



Pulse-Width Modulation (PWM) Technology

Benefits of Delta's Advance PWM Control:

- Advance soft switching control (available on certain models)
- Wide PWM frequency input range (30Hz-30kHz)
- Flexible speed control
- Prevent current spikes
- Low switching noise
- Low vibration
- High power efficiency

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Advanced Cooling Solutions Deliver Superior Performance with Greater Efficiency



The PWM Advantage

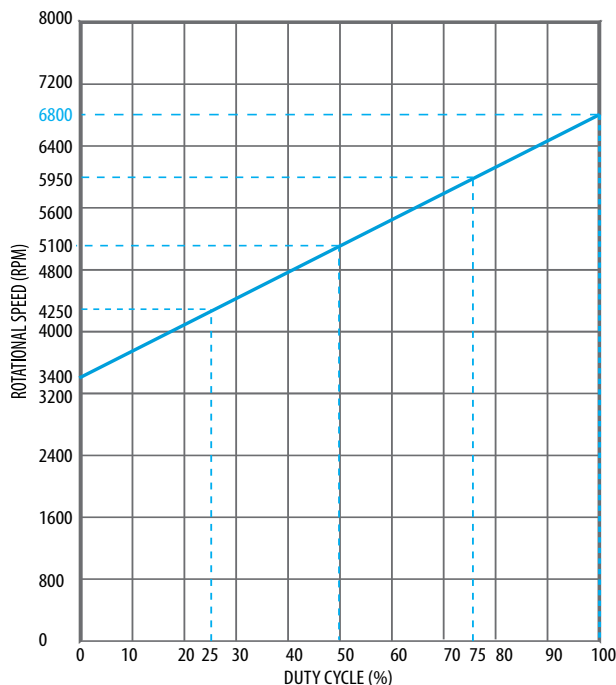
PWM regulates the voltage signal between fully on and fully off, controlling the speed of a fan. The main advantage is that power loss in the switching device is very low. When a switch is off, there is practically no current, and when it is on, there is almost no voltage drop across the switch. Therefore, power loss is close to zero.

PWM Saves Energy and Extends the Life of Delta Fans

Delta's thermal technology continues to provide better performance, high reliability, and cost-effective thermal cooling solutions. PWM is one of the primary reasons Delta fans have a clear advantage over other manufacturers.

Delta carries a full line of PWM speed control fans with dimension ranging from 36x36x28mm up to 280x280x162mm.

PWM Fan Curve – Speed Characteristics



Speed vs PWM Control Signal:

(at rated voltage 48V; PWM signal with 3.3 VDC TTL; Frequency: 2K Hz; Temperature: 25C)

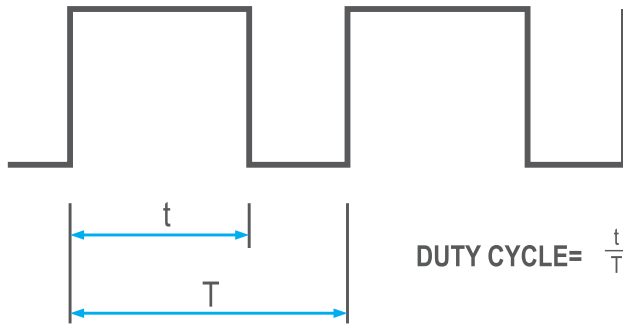
| Duty Cycle (%) | Speed (RPM +/-10%) | Current (A) | Noise (dB-A) |
|----------------|--------------------|-------------|--------------|
| 100 | 6800 | 0.14 | 46.5 |
| 75 | 5950 | 0.09 | 43.5 |
| 50 | 5100 | 0.06 | 40.5 |
| 25 | 4250 | 0.03 | 36.5 |
| 0 | 3400 | 0.02 | 32.0 |

