

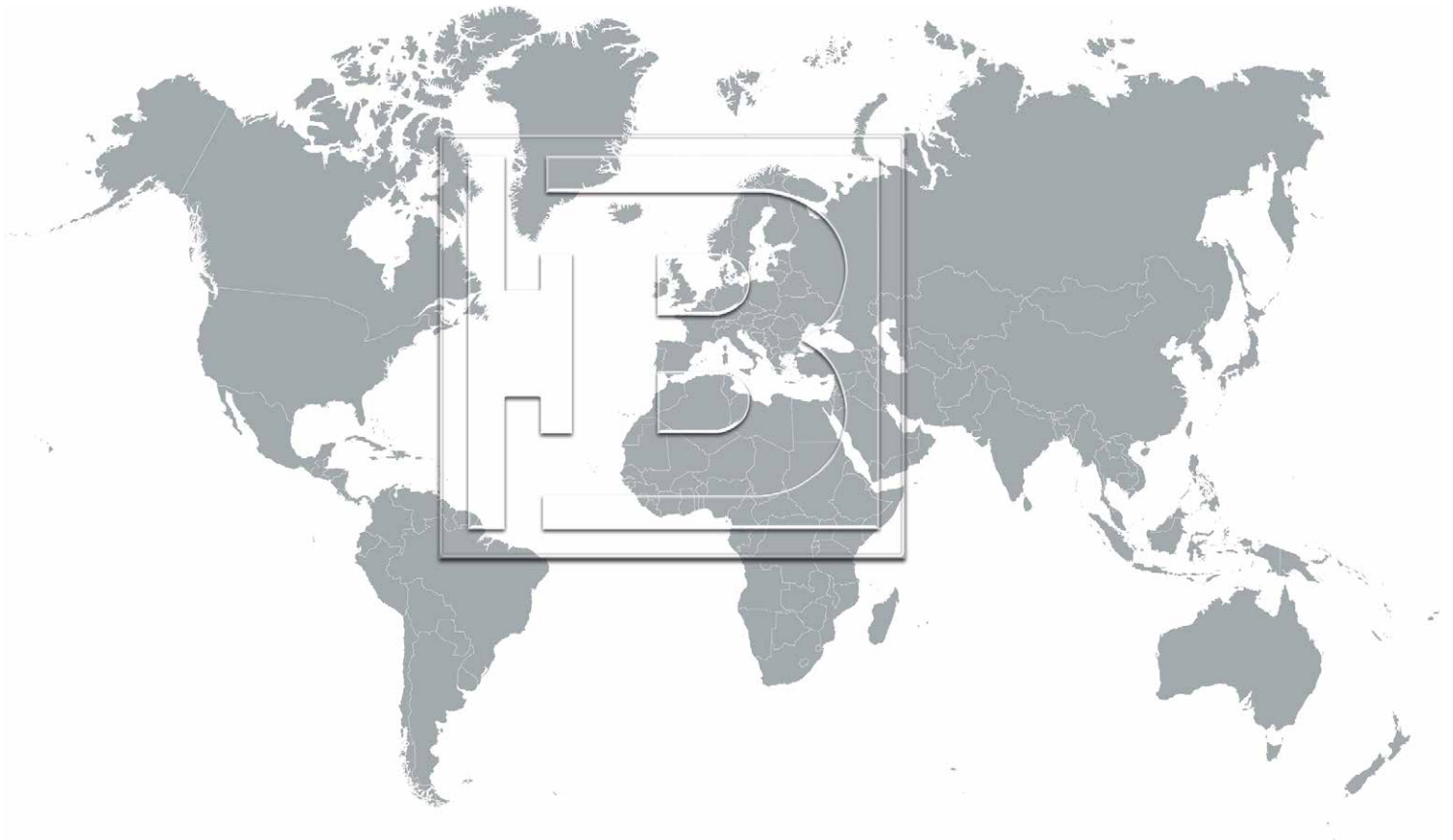
Hygienic Twin Screw Pumps

# Series SLH-5G

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# ITT Bornemann - The Pump Pioneer



