


Bumble Bee High-Efficiency Variable Speed Circulator

The Bumble Bee (model HEC-2) represents the very latest in variable speed wet rotor circulator technology. Its high efficiency ECM motor uses up to 85% less electricity than a standard circulator, and its out-of-the-box settings and 360° swivel flange makes it a breeze to install. Most importantly, the Bumble Bee's Delta-T variable speed technology maximizes the overall efficiency of your heating system. The Bumble Bee is engineered for energy savings, ease of installation, versatility in the field and ultimate comfort.



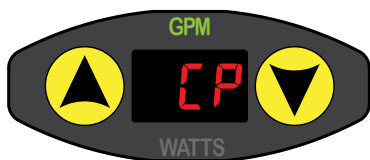
Features & Operation

- High efficiency ECM Motor
- Reduces power consumption by up to 85%
- Fully Programmable
- Plug-in remote temperature sensors included
- LED displays real-time mode, watt usage and GPM flow
- 360° swivel flange
- Nut capture feature on flanges
- Integral Flow Check (IFC®) included



360° Swivel Flange for universal fit-up

Operates in Three Modes



- **CP - Constant Power (Fixed Speed)**
Allows for 4 fixed circulator speeds.



- **SP - Setpoint (Variable Speed)**
Allows for a fixed supply temperature from 65°F to 220°F.

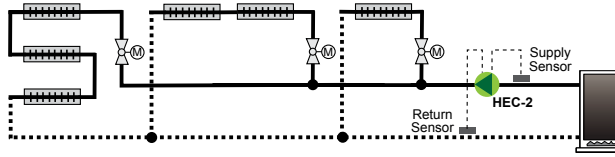


- **dE - Delta-T, Differential Temperature (Variable Speed)**
Allows for a fixed system temperature differential (ΔT) from 5°F to 50°F.

