Louvred Face Diffusers

DF / MD / DE / DFA

Introduction

The Waterloo Multicone D Series Diffuser, constructed from aluminium alloy extrusions with mitred and welded/cleated frames, are ideal for most commercial projects requiring high quality diffusers for integration with a variety of ceiling types. The range is available with 5 frame styles and 14 different air pattern control core designs for vertical and horizontal diffusion.

Product Description

DF/MD	Flanged horizontal blow diffuser
DF-T8	8mm drop tegular tile replacement 375 & 450mm neck sizes
DF-T16	16mm drop tegular tile replacement 375 & 450 square necks
DE	Recessed frame horizontal blow diffuser
DFA	Flanged adjustable diffuser for horizontal or vertical projection (4 way only)
OBSS	Opposed blade damper
OBLL	Lever operated damper via the diffuser face
PBD	Plenum box
NR/D	Top entry neck reducer

Features

- Five frame styles for integration with most ceilings
- 14 core styles to suit required air pattern
- Lightweight aluminium construction
- Fixed or adjustable patterns
- Suits 300, 500, 600 & 1200 ceiling grid systems

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

Weights

DF/MD/DE/DFA	12.5kg/m² face area
OBSS/ED	9.5kg/m² face area

Sizes

Series DF/DE	Minimum size - 150 x 150 duct size Maximum size - 1200 x 600 duct size
Series DF-T8/T16	Minimum size - 375 x 375 duct size (500mm tile replacement) Maximum size - 450 x 450 duct size (600mm tile replacement)
Series DFA	Minimum size - 150 x 150 duct size Maximum size - 600 x 600 duct size

Standard increments of 75mm only

Selection Criteria

Ceiling height 2.7m.
Temperature differential -10K
Radius of diffusion - Minimum and maximum throw which results in an average air velocity within the occupied zone of 0.25m/s and 0.10m/s respectively.
Noise level is based on diffuser sound power level less 8dB room absorption.

Selection Example DF11/300x300

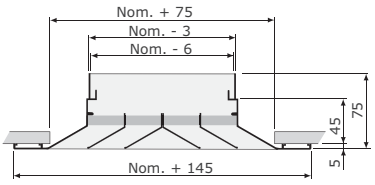
Air flow rate	225 l/s
Throw	4.5 - 8.5 m
Total Pressure Loss	23 Pa
Noise level	35 dBA

Exhaust & OBSS corrections		
Supply diffuser	0dB	Pa x 1.0
Supply diffuser + OBSS	+ 3dB	Pa x 1.0
Exhaust diffuser	+ 3dB	Pa x 1.1
Exhaust diffuser + OBSS	+13dB	Pa x 1.15

Order Example

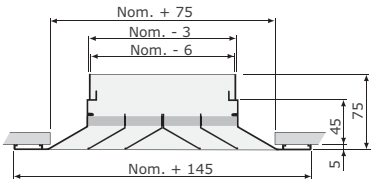
DF-41/300/300/PPM9010/OBSS

Type
Duct width
Duct height
Finish
Damper

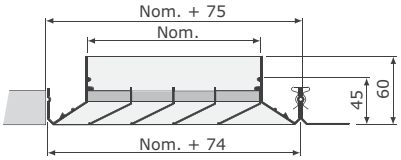


DF Typical lay-in grid

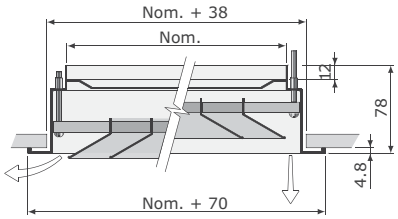
DF



MD Typical lay-in grid

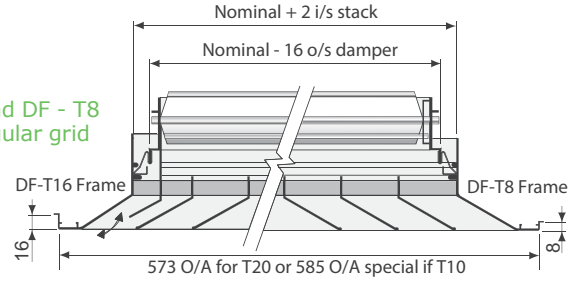


DE Typical clip in grid



DFA

DF - T16 and DF - T8
Typical tegular grid



OBLL damper
Lever operation at diffuser face.
Suitable for core 41 only

OBSS damper
Operated by screwdriver after removing core. Suitable for all types

Please scan the QR code to view the website page for:

DF series (lay-in & tegular) Installation and Maintenance Instructions

DF & MD series (cut-in) Installation and Maintenance Instructions

DE series (clip-in) Installation and Maintenance Instructions

DF / DE		Core 11						
Supply								
Total pressure drop (Pa)		150 x 150	225 x 225	300 x 300	375 x 375	450 x 450	525 x 525	600 x 600
9	l/s	34	76	135	211	304	413	540
	Min - Max (m)	1.5-2.5	2.0-4.0	2.5-5.5	3.5-6.5	3.5-7.0	4.0-8.0	4.5-8.5
	L_w	-	-	-	29	31	33	35
15	l/s	45	101	180	282	405	551	720
	Min - Max (m)	2.0-3.5	2.5-5.5	3.5-6.5	4.5-8.5	5.5-10.0	5.5-10.0	6.0-11.0
	L_w	22	26	29	31	33	35	37
23	l/s	56	127	225	352	506	689	900
	Min - Max (m)	2.0-4.5	3.5-6.5	4.5-8.5	5.5-11.0	6.5-13.0	6.5-13.0	7.0-14.0
	L_w	28	32	35	37	39	41	44
33	l/s	68	152	270	422	608	827	1080
	Min - Max (m)	2.5-5.5	4.0-8.0	5.0-10.5	6.5-13.5	7.5-16.0	7.0-14.0	8.5-17.5
	L_w	33	37	40	42	44	46	49
43	l/s	79	177	315	492	709	964	1260
	Min - Max (m)	3.0-6.0	4.5-9.0	6.5-12.0	7.5-15.0	9.0-18.0	9.5-18.5	10.0-19.0
	L_w	37	41	44	46	49	52	55

Louvred Face Diffusers

DF / DE core 12 / 13

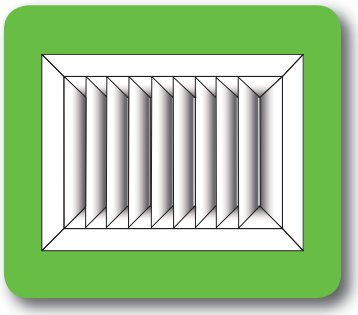
Selection Criteria

Ceiling height 2.7 m
Temperature differential -10K
Radius of diffusion - Minimum and maximum throw which results in an average air velocity within the occupied zone of 0.25m/s and 0.10m/s respectively.
Noise level is based on diffuser sound power level less 8dB room absorption.

Selection Example DF12/450x150

Air flow rate 169 l/s
Throw 4.0 - 8.0 m
Total Pressure Loss 23 Pa
Noise level 34 dBA

Exhaust & OBSS corrections		
Supply diffuser	0dB	Pa x 1.0
Supply diffuser + OBSS	+ 3dB	Pa x 1.0
Exhaust diffuser	+ 3dB	Pa x 1.1
Exhaust diffuser + OBSS	+13dB	Pa x 1.15



