eccentric screw pump

[viscous media pump]



Eccentric screw pump

For highly viscous and thick liquids

When conventional drum pumps reach their limits, eccentric screw pumps take over.

They enable reliable pumping of highly viscous, sensitive or difficult-to-handle media - uniformly, gently and under control.

Typical applications

- paints and coatings
- adhesives
- pasty and highly viscous media
- food products (e.g. syrup, honey, etc.)
- specialty chemical products

Advantages of Eccentric screw pumps

- suitable for highly viscous media
- uniform, low-pulsation pumping
- gentle transfer of sensitive products
- high pumping capacity with precise dosing
- reliable operation even under demanding conditions

"When media become too viscous or gentle, uniform pumping is required."

Eccentric screw pumps

High-viscosity pumps [ds] or highly viscous and thick liquids

Operating principle

5 versions for a wide range of applications

The pumping principle is based on a rotating screw that conveys the medium uniformly through the pump tube. The continuous movement creates sealed pumping chambers that transfer the medium gently and without pulsation.



Common features

- suitable for highly viscous and pasty media
- uniform, low-pulsation pumping
- gentle transfer of sensitive products
- reliable operation even in demanding applications
- precise and controlled pumping
- robust and durable in operation



Advantages

- constant pumping capacity
- low shear forces
- preserves the structure of shear-sensitive media - no “tearing” of the product
- ideal for coatings, paints and sensitive products

Our versions at a glance

5 versions - tailored to different applications and requirements

Our eccentric screw pumps are available in several versions that differ in design, handling and field of application. Select the appropriate series for your requirements according to the application, medium and working environment.

5 Versions

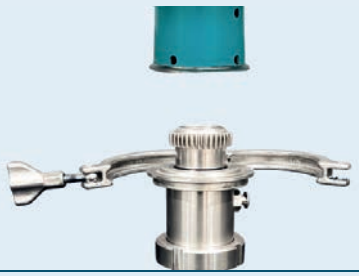
SB: Locking bracket connection

For applications requiring frequent changes and easy handling.
The motor and pump are flexibly connected by a locking bracket.



SWK: Quick-change coupling

For mobile use and frequent pump changes.
The motor and pump tube can be separated quickly without tools.



SD: Quickly detachable

For applications with increased cleaning and maintenance requirements.
The pump tube can be dismantled quickly and easily.



Ex: Explosion-protected version

For use in potentially explosive atmospheres.
Complies with the applicable ATEX requirements.



Starr: Fixed connection

For stationary applications.
The motor and pump are permanently connected and form a compact unit.



All versions are based on the proven progressive cavity principle and provide uniform, gentle pumping even for highly viscous media.

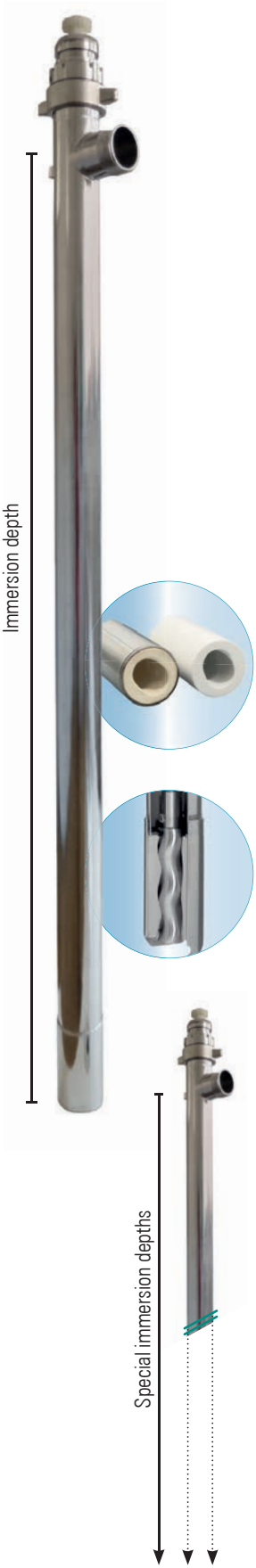
Eccentric screw pump SB

Locking bracket connection, robust and lightweight solution

The SB version connects the motor and pump tube by means of a practical locking bracket. The motor and pump can be separated quickly and easily, enabling flexible and mobile use.

Thanks to its low weight and compact design, the SB version is particularly suitable for lower flow rates and applications with medium viscosities. The integrated start/stop switch also ensures convenient and safe handling in day-to-day operation.

- lightweight and compact design
- ideal for mobile drum and container applications
- suitable for low flow rates and medium viscosities
- easy and safe handling
- robust and durable construction for industrial use



Pump tube Ø 54 mm [SB-ds]

- with mechanical seal [GLRD]
- PTFE stator
- hose connection: AG 1 1/2"
- shaft: stainless steel
- standard immersion depths: 1000, 1100 or 1200 mm
- max. discharge pressure: 5 bar

Version	Immersion depth mm	Stator	Item no.
Rotor 20.1			
SB54-ds 20.1-PTFE-GLRD-1000	1000	PTFE	652-0311
SB54-ds 20.1-PTFE-GLRD-1100	1100	PTFE	652-0411
SB54-ds 20.1-PTFE-GLRD-1200	1200	PTFE	652-0415
Rotor 40.1			
SB54-ds 40.1-PTFE-GLRD-1000	1000	PTFE	652-0312
SB54-ds 40.1-PTFE-GLRD-1100	1100	PTFE	652-0412
SB54-ds 40.1-PTFE-GLRD-1200	1200	PTFE	652-0416
Rotor 40.2			
SB54-ds 40.2-PTFE-GLRD-1100	1100	PTFE	652-0314
SB54-ds 40.2-PTFE-GLRD-1200	1200	PTFE	652-0414
Rotor 80.1			
SB54-ds 80.1-PTFE-GLRD-1100	1100	PTFE	652-0313
SB54-ds 80.1-PTFE-GLRD-1200	1200	PTFE	652-0413

Special immersion depths [SB-ds]

Surcharge for special lengths of eccentric screw pump tubes ds 20.1... 80.1 | Ø 54 mm

Version	Length mm	Item no.
Base surcharge		890-0011
Surcharge SB-ds 20-80	per 100 mm	630-0072

PTFE [polytetrafluoroethylene]

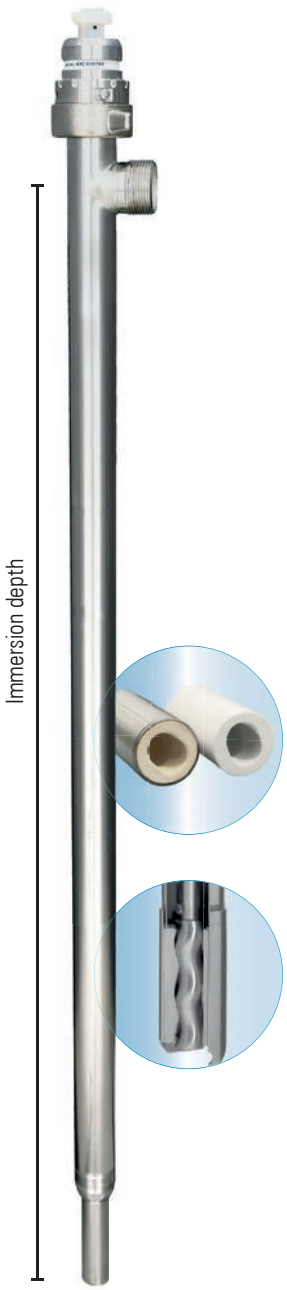
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Eccentric screw pump SB

Locking bracket connection, robust and lightweight solution

Pump tube Ø 40 mm [SB40-ds]

- with mechanical seal [GLRD]
- stator optionally in PTFE or NBR
- shaft: stainless steel
- standard immersion depths: 500, 700, 1000 or 1200 mm
- max. discharge pressure: 5 bar (PTFE), 8 bar (NBR)