* Above referenced part number AFB0648EH-TP27

Pulse Width Modulation (PWM) Technology

PWM Input Signal

SIGNAL VOLTAGE RANGE: 0~10 VDC



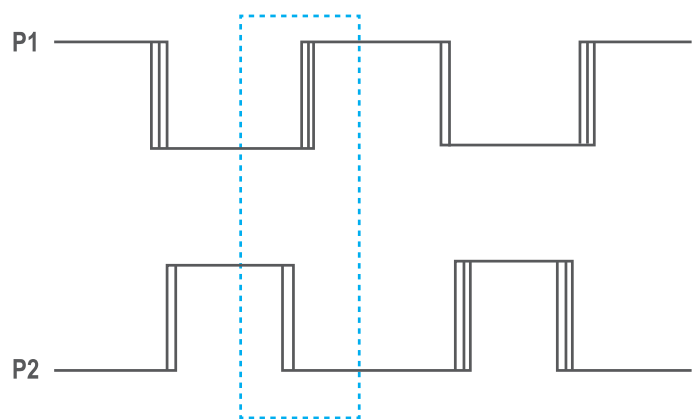
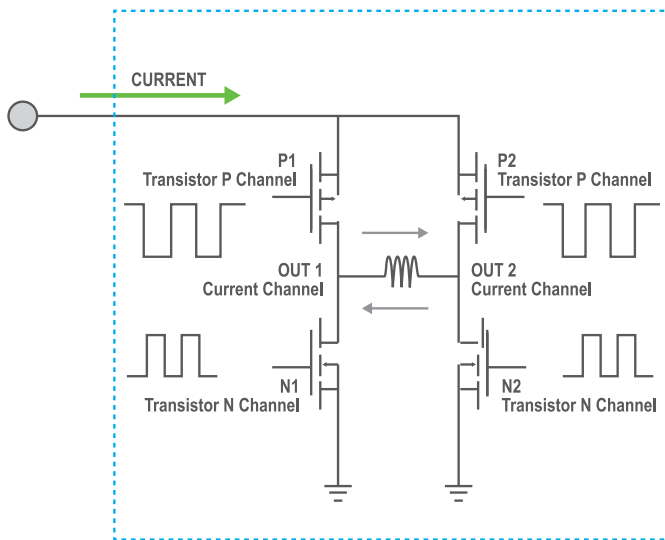
HIGH SIGNAL:
10.0 VDC Max
3.3 VDC Min

LOW SIGNAL:
0.8 VDC Max
0 VDC Min

$$\text{DUTY CYCLE} = \frac{t}{T} * 100(\%)$$

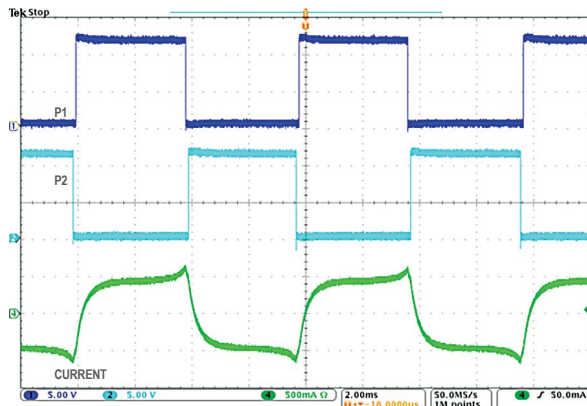
Delta Advance PWM Control

Delta internally developed an advanced PWM circuit control utilizing soft switching to regulate resulting in a smooth current signal to fan, further reducing vibration and noise.

