

GRUNDFOS SANITARY
RANGE



SANITARY PUMPS

50 Hz

BE > THINK > INNOVATE >

GRUNDFOS 

STAINLESS STEEL PUMPS

FOR SANITARY APPLICATIONS

Grundfos offers a wide range of highly reliable and efficient pumps for use in the food and beverage industries, pharmaceutical industry or other specialised application areas, where high-grade sanitary pumps are required.

State-of-the-art technology

The Grundfos range of sanitary pumps comprises a number of different pump types – each one is state-of-the-art within its specific application area. The pumps can be fitted with a variety of features to adapt to specific pumping tasks. In addition, it is possible to customise the pumps for optimum function or performance in relation to the job at hand.

A wide range of applications

Combined, these features make the Grundfos sanitary range the perfect choice for a number of applications, such as:

- Beverage industry
- Breweries
- Dairies
- Pharmaceutical industry
- Biotechnology
- Food processing
- Bio-fuel
- Water treatment systems
- Semi conductor manufacturing
- Cosmetics industry
- Textile industry
- Etc.



ADDING EXCELLENCE TO SANITARY PROCESSING

Pumps for use in sanitary processes, such as pharmaceutical, biotechnology, and sterile industries, are subject to higher safety standards than other applications.

The design requirements and materials used as well as material surface finish are subject to a variety of national and international rules and regulations, guidelines and laws. Among these are the EU Machine Guidelines, GMP Rules and Regulations, FDA Regulations, 3A Sanitary Standard, EU Foodstuff Hygienic Guidelines, DIN EN 12462 Biotechnology, the recommendations of the EHEDG (European Hygienic Engineering Design Group) and QHD (Qualified Hygienic Design).

Unique hygienic design

The Euro-HYGIA®, NOVAlobe and the Contra pump ranges fully meet all the above design criteria, which comprise strict regulations with regard to gap widths and dead-end areas of all wet-end parts of the pumps.

The surface finish of the materials used is likewise of the utmost importance – both for physical properties and with regard to preventing possible breeding grounds for bacteria or germs. Only FDA-conform materials are used.

The Grundfos sanitary pumps have been designed in accordance with strict hygienic design criteria. The use of AISI 316L (1.4404/1.4435) cold-rolled and/or forged stainless steel ensures a homogeneous pore-free surface as opposed to cast material. Where required, fully drainable models are available.

Customised solutions

Depending on the actual application and pumped media, single or double mechanical shaft seals are available to secure trouble-free operation. The double shaft seals can be supplied as “tandem” or “back-to-back” versions with flushing water connections or water sealing. The single mechanical shaft seals applied are inboard seals mounted in an optimum position in the product flow to ensure lubrication, cooling as well as CIP and SIP capability. Standard materials, i.e. carbon/stainless steel and EPDM, are used for single mechanical shaft seals - other materials are available on request.

A variety of connection options are available, such as SMS, RIT, DIN, ISO, and TRI-Clover. Special sterile threaded fittings and flanges can be supplied on request.




GRUNDFOS SANITARY RANGE

PUMP OVERVIEW

The Grundfos sanitary pump range comprises a number of models suitable for a variety of applications. Each pump model can be customised to suit individual performance or

installation requirements. For further information regarding installation options, please refer to page 6 of this brochure.

PRODUCT	PUMP TYPE	PUMP DATA	CONNECTIONS
Euro-HYGIA® 	Single-stage sanitary pump AISI 316L	Flow: 130 m ³ /h (250 m ³ /h on request) Head: 75 m Temperature: 95°C (150°C on request)	Threaded to DIN 11851 standards Sterile threads to DIN 11864-1 PN 16 Sterile flanges to DIN 11864-2 PN 16 Flanges to DIN EN 1092-1 (DIN 2642 PN 10) Optional SMS, RJT Clamp to DIN, ISO and TRI-clover
F&B-HYGIA® 	Single-stage sanitary pump AISI 316L	Flow: up to 105 m ³ /h Head: up to 70 m Operating pressure: up to 16 bar Operating temp.: 95°C (up to 150°C on request) Sterilisation temp.: 140°C (SIP)	Threaded to DIN 11851 standards Flanges to DIN EN 1092-1 (DIN 2642 PN 10) Optional SMS, RJT Clamp to DIN, ISO and TRI-clover
Contra 	Multistage sanitary pump AISI 316L	Flow: 55 m ³ /h Head: 170 m Temperature: 95°C (150°C on request)	Threaded to DIN 11851 standards Sterile threads to DIN 11864-1 PN 16 Sterile flanges to DIN 11864-2 PN 16 Flanges to DIN EN 1092-1 (DIN 2642 PN 10) Optional SMS, RJT Clamp to DIN, ISO and TRI-clover
SIPLA 	Self-priming sanitary pump AISI 316L	Flow: 90 m ³ /h Head: 50 m Temperature: 95°C (140°C on request)	Threaded to DIN 11851 standards Sterile threads to DIN 11864-1 PN 16 Sterile flanges to DIN 11864-2 PN 16 Optional SMS, RJT Clamp to DIN, ISO and TRI-clover



