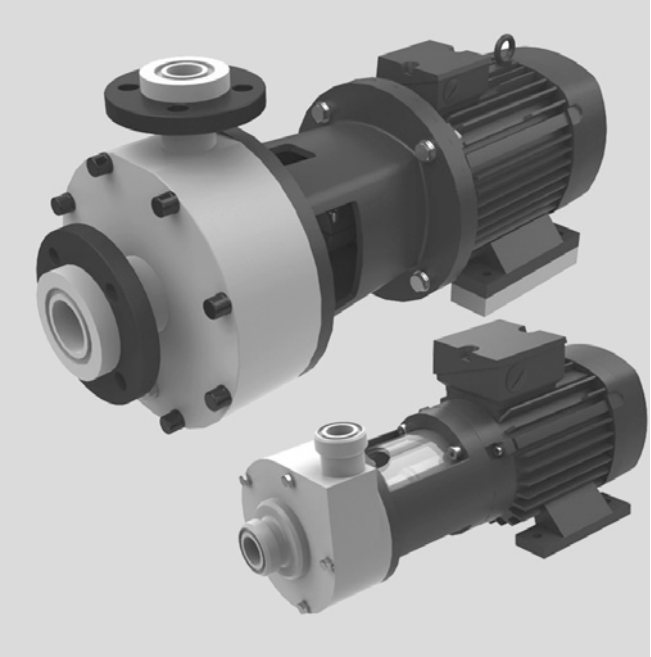
# Thermoplastic centrifugal pump Type SHB



| Technical data | |
|---|---|
| Flow rate Q (2900 rpm) | up to 130 $m^3/h$ (1450 $min^{-1}$) |
| | up to 50 $m^3/h$ (2900 $min^{-1}$) |
| Head H (2900 rpm) | up to 14 m (1450 $min^{-1}$) |
| | up to 42 m (2900 $min^{-1}$) |
| Operating temperatures | PP max. 80°C |
| | PE-HD max. 60°C |
| | PVDF max. 110°C |
| Connections | DN 15 to DN 100 |
| Motor output | up to 11 kW |

## Design

- Horizontal, single-stage pump with single flow spiral casing
- Close coupled design

## Size

- SHB 15 - 80 up to SHB 100 - 200

## Connection

- Threaded neck according to DIN 8063
- PP/Steel-Flange according ti DIN 2501

## Technical design

- Pump head directly flanged to the motor by means of a wafer flange fitting
- Housing and impeller made of PP, PE-HD or PVDF
- Stainless steel screws (1.4301)
- Closed radial impeller
- Impeller mounting independent of the rotational direction, with fluid-tight encapsulation
- Stainless steel shaft to mount the pump impeller
- Thermoplastic shaft protection sleeve
- Mechanical seal, single or double acting
- Fluid viscosity: Maximal up to 160 mPas (cP)
- Corrosion protection by a 2C paint coat

## Actuator

- Three-phase motor acc. to IEC
- Voltage 230/400 V, 50/60 Hz
- Voltage 400/690 V, 50/60 Hz upto 3 kW
- Design IM B34/B35, depending on size
- Protection type IP 55
- Rotational speed n= 1450 rpm or 2900 rpm
- Fast pump installation into the pipeline system, alignment of pump and motor not required

## Options/Accessories

- ASV pump monitor
- Self-priming container for self-priming (Not self-priming as standard)
- Circulation

## Application

- Chemical plants
- Water treatment
- Process engineering

## Utilisation

- For transportation of neutral or aggressive fluids provided that the components coming into contact with the medium are resistant at the operating temperature according to the ASV resistance guide.



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## Fluid viscosity

- Maximal up to 160 mPas (cP)

## Examinations

- DIN EN ISO 9906

## Performance data

- see characteristic curves

## Structural design

- The close coupled thermoplastic pump SHB from ASV is a single-stage, single flow pump in a spiral casing of horizontal design.
- Pump head directly flanged to the motor by means of a wafer flange fitting; standardised motor (IEC standard).
- The ASV close coupled motor pump can be easily integrated in the pipeline system.
- The hydraulic system of the close coupled motor pump from ASV is manufactured from only a few solid thermoplastic components to ensure its high operating reliability. Corrosion - and wear - resistant plastics, such as polypropylene (PP), polyethylene (PE-HD) or polyvinylidene fluoride (PVDF) are used for this purpose.

## Suction

- The pump is not self-priming. The fluid has to run freely into the pump.
- The pump can only selfprime with an additionally installed ASV self-priming tank.
- Documentation of the tanks are available on request.

## Impeller

- Closed radial impeller.
- The impeller is fitted to allow both rotational directions by means of an embedded metal hub and feather key connection between impeller and shaft.
- The impeller mounting is sealed by means of a plastic impeller hub cap with an O ring inserted.

## Shaft

- The especially bending resistant stainless steel pump shaft guarantees fault-free operation and creates optimum operating conditions for the mechanical seal.
- The shaft designed either as a plug-type shaft or with a coupling, is connected to the pump drive motor.

## Shaft protection sleeve

- PP, PE-HD or PVDF, depending on the conveyed fluid.

## Shaft sealing

- The shaft is sealed by a single or double mechanical seal.
- Circulation, flushing, quench or sealing liquid depending on the individual application.
- Sliding bearing material: silicon carbide against silicon carbide (SIC/SIC). O-rings and liner made of FPM or CSM, metal components as standard made of stainless steel (V4A) or Hastelloy as an option. This combination is extremely reliable and covers a wide range of applications.
- Materials in different combinations are also available.

## Painting

- All metal components not made of stainless steel are corrosion protected by multiple coating with a high-quality 2C protection lacquer.

