

# FlowBar High Capacity Slot Diffusers

Model HT (High Throw)  
Model JT (Jet Throw)

## Features

- HT and JT
- 38mm or 51mm slot widths
- Ceiling or Sidewall Applications
- Modular or Continuous Lengths
- Curved Sections
- Corner Pieces
- Adjustable Discharge Pattern
- Secret Fixing
- Matching Plenum Boxes



# Air Diffusion

Grilles Diffusers Chilled Beams

Ruskin Air Management Limited  
[www.ruskinuk.co.uk](http://www.ruskinuk.co.uk)

### FlowBar Linear Slot Diffusers



FlowBar is a registered trademark of Air Systems Components, INC,

## Contents

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	<b>Page</b>
Introduction	Page 4
Diffuser Specification	Page 5
Air Patterns	Page 6
Flange Styles	Page 7
Corner Sections	Page 8
Performance Data	Page 9 - 12
Standard Fixing Details	Page 13
Dimensions - Diffuser	Page 14
Installation Details	Page 15 - 18
Ordering Information - Diffusers	Page 19
Plenum Boxes	Page 20
Dimensions - Plenum Boxes	Page 21 - 22
Order Information - Plenum Boxes	Page 23

## Introduction

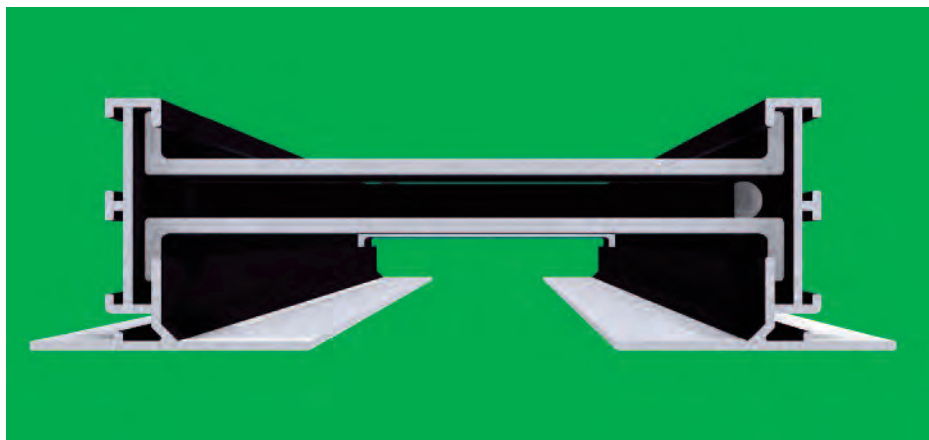
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Air Diffusion's FlowBar is an architecturally designed high capacity linear slot diffuser. It is designed to combine a very high air handling capacity with maximum flexibility and is suitable for either ceiling or sidewall applications. The flexibility of the system can blend into a design or provide contrast with its striking but simple design.

FlowBar is a flexible system that can provide straight lines or curves to blend with other architectural elements and enhance the overall concept of the project.

### FlowBar Key Features

- High capacity single slot diffuser available in two slot widths of 38mm and 51mm.
- Surface mounted and plasterframe border frames available.
- Choice of HT (High Throw) series horizontal or JT (Jet Throw) series vertical air patterns.
- Options include:
  - Mitred corners, curved, tee and cross piece sections.



Ceiling Mounted High Throw



Wall Mounted Jet Throw

## Specification Diffuser Model High Throw (HT) Series

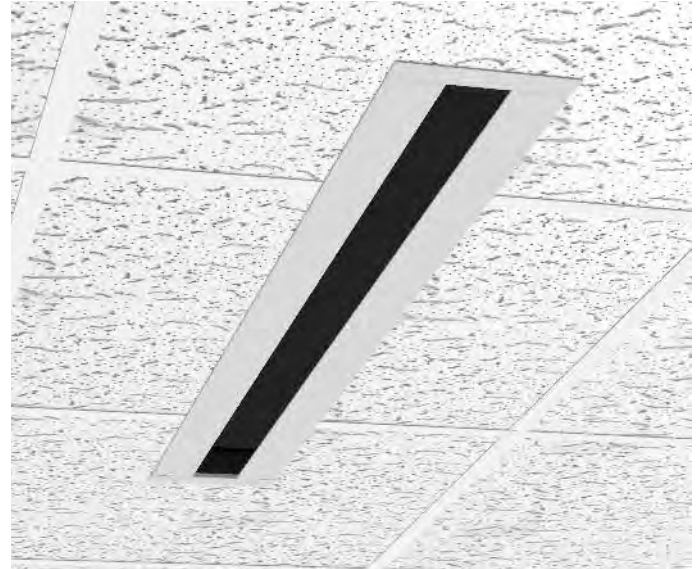
### Models: - FL-15-HT

- 38mm slot

### Models: - FL-20-HT

- 51mm slot
- The FlowBar HT series is primarily designed for ceiling applications and allows the air diffuser to become inconspicuous, whilst fully integrating in to the ceiling system.
- The FlowBar systems satisfy both the Architects and Engineer's requirements for designing an air distribution system that will maintain optimum room air conditions whilst being efficient yet inconspicuous.

- Integral pattern controllers are 600mm in length allowing the airstream to be directed left and right for horizontal and vertical airflow.
- Standard slot sizes are 38mm and 51mm with single section lengths available up to 2400mm.
- Frame styles 66 (surface mounted) and 22 (plasterframe border) are available as standard. (Other frame/border style options are available)
- Factory engineered plenum boxes are available, which ensure a trouble free installation and that stated catalogue performance data is met.



## Specification Diffuser Model Jet Throw (JT) Series

### Models:- FL-15-JT

- 38mm Slot

### Models:- FL-20-JT

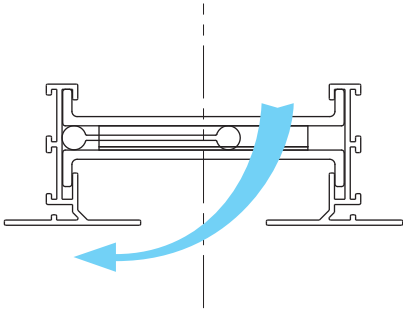
- 51mm Slot
- The FlowBar JT series have Jet Throw pattern flow controllers to allow the airstream to be jetted in a horizontal direction (sidewall mounted) whilst fully integrating into the wall system.
- The FlowBar systems satisfies both the architectural and engineering requirements for design of an air distribution system that will maintain optimum room air conditions whilst becoming an integral component of the architectural concept of the project.
- Integral pattern controllers are 600mm in length allow the airstream to be directed left or right (ceiling application) and up and down (sidewall application)

- Jet Throw pattern controllers allow extended throws in typical high bay applications for heated and/or cooled air.
- Jet Throw pattern controllers are useful along perimeter walls where heated air can be directed downward.
- Standard slot sizes are 38mm and 51mm with single section lengths available up to 2400mm.
- Frame styles 66 (surface mounted) and 22 (plasterframes) are available as standard (other frame/border styles options are available).
- Factory engineered plenum boxes are available, which ensure a trouble free installation and that stated catalogue performance data is met.