Performance Table

DF / DE Supply		Core 12 / Core 13										
Total pressure drop (Pa)		225 x 150	300 x 150	375 x 150	450 x 150	525 x 150	600 x 150	300 x 225	375 x 225	450 x 225	525 x 225	600 x 225
9	l/s	51	67	84	101	118	135	101	127	153	177	203
core 12	Min - Max (m)	2.0-3.5	2.5-4.0	2.5-4.5	3.0-5.0	3.5-5.5	4.0-6.0	2.5-5.0	3.0-5.5	3.5-6.0	4.0-7.0	4.5-8.0
core 13	Min - Max (m)	2.0-3.5	2.0-3.5	2.0-4.0	2.5-5.0	3.0-5.5	4.0-6.0	2.5-5.0	2.5-5.5	3.0-6.0	3.5-6.5	4.0-7.0
	L_w	-	-	-	20	21	22	20	20	21	23	25
15	l/s	68	90	113	135	158	180	135	169	203	237	271
core 12	Min - Max (m)	2.0-4.5	2.5-5.0	2.7-6.0	3.0-7.0	3.5-7.5	4.0-8.0	3.0-6.0	3.5-6.5	4.0-7.0	4.5-8.0	5.0-9.0
core 13	Min - Max (m)	2.0-4.5	2.5-5.0	2.5-6.0	3.0-6.0	3.5-7.0	4.5-9.0	3.0-6.0	3.5-6.5	4.0-7.0	4.5-8.0	5.0-9.0
	L_w	24	27	27	28	29	30	28	28	29	30	31
23	l/s	84	113	140	169	197	225	169	211	253	295	337
core 12	Min - Max (m)	2.5-5.5	3.0-6.0	3.5-7.0	4.0-8.0	4.5-9.0	5.0-10.0	4.0-8.0	4.5-8.5	5.0-9.0	5.5-10.0	6.0-12.0
core 13	Min - Max (m)	2.5-5.5	3.0-6.0	3.5-6.5	4.0-7.5	4.5-8.0	5.0-10.0	4.0-7.5	4.5-8.5	5.0-10.0	5.5-11.0	6.0-12.0
	L_w	30	33	33	34	35	36	33	34	35	36	37
33	l/s	101	135	169	202	236	270	202	253	303	354	404
core 12	Min - Max (m)	3.5-6.5	4.0-7.0	4.5-8.5	5.0-10.0	5.5-10.5	6.0-11.0	4.5-9.0	5.0-9.5	5.5-10.0	6.0-12.0	7.0-14.0
core 13	Min - Max (m)	3.5-6.5	4.0-7.5	4.0-8.0	4.5-9.0	5.0-11.0	6.0-12.0	4.5-9.0	5.0-10.0	5.5-11.0	6.0-12.0	7.0-14.0
	L_w	35	38	38	39	40	41	38	39	40	41	42
43	l/s	118	158	197	236	275	315	236	295	354	413	472
core 12	Min - Max (m)	4.0-7.5	4.5-8.0	5.5-10.0	6.0-11.0	6.5-12.0	7.0-13.0	5.0-10.5	5.5-11.0	6.0-11.5	7.0-15.0	8.0-16.0
core 13	Min - Max (m)	4.0-7.5	4.5-8.5	5.0-10.0	5.0-10.5	6.0-12.0	7.0-15.0	5.0-10.5	6.0-12.0	6.5-13.0	7.0-14.0	8.0-16.0
	L_w	39	42	42	43	44	46	43	43	44	45	46

Total pressure drop (Pa)		375 x 300	450 x 300	525 x 300	600 x 300	450 x 375	525 x 375	600 x 375	525 x 450	600 x 450	600 x 525
9	l/s	169	203	236	271	253	296	339	354	406	474
core 12	Min - Max (m)	2.5-6.0	3.0-6.5	3.5-7.0	4.0-8.0	3.0-6.5	3.5-7.0	4.0-8.0	3.0-7.0	4.0-8.0	3.0-8.5
core 13	Min - Max (m)	2.5-6.0	3.5-6.5	4.0-7.0	4.5-7.5	3.0-6.5	3.5-7.0	4.0-7.5	3.5-7.5	4.0-8.0	3.0-8.5
	L_w	21	23	24	25	23	24	25	24	25	26
15	l/s	225	270	315	360	338	394	450	472	540	629
core 12	Min - Max (m)	4.0-8.0	4.5-9.0	5.0-10.0	6.0-11.0	4.5-9.0	5.0-10.0	6.0-11.0	5.0-9.5	6.0-11.0	6.0-11.0
core 13	Min - Max (m)	4.0-8.0	4.5-8.5	5.0-9.0	5.5-10.0	4.5-9.0	5.0-10.0	5.5-11.0	5.0-10.0	6.0-11.0	6.0-11.0
	L_w	29	30	32	33	30	31	33	31	32	33
23	l/s	281	338	394	441	422	492	562	591	675	785
core 12	Min - Max (m)	5.0-10.0	5.5-11.0	6.0-12.0	7.0-13.0	5.5-11.0	6.0-12.0	7.0-13.0	6.0-12.0	7.0-13.0	7.0-14.0
core 13	Min - Max (m)	5.0-10.0	5.0-10.5	5.5-11.5	6.0-12.0	5.5-11.0	6.0-12.0	6.5-13.0	6.5-12.5	7.0-13.0	7.0-14.0
	L_w	35	37	38	39	36	37	38	37	38	40
33	l/s	338	405	473	540	506	591	674	709	810	942
core 12	Min - Max (m)	6.0-12.0	6.5-13.0	7.0-15.0	8.0-16.0	6.5-13.0	7.0-14.0	8.0-16.0	7.0-14.5	8.0-16.0	9.0-18.0
core 13	Min - Max (m)	6.0-11.5	6.5-13.0	7.0-14.0	7.5-15.0	6.5-13.0	7.0-14.0	7.5-15.0	7.5-15.0	8.0-16.0	8.5-17.5
	L_w	40	41	42	44	41	42	44	42	43	45
43	l/s	394	473	551	630	590	689	788	827	945	1103
core 12	Min - Max (m)	7.0-13.5	7.5-15.0	8.0-16.0	9.0-18.0	7.5-15.0	8.0-16.0	9.0-18.0	8.5-16.0	9.0-18.0	10.0-20.0
core 13	Min - Max (m)	7.0-13.5	7.5-15.0	8.0-16.0	9.0-18.0	7.5-15.0	8.0-16.0	9.0-17.0	9.0-16.5	9.5-18.0	10.0-20.0
	L_w	44	45	46	47	45	46	47	46	47	49

Louvred Face Diffusers

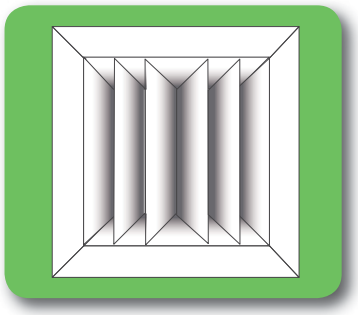
DF / DE core 21 / 25

Selection Criteria

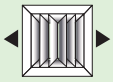
Ceiling height 2.7 m
Temperature differential -10K
Radius of diffusion - Minimum and maximum throw which results in an average air velocity within the occupied zone of 0.25m/s and 0.10m/s respectively.
Noise level is based on diffuser sound power level less 8dB room absorption.

Selection Example DF21/300x300

Air flow rate 225 l/s
Throw 3.0 - 6.0 m
Total Pressure Loss 23 Pa
Noise level 34 dBA

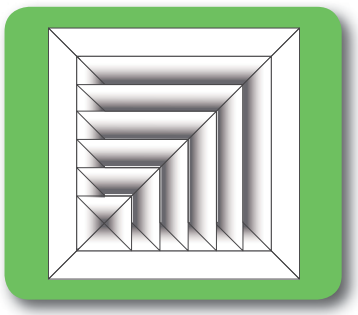


Performance Table

DF / DE Supply		Core 21 						
Total pressure drop (Pa)		150 x 150	225 x 225	300 x 300	375 x 375	450 x 450	525 x 525	600 x 600
9	l/s	34	76	135	211	304	413	540
	Min Max (m)	1.0-2.0	1.5-2.5	2.0-3.5	2.5-4.5	2.5-6.0	3.0-6.5	3.5-7.0
	L_w	-	-	-	23	24	26	28
15	l/s	45	101	180	282	405	551	720
	Min Max (m)	1.0-2.5	2.0-3.5	2.5-5.0	3.0-6.0	3.5-7.5	4.0-8.0	4.5-8.5
	L_w	-	25	28	30	31	33	35
23	l/s	56	127	225	352	506	689	900
	Min Max (m)	1.5-3.0	2.5-5.0	3.0-6.0	4.0-7.5	4.5-9.0	5.0-10.0	5.5-10.5
	L_w	27	31	34	36	37	39	41
33	l/s	68	152	270	422	608	827	1080
	Min Max (m)	2.0-3.5	2.5-5.5	3.5-7.5	5.0-9.5	5.5-11.0	6.5-13.0	6.5-13.0
	L_w	32	36	39	41	42	43	45
43	l/s	79	177	315	492	709	964	1260
	Min Max (m)	2.0-4.5	3.0-6.0	4.5-8.5	5.5-11.0	6.5-13.0	7.5-15.0	7.5-15.0
	L_w	36	40	43	45	46	48	49

Selection Example DF25/300x300

Air flow rate 225 l/s
Throw 3.0 - 6.0 m
Total Pressure Loss 23 Pa
Noise level 34 dBA



Performance Table

DF / DE Supply		Core 25 						
Total pressure drop (Pa)		150 x 150	225 x 225	300 x 300	375 x 375	450 x 450	525 x 525	600 x 600
9	l/s	34	76	135	211	304	413	540
	Min Max (m)	1.0-2.0	1.5-2.5	2.0-3.5	2.5-4.5	2.5-6.0	3.0-6.5	3.0-7.0
	L_w	-	-	20	23	24	25	26
15	l/s	45	101	180	282	405	551	720
	Min Max (m)	1.0-2.5	2.0-3.5	2.5-5.0	3.0-6.0	3.5-7.5	4.0-8.0	4.0-9.0
	L_w	-	25	28	30	31	32	33
23	l/s	56	127	225	352	506	689	900
	Min Max (m)	1.5-3.0	2.5-5.0	3.0-6.0	4.0-7.5	4.5-9.0	5.0-10.0	5.0-11.0
	L_w	27	31	34	36	37	38	39
33	l/s	68	152	270	422	608	827	1080
	Min Max (m)	2.0-3.5	2.5-5.5	3.5-7.5	5.0-9.5	5.5-11.0	6.0-12.0	6.0-13.0
	L_w	32	36	39	41	42	43	44
43	l/s	79	177	315	492	709	964	1260
	Min Max (m)	2.0-4.5	3.0-6.0	4.5-8.5	5.5-11.0	6.5-13.0	7.0-14.0	7.0-15.0
	L_w	36	40	43	45	46	47	48

Louvred Face Diffusers

DF / DE core 22 / 23

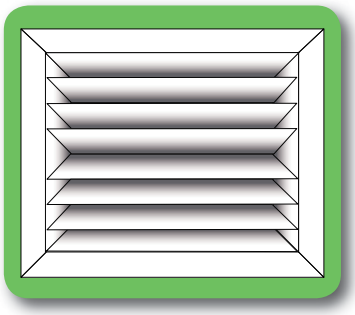
Selection Criteria

Ceiling height 2.7 m
Temperature differential -10K
Radius of diffusion - Minimum and maximum throw which results in an average air velocity within the occupied zone of 0.25m/s and 0.10m/s respectively.
Noise level is based on diffuser sound power level less 8dB room absorption.