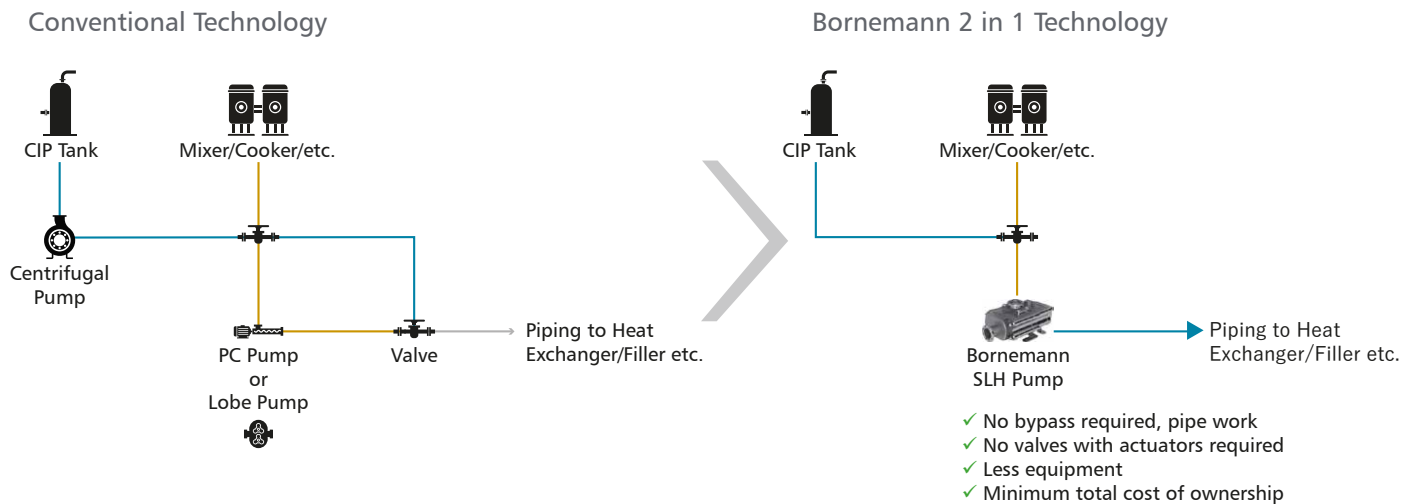
Over 15,000 Successfully  
Installed SLH Pumps Worldwide

We are ITT Bornemann, the first to market German based supplier of Twin Screw Pumps and an established worldwide leader of numerous ground-breaking pump developments. Originally founded in 1853, we joined ITT Inc. in 2012, a diversified leader of highly engineered solutions for the energy, transportation and industrial markets.

In 2004, Bornemann introduced the hygienic SLH design of Twin Screw Pumps to the Food & Pharma industries. Its design is based on more than 170 years of proven technology of Bornemann Industrial Twin Screw Pumps, aligned with the special hygienic requirements of Food, Pharma and Chemical operations. It has been continuously improved to meet the requirements of our global customers.

# The Operating Principle

SLH Twin Screw Pumps are rotary positive displacement pumps, using two screws to convey the product along the screw axis. The contact free intermeshing screws and the housing are forming closed chambers, constantly moving product from suction to discharge side.



## Convey & Clean with One Pump Only

Bornemann SLH pumps combine advantages of a conventional positive displacement pump with the performances of a centrifugal pump. It conveys low and high viscous products and achieves the required flow velocity for cleaning. This eliminates the need for a second pump and reduces valves, piping and controls.

## Product Integrity

The axial conveyance and the non-contact working principle protects the product and maintains its size, surface and visual integrity. Sheer sensitive handling of the product are major advantages of the SLH operating principle.

## Operating Envelope

Different combinations of rotor diameter and pitch fit customer requirements. Bornemann SLH pumps operate at a wide range of speed, providing flexibility for different operating points including CIP parameters.

## Low Pulsation

Bornemann Twin Screw pumps operate nearly pulsation-free to avoid vibration of piping systems and to secure safe system layout, particularly for aseptic conditions.