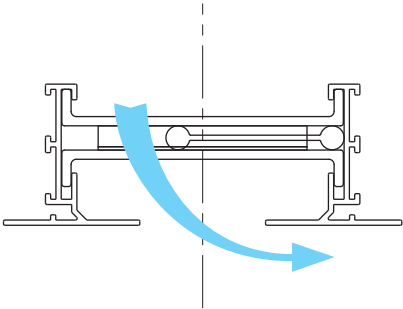


## Air Patterns

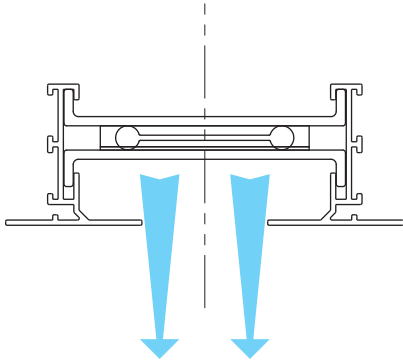
Model High Throw (HT) Ceiling Mounted



Horizontal Left

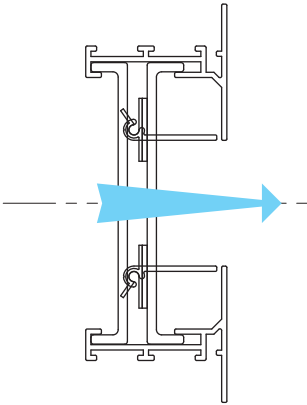


Horizontal Right

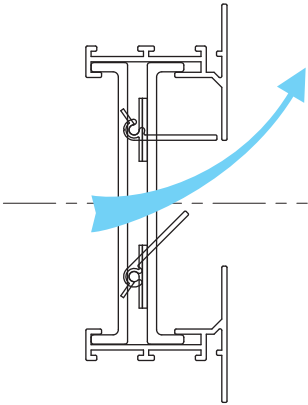


Vertical

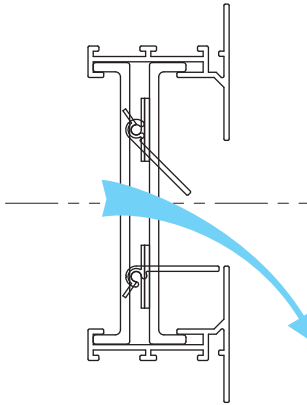
Model Jet Throw (JT) Sidewall Mounted



Horizontal



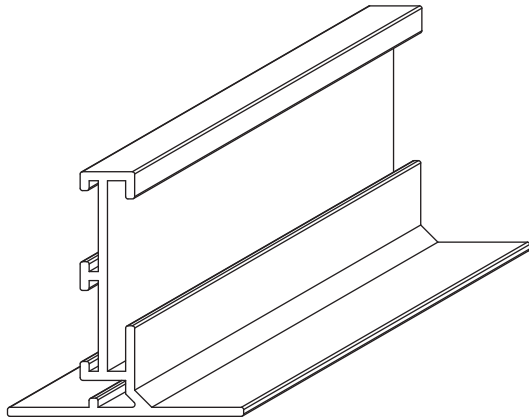
Upward



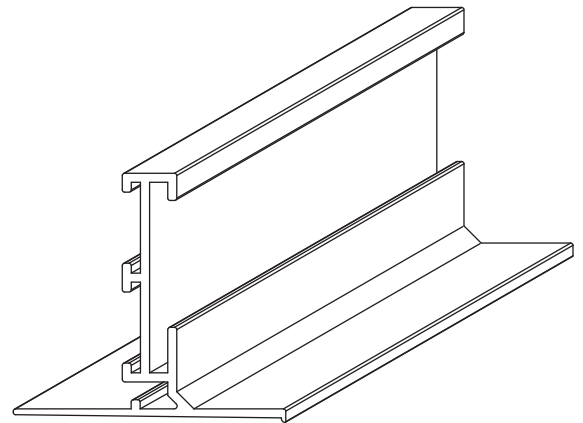
Downward

# Flange Styles

## Standard Types 66 and 22

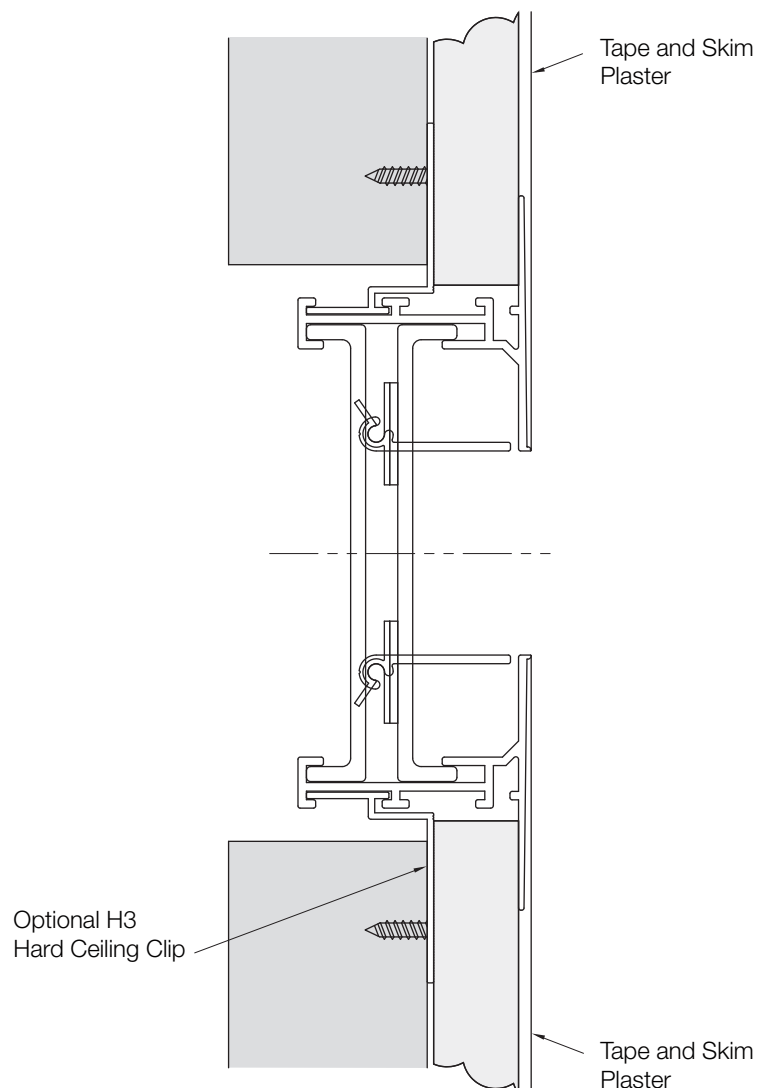
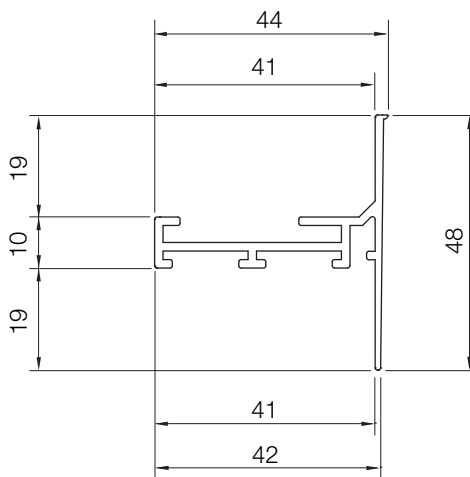


Type 66 (Standard)  
Surface Mounting



Type 22 (Standard)  
Plaster Frame

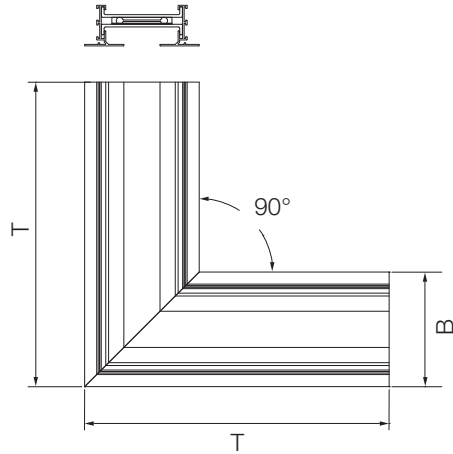
## Standard Type 22 Plaster Frame Installation



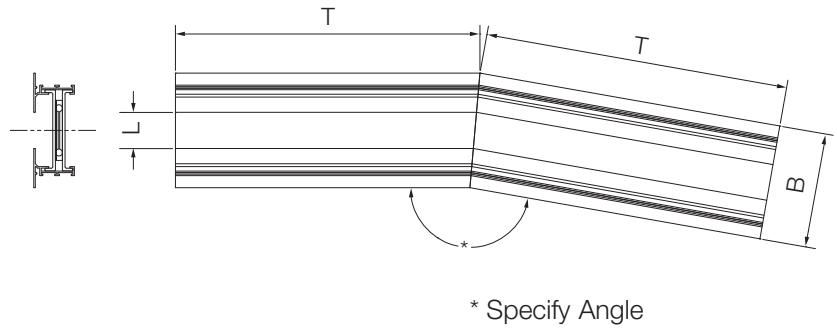
### Corner Sections

All dimensions shown are in mm.

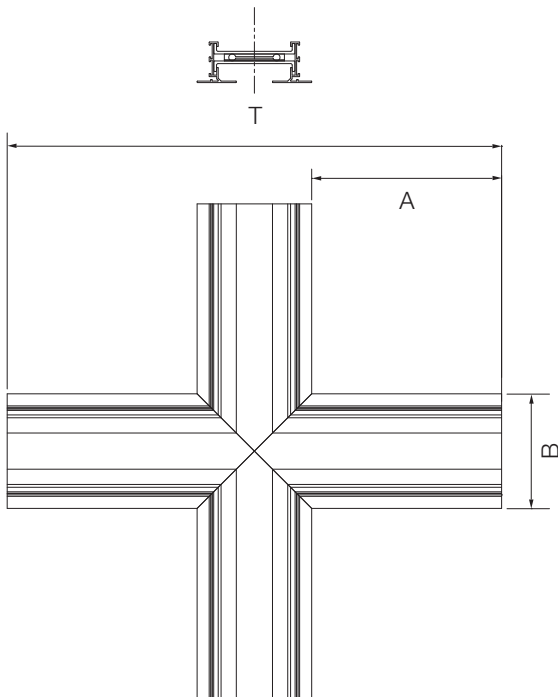
#### 90° Mitred Corner



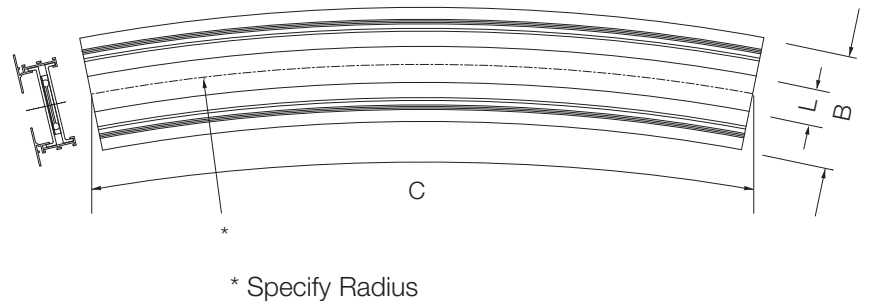
#### Multidirection Supply



#### Crosspiece



#### Curved Supply



B = Overall width  
 T = Overall length  
 C = Overall Arc length  
 L = Slot width  
 A = 300mm Minimum

All above configurations available with Type 66 (Surface) and Type 22 (Plaster) flanges.

#### 90° Mitred Corner

Slot/Style	Width	T	B
Border 66	38mm	200	121
Border 22	38mm	200	133
Border 66	51mm	200	146
Border 22	51mm	200	158

#### Multidirection Supply

Slot/Style	Width	T	B
Border 66	38mm	200	121
Border 22	38mm	200	133
Border 66	51mm	200	146
Border 22	51mm	200	158

#### Crosspiece

Slot/Style	Width	T	B	A
Border 66	38mm	399	121	300
Border 22	38mm	Not Available		
Border 66	51mm	424	146	300
Border 22	51mm	Not Available		

# FlowBar Slot Diffuser Performance Data - High Throw (HT)

## FlowBar with Continuous Slot Plenum - High Throw (HT) - Data based on active section 1200 long

### FL-15

38mm Slot Width 1 - Slot	Air Flow, l/s-m	43	65	86	108	129	151	173
	Static Pressure, Pa	8	18	32	51	73	99	129
	NC (Noise Criteria)	<10	14	24	31	37	42	48
	Throw, m	1.8 - 3 - 5	3 - 4.3 - 5.8	4 - 5 - 6.8	4.3 - 5.5 - 7.5	5 - 5.8 - 8.3	5.3 - 6.5 - 8.8	5.5 - 6.8 - 9.8

### FL-20

51mm Slot Width 1 - Slot	Air Flow, l/s-m	43	72	101	129	158	187	216
	Static Pressure, Pa	5	14	28	46	68	95	127
	NC (Noise Criteria)	<10	11	22	30	36	41	46
	Throw, m	1.5 - 2.8 - 5	2.8 - 4.3 - 6	4 - 5.3 - 7.3	5 - 5.8 - 8.3	5.3 - 6.5 - 9.3	5.8 - 7 - 10	6 - 7.5 - 10.8

**Table A. NC Correction for Length**

Length, mm	600	1200	1800	2400	3000
Supply	-3	0	+2	+3	+5
Return	0	+3	+5	+6	+8

All pressures are given in Pascal (Pa)

Pressure loss data assumes a duct velocity less than 4 m/sec in the inlet duct  
Isothermal throw values are given for terminal velocities of .8, .5, and .3 m/sec.

