

Lindab Lineo



- 1
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- 3
- 4
- 5**
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18

MTL, Fingerrod C, Copenhagen Airport

Lindab Lineo

Slotdiffuser

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13


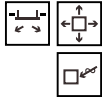

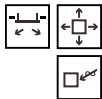
14

15

16

17

18

	Product	Functions	Page
	MTL		265
	STB STU		272

Lindab Lineo



MTL, Hotel Marriot, Copenhagen

Lindab Lineo

With the slim construction of the slotdiffuser, it is possible to obtain a very simple solution for your ventilation needs, which can be integrated in very different environments.

The slots can be mounted either in the ceiling or in the wall / skirting board. The best aero-technical qualities are obtained, when the slots are mounted in the middle of the room with a two-way supply of air. It is also a possibility to install the slots along the wall or along the facade, partly in order to make the installation seem as discrete as possible, and partly to free up the other part of the ceiling for other installations. The slots can be mounted in unbroken bands, where the best result is obtained when both active and passive - or exhaust-slots are combined in the same length.

Functionality

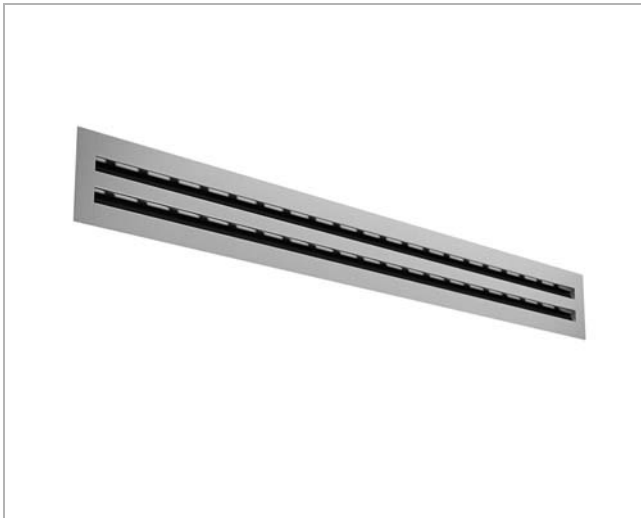
Lindab's slot diffuser MTL is available in two different widths, depending on the requirements for function or design. Furthermore, the corner pieces can be cut at an angle to suit. Normally the lengths are available in pieces up to 2 metres, but can be delivered in pieces up to 5 metres upon demand. If longer unbroken lengths are needed, the individual diffusers can be mounted with fixing-pipes. The plenum boxes STB and STU secure an even distribution and individual regulation of the slots.



MTL, slot diffuser.

Linear diffuser

MTL



Description

MTL is a rectangular linear diffuser in aluminium. MTL is suitable for both supply and exhaust air. MTL is equipped with air guide baffles, making it possible to use MTL for horizontal supply air.

The horizontal dispersal pattern can be easily changed without the use of tools by turning the air guide baffle. The air guide baffle must be removed for vertical supply air.

MTL can be supplied in two versions, 15 mm or 19 mm, depending on capacity requirements or aesthetic considerations. MTL can be installed with plenum box STB/STU in order to achieve an even flow and individual adjustment.

MTL is normally supplied in lengths up to max. 2 m, but can be supplied on request up to 5 m. MTZ-1 is a 90° joint, when an aesthetically pleasing corner is required.

- Discrete appearance
- Used for both supply air and exhaust
- Horizontal and vertical supply air.

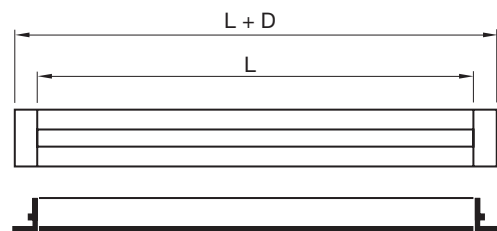
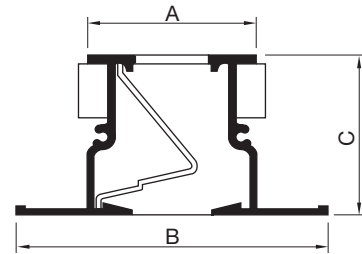
Maintenance

MTL can be removed to enable cleaning of internal parts or to gain access to the duct or box.

The visible parts of the diffuser can be wiped with a damp cloth.

Order code

Product	MTL	aa	b	cccc
Type				
Slot size	15			
	19			
No. of slots				
Length (L)				



Both ends are equipped with flanges.

