AFRICA AIRCONDITIONING
& INSULATION SYSTEMS

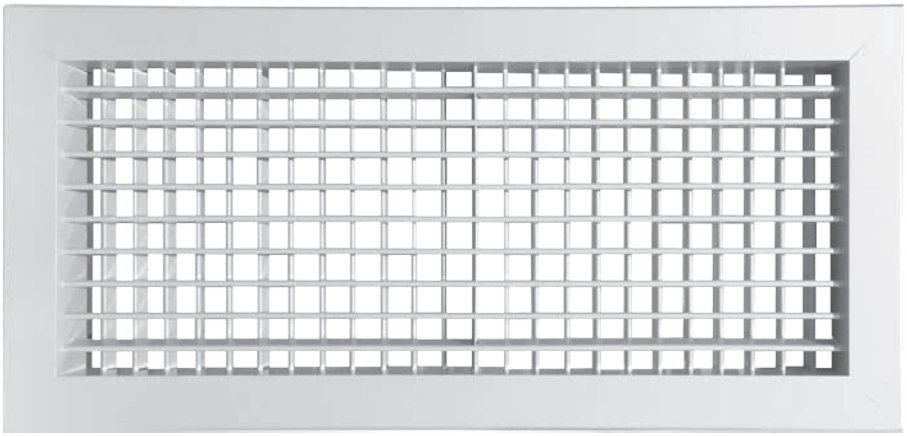
YOUR ONE STOP HVAC SUPPLIER

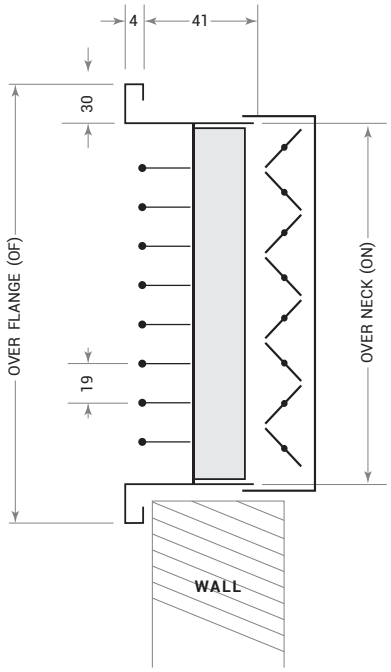
TECHNICAL CATALOGUE

Single & Double Deflection Grille

(TYPE DD & SD) Aluminium

DOUBLE DEFLECTION GRILLE





Double deflection supply air grilles manufactured of extruded type 50S anodising grade aluminium with individually adjustable front vertical and rear horizontal louvres held in place by starlock washers and spring wire.

The two sets of individually adjustable louvres - vertical and horizontal - with or without a damper attached, allow these grilles to provide maximum flexibility of adjustments for spread and throw requirements. The multi directional flexibility allows for multi-directional air supply. They are recommended for high sidewall, bulkhead or duct mounting and can be used for heating, cooling, or ventilating applications.

FEATURES & CONSTRUCTION

- All models feature two sets of individually adjustable blades - vertical and horizontal - spaced at 19mm apart, and fitted into a 20, 30 or 50mm frame.
- The optional opposed blade damper is constructed using extruded aluminium blades and frame.
- The individual blades are secured by corrosion resistant star lock washers with added adjusting tension supplied by corrosion resistant spring wire.
- All models can be furnished with powder coated white finish preceded by five stage preparation process of cleaning, phosphatizing and drying.
- Grilles can be supplied in natural anodised and white powder coated finishes.
- Other colours are available on request.

FRAME OPTIONS

- 30 (Standard)
- 20mm
- 50mm

FINISHING OPTIONS

- (NA) = Natural Anodised
- (EPC) = Powder Coated
- (WS) = Wet Spray

OPTIONAL EXTRAS

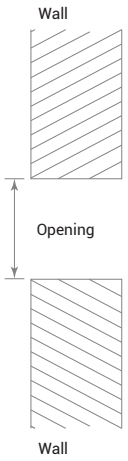
- OBD = Opposed Blade Damper
- PC = Punched counter sunk holes
- CF = Concealed Fixing

