

Pioneering for You

wilo

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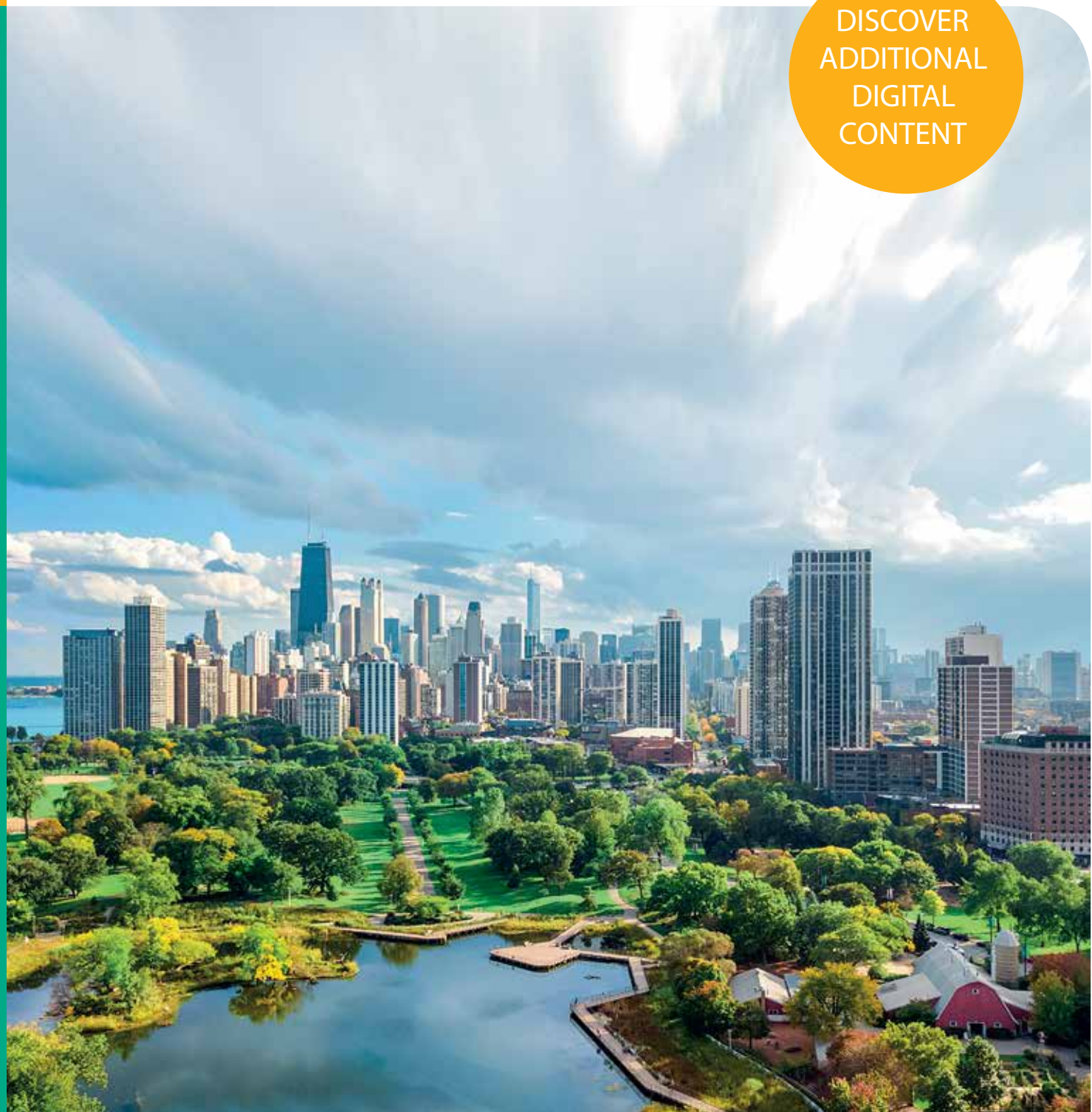
 **temperzone**
climate innovations

Efficient solutions – 50 Hz

General Overview 2020

Our product and system solutions for Heating, Air conditioning, Cooling

DISCOVER
ADDITIONAL
DIGITAL
CONTENT



Pioneering for You

Our promise to you.