Throw data are based on active sections 1200mm active section. For a 600mm section, the throw values are 0.72 times those shown. For a 3000mm continuous length, the throw values are 1.7 times those shown, 1.8 for 3600mm units.

**Table B. NC Correction Multiplier for Length**

Length, mm	600	1200	2400	3000	3600
Throw Correction	0.72	1	1.5	1.7	1.8

Each NC value represents the noise criteria curve which will not be exceeded by the sound pressure in any of the octave bands, 2nd through 7th, with a room absorption of 10dB, re 10<sup>-12</sup> Watts, for a 1200mm section. (See Table A for other lengths.) For supply units used as a return, add 3 NC.

The tests were conducted with no Plenum effect for pressure or sound.

Throw values for High Throw units are based on a 1-way discharge from the slot.

Throws listed are for the 1-way air pattern. For divided airflow, select the airflow in each direction according to the number of slots aimed in that direction, with the total airflow apportioned between slots.

## FlowBar with Air Diffusion Plenum Box - High Throw (HT)

### FL-15 with 150mm inlet

38mm Slot Width 1 - Slot	Length 600mm	Air Flow, l/s	19	33	47	61	76	90	104
		Total Pressure, Pa	4	13	26	45	68	96	128
		Static Pressure, Pa	4	11	22	38	57	81	109
		NC (Noise Criteria)	< 10	< 10	16	25	33	40	46
		Throw, m	0.5 - 1.5 - 2.8	1.5 - 2.5 - 3.8	2.5 - 3 - 4.3	2.8 - 3.8 - 5	3.3 - 4 - 5.5	3.3 - 4.3 - 6	3.8 - 4.5 - 6.5
	Length 1200mm	Air Flow, l/s	38	57	76	94	113	132	151
		Total Pressure, Pa	6	14	25	39	56	76	99
		Static Pressure, Pa	4	8	14	22	32	44	57
		NC (Noise Criteria)	< 10	< 10	12	20	27	33	38
		Throw, m	1 - 1.8 - 4	1.8 - 3 - 5	2.8 - 4 - 5.5	3.3 - 4.3 - 6	4 - 5 - 6.8	4.3 - 5.3 - 7.3	4.5 - 5.5 - 8
	Length 1500mm	Air Flow, l/s	42	66	90	113	137	160	184
		Total Pressure, Pa	6	15	28	44	64	88	116
		Static Pressure, Pa	3	7	13	21	30	42	55
		NC (Noise Criteria)	< 10	< 10	12	20	27	33	39
		Throw, m	1 - 1.8 - 4	1.8 - 3 - 5.3	2.8 - 4.3 - 6	3.3 - 5 - 6.8	4.3 - 5.3 - 7.3	4.5 - 5.8 - 8.3	5 - 6 - 8.5

### FL-20 with 200mm inlet

51mm Slot Width 1 - Slot	Length 600mm	Air Flow, l/s	24	40	57	73	90	106	123
		Total Pressure, Pa	4	11	22	37	56	78	104
		Static Pressure, Pa	4	10	20	34	51	71	95
		NC (Noise Criteria)	< 10	< 10	12	21	28	35	40
		Throw, m	0.5 - 1.5 - 3	1.8 - 2.8 - 4	2.5 - 3.3 - 5	3 - 4 - 5.5	3.3 - 4.3 - 6	3.8 - 4.5 - 6.8	4 - 5 - 7
	Length 1200mm	Air Flow, l/s	42	71	99	127	156	184	212
		Total Pressure, Pa	4	11	21	35	52	73	97
		Static Pressure, Pa	3	8	16	26	38	54	71
		NC (Noise Criteria)	< 10	< 10	20	29	36	42	48
		Throw, m	1 - 1.8 - 4	2.3 - 3.3 - 5.5	3 - 4.5 - 6.5	4 - 5.3 - 7.3	4.5 - 5.5 - 8	5 - 6 - 8.5	5.5 - 6.8 - 9.5
	Length 1500mm	Air Flow, l/s	47	78	109	139	170	201	231
		Total Pressure, Pa	4	10	19	31	46	64	85
		Static Pressure, Pa	2	6	12	20	29	41	54
		NC (Noise Criteria)	< 10	< 10	19	28	36	42	47
		Throw, m	0.5 - 1.5 - 4	1.8 - 3 - 5.5	3 - 4.5 - 6.8	4 - 5.3 - 7.5	4.5 - 5.8 - 8.3	5.3 - 6.5 - 9.3	5.5 - 7 - 9.8

### FlowBar Slot Diffuser Performance Data - High Throw (HT)

#### FlowBar with Air Diffusion Plenum Box - High Throw (HT)

##### FL-15 with 200mm inlet

38mm Slot Width 1 - Slot	Length 600mm	Air Flow, l/s	19	33	47	61	76	90	104
		Pressure, Pa	4	12	24	40	61	86	115
		Static Pressure, Pa	4	11	22	38	57	81	109
		NC (Noise Criteria)	< 10	< 10	14	24	32	38	45
		Throw, m	0.5 - 1.5 - 2.8	1.5 - 2.5 - 3.8	2.5 - 3 - 4.3	2.8 - 3.8 - 5	3.3 - 4 - 5.5	3.3 - 4.3 - 6	3.8 - 4.5 - 6.5
	Length 1200mm	Air Flow, l/s	38	61	85	109	132	156	179
		Total Pressure, Pa	4	12	22	36	54	75	99
		Static Pressure, Pa	4	9	18	30	44	61	81
		NC (Noise Criteria)	< 10	< 10	15	24	32	38	43
		Throw, m	1 - 1.8 - 4	2.3 - 3 - 5	3 - 4.3 - 5.8	3.8 - 4.5 - 6.8	4.3 - 5.3 - 7.3	4.5 - 5.5 - 8	5 - 6 - 8.5
	Length 1500mm	Air Flow, l/s	42	71	99	127	156	184	212
		Total Pressure, Pa	4	11	21	35	53	74	99
		Static Pressure, Pa	3	8	16	26	39	55	73
		NC (Noise Criteria)	< 10	< 10	14	24	31	37	43
		Throw, m	1 - 1.8 - 4	2.3 - 3.3 - 5.5	3 - 4.5 - 6.5	4 - 5.3 - 7.3	4.5 - 5.5 - 8	5 - 6 - 8.5	5.5 - 6.8 - 9.5

##### FL-20 with 300mm inlet

51mm Slot Width 1 - Slot	Length 600mm	Air Flow, l/s	24	42	61	80	99	118	137
		Total Pressure, Pa	4	12	24	41	63	90	121
		Static Pressure, Pa	4	11	24	41	62	88	119
		NC (Noise Criteria)	< 10	< 10	< 10	13	20	27	32
		Throw, m	0.5 - 1.5 - 3	1.8 - 2.8 - 4.3	2.8 - 3.8 - 5	3.3 - 4 - 5.8	3.8 - 4.5 - 6.5	4 - 5 - 7	4.3 - 5.3 - 7.3
	Length 1200mm	Air Flow, l/s	42	78	113	149	184	219	255
		Total Pressure, Pa	3	10	22	37	57	82	110
		Static Pressure, Pa	3	10	20	35	54	76	103
		NC (Noise Criteria)	< 10	< 10	13	23	31	37	43
		Throw, m	1 - 1.8 - 4	2.5 - 3.8 - 5.5	3.3 - 5 - 6.8	4.5 - 5.5 - 8	5 - 6 - 8.5	5.5 - 6.8 - 9.5	5.8 - 7.3 - 10
	Length 1500mm	Air Flow, l/s	47	90	132	175	217	260	302
		Pressure, Pa	3	9	20	34	53	76	103
		Pressure, Pa	2	8	18	31	48	68	92
		NC (Noise Criteria)	< 10	< 10	15	25	33	39	45
		Throw, m	0.5 - 1.5 - 4	2.5 - 3.8 - 6	3.8 - 5.3 - 7.3	5 - 6 - 8.5	5.5 - 6.8 - 9.5	5.8 - 7.3 - 10.3	6.5 - 8 - 11

All pressures are given in Pascal (Pa)

Isothermal throw values are given for terminal velocities of .8, .5, and .3 m/sec.

Each NC value represents the noise criteria curve which will not be exceeded by the sound pressure in any of the octave bands, 2nd through 7th, with a room absorption of 10dB, re 10<sup>-12</sup> Watts.

The tests were conducted with the FlowBar and plenums as a composite assembly.

Plenums not provided by Air Diffusion may demonstrate performance variations from data published by Air Diffusion.

Air Diffusion cannot validate performance if a factory engineered plenum is not provided.

Throw values for High Throw units are based on a 1-way discharge from the slot.

Throws listed are for the 1-way air pattern. For divided airflow, select the airflow in each direction

according to the number of slots aimed in that direction, with the total airflow apportioned between slots.

# FlowBar Slot Diffusers Performance Data - Jet Throw (JT)

## FlowBar with Continuous Slot Plenum - Jet Throw (JT) - Data based on active section 1200 long

### FL-15

38mm Slot Width 1 - Slot	Air Flow, l/s-m	46	93	139	186	232	279	325
	Static Pressure, Pa	2	8	18	31	49	70	95
	NC (Noise Criteria)	<10	<10	13	22	28	34	40
	Throw, m	0.5 - 1.3 - 2.3	1.5 - 2.3 - 4.5	2.3 - 3.3 - 6.8	3 - 4.5 - 8	3.8 - 5.5 - 9.3	4.5 - 6.8 - 9.8	5.3 - 7.5 - 10.8

### FL-20

51mm Slot Width 1 - Slot	Air Flow, l/s-m	54	116	178	240	302	364	426
	Static Pressure, Pa	1	7	15	28	44	64	88
	NC (Noise Criteria)	<10	18	24	28	32	37	40
	Throw, m	0.3 - 1 - 2.3	1.5 - 2.5 - 4.5	2.5 - 3.8 - 7	3 - 5 - 9.3	4 - 6 - 10.3	5 - 7.3 - 11.3	5.5 - 8.5 - 12.3

**Table A. NC Correction for Length**

Length, mm	600	1200	1800	2400	3000
Supply	-3	0	+2	+3	+5
Return	0	+3	+5	+6	+8

All pressures are given in Pascal (Pa)

Pressure loss data assumes a duct velocity less than 4 m/sec in the inlet duct  
Isothermal throw values are given for terminal velocities of .8, .5, and .3 m/sec.

