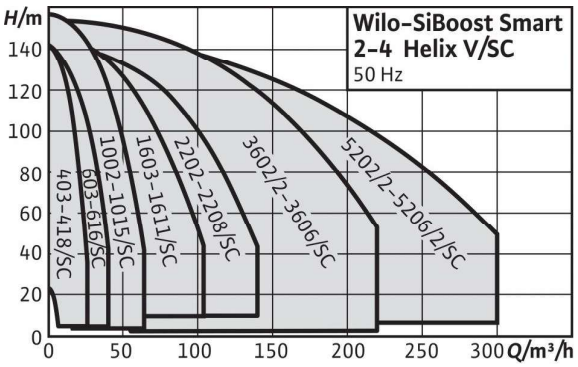
Series description: Wilo-SiBoost Smart (FC) Helix V



Similar to figure

Design

Highly efficient water-supply unit ready for connection (non self-priming). With 2 to 4 vertically arranged glanded stainless steel high-pressure multistage centrifugal pumps from the Helix V series connected in parallel, including Smart Controller SC (available with and without frequency converter FC).

Application

- Fully automatic water supply and pressure boosting in residential, commercial and public buildings, hotels, hospitals, department stores and for industrial systems.
- Pumping of drinking water, process water, cooling water, fire water (apart from fire-extinguishing systems in accordance with DIN 14462 and with the approval of the local fire safety authorities) or other types of industrial water that do not attack the materials either chemically or mechanically and do not contain abrasive or long-fibre constituents.

Type key

Example:	**Wilo-SiBoost-Smart FC 4Helix V 1006**
SiBoost	System for pressure boosting in the commercial area
Smart	Smart Controller SC control device
FC	Control of the respective base-load pump by frequency converters
4	Number of pumps
Helix V	Pump series
10	Nominal flow rate [m^3/h] of single pump
06	Number of single-pump stages

Special features/product advantages

- Heavy-duty system in accordance with DIN 1988 (EN 806)
- 2 to 4 vertical Helix V series stainless steel high-pressure multistage centrifugal pumps switched in parallel
- High-efficiency pump hydraulics
- Pressure-loss optimised entire system
- Control device SC, communication-capable for the monitoring of the system, LC display, simple navigation and adjustment via rotary knob without or with frequency converter for stepless control of the base-load pump

Technical data

Series description: Wilo-SiBoost Smart (FC) Helix V

Technical data

- Mains connection 3~230 V/400 V ± 10%, 50 Hz
- Max. fluid temperature 50 °C (70 °C optional)
- Max. ambient temperature of 40 °C
- Operating pressure 16 bar (25 bar optional)
- Inlet pressure 10 bar
- Nominal connection diameters on discharge side R 1½ - DN 200
- Nominal connection diameter on the intake side R 1½" - DN 200
- Rated speed 2850 rpm
- Protection class IP 54 (SC control device)
- Fuse protection on mains side A, AC 3 according to motor power and EVU regulations
- Approved fluids (other fluids on request):
  - Drinking water and domestic hot water
  - Cooling water

Note on fluids: Approved fluids are generally waters which do not attack the materials used, neither chemically nor mechanically, and do not contain any abrasive or long-fibre constituents. System in accordance with DIN 1988 (EN 806)

Equipment/function

- 2-4 pumps per system of the Helix V 4 to Helix V 52 series with IE2 standard motor, including 7.5 kW and larger IE3 standard motor (optional for smaller motor power)
- Automatic pump control via Smart Controller SC The Smart FC version is additionally equipped with a frequency converter in the switchbox
- Parts that come in contact with the fluid are corrosion-resistant
- Base frame made of galvanised steel, with height-adjustable vibration absorbers for insulation against structure-borne noise, cable guidance and an integrated lifting device
- Shut-off valve on the suction and pressure sides of each pump
- Non-return valve on the pressure side of each pump
- Diaphragm pressure vessel 8 l, PN16, pressure side
- Pressure sensor, pressure side
- Pressure gauge, pressure side
- Optional low-water cut-out switchgear with pressure gauge, suction side