Version	Immersion depth mm	Stator	Item no.
Rotor 4.2			
SB40-ds 4.2-PTFE-GLRD-500	500	PTFE	652-0206
SB40-ds 4.2-PTFE-GLRD-700	700	PTFE	652-0209
SB40-ds 4.2-PTFE-GLRD-1000	1000	PTFE	652-0207
SB40-ds 4.2-PTFE-GLRD-1200	1200	PTFE	652-0210
SB40-ds 4.2-NBR-GLRD-500	500	NBR	652-0205
SB40-ds 4.2-NBR-GLRD-700	700	NBR	652-0201
SB40-ds 4.2-NBR-GLRD-1000	1000	NBR	652-0202
SB40-ds 4.2-NBR-GLRD-1200	1200	NBR	652-0203
Rotor 8.1			
SB40-ds 8.1-PTFE-GLRD-700	700	PTFE	652-0001
SB40-ds 8.1-PTFE-GLRD-1000	1000	PTFE	652-0002
SB40-ds 8.1-PTFE-GLRD-1200	1200	PTFE	652-0003
SB40-ds 8.1-NBR-GLRD-700	700	NBR	625-0004
SB40-ds 8.1-NBR-GLRD-1000	1000	NBR	652-0005
SB40-ds 8.1-NBR-GLRD-1200	1200	NBR	652-0006
Rotor 20.1 [also available with mixing function and flow-rate control]			
SB40-ds 20.1-PTFE-GLRD-700	700	PTFE	652-0031
SB40-ds 20.1-PTFE-GLRD-1000	1000	PTFE	652-0032
SB40-ds 20.1-PTFE-GLRD-1200	1200	PTFE	652-0033
Mixing Pump Tube			
MP-SB40-ds 20.1-PTFE-GLRD-1000	1000	PTFE	652-0032MP
MP-SB40-ds 20.1-PTFE-GLRD-1200	1200	PTFE	652-0033MP





Accessories

Strainer and Seal Kit

Version	Material	Item no.
Strainer ds 8.1/4.2	Stainless steel	840-0252
FDA seal kit (Niro/GLRD-R, SB40)	EPDM	840-0214.18

PTFE [polytetrafluoroethylene], NBR [nitrile butadiene rubber], EPDM [ethylene propylene diene rubber]

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Motors for SB pump tubes

Robust drive solutions for reliable continuous operation

The motors of the SB series are specifically matched to use with progressive cavity pump tubes. They ensure reliable, long-lasting operation even with demanding media and high loads.

Depending on the application, single-phase, three-phase and explosion-protected versions are available.

- robust design for continuous industrial operation
- suitable for highly viscous and thick media
- reliable power transmission via locking bracket connection
- durable, low-maintenance construction
- various power and speed versions available
- optionally available in an explosion-protected version

Single-phase AC motor pd500 | SB

For mobile and flexible applications.



- 230 V, 50 Hz
- with run and start capacitor
- with protective switch
- protection rating: IP 55

Version	Power kW	Rated current A	Speed rpm	Item no.
pd500-1-0,37	0.37	3.3	1400	500-0073
pd500-1-0,55	0.55	4.0	2800	500-0044
pd500-1-0,75	0.75	5.0	1400	500-0075

Three-phase AC motor pd500 | SB

For high-performance industrial applications.



- 230/400 V, 50/50-60 Hz
- with terminal box
- without supply cable and protective switch
- protection rating: IP 55

Version	Power kW	Rated current A	Speed rpm	Item no.
pd500-3-0,37	0.37	1.7/1.0	2800	500-0039
pd500-3-0,37	0.37	1.8/1.05	1350	500-0051
pd500-3-0,55	0.55	2.8/1.6	900	500-0078

Explosion-protected motor pd500 | SB

For potentially explosive atmospheres in accordance with ATEX.



- 400 V, 50 Hz
- with terminal box
- ATEX Ex II 2G EEx e T3
- protection rating: IP 54

Version	Power kW	Rated current A	Speed rpm	Item no.
pd500-EEx	0.37	1.08	1400	500-0016

Accessories

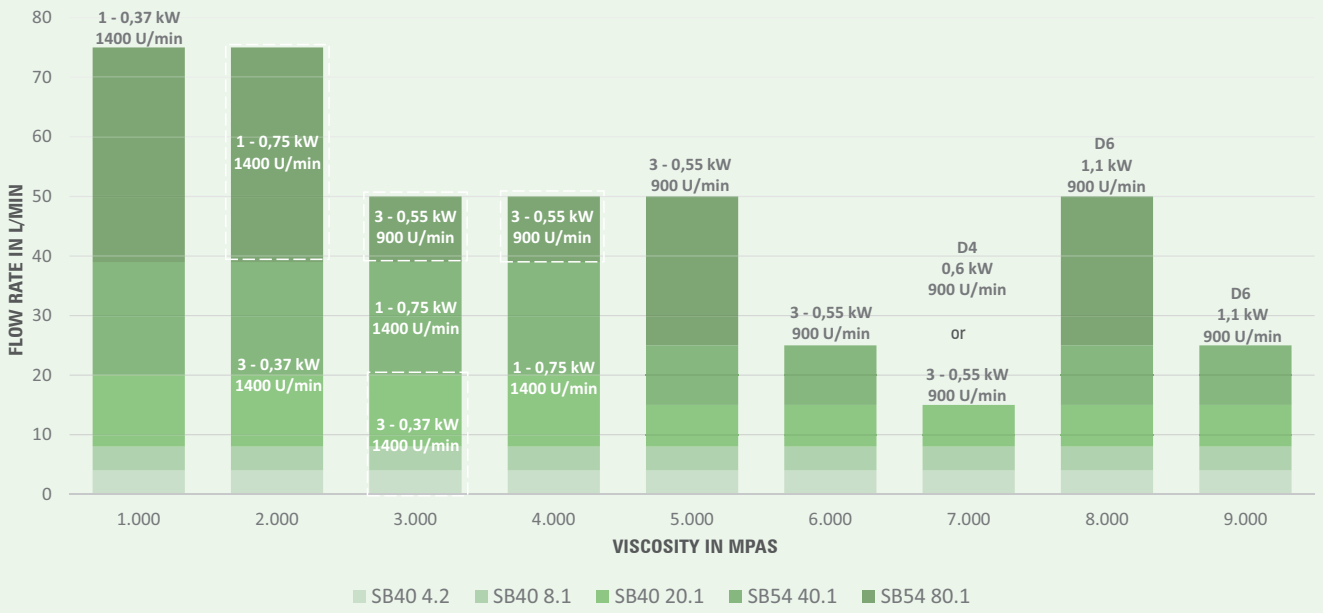


Version	Rated current A	Item no.
Motor protection switch with 5 m cable and 5-pole CEE plug, 16 A	1.0-1.6	810-0023PD
Motor protection switch **Ex**	1.0-1.6	815-0015

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Selection guide for medium-viscosity media

Pump selection by viscosity and flow rate



Maximum permissible pressure = 6 bar
Values apply with free discharge at the pressure outlet
Flow rate depends on the flow characteristics of the respective medium

Product Note

Systematic custom solutions

Pump systems for special requirements

Special pumping tasks require special solutions. We develop pump systems tailored precisely to your application. Looking for a custom solution? Contact us!



Continuous lubrication pump for wind turbines

- fast and clean filling of automatic lubrication systems
- designed for the confined working conditions in the nacelle
- helps reduce maintenance times and downtime costs



Pallet truck for IBC containers

- facilitates mobile handling of IBC containers
- enables fast positioning and relocation at the point of use
- supports flexible use of pump and transfer systems

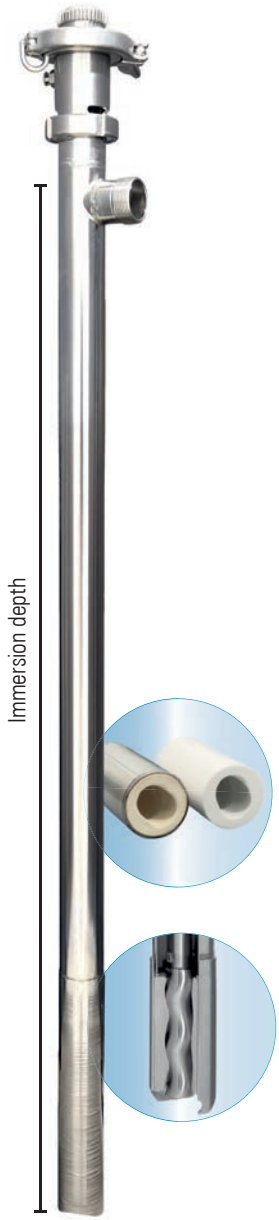
Eccentric screw pump SWK

Quick-change coupling, flexible solution for mobile applications

The SWK version allows the motor and pump tube to be separated particularly quickly and without tools using a quick-change coupling. It is ideal for mobile applications, frequent relocation of the pump and switching between different containers or pump tubes.

