

## CPD Perforated Face Diffusers

CPD2	2 way perforated face supply diffuser
CPD3	3 way perforated face supply diffuser
CPD4	4 way perforated face supply diffuser
CPDE	Exhaust air perforated face diffuser



## Perforated Face Diffusers

CPD / CPDE

### Introduction

The Waterloo CPD range of diffusers have been designed for use in commercial applications and are particularly suited to projects with high air change rates and high cooling differentials.

CPD diffusers are suitable for installation in 300, 600 and 1200mm tile module systems and the range includes square and rectangular types.

The aluminium face plate may be pivoted down and removed to ease installation, commissioning and maintenance and is held closed by spring clips.

The diffusers are constructed from aluminium extruded frames and perforated face plates with plated steel, square, rectangular and circular connections suitable for top entry ducts.

### Product Description

- CPD2** 2 way perforated face supply diffuser
- CPD3** 3 way perforated face supply diffuser
- CPD4** 4 way perforated face supply diffuser
- CPDE** Exhaust air perforated face diffuser
- OBSS** Opposed blade damper for square /rectangular connections
- LD** Louvre damper for circular connections

### Features

- Integrate with 300, 600 and 1200mm tile sizes
- All aluminium face construction
- Pivoting, removable face plate
- Range of four sizes
- High air handling capacity
- Supply or exhaust diffusers visually compatible

### Finishes

PPG9010 (RAL 9010 Gloss - 80% Gloss White)

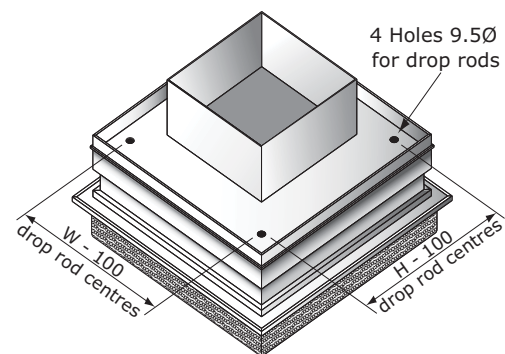
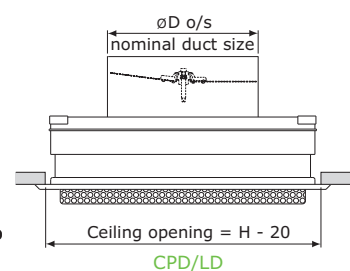
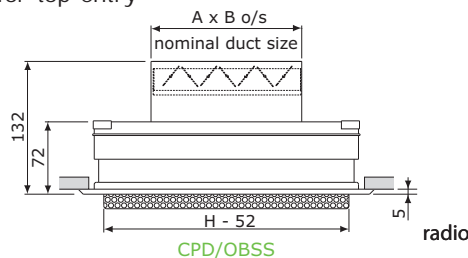
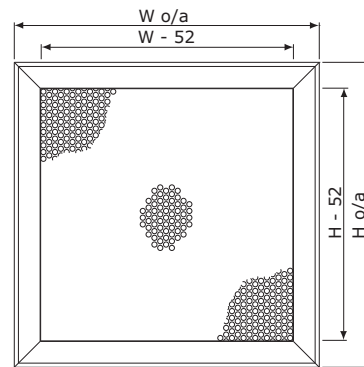
PPM9010 (RAL 9010 Matt - 20% Gloss White)

PPM9006 (RAL 9006 Matt - 30% Gloss Silver)

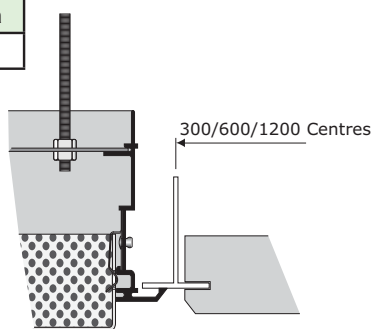
Other colours available on request

### Installation

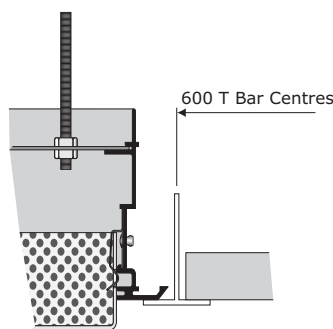
Drop rod (or tie wire) support method is recommended for concealed T and flush mounting options. t



