



Data sheet

Product data

| | |
|---------------------|----------------------------|
| Product description | HELIX V413-1/16/E/S/400-50 |
|---------------------|----------------------------|

Hydraulic data

| | |
|------------------------------------|--------|
| Minimum efficiency index (MEI) | ≥0.7 |
| Maximum inlet pressure p_{inl} | 10 bar |
| Maximum operating pressure P_N | 16 bar |
| Discharge port | G 1 |
| Min. fluid temperature T_{min} | -30 °C |
| Max. fluid temperature T_{max} | 120 °C |
| Min. ambient temperature T_{min} | -15 °C |
| Max. ambient temperature T_{max} | 50 °C |

Motor data

| | |
|--------------------------------------|----------------------|
| Mains connection | 3~400 V, 50 Hz |
| Voltage tolerance | ±10 % |
| Rated power P_2 | 2.2 kW |
| Motor efficiency class | IE3 |
| Rated current I_N | 4.3 A |
| Rated speed n | 2900 1/min |
| Power factor $\cos \varphi_{100}$ | 0.87 |
| Activation type | Direct On Line (DOL) |
| Motor efficiency 50% $\eta_M 50\%$ | 84.8 % |
| Motor efficiency 75% $\eta_M 75\%$ | 86.2 % |
| Motor efficiency 100% $\eta_M 100\%$ | 85.9 % |
| Insulation class | F |
| Protection class motor | IP55 |

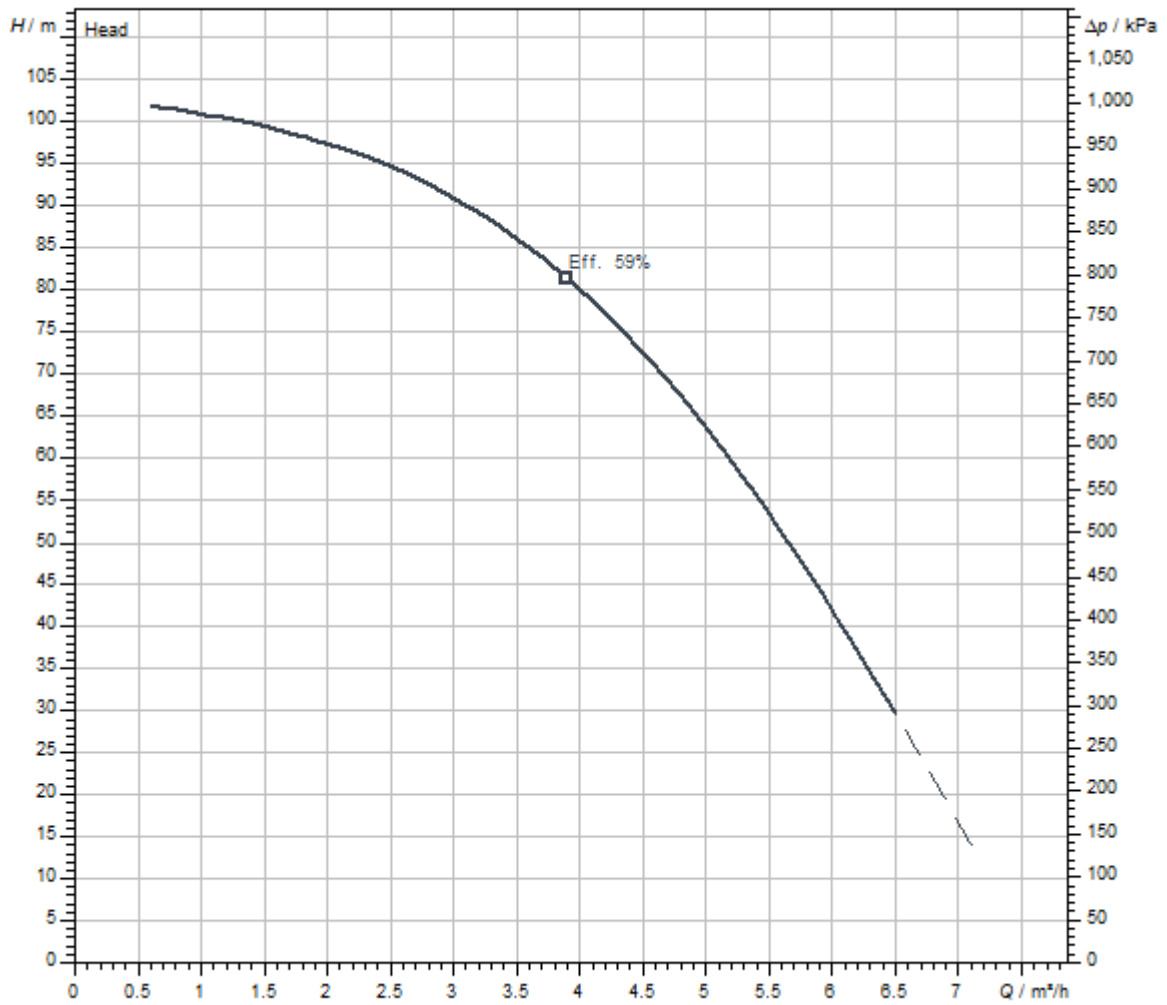
Materials

| | |
|-----------------|-----------------|
| Pump housing | Stainless steel |
| Impeller | Stainless steel |
| Shaft | Stainless steel |
| Mechanical seal | BQ1EGG |
| Gasket material | EPDM |

