Wilo Booster Systems

Wilo Co-Helix (2-4 pumps)

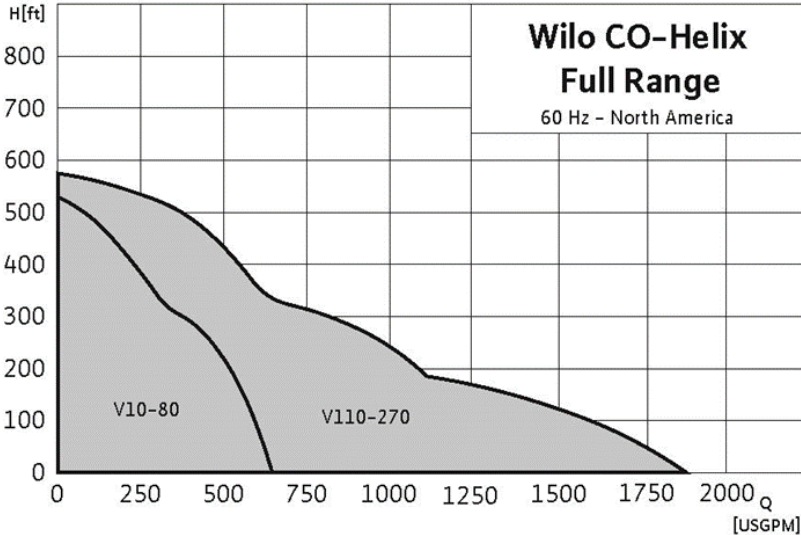*** Pictured with optional hydropneumatic tank option**

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
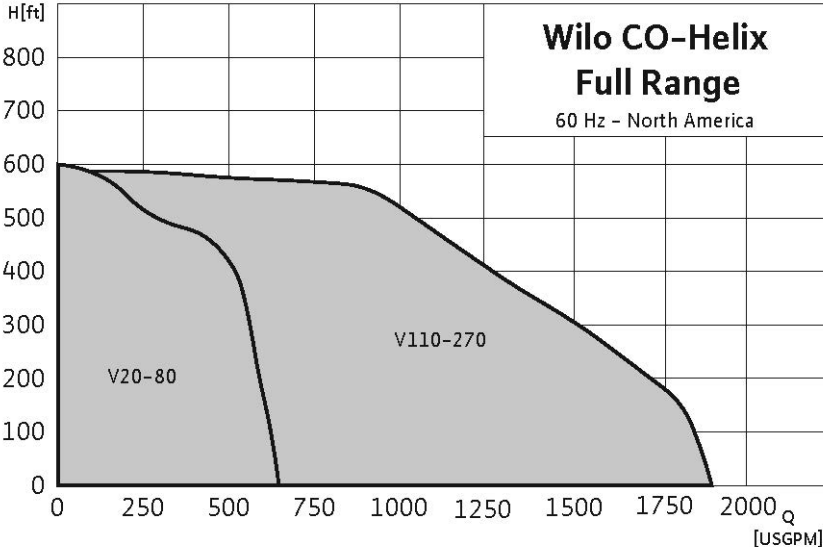
- 1 VFD per pump (mounted in panel)

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

Current Range

Future Range

# Wilo-SIBOOSTER EXCEL (2-4 pumps)

CLASSIFIED
c**UL**us
WATER QUALITY

Drinking Water System Component
NSF/ANSI 61
ALSO CERTIFIED TO NSF/ANSI 372
MH60113