WILO SE is one of the world's leading premium suppliers of pumps and pump systems for building services, water management, and the industrial sector. With round 8000 employees in more than 60 subsidiaries around the world, we develop smart solutions that connect people, products and services to effectively support you in your daily work. "Pioneering for You" is our lasting commitment to clear customer focus, unrelenting pursuit of quality and our special passion for technology.

As the digital pioneer of the pumps industry, we understand the challenges that will shape the future. As an innovation and technology leader, we provide holistic solutions to address them. We know that these issues play a major role in your daily work and, in turn, ours too.

Sustainably better.

One of the most pressing tasks in times of limited natural resources is the responsible consumption of water, a resource that is becoming increasingly scarce. Efficiency, connectivity and safety will become increasingly important in the future. We aspire to offer you sustainable, user-friendly and high-performance solutions for building services and water management that are ahead of their time. We work closely with our customers to create innovative products and systems that perfectly match their requirements and are rounded off with convenient services. The result is integrated solutions you can rely on at all times.





UP-HIGH - GREEN PUMPS IN EUROPE'S TALLEST BUILDING

A project of superlatives: Like a crystalline needle, the tower of the Lakhta Centre rises up into the sky in St. Petersburg. The city's first "supertall" building on the coast of the Gulf of Finland is to become a modern business centre, a sustainable district for life and work. Germany-based Technology Company Wilo takes care of several applications in the futuristic giant – over 530 pumps are in operation to contribute to the "Green features" of the building.

Since the end of the 19th century, skyscrapers are the embodiment of power; monuments that represent financial wellbeing, new technologies and that form a parallax around which people can automatically reorient in a city. They give a recognition value to a place. Supertall buildings have always been known for using the latest and most advanced construction technology. With a height of 462 metres, the Lakhta Centre is the tallest building in Europe and the 13th tallest building in the world. It broke ground in 2012, the exterior was completed six years later. The "northernmost skyscraper in the world" will also serve as the headquarters of Russian gas giant Gazprom, which carried out the construction. Capturing the changes in daylight, the main tower's unique silhouette symbolizes a flame, a distinctive feature of Gazprom's logo. With a total floor area of over 400,000 square metres, Lakhta Centre comprises four different facilities. Besides the skyscraper with a 90-degree twist from foundation to top, the complex also provides a multifunctional building, the stand-alone arch that represents the entrance as well as a stylobate that hides the parking, warehouses and logistic passages.

High-efficiency in the "Star of St. Petersburg"

Wilo pumps are in operation in several applications – from heating, ventilation and air conditioning to the water supply. For the HVAC applications, the pumps are installed in several district substations in different levels of the tower. "One of the main requirements was that all pumps should be high-efficient with an internal or external frequency converter", says Nikolay Samoylov from Wilo Russia. "For example we therefore provided inline pumps with electronic control as well as high-pressure centrifugal pumps."

The Wilo-CronoLine-IL-E is an electronically controlled glanded single pump in in-line design, used for the pumping of heating water, cold water and water-glycol mixtures in heating, cold water and cooling systems. The multistage centrifugal pump Wilo-Helix can be used for water supply and pressure boosting as well as cooling water in circulation systems. For a reliable operation in the HVAC applications, the Lakhta Centre also relies on the Wilo-Stratos-D. The glandless double circulation pump increases energy savings due to optimised system efficiency via a volume flow limiter.




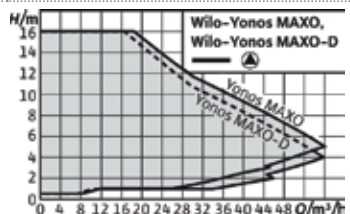
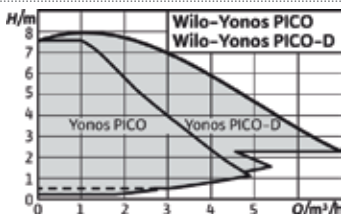
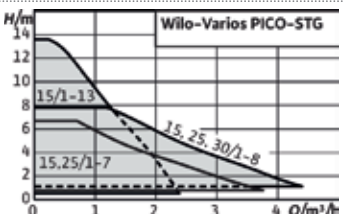
Cooling centres are located on four different levels. To make the cooling as efficient as possible, the building uses cold accumulation. The preliminary freezing of a thermal energy storage medium with the aim of shifting refrigeration loads enables a more efficient operation as well as more beneficial energy consumption patterns. This way, energy is accumulated at low peak hours and used when the need increases again.