Slot width: 15 mm

No. of slots	A mm	B mm	C mm	D mm
1	25	45	25	30
2	50	70	25	30
3	75	95	25	30
4	100	120	25	30

Cutout: A + 10 mm x L + 10 mm

Slot width: 19 mm

No. of slots	A mm	B mm	C mm	D mm
1	40	75	38	56
2	79	113	38	56
3	117	151	38	56
4	157	189	38	56

Cutout: A + 20 mm x L + 20 mm

Materials and finish

Slot: Aluminium
 Standard finish: Natural anodised
 Air guide baffle: Black ABS plastic

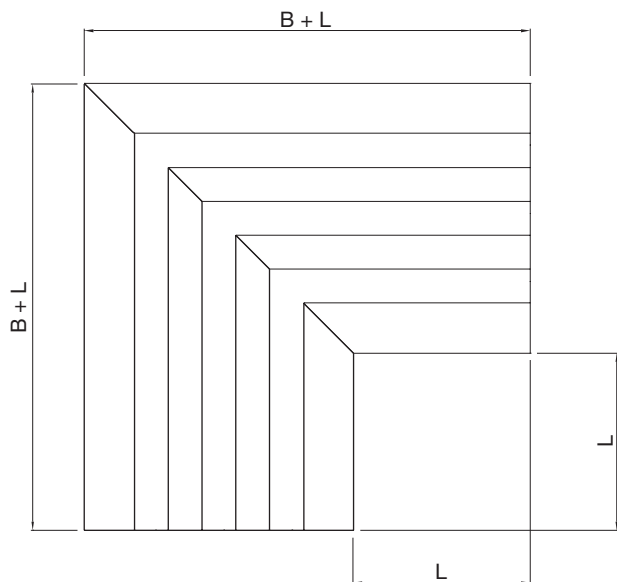
The diffuser is available in other colours. Please contact Lindab's sales department for further information.

Linear diffuser

MTL

Accessories

MTZ-1

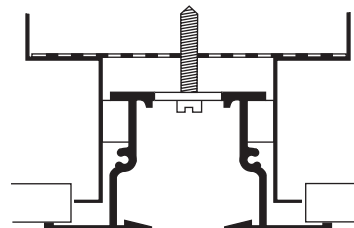


MTZ-1 15	L	B	MTZ-1 19	L	B
1	150	45	1	150	75
2	150	70	2	150	113
3	150	95	3	150	151
4	150	120	4	150	189

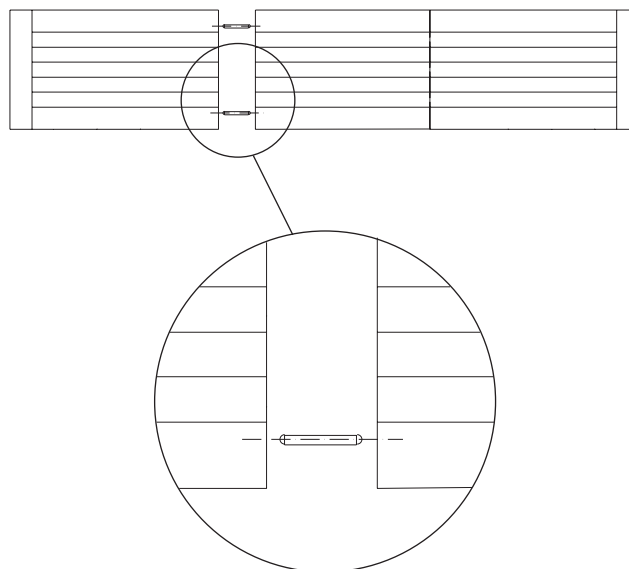
MTZ is supplied as two mitred ends (not one piece).

Installation in plenum box STB/STU

A self-tapping screw is fitted through the slot up into the perforated surface of the plenum box.

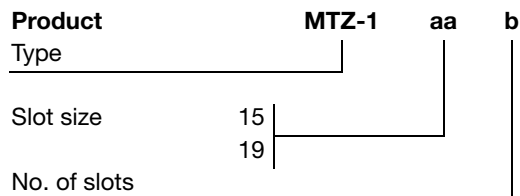


Installation of slots in continuous strips



The slots are often installed in continuous strips, where there is a need to join the slots, so that it resembles a single piece. In these cases, the full length must be specified when ordering, and the slots will be supplied adjusted to the total length. The outermost pieces will be equipped with end pieces, and the middle pieces will be supplied without end pieces. The slots are joined using the accompanying pins.

Order code



Linear diffuser

MTL

Technical data

Capacity

Volume flow q_v [l/s] and [m³/h], total pressure Δp_t [Pa], throw $l_{0,2}$ [m] and sound power level L_{WA} [dB(A)] can be seen in the diagrams.

Throw $l_{0,2}$

Throw $l_{0,2}$ [m] at a speed of 0.2 m/s and 1 m slot length can be seen in the diagrams. Correction of throw at other slot lengths: see table 1.

Table 1: Correction of throw

Slot length	250	500	1000	1500	3000
Correction factor	0,7	0,85	1	1,1	1,2

Frequency-related sound effect level

The sound effect level in the frequency band is defined as $L_{WA} + K_{ok}$.
 K_{ok} values for MTL with box - see table 2.A and 2.B below.

Table 2.A: K_{ok} values [dB] for MTL with sloth width 15.

MTL-15-x + Box No. of slots (x)	Mean frequency Hz							
	63	125	250	500	1K	2K	4K	8K
1	8	3	6	-3	-10	-19	-27	-31
2	6	-1	5	-2	-8	-15	-23	-33
3	8	1	6	-2	-8	-17	-24	-31
4	6	-1	6	-2	-8	-15	-23	-31

Table 2.B: K_{ok} values [dB] for MTL with sloth width 19.

