

# Perforated Face Diffusers

## WPD MWPD

Waterloo

### Introduction

The Waterloo high-induction ceiling diffuser type WPD has a perforated faceplate and easily adjustable air pattern settings. The diffuser is made from aluminium extrusions with the plenum manufactured from galvanised steel. The complete unit has been specifically designed to ensure a constant air pattern, resulting in optimal mixing with room air at a very low noise level. An optional mounting plate is available to suit 600 x 600 ceiling systems (the overall size of the mounting plate is 595 x 595).

### Product Description

**WPD-4** Square ceiling diffuser with 4 way air pattern

**WPD-3** Square ceiling diffuser with 3 way air pattern

**WPD-2** Square ceiling diffuser with 2 way air pattern

**WPD-R** Square ceiling diffuser for return air

**MWPD** Square diffuser mounted in perforated modular plate

**WKDV** Supply air plenum

**WKDVI** Insulated supply air plenum

**WKRV** Return air plenum

**MPV** Modular plate

**WWM** Fixing set

### Features

- Supply and exhaust applications of warm, cool and isothermal air
- High induction characteristics
- Variety of air patterns
- Suitable for modular ceiling systems
- Excellent free-jet performance
- Adjustable 3 position faceplate

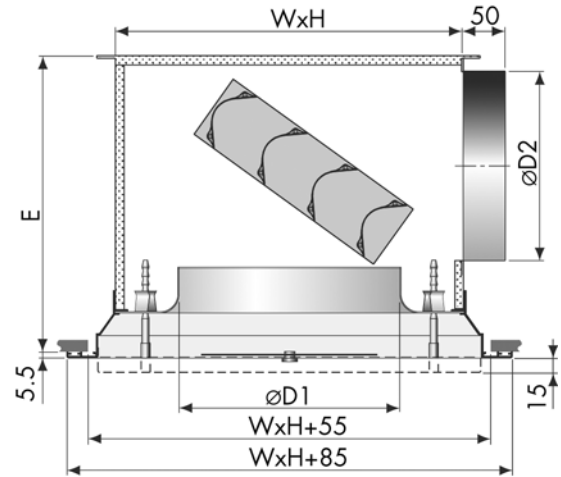
### Finishes

PPM9010 (RAL 9010 20% Gloss White)

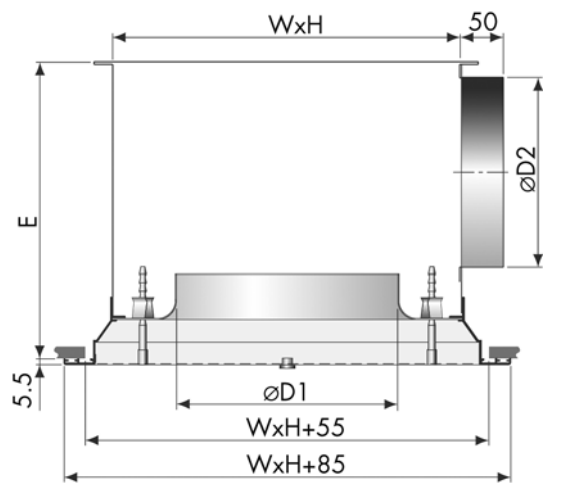
Other colours available on request

### Advantages

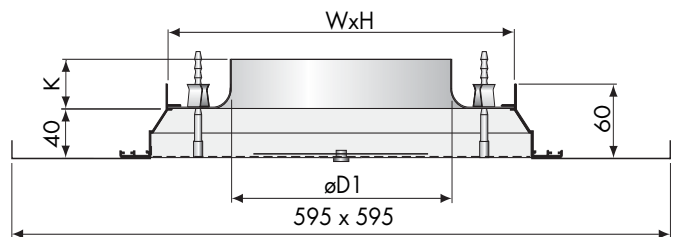
- Excellent aerodynamic performance
- Good mixing with room air
- Can be used for full tile replacement
- Short throw



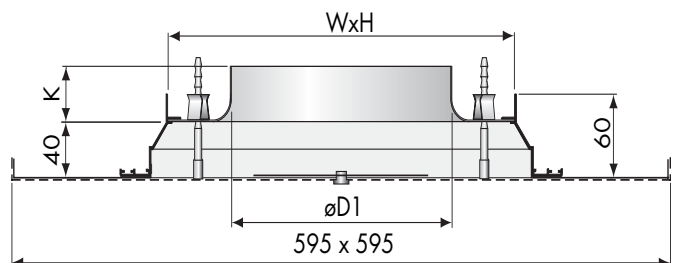
**WPD + WKDVI**



**WPD-R + WKRV**



**WPD + MPV-600**



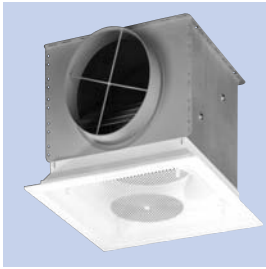
**MWPD**

### Order Example:

**WPD-4-200-WKDV**

Type \_\_\_\_\_  
 Diffuser Pattern \_\_\_\_\_  
 Spigot Diameter \_\_\_\_\_  
 Plenum Type \_\_\_\_\_