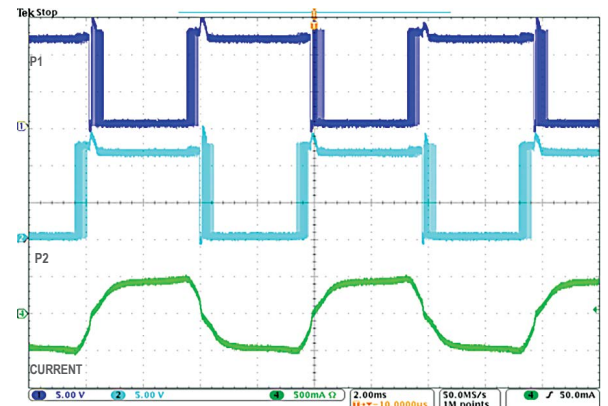


SOFT SWITCHING CONTROL

BEFORE



AFTER



Pulse Width Modulation (PWM) Technology

| Part Number | Dimension (mm) | Operating Voltage Range (VDC) | Voltage (VDC) | Bearing Type | Current (A) | Power (W) | Speed (RPM) | Noise (dB-A) | Air Flow (CFM) | Air Pressure (in H ₂ O) |
|-------------------|----------------|-------------------------------|---------------|--------------|-------------|-----------|-------------|--------------|----------------|------------------------------------|
| FFB03612EHN-ALB | 36x36x28 | 10.8~13.2 | 12V | Ball | 0.33 | 3.96 | 14500 | 50 | 16.3 | 1 |
| FFB03612EHN-BGA | 36x36x28 | 10.8~13.2 | 12V | Ball | 0.39 | 4.68 | 14500 | 50 | 16.3 | 1 |
| FFB03812VHN-9C3P | 38x38x28 | 10.8~13.2 | 12V | Ball | 0.55 | 6.6 | 16000 | 58.5 | 20.23 | 1.46 |
| FFB03812VN-SPC | 38x38x28 | 10.8~13.2 | 12V | Ball | 0.85 | 10.2 | 23000 | 62.5 | 23 | 3.4 |
| GFC03812HG-DV46 | 38x38x48 | 10.8~12.6 | 12V | Ball | 1.52 | 18.24 | 21700 | 64 | 26.42 | 3.87 |
| AFB0412VHA-DU48 | 40x40x10 | 7.0~15.0 | 12V | Ball | 0.09 | 1.08 | 8000 | 33 | 8.81 | 0.22 |
| AFB0412SHB-SP04 | 40x40x15 | 10.8~13.2 | 12V | Ball | 0.16 | 1.92 | 11000 | 41.5 | 14.83 | 0.6 |
| AFB0412VHB-TP25 | 40x40x15 | 7.0 ~ 13.0 | 12V | Ball | 0.18 | 2.16 | 9500 | 36.5 | 13 | 0.46 |
| AFB0412VHB-TP29 | 40x40x15 | 7.0~13.8 | 12V | Ball | 0.18 | 2.16 | 9500 | 36.5 | 13 | 0.46 |
| EFB0412VHD-SP05 | 40x40x20 | 5.0~13.8 | 12V | Ball | 0.12 | 1.44 | 9000 | 34.5 | 10.1 | 0.42 |
| THA0412AD | 40x40x20 | 7.0~15.0 | 12V | Ball | 0.43 | 5.16 | 15600 | 52 | 20.56 | 1.38 |
| FFB0412EN-00Y2E | 40x40x28 | 10.8~13.2 | 12V | Ball | 1.45 | 17.4 | 25000 | 64 | 32.9 | 4.44 |
| FFB0412GHN-TXQG | 40x40x28 | 5.5~13.2 | 12V | Ball | 0.5 | 6 | 16500 | 56 | 23.39 | 1.63 |
| FFB0412SN-00Y2F | 40x40x28 | 10.8~13.2 | 12V | Ball | 0.93 | 11.16 | 22000 | 61.5 | 29.23 | 3.46 |
| FFB0412UHN-SP4Z | 40x40x28 | 7.0~13.2 | 12V | Ball | 0.84 | 10.08 | 23000 | 59.9 | 26.55 | 3.15 |
| FFB0412VHN-TP03 | 40x40x28 | 7 ~13.2 | 12V | Ball | 0.6 | 1.92 | 9500 | 45 | 15.79 | 0.51 |
| FFB0424VHN-TZT4 | 40x40x28 | 21.6~26.4 | 24V | Ball | 0.1 | 2.4 | 9500 | 45 | 15.79 | 0.51 |
| PFB0412EHN-TP06 | 40x40x28 | 10.8~13.2 | 12V | Ball | 0.5 | 6 | 16000 | 54.5 | 21.83 | 1.43 |
| TFA0412BN-CN | 40x40x28 | 8.0~13.2 | 12V | Ball | 0.42 | 5.04 | 15600 | 50.8 | 22.2 | 1.5 |
| TFA0412CN-CN | 40x40x28 | 7.0~13.2 | 12V | Ball | 0.6 | 7.2 | 17600 | 55 | 25.29 | 1.87 |