## Screws

- stainless steel as standard (1.4301)




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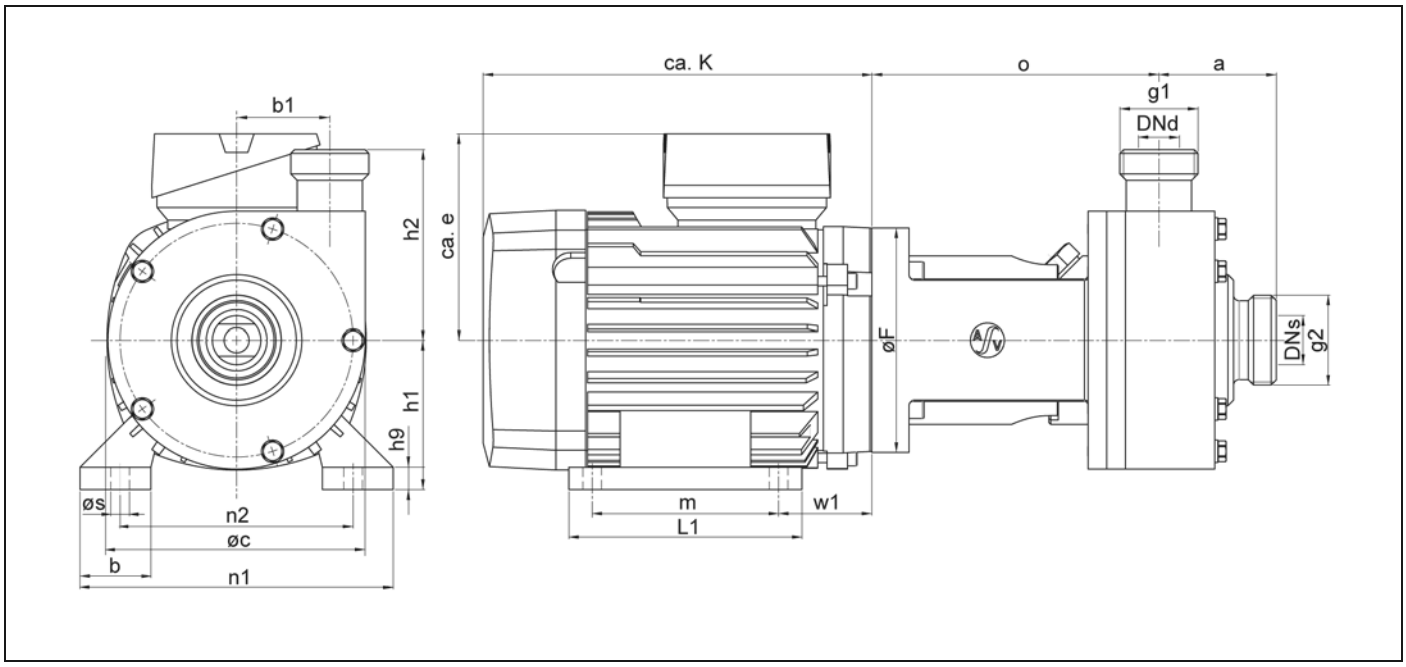
## Dimensions SHB 15-80 up to 25-125




### Dimensions: threaded neck

| Type | Pressure connection | | Suction connection | | Dimensions (mm) | | | |
|---|---|---|---|---|---|---|---|---|
| SHB | DNd | g1 | DNs | g2 | a | b1 | øC | h2 |
| 15 - 80 | 15 | 1" | 20 | 1 1/4" | 63 | 40 | 120 | 93 |
| 20 - 100 | 20 | 1 1/4" | 25 | 1 1/2" | 63 | 50 | 138 | 102 |
| 25 - 125 | 25 | 1 1/2" | 32 | 2" | 60 | 58 | 160 | 112 |

| Type | Motor output | Rotat. speed | Motor size | e | b | øF | h1 | h9 | K | L1 | m |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SHB | kW | min-1 | | mm | mm | mm | mm | mm | mm | mm | mm |
| 15-80 | 0,37 | 2900 | 71 | 109 | 26 | 140 | 71 | 8 | 215 | 110 | 90 |
| 15-80 | 0,55 | 2900 | 71 | 109 | 26 | 140 | 71 | 8 | 215 | 110 | 90 |
| 20-100 | 0,55 | 2900 | 71 | 109 | 26 | 140 | 71 | 8 | 215 | 110 | 90 |
| 20-100 | 0,75 | 2900 | 80 | 114 | 35 | 120 | 80 | 9 | 247 | 125 | 100 |
| 25-125 | 1,10 | 1450 | 90S | 130 | 40 | 160 | 90 | 10 | 265 | 125 | 100 |
| 25-125 | 1,10 | 2900 | 80 | 114 | 35 | 160 | 80 | 9 | 247 | 125 | 100 |
| 25-125 | 1,50 | 2900 | 90S | 130 | 40 | 160 | 90 | 10 | 265 | 125 | 100 |

| Type | Motor output | Rotat. speed | n1 | n2 | o | øs | w1 | Motor size | Pump Weight | Motor Weight | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SHB | kW | min-1 | mm | mm | mm | mm | mm | | ~kg | ~kg | ~kg |
| 15-80 | 0,37 | 2900 | 150 | 112 | 144 | 7 | 45 | 71 | 3,2 | 6 | 9,2 |
| 15-80 | 0,55 | 2900 | 150 | 112 | 144 | 7 | 45 | 71 | 3,2 | 6,5 | 9,7 |
| 20-100 | 0,55 | 2900 | 150 | 112 | 144 | 7 | 45 | 71 | 3,6 | 6,5 | 10,1 |
| 20-100 | 0,75 | 2900 | 165 | 125 | 154 | 10 | 50 | 80 | 3,9 | 8,7 | 12,6 |
| 25-125 | 1,1 | 1450 | 180 | 140 | 168 | 10 | 56 | 90S | 5,2 | 12 | 17,2 |
| 25-125 | 1,1 | 2900 | 165 | 125 | 168 | 10 | 50 | 80 | 5,2 | 9,5 | 14,7 |
| 25-125 | 1,5 | 2900 | 180 | 140 | 168 | 10 | 56 | 90S | 5,2 | 11,8 | 17 |