Selection Example DF22/450x150

Air flow rate 169 l/s
Throw 3.0 - 5.5 m
Total Pressure Loss 23 Pa
Noise level 33 dBA

Exhaust & OBSS corrections		
Supply diffuser	0dB	Pa x 1.0
Supply diffuser + OBSS	+ 3dB	Pa x 1.0
Exhaust diffuser	+ 3dB	Pa x 1.1
Exhaust diffuser + OBSS	+13dB	Pa x 1.15



DF - core 23

Performance Table

DF / DE Supply		Core 22					Core 23				
Total pressure drop (Pa)		225 x 150	300 x 150	375 x 150	450 x 150	525 x 150	600 x 150	300 x 225	375 x 225	450 x 225	525 x 225	600 x 225
9	l/s	51	67	84	101	118	135	101	127	153	177	203
core 22	Min - Max (m)	1.0-2.5	1.5-2.5	1.5-3.0	2.0-3.0	2.5-3.5	3.0-4.0	2.0-3.5	2.0-3.5	2.5-4.0	3.0-4.5	3.5-5.0
core 23	Min - Max (m)	1.0-2.5	1.5-2.5	1.5-3.0	2.0-3.5	2.5-4.0	3.0-5.0	2.0-3.5	2.0-4.0	2.5-4.0	3.0-4.5	3.5-5.0
	L_w	-	-	-	-	20	21	-	-	20	21	22
15	l/s	68	90	113	135	158	180	135	169	203	237	271
core 22	Min - Max (m)	1.5-3.0	2.0-3.5	2.5-4.0	3.0-4.5	3.5-5.0	4.0-5.5	2.0-4.5	2.5-5.0	3.0-5.5	3.5-6.0	4.0-6.5
core 23	Min - Max (m)	1.5-3.0	2.0-3.5	2.0-4.0	2.5-4.5	3.0-5.0	3.5-6.0	2.0-4.5	2.5-5.0	3.0-5.5	3.5-6.0	4.0-7.0
	L_w	23	25	26	27	28	29	27	28	28	29	30
23	l/s	84	113	140	169	197	225	169	211	253	295	337
core 22	Min - Max (m)	2.0-3.5	2.0-4.5	2.5-5.0	3.0-5.5	3.5-6.0	4.0-7.0	2.5-5.0	3.0-6.0	3.5-6.5	4.0-7.0	4.5-8.0
core 23	Min - Max (m)	2.0-3.5	2.0-4.5	2.5-5.0	3.0-5.5	3.5-6.0	4.0-7.0	2.5-5.5	3.0-6.0	3.5-6.5	3.5-7.5	4.5-9.0
	L_w	29	31	32	33	34	35	33	34	34	35	36
33	l/s	101	135	169	202	236	270	202	253	303	354	404
core 22	Min - Max (m)	2.0-4.5	2.5-5.0	3.0-5.0	3.5-6.0	4.0-6.5	4.5-8.0	3.5-6.5	3.5-7.5	4.0-8.0	4.5-9.0	5.0-10.0
core 23	Min - Max (m)	2.0-4.5	2.5-5.0	3.0-6.0	3.5-6.5	4.0-7.0	4.5-8.0	3.5-6.5	3.5-7.5	4.0-8.0	4.5-8.5	5.5-11.0
	L_w	34	36	37	38	39	40	38	39	39	41	42
43	l/s	118	158	197	236	275	315	236	295	354	413	472
core 22	Min - Max (m)	2.5-5.0	3.0-6.0	3.5-6.5	4.0-7.0	4.5-8.0	5.0-9.0	4.0-7.5	4.5-8.5	5.0-9.0	5.5-10.0	6.0-11.0
core 23	Min - Max (m)	2.5-5.0	3.0-6.0	3.5-7.0	4.0-7.5	4.5-8.0	5.0-9.0	4.0-7.5	4.0-8.5	5.0-9.0	5.0-10.0	7.0-13.0
	L_w	38	40	41	42	43	44	42	43	43	45	46

Total pressure drop (Pa)		375 x 300	450 x 300	525 x 300	600 x 300	450 x 375	525 x 375	600 x 375	525 x 450	600 x 450	600 x 525
9	l/s	169	203	236	271	253	296	339	354	406	474
core 22	Min - Max (m)	2.0-4.0	2.5-4.5	3.5-5.0	3.5-5.5	2.5-5.0	3.0-5.5	3.5-6.0	2.5-5.0	3.0-5.5	4.0-6.0
core 23	Min - Max (m)	2.0-4.0	2.0-4.5	2.5-5.0	3.0-6.0	2.5-5.0	3.0-6.0	3.5-6.5	2.5-5.0	3.0-5.5	3.0-5.5
	L_w	21	23	24	25	23	24	25	24	25	26
15	l/s	225	270	315	360	338	394	450	472	540	629
core 22	Min - Max (m)	2.5-5.5	3.0-6.0	3.5-6.5	4.0-7.0	3.0-6.5	3.5-7.0	4.0-8.0	3.0-6.5	4.0-7.0	5.0-8.0
core 23	Min - Max (m)	2.5-6.0	3.0-6.0	3.5-6.5	4.0-7.0	3.5-6.5	4.0-7.0	4.5-8.0	3.0-6.5	3.5-7.0	4.0-8.0
	L_w	29	30	32	33	30	31	33	31	32	33
23	l/s	281	338	394	441	422	492	562	591	675	785
core 22	Min - Max (m)	3.5-7.0	4.0-7.5	4.5-8.0	5.0-9.0	4.0-8.5	4.5-9.0	5.0-10.0	4.0-8.5	5.0-9.0	5.5-10.0
core 23	Min - Max (m)	3.5-7.0	4.0-8.0	4.5-9.0	5.0-10.0	4.5-8.5	5.0-9.0	5.5-10.0	4.0-8.5	4.5-9.0	5.0-10.0
	L_w	34	37	38	39	36	37	38	37	38	40
33	l/s	338	405	473	540	506	591	674	709	810	942
core 22	Min - Max (m)	4.0-8.0	4.5-9.0	5.0-10.0	6.0-12.0	5.0-9.5	5.5-10.0	6.0-11.0	5.0-9.5	6.0-11.0	6.5-12.0
core 23	Min - Max (m)	4.0-8.0	4.5-9.0	5.0-10.0	5.5-12.0	5.0-10.0	5.5-11.0	6.0-12.0	5.0-9.5	5.5-10.0	6.0-11.0
	L_w	39	41	42	44	41	42	44	42	43	45
43	l/s	394	473	551	630	590	689	788	827	945	1103
core 22	Min - Max (m)	5.0-9.5	5.5-10.0	6.0-12.0	7.0-14.0	6.0-11.0	6.5-12.0	7.0-13.0	6.0-11.5	7.0-13.0	8.0-14.0
core 23	Min - Max (m)	5.0-9.5	5.5-10.5	6.0-12.0	7.0-14.0	6.0-12.0	7.0-13.0	7.5-14.0	6.0-12.0	7.0-13.0	7.0-14.0
	L_w	44	45	46	47	45	46	47	46	47	49

Louvred Face Diffusers

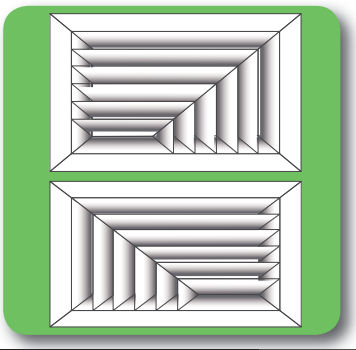
DF / DE core 26 / 27

Selection Criteria

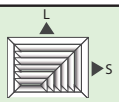
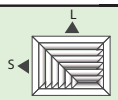
Ceiling height 2.7 m
Temperature differential -10K
Radius of diffusion - Minimum and maximum throw which results in an average air velocity within the occupied zone of 0.25m/s and 0.10m/s respectively.
Noise level is based on diffuser sound power level less 8dB room absorption.