| THA0412BN | 40x40x28 | 7.0~13.2 | 12V | Ball | 0.89 | 10.68 | 19000 | 59 | 29.52 | 2.4 |
| GFC0412DG-CMA4 | 40x40x48 | 10.8~13.2 | 12V | Ball | 1.4 | 16.8 | 15150 | 64.4 | 32.35 | 2.38 |
| GFC0412DS-CMA5 | 40x40x56 | 10.8~12.6 | 12V | Ball | 0.85 | 10.2 | 17200 | 64 | 25.29 | 2.7 |
| GFC0412DS-DF00 | 40x40x56 | 10.8~12.6 | 12V | Ball | 1.3 | 15.6 | 16000 | 64.5 | 32.18 | 2.63 |
| GFC0412DS-DU49 | 40x40x56 | 10.8~12.6 | 12V | Ball | 1.85 | 22.2 | 23000 | 68.5 | 35.85 | 3.98 |
| GFC0412DS-DV17 | 40x40x56 | 10.8~13.2 | 12V | Ball | 1.5 | 18 | 20500 | 66 | 33.22 | 3.33 |
| GFC0412DS-TP01 | 40x40x56 | 5.5~13.2 | 12V | Ball | 1 | 12 | 15300 | 61 | 30.5 | 1.73 |
| GFM0412SS-BL4F | 40x40x56 | 10.8~12.6 | 12V | ball | 0.8 | 9.6 | 17200 | 61.5 | 27.07 | 2.23 |
| GFM0412SS-DE1PB7Q | 40x40x56 | 10.8~12.6 | 12V | ball | 1.1 | 12.6 | 19000 | 68.5 | 21.56 | 3.42 |
| EFB0512HA-TP42 | 50x50x10 | 10.8~12.6 | 12V | Ball | 0.1 | 1.2 | 5500 | 30 | 11.4 | 0.17 |
| AFB0512HB-TP41 | 50x50x15 | 10.8~13.2 | 12V | Ball | 1.2 | 1.44 | 6300 | 34 | 17.97 | 0.23 |
| AUC0512DB-AF00 | 50x50x15 | 10.8 ~ 13.2 | 12V | Ball | 0.18 | 2.16 | 7400 | 38.5 | 20.22 | 0.3 |
| GFM0412SS-DE1PB7Q | 40x40x56 | 10.8~12.6 | 12V | Ball | 1.1 | 12.6 | 19000 | 68.5 | 21.56 | 3.42 |
| AFC0612DB-F00 | 60x60x15 | 8~13.2 | 12V | Ball | 0.33 | 3.96 | 7200 | 47.5 | 29.24 | 0.52 |
| AFB0612VHX03 | 60x60x25 | 5.0~13.8 | 12V | ball | 0.2 | 2.4 | 5000 | 40 | 27.55 | 0.29 |
| AFB0612DH-TP11 | 60x60x25 | 10.8 ~ 13.2 | 12V | Ball | 0.84 | 10.08 | 9000 | 55 | 50.4 | 0.93 |
| AFB0624EH-SP50 | 60x60x25 | 21.6~26.6 | 24V | Ball | 0.24 | 5.76 | 6800 | 46.5 | 38.35 | 0.54 |
| AFB0648EH-TP27 | 60x60x25 | 36 ~ 60 | 48V | Ball | 0.14 | 6.72 | 6800 | 46.5 | 38.35 | 0.54 |
| AFC0612D-SP07 | 60x60x25 | 10.8~13.8 | 12V | Ball | 0.13 | 1.56 | 4250 | 34 | 23.38 | 0.21 |
| QFR0612DH-SP00 | 60x60x25 | 10.8-13.2 | 12V | Ball | 0.75 | 9 | 10600 | 54.5 | 51.17 | 1.02 |
| AFC0612DE-AF00 | 60x60x38 | 8~13.2 | 12V | Ball | 1.5 | 18 | 12000 | 61.5 | 66.75 | 1.74 |
| FFC0612DE-PP01 | 60x60x38 | 7.0~13.2 | 12V | Ball | 0.9 | 10.8 | 9000 | 60 | 54.79 | 1.18 |
| PFC0612DE-F00 | 60x60x38 | 10.8~13.2 | 12V | Ball | 1.4 | 16.8 | 12000 | 61.5 | 67.85 | 2.13 |
| PFM0612XHEB7T | 60x60x38 | 10.8~12.6 | 12V | Ball | 1.15 | 13.8 | 18500 | 65.1 | 64.44 | 2.34 |
| PFR0612DHE-SP00 | 60x60x38 | 7.0~13.2 | 12V | Ball | 1.6 | 19.2 | 14500 | 63.3 | 65.98 | 2.5 |