Thanks to the low weight and easy handling, the motor and pump tube can be separated quickly and safely. This simplifies day-to-day use and supports ergonomic working without additional lifting equipment.

- tool-free separation of motor and pump tube
- quick-change coupling for flexible operation
- ideal for mobile applications and frequent container changes
- easy and safe handling
- no additional lifting equipment required
- suitable as a changeover or standby pump
- robust and durable construction for industrial use



with mechanical seal [GLRD]

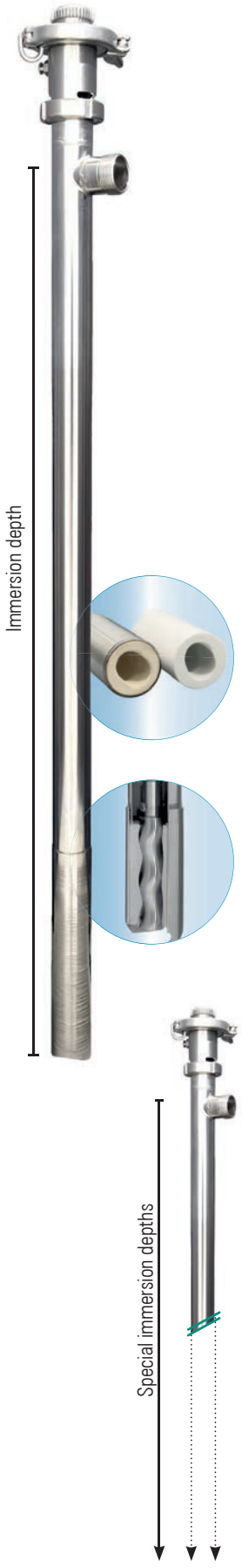
- pump tube Ø: 54 mm
- stator optionally in PTFE or NBR
- standard immersion depths: 1000, 1100 or 1200 mm
- shaft: stainless steel

Version	Immersion depth mm	Stator	Item no.
Rotor 20.1			
ds 20.1-SWK-PTFE-GLRD-1000	1000	PTFE	651-0009
ds 20.1-SWK-PTFE-GLRD-1100	1100	PTFE	651-0109
ds 20.1-SWK-PTFE-GLRD-1200	1200	PTFE	651-0109.12
ds 20.1-SWK-NBR-hell-GLRD-1000	1000	light NBR	651-0001
ds 20.1-SWK-NBR-hell-GLRD-1100	1100	light NBR	651-0101
ds 20.1-SWK-NBR-hell-GLRD-1200	1200	light NBR	651-0101.12
Rotor 40.1			
ds 40.1-SWK-PTFE-GLRD-1000	1000	PTFE	651-0010
ds 40.1-SWK-PTFE-GLRD-1100	1100	PTFE	651-0110
ds 40.1-SWK-PTFE-GLRD-1200	1200	PTFE	651-0110.12
ds 40.1-SWK-NBR-hell-GLRD-1000	1000	light NBR	651-0002
ds 40.1-SWK-NBR-hell-GLRD-1100	1100	light NBR	651-0102
ds 40.1-SWK-NBR-hell-GLRD-1200	1200	light NBR	651-0102.12
Rotor 40.2			
ds 40.2-SWK-PTFE-GLRD-1100	1100	PTFE	651-0011
ds 40.2-SWK-PTFE-GLRD-1200	1200	PTFE	651-0111
ds 40.2-SWK-NBR-hell-GLRD-1100	1100	light NBR	651-0003
ds 40.2-SWK-NBR-hell-GLRD-1200	1200	light NBR	651-0103
Rotor 80.1			
ds 80.1-SWK-PTFE-GLRD-1100	1100	PTFE	651-0012
ds 80.1-SWK-PTFE-GLRD-1200	1200	PTFE	651-0112
ds 80.1-SWK-NBR-hell-GLRD-1100	1100	light NBR	651-0004
ds 80.1-SWK-NBR-hell-GLRD-1200	1200	light NBR	651-0104

PTFE [polytetrafluoroethylene], NBR [nitrile butadiene rubber]

Eccentric screw pump SWK

Quick-change coupling, flexible solution for mobile applications



with gland packing [SB]

- pump tube Ø: 54 mm
- stator in PTFE or NBR
- standard immersion depths: 1000, 1100 or 1200 mm
- shaft: stainless steel

Version	Immersion depth mm	Stator	Item no.
Rotor 20.1			
ds 20.1-SWK-PTFE-SB-1000	1000	PTFE	651-0013
ds 20.1-SWK-PTFE-SB-1100	1100	PTFE	651-0113
ds 20.1-SWK-PTFE-SB-1200	1200	PTFE	651-0113.12
ds 20.1-SWK-NBR-hell-SB-1000	1000	light NBR	651-0005
ds 20.1-SWK-NBR-hell-SB-1100	1100	light NBR	651-0105
ds 20.1-SWK-NBR-hell-SB-1200	1200	light NBR	651-0105.12
Rotor 40.1			
ds 40.1-SWK-PTFE-SB-1000	1000	PTFE	651-0014
ds 40.1-SWK-PTFE-SB-1100	1100	PTFE	651-0114
ds 40.1-SWK-PTFE-SB-1200	1200	PTFE	651-0114.12
ds 40.1-SWK-NBR-hell-SB-1000	1000	light NBR	651-0006
ds 40.1-SWK-NBR-hell-SB-1100	1100	light NBR	651-0106
ds 40.1-SWK-NBR-hell-SB-1200	1200	light NBR	651-0106.12
Rotor 40.2			
ds 40.2-SWK-PTFE-SB-1100	1100	PTFE	651-0015
ds 40.2-SWK-PTFE-SB-1200	1200	PTFE	651-0115
ds 40.2-SWK-NBR-hell-SB-1100	1100	light NBR	651-0007
ds 40.2-SWK-NBR-hell-SB-1200	1200	light NBR	651-0107
Rotor 80.1			
ds 80.1-SWK-PTFE-SB-1100	1100	PTFE	651-0016
ds 80.1-SWK-PTFE-SB-1200	1200	PTFE	651-0116
ds 80.1-SWK-NBR-hell-SB-1100	1100	light NBR	651-0008
ds 80.1-SWK-NBR-hell-SB-1200	1200	light NBR	651-0108

Special immersion depths [ds]

Surcharge for special lengths of eccentric screw pump tubes ds 20.1... 80.1 | Ø 54 mm

Version	Length mm	Item no.
Base surcharge		890-0011
Surcharge ds 20-80	per 100 mm	650-0047

PTFE [polytetrafluoroethylene], NBR [nitrile butadiene rubber]

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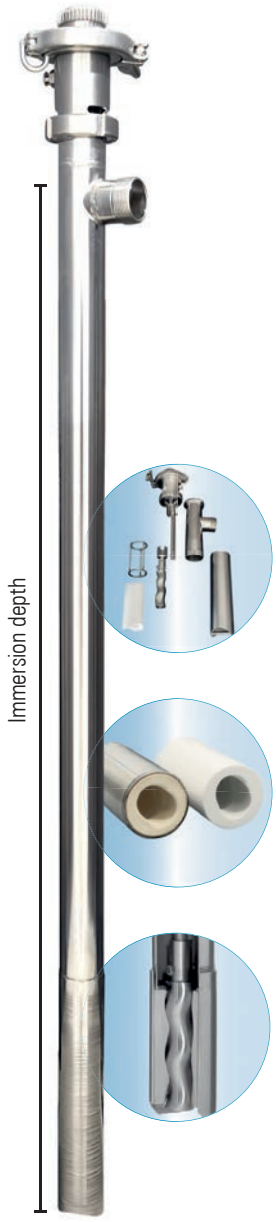
Eccentric screw pump SWK SD

Quickly detachable solution for cleaning and maintenance

The SD version is based on the proven SWK system and additionally features a split drive shaft for particularly fast disassembly of the pump tube. Motor and pump can be separated without tools, enabling easy cleaning and maintenance as well as flexible handling in day-to-day use.

