

HYGIENIC TWIN SCREW PUMPS FOR
FOOD, PHARMACEUTICALS AND MORE

SLH-4G – THE NEXT GENERATION



CONSISTENT DEVELOPMENT

Our decades of experience lead to innovative new products

The first pumps of this type were installed 20 years ago, and some of them have been in continuous use ever since.

Developed for maximum performance

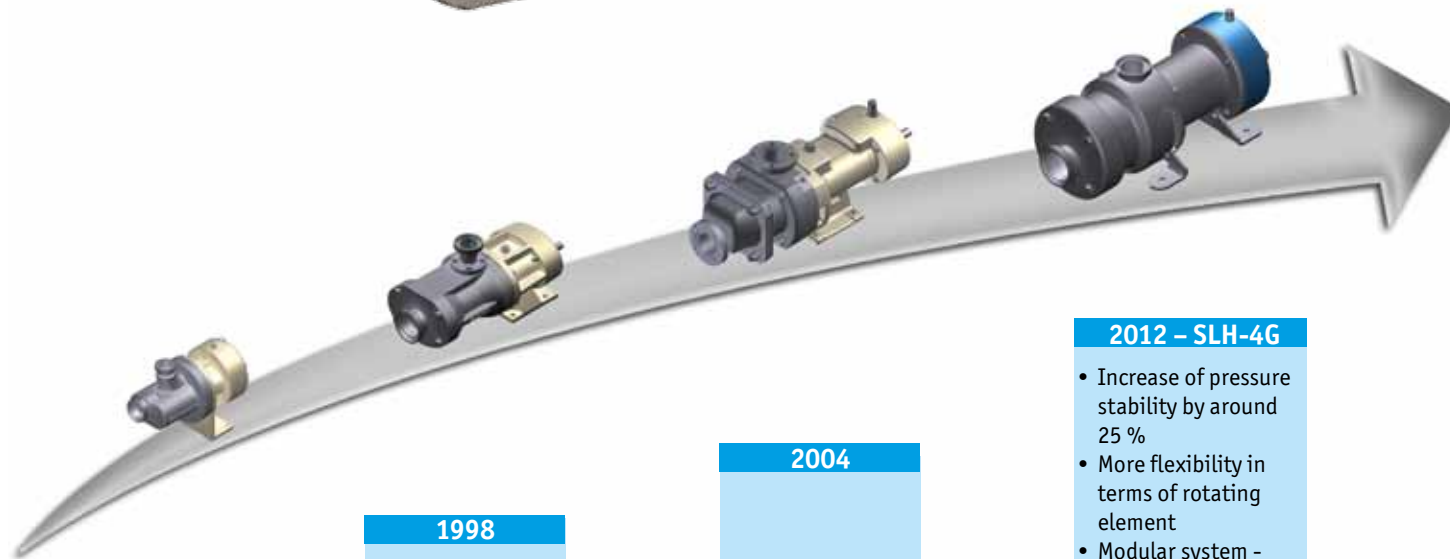
The consistent ongoing development of the SLH has been based on our many

years of experience working with our customers, general market requirements and the demands of relevant directives and certifications.

Mode of operation

Bornemann SLH twin screw pumps are

single-flow and self-priming. Two contact-free intermeshing screws and the pump housing form closed chambers that, according to the direction of rotation, constantly move towards the pressure discharge end of the pump.



