

**wilo**®



# Wilo Booster Systems

**Product Presentation – October 16, 2018**

# Wilo Co-Helix (2-4 pumps)



\* Pictured with optional hydropneumatic tank option

CLASSIFIED
   
 UL
   
 WATER QUALITY
   
 Drinking Water System Component
   
 NSF/ANSI 61
   
 ALSO CERTIFIED TO NSF/ANSI 372
   
 MH60113

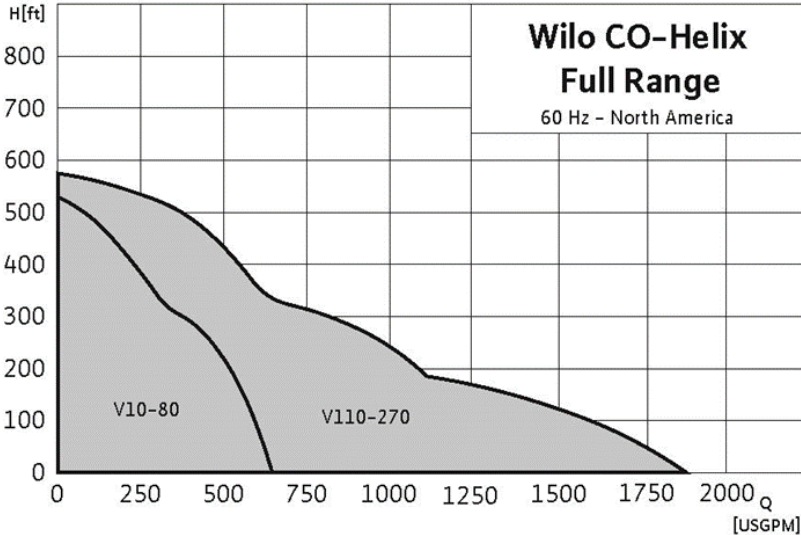
## Product Information

- Booster system and components comply to both NSF-372 and NSF-61
- Maximum rated pressure: 232/363 PSI (depending on number of stages)
- Maximum Flow: 1,780 USGPM
- Maximum Head: 580 ft
- Liquid Temp Range: -4°F to +248°F (Min. 32°F for Domestic Water)
- Ambient Temp Range: +32°F to +104 °F
- 304 Stainless Steel Construction
- Premium Efficient NEMA Motor
- NEMA 12 Panel Enclosure (option for 3R)
- 7" Color touchscreen interface (62,000 colors)
- On-board MODbus protocol (option for BACnet, LONworks and CANopen-Gateway needed)
- Low suction pressure cut-out (analog; optional digital input)
- Round-the-clock system monitoring
- Critical settings are password protected
- 1 VFD per pump (mounted in panel)

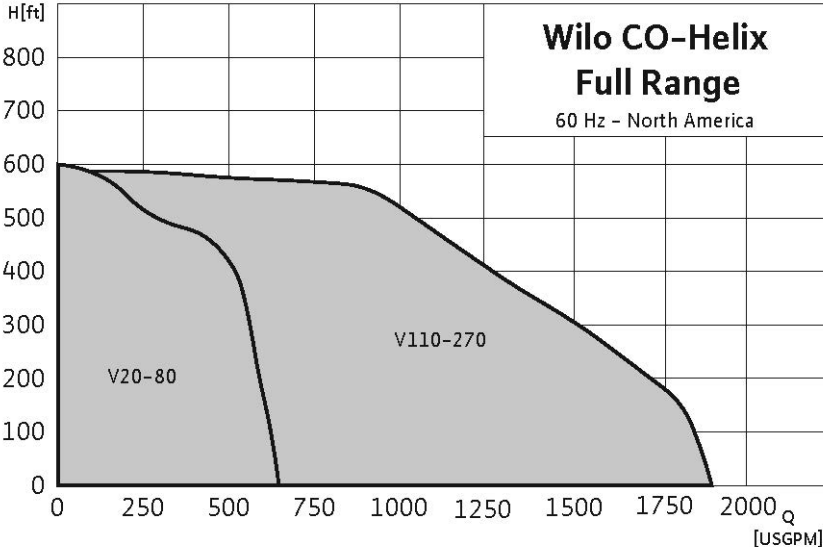
# Wilo Co-Helix Operating Range(2-4 pumps)



