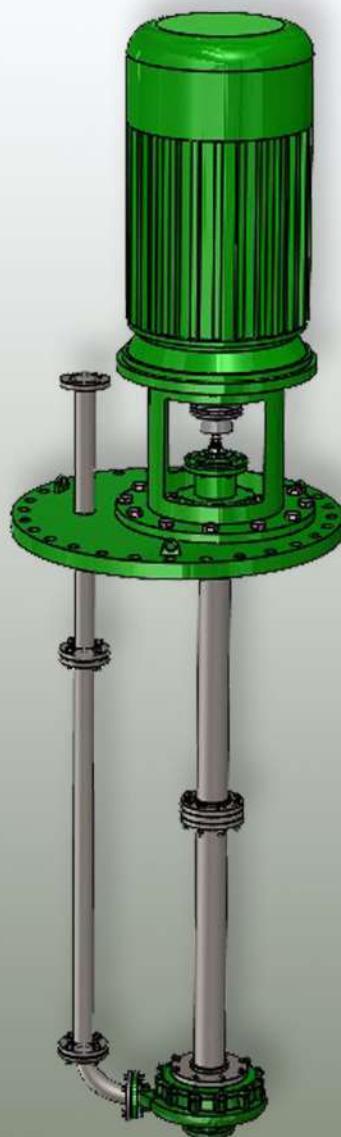


# CEN-SV

Heavy-Duty VS4

## Vertical Suspended Pump

API 610, ISO 13709



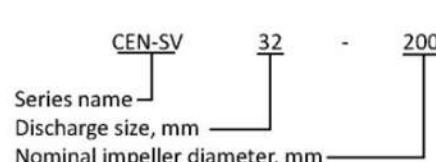
PT TORISHIMA PUMP MFG INDONESIA

## GENERAL

Torishima CEN-SV series are vertically suspended, single casing volute line-shaft driven sump pump.

## TECHNICAL DATA

- Capacity	: Up to 500 m <sup>3</sup> /hr
- Total Head	: Up to 150 m
- Pressure	: Up to 2.5 Mpa
- Temperature	: -40 to +220 °C
- Discharge Size	: 32 - 150 mm
- Material	: S-5, S-6, A-8
Other material upon request	



## SHAFT SEAL

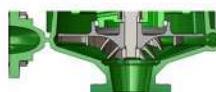
The shaft seal is not in contact with the pumped liquid and is only provided to seal the shaft exit from escaping gases or vapours. Soft-packed stuffing boxes or mechanical seals can be fitted as required.

## APPLICATION

- Petrochemical Plant
- Chemical Plant
- Paper Making Plant
- Cement Plant
- Steel Mills
- Power Plant
- Molten Sulfur
- Refineries
- Oil Fields and Terminals
- Desalination Plants

## NOMENCLATURE

## IMPELLER OPTIONS



### Type open impeller

Ideal for pumping liquids with high solids content, such as slurries, sewage, and viscous fluids

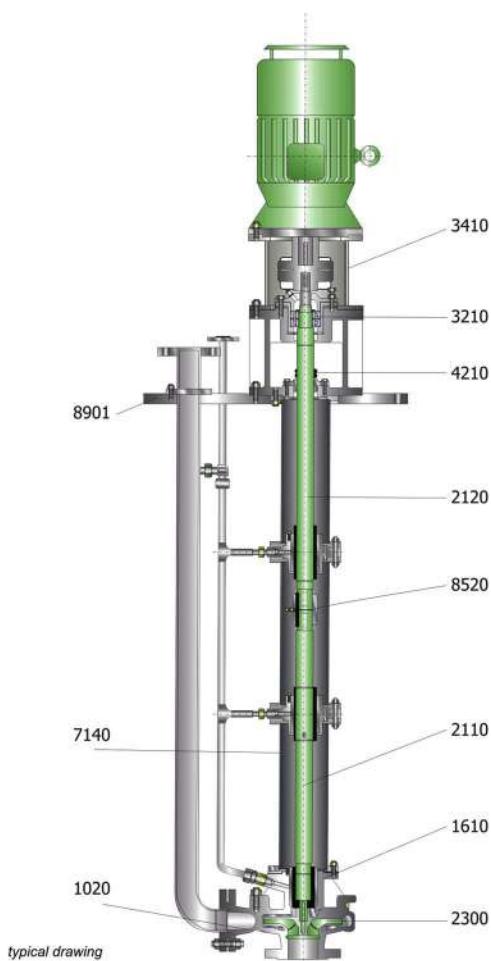


### Type closed impeller

Ideal for pumping fluids with moderate solids or high viscosity because its hybrid design offers a balance between the efficiency of closed impellers and the solids-handling ability of open impellers.

