JOHSTADT
Pumpen | Feuerlöschtechnik

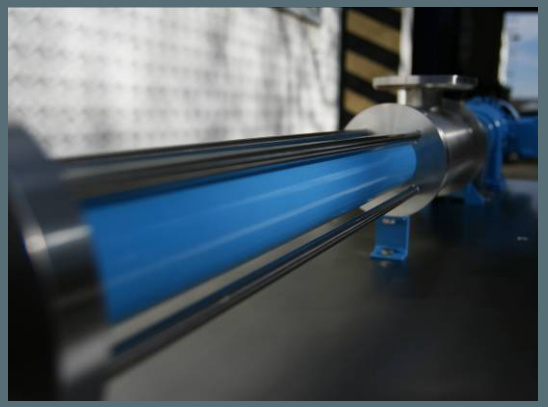
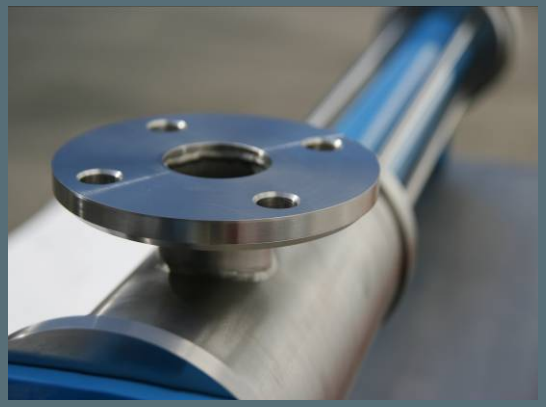
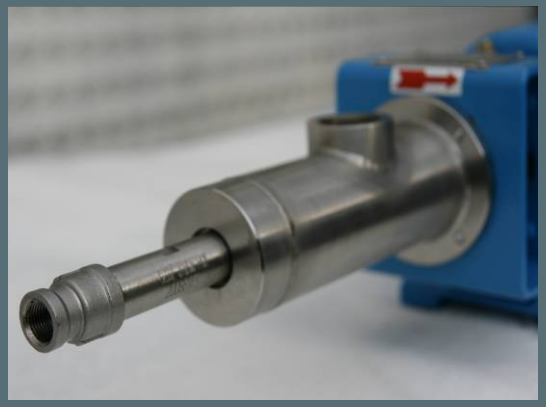
JOHSTADT

Industry



Pumps for every application.




1. The Progressive Cavity Pump
2. Design and working principle
3. Product range
4. Engineering details
5. Checklists
6. Applications and references

JOHNSTADT
Pumpen | Feuerlöschtechnik

1. The Progressive Cavity Pump

1.1 For what?

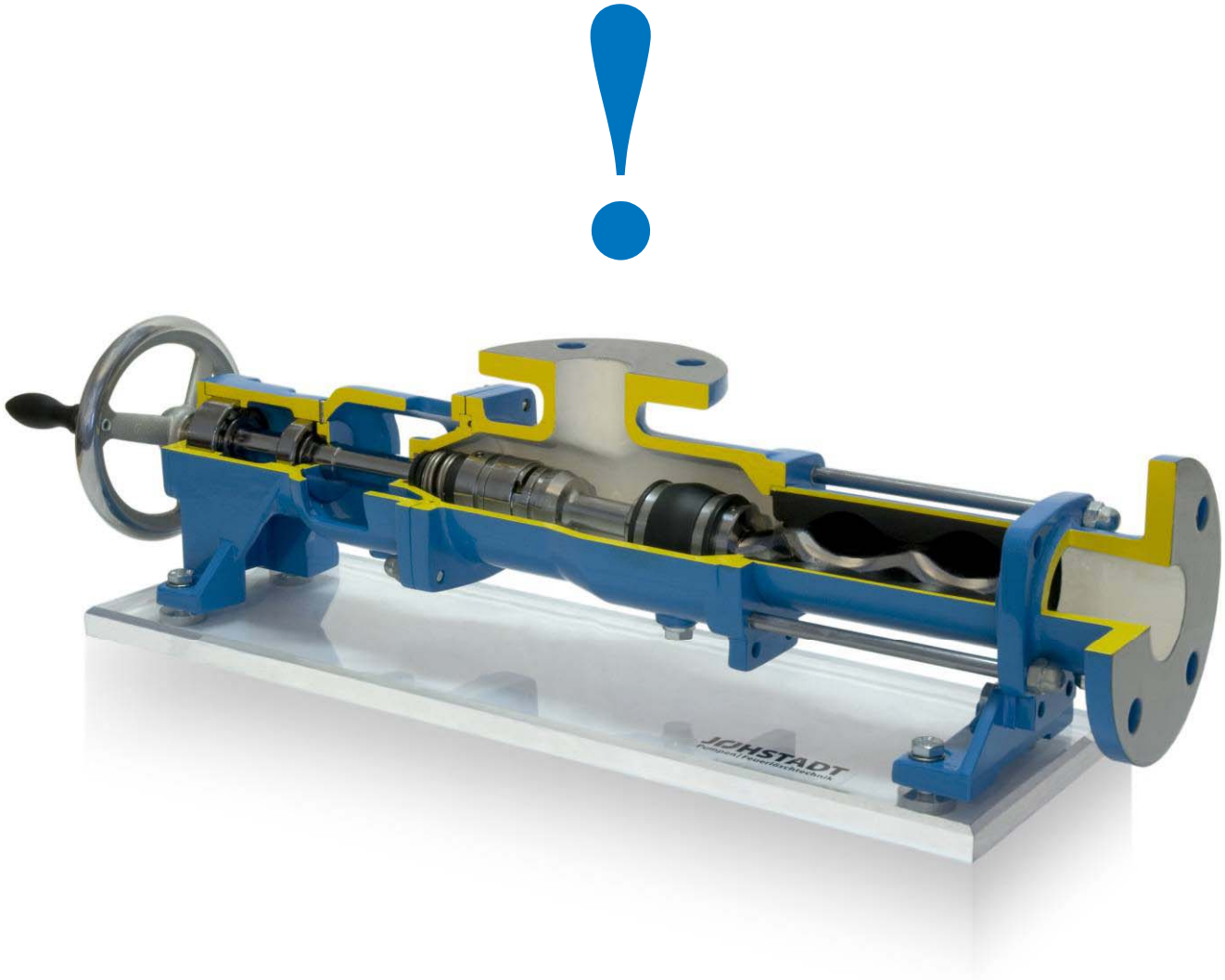
1.2 Classification

1.3 Use

Progressive Cavity Pumps – for what?

?

Progressive Cavity Pumps – for what?



Progressive Cavity Pumps – for what?

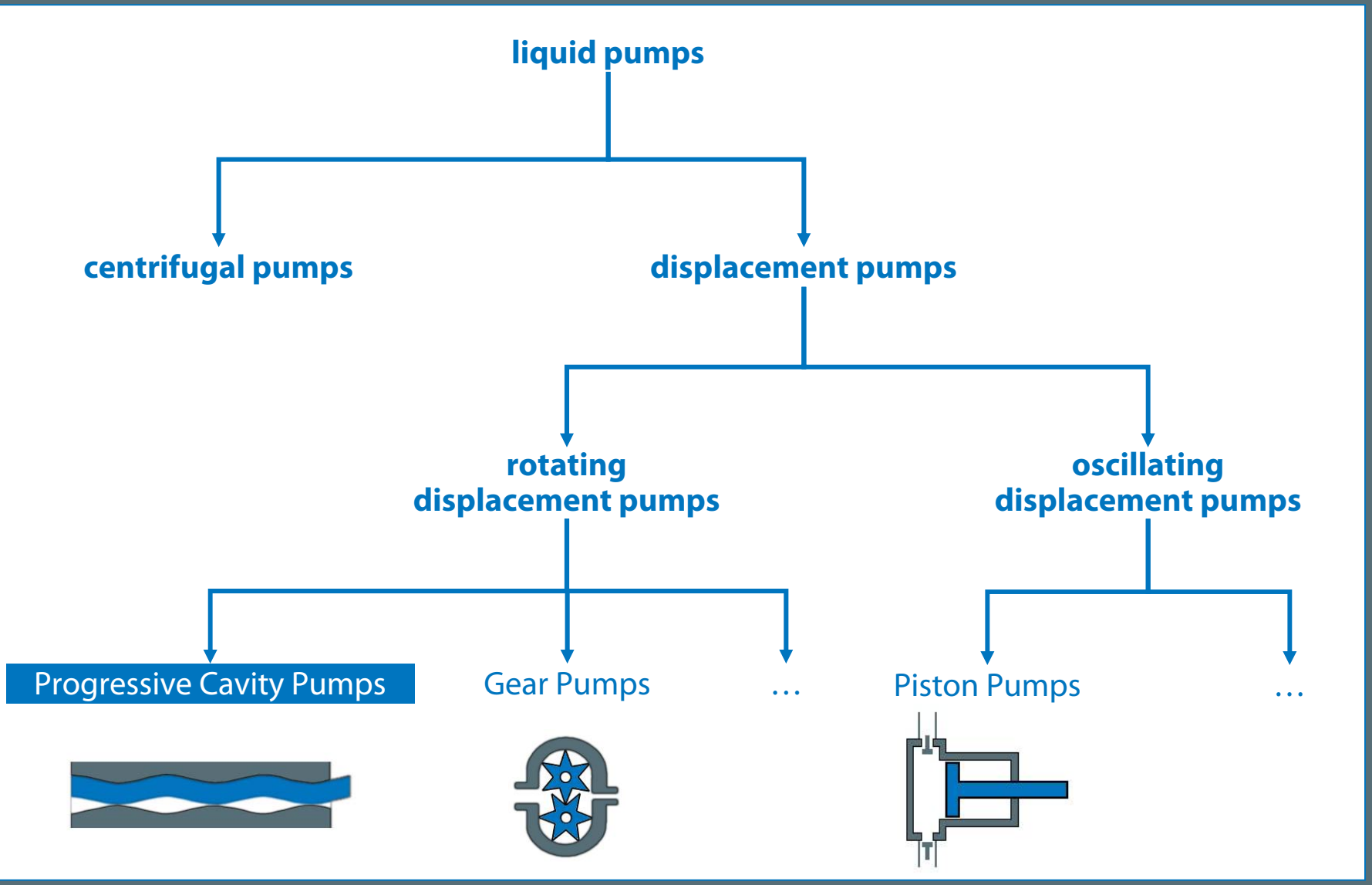
Viscosity = quantum of flow for a liquid

a) <u>dynamic viscosity</u>
- [mPa s]
- f (distance, area, force, velocity)

b) <u>kinematic viscosity</u>
- [cSt]
- f (dynamic viscosity, liquid density)

liquid soap	≈ 80 mPa s
tooth paste	≈ 100.000 mPa s
milk	≈ 5 mPa s
butter	≈ 30.000 mPa s
spirit / Ethanol	≈ 2 mPa s
laque color	≈ 3.000 mPa s

Progressive Cavity Pumps – classification

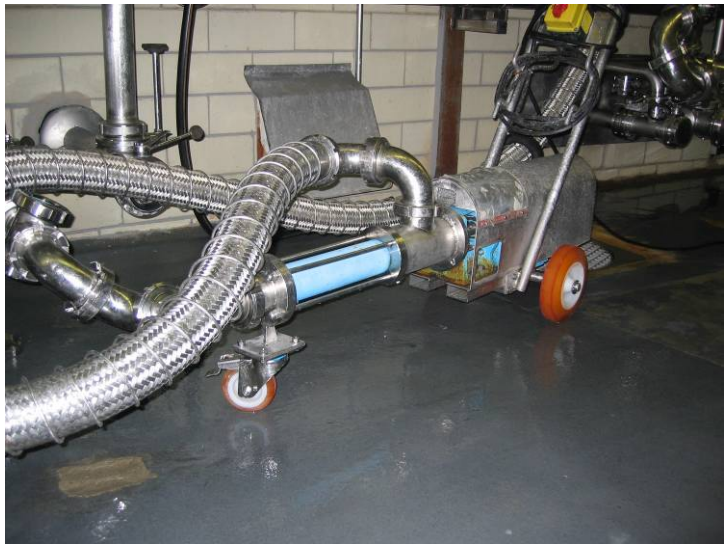


Application: enviroment technology (water and waste water)

Application: chemical industry

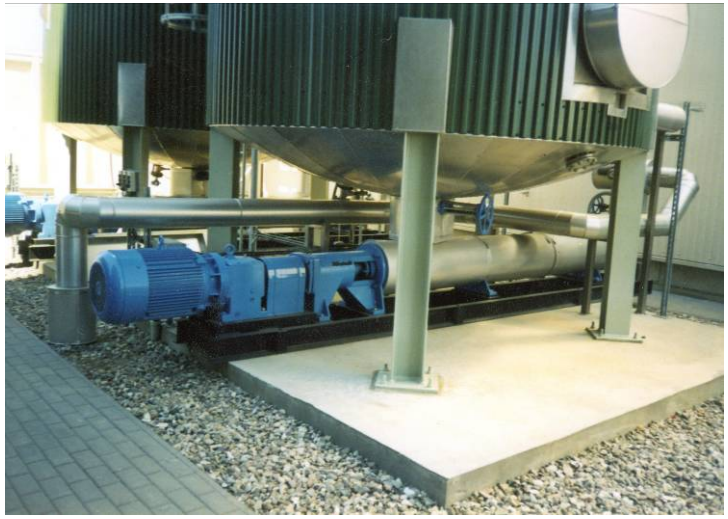
Application: drinking industry

Application: food industry



Application: varnish industry

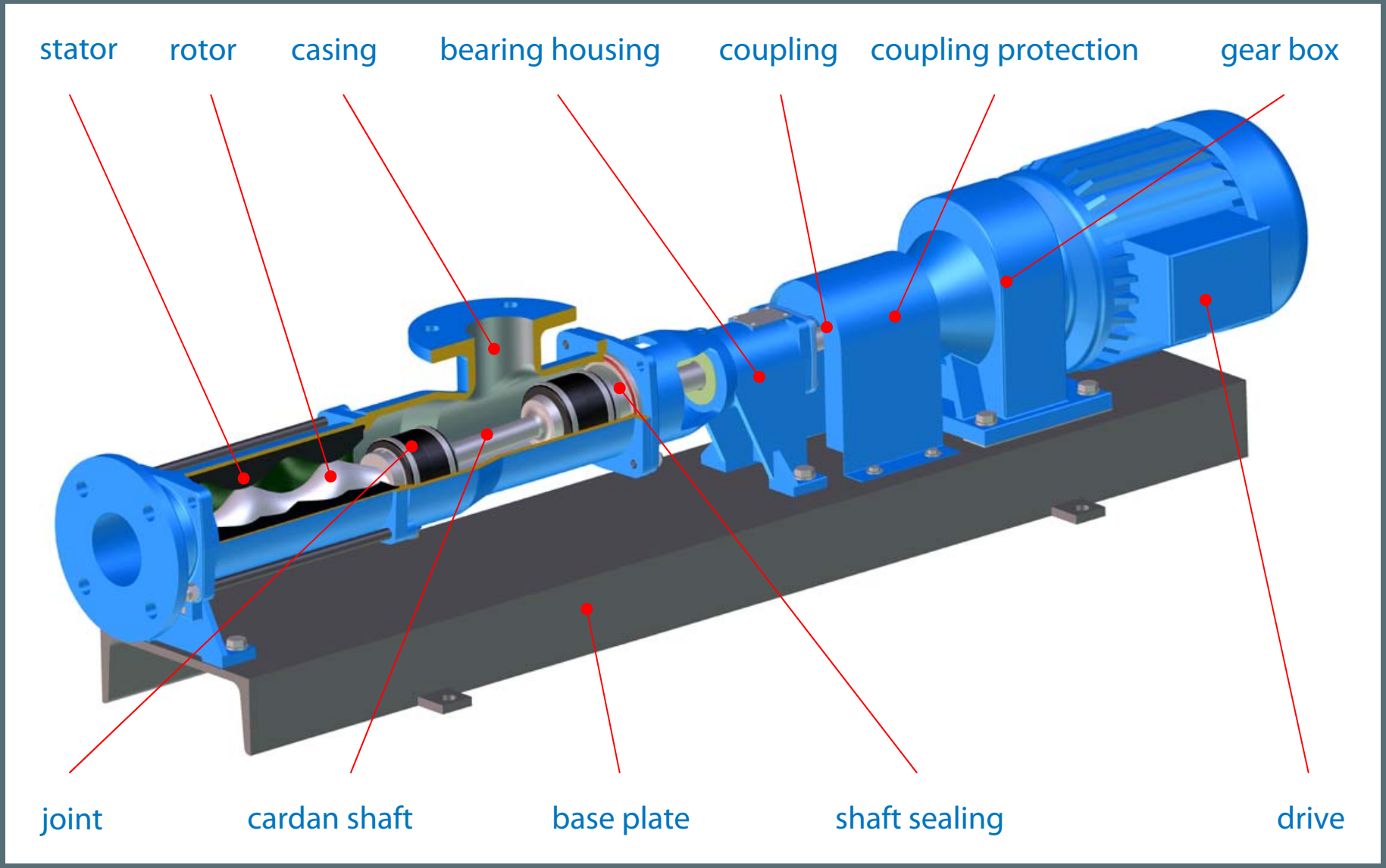
Application: biogas and energy



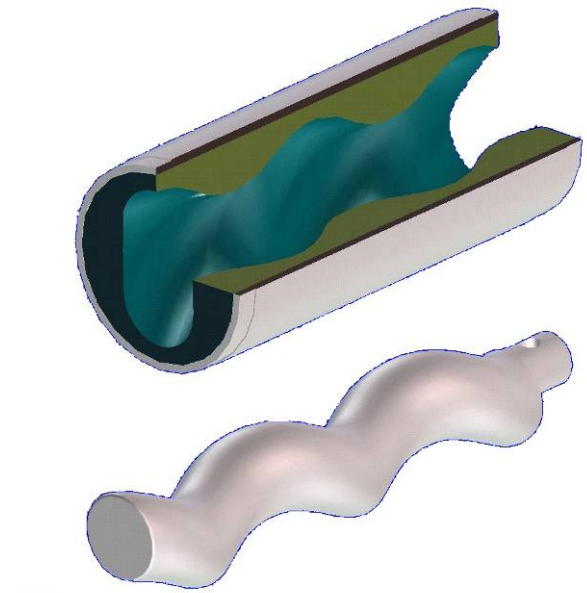
2. Design and working principle

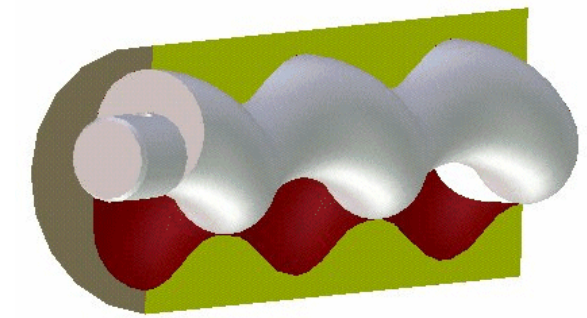
- 2.1 Assembling
- 2.2 How it works
- 2.3 Competitive edges
  - 2.3.1 Bearing
  - 2.3.2 Rotor geometry
  - 2.3.3 Joints

Assembling


stator
rotor
casing
bearing housing
coupling
coupling protection
gear box
joint
cardan shaft
base plate
shaft sealing
drive

How it works (I)





Animation: click on the picture!