## Current Range



## Future Range



# Wilo-SIBOOSTER EXCEL (2-4 pumps)



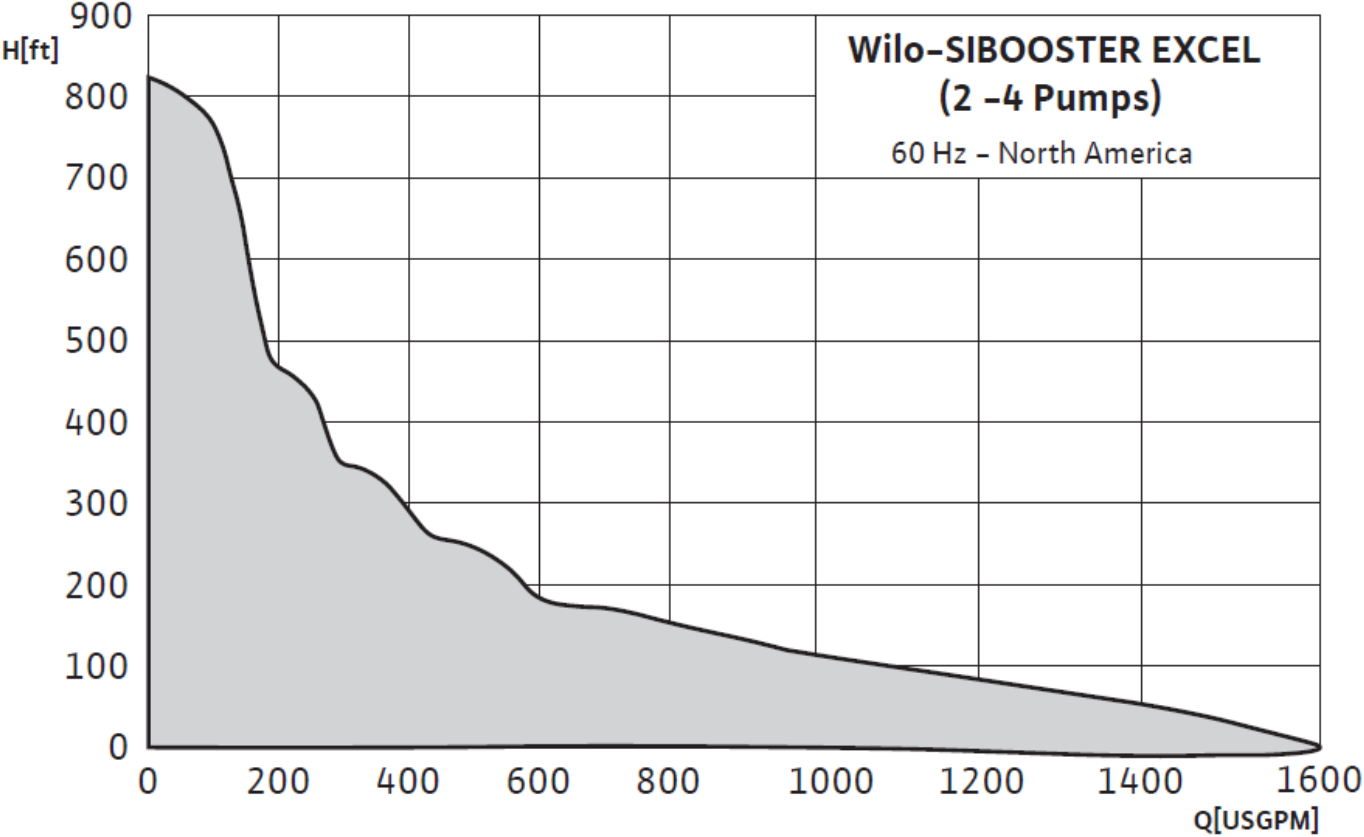
\* Pictured with optional hydro-pneumatic tank option