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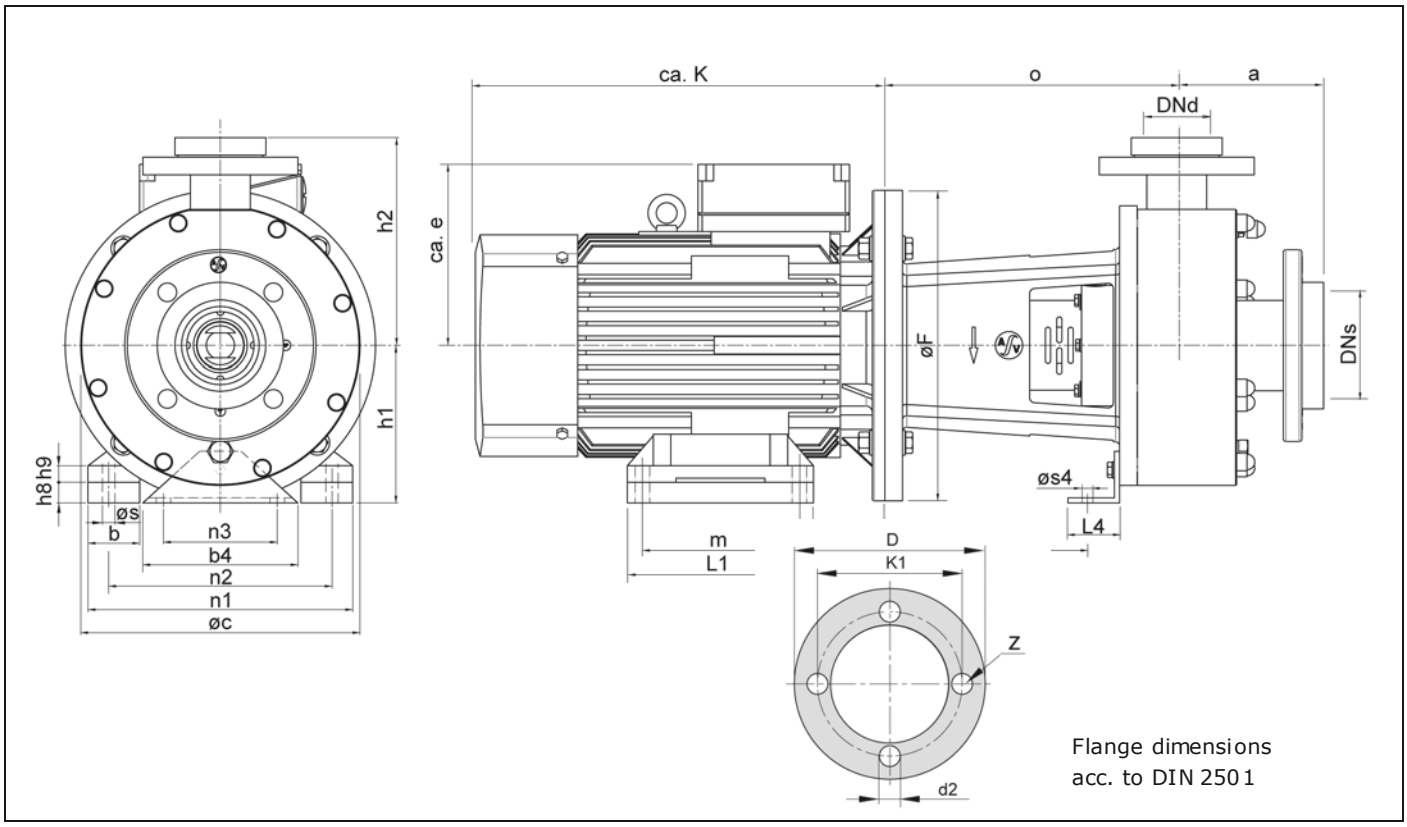
## Dimensions SHB 32-125 up to 100-200




### Dimensions: threaded neck

| Type | Pressure connection | | | | Suction connection | | | | Dimension (mm) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SHB | DNd | g1 | | | DNs | g2 | | | a | øC | h2 |
| 32-125 | 32 | 2" | | | 50 | 2 3/4" | | | 97 | 224 | 153,5 |
| 32-180 | 32 | 2" | | | 50 | 2 3/4" | | | 106 | 270 | 176,5 |
| 40-125 | 40 | 2 1/4" | | | 65 | 3 1/2" | | | 97,5 | 224 | 145,0 |
| 40-180 | 40 | 2 1/4" | | | 65 | 3 1/2" | | | 106 | 270 | 177,5 |