stator = double thread casing
double gradient
elastic syntetic

rotor = single thread (spiral, helical)
single gradient
steel alloy or ceramic

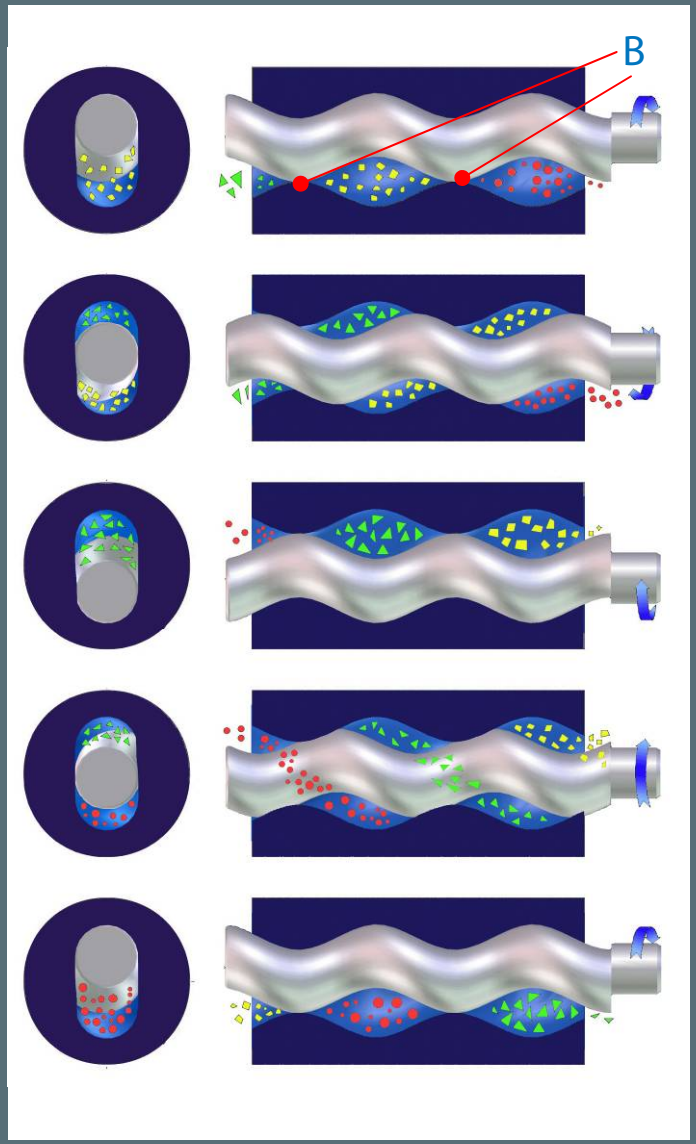
- working effect of stator and rotor
→ becoming hollow spaces named „cavities“

- rotation of rotor
→ cavities moves through stator

- rotor moves axial and rotativ at the same time
(how a screw, excentric)

→ drive of rotor through cardan joint and 2 joints
(compensation of exzentric motion)

How it works (II)



- rotation of rotor
  → cavities moves through stator

- length of cavity = 1 thread of stator
  → way of cavity per one rotation

- delivery rate = f (rotation speed, delivery volume)

- Delivery rate ~ rotation speed

- place of touch between rotor – stator there is sealing line (B)
  → seals cavities
  → no liquid movement against flow direction

working principle developed by Prof. Moineau (1936), Paris / France

Exzenterschneckenpumpen – advantages

→ pumping of media
* with highest viscosity
* with solid content (TS-content)
* with content of fibre material
* type liquid-gas mixtures (foam)
* which are inhomogene and abrasive
* which are not liquidable

→ temperature range -40° C ... +200° C

→ continuous, speed controlable delivery rate

→ high accuracy in delivery and dosing

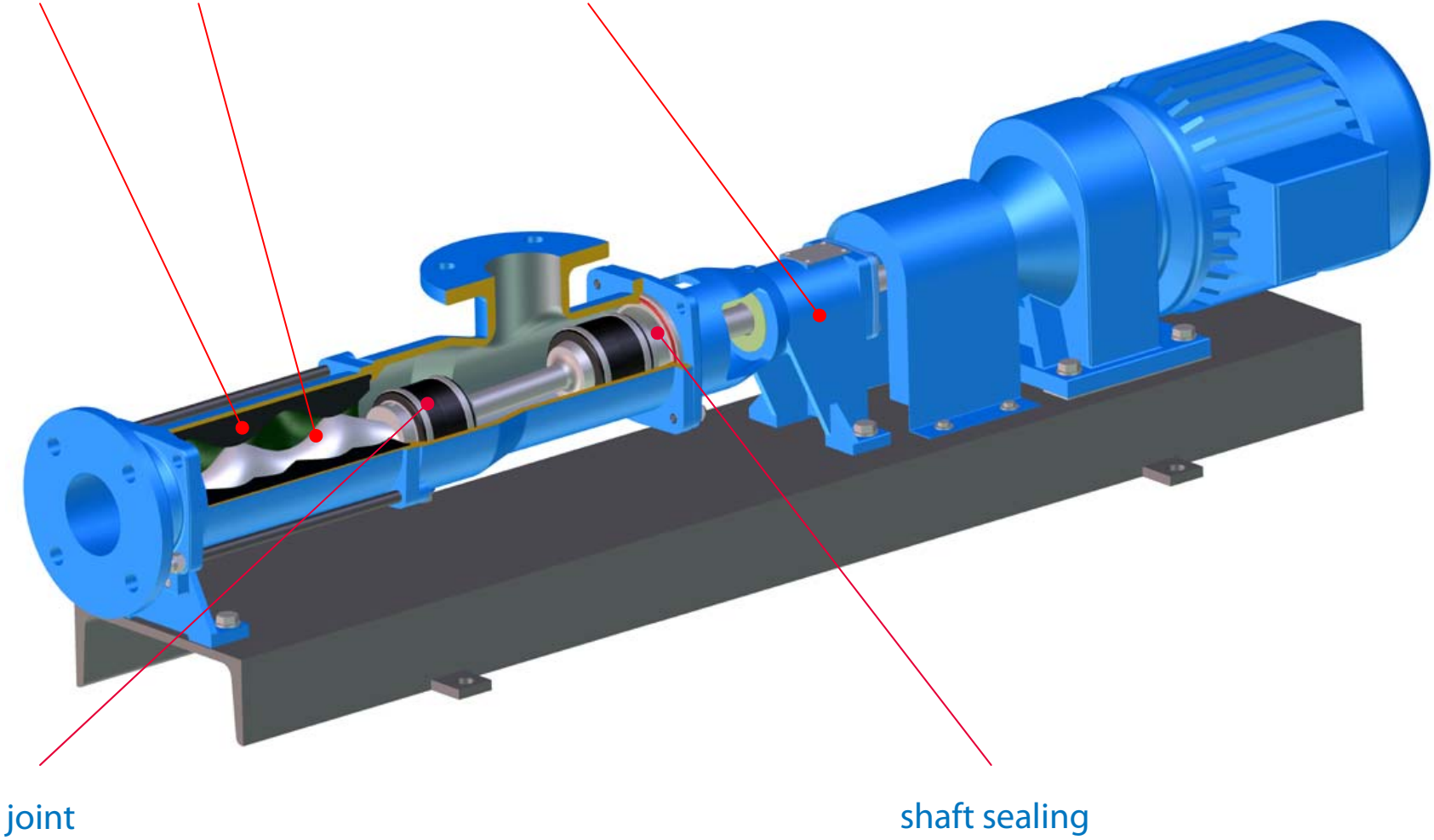
→ small pulsation- and turbulence delivery flow

→ no structure destruction of delivery media (no bruise forces)

→ high possibility of self suction, up to 9 m vakuumetrical

→ reverseable delivery flow

Competitive edges



Bearing: bearing and side opening bracket

side opening bracket

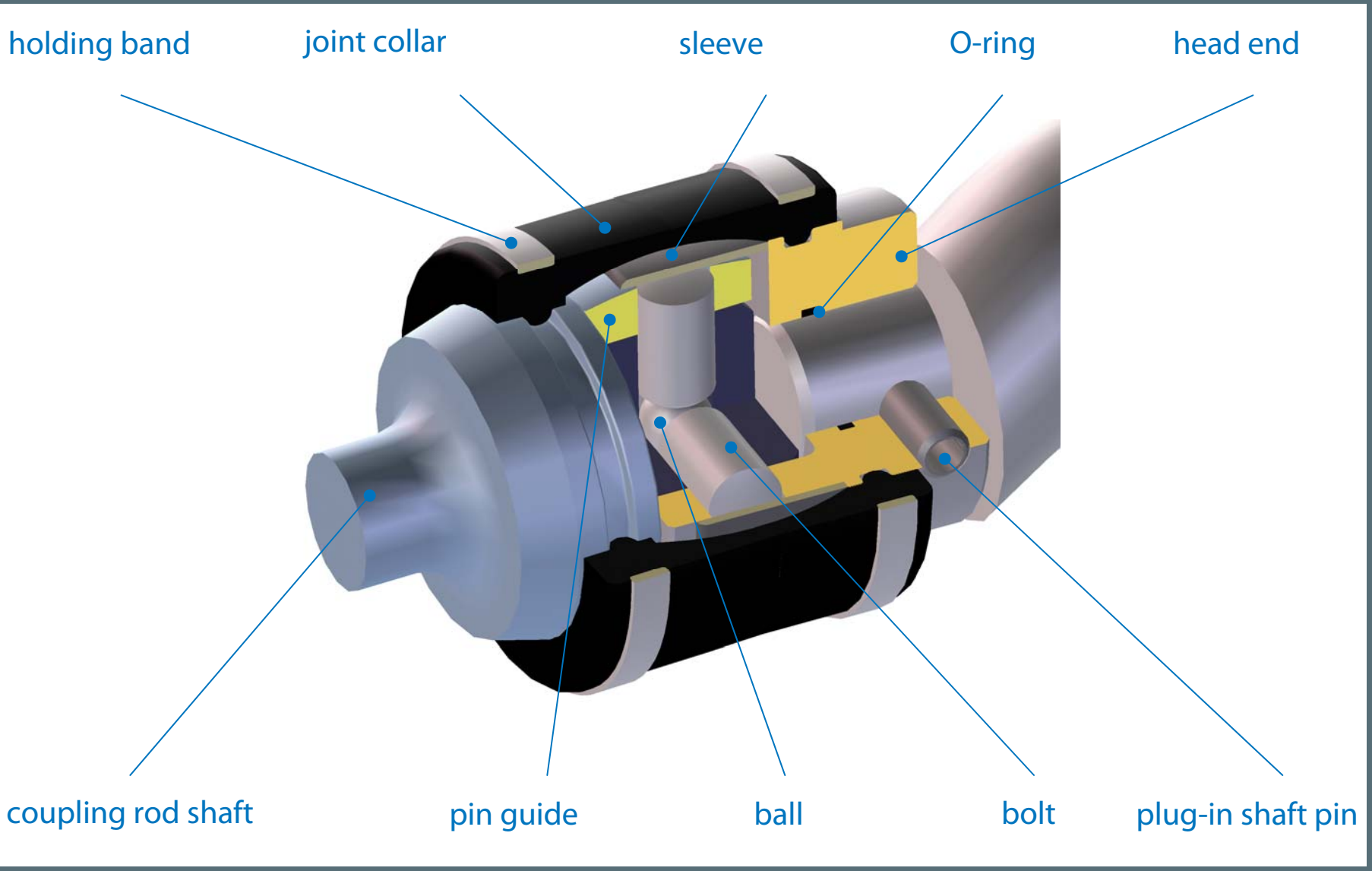
bearing

Rotor geometry

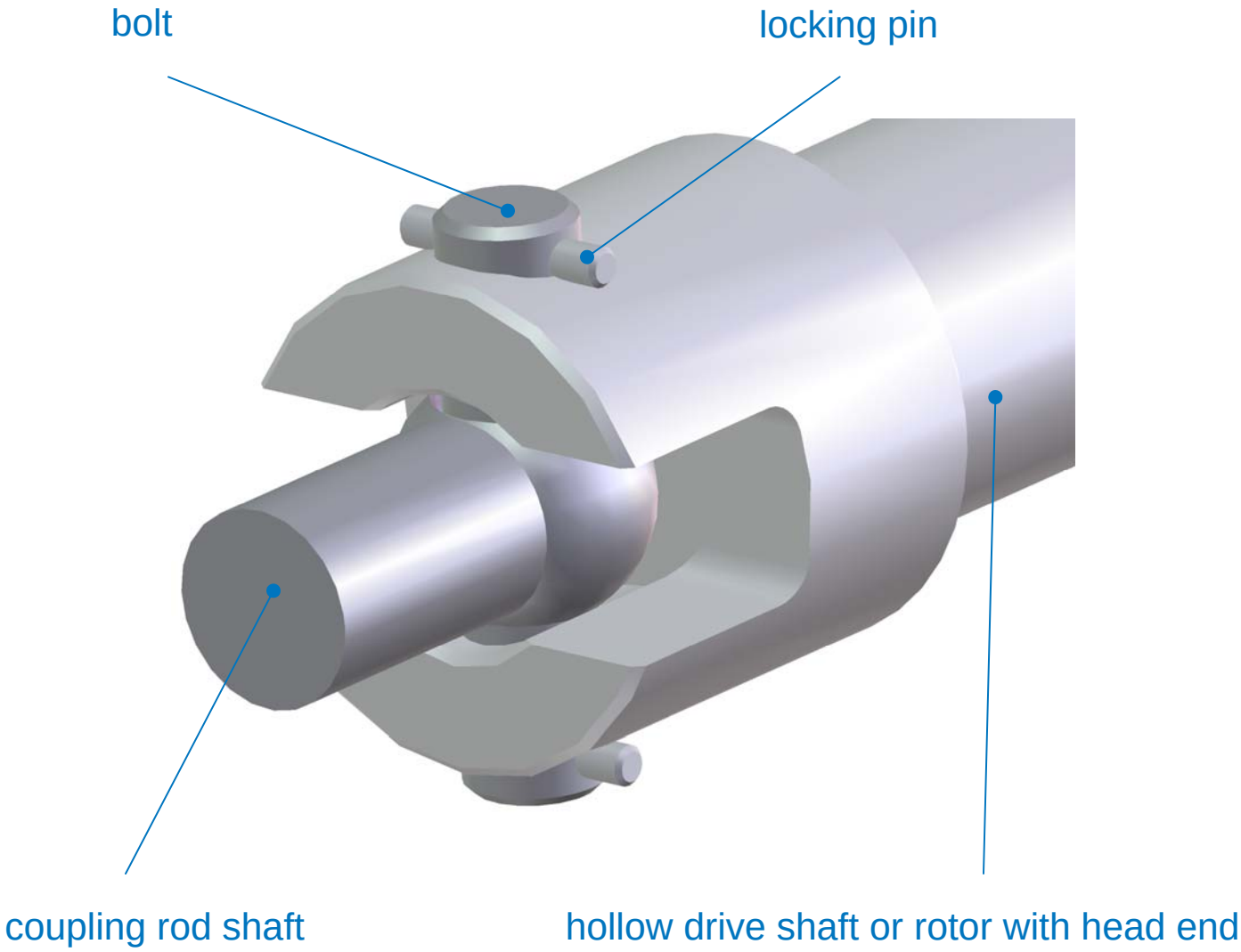
FG

FJ

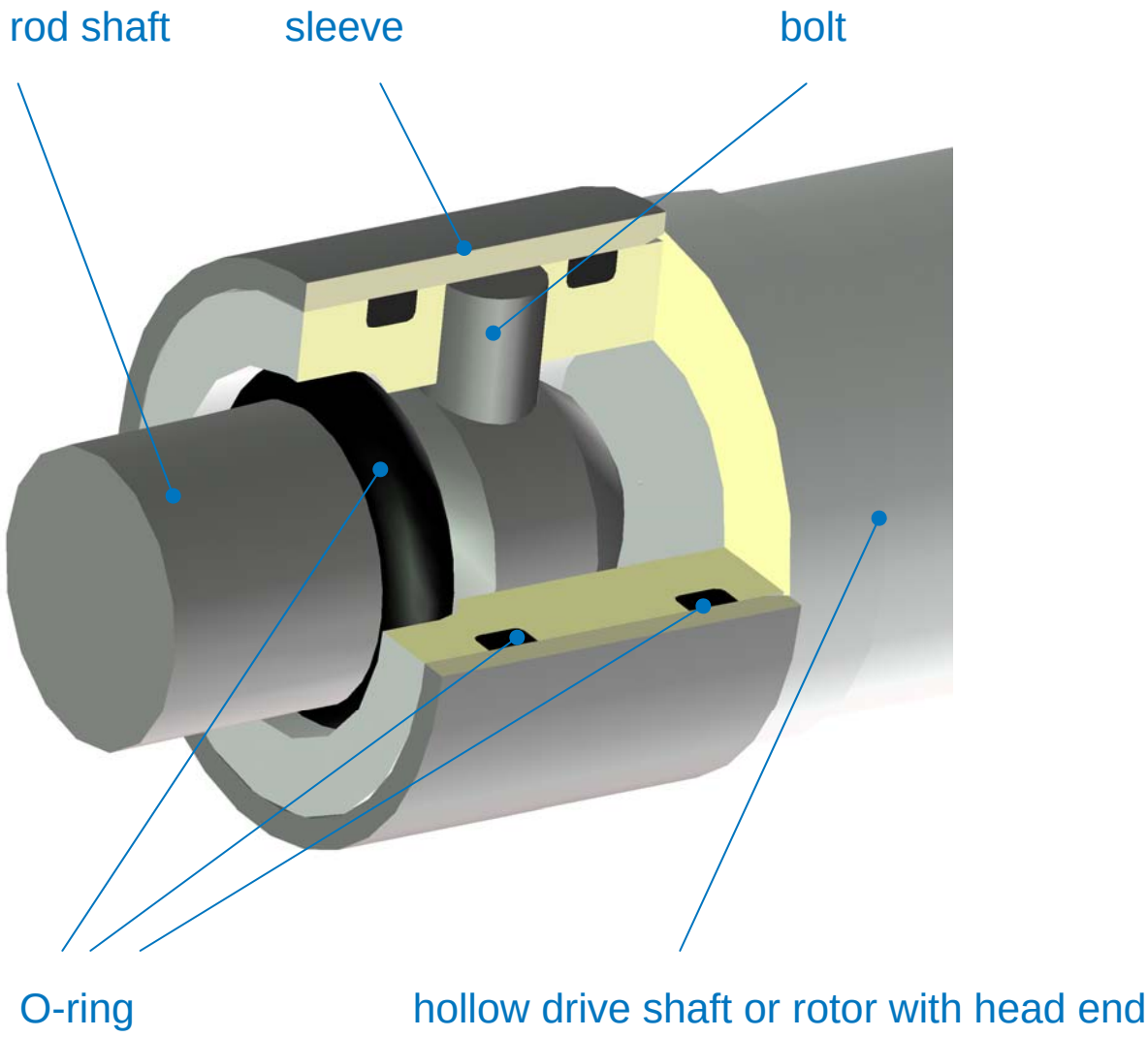
Joint – cardan joint



Joint – bolt joint (open)



Joint – bolt joint (sealed)