## FEATURES & BENEFITS

Features Category	Available Option
Shaft Sealing Options	<ul style="list-style-type: none"><li>* V-Ring</li><li>* Throttle bushing</li><li>* Lip seal with grease-filled stuffing box</li><li>* Soft packing</li><li>* Single mechanical seal, including dry running types</li><li>* Pressurized double mechanical seal</li></ul>
Materials of Construction	<ul style="list-style-type: none"><li>* ISO 13709/API 610 compliant alloys</li><li>* NACE MR0175 compliant alloys</li><li>* Specialty materials such as titanium</li></ul>
Optional Inducer	<ul style="list-style-type: none"><li>* Reduces backflow and guarantees trouble-free operation over a broad flow range</li><li>* Available when suction conditions are critical</li><li>* Steam heating</li><li>* Suction strainer</li></ul>
Additional Options	<ul style="list-style-type: none"><li>* Bearing cooling (API Plan A)</li><li>* Internal or external bearing flushing</li><li>* Multiple API seal flushing, barrier fluid and quench system piping plans</li><li>* Suction pipe</li><li>* Length can be set above 8 m (26 ft) upon request</li></ul>



## LIST OF COMPONENT

Part No.	Part Name
1020	Volute Casing
2110	First Shaft
2120	End Shaft
2300	Impeller
3210	Ball Bearing
3410	Drive Stool
4210	V-Ring
7140	Section Pipe
8520	Line Shaft Coupling
8901	Solepalte

## BEARING CONFIGURATION

Torishima CEN-SV pump features a thrust pot with oil lubricated API 40° angular contact bearings in back-to-back arrangement. This enables standard (non-thrust) electrical motors to be used and fulfills ISO 13709/API 610 bearing life criteria.

Lineshaft bearings are available in several metallic and non-metallic materials to suit application needs.

## AVAILABLE BASEPLATE DESIGN

Several baseplate designs are available for Torishima CEN-SV.

- \*Rectangular
- Non-pressurized
- Foundation or steel structure mounting

- \*Circular
- DIN 2501 PN 10 — Tank pressures to 9 bar (130 psi)
- ANSI 150 lb
- ANSI 300 lb

\*Customer-specific dimensions

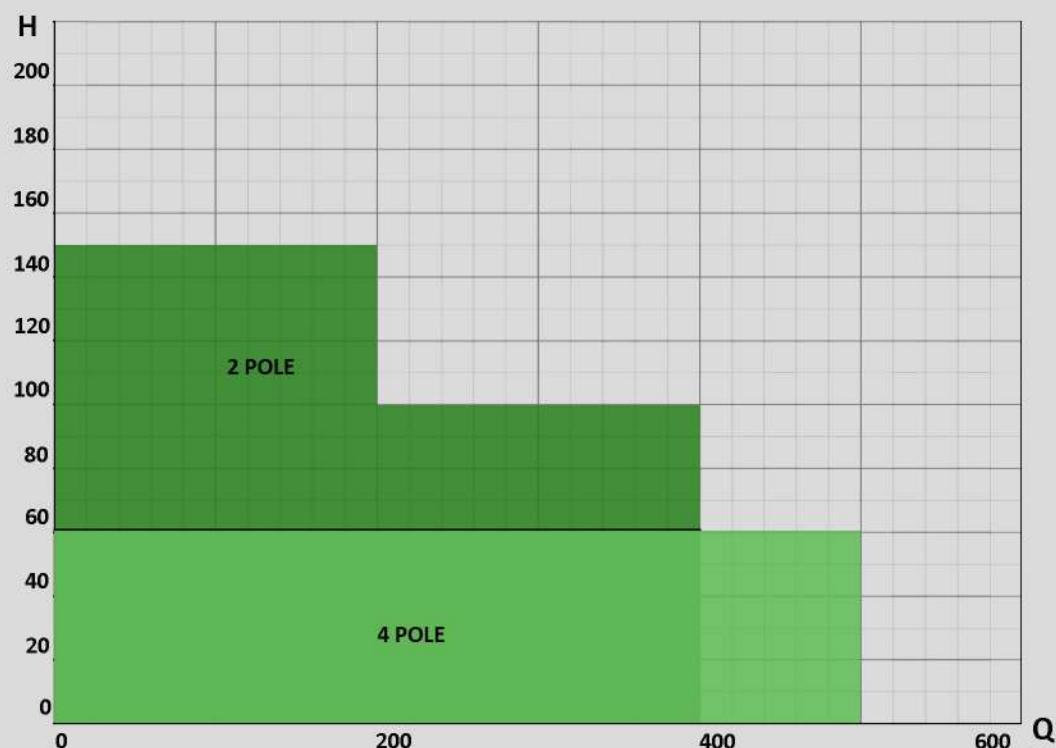
## Torishima CEN-SV: Cost-Saving Design Features

Category	Design Feature	Cost Reduction Benefit (Installation & Maintenance)
Reliability / Downtime	Heavy-duty ISO 13709/API 610 compliant lineshaft-shaft bearing design	Virtually eliminates shaft failure (major maintenance cost/downtime)
	Standard duplex angular contact external thrust bearing	Eliminates transmission of pump-developed loads to the motor, preventing costly motor bearing failures.
Maintenance / Lubrication	Lineshaft bearing lubrication manifold (connecting multiple lines to a single external source)	Enables easy maintenance and lubrication.
	Extended grease lube fitting	Simplifies lubrication by eliminating guard removal.
Installation / Alignment	Industry standard TCV motor	Allows for quick and accurate alignment.
	Premium metal-backed, carbon graphite bearings	Eases installation and increases shaft stability.
	Simplex or duplex mounting arrangements	Permits site-specific customization for low installation costs.
Component / Reconditioning	Replaceable, non-metallic sealing ring	Provides means to accurately restore original tolerance (shaft/cover) and facilitates bearing removal.
Precision	Precision machined, metal-to-metal, inter-connecting faces (casing, seal chamber, adapter housing)	Provides total concentricity, leading to enhanced reliability and reduced wear.

Several lubrication systems are available, including:

- Product lubrication – for clean liquids
- Manual or automatic grease lubrication – for pumped fluids possessing poor lubricity or containing solids
- Dual particle separation – for applications requiring the removal of small amounts of solids

## SELECTION CHART





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