* Pictured with optional hydropneumatic 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)
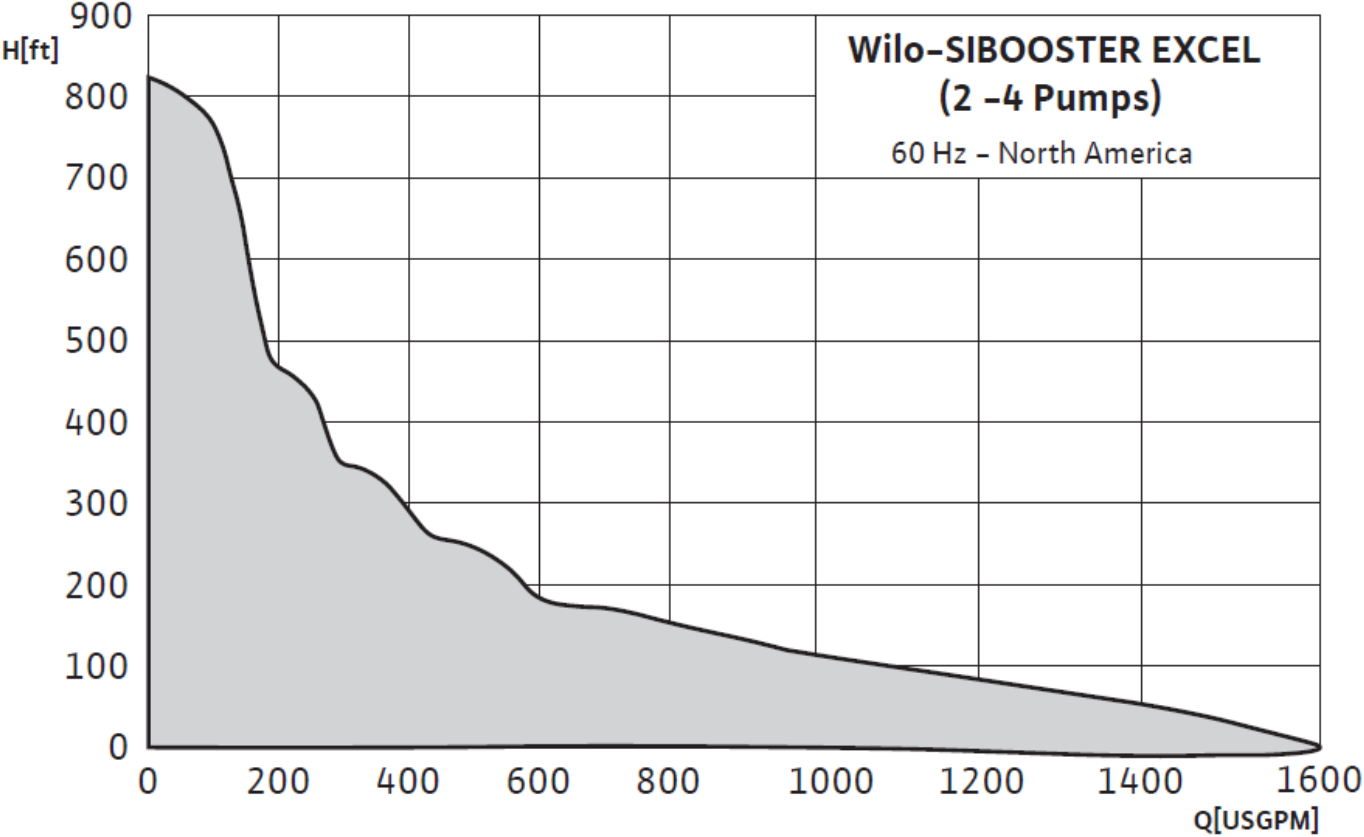
PLC – standard features included

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

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

Monitoring

- Monitor only

- Able see additional details

- Live
  - Motor Voltage
  - Motor Current
  - Power Consumption

Additional Details		
Motor Voltage	**Motor Current**	**Current Power**
Pump 1: 0 V	0.00 A	0.000 kW
Pump 2: 204 V	2.39 A	0.671 kW
Pump 3: 205 V	2.51 A	0.708 kW
Pump 4: 205 V	2.50 A	0.723 kW
Total:		2.102 kW

Previous Screen

Main Screen

Monitoring

- Alarm function - Monitor only

- Scenario #1
  - Pump failure on Pump number #1
  - Push to Silence

ID	Group Name	Count	Details	
00	General Collection	3	🔍	Reset

Groups with Pending Alarms

ESC

Refresh

Monitoring

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

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 – 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

Operator – Example #2 (Battery Fault)

Low Battery Detected

A low battery voltage condition has been detected.

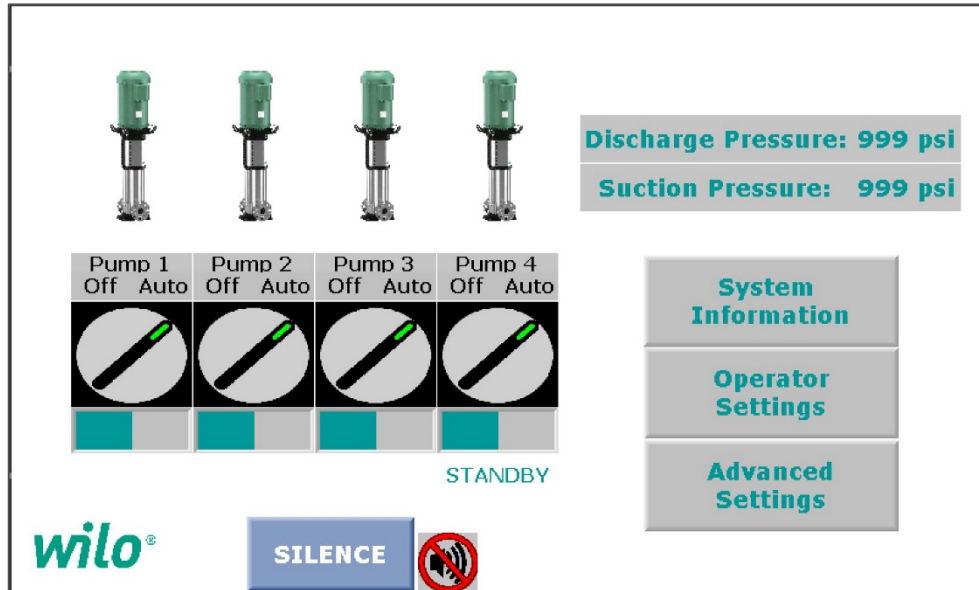1) Check for a loose battery.
2) Replace the battery with a new CR2450.