The SD version is particularly suitable for applications requiring frequent pump dismantling and for processes with increased cleaning and serviceability requirements.

- quick, tool-free dismantling of the pump tube
- split drive shaft for particularly easy handling
- ideal for frequent cleaning and maintenance
- suitable for applications with increased hygiene requirements
- wetted components suitable for machine washing
- reduced time required for service and cleaning
- no additional tools or specialist personnel required
- high flexibility for mobile and stationary applications



with mechanical seal [GLRD]

- pump tube Ø: 54 mm
- stator optionally in PTFE or NBR
- standard immersion depths: 1000, 1100 or 1200 mm
- shaft: stainless steel

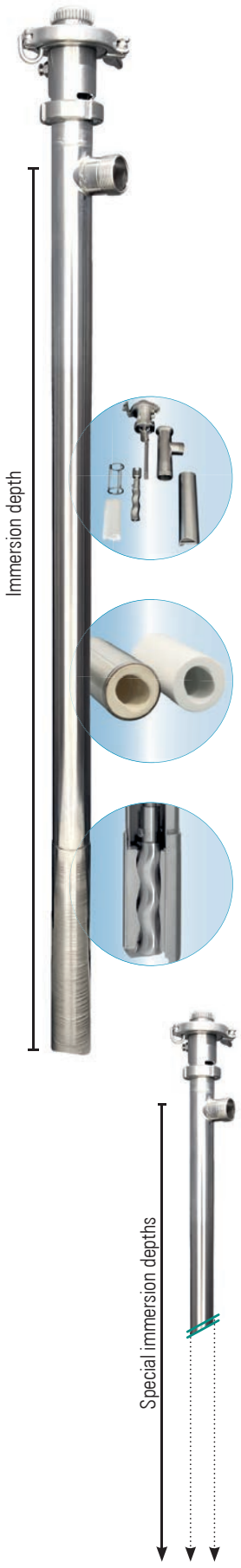
Version	Immersion depth mm	Stator	Item no.
Rotor 20.1			
SD-ds 20.1-SWK-PTFE-GLRD-1000	1000	PTFE	654-0009
SD-ds 20.1-SWK-PTFE-GLRD-1100	1100	PTFE	654-0109
SD-ds 20.1-SWK-PTFE-GLRD-1200	1200	PTFE	654-0109.12
SD-ds 20.1-SWK-NBR-hell-GLRD-1000	1000	light NBR	654-0001
SD-ds 20.1-SWK-NBR-hell-GLRD-1100	1100	light NBR	654-0101
SD-ds 20.1-SWK-NBR-hell-GLRD-1200	1200	light NBR	654-0101.12
Rotor 40.1			
SD-ds 40.1-SWK-PTFE-GLRD-1000	1000	PTFE	654-0010
SD-ds 40.1-SWK-PTFE-GLRD-1100	1100	PTFE	654-0110
SD-ds 40.1-SWK-PTFE-GLRD-1200	1200	PTFE	654-0110.12
SD-ds 40.1-SWK-NBR-hell-GLRD-1000	1000	light NBR	654-0002
SD-ds 40.1-SWK-NBR-hell-GLRD-1100	1100	light NBR	654-0102
SD-ds 40.1-SWK-NBR-hell-GLRD-1200	1200	light NBR	654-0102.12
Rotor 40.2			
SD-ds 40.2-SWK-PTFE-GLRD-1100	1100	PTFE	654-0011
SD-ds 40.2-SWK-PTFE-GLRD-1200	1200	PTFE	654-0111
SD-ds 40.2-SWK-NBR-hell-GLRD-1100	1100	light NBR	654-0003
SD-ds 40.2-SWK-NBR-hell-GLRD-1200	1200	light NBR	654-0103
Rotor 80.1			
SD-ds 80.1-SWK-PTFE-GLRD-1100	1100	PTFE	654-0012
SD-ds 80.1-SWK-PTFE-GLRD-1200	1200	PTFE	654-0112
SD-ds 80.1-SWK-NBR-hell-GLRD-1100	1100	light NBR	654-0004
SD-ds 80.1-SWK-NBR-hell-GLRD-1200	1200	light NBR	654-0104

PTFE [polytetrafluoroethylene], NBR [nitrile butadiene rubber]

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Eccentric screw pump SWK SD

Quickly detachable solution for cleaning and maintenance



with gland packing [SB]

- pump tube Ø: 54 mm
- stator optionally in PTFE or light NBR
- standard immersion depths: 1000, 1100 or 1200 mm
- shaft: stainless steel

Version	Immersion depth mm	Stator	Item no.
Rotor 20.1			
SD-ds 20.1-SWK-PTFE-SB-1000	1000	PTFE	654-0013
SD-ds 20.1-SWK-PTFE-SB-1100	1100	PTFE	654-0113
SD-ds 20.1-SWK-PTFE-SB-1200	1200	PTFE	654-0113.12
SD-ds 20.1-SWK-NBR-hell-SB-1000	1000	light NBR	654-0005
SD-ds 20.1-SWK-NBR-hell-SB-1100	1100	light NBR	654-0105
SD-ds 20.1-SWK-NBR-hell-SB-1200	1200	light NBR	654-0105.12
Rotor 40.1			
SD-ds 40.1-SWK-PTFE-SB-1000	1000	PTFE	654-0014
SD-ds 40.1-SWK-PTFE-SB-1100	1100	PTFE	654-0114
SD-ds 40.1-SWK-PTFE-SB-1200	1200	PTFE	654-0114.12
SD-ds 40.1-SWK-NBR-hell-SB-1000	1000	light NBR	654-0006
SD-ds 40.1-SWK-NBR-hell-SB-1100	1100	light NBR	654-0106
SD-ds 40.1-SWK-NBR-hell-SB-1200	1200	light NBR	654-0106.12
Rotor 40.2			
SD-ds 40.2-SWK-PTFE-SB-1100	1100	PTFE	654-0015
SD-ds 40.2-SWK-PTFE-SB-1200	1200	PTFE	654-0115
SD-ds 40.2-SWK-NBR-hell-SB-1100	1100	light NBR	654-0007
SD-ds 40.2-SWK-NBR-hell-SB-1200	1200	light NBR	654-0107
Rotor 80.1			
SD-ds 80.1-SWK-PTFE-SB-1100	1100	PTFE	654-0016
SD-ds 80.1-SWK-PTFE-SB-1200	1200	PTFE	654-0116
SD-ds 80.1-SWK-NBR-hell-SB-1100	1100	light NBR	654-0008
SD-ds 80.1-SWK-NBR-hell-SB-1200	1200	light NBR	654-0108

Special immersion depths [SD-ds]

Surcharge for special lengths of eccentric screw pump tubes ds 20.1... 80.1 | Ø 54 mm

Version	Length mm	Item no.
Base surcharge		890-0011
Surcharge ds 20-80	per 100 mm	650-0047

PTFE [Polytetrafluorethylen], NBR [Nitril-Butadien-Kautschuk]

Motors for pump tubes SWK / SD

Flexible drive solutions for mobile and industrial applications

The motors of the SWK and SD series are specifically designed for progressive cavity pump tubes and provide reliable pumping of highly viscous media.

Depending on the application, electric motors and compressed air motors are available for different operating environments.

- robust versions for continuous industrial operation
- quick-change coupling [SWK] for tool-free pump changes
- reliable power transmission even with highly viscous media
- low-maintenance and durable construction
- flexible options for mobile and stationary applications
- optionally available in an explosion-protected version

Electric motors

The electric motors of the SWK and SD series provide reliable and uniform drive power for mobile and stationary applications involving highly viscous media.