Installation dimensions

| | |
|--|-----|
| Pipe connection on the suction side DN_s | G 1 |
| Pipe connection on the discharge side DN_d | G 1 |

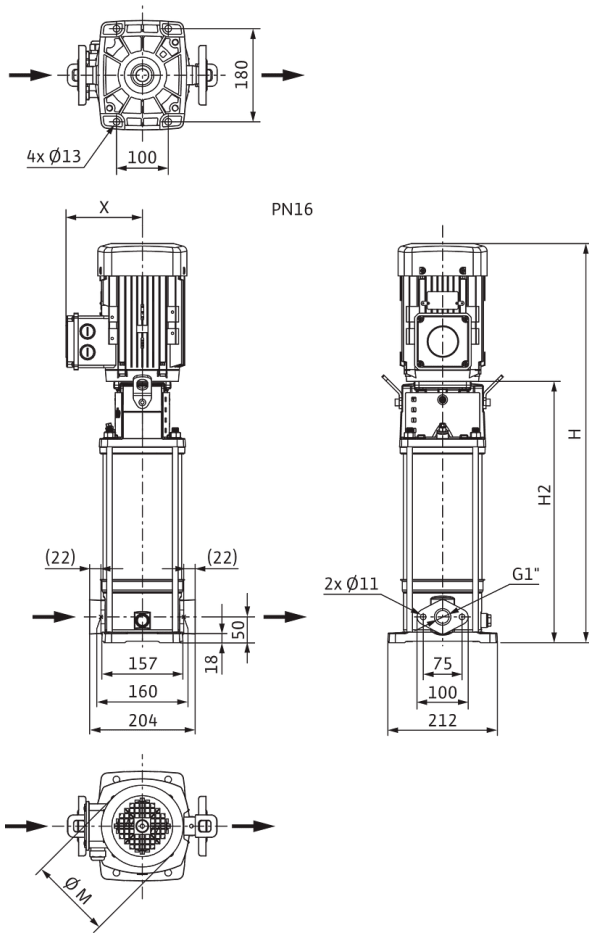
Pump curves



| | |
|---|-------------|
| Fluid media | Water 100 % |
| Fluid temperature <i>T</i> | 20.00 °C |
| speed at duty point <i>n hydr. @ OP</i> | 2,961 1/min |

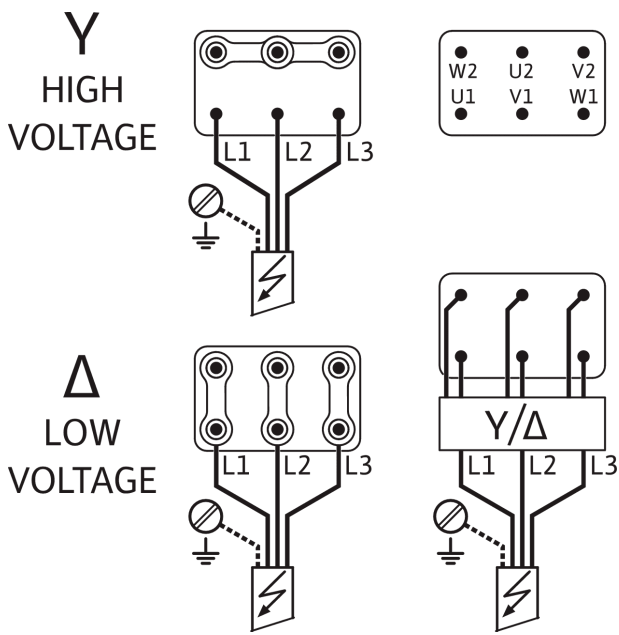
Dimensions and dimensions drawings

Helix V 2/V4, PN 16



| | |
|--|--------|
| Dimensions H | 925 mm |
| Dimensions $H1$ | 128 mm |
| Dimensions $L1$ | 102 mm |
| Dimensions X | 132 mm |
| Dimensions $\varnothing g$ | 193 mm |
| Pipe connection on the suction side DN_s | G 1 |
| Pipe connection on the discharge side DN_d | G 1 |
| Motor diameter X | 132 mm |

Wiring diagram



Tender text

Highly efficient high-pressure multistage centrifugal pump in vertical design with in-line connections.

The non self-priming high-pressure multistage centrifugal pump has a compact overall design and is particularly efficient and easy to maintain. The pump shaft and the motor shaft of the IEC standard motor are connected by means of a clamp coupling.

A separate lantern roller bearing ensures optimum admission of axial thrusts. Intermediate bearings in the hydraulics and corrosion-resistant shaft due to stainless steel sleeve ensure a long service life. Special, permanently attached lifting eyes enable easy pump installation.

