WEIR

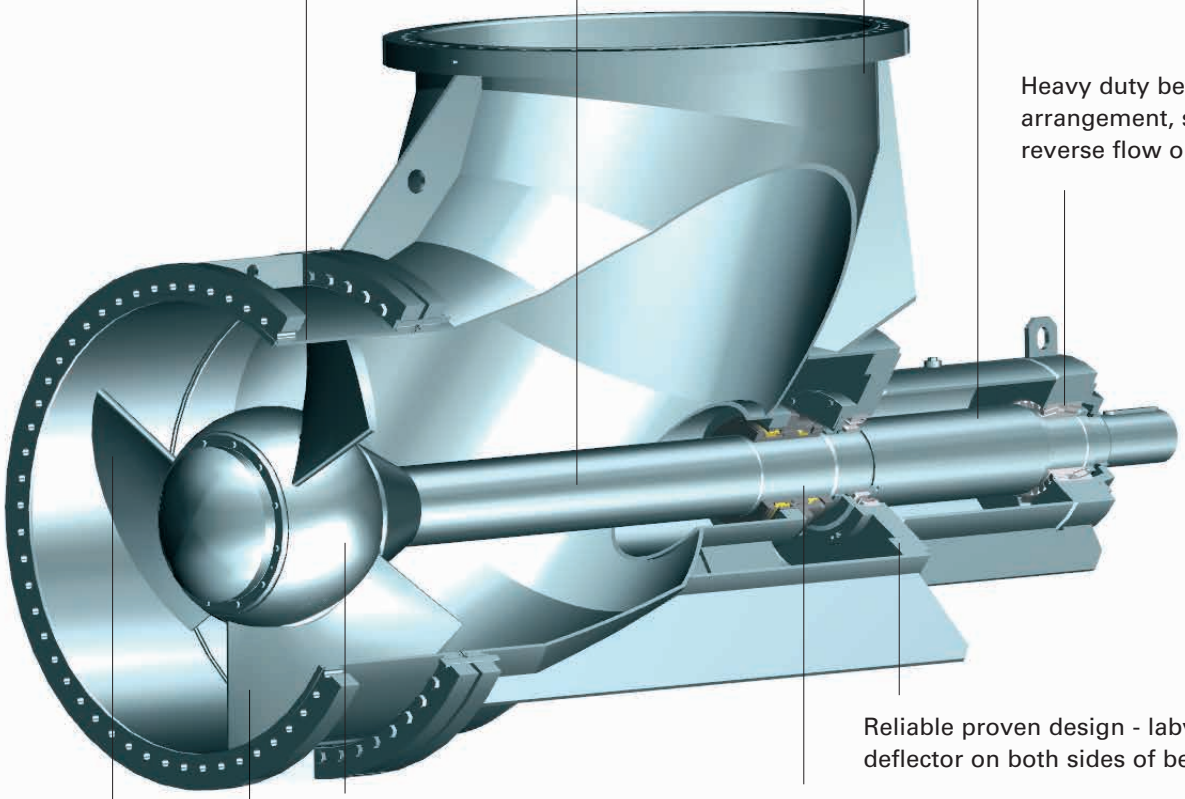
Minerals

WARMAN®
Q-Series Axial Flow Pumps

Continuous circulation of fluids

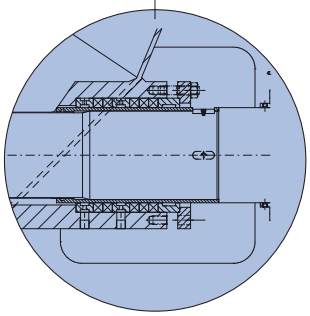
Crystal clear

Warman® Q-Series heavy duty Axial Flow Pumps are designed and built for continuous circulation of fluids: corrosive or abrasive, clean or solid-contaminated. The Q pumps offer low energy consumption, low maintenance costs and high quality from a company with proven global experience.



