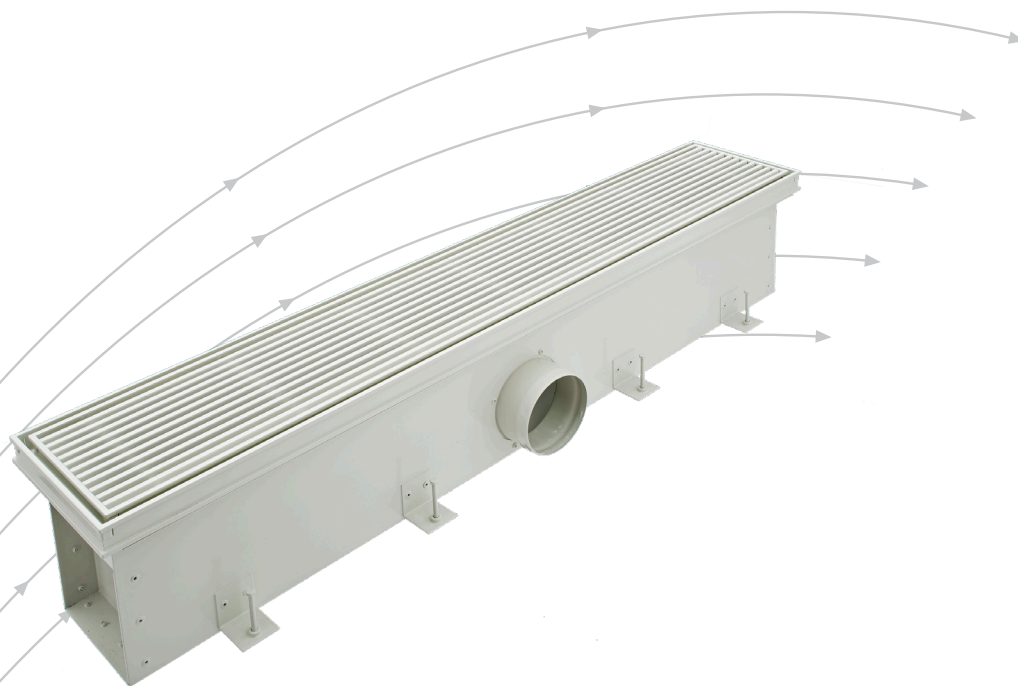


# Displacement flow diffuser continuous floor band

Type QL-BB



**TROX<sup>®</sup> TECHNIK**



The art of handling air

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# Contents · Application · Construction · Principle of operation · Safety instructions

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## Application

TROX HESCO displacement flow diffusers are for use where it is important to ensure good ventilation efficiency, i.e. the lowest possible pollutant load, while also attaining optimum thermal comfort in the working or living area.

Type	H min.	H max.
BG (Floor grille)	95 mm	445 mm
FR (front plate)	95 mm	200 mm

## Construction

TROX HESCO displacement flow diffusers type continuous floor band are available in standard design with 2 different diffuser types and plenum boxes. They are maintenance-free as no filter material is used. Special manufacturing is an option.

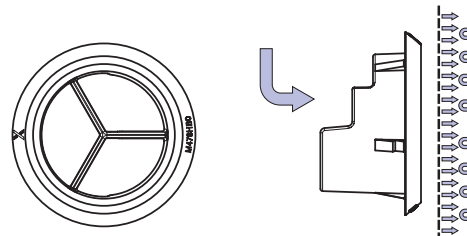
Dimensional tolerance  $\pm 2,5\text{mm}$ .

In the standard design, TROX HESCO displacement flow diffusers are supplied as a ready-to-install unit.

The special nozzles with moulded blades are made of Polypropylene (according to UL 94, V-0, flame retardant).

## Principle of operation

Special nozzles with integral air deflector scoops.



