

Pioneering for You

wilo

*Product brochure*

# WILO-STRATOS MAXO

## THE FUTURE IS CONNECTED.

New series!



Wilo – The sector's innovation leader

# THE FUTURE IS CONNECTED.

As the digital pioneer of the pumps industry, Wilo is driven by experience and commitment, by inspiration and a thirst for innovation, and by creativity and competence to provide integrated solutions from a single source. As a full-service provider and expert in technical building services and equipment, Wilo redefines the meaning of proximity to the customer through tailored and connected products and systems. Offering tailored and highly efficient digital solutions – that is our ambition.

**Experience the world of Wilo – digital, connected, liveable.**

[www.wilo-usa.com](http://www.wilo-usa.com)



## A WIDE VARIETY OF APPLICATIONS IN BUILDING SERVICES.

	 Heating	 Underfloor heating	 Air conditioning	 Solar/geothermal energy	 Domestic hot water
Wilo-Stratos MAXO	M/C	M/C*	M/C	M/C	–
Wilo-Stratos MAXO-D	M/C	M/C*	M/C	M/C	–
Wilo-Stratos MAXO-Z	M/C*	M/C*	M/C*	M/C*	M/C

**Key:**

M: Multi-family house

C: Commercial

– Application not possible

\* Possible application

## EXCELLENT EASE OF USE AND MAXIMUM EFFICIENCY: THE WILO-STRATOS MAXO.

“Pioneering for You” – the driver behind everything we do. The newest example of this is our Wilo-Stratos MAXO smart-pump\*. It defines a new category of pump: one with outstanding ease of use which is simple to connect. Its unique characteristic is the large and easy-to-read colour display, which comes as standard for all series. Combined with Green Button Technology, it offers intuitive operation thanks to application-guided settings.

The Wilo-Stratos MAXO exemplifies the highest level of compatibility with existing systems. Innovative energy-saving functions and new control modes enable it to reach maximum system efficiency. It also features comfortable installation and extremely easy configuration. An outstanding product that represents an advantage for you as consultants and installers – as well as for your customers.



\* See page 10

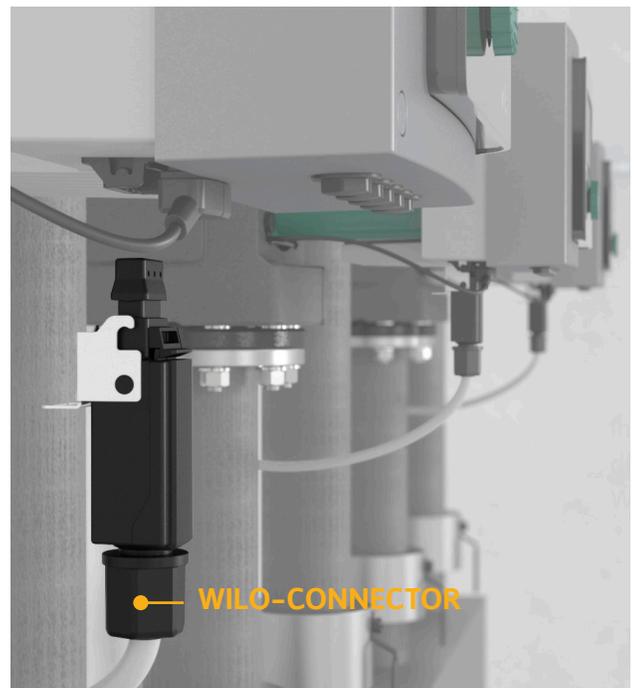
## Made easy: installation in the blink of an eye.



More user-friendly than ever before: The Wilo-Stratos MAXO offers maximum convenience for installation and configuration – and therefore saves time in your day-to-day work. The control panel, terminal box and power board have been fitted one behind the other to avoid the problems of too-small connection spaces. The power supply unit and the pump electronics are located one level behind the terminal space and all sizes are supplied with the same optimized Wilo-Connector. Thanks to spring clips for connection, no additional tools are necessary during installation.

