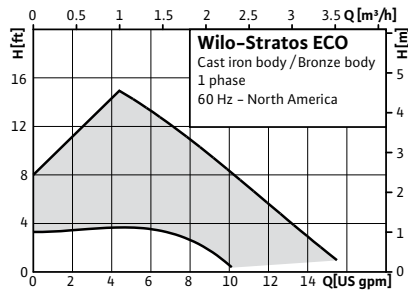


High Efficiency Circulating Pumps

Product review: Wilo-Stratos ECO

Range: Wilo-Stratos ECO



> Single head pumps:

- Seal-less circulating pump with flanged connection, electronically commutated motor and automatic performance adaptation

> Applications:

- Residential closed loop hot water heating systems, water and water/glycol solutions up to 50% concentration (cast iron version) and domestic hot water recirculation systems (bronze version)

> Special features/product advantages:

- Energy efficiency class A
- Up to 80% power savings in comparison with uncontrolled circulators
- Highest efficiency thanks to ECM technology
- 3 x higher starting torque than conventional circulation pumps
- Electrical quick connection with spring clips
- 6 1/2" flange to flange dimension matches common models

High Efficiency Circulating Pumps

Product review: Wilo-Stratos ECO



Equipment/function Wilo-Stratos ECO			
	Wilo-Stratos ECO...		
	16 F	16 FX	16 BFX
Operating modes			
Control mode Δp -v for optimum load adjustment	•	•	•
Manual functions			
Red-button technology for simple operation	•	•	•
Setting the differential-pressure setpoint	•	•	•
Setting to "Autopilot" (automatic setback mode)	•	•	•
Automatic functions			
Stepless power adjustment depending on the operating mode	•	•	•
Automatic setback operation for further savings potential ("Autopilot")	•	•	•
Anti-seizing function	•	•	•
Soft start	•	•	•
Full motor protection with integrated trip electronics	•	•	•
Equipment/Scope of delivery			
Pump	•	•	•
Power supply possible from both sides for simple installation	•	•	•
Quick connection, spring clips for easy electrical connection	•	•	•
Flange gaskets (2)	•	•	•
Installation and operating instructions	•	•	•

• = available, – = not available

High Efficiency Circulating Pumps

Product review: Wilo-Stratos ECO

Technical data Wilo-Stratos ECO

	Wilo-Stratos ECO...		
	16 F	16 FX	16 BFX
Approved fluids (other fluids on request)			
Heating water	•	•	–
Water/glycol mixtures (max. 1:1; mixtures with more than 20 % glycol require reassessment of the hydraulic criteria)	•	•	–
Domestic hot water	–	–	•
Performance			
Max. head [ft]	16	16	16
Max. head [m]	4.9	4.9	4.9
Max. rate of flow [USGPM]	15.5	15.5	15.5
Max. rate of flow [m ³ /h]	3.5	3.5	3.5
Acceptable field of application			
Temperature range for application in heating and cooling installations (closed systems)	60 °F (+15 °C) up to 230 °F (+110 °C)	60 °F (+15 °C) up to 230 °F (+110 °C)	60 °F (+15 °C) up to 230 °F (+110 °C)
Temperature range for open circulating systems	–	–	–
Temperature range in domestic hot water systems	–	–	60 °F (+15 °C) up to 150 °F (+68 °C)
Ambient temperature range	14 °F (–10 °C) up to 104 °F (+40 °C)	14 °F (–10 °C) up to 104 °F (+40 °C)	14 °F (–10 °C) up to 104 °F (+40 °C)
Max. working pressure p _{max}	145 psi (10 bar)	145 psi (10 bar)	145 psi (10 bar)
Pipe connections			
Residential 2 bolt flanged	•	–	–
Residential 2 bolt flanged rotated 90°	–	•	•
Union connection	–	–	–
Internal sweat	–	–	–
Electrical connections			
Power supply 1~ [V]	115	115	115
	230	230	230
Power supply 3~ [V]	–	–	–
Frequency [Hz]	60	60	60