MTL-19-x + Box No. of slots (x)	Mean frequency Hz							
	63	125	250	500	1K	2K	4K	8K
1	11	8	6	-4	-12	-16	-23	-28
2	10	4	6	-4	-10	-15	-22	-28
3	8	2	7	-4	-11	-18	-24	-28
4	9	3	6	-3	-10	-16	-23	-27

Table 3: Correction for other slot lengths

Slot length	250	500	1000	1500	3000
correction [dB(A)]	-6	-3	0	2	5

Sound attenuation

Sound attenuation ΔL [dB] of MTL+STB including the end reflection, corresponding to the inlet diameter. See table 4 below.

Table 4: Sound attenuation ΔL [dB]

No. of slots	Mean frequency Hz							
	63	125	250	500	1K	2K	4K	8K
1	19	15	11	12	8	10	11	10
2	18	14	9	11	9	9	10	10
3	15	10	7	9	8	8	9	10
4	14	10	7	8	8	7	8	9

Balancing

Balancing data for control of air volume is available in a separate brochure.

Sample calculation:

Required data: Volume of air 200 m³/h
Throw 6.5 m
Horizontal supply air
Slot length 1.5 m, i.e. 133 [(m³/h)/m]

Solution: MTL 19

2-slot version is selected:
Throw according to diagram: 5.8 m

Throw correction according to table 1:
 $1.1 \times 5.8 = 6.4$ m
Pressure loss and sound level according

to diagram:

Open damper: 13 Pa, 15 dB(A)
Closed damper: 38 Pa, 22 dB(A)

Correction according to table 3:

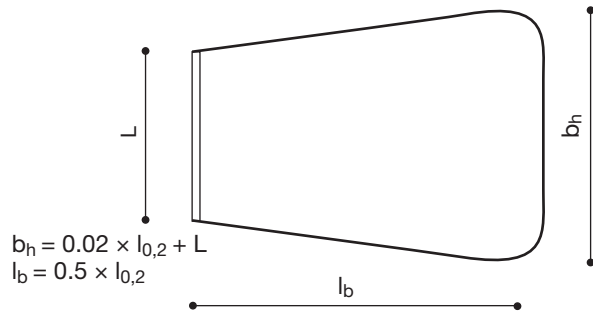
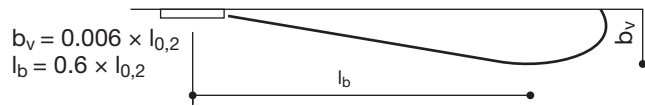
Open damper: $15 + 2 = 17$ dB(A)
Closed damper: $22 + 2 = 24$ dB(A)

