Are you looking for a **customized** pump solution for your process or for a **fast and flexible** supplier?

Both is better!

Hygienic precision twin screw pumps for the food and beverage industry

HYGHSPIN

JUNG PROCESS SYSTEMS

Jung Process Systems

Jung Process Systems specializes in stainless steel twin screw pumps and upholds the highest quality and profound expertise in pump technology. We design, develop and manufacture twin screw pumps to fulfill the highest demands. Our customized solutions guarantee a maximum of process safety and reliability for a wide range of applications.

Jung Process Systems GmbH is part of the JUNG Group, based in Kummerfeld, northwest of Hamburg – Germany.

The JUNG Group guarentees an in depth and in-house production fulfilling a high quality for the products and services. All core components are manufactured in our own facility.

Quality management system
DIN EN ISO 9001:2015
Certified company according to

JUNG PROCESS SYSTEMS

HYGHSPIN

Jung Process Systems GmbH is your specialist for hygienic stainless steel twin screw pumps and stands for top quality and in-depth expertise in the field of pump technology. We manufacture twin screw pumps for a wide range of requirements and industries and offer comprehensive support worldwide.
All pumps in the HYGHSPIN series are very compact, space-saving and easy to maintain. They offer high availability with minimal downtime for maintenance work. All versions of the pump series are based on the principles of hygienic design and therefore meet the quality requirements of many industries with sensitive raw materials or ingredients. In-house production offers logistical flexibility with fast delivery times and a quality management system certified to DIN ISO 9001:2015.

CERTIFIED EHEDG TYPE EL CLASS I

3-A 02-12

Ex

APPLICATIONS / INDUSTRIES

Foodstuff
Ketchup / sauces / dressings, Mayonnaise, Tomato concentrate, Baby food, Soups with vegetable pieces, Stews, Oils and fats

Cosmetics
Shampoo, Detergents, Toothpaste, Vaseline, Lotions / Peelings

Beverage
Fruit juice concentrates, also frozen juices with fruit pieces, Syrup, Liquid sweetener, Wine / Cognac / Sparkling wine / Liquors / Beer, Yeast, Draft

Pet food
Meat mass, Glycerine, Molasses, Pre-mixes

Pharmaceutical products
Raw materials, Cell suspensions, Pectin, Glucose, Glycerine, Blood plasma

Confectionery
Chocolate, Nougat spread, Sandwich spread, Fruit gum mass, Icings, Fondant, Fillings

Dairy industry
Yoghurt, Curd, Cream cheese, Soft cheese, Cream, Fruit preparation, Ice cream, Butter

Baked goods
Dough, Whole egg, Egg white / yolk, Cream fillings, Butter / Margarine

HYGHSPIN

Universal, multifunctional pumping solution for hygienic applications

Whether aqueous, high-viscosity, lumpy, fibrous or gas-charged – the worldwide proven HYGHSPIN pump series, made of high-quality stainless steel, is suitable for products of virtually any consistency and therefore stands out on account of its outstanding efficiency. The particularly service-friendly twin screw pump impresses with its high-performance suction capability and gentle transport of all products. A key benefit of all versions of HYGHSPIN pumps is also the time- and cost-savings they offer, as no separate pump is needed for CIP cleaning. There is therefore no need for additional investment and maintenance costs are significantly reduced.

Maximum flexibility in the pumping process
- Contactless operation of the screws
- Useable for process and CIP
- Good suction properties, low NPSH r-value
- Pumping of gas-laden fluids or lumpy goods
- Different pitches and geometries of the feeding screws
- Design with increased wear protection as option

Easy retrofit to other sealing systems
- Semi-cartridge system for seals with identical installation space
- Service-friendly disassembly device
- 3 different systems for flexible handling

Flexible product connection
Nozzle arrangements are manufactured according to requirements such as DIN-flange, ASME-flange TriClamp etc.

Flexible motor selection
Standard electric motors, geared motors or servomotors, we supply the right drive for every application.

Dead space-free design
- No dead spaces thanks to hygienic molded ring seal
- FDA approved elastomers

Self-draining
Axial connection at the lowest point of the housing for self-draining. No dead spaces.