Selection Example DF26/450x150

Air flow rate 169 l/s
Short side throw 2.5 - 4.0 m
Long side throw 3.5 - 6.5 m
Total Pressure Loss 23 Pa
Noise level 32 dBA



Performance Table

DF / DE		Core 26 					Core 27 				S = Short side throw L = Long side throw
Supply											
Total pressure drop (Pa)		225 x 150	300 x 150	375 x 150	450 x 150	525 x 150	600 x 150	300 x 225	375 x 225	450 x 225	525 x 225	600 x 225
9	l/s	51	67	84	101	118	135	101	127	153	177	203
	S Min - Max (m)	1.0-2.0	1.0-2.0	1.0-2.0	1.5-2.5	2.0-3.0	2.5-3.5	1.5-3.0	2.0-3.5	2.5-4.0	3.0-4.0	3.0-5.0
	L Min - Max (m)	1.5-2.5	2.0-3.5	2.0-4.0	2.5-4.5	2.5-5.0	3.0-5.5	2.0-4.0	2.5-4.5	3.0-5.0	3.5-5.5	3.5-6.0
	L_w	-	-	-	-	-	20	-	-	20	21	22
15	l/s	68	90	113	135	158	180	135	169	203	237	271
	S Min - Max (m)	1.0-2.5	1.0-2.5	1.0-2.5	1.5-3.0	2.0-3.5	2.5-3.5	2.0-4.0	2.5-4.5	3.0-5.0	3.0-5.5	3.0-6.0
	L Min - Max (m)	2.0-3.5	2.0-4.5	2.5-5.0	3.0-5.5	3.0-6.0	3.5-6.5	2.5-5.0	3.0-5.5	3.5-6.0	4.0-7.0	3.5-7.0
	L_w	23	25	25	26	27	28	27	28	28	29	30
23	l/s	84	113	140	169	197	225	169	211	253	295	337
	S Min - Max (m)	2.0-3.5	2.0-3.5	2.0-3.5	2.5-4.0	3.0-4.5	3.5-5.0	2.5-5.0	3.0-5.5	3.5-6.0	4.0-7.0	4.0-8.0
	L Min - Max (m)	2.0-4.5	2.5-5.0	3.0-6.0	3.5-6.5	4.0-7.0	4.0-8.0	2.5-6.0	3.0-6.5	3.5-7.0	4.0-8.0	4.5-9.0
	L_w	29	31	31	32	34	35	33	34	34	35	36
33	l/s	101	135	169	202	236	270	202	253	303	354	404
	S Min - Max (m)	2.0-4.0	2.0-4.0	2.0-4.0	2.5-4.5	3.5-5.0	3.5-5.5	2.5-6.0	3.0-6.5	3.5-7.0	4.0-8.0	4.5-9.0
	L Min - Max (m)	2.5-5.0	3.5-6.5	4.5-7.5	4.5-8.0	5.0-8.0	5.5-9.5	3.5-7.5	4.0-8.0	4.5-9.0	5.0-10.0	5.5-11.0
	L_w	34	36	37	38	39	40	38	39	39	41	42
43	l/s	118	158	197	236	275	315	236	295	354	413	472
	S Min - Max (m)	2.0-4.5	2.0-4.5	2.0-4.5	2.5-5.0	3.0-5.5	3.5-6.0	3.5-6.5	4.0-7.0	4.5-8.0	5.0-9.0	5.5-10.0
	L Min - Max (m)	3.0-6.0	4.0-7.5	4.5-8.5	5.5-9.0	5.5-10.0	6.0-11.0	4.5-8.0	5.0-9.0	5.5-9.0	6.0-11.0	7.0-12.0
	L_w	38	40	41	42	43	44	42	43	43	45	46

Total pressure drop (Pa)		375 x 300	450 x 300	525 x 300	600 x 300	450 x 375	525 x 375	600 x 375
9	l/s	169	203	236	271	253	296	339
	S Min - Max (m)	2.0-4.0	2.0-4.0	2.5-4.5	2.5-5.0	2.5-4.5	2.5-5.0	3.0-6.0
	L Min - Max (m)	2.5-5.0	2.5-5.0	3.0-5.5	3.0-6.0	3.0-5.5	3.0-6.0	3.5-6.5
	L_w	20	21	22	23	23	24	25
15	l/s	225	270	315	360	338	394	450
	S Min - Max (m)	2.5-5.0	2.5-5.0	3.0-5.5	3.0-6.0	3.0-5.5	3.0-6.0	3.5-7.0
	L Min - Max (m)	3.0-6.0	3.5-7.5	4.0-7.5	4.5-8.5	4.0-7.5	4.5-8.0	5.0-8.5
	L_w	28	29	31	32	30	31	32
23	l/s	281	338	394	441	422	492	562
	S Min - Max (m)	3.0-6.0	3.0-6.0	3.5-6.5	4.0-7.0	3.5-6.5	4.0-7.0	5.0-8.0
	L Min - Max (m)	4.5-7.0	4.5-9.5	5.0-10.0	5.5-11.0	5.0-10.0	6.0-11.0	6.5-12.0
	L_w	34	35	37	38	36	37	37
33	l/s	338	405	473	540	506	591	674
	S Min - Max (m)	4.0-7.5	4.0-7.5	4.5-8.5	5.0-9.0	4.5-8.5	5.0-9.0	6.0-10.0
	L Min - Max (m)	4.5-9.0	5.0-10.5	5.5-11.5	6.0-12.0	5.5-115	6.0-13.0	7.0-14.0
	L_w	39	40	41	43	41	43	42
43	l/s	394	473	551	630	590	689	788
	S Min - Max (m)	4.5-8.5	4.5-8.5	5.0-9.5	6.0-12.0	5.0-9.5	6.0-11.0	7.0-12.0
	L Min - Max (m)	5.0-10.5	6.5-12.0	6.5-13.0	8.0-15.0	6.5-13.0	7.0-15.0	8.0-16.0
	L_w	43	44	45	46	45	47	46

Louvred Face Diffusers

DF / DE core 31 / 41

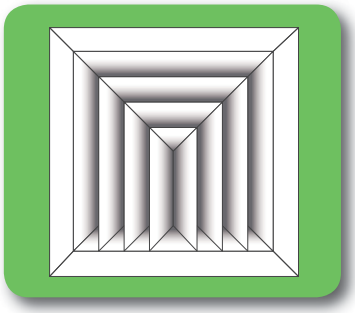
Selection Criteria

Ceiling height 2.7 m
Temperature differential -10K
Radius of diffusion - Minimum and maximum throw which results in an average air velocity within the occupied zone of 0.25m/s and 0.10m/s respectively.
Noise level is based on diffuser sound power level less 8dB room absorption.

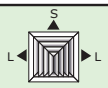
Selection Example DF31/300x300

Air flow rate 225 l/s
Short side throw 2.0 - 4.5 m
Long side throw 2.5 - 5.0 m
Total Pressure Loss 23 Pa
Noise level 33 dBA

Exhaust & OBSS corrections		
Supply diffuser	0dB	Pa x 1.0
Supply diffuser + OBSS	+ 3dB	Pa x 1.0
Exhaust diffuser	+ 3dB	Pa x 1.1
Exhaust diffuser + OBSS	+13dB	Pa x 1.15

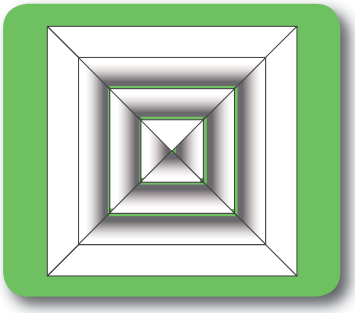


Performance Table

DF / DE Supply		Core 31  S = Short side throw L = Long side throw						
Total pressure drop (Pa)		150 x 150	225 x 225	300 x 300	375 x 375	450 x 450	525 x 525	600 x 600
9	l/s	34	76	135	211	304	413	540
	S Min - Max (m)	1.0-2.0	1.0-2.0	1.5-3.0	2.0-3.5	2.5-5.0	3.5-7.0	4.0-8.0
	L Min - Max (m)	1.0-2.0	1.0-2.5	2.0-3.5	2.0-4.0	3.5-6.5	4.5-9.0	5.5-10.0
	L_w	-	-	-	-	23	24	25
15	l/s	45	101	180	282	405	551	720
	S Min - Max (m)	1.0-2.0	1.0-2.5	2.0-4.0	2.0-4.5	2.5-5.0	3.5-7.0	4.0-8.0
	L Min - Max (m)	1.0-2.0	2.0-3.5	2.0-4.5	2.5-5.0	3.5-7.0	5.0-9.5	5.5-10.0
	L_w	-	24	27	29	30	31	32
23	l/s	56	127	225	352	506	689	900
	S Min - Max (m)	1.0-2.0	2.0-3.5	2.0-4.5	2.5-5.5	3.5-6.5	4.0-7.0	5.0-8.0
	L Min - Max (m)	1.5-2.5	2.0-4.0	2.5-5.0	3.5-6.0	4.0-8.0	5.5-9.0	5.0-10.0
	L_w	26	30	33	35	36	37	38
33	l/s	63	152	270	422	608	827	1080
	S Min - Max (m)	1.5-2.5	2.0-4.5	2.5-5.0	3.5-6.5	4.0-8.0	4.5-9.0	5.0-10.0
	L Min - Max (m)	2.0-3.5	2.5-5.5	3.5-6.5	4.0-8.0	5.0-10.0	5.5-11.0	6.0-12.0
	L_w	31	35	38	40	41	42	43
43	l/s	79	177	315	492	709	964	1260
	S Min - Max (m)	2.0-3.5	2.5-4.5	3.0-6.0	4.0-7.5	4.5-9.0	5.0-10.0	6.0-12.0
	L Min - Max (m)	2.0-4.0	2.5-6.0	4.0-7.5	5.0-9.5	6.0-11.5	6.5-12.0	7.0-14.0
	L_w	35	39	42	44	45	46	47