## Hygienic Design

State of the art hygienic design with contact-free operation of the rotor, no dead ends and self-draining design guarantee sanitary and aseptic standards and protect production and product.

## Dry Running

Due to non-contact working principle of the rotors and flushed seal configuration, Bornemann SLH is able to run dry for a defined period of time for increased system safety even at low tank levels.

## Long Service Life

Bornemann SLH pumps feature no metal-to-metal contact between rotors and housing, which secures trouble-free conveyance even for abrasive product and minimized downtime.

# Pump Features

Bornemann SLH-5G Series provides more flexibility and reduced life-cycle costs. The design options and the technical features are engineered to provide system compatibility under adjustable operating conditions while maintaining the high Bornemann quality and hygienic standards.

## Connections

S-line (Tri-Clamp)

DIN 11851

DIN 11864-2

SMS 1146

Others available upon request



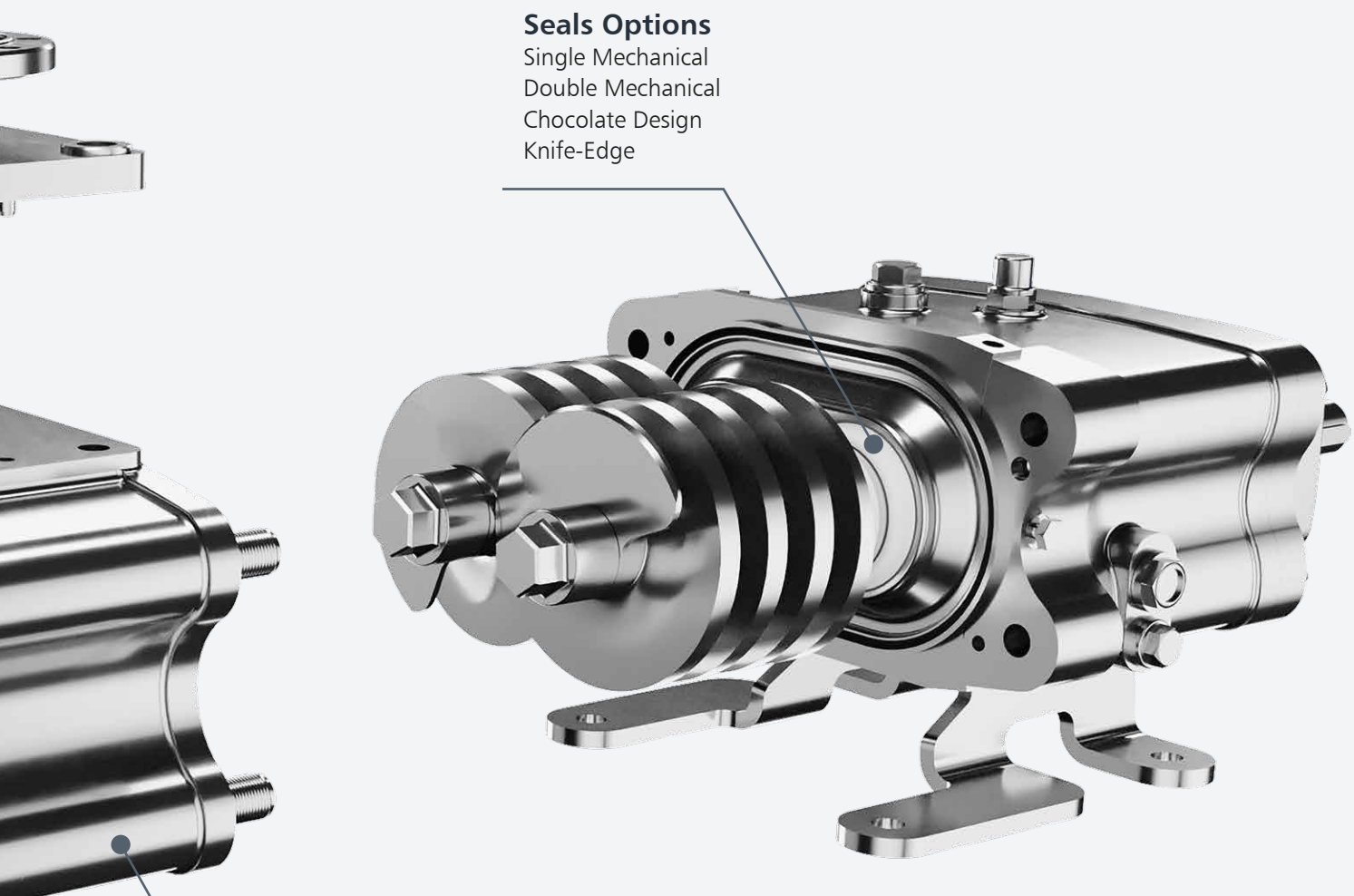
## Performance Boost

Bornemann Pump Series SLH-5G provides enlarged performance by increasing the size of the hydraulic. Better performance with the same reliability Bornemann is known for.

## Continuous Technical Developments

Bornemann uses the experience of previous generations and market developments to optimize the pump design in:

- Efficiency
- Thermal Shocks
- Flexibility in Connection



### Seals Options

Single Mechanical  
Double Mechanical  
Chocolate Design  
Knife-Edge

### Materials

Product-contact 316L SS  
Surface Finish  $<0.8\mu\text{m} / 32 \text{ RA}$   
Diffusion hardening for abrasion resistance  
Others available upon request

### Options

Heating/Cooling Casing Jacket  
LipSeal Protect Coating  
Thermal Resistance Option

### Built-in Exchangeability

SLH-5G design allows a built-in exchange with all predecessor Bornemann SLH-Series pumps without additional adaptations. Enabling easy drop-in and replacement with previous generations and installed piping dimensions.

