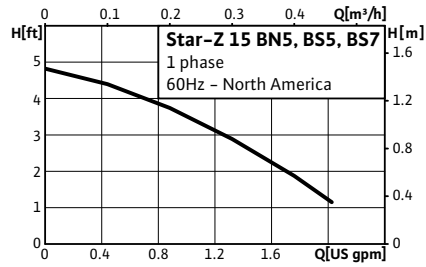


# Standard Circulating Pumps

## Product review: Wilo-Star-Z

### Range: Wilo-Star-Z



#### > Single head pumps:

- Seal-less magnetic drive circulator with union or solder connection

#### > Applications:

- Domestic hot water re-circulation systems

#### > Special features:

- NSF approved for drinking water applications

- Pump is delivered together with a 6' power cord with three pronged electrical plug

#### > Product advantages:

- The Star-Z 15 are compact, ready-to-install pumps with ½" union NPT type threading (model Star-Z 15 BN5) or with sweat pipe connections (model Star-Z 15 BS5 / BS7).

# Standard Circulating Pumps

Product review: Wilo-Star-Z



Equipment/function Wilo-Star-Z		
	Wilo-Star-Z...	
	15 BN	15 BS
<b>Manual functions</b>		
Setting the speed stages	1	1
<b>Equipment/Scope of delivery</b>		
Pump	•	•
Impedance protected motor requiring no external overload protection	•	•
6' power cord with three pronged electrical plug	•	•
Gaskets for union connection	•	•
Installation and operating instructions	•	•

• = available, – = not available

# Standard Circulating Pumps

Product review: Wilo-Star-Z

## Technical data Wilo-Star-Z

	Wilo-Star-Z...	
	15 BN5	15 BS5, BS7
<b>Approved fluids (other fluids on request)</b>		
Heating water	–	–
Water/glycol mixtures (max. 1:1; mixtures with more than 20 % glycol require reassessment of the hydraulic criteria)	–	–
Domestic hot water	•	•
<b>Performance</b>		
Max. head [ft]	4.8	4.8
Max. head [m]	1.45	1.45
Max. rate of flow [USGPM]	2.0	2.0
Max. rate of flow [m <sup>3</sup> /h]	0.45	0.45
<b>Acceptable field of application</b>		
Temperature range for application in heating and cooling installations	–	–
Temperature range for open circulating systems [°F]	–	–
Temperature range in domestic hot water systems [°F]	68 °F (20 °C) up to 150 °F (65 °C) (continuous operation) 68 °F (20 °C) up to 160 °F (70 °C) (intermittent operation)	
Max. ambient temperature [°F]	105 °F (40 °C)	105 °F (40 °C)
Max. operating pressure p <sub>max</sub> [psi]	145 psi (10 bar)	145 psi (10 bar)
<b>Pipe connections</b>		
Residential 2 bolt flanged	–	–
Residential 2 bolt flanged rotated 90°	–	–
Union connection	•	–
Internal sweat	–	•
<b>Electrical connections</b>		
Power supply 1~ [V]	115	115
Power supply 3~ [V]	–	–
Frequency [Hz]	60	60

• = available, – = not available

# Standard Circulating Pumps

Product review: Wilo-Star-Z



## Technical data Wilo-Star-Z

	Wilo-Star-Z...	
	15 BN5	15 BS5, BS7
<b>Motor/Electronics</b>		
Power electronics	–	–
Degree of protection	IP 42	IP 42
Insulation class	F	F
<b>Materials</b>		
Pump housing	Ecobross	Ecobross
Impeller	Plastic PPE (Noryl)	Plastic PPE (Noryl)
Shaft	Stainless steel X90 CrMo18 (1.4112)	Stainless steel X90 CrMo18 (1.4112)
Bearing	Epoxy-impregnated carbon	Epoxy-impregnated carbon
<b>Minimal static inlet pressure at pump suction port [psi] to avoid cavitation at fluid temperatures</b>		
105 °F (40 °C)	0.71	0.71
150 °F (65 °C)	2.84	2.84

• = available, – = not available

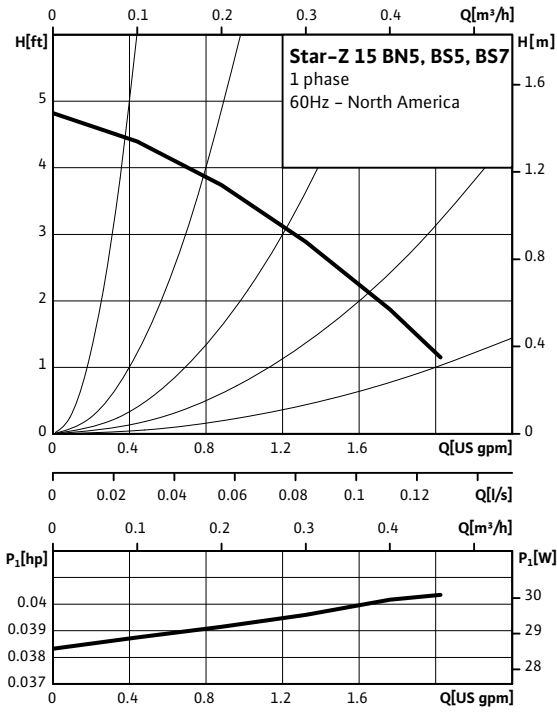
# Standard Circulating Pumps

Wilo-Star-Z

## Pump curves

### Wilo-Star-Z 15 BN5, BS5, BS7

$\Delta p-v$  (variable)