- various speed and power versions available
- suitable for continuous operation and industrial applications
- high operational reliability and long service life
- optionally available as geared or special motor
- easy handling and fast pump changes

Universal drive motor | SWK

- 230/400 V, 50 Hz
- speed: either 900 or 700 rpm
- with terminal box
- without switch and connection cable
- protection rating: IP 55



Version	Power kW	Rated current A	Speed rpm	Item no.
SWK Drive motor 900	0.55	2.8/1.6	900	530-0047
SWK Drive motor 900	0.75	3.7/2.1	900	530-0040
SWK Drive motor 900	1.10	5.0/2.95	900	530-0041
SWK Drive motor 900	1.50	6.8/3.9	900	530-0042
SWK Drive motor 700	0.37	1.96/1.13	700	530-0036
SWK Drive motor 700	0.55	2.75/1.59	700	530-0037
SWK Drive motor 700	0.75	3.75/2.15	700	530-0038
SWK Drive motor 700	1.10	5.0/3.0	700	530-0039
SWK Drive motor 700	1.50	6.7/3.85	700	530-0088

Helical geared motor | SWK

- 230/400 V, 50 Hz
- speed: either 500 or 300 rpm
- with terminal box
- without switch and connection cable
- protection rating: IP 55



Version	Power kW	Rated current A	Speed rpm	Item no.
SWK Geared motor 500	0.37	1.8/1.0	500	550-0020
SWK Geared motor 500	0.55	2.8/1.6	500	550-0021
SWK Geared motor 500	0.75	3.7/2.1	500	550-0022
SWK Geared motor 300	0.37	1.8/1.0	300	550-0017
SWK Geared motor 300	0.55	2.7/1.5	300	550-0018
SWK Geared motor 300	0.75	3.6/2.0	300	550-0019

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Motor with hydrostatic variable-speed gearbox | SWK



- 230/400 V, 50 Hz
- variable output speed n2: 50-900 rpm, infinitely adjustable
- handwheel adjustment with dial indicator
- flange 200 mm
- protection rating: IP 55

Version	Power kW	Rated current A	Speed rpm	Item no.
with hydrostatic variable-speed gearbox	0.55	1.6	50-900	550-0161

Single-phase AC motor | SWK



- 230 V, 50 Hz
- speed: 900 rpm
- with start/stop protective switch
- with 5 m connection cable and plug
- protection rating: IP 55

Version	Power kW	Rated current A	Speed rpm	Item no.
SWK single-phase 900	0.75	5.2	900	530-0203
SWK single-phase 900	1.1	6.7	900	530-0205
SWK single-phase 900	1.5	8.0	900	530-0207

Accessories



Motor protection switch:

- 5 m connection cable, 5-pole CEE plug, 16 A
- protection rating: IP 55

Version	Rated current A	Item no.
Motor protection switch	1.0-1.6	810-0023
Motor protection switch	1.6-2.5	810-0021
Motor protection switch	2.5-4.0	810-0022
Stainless-steel retaining bracket		745-0198

Compressed air motors

The compressed air motors of the SWK and SD series are particularly suitable for applications in potentially explosive atmospheres and for applications where electric drives cannot be used, enabling safe operation under demanding conditions.

- ideal for potentially explosive atmospheres
- infinitely variable control via the compressed-air supply
- low-maintenance and durable in continuous operation
- suitable for highly viscous and thick media

Compressed air motor | SWK



- speed: 900 rpm
- with silencer
- without actuating valve

Version	Power kW	Rated current A	Item no.
SWK Compressed air motor D4	0.6	900	520-0009
SWK Compressed air motor D6	1.1	900	520-0010
SWK Compressed air motor D8	1.7	900	520-0012

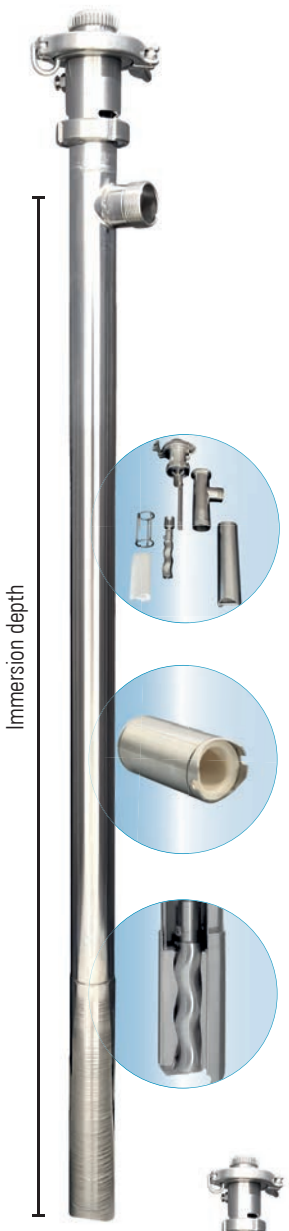
Eccentric screw pump Ex

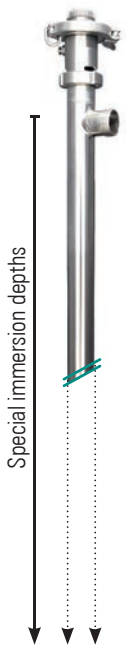
ATEX Explosion-protected for potentially explosive atmospheres

The EX version is based on the proven SWK system and was developed specifically for use in potentially explosive atmospheres. The pump tube and components are adapted to ATEX requirements and enable the safe pumping of flammable liquids..

The EX version is particularly suitable for applications in hazardous areas and wherever the highest safety requirements must be met.

- suitable for potentially explosive atmospheres in accordance with ATEX
- safe pumping of flammable liquids
- based on the proven SWK system
- components adapted for Ex applications
- robust and durable construction for industrial applications
- ideal for mobile and stationary Ex applications





Pump tube [Ex]

- pump tube Ø: 54 mm
- with mechanical seal [GLRD]
- PTFE stator
- standard immersion depths: 1000, 1100 or 1200 mm
- shaft: stainless steel

Version	Immersion depth mm	Stator	Item no.
Rotor 20.1			
Ex-ds 20.1-SWK-PTFE-GLRD-1000	1000	PTFE	653-0001
Ex-ds 20.1-SWK-PTFE-GLRD-1100	1100	PTFE	653-0101
Ex-ds 20.1-SWK-PTFE-GLRD-1200	1200	PTFE	653-0101.12
Rotor 40.1			
Ex-ds 40.1-SWK-PTFE-GLRD-1000	1000	PTFE	653-0002
Ex-ds 40.1-SWK-PTFE-GLRD-1100	1100	PTFE	653-0102
Ex-ds 40.1-SWK-PTFE-GLRD-1200	1200	PTFE	653-0102.12
Rotor 40.2			
Ex-ds 40.2-SWK-PTFE-GLRD-1100	1100	PTFE	653-0003
Ex-ds 40.2-SWK-PTFE-GLRD-1200	1200	PTFE	653-0103
Rotor 80.1			
Ex-ds 80.1-SWK-PTFE-GLRD-1100	1100	PTFE	653-0004
Ex-ds 80.1-SWK-PTFE-GLRD-1200	1200	PTFE	653-0104

Special immersion depths [Ex-ds]

Surcharge for special lengths of eccentric screw pump tubes ds 20.1... 80.1 | Ø 54 mm

Version	Length mm	Item no.
Base surcharge		890-0011
Surcharge ds 20-80	per 100 mm	650-0047

PTFE [polytetrafluoroethylene]

Motors for Ex pump tubes

Safe drive solutions for potentially explosive atmospheres

The motors of the Ex series are specifically designed for use with progressive cavity pump tubes in potentially explosive atmospheres. They enable safe and reliable pumping of flammable and highly viscous media. Depending on the application, electric motors and compressed air motors are available.