## Safety instructions

### CAUTION!

**Risk of injury from sharp edges and corners, ridges and thin-walled sheet metal parts!**

- Proceed carefully with all work.
- Wear protective gloves, safety shoes and protective helmet.

### WARNING!

**Danger from incorrect use. Misuse of the product may lead to dangerous situations.**

The product must not be used:

- in areas subject to explosion hazards;
- in the open air without sufficient protection against weather effects;
- in atmospheres that may have a damaging and/or corrosive effect on the product due to scheduled or unscheduled chemical reactions.

### CAUTION!

**Damage to the product due to improper handling. Check the device for damage and contamination prior to operation!**

Improper handling may lead to considerable material damage of the product.

- Do not use any acid or abrasive cleaning agents.
- Adhesives from sticky tape may lead to colour damage.
- Excessive moisture may lead to colour damage and corrosion.
- Use only cleaning agents, greases and oils that are expressly specified.

## General technical information for the selection of TROX HESCO displacement flow diffusers

Displacement ventilation differs from mixed ventilation, not only because the exhaust area is no longer in or close to the ceiling area, but in particular because the “motor” for the air movement is the thermal impetus of users of the room, machines, PCs, etc. As the placement of the exhaust air is usually with the displacement ventilation in living areas, the air diffuser speeds are to be set low in contrast to mixed ventilation, at 0.1 to 0.2 m/s, in the comfort range.

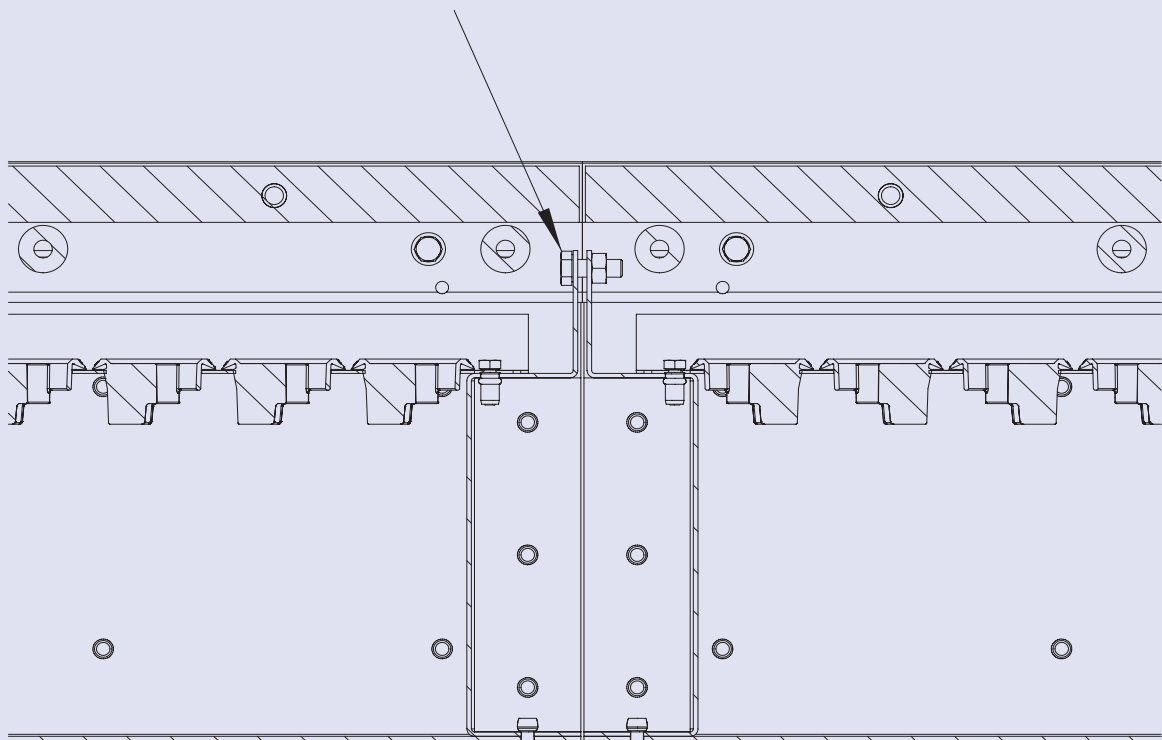
The vertical temperature gradient differs considerably from mixed ventilation. If the room temperature for mixed ventilati

