

Series description: Wilo-SiBoost Smart Helix EXCEL

Wilo-SiBoost Smart Helix EXCEL



In densely populated rural areas, the transportation of water is often associated with leakage risks. This results in high operating costs. Our solution: the Wilo-SiBoostSmart Helix EXCEL significantly reduces overall power consumption thanks to its top-quality components (hydraulics and motors) as well as a switchgear which supports leakage detection via an optional communication interface.

Design type

Highly efficient water-supply unit (non self-priming) ready for connection with 2 to 4 vertically arranged Helix EXCEL stainless steel high-pressure centrifugal pumps switched in parallel; each pump is equipped with an integrated air-cooled, high-efficiency frequency converter and an EC motor, including Smart Controller SCe. Valves and sensors are protected for safe and reliable installation

Application

- Fully automatic water supply and pressure boosting in inlet mode, either from the public water supply network or from a tank, for domestic, commercial, industrial and municipal applications (e.g. residential, office, administration buildings, hotels, hospitals, trades, industry, water supply companies).
- Pumping of drinking water and 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.

Equipment/function

- 2 - 4 pumps per system of the Helix EXCEL 4 to Helix EXCEL 52 series, with high-efficiency EC motor and continuous speed control via integrated frequency converter on each pump
- Automatic pump control via Smart Controller SCe
- 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
- Shut-off device on the suction and pressure sides of each pump
- Non-return valve on the pressure side of each pump
- Diaphragm pressure vessel 8 l, PN 16, pressure side
- Pressure sensor, pressure side
- Pressure gauge, pressure side
- Removable cover for protection of system components (not for Helix EXCEL 52 series)
- Optional low-water cut-out switchgear with pressure gauge, suction side

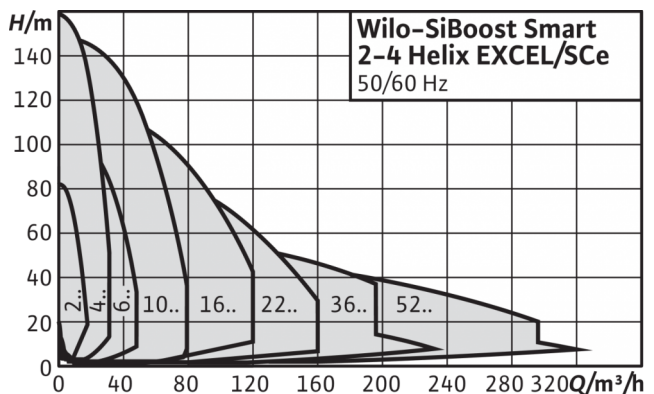
Scope of delivery

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

Type key

<p>Example: SiBoost</p> <p>Smart 3</p> <p>Helix EXCEL 10</p> <p>05</p>	<p>Wilo-SiBoost-Smart 3 Helix EXCEL 1005</p> <p>System for pressure boosting in the commercial area</p> <p>Control device, Smart Controller SCe</p> <p>Number of single pumps</p> <p>Pump series</p> <p>Rated volume flow [m³/h] of single pump</p> <p>Number of single pump stages</p>
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SiBoost Smart 2-4 Helix EXCEL/SCe



Special features/product advantages

- Heavy-duty system featuring stainless steel high-pressure multistage centrifugal pump from the Helix EXCEL series with integrated frequency converter from 25 Hz to a maximum of 60 Hz
- High-efficiency EC motor (energy efficiency class IE5 in accordance with IEC 60034-30-2)
- Pressure-loss optimised overall system with highly efficient pump hydraulics
- Optimum load adjustment of the system to the overall system through the extra control mode $\Delta p-v$
- Improved monitoring and leakage detection via optional interface with SCADA connection
- Maximum degree of control thanks to use of an SCe control device with LCD display, simple navigation and adjustment using rotary knob
- Integrated dry-running detection with automatic deactivation via the motor control electronics

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Technical data

- Mains connection 3~400 V \pm 10%, 50 Hz; 3~380 V \pm 10 %, 60 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 1 1/2" - DN 200
- Nominal connection diameters on intake side R 1 1/2" - DN 200
- Speed range 1500 - 3770 rpm
- Protection class: IP54 (SCe control device)
- Fuse protection A on mains side, AC 3 according to motor power and EVU regulations
- Approved fluids (other fluids on request): 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)
 - Drinking water and hot water
 - Cooling water
 - Firefighting water

Materials

Helix EXCEL 4 to Helix EXCEL 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)
- Piping made of 1.4301 stainless steel
- Removable covers made of plastic

