

# Vacuum Bubble<sup>®</sup> Technology Aerator

## Model 100 Series

### VBT<sup>™</sup> 101

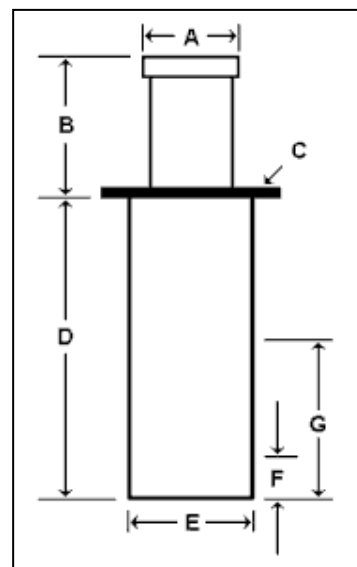
The Vacuum Bubble<sup>®</sup> Technology Aerator 101 is sized for on-site wastewater treatment, small commercial applications, and pretreatment of industrial wastewater. Several configuration options give flexibility to meet differing requirements. Available options, which may be ordered, include an all-weather housing, self-monitoring electronic controller, and a basic GFI controller.

#### VBT<sup>™</sup> 101 Specifications

<b>Cubic Feet/Minute (Air)</b>	<b>0.22</b>
<b>Cubic Feet/Day (Air)</b>	<b>317</b>
<b>Lb. Oxygen/Day</b>	<b>5.49</b>
<b>Lb O<sub>2</sub>/Hp/Hour</b>	<b>3.4</b>



<b>A: Motor Diameter</b>	<b>4.17"</b>
<b>B: Motor Height</b>	<b>6.5"</b>
<b>C: Adapter Plate (Dia.)</b>	<b>5.5"</b>
<b>D: Air Tube Length</b>	<b>19.75"</b>
<b>E: Air Tube Outer Diameter</b>	<b>2.375"</b>
<b>F: Min Water Line</b>	<b>6.0"</b>
<b>G: Max Water Line</b>	<b>16.0"</b>



#### Motor - Franklin 1/15Hp

<b>Voltage 1 Phase</b>	<b>115</b>
<b>Full Load Amps</b>	<b>1.0</b>

**Vacuum Bubble<sup>®</sup> Technology Aerator (“VBT<sup>TM</sup>”)**  
**VBT<sup>TM</sup> 100 Series**

**Technical Specifications**

**A. Electric Motor**

1/15HP Franklin induction asynchronous motor, squirrel cage, cast iron frame mounting according to the following:

Phases	Single phase
Frequency	50/60 Hz
Voltage	115V
Cooling	TEFC
Insulation	Class “B”
Duty	S1 – continuous, according to NBR-7094 of ABNT standard
Service factor	1.0
Max. ambient temperature	40 <sup>0</sup> C
Altitude	3,300 ft
Rotation	Clockwise
Frame	36
RPM	3250/2750

Special features

- Overload protection
- 303 stainless steel shaft with proprietary taper attachment

Coatings

- Windings – varnish coating

Painting plan

- Finish – aliphatic polyurethane enamel
- Finish color – Gloss black

**B. Motor Adapter Plate – 5.5” round, cast aluminum motor adapter plate**

**C. Shaft – Series 300 stainless steel, 0.5” tubing 19.5” long**

**D. Air Tube – 19.75” Schedule 40, 2” PVC pipe with OD of 2.375”**

**E. Air Plate – injection molded, rigid PVC**

**F. Prop – Laser cut 304 stainless blade formed in proprietary fixture**

**G. Hardware – various series 300 stainless steel**

# Vacuum Bubble<sup>®</sup> Technology Aerator

## Model 200 series

### VBT<sup>™</sup> 200

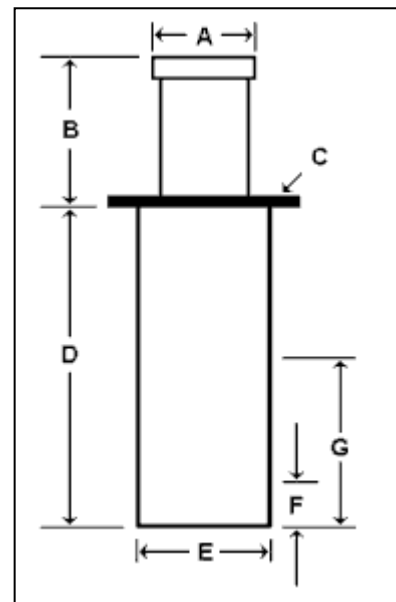
The Vacuum Bubble<sup>®</sup> Technology Aerator 200 is designed for medium sized industrial, commercial, and livestock applications in a tank mounted system. A GFI controller is available for the VBT<sup>™</sup> 200.

