

# PPD

- > Perforated Diffuser
- > Supply/Return
- > Flanged

## APPLICATION

The PPD can supply cooled and heated air with a large temperature differential with respect to the room temperature. The high induction effect enables a high number of air changes with a precise radial pattern.

The diffuser can be ceiling or T-Bar mounted. The very shallow inflow pattern also makes the diffuser type PTVM suited for lower spaces.

## DESIGN

### Construction:

Steel faceplate, extruded aluminum flange. Optional galvanised steel plenum box.

### Finish:

White RAL 9010 epoxy powder

### Options:

- Damper
- Round or Square connection
- Flat/Tegular/Dropped (13 mm)

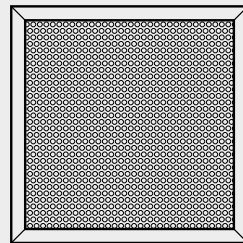
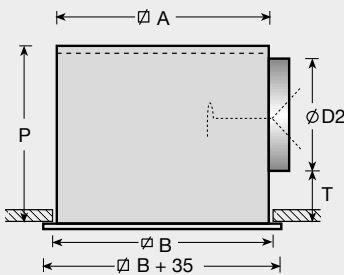
## AVAILABLE TYPES

- PPD-S:** Flanged supply  
**PPD-R:** Flanged return

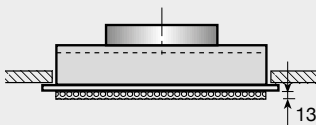
## FEATURES

- Max. air exchanges: up to 15 x  
 Under temperature: up to 10 K  
 Over temperature: up to 15 K  
 Free area: 50%

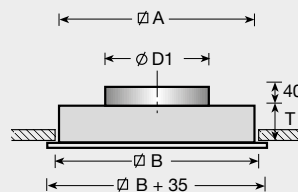
PPD-S/R – side connection



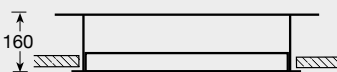
PPD-S/R – dropped face plate



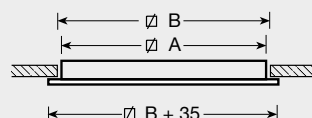
PPD-S/R – top connection



PPD-R – square top non-vision



PPD-R – square top connection



## DIMENSIONAL DATA (mm)

Model	B	A	D1	D2	T	P
250	249	242	123	123	70	235
300	313	307	158	158	70	270
400	388	382	198	198	75	315
500	483	477	248	198	85	325
550	556	551	313	248	105	395

## WEIGHT (kg)

Model	Round top		Lined Plenum		Ø Damper
	S	R	S	R	
250	1.4	0.9	2.6	2.1	0.1
300	1.9	1.2	3.8	3.0	0.2
400	2.5	1.6	5.4	4.3	0.3
500	3.6	2.2	7.4	5.8	0.4
550	4.6	2.9	9.9	7.8	0.5

Note: S = Supply R = Return (Perforated only: 12 kg)

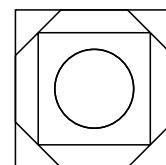
## REMARKS

The dimensions are given in mm.  
 Connection "D" is actual O.D.  
 Non-vision height is 160 mm.  
 For tegular edge please provide dimensions:  
 x - z = 12 minimum. y = 6 minimum.

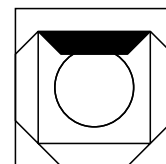
# SUPPLY – PERFORMANCE DATA

Air Volume		Model	4-way			3-way			2-way opposite			2-way corner			1-way		
m <sup>3</sup> /s	m <sup>3</sup> /h		T	Ps	Lp	T	Ps	Lp	T	Ps	Lp	T	Ps	Lp	T	Ps	Lp
0.015	54	250	0.4	1	-	0.4	1	-	0.6	2	3	0.6	3	5	0.9	7	13
0.020	72	250	0.6	1	5	0.6	2	7	0.7	4	10	0.7	4	12	1.2	12	21
0.025	90	250	0.7	2	11	0.7	3	13	0.9	5	16	0.9	7	18	1.5	19	27
		300	0.6	1	-	0.6	1	4	0.8	3	7	0.8	3	19	1.3	9	19
0.030	108	250	0.8	3	16	0.9	4	18	1.1	8	21	1.1	10	23	2.0	28	31
		300	0.7	1	2	0.7	2	8	0.9	4	12	0.9	5	14	1.5	13	23
0.040	144	250	1.1	4	23	1.2	6	25	1.5	13	28	1.5	17	29	2.5	49	39
		300	0.9	3	14	1.0	3	16	1.2	6	19	1.2	8	21	2.0	23	31
		400	0.8	1	6	0.8	2	8	1.0	3	12	1.0	4	12	1.7	11	22
0.050	180	250	1.4	6	29	1.5	10	31	1.9	20	34	1.9	25	34			
		300	1.2	4	20	1.2	5	22	1.5	10	25	1.5	13	27	2.5	34	36
		400	1.0	2	12	1.0	3	14	1.3	5	17	1.3	6	18	2.1	17	28
0.060	216	250	1.7	8	34	1.8	13	36	2.2	28	39	2.2	35	41			
		300	1.5	6	24	1.5	8	26	1.8	14	30	1.8	19	32	3.0	51	41
		400	1.1	3	17	1.3	4	19	1.5	7	21	1.5	8	23	2.5	24	32
		500													2.1	13	25
0.080	288	300	1.8	11	32	1.9	14	34	2.4	26	37	2.4	33	39			
		400	1.5	6	24	1.7	7	25	2.0	13	29	2.0	15	30	3.4	43	40
		500	1.3	4	17	1.4	5	19	1.8	8	22	1.8	10	24	2.8	23	32
		550													2.4	13	27
0.100	360	300	2.3	17	38	2.4	21	40									
		400	1.9	9	30	2.1	11	32	2.6	20	32	2.6	23	36			
		500	1.6	4	22	1.8	8	25	2.2	12	28	2.2	15	30	3.5	35	38
		550	1.4	4	16	1.6	4	19	1.9	7	21	1.9	8	23	3.1	21	32
0.125	450	400	2.4	13	36	2.6	18	35									
		500	2.0	10	28	2.3	12	30	2.8	19	34	2.8	23	36			
		550	1.8	6	22	2.0	7	24	2.4	10	27	2.4	13	29	3.8	32	38
0.150	540	400	2.9	19	40												
		500	2.5	15	33	2.7	17	35	3.4	28	38	3.4	34	41			
		550	2.2	8	27	2.4	10	29	2.9	15	32	2.9	19	34	4.6	47	43
0.200	720	500	3.3	25	40	3.6	30	43									
		550	2.9	14	34	3.2	18	37	3.0	27	40	3.0	33	41			
0.250	900	550	3.6	22	40	4.0	27	42	4.9	42	45	4.9	50	46			
0.300	1080	550	4.3	32	45												