1992
WkSE

1998
Launching of the SLC series

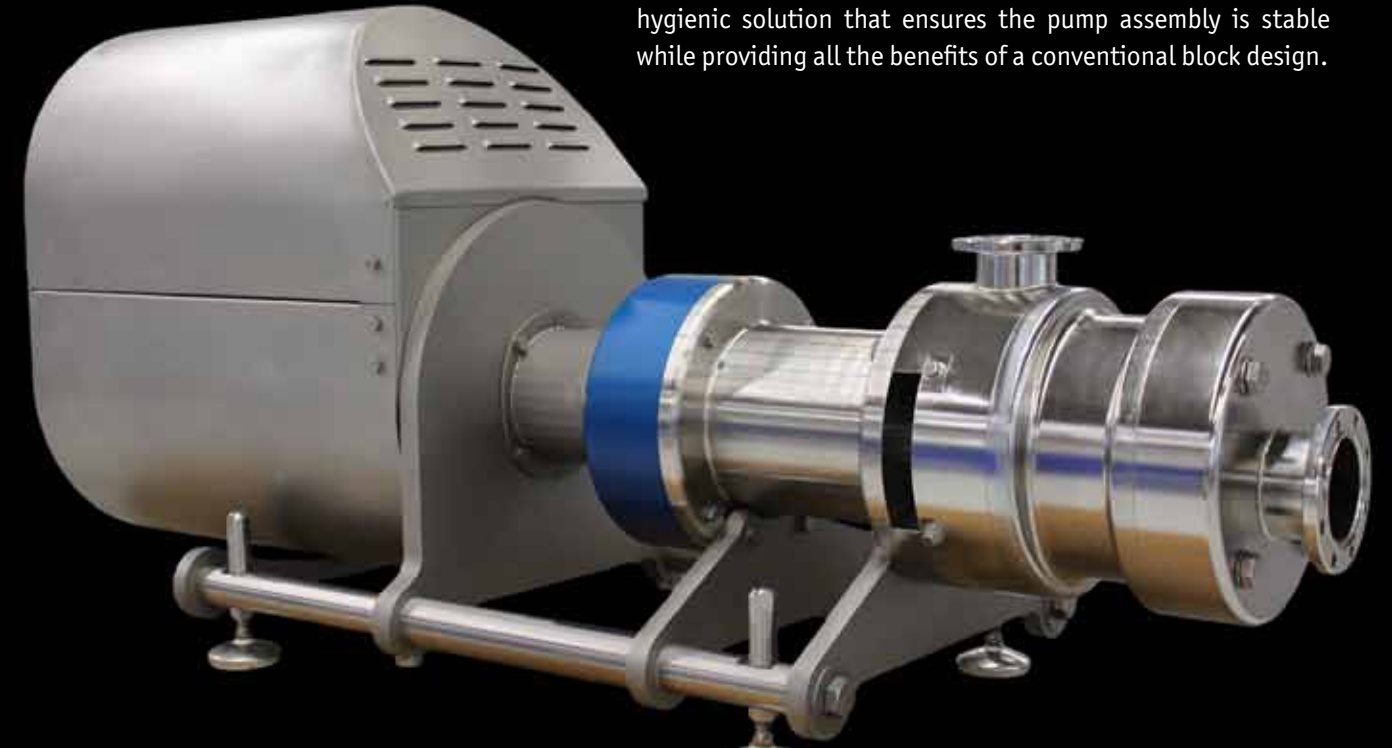
2004
Further development towards SLH

2012 - SLH-4G

- Increase of pressure stability by around 25 %
- More flexibility in terms of rotating element
- Modular system - an answer for every application
- „Tube Design“ - the most hygienic and optimum shape

SLH-4G, DEVELOPED FOR MAXIMUM PERFORMANCE

Bornemann has created with the frame construction an ultra-hygienic solution that ensures the pump assembly is stable while providing all the benefits of a conventional block design.



SLH-4G

Optimizations provide even greater efficiency

- Pressure stability increased by around 25%
- Even more flexibility in terms of the rotating elements - a solution for every application with just 4 different sizes
- Optimized sealing technology
- „Tube design“ - the most hygienic and optimum shape - perfectly rounded
- Hygienic frame construction

FOR A HYGIENIC PRODUCTION

The decisive advantages of the modular system

6 reasons to believe

1 CIP and SIP – easy cleaning and sterilization

The 2-in-1 principle conveys and cleans with one pump.

Due to the wide range of pump speeds – up to a maximum of 3,600 rpm, process cycles as well as CIP and SIP procedures are possible with just one pump. The advantages are obvious: no need for a CIP pump or the associated piping, valve and MSR technology. It saves valuable space and reduces your investment costs.

2 Hygienic Design

Tube Design - optimal hygiene inside and outside

The new construction meets the growing hygiene demands of the Food and Pharmaceutical Industry (EHEDG and 3A). The round shape as well as the frame construction leave nothing to be desired with regard to the cleaning.

3 Smooth and pulsation-free conveyance

Smooth and pulsation-free handling for sensitive products.

The axial conveyance system enables cautious, low-pulsation handling of sensitive products. It protects the media and maintains size, surface and visual integrity of the products.

4 Top resistance to wear leads

To safe production and long lifetime

SLH pumps feature no metal-to-metal contact between the pump screws and the housing. This enables the trouble-free conveyance of non-lubricating and abrasive media.