TERMINOLOGY

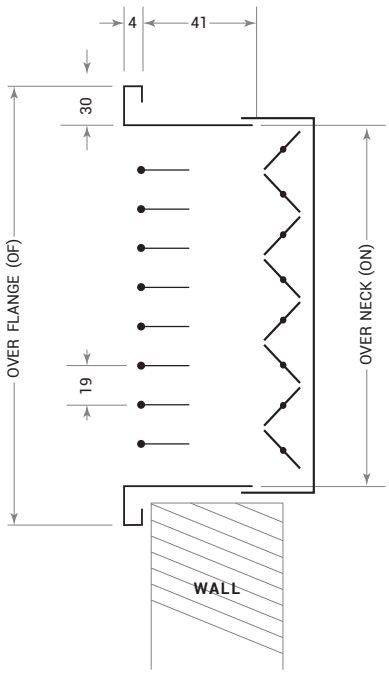
- OF = Over Flange
- ON = Over Neck
- HS = Hole Size
- NA = Natural Anodised
- PC = Powder Coated
- WS = Wet Spray

OTHER TERMINOLOGY

1.Clear Opening
2. Hole Size
3. Opening
4. Duct Size



SINGLE DEFLECTION GRILLE



These models have one set of individually adjustable blades on a horizontal plane to provide maximum throw requirements or on a vertical plane (on special request) to provide maximum spread adjustment. They are recommended for heating, cooling, and ventilating applications, generally mounted in a high sidewall, bulkhead or duct when either spread or throw only is important. The grilles are provided with or without an opposed blade damper. The adjustable blades are spaced at 19mm, but fixed blades with 13, 21 and 26mm spacing can be offered at special request.

FEATURES & CONSTRUCTION

- All models feature one set of individually adjustable blades of extruded aluminium set in a 20, 30 or 50mm extruded aluminium frame.
- An optional extra opposed blade damper is constructed of extruded aluminium blades can be supplied on request.
- All models can have a powder coated white surface finish preceded by five stage preparation process of cleaning, phosphatizing and drying.
- Other colours are available on request.
- Grilles can also be supplied in natural anodised finish.

OPTIONAL EXTRAS

- OBD = Opposed Blade Damper
- PC = Punched counter sunk holes
- CF = Concealed Fixing

TERMINOLOGY

- OF = Over Flange
- ON = Over Neck
- HS = Hole Size
- NA = Natural Anodised
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FRAME OPTIONS

- 30 (Standard)
- 20mm
- 50mm

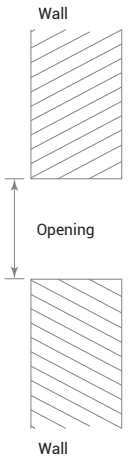
FINISHING OPTIONS

- (NA) = Natural Anodised
- (EPC) = Powder Coated
- (WS) = Wet Spray

NB : All dimensions for preparation of apertures must be confirmed with your sales representative prior to the work being done to avoid disappointments.