### INSTALLATION ADVANTAGES IN DETAIL:

- Easily accessible connection terminals, clearly arranged and uniform shield clamps
- Up to five cable bushings
- Separate input for the power supply
- Coloured terminals for safe and easy allocation and clear separation of electrical and communication connections (SELV)
- Optimised Wilo-Connector for all sizes



Download the free “Wilo-Assistant” app. Additional information is available wherever you see this symbol. Simply scan the corresponding area with your smartphone. Here’s how it works: Start the Wilo app, tap the AR logo in the Start menu and scan the content with your smartphone.



## One-click commissioning: easier than ever before.

Intuitive operation: The Wilo-Stratos MAXO impresses with application-guided configuration using the *settings assistant*, a new display and the operating button with Green Button Technology. This provides outstanding ease of use on commissioning. The Wilo-Stratos MAXO also enables convenient control and operation using the Smart Connection function in the Wilo-Assistant app, which can be accessed by smartphone or tablet.

### COMMISSIONING ADVANTAGES IN DETAIL:

- One-click commissioning using the factory settings (Heating – Radiator – Dynamic Adapt plus)
- Settings assistant: application-based setting of the pump function (guided selection of correct control function)
- Intuitive user interface with preview function and application-based default settings
- Large display with high resolution and very good legibility

# Innovative technologies for more efficient systems.

## IN FOCUS: NEW, INTELLIGENT CONTROL MODES FOR MORE EFFICIENCY.

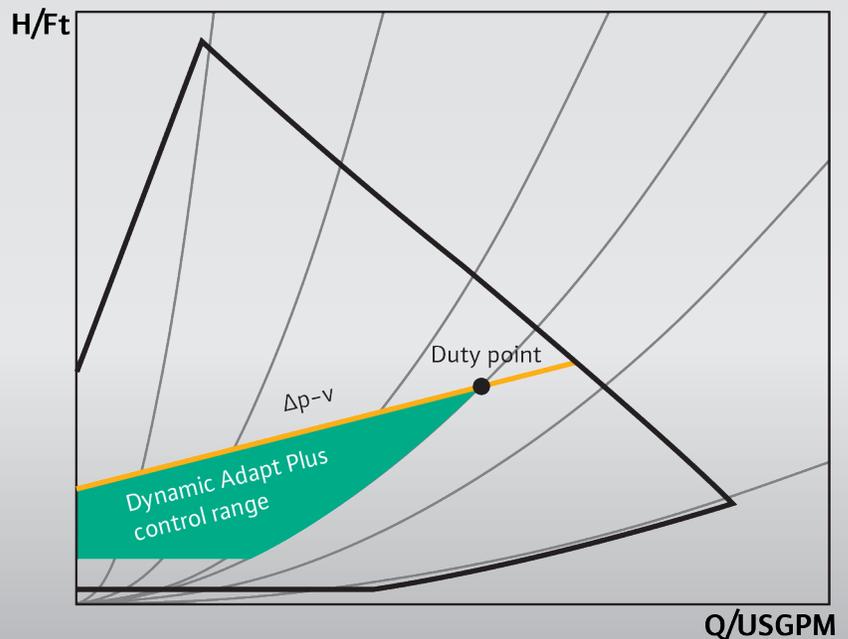
The Wilo-Stratos MAXO is the pump with the highest system efficiency on the market. It achieves its maximum efficiency thanks to optimised and innovative energy-saving functions such as Multi-Flow Adaptation and No-Flow Stop as well as its excellent EEI of  $\leq 0.17$  to  $\leq 0.19$ . Combination with additional sophisticated control functions such as Dynamic Adapt plus allows the Wilo-Stratos MAXO to offer maximum energy efficiency with the most straightforward operation.

### DYNAMIC ADAPT PLUS

The new control function automatically adjusts the delivery head to the hydraulic demand without the need to specify a setpoint. After initial commissioning, the Wilo-Stratos MAXO selects a duty point in the middle of the pump duty chart. New operating points are identified after each change in volume flow.

