

SINTECH
PUMPS

PROCESS PUMPS

(CPS SERIES)



Salient Features

This series is designed in accordance with ISO 5199 / ISO 2858, making it ideal for worldwide chemical or industrial process applications.

Low down-time and recurring costs : Back pull out design permits quick and easy access to rotating parts without disturbing suction and discharge pipes, electric motor, its connections and alignment.

Low maintenance, inventory and standardization because of module system.

The pump is designed to achieve a low NPSH requirement and high efficiency. It is rugged in construction and is versatile in application.

Design Features

Heavy Duty Shaft : Designed for toughest services. Maximum 0.05 mm deflection at stuffing box face at maximum load.

Hydraulically and Mechanically Balanced Impeller : Axial thrust balance achieved by front and back wearing rings with balancing hole / back vanes for operation over wide range of suction pressure.

Reduced operating cost : With optimized performance and maximum efficiencies.

Versatile shaft seal : By gland packing. Option to use standard unbalanced / balanced mechanical seal.

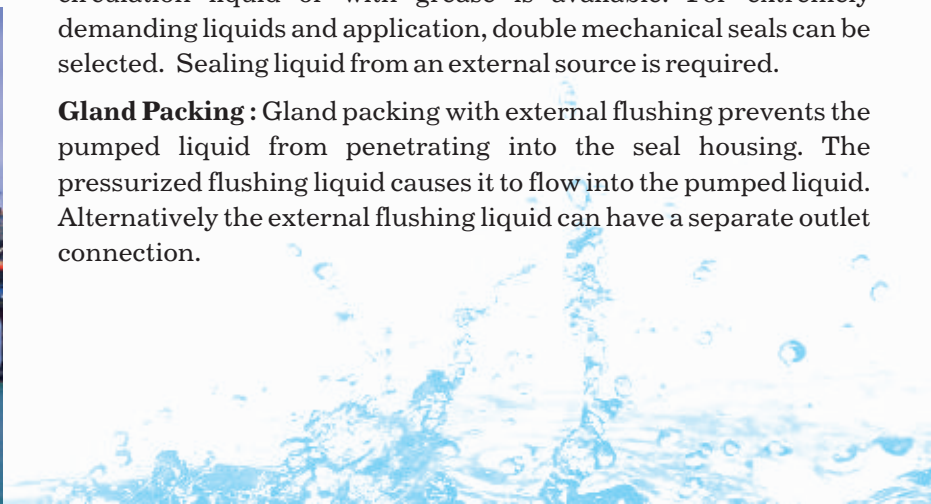
Robust deep groove ball bearings : High operating reliability, grease / oil packed.

High interchangeability : Ensures fast delivery and low inventory.

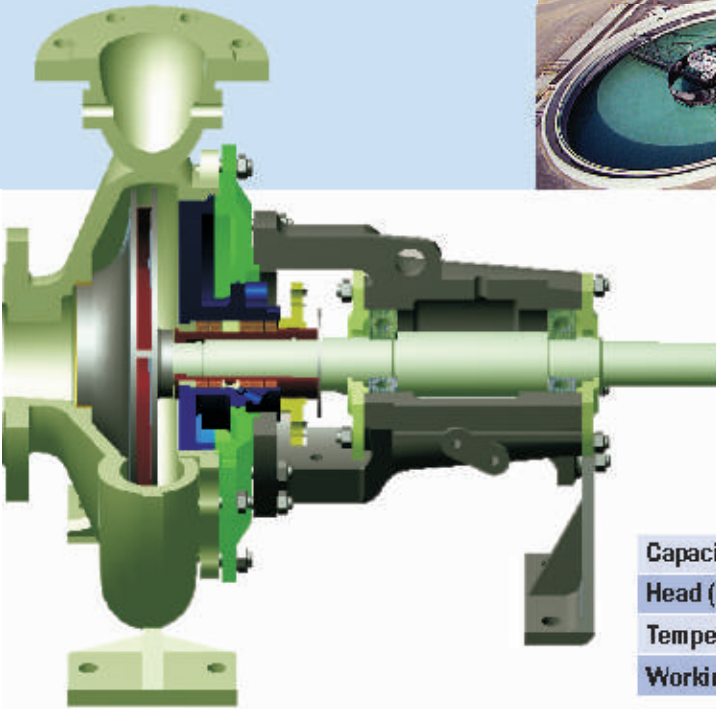
Environment friendly : Lower noise and vibration levels

Mechanical Seals : Various mechanical seal configurations are available. A single mechanical seal is used for many applications with no circulation liquid, flushing with internal / external circulation liquid or with grease is available. For extremely demanding liquids and application, double mechanical seals can be selected. Sealing liquid from an external source is required.

Gland Packing : Gland packing with external flushing prevents the pumped liquid from penetrating into the seal housing. The pressurized flushing liquid causes it to flow into the pumped liquid. Alternatively the external flushing liquid can have a separate outlet connection.