### Excellent Maintenance Design

The newly patented Bornemann design without disassembly of the bearing unit for efficient maintenance.

# User Advantages

Bornemann Pump Series SLH-5G provides safe and efficient operations for continuously increasing demands in hygienic environments. This allows Bornemann to offer you the ideal solution for every application.

## Product Protective Procedure

To avoid any waste of the product, the reverse operation allows to empty the suction piping from the product, before starting the cleaning process.

## Abrasive Conveying

Different material options allow for conveyance of abrasive products and avoid contamination of the product.

## High Temperature Differences

The design and material choices allow maximum temperature differences from 4°C to 95°C (39°F to 203°F), empowering a problem-free, high temperature cleaning process subsequent to the conveying process.

## High Viscosity

The open suction layout allows a seamless alignment directly to the collection unit of the pumped product to provide the best possible reception of highly viscous products.

## Highly Sterile

The conveying process with sterilized products is supported by a vapor barrier, designed to ensure the sterile condition of the product.

## Stable Temperature

Heating jackets provide a constant temperature of the product to allow for an efficient and gentle conveyance.

## Constant Flow

The optimized backflow screw selection guarantees constant flow rates for metering or feeding UHT to ensure a constant temperature level despite variation in pressure or viscosity.

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# Typical Applications



## Nutrition & Health

Soups, stews, tomato paste, vegetables, dressings, chocolate, fats & oils, batters, cream fillings, brewery, wort, soft/fruit drinks, meat processing



