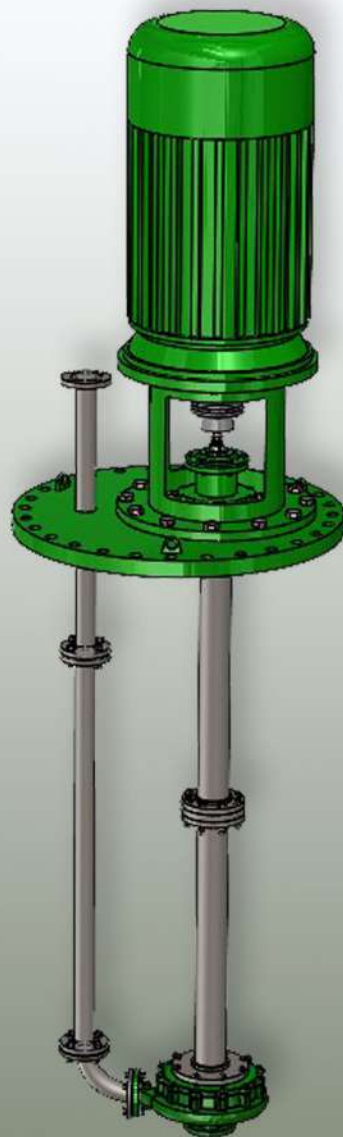


CEN-SV

Heavy-Duty VS4

Vertical Suspended Pump

API 610, ISO 13709



PT TORISHIMA PUMP MFG INDONESIA

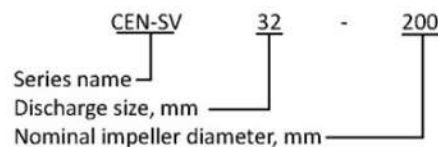
GENERAL

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

TECHNICAL DATA

- Capacity : Up to 500 m³/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

NOMENCLATURE

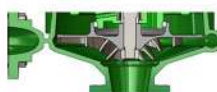


SHAFT SEAL

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



Type open impeller

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



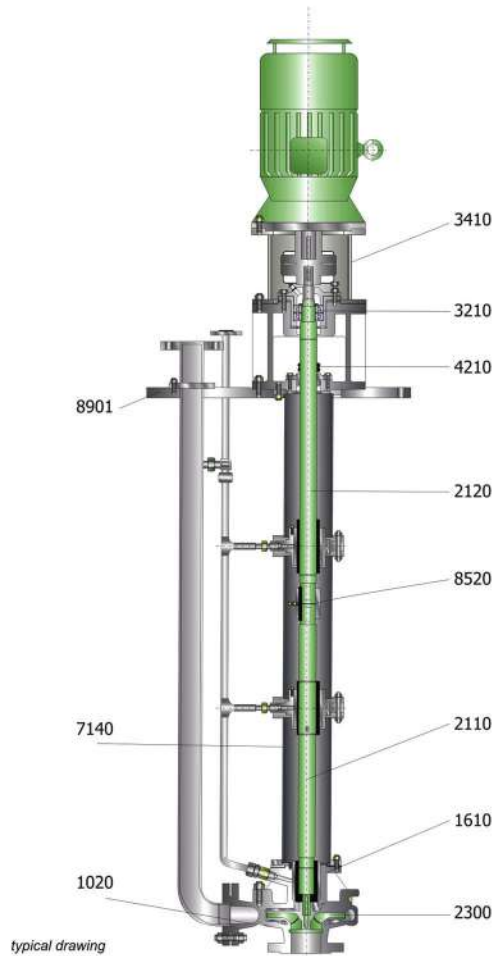
Type closed impeller

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	* V-Ring
	* Throttle bushing
	* Lip seal with grease-filled stuffing box
	* Soft packing
	* Single mechanical seal, including dry running types
	* Pressurized double mechanical seal
Materials of Construction	* ISO 13709/API 610 compliant alloys
	* NACE MR0175 compliant alloys
	* Specialty materials such as titanium
Optional Inducer	* Reduces backflow and guarantees trouble-free operation over a broad flow range
	* Available when suction conditions are critical
Additional Options	* Steam heating
	* Suction strainer
	* Bearing cooling (API Plan A)
	* Internal or external bearing flushing
	* Multiple API seal flushing, barrier fluid and quench system piping plans
	* Suction pipe
	* Length can be set above 8 m (26 ft) upon request

SECTIONAL DRAWING



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 BESTPLATE 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





PT Torishima Pump Mfg Indonesia

Head Office & Factory : Jl. Rawa Sumur Timur No.1
Pulogadung Industrial Estate - Jakarta 13930
T. +62 21 460 6448 - F. +62 21 460 3964
E. marketing@torishima.co.id
www.torishima.co.id