Helix EXCEL 22 to Helix EXCEL 52

- Impellers, guide vanes, stage housing made of stainless steel 1.4307
- Pump housing of stainless steel 1.4308
- Shaft of stainless steel 1.4057
- 1.4404 shaft protection sleeve
- O-Ring gaskets made of EPDM (FKM gasket on request)
- Piping made of 1.4301 stainless steel
- Removable covers made of plastic (not for Helix EXCEL 52)

Description/construction

- Base frame: galvanised steel, with height-adjustable vibration absorbers for comprehensive insulation against structure-borne noise as well as an integrated lifting device; 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 parallel-switched of the Helix EXCEL 4 to Helix EXCEL 52 series. The air-cooled frequency converters mounted on the pump motor enable infinitely variable control between 25 Hz and a maximum of 60 Hz for all pumps of this series. All pump parts which come into contact with the fluid are made of stainless steel; other versions on request. KTW/WRAS/ACS approval for all 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 (\varnothing 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
- Removable covers on the suction side and pressure side: the design of the system guarantees optimal protection of the regulating components and sensors against wire breakage and prevents early wear

Product list: Wilo-SiBoost Smart Helix EXCEL

Product description	Control	Number of standby pumps	Maximum operating pressure PN	Gross weight, approx. m	Article number
SiBoost Smart 2 Helix EXCEL 1002	With frequency converter	-	16 bar	203.0 kg	2536381
SiBoost Smart 2 Helix EXCEL 1004	With frequency converter	-	16 bar	205.0 kg	2536382
SiBoost Smart 2 Helix EXCEL 1005	With frequency converter	-	16 bar	210.0 kg	2536383
SiBoost Smart 2 Helix EXCEL 1007	With frequency converter	-	16 bar	235.0 kg	2536384
SiBoost Smart 2 Helix EXCEL 1009	With frequency converter	-	16 bar	252.0 kg	2536385
SiBoost Smart 2 Helix EXCEL 1010	With frequency converter	-	16 bar	294.0 kg	2536386
SiBoost Smart 3 Helix EXCEL 1002	With frequency converter	-	16 bar	264.0 kg	2536387
SiBoost Smart 3 Helix EXCEL 1004	With frequency converter	-	16 bar	268.0 kg	2536388
SiBoost Smart 3 Helix EXCEL 1005	With frequency converter	-	16 bar	275.0 kg	2536389
SiBoost Smart 3 Helix EXCEL 1007	With frequency converter	-	16 bar	317.0 kg	2536390
SiBoost Smart 3 Helix EXCEL 1009	With frequency converter	-	16 bar	343.0 kg	2536391
SiBoost Smart 3 Helix EXCEL 1010	With frequency converter	-	16 bar	406.0 kg	2536392
SiBoost Smart 4 Helix EXCEL 1002	With frequency converter	-	16 bar	335.0 kg	2536393
SiBoost Smart 4 Helix EXCEL 1004	With frequency converter	-	16 bar	339.0 kg	2536394
SiBoost Smart 4 Helix EXCEL 1005	With frequency converter	-	16 bar	349.0 kg	2536395
SiBoost Smart 4 Helix EXCEL 1007	With frequency converter	-	16 bar	400.0 kg	2536396
SiBoost Smart 4 Helix EXCEL 1009	With frequency converter	-	16 bar	434.0 kg	2536397
SiBoost Smart 4 Helix EXCEL 1010	With frequency converter	-	16 bar	518.0 kg	2536398
SiBoost Smart 2 Helix EXCEL 1602	With frequency converter	-	16 bar	219.0 kg	2536399
SiBoost Smart 2 Helix EXCEL 1603	With frequency converter	-	16 bar	222.0 kg	2536400
SiBoost Smart 2 Helix EXCEL 1604	With frequency converter	-	16 bar	238.0 kg	2536401
SiBoost Smart 2 Helix EXCEL 1605	With frequency converter	-	16 bar	255.0 kg	2536402
SiBoost Smart 2 Helix EXCEL 1606	With frequency converter	-	16 bar	285.0 kg	2536403