Linear diffuser

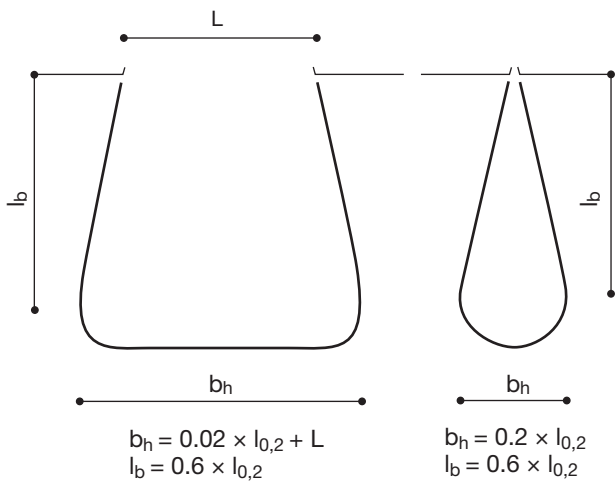
MTL

Technical data

Horizontal supply air

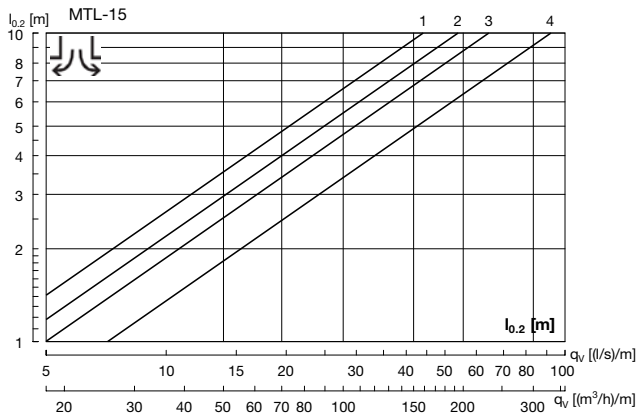


Vertical supply air

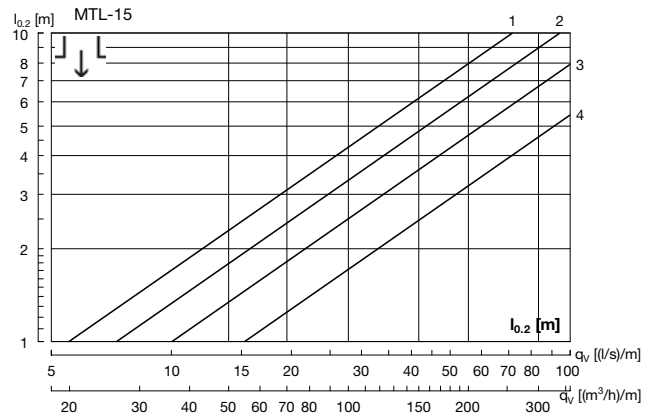


Throw MTL 15

Horizontal

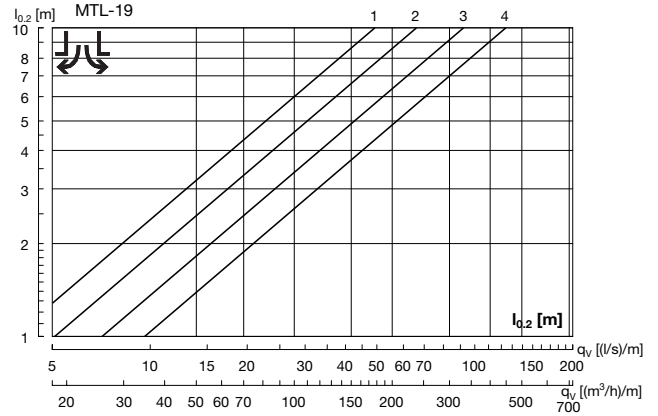


Vertical

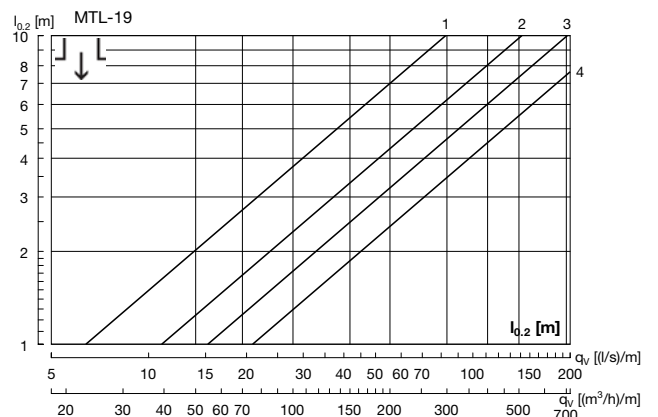


Throw MTL 19

Horizontal