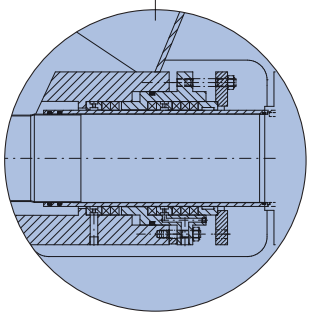
WARMAN®
Q-Series Axial Flow Pumps

Shaft sealing options



Gland packing

- Soft packing with double lantern ring.
- Shaft sleeve under packing.



Gland packing with shut-down device

- Soft packing with one lantern ring in the shut-down device and one lantern ring in the operating stuffing box.
- Shaft sleeve under packing.

Wide range of industrial applications

- Salt and potash
  - Continuous circulation of corrosive and abrasive fluids
  - Crystallisation (brine, phosphate, sodium chloride, potash, seawater)
  - High-purity brine treatment
- Chemicals
  - Evaporator and crystallizer circulation (soda ash)
- Pulp and paper
  - Black liquor evaporator
  - High solids concentration
  - Chlorine dioxide generators and chloride removal
- Metals and mining
  - Crystallisation of nickel, lithium, magnesium and zinc
  - Titanium dioxich
  - Scratch metals (batteries)
- Water treatment
  - Sewage digesters
  - Zero liquid discharge systems
- General
  - Raw water pumping, flood control, marine ballast transfer and water intake pump
- Biomass
  - Circulation and evaporation
- Food
  - Juice concentration

Features

- High quality and reliability
- High efficiency
- Low energy consumption
- Global experience in pumping abrasive and corrosive liquids
- Heavy duty construction
- Low maintenance cost and minimum spare parts usage
- Gentle fluid handling
- Global service and support infrastructure

Proven performance

- Capacity: up to 70.000 m^3/h (308.000 gpm)
- Head: up to 9 m (30 feet)
- Temperature: up to 200 °C (390 °F)
- MAWP: up to 1000 kPa (145 psi)
- Sizes: DN 300 (12″) up to DN 2000 (80″)

Materials for every demand

- Cast iron
- Carbon steel
- Austenitic, (Super) Duplex or 6Mo stainless steel
- Nickel, nickel-copper, nickel-chrome, nickel-chrome moly alloys
- Titanium
- Other alloy materials on request