Throw data are based on active sections 1200mm active section. For a 600mm section, the throw values are 0.72 times those shown. For a 3000mm continuous length, the throw values are 1.7 times those shown, 1.8 for 3600mm units.

**Table B. NC Correction Multiplier for Length**

Length, mm	600	1200	2400	3000	3600
Throw Correction	0.72	1	1.5	1.7	1.8

Each NC value represents the noise criteria curve which will not be exceeded by the sound pressure in any of the octave bands, 2nd through 7th, with a room absorption of 10dB, re 10<sup>-12</sup> Watts, for a 1200mm section. (See Table A for other lengths.) For supply units used as a return, add 3 NC.

The tests were conducted with no Plenum effect for pressure or sound.

Throw values for Jet Throw units are based on the pattern controller set at 0° discharge vertical flow.

Throws listed are for the 1-way air pattern. For divided airflow, select the airflow in each direction according to the number of slots aimed in that direction, with the total airflow apportioned between slots.

## FlowBar with Diffuser Plenum Box - Jet Throw (JT)

### FL-15 with 200mm inlet

38mm Slot Width 1 - Slot	Length 600mm	Air Flow, l/s	28	52	76	99	123	146	170
		Total Pressure, Pa	3	11	24	42	64	91	122
		Static Pressure, Pa	2	7	14	24	37	52	70
		NC (Noise Criteria)	< 10	< 10	< 10	16	24	31	37
		Throw, m	0.3 - 1 - 1.5	1 - 1.5 - 2.8	1.5 - 2.3 - 4.3	1.8 - 2.8 - 5.3	2.3 - 3.3 - 5.8	2.8 - 4 - 6.5	3 - 4.5 - 7
38mm Slot Width 1 - Slot	Length 1200mm	Air Flow, l/s	57	85	113	142	170	198	227
		Total Pressure, Pa	8	17	31	48	70	95	124
		Static Pressure, Pa	2	4	8	12	18	24	31
		NC (Noise Criteria)	< 10	< 10	< 10	< 10	16	22	27
		Throw, m	0.5 - 1.3 - 2.3	1.3 - 1.5 - 3.3	1.5 - 2.3 - 4.5	1.8 - 2.8 - 5.5	2.3 - 3.3 - 6.8	2.5 - 4 - 7.5	3 - 4.5 - 8
38mm Slot Width 1 - Slot	Length 1500mm	Air Flow, l/s	66	94	123	151	179	208	236
		Total Pressure, Pa	10	20	33	50	71	95	122
		Static Pressure, Pa	2	3	6	9	13	17	22
		NC (Noise Criteria)	< 10	< 10	< 10	< 10	12	17	22
		Throw, m	0.5 - 1.3 - 2.5	1.3 - 1.5 - 3.3	1.5 - 2.3 - 4.3	1.8 - 2.8 - 5.3	2.3 - 3 - 6.5	2.5 - 3.8 - 7.3	2.8 - 4.3 - 8.3

### FL-20 with 200mm inlet

51mm Slot Width 1 - Slot	Length 600mm	Air Flow, l/s	33	66	99	132	165	198	231
		Total Pressure, Pa	2	8	18	33	51	74	100
		Static Pressure, Pa	1	6	13	23	36	51	70
		NC (Noise Criteria)	< 10	< 10	14	21	27	33	38
		Throw, m	0.3 - 0.5 - 1.5	1 - 1.5 - 3	1.5 - 2.3 - 4.5	2.3 - 3 - 6	2.5 - 3.8 - 7	3 - 4.5 - 7.5	3.8 - 5.3 - 8.3
51mm Slot Width 1 - Slot	Length 1200mm	Air Flow, l/s	66	113	160	208	255	302	349
		Total Pressure, Pa	4	12	23	39	58	82	110
		Static Pressure, Pa	1	4	8	14	21	30	40
		NC (Noise Criteria)	< 10	12	21	27	32	36	40
		Throw, m	0.3 - 1 - 2.3	1.3 - 1.8 - 3.8	1.8 - 2.8 - 5.3	2.3 - 3.3 - 6.8	2.8 - 4.3 - 8.3	3.3 - 5 - 9.3	3.8 - 5.8 - 10
51mm Slot Width 1 - Slot	Length 1500mm	Air Flow, l/s	71	123	175	227	278	330	382
		Total Pressure, Pa	4	12	24	40	61	85	114
		Static Pressure, Pa	1	3	6	11	16	23	30
		NC (Noise Criteria)	< 10	13	21	27	32	36	40
		Throw, m	0.3 - 1 - 2.3	1 - 1.8 - 3.8	1.8 - 2.5 - 5.3	2.3 - 3.3 - 6.8	2.8 - 4 - 8.3	3 - 5 - 9.5	3.8 - 5.5 - 10.3

### FlowBar Slot Diffusers Performance Data - Jet Throw (JT)

#### FlowBar with Air Diffusion Plenum Box - Jet Throw (JT)

##### FL-15 with 300mm inlet

	Length 600mm	Air Flow, l/s	28	59	90	120	151	182	212
		Total Pressure, Pa	2	9	20	37	58	84	115
		Static Pressure, Pa	2	8	20	35	55	80	110
		NC (Noise Criteria)	< 10	< 10	< 10	18	27	35	43
		Throw, m	0.3 - 1 - 1.5	1.3 - 1.5 - 3.3	1.5 - 2.5 - 5	2.3 - 3.3 - 5.8	2.8 - 4.3 - 6.8	3.3 - 5.3 - 7.3	4 - 5.5 - 8
38mm Slot Width 1 - Slot	Length 1200mm	Air Flow, l/s	57	113	170	227	283	340	396
		Total Pressure, Pa	2	9	21	37	58	83	113
		Static Pressure, Pa	2	8	18	31	49	70	95
		NC (Noise Criteria)	< 10	< 10	10	21	30	37	45
		Throw, m	0.5 - 1.3 - 2.3	1.5 - 2.3 - 4.5	2.3 - 3.3 - 6.8	3 - 4.5 - 8	3.8 - 5.5 - 9.3	4.5 - 6.8 - 9.8	5.3 - 7.5 - 10.8
	Length 1500mm	Air Flow, l/s	66	132	198	264	330	396	463
		Total Pressure, Pa	2	9	20	35	55	79	107
		Static Pressure, Pa	2	7	15	27	42	61	83
		NC (Noise Criteria)	< 10	< 10	10	21	29	36	43
		Throw, m	0.5 - 1.3 - 2.5	1.5 - 2.5 - 4.5	2.5 - 3.3 - 7	3 - 4.5 - 8.8	4 - 5.8 - 9.8	4.5 - 7 - 10.8	5.5 - 8.3 - 11.5

##### FL-20 with 300mm inlet

	Length 600mm	Air Flow, l/s	33	76	118	160	203	245	288
		Pressure, Pa	2	8	20	36	58	85	117
		Static Pressure, Pa	1	7	8	34	54	79	108
		NC (Noise Criteria)	< 10	< 10	< 10	17	25	31	36
		Throw, m	0.3 - 0.5 - 1.5	1.3 - 1.8 - 3.3	1.8 - 2.8 - 5.5	2.5 - 3.8 - 6.8	3 - 4.5 - 7.5	3.8 - 5.5 - 8.3	4.3 - 6.5 - 9.3
51mm Slot Width 1 - Slot	Length 1200mm	Air Flow, l/s	66	137	208	278	349	420	491
		Total Pressure, Pa	2	8	19	34	54	77	106
		Static Pressure, Pa	1	6	14	25	40	58	79
		NC (Noise Criteria)	< 10	< 10	17	24	31	37	41
		Throw, m	0.3 - 1 - 2.3	1.5 - 2.3 - 4.5	2.3 - 3.3 - 6.8	3 - 4.5 - 8.8	3.8 - 5.8 - 10	4.5 - 6.8 - 11	5.3 - 8 - 12
	Length 1500mm	Air Flow, l/s	71	156	241	326	411	496	580
		Total Pressure, Pa	2	8	19	34	54	79	108
		Static Pressure, Pa	1	5	12	22	35	51	70
		NC (Noise Criteria)	< 10	< 10	19	26	32	38	43
		Throw, m	0.3 - 1 - 2.3	1.5 - 2.3 - 4.5	2.5 - 3.3 - 7	3 - 5 - 9.5	4 - 6 - 11	5 - 7.3 - 12	5.5 - 8.5 - 12.8

All pressures are given in Pascal (Pa)

Isothermal throw values are given for terminal velocities of .8, .5, and .3 m/sec.

Each NC value represents the noise criteria curve which will not be exceeded by the sound pressure in any of the octave bands, 2nd through 7th, with a room absorption of 10dB, re 10<sup>-12</sup> Watts.

The tests were conducted with the FlowBar and plenums as a composite assembly.

Plenums not provided by Air Diffusion may demonstrate performance variations from data published by Air Diffusion.

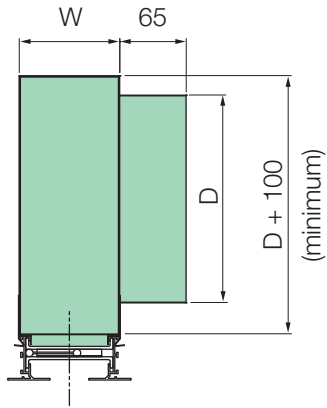
Air Diffusion cannot validate performance if a factory engineered plenum is not provided.

Throw values for Jet Throw units are based on the pattern controller set at 0° discharge vertical flow.

