



**VAV**

**Variable Air Volume Terminal Units**

# VAV Terminal Units

## Contents

|   |    |
|---|----|
| Introduction                              | 1  |
| AN Series                                 | 2  |
| AE Electric Reheat                        | 3  |
| AW Hot Water Reheat                       | 4  |
| AFIN Fan Assist in Parallel               | 5  |
| AFCN Fan Assist in Series                 | 6  |
| AFIE Fan in Parallel with Electric Reheat | 7  |
| AFCE Fan in Series with Electric Reheat   | 8  |
| AFW Fan in Parallel with HHW Reheat       | 9  |
| AFCW Fan in Series with HHW Reheat        | 10 |
| DAC Dual Duct VAV                         | 11 |
| TPO Twin Duct VAV                         | 12 |
| Air Control Features                      | 14 |
| Acoustic Performance                      | 15 |
| Electric Reheat Bank Capacities           | 16 |
| VAV Maintenance Guide                     | 17 |

# VAV Terminal Units

## Celmecc International

### Leading the way in Air Control, Heating & Cooling

At Celmecc International, it is our belief that working closely with our clients aids the mutual success of both organisations and for this reason we have adopted the following mission:

***“To excel in the commercial and industrial building industry by setting new standards with innovative products through leadership, first class customer service and engineering excellence.”***

It is with confidence that we at Celmecc International offer our VAV Terminal Units as part of our unique Aircontrol product range.

We trust that this concise brochure will assist all users in the area of VAV selection, application, design and installation techniques.



# AN series VAV Terminal Units

**Model AN** 50 LPS - 2250 LPS

**No Reheat**

Capacity and dimensional data

| MODEL | AIRFLOW LPS |           |           | INLET<br>A x B<br>(mm) | OUTLET<br>W x H<br>(mm) | DIMENSIONS<br>W x H x L<br>(mm) | WEIGHT<br>Est<br>(kg) |
|-------|-------------|-----------|-----------|------------------------|-------------------------|---------------------------------|-----------------------|
|       | @2.5 m/s    | @10.0 m/s | @12.5 m/s |                        |                         |                                 |                       |
| AN    | @2.5 m/s    | @10.0 m/s | @12.5 m/s | A x B<br>(mm)          | W x H<br>(mm)           | W x H x L<br>(mm)               | Est<br>(kg)           |
| 03    | 38          | 150       | 185       | 100 x 150              | 150 x 250               | 150 x 250 x 475                 | 8                     |
| 04    | 50          | 200       | 250       | 100 x 200              | 150 x 250               | 150 x 250 x 475                 | 8                     |
| 05    | 75          | 300       | 375       | 150 x 200              | 200 x 250               | 200 x 250 x 475                 | 9                     |
| 06    | 100         | 400       | 500       | 200 x 200              | 250 x 250               | 250 x 250 x 475                 | 10                    |
| 08    | 150         | 600       | 750       | 300 x 200              | 350 x 250               | 350 x 250 x 475                 | 12                    |
| 10    | 200         | 800       | 1000      | 400 x 200              | 450 x 250               | 450 x 250 x 475                 | 14                    |
| 12    | 250         | 1000      | 1250      | 500 x 200              | 550 x 250               | 550 x 250 x 475                 | 16                    |
| 14    | 300         | 1200      | 1500      | 600 x 200              | 650 x 250               | 650 x 250 x 475                 | 18                    |
| 16    | 350         | 1400      | 1750      | 700 x 200              | 750 x 250               | 750 x 250 x 475                 | 20                    |
| 18    | 400         | 1600      | 2000      | 800 x 200              | 850 x 250               | 850 x 250 x 475                 | 22                    |
| 20    | 450         | 1800      | 2250      | 900 x 200              | 950 x 250               | 950 x 250 x 475                 | 24                    |

Note: Minimum Inlet Velocity of 2.5 m/s recommended to maintain optimum Velocity Sensing

## Features

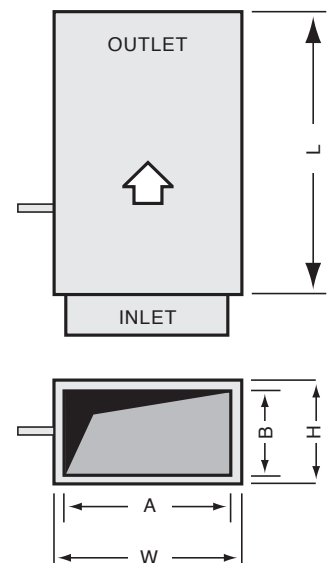
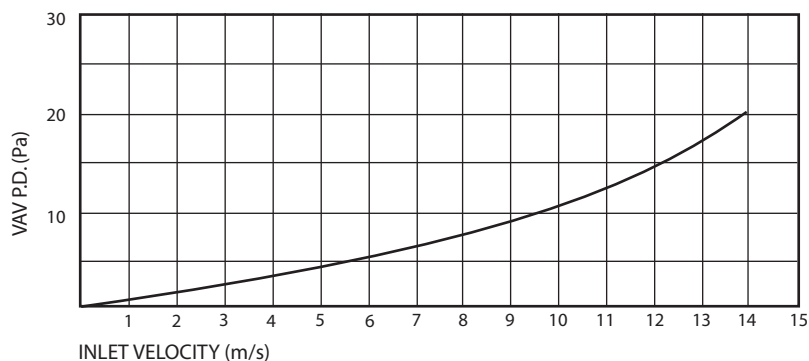
- Aerofoil Control Valve, ensuring Non Turbulent Airflow
- Low Resistance
- Good Response Despite Low Resistance
- Linear Control
- Low Noise
- Full shut off facility
- Minimal Cold Track Construction of Twin Skin
- 1mm Galvabond Steel
- 25mm Acoustic / Thermal Lining with Perforated Steel Finish
- Full shut off facility

## Options

- Air Velocity Sensors
- Actuators and VAV Controls
- Min / Max Airflow Limits Preset
- Room Temperature Sensor Controller
- Proprietary Flanges or Drive Slip Facility
- Round / Oval Inlets
- Left and right hand available

## Pressure Drop vs. Inlet Velocity

Valve in Fully Open Position.



**Model AN**

No Heat  
Left hand shown.

# AE series VAV Terminal Units

**Model AE** 50 LPS - 2250 LPS  
Capacity and dimensional data

250W - 10350W Electric Reheat

| MODEL | ELECTRIC HEAT RANGE (w) | AIRFLOW LPS |           |           | INLET A x B (mm) | OUTLET W x H (mm) | DIMENSIONS W x H x L (mm) | WEIGHT Est (kg) |
|-------|-------------------------|-------------|-----------|-----------|------------------|-------------------|---------------------------|-----------------|
|       |                         | @3.0 m/s    | @10.0 m/s | @12.5 m/s |                  |                   |                           |                 |
| 03    | 250 - 750               | 50          | 150       | 185       | 100 x 150        | 250 x 250         | 250 x 250 x 825           | 17              |
| 04    | 250 - 750               | 60          | 200       | 250       | 100 x 200        | 250 x 250         | 250 x 250 x 825           | 17              |
| 05    | 250 - 1500              | 120         | 300       | 375       | 150 x 200        | 250 x 250         | 250 x 250 x 825           | 17              |
| 06    | 250 - 2250              | 120         | 400       | 500       | 200 x 200        | 250 x 250         | 250 x 250 x 825           | 17              |
| 08    | 400 - 3600              | 180         | 600       | 750       | 300 x 200        | 350 x 250         | 350 x 250 x 825           | 21              |
| 10    | 450 - 4050              | 240         | 800       | 1000      | 400 x 200        | 450 x 250         | 450 x 250 x 825           | 24              |
| 12    | 600 - 5400              | 300         | 1000      | 1250      | 500 x 200        | 550 x 250         | 550 x 250 x 825           | 28              |
| 14    | 750 - 6750              | 360         | 1200      | 1500      | 600 x 200        | 650 x 250         | 650 x 250 x 825           | 31              |
| 16    | 850 - 7650              | 420         | 1400      | 1750      | 700 x 200        | 750 x 250         | 750 x 250 x 825           | 35              |
| 18    | 1000 - 9000             | 480         | 1600      | 2000      | 800 x 200        | 850 x 250         | 850 x 250 x 825           | 38              |
| 20    | 1150 - 10350            | 540         | 1800      | 2250      | 900 x 200        | 950 x 250         | 950 x 250 x 825           | 42              |

Note: Minimum airflow to be based @ 3.0 m/s inlet velocity, or @ 50 l/s/kW reheat capacity, whichever is the greater.

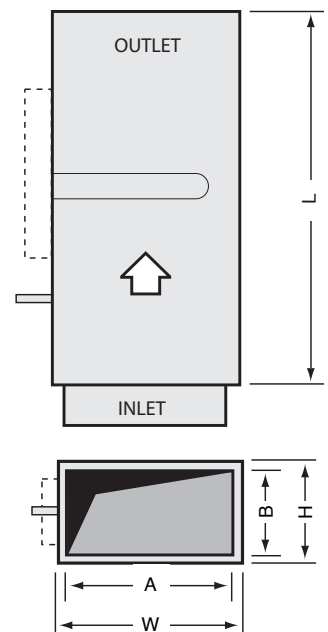
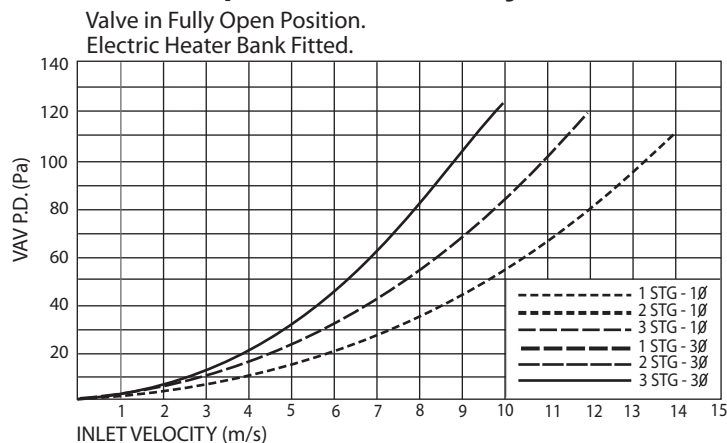
## Features

- Aerofoil Control Valve, ensuring even Air Distribution over Heating Elements
- Linear Control
- Low Noise
- Full shut off facility
- Minimal Cold Track Construction of Twin Skin 1mm Galvabond Steel
- 25mm Acoustic / Thermal Lining with Perforated Steel Finish
- Finned Tubular Heaters to Assure Maximum Heat Transfer
- Full Range of Heater Options - 1Ø, 3Ø / 1STG, 2STG, 3STG
- Side Insertion for easy service
- Over Temperature Limit Protection - Manual Reset
- Prewired to Terminal Strip to Simplify Installation
- Full shut off facility

## Options

- Disconnect Switch / Circuit Breakers
- Air Proving Switch Complete with Airflow Sensor
- Heat Contactors
- Heater Solid State Relays
- Electronic Relay 0 - 10Vdc Input/Staged Output
- Air Velocity Sensors
- Actuators and VAV Controls
- Min / Max Airflow Limits Preset
- Room Temperature Sensor Controller
- Proprietary Flanges or Drive Slip Facility
- Round / Oval Inlets
- Left or right hand available

## Pressure Drop vs. Inlet Velocity



## Model AE

Electric Reheat  
Left hand shown.