JOHNSTADT
Pumpen | Feuerlöschtechnik

3. Product range

3.1 Overview

3.2 Nomenclature

3.3 Models

Models – overview

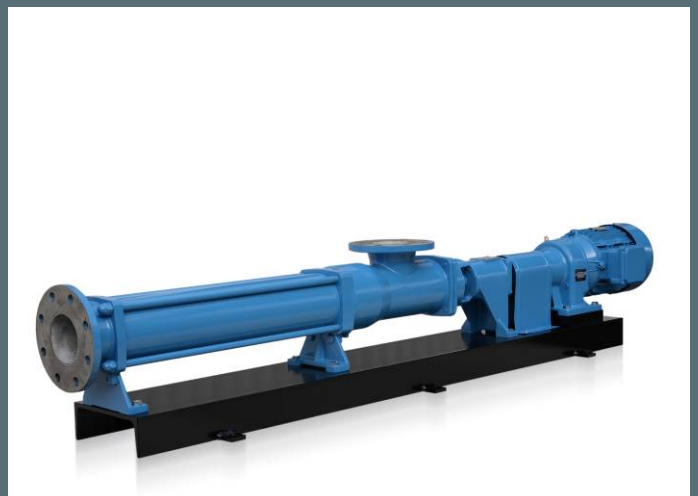
	Side opening bracket	Bearing	Special
Basis pump	FJ/FG-B	FJ/FG-S	FJ-A
Feed hopper	FJ/FG-BR	FJ/FG-SR	FJ-P
Feed hopper PADDLE	FJ/FG-BZ	FJ/FG-SZ	FJ-F
Feed hopper XL	FJ/FG-BH	FJ/FG-SH	
Vertical	FJ/FG-BV	FJ/FG-SV	
Hygiene	FJ/FG-BC		
Quik cleaning	FJ/FG-BQ	FJ/FG-SQ	
Special design	FJ/FG-B+	FJ/FG-S+	

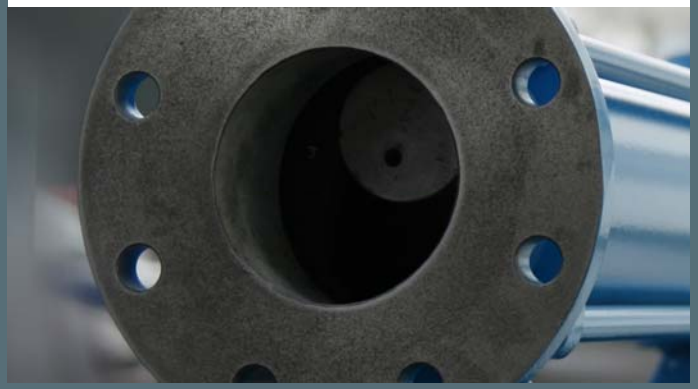
Nomenclature

AFJ 50.1SR

A	FJ	50	.	1	S	R
Aggregate	*rotor / stator design*	*size (Ø rotor, mm)*		*number of stages / pressure*		*Type*
A = with drive = without drive	FJ = short profile FG = long profile			1 = 1 (6 bar) 2 = 2 (12 bar) 3 = 3 (18 bar) 4 = 4 (24 bar)	S = standard (bearing) B = side opening bracket	R = feed hopper Z = feed hopper PADDLE H = feed hopper XL V = vertical C = hygenic Q = quick cleaning + = special design

Basis pump





Equipment:
- bearing or side opening bracket
- constant or adjustable delivery rate
- reversible flow direction
- flanges to DIN 2501, ANSI or other
- casing cast iron, steel or stainless steel
- cardan joints encapsulated
- stuffing box or mechanical seal

Use for:
- media watery up to viscous
- media with solid contents
- waste water, effluent sludge, oil, paints
- glue, dough, animal food, liquid manure
- acids and alkaline solutions

Industry branches:
- waste water and environment technology
- chemical industry
- agriculture
- paint and varnish production,
- shipbuilding …

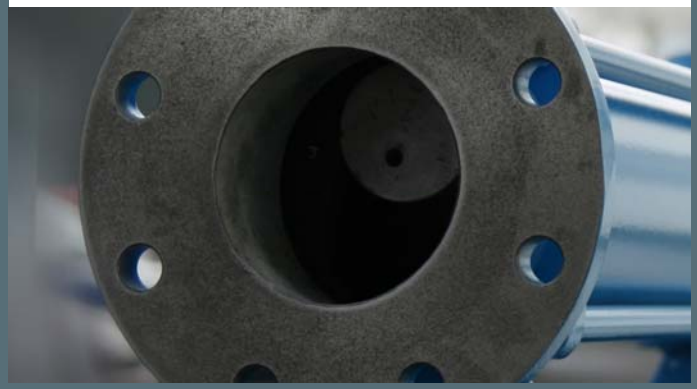
Feed hopper

Equipment:
- bearing or side opening bracket
- constant or adjustable delivery rate
- rectangular filler at case top
- feed screw in case
- casing steel or stainless steel
- cardan joint with screw tube encapsulated
- stuffing box or mechanical seal
- connection for cleaning available

Use for:
- high-viscous, not flowable media
- effluent sludge, digestes sludge
- fruits with pip, paste, treber
- waterless media

Industry branches:
- waste water and enviroment techology
- chemical industry, agriculture
- food and drink industry, soap grease industry
- color and varnish production, synthetic industry
- paper and cellulose industry

Feed hopper PADDLE



Equipment:
- bearing or side opening bracket
- constant or adjustable delivery rate
- rectangular filler at case top, additional installation with paddle
- casing steel or stainless steel, rotary parts in stainless steel
- cardan joint with screw tube encapsulated
- stuffing box or mechanical seal
- connecting for cleaning

Use for:
- high-viscous media, which clog the inlet
- effluent sludge, digestes sludge
- pasten, colors, waste of peel
- sludge up to 40% solids contents

Industry branches:
- waste water and enviroment technology
- chemical industry and varnish production
- agriculture
- paper and cellulose industry

Feed hopper XL

Equipment:
- bearing or side opening bracket
- constant or adjustable delivery rate
- rectangular filler at case top
- screw conveyor inside
- various types of branches
- casing steel or stainless steel
- cardan joint with screw tube encapsulated
- stuffing box or mechanical seal
- connection for cleaning available

Use for:
- high-viscous media, which clog the inlet
- effluent sludge, digestes sludge
- waste of peel
- paste, sludge up to 40% solid contents

Industry branches:
- waste water and enviroment technology
- chemical industry, agriculture
- paper and cellulose industry
- color and varnish production

Hygiene

Equipment:
- side opening bracket
- constant or adjustable delivery rate
- high self-priming capacity, reversible flow direction
- various types of branches
- casing and rotary parts in stainless steel (1.4571)
- bolt joint
- all surfaces are electro-chemical polished
- casing with 2 tangential wash-branches for CIP cleaning
- double-casing and -stator available, in order to heat media with water or steam

Use for:
- media watery up to pulpy:
  products from milk, grease, oil, doughts, fruit juice, creams, yeasts, alcoholic drinks

Industry branches:
- food and drinking industry
- chemical industry
- pharmaceutical industry
- soap and grease industry

Quik cleaning

Equipment:
- bearing or side opening bracket
- constant or adjustable delivery rate
- high self-priming capacity
- reversible flow direction
- various types of branches
- casing and rotary parts stainless steel (1.4571)
- cardan joint open and encapsulated
- casing with tangential wash-branch for cleaning available
- double-casing and -stator available, in order to heat with water or steam

Use for:
- media watery up to pulpy:
  products from milk, grease, oil, doughts, fruit juice, creams, yeasts, alcoholic drinks

Industry branches:
- food industry
- chemical industry
- soap and grease industry

Portable

Equipment:
- simple design
- connections G1 1/4 - inside threating
- easy to clean
- high self-priming capacity
- casing aluminium or stainless steel
- low-wear cardan joints
- reversible flow direction
- also as fixed system usable

Use for:
- media watery up to viscous
- waste water, Bilge, sludge,
- acids and alkaline solutions
- oils, colors

Industry branches:
- versatile use
- for bottle, pumping around,
- to fuel, to empty
- in a lot of industries

Vertical

Equipment:
- bearing or side opening bracket
- vertical
- variable dip depth
- constant or adjustable delivery rate
- various types of branches
- casing steel or stainless steel
- cardan joint encapsulated
- stuffing box or mechanical seal

Use for:
- high-viscous media, which can not prime:
  tar, heavy fuel, bilge, waste of peel, effluent sludge, oil, acids and alkaline solutions, colors, glue, dough, animal food …

Industry branches:
- waste water and enviroment techology
- chemical industry, agriculture, food industry
- soap and grease industry, varnish production
- plastics processing, paper and cellulose industry

Barrel pump

Equipment:
- side opening bracket
- vertical with for crane or transport
- constant or adjustable delivery rate
- branch with flange DIN 2501, ANSI or 2.5“ (others on request)
- casing and rotary parts in stainless steel
- suitable for bung hole
- cardan joints encapsulated
- stuffing box or mechanical seal

Use for:
- to empty barrels
- high-viscous and pulpy media, which can not prime: oils, colors, acids and alkaline solutions

Industry branches:
- waste water and enviroment technology
- chemical industry, agriculture
- food industry, soap- and grease industry
- color and varnish production, plastics processing
- paper and cellulose industry

Dosing

Equipment:
- side opening bracket
- simple design
- casing stainless steel
- pump dock to drive direct
- fix or moveable system
- constant or adjustable delivery rate
- high self-priming capacity
- low-wear, encapsulated bold joints

Use for:
- watery media with weak pollutions
- waste water, oils, colors, varnishs
- alkaline solutions, glues, polymere, sugar fluids

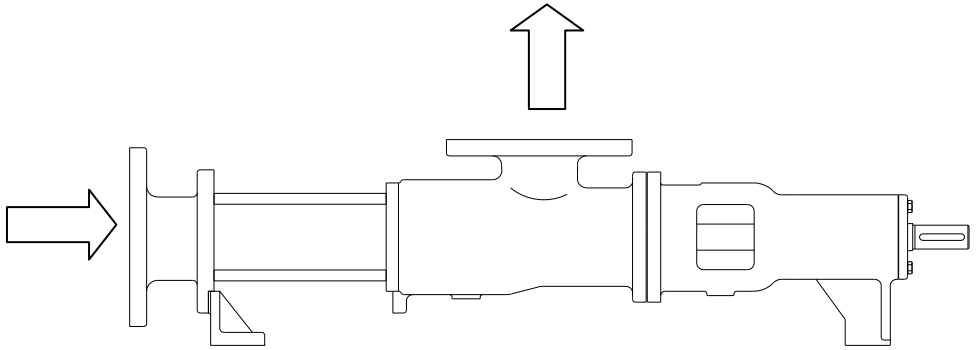
Industry branches:
- chemical industry and cosmetic industry
- waste water and enviroment technology
- pharmaceutical industry
- food industry and laboratories

JOHNSTADT
Pumpen | Feuerlöschtechnik

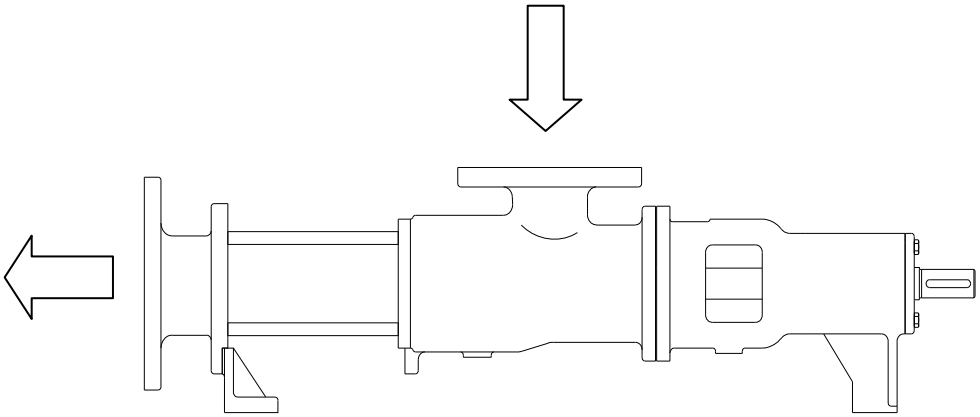
4. Engineering details

- 4.1 Flow direction
- 4.2 Fixing options
- 4.3 Type of drives
- 4.4 Arrangement of drive
- 4.5 Shaft sealing
- 4.6 Accessory

Flow direction



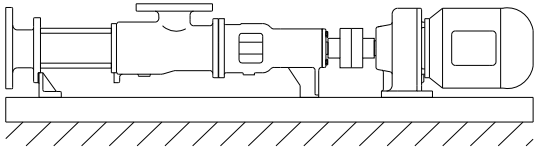
clockwise



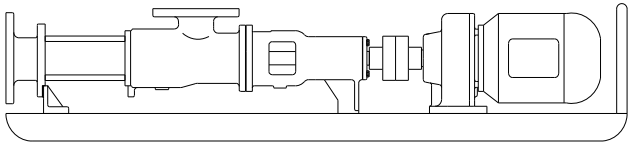
counterclockwise

Fixing options

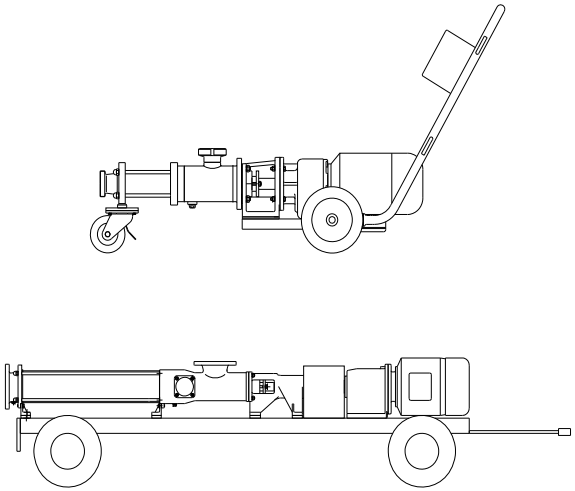
stationary fixing



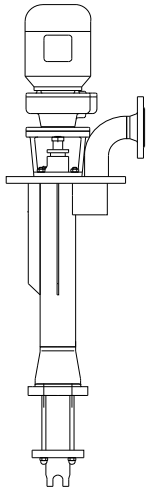
moveable



mobile

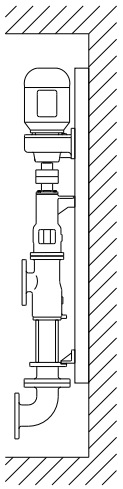


submersible



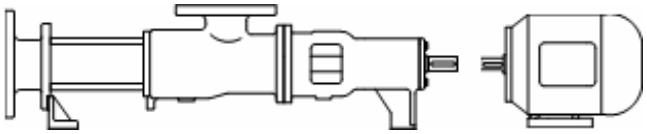
vertical

fixing

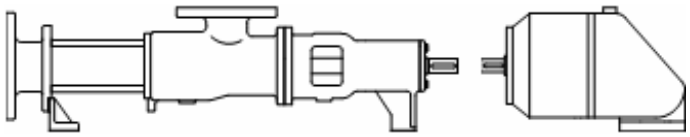


Type of drives

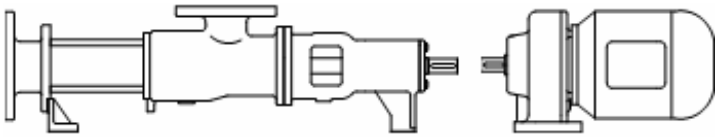
electrical



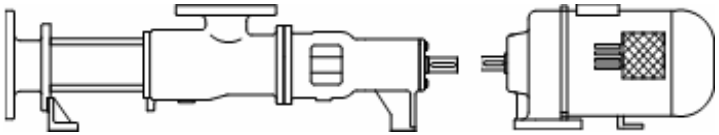
hydraulic



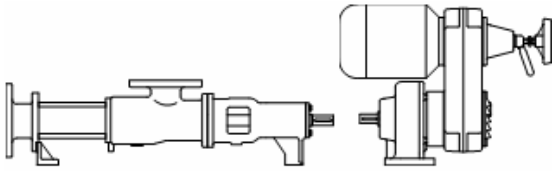
gear box drive



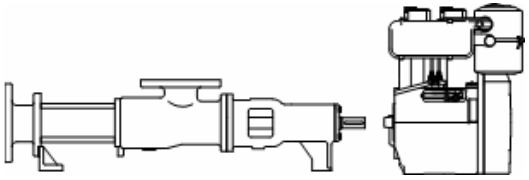
pneumatical



variable speed gear box

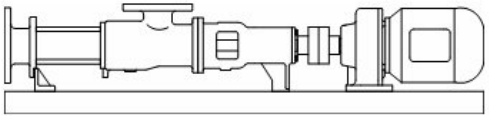


combustion engine

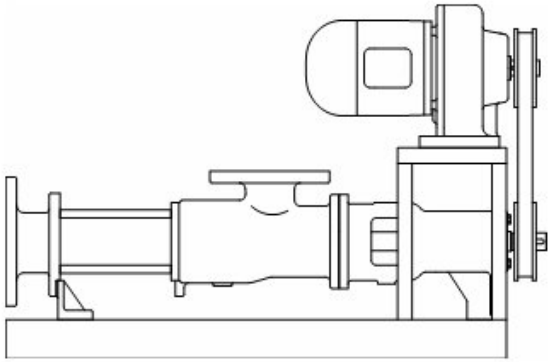


Arrangement of drive

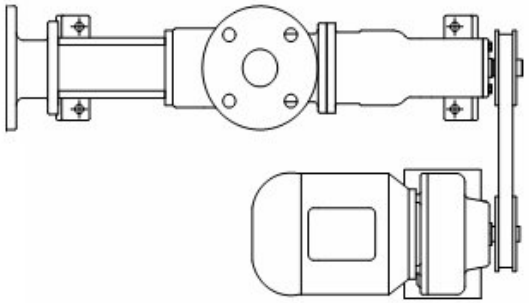
direct coupled



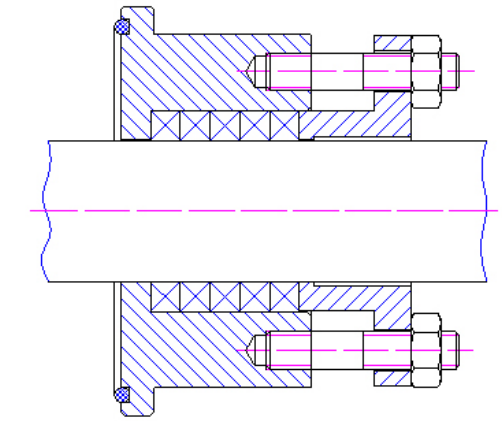
drive above

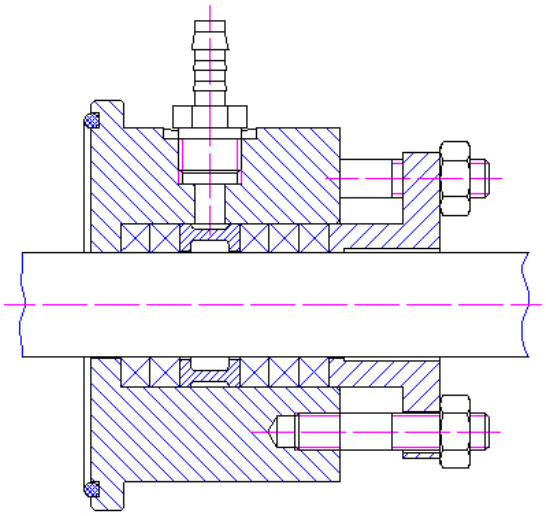


drive on side



Shaft sealing: stuffing box





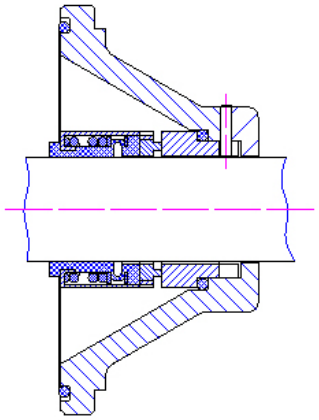
basic (5 packging rings)