### Dimensions: Flange connection

| Type | Pressure connection | | | | Suction connection | | | | Dimension (mm) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SHB | DNd | d2d | K1d | Zd | DNs | d2s | K1s | Zs | a | øC | h2 |
| 32-125 | 32 | 18 | 100 | 4 | 50 | 18 | 125 | 4 | 132 | 224 | 177,5 |
| 32-180 | 32 | 18 | 100 | 4 | 50 | 18 | 125 | 4 | 141 | 270 | 200,5 |
| 40-125 | 40 | 18 | 110 | 4 | 65 | 18 | 145 | 4 | 133,5 | 224 | 177,5 |
| 40-180 | 40 | 18 | 110 | 4 | 65 | 18 | 145 | 4 | 142 | 270 | 201 |
| 50-125 | 50 | 18 | 125 | 4 | 80 | 18 | 160 | 8 | 170 | 270 | 208 |
| 50-180 | 50 | 18 | 125 | 4 | 80 | 18 | 160 | 8 | 166 | 300 | 223 |

| Type | Motor output | Rotat. speed | Motor size | b | b4 | e | øF | h1 | h8 | h9 | K | L1 | L4 | m | n1 | n2 | n3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SHB | kW | min-1 | | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm |
| 32 - 125 | 1,1 | 1450 | 90S | 40 | - | 120 | 200 | 115 | 25 | 14 | 265 | 130 | - | 100 | 178 | 140 | - |
| 32 - 125 | 1,5 | 2900 | 90S | 40 | - | 120 | 200 | 115 | 25 | 14 | 265 | 130 | - | 100 | 178 | 140 | - |
| 32 - 125 | 2,2 | 2900 | 90L | 40 | - | 120 | 200 | 115 | 25 | 14 | 290 | 155 | - | 125 | 178 | 140 | - |
| 32 - 125 | 3 | 2900 | 100L | 45 | - | 127 | 250 | 127 | 27 | 15 | 325 | 175 | - | 140 | 192 | 160 | - |
| 32 - 125 | 4 | 2900 | 112M | 50 | - | 137 | 250 | 127 | 15 | 18 | 340 | 180 | - | 140 | 224 | 190 | - |
| 40 - 125 | 1,5 | 1450 | 90L | 40 | - | 120 | 200 | 115 | 25 | 14 | 290 | 155 | - | 125 | 178 | 140 | - |
| 40 - 125 | 1,5 | 2900 | 90S | 40 | - | 120 | 200 | 115 | 25 | 14 | 265 | 130 | - | 100 | 178 | 140 | - |
| 40 - 125 | 2,2 | 2900 | 90L | 40 | - | 120 | 200 | 115 | 25 | 14 | 290 | 155 | - | 125 | 178 | 140 | - |
| 40 - 125 | 3 | 2900 | 100L | 45 | - | 127 | 250 | 127 | 27 | 15 | 325 | 175 | - | 140 | 192 | 160 | - |

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| Type | Motor output | Rotat. speed | Motor size | b | b4 | e | øF | h1 | h8 | h9 | K | L1 | L4 | m | n1 | n2 | n3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 40 - 125 | 4 | 2900 | 112M | 50 | - | 137 | 250 | 127 | 15 | 18 | 340 | 180 | - | 140 | 224 | 190 | - |
| 32 - 180 | 1,5 | 1450 | 90L | 40 | 101 | 140 | 200 | 136 | 46 | 14 | 290 | 155 | 40 | 125 | 178 | 140 | 70 |
| 32 - 180 | 1,5 | 2900 | 90S | 40 | 101 | 140 | 200 | 136 | 46 | 14 | 265 | 130 | 40 | 100 | 178 | 140 | 70 |
| 32 - 180 | 2,2 | 2900 | 90L | 40 | 101 | 140 | 200 | 136 | 46 | 14 | 290 | 155 | 40 | 125 | 178 | 140 | 70 |
| 32 - 180 | 3 | 2900 | 100L | 45 | 101 | 160 | 250 | 136 | 36 | 15 | 325 | 175 | 40 | 140 | 192 | 160 | 70 |
| 32 - 180 | 4 | 2900 | 112M | 50 | 101 | 178 | 250 | 136 | 24 | 18 | 340 | 180 | 40 | 140 | 224 | 190 | 70 |
| 32 - 180 | 5,5 | 2900 | 132S | 50 | 150 | 206 | 300 | 152 | 20 | 16 | 403 | 180 | 50 | 140 | 256 | 216 | 110 |
| 32 - 180 | 7,5 | 2900 | 132S | 50 | 150 | 206 | 300 | 152 | 20 | 16 | 403 | 180 | 50 | 140 | 256 | 216 | 110 |
| 40 - 180 | 1,5 | 1450 | 90L | 40 | 101 | 140 | 200 | 136 | 46 | 14 | 290 | 155 | 40 | 125 | 178 | 140 | 70 |
| 40 - 180 | 2,2 | 1450 | 100L | 45 | 101 | 160 | 250 | 136 | 36 | 15 | 325 | 175 | 40 | 140 | 192 | 160 | 70 |
| 40 - 180 | 3 | 2900 | 100L | 45 | 101 | 160 | 250 | 136 | 36 | 15 | 325 | 175 | 40 | 140 | 192 | 160 | 70 |
| 40 - 180 | 4 | 2900 | 112M | 50 | 101 | 178 | 250 | 136 | 24 | 18 | 340 | 180 | 40 | 140 | 224 | 190 | 70 |
| 40 - 180 | 5,5 | 2900 | 132S | 50 | 150 | 206 | 300 | 152 | 20 | 16 | 403 | 180 | 50 | 140 | 256 | 216 | 110 |
| 40 - 180 | 7,5 | 2900 | 132S | 50 | 150 | 206 | 300 | 152 | 20 | 16 | 403 | 180 | 50 | 140 | 256 | 216 | 110 |
| 50 - 180 | 2,2 | 1450 | 100L | 45 | 150 | 160 | 250 | 152 | 52 | 15 | 325 | 175 | 50 | 140 | 192 | 160 | 110 |
| 50 - 180 | 3 | 1450 | 100L | 45 | 150 | 160 | 250 | 152 | 52 | 11 | 325 | 175 | 50 | 140 | 192 | 160 | 110 |
| 50 - 180 | 4 | 1450 | 112M | 50 | 150 | 178 | 250 | 152 | 40 | 18 | 340 | 180 | 50 | 140 | 224 | 190 | 110 |
| 50 - 180 | 4 | 2900 | 112M | 50 | 150 | 178 | 250 | 152 | 40 | 18 | 340 | 180 | 50 | 140 | 224 | 190 | 110 |
| 50 - 180 | 5,5 | 2900 | 132S | 50 | 150 | 206 | 300 | 152 | 20 | 16 | 403 | 180 | 50 | 140 | 256 | 216 | 110 |
| 50 - 180 | 7,5 | 2900 | 132S | 50 | 150 | 206 | 300 | 152 | 20 | 16 | 403 | 180 | 50 | 140 | 256 | 216 | 110 |
| 100 - 200 | 7,5 | 1450 | 132S | 50 | 150 | 206 | 300 | 172 | 20 | 16 | 396 | 180 | 50 | 140 | 256 | 216 | 110 |
| 100 - 200 | 11 | 1450 | 160M | 50 | 150 | 223 | 300 | 172 | 12 | 18 | 447 | 257 | 50 | 210 | 256 | 254 | 110 |