W x H	øD1	øD2	E	K	X
210x210	125	125	243	33	0/ 7.5/15
210x210	160	160	243	33	0/ 7.5/ 15
310x310	200	200	290	40	0/ 7.5/ 15
410x410	250	250	355	55	0/ 7.5/ 15
510x510	315	315	435	70	0/ 7.5/ 15



### Selection Criteria

Ceiling Height 2.7 m  
 Temperature Differential -10K  
 Room Velocity Vr 0.15 m/s  
 $L_w$  based on diffuser sound power level  
 minus 8 dB room absorption.

### Selection Example WPD-4-125 4 way supply

Air Volume 56 l/s  
 Throw 1.0 m  
 Pressure Drop 33 Pa  
 Noise Level NR 31

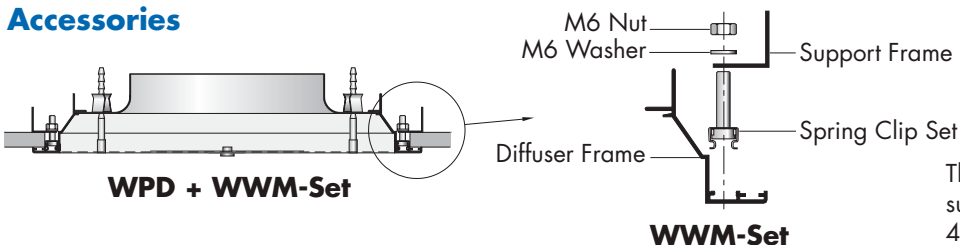
All selections include the plenum

Faceplate Height Corrections	X (mm)	T' Throw (m)	Pressure (Pa)	Noise level (NR)
	0	x 1.0	x 1.0	0
	7.5	x 0.9	x 0.9	-2
	15	x 0.8	x 0.6	-3

### Performance Tables

WPD		Supply 4 way					Supply 3 way					Supply 2 way					Exhaust									
m <sup>3</sup> /h	l/s	T	125	160	200	250	315	T	125	160	200	250	315	T	125	160	200	250	315	T	125	160	200	250	315	
100	28	T	0.5	0.4					0.5	0.4					0.6											
		Ps	8	3					11	5					17							5				
		Lp	-	-					-	-					17							-				
150	42	T	0.8	0.6					0.8	0.7					1.3	0.9										
		Ps	16	7					24	10					40	16						14				
		Lp	23	-					25	-					30	-						-				
200	56	T	1.0	0.8	0.7				1.1	0.9	0.8				2.0	1.1	0.8									
		Ps	33	12	5				24	18	8				68	30	12					25	11			
		Lp	31	17	-				34	21	-				41	25	-					18	-			
250	69	T	1.3	1.0	0.8	0.5			1.1	0.8	0.5				1.6	1.0	0.7									
		Ps	48	18	8	3			28	12	5				44	17	8					39	16			
		Lp	40	25	-	-			28	-	-				32	19	-					24	-			
300	83	T		1.2	1.0	0.8			1.3	1.1	0.9				2.1	1.3	1.1									
		Ps		28	12	5			40	18	7				64	27	11					56	21	9		
		Lp		34	16	-			35	19	-				40	24	-					28	-	-		
400	111	T			1.3	1.1	0.9			1.4	1.3	1.0				2.1	1.3	1.0								
		Ps			20	9	4			30	12	5				48	20	8					31	15		
		Lp			27	-	-			29	19	-				32	24	-					23	-		
500	139	T			1.6	1.4	1.2			1.7	1.7	1.3					2.6	2.1								
		Ps			32	13	6			48	20	7					30	11					44	24	10	
		Lp			33	21	-			38	27	16					30	20					29	19	-	
600	167	T				1.7	1.4				2.1	1.6					3.5	2.6								
		Ps				18	9				28	17					44	18					35	14	5	
		Lp				28	17				32	20					36	25					22	-	-	
750	208	T					1.7					2.0						3.3								
		Ps					13					18						28						54	22	11
		Lp					25					29						32						29	-	-
1000	278	T					2.3					2.7														
		Ps					24					28													36	14
		Lp					36					37												25	-	

### Accessories



The WWM fixing set consists of 2 support frames, 4 spring clip sets and 4 M6 nuts and washers.