- designed for potentially explosive atmospheres in accordance with ATEX
- safe pumping of flammable liquids
- robust design for industrial applications
- low-maintenance and durable construction
- reliable power transmission even with highly viscous media
- quick-change coupling [SWK] for flexible handling
- various power and speed versions available

Electric Ex motors

- various speed and power versions available
- suitable for hazardous areas in accordance with ATEX
- safe transfer of flammable liquids
- robust design for industrial applications
- quick-change coupling [SWK] for flexible handling

Three-phase motor, 700 rpm | SWK



- 230/400 V, 50 Hz
- with terminal box
- without switch and connection cable
- protection rating: IP 55

Version	Power kW	Rated current A	Speed rpm	Item no.
Ex-SWK 700	0.65	3.9/2.25	700	530-0043
Ex-SWK 700	0.95	4.7/2.70	700	530-0044
Ex-SWK 700	1.35	6.6/3.75	700	530-0095

Three-phase motor, 900 rpm | SWK



- 230/400 V, 50 Hz
- with terminal box
- without switch and connection cable
- protection rating: IP 55

Version	Power kW	Rated current A	Speed rpm	Item no.
Ex-SWK 900	0.65	3.4/1.95	900	530-0051
Ex-SWK 900	0.95	4.5/2.60	900	530-0045
Ex-SWK 900	1.35	6.6/3.75	900	530-0046

Motor with hydrostatic variable-speed gearbox, variable speed | SWK



- 230/400 V, 50 Hz
- variable output speed n2: 50-900 rpm, infinitely adjustable
- handwheel adjustment with dial indicator
- ATEX II 2G e IIc T4/ II GD X T4
- flange 200 mm
- protection rating: IP 55

Version	Power kW	Rated current A	Speed rpm	Item no.
mit hydrostatischem Verstellgetriebe Ex	0.55	1.6	50-900	550-0160

All prices ex works, excluding transport packaging, plus statutory VAT. | The general terms and conditions of sale and delivery apply.

Motors for Ex pump tubes

Safe drive solutions for potentially explosive atmospheres

Compressed air motors

The compressed-air motors of the SWK / EX series are particularly suitable for applications where electric drives cannot be used. They enable safe and reliable operation even under demanding operating conditions.

- ideal for potentially explosive atmospheres
- safe operation without electrical components
- infinitely variable control via the compressed-air supply
- low-maintenance and durable in continuous operation
- suitable for highly viscous and flammable media



Compressed air motor, 900 rpm | SWK

- speed: 900 rpm
- with silencer
- without actuating valve

Version	Power kW	Rated current A	Item no.
SWK Compressed air motor D4	0.6	900	520-0009
SWK Compressed air motor D6	1.1	900	520-0010
SWK Compressed air motor D8	1.7	900	520-0012

Accessories

for Ex motors

You will find our complete range of accessories from pages 72|73 onward!

Ex plug connections



- 5-pole version
- 16 A

Version	Type	Item no.
CEE plug, 5-pole	CEAG	815-0011
CEE plug, 5-pole	STAHL	815-0002
CEE socket	CEAG	815-0012
CEE socket	STAHL	815-0004

Additional equipment



Retaining bracket, equipotential bonding cable

Version	Item no.
Stainless steel retaining bracket	745-0198
Equipotential bonding cable with clamp (mandatory in potentially explosive environments)	815-0005

Product note

Ex motor protection switch

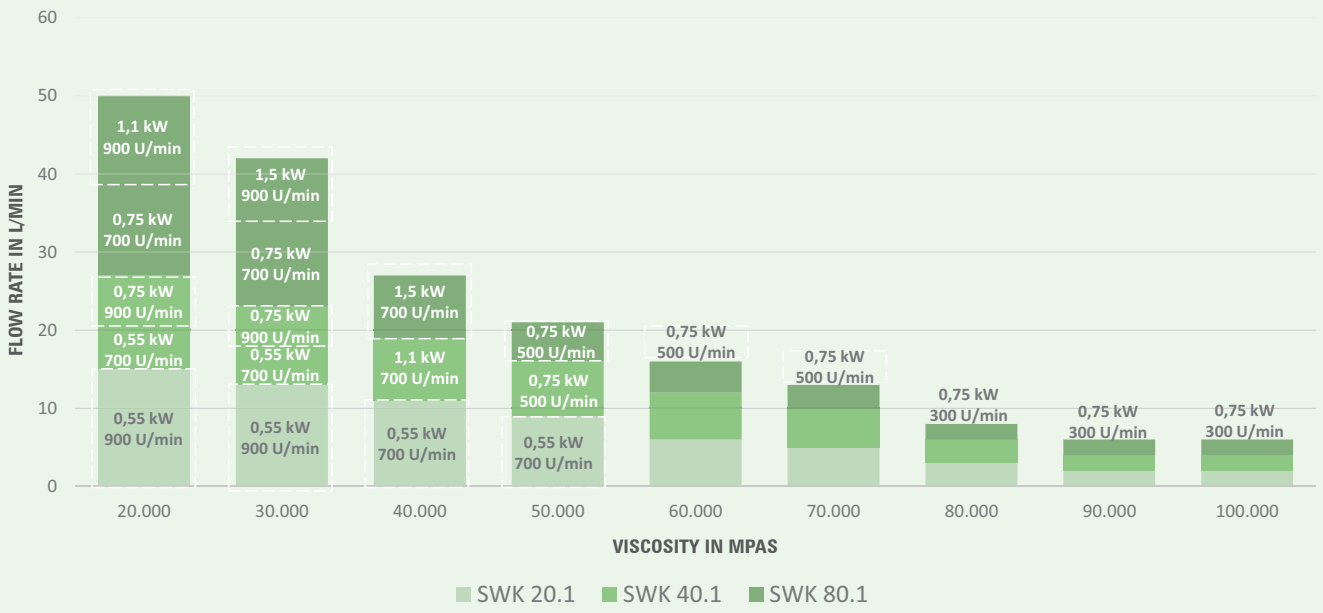


Ex motor protection switches for explosion-protected motors are available on request.

➔ **Please contact us** -
we will be happy to advise you on the appropriate version.

Selection guide for highly viscous media

Pump selection by viscosity and flow rate



Maximum permissible pressure = 6 bar
Values apply with free discharge at the pressure outlet
Flow rate depends on the flow characteristics of the respective medium

Product note

Systematic custom solutions

Pump systems for special requirements

Special pumping tasks require special solutions. We develop pump systems tailored precisely to your application. Looking for a custom solution? Contact us!



Horizontal eccentric screw pump

- suitable for highly viscous and thick media
- enables uniform and product-friendly transfer
- ideal for stationary or mobile applications with limited installation height



Ram press with follower plate

- enables virtually complete emptying of pails and drums
- ideal for highly viscous, pasty and poorly flowing media
- supports controlled and clean transfer using the follower plate

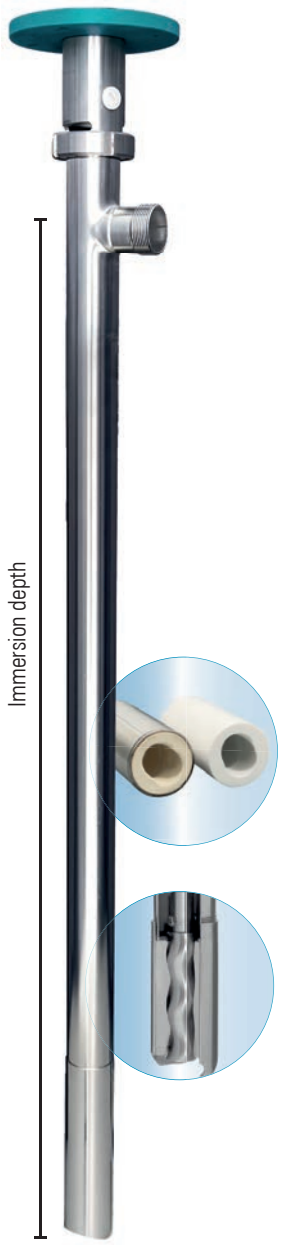
Eccentric screw pump Starr

Rigid version - compact solution for stationary applications

In the rigidly connected version, the motor and pump tube form a permanently connected unit. The compact design provides high stability and is particularly suitable for stationary applications where pump changes are infrequent.