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Product description	Control	Number of standby pumps	Maximum operating pressure PN	Gross weight, approx. m	Article number
SiBoost Smart 2 Helix EXCEL 1607	With frequency converter	-	16 bar	287.0 kg	2536404
SiBoost Smart 2 Helix EXCEL 405	With frequency converter	-	16 bar	192.0 kg	2537631
SiBoost Smart 2 Helix EXCEL 410	With frequency converter	-	16 bar	204.0 kg	2537632
SiBoost Smart 2 Helix EXCEL 414	With frequency converter	-	16 bar	214.0 kg	2537633
SiBoost Smart 3 Helix EXCEL 405	With frequency converter	-	16 bar	209.0 kg	2537634
SiBoost Smart 3 Helix EXCEL 410	With frequency converter	1	16 bar	270.0 kg	2537635
SiBoost Smart 3 Helix EXCEL 414	With frequency converter	-	16 bar	285.0 kg	2537636
SiBoost Smart 4 Helix EXCEL 405	With frequency converter	-	16 bar	219.0 kg	2537637
SiBoost Smart 4 Helix EXCEL 410	With frequency converter	1	16 bar	336.0 kg	2537638
SiBoost Smart 4 Helix EXCEL 414	With frequency converter	-	16 bar	356.0 kg	2537639
SiBoost Smart 2 Helix EXCEL 603	With frequency converter	1	16 bar	193.0 kg	2537640
SiBoost Smart 2 Helix EXCEL 606	With frequency converter	1	16 bar	210.0 kg	2537641
SiBoost Smart 2 Helix EXCEL 609	With frequency converter	-	16 bar	222.0 kg	2537642
SiBoost Smart 2 Helix EXCEL 611	With frequency converter	-	16 bar	226.0 kg	2537643
SiBoost Smart 3 Helix EXCEL 603	With frequency converter	-	16 bar	251.0 kg	2537644
SiBoost Smart 3 Helix EXCEL 606	With frequency converter	1	16 bar	276.0 kg	2537645
SiBoost Smart 3 Helix EXCEL 609	With frequency converter	-	16 bar	294.0 kg	2537646
SiBoost Smart 3 Helix EXCEL 611	With frequency converter	-	16 bar	300.0 kg	2537647
SiBoost Smart 4 Helix EXCEL 603	With frequency converter	1	16 bar	318.0 kg	2537648
SiBoost Smart 4 Helix EXCEL 606	With frequency converter	1	16 bar	351.0 kg	2537649
SiBoost Smart 4 Helix EXCEL 609	With frequency converter	-	16 bar	375.0 kg	2537650
SiBoost Smart 4 Helix EXCEL 611	With frequency converter	-	16 bar	383.0 kg	2537651
SiBoost Smart 3 Helix EXCEL 1602	With frequency converter	-	16 bar	312.0 kg	2541596

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SiBoost Smart 3 Helix EXCEL 1603	With frequency converter	-	16 bar	317.0 kg	2541597
SiBoost Smart 3 Helix EXCEL 1604	With frequency converter	-	16 bar	356.0 kg	2541598
SiBoost Smart 3 Helix EXCEL 1605	With frequency converter	-	16 bar	380.0 kg	2541599
SiBoost Smart 3 Helix EXCEL 1606	With frequency converter	-	16 bar	425.0 kg	2541600
SiBoost Smart 3 Helix EXCEL 1607	With frequency converter	-	16 bar	428.0 kg	2541601
SiBoost Smart 4 Helix EXCEL 1602	With frequency converter	-	16 bar	355.0 kg	2541602
SiBoost Smart 4 Helix EXCEL 1603	With frequency converter	-	16 bar	394.0 kg	2541603
SiBoost Smart 4 Helix EXCEL 1604	With frequency converter	-	16 bar	446.0 kg	2541604
SiBoost Smart 4 Helix EXCEL 1605	With frequency converter	-	16 bar	478.0 kg	2541605
SiBoost Smart 4 Helix EXCEL 1606	With frequency converter	-	16 bar	538.0 kg	2541606
SiBoost Smart 4 Helix EXCEL 1607	With frequency converter	-	16 bar	542.0 kg	2541607
SiBoost Smart 2 Helix EXCEL 2201	With frequency converter	-	16 bar	264.0 kg	2542588
SiBoost Smart 2 Helix EXCEL 2202	With frequency converter	-	16 bar	276.0 kg	2542589
SiBoost Smart 2 Helix EXCEL 2203-4.2	With frequency converter	-	16 bar	306.0 kg	2542590
SiBoost Smart 2 Helix EXCEL 2203-5.5	With frequency converter	-	16 bar	318.0 kg	2542591
SiBoost Smart 2 Helix EXCEL 2203-6.5	With frequency converter	-	16 bar	342.0 kg	2542592
SiBoost Smart 2 Helix EXCEL 2204	With frequency converter	-	16 bar	348.0 kg	2542593
SiBoost Smart 3 Helix EXCEL 2201	With frequency converter	-	16 bar	377.0 kg	2542594
SiBoost Smart 3 Helix EXCEL 2202	With frequency converter	1	16 bar	395.0 kg	2542595
SiBoost Smart 3 Helix EXCEL 2203-4.2	With frequency converter	-	16 bar	440.0 kg	2542596
SiBoost Smart 3 Helix EXCEL 2203-5.5	With frequency converter	-	16 bar	458.0 kg	2542597
SiBoost Smart 3 Helix EXCEL 2203-6.5	With frequency converter	-	16 bar	494.0 kg	2542598
SiBoost Smart 3 Helix EXCEL 2204	With frequency converter	1	16 bar	503.0 kg	2542599

