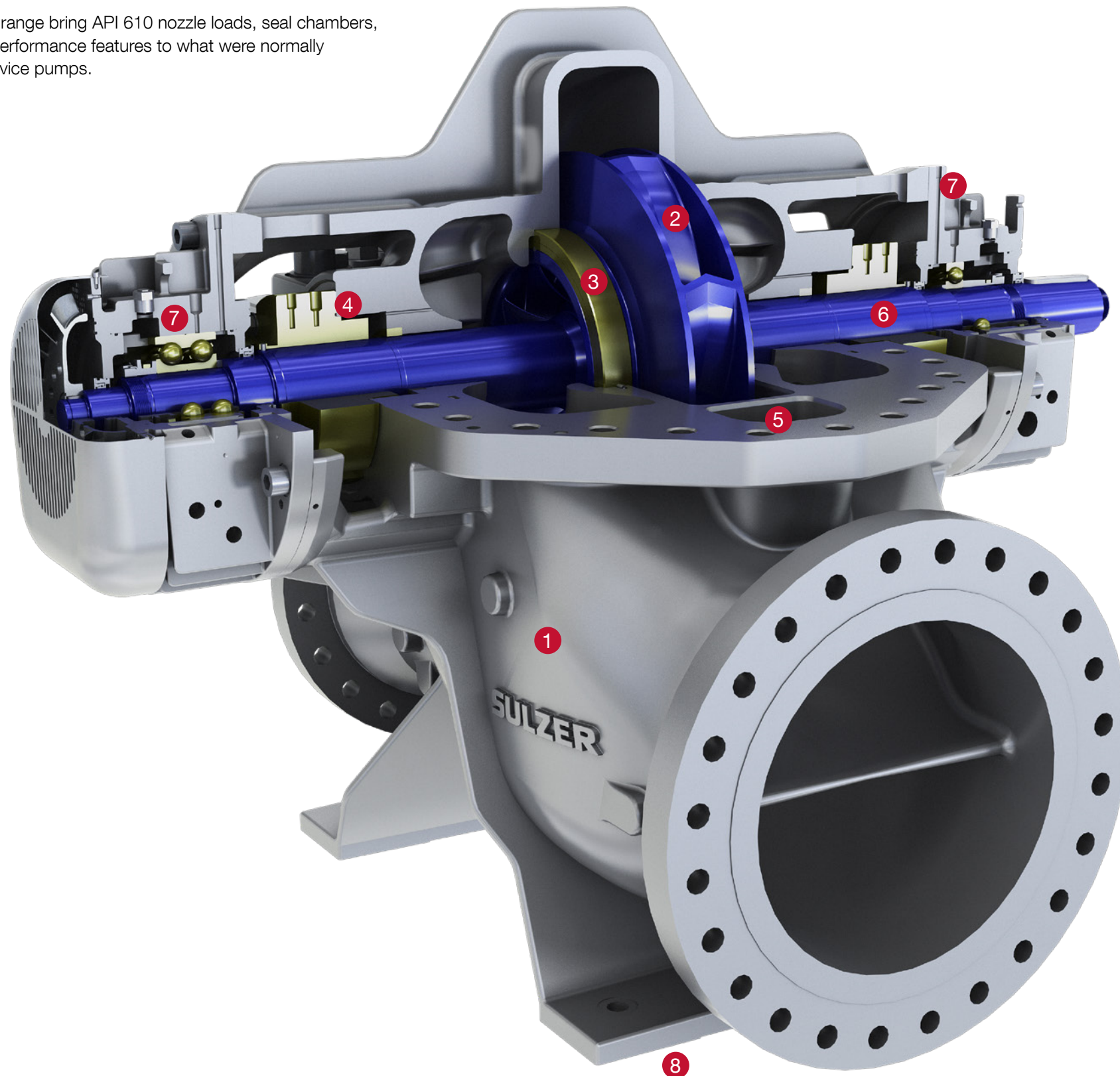
**HSA API 610 type BB1 axially split  
single stage double suction pump**



## Main applications

The HSA API 610 Type BB1 product line is designed for use in the oil and gas industry. Applications include tank farm transfer, pipeline, pressure boosting, cooling water, and closed cycle cooling.

The Sulzer HSA pump range bring API 610 nozzle loads, seal chambers, bearing systems and performance features to what were normally considered general service pumps.



## Features and benefits

- 1 High strength axial split casing**
  - 150# and 300# flange options
  - Two times API 610 table 5 nozzle load capability
- 2 Double suction impeller**
  - Balanced axial thrust
  - Optimum geometry provides high efficiency, low NPSH, and quiet running over a wide operating range
  - Balanced to ISO 1940-1 G2.5
- 3 Wear rings**
  - Replaceable case rings as standard
  - Replaceable impeller rings or integral wear surface depending on material
  - Simple, low cost efficiency renewal
- 4 API 610 Table 7 seal chambers**
  - API 682 single or dual cartridge type mechanical seals
  - API 682 seal support systems
- 5 Double volute casing on larger sizes**
  - Minimizes shaft deflection
  - Longer mechanical seal life
- 6 Large shaft diameter with minimum bearing span**
  - More power capacity
  - Improved mechanical seal life
- 7 High capacity bearing assembly**
  - Ball-ball, sleeve-ball and sleeve-pivot shoe bearings available
  - Fan or water cooled options
- 8 Heavy duty baseplates**
  - Grouted or ungrouted design
  - Vertical arrangement (HSAv) for limited deck space applications