# AW series VAV Terminal Units

**Model AW / AW-S** 50 LPS - 1900 LPS  
Capacity and dimensional data

1kW-40kW Hot Water Reheat

| SIZE  | AIRFLOW LPS        |          |          | HEATING KW |       | INLET<br>A x B<br>(mm) | OUTLET<br>C x D<br>(mm) | VAV SECTION<br>W x H x L<br>(mm) | WEIGHT<br>Est<br>(kg) |
|-------|--------------------|----------|----------|------------|-------|------------------------|-------------------------|----------------------------------|-----------------------|
|       | Coil Face Velocity |          |          | 1 Row      | 2 Row |                        |                         |                                  |                       |
|       | @3.5 m/s           | @4.0 m/s | @4.5 m/s |            |       |                        |                         |                                  |                       |
| 03    | 135                | 155      | N/A      | 2.3        | 3.5   | 100 x 150              | 150 x 254               | 150 x 250 x 475                  | 12                    |
| 04    | 135                | 155      | 175      | 2.3        | 3.5   | 100 x 200              | 150 x 254               | 150 x 250 x 475                  | 12                    |
| 05    | 175                | 200      | 225      | 2.8        | 4.3   | 150 x 200              | 200 x 254               | 200 x 250 x 475                  | 12                    |
| 05'S' | 360                | 410      | N/A      | 5.9        | 8.9   | 150 x 200              | 400 x 254               | 200 x 250 x 475                  | 13                    |
| 06    | 230                | 260      | 290      | 3.4        | 5.1   | 200 x 200              | 250 x 254               | 250 x 250 x 475                  | 13                    |
| 06'S' | 360                | 410      | 460      | 5.9        | 8.9   | 200 x 200              | 400 x 254               | 250 x 250 x 475                  | 14                    |
| 08'S' | 450                | 510      | 570      | 7.6        | 11.4  | 300 x 200              | 500 x 254               | 350 x 250 x 475                  | 16                    |
| 10'S' | 540                | 610      | 690      | 9.0        | 13.4  | 400 x 200              | 600 x 254               | 450 x 250 x 475                  | 19                    |
| 12'S' | 630                | 720      | 810      | 10.6       | 16.0  | 500 x 200              | 700 x 254               | 550 x 250 x 475                  | 22                    |
| 14    | 870                | 1000     | 1120     | 14.7       | 22.0  | 600 x 200              | 650 x 381               | 650 x 250 x 475                  | 25                    |
| 14'S' | 1070               | 1220     | 1370     | 18.1       | 27.1  | 600 x 200              | 800 x 381               | 650 x 250 x 475                  | 26                    |
| 16'S' | 1210               | 1375     | 1550     | 20.3       | 30.4  | 700 x 200              | 900 x 381               | 750 x 250 x 475                  | 28                    |
| 18'S' | 1340               | 1530     | 1720     | 22.5       | 33.7  | 800 x 200              | 1000 x 381              | 850 x 250 x 475                  | 31                    |
| 20'S' | 1470               | 1680     | 1900     | 24.8       | 37.2  | 900 x 200              | 1100 x 381              | 950 x 250 x 475                  | 34                    |

Note: Above Heating Capacities are based on: Air  $\Delta T = 14^{\circ}K$  (1 Row),  $21^{\circ}K$  (2 Row) / HHW  $\Delta T = 16^{\circ}K$  and Coil Face Velocity at 3.5 m/s (Alternative Heating Capacities: kW = Design LPS ÷ Above LPS x above kW)

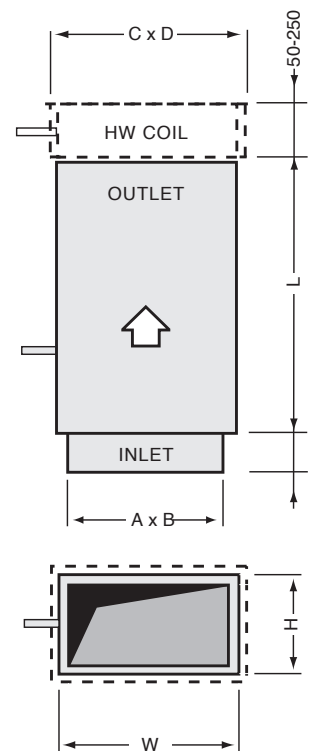
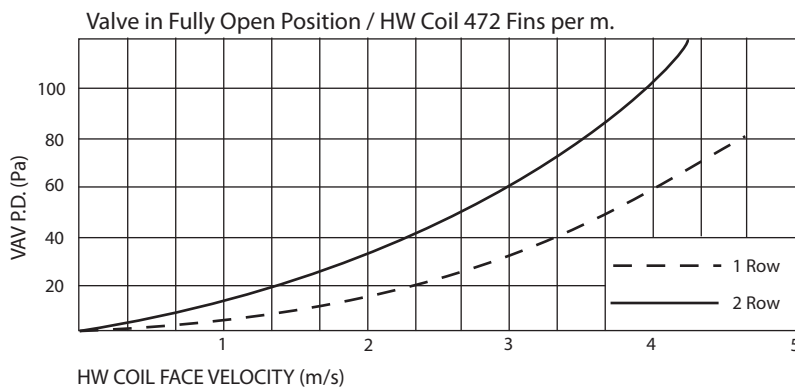
## Features

- Aerofoil Control Valve, ensuring even Air Distribution over Heating Coil
- Linear Control
- Low Noise
- Minimal Cold Track Construction of Twin Skin 1mm Galvabond Steel
- 25mm Acoustic / Thermal Lining with Perforated Steel Finish
- Heating HW Coils of Seamless Pure Copper Mechanically Expanded Tube and Ripple Edge Aluminium Fin Construction to Assure Maximum Heat Transfer
- Heavy Gauge, Hard Drawn Copper Headers and Connections complete with Air Vents
- Coil Frames of 1.6mm Galvabond Steel
- Full shut off facility

## Options

- Air Velocity Sensors
- Actuators and VAV Controls
- Min / Max Airflow Limits Preset
- Room Temperature Sensor Controller
- Proprietary Flanges or Drive Slip Facility
- Round / Oval Inlets
- Left or right hand available

## Pressure Drop vs. Coil Face Velocity



## Model AW/AW-S

Hot Water Reheat  
Left hand shown.

# AFIN series Fan Assisted VAV Units - Fan in Parallel

## Model AFIN 50 LPS - 1750 LPS

No Reheat

Capacity and dimensional data

| MODEL | PRIMARY LPS |           |           | FAN RANGE | FAN Motor W/ Speed | INLET A x B (mm) | OUTLET C x D (mm) | DIMENSIONS W x H x L (mm) | WEIGHT Est (kg) |
|-------|-------------|-----------|-----------|-----------|--------------------|------------------|-------------------|---------------------------|-----------------|
|       | @2.5 m/s    | @10.0 m/s | @12.5 m/s |           |                    |                  |                   |                           |                 |
| A03   | 38          | 150       | 185       | 50-200    | 190 / 3            | 100 x 150        | 350 x 325         | 1010 x 375 x 850          | 50              |
| A04   | 50          | 200       | 250       | 50-200    | 190 / 3            | 100 x 200        | 350 x 325         | 1010 x 375 x 850          | 50              |
| A05   | 75          | 300       | 375       | 50-200    | 190 / 3            | 150 x 200        | 350 x 325         | 1010 x 375 x 850          | 50              |
| B06   | 100         | 400       | 500       | 100-400   | 350 / 3            | 200 x 200        | 350 x 325         | 1010 x 375 x 850          | 50              |
| B08   | 150         | 600       | 750       | 150-600   | 350 / 3            | 300 x 200        | 550 x 325         | 1210 x 375 x 850          | 55              |
| B10   | 200         | 800       | 1000      | 150-600   | 350 / 3            | 400 x 200        | 550 x 325         | 1210 x 375 x 850          | 60              |
| B12   | 250         | 1000      | 1250      | 150-600   | 350 / 3            | 500 x 200        | 550 x 325         | 1210 x 375 x 850          | 65              |
| C10   | 200         | 800       | 1000      | 200-750   | 350 / 3            | 400 x 200        | 600 x 375         | 1310 x 425 x 850          | 70              |
| C12   | 250         | 1000      | 1250      | 200-750   | 350 / 3            | 500 x 200        | 600 x 375         | 1310 x 425 x 850          | 75              |
| C14   | 300         | 1200      | 1500      | 200-750   | 350 / 3            | 600 x 200        | 600 x 375         | 1310 x 425 x 850          | 80              |
| D12   | 250         | 1000      | 1250      | 300-950   | 600 / 3            | 500 x 200        | 700 x 375         | 1510 x 425 x 850          | 75              |
| D14   | 300         | 1200      | 1500      | 300-950   | 600 / 3            | 600 x 200        | 700 x 375         | 1510 x 425 x 850          | 80              |
| D16   | 350         | 1400      | 1750      | 300-950   | 600 / 3            | 700 x 200        | 700 x 375         | 1510 x 425 x 850          | 85              |

Note: Minimum Inlet Velocity of 2.5 m/s recommended to maintain optimum Velocity Sensing.  
Fan LPS based on 50 Pa external resistance