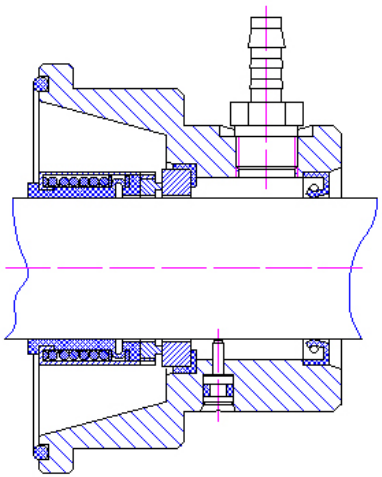
Code: S1
Media: with or without solid content, abrasive
Note: low-cost, basis equipment

rings for blocking chamber

Code: S2
Media: with solid content, abrasive
Note: pressure inside chamber at least 0,5-1 bar above working pressure, blocking liquid suitable to media

Shaft sealing: mechanical seal (I)





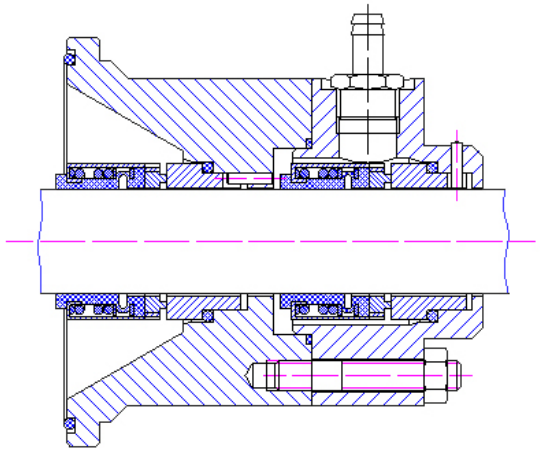
mechanical seal, single sealed, independent from rotation direction, not relieve

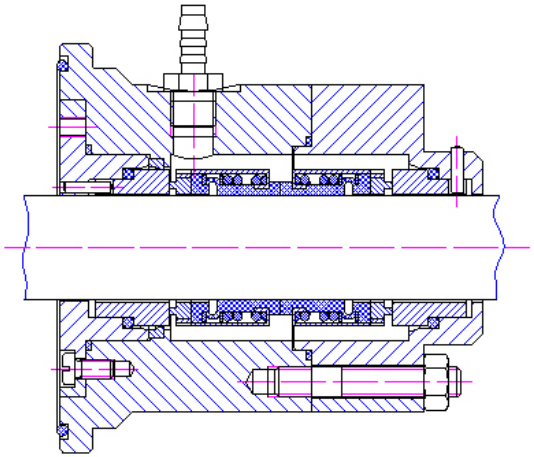
Code: G1
Media: low to high viscosity, with solid content , abrasive
Note: low-cost, basis equipment

mechanical seal with quench

Code: G2
Media: abrasive, crystallize
Note: pressure-less quench template with suitable liquid, lubrication at vacuum and vertical installation

Shaft sealing: mechanical seal (II)





<u>doubble action, tandem arrangement</u>

Code: G3
Media: low-viscous up to high-viscous, with and without solid contents, abrasiv, crystallise, toxic aggressiv, adhesive
Note: pressure-less blocking liquid, template with suitable liquid, lubrication at vacuum

<u>back-to-back, independent from rotation direction</u>

Code: G4
Media: low-viscous up to high-viscous, with and without solid contents, abrasiv, crystallise, toxic, aggressiv, adhesive
Note: blocking liquid pressure min. 1,5 bar above working pressure, blocking liquid suitable to media

Accessory: bypass

- outlet-locking possible during pump-running
- suitable for exposed delivery without power-off the pump
- integrated mechanic-adjustable overpressure valve
- overpressure valve is adjustable up to 12 bar
- casing steel or stainless steel
- nominal width of inlet and outlet equal to pump
- nominal width of overpressure valve:
  NW 20/50/80/100
- installation equal to pump flow direction

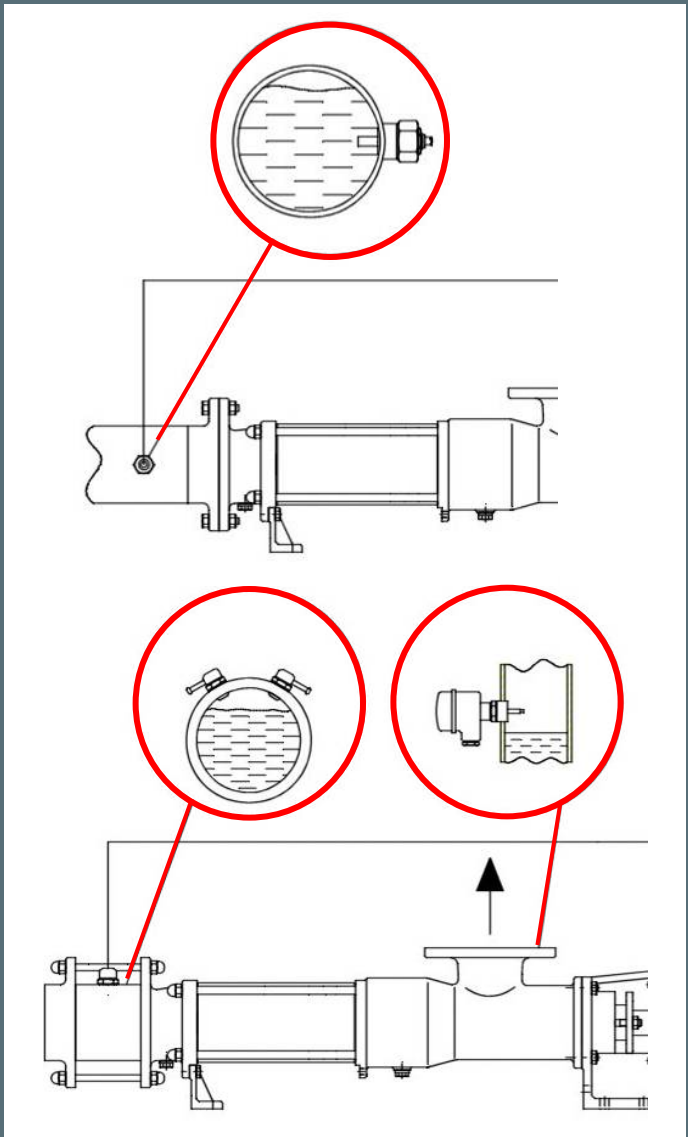
Accessory: dry running protection

thermical

- emergency power-off in case of step-over the adjusted maximum stator temperature
- depend from process, adjustment of power-off temperature
- continuous measureing of stator temperature
- useable for all media

- NO use for power-off the pump
- NO temperature indication of media
- NOT suitable for ATEX

Accessory: dry running protection



kalometric

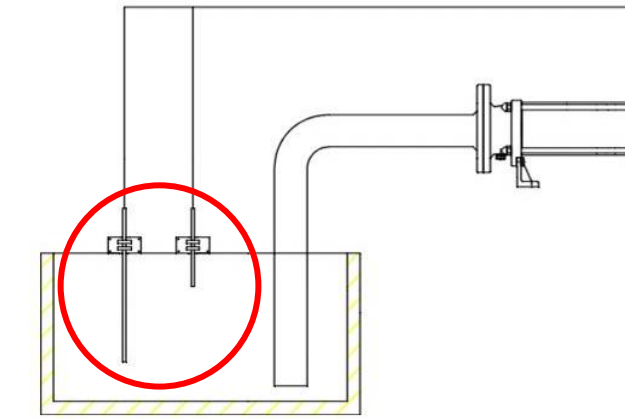
- reaction through flow
- switching point 0,03m/s ... 2m/s
- suitable for all homogeneous media
- suitable for food and drinking
- suitable for ATEX

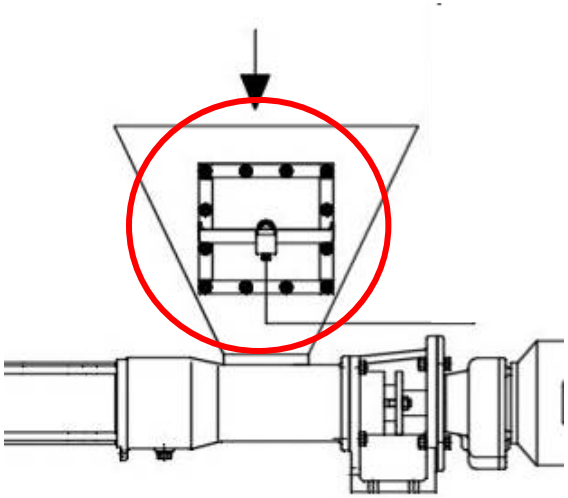
konductive (I)

- reaction if media is available
- suitable for ATEX

- ONLY for conductable media
- NOT for sticky media

Accessory: dry running protection





konductive (II)

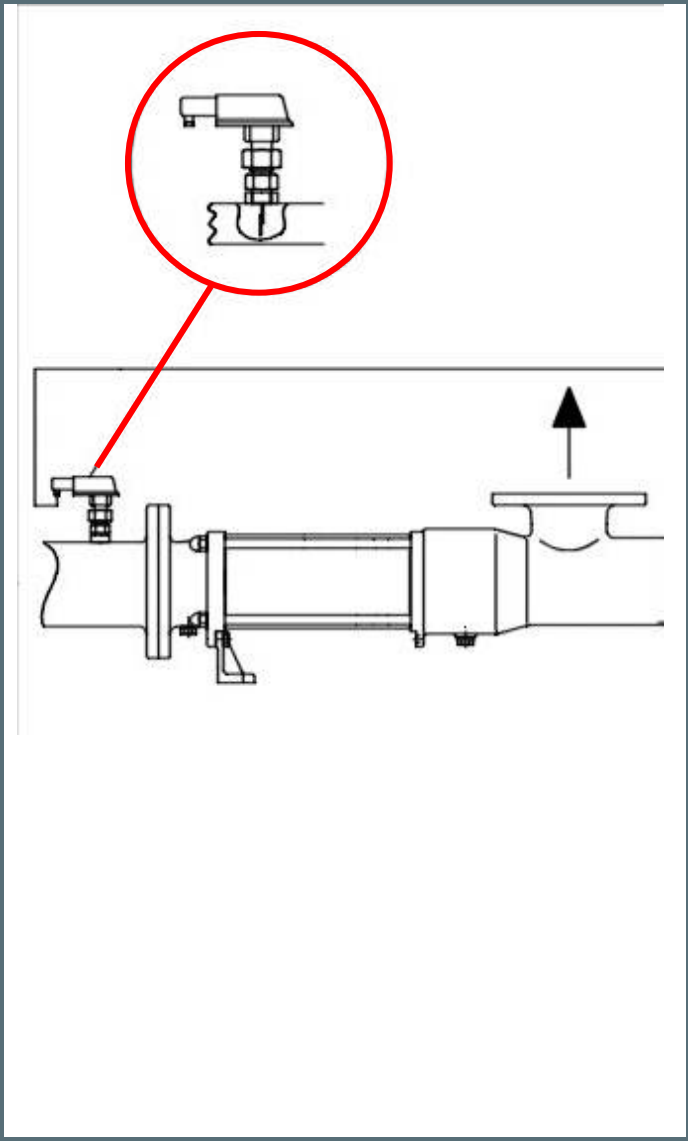
- level control in tank
- useable for normal power-off
- suitable for ATEX

electro-mechanical

- indication of level inside feed hopper
- power-off the pump if feed hopper is empty
- suitable for ATEX

- NOT suitable for media, which can stick on the inner side of the feed hopper

Accessory: dry running protection



flow switch

- reaction through flow
- limited range of flow speed
- low-cost protection

- ONLY for clean media with small solid content and small grain size
- ONLY for high flow speed

Accessory: overpressure valve

- power-off the pump if adjusted pressure is
- passing
- adjustable pressure 1 ... 50 bar
- display of pressure or electrical signal
- liquid filled pressure transmitter between media and measurement sensor
- suitable for all media
- with flange or thread (DN 50, 0.5“)
- with 1 or 2 pressure sensors
- material stainless or steel, zinc-plated
- available in food design
- suitable for ATEX

5. Checklists

- 5.1 General checklist
- 5.2 ATEX datasheet
- 5.3 Type of stator materials

General checklist

1. Kunde *Customer*

2. Anwendung *Application*

3. Fördermedium *Pumped media*

Bezeichnung *Name*

Dichte *Density* _____ **kg/m³**

Viskosität *Viscosity* _____ **mPas/cP**

pH-Wert *pH value* _____

Temperatur *Temperature* _____ **°C**

abrasiv *abrasive* ☐

4. Förderstrom *Delivery rate*

Nennförderstrom *Nominal delivery rate* _____ **m³/h**

regulierbar *adjustable* ☐

5. Saugeingang *Suction inlet*

Saughöhe *Suction height* _____ **bar**

Zulaufhöhe *Inflow height* _____ **bar**

6. Druckausgang *Pressure outlet*

Förderdruck *Delivery pressure* _____ **bar**

Differenzdruck *Differential pressure* _____ **bar**

7. Aufstellung *Fixing*

horizontal *horicontal* ☐

vertikal *verticale* ☐

Behälterentleerung *Tank suction* ☐

stationär *stationary* ☐

fahrbar *moveable* ☐

Grundplatte *Base plate* ☐

Fahrgestell *Trailer* ☐

8. Antrieb *Drive*

ohne Antrieb (freie Welle) *without drive* ☐

elektrisch *electrical* ☐

hydraulisch *hydraulic* ☐

Verbrennungsmotor *Combustion engine* ☐

Nennspannung *Nominal voltage* _____ **V**

Frequenz *Frequency* _____ **Hz**

Schutzklasse *Protection class* _____ **IP**

9. Zubehör *Accessory*

Trockenlaufschutz *Dry running protection* ☐

Überdruckschutz *Overpressure protection* ☐

Bypass *Bypass* ☐

10. Weiteres *More*

Ersatz *Replacement* ☐

Hersteller *Manufacturer* _____

Typ *Type* _____

ATEX *ATEX* ☐

JOHSTADT
Pumpen | Feuerlöschtechnik

ATEX datasheet

1. Kunde *Customer*

2. Fördermedium *Pumped media*

Bezeichnung *Name*

Temperatur *temperature* _____ °C

Siedepunkt *boiling point* _____ °C

dünnflüssig *low viscosity* ☐

zähfließend *high viscosity* ☐

ansatzbildend *sedimentation* ☐

brennbar *flammable* ☐

nicht brennbar *not flammable* ☐

nicht explosiv *non-explosive* ☐

3. EX-Bereich *Hazardous area*

Aggregat komplett im Ex-Bereich
Pumping set inside hazardous area

II 2G (Zone 1) ☐

II 3G (Zone 2) ☐

Teile des Aggregat außerhalb Ex-Bereich
Parts of pumping set outside hazardous area

Ja *Yes* ☐

Nein *No* ☐

4. Trockenlaufschutz *Dry running protection**

inklusive *included* ☐

exklusive *supplied by customer* ☐

5. Überdruckschutz *Overpressure protection**

inklusive *included* ☐

exklusive *supplied by customer* ☐

6. Motorschutz *Drive protection**

inklusive *include* ☐

exklusive *supplied by customer* ☐

7. Temperaturklasse *Temperature class*

T1 (< 450°C) ☐

T2 (< 300°C) ☐

T3 (< 200°C) ☐

T4 (< 135°C) ☐

8. Antrieb *Drive*

max. Umgebungstemperatur
maximum ambient temperature _____ °C

Betrieb ohne Frequenzumrichter
Operation without frequency converter

II A ☐ **II B** ☐ **II C** ☐

Betrieb mit Frequenzumrichter
Operation with frequency converter

(II 3G in T1...T3) EexnA ☐

II A ☐ **II B** ☐ **II C** ☐

(II 3G in T4) EEx de ☐

(II 2G in T1...T4) EEx de ☐

9. Bestätigung *Confirmation*

Datum *Date*

Unterschrift *Sign*

Type of stator materials (I)

ASTM	polymer *commercial name*	application	temperature range
NR	natural rubber	water, abrasiv media, alcohol, organic acids	-30 … +70 °C
BR	butadiene rubber *BUNA CB*	water, liquid manure, weak acids, alkaline solutions	-30 … +70 °C
SBR	styrene-butadiene-rubber *Buna-Hüls*	water, weak acids, alkaline solutions	-30 … +70 °C
NBR	acrylonitrile-butadiene-rubber *Perbunan*	oil, petrols, hydraulic liquids, animal- and vegetable-oils and grease, foods	-20 … +100 °C
CR	polychloride-butadiene-rubber *Baypren, Neoprene*	grease, paraffined, naphtend, salt solutions, food, ozone	-20 … +90 °C
CSM	sulphonyl-chloride-polyethylene *Hypalon*	water, alkaline solutions, oils, alcohol, oxydizing products	-20 … +100 °C
EPDM	ethylene-propylene-diene-rubber *Keltan, BUNA AP*	acids and alkaline solutions, ozone, hot water	-30 … +115 °C

Type of stator materials (II)

ASTM	polymer *commercial name*	application	temperature range
FPM	fluorelastomere *Viton*	ozone, grease, acids, alkaline solutions, hydrocarbons, oils	-15 … +115 °C
SI	silicone *Silopren*	ozone, grease, oils	-50 … +190 °C
PUR	polyurethan *Vulkollan*	abrasive products, oils, grease, petrols	-20 … +70 °C
PTFE	polyterafluor ethylene *Teflon, Hostaflon*	nearly all media	-190 … +250 °C

JOHNSTADT
Pumpen | Feuerlöschtechnik

6. Applications and references

6.1 Examples of media

6.2 References

6.3 Application examples

Examples of media (I)

Chemical industry
dosing and pumping of viscous pastes, polymers, monomers, alkaline solutions, acids

Fruit and vegetable processing
sirup, cherries, mash, fruit and vegetable pulp

Drining industry
beer, beer yeast, wine, mash, fruit juice and fruit concentrate

Paper and cellulose industry
glue, starch, colors, pastes, lime milk, pulp, waste water

Cosmetic industry
pastes, soaps and its raw materials, ointment, lotions

Mining
recycling plants, coal sludge, waste water

Examples of media (II)

Fish-processing industry
liver of fish, pumping small fishes, fish-parts, fish-wastes

Shipbuilding
lenz-, bilge-, separator charging pumps, toilet waste

Construction industry
bitumen, tar, asphalte, smectite, concrete

Ceramics industry
glaze, caramic dross, porcelain paste, tone

Sweet industry
glucose, chocolate substance, jam, cocoa butter, honey

Sugar manufacturers
molasse, filling substance, sludge of waste water

Examples of media (III)

Milk-processing industry
milk, cream, ceese, curd cheese, joghurt

Potato-processing industry
mashed potatos, starch, potato substance

Enviroment technology (waste water)
communes, industry, dosing of precipitant

Color and varnish manufacturers
pigments of colors, varnish, color pastes, solvent

Biogas and Agriculture
liquid manure, processing and delivery of pork food

Common industry
all difficult media.