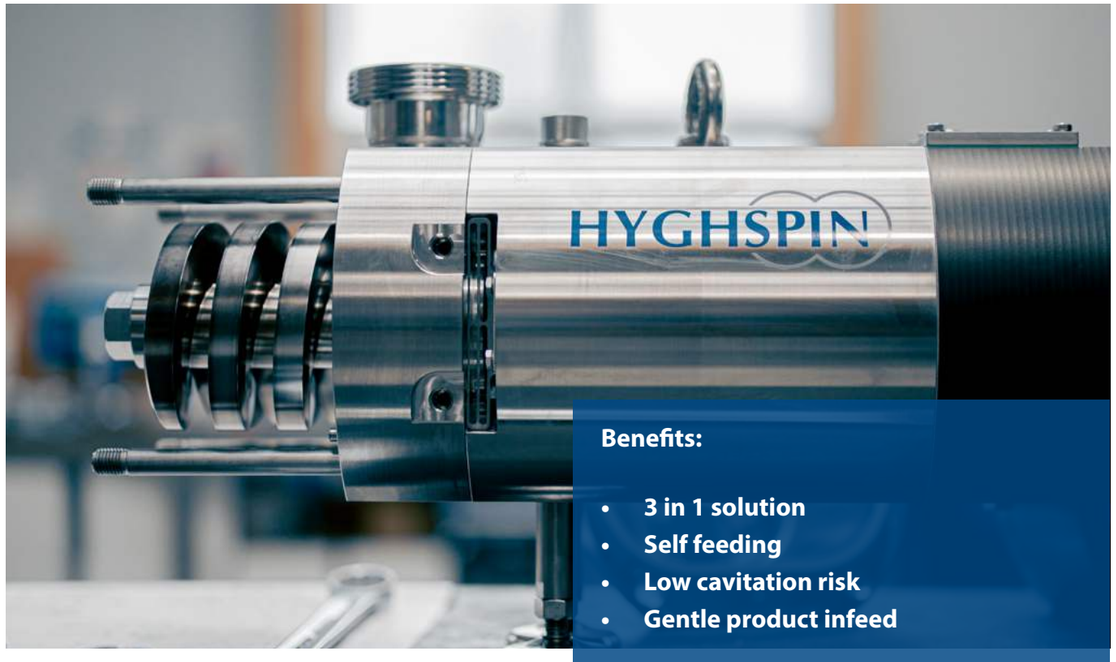
Easy maintenance and cleaning
- Flushing connections for the mechanical seal
- Various circuits possible

Smooth operation
- Solid, torsion-resistant bearing housing with high-performance bearings
- Low heat generation and transfer
- Temperature and vibration monitoring possible

Maintenance-friendly gearbox
- Inspection opening with access to the gearbox
- Adjustment of the flanc tolerances in the system without draining the gearbox

Benefits

- **Maximum flexibility**
  Various products and viscosities can be pumped with one pump
- **Gentle and constant product tansfer**
  Low speed, minimal pulsation, no pressure surges
- **Best quality**
  Core components are manufactured in-house from the highest quality austenitic stainless steels
- **Excellent service friendly maintenance**
  The pump can be serviced in mounted position. It is not neccessary to remove from the system for maintenance work
- **Significant cost savings**
  Due to the flexibility of the HYGHSPIN, the structure of the system/plant can be simplified
- **Highest level of hygiene**
  No dead spaces and particularly good flushing of the shaft seal. Wetted components are machined from solid material, no risk of casting defects
- **CIP and SIP**
  Cleaning and sterilization within the system, use as CIP feed pump



Benefits:

- **3 in 1 solution**
- **Self feeding**
- **Low cavitation risk**
- **Gentle product infeed**

HYGHSPIN HOPPER

The pumping solution for highly viscous products and fluids.

The HYGHSPIN Hopper is an extension to the worldwide proven HYGHSPIN stainless steel pump series. This innovative twin screw pump is able to transport easily products with high viscosities. The feed screws are extended so that they can draw in non-flow capable products below the inlet and feed them into the pump chamber. This ensures particularly gentle handling – no need for external feeding equipment.

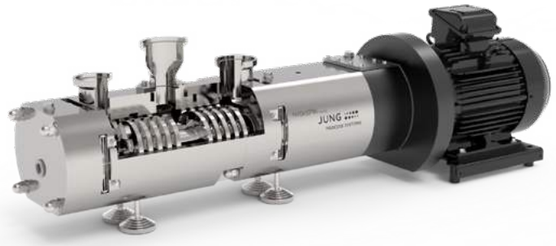
Technical details, options and modification possibilities
can be found on page 9

Benefits:

- **High pressures**
- **Wide volume range**
- **Long service life**

HYGHSPIN DOUBLE FLOW

The twin screw pump for high pressures up to 50 bar.



The HYGHSPIN DOUBLE FLOW extends the range of the HYGHSPIN series to differential pressures of up to 50 bar. It has bearings on both sides. Two parallel stages transport the product to a central outlet, thereby compensating the axial thrust. The extremely low bearing load of the HYGHSPIN DOUBLE FLOW cannot fail to impress.

Despite the high differential pressures, all essential components are only subjected to low loads, resulting in high reliability and excellent service life.

The parallel use of two stages also makes it possible to transfer a large volume flow.