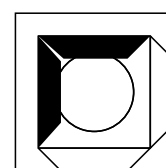
## SPREAD PATTERN



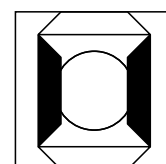
4-way



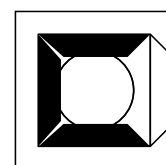
3-way



2-way corner



2-way opposite



1-way

## GENERAL

The throw applies to flush mounted in a horizontal dropped ceiling.

- throw T in metres.
- static pressure drop Ps in Pa.

The assumed room absorption is 10 dB.

- sound pressure Lp in dB(A).

Intermediate values may be interpolated.

## LINED PLENUMS

MODEL	Middle frequency bands					
	125	250	500	1K	2K	4K
250	5	0	3	10	5	11
300	3	1	6	7	7	9
400	2	2	9	7	7	9
500	2	4	9	7	7	10
550	0	6	7	7	6	9

## THROW CORRECTION FACTOR

V <sub>end</sub> m/s	Throw factor
0.15	1.67
0.20	1.25
0.25	1.00
0.35	0.71
0.50	0.50

Throw figures are based on 0.25 m/s end velocity. In case other end velocities are required correct according to table.

# RETURN – PERFORMANCE DATA

ROUND & ROUND LINED PLENUM ROUND				
Air Volume		Round Connection		
m³/s	m³/h	Model	Ps	Lp
0.015	54	250	1	-
0.020	72	250	3	-
0.025	90	250	4	-
		300	1	-
0.030	108	250	6	-
		300	2	-
0.040	144	250	11	-
		300	4	-
		400	1	-
0.050	180	250	16	12
		300	6	-
		400	2	-
0.060	216	250	24	17
		300	9	-
		400	3	-
		500	3	-
0.080	288	300	15	13
		400	6	-
		500	5	-
		550	3	-
0.100	360	300	24	19
		400	9	-
		500	8	-
		550	4	-
0.125	450	400	14	15
		500	12	15
		550	6	-
0.150	540	400	21	20
		500	18	20
		550	9	10
0.200	720	500	31	27
		550	16	17
0.250	900	550	25	23
0.300	1080	550	35	28

SQUARE & SQUARE NON-VISION				
Air Volume		Square Connection		
m³/s	m³/h	Model	Ps	Lp
0.080	288	250	9	10
		300	3	-
0.100	360	250	13	15
		300	5	-
		400	2	-
0.125	450	250	21	21
		300	8	11
		400	3	-
0.150	540	250	30	25
		300	11	15
		400	4	-
		500	2	-
0.200	720	250	54	32
		300	20	22
		400	8	13
		500	3	-
		550	2	-
0.300	1080	300	45	32
		400	18	23
		500	7	14
		550	3	-
0.400	1440	300	79	39
		400	32	30
		500	13	21
		550	6	14
0.500	1800	400	49	35
		500	20	26
		550	10	19
0.600	2160	400	71	39
		500	29	31
		550	14	23
0.800	2880	500	51	37
		550	24	30
1.000	3600	550	38	36

FACE PLATE ONLY □ 595				
Air Volume		Square Connection		
m³/s	m³/h	Model	Ps	Lp
0.200	720	550	2	-
0.300	1080	550	3	-
0.400	1440	550	6	14
0.500	1800	550	10	19
0.600	2160	550	14	23
0.800	2880	550	24	30
1.000	3600	550	38	36

LINED PLENUM						
MODEL	Middle frequency bands					
	125	250	500	1K	2K	4K
250	5	0	3	10	5	11
300	3	1	6	7	7	9
400	2	2	9	7	7	9
500	2	4	9	7	7	10
550	0	6	7	7	6	9

## GENERAL

- The pressure drop applies to fully opened damper.
- static pressure drop Ps in Pa. The assumed room absorption is 10 dB.
  - sound pressure Lp in dB(A)  
Intermediate values may be interpolated.