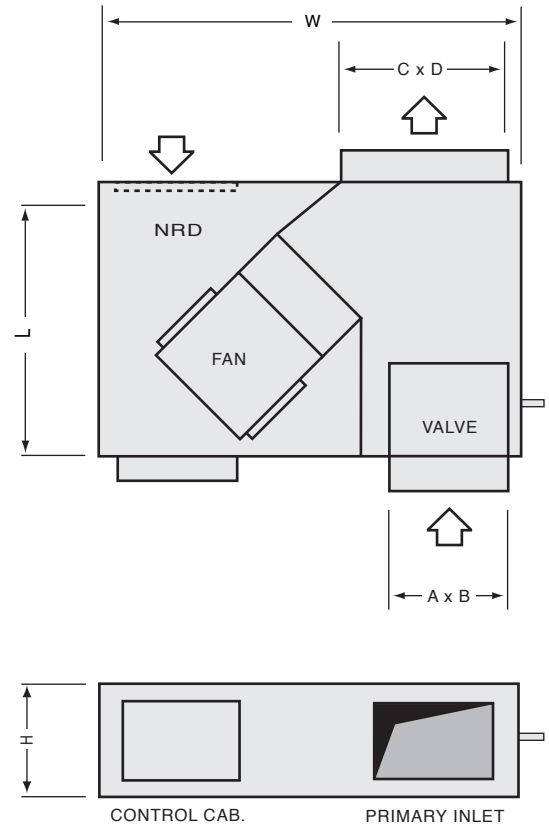
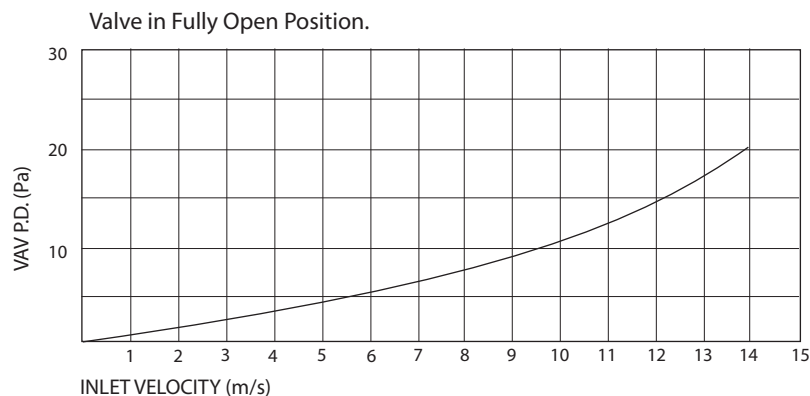
### Features

- Aerofoil Control Valve, ensuring Non Turbulent Airflow
- Low Resistance to Primary Airflow
- Linear Control
- Good Response despite Low Resistance
- Low Noise
- Fan Configured to Blend Smoothly with Primary Airflow
- Fan Wired to Terminal Strip to Simplify Installation
- Fan Motor Assembly Resiliently Mounted
- Minimal Cold Track Construction of 1mm Galvabond Steel
- 25mm Acoustic / Thermal Lining with Perforated Aluminium Facing
- Acoustically Enclosed Fan to Minimise Noise Break-out
- Centrifugal Fan - Double Inlet - 1 $\phi$ .
- Fan Configured to Blend Smoothly with Primary Airflow
- Non Return Damper Located at Unit Inlet ensuring Stable Fan Operation and no Damper Flutter Noise

### Options

- Fan Power Relays
- Disconnect Switch/Circuit Breakers
- Manual Fan Speed Controller
- Air Velocity Sensors
- Actuators and VAV Controls
- Min / Max Airflow Limits Preset
- Room Temperature Sensor Controller
- Proprietary Flanges or Drive Slip Facility
- Round / Oval Inlets
- Left and right hand available

### Pressure Drop vs. Inlet Velocity



**Model AFIN**  
No Reheat  
Right hand shown.

# AFCN series Fan Assisted VAV Units - Fan in Series

## Model AFCN 50 LPS - 1250 LPS

No Reheat

### Capacity and dimensional data

| MODEL  | PRIMARY AIR-FLOW LPS |      | FAN RANGE | FAN Motor W/ Speed | INLET A x B (mm) | OUTLET C x D (mm) | DIMENSIONS W x H x L (mm) | WEIGHT Est (kg) |
|--------|----------------------|------|-----------|--------------------|------------------|-------------------|---------------------------|-----------------|
|        | MIN                  | MAX  |           |                    |                  |                   |                           |                 |
| A03    | 38                   | 185  | 50-200    | 190 / 3            | 100 x 150        | 350 x 325         | 1010 x 375 x 850          | 50              |
| A04    | 50                   | 250  | 50-200    | 190 / 3            | 100 x 200        | 350 x 325         | 1010 x 375 x 850          | 50              |
| B05    | 75                   | 375  | 100-400   | 350 / 3            | 150 x 200        | 350 x 325         | 1010 x 375 x 850          | 50              |
| B06    | 100                  | 500  | 100-400   | 350 / 3            | 200 x 200        | 350 x 325         | 1010 x 375 x 850          | 50              |
| B08/06 | 100                  | 500  | 150-600   | 350 / 3            | 200 x 200        | 550 x 325         | 1210 x 375 x 850          | 55              |
| B08    | 150                  | 650  | 150-600   | 350 / 3            | 300 x 200        | 550 x 325         | 1210 x 375 x 850          | 55              |
| C10    | 200                  | 750  | 200-750   | 350 / 3            | 400 x 200        | 600 x 375         | 1310 x 425 x 850          | 70              |
| C12    | 250                  | 750  | 200-750   | 350 / 3            | 500 x 200        | 600 x 375         | 1310 x 425 x 850          | 70              |
| D12    | 250                  | 1050 | 300-1050  | 600 / 3            | 500 x 200        | 700 x 375         | 1510 x 425 x 850          | 75              |
| D14    | 300                  | 1050 | 300-1050  | 600 / 3            | 600 x 200        | 700 x 375         | 1510 x 425 x 850          | 75              |
| E14    | 300                  | 1200 | 600-1250  | 750 / 3            | 600 x 200        | 850 x 435         | 1610 x 485 x 850          | 85              |

Note: Minimum Inlet Velocity of 2.5 m/s recommended to maintain optimum Velocity Sensing.  
Fan LPS based on 50 Pa external resistance

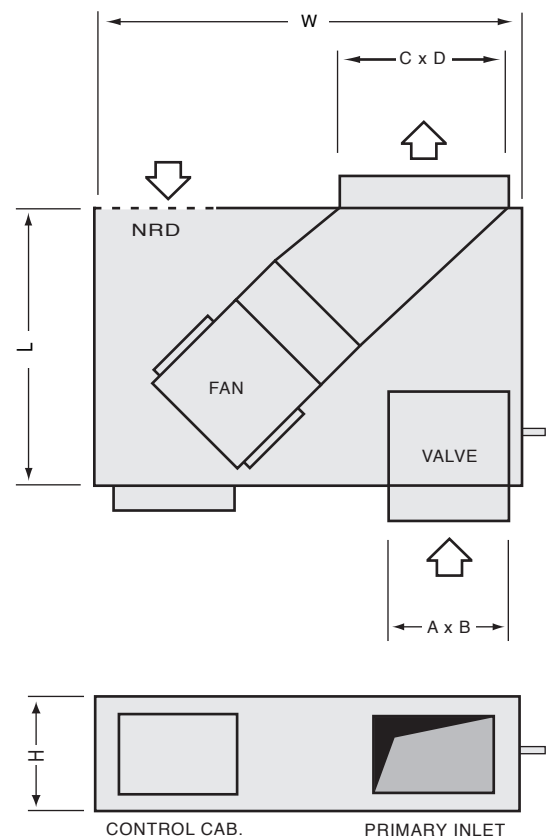
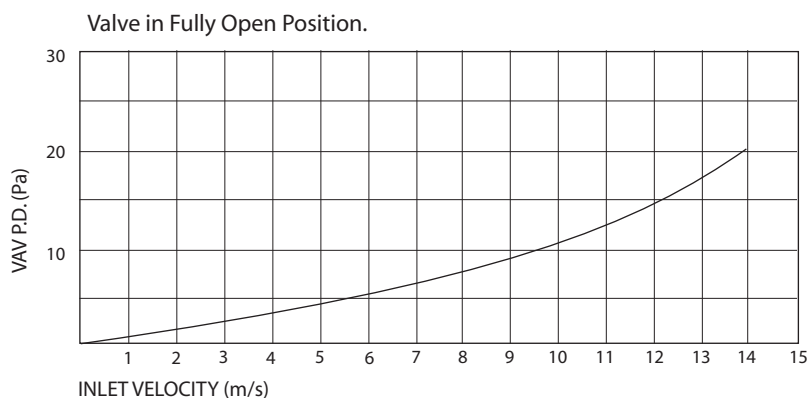
### Features

- Aerofoil Control Valve, ensuring Non Turbulent Airflow
- Low Resistance to Primary Airflow
- Good Response Despite Low Resistance
- Linear Control
- Low Noise
- Acoustically Enclosed Fan to minimise Noise Break-out
- Centrifugal Fan - Double Inlet - 1 $\phi$
- Fan Prewired to Terminal Strip to Simplify Installation
- Fan Motor Assembly Resiliently Mounted
- Minimal Cold Track Construction of 1mm Galvabond Steel
- 25mm Acoustic / Thermal Lining with Perforated Aluminium Facing

### Options

- Fan Power Relays
- Disconnect Switch/Circuit Breakers
- Manual Fan Speed Controller
- Air Velocity Sensors
- Actuators and VAV Controls
- Min / Max Airflow Limits Preset
- Room Temperature Sensor Controller
- Proprietary Flanges or Drive Slip Facility
- Round / Oval Inlets
- Left and right hand available

### Pressure Drop vs. Inlet Velocity



### Model AFCN

No Reheat  
Right hand shown.