| Part Number | Dimension (mm) | Operating Voltage Range (VDC) | Voltage (VDC) | Bearing Type | Current (A) | Power (W) | Speed (RPM) | Noise (dB-A) | Air Flow (CFM) | Air Pressure (in H2O) |
|-------------------|----------------|-------------------------------|---------------|--------------|-------------|-----------|-------------|--------------|----------------|-----------------------|
| PFR0612XHE-SP00 | 60x60x38 | 7~13.2 | 12V | Ball | 2.3 | 27.6 | 16500 | 67.7 | 76.16 | 3.19 |
| THB0648BE | 60x60x38 | 36.0~75.0 | 48V | Ball | 0.34 | 16.32 | 14700 | 61.5 | 68.6 | 2.87 |
| GFC0612DS-AQ14 | 60x60x56 | 10.8~13.2 | 12V | Ball | 1.6 | 19.2 | 10400 | 66 | 65.03 | 2 |
| GFC0624DW-DT48 | 60x60x76 | 18.0~26.0 | 24V | Ball | 1.4 | 31.2 | 11300 | 71.5 | 69.44 | 3.03 |
| AFC0712DB-F00 | 70x70x15 | 8.0~13.2 | 12V | Ball | 0.35 | 4.2 | 6000 | 46.5 | 41.95 | 0.33 |
| AFC0712DD-TP10 | 70x70x20 | 8 ~ 13.2 | 12V | Ball | 0.35 | 4.2 | 5000 | 44.3 | 46.86 | 0.28 |
| AFB0712SHX02 | 70x70x25 | 5.0~13.8 | 12V | Ball | 0.65 | 7.8 | 6300 | 50.5 | 61.05 | 0.63 |
| EFC0812DB-F00 | 80x80x15 | 7~12.6 | 12V | Ball | 0.33 | 3.96 | 3800 | 41 | 48.8 | 0.17 |
| AFB0824SHBAV1 | 80x80x15 | 14.0~27.6 | 24V | Ball | 0.16 | 3.84 | 4000 | 42.5 | 42.73 | 0.22 |
| AUB0812HHDXHN | 80x80x20 | 10.8~12.6 | 12V | Superflo | 0.3 | 3.6 | 4500 | 43 | 51.46 | 0.29 |
| AFB0812SH-TP12 | 80x80x25 | 10 ~ 13.2 | 12V | Ball | 0.3 | 3.6 | 4500 | 46 | 55.59 | 0.38 |
| AUB0812L-9X41 | 80x80x25 | 10.8~13.8 | 12V | superflo | 0.09 | 1.08 | 2400 | 25 | 27.9 | 0.1 |
| AUB0812VH-SP00 | 80x80x25 | 10.8~13.2 | 12V | Ball | 0.19 | 2.28 | 3600 | 39 | 42.02 | 0.22 |
| FFB0812XHXHC | 80x80x25 | 7.0~15.0 | 12V | Ball | 1 | 12 | 9000 | 59 | 92.69 | 1.1 |
| QFR0812SH-CX13 | 80x80x25 | 5.0~13.2 | 12V | Ball | 0.33 | 3.96 | 4300 | 41.2 | 54.57 | 0.33 |
| QFR0812UH-CX14 | 80x80x25 | 10.8~ 12.6 | 12V | Ball | 0.55 | 6.6 | 5600 | 50.5 | 70.24 | 0.55 |
| FFB0848XHA01 | 80x80x25 | 32.0~72.0 | 48V | Ball | 0.27 | 12.96 | 9000 | 59 | 92.69 | 1.23 |
| FFB0812EHE-SP15 | 80x80x38 | 7.0~13.8 | 12V | Ball | 0.75 | 9 | 5700 | 52.5 | 80.16 | 0.81 |
| FFC0812DE-F00 | 80x80x38 | 7.0~13.2 | 12V | Ball | 1.5 | 18 | 7500 | 62.2 | 102.02 | 1.23 |
| PFB0812DHE-TYNT | 80x80x38 | 10.8~13.2 | 12V | Ball | 2.75 | 33 | 9000 | 66 | 132.6 | 2.03 |
| PFB0824DHEYDG | 80x80x38 | 12.0~27.6 | 24V | Ball | 1.35 | 32.4 | 9000 | 65 | 132.56 | 2.03 |
| PFC0812DE-SP04 | 80x80x38 | 10.8~13.2 | 12V | Ball | 2.75 | 33 | 9000 | 65 | 132.6 | 2.03 |