This version is preferably used in tanks and installations where lifting equipment is available and the pump is moved only occasionally.

- compact and stable design
- ideal for stationary applications and plant engineering
- low installation height above the pressure outlet
- low-maintenance design with few components
- robust version for continuous industrial operation



with mechanical seal [GLRD]

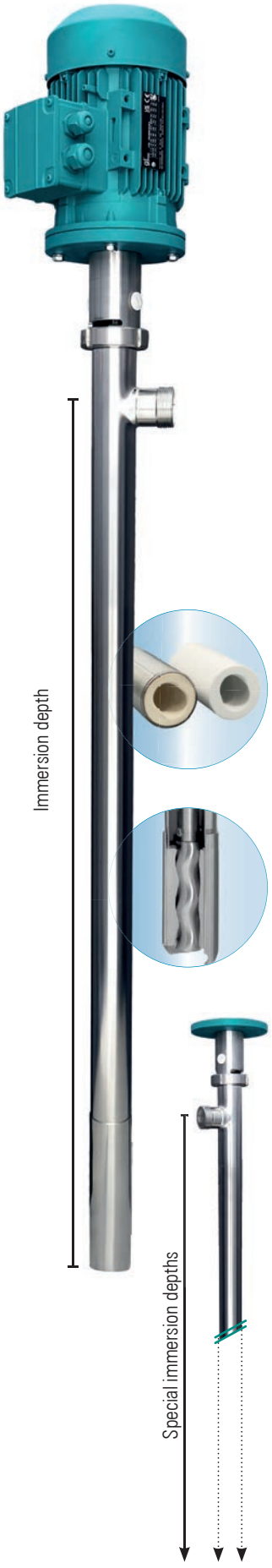
- pump tube Ø: 54 mm
- stator optionally in PTFE or NBR
- standard immersion depths: 1000, 1100 or 1200 mm
- shaft: stainless steel

Version	Immersion depth mm	Stator	Item no.
Rotor 20.1			
ds 20.1-starr-PTFE-GLRD-1000	1000	PTFE	650-0316
ds 20.1-starr-PTFE-GLRD-1100	1100	PTFE	650-0416
ds 20.1-starr-PTFE-GLRD-1200	1200	PTFE	650-0416.12
ds 20.1-starr-NBR-hell-GLRD-1000	1000	light NBR	650-0300
ds 20.1-starr-NBR-hell-GLRD-1100	1100	light NBR	650-0400
ds 20.1-starr-NBR-hell-GLRD-1200	1200	light NBR	650-0400.12
Rotor 40.1			
ds 40.1-starr-PTFE-GLRD-1000	1000	PTFE	650-0317
ds 40.1-starr-PTFE-GLRD-1100	1100	PTFE	650-0417
ds 40.1-starr-PTFE-GLRD-1200	1200	PTFE	650-0417.12
ds 40.1-starr-NBR-hell-GLRD-1000	1000	light NBR	650-0301
ds 40.1-starr-NBR-hell-GLRD-1100	1100	light NBR	650-0401
ds 40.1-starr-NBR-hell-GLRD-1200	1200	light NBR	650-0401.12
Rotor 40.2			
ds 40.2-starr-PTFE-GLRD-1100	1100	PTFE	650-0318
ds 40.2-starr-PTFE-GLRD-1200	1200	PTFE	650-0418
ds 40.2-starr-NBR-hell-GLRD-1100	1100	light NBR	650-0302
ds 40.2-starr-NBR-hell-GLRD-1200	1200	light NBR	650-0402
Rotor 80.1			
ds 80.1-starr-PTFE-GLRD-1100	1100	PTFE	650-0319
ds 80.1-starr-PTFE-GLRD-1200	1200	PTFE	650-0419
ds 80.1-starr-NBR-hell-GLRD-1100	1100	light NBR	650-0303
ds 80.1-starr-NBR-hell-GLRD-1200	1200	light NBR	650-0403

PTFE [polytetrafluoroethylene], NBR [nitrile butadiene rubber]

Eccentric screw pump Starr

Rigid version - compact solution for stationary applications



with gland packing [SB]

- pump tube Ø: 54 mm
- stator in PTFE or NBR
- standard immersion depths: 1000, 1100 or 1200 mm
- shaft: stainless steel

Version	Immersion depth mm	Stator	Item no.
ds 20.1			
ds 20.1-starr-PTFE-SB-1000	1000	PTFE	650-0320
ds 20.1-starr-PTFE-SB-1100	1100	PTFE	650-0420
ds 20.1-starr-NBR-hell-SB-1000	1000	light NBR	650-0304
ds 20.1-starr-NBR-hell-SB-1100	1100	light NBR	650-0404
ds 40.1			
ds 40.1-starr-PTFE-SB-1000	1000	PTFE	650-0321
ds 40.1-starr-PTFE-SB-1100	1100	PTFE	650-0421
ds 40.1-starr-NBR-hell-SB-1000	1000	light NBR	650-0305
ds 40.1-starr-NBR-hell-SB-1100	1100	light NBR	650-0405
ds 40.2			
ds 40.2-starr-PTFE-SB-1100	1100	PTFE	650-0322
ds 40.2-starr-PTFE-SB-1200	1200	PTFE	650-0422
ds 40.2-starr-NBR-hell-SB-1100	1100	light NBR	650-0306
ds 40.2-starr-NBR-hell-SB-1200	1200	light NBR	650-0406
ds 80.1			
ds 80.1-starr-PTFE-SB-1100	1100	PTFE	650-0323
ds 80.1-starr-PTFE-SB-1200	1200	PTFE	650-0423
ds 80.1-starr-NBR-hell-SB-1100	1100	light NBR	650-0307
ds 80.1-starr-NBR-hell-SB-1200	1200	light NBR	650-0407

Special immersion depths

Surcharge for special lengths of eccentric screw pump tubes ds 20.1... 80.1 | Ø 54 mm

Version	Length mm	Item no.
Base surcharge		890-0011
Surcharge ds 20-80	per 100 mm	650-0047

PTFE [polytetrafluoroethylene], NBR [nitrile butadiene rubber]

All prices ex works, excluding transport packaging, plus statutory VAT. | The general terms and conditions of sale and delivery apply.

Motors for rigid pump tubes

Compact drive solutions for stationary applications

The motors of the rigidly connected series are specifically designed for stationary use with progressive cavity pump tubes. Motor and pump tube form a compact, robust unit for reliable pumping of highly viscous media.

Depending on the application, drive motors with 700 or 900 rpm are available.

- motor and pump tube as a permanently connected unit
- robust design for industrial applications
- compact design with low installation height
- suitable for stationary applications and plant engineering
- reliable power transmission even with highly viscous media
- various power versions available
- optionally available in an explosion-protected version

Universal drive motor | Starr (rigid)

- 230/400 V, 50 Hz
- speed: either 900 or 700 rpm
- with terminal box
- without switch and connection cable
- protection rating: IP 55



Version	Power kW	Rated current A	Speed rpm	Item no.
starr 900	0.55	2.8/1.6	900	530-0106
starr 900	0.75	3.7/2.1	900	530-0107
starr 900	1.1	5.0/2.9	900	530-0108
starr 900	1.5	6.8/3.9	900	530-0109
starr 700	0.37	1.96/1.13	700	530-0101
starr 700	0.55	2.75/1.58	700	530-0102
starr 700	0.75	3.75/2.60	700	530-0103
starr 700	1.1	5.0/3.0	700	530-0104
starr 700	1.5	6.7/3.85	700	530-0105

Accessories

Motor protection switch:

- with 5 m connection cable, 5-pole CEE plug, 16 A
- protection rating: IP 55





Version	Rated current A	Item no.
Motor protection switch	1.0-1.6	810-0023
Motor protection switch	1.6-2.5	810-0021
Motor protection switch	2.5-4.0	810-0022
Stainless-steel retaining bracket		745-0198

All prices ex works, excluding transport packaging, plus statutory VAT. | The general terms and conditions of sale and delivery apply.