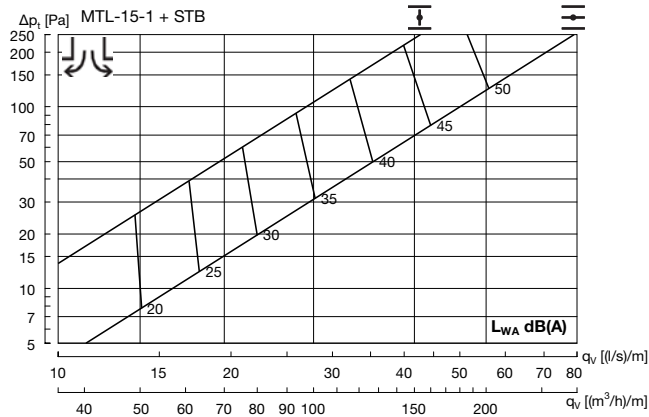
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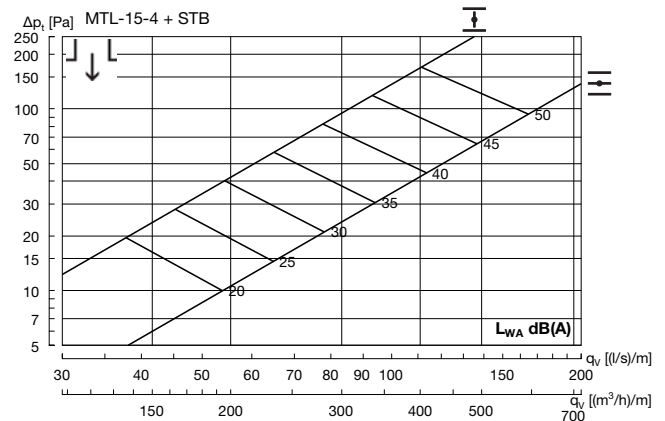
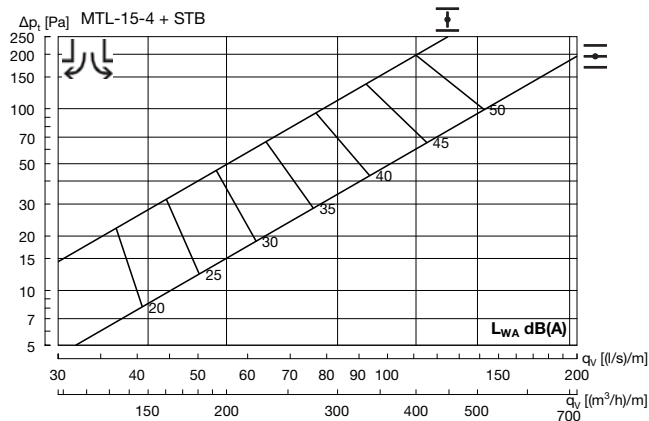
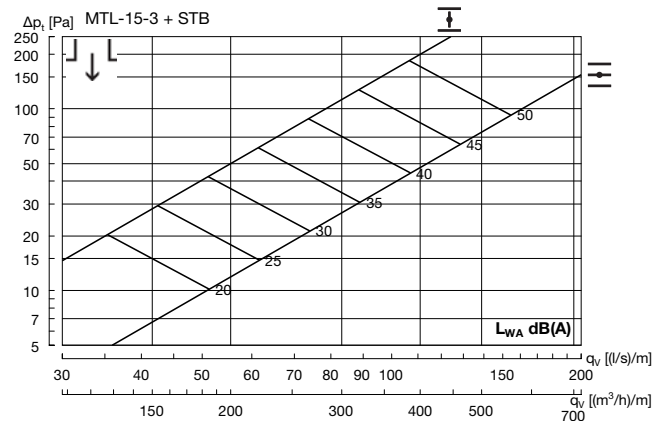
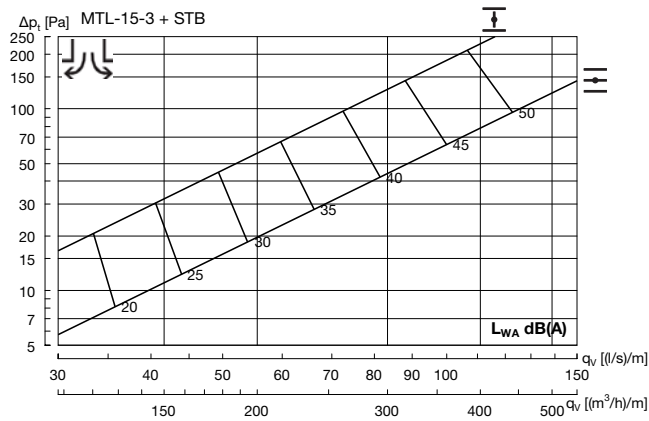
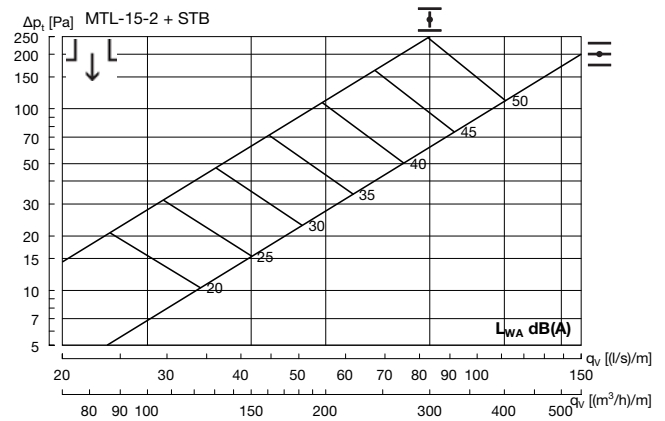
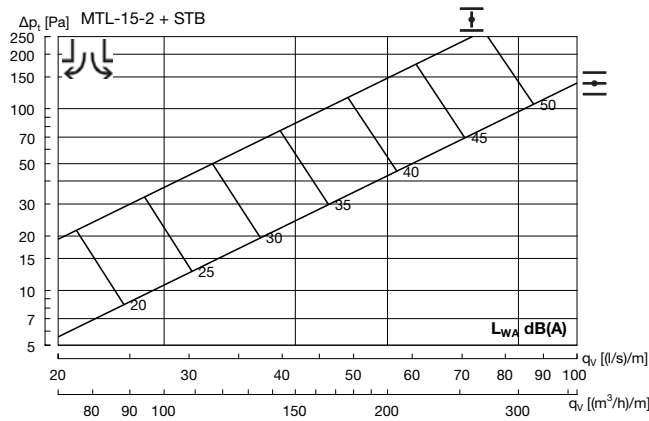
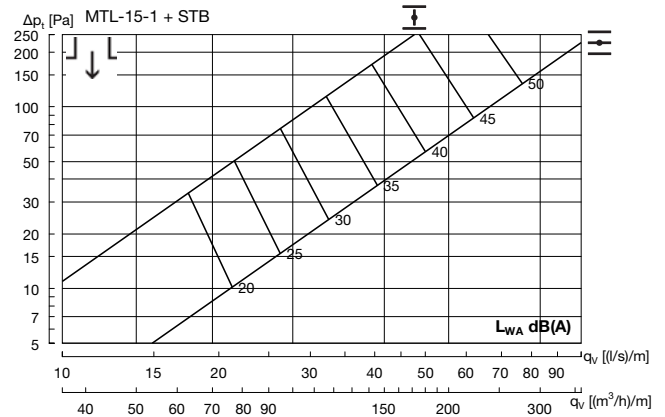
Linear diffuser