| Type | Motor output | Rotat. speed | Motor size | o | øs | øs4 | w1 | w2 | Pump Weight* | Motor Weight | total Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SHB | kW | min-1 | | mm | mm | mm | mm | mm | ~kg | ~kg | ~kg |
| 32 - 125 | 1,1 | 1450 | 90S | 200 | 10 | - | 56 | - | 16,3 | 12 | 28,3 |
| 32 - 125 | 1,5 | 2900 | 90S | 200 | 10 | - | 56 | - | 16,3 | 11,8 | 28,1 |
| 32 - 125 | 2,2 | 2900 | 90L | 200 | 10 | - | 56 | - | 16,3 | 13,5 | 29,8 |
| 32 - 125 | 3 | 2900 | 100L | 210 | 12 | - | 63 | - | 18,4 | 21 | 39,4 |
| 32 - 125 | 4 | 2900 | 112M | 210 | 12 | - | 70 | - | 18,4 | 28 | 46,4 |
| 40 - 125 | 1,5 | 1450 | 90L | 202,5 | 10 | - | 56 | - | 16,7 | 13,8 | 30,5 |
| 40 - 125 | 1,5 | 2900 | 90S | 202,5 | 10 | - | 56 | - | 16,7 | 11,8 | 28,5 |
| 40 - 125 | 2,2 | 2900 | 90L | 202,5 | 10 | - | 56 | - | 16,7 | 13,5 | 30,2 |
| 40 - 125 | 3 | 2900 | 100L | 212,5 | 12 | - | 63 | - | 18,8 | 21 | 39,8 |
| 40 - 125 | 4 | 2900 | 112M | 212,5 | 12 | - | 70 | - | 18,8 | 28 | 46,8 |
| 32 - 180 | 1,5 | 1450 | 90L | 249 | 10 | 12 | 56 | 177,5 | 25,8 | 13,8 | 39,6 |
| 32 - 180 | 1,5 | 2900 | 90S | 249 | 10 | 12 | 56 | 177,5 | 25,8 | 11,8 | 37,6 |
| 32 - 180 | 2,2 | 2900 | 90L | 249 | 10 | 12 | 56 | 177,5 | 25,8 | 13,5 | 39,3 |
| 32 - 180 | 3 | 2900 | 100L | 259 | 12 | 12 | 63 | 187,5 | 27,2 | 21 | 48,2 |
| 32 - 180 | 4 | 2900 | 112M | 259 | 12 | 12 | 70 | 187,5 | 27,2 | 28 | 55,2 |
| 32 - 180 | 5,5 | 2900 | 132S | 279 | 12 | 14 | 89 | 207,5 | 31,3 | 39 | 70,3 |
| 32 - 180 | 7,5 | 2900 | 132S | 279 | 12 | 14 | 89 | 207,5 | 31,3 | 44,5 | 75,8 |
| 40 - 180 | 1,5 | 1450 | 90L | 252 | 10 | 12 | 56 | 177,5 | 26,2 | 13,8 | 40 |
| 40 - 180 | 2,2 | 1450 | 100L | 262 | 12 | 12 | 63 | 187,5 | 27,6 | 20,8 | 48,4 |
| 40 - 180 | 3 | 2900 | 100L | 262 | 12 | 12 | 63 | 187,5 | 27,6 | 21 | 48,6 |
| 40 - 180 | 4 | 2900 | 112M | 262 | 12 | 12 | 70 | 187,5 | 27,6 | 28 | 55,6 |
| 40 - 180 | 5,5 | 2900 | 132S | 282 | 12 | 14 | 89 | 207,5 | 31,7 | 39 | 70,7 |
| 40 - 180 | 7,5 | 2900 | 132S | 282 | 12 | 14 | 89 | 207,5 | 31,7 | 44,5 | 76,2 |
| 50 - 180 | 2,2 | 1450 | 100L | 269 | 12 | 14 | 63 | 187,5 | 32,3 | 20,8 | 53,1 |
| 50 - 180 | 3 | 1450 | 100L | 269 | 12 | 14 | 63 | 187,5 | 32,3 | 23,5 | 55,8 |
| 50 - 180 | 4 | 1450 | 112M | 269 | 12 | 14 | 70 | 187,5 | 32,3 | 29,5 | 61,8 |
| 50 - 180 | 4 | 2900 | 112M | 269 | 12 | 14 | 70 | 187,5 | 32,3 | 28 | 60,3 |
| 50 - 180 | 5,5 | 2900 | 132S | 289 | 12 | 14 | 89 | 207,5 | 36,5 | 39 | 75,5 |
| 50 - 180 | 7,5 | 2900 | 132S | 289 | 12 | 14 | 89 | 207,5 | 36,5 | 44,5 | 81 |
| 100 - 200 | 7,5 | 1450 | 132S | 310 | 12 | 15 | 69 | 214,5 | 50 | 44,5 | 94,5 |
| 100 - 200 | 11 | 1450 | 160M | 340 | 15 | 15 | 81,5 | 244,5 | 53 | 92 | 143 |