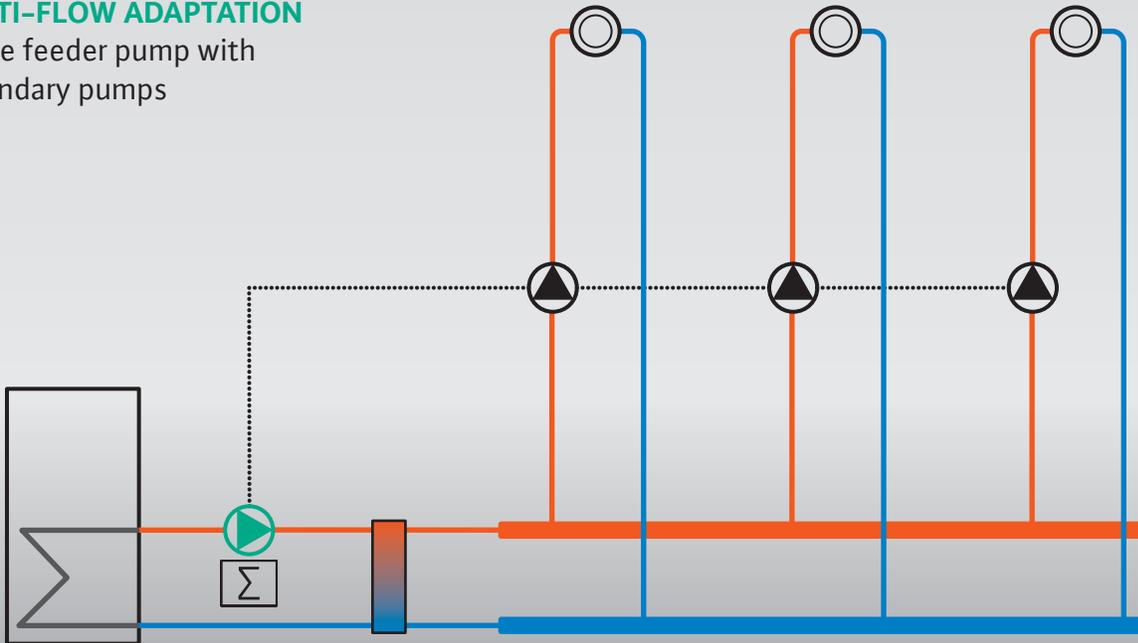
The aim of this control method is to select the operating point so that the valves are open as wide as possible. This allows the system to operate with the lowest possible pressure loss. The adaptation to variable pressure conditions is performed automatically and independently.

Up to 20% energy savings  
compared to control mode  $\Delta p-v$



## MULTI-FLOW ADAPTATION

of the feeder pump with secondary pumps



## MULTI-FLOW ADAPTATION

The new innovative energy-saving function enables the feeder pump to adjust its output to the precise demand of the connected consumer circuit pumps. The feeder pump continuously receives the respective required volume flow from each individual secondary pump in short intervals. The sum of the required volume flows from all secondary pumps results in the target volume flow of the feeder pump, so that the feeder pump only pumps the precise volume flow that the secondary pump requires.

It has the advantage that electrical pumping energy is saved when compared to  $\Delta p$ -c control. In addition, a lower return temperature optimizes the heat generator's degree of utilisation which, in turn, has a positive fuel saving effect. For local and district heating transfer stations, the lower return temperature also leads to higher operational reliability, as it avoids overflows and the activation of the return temperature limiter.

## NO-FLOW STOP

The energy-saving function automatically deactivates the pump when a zero flow is detected. The Wilo-Stratos MAXO recognises when, despite its speed, the volume flow supplied is too low. This means that the valves in the consumer circuit are closed. Thanks to the intelligent function, the pump stops the motor if the volume flow falls below a specified minimum level. At regular intervals, it checks whether the minimum volume flow has been exceeded again, then continues in its set control mode with auto control. The Wilo-Stratos MAXO thus avoids unnecessary running time and saves electrical pumping energy.