| PFM0812HE-01BFY | 80x80x38 | 10.8~12.6 | 12V | Ball | 4.3 | 51.6 | 16300 | 77 | 129.42 | 4.97 |
| PFR0812XHE-SP00 | 80x80x38 | 9.0~12.6 | 12V | Ball | 3.5 | 42 | 13300 | 71.5 | 134.29 | 3 |
| PFR0848XHE-DV82 | 80x80x38 | 36.0~56.0 | 48V | Ball | 1 | 48 | 13800 | 73 | 144.18 | 3.46 |
| QFR0812UHEYDW | 80x80x38 | 10.8~13.2 | 12V | Ball | 1.15 | 13.8 | 9000 | 60 | 105.21 | 1.34 |
| THB0848BEB51 | 80x80x38 | 36.0~72.0 | 48V | Ball | 0.7 | 33.6 | 15000 | 70 | 127.54 | 4.54 |
| THD0848ME | 80x80x38 | 36.0~75.0 | 48V | Ball | 0.55 | 26.4 | 9500 | 60 | 128 | 1.48 |
| GFC0812DS-CMA8 | 80x80x56 | 10.8~12.6 | 12V | Ball | 2.17 | 26.02 | 12000 | 72.6 | 90.12 | 3.83 |
| GFM0812DS-SMB7R | 80x80x56 | 10.8~12.6 | 12V | Ball | 2.4 | 28.8 | 12500 | 73.3 | 93.23 | 4.49 |
| GFC0812DW-TD2G | 80x80x76 | 10.8~12.6 | 12V | Ball | 8.27 | 99.24 | 13500 | 80 | 177.1 | 4.5 |
| GFC0812DW-SM00B7P | 80x80x80 | 10.8~12.6 | 12V | Ball | 5.2 | 62.4 | 12000 | 74.5 | 167.02 | 4.17 |
| GFC0848DWB74 | 80x80x80 | 36.0~60.0 | 48V | Ball | 1.56 | 74.88 | 12500 | 76.5 | 175 | 4.47 |
| GFM0812DUB7S | 80x80x80 | 10.8~12.6 | 12V | Ball | 9 | 1080 | 13800 | 82.5 | 190.63 | 5.79 |
| AFC0912DB-F00 | 92x92x15 | 7.0~13.6 | 12V | Ball | 0.31 | 3.72 | 3300 | 41.5 | 51.53 | 0.16 |
| AFC0912D-AF00 | 92x92x25 | 8 ~ 13.2 | 12V | Ball | 0.75 | 9 | 4800 | 53 | 102.59 | 0.53 |
| AUB0912VH-CX09 | 92x92x25 | 10.8~13.2 | 12V | superflo | 0.38 | 4.56 | 3800 | 45 | 67.8 | 0.3 |
| FFC0948BY7T | 92x92x25 | 36.0~75.0 | 48V | Ball | 0.17 | 8.16 | 3900 | 49.5 | 86.4 | 0.35 |
| QFR0912VH-SP00 | 92x92x25 | 10.8~13.2 | 12V | Ball | 0.4 | 4.8 | 4200 | 45 | 74.78 | 0.34 |
| AFC0912DE-AF00 | 92x92x38 | 10.8~12.6 | 12V | Ball | 2.5 | 31.2 | 6000 | 63 | 160.22 | 1 |
| AFC0948DE-TP20 | 92x92x38 | 36 ~ 75 | 48V | Ball | 0.6 | 28.8 | 7500 | 67 | 159.369 | 1.53 |
| FFB0924EHE-SP20 | 92x92x38 | 21.6~26.4 | 24V | Ball | 0.5 | 12 | 4800 | 55 | 110.18 | 0.66 |
| FFB0948SHE-TP28 | 92x92x38 | 32~56 | 48V | Ball | 0.2 | 9.6 | 4400 | 52.5 | 100.29 | 0.57 |
| FFC0912DE-TP04 | 92x92x38 | 7.0 ~ 13.2 | 12V | Ball | 0.8 | 9.6 | 4800 | 55 | 110.18 | 0.66 |
| PFB0948UHE-TP16 | 92x92x38 | 36 ~ 75 | 48V | Ball | 0.52 | 24.96 | 7000 | 64 | 153.52 | 1.45 |
| PFR0912XHE-SP00 | 92x92x38 | 10.8~12.6 | 12V | Ball | 3.7 | 44.4 | 11500 | 71 | 185.66 | 2.55 |
| THA0948BE | 92x92x38 | 30.0~60.0 | 48V | Ball | 1.4 | 67.2 | 9500 | 71 | 189.67 | 3.02 |
| THB0948AE | 92x92x38 | 36.0~60.0 | 48V | Ball | 0.76 | 36.5 | 13000 | 72.5 | 162.5 | 3.09 |