on is practically the same from the floor to the ceiling, then a clear temperature gradient is characteristic of displacement ventilation. This means the important value  $\Delta t$  in mixed ventilation loses significance. Please note with the layout that you should select an supply air temperature of not less than 18°C for the comfort range where activities are mainly sedentary.

We will be pleased to assist you with the concept and design.

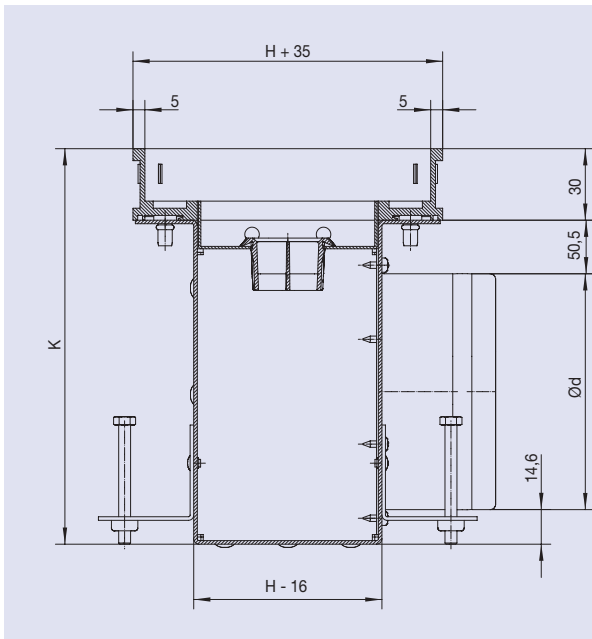
### Assembly

Lengths over 2000mm will be supplied in sections. They can be attached flush to a continuous band by using screws and nuts. The individual parts are put together in the factory using screws and nuts.



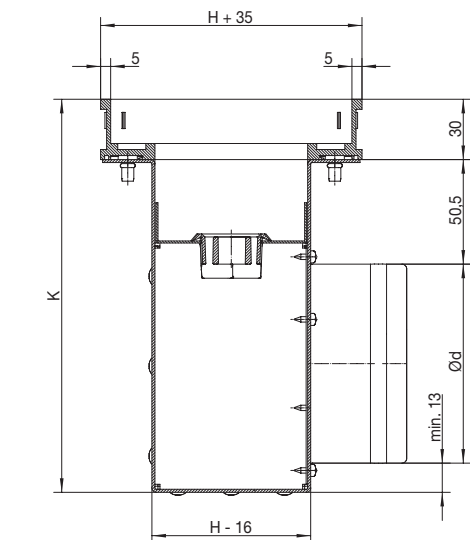
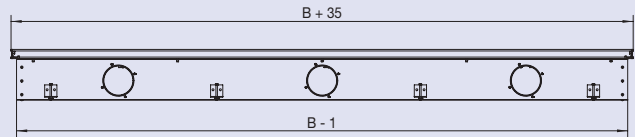
# Connection Options