# HSA horizontal axially split single stage double suction pump



Oil and gas



Hydrocarbon processing



Power generation



Pulp, paper and board



General industry



Chemical process industry

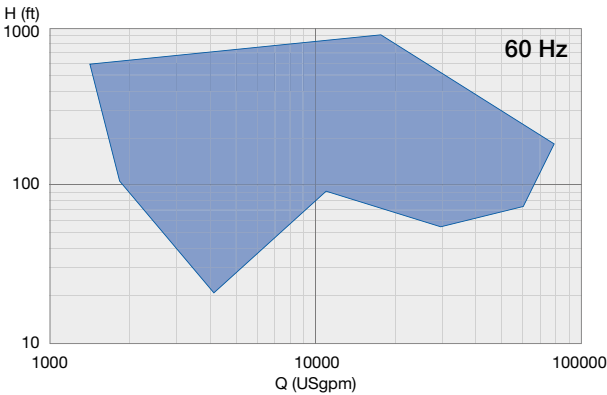
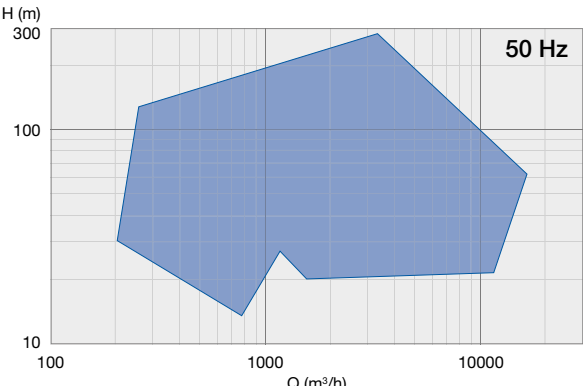


Water and wastewater

## Operating data

50 Hz		60 Hz
6" to 32" nozzles	Pump sizes	6" to 32" nozzles
up to 18'000 m <sup>3</sup> /h	Capacities	up to 80'000 USgpm
up to 260 m	Heads	up to 850 ft
up to 34 bar	Pressures	up to 490 psi
up to 140°C	Temperatures	up to 280°F
up to 3'600 rpm	Speeds	up to 3'600 rpm

## Performance ranges



## Materials

Material classes	Material
API 610	S-4, S-5, S-6, S-8, A-8, D-1, D-2

## We do what we say



### Operational excellence

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We continuously strive to  
be faster and better.

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### Customer partnership

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Together, we win.

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### Committed people

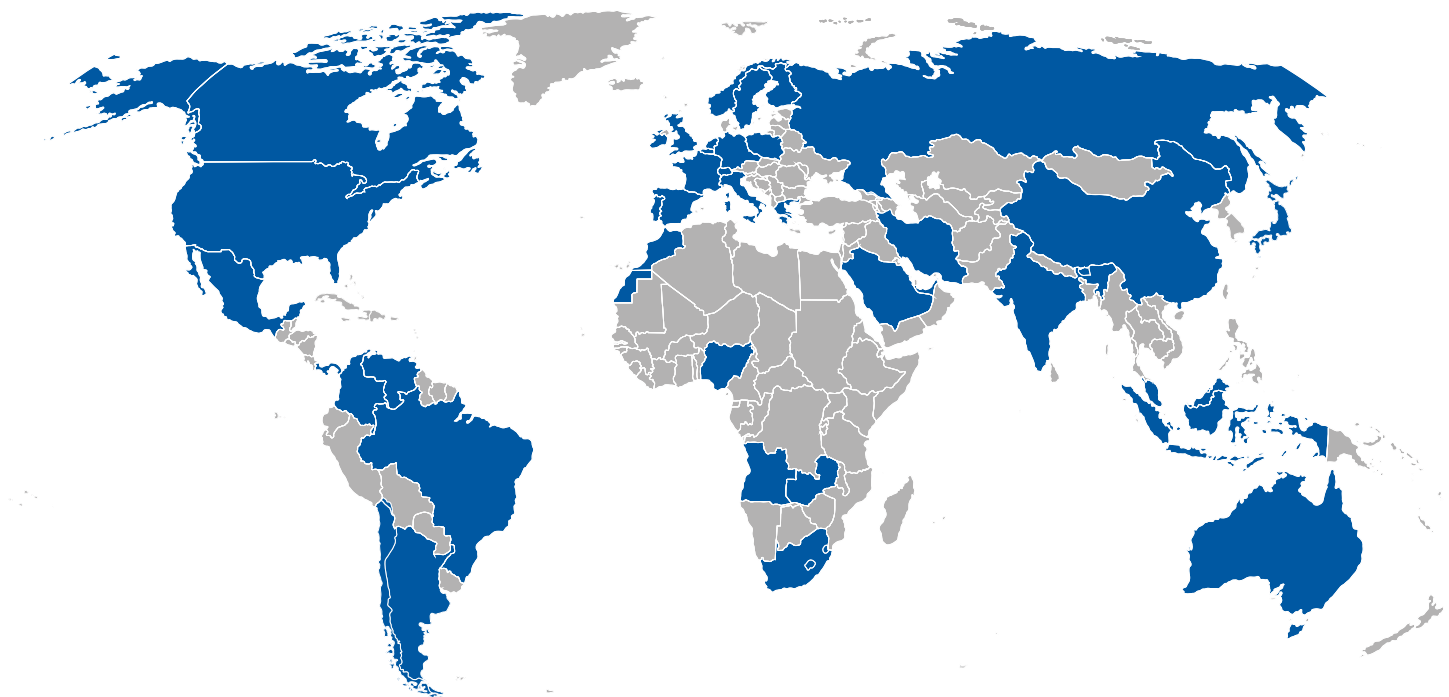
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We build on the strengths  
and diversity of our people.

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## A global specialist at your doorstep

Sulzer serves clients worldwide through a network of over 150 production and service sites and has a strong footprint in emerging markets.





[www.sulzer.com](http://www.sulzer.com)

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