# AFIE series Fan Assisted VAV Units - Fan in Parallel

**Model AFIE** 50 LPS - 1750 LPS

250W - 6600W Electric Reheat

Capacity and dimensional data

| MODEL | PRIMARY LPS |           |           | FAN RANGE | FAN Motor W/ Speed | INLET A x B (mm) | OUTLET C x D (mm) | DIMENSIONS W x H x L (mm) | WEIGHT Est (kg) |
|-------|-------------|-----------|-----------|-----------|--------------------|------------------|-------------------|---------------------------|-----------------|
|       | @2.5 m/s    | @10.0 m/s | @12.5 m/s |           |                    |                  |                   |                           |                 |
| A03   | 38          | 150       | 185       | 50-200    | 190 / 3            | 100 x 150        | 350 x 325         | 1010 x 375 x 850          | 50              |
| A04   | 50          | 200       | 250       | 50-200    | 190 / 3            | 100 x 200        | 350 x 325         | 1010 x 375 x 850          | 50              |
| A05   | 75          | 300       | 375       | 50-200    | 190 / 3            | 150 x 200        | 350 x 325         | 1010 x 375 x 850          | 50              |
| B06   | 100         | 400       | 500       | 100-400   | 350 / 3            | 200 x 200        | 350 x 325         | 1010 x 375 x 850          | 50              |
| B08   | 150         | 600       | 750       | 150-600   | 350 / 3            | 300 x 200        | 550 x 325         | 1210 x 375 x 850          | 55              |
| B10   | 200         | 800       | 1000      | 150-600   | 350 / 3            | 400 x 200        | 550 x 325         | 1210 x 375 x 850          | 60              |
| C10   | 200         | 800       | 1000      | 200-750   | 350 / 3            | 400 x 200        | 600 x 375         | 1310 x 425 x 850          | 70              |
| C12   | 250         | 1000      | 1250      | 200-750   | 350 / 3            | 500 x 200        | 600 x 375         | 1310 x 425 x 850          | 75              |
| D14   | 300         | 1200      | 1500      | 300-950   | 600 / 3            | 600 x 200        | 700 x 375         | 1510 x 425 x 850          | 80              |
| D16   | 350         | 1400      | 1750      | 300-950   | 600 / 3            | 700 x 200        | 700 x 375         | 1510 x 425 x 850          | 85              |

Note: Minimum Inlet Velocity of 2.5 m/s recommended to maintain optimum Velocity Sensing.  
Fan LPS based on 50 Pa external resistance

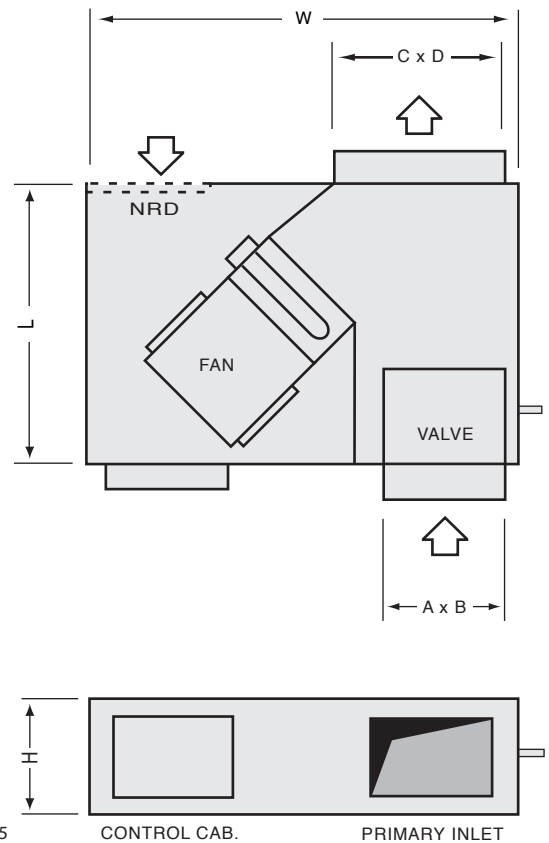
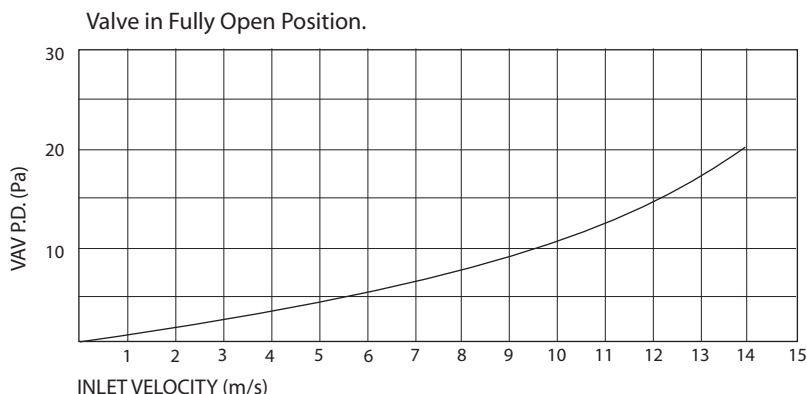
## Features

- Aerofoil Control Valve, ensuring Non Turbulent Airflow
- Low Resistance to Primary Airflow
- Good Response Despite Low Resistance
- Linear Control
- Low Noise
- Acoustically Enclosed Fan to Minimise Noise Break-out
- Centrifugal Fan - Double Inlet - 1 $\emptyset$
- Fan Configured to Blend Smoothly with Primary Airflow
- Non Return Damper Located at Unit Inlet ensuring Stable Fan Operation and no Damper Flutter Noise
- Finned Tubular Heaters to Assure Maximum Heat Transfer
- Full Range of Heater Options - 1 $\emptyset$ , 3 $\emptyset$  / 1STG, 2STG, 3STG
- Slide Insertion for easy service
- Over Temperature Limit Protection - Manual Reset
- Air Flow Proving Switch
- Fan and Reheat Elements Prewired to Terminal Strip to simplify Installation
- Minimal Cold Track Construction of 1mm Galvabond Steel
- 25mm Acoustic / Thermal Lining with Perforated Aluminium Facing

## Options

- Fan Power Relays and Contactors
- Disconnect Switch/Circuit Breakers
- Manual Fan Speed Controller
- Air Velocity Sensors
- Actuators and VAV Controls
- Min / Max Airflow Limits Preset
- Electronic Relay 0 - 10Vdc Input / Staged Output
- Room Temperature Sensor Controller
- Proprietary Flanges or Drive Slip Facility
- Round / Oval Inlets
- Left and right hand available

## Pressure Drop vs. Inlet Velocity



# AFCE series Fan Assisted VAV Units - Fan in Series

**Model AFCE** 100 LPS - 1250 LPS

250W - 6600W Electric Reheat

Capacity and dimensional data

| MODEL  | PRIMARY AIR-FLOW LPS |      | FAN RANGE | FAN Motor W/ Speed | INLET A x B (mm) | OUTLET C x D (mm) | DIMENSIONS W x H x L (mm) | WEIGHT Est (kg) |
|--------|----------------------|------|-----------|--------------------|------------------|-------------------|---------------------------|-----------------|
|        | MIN                  | MAX  |           |                    |                  |                   |                           |                 |
| A03    | 38                   | 185  | 50-200    | 190 / 3            | 100 x 150        | 350 x 325         | 1010 x 375 x 850          | 50              |
| A04    | 50                   | 250  | 50-200    | 190 / 3            | 100 x 200        | 350 x 325         | 1010 x 375 x 850          | 50              |
| B05    | 75                   | 375  | 100-400   | 350 / 3            | 150 x 200        | 350 x 325         | 1010 x 375 x 850          | 50              |
| B06    | 100                  | 500  | 100-400   | 350 / 3            | 200 x 200        | 350 x 325         | 1010 x 375 x 850          | 50              |
| B08/06 | 100                  | 500  | 150-600   | 350 / 3            | 200 x 200        | 550 x 325         | 1210 x 375 x 850          | 55              |
| B08    | 150                  | 650  | 150-600   | 350 / 3            | 300 x 200        | 550 x 325         | 1210 x 375 x 850          | 55              |
| C10    | 200                  | 750  | 200-750   | 350 / 3            | 400 x 200        | 600 x 375         | 1310 x 425 x 850          | 70              |
| C12    | 250                  | 750  | 200-750   | 350 / 3            | 500 x 200        | 600 x 375         | 1310 x 425 x 850          | 70              |
| D12    | 250                  | 1050 | 300-1050  | 600 / 3            | 500 x 200        | 700 x 375         | 1510 x 425 x 850          | 75              |
| D14    | 300                  | 1050 | 300-1050  | 600 / 3            | 600 x 200        | 700 x 375         | 1510 x 425 x 850          | 75              |
| E14    | 300                  | 1200 | 600-1250  | 750 / 3            | 600 x 200        | 850 x 435         | 1610 x 485 x 850          | 85              |

Note: Minimum Inlet Velocity of 2.5 m/s recommended to maintain optimum Velocity Sensing.  
Fan LPS based on 50 Pa external resistance

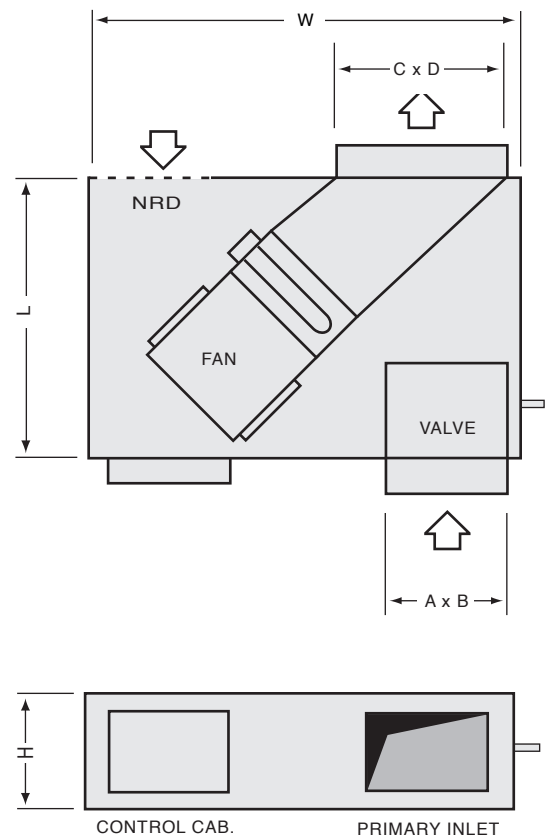
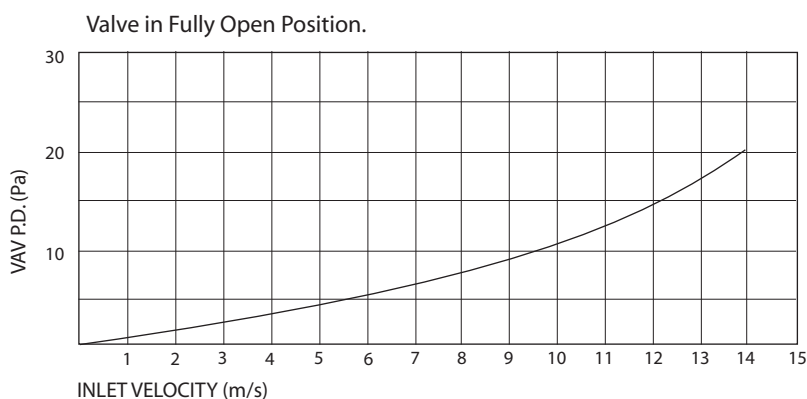
## Features

- Aerofoil Control Valve, ensuring Non Turbulent Airflow
- Low Resistance to Primary Airflow
- Good Response Despite Low Resistance
- Linear Control
- Low Noise
- Acoustically Enclosed Fan to Minimise Noise Break-out
- Centrifugal Fan - Double Inlet - 1 $\emptyset$
- Fan Configured to Blend Smoothly with Primary Airflow
- Finned Tubular Heaters to Assure Maximum Heat Transfer
- Full Range of Heater Options - 1 $\emptyset$ , 3 $\emptyset$  / 1STG, 2STG, 3STG
- Slide Insertion for easy service
- Over Temperature Limit Protection - Manual Reset
- Air Flow Proving Switch
- Fan and Reheat Elements Prewired to Terminal Strip to simplify Installation
- Minimal Cold Track Construction of 1mm Galvabond Steel
- 25mm Acoustic / Thermal Lining with Perforated Aluminium Facing

## Options

- Fan Power Relays
- Disconnect Switch / Circuit Breakers
- Manual Fan Speed Controller
- Air Velocity Sensors
- Actuators and VAV Controls
- Min / Max Airflow Limits Preset
- Electronic Relay 0 - 10Vdc Input / Staged Output
- Room Temperature Sensor Controller
- Proprietary Flanges or Drive Slip Facility
- Round / Oval Inlets
- Left and right hand available

## Pressure Drop vs. Inlet Velocity



**Model AFCE**

No Reheat  
Right hand shown.