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

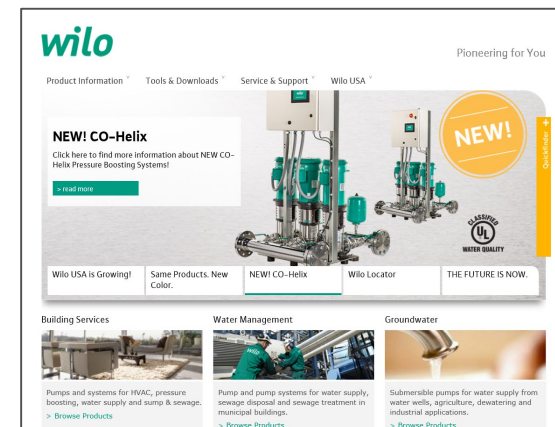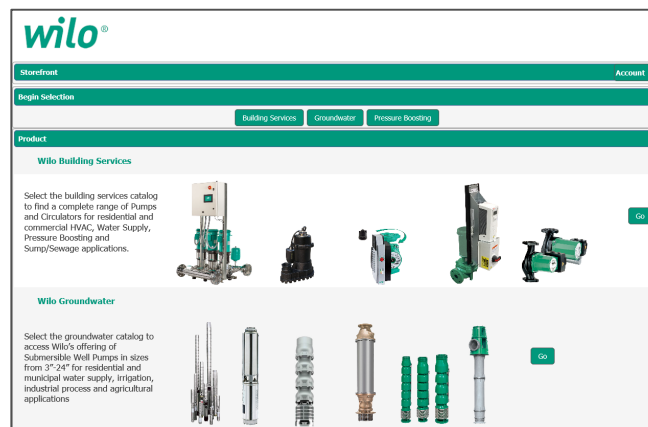# Remote Access

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

Maintain Pressure

Supply + Boost = System Pressure

- Residual Pressure
- Static Pressure
- PRV Losses
- Friction Loss
- Suction Pressure

B

V

Job Name

Fixture Units

PRIVATE USE	Qty.		F.U.		TOTAL
Lavatory		x	1	=	
W.C. tank		x	3	=	
W.C. flushometer		x	6	=	
Bathtub		x	2	=	
Shower head		x	2	=	
Bathroom group flush tank		x	6	=	
Separate shower		x	2	=	
Garbage disposal		x	2	=	
Kitchen sink		x	2	=	
Washing machine		x	2	=	
Dishwasher		x	2	=	
Others		x		=	
		x		=	
		x		=	
		x		=	
			SUB-TOTAL:		

PUBLIC USE	Qty.		U.M.		TOTAL
Lavatory	75	x	2	=	150
W.C. tank		x	5	=	
W.C. flushometer		x	10	=	
Shower head	75	x	4	=	300
Bathtub	75	x	4	=	300
Urinal flush tank		x	3	=	
Urinal flushometer		x	5	=	
drinking fountain		x	1	=	
Sink Services	1	x	3	=	3
Sink kitchen		x	4	=	
Ice machine		x	1	=	
		SUB-TOTAL:	F.U.		753
			TOTAL:	F.U.	753

Total   **753**   **Fixture Units**

Total System demand liter/sec		Q =	**7.5**	l/sec
Total System demand G.P.M.		Q =	**118.86**	G.P.M.

Friction loss
hf = calculated Friction Factor (Darcy-Weisbach)   h$_f$ =   **3.95** %

Pressure Required:

Building height		**120.0**	ft.
Total piping distance to the last unit	100 ft. h$_f$ =	**4.0**	ft.
Pressure required at highest fixture		**50.0**	P.S.I.
Minimum pressure at street		**40.0**	P.S.I.
	TDH ft.	**147.1**	ft.
	TDH p.s.i.	**63.7**	p.s.i.

The program makes the selection for	Q =	**7.50**	l/sec
	Q =	**119**	G.P.M
Total pump boost (differential)	T.D.H.	**147**	ft.
SYSTEM TENTATIVELY SELECTED:			

Availability

- **Available to order now!**

- **Wilo Pump Select**

- **Downloads** on website

Take-Off Sheet

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!