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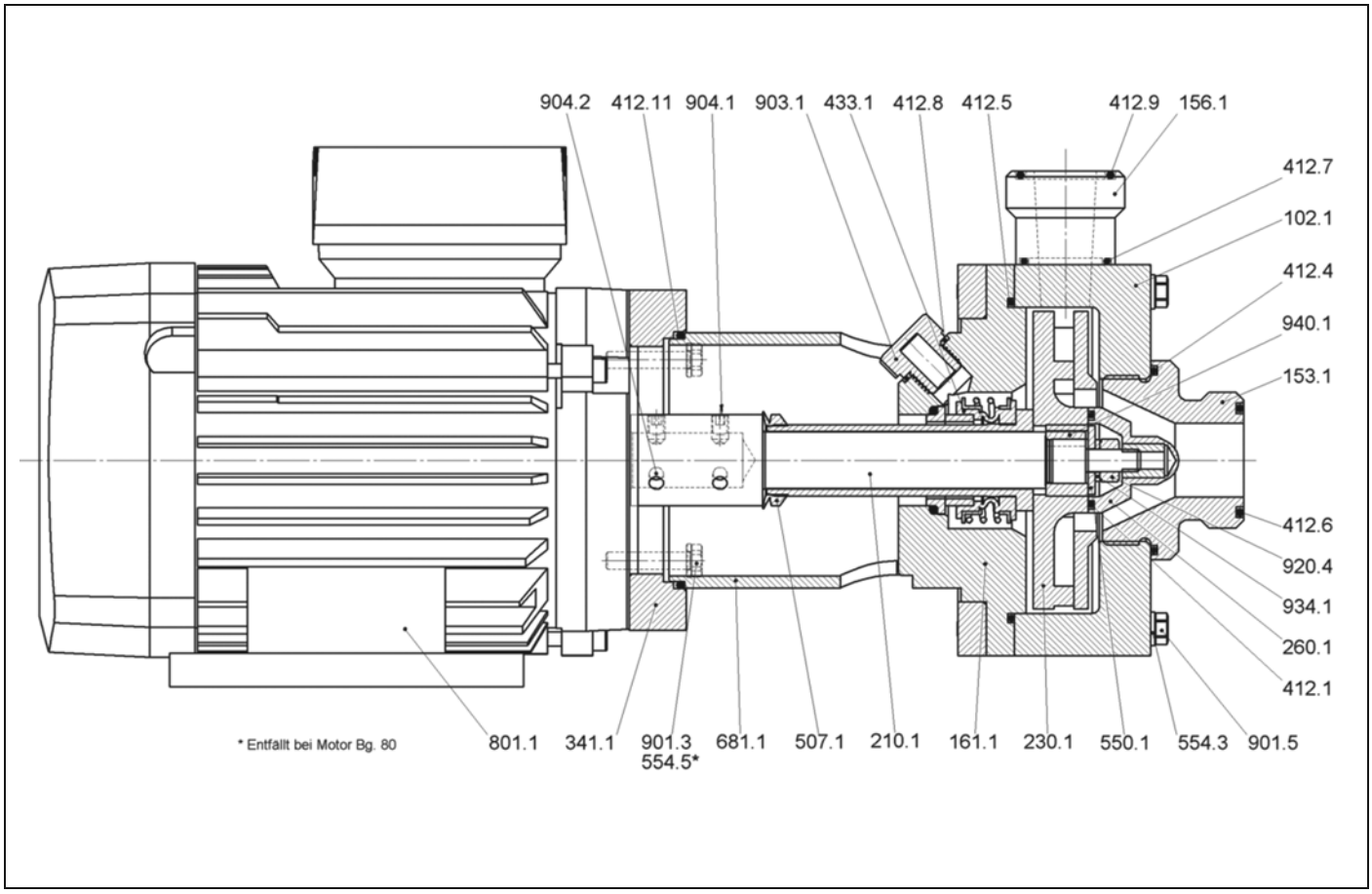
## Sectional drawing and item description

SHB 15-80 up to 25-125




| part No. | designation |
|---|---|
| 102.1 | spiral casing |
| 153.1 | suction socket |
| 156.1 | Pressure socket |
| 161.1 | casing cover |
| 210.1 | shaft |
| 230.1 | impeller |
| 260.1 | impeller hub cap |
| 341.1 | drive lantern |
| 346.1 | wafer type flange |
| 412.1 | O-ring |
| 412.4 | O-ring |
| 412.5 | O-ring |
| 412.6 | O-ring |
| 412.7 | O-ring |
| 412.8 | O-ring |
| 412.9 | O-ring |
| 412.11 | O-ring |

| part No. | designation |
|---|---|
| 433.1 | mechanical seal |
| 507.1 | liquid splash ring |
| 550.1 | disc |
| 554.3 | washer |
| 554.5 | washer |
| 580.1 | protection cap |
| 681.1 | coupling protection |
| 801.1 | motor |
| 901.3 | hexagon screw |
| 901.5 | hexagon screw |
| 903.1 | plug screw |
| 904.1 | headless setscrew |
| 904.2 | headless setscrew |
| 920.4 | hexagon nut |
| 934.1 | spring washer |
| 940.1 | key |
| | |