## Product Information

- High Efficiency, EC Motor-Driven, Booster system
- Booster system and components comply to both NSF-372 and NSF-61
- Maximum rated pressure: 232/363 PSI (depending on number of stages)
- Maximum Flow: 1,780 USGPM
- Maximum Head: 808 ft
- Liquid Temp Range: -4°F to +248°F (Min. 32°F for Domestic Water)
- Ambient Temp Range: +32°F to +104 °F
- 304 Stainless Steel Construction
- EC Motor meets IE5 Efficiency Standards
- NEMA 12 Panel Enclosure (option for 3R)
- 7" Color touchscreen interface (62,000 colors)
- On-board MODbus protocol (option for BACnet, LONworks and CANopen-Gateway needed)
- Low suction pressure cut-out (analog; optional digital input)
- Round-the-clock system monitoring
- Critical settings are password protected



# Wilo-SIBOOSTER EXCEL Operating Range (2-4 pumps)



## PLC – standard features included



### Features

- State of the art PLC
- 7" Color Touchscreen Programmable Logic Controller with easy to use interface (62,000 colors)
- Variable speed drive per pump
- Motor overload protection
- Selectable control operation: base load/peak load or duty standby
- Hand/off/auto function – through HMI interface
- Automatic pump alternation based either on run time or cyclic sequencing.
- Audible alarm with silencing feature (holds up to 256 Alarms)
- Pipe Fill feature
- Pipe Burst Protection
- Real-time Suction and Discharge Monitoring.
- Real-time kWh energy usage per pump and total kWh usage for the entire pump package

## PLC – standard features included continued



### Features

- Real-time pump running hours counter
- Text messages operator for alarms or system failure.
- Can monitor system remotely either through building management system or downloadable app that mirrors the on-site interface with exact functionality
- Password protected screens so system settings cannot be corrupted by anyone other than the operator
- Low suction pressure cut-out
- Round-the-clock system monitoring
- Onboard MODbus communications protocol
- Lock-out disconnect switch

## PLC – optional features



### Features

- NEMA 3R Panel enclosure for outdoor applications
- Run/fault lights
- Surge protection



# PLC – easy & straight forward

## Offers four levels of access (Protection)

- Monitoring

No Password Required

- Operator

1st Level Password Protected

- Wilo Representative

2nd Level Password Protected

- Wilo Administrator

Admin. Password Protected

The screenshot displays a control interface for a Wilo PLC system. At the top, four vertical pump units are shown. Below them is a control panel with four columns, each representing a pump:

Pump 1	Pump 2	Pump 3	Pump 4
Off Auto	Off Auto	Off Auto	Off Auto

On the right side of the interface, there are two pressure gauges:

- Discharge Pressure: 45 psi
- Suction Pressure: 0 psi

Below the gauges is a vertical stack of three menu buttons:

- System Information
- Operator Settings
- Advanced Settings

The Wilo logo is visible in the bottom left corner of the interface.

## PLC – easy & straight forward

- Monitor only
- Unable to change booster settings
- From the main screen you are able to view critical features
  - Suction pressure
  - Discharge pressure
  - Pump status
  - Alarm status
  - Pump speed
  - Standby pump status
- Push to silence

The screenshot displays a control interface for a Wilo booster system. At the top, four vertical pump units are shown. Below them is a control panel with four columns, one for each pump:

Pump 1	Pump 2	Pump 3	Pump 4
Off Auto	Off Auto	Off Auto	Off Auto

On the right side of the interface, two grey boxes display system pressure readings:

- Discharge Pressure: 45 psi
- Suction Pressure: 0 psi

At the bottom right, there are three stacked buttons: "System Information", "Operator Settings", and "Advanced Settings". A hand icon is pointing to the "System Information" button.

# Monitoring

- Monitor only
  
- Able see additional details
  
- Live
  - Motor Voltage
  - Motor Current
  - Power Consumption

Additional Details

	Motor Voltage	Motor Current	Current Power
<b>Pump 1:</b>	<b>0 V</b>	<b>0.00 A</b>	<b>0.000 kW</b>
<b>Pump 2:</b>	<b>204 V</b>	<b>2.39 A</b>	<b>0.671 kW</b>
<b>Pump 3:</b>	<b>205 V</b>	<b>2.51 A</b>	<b>0.708 kW</b>
<b>Pump 4:</b>	<b>205 V</b>	<b>2.50 A</b>	<b>0.723 kW</b>
<b>Total:</b>			<b>2.102 kW</b>

Previous Screen

Main Screen



# Monitoring

- Increases access to maintain operation or perform service in addition to monitoring.