VERSION / INSTALLATION		APPLICATIONS	PERFORMANCE CURVE
<p>Bloc: Stationary</p> <p>SUPER: Motor with stainless steel shroud</p> <p>Adapta°-V: Lantern for direct vertical motor coupling</p> <p>Adapta°: Lantern for direct motor coupling</p> <p>Mounting: Motor feet, stainless steel combi feet, stainless steel and cast iron feet, base plate and on trolley</p>	<ul style="list-style-type: none"> Life science/pharmaceutical (e.g. Pure water systems (WFI), biotechnology, filling/bottling systems) Personal care (e.g. Lotions, perfumes) Food and beverage Other industries (e.g. Cleaning solutions (CIP systems), water treatment, semi-conductor rinsing, metal surface treatment) 		
<p>K: Stationary close coupled</p> <p>SUPER: Motor with stainless steel shroud</p> <p>Mounting: Stainless steel combi feet</p>	<ul style="list-style-type: none"> Beverages (e.g. Beer, soft drinks, alcohol, wine, fruit drinks, yeast, etc.) Dairies (e.g. Milk, whey, cream, condensed milk, etc.) Confectionary (e.g. Syrup, sugar solution, etc.) Meat packing (e.g. Liquid fat, frying oil, smokehouse spray, blood processing, etc.) 		
<p>Bloc: Stationary</p> <p>SUPER: Motor with stainless steel shroud</p> <p>Adapta°-V: Lantern for direct vertical motor coupling</p> <p>Adapta°: Lantern for direct motor coupling</p> <p>Mounting: Motor feet, stainless steel combi feet, stainless steel and cast iron feet, base plate and on trolley</p>	<ul style="list-style-type: none"> Purification systems Carbonation applications CIP feeding systems Surface treatment applications 		
<p>Bloc: Stationary</p> <p>SUPER: Motor with stainless steel shroud</p> <p>Adapta°-V: Lantern for direct vertical motor coupling</p> <p>Adapta°: Lantern for direct motor coupling</p> <p>Mounting: Motor feet, stainless steel combi feet, stainless steel and cast iron feet, base plate and on trolley</p>	<ul style="list-style-type: none"> Applications with high volumes of air in pharmaceutical, cosmetics and food industries CIP scavenge 		

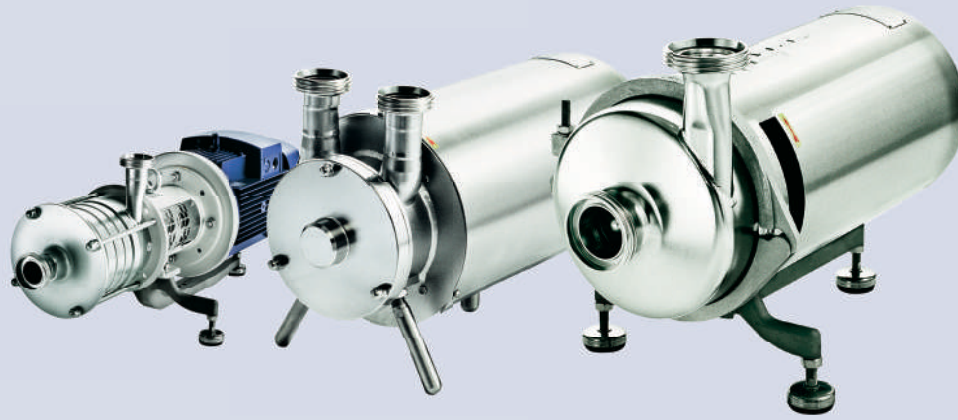
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PUMP OVERVIEW

The Grundfos sanitary pump range comprises a number of models suitable for a variety of applications. Each pump model can be customised to suit individual performance or