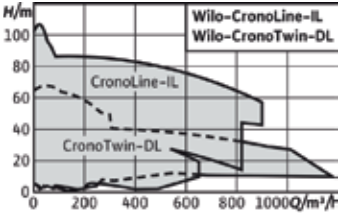
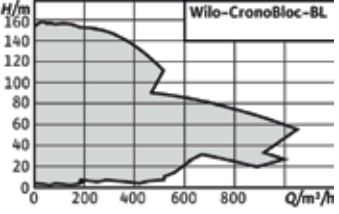
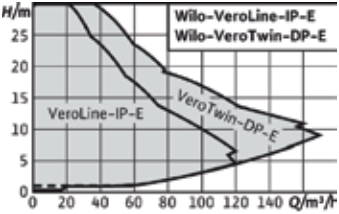
Horizontal booster pumps (borehole pumps with a horizontal cooling shroud) are in operation for the water supply, to achieve a minimum water level in the storage tank. "The Lakhta Centre is a huge building, so it has water supply systems on different levels", explains Nikolay Samoylov from Wilo Russia. "By using vertical high pressure pumps instead of horizontal ones, the unusable water volume will be less. Also, borehole pumps have a minimum sound level."




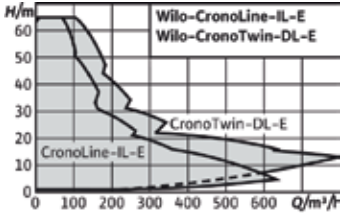
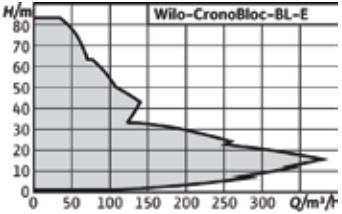
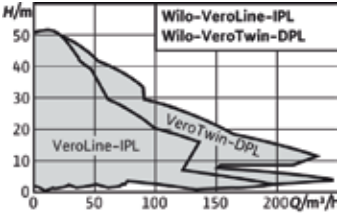





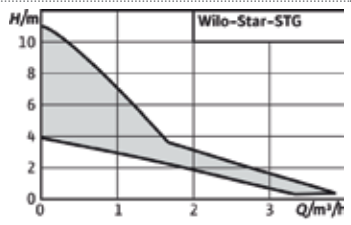
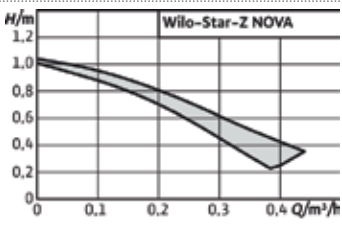
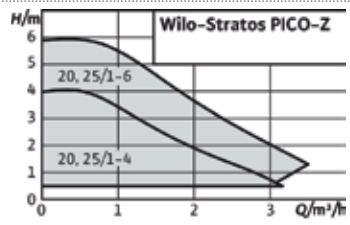
A flagship of high technology



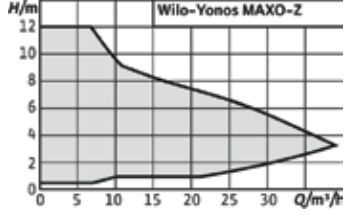
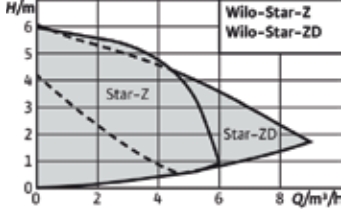
The smart façade is made from 16,500 individual panes of glass with a system of automatic shutters and valves to reduce heat loss. Due to the double skin façade of the Lakhta Centre main tower, the heating and air-conditioning consumption can be reduced up to 50 percent. As sustainability is an important topic, innovative technologies such as energy recuperating elevators, a vacuum disposal system and a water reuse and purification system are also a part of the 87-floor building. Substituting conventional heating devices into infra-red radiators and applying this technology to other technical and household devices, achieves additional energy savings. The tower buffer area will be equipped with sensors that automatically maintain the temperature, as per the number of people being present in a room. In December 2018 this led to the LEED® Platinum certification, according to the results of the assessment of the environmental performance criteria. High-efficient pumps from Wilo contribute to the “Green Features” of the Lakhta Centre.