## Connection Options



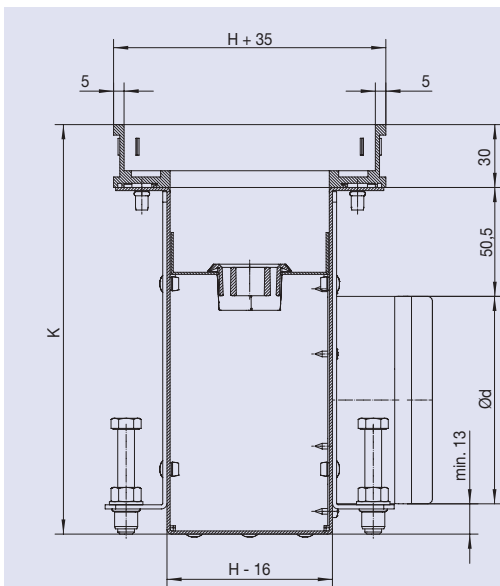
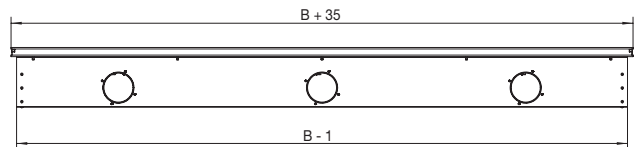
### Moulded plenum box (G)

Plenum box made of galvanised sheet steel with special nozzles with moulded blades made of PP plastic. Terminal box G is supplied with auto level screws for adjustment on-site and can be moulded.



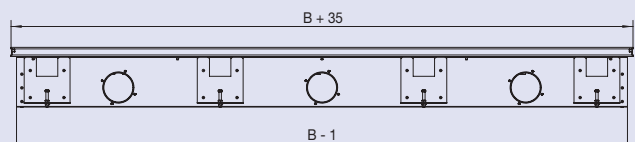
### Mounted plenum box (E)

Plenum box made of galvanised sheet steel with special nozzles inserted with moulded blades made of PP plastic. Plenum box E is intended for installation in double floors.

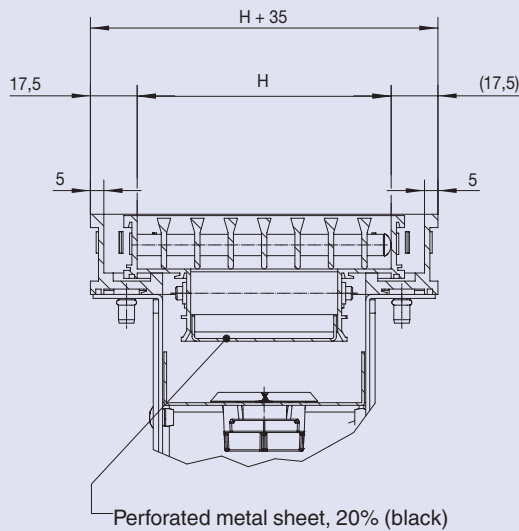


### Self-supporting plenum box (S)

Plenum box made of galvanised sheet steel with special nozzles inserted with moulded blades made of PP plastic. Plenum box S is supplied with auto-level screws for adjustment on-site and is self-supporting.



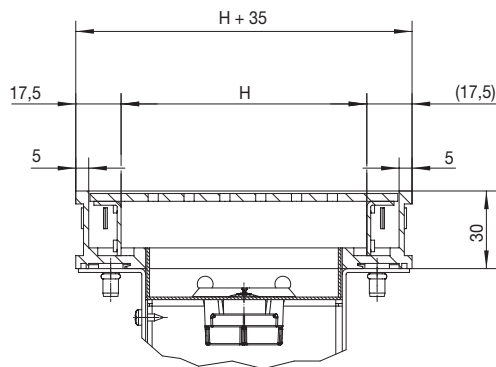
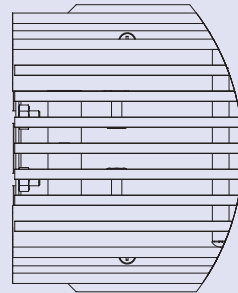
## Cover Options



### Covering with floor grille (BG)

Floor grille made of light metal, colourless and anodised, consisting of a frame with inserted lamina grating. The grille is fixed using grey plastic buffers