OTHER TERMINOLOGY

1.Clear Opening
2. Hole Size
3. Opening
4. Duct Size



NOMINAL SIZE		200 X 100			250. 100			300 X 100 200 X 150			400 X 100 250 X 150			500 X 100 300 X 150			350 X 150 250 X 200		
	CORE AREA Ca	0.015			0.02			0.024			0.032			0.038			0.044		
	DEFLECTION	0• 22½• 45•			0• 22½• 45•			0• 22½• 45•			0• 22½• 45•			0• 22½• 45•			0• 22½• 45•		
m³/s	Aj (m²)	0.011	0.01	0.008	0.014	0.014	0.011	0.018	0.017	0.013	0.023	0.022	0.017	0-028	0.027	0.021	0.032	0.031	0.024
0.024	Tp (Pa)	1.72	2.12	8.48	1.11	1.38	5.74												
	THROW (m)	2.1-4.0	1.5-3.0	1.2-2.1	1.7-3.6	1.4-2.7	0.9-2.2												
	VEL (m/s)	1.97	2.18	4.36	1.58	1.76	3.59												
	NS dB	*	*	*	*	*	*												
0.036	Tp (Pa)	3.87	4.77	19.09	2.5	3.11	12.92	1.74	2.18	9.33	1.14	1.45	6.78						
	THROW (m)	3-4.8	2.4-3.6	1.8-2.7	2.7-4.9	2.1-3.7	1.5-2.7	2.4-4.9	1.8-3.7	1.3-2.6	2.1-4.3	1.6-3.2	1.3-2.3						
	VEL (m/s)	2.9	5 3.27	6.65	2.37	2.64	5.39	1.98	2.21	4.58	1.6	1.8	3.9						
	NS dB	*	*	*	*	*	*	*	*	*	*	*	*						
0.047	Tp (Pa)	6.6	8.13	32.53	4.25	5.3	22.03	2.97	3.72	15.9	1.94	2.74	11.56	1.32	1.69	7.65			
	THROW (m)	4-5.6	3-4.2	2.1-3	3.6-5.3	2.7-4.3	2.1-3.1	3.6-5	2.5-4.3	1.8-3	2.7-5.5	2.05-4.3	1.6-3.1	2.4-5.2	1.8-4.1	1.2-2.7			
	VEL (m/s)	3.85	4.27	8.55	3.09	3.45	7.03	2.58	2.89	5.97	2.08	2.36	5.09	1.72	1.95	4.14			
	NS dB	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*			
0.060	Tp (Pa)	10.76	13.25		6.93	8.63	35.9	4.84	6.06	25.9	3.16	4.03	18.85	2.15	2.76	12.46	1.74	2.13	8.58
	THROW (m)	4.3-6.5	3.4-4.9		4.3-6.4	3.5-5	2.5-3.7	4-6.1	3-4.6	2.2-3.5	3.4-6.5	2.4-4.9	1.8-3.7	3-6.1	2.4-4.6	1.8-3.4	3.1-6.2	2.4-4.6	1.8-3.4
	VEL (m/s)	4.91	5.45		3.94	4.4	8.98	3.29	3.69	7.63	2.66	3.01	6.5	2.2	2.49	5.29	1.97	2.19	4.39
	NS dB	17	18		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
0.070	Tp (Pa)	14.64	18.04		9.44	11.75		6.58	8.25	35.26	4.3	5.48	25.65	2.93	3.76	16.96	2.36	2.9	11.68
	THROW (m)	4.9-6.5	3.7-5.5		4.9-7	3.7-5.5		4.8-7	3.7-7	2.7	4.2-6.7	3.4-5.2	2.3-3.7	4-6.7	3-5.2	2-3.8	3.7-6.8	2.7-5.2	2.1-3.7
	VEL (m/s)	5.73	6.36		4.6	5.14		3.84	4.3	8.9	3.11	3.51	7.59	2.56	2.9	6.17	2.3	2.55	5.12
	NS dB	23	24		18.4	19		*	*	*	*	*	*	*	*	*	*	*	*
0.083	Tp (Pa)	20.58	25.36		13.27	16.52		9.25	11.6		6.04	7.71	36.06	4.12	5.28	23.85	3.32	4.07	16.41
	THROW (m)	5.2-7.6	4-5.8		5.2-7.3	4-5.3		5-7.2	4-5.4		4-7.2	3.6-5.5	2.7-4	4.2-7.2	3.4-5.4	2.4-4	4-7.3	3.1-5.4	2.1-4
	VEL (m/s)	6.8	7.55		5.46	6.09		4.56	5.1		3.68	4.16	9	3.04	3.44	7.32	2.73	3.02	6.07