Accessories

for eccentric screw pumps

You will find our complete range of accessories from pages 72 | 73 onward!

Our coordinated range of accessories allows eccentric screw pumps to be optimally adapted to different applications and pumped media. From hose connections and adapters to seals and frequency inverters through to flow meters and solenoid valves, practical components are available for industrial use.







Additional equipment

Seal Kits, strainers, adapters, clamping devices and more

Version	Material	Item no.
Special O-ring materials for pump tubes with mechanical seal [ds-GLRD]		
FDA seal kit (Niro/GLRD-R, SB40)	EPDM	840-0214.18
FDA seal kit (Ø=52 mm)	EPDM	840-0201
FDA seal kit (Ø=52 mm)	FKM/FEP	840-0224
Seal kit (Ø=52 mm)	FFKM	840-0178
Surcharge for hardened rotor ds		
Base surcharge		650-0125
Strainer - keeps larger objects out		
Ø 54 mm	Stainless steel	840-0094
ds 8.1/4.2	Stainless steel	840-0252
Additional accessories		
Bypass system 1"	Brass	840-0273
Ball valve IG 1" - IG 1", ES (limit switch)	Stainless steel	825-0147.ES
Inliner protective plate, Ø 54 mm		745-0201







Hose systems

Hose connectors, hose fittings, hose clamps

Version	Material	Thread	Item no.
Hose connector with union nut			
Hose connector DN 32	Stainless steel	IG 1 ½"	825-0081
Hose connector DN 38	Stainless steel	IG 1 ½"	825-0082
Hose fittings			
for DN 32	Stainless steel	IG 1 ½"	825-0137
for DN 38	Stainless steel	IG 1 ½"	825-0138
Stainless steel hose clamps V2A			
Hose clamp DN 40-60	Stainless steel		825-0043



Adapters

Drum and container adapters (IBC)

Version	Material	Item no.
Drum adapter Ø 52 mm, AG 2"	Edelstahl	840-0112
IBC adapter Ø 150/52 mm	PP	840-0181

FEP [fluorinated ethylene propylene], EPDM [ethylene propylene diene rubber], PVDF [polyvinylidene fluoride]

Accessories

for eccentric screw pumps

You will find our complete range of accessories from pages 72|73 onward!

Plastic flow meters

- electronic flow meter
- flow rate: 10–100 l/min
- for media up to 2,000 mPas
- max. operating pressure 4 bar
- max. temperature 40 °C
- connection: inlet AG 2" / outlet AG 1 1/4"
- protection rating: IP 54



Version	Ex	Item no.
Flow meter Type ST10	no	860-001310
Flow meter Type SL10	no	860-001410
Flow meter Type LM-Ex10	**yes**	860-001610
Flow meter Type UN-Ex10	**yes**	860-001710

Stainless steel flow meters

- electronic flow meter
- flow rate: 10–90 l/min
- for media up to 10,000 mPas
- max. operating pressure 10 bar
- max. temperature 60 °C
- connection: inlet AG 1 ¼" / outlet AG 1 ¼"
- protection rating: IP 54



Version	Ex	Item no.
Flow meter Type VA10	no	860-001510
Flow meter Type VA-Ex10	**yes**	860-001810

Relay modules

- meter extension for quantity preset
- 230/240 V, 50/60 Hz
- protection rating: IP 44





Version	Ex	Item no.
RM10	no	860-006410
RM-Ex 1: 1 x 4 A	**yes**	860-0047
RM-Ex 2: 1 x 4 A, 1 x 0,4 A	**yes**	860-0048

Connection cables for relay modules

- for relay modules RM1 / RM10 and RM-Ex
- for mains, motor and solenoid-valve connections
- various connection options available
- Ex versions for hazardous areas







Version	Length	Item no.
for standard relay modules RM1/RM10		
Connection cable for power supply	5 m	860-0025
Connection cable for motor / valve, single	0,5 m	860-0026
Connection cable with PG 9 plug	5 m	860-0028
for Ex relay modules RM-Ex1/RM-Ex2		
Ex connection cable with CEAG plug	5 m	860-0049
Ex connection cable with STAHL plug	5 m	860-0050
Ex connection cable for motor / solenoid valve	3 m	860-0051

Accessories

for eccentric screw pumps

Solenoid valves for high accuracy

- for precise pumping and dosing tasks
- various material versions available
- direct-acting or servo-controlled versions
- versions for hazardous areas available



Version	Pressure range	Connection	Ex	Item no.
Standard versions				
servo-controlled (s), PP/FKM	0.3 - 6.0 bar	IG ¾"	no	860-0043
direct-acting (d), PP/FKM	0.0 - 0.5 bar	IG ¾"	no	860-0044
servo-controlled (s), Brass/NBR	min. 0.3 bar	IG 1"	no	860-0035
Ex version				
Stainless steel version with EPDM seal		IG 1"	**yes** (Ex)	860-0032

Connection pieces and fittings

- for flow-meter systems
- matched to drum pumps and accessory components
- plastic and stainless-steel versions available
- various connection sizes available
- easy and secure installation



Version	Connection	Item no.
Plastic meter inlet for PP pump systems		
Drum pump connection with union nut		825-0141
Drum pump connection suitable for LM/UN systems		825-0122
Stainless steel meter inlet for industrial applications		
Drum pump connection	G 1¼"	825-0123
Drum pump connection	G 1½"	825-0124

Product note

Eccentric screw pumps
Specialists for demanding pumping tasks

Ideal for highly viscous, shear-sensitive media and media containing solids.

Continuous, low-pulsation pumping ensures gentle product transfer.



Advantages at a glance:

- low-pulsation pumping
- high suction capability
- suitable for highly viscous media
- gentle product transfer
- constant pumping capacity
- precise dosing

Typical applications:

- paints and coatings
- adhesives
- emulsions and dispersions
- oils and lubricants
- cosmetics
- food additives

Questionnaire for quotation preparation

Grün-Pumpen GmbH
Philipp-Reis-Str. 3
63755 Alzenau

Tel.: +49 6023 9643-130
Fax: +49 6023 9643-139
www.gruen-pumpen.de

info@gruen-pumpen.de

1. Pumped medium (please attach data sheet if possible):

Description: _____ Chemical formula: _____

Concentration: _____ % Density: _____ g/cm³

Viscosity: _____ mPas/cP at: _____ °C Operating temperature: _____ °C

Solids content: _____ g/l ☐ hard ☐ soft Particle size: _____ mm ATEX: ☐

Does the medium tend to crystallize? ☐ yes ☐ no at: _____ °C

Which materials have proven resistant to the pumped medium based on previous experience (pipelines, containers, fittings)?

_____

2. Operating Conditions

Flow rate: _____ m³/h *or* _____ l/min Delivery head: _____ m FS/WS
(incl. piping losses)

How is the pump used? ☐ proportional ☐ stationary ☐ vertical ☐ horizontal

Immersion depth of the pump tube: _____ mm Mounting flange ☐ yes ☐ no

Container bung opening Ø: _____ mm Foot strainer ☐ yes ☐ no

Operating hours per day: _____ Frequency of starts: _____

3. Motor

☐ AC ☐ DC ☐ three-phase AC ☐ compressed air

Operating voltage: _____ Volt (V) Frequency: _____ Hz

Operating pressure: _____ bar Is explosion protection (Ex) required? ☐ yes ☐ no

Hazard class: _____ Protection rating: _____

Special requirements: _____

4. Recipient – we request: ☐ Call ☐ Quotation

First name: _____ Last name: _____ Title: _____

Company: _____ Position/Department: _____

Address: _____ Email: _____

Phone: _____ Fax: _____ Mobile: _____

Date: Signature:

grün-pumpen

Get the most out of what's inside.

Grün-Pumpen GmbH

Philipp-Reis-Straße 3
D-63755 Alzenau

Tel. +49 (0) 60 23 - 96 43 130
Fax +49 (0) 60 23 - 96 43 139

info@gruen-pumpen.de
www.gruen-pumpen.de

Commercial register: Aschaffenburg Local Court, HRB 15383
Registered office: Alzenau
Managing Directors: Julius Väth, Bernhard Väth
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