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PRODUCT	PUMP TYPE	PUMP DATA	CONNECTIONS
durietta 0 	Multistage end-suction centrifugal sanitary pump AISI 316 L/ AISI 316 Ti	Flow: up to 6 m ³ /h Head: up to 70 m Operating pressure: up to 10 bar Operating temperature: 95°C (up to 120°C on request)	Flange to DIN EN 1092-1, PN 10 (DIN 2642, PN 10) Threads to DIN 11851, PN 25-40 Threads to DIN ISO 228 (male) - GAZ, PN 10 SMS threads Clamps to SMS and ISO Tapped connection to DIN ISO 2999 - GAZ, PN 10
NOVALobe 	Sanitary rotary lobe pump AISI 316L	Differential pressure: 16 bar Operating pressure: Up to 16 bar Displacement: 0.03 - 1.29 litres/rev. Operating temperature: 150°C Max. viscosity: 1,000,000 cP	Threaded to DIN 11851 standards Sterile threads to DIN 11864-1 PN 16 Sterile flanges to DIN 11864-2 PN 16 Flanges to DIN EN 1092-1 (DIN 2642 PN 10) Optional SMS, RJT Clamp to DIN, ISO and TRI-clover
MAXA 	End-suction process pump AISI 316	Flow: 800 m ³ /h Head: 97 m Temperature: 95°C (150°C on request)	Flanges to DIN EN 1092-1 (DIN 2642 PN 10) Threaded to DIN 11851 standards
MAXANA 	End-suction process pump AISI 316	Flow: 140 m ³ /h Head: 97 m Temperature: 95°C (150°C on request)	Flanges to DIN EN 1092-1 (DIN 2642 PN 10) Threaded to DIN 11851 standards Sterile threads to DIN 11864-1 PN 16 Sterile flanges to DIN 11864-2 PN 16



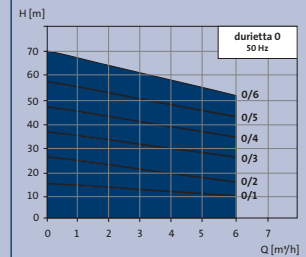
VERSION / INSTALLATION

K: Stationary closed coupling
 SUPER: Motor with stainless steel shroud
 V: Vertical installation
 V-SUPER: Vertical installation and motor with stainless steel shroud

APPLICATIONS

- Drinking water
- Process water
- Filters
- Bottling systems
- Plate heat exchangers
- Aggressive liquids (ask for a media resistance table)

PERFORMANCE CURVE



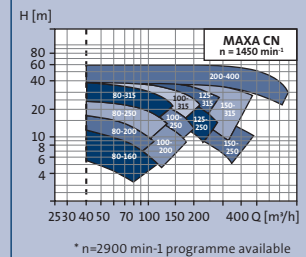
Bloc: Stationary
 SUPER: Motor with stainless steel shroud
 V: Bareshaft vertical ports.
 H: Bareshaft horizontal ports.
 Mounting: Bareshaft pump including motor, coupling and baseplate.
 Trolley: Complete pump on a removable trolley.

- Dairy industry (e.g. yoghurt, butter, cheese curd)
- Food processing plants (e.g. sauces, soups, dressings)
- Soft drink applications (e.g. syrup, juice concentrate)
- Confectionary and sugar (e.g. jam, caramel, chocolate)
- Pharma/personalcare (e.g. shampoo, cosmetic)
- Brewery industry (e.g. yeast)

Pump model	Displacement litres/rev	Max. diff. pressure (bar)
NOVAlobe 10/0.06	0.06	16
NOVAlobe 20/0.12	0.12	16
NOVAlobe 30/0.33	0.33	16
NOVAlobe 40/0.65	0.65	16
NOVAlobe 50/1.29	1.29	16

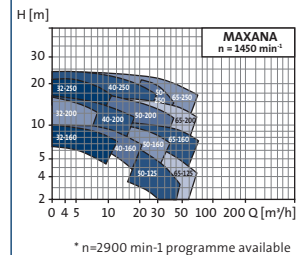
Bloc: Stationary
 Mounting: Motor feet and base plate
 Close and long coupled

- Industrial processes
- Liquid transfer in breweries
- Water treatment systems
- Chemical and environmental systems



Bloc: Stationary
 SUPER: Motor with stainless steel shroud
 Mounting: Motor feet and base plate
 Close and long coupled

- Industrial processes
- Liquid transfer in breweries
- Chemical and environmental systems
- Water treatment systems



INSTALLATION VARIANTS

Most types of the Grundfos sanitary pump range are available in up to eight different installation versions. This enables optimum adaptation to the actual application:



1. Motor feet

Stationary on motor foot. Motor with extended stainless steel shaft, unshrouded.