The screenshot displays a monitoring interface for four pumps. At the top, four pump icons are shown. Below them is a control panel with four columns, each labeled 'Pump 1', 'Pump 2', 'Pump 3', and 'Pump 4'. Each column has 'Off' and 'Auto' buttons and a circular indicator with a green bar. To the right, a red box indicates an 'Active Alarm' for 'Low Suction Pressure'. Below this, two grey boxes show 'Discharge Pressure: 1 psi' and 'Suction Pressure: 1 psi'. A hand icon points to the pressure readings. Further down are three stacked grey buttons: 'System Information', 'Operator Settings', and 'Advanced Settings'. At the bottom left is the 'wilo' logo, and at the bottom center is a red 'SILENCE ALARM' button with a speaker icon crossed out.

# Operator Settings

- Access to the following Menus
  - Pump Test Run
  - Hand Control
  - Alarm History
  - Active Alarms
  - Discharge Pressure Set Point
  - IP Configuration
  - E-mail Notification Configuration
  - Back to main screen

**Operator Settings**

<div style="background-color: #008080; color: white; padding: 5px; margin-bottom: 5px;"><b>Pumps</b></div> <div style="background-color: #cccccc; padding: 5px; margin-bottom: 5px; text-align: center;"> <b>Pump Test Run Configuration</b> </div> <div style="background-color: #cccccc; padding: 5px; text-align: center;"> <b>Hand Control</b> </div>	<div style="background-color: #008080; color: white; padding: 5px; margin-bottom: 5px;"><b>Alarms</b></div> <div style="background-color: #cccccc; padding: 5px; margin-bottom: 5px; text-align: center;"> <b>View Alarm History</b> </div> <div style="background-color: #cccccc; padding: 5px; text-align: center;"> <b>View Active Alarms</b> </div>	<div style="background-color: #008080; color: white; padding: 5px; margin-bottom: 5px;"><b>Communications</b></div> <div style="background-color: #cccccc; padding: 5px; margin-bottom: 5px; text-align: center;"> <b>IP Configuration</b> </div> <div style="background-color: #cccccc; padding: 5px; text-align: center;"> <b>Email Configuration</b> </div>
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**Discharge Pressure Setpoint :** 999.9 psi


Main Screen

# Operator Settings – Active Alarms


**Pump Motor Overload Fault**

**A pump motor overload fault has been detected. The motor protector has tripped. The current setpoint has been exceeded.**

- 1) Check for short circuit.**
- 2) Check for lost phase, (if a 3 phase motor).**
- 3) Check the FLA set point, and compare to the motor nameplate.**



**Check Overload relay set point. Should be set at Full Load Amps (FLA) of Motor.**



**Twist Handle CW to this Position to Reset**

**Main Screen**

# Operator – Example #2 (Battery Fault)

- OPERATOR

- Scenario #2

- Low Battery

The screenshot shows a control interface for a Wilo booster system. At the top left, a red 'Battery' label is next to a hand icon pointing at the pumps. Below this are four pump icons. Underneath each pump icon is a control panel with 'Pump 1', 'Pump 2', 'Pump 3', and 'Pump 4' labels, each with 'Off' and 'Auto' modes. Each panel contains a circular indicator with a green bar and a teal bar below it. The word 'STANDBY' is centered below the pump panels. On the right, a grey box displays 'Discharge Pressure: 999 psi' and 'Suction Pressure: 999 psi'. Below this are three stacked buttons: 'System Information', 'Operator Settings', and 'Advanced Settings'. At the bottom left is the 'wilo' logo, and at the bottom center is a blue 'SILENCE' button with a red prohibition sign over a speaker icon.