## Dairy Processing

Cream, milk, cheese curd & whey, cottage cheese, yogurt



## Pharmaceutical/Cosmetics

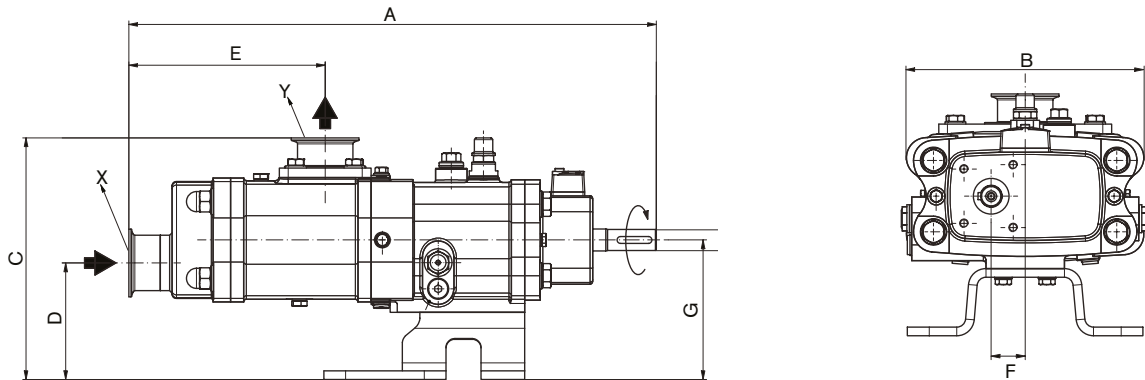
Pill pastes, syrups, extracts, slurries, face creams & lotions, hair styling gels & liquids, dyes & alcohols, soaps & cosmetics



## High Viscosity

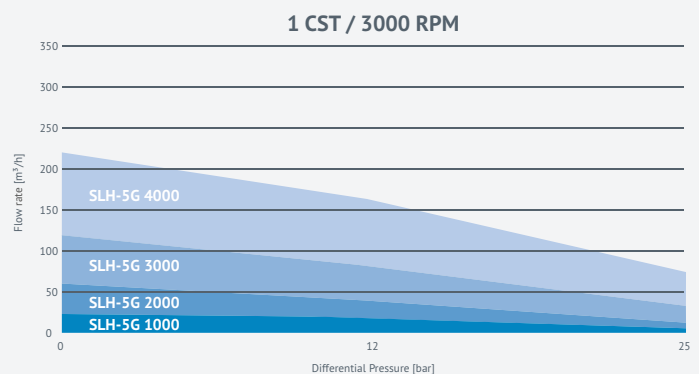
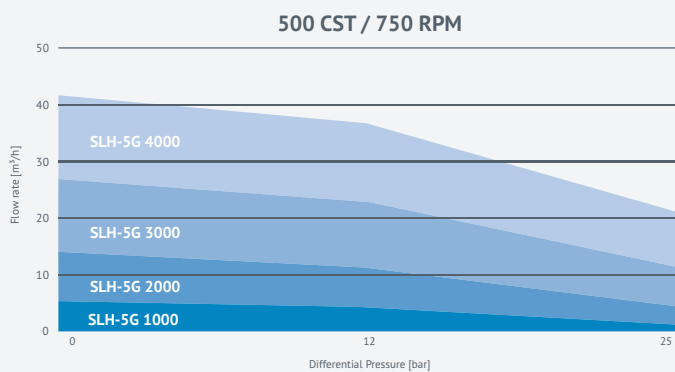
Solvents, paints, fuels, resins, polymers & sludges, oil & lubricants