Performance Table

DF / DE Supply		Core 41 						
Total pressure drop (Pa)		150 x 150	225 x 225	300 x 300	375 x 375	450 x 450	525 x 525	600 x 600
9	l/s	34	76	135	211	304	413	540
	Min Max (m)	1.0-1.5	1.0-2.0	1.5-2.5	2.0-3.5	2.0-4.0	2.5-5.0	2.5-5.5
	L_w	-	-	-	-	23	24	25
15	l/s	45	101	180	282	405	551	720
	Min Max (m)	1.0-2.0	1.5-2.5	2.0-3.5	2.0-4.5	2.5-5.0	3.0-6.0	3.5-7.0
	L_w	-	24	27	28	30	31	32
23	l/s	56	127	225	352	506	689	900
	Min Max (m)	1.5-2.5	2.0-3.5	2.0-4.5	2.5-5.5	3.5-6.5	4.0-8.0	4.5-8.5
	L_w	26	30	33	34	36	37	38
33	l/s	68	152	270	422	608	827	1080
	Min Max (m)	1.5-3.0	2.0-4.0	2.5-5.0	3.5-6.5	4.0-8.0	4.5-9.0	5.0-10.5
	L_w	31	35	38	39	41	42	43
43	l/s	79	177	315	492	709	964	1260
	Min Max (m)	2.0-3.5	2.0-4.5	3.0-6.0	4.0-7.5	4.5-9.0	5.0-10.5	6.0-12.0
	L_w	35	39	42	43	45	46	47



Selection Example DF41/300x300

Air flow rate 225 l/s
Throw 2.0 - 4.5 m
Total Pressure Loss 23 Pa
Noise level 33 dBA

Louvred Face Diffusers

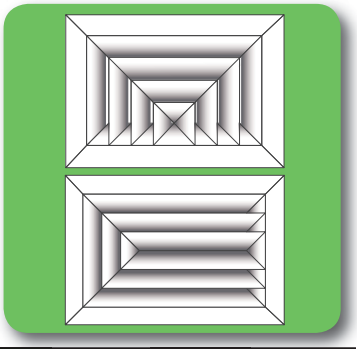
DF / DE core 32 / 33

Selection Criteria

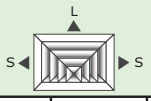
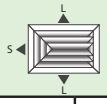
Ceiling height 2.7 m
Temperature differential -10K
Radius of diffusion - Minimum and maximum throw which results in an average air velocity within the occupied zone of 0.25m/s and 0.10m/s respectively.
Noise level is based on diffuser sound power level less 8dB room absorption.

Selection Example DF32/450x150

Air flow rate 169 l/s
Short side throw 1.5 - 3.0 m
Long side throw 3.0 - 6.0 m
Total Pressure Loss 23 Pa
Noise level 31 dBA



Performance Table

DF / DE		Core 32 					Core 33 			S = Short side throw L = Long side throw	
Supply											
Total pressure drop (Pa)		225 x 150	300 x 150	375 x 150	450 x 150	525 x 150	600 x 150	300 x 225	375 x 225	450 x 225	525 x 225	600 x 225
9	l/s	51	67	84	101	118	135	101	127	153	177	203
	S Min - Max (m)	1.0-2.0	1.0-2.0	1.0-2.0	1.0-2.0	1.5-2.5	2.0-4.0	1.5-3.0	2.0-3.0	2.5-4.0	3.0-5.0	3.0-6.0
	L Min - Max (m)	1.0-2.0	1.5-2.5	2.0-3.5	2.0-3.5	2.5-4.0	3.0-4.5	1.5-3.0	2.0-3.5	2.5-4.0	2.5-5.0	3.0-6.0
	L_w	-	-	-	-	-	-	-	-	-	20	21
15	l/s	68	90	113	135	158	180	135	169	203	237	271
	S Min - Max (m)	1.0-2.0	1.0-2.0	1.0-2.0	1.0-2.0	1.5-2.5	2.0-3.0	2.0-4.0	2.5-3.5	3.0-4.0	3.5-5.0	4.0-5.5
	L Min - Max (m)	1.0-2.5	2.0-3.5	2.0-4.5	2.5-5.0	3.0-5.5	3.5-6.0	2.0-4.0	2.0-4.5	2.5-5.0	3.0-6.0	3.5-6.5
	L_w	20	24	25	25	26	27	25	26	27	28	29
23	l/s	84	113	140	169	197	225	169	211	253	295	337
	S Min - Max (m)	1.5-3.0	1.5-3.0	1.5-3.0	1.5-3.0	1.5-3.5	2.0-4.0	2.0-4.5	2.0-4.0	2.5-5.0	3.0-6.0	3.5-7.0
	L Min - Max (m)	2.0-3.5	2.0-4.5	2.5-5.0	3.0-6.0	3.5-6.5	4.0-7.0	2.0-4.5	2.5-5.5	3.0-6.0	3.5-7.0	4.0-9.0
	L_w	28	30	31	31	33	34	31	32	33	34	35
33	l/s	101	135	169	202	236	270	202	253	303	354	404
	S Min - Max (m)	2.0-3.5	2.0-3.5	2.0-3.5	2.0-3.5	2.5-4.0	3.0-4.5	2.5-5.0	2.5-5.0	3.0-6.0	3.5-7.0	4.0-8.0
	L Min - Max (m)	2.0-4.0	2.5-5.0	3.5-6.5	4.0-7.5	4.5-8.5	5.0-9.0	2.5-5.0	3.5-6.5	4.0-7.0	4.5-9.0	5.0-10
	L_w	33	35	36	36	37	39	36	37	38	39	40
43	l/s	118	158	197	236	275	315	236	295	354	413	472
	S Min - Max (m)	2.0-4.5	2.0-4.5	2.0-4.5	2.0-4.5	2.5-5.5	3.0-6.0	3.0-6.0	3.5-6.5	4.0-7.0	5.0-8.0	5.5-9.0
	L Min - Max (m)	2.5-4.5	3.0-6.0	4.0-7.5	4.5-8.5	5.0-9.5	5.5-11.0	3.0-6.0	4.0-8.0	4.5-9.0	5.0-10.0	5.5-12.0
	L_w	37	39	40	41	42	43	41	41	42	43	44

Total pressure drop (Pa)		375 x 300	450 x 300	525 x 300	600 x 300	450 x 375	525 x 375	600 x 375	525 x 450	600 x 450	600 x 525
9	l/s	169	203	236	271	253	296	339	354	406	474
	S Min - Max (m)	2.0-3.5	2.0-3.5	2.5-4.0	3.0-4.5	2.0-4.0	2.5-4.5	3.0-5.0	2.5-5.0	3.0-5.5	3.0-5.5
	L Min - Max (m)	2.0-3.5	2.0-4.0	2.5-4.5	3.0-5.0	2.0-4.5	2.5-5.0	3.0-6.0	2.5-5.0	3.0-5.5	3.0-5.5
	L_w	-	20	21	22	21	23	25	24	24	25
15	l/s	225	270	315	360	338	394	450	472	540	629
	S Min - Max (m)	2.0-4.5	2.5-5.0	3.0-5.5	3.5-6.0	2.5-5.0	3.0-5.5	3.5-6.0	3.0-6.0	3.5-6.5	3.5-6.5
	L Min - Max (m)	2.5-5.0	2.5-5.0	3.0-5.5	3.5-6.0	2.5-5.5	3.0-6.0	3.5-6.5	3.5-6.5	4.0-7.0	4.0-7.0
	L_w	27	28	29	30	29	30	31	31	31	32
23	l/s	281	338	394	441	422	492	562	591	675	785
	S Min - Max (m)	2.5-5.5	2.5-6.0	3.0-6.5	3.5-7.0	3.5-6.5	4.0-7.0	4.5-7.5	4.0-7.5	4.5-8.0	4.5-8.0
	L Min - Max (m)	2.5-6.0	3.5-6.5	4.0-7.0	4.5-7.5	3.5-7.5	4.0-8.0	4.5-8.5	4.5-8.5	5.0-9.0	5.0-9.0
	L_w	33	34	35	36	35	36	37	37	37	39
33	l/s	338	405	473	540	506	591	674	709	810	942
	S Min - Max (m)	3.5-6.5	3.5-7.5	4.0-8.0	4.5-8.5	4.0-8.0	4.5-9.0	5.0-9.5	4.5-9.0	5.0-10.0	5.0-9.5
	L Min - Max (m)	3.5-7.5	4.0-8.0	4.5-8.5	5.0-9.0	4.5-8.5	5.0-9.0	5.5-10.0	5.0-10.0	5.5-11.0	5.5-10.5
	L_w	38	39	40	41	40	41	42	42	42	43
43	l/s	394	473	551	630	590	689	788	827	945	1103
	S Min - Max (m)	4.0-7.5	4.0-8.0	4.5-8.5	5.0-9.0	4.5-9.0	5.0-10.0	5.5-11.0	5.5-11.0	6.0-12.0	6.0-11.5
	L Min - Max (m)	4.0-8.0	4.5-9.0	5.0-9.5	5.5-10.0	5.0-10.0	5.5-11.0	6.0-12.0	6.0-12.0	6.5-13.0	6.5-12.5
	L_w	42	43	44	45	44	45	46	46	47	47