## Operator – Example #2 (Battery Fault)

### Low Battery Detected

**A low battery voltage condition has been detected.**

- 1) Check for a loose battery.**
- 2) Replace the battery with a new CR2450.**

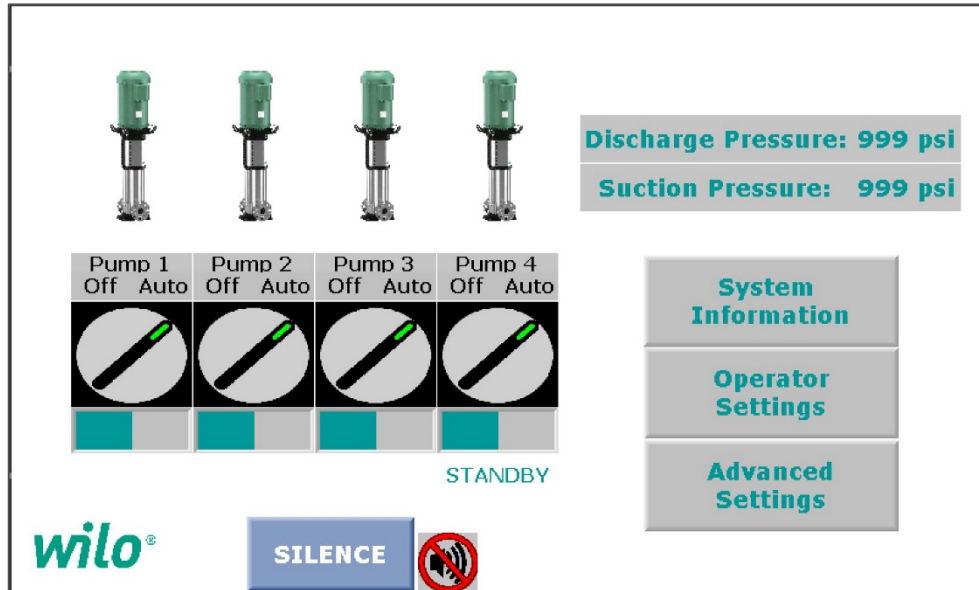
**Do Not remove power to the control until a new battery is installed.**  
**If power is lost to the PLC when the alarm is active, the presets, such as float levels may be lost. The program will remain in the PLC.**



**The battery is behind the I/O module. Slide the battery cover up to expose.**

**Main  
Screen**

# Remote Access



## Smartphone App

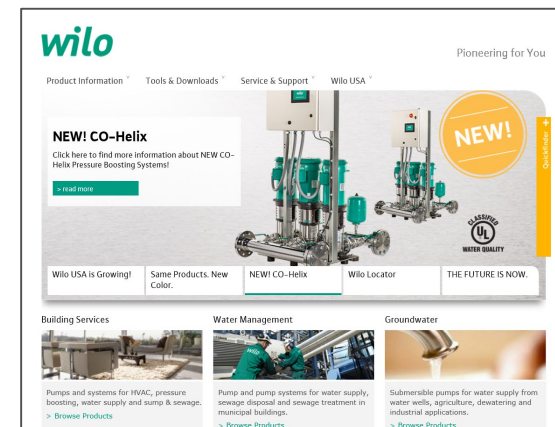
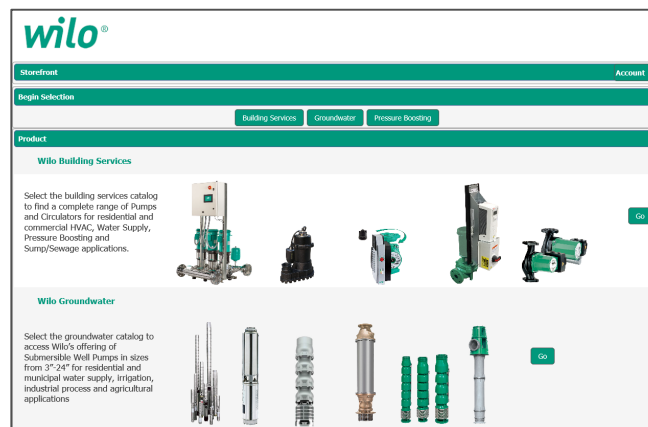
- Via any VNC application from PC, cellphone, or tablet. Built-in Web Server enables secure remote monitor & data editing
- Text message alerts – pump failure to the operator
- Downloadable App (IOS and Android) that will allow access to PLC and have the same functionality as if you were in front of the panel
- Access alarm logs