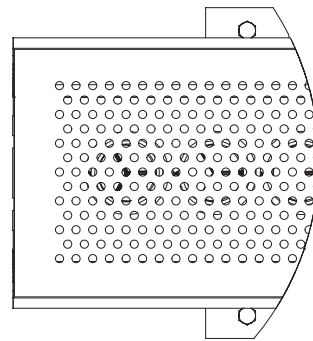
Product information for floor grille, type BG:  
See brochure L-03-2-01e



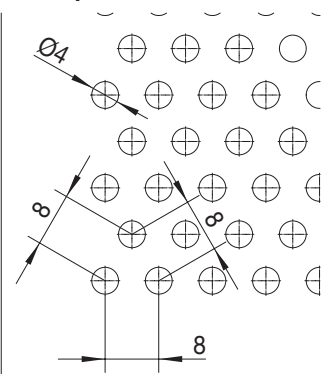
### Cover with front sheet (perforated sheet, FR)

Consisting of a frame and front sheet inserted. The frame consists of colourless, anodised light metal, the front sheet of galvanised sheet steel, the visible surface is painted according to RAL 9006. Other colours are available upon request.

All outlet types can be removed for cleaning.



### Hole pattern

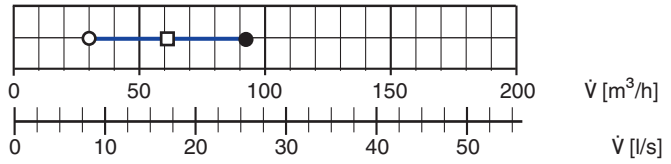


# Technical Data · Quick Selection

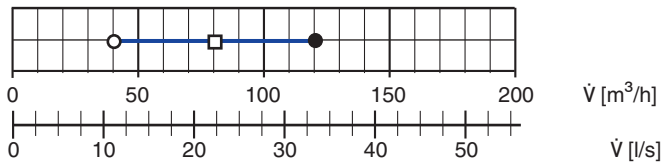
## Technical Data

Size	$v_0$	$\dot{V}$		$\Delta p$	$L_w$
		[m/s]	[l/s]		
1000 x 157 - 2 x 80	0.1	8.6	31	4	<15
	0.2	17.5	63	15	30
	0.3	26.1	94	34	42

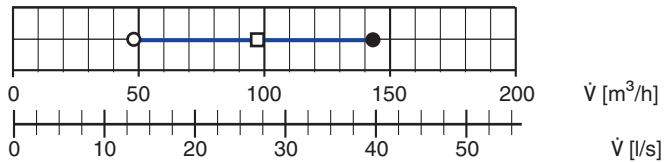
## Quick Selection



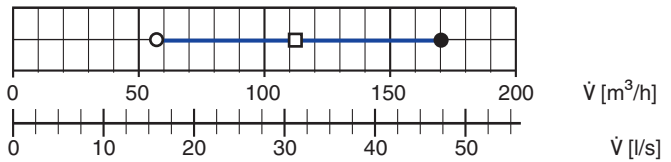
Size	$v_0$	$\dot{V}$		$\Delta p$	$L_w$
		[m/s]	[l/s]		
1250 x 157 - 3 x 80	0.1	11.1	40	3	<15
	0.2	21.9	79	11	26
	0.3	33.1	119	24	38



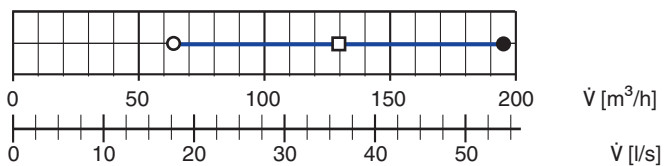
Size	$v_0$	$\dot{V}$		$\Delta p$	$L_w$
		[m/s]	[l/s]		
1500 x 157 - 3 x 80	0.1	13.3	48	4	<15
	0.2	26.7	96	15	30
	0.3	40.0	144	34	42