• = available, – = not available

High Efficiency Circulating Pumps

Product review: Wilo-Stratos ECO



Technical data Wilo-Stratos ECO

	Wilo-Stratos ECO...		
	16 F	16 FX	16 BFX
Motor/Electronics			
Power electronics	Frequency Converter	Frequency Converter	Frequency Converter
Degree of protection	Enclosure 2	Enclosure 2	Enclosure 2
Insulation class	H	H	H
Materials			
Pump housing	Cast iron (EN-GJL 200)	Cast iron (EN-GJL 200)	Bronze (Cu Sn5 Pb5 Zn5)
Impeller	Reinforced plastics PPS (polypropelene)	Reinforced plastics PPS (polypropelene)	Reinforced plastics PPS (polypropelene)
Shaft	Stainless steel (X30 Cr13 or X46 Cr13)	Stainless steel (X30 Cr13 or X46 Cr13)	Stainless steel (X30 Cr13 or X46 Cr13)
Bearing	Carbon, metal impregnated	Carbon, metal impregnated	Carbon, metal impregnated
Minimal static inlet pressure at pump suction port [psi] to avoid cavitation at fluid temperatures			
122 °F (50 °C)	1.0	1.0	1.0
203 °F (95 °C)	4.3	4.3	4.3
230 °F (110 °C)	14.0	14.0	14.0

• = available, – = not available

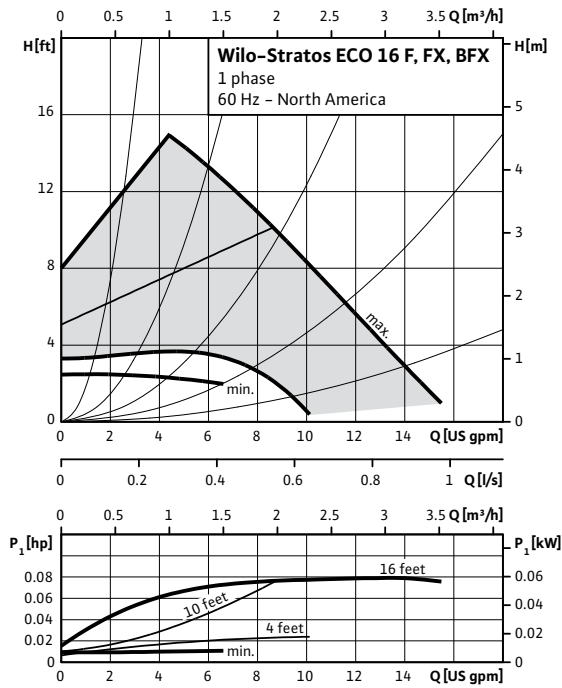
High Efficiency Circulating Pumps

Wilco-Stratos ECO

Pump curves

Wilco-Stratos ECO 16 F, FX, BFX

$\Delta p-v$ (variable)



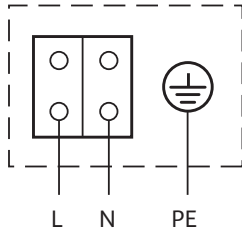
High Efficiency Circulating Pumps

Wilo-Stratos ECO



Wiring diagrams, motor data

Wiring diagram



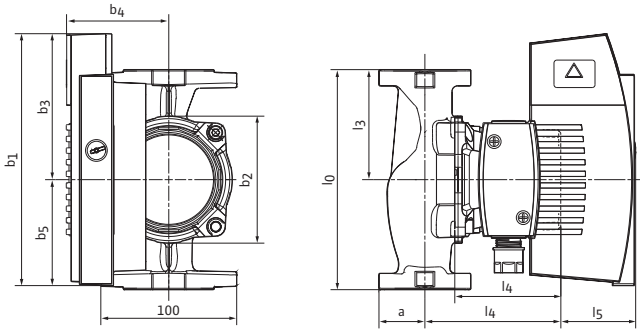
Motor data									
Wilo-Stratos ECO...	Rated Power		Speed	Power consumption		Current 1~115 V	Current 1~230 V	Motor protection	Screwed cable gland
	P ₂		n	P ₁		I		-	-
	[hp]	[W]	[rpm]	[hp]	[W]	[A]		-	[in]
16 F	0.043	32	1500 - 3400	0.008 - 0.079	5.8 - 59.0	0.10 - 0.90	0.06 - 0.46	integrated	1 x 5/16
16 FX	0.043	32	1500 - 3400	0.008 - 0.079	5.8 - 59.0	0.10 - 0.90	0.06 - 0.46	integrated	1 x 5/16
16 BFX	0.043	32	1500 - 3400	0.008 - 0.079	5.8 - 59.0	0.10 - 0.90	0.06 - 0.46	integrated	1 x 5/16

