

### 2.1 General description

seepex pumps are members of the group of rotating displacement pumps.

- Characteristic features
  - Special configuration/arrangement of the rotor and stator pumping elements.
  - Motion sequence

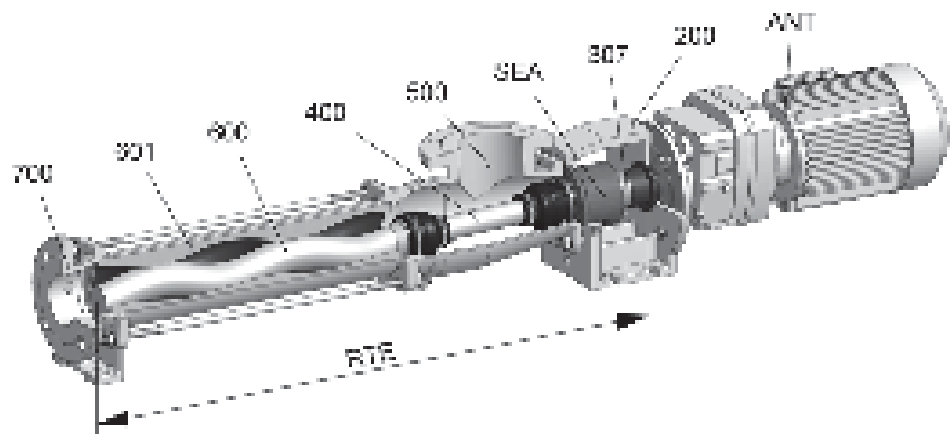
### 2.2 Mode of action and pumping principle of the seepex pump

- Sealing bands are produced through geometric design/contact of both conveying elements.
- Sealing bands ensure a perfect fit between the suction and pressure side.

Result:

- Increased pump suction.
- Higher pressure build-up independent of speed possible.

### 2.3 Constructive design



No.	Designation
ANT	Drive
200	Lantern
307	Plug-in shaft
400	Coupling rod
SEA	Shaft seal
500	Suction casing
600	Rotor
RTE	Rotating unit
601	Stator
700	Pressure branch

01/02/2023

Item 10 ( )

qty.: 2

Progressive cavity pump

BN 05-12

### Application data

Conveyed product	polymer solution
Flowability	well flowable
Solids content	without
Size of solids	not applicable
Concentration	≤ 1 %
Density	1.5 kg/dm <sup>3</sup>
Product temperature	5°C - 35°C
pH value	7
Kind of operation	continuous
Operating hours	24 h/day
Location	indoor, dry atmosphere
Altitude of installation	up to 1000 m assumed
Surrounding temperature	normal (5-40 °C)

### Performance data

	Capacity	Pressure	Speed	
	100 l/h	4 bar	62 min <sup>-1</sup>	min
	184 l/h	4 bar	109 min <sup>-1</sup>	norm
	420 l/h	4 bar	241 min <sup>-1</sup>	max
Starting torque	30 Nm			
Req. operating power at pump shaft	0.24 kW			
Inlet pressure	flooded suction (up to 0,5bar)			

Tolerances according to SEEPEX standards.

### Materials and executions

Installation	horizontal
Direction of rotation	counter clockwise (left)
Lantern - Design	with cover plates
Lantern - Material	EN-JL 1040 (gci-25)
Suction casing - Design	standard
Suction casing - Material	1.4408 / ASTM A351 grade CF8M
Pressure branch - Design	standard
Pressure branch - Material	1.4408 / ASTM A351 grade CF8M
Position of branch	position 1
Suction connection	G1½" DIN EN ISO 228-1
Pressure connection	G 1¼" DIN EN ISO 228-1
Joint - Design	pin joint with joint sleeve, grease filled
Joint - Material	standard, holding bands 1.4401
Joint - Universal joint sleeve: material	NBR - Perbunan
Coupling rod - Design	standard
Coupling rod - Material	1.7225 encapsulated
Rotor - Design	standard
Rotor - Material	1.4404 / AISI 316L
Stator - Design	standard
Stator - Material	NBR - Perbunan
Shaft sealing	mechanical seal
Code	GA - single acting mechanical seal
Shaft diameter	30 mm
Make	SEEPEX
Rotating/stationary seal face	SiC SiC
Elastomers	FPM
Spring	1.4571 / AISI 316Ti
Metal parts	1.4571 / AISI 316Ti
Type	GA Q1Q1 VGG

Casing - material	1.4408 / ASTM A351 grade CF8M
Casing - connection standard	ISO 228
Plug-in Shaft - Design	standard
Plug-in Shaft - Material	1.4404 / AISI 316L
Bolting - Design	completely stainless steel
Painting - Number of colors	two-color RAL colors
Painting - Painted components	color 1: pump, gearbox (and baseplate) color 2: electric motor
Painting - Color	RAL 5013 - Cobalt blue (2K)
Painting - Color 2	RAL 5010 - Gentian blue (2K)
Painting - Surface protection	std. surface protection C2 (NDFT 95 µm)

## Drive

Type	Gear & Motor at freq. inv. (Inverter is not included)		
Make	Nord		
Model	SK015F-IEC80		
Mounting position	M1		
Ratio (i)	8,55		
	<b>Norm</b>	<b>Min</b>	<b>Max</b>
Speed	167 min <sup>-1</sup>	62 min <sup>-1</sup>	241 min <sup>-1</sup>
Motor speed	1424 min <sup>-1</sup>	526 min <sup>-1</sup>	2062 min <sup>-1</sup>
Frequency	50 Hz	18 Hz	72 Hz
Rated output			
Make	ABB		
Model	M3BP 80MLG 4		
Rated output	0.75 kW		
Rated speed	1424 min <sup>-1</sup>		
Starting	direct on frequency inverter		
Efficiency class	IE3		
Terminal box position acc. to supplier	not specified		
Cable entry position acc. to supplier	not specified		
Voltage	230/400 V		
Frequency	50Hz		
Enclosure	IP65		
Thermal class	F		
Winding protection	3 PTC - (w/o break contacts)		

The frequency inverter has to follow a linear U/f characteristic curve (constant torque).  
It's essential to have a minimum overload capability of 150% for at least 60 seconds. (see technical data sheet)

## Baseplate

Design	baseplate for block pump, design with side feet
Material	steel, painted
GPU Type Code	B-ST-LS
Chemical anchor bolts	4 pc. chemical anchor bolts M16x165 galv, steel.

## Quality Assurance

Design	Test Report
Document Standard	DIN EN 10 204-2.2

## Quality Assurance

Design	B5 Hydraulic Performance Test
Document Standard	Inspection Certificate DIN EN 10 204-3.1
QA Testing Standard	VDMA 24284

## Quality Assurance

<b>Design</b> <b>Document Standard</b>	B16 Coating Control, Painting Inspection Inspection Certificate DIN EN 10 204-3.1
<b>Quality Assurance</b> <b>Design</b>	Quality Inspection Certificate for machines
<b>Document Standard</b>	DIN EN 10 204-2.1
<b>Quality Assurance</b> <b>Design</b>	B18 Review of Technical Documentation by arrangement or customer's specification