	NS dB	28	29		19	21		*	*		*	*	*	*	*	*	*	*	*
0.095	Tp (Pa)				17.38	21.64		12.12	15.2		7.91	10.1		5.4	6.92	31.24	4.35	5.33	21.5
	THROW (m)				5.4-7.9	4.3-6.1		5.4-7.9	4.3-6.1		5.4-8	4.3-6.1		5.2-7.9	4-6	2.6-4.2	4.9-8	3.7-6	2.7-4.2
	VEL (m/s)				6.25	6.97		5.22	5.84		4.21	4.76		3.48	3.94	8.37	3.13	3.46	6.95
	NS dB				24	25		18	19		*	*		*	*	*	*	*	*
0.106	Tp (Pa)				21.64	26.94		15.09	18.93		9.85	12.58		6.72	8.61	38.89	5.42	6.64	26.77
	THROW (m)				6.1-8.5	4.5-6.7		5.8-8.5	4.5-6.7		5.8-8.5	4.5-6.7		5.7-8.4	4.5-6.7	3-4.6	5.5-8.8	4.2-6.8	3-4.5
	VEL (m/s)				6.97	7.78		5.82	6.52		4.7	5.31		3.88	4.4	9.34	3.49	3.86	7.75
	NS dB				29	30		23	24		16	17		*	*	*	*	*	*
0.118	Tp (Pa)				26.81	33.38		18.71	23.45		12.21	15.59		8.33	10.67		6.71	8.23	33.18
	THROW (m)				6.4-8.8	4.9-6.6		6-8.9	4.5-6.7		6-8.9	4.6-6.6		6-9	4.7-6.8		6-9	4.7-6.7	3.4-4.9
	VEL (m/s)				7.76	8.66		6.48	7.26		5.23	5.91		4.32	4.89		3.88	4.3	8.63
	NS dB				35	36		25	26		18	19		*	*		*	*	*
0.131	Tp (Pa)							23.05	28.91		15.05	19.21		10.26	13.15		8.27	10.14	40.89
	THROW (m)							6.7-9.5	5.1-7.3		6.4-9	5-7		6.4-9.5	5-7.3		6.7-9	5.2-7	3.7-5.1
	VEL (m/s)							7.19	8.06		5.81	6.57		4.8	5.43		4.31	4.77	9.58
	NS dB							29	30		21	22		17	23		*	*	*
0.141	Tp (Pa)							26.71	33.49		17.43	22.25		11.89	15.24		9.58	11.75	
	THROW (m)							7-9.8	5.5-7.5		6.7-9.9	5.1-7.6		6.7-9.9	5-7.5		6.7-10	5.7-5	
	VEL (m/s)							7.74	8.67		6.25	7.07		5.17	5.85		4.64	5.14	
	NS dB							34	35		24	25		19	19		17	20	
0.165	Tp (Pa)										23.87	30.47		16.28	20.86		13.12	16.09	
	THROW (m)										7-10.3	5.6-8.2		7.3-10.4	5.4-8		7.3-10.4	5.5-8	
	VEL (m/s)										7.32	8.27		6.05	6.84		5.43	6.01	
	NS dB										29	30		24	25		20	21	
0.187	Tp (Pa)										39.4	39.14		26.88	26.8		21.67	20.67	
	THROW (m)										8-11.3	6-8.5		8-11.3	6-8.5		8-11.3	6-8.6	
	VEL (m/s)										9.4	9.37		7.77	7.76		6.97	6.81	
	NS dB										35	36		28	29		24	25	
0.212	Tp (Pa)													33.31	34.44		26.85	26.57	
	THROW (m)													8.5-12	6.7-9		8.5-12	6.7-9	
	VEL (m/s)													8.65	8.79		7.76	7.72	
	NS dB													33	34		28	29	
0.236	Tp (Pa)													40.74	42.68		32.84	32.92	
	THROW (m)													8.9-12.7	6.7-9.8		8.9-12.9	6.7-9.9	
	VEL (m/s)													9.56	9.79		8.59	8.6	
	NS dB													38	39		32	33	
0.261	Tp (Pa)																38.88	40.27	
	THROW (m)																9-13.5	7-10.5	
	VEL (m/s)																9.34	9.51	
	NS dB																37	38	