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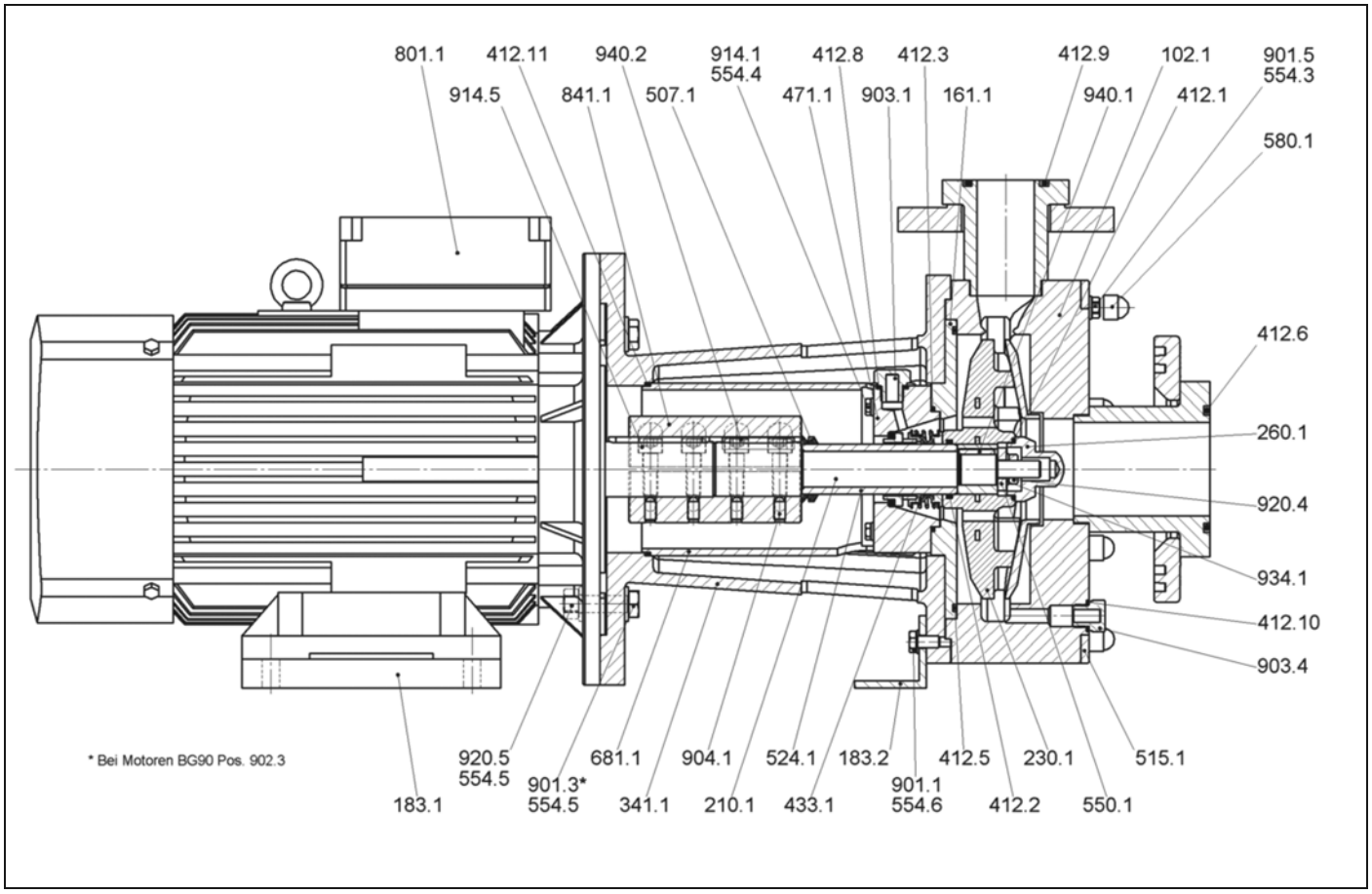
## Sectional drawing and item description

SHB 32-125 to 100 -200




| Part No. | Designation |
|---|---|
| 102.1 | Spiral casing |
| 161.1 | Casing cover |
| 183.1 | distance plate |
| 183.2 | Support foot |
| 210.1 | Shaft |
| 230.1 | Impeller |
| 260.1 | Impeller hub cap |
| 341.1 | Drive lantern |
| 346.1 | Intermediate flange |
| 412.1 | O-ring |
| 412.5 | O-ring |
| 412.6 | O-ring |
| 412.8 | O-ring |
| 412.9 | O-ring |
| 412.10 | O-ring |
| 412.11 | O-ring |
| 433.1 | Mechanical seal |
| 507.1 | Liquid splash ring |
| 550.1 | Disk |
| 554.3 | Washer |

| Part No. | Designation |
|---|---|
| 554.5 | Washer |
| 580.1 | Protection cap |
| 681.1 | Coupling protection |
| 801.1 | Motor |
| 841.1 | Coupling |
| 901.3 | Hexagon screw |
| 901.5 | Hexagon screw |
| 902.3 | Stud bolt |
| 903.1 | Plug screw |
| 903.4 | Plug screw (option) |
| 904.1 | Headless setscrew |
| 914.4 | Cheese head screw |
| 914.5 | Cheese head screw |
| 920.1 | Hexagon nut |
| 920.4 | Hexagon nut |
| 920.5 | Hexagon nut |
| 934.1 | Spring washer |
| 940.1 | Key |
| 940.2 | Key |
| | |