References: food industry and cosmetic (I)

medium	user/constructor
Altkieselgur	Chemnitzer Brauerei
mash of apple	Kelterei Wilke
sponge-cake, nougat	Wurzener Gebäck- und Schokol. GmbH
biogas	Foster Wheeler
biogas	Organic waste systems (BG)
bred-dought	Sigmet (CZ)
blood	Sigmet (CZ)
dressing	Techtrade (PL)
white of egg	Grabower Süsswaren GmbH
strawberries	Techtrade (PL)
fruit juice	Ackermanns Haus Ellefeld
grease, meat, bone	Sigmet (CZ)
vegetables, spices	Frenzel-Oderland-Tiefkühlfrost Manschnow
yeast	Berliner Pilsner Brauerei
yeast	Oderland Brauerei Frankfurt
honey	Kappus Seifen Riesa
honey	Bienenwirtschaft Meißen
crisp bread	Knäcke-Fabrik Burg

References: food industry and cosmetic (II)

medium	user/constructor
products from potato	Friweika Weidensdorf
chease	Hydrotec (NL)
linseed oil	Verolme (NL)
lotions	Avon Poland
lotions	episan-cosmetic-Zeulenroda
magarine	Großbäckerei Rostock
mayonnaise	Rügen Feinkost Rostock
joghurt	Triptiser Edelsttahl
products from milk	MilchwerkeMitttelelbe Stendal
soaps	Kappus Seifen Riesa
chocolate	EUROMA GmbH
chocolate	Kathy (BG)
sallow thorn berries	Kyffhäuser Service- und Anlagent. GmbH
mustard	Altenburger Senffabrik
wine	Hardenberg-Wilthen AG
distil of wine	Winzergenossenschaft Meißen
crushed fruits	Techtrade (PL)
sugar sirup	TCC (NL)

References: chemical industry, enviroment technology and shipbuilding (I)

medium	user/contractor
waste water	Sydney Waste Water
waste water	DaimlerChrysler, Gaggenau
disposal of colors and solvent	SUC Sächsische Umweltschutz
disposal of oil, Chemnitz	Baufeld-Mineralölraffinerie
disposal of oil, Wilhelmshaven	SPE Krumpa
smectite	Thümler GmbH Nürnberg
bilge	MTW - Schiffswerft Wismar
bilge	Hamworthy (GB)
Bioferma (spain)	Foster Wheeler
biogas plant Burgos spain	Linde - KCA-Dresden GmbH
biogas plant Tergola italy	Linde - KCA-Dresden GmbH
biogas plant Fürstenwalde	Linde - KCA-Dresden GmbH
biogas plant Weidensdorf	Ing.-Büro Waltenberger, Linz
biogas plant Zobes	DSD - CTA Gas- und Tankanlagenbau Berlin
sludge with chlorine	Akzo Nobel Bitterfeld

References: chemical industry, enviroment technology and shipbuilding (II)

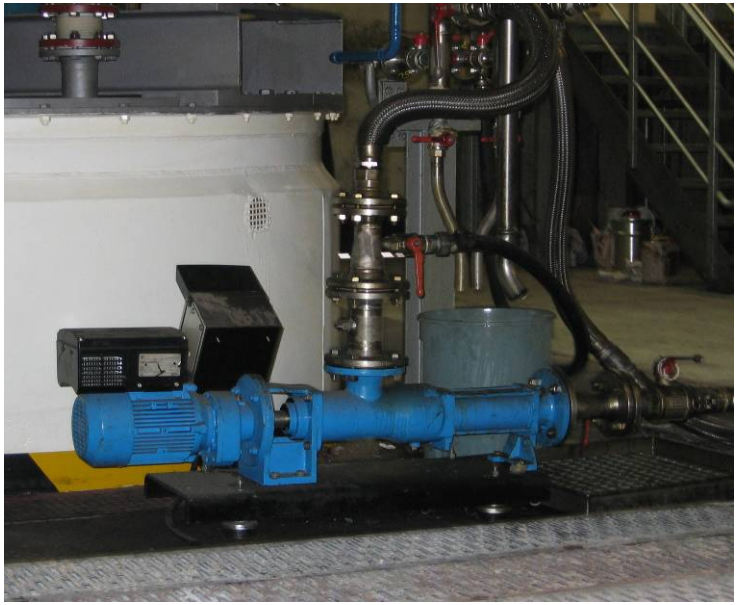
medium	user/contractor
colors	Lacufa Fürstenwalde
colors	Lacufa Nerchau
color spray system	Polzer Maschinenbau Herborn
milk of lime	KLUWE Baustoffe GmbH
lime potash	Kali & Salz Philippsthal
products from potato	Mc Cain Holland
potato-peels	Hydrotec (NL)
sewage works Dresden/Kaditz	Thyssen Anlagenbau
sewage works Leuna AG Werke	Essener Rohrleitunsbau
sewage works Schmölln	Stadtwerke Schmölln
coal dust sludge	Sigmet (Cz)
glue	Zigarettenfabrik Dresden
monomere	Indulor Bitterfeld
organic wastes	FARMATIC
PUR - components	BASF - Schwarzheide GmbH
process and tank stock MIDER	WIG Leuna – Engineering

References: chemical industry, enviroment technology and shipbuilding (III)

medium	user/contractor
soap suds	Kappus Seifen Riesa
sodiummethylate	Lurgi Life Science GmbH
waste of food	TPS Strosche
tobacco mash	Bandtabak Malchin GmbH
waste water of laundry	CTA - Anlagenbau GmbH Fürstenwalde
concrete suspension	BLZ Geotechnik Gommern

Application examples: food and drinking industry

Application examples: chemical industry

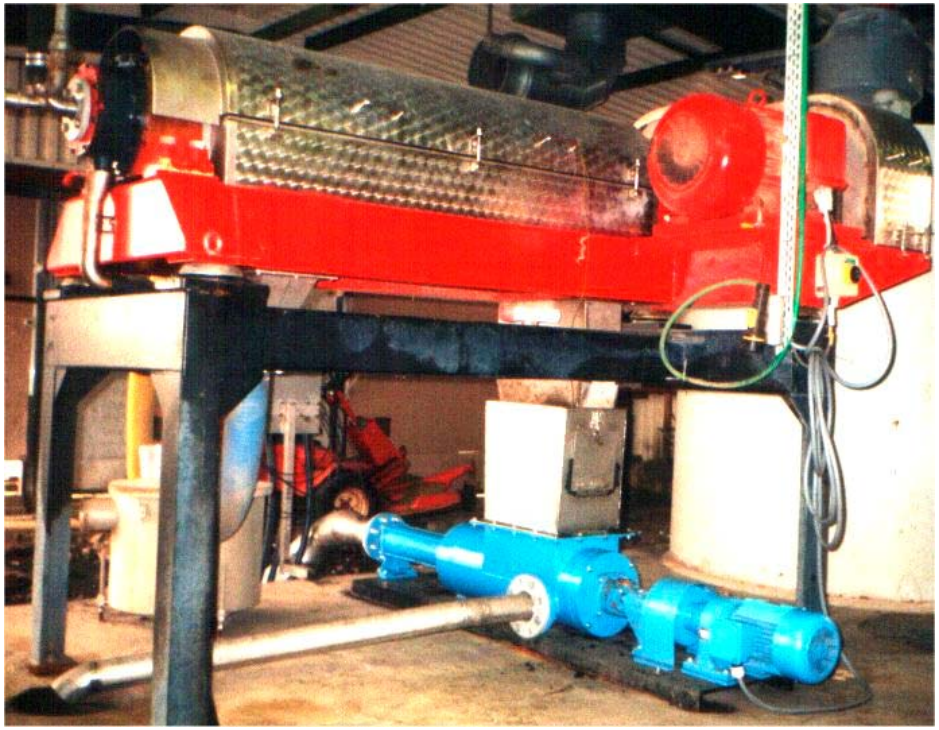


Application examples: chemical industry and mining

Application examples: enviroment technology (recycling old oil)

Application examples: varnish and color industry

Application examples: enviroment technology (waste water)



JOHSTADT
Pumpen | Feuerlöschtechnik

JOHSTADT

We thank you for your interest!

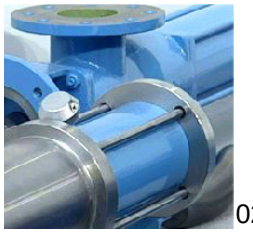
www.johstadt.com

JOHNSTADT
Pumpen | Feuerlöschtechnik

Produktprogramm
Product range







02/09 (2.8)

Inhalt / *Content*

Inhalt / *Contents*

PF Pumpen und Feuerlöschtechnik GmbH

Gründung / *Foundation*:
1860

Adresse / *Address*:
Zechensteig 225
09477 Jöhstadt
Germany

Telefon / *Telephone*:
+49 37343 81-0

Telefax / *Facsimile*:
+49 37343 2287

Website:
www.johstadt.com

E-Mail:
info@johstadt.com

Produkte / *Products*:
Industriepumpen / *Industrial pumps*
Exzenterschneckenpumpen /
progressive cavity pumps
Schlauchpumpen / *peristaltic pumps*
Kolbenpumpen / *piston pumps*
Feuerlöschtechnik / *Fire fighting equipment*
Tragkraftspritzen / *portable fire pumps*
Feuerlöschkreiselpumpen /
Fire fighting centrifugal pumps
Monitore / *Monitors*
Hochleistungslöschgeräte /
Heavy-duty fire pumps

Geschäftsführer / *CEO*:
Dipl.-Ing. Thomas Möckel

Beschäftigte / *Employees*:
90

Lehrlinge / *Apprentices*:
7

Entfernungen / *Distances*:
Dresden ca. 90 km
Prag ca. 130 km
München ca. 410 km
Berlin ca. 300 km
Hamburg ca. 580 km

PF Pumpen und Feuerlöschtechnik GmbH

Geschichte
Im Jahre 1860 gründete A. Flader am Stadtrand von Jöhstadt im Erzgebirge in Sachsen eine Gelbgießerei. Unter dem Namen E. C. Flader wurden bereits 1868 Pumpen zur Brandbekämpfung hergestellt. Später vervollständigten Löschfahrzeuge und Pumpen für industrielle Anwendungen das Lieferprogramm.

Ab 1990 wurde mit hohen Investitionen in die Produktentwicklung ein breites Spektrum von Pumpen für Industrie, Landwirtschaft und Feuerwehr geschaffen. Durch intensive Weiterentwicklungen konnten die Anforderungen der nationalen und internationalen Märkte erfüllt werden.

Auf einer Produktionsfläche von über 3000 m² sichern unsere Mitarbeiter auf modernsten CNC-Bearbeitungsmaschinen und an CAD- und PC-Arbeitsplätzen einen hohen Qualitätsstandard. Wir bieten weltweit eine qualifizierte technische Betreuung und Beratung. Das Unternehmen ist seit 1995 nach DIN EN ISO 9001 zertifiziert.

Durch die hohe Identifikation der Mitarbeiter mit dem Unternehmen blickt man mit Stolz auf die Vergangenheit zurück und garantiert eine gute Entwicklung in die Zukunft.

History
In 1860 A. Flader founded a foundry at the edge of Jöhstadt, situated in the Ore Mountains. In 1868, pumps for fire-fighting were already produced called E. C. Flader. Later the sales program was completed by fire-fighting vehicles and pumps for industrial use.

Since 1990, a product development of a broadly based spectrum of pumps for industry, agriculture and fire-fighting was accomplished by high investments. The requirements for the national and international market were fulfilled by the courtesy of an intensive development.

On a 3000 m² production area the employees at PF Jöhstadt guarantee a high quality standard by working with the most modern CNC-machines and CAD. Worldwide PF Jöhstadt provides high quality in technical care and advice. Since 1995 the Company has the certification of DIN EN ISO 9001.

The corporate identity through decades of history guarantees a high standard of quality for the future.

Firmengründer E.C. Flader mit Frau
Company founder E.C. Flader and his wife

So erreichen Sie uns / *Your way to us*

Aus Richtung Hermsdorfer Kreuz (A 4/ A 9), oder aus Richtung Dresden (A 4)kommend:

A 4 bis Autobahndreieck Chemnitz Nord

A 72 Richtung Nürnberg - Zwickau - Hof bis Abfahrt Chemnitz Süd

Richtung Annaberg - Oberwiesenthal - Karlsbad (Karlovy Vary)

B 95 bis ca. 1 km nach Ortsausgang Annaberg-Buchholz, an Kreuzung Gasthof "Morgensonne" links abbiegen in Richtung Königswalde - Jöhstadt

bis Jöhstadt - Markt, vor "Rathaus - Hotel" rechts abbiegen bis Grenzübergang, dann links abbiegen.

Aus Richtung Hof (A 72) kommend:
bis Abfahrt Stollberg

Richtung Stollberg, Zwönitz, Geyer, Annaberg-Buchholz (B 95)

B 95 bis ca. 1 km nach Ortsausgang Annaberg-Buchholz an Kreuzung Gasthof "Morgensonne" links abbiegen in Richtung Königswalde - Jöhstadt

bis Jöhstadt - Markt, vor "Rathaus - Hotel" rechts abbiegen bis Grenzübergang, dann links abbiegen.

Coming from the direction of the motorway interchange „Hermsdorfer Kreuz“ (A4 / A9), or coming from the direction of „Dresden“ (A 4):

A 4 up to the motorway merging point „Chemnitz North“

A 72 in the direction of „Zwickau - Hof“ up to the exit „Chemnitz South“

B 95 in the direction of „Annaberg - Oberwiesenthal - Karlsbad (Karlovy Vary)“

B 95 to ca. 1 km after the end of the town „Annaberg-Buchholz“, at the crossroad near the restaurant „Morgensonne“ turn left in the direction of „Königswalde - Jöhstadt“

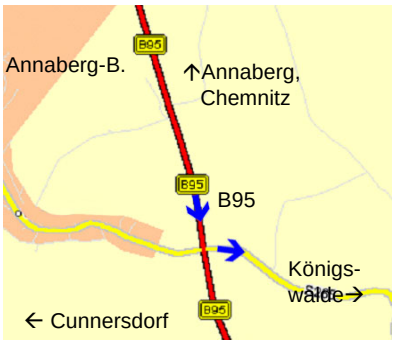
till „Jöhstadt“ market-place, in front of the „Rathaus - Hotel“ turn right to the border, turn left.

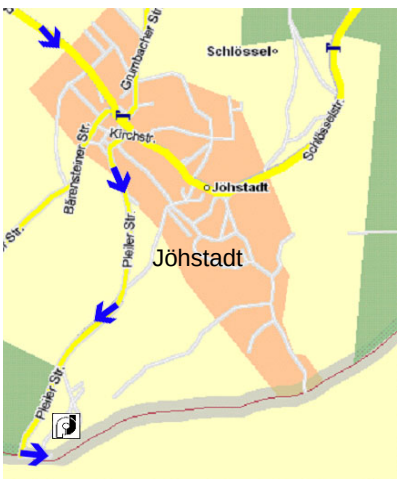
Coming from the direction of „Hof“ (A72): up to the exit „Stollberg“

in the direction of „Stollberg, Zwönitz, Geyer, Annaberg-Buchholz“ (B 95)

B 95 to ca. 1 km after the end of the town „Annaberg-Buchholz“, at the crossroad near the restaurant „Morgensonne“ turn left in the direction of „Königswalde - Jöhstadt“

till „Jöhstadt“ market-place, in front of the „Rathaus - Hotel“ turn right to the border, turn left





Ansprechpartner / *Persons to contact*

Zentrale / *Central*:
+49 37343 81-0

Telefax / *Facsimile*:
+49 37343 2287

Leiter Vertrieb / *Sales manager*:
Helmut Haustein
+49 37343 81-233
helmut.haustein@johstadt.com

Industriepumpen / *Industry*:
Helmut Haustein
+49 37343 81-233
helmut.haustein@johstadt.com

Wolfgang Frank
+49 37343 81-236
wolfgang.frank@johstadt.com

Ulrich Paul
+49 37343 81-237
ulrich.paul@johstadt.com

Feuerlöschtechnik / *Fire Fighting*:
Gerd Maresch
+49 37343 81-232
gerd.maresch@johstadt.com

Auftragsabwicklung / *Order execution*:
Ina Schubert
+49 37343 81-231
ina.schubert@johstadt.com

Ersatzteile / *Spare parts*:
Petra Gräfling
+49 37343 81-230
petra.graefling@johstadt.com

Service / *Service:*
Rigo Baumann
+49 37343 81-225
service@johstadt.com

Marketing / *Marketing*
Michael Kauffmann
+49 37343 81-222
michael.kauffmann@johstadt.com

Baureihen / *Ranges*

EXZENTERSCHNECKENPUMPEN - *PROGRESSIVE CAVITY PUMPS*			
	Blockpumpe *Close coupled* FJ - B FG - B	Lagersockel *Bearing bracket* FJ - S FG - S	Spezialausführung *Special type* FJ
Rachentrichter *Feed Hopper*	FJ/FG - BR	FJ/FG - SR	FJ - A Landwirtschaft *Agriculture*
Rachentrichter mit Paddel *Feed Hopper with paddle*	FJ/FG - BZ	FJ/FG - SZ	FJ - P tragbar *portable*
Rachentrichter große A. *Feed Hopper big size*	FJ/FG - BH	FJ/FG - SH	FJ - F Faßpumpe *Barrel pump*
Vertikal *Vertical*	FJ/FG - BV	FJ/FG - SV	
Hygiene *Hygienic*	FJ/FG - BC		
Schnellreinigung *Fast cleaning*	FJ/FG - BQ	FJ/FG - SQ	
Sonderausführung *Extra type*	FJ/FG - B+	FJ/FG - S+	