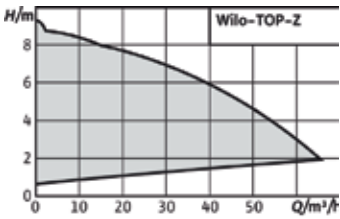
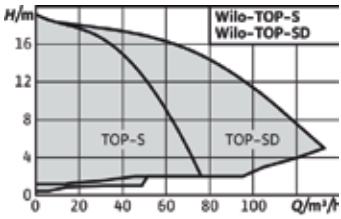
| Series | Wilo-Yonos MAXO Wilo-Yonos MAXO-D | Wilo-Yonos PICO Wilo-Yonos PICO-D | Wilo-Varios PICO |
|--------------------------|---|---|--|
| Product photo |  |  |  |
| Construction | Glandless circulator with screwed connection or flange connection, EC motor and automatic power adjustment | Glandless circulator with screwed connection, EC motor and automatic power adjustment | Glandless circulator with screwed connection, EC motor and automatic power adjustment |
| Application | Hot-water heating systems of all kinds, air-conditioning systems, closed cooling circuits, industrial circulation systems | Hot-water heating systems of all kinds, air-conditioning applications, industrial circulation systems | Hot-water heating systems of all kinds, air-conditioning applications, industrial circulation systems, primary circuits of solar and geothermal systems |
| Duty chart |  |  |  |
| Volume flow Q_{\max} | 60 m ³ /h | 7 m ³ /h | 4.4 m ³ /h |
| Delivery head H_{\max} | 16 m | 8 m | 13 m |
| Technical data | <ul style="list-style-type: none"> f Fluid temperature -20 °C to +110 °C f Mains connection 1~230 V, 50 Hz f Energy Efficiency Index (EEI) ≤ 0.20 f Nominal diameter Rp 1 to DN 100 f Max. operating pressure 10 bar | <ul style="list-style-type: none"> f Fluid temperature -10 °C to +95 °C f Mains connection 1~230 V, 50 Hz f Energy Efficiency Index (EEI) ≤ 0.20 (Yonos PICO.../1-8 ≤ 0.23) f Screwed connection Rp ½, Rp 1, Rp 1¼ f Max. operating pressure 10 bar | <ul style="list-style-type: none"> f Fluid temperature: <ul style="list-style-type: none"> – -20 °C to +95 °C (Heating/Geothermal) – -10 °C to +110 °C (Solar) f Mains connection 1~230 V, 50 Hz f Energy Efficiency Index (EEI) ≤ 0.20 f Screwed connection Rp ½, Rp 1, Rp 1¼ f Max. operating pressure 10 bar |
| Special features | <ul style="list-style-type: none"> f LED display for indication of set delivery head and fault codes f Quick setting when replacing an uncontrolled standard pump with pre-set speed stages, e.g. TOP-S f Electrical connection with Wilo plug f Collective fault signal ensures system availability f Pump housing with cathoretic (KTL) coating protects against corrosion due to condensation | <ul style="list-style-type: none"> f Maximum set-up comfort with new smart settings, self-explanatory interface and new functions f Optimised energy efficiency thanks to EC motor technology, precise settings by 0.1m f Quick installation/replacement thanks to the improved compact design f Easier maintenance due to automatically and manually activated restart or air venting function | <ul style="list-style-type: none"> f A highly compatible replacement solution for all applications thanks to compact dimensions, new control modes e.g. iPWM and the new Sync function f Highest comfort in handling with one push button for control mode and one for preset curves and the LED display f Easy installation through adaptable connections and maintenance functions like air venting |
| Equipment/function | <ul style="list-style-type: none"> f Control modes: Δp-c, Δp-v, 3 speed stages f LED display for setting the required delivery head f Quick electrical connection with Wilo plug f Motor protection, fault signal light and contact for collective fault signal f Combination flanges PN 6/PN 10 (for DN 40 to DN 65) f Retrofittable interface module (Connect module) for communication | <ul style="list-style-type: none"> f Control mode: Δp-c, Δp-v and constant speed (3 pump curves) f Setting the operating mode by application, delivery head or constant speed f Automatic deblocking function f Manual restart and venting function f LED display for setting the setpoint and displaying current consumption f Wilo-Connector f Twin-head pump for individual (Δp-c, Δp-v, 3 speeds) or parallel operation (Δp-c, 3 speeds) | <ul style="list-style-type: none"> f Control mode: Δp-c, Δp-v and constant speed f External control (iPWM GT and iPWM ST) f Sync function (manual manual programming mode) f Air venting function f Manual restart f LED display and 2 push buttons for settings and functions activation f Dual electrical connection (Molex and Wilo-Connector) f Front access to motor screws |

