SPXFLOW

CombiSump

Vertical long shaft sump pump, according to ISO 2858, EN 733, API 610 (VS4)



Johnson Pump®

Johnson Pump, An SPX FLOW Brand

SPX FLOW develops, manufactures and markets Johnson Pump branded positive displacement and centrifugal pumps in many market segments.

We support our customers with expert advice and service. Working in partnership, we combine our knowledge of the products and applications to the system knowledge of our customers. By thinking proactively, and anticipating potential problems, we aim to always provide a practical solution, whether based on standard or complete client specified executions.

For more information about SPX FLOW Johnson Pump brand products please visit www.spxflow.com/johnson-pump

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CombiSump

COMBISYSTEM

CombiSump is the sump pump solution for thin liquids. The pump is part of SPX FLOW Johnson Pump's Combi-system, a modular programme of single stage centrifugal pumps with a high degree of interchangeability of parts between the different pump constructions.

SPECIFICATIONS

The CombiSump is a range of centrifugal sump pumps, with the pump casing submerged into the liquid and a dry motor construction.

The hydraulic parts of these submersible pumps make use of the pump casings and impellers of the CombiPro, CombiChem or CombiNorm pumps, their respective hydraulic fields meeting API 610 (VS4), ISO 2858 (EN 22858) and EN 733.

The pump is driven by a customer specified or standard IEC flange electric motor 'V1 (IM3011)' placed on a lantern piece mounted on the base plate. The power is transmitted through a flexible coupling and a long shaft.

The pump casings' pressure flange is connected to the discharge connection on the base plate.

TECHNICAL DATA

	COMBISUMP	COMBISUMPMAG*
MAX. CAPACITY	1500 m³/h	550 m³/h
MAX HEAD	160 m	160 m
MAX WORKING PRESSURE	1600 kPa**	1600 kPa**
MAX. TEMPERATURE	160°C	160°C
MAX. SPEED	3600 RPM	3600 RPM

* MAX WORKING PRESSURE
** DEPENDING ON MATERIALS

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COMBISUMPMAG

For applications in sensitive areas where it is imperative that the pumped media does not escape out into the environment nor contaminating fluids are able to invade the pumped media the hermetically enclosed shaft sealing option CombiSumpMAG is recommended.



From know-how to finding solutions

General Industry



CombiSump pumps can be used for all kinds of sump duties. Another known application is pumping cooling water when river or lake water is used for chilled cooling water processes.

Petrochemical Industry



CombiSump pumps are often used for draining waste water collecting basins. Typical process duties are e.g. drain pump or hydrocarbon condensate.

Off shore



In Off Shore industries CombiSump pumps are used for several duties where it is desireable to have the electric motor at distance from the pumped liquid.

Features and *benefits*

ELECTRIC MOTOR

- mounted on a fabricated motor support lantern piece
- accurate alignment by means of adjusting bolts
- *customer specified or standard IEC flange motor 'V1 (IM 3011)'*

COUPLING

- standard fitted with flexible coupling
- *optionally available with membrane coupling or non-sparking coupling*
- *coupling guard to prevent entrance to the rotating parts*

DELIVERY CONNECTION

- placed on the baseplate
- flanges according to ISO 7005 PN 16, PN 20, PN 50
- flanges according to ANSI B16.5 150 lbs, 300 lbs
- *horizontal or vertical position possible*

BASEPLATE

- standard version is a rectangular plate
- round flange shaped plate is optional (API 610)
- *can be adapted to the size of the pit according to customer specifications*
- *lifting lugs for easy maintenance*
- *provided with earthing boss*

COLUMN PIPE AND PUMP SHAFT

- situated below the baseplate
- consisting of one or more parts
- connects the pump casing with the baseplate
- *column pipe protects the shaft*
- *supports the eventual intermediate bearings*
- *sump depth according to customer specification*
- *design consists of 4 shaft groups*

PUMP CASING/IMPELLER

- impeller design for low NPSH values
- available impeller types: closed impeller and half open impeller with wear plate
- anti-rotation device at impeller inlet
- suction strainer
- *optimised hydraulic performance*
- *suitable for a wide range of liquids*
- *impeller protected from clogging*