High Efficiency Circulating Pumps

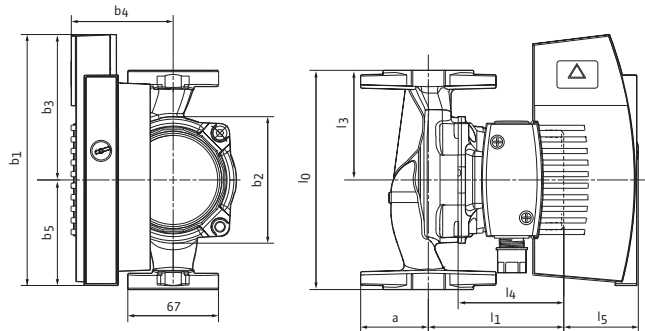
Wilco-Stratos ECO

Dimensions, weights

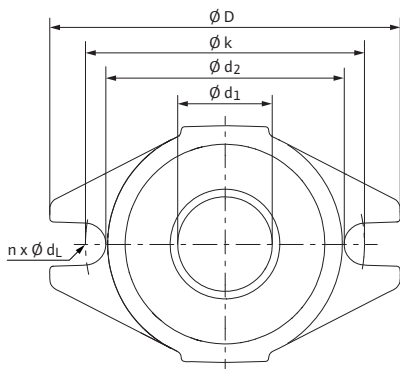
Drawing no.: 1



Drawing no.: 2



Drawing no.: 3



High Efficiency Circulating Pumps

Wilo-Stratos ECO



Dimensions, weights

Dimensions, weights

Wilo-Stratos ECO...	Flange diameter		Pump dimensions											
	DN		l ₀		a		b ₁		b ₂		b ₃		b ₄	
	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]
16 F	3/4	20	6 ¹ / ₂	162	1 ⁵ / ₁₆	34	7 ⁵ / ₁₆	185.5	3 ¹¹ / ₁₆	93.5	4 ¹ / ₄	107.5	2 ¹⁵ / ₁₆	75
16 FX	3/4	20	6 ¹ / ₂	162	1 ⁵ / ₁₆	34	7 ⁵ / ₁₆	185.5	3 ¹¹ / ₁₆	93.5	4 ¹ / ₄	107.5	2 ¹⁵ / ₁₆	75
16 BFX	3/4	20	6 ¹ / ₂	162	1 ⁵ / ₁₆	34	7 ⁵ / ₁₆	185.5	3 ¹¹ / ₁₆	93.5	4 ¹ / ₄	107.5	2 ¹⁵ / ₁₆	75

Dimensions, weights (continuation)

Wilo-Stratos ECO...	Pump dimension										Weight approx. net		Drawing No.
	b ₅		l ₁		l ₃		l ₄		l ₅		-		-
	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[lbs]	[kg]	-
16 F	3 ¹ / ₁₆	78	3 ¹⁵ / ₁₆	100	3 ³ / ₁₆	81	3 ¹ / ₁₆	78	2 ³ / ₁₆	55	6.74	3.06	1
16 FX	3 ¹ / ₁₆	78	3 ¹⁵ / ₁₆	100	3 ³ / ₁₆	81	3 ¹ / ₁₆	78	2 ³ / ₁₆	55	6.67	3.03	2
16 BFX	3 ¹ / ₁₆	78	3 ¹⁵ / ₁₆	100	3 ³ / ₁₆	81	3 ¹ / ₁₆	78	2 ³ / ₁₆	55	7.38	3.35	2

Flange dimensions

Wilo-Stratos ECO...	Flange	Nominal diameter		Flange dimension pump										Drawing No.
		DN		ø D		ø d ₁		ø d ₂		ø k		n x d _L		-
		[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[in]	[mm]	[units x in]	[units x mm]	-
16 F	Residential 2 bolt flanged	3/4	20	3 ¹⁵ / ₁₆	100	1 ¹ / ₁₆	27	2 ⁷ / ₁₆	62	3 ¹ / ₈	80	2 x ø ¹ / ₂	2 x ø12	3
16 FX 16 BFX	Residential 2 bolt flanged rotated 90°	3/4	20	3 ¹⁵ / ₁₆	100	1 ¹ / ₁₆	27	2 ⁷ / ₁₆	62	3 ¹ / ₈	80	2 x ø ¹ / ₂	2 x ø12	3