5 Widest range of viscosities

High flexibility

The high speed range increases flexibility of use with varying viscosities, temperatures, operating pressures or other important criteria. The conveyance of low viscous to extremely high viscous media is possible (more than 1.000.000 cSt).

6 High suction performance for more production efficiency

Economic efficiency in the production

The SLH 4-G is self-priming down to a vacuum of less than -0.8 bar when the pump is filled. Products can be conveyed easily out of the vacuum and tank lorries.

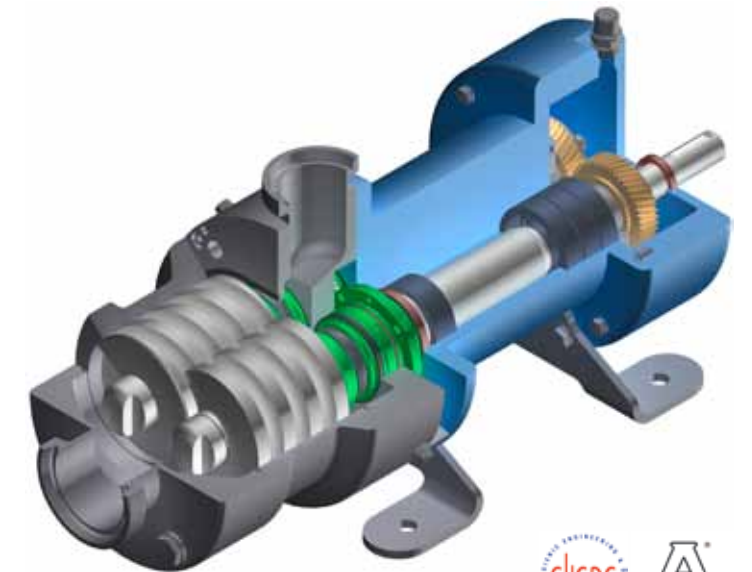
2-IN-1 CONVEY AND CLEAN WITH ONE PUMP

SLH-4G, the most recent pump-development for the food- and pharmaceutical industry

		SLH-4G 1000	SLH-4G 2000	SLH-4G 3000	SLH-4G 4000
Output capacities	Medium	up to 5 m³/h (22 gpm)	up to 35 m³/h (154 gpm)	up to 80 m³/h (252 gpm)	up to 150 m³/h (660 gpm)
	CIP	max. 20 m³/h (88 gpm)	max. 50 m³/h (220 gpm)	max. 120 m³/h (528 gpm)	max. 200 m³/h (880 gpm)
The output capacities vary depending on differential pressure and viscosity					
Flange sizes		DN 25 - DN 65	DN 40 - DN 80	DN 50 - DN 125	DN 65 - DN 200
		more flange connections upon request			
Differential pressure		up to max. 25 bar (363 psi)			
Speed		up to 3.600 rpm			
Viscosity		more than 1.000.000 cSt			
Temperatures	Medium	up to 180 °C (356 °F)			
	CIP	up to 95 °C (203 °F)			
	SIP	up to 150 °C (302 °F)			

Modular System

Using a modular system, Bornemann offers four pump sizes and different screw sets that cover a conveyance range up to 200 m³/h with a unit size up to 55 mm diameter. The different screw sizes make it possible to handle a wide range of flow capacities with the same viscosities, operating pressures and rotation speeds.