*Additional control functions can be found in the technical data on page 11.*

# Intelligent communication with maximum connectivity.



From integration in building automation to control using the app, Wilo ensures comprehensive communication capability with intelligent and smart technologies. We provide you with smart connections to your pumps and pump systems and give you an overview of installation sites and operating conditions while you are on the go. You can check different configurations and observe systems while you are on the road. That way, you make the best possible use of the digital dynamics and maintain control at all times – anytime and anywhere, as if you were on site.

This also applies to existing Wilo pumps, as we modernise tried-and-tested high-efficiency pumps using digital extensions for the connectivity of the future. What this means for you is even greater convenience, thanks to control and data retrieval via your mobile phone or tablet.

## WILO-SMART CONNECT

Smart Connect function in the Wilo-Assistant app for remote control of Wilo products:

- Connect the pump to a smartphone or tablet via the Bluetooth interface
- No dongle required
- Configuration, control and fine-tuning
- Capture operating information for storing, transfer and creating documentation
- Software updates for the pump
- Particularly convenient for pumps that are hard to access

## WILO-SMART GATEWAY

The module for connectivity with our Wilo-Smart Cloud remote access infrastructure:

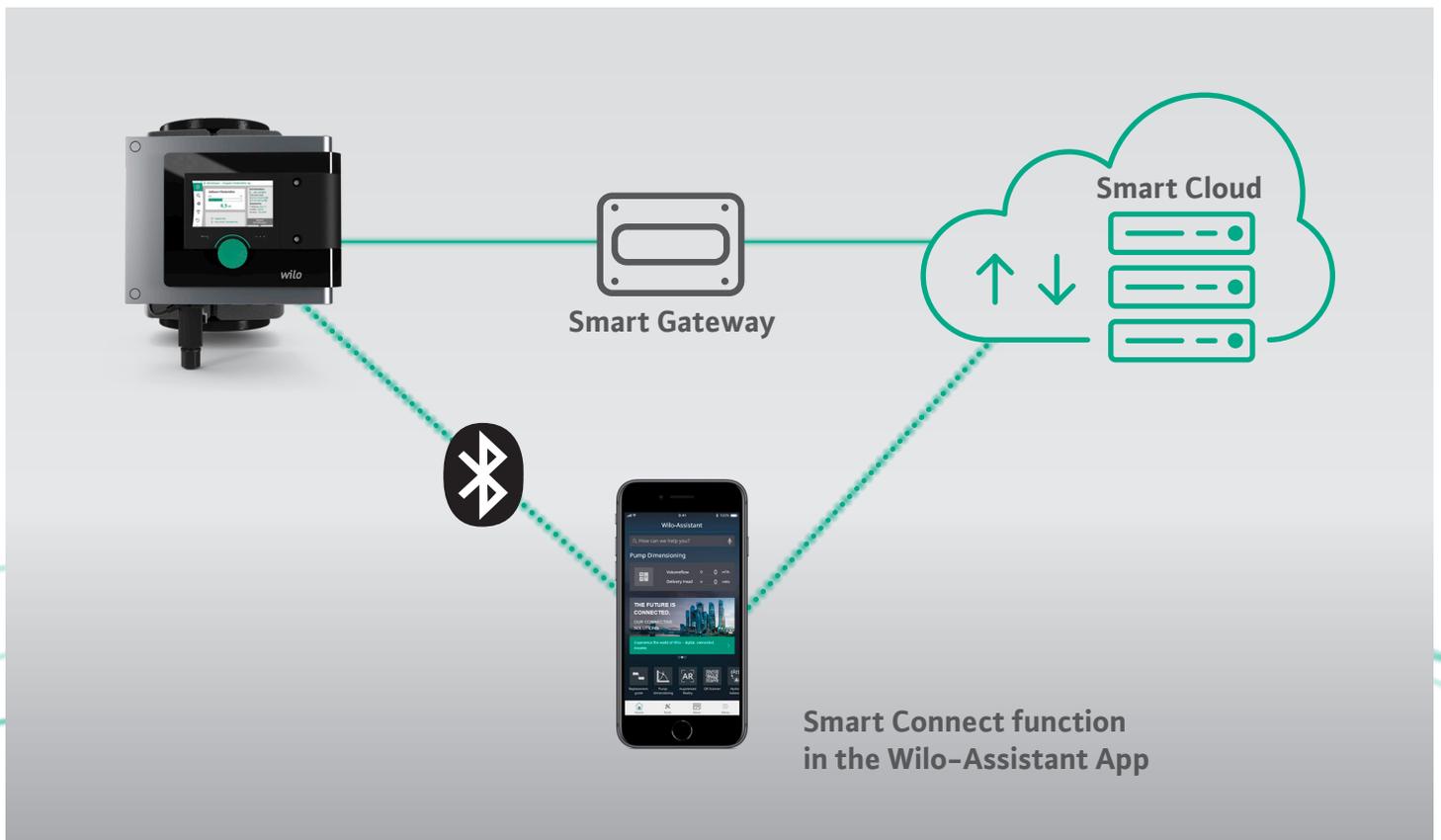
- Connection via Wilo Net to the Wilo-Smart Cloud – the new Wilo online platform
- Simple and safe data transfer from the pump to the Wilo-Smart Cloud
- Facilitates the remote monitoring and control of the pump via smartphone or tablet