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|-----------------|----------------|-------------------------------|---------------|--------------|-------------|-----------|-------------|--------------|----------------|------------------------------------|
| THD0948HE-A | 92x92x38 | 36.0~75.0 | 48V | Ball | 1.1 | 52.8 | 13500 | 71 | 182.41 | 3.44 |
| THD0948HE-AXHH | 92x92x38 | 36.0~75.0 | 48V | Ball | 1.1 | 52.8 | 13500 | 71 | 182.41 | 3.44 |
| AFC1212D-F00 | 120x120x25 | 10.2 ~ 13.8 | 12V | Ball | 0.53 | 6.36 | 3400 | 46.5 | 113.11 | 0.43 |
| AFC1212D-SP19 | 120x120x25 | 10.8~12.6 | 12V | Ball | 0.32 | 3.84 | 3000 | 46 | 89.7 | 0.34 |
| AUB1212H-CK15 | 120x120x25 | 10.8~13.2 | 12V | superflo | 0.27 | 3.24 | 2200 | 38 | 88.6 | 0.16 |
| FFC1212D-F00 | 120x120x25 | 7.0~13.2 | 12V | Ball | 1.4 | 16.8 | 4000 | 56.4 | 150.33 | 0.49 |
| THB1212B-AXHF | 120x120x25 | 7.0~15.0 | 12V | Ball | 1.6 | 19.2 | 5300 | 59 | 184.2 | 0.9 |
| THB1248B-A | 120x120x25 | 36~75 | 48V | Ball | 0.4 | 19.2 | 5300 | 59 | 186.6 | 0.96 |
| THB1248B-AXHG | 120x120x25 | 36.0~75.0 | 48V | Ball | 0.4 | 19.2 | 5300 | 59 | 186.57 | 0.96 |
| AFB1212HHE-TP02 | 120x120x38 | 10.8 ~ 13.2 | 12V | Ball | 0.4 | 4.8 | 2900 | 44 | 120.07 | 0.35 |
| AFB1224GHEYNU | 120x120x38 | 21.6~26.4 | 24V | Ball | 1.3 | 31.2 | 5200 | 62 | 240.96 | 1.08 |
| AFB1248VHE-T9LN | 120x120x38 | 34~56 | 48V | Ball | 0.31 | 14.88 | 4100 | 55.5 | 190.48 | 0.69 |
| AFB1248VHE-TP18 | 120x120x38 | 34.0 ~ 56 | 48V | Ball | 0.31 | 14.88 | 4100 | 55.5 | 190.481 | 0.69 |
| PFB1248UHE309 | 120x120x38 | 36.0~72.0 | 48V | Ball | 1.1 | 52.8 | 5500 | 66.5 | 252.85 | 1.41 |
| PFB1248UHE-CN | 120x120x38 | 36.0~72.0 | 48V | Ball | 1.1 | 52.8 | 5500 | 66.5 | 252.85 | 1.41 |
| PFB1248UHE-EP | 120x120x38 | 30.0~60.0 | 48V | Ball | 0.88 | 42.24 | 5300 | 66 | 243.66 | 1.31 |
| PFB1248XHE-TP17 | 120x120x38 | 33 ~ 52.8 | 48V | Ball | 1.6 | 76.8 | 7000 | 72.5 | 306.92 | 2.17 |
| PFC1212DE-F00 | 120x120x38 | 8~13.2 | 12V | Ball | 4 | 48 | 5500 | 66.5 | 252.85 | 1.41 |
| PFC1224DE-6L52 | 120x120x38 | 14.0 ~ 25.6 | 24V | Ball | 2 | 48 | 5500 | 66.5 | 252.85 | 1.41 |
| PFC1248DE-F00 | 120x120x38 | 30~56 | 48V | Ball | 1 | 48 | 5500 | 66.5 | 252.85 | 1.41 |
| PFR1212DHE-SP00 | 120x120x38 | 8~13.2 | 12V | Ball | 3.7 | 44.4 | 7400 | 68.5 | 254.35 | 1.44 |
| PFR1212UHE-SP00 | 120x120x38 | 8.0-13.2 | 12V | Ball | 2.7 | 32.4 | 6600 | 65.5 | 228.65 | 1.21 |
| QFR1212GHEXUM | 120x120x38 | 8 ~ 13.2 | 12V | Ball | 1.8 | 21.6 | 6000 | 64 | 210.38 | 1.17 |
| QFR1224GHEYPR | 120x120x38 | 21.6~26.4 | 24V | Ball | 0.91 | 21.84 | 5800 | 64 | 195.68 | 1.03 |
| THA1248BE-AXHE | 120x120x38 | 36.0~60.0 | 48V | ball | 1.68 | 80.2 | 9000 | 72 | 302.8 | 3.39 |
| THB1248CE | 120x120x38 | 36.0~60.0 | 48V | Ball | 0.95 | 45.6 | 7800 | 70 | 262 | 2.06 |
| THD1248HE | 120x120x38 | 32~59 | 48V | Ball | 2.2 | 105.82 | 10900 | 75 | 287 | 4.4 |
| PFM1412DEB7V | 140x140x38 | 10.8~12.8 | 12V | Ball | 3.9 | 46.8 | 6500 | 70 | 282.31 | 2.03 |
| THB1448AE | 140x140x38 | 30.0~60.0 | 48V | Ball | 1.1 | 52.8 | 6100 | 66.8 | 325.9 | 1.13 |
| EFB1548VHG-TP14 | 172x150x51 | 36 ~ 60 | 48V | Ball | 0.49 | 23.52 | 4000 | 60 | 302.29 | 0.94 |
| THB1548DG-CN | 172x150x51 | 36.0~72.0 | 48V | Ball | 1.72 | 82.56 | 6100 | 70 | 427.8 | 2.29 |
| THB1548DG-CXKQ | 172x150x51 | 24.0~72.0 | 48V | Ball | 1.57 | 75.36 | 5800 | 70 | 410.51 | 2.08 |
| EFC1748DG-TP07 | 172x172x51 | 28.0 ~ 53 | 48V | Ball | 1.23 | 59.04 | 5500 | 63.4 | 415.66 | 1.77 |
| EFC1748DG-TYSG | 172x172x51 | 28.0~53.0 | 48V | Ball | 1.23 | 59.04 | 5500 | 63.4 | 415.66 | 1.77 |
| THB1748BG | 172x172x51 | 36.0~56.0 | 48V | Ball | 3.5 | 168 | 8000 | 75 | 607.07 | 4.14 |
| THB2048HG-A | 200x200x51 | 36.0~72.0 | 48V | Ball | 4.2 | 201.6 | 7700 | 78 | 690.3 | 4.14 |
| THB2048CT | 200x200x70 | 36.0~75.0 | 48V | Ball | 4.8 | 230 | 5800 | 73.6 | 827.37 | 2.69 |
| THD2048HT | 200x200x70 | 36.0~75.0 | 48V | Ball | 8 | 384 | 7400 | 78 | 1026 | 4.94 |