# AFIW Fan Assisted VAV Units - Fan in Parallel

**Model AFIW** 50 LPS - 950 LPS

1kW - 30kW Hot Water Reheat

Capacity and dimensional data

| MODEL | PRIMARY LPS |           |           | FAN RANGE | FAN Motor W/ Speed | INLET A x B (mm) | OUTLET C x D (mm) | DIMENSIONS W x H x L (mm) | WEIGHT Est (kg) |
|-------|-------------|-----------|-----------|-----------|--------------------|------------------|-------------------|---------------------------|-----------------|
|       | @2.5 m/s    | @10.0 m/s | @12.5 m/s |           |                    |                  |                   |                           |                 |
| A03   | 38          | 150       | 185       | 50-200    | 190 / 3            | 100 x 150        | 350 x 325         | 1010 x 375 x 850          | 50              |
| A04   | 50          | 200       | 250       | 50-200    | 190 / 3            | 100 x 200        | 350 x 325         | 1010 x 375 x 850          | 50              |
| A05   | 75          | 300       | 375       | 50-200    | 190 / 3            | 150 x 200        | 350 x 325         | 1010 x 375 x 850          | 50              |
| B06   | 100         | 400       | 500       | 100-400   | 350 / 3            | 200 x 200        | 350 x 325         | 1010 x 375 x 850          | 50              |
| B08   | 150         | 600       | 750       | 150-600   | 350 / 3            | 300 x 200        | 550 x 325         | 1210 x 375 x 850          | 55              |
| B10   | 200         | 800       | 1000      | 150-600   | 350 / 3            | 400 x 200        | 550 x 325         | 1210 x 375 x 850          | 60              |
| B12   | 250         | 1000      | 1250      | 150-600   | 350 / 3            | 500 x 200        | 550 x 325         | 1210 x 375 x 850          | 65              |
| C10   | 200         | 800       | 1000      | 200-750   | 350 / 3            | 400 x 200        | 600 x 375         | 1310 x 425 x 850          | 70              |
| C12   | 250         | 1000      | 1250      | 200-750   | 350 / 3            | 500 x 200        | 600 x 375         | 1310 x 425 x 850          | 75              |
| C14   | 300         | 1200      | 1500      | 200-750   | 350 / 3            | 600 x 200        | 600 x 375         | 1310 x 425 x 850          | 80              |
| D12   | 250         | 1000      | 1250      | 300-950   | 600 / 3            | 500 x 200        | 700 x 375         | 1510 x 425 x 850          | 75              |
| D14   | 300         | 1200      | 1500      | 300-950   | 600 / 3            | 600 x 200        | 700 x 375         | 1510 x 425 x 850          | 80              |
| D16   | 350         | 1400      | 1750      | 300-950   | 600 / 3            | 700 x 200        | 700 x 375         | 1510 x 425 x 850          | 85              |

**Note:** Above Heating Capacities are based on: Air  $\Delta T = 14^{\circ}K$  (1 Row),  $21^{\circ}K$  (2 Row) / HHW  $\Delta T = 16^{\circ}K$  and Coil Face Velocity at 3.5 m/s (Alternative Heating Capacities: kW = Design LPS  $\div$  Above LPS x above kW) Fan LPS based on 50 Pa external resistance

## Features

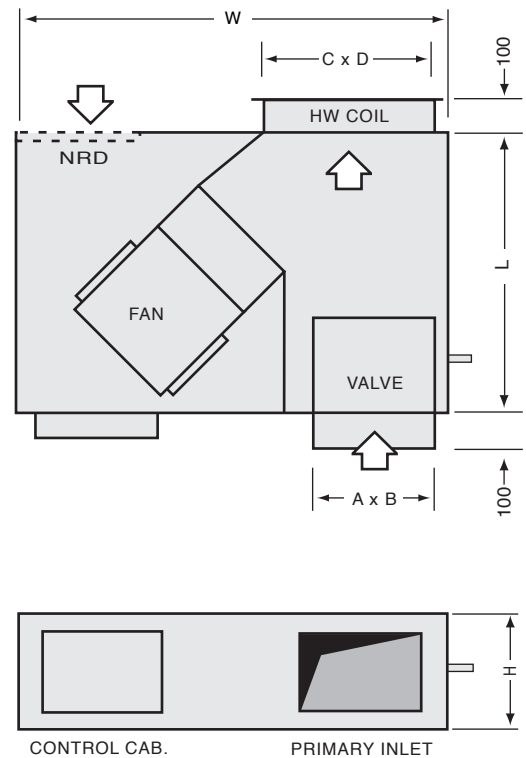
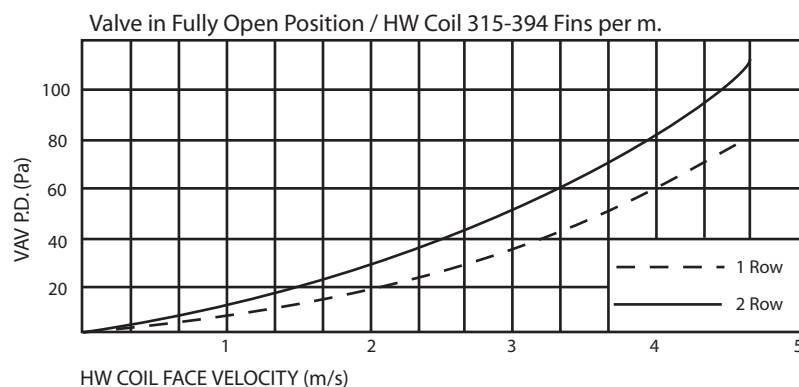
- Aerofoil Control Valve, ensuring Non Turbulent Airflow
- Linear Control
- Low Noise
- Acoustically Enclosed Fan to Minimise Noise Break-out
- Centrifugal Fan - Double Inlet - 1 $\phi$
- Fan Configured to Blend Smoothly with Primary Airflow
- Non Return Damper Located at Unit Inlet ensuring Stable Fan Operation and no Damper Flutter Noise
- Fan Prewired to Terminal Strip to Simplify Installation
- Minimal Cold Track Construction of 1mm Galvabond Steel
- 25mm Acoustic/Thermal Lining with Perforated Aluminium Facing

- Heating HW Coils of Seamless Pure Copper Mechanically Expanded Tube and Ripple Edge Aluminium Fin Construction
- Heavy Gauge, Hard Drawn Copper Headers and Connections complete with Air Vents
- Coil Frames of 1.6mm Galvabond Steel

## Options

- Fan Power Relays
- Disconnect Switch/Circuit Breakers
- Manual Fan Speed Controller
- Air Velocity Sensors
- Actuators and VAV Controls
- Min / Max Airflow Limits Preset
- Room Temperature Sensor Controller
- Proprietary Flanges or Drive Slip Facility
- Round / Oval Inlets
- Left and right hand available

## Pressure Drop vs. Coil Face Velocity



## Model AFIW

Fan in parallel  
Right hand shown.

# AFCW Fan Assisted VAV Units - Fan in Series

## Model AFCW 50 LPS - 1300 LPS

1kW - 33kW Hot Water Reheat

### Capacity and dimensional data

| MODEL | PRIMARY AIRFLOW LPS | HEATING KW |       | FAN RANGE | FAN Motor W/ Speed | INLET A x B (mm) | OUTLET C x D (mm) | DIMENSIONS W x H x L (mm) | WEIGHT Est (kg) |
|-------|---------------------|------------|-------|-----------|--------------------|------------------|-------------------|---------------------------|-----------------|
|       |                     | 1 Row      | 2 Row |           |                    |                  |                   |                           |                 |
| A03   | 40 - 185            | 6.8        | 10.1  | 50-200    | 190 / 3            | 100 x 150        | 450 x 320         | 1010 x 375 x 850          | 50              |
| A04   | 50 - 250            | 6.8        | 10.1  | 50-200    | 190 / 3            | 100 x 200        | 450 x 320         | 1010 x 375 x 850          | 51              |
| B05   | 75 - 375            | 8.2        | 12.5  | 100-400   | 350 / 3            | 150 x 200        | 450 x 320         | 1010 x 375 x 850          | 53              |
| B06   | 100 - 500           | 8.2        | 12.5  | 100-400   | 350 / 3            | 200 x 200        | 450 x 320         | 1010 x 375 x 850          | 55              |
| B08   | 150 - 650           | 10.1       | 15.2  | 150-600   | 350 / 3            | 300 x 200        | 550 x 320         | 1210 x 375 x 850          | 60              |
| C05   | 75 - 375            | 12.7       | 19.0  | 200-750   | 350 / 3            | 150 x 200        | 650 x 320         | 1310 x 425 x 850          | 60              |
| C06   | 100 - 500           | 12.7       | 19.0  | 200-750   | 350 / 3            | 200 x 200        | 650 x 320         | 1310 x 425 x 850          | 65              |
| C08   | 150 - 750           | 12.7       | 19.0  | 200-750   | 350 / 3            | 300 x 200        | 650 x 320         | 1310 x 425 x 850          | 70              |
| C10   | 200 - 900           | 16.0       | 24.0  | 200-900   | 600 / 3            | 400 x 200        | 650 x 380         | 1310 x 425 x 850          | 75              |
| D12   | 250 - 1000          | 17.1       | 25.5  | 300-1000  | 600 / 3            | 500 x 200        | 750 x 380         | 1510 x 425 x 850          | 85              |
| E14   | 300 - 1300          | 22.2       | 32.5  | 500-1300  | 750 / 3            | 600 x 200        | 850 x 445         | 1610 x 485 x 850          | 90              |