Louvred Face Diffusers

DTR Tile Replacement

Introduction

The DTR is a Direct Tile Replacement overall size 595 x 595 mm.
Available in neck sizes of 225 and 300 mm. Horizontal air supply in four directions, also suitable for exhaust.
Installation flush to the ceiling, low unit height.
Removable front panel enables cleaning of the diffuser and ductwork.

Product Description

DTR Direct Tile Replacement

Features

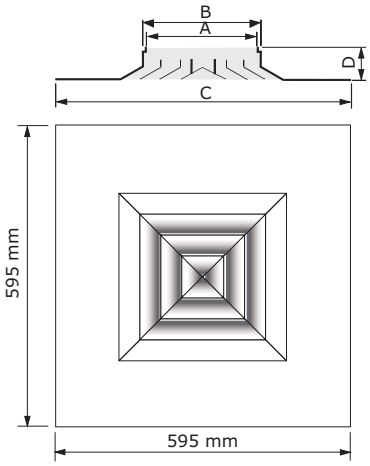
- Lightweight construction

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

Sizes

DTR Overall size 595 x 595 mm.
Available in neck sizes of 225 and 300 mm.



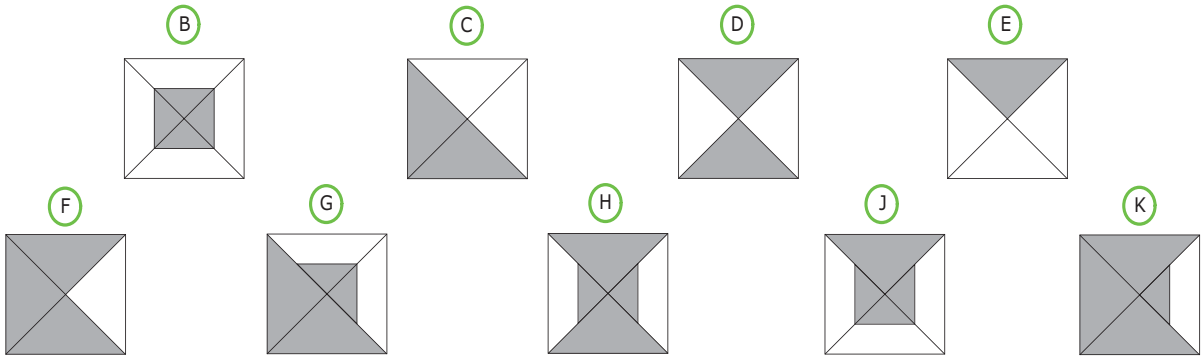
Std. Size mm	A	B	C	D
225 X 225	209	221	595	45
300 X 300	284	294	595	45

Order Example

DTR/300/300/PPM9010/OBSS
Type
Duct width
Duct height
Finish
Damper

DTR			
Supply			
Total pressure drop (Pa)		225 x 225	300 x 300
9	l/s	76	135
	Min - Max (m)	1.0-2.0	1.5-2.5
	L_w	-	-
15	l/s	101	180
	Min - Max (m)	1.5-2.5	2.0-3.5
	L_w	24	27
23	l/s	127	225
	Min - Max (m)	2.0-3.5	2.0-4.5
	L_w	30	33
33	l/s	152	270
	Min - Max (m)	2.0-4.0	2.5-5.0
	L_w	35	38
43	l/s	177	315
	Min - Max (m)	2.0-4.5	3.0-6.0
	L_w	39	42

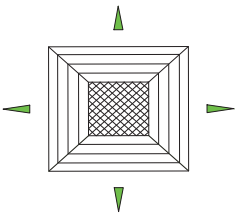
Blanking Plates (for 4 way core)



Type B core 41 - 4 way (Neck 450 x450)

UNBLANKED					
Neck Vel	1.0	1.5	2.0	2.5	3.0
Pressure	5	9	15	23	33
Volume	203	304	405	506	608
dBA Level	26	30	35	39	42
Min Rad	1.7	2.0	2.5	3.5	4.0
Max Rad	3.4	4.0	5.0	6.5	8.0

BLANK B 150 x 150					
Neck Vel	1.0	1.5	2.0	2.5	3.0
Pressure	5	9	15	23	33
Volume	180	270	360	450	540
dBA Level	25	29	34	38	41
Min Rad	1.6	2.0	2.4	3.3	3.9
Max Rad	3.3	3.9	4.9	6.3	7.6



Type B

BLANK B 225 x 225					
Neck Vel	1.0	1.5	2.0	2.5	3.0
Pressure	5	9	15	23	33
Volume	152	228	304	380	456
dBA Level	25	29	33	37	40
Min Rad	1.5	1.7	2.2	2.7	3.7
Max Rad	2.9	3.7	4.7	5.7	6.8

Blank B 300 x 300					
Neck Vel	1.0	1.5	2.0	2.5	3.0
Pressure	5	9	15	23	33
Volume	113	169	225	281	338
dBA Level	-	26	30	34	38
Min Rad	1.5	1.7	2.0	2.2	2.8
Max Rad	2.0	2.8	3.8	4.8	5.5

BLANK B 375 x 375					
Neck Vel	1.0	1.5	2.0	2.5	3.0
Pressure	5	9	15	23	33
Volume	62	93	124	155	186
dBA Level	-	-	27	30	33
Min Rad	0.9	1.2	1.7	2.0	2.2
Max Rad	1.7	2.2	2.8	3.8	4.5

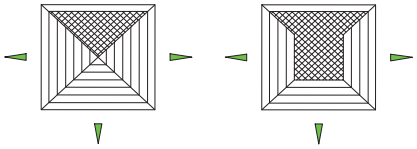
Louvred Face Diffusers

Blanking Plates (for 4 way core)

Type E & J core 41 - 3 way (Neck 450 x 450)

BLANK E					
Neck Vel	1.0	1.5	2.0	2.5	3.0
Pressure	5	9	15	23	33
Volume	152	228	304	380	456
dBA Level	25	30	34	38	40
Min Rad	2.2	2.5	2.7	3.3	4.0
Max Rad	3.7	4.5	5.5	7.0	8.1

BLANK J 150 x 150					
Neck Vel	1.0	1.5	2.0	2.5	3.0
Pressure	5	9	15	23	33
Volume	135	203	270	338	405
dBA Level	-	29	32	36	39
Min Rad	1.4	1.8	2.2	2.7	3.7
Max Rad	2.7	3.6	4.7	5.7	6.7



Type E Type J

BLANK J 225 x 225					
Neck Vel	1.0	1.5	2.0	2.5	3.0
Pressure	5	9	15	23	33
Volume	114	171	228	285	342
dBA Level	-	28	31	34	37
Min Rad	1.3	1.7	2.0	2.5	3.1
Max Rad	2.4	3.2	4.1	4.8	5.5

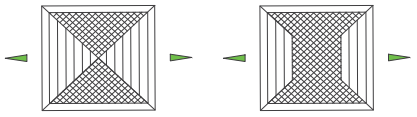
BLANK J 300 x 300					
Neck Vel	1.0	1.5	2.0	2.5	3.0
Pressure	5	9	15	23	33
Volume	84	127	169	211	253
dBA Level	-	26	30	34	36
Min Rad	1.2	1.5	1.9	2.3	2.5
Max Rad	2.2	2.8	3.4	4.0	4.4

BLANK J 375 x 375					
Neck Vel	1.0	1.5	2.0	2.5	3.0
Pressure	5	9	15	23	33
Volume	46	70	93	116	139
dBA Level	-	-	27	31	35
Min Rad	0.8	1.0	1.4	1.8	2.3
Max Rad	1.7	2.0	2.9	3.6	4.7