Description/design

- Base frame: galvanised steel, with height-adjustable vibration absorbers for comprehensive insulation against structure-borne noise; other versions on request
- Pipework: complete pipework made of stainless steel, suitable for the connection of all conventional piping materials; the pipework is dimensioned according to the overall hydraulic performance of the pressure boosting system
- Pumps: 2 to 4 pumps switched in parallel of the Helix V 4 to Helix V 52 series; all pump parts that come in contact with the fluid are made of stainless steel for the Helix VE 4 to VE 16 series or of stainless steel/grey cast iron with cataphoretic coating for the Helix VE 22 to Helix VE 52 series; other versions on request. KTW/WRAS/ACS approval for parts that come in contact with the fluid
- Valves: Each pump is fitted on the suction and pressure side with a standard shut-off device with DVGW approval mark and on the pressure side with a DVGW/KTW-approved non-return valve.
- Diaphragm pressure vessel: 8 l/PN 16 arranged on the discharge side with a diaphragm made of butyl rubber, with DVGW/KTW approval, completely safe in accordance with food safety laws; for testing and inspection purposes, with a shut-off ball cock with drain and throughflow fitting with DVGW/KTW approval in accordance with DIN 4807
- Pressure sensor: 4 to 20 mA, located on the discharge side for controlling the central Smart Controller SC
- Pressure indication: Pressure gauge (ø 63 mm) arranged on the discharge side; additional digital indication of the discharge pressure in the alphanumeric LC display of the Smart Controller SC
- Control device/controller: The system is equipped with a "Smart Controller" SC as standard; FC versions also equipped with a frequency converter

Materials

Helix V 4 to Helix V 16

- Impellers, guide vanes, stage housing made of stainless steel 1.4307
- Pump housing of stainless steel 1.4301
- Shaft of stainless steel 1.4057
- 1.4404 shaft protection sleeve
- O-Ring gaskets made of EPDM (FKM gasket on request)
- Pipework made of 1.4301 stainless steel

Helix V 22 to Helix V 52

- Impellers, guide vanes, stage housing made of stainless steel 1.4307
- Pump housing made of cataphoretically coated EN-GJL 250 grey cast iron
- Shaft of stainless steel 1.4057
- 1.4404 shaft protection sleeve
- O-Ring gaskets made of EPDM (FKM gasket on request)
- Pipework made of 1.4301 stainless steel

Scope of delivery

Series description: Wilo-SiBoost Smart (FC) Helix V

Scope of delivery

- Factory-mounted, connection-ready pressure boosting system checked for functionality and impermeability
- Packaging
- Installation and operating instructions

Options

Other mains connections on request

Consulting guide

Inlet pressure

The maximum inlet pressure (see Technical data) is to be observed for the system configuration. The maximum permissible inlet pressure is calculated from the maximum operating pressure of the system minus the maximum pump delivery head at Q = 0

Pressure reducer

Should the inlet pressure be too high or fluctuate too greatly, a pressure reducer must be installed to guarantee a constant minimum inlet pressure. The inlet pressure may fluctuate no more than 1.0 bar

Volume flow

Up to 240 m3/h (66 l/s) system configuration according to DIN 1988 (EN 806); with standby pump up to 320 m3/h (88 l/s) in the event of operation of the pump as an additional peak-load unit

Residual-current devices

When installing residual-current-operated protection switches in conjunction with frequency converters, bear in mind that only universal-current-sensitive residual-current-operated protection switches in accordance with DIN/VDE 0664 are to be fitted.

Wilo-WMS low-water cut-out switchgear

According to DIN 1988 (EN 806), the installation of a low-water cut-out switchgear is required if the pressure boosting systems are connected directly to a public mains power supply; this prevents the inlet pressure in the mains supply line from dropping to values below 1.0 bar. Please order directly when ordering the pressure boosting system. The WMS will then be installed in the pressure boosting system, electrically wired and fully tested by Wilo during the final functional test.

Standards/directives

The overall system conforms with the requirements of

- DIN 1988 Part 5
- DIN 1988 Part 6* (**)

* The specifications in DIN 1988 (EN 806) and of the water-supply companies are to be observed. Regarding the electrical components, the system conforms with the requirements of

- VDE 0100 Part 430/Part 540
- VDE 0110 Part 1/Part 2
- VDE 0660 Part 101/Part 107 and
- DIN 40719/IEC 754

Always observe the specifications in DIN 1988 (EN 806) when using and operating the pressure boosting system.(**) That does not apply to fire extinguishing systems in accordance with DIN 14462. Please request these separately.

Duty chart: Wilo-SiBoost Smart (FC) Helix V