# Pump Design

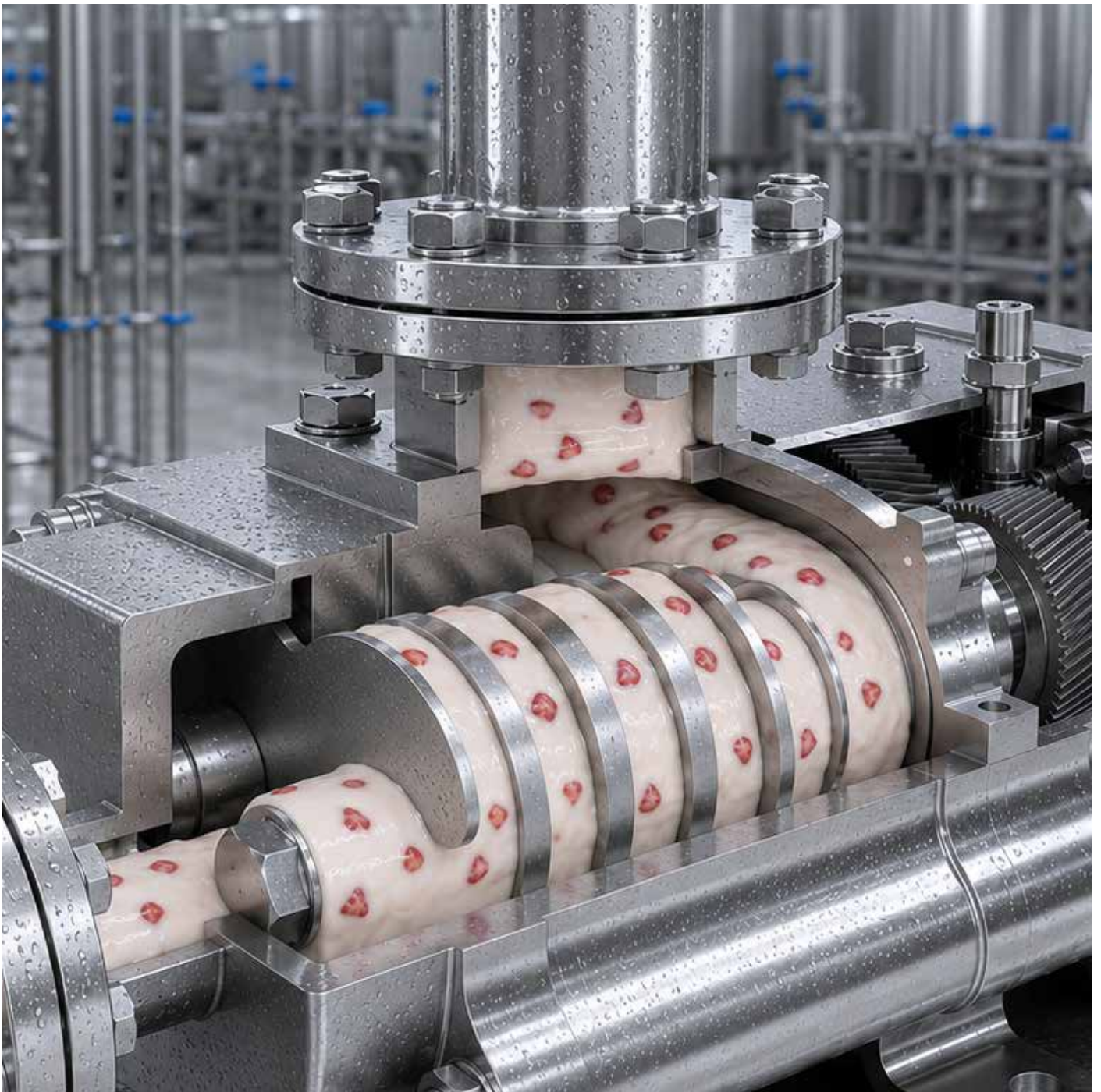


	A	B	C	D	E	F	G	X & Y	Weight
	in / mm								lb / kg
<b>1000</b>	22.91 582	10.71 272	8.62 219	2.91 74	7.64 194	1.54 39	3.94 100	2-Triclamp, DN50-DIN11851	176 80
<b>2000</b>	23.82 605	10.71 272	9.80 249	3.90 99	8.86 225	1.54 39	5.20 132	2,5-Triclamp, DN65-DIN11851	176 80
<b>3000</b>	27.48 698	13.07 332	12.28 312	4.92 125	10.83 275	1.87 47.5	6.3 160	3-Triclamp, DN80-DIN11851	291 132
<b>4000</b>	34.65 880	15.91 404	16.53 420	6.50 165	13.78 350	2.42 61.5	7.09 180	4-Triclamp, DN100-DIN11851	595 270

## Performance Data



	Max. Flow		Max. Differential Pressure		Max. Viscosity		Max. Product Temperature		Max. NPSHR
	m <sup>3</sup> h	gpm	bar	psi	mm <sup>2</sup> /s	cSt	°C	°F	m
<b>1000</b>	20	88	25	363	1.000.000		150	302	-8,5
<b>2000</b>	80	352	25	363	1.000.000		150	302	-8,5
<b>3000</b>	175	771	25	363	1.000.000		150	302	-8,5
<b>4000</b>	300	1321	25	363	1.000.000		150	302	-8,5



WILLIAMS  
**WC**  
CARVER CO.

 **Bornemann**  
— An ITT Company