Leistungsdiagramm / *Performance diagram*

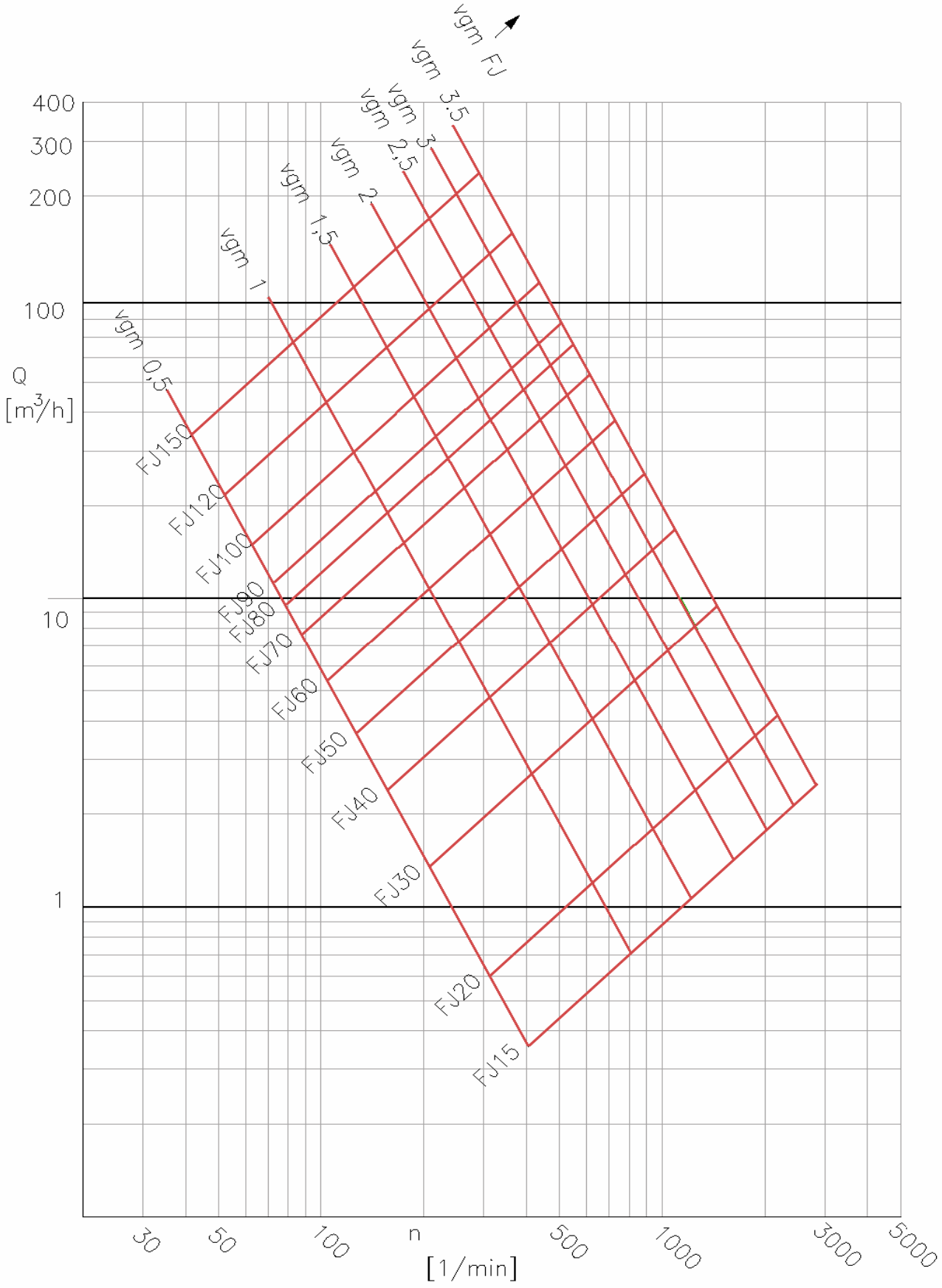
Gleitgeschwindigkeiten

bis 0,8 m/s:	sehr abrasive und hochviskose Medien: Mörtel, Kalkmilch, Keramikschlicker, Estrich, Quark, Fett, Honig
0,8 bis 1,5 m/s:	abrasive und viskose Medien: Klärschlämme, Schmierseife, Maischen, Farben, Joghurt, Kunststoffdispersionen
1,5 bis 3,5 m/s:	nicht abrasive und leicht viskose Medien: Wein, Wasser, Milch, dünne Öle

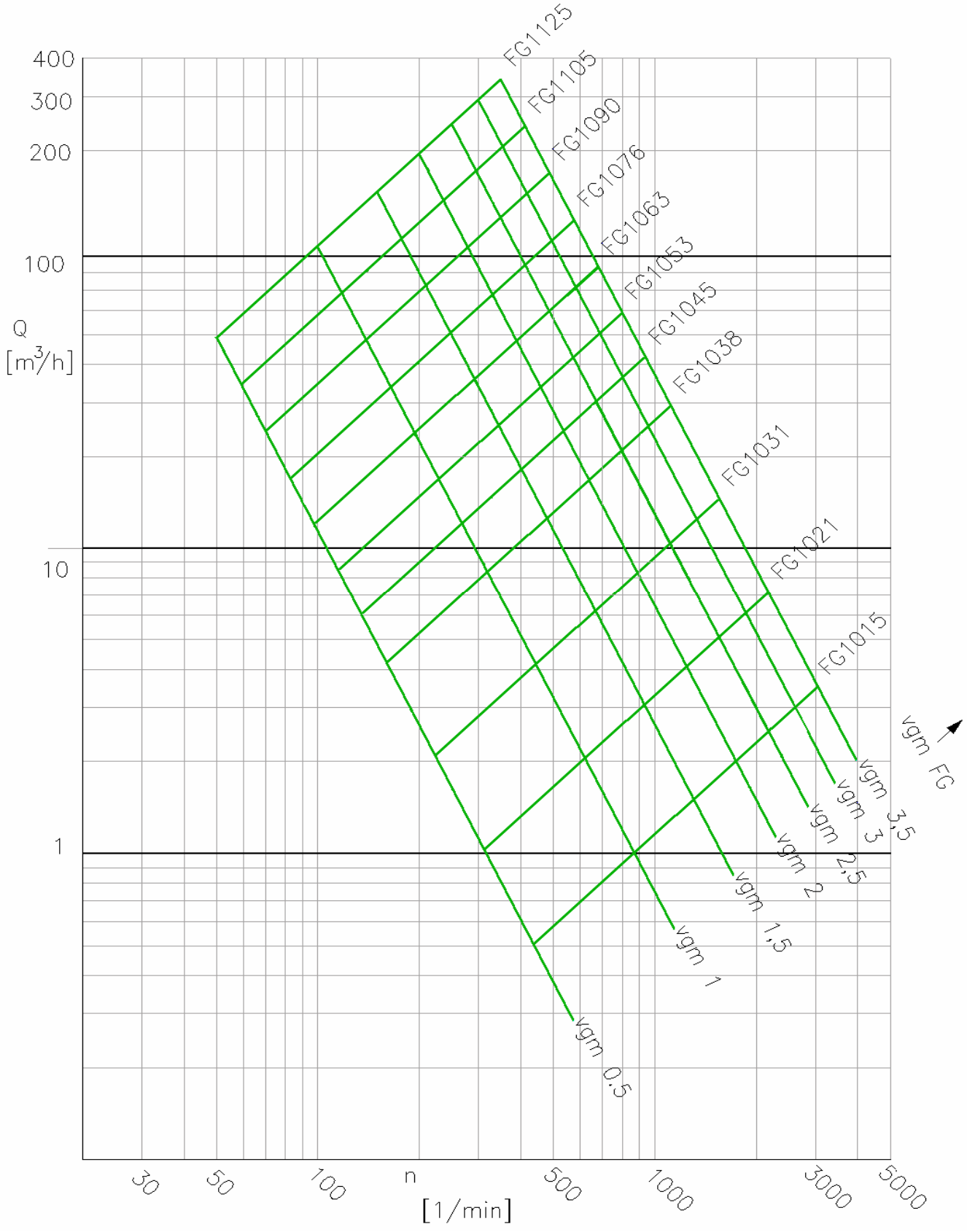
Glide speed

to 0,8 m/s:	*very abrasive medias and medias with high viscosity : Mortar, lime, screed, honey, curd cheese, grease*
0,8 to 1,5 m/s:	*abrasive medias and medias with viscosity : mud, soft soap, mash, paint, yoghurt, plastic solution*
1,5 to 3,5 m/s	*not abrasive medias and medias with low viscosity: wine, water, milk, weak oil*

Leistungsdiagramm / *Performance diagram*



Leistungsdiagramm / *Performance diagram*



Exzenterschneckenpumpe / *Progressive cavity pump*
FJ/FG .. S .. B

Ausführung
Exzenterschneckenpumpe mit Lagersockel oder in Blockbauform, konstanter oder regulierbarer Förderstrom, umkehrbare Förderrichtung, Stutzenausführung Flansch DIN 2501 oder ANSI, andere auf Anfrage
Gehäuse in Grauguß, Stahl oder Edelstahl rotierende Teile in Edelstahl, Kardangelenke gekapselt, Abdichtung über Stopfbuchse oder Gleitringdichtung,

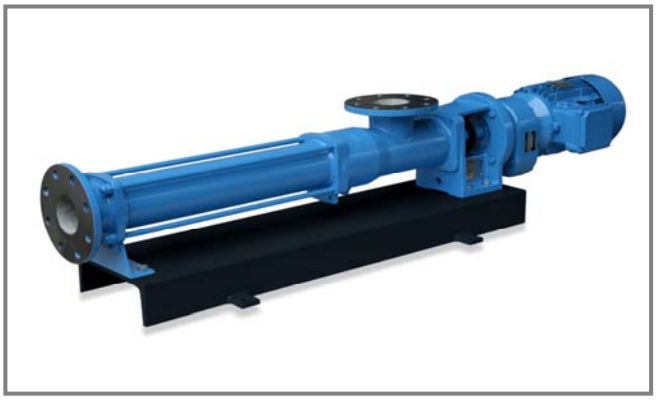
Performance
Progressive cavity pump with bearing socket or close coupled, constant or adjustable flow, reversible flow direction, connections by flange DIN 2501 or ANSI, other on request,
Casing in cast iron, steel or stainless steel, rotating parts in stainless steel, cardan joint sealed, sealing by stuffing box or mechanical seal

Einsatz
geeignet für alle Medien von wasserähnlicher bis hochviskoser Konsistenz, mit und ohne Feststoffe
Schmutzwasser, Klärschlamm, Bilge, Öl, Säuren und Laugen, Farben, Leim, Teig, Schälabfälle, Tierfutter, Gülle, u.a.

Use
Tested and proven in almost all industries for pumping media from water up to higher viscosity media such as mud, with or without solid particles. Waste water, bilge, oil, acid and lye, paint, glue, paste, peeling waste, animal food, a.o.

Branchen
Abwasser- u. Umwelttechnik, Chemische Industrie, Landwirtschaft, Seifen- u. Fettindustrie, Farben- u. Lackherstellung, Kunststoffverarbeitung, Schiffbau, Papier- u. Zellstoffindustrie, u.a.

Branches
Waste water and environmental technology, chemical industry, agriculture, soap and grease industry, paint- and varnish industry, plastic production, ship building, paper and cellulose industry.



Rachentrichterpumpe / *Pump with feed hopper*
FJ/FG .. SR .. BR

Ausführung
Exzenterschneckenpumpe mit Lagersockel oder in Blockbauform, konstanter oder regulierbarer Förderstrom, rechteckiger Einfülltrichter an der Gehäuseoberseite, Förderschnecke im Gehäuse, Stutzenausführung Flansch DIN 2501 oder ANSI, andere auf Anfrage
Gehäuse in Stahl oder Edelstahl, rotierende Teile in Edelstahl, Kardangelenke mit Schneckenhülse gekapselt, Abdichtung über Stopfbuchse oder Gleitringdichtung,
Gehäuse mit zusätzlichem Anschluß zur Reinigung, Spülung oder Entwässerung möglich,

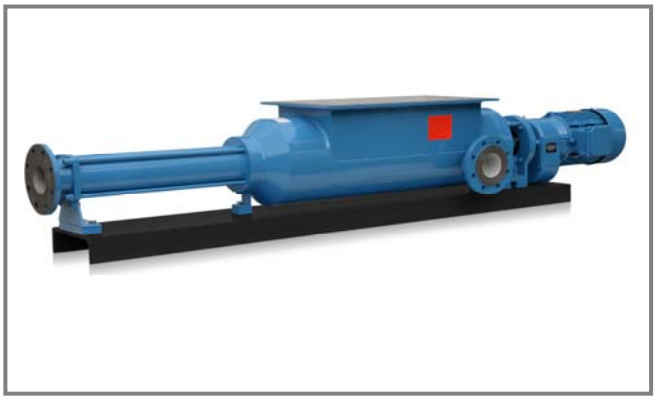
Performance
Progressive cavity pump with bearing socket or close coupled, constant or adjustable flow, rectangular feed hopper on top of the casing, feed screw inside the casing, connections by flange DIN 2501 or ANSI, other on request,
Casing in steel or stainless steel, rotating parts in stainless steel,
cardan joint sealed, sealing by stuffing box or mechanical seal, casing with additional connection for cleaning, rinse or drain possible

Einsatz
geeignet für alle Medien von hochviskoser und zähfließender Konsistenz, die nicht mehr fließfähig sind, entwässerter Klär- und Faulschlamm, Steinobstfrüchte, Maischen, Treber, Pasten, entwässerte Medien.

Use
Suitable for medias of higher viscosity with many solid parts, sewage mud, fruits, mash, paste, peeling waste, drain medias, dewatered sludge a.o.

Branchen
Abwasser- u. Umwelttechnik, Chemische Industrie, Landwirtschaft, Lebensmittelindustrie, Getränkewirtschaft, Seifen- u. Fettindustrie, Farben- u. Lackherstellung, Kunststoffverarbeitung, Papier- u. Zellstoffindustrie, u.a.

Branches
Waste water and environmental technology, chemical industry, agriculture, food and beverage industry, soap and grease industry, paint-and varnish industry, plastic production, paper and cellulose industry a.o.



Rachentrichterpumpe (mit Paddel) /
Pump with feed hopper (with paddles)
FJ/FG .. SZ .. BZ

Ausführung

Exzenterschneckenpumpe mit Lagersockel oder in Blockbauform, konstanter oder regulierbarer Förderstrom, rechteckiger Einfülltrichter an der Gehäuseoberseite, aufgesetzte Einrichtung mit Zuförderpaddeln, Stutzenausführung Flansch DIN 2501 oder ANSI, andere auf Anfrage
Gehäuse in Stahl oder Edelstahl, rotierende Teile in Edelstahl, Kardangelenke mit Schneckenhülse gekapselt, Abdichtung über Stopfbuchse oder Gleitringdichtung,
Gehäuse mit zusätzlichem Anschluß zur Reinigung, Spülung oder Entwässerung möglich,

Performance

Progressive cavity pump with bearing socket or close coupled, constant or adjustable flow, rectangular feed hopper on top of the casing with installation of paddles, feed screw inside the casing, connections by flange DIN 2501 or ANSI, other on request,
Casing in steel or stainless steel, rotating parts in stainless steel,
cardan joint sealed, sealing by stuffing box or mechanical seal, casing with additional connection for cleaning, rinse or drain possible

Einsatz

geeignet für alle Medien von hochviskoser und zähfließender Konsistenz mit Neigung zur Brückenbildung:
Klär- und Faulschlamm, Pasten, entwässerte Schlämme bis 40% TS Gehalt, Farben, Schälabfälle.

Use

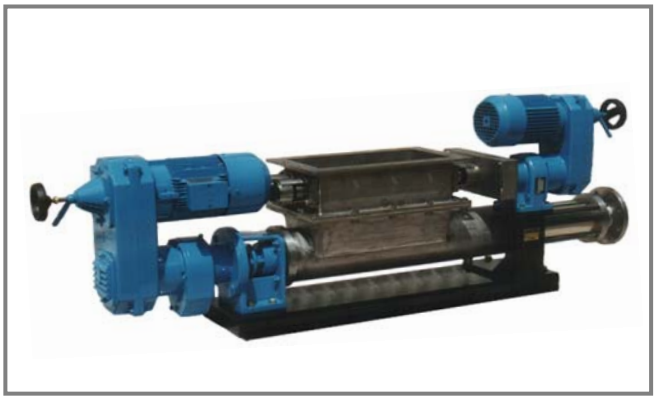
Suitable for medias of higher viscosity with many solid parts, good for medias with tendency of bridge building
Sewage mud, fruits, mash, paste, peeling waste, drain medias, drain mud up to 40% D.S. a.o.

Branchen

Abwasser- u. Umwelttechnik, Chemische Industrie, Landwirtschaft, Papier- u. Zellstoffindustrie, Farben- u. Lackherstellung, u.a.

Branches

Waste water and environmental technology, chemical industry, agriculture, food and beverage industry, soap and grease industry, paint- and varnish industry, plastic production, paper and cellulose industry a.o.



Rachentrichterpumpe (große Ausführung) /
Pump with feed hopper (big Size)
FJ/FG .. SH .. BH

Ausführung
Exzenterschneckenpumpe mit Lagersockel oder in Blockbauform, konstanter oder regulierbarer Förderstrom, übergroßes Gehäuse, rechteckiger Einfülltrichter an der Gehäuseoberseite, Förderschnecke mit groß dimensionierten Wendeln im Gehäuse, Stutzenausführung Flansch DIN 2501 oder ANSI, andere auf Anfrage

Gehäuse in Stahl oder Edelstahl, rotierende Teile in Edelstahl, Kardangelenke mit Schneckenhülse gekapselt, Abdichtung über Stopfbuchse oder Gleitringdichtung
Gehäuse mit zusätzlichem Anschluß zur Reinigung, Spülung oder Entwässerung möglich

Performance
Progressive cavity pump with bearing socket or close coupled, constant or adjustable flow, wide casing, rectangular feed hopper on top of the casing, big feed screw inside the casing, connections by flange DIN 2501 or ANSI, other on request

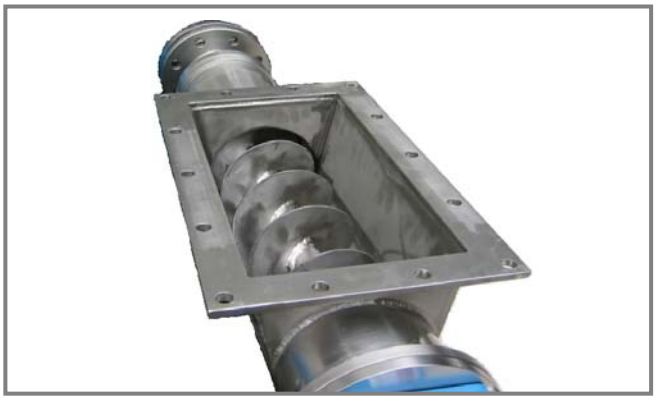
Casing in steel or stainless steel, rotating parts in stainless steel, cardan joint sealed, sealing by stuffing box or mechanical seal
casing with additional connection for cleaning, rinse or drain possible

Einsatz
geeignet für alle Medien von hochviskoser und zähfließender Konsistenz mit Neigung zur Brückenbildung:
Klär- und Faulschlamm, Pasten, entwässerte Schlämme bis 40% TS Gehalt, Farben, Schälabfälle.

Use
Suitable for medias of higher viscosity with many solid parts, good for medias with tendency of bridge building
Sewage mud, fruits, mash, paste, peeling waste, drain medias, drain mud up to 40% D.S. a.o.

Branchen
Abwasser- u. Umwelttechnik, Chemische Industrie, Landwirtschaft, Papier- u. Zellstoffindustrie, Farben- u. Lackherstellung, u.a.

Branches
Waste water and environmental technology, chemical industry, agriculture, food and beverage industry, soap and grease industry, paint- and varnish industry, plastic production, paper and cellulose industry a.o.



Vertikale Exzenterschneckenpumpe / *Vertical progressive cavity pump* FJ/FG .. BV

Ausführung
Exzenterschneckenpumpe in Blockbauform, vertikale Anordnung, variable Eintauchtiefe, konstanter oder regulierbarer Förderstrom, Stutzenausführung Flansch DIN 2501 oder ANSI, andere auf Anfrage
Gehäuse in Stahl oder Edelstahl, rotierende Teile in Edelstahl, Kardangelenke gekapselt, Abdichtung über Stopfbuchse oder Gleitringdichtung,

Performance
Progressive cavity pump close coupled, vertical arrangement, different submerged depths, constant or adjustable flow, connections by flange DIN 2501 or ANSI, other on request,
Casing in steel or stainless steel, rotating parts in stainless steel,
cardan joint sealed, sealing by stuffing box or mechanical seal

Einsatz
geeignet für alle Medien von hochviskoser und zähfließender Konsistenz, welche aufgrund hoher Viskosität oder aus anderen Gründen nicht angesaugt werden können: Teer, Schälabfälle, Schmutzwasser, Klärschlamm, Bilge, Öl, Säuren und Laugen, Farben, Leim, Tierfutter, u.a.

Use
Suitable for medias of higher viscosity.
For reliable transport of media, with the pump in vertical orientation enabling the suction port to be immersed in the fluid reservoir. tar, waste water, heavy fuel, waste mud, bilge, oil, acid and lye, paint, glue, paste, animal food, liquid manure a.o.