#### VBT<sup>™</sup> 200 Specifications

<b>Cubic Feet/Minute (Air)</b>	<b>1.25</b>
<b>Cubic Feet/Day (Air)</b>	<b>1,800</b>
<b>Lb. Oxygen/Day</b>	<b>32</b>
<b>Lb O<sub>2</sub>/Hp/Hour</b>	<b>5.33</b>
<b>Approx. Flow (Gal/Day) @ 300 PPM BOD<sub>5</sub></b>	<b>6,500</b>



<b>A: Motor Diameter</b>	<b>4.17"</b>
<b>B: Motor Height</b>	<b>8.5"</b>
<b>C: Adapter Plate (Dia.)</b>	<b>6.5"</b>
<b>D: Air Tube Length</b>	<b>22.0"</b>
<b>E: Air Tube Outer Diameter</b>	<b>4.5"</b>
<b>F: Min Water Line</b>	<b>6.0"</b>
<b>G: Max Water Line</b>	<b>16.0"</b>



#### Motor – Bluffton MW 1/4HP

<b>Voltage</b>	<b>115</b>
<b>Full Load Amps</b>	<b>2.8</b>

**Vacuum Bubble<sup>®</sup> Technology Aerator (“VBT<sup>TM</sup>”)**  
**VBT<sup>TM</sup> 200 Series**

## Technical Specifications

### H. Electric Motor

1/4HP Bluffton Motor Works induction asynchronous motor, squirrel cage, cast iron frame mounting according to the following:

Phases	Single phase
Frequency	50/60 Hz
Voltage	115V
Cooling	TEFC
Insulation	Class “B”
Duty	S1 – continuous, according to NBR-7094 of ABNT standard
Service factor	1.0
Max. ambient temperature	40 <sup>0</sup> C
Altitude	3,300 ft
Rotation	Clockwise
Frame	36
RPM	3250/2750

#### Special features

- Overload protection
- 303 stainless steel shaft with proprietary taper attachment

#### Coatings

- Windings – varnish coating

#### Painting plan

- Finish – aliphatic polyurethane enamel
- Finish color – Gloss black

I. Motor Adapter Plate – 6.5” diameter, cast aluminum motor adapter plate

J. Shaft – Series 300 stainless steel, 0.5” tubing 19.5” long

K. Air Tube – 22.0” Schedule 80, 4” PVC pipe with OD of 4.5”

L. Air Plate – rigid HDPE

M. Prop – Laser cut 304 stainless blade formed in proprietary fixture

N. Hardware – various series 300 stainless steel

# Vacuum Bubble<sup>®</sup> Technology Aerator

## Model 300 Series

### VBT<sup>™</sup> 300

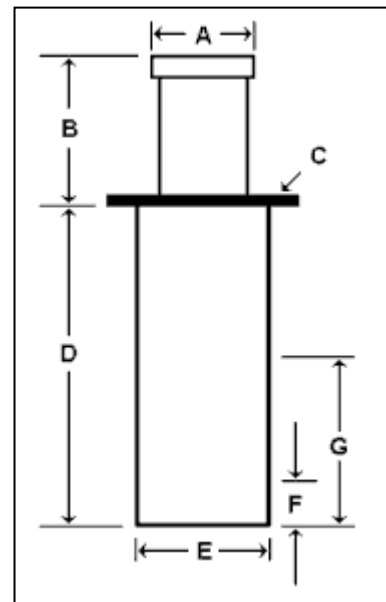
The Vacuum Bubble<sup>®</sup> Technology Aerator 300 is ideal for mid sized CAFO facilities, small to medium sized municipal sewage processing sites, and portable sewage treatment modules. This unit has a floatation platform available as an option.

### VBT<sup>™</sup> 300 Specifications

<b>Cubic Feet/Minute (Air)</b>	<b>5.0</b>
<b>Cubic Feet/Day (Air)</b>	<b>7,200</b>
<b>Lb. Oxygen/Day</b>	<b>132</b>
<b>Lb O<sub>2</sub>/Hp/Hour</b>	<b>5.5</b>
<b>Approx. Flow (Gal/Day) @ 300 PPM BOD<sub>5</sub></b>	<b>26,000</b>



<b>A: Motor Diameter</b>	<b>7.3"</b>
<b>B: Motor Height</b>	<b>10.12"</b>
<b>C: Adapter Plate (Square)</b>	<b>12.0"</b>
<b>D: Air Tube Length</b>	<b>22.5"</b>
<b>E: Air Tube Outer Diameter</b>	<b>8.5"</b>
<b>F: Min Water Line</b>	<b>6.0"</b>
<b>G: Max Water Line</b>	<b>16.0"</b>