## WILO-SMART CLOUD

Our cloud service for remote control over long distances:

- Access via the internet
- Option of world-wide pump monitoring and control
- Documentation of pump information
- Sends information, fault messages and warnings
- Visualisation and storage of data via the Smart Connect function in the Wilo-Assistant app

The Wilo-Assistant app can be downloaded from the Apple App Store or Google Play free of charge. Simply scan the barcode and download.





## Head start in the future: the Wilo-Stratos MAXO family.

The world's first smart-pump\* features tomorrow's innovations to make your life easier today: The Wilo-Stratos MAXO offers you greater efficiency, connectivity and comfort than ever before. It is the first pump to feature a self-explanatory user interface – and make installation and operation uniquely simple. The Wilo-Stratos MAXO also redefines system efficiency: It attains maximum system efficiency by featuring innovative energy-saving functions and new control modes. The

highest level of compatibility with existing systems is also a matter of course for our smart-pump.

The Wilo-Stratos MAXO has already received multiple awards for its sustainability for the future, innovative design and energy-efficient technology.

Put your faith in the pump technology of the future – you and your customers will profit from the outstanding features of the Wilo-Stratos MAXO.

**DESIGN PLUS**

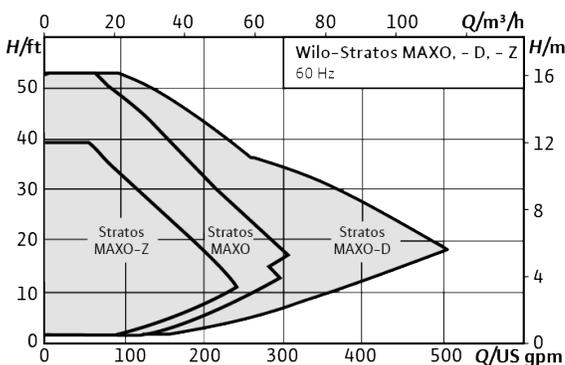
powered by: **ISH**



\* We understand a smart-pump as a new category of pumps, which goes far beyond our high-efficiency pumps or pumps with pump intelligence. Only the combination of the latest sensor technology and innovative control functions (e.g. Dynamic Adapt plus and Multi-Flow Adaptation), bidirectional connectivity (e.g. Bluetooth, integrated analogue inputs, binary inputs and outputs, Wilo Net interface), software updates and excellent usability (e.g. thanks to the Setup Guide, the preview principle for predictive navigation and the tried and tested Green Button Technology) make this pump a smart-pump.