Factory Pre-Set for Delta-T mode @ 20°F ΔT

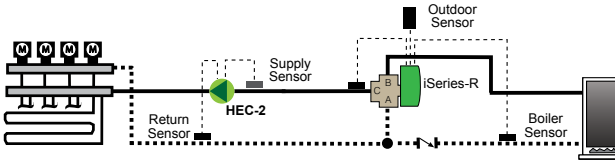
Delta-T

Across a series loop system using zone valves



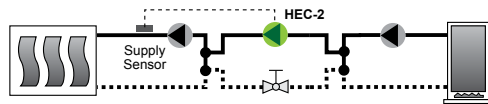
Delta-T

Across multi-zone radiant manifolds with loop actuators



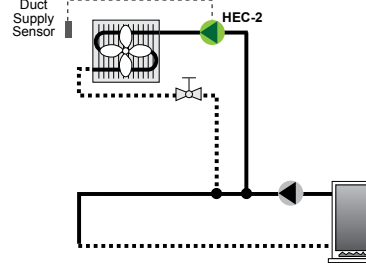
Setpoint

Radiant injection mixing



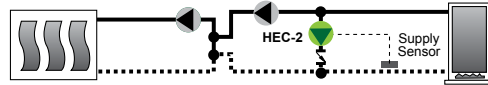
Setpoint

Fan coil fixed temperature

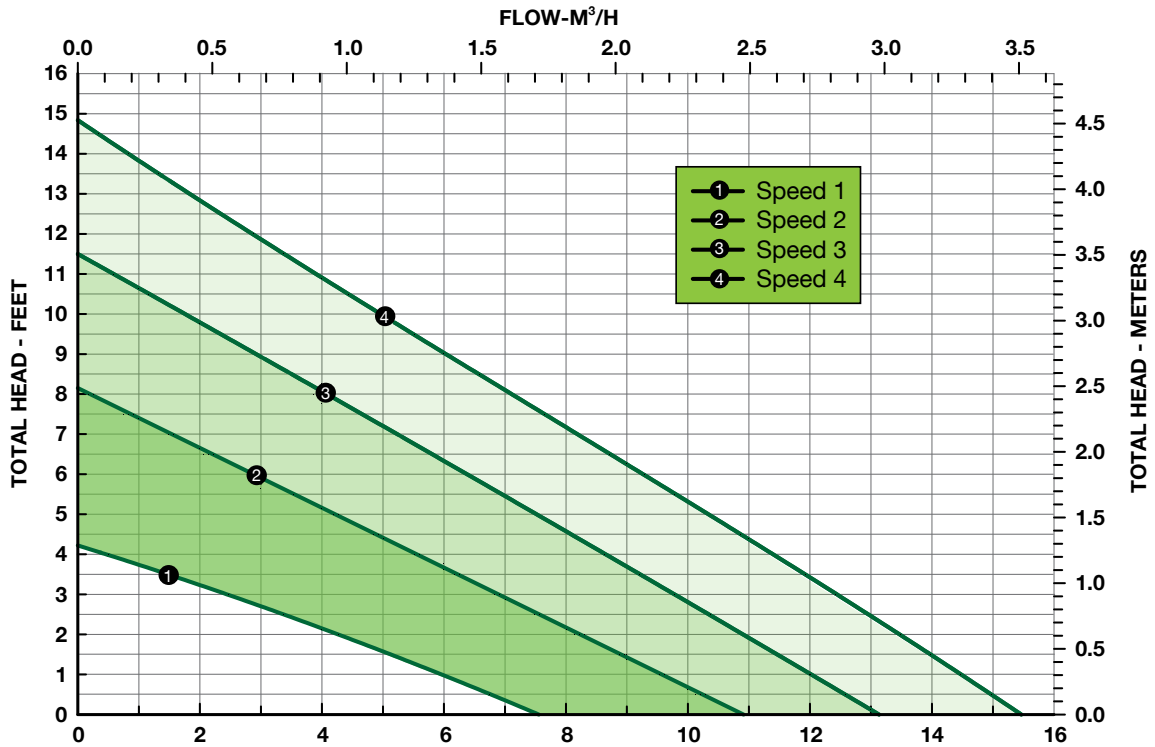


Setpoint

Boiler protection by-pass



Constant Power (Fixed Speed) Performance Curves



Submittal Data Information Bumble Bee Circulator

Submittal Data # 101-152
Supersedes: 10/15/12

Effective: 04/02/13

Specifications

- Max. Operating Pressure: 125 psi (862 kPa)
- Min. Fluid Temp: 40°F (4°C)
- Max. Fluid Temp: 230°F (110°C)
- Max. Flow: 15 gpm
- Max. Shutoff Head: 15 feet
- Electrical Specifications:
 - Voltage: 115-230, 50/60 Hz, single phase
 - Operating power range: 9W - 42W
 - Max. Amp rating: 0.67 / 0.39
- HEC-2 is provided with a cast iron casing and should be used in closed loop systems only.
- Acceptable for use with water or maximum of 50% water/glycol solution.

Performance Data

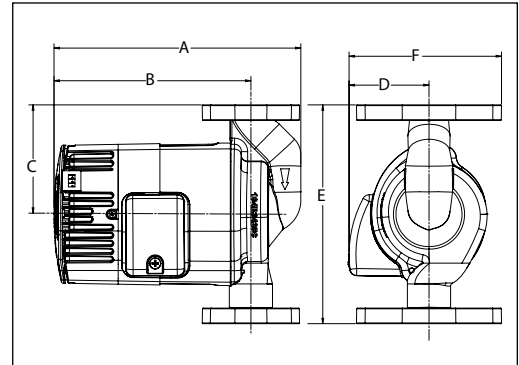
- Programmable PC board with LED display and 3 operating modes:
 - CP – Constant Power** (Fixed Speed) Mode allows for 4 fixed circulator speeds.
 - SP – Set Point** Mode allows for a fixed supply temperature, 65°F - 220°F.
 - dE – Delta-T** Mode allows for a fixed temperature differential (ΔT) range from 5°F - 50°F.
- Can be wired to a Taco ZVC Zone Valve Control or SR Switching Relay for ON/OFF operation.
- Sensor kit includes one long and one short sensor with two tie wraps.
- Integral Flow Check (IFC[®]) is included in carton. Simply press into discharge flange if required.
- Swivel-flanged casing provides 360° rotation mounting flexibility.
- LED displays operating mode, flow (GPM) and power usage (WATTS), alternating every 5 seconds.

Description:

The Taco Bumble Bee (model HEC-2) is a multi-function, variable speed, wet rotor circulator with an ECM, permanent magnet motor. Its high efficiency DC motor reduces power consumption by up to 85% compared to AC permanent split capacitor circulators.

Materials of Construction:

Casing: Cast Iron
 Integral Flow Check (IFC[®]):
 Body, Plunger..... Acetal
 O-ring Seal..... EPDM
 Spring..... Stainless Steel
 Stator Housing:..... Aluminum
 Cartridge:..... Stainless Steel
 Impeller:..... Non-Metallic
 Shaft:..... Ceramic
 Bearings:..... Ceramic
 O-Ring & Gaskets:..... EPDM



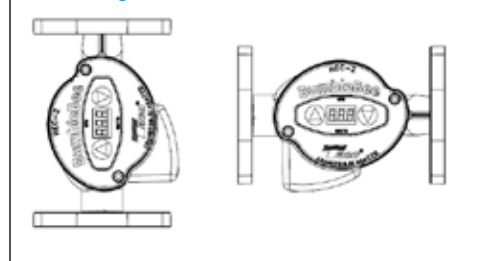
Pump Dimensions & Weights

Model	A		B		C		D		E		F		Ship Wt.	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	Kg
HEC-2	7-1/8	180	5-3/4	145	3-1/4	81	2-5/16	58	6-5/16	161	4-7/16	112	7	3.2

Electrical Data

Model	Volts	Hz	Ph	Amps	RPM	HP	Speed 1 (Watts)	Speed 2 (Watts)	Speed 3 (Watts)	Speed 4 (Watts)	
HEC-2	115-230	50/60	1	.67 / .39	1750-3800	1/20	9	22	32	42	
Motor Type	ECM, Permanent Magnet										

Mounting Positions



FOR INDOOR USE ONLY

CONFORMS TO:
UL STD 778
CERTIFIED TO:
CAN/CSA STD C22.2
NO. 108



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