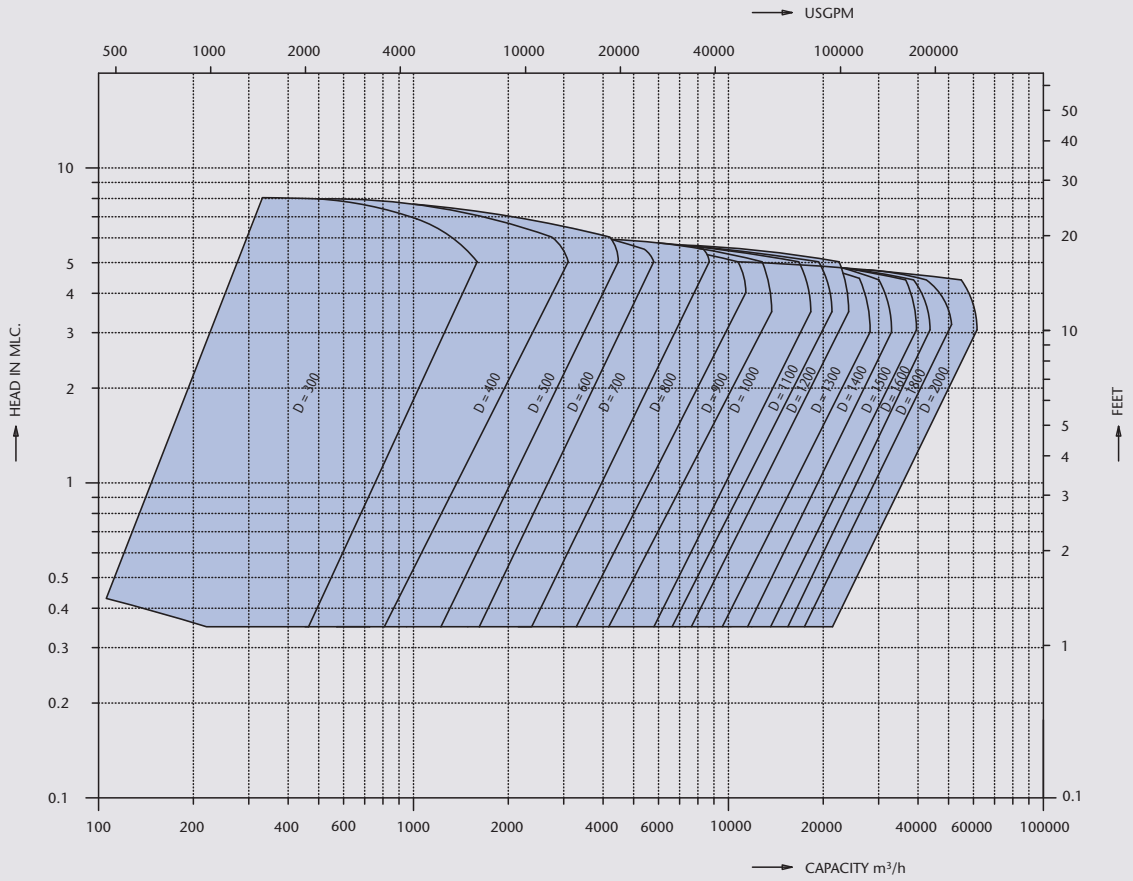
Configurations to fit every situation

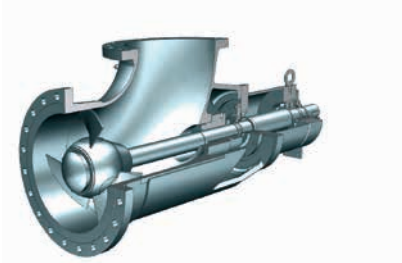
- Foot/centreline mounted cast version on base frame
- Suspended, V-belt driven, with motor under slung to the pump
- Suspended, V-belt driven, with motor on separate base/support
- Suspended, gear box driven
- Foot mounted fabricated units

Options

- Guide vanes for improved efficiency and lifetime
- Back-pull out in cast construction, ease of maintenance
- Wear ring at propeller running area in cast version
- Spring mounted base frame

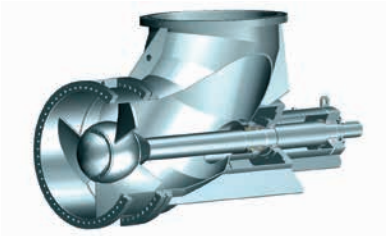
Q-Series Hydraulic coverage





QL-Model

- Horizontal elbow design in cast construction
- Oil/grease lubricated
- Drive by electric motor with V-belt transmission
- Foot centreline-mounted on a common base frame or suspended in pipe work with motor under slung
- Also available with gear box or direct drive with frequency converter
- Optional: wearing ring around impeller



QCL-Model

- Horizontal elbow design in fabricated construction with separate pump casing
- Standard oil lubricated
- The pump is suspended in the system and driven by V-belt transmission, or cardan shaft with gearbox, or direct drive with frequency converter
- The drive components are mounted on separate base frame. Alternatively pump and drive may be spring mounted on a common base frame

QCV-Model

- Bottom flange designed for direct mounting to the reactor vessel
- Drive arrangement designed to customer specification

WARMAN®
Q-Series Axial Flow Pumps

Simplified maintenance and reduced costs

Warman® Q-Series Axial Flow Pumps are designed to make maintenance straightforward, minimising operation costs and increasing product life span, thus increasing plant availability.
The Q-Series are designed for:

- Arduous conditions e.g. salt evaporation plants
- High capacities, low head
- Operating at the Best Efficiency Point in combination with optimum NPSH values as a result of the specifically designed propeller blades.