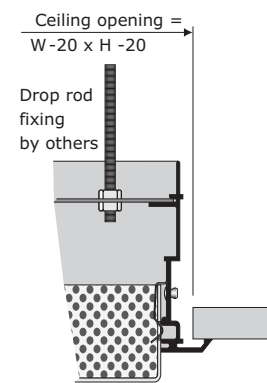
Free Area
54%



CONCEALED T BAR



LAY-IN / EXPOSED T BAR



FLUSH

### ORDER EXAMPLE

CPD/4/300/300/150 DIA/PPM9010/LD

Type \_\_\_\_\_

Pattern \_\_\_\_\_

Nominal Width \_\_\_\_\_

Nominal Height \_\_\_\_\_

Spigot Size \_\_\_\_\_

Finish \_\_\_\_\_

Damper \_\_\_\_\_

Type	Unit size	W x H	ØD	A x B	Weight (kg)
CPD	300 x 300	295 x 295	147	147 x 147	2.0
CPD	600 x 600	595 x 595	297	297 x 297	3.4
CPD	600 x 300	595 x 295	—	297 x 147	2.8
CPD	1200 x 600	1195 x 595	—	597 x 297	6.5
CPDE	300 x 300	295 x 295	—	147 x 147	2.0
CPDE	600 x 600	595 x 595	—	447 x 447	3.4
CPDE	600 x 300	595 x 295	—	447 x 147	2.8
CPDE	1200 x 600	1195 x 595	—	597 x 297	6.5

## Perforated Face Diffusers

### CPD / CPDE

#### Selection Criteria

Ceiling height up to 2.8 m

Radius of diffusion is based on terminal velocities of 0.75 m/s (minimum) and 0.15 m/s (maximum) to achieve mean room air velocities of 0.25 m/s and 0.10 m/s respectively.

Noise level is based on diffuser sound power level less 8dB room absorption.

#### Selection Example

CPD4/300X300/150

Air flow rate	88 l/s
Throw	0.8 - 1.9 m
Static Pressure Loss	7 Pa
Noise level	38 dBA

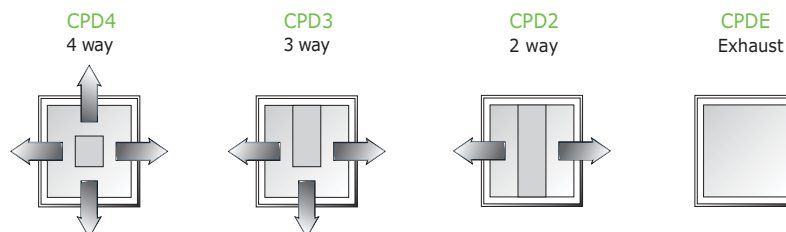
#### Square Neck Supply Diffuser Corrections

CPD / 300 x 300/ 150 x 150 as 150Ø - 6dB Pa x 0.65
CPD / 600 x 600/ 300 x 300 as 300Ø - 6dB Pa x 0.65