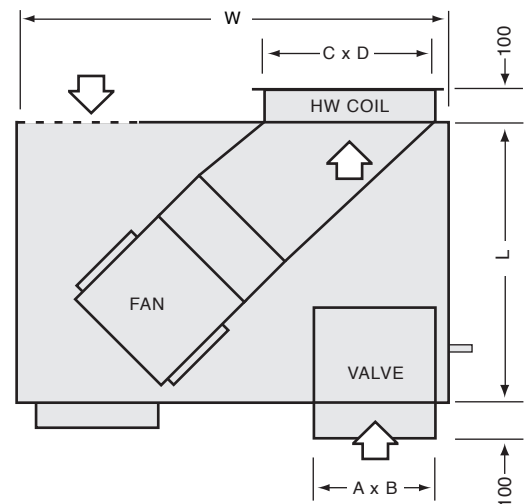
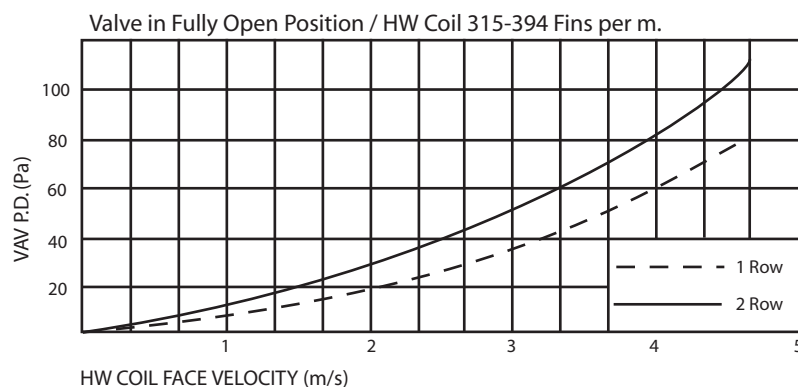
Note: Above Heating Capacities are based on: Air  $\Delta T = 14^{\circ}K$  (1 Row),  $21^{\circ}K$  (2 Row) / HHW  $\Delta T = 16^{\circ}K$  and Coil Face Velocity at 3.5 m/s (Alternative Heating Capacities: kW = Design LPS  $\div$  Above LPS x above kW) Fan LPS based on 50 Pa external resistance

### Features

- Aerofoil Control Valve, ensuring Non Turbulent Airflow
- Linear Control
- Low Noise
- Acoustically Enclosed Fan to Minimise Noise Break-out
- Centrifugal Fan - Double Inlet - 1 $\phi$
- Fan Configured to Blend Smoothly with Primary Airflow
- Non Return Damper Located at Unit Inlet ensuring Stable Fan Operation and no Damper Flutter Noise
- Fan Prewired to Terminal Strip to Simplify Installation
- Minimal Cold Track Construction of 1mm Galvabond Steel
- 25mm Acoustic/Thermal Lining with Perforated Aluminium Facing
- Heating HW Coils of Seamless Pure Copper Mechanically Expanded Tube and Ripple Edge Aluminium Fin Construction
- Heavy Gauge, Hard Drawn Copper Headers and Connections complete with Air Vents
- Coil Frames of 1.6mm Galvabond Steel

### Options

- Fan Power Relays
- Disconnect Switch/Circuit Breakers
- Manual Fan Speed Controller
- Air Velocity Sensors
- Actuators and VAV Controls
- Min / Max Airflow Limits Preset
- Room Temperature Sensor Controller
- Proprietary Flanges or Drive Slip Facility
- Round / Oval Inlets
- Left and right hand available



**Model AFCW**  
(Fan in series)  
Right hand shown.

# D series Dual Duct VAV Terminal Units

## Model DAC

Capacity and dimensional data

| SIZE | NOM.<br>LPS | INLET<br>A x B<br>(mm) | OUTLET<br>C x H<br>(mm) | DIMENSIONS<br>W x H x L*<br>(mm) | WEIGHT<br>Est**<br>(kg) |
|------|-------------|------------------------|-------------------------|----------------------------------|-------------------------|
| 03   | 100         | 100 x 150              | 100 x 250               | 350 x 250 x 825                  | 40                      |
| 04   | 150         | 100 x 200              | 150 x 250               | 350 x 250 x 825                  | 40                      |
| 06   | 250         | 175 x 200              | 250 x 250               | 500 x 250 x 825                  | 43                      |
| 08   | 350         | 275 x 200              | 350 x 250               | 700 x 250 x 825                  | 46                      |
| 10   | 500         | 375 x 200              | 550 x 250               | 900 x 250 x 825                  | 51                      |
| 12   | 700         | 475 x 200              | 650 x 250               | 1100 x 250 x 825                 | 53                      |
| 12s  | 1000        | 475 x 200              | 850 x 250               | 1100 x 250 x 825                 | 55                      |

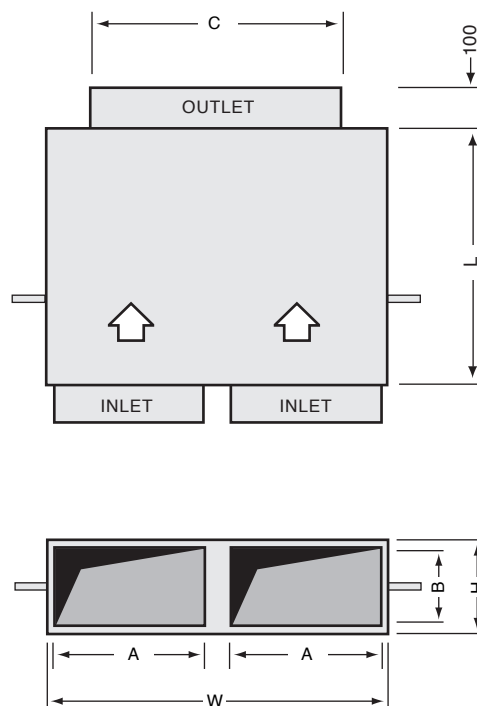
Note: Nominal LPS based on approx. 10m/s inlet velocity, 5m/s outlet velocity.  
Add approx. 200mm for AW (Hot Water Reheat) units.

## Features

- All units are complete with acoustic lining, two inlet spigots, raw edge outlet connection and a Dual Aerofoil air control valve assembly.
- Independently Controlled Valves, complete with a dedicated Airflow Sensing Station (pressure independent).

## Options

- Stand-alone Control System, complete with Room Sensor Controller
- Factory Calibrated Controls to maintain specified requirements:
  - Max. / Min. Primary Flow (VAV function)
  - Secondary Flow / Make-up Air (Constant Terminal Flow function)
- Minimal Site Commissioning requirements



**Model DAC**

# Twin Duct VAV Terminal Units

## Twin Pack - TPO 225 Twin Duct VAV unit

### Features

- Latest Technology in VAV Design
- Modular VAV Networking Concept
- Ultimate Office Space Comfort
- Significant Energy Savings
- Inexpensive Tenancy Alterations
- Lightweight Aluminium Construction
- Capacity Range 50 l/s - 250 l/s

### System Description

Twin Pack VAV units are designed to clip directly onto ductwork carrying two streams of conditioned air, namely Cold and Neutral air supplies. The ductwork is of a sandwich configuration.

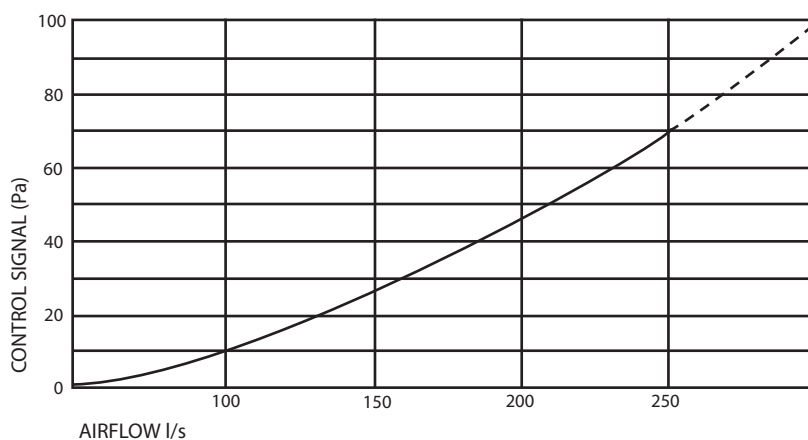
The VAV's function is to mix the two air supplies in response to Room Temperature and Prescribed Terminal Airflow requirements.

As in the case of the standard VAV range, Twin Pack units employ Celmecc's well proven Aerofoil Valve design. This is a critical feature having a linear flow/stroke characteristic ensuring precise control response and accurate mixing of the two air supplies.

The Twin Pack system is further enhanced with its unique airflow sensing station which is independent of upstream and downstream system pressures and unaffected by turbulent air entry conditions.