Delta PWM Fans Blowers

| Part Number | Dimension (mm) | Operating Voltage Range (VDC) | Voltage (VDC) | Bearing Type | Current (A) | Power (W) | Speed (RPM) | Noise (dB-A) | Air Flow (CFM) | Air Pressure (in H2O) |
|------------------|----------------|-------------------------------|---------------|--------------|-------------|-----------|-------------|--------------|----------------|-----------------------|
| BFB04512HHA-DV52 | 45x45x10 | 5.0~13.5 | 12V | Ball | 0.14 | 1.68 | 6100 | 36.0 | 3.60 | 0.6 |
| BFB0512HA-CX3D | 50x50x10 | 10.8~13.2 | 12V | Ball | 0.12 | 1.44 | 5100 | 32.5 | 3.53 | 0.56 |
| BFB0512VHD-SP01 | 50x50x20 | 10.8~12.8 | 12V | Ball | 0.20 | 2.40 | 5500 | 32.0 | 6.12 | 0.65 |
| BCB0812UHN-TP09 | 75x80x30 | 10.8~12.6 | 12V | Ball | 2.30 | 27.60 | 10800 | 69.3 | 30.16 | 3.68 |
| BFB1012HH-TP48 | 97x94x33 | 10.8~13.2 | 12V | Ball | 0.69 | 8.28 | 3200 | 53.5 | 28.33 | 0.95 |
| TCA1048AB0C | 100x100x25 | 36.0~60.0 | 48V | Ball | 0.39 | 18.72 | 6700 | 65.0 | 68.67 | 1.89 |
| TEA1248CS | 120x120x54 | 32.0~60.0 | 48V | Ball | 2.05 | 98.40 | 8500 | 69.2 | 284.90 | 2.9 |
| KFB1248EHSB80 | 120x120x54 | 36.0~57.0 | 48V | ball | 0.45 | 21.6 | 4060 | 61 | 174.8 | 1.35 |
| KFB1724SHT-SP09 | 175x175x69 | 21.7~26.4 | 24V | Ball | 2.88 | 69.12 | 3300 | 67.5 | 334.79 | 1.89 |
| TCA1748ATXHD | 175x175x69 | 36.0~60.0 | 48V | Ball | 1.6 | 76.8 | 4000 | 70.8 | 428 | 1.96 |