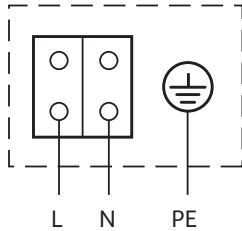
# Standard Circulating Pumps

Wilo-Star-Z



## Wiring diagrams, motor data

### Wiring diagram



**Note:**

The pump is delivered together with a three pronged 115 V power cable which should be plugged into a standard electrical socket. The terminal box should not be opened for electrical connection.

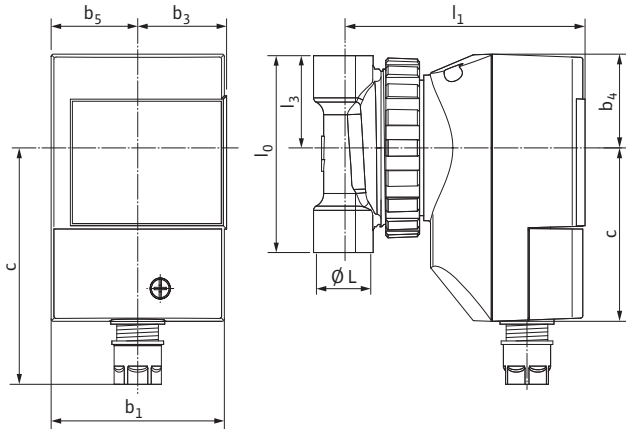
Motor data							
Wilo-Star-Z...	Speed	Power consumption		Current 1~115 V	Current 1~230 V	Motor protection	Screwed cable gland
	n	P <sub>1</sub>		I		-	-
	[rpm]	[hp]	[W]	[A]		-	[in]
15 BN5	3100	0,043	32	0.77	-	integrated	-
15 BS5	3100	0,043	32	0.77	-	integrated	-
15 BS7	3100	0,043	32	0.77	-	integrated	-

# Standard Circulating Pumps

Wilo-Star-Z

## Dimensions, weights

### Dimension drawing



### Dimensions, weights

Wilo-Star-Z...	Pipe connection		Pump dimensions							
	Ø L		l <sub>0</sub>		l <sub>1</sub>		l <sub>3</sub>		b <sub>1</sub>	
	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]
15 BN5	1/2 NPT	15	3 <sup>1</sup> / <sub>8</sub>	79	4 <sup>3</sup> / <sub>16</sub>	106.7	1 <sup>7</sup> / <sub>16</sub>	37	3 <sup>1</sup> / <sub>16</sub>	77
15 BS5	1/2	16	3 <sup>1</sup> / <sub>8</sub>	79	4 <sup>3</sup> / <sub>16</sub>	106.7	1 <sup>7</sup> / <sub>16</sub>	37	3 <sup>1</sup> / <sub>16</sub>	77
15 BS7	3/4	22	3 <sup>1</sup> / <sub>8</sub>	79	4 <sup>3</sup> / <sub>16</sub>	106.7	1 <sup>7</sup> / <sub>16</sub>	37	3 <sup>1</sup> / <sub>16</sub>	77

### Dimensions, weights (continuation)

Wilo-Star-Z...	Pump dimensions										Weight approx. net	
	b <sub>3</sub>		b <sub>4</sub>		b <sub>5</sub>		c		d		-	
	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[lbs]	[kg]
15 BN5	1 <sup>9</sup> / <sub>16</sub>	39.5	1 <sup>9</sup> / <sub>16</sub>	40	1 <sup>1</sup> / <sub>2</sub>	38.5	2 <sup>15</sup> / <sub>16</sub>	74	4	101	4.10	1.86
15 BS5	1 <sup>9</sup> / <sub>16</sub>	39.5	1 <sup>9</sup> / <sub>16</sub>	40	1 <sup>1</sup> / <sub>2</sub>	38.5	2 <sup>15</sup> / <sub>16</sub>	74	4	101	4.03	1.83
15 BS7	1 <sup>9</sup> / <sub>16</sub>	39.5	1 <sup>9</sup> / <sub>16</sub>	40	1 <sup>1</sup> / <sub>2</sub>	38.5	2 <sup>15</sup> / <sub>16</sub>	74	4	101	4.14	1.88