NS = sound rating from sound power clap assuming RA = 8dB
CA = core area in m².
Aj = effective area of throw in m/s.
Tp = static pressure + the duct velocity pressure in Pa.
= Total pressure in Pa.
Throw = distance tp point of max. air stream velocity at 0.Sm/s and to 0.25m/s

Normal Size		300 x 400 800 x 150	300 x 250 375 x 200 500 x 150	300 x 300 360 x 250 450 x 200 600 x 150	350 x 300 420 x 250 825 x 200 700 x 150	400 x 300 480 x 250 600 x 200	450 x 350 525 x 300 750 x 200 750 x 200
	Core Area	0.01	0.08	0.09	0.11	0.12	0.16
	Deflection	-'0 22½ 45-	'0- 22½ 45-	'0- 22½ 45-	'0- 22½ 45-	'0- 22½ 45-	'0- 22½ 45-
m³/s	Aj (m³)	0.07 0.064 0.03	0.045 0.04 0.019	0.054 0.048 0.022	0.062 0.056 0.026	0.071 0.064 0.03	0.093 0.083 0.038
0.070	Tp (Pa) Throw (m) Vel (m/s) NS dB	0.43 0.54 2.5 3.4-6.4 2.4-4.8 1.8-3.8 9.98 1.1 3.27 * * *					
0.083	Tp (Pa) Throw (m) Vel (m/s) NS dB	0.6 0.75 3.51 3.7-7.3 3 -5.6 2.1 -4 1.16 1.3 2.81 * * *	1.53 1.9 8.58 3.5 -6.8 2.5-5.2 1.8 -3.8 1.85 2.07 4.39 * * *				
0.095	Tp (Pa) Throw (m) Vel (m/s) NS dB	0.79 0.99 4.6 4.3-8 3.5-6.2 2.5-4.3 1.33 1.49 3.21 * * *	2 2.49 11.25 4-7.6 3-5.8 2.1-4.3 2.12 2.36 5.02 * * *	1.4 1.74 7.97 3.7-7.3 2.7-5.5 2.1-4 1.77 1 98 4.23 * * *		Aj Register With ODB '0- 22½ 45 - . 73CA .70CA .55CA Aj Register Without ODB .79CA .74CA .58CA Throw 100% 77% 55% Straight Straight C Pressure 1.341 1.315 Basic Formula m³/s = V x Aj V = C	
0.106	Tp (Pa) Throw (m) Vel (m/s) NS dB	0.98 1.23 5.73 5-8.2 3.4-6.7 2.4-4.6 1.48 1.66 3.59 * * *	2.5 3.1 14 4.4 -8.5 3.4-6.7 2.4-4.5 2.37 2.64 5.61 * * *	1.74 2.17 9.92 4-7.9 3.-6 2 -4.3 1.97 2.2 4.72 * * *	1.28 1.6 7.4 3.8-7.4 2.8-5.5 2.1-4 1.69 1.89 4.07 * * *		
0.118	Tp (Pa) Throw (m) Vel (m/s) NS dB	1.21 1.52 7.1 5.6 -9 4.4-6.5 3-5 1.65 1.85 3.99 * * *	3.09 3.84 17.35 5-9 3.8-6.9 2.7-5 2.63 2.94 6.24 * * *	2.15 2.68 12.3 4.7 -9 3.7-6.8 2.7-5 2.2 2.45 5.25 * * *	1.58 1.98 9.17 4.4 -8.2 3.4-6.4 2.4-4.6 1.89 2.11 4.54 * * *		
0.131	Tp (Pa) Throw (m) Vel (m/s) NS dB	1.5 1.87 8.75 5.8 -9 4.6 -7 3-5.2 1.83 2.05 4.43 * * *	3.81 4.73 21.38 5.2 -9 4 -7 2.8-5.2 2.95 3.36 6.93 * * *	2.65 3.31 15.15 5-9.7 3.7-7.3 2.7 -5.2 2.44 2.71 5.83 * * *	1.95 2.44 11.3 4-6.9 3.7 -7 2.4 -5.2 2.09 2.34 5.04 * * *	1.51 1.86 8.52 4.3 -8.3 3.4-6.5 2.4-4.6 1.84 2.94 4.37 * * *	
0.165	Tp (Pa) Throw (m) Vel (m/s) NS dB	2.37 2.97 13.88 7.3 -10 5.5-8.2 4 -5.9 2.31 2.58 5.58 17 18 23	6.05 7.51 33.93 6.7 10. 4.5.2-7.8 3.7-5.8 3.68 4.11 8.73 * * *	4.21 5.25 24.04 6.1 -10.4 4.6 -7.9 3.4 -5.8 3.07 3.43 7.35 * * *	3.1 3.87 17.92 5.9-10.4 4.6-7.8 3-5.9 2.64 2.95 6.34 * * *	2.4 2.95 13.52 5.2 -10.4 4-8 2.8-5.9 2.32 2.57 5.51 * * *	1.4 1.74 8.21 4.6 -9.6 3.7 -7.3 2.4-5.2 1.77 1.97 4.29 * * *