Type D & H core 41 - 2 way opposite (Neck 450 x 450)

BLANK D					
Neck Vel	1.0	1.5	2.0	2.5	3.0
Pressure	5	9	15	23	33
Volume	101	152	203	253	304
dBA Level	-	28	32	36	39
Min Rad	1.8	2.2	2.7	3.5	4.3
Max Rad	3.7	4.0	5.5	6.7	8.5

BLANK H 150 x 150					
Neck Vel	1.0	1.5	2.0	2.5	3.0
Pressure	5	9	15	23	33
Volume	90	135	180	225	270
dBA Level	-	27	31	35	38
Min Rad	1.5	2.0	2.2	2.5	3.5
Max Rad	2.4	3.5	5.0	6.0	7.5



Type D Type H

BLANK H 225 x 225					
Neck Vel	1.0	1.5	2.0	2.5	3.0
Pressure	5	9	15	23	33
Volume	76	114	152	190	228
dBA Level	-	26	30	34	38
Min Rad	1.2	1.8	2.0	2.5	3.1
Max Rad	2.1	3.0	4.2	5.7	6.5

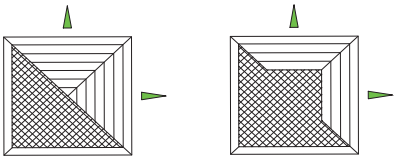
BLANK H 300 x 300					
Neck Vel	1.0	1.5	2.0	2.5	3.0
Pressure	5	9	15	23	33
Volume	56	84	113	141	169
dBA Level	-	25	29	33	36
Min Rad	1.0	1.5	2.0	2.5	2.7
Max Rad	1.9	2.5	3.5	5.0	5.5

BLANK H 375 x 375					
Neck Vel	1.0	1.5	2.0	2.5	3.0
Pressure	5	9	15	23	33
Volume	31	46	62	77	93
dBA Level	-	-	25	30	34
Min Rad	0.8	1.2	1.5	2.0	2.3
Max Rad	1.7	2.2	3.0	4.0	4.5

Type C & G core 41 - 2 way corner (Neck 450 x 450)

BLANK C					
Neck Vel	1.0	1.5	2.0	2.5	3.0
Pressure	5	9	15	23	33
Volume	101	152	203	253	304
dBA Level	-	28	32	36	39
Min Rad	1.8	2.2	2.7	3.5	4.3
Max Rad	3.7	4.0	5.5	6.7	8.5

BLANK G 150 x 150					
Neck Vel	1.0	1.5	2.0	2.5	3.0
Pressure	5	9	15	23	33
Volume	90	135	180	225	270
dBA Level	-	27	31	35	38
Min Rad	1.5	2.0	2.2	2.5	3.5
Max Rad	2.4	3.5	5.0	6.0	7.5



Type C Type G

BLANK G 225 x 225					
Neck Vel	1.0	1.5	2.0	2.5	3.0
Pressure	5	9	15	23	33
Volume	76	114	152	190	228
dBA Level	-	26	30	34	38
Min Rad	1.2	1.8	2.0	2.5	3.1
Max Rad	2.1	3.0	4.2	5.7	6.5

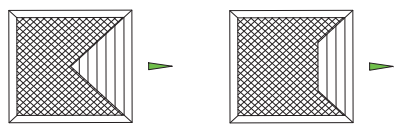
BLANK G 300 x 300					
Neck Vel	1.0	1.5	2.0	2.5	3.0
Pressure	5	9	15	23	33
Volume	56	84	113	141	169
dBA Level	-	25	29	33	36
Min Rad	1.0	1.5	2.0	2.5	2.7
Max Rad	1.9	2.5	3.5	5.0	5.5

BLANK G 375 x 375					
Neck Vel	1.0	1.5	2.0	2.5	3.0
Pressure	5	9	15	23	33
Volume	31	46	62	77	93
dBA Level	-	-	25	30	34
Min Rad	0.8	1.2	1.5	2.0	2.3
Max Rad	1.7	2.2	3.0	4.0	4.5

Type F & K core 41 - 1 way (Neck 450 x 450)

BLANK F					
Neck Vel	1.0	1.5	2.0	2.5	3.0
Pressure	5	9	15	23	33
Volume	51	76	101	127	152
dBA Level	-	26	29	33	36
Min Rad	1.5	2.0	2.5	3.5	4.0
Max Rad	3.0	4.0	5.5	6.5	8.0

BLANK K 150 x 150					
Neck Vel	1.0	1.5	2.0	2.5	3.0
Pressure	5	9	15	23	33
Volume	45	68	90	113	135
dBA Level	-	24	29	32	34
Min Rad	1.4	1.9	2.4	3.3	3.8
Max Rad	2.8	3.9	5.3	6.2	7.6



Type F Type K

BLANK K 225 x 225					
Neck Vel	1.0	1.5	2.0	2.5	3.0
Pressure	5	9	15	23	33
Volume	38	57	76	95	114
dBA Level	-	-	27	30	34
Min Rad	1.2	1.8	2.3	3.1	3.5
Max Rad	2.5	3.7	4.8	5.8	6.7

BLANK K 300 x 300					
Neck Vel	1.0	1.5	2.0	2.5	3.0
Pressure	5	9	15	23	33
Volume	28	42	56	70	84
dBA Level	-	-	26	30	33
Min Rad	1.1	1.6	2.2	2.8	3.1
Max Rad	2.3	3.5	4.2	5.3	6.4

BLANK K 375 x 375					
Neck Vel	1.0	1.5	2.0	2.5	3.0
Pressure	5	9	15	23	33
Volume	15	23	31	39	46
dBA Level	-	-	-	27	31
Min Rad	0.8	1.3	1.9	2.1	2.5
Max Rad	1.8	2.3	3.4	4.4	5.3

Louvred Face Diffusers

DF / DE core 42

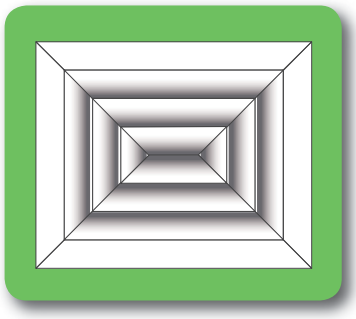
Selection Criteria

Ceiling height 2.7 m
Temperature differential -10K
Radius of diffusion - Minimum and maximum throw which results in an average air velocity within the occupied zone of 0.25m/s and 0.10m/s respectively.
Noise level is based on diffuser sound power level less 8dB room absorption.

Selection Example DF42/450x150

Air flow rate 169 l/s
Short side throw 1.0 - 2.5 m
Long side throw 2.5 - 5.0 m
Total Pressure Loss 23 Pa
Noise level 31 dBA

Exhaust & OBSS corrections		
Supply diffuser	0dB	Pa x 1.0
Supply diffuser + OBSS	+ 3dB	Pa x 1.0
Exhaust diffuser	+ 3dB	Pa x 1.1
Exhaust diffuser + OBSS	+ 13dB	Pa x 1.15



Performance Table

DF / DE Supply		Core 42  S = Short side throw L = Long side throw										
Total pressure drop (Pa)		225 x 150	300 x 150	375 x 150	450 x 150	525 x 150	600 x 150	300 x 225	375 x 225	450 x 225	525 x 225	600 x 225
9	l/s	51	67	84	101	118	135	101	127	153	177	203
	S Min - Max (m)	1.0-1.5	1.0-1.5	1.0-1.5	1.0-1.5	1.5-2.0	2.0-2.5	1.0-2.0	1.0-2.0	1.0-2.0	1.0-2.0	1.5-2.5
	L Min - Max (m)	1.0-2.0	1.0-2.5	1.5-3.0	1.5-3.5	2.0-4.0	2.5-4.5	1.0-2.5	1.5-3.0	2.0-3.5	2.0-4.0	2.5-4.5
	L_w	-	-	-	-	-	-	-	-	-	-	20
15	l/s	68	90	113	135	158	180	135	169	203	237	271
	S Min - Max (m)	1.0-2.0	1.0-2.0	1.0-2.0	1.0-2.0	1.5-2.5	2.0-3.0	1.0-2.5	1.0-2.5	1.0-2.5	1.0-2.5	1.5-3.0
	L Min - Max (m)	1.0-2.5	1.5-3.5	2.0-3.5	2.0-4.0	2.5-4.5	3.0-5.0	2.0-3.5	2.0-3.5	2.5-4.0	2.5-5.0	3.0-5.5
	L_w	-	24	24	25	25	26	25	26	27	27	28
23	l/s	84	113	140	169	197	225	169	211	253	295	337
	S Min - Max (m)	1.0-2.5	1.0-2.5	1.0-2.5	1.0-2.5	1.5-3.0	2.0-3.5	2.0-3.5	2.0-3.5	2.0-3.5	2.0-3.5	2.5-4.0
	L Min - Max (m)	1.5-3.5	2.0-3.5	2.0-4.5	2.5-5.0	3.0-5.5	3.5-6.0	2.0-4.5	2.0-4.5	2.5-5.0	3.0-6.0	3.5-6.5
	L_w	28	30	30	31	32	33	31	32	32	33	34
33	l/s	101	135	169	202	236	270	202	253	303	354	404
	S Min - Max (m)	1.5-3.0	1.5-3.0	1.5-3.0	1.5-3.0	2.0-3.5	2.5-4.0	2.0-4.0	2.0-4.0	2.0-4.0	2.0-4.0	2.5-4.5
	L Min - Max (m)	2.0-3.5	2.0-4.5	2.5-5.0	2.5-6.0	3.0-6.5	3.5-7.0	2.5-5.0	3.0-6.5	3.5-7.0	4.0-7.5	4.5-8.0
	L_w	33	35	35	36	37	38	36	37	37	38	39
43	l/s	118	158	197	236	275	315	236	295	354	413	472
	S Min - Max (m)	2.0-3.5	2.0-3.5	2.0-3.5	2.0-3.5	2.5-4.0	3.0-4.5	2.0-4.5	2.0-4.5	2.0-4.5	2.0-4.5	2.5-5.0
	L Min - Max (m)	2.0-4.5	2.5-5.0	3.0-6.0	3.5-6.5	4.0-7.0	4.5-7.5	2.5-6.0	3.5-7.5	4.0-8.0	4.5-8.5	5.0-9.0
	L_w	37	39	40	40	41	42	40	41	41	42	43