The HYGHSPIN DOUBLE FLOW is the first choice for demanding pumping tasks in systems with heat exchangers or when using filtration systems.

The product inlet is on the outside on both sides, so that only the low inlet pressure is applied to the shaft seal - regardless of the pressure built up in the pump.

Technical details, options and modification possibilities
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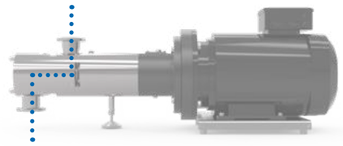
Installation

- **Horizontally**
- **Vertical upwards or downwards**
- **Sideways**
- **Wall mounted**

HYGHSPIN INLINE

Simple replacement of existing technologies thanks to flexible installation and nozzle orientation.

HYGHSPIN twin screw pumps are available with the most diverse connection orientations. Inline models are available with parallel connections for pipework that continuously runs vertically or horizontally. These models facilitate the simple change from rotary lobe pumps or circumferential piston pumps to HYGHSPIN twin screw pumps.



Vertical layout
Nozzles are in line opposite each other

Horizontal layout
Nozzles are in line opposite each other

Technical details, options and modification possibilities
can be found on page 9

Technical parameters

Type	HYGHSPIN 50	HYGHSPIN 70	HYGHSPIN 90	HYGHSPIN 105	HYGHSPIN 125
Max. pump capacity	20 m³/h	40 m³/h	100 m³/h	180 m³/h	300 m³/h
Max. differential pressure	20 bar	25 bar	30 bar	20 bar	35 bar
Max. ø solid material	16 (25) mm	20 (30) mm	28 (45) mm	35 mm	45 (67) mm
Suction capability	NPSHr > 0.5 m, suction height of up to 9 m are possible				
Viscosity	0.5 - 1,000,000 mPas/cp higher viscosities on request				
Operation temperature	–10 to 180° C, higher temperatures on request				
Cleaning	fully CIP-capable (cleaning in place) in the system				
Sterilisation	SIP in the system with steam or hot water				
Wetted parts	1.4404, 1.4539 or 1.4462 as an option, other materials on request				
Elastomers	HNBR, FPM, EPDM, FFPM, FDA-approvals, other elastomers on request				
Shaft seals	single- and double-acting mechanical seals, with knife edge for adhesive media to avoid start up damage, single-acting safe-to-run dry lip seals				
Pump orientation	horizontal, vertical or lateral, INLINE models are possible				
Connections	different sizes and standards on request				
Designs	compact robust block design for all sizes, with bare shaft for sizes 70, 90, 105 and 125				
Drives	three-phase, gear or servo motors, hygienic drives in stainless steel as an option				

Performance data depending on the pump configuration, temperatures depending on speed, pressure and choice of elastomers

Optional features:

- Mobile cart
- External feeder
- Jacketed housing
- Vibration monitoring
- ATEX version
- Temperature monitoring
- Hardened surfaces with increased wear resistance

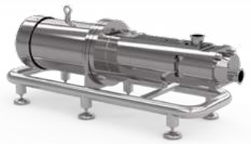
HYGHSPIN ENGINEERED

HYGHSPIN ENGINEERED solutions are based on the different versions of the HYGHSPIN series. Hereby, your requirements comes first. With a HYGHSPIN ENGINEERED solution, we supply the precise version with the accessories you need. Numerous special solutions are possible. Whether special (heated) couplings, pump housing seals with vapour barrier, special materials, or mobile units complete with controls – together with you we realize the optimum version for your application.

Examples:

Mobile units
Mobile unit for maximum mobility and flexibility in the system. The mobile cart allows the customer to move the pump to the place it is needed in the plant.

ATEX Version
HYGHSPIN twin screw pumps can also be operate in ATEX zones. Depending on the delivery temperature, temperature classes T2 to T4 can be realized.



Version with stainless steel hygiene motor
Designed to the highest hygiene standards with hygienic motors for use in clean room areas.

Tempered version
Cooling or heating possible to keep the product temperature within the needed temperature window, e.g. for media that tend to harden or crystallize during cooling. For example, ensuring the flowability of chocolate.

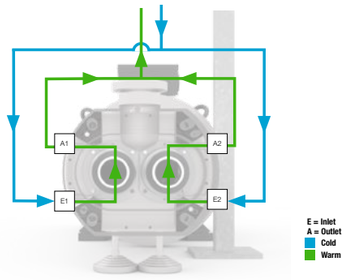
Sealing technology

Maximum flexibility thanks to Plug & Play seal replacement.