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Product description	Control	Number of standby pumps	Maximum operating pressure PN	Gross weight, approx. <i>m</i>	Article number
SiBoost Smart 4 Helix EXCEL 2201	With frequency converter	-	16 bar	510.0 kg	2542600
SiBoost Smart 4 Helix EXCEL 2202	With frequency converter	1	16 bar	534.0 kg	2542601
SiBoost Smart 4 Helix EXCEL 2203-4.2	With frequency converter	1	16 bar	594.0 kg	2542602
SiBoost Smart 4 Helix EXCEL 2203-5.5	With frequency converter	1	16 bar	618.0 kg	2542603
SiBoost Smart 4 Helix EXCEL 2203-6.5	With frequency converter	-	16 bar	666.0 kg	2542604
SiBoost Smart 4 Helix EXCEL 2204	With frequency converter	-	16 bar	678.0 kg	2542605
SiBoost Smart 2 Helix EXCEL 3601	With frequency converter	1	16 bar	319.0 kg	2542606
SiBoost Smart 2 Helix EXCEL 3602-5.5	With frequency converter	1	16 bar	369.0 kg	2542608
SiBoost Smart 2 Helix EXCEL 3602-7.5	With frequency converter	1	16 bar	401.0 kg	2542609
SiBoost Smart 3 Helix EXCEL 3601	With frequency converter	1	16 bar	454.0 kg	2542610
SiBoost Smart 3 Helix EXCEL 3602-5.5	With frequency converter	1	16 bar	529.0 kg	2542612
SiBoost Smart 3 Helix EXCEL 3602-7.5	With frequency converter	1	16 bar	577.0 kg	2542613
SiBoost Smart 4 Helix EXCEL 3601	With frequency converter	1	16 bar	605.0 kg	2542614
SiBoost Smart 4 Helix EXCEL 3602-5.5	With frequency converter	1	16 bar	705.0 kg	2542616
SiBoost Smart 4 Helix EXCEL 3602-7.5	With frequency converter	1	16 bar	769.0 kg	2542617
SiBoost Smart 2 Helix EXCEL 5201	With frequency converter	-	16 bar	424.0 kg	2542618
SiBoost Smart 2 Helix EXCEL 5202/1	With frequency converter	-	16 bar	436.0 kg	2542619
SiBoost Smart 2 Helix EXCEL 5202	With frequency converter	-	16 bar	476.0 kg	2542620
SiBoost Smart 3 Helix EXCEL 5201	With frequency converter	-	16 bar	620.0 kg	2542621
SiBoost Smart 3 Helix EXCEL 5202/1	With frequency converter	1	16 bar	638.0 kg	2542622
SiBoost Smart 3 Helix EXCEL 5202	With frequency converter	-	16 bar	698.0 kg	2542623
SiBoost Smart 4 Helix EXCEL 5201	With frequency converter	-	16 bar	806.0 kg	2542624
SiBoost Smart 4 Helix EXCEL 5202/1	With frequency converter	-	16 bar	830.0 kg	2542625

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SiBoost Smart 4 Helix EXCEL 5202	With frequency converter	-	16 bar	910.0 kg	2542626
SiBoost Smart 2 Helix EXCEL 3602/2	With frequency converter	1	16 bar	357.0 kg	2542646
SiBoost Smart 3 Helix EXCEL 3602/2	With frequency converter	1	16 bar	511.0 kg	2542647
SiBoost Smart 4 Helix EXCEL 3602/2	With frequency converter	1	16 bar	681.0 kg	2542648
SiBoost Smart 2 Helix EXCEL 208	With frequency converter	1	16 bar	203.0 kg	2542651
SiBoost Smart 3 Helix EXCEL 208	With frequency converter	-	16 bar	266.0 kg	2542652
SiBoost Smart 4 Helix EXCEL 208	With frequency converter	-	16 bar	339.0 kg	2542653