## PRODUCT ADVANTAGES:

- Intuitive operation through application-guided setting using the settings assistant combined with a new display and operating button with Green Button Technology
- Maximum energy efficiency thanks to the combination of optimised and innovative energy-saving functions (e. g. No-Flow Stop)
- Optimum system efficiency thanks to new intelligent control functions, such as Dynamic Adapt plus, Multi-Flow Adaptation, T-const. and  $\Delta T$ -const.
- The latest communication interfaces (e. g. Bluetooth) for connecting to mobile terminal devices and direct pump networking using Wilo Net for multiple pump control
- Maximum convenience for electrical installation owing to the clearly arranged and spacious terminal room and the optimised Wilo-Connector
- Use of the Wilo-Stratos MAXO-Z ensures optimum hygiene support thanks to its thermal disinfection detection



Technical data	
Equipment/performance	Wilo-Stratos MAXO/-D/-Z
Drive system	EC motor with integrated electronic power adjustment
Delivery head $H_{max}$	52.49 ft
Volume flow $Q_{max}$	281 gpm (single pump) 240 gpm (drinking water pump) 493 gpm (twin-head pump)
Control	<ul style="list-style-type: none"> <li>→ Dynamic Adapt plus: independent power adjustment without manual setpoint specification</li> <li>→ Constant temperature: T-const.</li> <li>→ Constant differential temperature: <math>\Delta T</math>-const.</li> <li>→ Multi-pump system: Multi-Flow Adaptation</li> <li>→ Constant volume flow: Q-const.</li> <li>→ Index circuit evaluator</li> <li>→ User-defined PID control: PID</li> <li>→ Constant differential pressure: <math>\Delta p</math>-c</li> <li>→ Variable differential pressure: <math>\Delta p</math>-v</li> <li>→ Constant speed: n-const.</li> </ul>
Functions	<ul style="list-style-type: none"> <li>→ Configurable volume flow limitation via <math>Q_{limit}</math> function (<math>Q_{min}</math> and <math>Q_{max}</math>)</li> <li>→ No-Flow Stop (automatic deactivation of the pump)</li> <li>→ Pump venting function for automatic venting of the rotor chamber</li> <li>→ Switchover between heating and cooling mode (automatic and manual)</li> <li>→ Separate heating/cooling quantity measurement</li> <li>→ Automatic setback operation</li> <li>→ Automatic deblocking function and integrated full motor protection</li> <li>→ Dry run detection</li> <li>→ Thermal disinfection detection (Stratos MAXO-Z only)</li> <li>→ Operating modes of twin-head pumps: Main/standby operation, parallel operation (efficiency-optimised double pump management)</li> </ul>
Display	Illuminated full graphic 4.2-inch colour display
Electrical connection Wilo-Connector	1-230 V, 50/60 Hz
Protection class	IPX4D
Fluid temperature range	Wilo-Stratos MAXO/-D: 14°F to 230 °F Wilo-Stratos MAXO-Z: 32 °F to 176 °F up to 3.57 mmol/l (20 °dH)
Thermal insulation shell	Single pumps equipped with thermal insulation as standard
Energy efficiency index (EEI)	$\leq 0.17$ to $\leq 0.19$
Optional accessories	<ul style="list-style-type: none"> <li>→ Screwed connections for threaded connection</li> <li>→ Counter flange (DN 32 to DN 100)</li> <li>→ Adapter fittings</li> <li>→ ClimaForm Stratos MAXO</li> <li>→ PT1000 sensors</li> <li>→ Differential pressure sensor</li> <li>→ Wilo CIF modules: Modbus RTU, BACnet MS/TP, LON, PLR</li> </ul>

# Wilo-Stratos MAXO

## High-Efficiency Smart Circulators



### Applications:

- Hot-Water Heating Systems
- Air-Conditioning Systems
- Closed Cooling Circuits
- Industrial Circulation Systems