MTL

Horizontal-supply



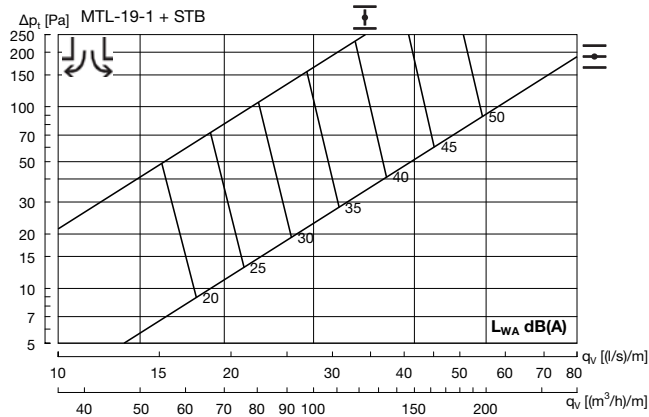
Vertical-supply



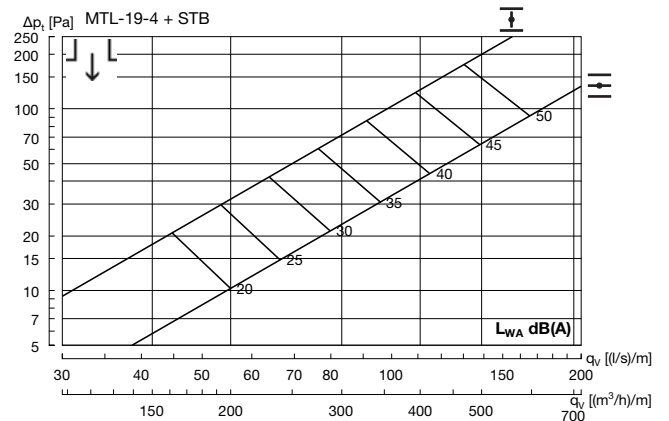
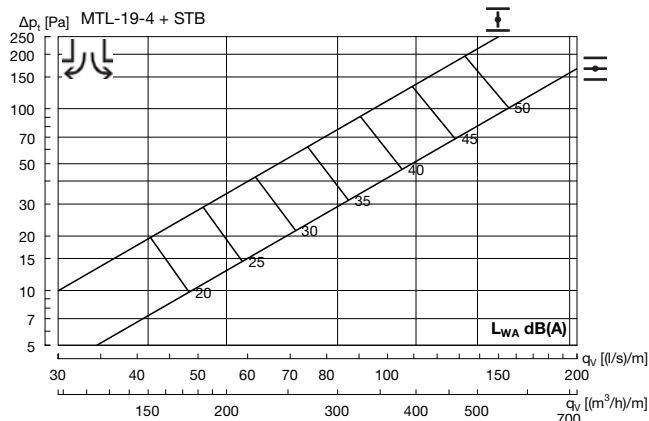
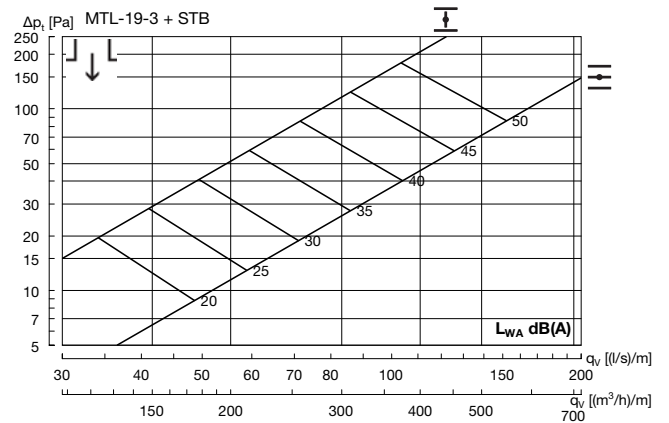
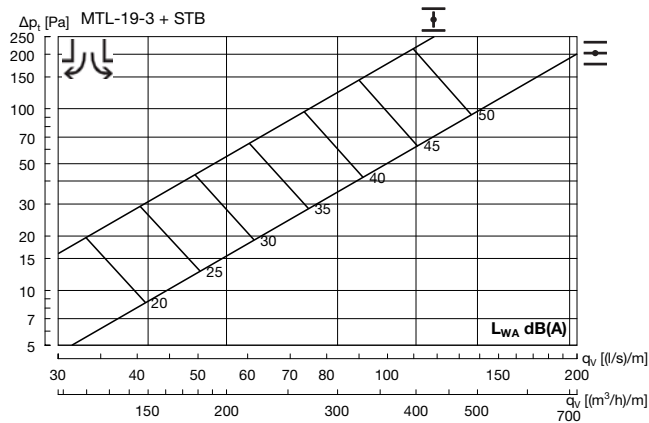
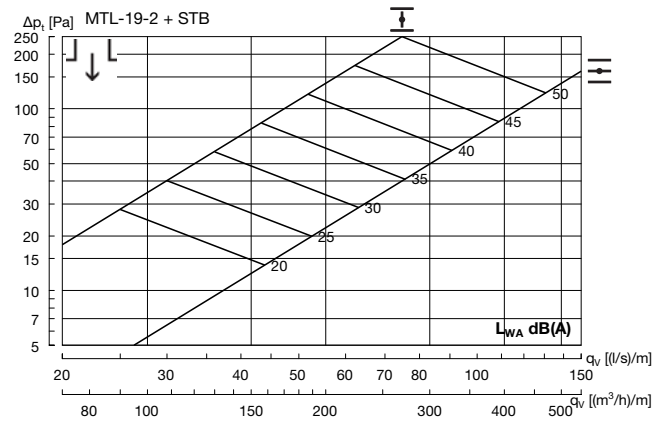
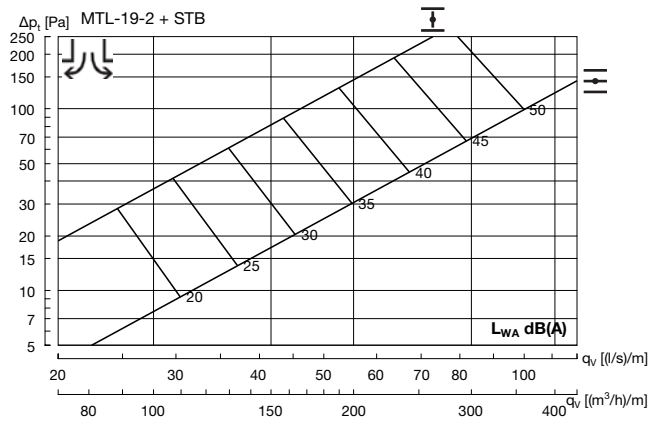
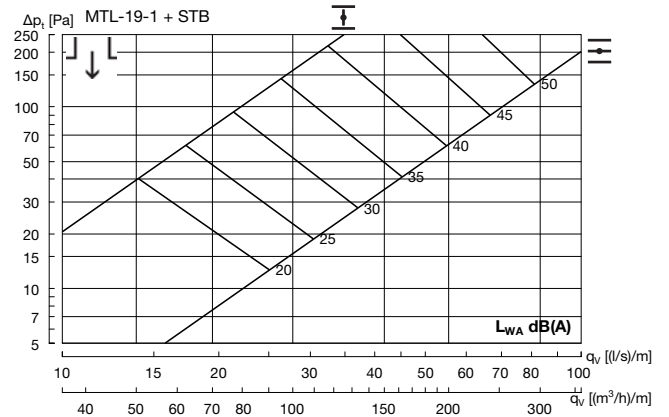
Linear diffuser