0.187	Tp (Pa) Throw (m) Vel (m/s) NS dB	3.05 3.82 17.82 8-11.3 6-8.6 4.3-6 2.62 2.93 6.32 20 21 26	7.77 9.65 43.58 8-11.3 6-8.6 4.3-6 4.18 4.65 9.89 16 17 22	5.41 6.74 30.88 7-11 5.6 -8.5 4 -6.1 3.48 3.89 8.33 * * *	3.98 4.97 23.02 6.7-11.3 5.2 -8.5 3.7-6.1 2.99 3.34 7.19 * * *	3.08 3.79 17.37 6.1-11.3 4.6-8.5 3.4-6.1 2.63 2.92 6.24 * * *	1.8 2.23 10.54 5.1-10.3 4 -8 2.7-5.8 2.01 2.24 4.86 * * *
0.212	Tp (Pa) Throw (m) Vel (m/s) NS dB	3.92 4.91 8.1-12 6.5 -9.1 2.97 3.32 23 24	9.98 12.4 8.5 -11.9 6.7-9 4.73 5.28 19 20	6.95 8.66 39.69 8-12 6 -9 4.3 -6.4 3.95 4.41 9.44 * * *	5.11 6.39 29.59 7.6-12 5.8-9.1 4.3 -6.4 3.39 3.79 8.15 * * *	3.95 4.87 22.33 6.7-12 5.2-9 3.7-6.4 2.98 3.31 7.08 * * *	2.31 2.86 13.55 6-12 4.6 -9 3.4-6.4 2.28 2.54 5.51 * * *
0.236	Tp (Pa) Throw (m) Vel (m/s) NS dB	4.86 6.08 8.8 -12.5 6.6 -10 3.3 3.7 27 28	12.37 15.37 8.8-12.6 6.7-10 5.27 5.87 22 23	8.61 10.73 8.5 -12.6 6.7 -9.7 4.4 4.91 17 18	6.34 7.92 36.67 8.3-12.6 6.1-10 4.6-7.1 3.77 4.22 9.07 * * *	4.9 6.04 27.67 7.3-12.6 5.6-10 4-7 3.32 3.68 7.88 * * *	2.87 3.53 16.79 6.7-12.6 5.3 -10 3.7 -7 2.54 2.82 6.14 * * *
0.261	Tp (Pa) Throw (m) Vel (m/s) NS dB	5.94 7.44 9-13 7-10 3.65 4.09 30 31	15.13 18.79 9-13 7 -10.1 5.83 6.5 24 25	10.53 13.13 9.1 -13.1 7 -10.1 4.96 5.43 20 21	7.75 9.69 9.1 -13.1 7 -10.1 4.17 4.66 16 17	5.99 7.38 33.84 8.3-13.2 5 -10.2 4.7 -7.4 3.6 4.07 8.72 * * *	3.5 4.34 20.53 7.4-13.2 5.6-10.2 4.1-7 2.8 3.12 6.79 * * *
0.284	Tp (Pa) Throw (m) Vel (m/s) NS dB	7.03 8.81 9.9 -13.8 7.7-10.8 3.97 4.45 32 33	17.91 22.25 9.6 -13.8 7 3-10.7 6.34 7.07 27 28	12.47 15.53 9.9 -13.8 8.7 -10.7 5.29 5.91 22 23	9.18 11.47 9.9 -14 7.6-10.7 4.54 5.07 19 20	7.1 8.74 40.07 8.9-13.7 6.8-10.8 5 -7.7 3.99 4.43 9.48 * * *	4.15 5.14 24.31 8-13.8 6 -10.6 4.4 -7.7 3.05 3.4 7.39 * * *
0.331	Tp (Pa) Throw (m) Vel (m/s) NS dB	9.55 11.97 10 -14.9 8 -11.6 4.63 5.18 38 39	24.33 30.23 10.4 -15 8 -11.7 7.39 8.24 32 33	16.94 21.12 10.4 -15 8 -11.7 6.17 6.88 26 27	12.46 15.58 10.4 -15 8 -11.7 5.29 5.91 23 24	9.64 11.88 10.7-15 8.3 -11.6 4.65 5.16 18 19	5.64 6.98 33.02 9-15 7-11.7 5.3-8.3 3.56 3.96 8.61 * * *
0.380	Tp (Pa) Throw (m) Vel (m/s) NS dB		32.07 39.84 11.3 -16 8.6 -12 8.48 9.46 37 38	22.32 27.83 11.4 -16.8 8.6 -12.3 7.08 7.9 31 32	16.43 20.53 11 -16 8.6 -12.3 6.07 6.79 27 28	12.7 15.65 11.4 -16 8.6 -12.4 5.34 5.93 22 23	7.43 9.2 43.52 10.7-16 8.3-12.3 5.8-8.9
0.424	Tp (Pa) Throw (m) Vel (m/s) NS dB			27.79 34.65 12 -16 9 -12.8 7.9 8.82 35 36	20.45 25.56 12 -16 9.1 -12.8 6.78 7.57 31 31	15.82 19.49 11.7 -17 8.9 -12.8 5,96 6.61 25 26	9.25 11.46 11.7-17 9 -12.9 4.56 5.07 20 21
0.473	Tp (Pa) Throw (m) Vel (m/s) NS dB			34.58 43.12 12.6 -18 9.8 -14 8.81 9.84 39 40	25.45 31.81 12.6 -17.8 9.9 -13.8 7.56 8.45 35 36	19.68 24.25 12.5 -17 9.9 -13.8 6.65 7.38 28 39	11.51 14.26 12.6-17.8 9.9 -13.8 5.08 5.66 23 24

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