| Series | Wilo-CronoLine-IL Wilo-CronoTwin-DL | Wilo-CronoBloc-BL | Wilo-VeroLine-IP-E Wilo-VeroTwin-DP-E |
|-------------------------|---|---|---|
| Product photo |  |  Series extension |  IE4 |
| Construction | Glanded pump/double pump in in-line design with flange connection | Glanded pump in monobloc design with flange connection | Energy-saving in-line pump/in-line double pump in glanded construction. Version as single-stage low-pressure centrifugal pump with flange connection and mechanical seal |
| Application | Pumping of heating water, cold water and water-glycol mixtures without abrasive substances in heating, cold water and cooling systems | Pumping of heating water, cold water and water-glycol mixtures without abrasive substances in heating, cold water and cooling systems | Pumping of heating water, cold water and water-glycol mixtures without abrasive substances in heating, cold water and cooling systems |
| Duty chart |  |  |  |
| Volume flow Q_{max} | 1,170 m ³ /h | 1,100 m ³ /h | 170 m ³ /h |
| Delivery head H_{max} | 108 m | 158 m | 30 m |
| Technical data | <ul style="list-style-type: none"> f Fluid temperature -20 °C to +140 °C f Mains connection 3~400 V, 50 Hz f Minimum efficiency index (MEI) ≥ 0.4 f Nominal diameter DN 32 to DN 250 f Max. operating pressure 16 bar (25 bar on request) | <ul style="list-style-type: none"> f Fluid temperature -20 °C to +140 °C f Mains connection 3~400 V, 50 Hz f Minimum efficiency index (MEI) ≥ 0.4 f Nominal diameter DN 32 to DN 150 f Max. operating pressure 16 bar (25 bar on request) | <ul style="list-style-type: none"> f Fluid temperature -20 °C to +120 °C f Mains connection: 3~440 V ±10 %, 50/60 Hz 3~400 V ±10 %, 50/60 Hz 3~380 V -5 %/+10 %, 50/60 Hz f Minimum efficiency index (MEI) ≥ 0.4 f Nominal diameter DN 32 to DN 80 f Max. operating pressure 10 (16) bar |
| Special features | <ul style="list-style-type: none"> f Can be used flexibly in air-conditioning and cooling systems, with application benefits due to direct draining of condensate f High standard of corrosion protection f Worldwide availability of standard motors (according to Wilo specifications) and standard mechanical seals f Main/standby mode or peak-load operation (by means of external auxiliary device) | <ul style="list-style-type: none"> f High corrosion protection through cathoporesis coating of the cast iron components f Standard condensate drainage holes in the motor housings f High worldwide availability of standard motors (according to Wilo specifications) and mechanical seals f Performance and main dimensions in accordance with EN 733 | <ul style="list-style-type: none"> f Optional interfaces for bus communication using plug-in IF modules f Simple operation with Green Button Technology and display f Integrated dual pump management f Integrated full motor protection with trip electronics f Motors with efficiency class IE4 |
| Equipment/function | <ul style="list-style-type: none"> f Single-stage, low-pressure centrifugal pump in in-line design with f Mechanical seal f Flange connection with pressure measuring connection R ½ f Lantern f Coupling f IEC standard motor f DL with switchover valve f Motors with efficiency class IE3 for motors ≥ 0.75 kW | <ul style="list-style-type: none"> f Single-stage low-pressure centrifugal pump in monobloc design, with axial suction port and radially arranged pressure port with f Mechanical seal f Flange connection with pressure measuring connection R ½ f Lantern f Coupling f Motors with efficiency class IE3 for motors ≥ 0.75 kW | <ul style="list-style-type: none"> f Control modes: Δp-c, Δp-v, PID control, n=constant f Manual functions: E.g. differential pressure setpoint setting, manual control mode, error acknowledgement f External control functions: E.g. Overriding Off, external pump cycling (double pump operation), analogue input 0-10 V/0-20 mA for constant speed (DDC) f Remote control via infrared interface (IR-Stick/IR-Monitor), plug-in position for IF modules for connection to building automation |