Total pressure drop (Pa)		375 x 300	450 x 300	525 x 300	600 x 300	450 x 375	525 x 375	600 x 375	525 x 450	600 x 450	600 x 525
9	l/s	169	203	236	271	253	296	339	354	406	474
	S Min - Max (m)	1.0-2.5	1.0-2.5	1.0-2.5	1.5-3.0	2.0-3.5	2.0-3.5	2.5-4.0	2.0-4.0	2.0-4.0	2.5-4.5
	L Min - Max (m)	2.0-3.5	2.0-3.5	2.0-4.5	2.5-5.0	2.0-4.0	2.0-4.5	2.5-5.0	2.5-5.0	2.5-5.0	3.0-5.5
	L_w	-	20	21	21	21	23	23	24	24	24
15	l/s	225	270	315	360	338	394	450	472	540	629
	S Min - Max (m)	2.0-3.5	2.0-3.5	2.0-3.5	2.5-4.0	2.0-4.5	2.0-4.5	2.5-5.0	2.5-5.0	2.5-5.0	3.0-5.5
	L Min - Max (m)	2.0-4.5	2.5-5.0	2.5-6.0	3.0-6.5	2.5-5.0	2.5-6.0	3.0-6.5	3.0-6.0	3.5-7.0	4.0-7.5
	L_w	27	28	29	29	29	30	30	31	31	31
23	l/s	281	338	394	441	422	492	562	591	675	785
	S Min - Max (m)	2.0-4.0	2.0-4.5	2.0-4.5	2.5-5.0	2.5-5.5	2.5-5.5	3.0-6.0	3.5-6.5	3.5-6.5	4.0-7.0
	L Min - Max (m)	2.5-5.0	3.0-6.0	3.5-6.5	4.0-7.0	3.5-6.5	3.5-7.5	4.0-8.0	4.0-7.5	4.5-8.5	5.0-9.0
	L_w	33	34	35	35	35	36	36	37	37	38
33	l/s	338	405	473	540	506	591	674	709	810	942
	S Min - Max (m)	2.5-5.0	2.5-5.0	2.5-5.0	3.0-5.5	3.5-6.5	3.5-6.5	4.0-7.0	4.0-8.0	4.0-8.0	4.5-8.5
	L Min - Max (m)	3.5-6.5	4.0-8.0	4.0-8.0	4.5-8.5	4.0-7.5	4.5-8.5	5.0-9.0	4.5-9.0	5.0-10.0	5.5-10.5
	L_w	38	39	40	40	40	41	41	42	42	42
43	l/s	394	473	551	630	590	689	788	827	945	1103
	S Min - Max (m)	3.0-6.0	3.0-6.0	3.0-6.0	3.5-5.5	4.0-7.5	4.0-7.5	4.5-8.0	4.5-9.0	4.5-9.0	5.0-9.5
	L Min - Max (m)	4.0-7.5	4.5-8.0	5.0-9.5	4.5-8.5	4.5-9.0	5.0-10.5	5.5-11.0	5.0-10.5	6.0-12.0	6.5-12.5
	L_w	42	43	44	44	44	45	45	46	47	47

Louvred Face Diffusers

DFA

Product Description

DFA Flanged adjustable diffuser for horizontal or vertical projection (4 way only)
OBSS Opposed blade damper
OBLL Lever operated damper via the diffuser face
PBD Plenum box
NR/D Top entry neck reducer

Features

- Standard flanged frame style for integration with T-bar ceilings
- 2 core styles to suit required air pattern
- Lightweight aluminium construction
- Adjustable air patterns for vertical and horizontal diffusion

Finishes

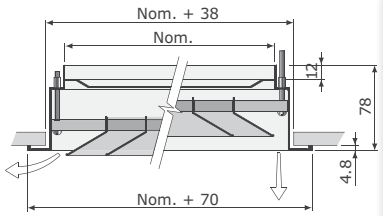
PPG9010 (RAL 9010 Gloss - 80% Gloss White)
PPM9010 (RAL 9010 Matt - 20% Gloss White)
PPM9006 (RAL 9006 Matt - 30% Gloss Silver)
Other colours available on request

Weights

DFA 12.5 kg/m² face area
OBSS/ED 9.5 kg/m² face area

Sizes

DFA Minimum size - 150 x 150 duct size
Maximum size - 1200 x 600 duct size
Standard increments of 75mm only



DFA 41	Isothermal vertical projection (Cones fully raised)			
	150 x 150	225 x 225	300 x 300	375 x 375
l/s	34	76	135	211
T (m)	6.3	9.4	12.5	15.6
L_w	-	-	-	-
Pa	21	17	17	17
l/s	45	101	180	282
T (m)	8.3	12.5	16.7	20.8
L_w	-	-	-	-
Pa	37	30	30	30
l/s	56	127	225	352
T (m)	10.7	16.1	21.5	26.8
L_w	-	-	-	-
Pa	60	47	47	47
l/s	68	152	270	422
T (m)	13.5	20.5	-	-
L_w	-	-	-	20
Pa	87	67	67	67
l/s	79	177	315	492
T (m)	15.0	-	-	-
L_w	-	-	21	22
Pa	122	90	90	90

Terminal Velocities For Isothermal Vertical Projection			
V_t (m/s)	0.25	0.40	0.60
Factor	1.00	0.65	0.40

Temperature Differentials For Heating Vertical Projection						
Δt (°C)	5	10	15	20	25	30
Factor	1.5	1	0.85	0.7	0.6	0.5

DFA 41	Horizontal diffusion (Cones fully lowered) Δt = 10°C cooling			
	150 x 150	225 x 225	300 x 300	375 x 375
l/s	34	76	135	211
Min - Max (m)	0.5-1.0	0.5-1.5	1.5-2.5	1.5-2.5
L_w	-	-	-	-
Pa	11	11	11	11
l/s	45	101	180	282
Min - Max (m)	0.5-1.5	1.0-2.0	1.5-3.0	1.5-3.0
L_w	-	-	-	-
Pa	21	21	21	21
l/s	56	127	225	352
Min - Max (m)	1.0-2.0	1.5-2.5	1.5-3.0	2.0-4.0
L_w	-	-	-	-
Pa	32	32	32	32
l/s	68	152	270	422
Min - Max (m)	1.0-2.5	1.5-3.0	2.0-4.0	2.5-5.0
L_w	-	-	-	-
Pa	47	47	47	47
l/s	79	177	315	492
Min - Max (m)	1.5-2.5	1.5-3.0	2.5-4.5	3.0-5.5
L_w	-	-	-	20
Pa	65	65	65	65

DFA 41	Heating vertical projection (Cones fully raised) Δt = 10°C heating (correct for other temp.)			
	150 x 150	225 x 225	300 x 300	375 x 375
l/s	34	76	135	211
T (m)	2.0	2.3	2.4	2.7
L_w	-	-	-	-
Pa	21	17	17	17
l/s	45	101	180	282
T (m)	2.7	3.3	3.6	3.9
L_w	-	-	-	-
Pa	37	30	30	30
l/s	56	127	225	352
T (m)	3.4	4.1	4.8	5.1
L_w	-	-	-	-
Pa	60	47	47	47
l/s	68	152	270	422
T (m)	4.1	4.7	5.8	6.2
L_w	-	-	-	21
Pa	87	67	67	67
l/s	79	177	315	492
T (m)	4.8	5.4	6.6	7.3
L_w	-	20	22	23
Pa	122	90	90	90

Order Example

DFA-41/300/300/PPM9010/OBSS
Type
Duct width
Duct height
Finish
Damper

Please scan the QR code to view the website page for:
DFA (cut-in) Installation and Maintenance Instructions