2-in-1 principle, an application example

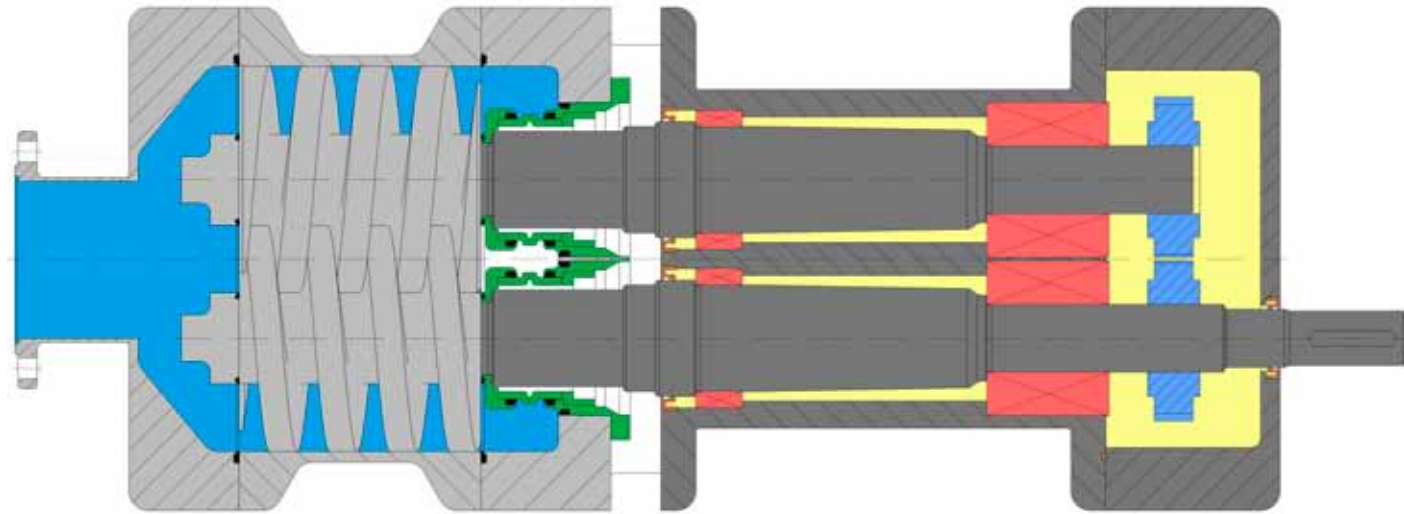
Fruit concentrate 1 and 2. Pump type SLH-4G 3031, motor 11 kW, 6 pole standard motor (VFD-driven)

	Product conveyance		Cleaning
	Concentrate 1	Concentrate 2	CIP
Speed	850 rpm	660 rpm	2045 rpm
Differential pressure	8 bar (116 psi)	10 bar (145 psi)	2 bar (29 psi)
Viscosity	500 cSt	6000 cSt	1 cSt
Temperature	70 °C (158 °F)	20 °C (68 °F)	95 °C (203 °F)
Output capacities	10 m³/h (44 gpm)	8 m³/h (35 gpm)	25 m³/h (110 gpm)
Power	5 kW	6 kW	4,5 kW

THE MODEL FOR SMOOTH CONVEYANCE OF PRODUCTS

The consistent development of power

Schematic diagram of SLH-4G



Twin screw pumps are predestinated by their operation mode and the construction for low shearing and smooth handling of sensitive products. The axial transport without changing direction as well as the contact-free intermeshing screws provide optimum results.

- product
- parts with product-contact
- rubbers with product-contact
- mechanical seal
- lubricant
- parts with non product-contact
- rubbers with non product-contact
- bearings
- timing gears



Double acting mechanical seal

Each pump can be optionally equipped with a single acting or double acting mechanical seal.

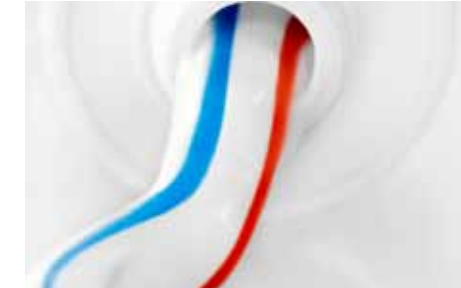


Single acting mechanical seal



BORNEMANN PUMPS FOR FOOD, PHARMACEUTICALS AND MORE

A gentle and hygienic production and even more operating efficiency



Beverage industry

- Juices
- Concentrates
- Syrups
- Wines
- Sparkling wine
- Malt extract

Sweets

- Chocolate
- Cream
- Fudge
- Molasses
- Liquid sugar
- Raw mixtures
- Fillings

Meat products

- Sausage meat
- Sausage prep
- Pet food

Pharmaceutical industry

- Raw materials
- Cosmetics
- Personal Care
- Bio-Pharma

Convenience

- Oils & greases
- Soups
- Sauces
- Dressings
- Ketchup
- Mustard
- Mayonnaise
- Porridge
- Dough
- Marmalade
- Mousse
- Honey
- Spreads
- Salads
- Meats
- Fish
- Delicacies
- Baby food
- Products in chunky form

Dairy products

- Yoghurt
- Quark
- Single cream
- Butter
- Cream
- Pudding
- Desserts
- Concentrates
- Melted cheese
- Curds

UNIQUE SOLUTIONS MADE BY THE SPECIALIST



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