| Series | Wilo-CronoLine-IL-E Wilo-CronoTwin-DL-E | Wilo-CronoBloc-BL-E | Wilo-VeroLine-IPL Wilo-VeroTwin-DPL |
|-------------------------|--|---|---|
| Product photo |  |  |  |
| Construction | Energy-saving in-line pump/in-line double pump in glanded construction. Version as single-stage low-pressure centrifugal pump with flange connection and mechanical seal | Energy-saving pump in monobloc design in glanded construction. Version as single-stage low-pressure centrifugal pump with flange connection and mechanical seal | Glanded pump/double pump in in-line design with screwed connection or flange connection |
| Application | Pumping of heating water, cold water and water-glycol mixtures without abrasive substances in heating, cold water and cooling systems | Pumping of heating water, cold water and water-glycol mixtures without abrasive substances in heating, cold water and cooling systems | Pumping of heating water, cold water and water-glycol mixtures without abrasive substances in heating, cold water and cooling systems |
| Duty chart |  |  |  |
| Volume flow Q_{max} | 800 m ³ /h | 380 m ³ /h | 245 m ³ /h |
| Delivery head H_{max} | 65 m | 84 m | 52 m |
| Technical data | <ul style="list-style-type: none"> f Fluid temperature -20 °C to +140 °C f Mains connection: 3~440 V ±10 %, 50/60 Hz, 3~400 V ±10 %, 50/60 Hz, 3~380 V -5 %/+10 %, 50/60 Hz f Minimum efficiency index (MEI) ≥ 0.4 f Nominal diameter DN 40 to DN 80 f Max. operating pressure 16 bar up to +120 °C, 13 bar up to +140 °C | <ul style="list-style-type: none"> f Fluid temperature -20 °C to +140 °C f Mains connection: 3~440 V ±10 %, 50/60 Hz, 3~400 V ±10 %, 50/60 Hz, 3~380 V -5 %/+10 %, 50/60 Hz f Minimum efficiency index (MEI) ≥ 0.4 f Nominal diameter DN 32 to DN 125 f Max. operating pressure 16 bar up to +120 °C, 13 bar up to +140 °C | <ul style="list-style-type: none"> f Fluid temperature -20 °C to +120 °C f Mains connection 3~400 V, 50 Hz f Minimum efficiency index (MEI) ≥ 0.4 f Nominal diameter Rp 1 to DN 100 f Max. operating pressure 10 bar (special version: 16 bar) |
| Special features | <ul style="list-style-type: none"> f Optional interfaces for bus communication using plug-in IF modules f Simple operation with Green Button Technology and display f Integrated dual pump management f Integrated full motor protection with trip electronics f Motors with efficiency class IE4 | <ul style="list-style-type: none"> f Optional interfaces for bus communication using plug-in IF modules f Simple operation with Green Button Technology and display f Integrated full motor protection with trip electronics f Meets user requirements due to performance and main dimensions in accordance with EN 733 f Motors with efficiency class IE4 | <ul style="list-style-type: none"> f High standard of corrosion protection f Standard condensate drainage holes in motor housings and lanterns f Series design: motor with one-piece shaft f Version N: Standard motor B5 or V1 with stainless steel plug shaft f Bidirectional, force-flushed mechanical seal f DPL: Main-/standby operation or peak-load operation (via additional external device) |
| Equipment/function | <ul style="list-style-type: none"> f Control modes: Δp-c, Δp-v, PID control, n=constant f Manual functions: E.g. differential pressure setpoint setting, manual control mode, error acknowledgment f External control functions: E.g. Overriding Off, external pump cycling (double pump operation), analogue input 0-10 V/0-20 mA for constant speed (DDC) f Remote control via infrared interface (IR-Stick/IR-Monitor), plug-in position for IF modules for connection to building automation | <ul style="list-style-type: none"> f Control modes: Δp-c, Δp-v, PID control, n=constant f Manual functions: E.g. differential pressure setpoint setting, manual control mode, error acknowledgment f External control functions: E.g. Overriding Off, analogue input 0-10 V/0-20 mA for constant speed (DDC) f Remote control via infrared interface (IR-Stick/IR-Monitor), plug-in position for IF modules for connection to building automation | <ul style="list-style-type: none"> f Single-stage, low-pressure centrifugal pump in in-line design with f Mechanical seal f Flange connection with pressure measuring connection R ½ f Motor with one-piece shaft f DPL with switchover valve f Motors with efficiency class IE3 for motors ≥ 0.75 kW |