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Capacity (Maximum) m³/hr. :	1000
Head (Maximum) m :	140
Temperature °C :	160
Working Pressure kg/cm² :	14

Material of Construction

Parts Name	All Cast Iron	02S Fitted	CF 8 Fitted	CF 8M Fitted	Bronze Fitted
Volute Casing	Cast Iron	Cast Iron	CF 8	CF 8M	Bronze
Impeller	Cast Iron	CF 8	CF 8	CF 8M	Bronze
Stuffing Box	Cast Iron	Cast Iron	CF 8	CF 8M	Bronze
Shaft	EN 8	SS 410	SS 410	SS 316	SS 316
Sleeve	SS 410	SS 410	SS 410	SS 316	SS 316
Bearing Housing	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron
Casing Wearing Ring	Bronze	Bronze	Bronze	Bronze	Bronze

Other than above state materials pumps are available in Cast Steel, CA 15, Ni-Resist, Super Duplex, CN7M, Hastelloy and other special stainless steel alloys.

The materials of construction are offered as examples of generally accepted practice, but are not intended as recommendations of fitness for a particular purpose. The customer must determine and take the ultimate responsibility for specifying the proper materials to handle the particular fluid pumped. Unless otherwise specified, all pumps shall be furnished with the standard fitted materials.

Constructional Features

Casing : Volute-type, end-suction, back pull out, centre line top discharge, self venting, integrally cast feet. (Also available option of external foot-mounted volute casing with support at shaft centre line to take care of uneven thermal expansion in respect of temperature exceeding 160°C). Sturdily and ruggedly built for reliability, high corrosion resistance and hydraulic efficiency.

Impeller : Normally enclosed (option of semi-open for handling slurries or solid contaminated liquids also available) for low NPSH and high mechanical and hydraulic efficiency, electro dynamically balanced for vibration free operation.

Sealing Arrangement : Can be gland packed with various options of chemically compatible packings. Option of cooling and heating chambers wherever necessary.

Bearing Housing Drive Units : Available with standard and reinforced bearing assemblies for high temperature or high suction pressure applications. Designed for maximum deflection of 0.05mm, the drive units give prolonged bearing life. Bearing housing can be provided with a constant level oiler. It can also be provided with a cooling or heating arrangement as is required.

Throat Ring/ Bush : It is provided to further reduce the pressure on the stuffing box. Provision of impeller with back vane and a throat ring reduces pressure on the stuffing box considerably. It helps to prolong the life of packing or mechanical seal and also in economic selection of packing or seal.

Shaft : Shaft is of one-piece design. It is ground to less than 0.8 microns surface finish at critical surfaces. Maximum deflection at stuffing box face is 0.05mm. Thread insert is used to enhance surface finish thread life and prevent thread decay. Shaft is fully protected from the liquid handled by means of a shaft sleeve and Teflon gasket between impeller nut, impeller hut and shaft sleeve.

Shaft Sleeve : Easy replacement, compatible with the construction of wetted parts.

Wearing Rings : Easily replaceable and provided with hardness differences of 50 BHN (stationary wearing ring being harder).

Drip Tray : Meant to collect leakage from stuffing box to conserve costly liquids, made of suitable construction.

Direction of Rotation

Clockwise when seen from drive end.



1. Back pull out type bearing frame assembly.
2. Hydraulically balanced, closed impeller for long life and high efficiency performance.
3. Heavy duty shaft with maximum deflection less than 0.05mm.
4. Jacketed convertible stuffing box utilizing gland packing or mechanical seal.
5. Special designed stainless steel impeller nut with helical spring insert to lock the impeller properly.
6. Heavy sections to withstand high pressure and temperature.
7. Standard bearings are designed for a minimum average life of 20000 hours.
8. Oil lubrication.

Process Applications

Chemicals : Sulphuric acid, Nitric acid, Liquid nitrogen, Liquid ammonia, Urea condensate, Monomer and Polymer transfer application.

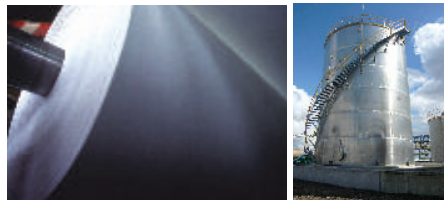
Petrochemical : Gas oil, Light hydrocarbons, Aromatics, Reflux and light tower bottoms.

Sugar : Screened juice, Raw juice, Clear juice, Sulphited juice, Condensate, Weight juice, Fire fighting etc.

Pulp & Paper : Wash water, Evaporator services, condensate, Chemical recovery, Raw water etc.

Power Plant : Cooling water, Water circulation, Turbine cooling, Clear water, Demineralized water, Chemical transfer etc.

General : Water supply, Drip irrigation, Cooling tower, Condensate handling, Air-conditioning, Fire fighting, Service water, Chemical process, Effluent treatment, Hydrocarbons, Acids, Distillery, Pollution control, Chilled water, Textile, Pharmaceutical, Agriculture, Steel etc.





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