# Availability



- Available to order now!
- Wilo Pump Select
- Downloads on website



# Take-Off Sheet

**Wilo CO-Helix Take-Off Sheet**  
Packaged Booster Systems

**wilo**<sup>®</sup>

Submit orders to: fax +1 229-558-9015 or email [order.processing@wilo-usa.com](mailto:order.processing@wilo-usa.com)

Quote #	PO #	Date
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CO-Helix Product Data	Panel & Tank Options
Distributor:	Select Option Article Number Price (USD)
Phone:	<input type="checkbox"/> Pump Run/Fault Lights (Duplex) 2700139 \$
Fax:	<input type="checkbox"/> Pump Run/Fault Lights (Triplex) 2700140 \$
	<input type="checkbox"/> Pump Run/Fault Lights (Quadruplex) 2700141 \$
	<input type="checkbox"/> Surge Protection, 3~ 208v-230v, Delta 2701555 \$
Model:	<input type="checkbox"/> Surge Protection, 3~ 460v, Delta 2701556 \$
Power Supply:	<input type="checkbox"/> Surge Protection, 3~ 208v-230v, Wye 2701557 \$
Article Number:	<input type="checkbox"/> Surge Protection, 3~ 277v-480v, Wye 2701558 \$
Max. Flow (GPM):	<input type="checkbox"/> Surge Protection, 3~ 347v-600v, Wye 2701559 \$
Min. Flow (GPM):	<input type="checkbox"/> Panel Protection Cover (clear) 2701564 \$
Max Inlet Pressure (PSIG):	<input type="checkbox"/> Panel Protection Cover (opaque) 2701565 \$
Min Inlet Pressure (PSIG):	<input type="checkbox"/> 3R Enclosure adder 2701552 \$
System Boost (FT):	<input type="checkbox"/> Dome Fail Light only 2700142 \$
Set-Point (PSIG):	<input type="checkbox"/> Dome Run/Fail Light 2700143 \$
Max Allowed Pumping System Pressure (PSIG):	<input type="checkbox"/> Dome Run/Fault/Fail Light 2700144 \$
Installation Elevation (FT):	<input type="checkbox"/> Dome Run/Fault/Fail/Power Light 2700145 \$
Fluid Temp. (°F):	<input type="checkbox"/> Interior Panel Light 2701554 \$
Max. Ambient Temp. (°F):	<input type="checkbox"/> BACnet Gateway 2701560 \$
Motor Type: TEFC (meets NEMA 12-13)	<input type="checkbox"/> LONworks Gateway 2701561 \$
<input type="checkbox"/> -Yes (how many? )	<input type="checkbox"/> CANbus Gateway Card 2701562 \$
Standby pumps: <input type="checkbox"/> No	<input type="checkbox"/> Sun shade for HMI (lockable) 2701563 \$
<small>*Note that one stand-by pump can only be selected with 3-pump system selection.</small>	<input type="checkbox"/> Factory On-Site Start-Up - \$

Suction/discharge manifold entry/exit system connections (Facing Panel HMI):  Left  Right  Other (provide drawing)

<input type="checkbox"/> Certified Drawings		\$ RTF
<input type="checkbox"/> CO-Helix minimum size tank	232 PSI 2.1 gal Non-ASME	2700137 \$
<input type="checkbox"/> System Tank Pressure Rating:	PSI gal <input type="checkbox"/> Non-ASME <input type="checkbox"/> ASME	\$

\*SPECIAL NOTE: A TANK ON THE DISCHARGE OF THE SYSTEM IS REQUIRED! Refer to the sizing table.

Additional Comments:

Requested Ship Date:	System Base Price: \$
	Total Options: \$
	Total (LIST) Price: \$

140-L-001-0417

## Assists in providing quick selection

- Enter in the parameters
- Will be implemented into the Pump Flo program
- Lists panel options along with the part number
- Provides tank selection

**Thank you!**

**wilo**