| Series | Wilo-Star-STG | Wilo-Star-Z NOVA | Wilo-Stratos PICO-Z |
|-------------------------|--|--|--|
| Product photo |  |  |  |
| Construction | Glandless circulator with screwed connection | Glandless circulator with screwed connection and blocking-current proof synchronous motor | Glandless circulator with screwed connection, EC motor and automatic power adjustment |
| Application | Circulation in solar thermal and geothermal energy systems | Domestic hot water circulation systems in industry and in building services | Domestic hot water circulation systems in industry and in building services |
| Duty chart |  |  |  |
| Volume flow Q_{max} | 3.8 m ³ /h | 0.4 m ³ /h | 3.5 m ³ /h |
| Delivery head H_{max} | 11.0 m | 1.1 m | 6 m |
| Technical data | <ul style="list-style-type: none"> <i>f</i> Fluid temperature -10 °C to +110 °C, in short-term duty (2 h) +120 °C <i>f</i> Mains connection 1~230 V, 50 Hz <i>f</i> Screwed connection Rp ½, Rp 1 <i>f</i> Max. operating pressure 10 bar | <ul style="list-style-type: none"> <i>f</i> Fluid temperature: potable water, max. +95 °C <i>f</i> Mains connection 1~230 V, 50 Hz <i>f</i> Screwed connection Rp ½ <i>f</i> Max. operating pressure 10 bar | <ul style="list-style-type: none"> <i>f</i> Fluid temperature: drinking water up to water hardness 3.57 mmol/l (20 °dH) max. +70 °C <i>f</i> Mains connection 1~230 V, 50 Hz <i>f</i> Screw connection Rp ¾, Rp 1 <i>f</i> Max. operating pressure 10 bar |
| Special features | <ul style="list-style-type: none"> <i>f</i> Special hydraulics for use in solar thermal and geothermal energy systems <i>f</i> Pump housing with wrench attachment point <i>f</i> Pump housing with cataphoretic (KTL) coating protects against corrosion due to condensate formation | <ul style="list-style-type: none"> <i>f</i> Hygienically safe thanks to proven technology <i>f</i> Improved energy efficiency due to synchronous motor with power consumption of only 3–6 watts and thermal insulation shell as standard <i>f</i> Quick, easy installation and replacement of common pump types thanks to flexible service motor and Wilo-Connector | <ul style="list-style-type: none"> <i>f</i> Manual and temperature-controlled mode for optimum operation <i>f</i> Identification of the thermal disinfection of the drinking water tank <i>f</i> Display of the current consumption in Watts and the cumulative kilowatt hours or of the current flow and the temperature <i>f</i> Stainless steel pump housing protects against bacteria and corrosion |
| Equipment/function | <ul style="list-style-type: none"> <i>f</i> 3 manually selectable speed stages <i>f</i> Wrench attachment point on pump housing <i>f</i> Blocking-current proof motor, motor protection not required <i>f</i> Cable inlet on both sides for simple installation <i>f</i> Quick electrical connection with spring clips <i>f</i> Pump housing with cataphoretic coating | <ul style="list-style-type: none"> <i>f</i> Wilo-Connector <i>f</i> Ball shut-off valve on suction side and non-return valve on pressure side (Star-Z NOVA A, C, T) <i>f</i> Including plug-in time switch, 1.8 m connection cable (Star-Z NOVA C) <i>f</i> Star-Z NOVA T incl. timer, thermostat valve and detection of thermal disinfection, LC display with symbolic language | <ul style="list-style-type: none"> <i>f</i> Control mode: Δp-c, temperature-controlled mode <i>f</i> Temperature control for constant return temperature in drinking water circulation systems <i>f</i> Thermal disinfection routine <i>f</i> Reset function for the electricity meter or to factory settings <i>f</i> "Hold" function (key lock) <i>f</i> Automatic deblocking function <i>f</i> Wilo-Connector |