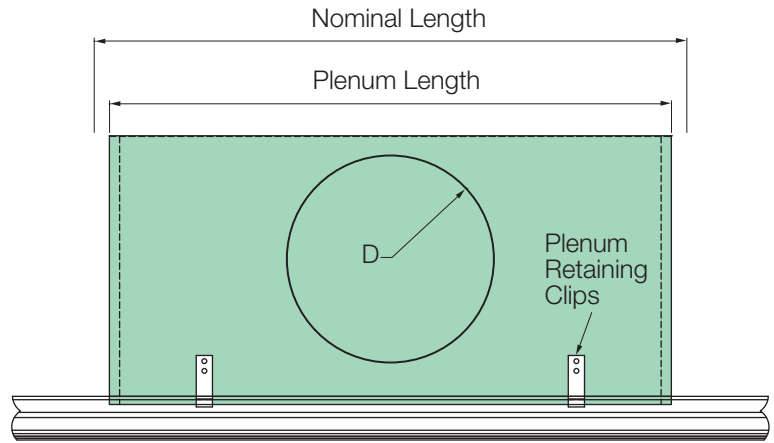
Throws listed are for the 1-way air pattern. For divided airflow, select the airflow in each direction

according to the number of slots aimed in that direction, with the total airflow apportioned between slots.

## Standard Fixing Details - High Throw (HT)

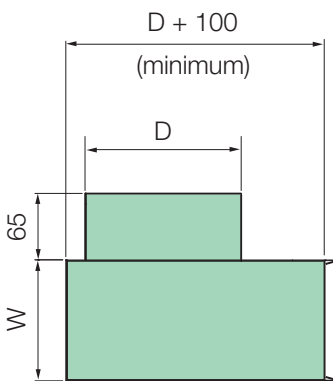


Dimensions FL-15-HT (38mm)  
 $W = 95\text{mm}$

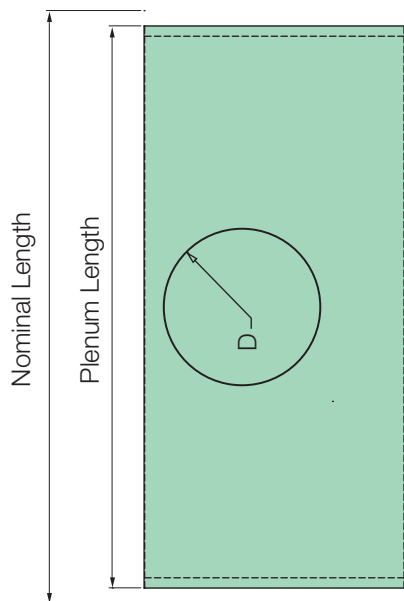


Dimensions FL-20-HT (51mm)  
 $W = 121\text{mm}$

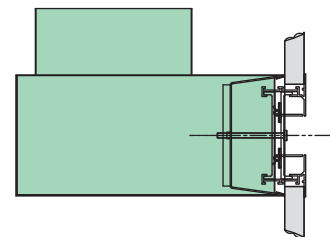
## Standard Fixing Details - Jet Throw (JT)



Dimensions FL-15-JT (38mm)  
 $W = 103\text{mm}$



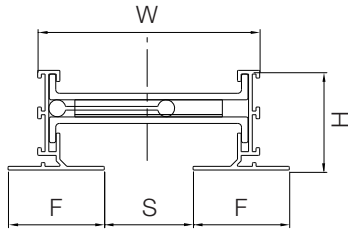
Dimensions FL-20-JT (51mm)  
 $W = 129\text{mm}$



Flowbar Border 66  
 Installation Detail

### Dimension and Details - High Throw (HT)

Model FL - 15 and FL - 20

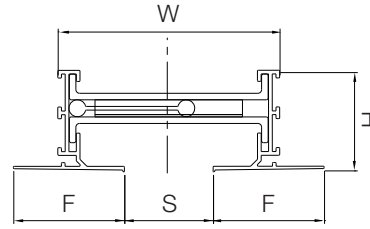


Border Type 66

FL - 15 - HT Border Type 66

	F	S	W	H
1 Slot (38mm)	41	38	95	43
1 Slot (51mm)	48	51	121	43

Model FL - 15 and FL - 20

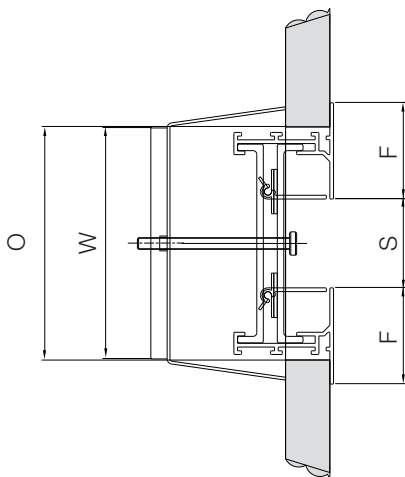


Border Type 22

FL - 15 - HT Border Type 22

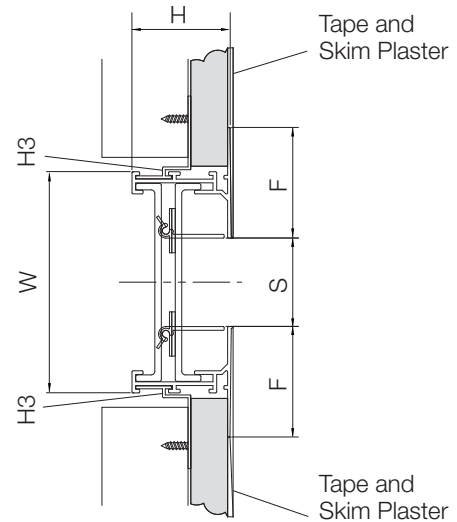
	F	S	W	H
1 Slot (38mm)	48	38	95	43
1 Slot (51mm)	54	51	121	43

### Dimension and Details - Jet Throw (JT)



FL - 15 - JT Border Type 66

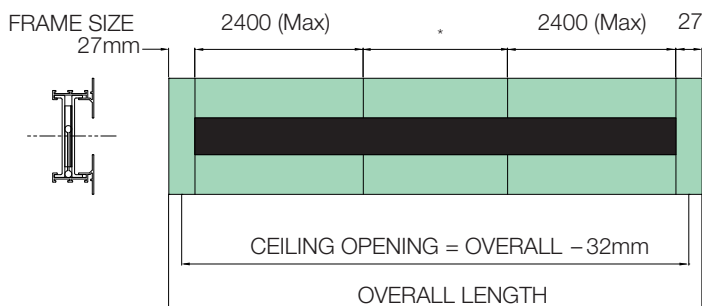
	F	S	W	H	O
1 Slot (38mm)	41	38	95	43	102
1 Slot (51mm)	48	51	121	43	127



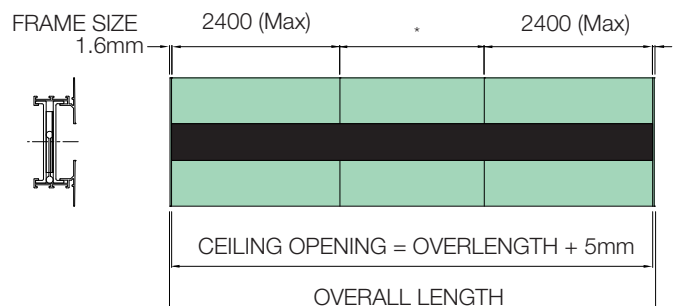
FL - 15 - JT Border Type 22

	F	S	W	H
1 Slot (38mm)	48	38	95	43
1 Slot (51mm)	54	51	121	43

Border Type 66 Slot Run



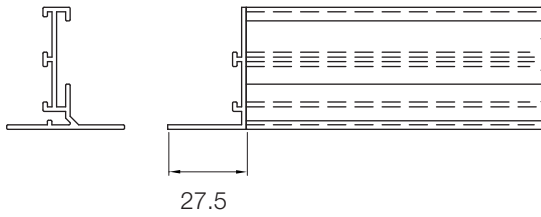
Border Type 22 Slot Run



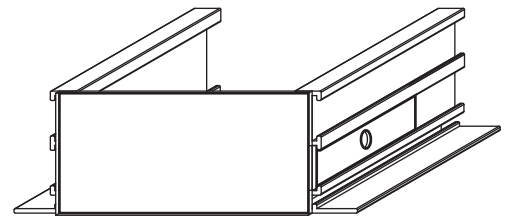
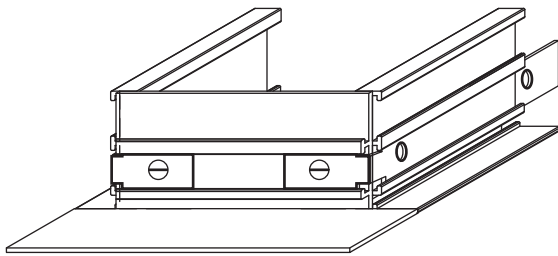
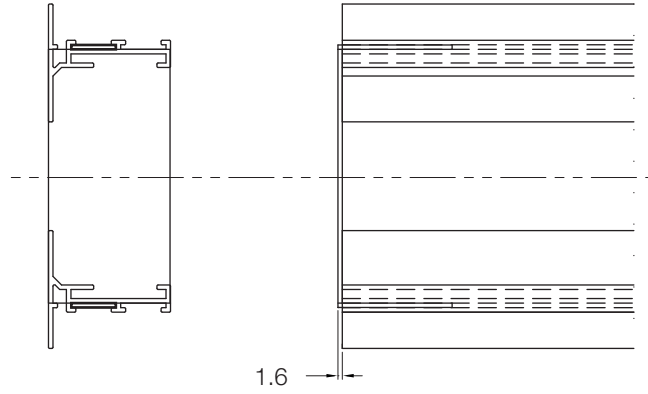
\* Make up pieces manufactured to suit.