#### Motor – WEG 1Hp

<b>Voltage 1 Phase</b>	<b>115/230</b>
<b>Full Load Amps</b>	<b>12.8/6.4</b>

**Vacuum Bubble<sup>®</sup> Technology Aerator (“VBT<sup>TM</sup>”)**  
**VBT<sup>TM</sup> 300 Series**

**Technical Specifications**

**A. Electric Motor**

1HP WEG Motor Works induction asynchronous motor, squirrel cage, cast iron frame mounting according to the following:

Phases	Single
Frequency	60Hz
Voltage	115V/230V
Cooling	TEFC
Insulation	B, with temperature rise 80 <sup>0</sup> C
Duty	S1 - continuous
Service Factor	1.15
Ambient Temperature	40 <sup>0</sup> C
Altitude	3,300 ft
Degree of Protection	IP-55
Rotation	REV
Frame	D56C
RPM	3600
Special Features	Solid stainless steel shaft

Painting plan

- Finish– anti-corrosion, Munsell N1 flat black 202E

**B. Motor Adapter Plate**—12” x 12” cast aluminum

**C. Shaft**—Series 300 stainless steel 0.875” diameter, 21.862” long

**D. Air Tube**—22.5” Schedule 80, 8” PVC pipe with OD of 8.5”

**E. Air plate**—rigid HDPE

**F. Propeller**—CNC prepared 304 stainless steel blade bolted to 304 stainless, keyed hub.

# Vacuum Bubble<sup>®</sup> Technology Aerator

## Model 600 Series

### VBT<sup>™</sup> 601

The Vacuum Bubble<sup>®</sup> Technology Aerator 600 is sized for large Dairy and Hog farming lagoons, large municipal sewage processing plants and large industrial applications. This unit has a floatation platform available as an option.

#### VBT<sup>™</sup> 601 Specifications

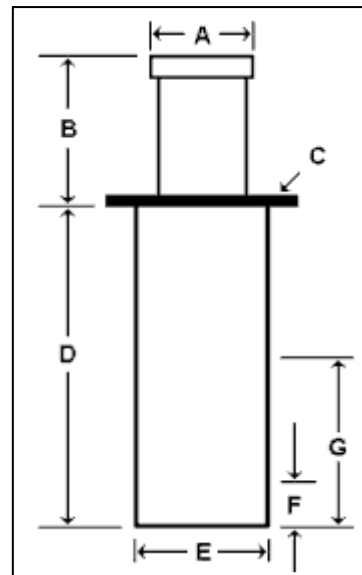
Cubic Feet/Minute (Air)	22.4
Cubic Feet/Day (Air)	32,300
Lb. Oxygen/Day	608
Lb O <sub>2</sub> /Hp/Hour	8.44
Approx. Flow (Gal/Day) @ 300 PPM BOD <sub>5</sub>	120,000



A: Motor Diameter	7.0"
B: Motor Height/3 Phase	11.55"
C: Adapter Plate (Square)	14.0"
D: Air Tube Length	22.625"
E: Air Tube Outer Diameter	12.5"
F: Min Water Line	6.0"
G: Max Water Line	16.0"

Motor – WEG 3 Hp

Voltage 3 Phase	230/460
Full Load Amps	7.43/3.71



**Vacuum Bubble<sup>®</sup> Technology Aerator (“VBT<sup>TM</sup>”)**  
**VBT<sup>TM</sup> 600 Series**

## Technical Specifications

### A. Electric Motor

3HP WEG induction asynchronous motor, squirrel cage, cast iron frame mounting according to the following:

Phases	Three phase
Frequency	60 Hz
Voltage	230-460V
Cooling	TEFC
Insulation	Class “F”, with temperature rise 80 <sup>0</sup> C
Duty	S1 – continuous, according to NBR-7094 of ABNT standard
Service factor	1.25
Ambient temperature	40 <sup>0</sup> C
Altitude	3,300 ft
Degree of Protection	IP-55
Rotation	Bi-directional
Frame	145TC
RPM	3600
Special features	Solid stainless steel shaft

#### Coatings

- Windings - random-wound copper with anti-fungal, non-hygroscopic insulation

#### Painting plan

- Recommended use – non-sheltered marine environment; resistant to acid, alkalis and solvent spills
- Surface preparation – blasting Sa 2 ½
- Primer – zinc ethyl silicate primer (60 – 100 µm)
- Intermediate – epoxy polyamide (120 – 140 µm)
- Finish – aliphatic polyurethane enamel (80 – 100 µm)
- Finish color – Blue RAL 5007

B. Motor Adapter Plate – 14” x 14” cast aluminum, anodized motor adapter plate

C. Shaft – 304 stainless steel, 1.170” diameter – 21.77” long

D. Air Tube – 22.625” Schedule 35, 12” PVC pipe with OD of 12.5”

E. Air Plate – injection molded polypropylene structural foam

F. Prop – CNC prepared 304 stainless blade formed in high pressure fixture bolted to 304 stainless, keyed hub