The pump is suitable for water supply, water distribution and pressure boosting, industrial recirculation systems, process water and closed cooling circuits. It can also be used in fire extinguishing systems, washing systems as well as for irrigation.

Special features/product advantages

- > Efficiency-optimised, laser-welded 2D/3D hydraulics, flow and degassing optimised
- > Corrosion-resistant impellers, guide vanes and stage housings
- > Flow and NPSH-optimised pump housing
- > Maintenance-friendly design with particularly robust coupling guard
- > Drinking water approval for pumps with parts that come in contact with the fluid made of stainless steel (EPDM version)

Scope of delivery

- > Wilo-Helix V high-pressure multistage centrifugal pump
- > Installation and operating instructions
- > PN16 version with oval flanges: Stainless steel counter flanges with the corresponding screws, nuts and gaskets

Design notes

- > Motor protection for 3-phase motor is to be provided on request or onsite
- > Single-phase AC motor equipped with built-in thermal motor protection and capacitor
- > In its standard position, the terminal box is aligned with the suction flange, but this can be changed if necessary
- > The Wilo-Helix V is equipped with a user-friendly mechanical seal in a cartridge design and standard gasket for easy maintenance
- > The spacer coupling (from ≥ 7.5 kW) allows the mechanical seal to be replaced without removing the motor
- > The flexible lantern design, which is available in two alignments, enables direct access to the mechanical seal
- > For pump versions PN16, PN25 and $P_{max} = 30$ bar, round counter flanges in cast iron or stainless steel, screws, nuts and gaskets are available as accessories
- > Bypass sets are available as accessories
- > The Wilo-Helix V(F) VdS certified version upon request

Operating Data

Product data

| | |
|------------------------------------|------------|
| Min. fluid temperature T_{min} | -30 °C |
| Max. fluid temperature T_{max} | 120 °C |
| Max. ambient temperature T_{max} | 50 °C |
| Maximum operating pressure PN | 16 bar |
| Maximum inlet pressure p_{inl} | 10 bar |
| Minimum efficiency index (MEI) | ≥ 0.7 |

Motor data

| | |
|--------------------------------------|----------------|
| Mains connection | 3~400 V, 50 Hz |
| Voltage tolerance | ±10 % |
| Rated power P_2 | 2.2 kW |
| Motor efficiency class | IE3 |
| Rated current I_N | 4.3 A |
| Rated speed n | 2900 1/min |
| Power factor $\cos \varphi_{100}$ | 0.87 |
| Motor efficiency 50% $\eta_M 50\%$ | 84.8 % |
| Motor efficiency 75% $\eta_M 75\%$ | 86.2 % |
| Motor efficiency 100% $\eta_M 100\%$ | 85.9 % |
| Insulation class | F |
| Protection class | IP55 |

Materials

| | |
|-----------------|-----------------|
| Pump housing | Stainless steel |
| Impeller | Stainless steel |
| Shaft | Stainless steel |
| Shaft seal | BQ1EGG |
| Gasket material | EPDM |

Installation dimensions

| | |
|--|-----|
| Pipe connection on the suction side DN_s | G 1 |
| Pipe connection on the discharge side DN_d | G 1 |

Ordering information

| | |
|-------------------------|----------------------------|
| Brand | Wilo |
| Product description | HELIX V413-1/16/E/S/400-50 |
| Net weight, approx. m | 36.8 kg |
| Article number | 4201392 |

Installation type

In inlet mode

Counter flange (stainless steel)

| | |
|---|---------|
| Stainless steel counter flange (oval, 2 piece), PN16/DN25 | 4016168 |
|---|---------|

Baseplate

| | |
|------------|---------|
| Base plate | 4157154 |
|------------|---------|

Shut-off valve

| | |
|-----------------|---------|
| Ball valve Rp 1 | 2663980 |
|-----------------|---------|

Non-return valve

| | |
|---------------------------|---------|
| Non-return valve RV/S R 1 | 2660842 |
|---------------------------|---------|

Screwed connection for non-return valve

| | |
|---|---------|
| Screwed connection for non-return valve DN 25 | 2660509 |
|---|---------|

Level control with fault signal

Float switch WAO

| | |
|---------------------------------|-----------|
| Float switch WAO 65, 10 m cable | 2006027 |
| Float switch WAO 65, 20 m cable | 2004429 |
| Float switch WAO 65, 30 m cable | 2004430 |
| Float switch WAO 65, 5 m cable | 503211595 |

Level control without fault signal

Float switch WAO

| | |
|---------------------------------|-----------|
| Float switch WAO 65, 10 m cable | 2006027 |
| Float switch WAO 65, 20 m cable | 2004429 |
| Float switch WAO 65, 30 m cable | 2004430 |
| Float switch WAO 65, 5 m cable | 503211595 |

Pressure control with fault signal

Wilo-EFC

| | |
|--------------------------------|---------|
| EFC2.2 3x380-480V 50/60Hz IP55 | 2193434 |
|--------------------------------|---------|

Sensor kit

| | |
|------------|---------|
| Sensor kit | 2501886 |
|------------|---------|