# Dimension and Details - End Border Configurations

Border Type 66



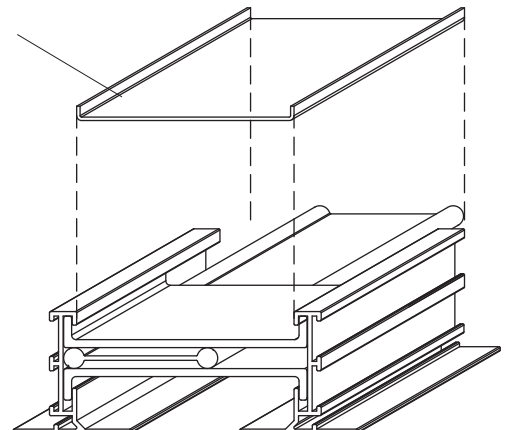
Border Type 22



## Optional Blanking Plates - FBBO Blank-off

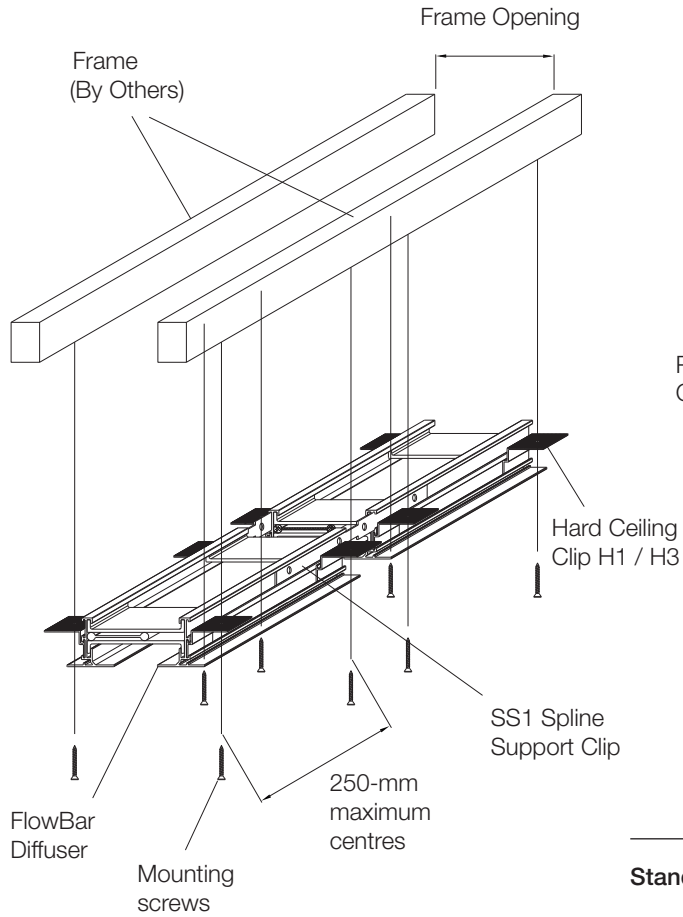
Optional Blanking:  
FBBO - 15 (38mm Slot)  
FBBO - 20 (51mm Slot)

Optional Blank-off  
(Painted Black)

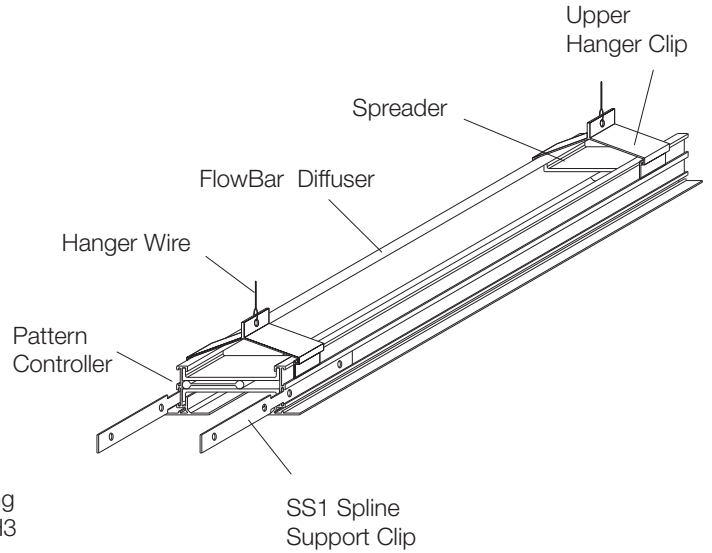


### Standard Installation Details - High Throw (HT) Jet Throw (JT)

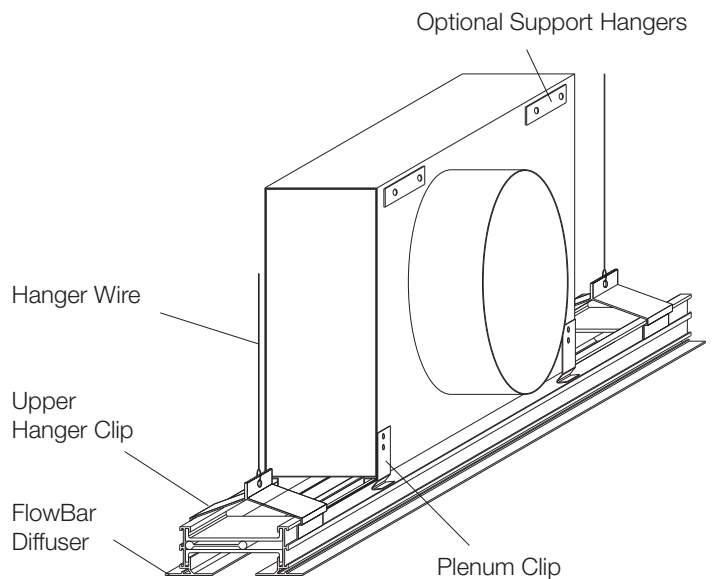
Standard Installation for Solid (Plaster / Board) Type Ceiling Systems



Standard Installation for Suspended Ceiling Systems



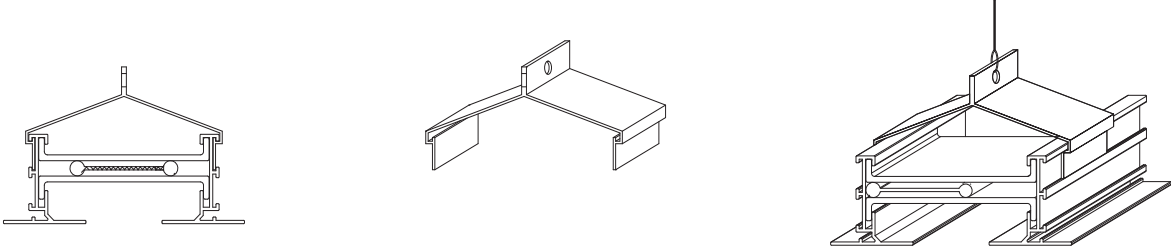
Standard Plenum Box Installation System [High Throw (HT) only]



# Standard Installation Details - High Throw (HT) Jet Throw (JT)

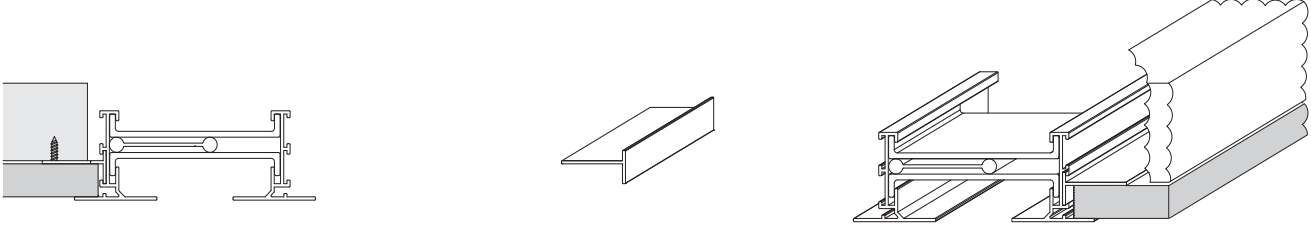
### Upper Hanger Clip (UHC)

The UHC - Hanger Clip used to suspend the FlowBar assembly from the structure. The clip is designed to utilize standard ceiling hanger wire. UHC is for 1 - slot only and FL - 15, 20.



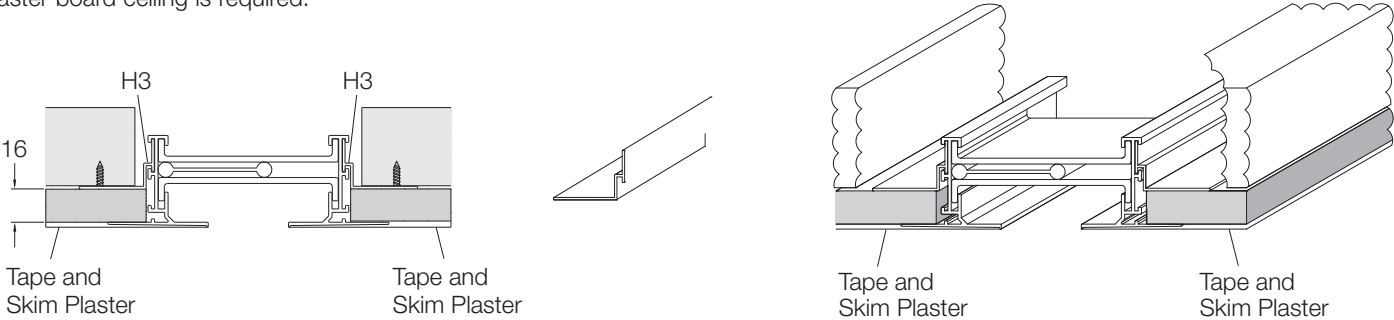
### H1 Hard Ceiling Clip

The H1 - Hard Ceiling Clip is used to mount the FlowBar assembly with border type 66 when a standard plaster board ceiling is required.



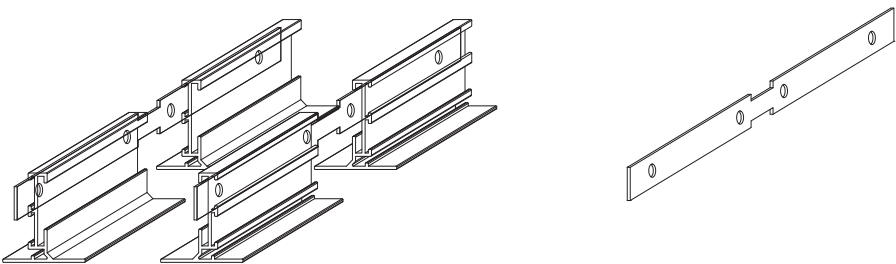
### H3 Hard Ceiling Clip

The H3 - Hard Ceiling Clip can be used to mount the Flowbar assembly with border type 22 when a standard plaster board ceiling is required.