#### Performance Table

CPD		4 way				3 way			2 way			Exhaust			
Sizes		300 X 300	600 X 600	600 X 300	1200 X 600	300 X 300	600 X 600	600 X 300	300 X 300	600 X 600	600 X 300	300 X 300	600 X 300	600 X 600	1200 X 600
Spigot size		Ø 150	Ø 300	300 X 150	600 X 300	Ø 150	Ø 300	300 X 150	Ø 150	Ø 300	300 X 150	150 X 150	450 X 150	450 X 450	600 X 300
Air Flow Rate	m³/h	126	508	324	1296	126	508	324	126	508	324	162	486	1458	1296
	l/s	35	141	90	360	35	141	90	35	141	90	45	135	405	360
Throw Short Side Min.-Max. [m]		0.2-0.5	1.0-2.3	0.8-1.8	1.0-3.2	0.3-0.6	1.0-2.3	0.8-1.8	0.8-1.8	1.4-3.3	1.1-2.5				
Throw Long Side Min.-Max. [m]				1.0-2.3	1.7-4.0			1.0-2.3							
Noise Level [dBA]			23	21	36	21	24	24	25	28	26				
Static Pressure Loss [Pa]		1	3	4	18	2	3	4	3	4	6	6	6	6	6
Air Flow Rate	m³/h	191	763	486	1944	191	763	486	191	763	486	241	727	2185	1944
	l/s	53	212	135	540	53	212	135	53	212	135	67	202	607	540
Throw Short Side Min.-Max. [m]		0.4-0.9	1.5-3.6	1.3-3.1	1.8-4.0	0.5-1.1	1.5-3.6	1.3-3.1	1.3-3.1	2.3-5.4	2.5-5.8				
Throw Long Side Min.-Max. [m]				1.9-4.4	2.6-5.0			1.9-4.4							
Noise Level [dBA]		27	32	33	47	29	33	31	34	37	34		20	24	25
Static Pressure Loss [Pa]		3	6	4	40	4	6	9	8	9	12	10	10	10	10
Air Flow Rate	m³/h	252	1015	648	2592	252	1015	648	252	1015	648	324	972	2916	2592
	l/s	70	282	180	720	70	282	180	70	282	180	90	270	810	720
Throw Short Side Min.-Max. [m]		0.6-1.4	2.1-5.0	1.9-4.4	2.7-5.0	0.7-1.7	2.1-5.0	1.9-4.4	2.0-4.6	3.2-7.6	3.8-9.0				
Throw Long Side Min.-Max. [m]				2.8-6.6	3.3-6.0			2.8-6.6							
Noise Level [dBA]		33	41	37	56	35	41	37	39	43	41	24	30	34	33
Static Pressure Loss [Pa]		5	10	14	70	7	11	17	13	16	22	14	14	14	14
Air Flow Rate	m³/h	-	-	-	-	-	-	-	-	-	-	403	1213	3636	3240
	l/s	-	-	-	-	-	-	-	-	-	-	112	337	1010	900
Throw Short Side Min.-Max. [m]		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Throw Long Side Min.-Max. [m]		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Noise Level [dBA]		-	-	-	-	-	-	-	-	-	-	32	38	42	41
Static Pressure Loss [Pa]		-	-	-	-	-	-	-	-	-	-	20	20	20	20

#### Deflection Patterns



Nominal Size (mm)	Deflecting Pad Size		
	CPD4	CPD3	CPD2
300x300	150x150	195x150	240x150
600x600	200x200	370x200	540x200
600x300	300x150	420x150	540x150
1200x600	950x200	-	-

## Control Options - Grille Mounted OBSS Opposed Blade Damper (Volume Control Damper)

### Introduction

Waterloo OB Opposed Blade Dampers are manufactured to suit virtually the whole of our square / rectangular Air Terminal range and can be fitted to the neck of the terminals or inside plenum box.

They are adjustable from the front of the Grille or Diffuser with a screwdriver as standard, but are also available with cord- or lever-operation.

Manufactured with linked aluminium extruded blades, in sizes to suit any Waterloo Grille or Diffuser, they are useful for fine airflow regulation and can be adjusted from fully open to closed low-leakage position.

### Product Description

- OBSS** Opposed Blade Damper, Screwdriver operated
- OBCO** Opposed Blade Damper, Cord operated
- OBSL** Opposed Blade Damper, Short Lever operated
- OBLL** Opposed Blade Damper, Long Lever operated
- BLACK** Painted black to prevent through vision

### Features

- Linked aluminium extrusions for limited extra weight
- Large choice of adjustments to suit any configuration
- Can be fitted to virtually any Waterloo Grille or Diffuser

### Finishes

Extruded aluminium blades

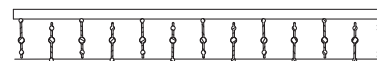
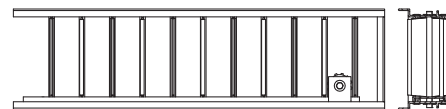
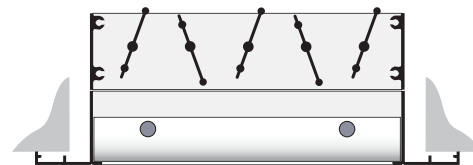
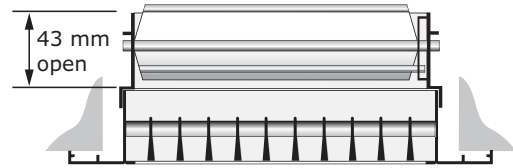
### Sizes

Minimum Size - 100 x 75

Minimum Size for Plasterline - 100 x 50

Maximum Size - single section 800x600mm

Multiple sections will be banked to accommodate larger terminal sizes.