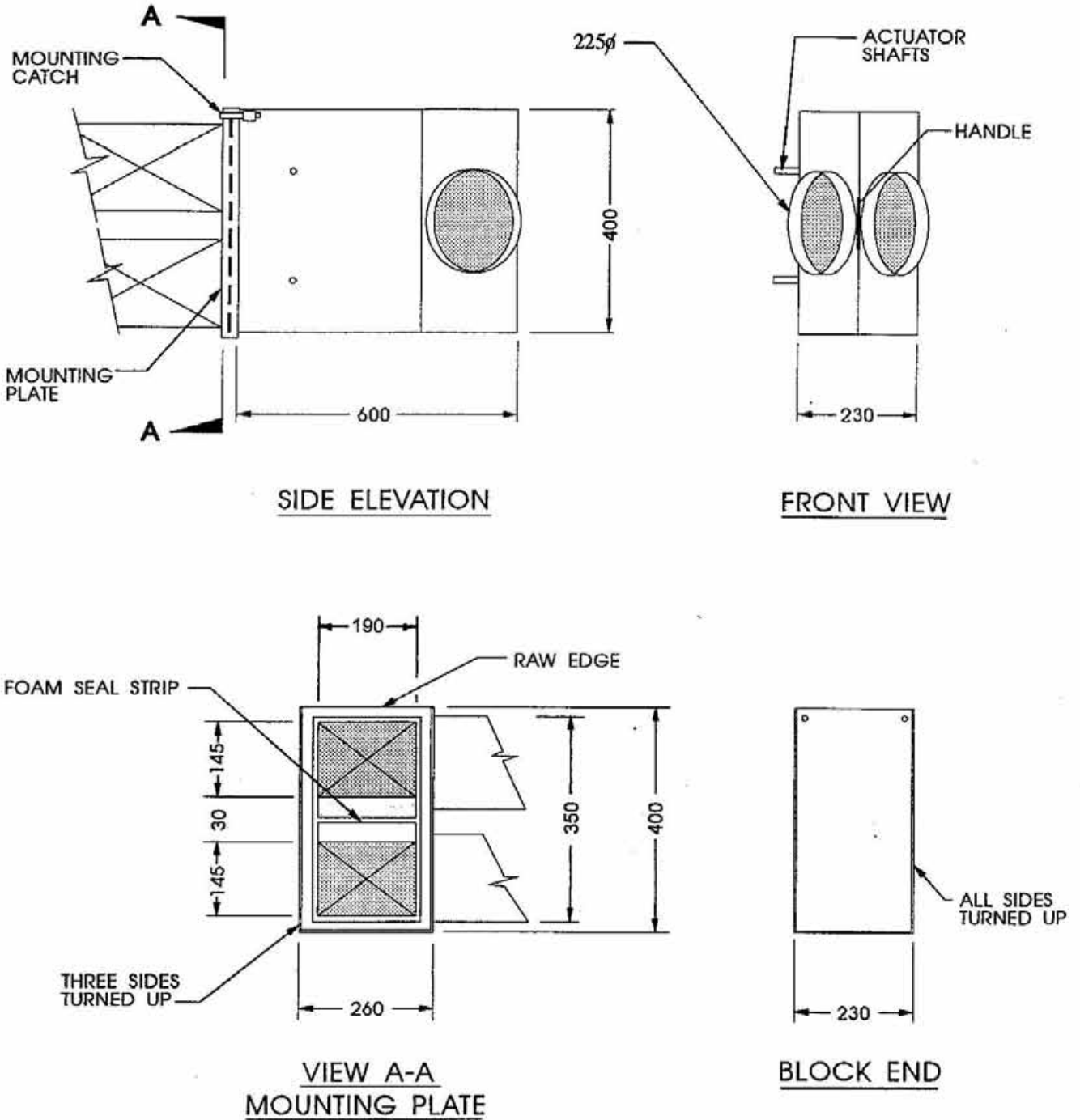
There is no equal to Celmecc's patented Twin Pack VAV system.

### Control Signal vs Airflow



# Twin Duct VAV Terminal Units

## Twin Pack - TPO 225 Twin Duct VAV unit



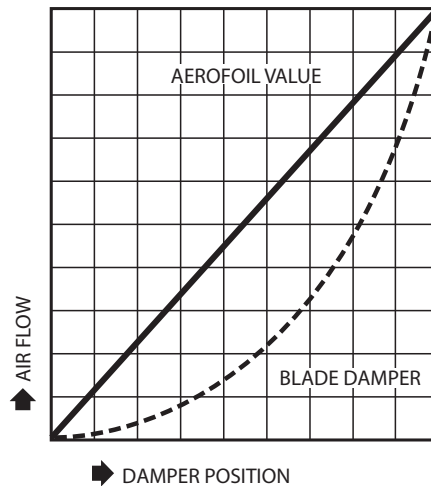
# VAV Terminal Units

## Air Control Features

### Linear Control

Accurate air flow control is provided by the Aerofoil type valve, configured to accept a standard 90° stroke, direct drive actuator.

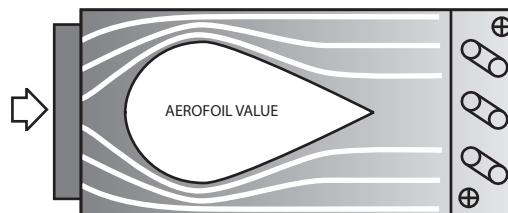
The valve has a near linear flow/stroke relationship as shown.



### Laminar Flow

The Celmeq Aerofoil Valve produces laminar air flow patterns, in any position, as shown.

This ensures even air distribution across the face area of the duct, or across the downstream HHW heating coil or electric element.



### Air Resistance

Due to the Aerodynamic nature of the valve, static regain is achieved, permitting more efficient use of fan energy, as well as allowing flexibility in future adjustment, should additional air flow be required.

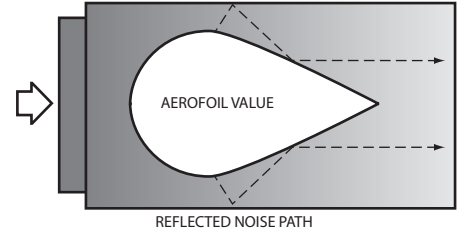
# VAV Terminal Units

## Acoustic Performance

### Radiated Noise

As a result of exhaustive Research and Development work, testing and experience with numerous VAV Air Valve configurations Celmec has developed a method of significantly reducing low to mid frequency noise and shifting high frequency noise energy away from Casing Break-out, towards the less critical direction of Unit Discharge, by means of reflection.

Consequently, the above technology and acoustic expertise have been combined by Celmec to create a full range of VAV Terminal Units which offer greatly reduced Radiated and Low Frequency Noise Levels compared to conventional systems.



### Sound power levels dB re 10<sup>-12</sup> W

| 'A' Series Single Duct VAV Terminal Units AN / AW |               |              |     |     |    |    |    |               |     |     |    |    |    |
|---|---------------|--------------|-----|-----|----|----|----|---------------|-----|-----|----|----|----|
| PD-150Pa  |               | Radiated SWL |     |     |    |    |    | Discharge SWL |     |     |    |    |    |
| Size  | AirFlow (LPS) | 125          | 250 | 500 | 1K | 2K | 4K | 125           | 250 | 500 | 1K | 2K | 4K |
| 06  | 250           | 51           | 45  | 37  | 32 | 29 | 26 | 53            | 53  | 50  | 50 | 52 | 50 |
| 08  | 350           | 51           | 45  | 37  | 32 | 30 | 26 | 53            | 54  | 51  | 50 | 53 | 50 |
| 10  | 500           | 52           | 46  | 38  | 33 | 31 | 27 | 55            | 55  | 53  | 52 | 54 | 52 |
| 12  | 700           | 53           | 48  | 40  | 34 | 32 | 28 | 57            | 57  | 55  | 53 | 56 | 54 |
| 14  | 1000          | 55           | 50  | 42  | 35 | 33 | 30 | 59            | 60  | 57  | 56 | 58 | 57 |
| 16  | 1250          | 56           | 51  | 43  | 36 | 34 | 31 | 60            | 61  | 59  | 57 | 59 | 59 |
| 18  | 1550          | 57           | 52  | 44  | 37 | 34 | 32 | 62            | 62  | 60  | 58 | 60 | 60 |
| 20  | 1850          | 58           | 52  | 45  | 38 | 35 | 33 | 63            | 63  | 61  | 59 | 61 | 62 |

| 'A' Series Single Duct VAV Terminal Units AE |               |              |     |     |    |    |    |               |     |     |    |    |    |
|--|---------------|--------------|-----|-----|----|----|----|---------------|-----|-----|----|----|----|
| PD-150Pa                                     |               | Radiated SWL |     |     |    |    |    | Discharge SWL |     |     |    |    |    |
| Size   | AirFlow (LPS) | 125          | 250 | 500 | 1K | 2K | 4K | 125           | 250 | 500 | 1K | 2K | 4K |
| 06   | 250           | 49           | 44  | 36  | 31 | 29 | 26 | 52            | 51  | 47  | 46 | 47 | 44 |
| 08   | 350           | 49           | 44  | 36  | 31 | 29 | 26 | 52            | 52  | 48  | 46 | 48 | 44 |
| 10   | 500           | 50           | 45  | 37  | 32 | 30 | 27 | 54            | 53  | 49  | 48 | 49 | 46 |
| 12   | 700           | 51           | 46  | 38  | 33 | 31 | 28 | 55            | 55  | 52  | 49 | 51 | 49 |
| 14   | 1000          | 53           | 48  | 41  | 34 | 32 | 30 | 58            | 58  | 54  | 52 | 53 | 52 |
| 16   | 1250          | 54           | 49  | 42  | 35 | 33 | 31 | 59            | 59  | 56  | 53 | 54 | 53 |
| 18   | 1550          | 55           | 50  | 43  | 36 | 34 | 31 | 61            | 60  | 57  | 54 | 55 | 55 |
| 20   | 1850          | 55           | 51  | 44  | 37 | 34 | 32 | 62            | 61  | 59  | 55 | 56 | 56 |

| 'D' Series Dual Duct VAV Terminal Units DAC |               |              |     |     |    |    |    |               |     |     |    |    |    |
|---|---------------|--------------|-----|-----|----|----|----|---------------|-----|-----|----|----|----|
| PD-150Pa                                    |               | Radiated SWL |     |     |    |    |    | Discharge SWL |     |     |    |    |    |
| Size  | AirFlow (LPS) | 125          | 250 | 500 | 1K | 2K | 4K | 125           | 250 | 500 | 1K | 2K | 4K |
| 06  | 250           | 49           | 44  | 36  | 31 | 29 | 26 | 52            | 51  | 47  | 46 | 47 | 44 |
| 08  | 350           | 49           | 44  | 36  | 31 | 29 | 26 | 52            | 52  | 48  | 46 | 48 | 44 |
| 10  | 500           | 50           | 45  | 37  | 32 | 30 | 27 | 54            | 53  | 49  | 48 | 49 | 46 |
| 12  | 700           | 51           | 46  | 38  | 33 | 31 | 28 | 55            | 55  | 52  | 49 | 51 | 49 |

| 'AF' Series Fan Assistant VAV Units AFIN / AFIE / AFCN / AFCE |                     |           |              |     |     |    |    |    |               |     |     |    |    |    |
|---|---------------------|-----------|--------------|-----|-----|----|----|----|---------------|-----|-----|----|----|----|
|   | PD-150Pa            | SP-100Pa  | Radiated SWL |     |     |    |    |    | Discharge SWL |     |     |    |    |    |
| Size  | Primary Range (LPS) | Fan (LPS) | 125          | 250 | 500 | 1K | 2K | 4K | 125           | 250 | 500 | 1K | 2K | 4K |
| B   | 100-700             | 250       | 62           | 56  | 50  | 46 | 42 | 39 | 58            | 57  | 55  | 52 | 50 | 49 |
|   |                     | 350       | 65           | 59  | 53  | 49 | 46 | 45 | 62            | 61  | 57  | 56 | 55 | 57 |
| C   | 200-1000            | 250       | 57           | 59  | 47  | 45 | 42 | 37 | 54            | 62  | 54  | 48 | 46 | 43 |
|   |                     | 500       | 64           | 65  | 53  | 54 | 53 | 52 | 63            | 68  | 60  | 57 | 58 | 58 |
| D   | 250-1250            | 350       | 58           | 57  | 48  | 45 | 39 | 36 | 59            | 61  | 55  | 53 | 51 | 50 |
|   |                     | 700       | 69           | 65  | 57  | 58 | 54 | 54 | 70            | 70  | 65  | 64 | 64 | 66 |