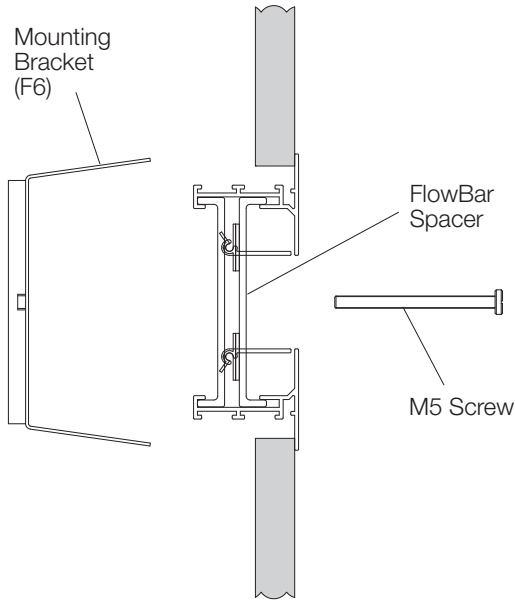
### Spline Support Clip

The SS1 - Spline Clip is also used to adjoin multiple sections of FlowBar when continuous lengths are desired.

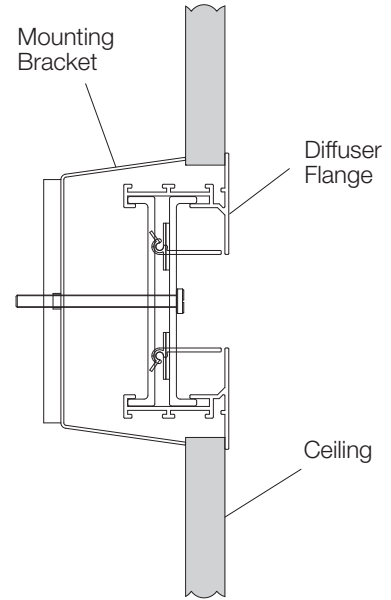


### Standard Installation Details - Jet Throw (JT) only

Bracket Diffuser Assembly

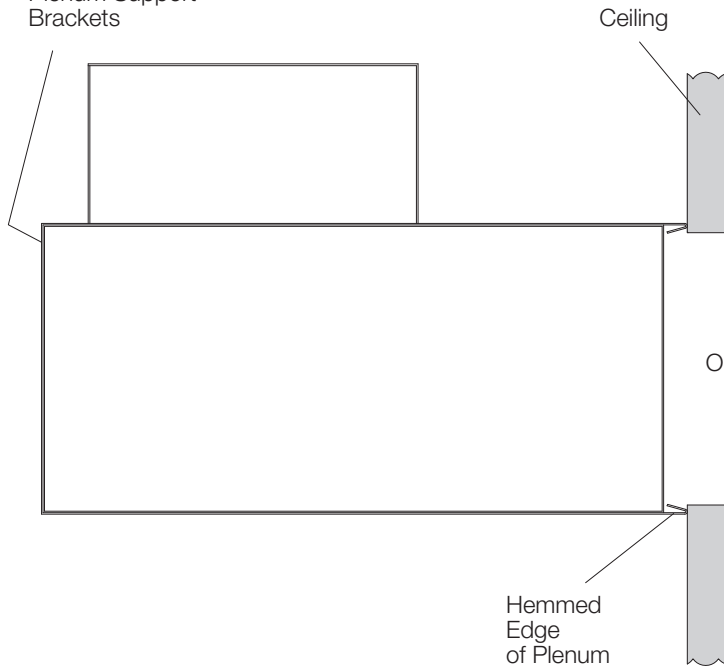


Diffuser Installation without Plenum

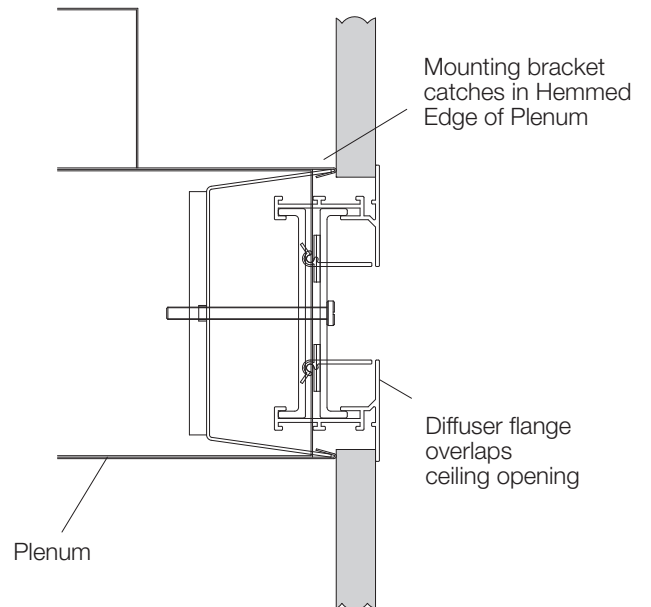


Concealed Fastening Plenum Installation

Attach Hanger Wire/Rods to Plenum Support Brackets



Diffuser Installation with Plenum



Ceiling opening dimensions for border type 66

FlowBar Model	Ceiling Opening Width
	1 - Slot
FL - 15	102
FL - 20	127

## Ordering Information – FlowBar Slot Diffuser

### Example

Frame	HT	No. of Slots	Slot Width	End Flanges	Fix	Frame Finish	Blade Finish
66	JT	1	15	E1	F6	3	4

<p>66 Surface mounting</p> <p>22 Plaster frame</p>	<p>1</p>	<p>15</p> <p>20</p>	<p>E0 Open end</p> <p>E1 End plate one end</p> <p>E2 End plate two ends</p> <p>EP End plate</p> <p>ME Mitred End</p>	<p>F6 'U' Bracket fixing (JT only)</p> <p>F9 Toggle fix (HT only)</p> <p>SP Special fixing</p> <p>H1 Hard ceiling clip (Border Type 66)</p> <p>H3 Hard ceiling clip (Border Type 22)</p>	<p>3 White RAL 9010 matt</p> <p>6 Other colours available to special order</p>	<p>4 Standard Black</p> <p>6 Other colours available to special order</p>
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The model described in the example above would be : 66 - HT1 - 15 - E1 - F6 - 3 - 4  
**Important:** please allow for any lighting zones when selecting plenum boxes

**Important Note:** All orders must be addressed to AIR DIFFUSION, Ruskin Air Management Limited.

### Plenum Boxes

#### Plenum Boxes

Supplied unlined as standard with side entry spigot.

Plenum boxes can be supplied internally lined with 6mm class "O" foam at extra cost. Apply to sales office for price.

#### Specifications

##### Material

Standard is a minimum of 0.7mm thick galvanised or zinc coated steel.

##### Construction

Plenum boxes are generally fabricated in 3 sections having tray ends, which are either mechanically joined or spot welded to form an airtight seal. Flush ends (no tray indents) are also available. As standard, spigots are side entry and located centrally. All boxes are supplied with plain edges, as standard, (FO fixing).

##### Standard Installation Method

The tray ends of the plenum box incorporate a 15mm indent, on each side to allow for 8mm drop rod fixings, which gives space for holes to be drilled (by others) without disturbing the active section.

##### Installation Options

Fixing lugs can be factory fitted if preferred or special fixing methods (by others) may be used.

For plenum boxes having flush ends separate hanging brackets/fixing lugs need to be fitted to allow independent support of diffuser and plenum box.

##### Accessories

Joggled style plenum boxes or pan adapters.

Spigot dampers include; manual quadrant, teleflex operation or cord operated.

6mm thick Class 'O' internal lining.

Equalising grids (50% free area perforated mesh).

Turning Vanes.

Fixing lugs or special fixings (by others).

Flush Ends (No Indent).

##### Finish

Self finish galvanised or zinc coated steel as standard.

Black paint can be applied to internal faces if required. (At extra cost).

#### Pressure Drops and Sound Rating

The pressure drop given is for supply grille with damper fully open. When the grille is installed with plenum box, the pressure loss of the box has to be added to the grille.

	Spigot Velocity m/s					
	1.5	2.0	2.5	3.0	3.5	4.0
Pressure Drop Pa*	2	4	6	8	12	16
Sound Power Level NR*	-	-	25	30	35	40

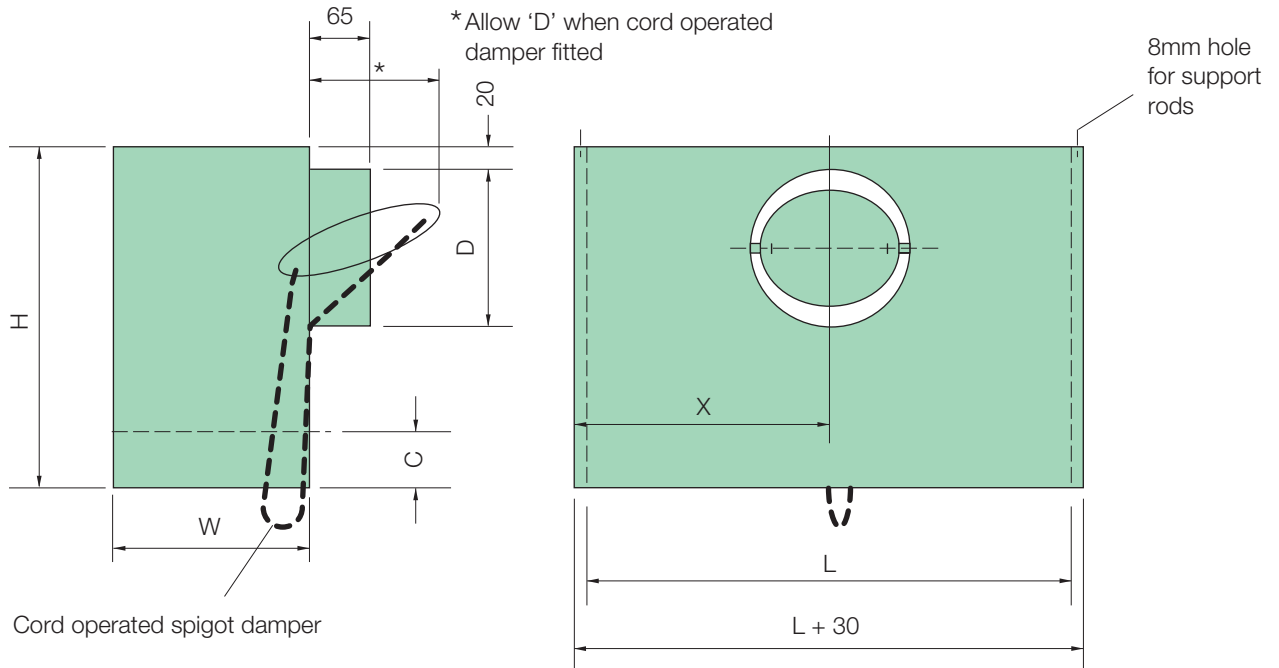
\* The figures given are approximate - dependent upon spigot entry conditions