Fully equipped test bay for highest reliability

The entire design of the Q-Series pump focuses on quality, ensuring optimum reliability and availability. An essential part of our manufacturing is a mechanical running test. Each pump has a mechanical running or performance test on our test bay before shipping.

Weir Group: Global Engineering Solutions Provider

Weir Minerals Netherlands b.v. is part of Weir Minerals, one of three divisions within The Weir Group PLC. The Weir Group is a UK-listed engineering company, founded in 1871 and quoted on the London Stock Exchange since 1947. As a leading global engineering solutions provider, The Weir Group focuses on designing, manufacturing and supplying innovative products and expert engineering services for the minerals, oil & gas, and power & industrial markets.

The company is committed to creating innovative engineering solutions and features:

- Worldwide network of around 200 manufacturing and service facilities
- Employment of approximately 15,000 people globally
- Presence in more than 70 countries
- Product portfolio which includes many of the world's best known pump names

Customer Care

Installation and commissioning of Warman® Q-Series Axial Flow Pumps is always provided by an Weir service engineer. Part of every commissioning is an extensive training programme (both classroom and hands-on) to ensure local operators and maintenance staff have full knowledge of the product. Genuine spare parts are available from our extensive stock locations around the world.

Proven Global Experience

Weir Minerals Netherlands has supplied Warman® Q-Series Axial Flow Pumps across the globe for more than 60 years offering reliable and efficient pumping solutions for the most critical and demanding applications.

Typical references

Netherlands
Salt (sodium chloride),
pump type QC 1100,
Monel 400

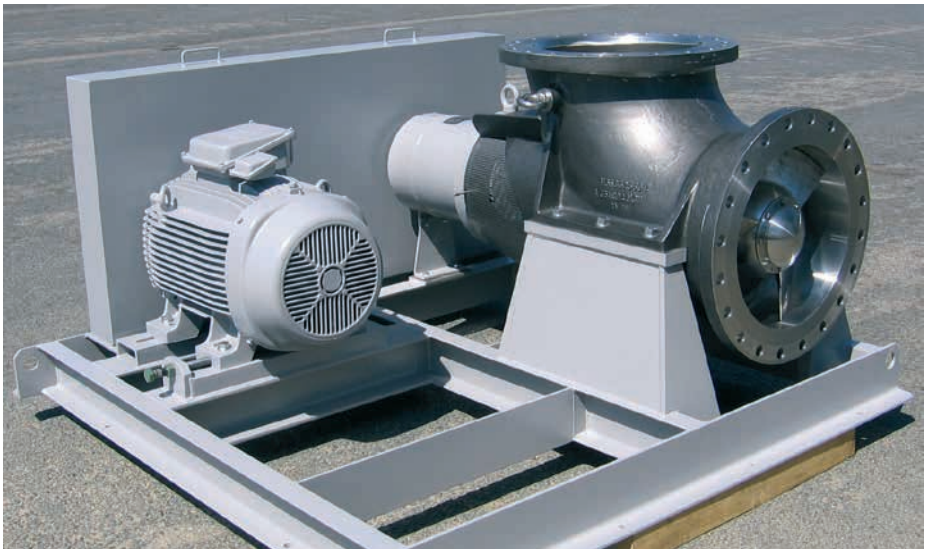
South Africa
Sodium sulfate,
pump type QCL 1400,
Duplex stainless steel

China
Salt,
pump type QCL 1300,
Titanium

WARMAN®
Q-Series Axial Flow Pumps

Spain
Salt,
pump type QCL 1400
Stainless steel

Austria
Salt,
pump type QCL 1300,
Alloy 31/Monel 400



South Africa
Mixed salts,
pump type QL 500,
Duplex stainless steel

Minerals

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