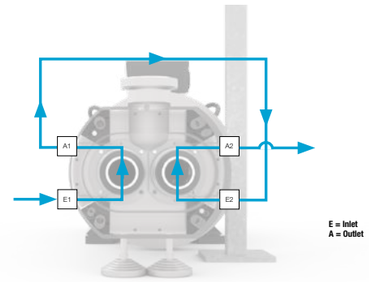
The HYGHSPIN series is available with various seal variants. All seals are designed as a semi-cartridge and have the same assembly dimension depending on the size of the pump. Thus pumps can easily be retrofitted with different seal systems. For critical processes, ad double-acting, buffered mechanical seal can be used in order to meet the requirements posed by TA-Luft.

Easy disassembly
The seals are designed as semi-cartridge-seals and can be easily and conveniently removed from the housing.

Circulating Flushing
The flushing fluid is circulating. In order the minimize the pressure drop the chambers are connected in parallel. This is important for a natural circulation.



Lost flushing
The flushing fluid is lost. The flushing chambers are connected in line to assure that both chambers are flushed in case of a flow detection.



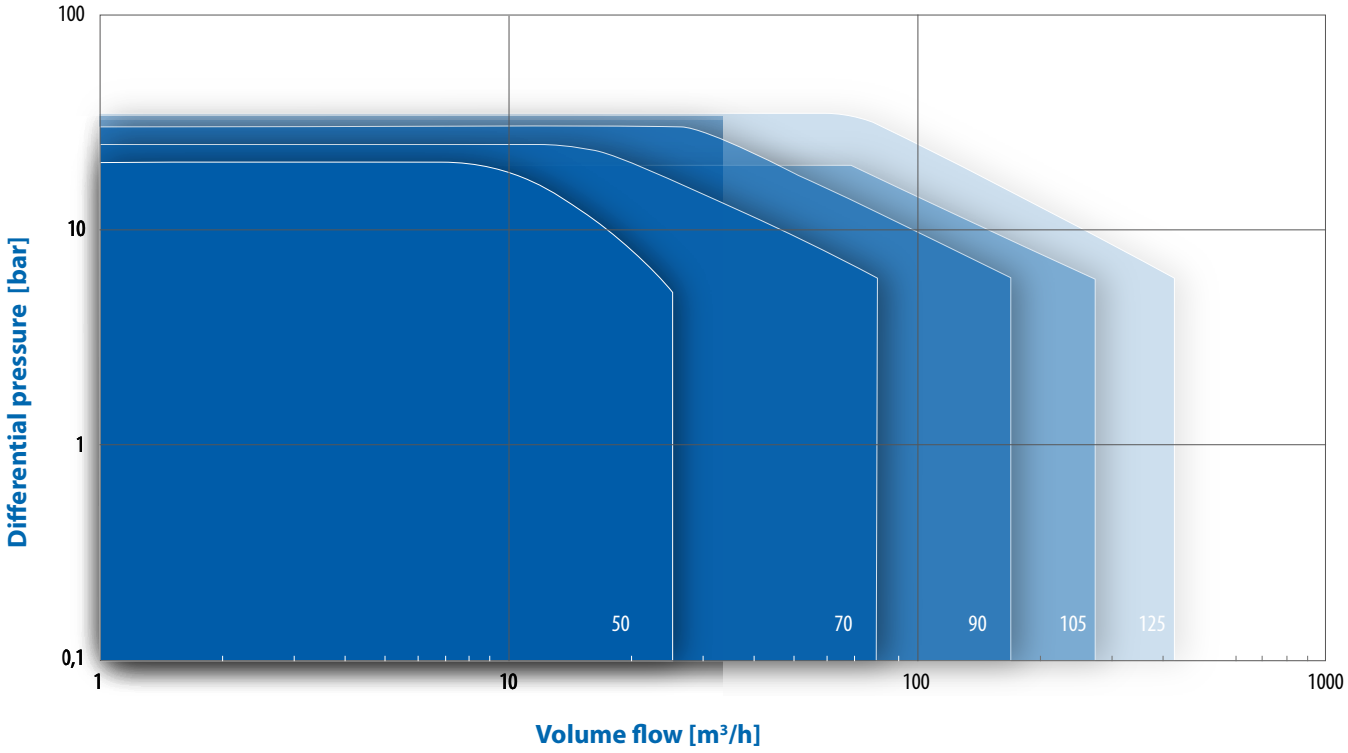
Single mechanical seal
Basic version, no rinsing required, product contamination by flusching medium excluded.

Double mechanical seal
Flushed version:
High operational reliability, the pump is safe to run dry thanks to the flushing system.

Buffered version
Product leakage to the outside is prevented by pressurizing the flushing chamber.

Lip seal
The dry-run safe solution without flushing, particularly suitable for mobile pumps.

Performance ranges of the various pump sizes based on a fluid with a viscosity of 100 mm^2/s.



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