Branchen
Abwasser- u. Umwelttechnik, Chemische Industrie, Landwirtschaft, Lebensmittelindustrie, Seifen- u. Fettindustrie, Farben- u. Lackherstellung, Kunststoffverarbeitung, Papier- u. Zellstoffindustrie, u.a.

Branches
Waste water and environmental technology, chemical industry, agriculture, food industry, soap and grease industry, paint- and varnish industry, plastic production, paper and cellulose industry a.o.

Hygienepumpe / *Hygienic pump*
FJ/FG .. BC

Ausführung
Exzenterschneckenpumpe in Blockbauform, konstanter oder regulierbarer Förderstrom, hohes Selbstansaugvermögen, umkehrbare Förder-richtung, Stutzenausführung DIN 11851, andere auf Anfrage
Gehäuse und rotierende Teile in Edelstahl (1.4571), hochwertige Oberfläche, offene, sehr gut reinigbare Bolzengelenke
Gleitringdichtung im Innenraum, dadurch gut reinigbar und Vermeidung von Toträumen, Anschlußstutzen im Grunde eben, keine Rückstände,
Gehäuse mit tangentialen Spülstutzen für CIP Reinigung möglich, Doppelmantel für Gehäuse und Stator zur Beheizung mit Wasser oder Dampf möglich

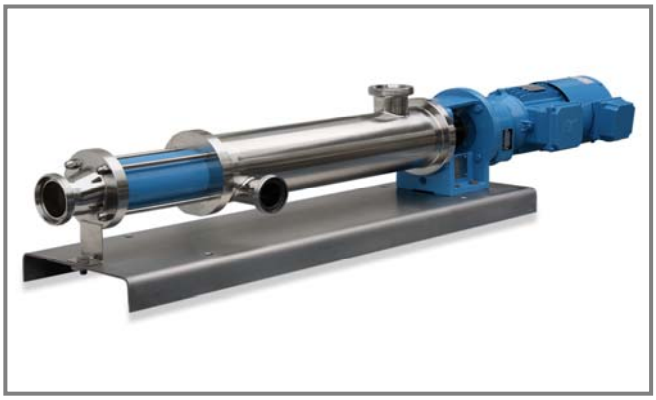
Performance
Progressive cavity pump,close coupled, direct flange drive, fixed or regulated discharge, self priming, reversible flow direction, connection DIN 11851, other type on request
casing and rotating parts are stainless steel (1.4571, AISI 316 Ti), chemical polished high-class surface, open pin joint for easily cleaning,
mechanical seal is inside the casing for easily cleaning and to avoid dead areas,
connection are flat on bottom, no residues,
casing with tangential flush connections for CIP possible,
double casing for heating by water or steam possible

Einsatz
geeignet für alle Medien wasserähnlicher bis dickbreiiger Konsistenz: Milchprodukte, Fette und Öle, Teig, Würze, Fruchtsäfte, Konzentrate, Weintrauben, Most, Hefen, Maischen und Pulpen, Destillate, Creme

Using
For media from water up to higher viscosity media : Milk products , grease and oil, paste, spice, fruit juice, grapes and grapes juice, yeast, mash , distilling products, cream a.o.

Branchen
Lebensmittelindustrie, Chemische Industrie, Seifen- u. Fettindustrie, u.a.

Branches
Food an beverage industry, chemical industry, soap and grease industry, cosmetics a.o.



Schnellreinigungspumpe / *Quick cleaning pump*
FJ/FG .. SQ .. BQ

Ausführung

Performance

folgt in Kürze / *coming soon*

Einsatz
geeignet für alle Medien wasserähnlicher bis dickbreiiger Konsistenz: Milchprodukte, Fette und Öle, Teig, Würze, Fruchtsäfte, Konzentrate, Weintrauben, Most, Hefen, Maischen und Pulpen, Destillate, Creme

Using
For media from water up to higher viscosity media : Milk products , grease and oil, paste, spice, fruit juice, grapes and grapes juice, yeast, mash , distilling products, cream a.o.

Branchen
Lebensmittel- und Getränkeindustrie, Pharmazie u.a.

Branches
Food an beverage industry, pharmaceutical industry a.o.

Sonderausführungen / *Extra types*
FJ/FG .. S+ .. B+

Ausführung
Exzenterschneckenpumpe mit Lagersockel oder in Blockbauform, konstanter oder regulierbarer Förderstrom, hohes Selbstansaugvermögen, umkehrbare Förderrichtung, Stutzenausführung DIN 11851, andere auf Anfrage
Gehäuse und rotierende Teile in Edelstahl (1.4571)
Kardangelenke gekapselt – auf Wunsch offen,
Gehäuse mit tangentialem Spülstutzen für Reinigung möglich,
Doppelmantel für Gehäuse und Stator zur Beheizung mit Wasser oder Dampf möglich

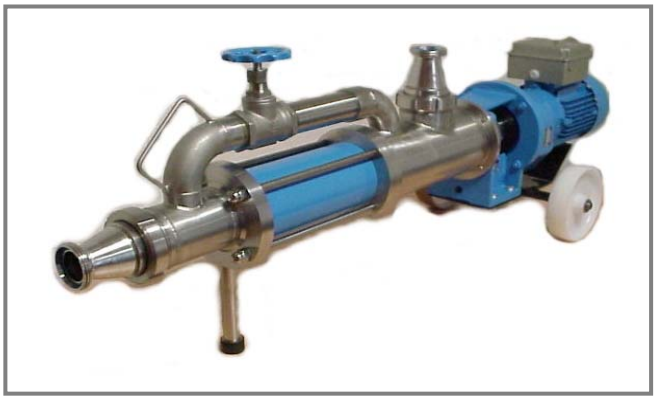
Performance
Progressive cavity pump with bearing socket or close coupled, constant or adjustable flow, reversible flow direction, connections by flange DIN 11851 , other on request,
Casing and rotating parts in stainless steel (1.4571), casing with tangential flush connections for CIP possible, double casing for heating by water or steam possible
cardan joint sealed, sealing by stuffing box or mechanical seal

Einsatz
geeignet für alle Medien wasserähnlicher bis dickbreiiger Konsistenz:
Milchprodukte, Fette und Öle, Teig, Würze, Fruchtsäfte, Konzentrate, Weintrauben, Most, Hefen, Maischen und Pulpen, Destillate, Creme

Using
For media from water up to higher viscosity media :
Milk products , grease and oil, paste, spice, fruit juice, grapes and grapes juice, yeast, mash , distilling products, cream a.o.

Branchen
Lebensmittelindustrie, Chemische Industrie, Seifen- u. Fettindustrie, u.a.

Branches
Food an beverage industry, chemical industry, soap and grease industry, cosmetics a.o.



Exzenterschneckenpumpe für die Landwirtschaft /
Progressive cavity pump for agriculture
FJ .. A

Ausführung
Exzenterschneckenpumpe mit Lagersockel, variable Drehrichtung, Antrieb über Zapfwelle 1 3/8“, drei Gehäusestutzen, Stutzenausführung Vierlochflansch 150, andere auf Anfrage
Gehäuse in Stahl verzinkt, rotierende Teile in Edelstahl, Kardangelenke gekapselt, Abdichtung über Laufwerkpatrone,

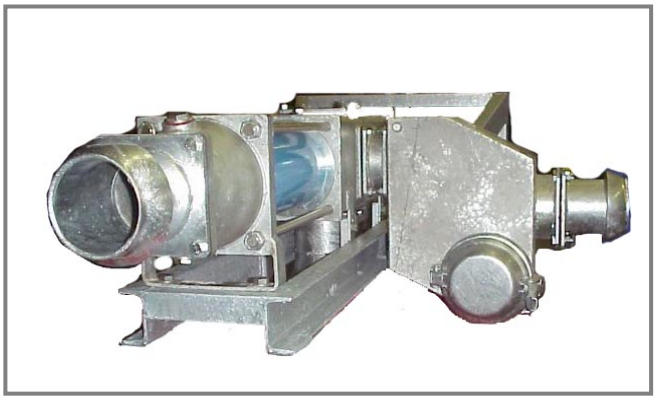
Performance
Progressive cavity pump with bearing socket, reversible flow direction, drive by power take off (PTO), connections by four hole flange, other on request,
Casing in steel galvanized, rotating parts in stainless steel, cardan joint sealed, sealing by special mechanical seal

Einsatz
geeignet für alle Medien von hochviskoser Konsistenz, auch mit Faser- und Feststoffanteilen: Gülle, Schmutzwasser, Schlämme u.a.

Use
Suitable for medias of higher viscosity with solids and fibres
Liquid manure, waste water, mud a.o.

Branchen
Abwasser- u. Umwelttechnik, Landwirtschaft, u.a.

Branches
Waste water and environmental technology, agriculture, a.o.



Tragbare Exzenterschneckenpumpe /
Portable progressive cavity pump
FJ 20 P

Ausführung
Exzenterschneckenpumpe, einfacher Aufbau, leicht und ohne spezielles Werkzeug zu zerlegen, Anschlüsse G1 1/4 Innengewinde, leicht zu reinigen, hohes Selbstansaugvermögen
Gehäuse in Aluminium oder Edelstahl, verschleißarme Kardangelenke, umkehrbare Förderrichtung

Performance
Progressive cavity pump, reversible flow direction, simple design, easy to take apart, connections G1 ¼ inside threading, easy to clean
Casing in aluminium or stainless steel, rotating parts in stainless steel,
cardan joint, sealing by stuffing box or mechanical seal

Einsatz
geeignet für alle Medien von wasserähnlicher bis viskoser Konsistenz, : Schmutzwasser, Bilge, Schlamm, Öl, Säuren und Laugen, Farben, Leim, u.a.

Use
Suitable for medias of higher viscosity,
Waste water, bilge, mud, oil, acid and lye, paint, glue a.o.

Branchen
vielseitig einsetzbar, zum Umpumpen, Abfüllen, Betanken und Entleeren in fast allen Industriezweigen

Branches
Multiple useable, for pumping, fill up and discharge in in almost all industries

Faß- und Behälterentleerungspumpe / *Barrel pump*
FJ/FG .. F

Ausführung
Exzenterschneckenpumpe in Blockbauform, vertikale Anordnung, mit Kran-/ Transportbügel, konstanter oder regulierbarer Förderstrom, Stutzenausführung Flansch DIN 2501, ANSI oder 2 1/2“, andere auf Anfrage
Gehäuse und rotierende Teile in Edelstahl, passend für Spundloch,
Kardangelenke gekapselt,
Abdichtung über Stopfbuchse oder Gleitringdichtung,

Performance
Progressive cavity pump close coupled, vertical arrangement with carry handle, constant or adjustable flow, connections by flange DIN 2501 or ANSI or 2 ½” other on request,
Casing in and rotating parts in stainless steel, fitting with 2” barrel port,
cardan joint sealed, sealing by stuffing box or mechanical seal

Einsatz
zum Entleeren von Fässern, geeignet für alle Medien von hochviskoser und zähfließender Konsistenz, welche aufgrund der Viskosität oder aus anderen Gründen nicht angesaugt werden können: Öl, Säuren und Laugen, Farben u.a.

Use
Barrel pump for the emptying of open or closed barrels with 2“ ports. Suitable for medias of higher viscosity. For reliable transport of media, with the pump in vertical orientation enabling the suction port to be immersed in the fluid reservoir.
Oil, acid and lye, paint, glue a.o.

Branchen
Abwasser- u. Umwelttechnik, Chemische Industrie, Landwirtschaft, Lebensmittelindustrie, Seifen- u. Fettindustrie, Farben- u. Lackherstellung, Kunststoffverarbeitung, Papier- u. Zellstoffindustrie, u.a.

Branches
Waste water and environmental technology, chemical industry, agriculture, food industry, soap and grease industry, paint- and varnish industry, plastic production, paper and cellulose industry a.o.

Dosierpumpe / *Dosing pump*
FJ 06..08..10 B

Ausführung
Exzenterschneckenpumpe in Blockbauform, einfacher Aufbau, Gehäuse in Edelstahl, Pumpe direkt mit Antrieb gekoppelt, stationäre oder transportable Aggregate, fester oder regulierbarer Förderstrom, hohes Selbstansaugvermögen, verschleißarme, abgedichtete Bolzengelenke, Abdichtung über Gleitringdichtung

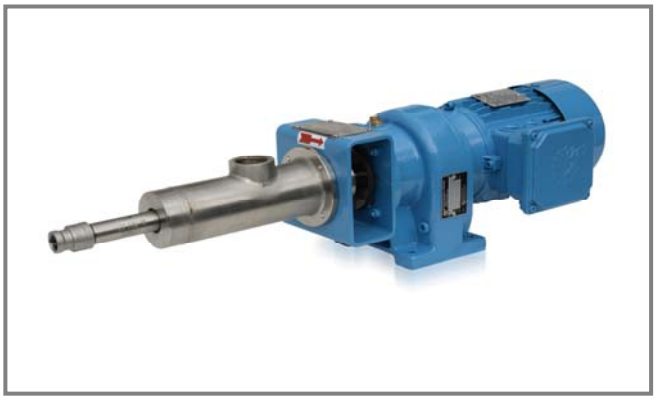
Performance
Progressive cavity pump close coupled, simple design, stationary or moveable, constant or adjustable flow, reversible flow direction,
Casing and rotating parts in stainless steel,
bolt joint sealed, sealing by mechanical seal

Einsatz
geeignet für alle Medien wasserähnlicher Konsistenz mit geringer Verunreinigung, Polymerlösungen, Abwasser, Kalkmilch, Öle, Farben- und Lacke, Laugen, Zuckerlösungen, Klebstoffe

Use
Suitable for medias of viscosity like water with few pollution ,
Polymer, waste water, oil, acid and lye, paint, glue a.o.

Branchen
Chemische Industrie, Abwassertechnik, Laboratorien, Neutralisationsanlagen, Pharmaindustrie, Kosmetische Industrie, Lebensmittelindustrie, Filtertechnik

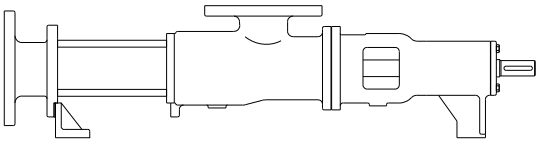
Branches
Chemical industry, Waste water and environmental technology, paint-and varnish industry, laboratory, cosmetics industry, food and beverage industry, filter technology



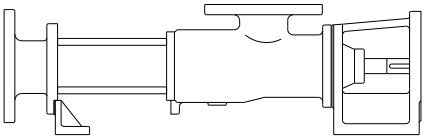
Bauarten / *Design*

1 Bauform / *Construction*

1.1 Standardausführung / Standard type

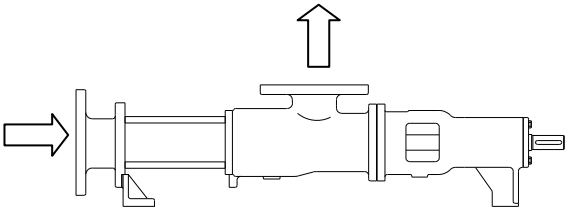


1.2 Blockbauweise / Close coupled type

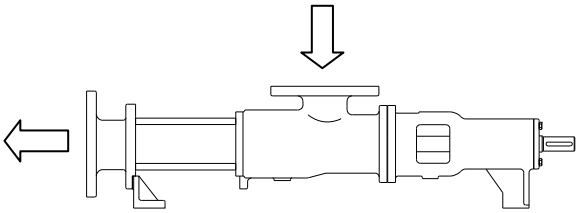


2 Förderrichtung / *Flow direction*

2.1 rechtsdrehend / *clockwise*



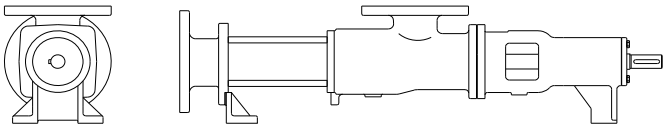
2.2 linksdrehend / *counterclockwise*



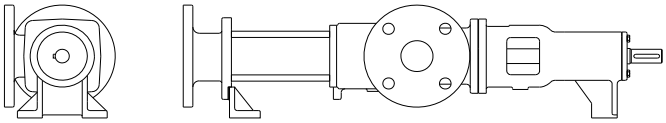
Bauarten / *Design*

3 Stutzenlage / *flange position*

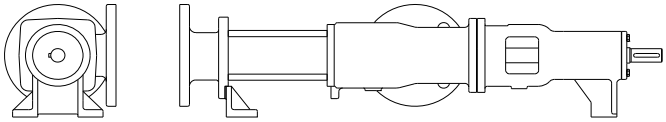
3.1 normal (0°) / *normal (0°)*



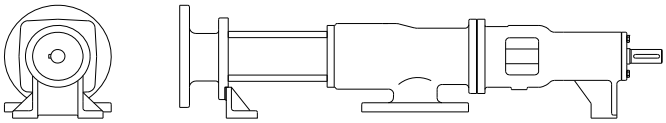
3.2 links (270°) / *left (270°)*



3.3 rechts (90°) / *right (90°)*



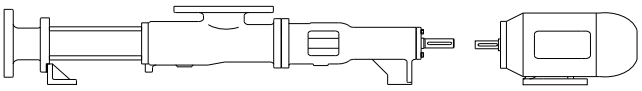
3.4 unten (180°) / *down (180°)*



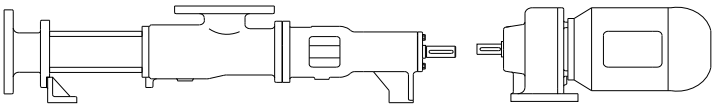
Bauarten / *Design*

4 Antriebe / *Drive*

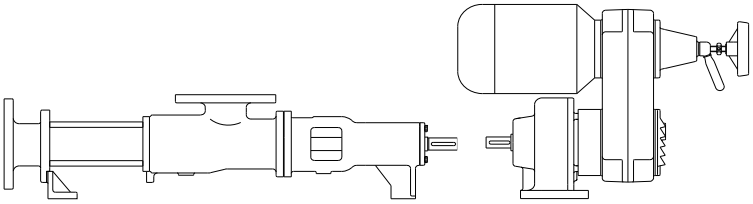
4.1 Elektromotor / *Electric motor*



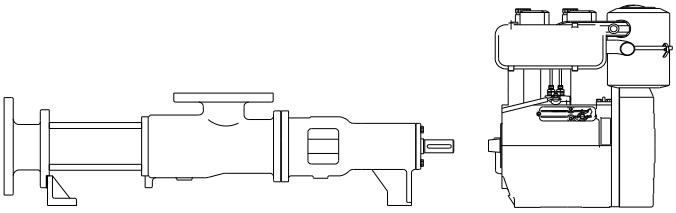
4.2 Getriebemotor / *Gear motor*



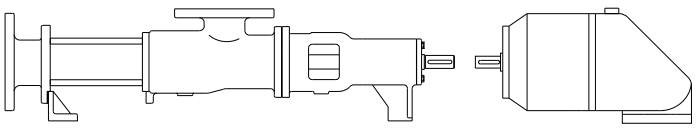
4.3 Verstellgetriebemotor / *Variable speed gear motor*



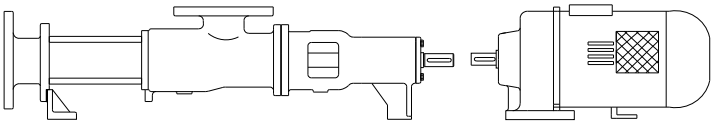
4.4 Verbrennungsmotor / *Combustion engine*