MTL

Horizontal-supply



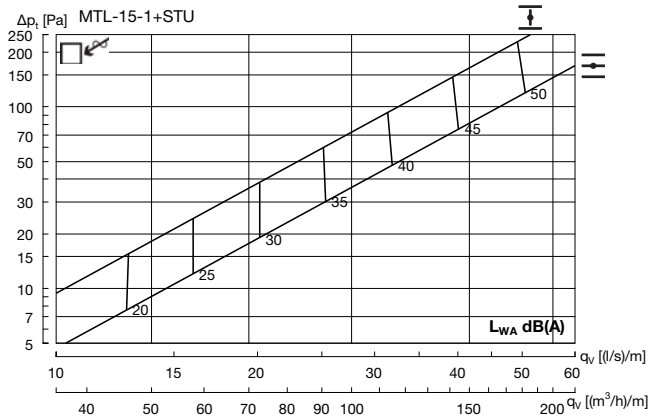
Vertical-supply



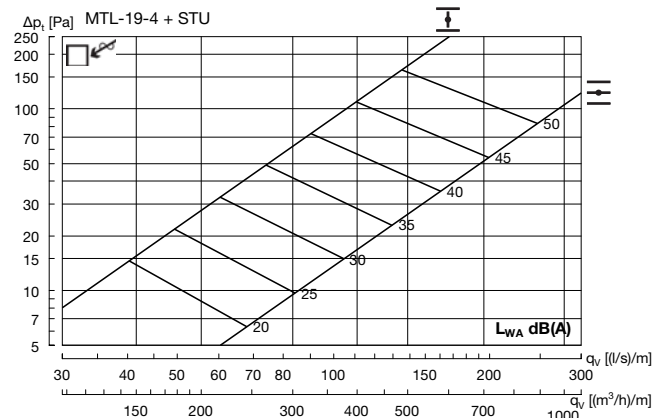
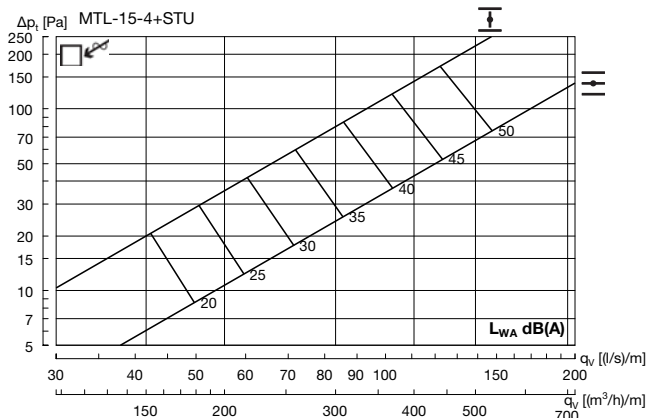
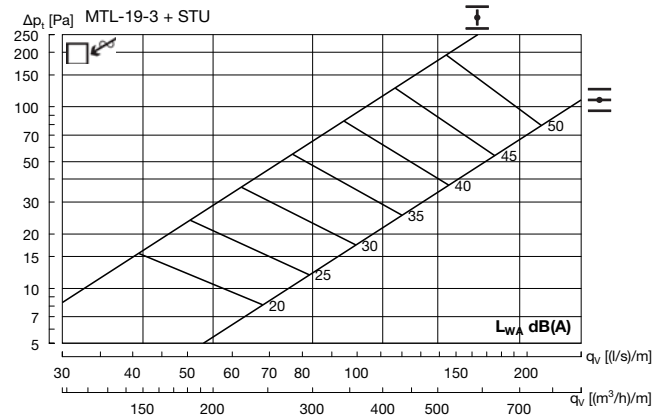
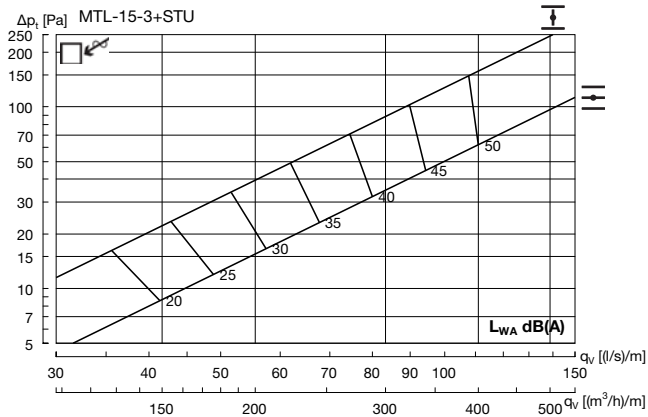
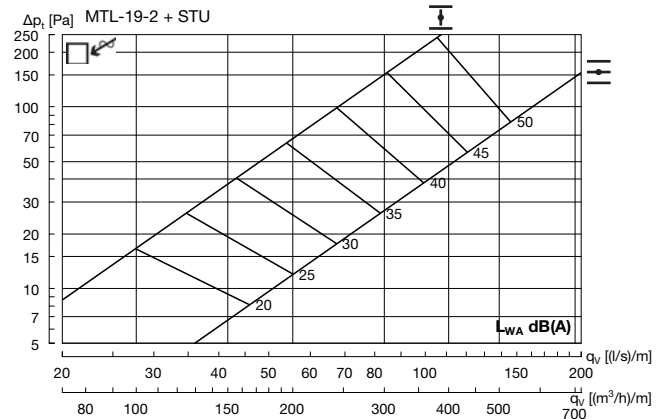
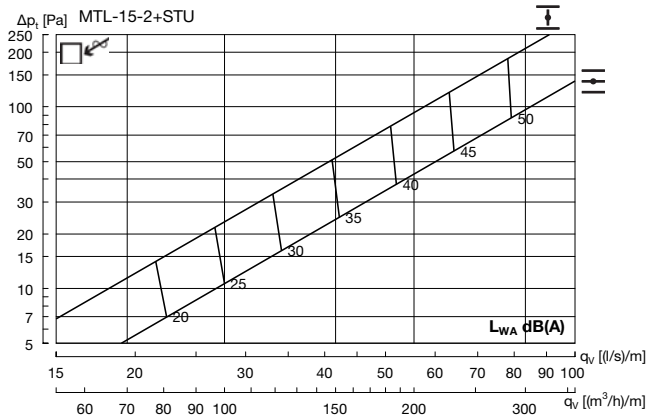
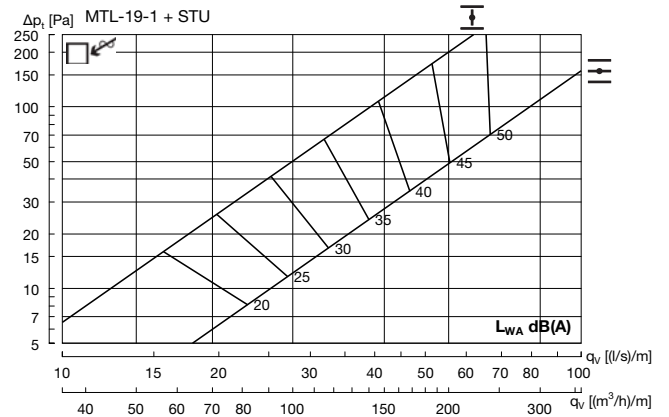
Linear diffuser

MTL

Exhaust air- MTL 15



Exhaust air- MTL 19



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Plenum box

STB/STU



Description

STB is a rectangular plenum box for supply air for linear diffuser, MTL. The plenum box ensures even distribution over the linear diffuser. STB is equipped with a damper and an orifice plate to ensure individual regulation, and is supplied with acoustic insulation.