#### Plenum Box Spigot Volumes (l/s)

Diameter (mm)	Spigot Velocity m/s					
	1.5	2.0	2.5	3.0	3.5	4.0
100	10	15	19	22	26	30
125	18	24	30	35	41	47
150	25	34	42	51	60	68
175	35	46	58	70	82	94
200	45	60	75	91	109	121
225	58	77	96	117	137	151
250	71	95	120	142	170	191
275	86	115	145	172	205	230
300	103	139	172	208	240	275
325	120	160	200	240	280	320
350	140	188	235	280	328	375
400	185	245	310	370	430	495

# Plenum Box Dimensions

Type PBL-1

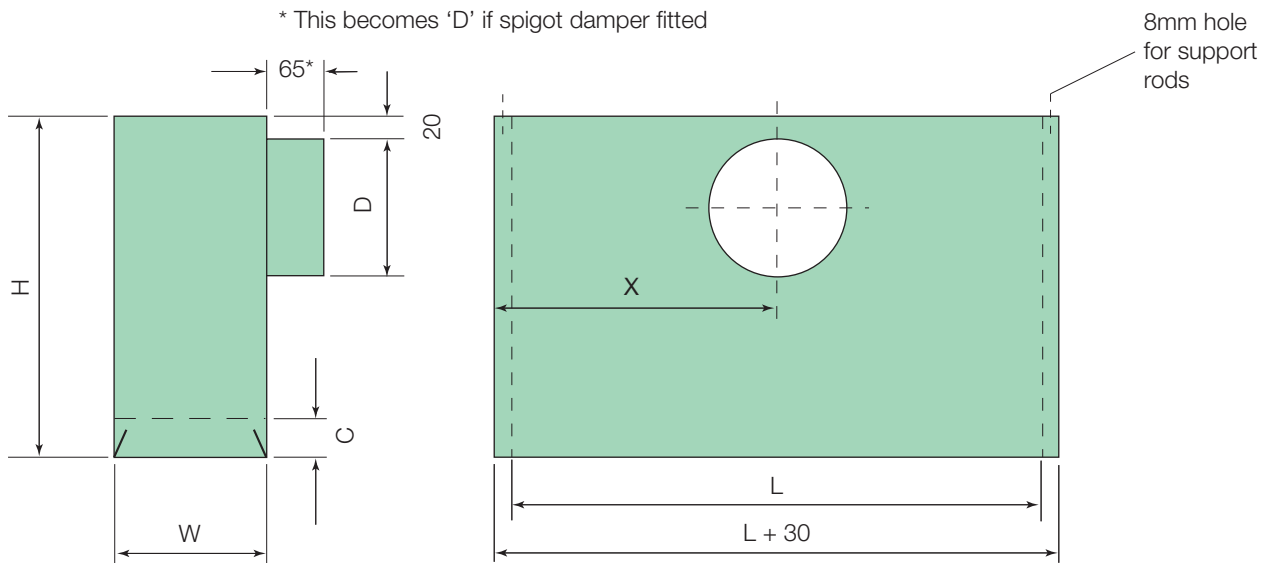


Order Detail

H	L	W	D	C		X
				LH	RH	
-	-	-	-	-	-	-

Angle Bracket fixing available if required.

Type PBL-1 for F6 fixing (JT only)



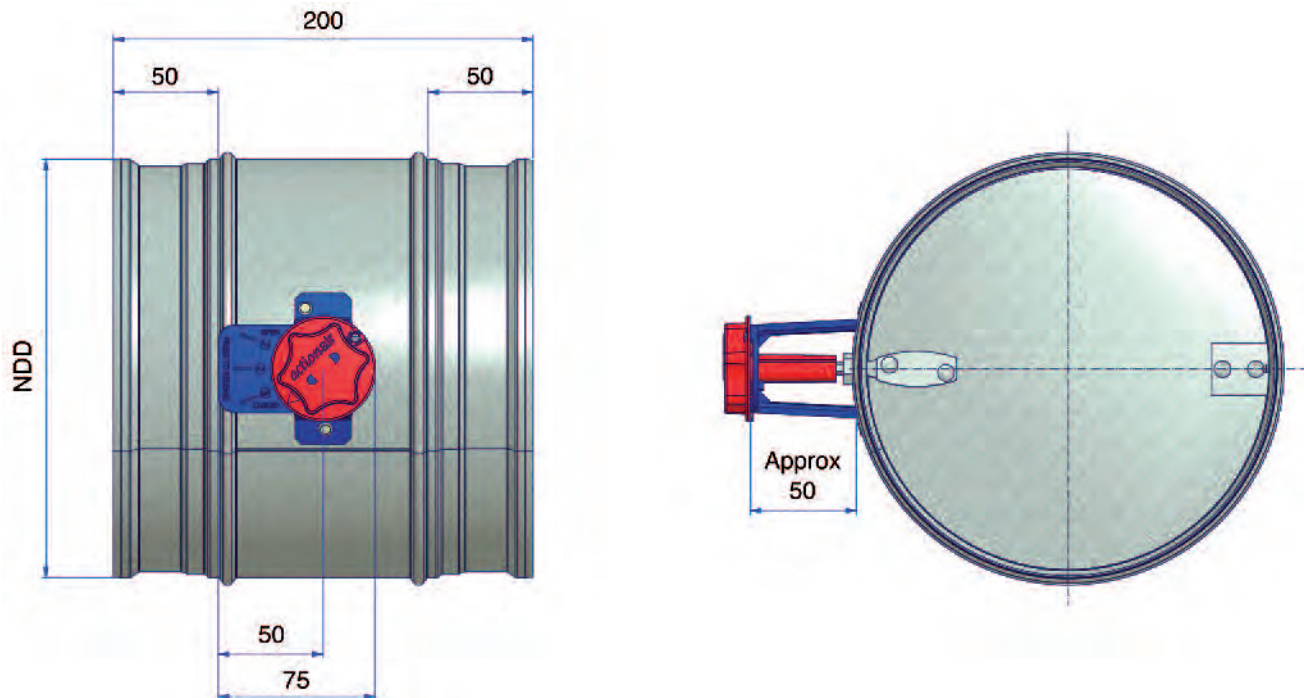
Order Detail

H	L	W	D	C		X
				LH	RH	
-	-	-	-	-	-	-

Boxes shown with Indented Ends.  
Plain End boxes also available.

## Plenum Box Dimensions Continued

Manual Quadrant Control Damper



Model Ref	* NDD	Open Blade Protrusion (mm)	DW 144 Casing Leakage Class	Weight (Kg)
CB	100	–	C	0.56
CB	125	–	C	0.71
CB	150	–	C	0.85
CB	160	–	C	0.91
CB	200	–	C	1.17
CB	250	20.5	C	1.53
CB	300	45.5	C	1.92
CB	315	53	C	2.05
CB	350	70.5	C	2.35
CB	355	73	C	2.40

\* NDD: Nominal duct diameter. Actual sizes are in accordance with BS EN 1506: 1998

## Ordering Information – Plenum Boxes

### Example

Model PBL-1	Internal Lining U	Spigot Damper N	Options 0	Dimensions
<b>Plenum Boxes</b>	<b>U</b> – Standard Unlined Plenum Box	<b>N</b> – Plain spigot no damper.	<b>0</b> – No options.	<b>See example below</b>
<b>PBL-1</b> Linear Plenum Box with either a circular or square side entry spigot	<b>L</b> – 6mm Class ‘O’ Internal Lining.	<b>Q</b> – Quadrant damper.	<b>1</b> – Internal faces painted black.	
<b>PBL-2</b> Linear Plenum Box having either a circular or square top entry spigot		<b>T</b> – Teleflex damper fitted to spigot.	<b>2</b> – Equalising grid.	
<b>PBL-3</b> Linear Plenum Box with joggle section having either a circular or square side entry spigot		<b>C</b> – Cord operated damper fitted to spigot.	<b>3</b> – Fixing lugs fitted to side of plenum. <b>4</b> – Profile ends on each end of plenum. <b>5</b> – Hemmed Edge for secret strap fixing. (JT only) <b>6</b> – Plenum retaining clips. (HT only)	

### Dimensions PBL - 1, PBS - 2, Example

Neck Size	Plenum Height	Circular Spigot Diameter	OR	(Sq. / Rect.Spigot Width x Height)	Centre Line of Spigot
<b>L x W</b> 1000 x 95	<b>H</b> 350	<b>∅D</b> 250		<b>C x E</b> 0	<b>G</b> 0

‘0’ Denotes Standard.

**Important Note:** All orders must be addressed to AIR DIFFUSION, Ruskin Air Management Limited.

**Note:** Redesign may occur which supersedes the information in this brochure. Please refer to our website for latest information.

## **Ruskin Air Management Limited** **a BS EN ISO 9001 registered company**

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Due to a policy of continuous product development the specification and details contained herein are subject to alteration without prior notice.

## **Ruskin Air Management Limited**



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Website: [www.air-diffusion.co.uk](http://www.air-diffusion.co.uk)

## **Air Diffusion**

Grilles Diffusers Louvres Chilled Beams