| Series | Wilo-Yonos MAXO-Z | Wilo-Star-Z Wilo-Star-ZD |
|--------------------------|---|---|
| Product photo |  |  |
| Construction | Glandless circulator with screwed connection or flange connection, EC motor with automatic power adjustment | Glandless circulator with screwed connection |
| Application | Domestic hot water circulation systems in industry and in building services | Domestic hot water circulation systems in industry and in building services |
| Duty chart |  |  |
| Volume flow Q_{\max} | 40 m ³ /h | 8.5 m ³ /h |
| Delivery head H_{\max} | 12 m | 6.0 m |
| Technical data | <ul style="list-style-type: none"> <i>f</i> Permissible temperature range drinking water up to a water hardness of 3.57 mmol/l (20 °dH) max. +80 °C <i>f</i> Mains connection 1~230 V, 50 Hz <i>f</i> Nominal diameter Rp 1 to DN 65 <i>f</i> Max. operating pressure 10 bar | <ul style="list-style-type: none"> <i>f</i> Fluid temperature: drinking water up to water hardness 3.2 mmol/l (18 °dH) max. +65 °C <i>f</i> Mains connection 1~230 V, 50 Hz, <i>f</i> Screwed connection Rp ½ (¾), Rp 1 <i>f</i> Max. operating pressure 10 bar |
| Special features | <ul style="list-style-type: none"> <i>f</i> Indication of set delivery head and fault codes <i>f</i> Quick setting when replacing an uncontrolled standard pump with pre-set speed stages, e.g. TOP-Z <i>f</i> Electrical connection with Wilo plug <i>f</i> Collective fault signal ensures system availability <i>f</i> Corrosion-resistant pump housing in red brass for systems where oxygen entry is possible | <ul style="list-style-type: none"> <i>f</i> All plastic parts that come into contact with the fluid fulfil KTW recommendations |
| Equipment/function | <ul style="list-style-type: none"> <i>f</i> Control modes: Δp-c, Δp-v, 3 speed stages <i>f</i> LED display for setting the required delivery head <i>f</i> Quick electrical connection with Wilo plug <i>f</i> Motor protection, fault signal light and contact for collective fault signal <i>f</i> Corrosion-resistant pump housing in red brass <i>f</i> Combination flanges PN 6/PN 10 (for DN 40 to DN 65) <i>f</i> Retrofittable interface module (Connect module) for communication | <ul style="list-style-type: none"> <i>f</i> Constant speed or 3 selectable speed stages (Star-Z...-3), <i>f</i> Quick electrical connection with spring clips <i>f</i> Star-ZD version as double pump |

| Series | Wilo-TOP-Z | Wilo-TOP-S Wilo-TOP-SD |
|-------------------------|---|--|
| Product photo |  |  |
| Construction | Glandless circulator with screwed connection or flange connection | Glandless circulator with screwed or flanged connection |
| Application | Domestic hot water circulation systems in industry and in building services | Hot-water heating systems of all kinds, industrial circulation systems, cold water and air-conditioning systems |
| Duty chart |  |  |
| Volume flow Q_{max} | 65 m ³ /h | 130,0 m ³ /h |
| Delivery head H_{max} | 9 m | 19.0 m |
| Technical data | <ul style="list-style-type: none"> <i>f</i> Fluid temperature: drinking water max. +80 °C (+65 °C for TOP-Z 20/4 and TOP-Z 25/6) <i>f</i> Mains connection 1~230 V, 50 Hz; 3~400 V, 50 Hz <i>f</i> Nominal diameter Rp 1 to DN 65 <i>f</i> Max. operating pressure 10 bar | <ul style="list-style-type: none"> <i>f</i> Fluid temperature -20 °C to +130 °C Mains connection 1~230 V, 50 Hz (depending on type); 3~400 V, 50 Hz Nominal diameter Rp 1 to DN 100 Max operating pressure 10 bar (optional: 16 bar) |
| Special features | <ul style="list-style-type: none"> <i>f</i> Thermal winding contact (WSK) as potential-free contact (depending on type) <i>f</i> Rotation control lamp indicates the correct direction of rotation (only for 3~) <i>f</i> Thermal insulation as standard | <ul style="list-style-type: none"> <i>f</i> Rotation control lamp indicates the correct direction of rotation (only for 3~) <i>f</i> Manual power adjustment with 3 speed stages <i>f</i> Pump housing with cataphoretic (KTL) coating protects against corrosion due to condensation formation |
| Equipment/function | <ul style="list-style-type: none"> <i>f</i> Pre-selectable speed stages <i>f</i> Thermal insulation as standard <i>f</i> All plastic parts that come into contact with the fluid fulfil KTW recommendations <i>f</i> Combination flange PN 6/PN 10 (DN 40 to DN 65) | <ul style="list-style-type: none"> <i>f</i> Preselectable speed stages for performance adaptation <i>f</i> Combination flanges PN 6/PN 10 (DN 40 to DN 65) <i>f</i> Pump housing is KTL-coated <i>f</i> Thermal insulation shells for heating applications as standard |

wilo

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