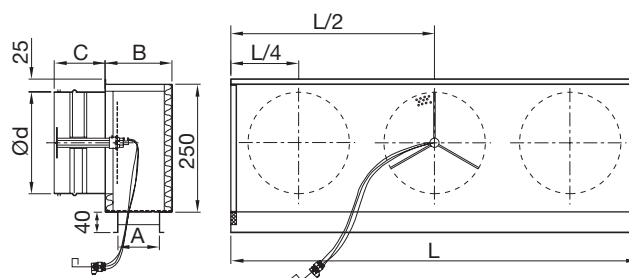
STU is a rectangular plenum box for air exhaust for linear diffuser, MTL. STU has the same properties as STB.

- Ensures even air distribution over the linear diffuser.
- Acoustically insulated.
- Supplied with damper and measuring device

Order code

Product	STB/STU	a	ba	ccc
Type				
Slot size	15			
	19			
No. of slots				
Length				

Dimensions



Box type / Length		0-1199		1200-1799		1800-2000				
No. of slots	Slot size				Ød	No.	Ød	No.	Ød	No.
	15		19							
	A	B	A	B						
1	26	90	41	91	125	1	160	1	125	2
2	51	100	80	130	160	1	200	1	160	2
3	76	125	118	168	200	1	200	2	200	2
4	101	150	158	208	200	1	200	2	200	2

C dimension: STB = 100 mm
STU = 200 mm

Materials and finish

Plenum box: Galvanised steel
Standard finish: Galvanised steel
Insulation: Melamine foam plastic