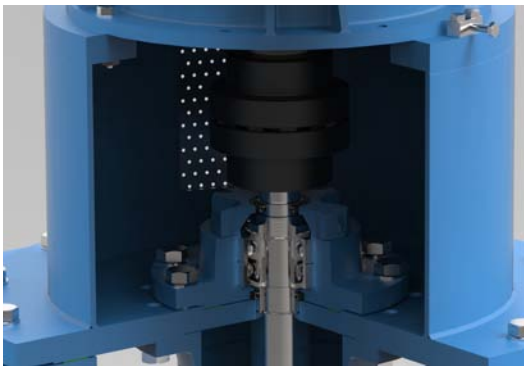


BENEFITS

- Available in several materials
- High pump efficiency
- Suited for a wide span of duties
- Easy maintenance
- Compact, space saving construction
- Low maintenance cost
- Designed to meet specific lengths and application requirements
- Base plate designed to meet existing support arrangements

Bearings





BALL BEARING CONSTRUCTION

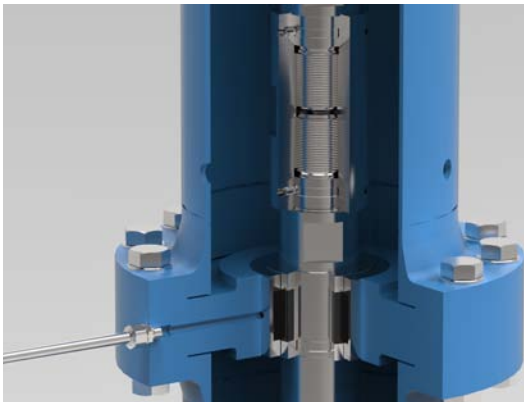
- double-row angular-contact ball bearing for axial loads on the pump shaft.
- grease lubricated

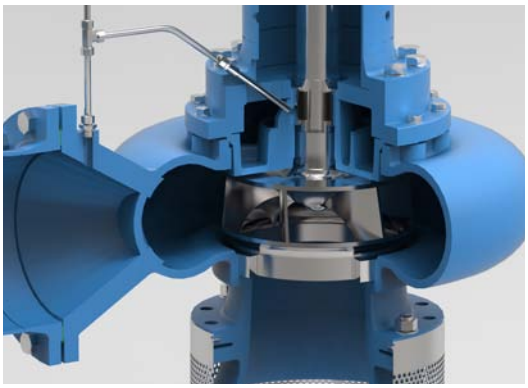
The 'dry' part of the pump is provided with a double-row angular-contact ball bearing (two single row angular-contact ball bearings for bearing group 4) for bearing the axial loads of the pump shaft.

The shaft of the 'wet' part of the pump is provided with liquid lubricated slide bearings. The liquid is supplied directly from the discharge nozzle of the pump casing.

SLIDE BEARINGS

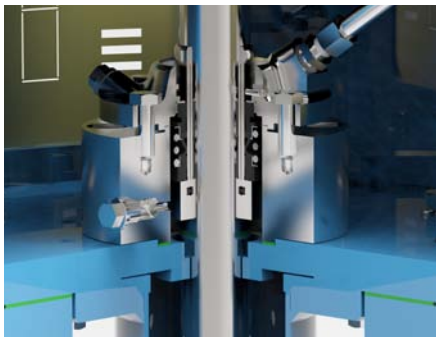
- pump shaft provided with slide bearings
- number of slide bearings depending on the length of the pump shaft
- *ceramic bearings, liquid lubricated*



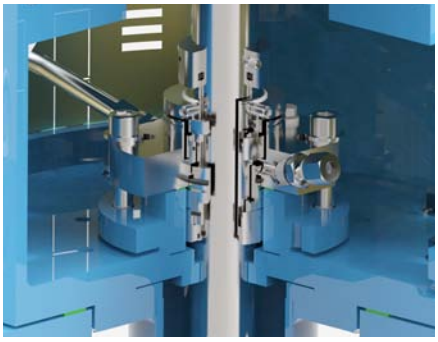


Shaft sealing

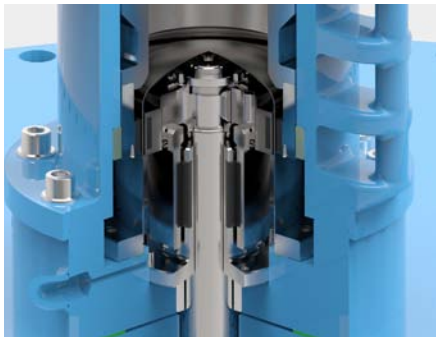
As standard, the baseplate is provided with an oil baffle for sealing the shaft passage. For pressure tank applications a gland packing, single component seal and single or double cartridge seal is optionally available. For applications that require a high level of total containment; keeping both the pumped media in and contaminating fluids out, a hermetically closed shaft sealing solution can be supplied. This pump known as the CombiSumpMag ensures a reliable, leak free operation and environmental protection.