2. Cast iron pump foot

Stationary on cast iron pump foot. Motor with extended stainless steel shaft, unshrouded.



3. Stainless steel shroud and stainless steel combi-foot

Stationary mounted on stainless steel combi foot with machine pads. Motor with stainless steel shroud and stainless steel extended shaft.

Options Stainless steel foot.
Stainless steel lantern.



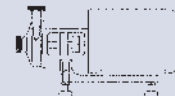
4. Adapta® bearing house on cast iron or stainless steel foot

Stationary on pump foot for fixed installation. IEC standard motors or NEMA motors can be fitted by means of a standard flexible coupling directly to the pump shaft. The motor is bolted onto the lantern flange or the intermediate Adapta® lantern. The pump can remain in the pipeline when the motor is serviced or replaced.

Options With complete coupling but without motor.
Stationary on stainless steel foot.
Stationary mounted on stainless steel combi-foot with machine pads.

5. Stainless steel shroud, Adapta® bearing house on stainless steel combi-foot

Adapta®-SUPER stationary, mounted on stainless steel combi-foot with machine pads and shrouded motor.



6. Vertical installation, Adapta®-V bearing house on stainless steel stand

Space-saving, vertical stainless steel stand. Pump is fully drainable through suction port.

IEC standard motors or NEMA motors can be fitted by means of a standard flexible coupling directly to the pump shaft. The motor is bolted onto the lantern flange or the intermediate Adapta® lantern. The pump can remain in the pipeline when the motor is serviced or replaced.

Option With complete coupling but without motor.



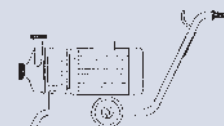
7. Mounted on base plate with flexible coupling

Stationary, long-coupled on base plate complete with flexible coupling and guard.



8. Pump on trolley

Mobile pump mounted on two-wheel trolley with on/off switch.



CERTIFIED PERFORMANCE

Grundfos' sanitary pumps are certified by their performance and hygienic design and this acknowledgement complies with the particularly strict hygiene requirements within the food, beverage and pharmaceutical industries.

3A1 Industrial/Hygienic Standard

- Surface roughness $Ra \leq 3.2 \mu m$
- Cr-Ni-Mo heavy duty rolled and forged stainless steel AISI 316L (1.4404/1.4435) electro-polished

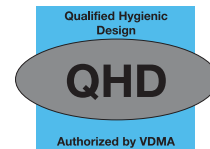
3A2 Sterile Standard

- Surface roughness $Ra \leq 0.8 \mu m$
- Cr-Ni-Mo heavy duty rolled and forged stainless steel AISI 316L (1.4404/1.4435) electro-polished

3A3 Sterile Standard

- Surface roughness $Ra \leq 0.4 \mu m$
- Cr-Ni-Mo heavy duty rolled and forged stainless steel AISI 316L (1.4404/1.4435) electro-polished

For further information, please refer to the individual product brochures or data booklets.



ISO CERTIFICATION

Grundfos Hilge is certified in accordance with the DIN EN ISO 9001:2000 certification standard for development, manufacture and distribution of aseptic technology and process pumps for beverage, foodstuff, industrial and sterile process technologies.



The Grundfos sanitary range

Grundfos has developed and produced high-quality industrial pumps for more than half a century. Throughout our long history, our focus has always been on product performance and reliability. We strive to provide our customers with the best possible solution, regardless of application. This dedication to customer needs makes us the ideal pump partner for industry.

Grundfos' worldwide leading position now also includes Hilge's variety of sanitary pumps. Hilge was founded in 1862 and is famous for its customised and high-grade stainless steel sanitary pumps for the food, beverage and pharmaceutical industries.

Throughout history innovation and the desire to provide competitive pump solutions has been the driving force of Hilge. This is no different from Grundfos. Our history and tradition are built on that very same ambition. So adding Hilge to Grundfos only means an even stronger desire to make state-of-the-art sanitary pumps. Given the vast development resources of Grundfos we are confident that the combination of two so similar traditions will only amplify our common effort to produce even better solutions for our customers.

Contact the Grundfos dealer nearest you for further information on the Grundfos sanitary range, or via www.grundfos.com