### Features & Benefits

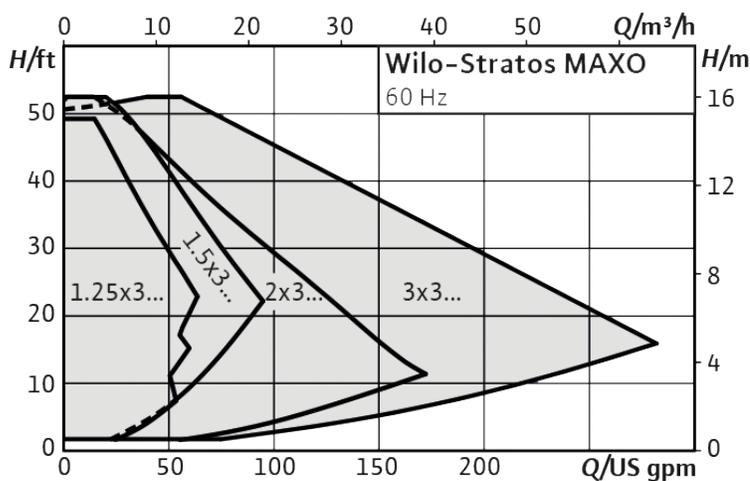
- Green Button Technology with 7" LED color touchscreen display
- Maximum energy efficiency
- New and innovative intelligent control functions, such as Dynamic Adapt plus, Multi-Flow Adaptation, T-const. and  $\Delta T$ -const.
- Bluetooth for connection to mobile devices and direct pump networking for multiple pump via Wilo Net.
- Easy electrical installation

### Technical Data

- Temp Range: 14 °F to 230 °F (-10 °C to +110 °C)
- Electrical Connection: 1~230v
- Protection class IPX4D
- Max. Flow:** 281 gpm
- Max. Head:** 52 ft.

### Materials of Construction

- Gray Cast Iron with Cataphoretic coating
- Thermal Insulation: Polypropylene
- Stainless Steel Shaft
- Carbon Bearing
- Plastic Impeller



# Wilo-Stratos MAXO-D

## High-Efficiency Smart Double Circulators



### Applications:

- Hot-Water Heating Systems
- Air-Conditioning Systems
- Closed Cooling Circuits
- Industrial Circulation Systems

### Features & Benefits

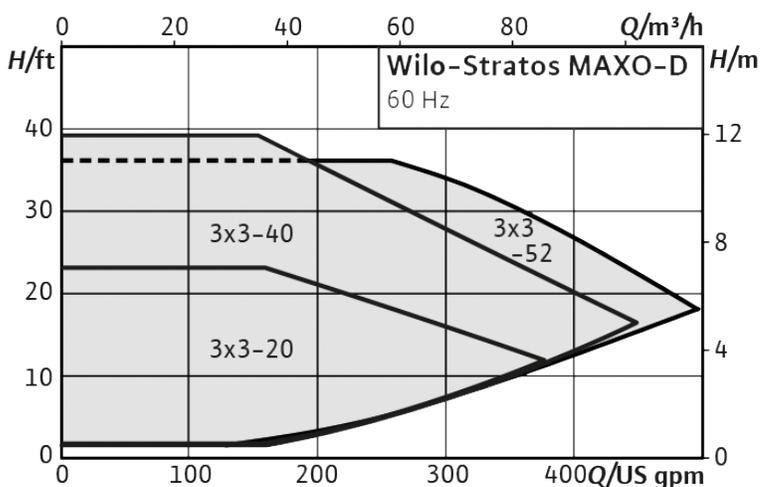
- Green Button Technology with 7" LED color touchscreen display
- Maximum energy efficiency
- New and innovative intelligent control functions, such as Dynamic Adapt plus, Multi-Flow Adaptation, T-const. and  $\Delta T$ -const.
- Bluetooth for connection to mobile devices and direct pump networking for multiple pump via Wilo Net.
- Easy electrical installation

### Technical Data

- Temp Range: 14 °F to 230 °F (-10 °C to +110 °C)
- Electrical Connection: 1~230v
- Protection class IPX4D
- Max. Flow:** 493 gpm
- Max. Head:** 52 ft.