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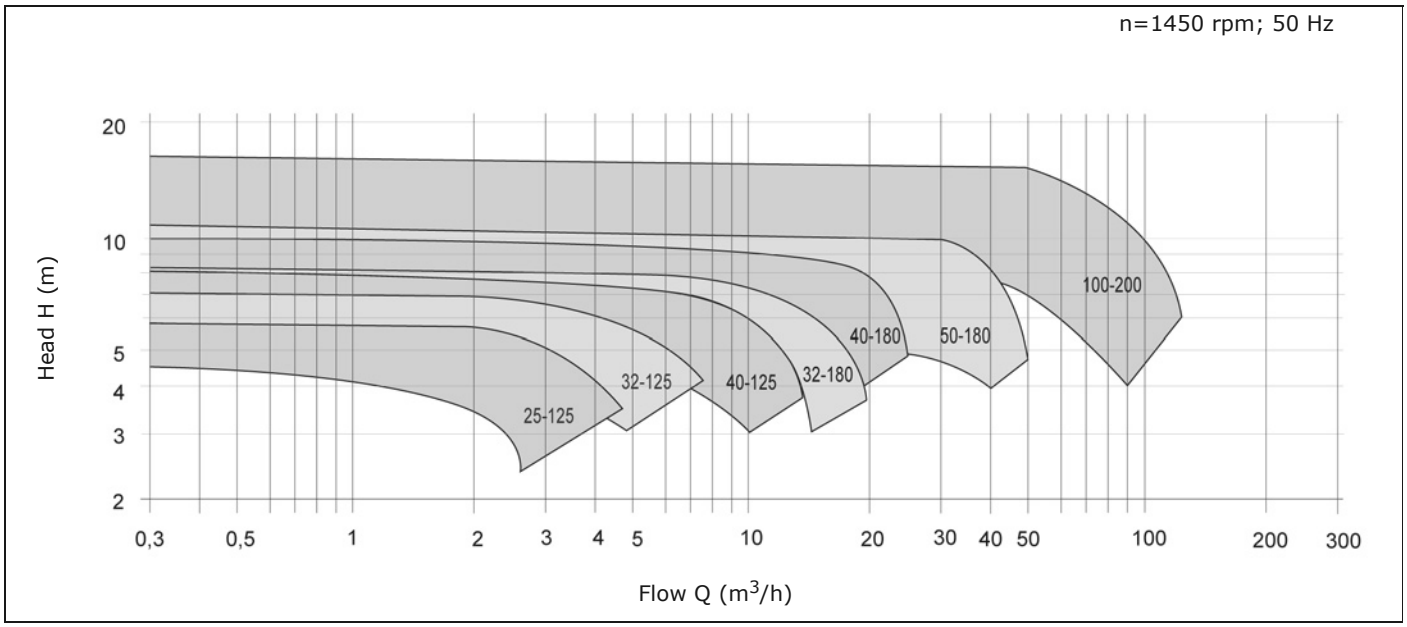
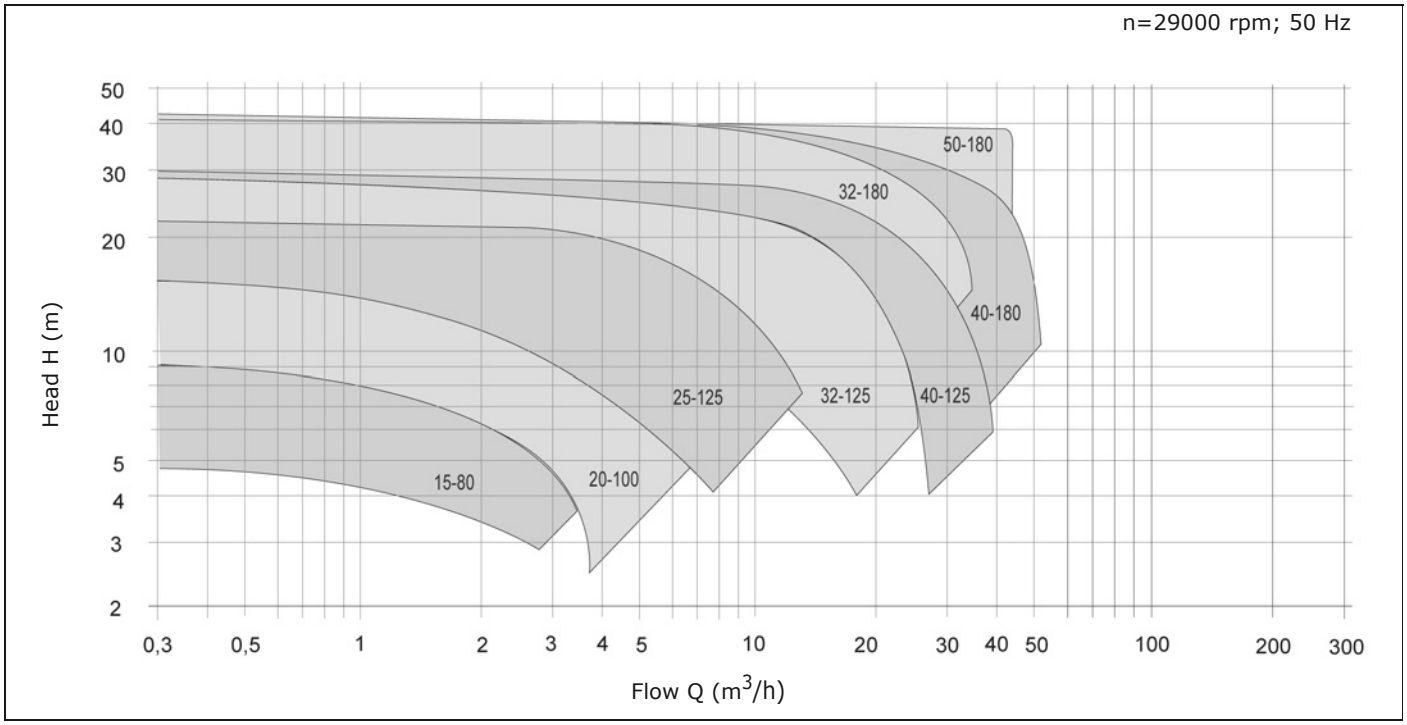
## Characteristic curves




Subject to technical modifications

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