### ORDER EXAMPLE

OBSS/Black/600/200/For ALN

Damper type \_\_\_\_\_  
Options \_\_\_\_\_  
Terminal Length \_\_\_\_\_  
Terminal Width \_\_\_\_\_  
Terminal type \_\_\_\_\_

## ED Equalising Dampers (Directional Blades Incapable of Shut Off)

### Introduction

Waterloo ED Equalising Dampers are manufactured to suit virtually the whole of our square / rectangular Air Terminal range and can be fitted to the neck of the terminals or inside plenum box.

They are individually adjustable to control air direction and may be used for localised blanking.

Manufactured with aluminium extruded blades, in sizes to suit any Waterloo Grille or Diffuser, they can be adjusted manually by removing the Grille or Diffuser core.

### Product Description

- ED** Equalising deflector
- BLACK** Painted black to prevent through vision

### Features

- Aluminium extrusions for limited extra weight
- Individually adjustable for fine airflow regulation
- Can be fitted to virtually any Waterloo Grille or Diffuser

### Finishes

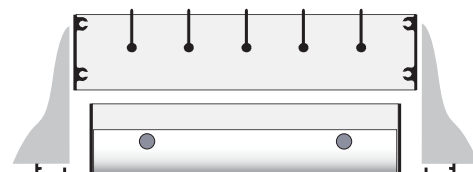
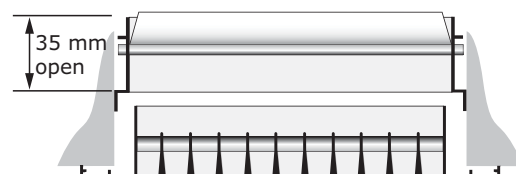
Extruded aluminium blades

### Sizes

Minimum Size - 100 x 50

Maximum Size - single section 800x600mm

Multiple sections will be banked to accommodate larger terminal sizes.



### ORDER EXAMPLE

ED/Black/600/200/For A CSF

Damper type \_\_\_\_\_  
Options \_\_\_\_\_  
Terminal Length \_\_\_\_\_  
Terminal Width \_\_\_\_\_  
Terminal type \_\_\_\_\_

## LD Butterfly-style Louvre Damper

### Introduction

Designed to adjust the airflow in our Format Circular Diffusers MC, WR and Perforated faced diffusers LF, CPD, KRCP the LD butterfly dampers allow for the air to be regulated prior to distribution through the terminals.

They are adjustable from the front of the Diffuser with a screwdriver and are made in aluminium.

They allow for the airflow to be left fully open, or restricted to closed low-leakage configuration when the damper is in the shut-off position.

### Product Description

**LD** Butterfly-style Louvre Damper, Screwdriver operated

### Features

- Screwdriver operated from terminal face

### Finish

**LD** Aluminium blades

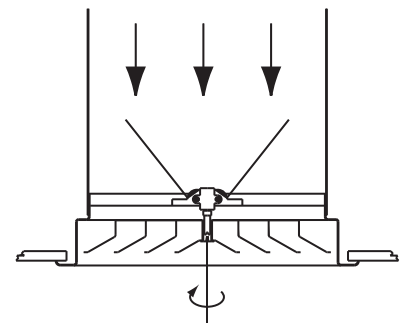
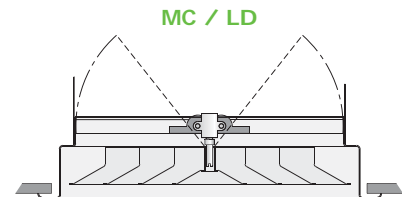
### Dimensions