# Electric Reheat Bank Capacities

## "AE" TYPE VAV HEATING SELECTION SCHEDULE FINNED TUBULAR ELEMENT HEATER BANK CAPACITIES (Watts)

NOTE: Heater Bank capacities are based on recommended minimum inlet velocity of 3.0m/s or minimum of 50 l/s per 1000Watt, whichever is greater.

|                       | AE03   | AE04   | AE05   | AE06    | AE08    | AE10    | AE12     | AE14     | AE16     | AE18     | AE20     |
|-----------------------|--------|--------|--------|---------|---------|---------|----------|----------|----------|----------|----------|
| Min - Max l/s         | 45-150 | 60-200 | 90-300 | 120-400 | 180-600 | 240-800 | 300-1000 | 360-1200 | 420-1400 | 480-1600 | 540-1850 |
| <b>1-Ph / 1-Stage</b> | 250    | 250    | 250    | 250     | 400     | 450     | 600      | 750      | 850      | 1000     | 1150     |
|                       |        |        |        |         |         | 525     | 700      | 875      | 1050     | 1200     | 1375     |
|                       |        |        |        |         |         | 900     | 1200     | 1500     | 1700     | 2000     | 2300     |
|                       | 500    | 500    | 500    | 500     | 800     | 1050    | 1400     | 1750     | 2100     | 2400     | 2750     |
|                       | 625    | 625    | 625    | 625     | 1000    | 1300    | 1750     | 2200     | 2625     | 3000     | 3350     |
|                       |        | 1000   | 1000   | 1000    | 1600    | 2100    | 2800     | 3500     | 4200     | 4800     | 5500     |
|                       |        |        | 1500   | 1500    | 2500    | 3500    | 4500     |          |          |          |          |
|                       |        |        |        | 2000    | 3300    | 4600    | 6000     |          |          |          |          |
| <b>1-Ph / 2-Stage</b> | 500    | 500    | 500    | 500     | 800     | 900     | 1200     | 1500     | 1700     | 2000     | 2300     |
|                       |        |        |        |         |         | 1050    | 1400     | 1750     | 2100     | 2400     | 2750     |
|                       |        |        |        |         |         | 1800    | 2400     | 3000     | 3400     | 4000     | 4600     |
|                       |        | 1000   | 1000   | 1000    | 1600    | 2100    | 2800     | 3500     | 4200     | 4800     | 5500     |
|                       |        |        | 1300   | 1300    | 2000    | 2600    | 3500     | 4400     | 5250     | 6000     | 6700     |
|                       |        |        |        | 2000    | 3200    | 4200    | 5600     | 7000     | 8400     | 9600     | 11000    |
|                       |        |        |        | 3300    | 4600    | 6000    |          |          |          |          |          |
| <b>1-Ph / 3-Stage</b> | 750    | 750    | 750    | 750     | 1200    | 1350    | 1800     | 2250     | 2550     | 3000     | 3450     |
|                       |        |        |        |         |         | 1575    | 2100     | 2625     | 3150     | 3600     | 4125     |
|                       |        |        |        |         |         | 2700    | 3600     | 4500     | 5100     | 6000     | 6900     |
|                       |        |        | 1500   | 1500    | 2400    | 3150    | 4200     | 5250     | 6300     | 7200     | 8250     |
|                       |        |        |        |         |         | 3900    | 5250     | 6600     | 7875     | 9000     | 10050    |
|                       |        |        |        |         |         | 1350    | 1800     | 2250     | 2550     | 3000     | 3450     |
| <b>3-Ph / 1-Stage</b> | 750    | 750    | 750    | 750     | 1200    | 1575    | 2100     | 2625     | 3150     | 3600     | 4125     |
|                       |        |        |        |         |         | 2700    | 3600     | 4500     | 5100     | 6000     | 6900     |
|                       |        |        | 1500   | 1500    | 2400    | 3150    | 4200     | 5250     | 6300     | 7200     | 8250     |
|                       |        |        |        |         |         | 3900    | 5250     | 6600     | 7875     | 9000     | 10050    |
|                       |        |        |        |         |         | 2700    | 3600     | 4500     | 5100     | 6000     | 6900     |
|                       |        |        | 1500   | 1500    | 2400    | 3150    | 4200     | 5250     | 6300     | 7200     | 8250     |
|                       |        |        |        | 2250    | 3600    | 4725    | 5400     | 6750     | 7650     | 9000     | 10350    |
| <b>3-Ph / 3-Stage</b> |        |        |        |         |         | 4050    | 5400     | 6750     | 7650     | 9000     | 10350    |

## "AFIE / AFCE" TYPE VAV HEATING SELECTION SCHEDULE FINNED TUBULAR ELEMENT HEATER BANK CAPACITIES (Watts)

NOTE: Heater Bank capacities are based on recommended minimum fan velocity of 3.0m/s or minimum of 50 l/s per 1000Watt, whichever is greater.

| Element Type          | (06)    | (06)    | (06)    | (06)    | (08F)   | (08F)   | (08F)   |
|-----------------------|---------|---------|---------|---------|---------|---------|---------|
| <b>AFIE/AFCE</b>      |         | "B"-Fan | "B"-Fan |         |         |         |         |
| FAN Min-Max l/s       |         | 150-600 | 200-600 |         |         |         |         |
| <b>AFIE/AFCE</b>      |         | "C"-Fan | "C"-Fan | "C"-Fan | "C"-Fan | "C"-Fan |         |
| FAN Min-Max l/s       |         | 200-750 | 200-750 | 200-750 | 200-750 | 250-750 |         |
| <b>AFIE/AFCE</b>      | "A"-Fan | "D"-Fan | "D"-Fan | "D"-Fan | "D"-Fan | "D"-Fan | "D"-Fan |
| FAN Min-Max l/s       | 75-200  | 300-950 | 300-950 | 300-950 | 300-950 | 300-950 | 350-950 |
| <b>1-Ph / 1-Stage</b> | 250     | 250     | 250     | 250     | 400     | 400     | 400     |
|                       | 500     | 500     | 500     | 500     | 800     | 800     | 800     |
|                       | 625     | 625     | 625     | 625     | 1000    | 1000    | 1000    |
|                       | 1000    | 1000    | 1000    | 1000    | 1600    | 1600    | 1600    |
|                       |         |         |         |         | 1650    | 1650    | 1650    |
|                       |         | 1500    | 1500    | 1500    | 2500    | 2500    | 2500    |
|                       |         | 2000    | 2000    | 2000    | 3300    | 3300    | 3300    |
| <b>1-Ph / 2-Stage</b> | 500     | 500     | 500     | 500     | 800     | 800     | 800     |
|                       | 1000    | 1000    | 1000    | 1000    | 1600    | 1600    | 1600    |
|                       | 1300    | 1300    | 1300    | 1300    | 2000    | 2000    | 2000    |
|                       |         | 2000    | 2000    | 2000    | 3200    | 3200    | 3200    |
|                       |         |         | 3000    | 3000    | 3000    | 3300    | 3300    |
|                       |         |         | 4000    | 4000    | 4000    | 5000    | 5000    |
|                       |         |         |         |         |         | 6600    |         |
| <b>1-Ph / 3-Stage</b> |         | 750     | 750     | 750     | 1200    | 1200    | 1200    |
|                       |         | 1500    | 1500    | 1500    | 2400    | 2400    | 2400    |
|                       |         | 1875    | 1875    | 1875    | 3000    | 3000    | 3000    |
|                       |         | 3000    | 3000    | 3000    | 4800    | 4800    | 4800    |
|                       |         |         |         |         | 4950    | 4950    | 4950    |
|                       |         |         |         |         |         |         |         |
| <b>3-Ph / 1-Stage</b> |         | 750     | 750     | 750     | 1200    | 1200    | 1200    |
|                       |         | 1500    | 1500    | 1500    | 2400    | 2400    | 2400    |
|                       |         | 1875    | 1875    | 1875    | 3000    | 3000    | 3000    |
|                       |         | 3000    | 3000    | 3000    | 4800    | 4800    | 4800    |
|                       |         |         |         |         | 4950    | 4950    | 4950    |
|                       |         |         |         |         |         |         |         |
| <b>3-Ph / 2-Stage</b> |         | 1500    | 1500    | 1500    | 2400    | 2400    | 2400    |
|                       |         | 3000    | 3000    | 3000    | 4800    | 4800    | 4800    |
|                       |         |         |         | 3750    |         |         | 6000    |
| <b>3-Ph / 3-Stage</b> |         |         |         |         |         |         |         |

# VAV MAINTENANCE GUIDE

**As with all equipment, periodic checks should be carried out on variable air volume terminal units. We suggest the following items be attended to at six monthly intervals.**

**1. Electrical components:**

**Isolator / Circuit Breakers, Fan Relays, Heater Relays and Contactors.**

Check operation and any sign of overheating, relay/contactor chatter or excessive switching, fused contact points or signs of deterioration of contact points.

**2. Fans / Fan Motors / Fan Bearings**

No maintenance required. Operate damper from fully closed to fully open. Check for free operation.

**3. Primary Air Dampers**

No maintenance required. Operate damper from fully closed to fully open. Check for free operation.

**4. Actuator**

Check operation and if stroked correctly. Stroking should be carried out, starting with the damper in fully closed position. Check motor to shaft fixing to ensure positive response and full closure.

**5. Controls**

Refer to the control manufacturer's recommendations.

**6. Velocity Sensor**

No maintenance required. Connect a manometer across the velocity sensor monitoring end connections, manually operate damper and observe changes in the readings to ensure the velocity sensor is not blocked (reading should be 0 Pa in fully closed position only).

**7. Heating Elements (where applicable)**

Check operation and all connections are secure. Check for any signs of cable overheating, due to possibility of arching from loose terminations.

**8. Heating Hot Water Coils (where applicable)**

No maintenance required. Check for water leaks.