### Materials of Construction

- Gray Cast Iron with Cataphoretic coating
- Thermal Insulation: Polypropylene
- Stainless Steel Shaft
- Carbon Bearing
- Carbon Fibre Composite Impeller



# Wilo-Stratos MAXO-Z

## High-Efficiency Circulators



### Applications:

- Drinking Water
- Domestic Hot-Water Circulation Systems
- Hot-Water Heating Systems
- Air-Conditioning
- Closed Cooling Circuits
- Industrial Circulation Systems

### Features & Benefits

- EC Motor Technology
- Green Button Technology with 7" LED color touchscreen display
- Highest standard of drinking water hygiene and energy efficiency
- Thermal disinfection detection
- Bluetooth for connection to mobile devices and direct pump networking for multiple pump via Wilo Net.
- Easy electrical installation

### Technical Data

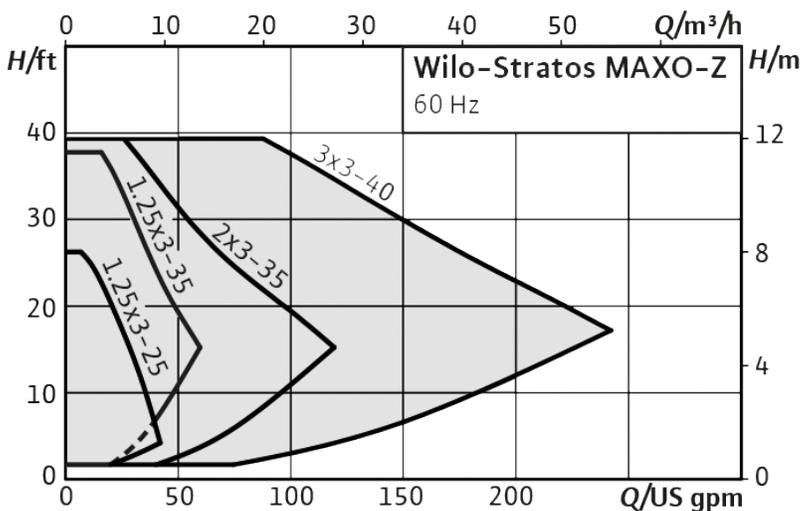
- NSF61/Annex G Certified
- Drinking Water Temp Range: 32°F to 176°F (0 °C to 80°C)
- Heating Water Temp Range: 14°F to 230°F (-10 °C to 110°C)
- Electrical Connection: 1~230v
- Protection class IPX4D
- Screwed connection or flange connection

**Max. Flow:** 240 gpm

**Max. Head:** 40 ft.

### Materials of Construction

- AISI 304 Stainless Steel construction with 300 class ANSI flanges
- Thermal Insulation: Polypropylene
- Carbon Bearing
- Carbon Fibre Composite Impeller





## FACTORY CUSTOMER SERVICE

Wilo has a long tradition of collaborating with installers and plant engineers. Our factory customer service is an essential component of this partnership. We collaborate to develop a service concept tailored to your individual needs; with our expertise and personal consultation, we make sure that the operation of your systems is as energy-efficient, reliable and economical as possible. And our competent Wilo Service technicians are ready to assist you with fast, reliable and on-time support.

## WILOCARE

Your complete package for maximum operational reliability and cost certainty. With WiloCare we offer you a service package that bundles the range of services provided by the Wilo factory's own customer service into a complete package geared specifically to your needs. We ensure optimum, energy-efficient operation on the basis of transferred data and even handle error messages, fault correction and optimization of the system.



For ultimate convenience:

- A service that guarantees operational reliability and cost certainty.
- You remain up-to-date about the current status of your system, including its energy consumption, optimisations available and possible malfunctions.
- You can check how reliable your processes are at any time in terms of both technology and cost.



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