MCØ 150 / 200 / 300 / 450mm

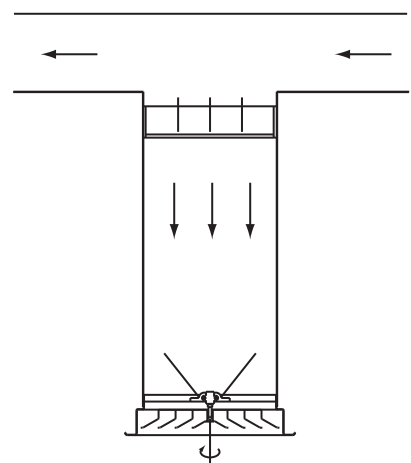
WRØ 150 / 200 / 250 / 300 / 375 / 450 / 525 / 600mm

Also sizes to suit standard circular spigots.

Note – the LD can only be selected with the MC or WR Circular Diffusers and the KRCP, CPD, LF perforated diffusers



LD - Standard arrangement for supply ducts.  
Adjustable through diffuser face.



ED & LD - Equalisation at stub duct take

### ORDER EXAMPLE

MC/300 DIA/BLINDFIX/PPM9010/LD  
 Diffuser type \_\_\_\_\_  
 Diffuser diameter \_\_\_\_\_  
 Fixing \_\_\_\_\_  
 Finish \_\_\_\_\_  
 Butterfly damper \_\_\_\_\_





## Waterloo Product Range

### GRILLES

A complete range of products suitable for all wall, ceiling and floor applications. Most grilles are made from aluminium and have a range of fixed or moveable blades designed to give performance whilst remaining aesthetically pleasing to the eye. Grilles are made to customer specified sizes and colours (PPM/G); standard colour PPM9010 (20% Gloss White). The range is complemented by the Aircell range of polymer Grilles.



### DIFFUSERS

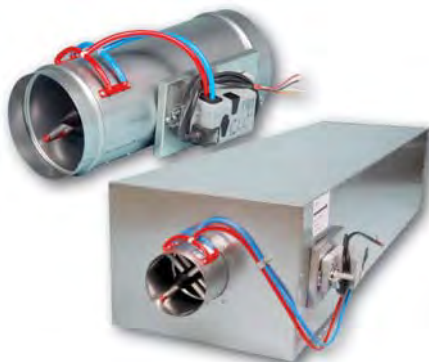
Designed to be installed in various ceiling systems, we have a complete range to suit both performance and aesthetic requirements. Most diffusers are made from aluminium and can be ordered with or without plenum boxes for easy duct work. Diffusers can be ordered in customer specified colours (PPM/G); standard colour is PPM 9010 (20% Gloss White). This range is complemented by the Aircell range of polymer Diffusers.



### ACTIVE AND PASSIVE CHILLED BEAMS

The finest quality range of high output active beams, used for ventilated heating and cooling applications. These units have 4 pipe coils to allow heating and cooling circuits to run simultaneously, giving constant and responsive control. The design allows a large optimum capacity and also allows the customer to specify the nozzle type and pitch for individual circumstances.

Active beams are made from steel to a large range of customer specified sizes and as such are suitable for various different ceiling systems. Standard finish is PPM 9010, however other (PPM/G) colours are available on request.



### AIR VOLUME CONTROL DAMPERS

Pressure independent Variable Air Volume and Constant Air Volume dampers made from zintec plate. Most volume dampers are regulated with an electronic motor and sensors and are calibrated to customer specifications before delivery.

The Constant Air Volume damper requires no power source as it is controlled via a mechanical device and calibrated before delivery. All volume dampers can be ordered with a single or double (insulation) skin.



### EXTERNAL LOUVRES

A quality range of products for external wall applications. Made from aluminium, with birdscreen or insect screen options. All louvres are made to customer specified sizes and (PPM/G) colours; standard colour is PPM 9006.



### DISPLACEMENT

A full range of recessed, semi-recessed, floor, wall and corner units providing high ventilation efficiency and excellent comfort. The very low pressure involved also offer quiet installations. Displacement units are available as wall or floor mounted, or indeed integrated within the architectural design.



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