4.5 Hydraulikmotor / *Hydraulic motor*



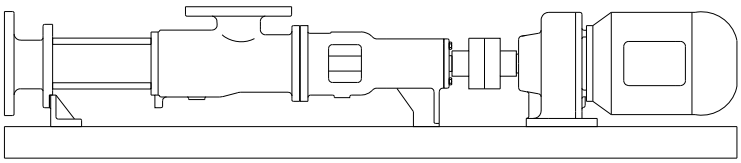
4.6 Pressluft / *Pneumatic motor*



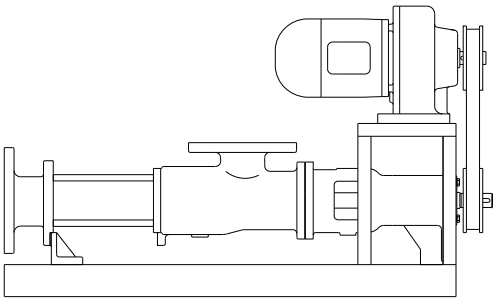
Bauarten / *Design*

5 Anordnung der Antriebe / *Arrangement of drives*

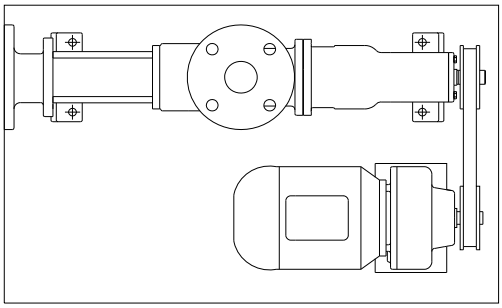
5.1 direkt gekuppelt / *direct coupled*



5.2 Riementrieb oberhalb / *Belt drive above*



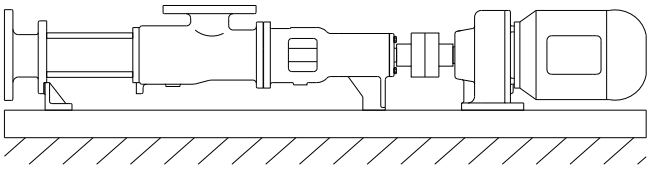
5.2 Riementrieb seitwärts / *Belt drive on side*



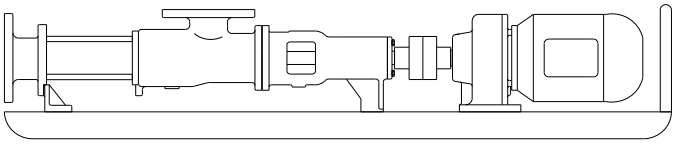
Bauarten / *Design*

6 Aufstellung / *Fixing*

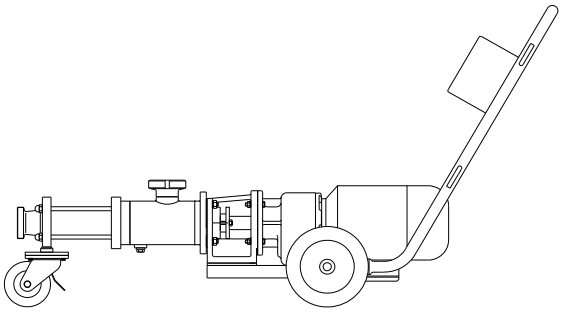
6.1 stationär befestigt / *stationary fixed*



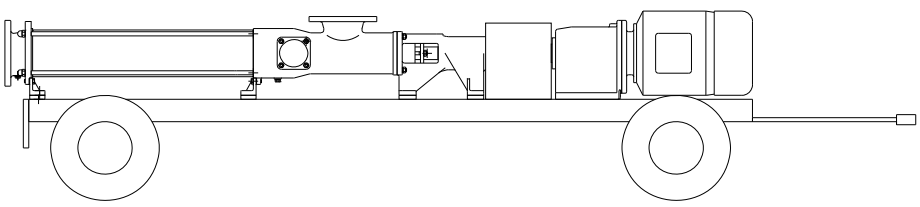
6.2 transportabel auf Schlitten / *portable on sledge*



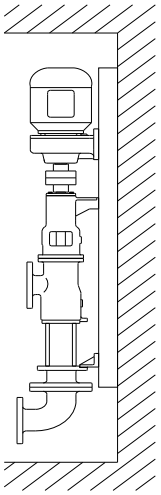
6.3 fahrbar / *mobile*



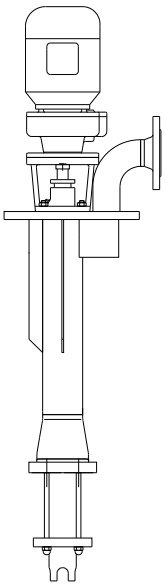
6.4 fahrbar auf Hänger / *mobile on trailer*



6.5 vertikal eingebaut / *vertical fixed*



6.6 vertikal, eintauchbar / *vertical, dipable*



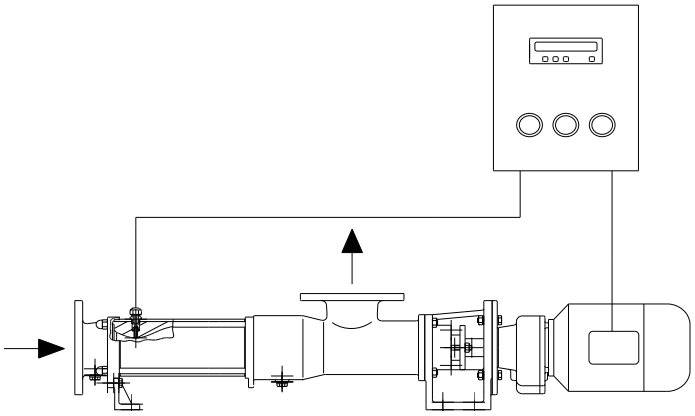
Statore / *Stators*

ASTM Kurz-zeichen / *ASTM acronym*	Polymer / *Polymer* **Handelsnamen / *Trading name***	Einsatzbereich / *Range of application*	Temperatur / *Temperature*
NR	Naturkautschuk / *Natural rubber*	Wasser, abrasive Medien, Alkohole, organische Säuren / *Water, abrasive products, alcohols, organic acids*	-30°C - +70°C
BR	Butadien-Kautschuk / *Butadiene-rubber* **BUNA CB**	Wasser, Gülle, schwache Säuren und Laugen / *Water, liquid manure, weak acid and alcaline solutions*	-30°C - +70°C
SBR	Styrol-Butadien-Kautschuk / *Styrene-butadiene-rubber* **BUNA-Hüls**	Wasser, schwache Säuren und Laugen / *Water, weak acids and alcaline solutions*	-30°C - +70°C
NBR	Acrylnitril-Butadien / *Acrylonitrile-butadiene-rubber* **Perbunan**	Öle, Benzine, Hydraulikflüssigkeit, tierische u. Pflanzl. Öle u. Fette, Lebensmittel / *Oils, perols, hydraulic liquid, animal and vegetgable oils and grease, foods*	-20°C - +100°C
CR	Chloropren-Kautschuk / *Polychloride-butadiene-rubber* **Baypren, Neoprene**	Fette, parafinische, naphten, aliphat. Kohlenwasserst., Ozon, Salzlösungen, Lebensmittel / *Grease, paraffined, naphtened, aliphated hydrocarbons, ozone, salt solutions, foods*	-20°C - +90°C
CSM	Chlorsulfonisiertes Polyäthylen / *Sulphonyl-chloride-polyethylene* **Hypalon**	Wasser, Laugen, Alkohole, oxidierende Medien, Öle / *Water, alcaline solutions, alcohols, oxydizing products, oils*	-20°C - +100°C
EPDM	Äthylen-Propylen-Terpolymerisat / *Etylene-propylene-diene-rubber* Keltan, BUNA AP	Säuren und Laugen, Ozon, Heißwasser, / *Acid and alcaline solutions, ozone, hot water*	-30°C - +115°C
FPM	Fluorkautschuk / *Fluorelastomere* **Viton**	Ozon, Fette, Öle, Kohlenwasserstoffe, Säuren u. Laugen / *Ozone, grease, oils, hydrocarbons, acids, alcaline solutions*	-15°C - +160°C
SI	Siliokon-Kautschuk / *Polysiloxanpolymer (Silicone)* **Silopren**	Ozon, Fette, Öle / *Ozone, grease, oils*	-50°C - +190°C
PUR	Polyurethan / *Polyurethan* **Vulkollan**	abrasive Medien, Öle, Fette, Benzine / *Abrasive products, oils, grease, petrols*	-20°C - +80°C Nicht wäßrige Medien / *no watery products* -20°C - +50°C wäßrige Medien / *watery products*
PTFE	Polytetrafluoräthylen / *Polyterafluor ethylene* **Teflon,Hostaflon**	Fast alle Medien / *Nearly all products*	-190°C - +250°C

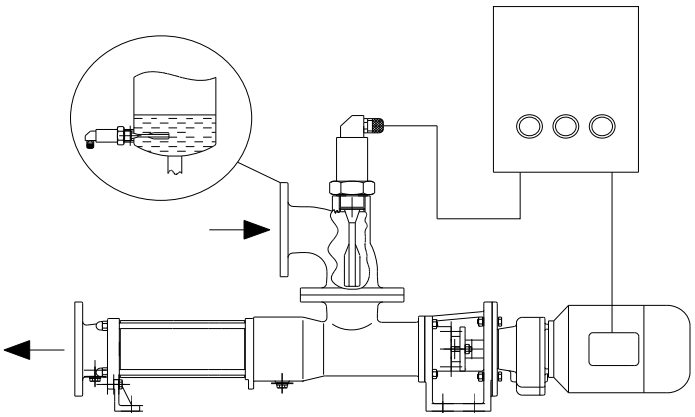
Zubehör / *Accessories parts*

Trockenlaufschutz / *Dry running protection*

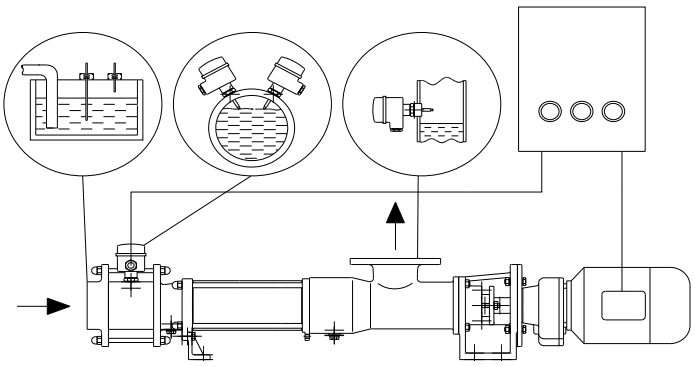
Temperaturmessung / *Temperature measure*
•ständige Messung der Statortemperatur /
Permanent measuring of stator temperature
•mit und ohne Anzeige der Betriebstemperatur /
with and without scale of operation temperature
•prozessabhängige Einstellung der Abschalttemperatur /
switch off temperature dependent on process
•Abschaltung bei Überschreitung der eingestellten Maximaltemperatur /
switch off by passing the prepared max. temperature
•für alle Medien geeignet /
suitable for all medias



Schwinggabel / *Oscillate fork*
•ansprechen bei gefülltem Rohr oder Behälter /
respond to filled pipe or container
•nicht für faserstoffhaltige Fördermedien /
not suitable for medias with fibre
•vorzugsweise für große Rohrdurchmesser oder zum Einbau in Behälter oder Rachentrichter verwenden /
preferably for use at great pipes or container or feed hopper



Konduktive Stabelektrode /
Conductive stick electrode
•Ansprechen bei entleertem Rohr oder Behälter /
respond to empty pipe or container
•einsetzbar als Niveaureglung zur Pumpensteuerung /
Useable to level adjustment for pump control
•für elektrisch leitfähige Fördermedien geeignet /
suitable for conductive medias
•nicht für klebrige Fördermedien, die einen festen Fettfilm bilden /
not for sticky medias with a strong grease film

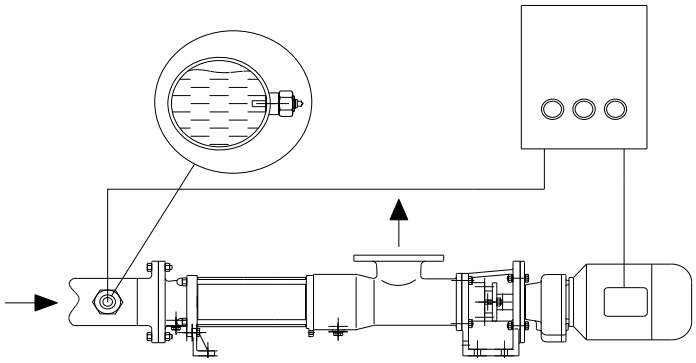


Zubehör / *Accessories parts*

Trockenlaufschutz / *Dry running protection*

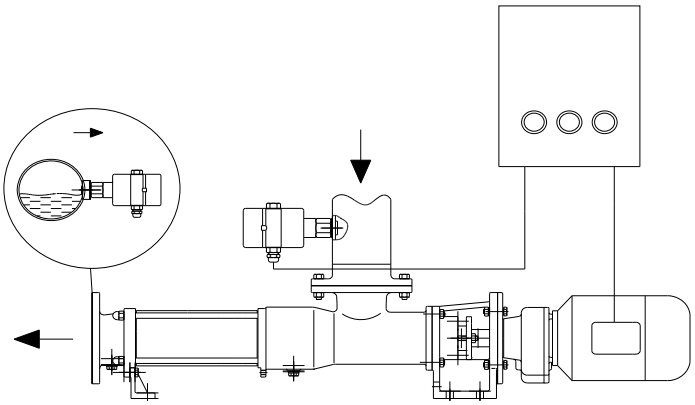
Kalorimetrischer Eintauchsensor /
Calorimetric dip sensor

•Ansprechen durch Ableitung der Wärme durch am Sensor vorbeiströmendes Fördermedium / *respond to take the heat away by the running media*
•Schaltpunkt für unterschiedliche Strömungsgeschwindigkeiten einstellbar / *point of switch for different velocity's adjustable*
•für Flüssigkeiten und fließfähige Schlämme, die in Homogenität und Viskosität geringen Schwankungen unterliegen / *suitable for liquids and flowable mud with slow variation of viscosity and homogeneity*



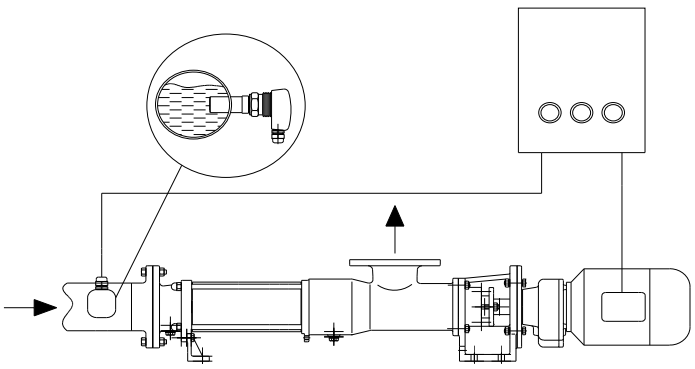
Konduktive Pumpenschutzsonde /
Conductive protect sensor

•Ansprechen bei gefülltem Rohr oder Behälter / *respond to filled pipe or container*
•für klebrige Fördermedien geeignet / *suitable for sticky medias*
•keine in das Rohr hineinragenden Teile vorhanden / *no parts inside the pipe*



Magnetisch-Induktiver Strömungsschalter /
Magnetic-inductive flow-switch

•Ansprechen bei Magnetfeldverzerrung durch vorbeiströmendes elektrisch leitfähiges Medium / *respond to magnetic field distortion by the flow of conductive medias*
•Schaltpunkt für verschiedene Strömungsgeschwindigkeiten einstellbar / *point of switch for different velocity's adjustable*
•für elektrisch leitfähige Flüssigkeiten und fließfähige Schlämme geeignet, die in Homogenität und Viskosität geringen Schwankungen unterliegen / *suitable for conductive liquids and flowable mud with slow variation of viscosity and homogeneity*
•für hohe Fließgeschwindigkeiten geeignet / *suitable for higher velocities*

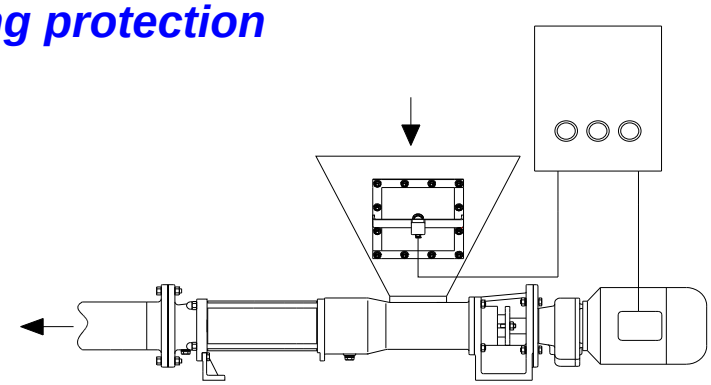


Zubehör / *Accessories parts*

Trockenlaufschutz / *Dry running protection*

Füllstandsmessung im Trichter durch Druckschalter /
Fluid level measurement at the feed hopper by pressure switch

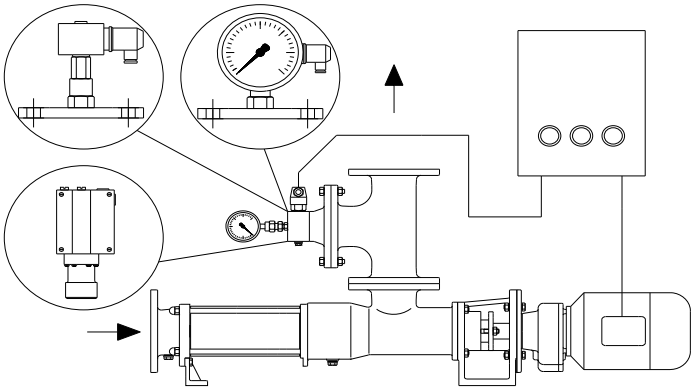
•beim Füllen des Rachentrichters wird durch eine Gummi-Membran ein Schalter betätigt /
a rubber-membrane actuate a switch at the filling of the feed hopper
•Abschaltung erfolgt bei entleertem Trichter /
switch-off at empty hopper
•einstellbar auf verschiedene Füllhöhen /
adjustable at different capacities
•für alle Medien geeignet /
suitable for all medias



Überdruck-Schutzeinrichtung / *Over-pressure protection*

Druckschalter / *Pressure switch*

•Anzeige des Förderdruckes über Manometer /
pressure is shown by a manometer
•Abschaltung der Pumpe bei Überschreitung des eingestellten Förderdruckes /
switch-off if the pressure pass the prepared operating pressure
•Abschaltdruck prozessabhängig einstellbar /
Switch-off pressure dependent on process
•Trennung der Armaturen vom Fördermedium durch Membran /
a membrane separates the armatures and the media
•für Flüssigkeiten und dickflüssige Schlämme geeignet /
suitable for liquids and mud



Bypass / *Bypass*

•Absperren der Druckleitung bei laufender Pumpe möglich /
Closing of the pressure pipe at working pump possible
•Für aussetzende Förderung ohne Abschaltung der Pumpe geeignet /
suitable for discontinuous work without switch-off of the pump
•Ansprechdruck einstellbar
switch pressure adjustable