Mechanical seal EN 12756 (DIN 24960)



Single or double Cartridge seal



Seal less, magnetic drive

Materials

PARTS	STANDARD AVAILABLE MATERIALS		
PUMP CASING	**STAINLESS STEEL**	**CAST STEEL**	**CAST IRON**
IMPELLER	**STAINLESS STEEL**	**BRONZE**	**CAST IRON**
SHAFT	**STAINLESS STEEL**	**BEARING GROUP 4: STEEL**	
STAND PIPE	**STAINLESS STEEL**	**STEEL**	
DELIVERY PIPE	**STAINLESS STEEL**	**STEEL**	
SLIDE BEARINGS	**SiC-SiC**		

ALTERNATIVE MATERIALS ACCORDING TO CUSTOMER SPECIFICATONS

Impeller types

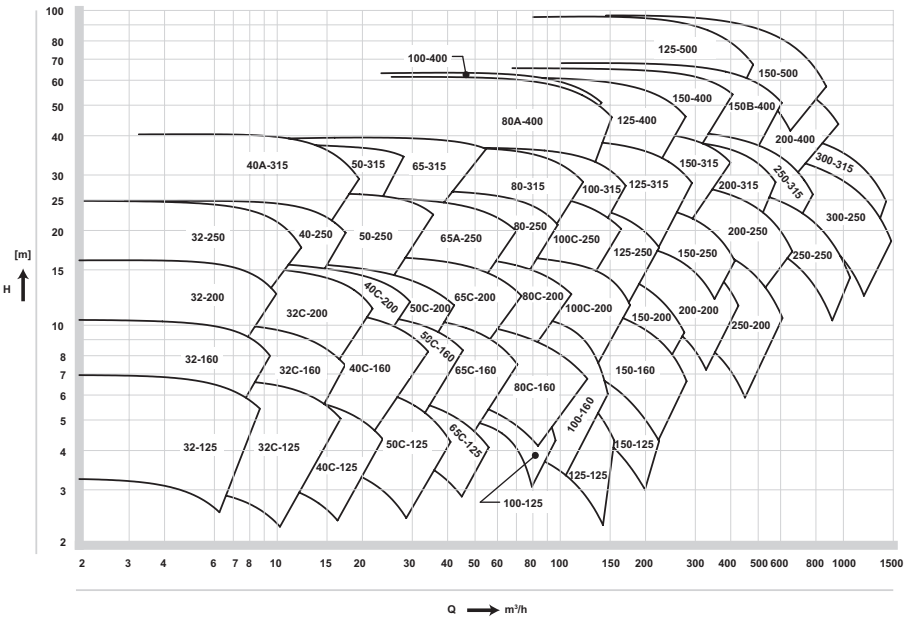
The standard impeller is a closed impeller, but for contaminated liquids, containing fibres, a half open impeller is available on request.



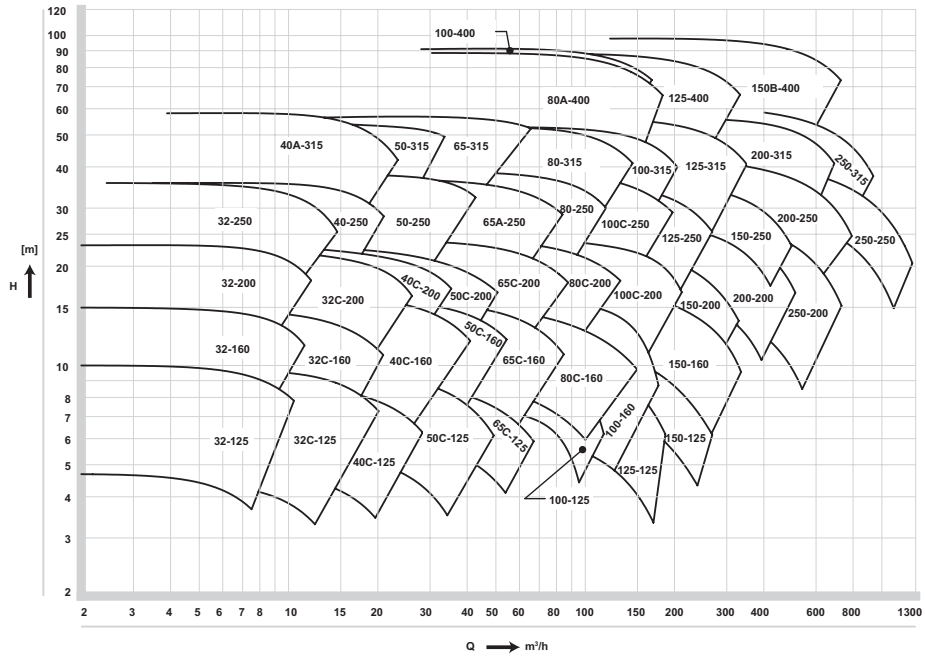
Closed impeller **Half open impeller**

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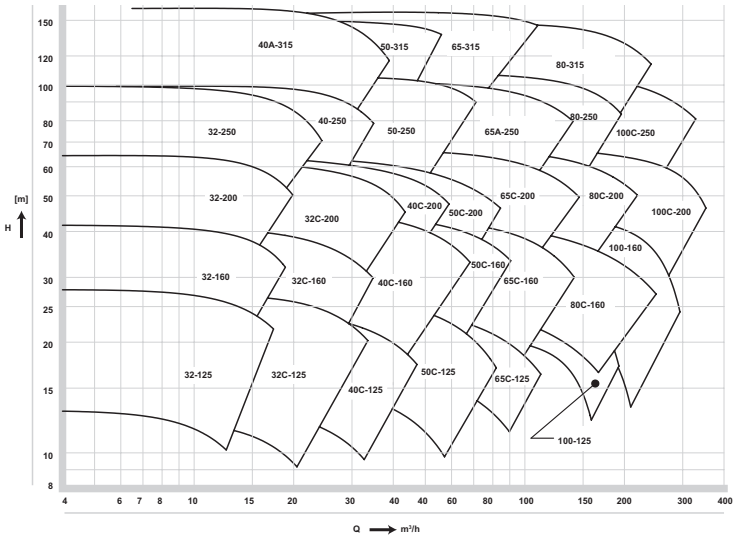
Performance overview



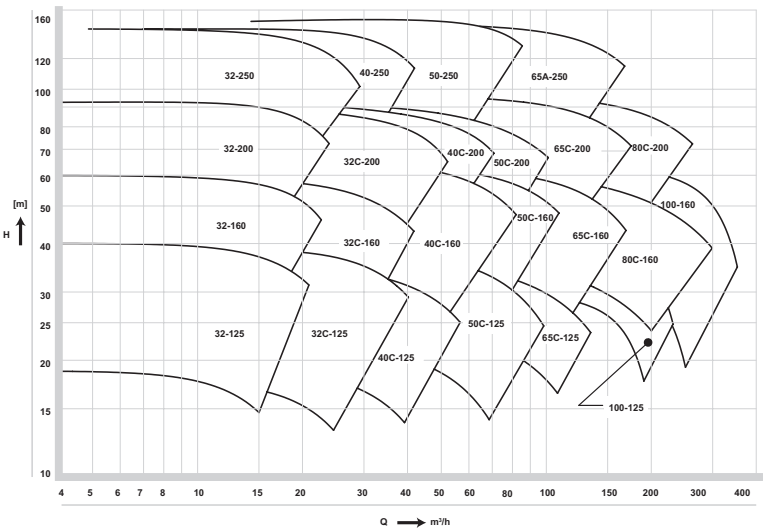
n_{nom} = 1500 rpm



n_{nom} = 1800 rpm



n_{nom} = 3000 rpm



n_{nom} = 3600 rpm

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FOR YOUR LOCAL REPRESENTATIVE:

www.spxflow.com/en/johnson-pump/where-to-buy/

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