Size	$v_0$	$\dot{V}$		$\Delta p$	$L_w$
		[m/s]	[l/s]		
1750 x 157 - 3 x 100	0.1	15.6	56	2	<15
	0.2	31.4	113	9	25
	0.3	46.9	169	21	37



Size	$v_0$	$\dot{V}$		$\Delta p$	$L_w$
		[m/s]	[l/s]		
2000 x 157 - 3 x 100	0.1	18.1	65	3	<15
	0.2	36.1	130	12	27
	0.3	53.9	194	27	39



## Nomenclature

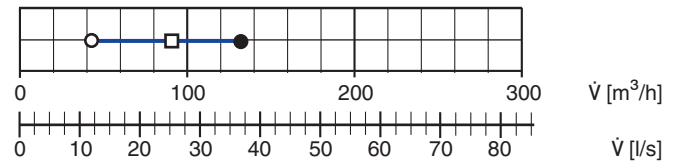
- ‡ Flow rate
- $v_0$  Discharge velocity based on gross outlet area (m/s)
- $L_w$  Sound power level (dB(A))
- $v_0 = 0.10$  m/s
- $v_0 = 0.20$  m/s
- $v_0 = 0.30$  m/s

# Technical Data - Quick Selection

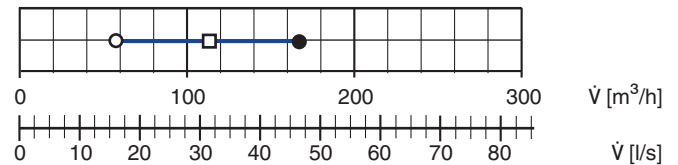
## Quick Selection Data

Size	$v_0$	$\dot{V}$		$\Delta p$	$L_w$
		[m/s]	[l/s]		
1000 x 195 - 2 x 100	0.1	12.2	44	2	<15
	0.2	24.4	88	10	23
	0.3	36.7	132	22	35

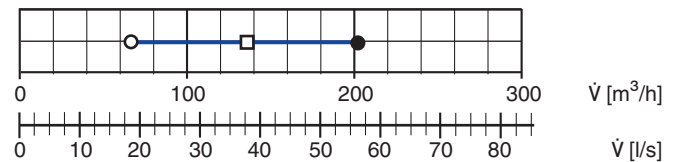
## Quick Selection



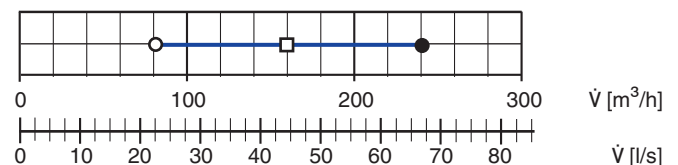
Size	$v_0$	$\dot{V}$		$\Delta p$	$L_w$
		[m/s]	[l/s]		
1250 x 195 - 2 x 100	0.1	15.6	56	4	<15
	0.2	31.1	112	16	31
	0.3	46.7	168	36	44



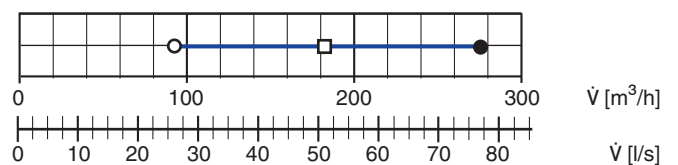
Size	$v_0$	$\dot{V}$		$\Delta p$	$L_w$
		[m/s]	[l/s]		
1500 x 195 - 3 x 100	0.1	18.9	68	2	<15
	0.2	37.5	135	10	24
	0.3	56.4	203	22	36



Size	$v_0$	$\dot{V}$		$\Delta p$	$L_w$
		[m/s]	[l/s]		
1750 x 195 - 3 x 100	0.1	22.2	80	4	<15
	0.2	44.2	159	14	29
	0.3	66.4	239	32	41

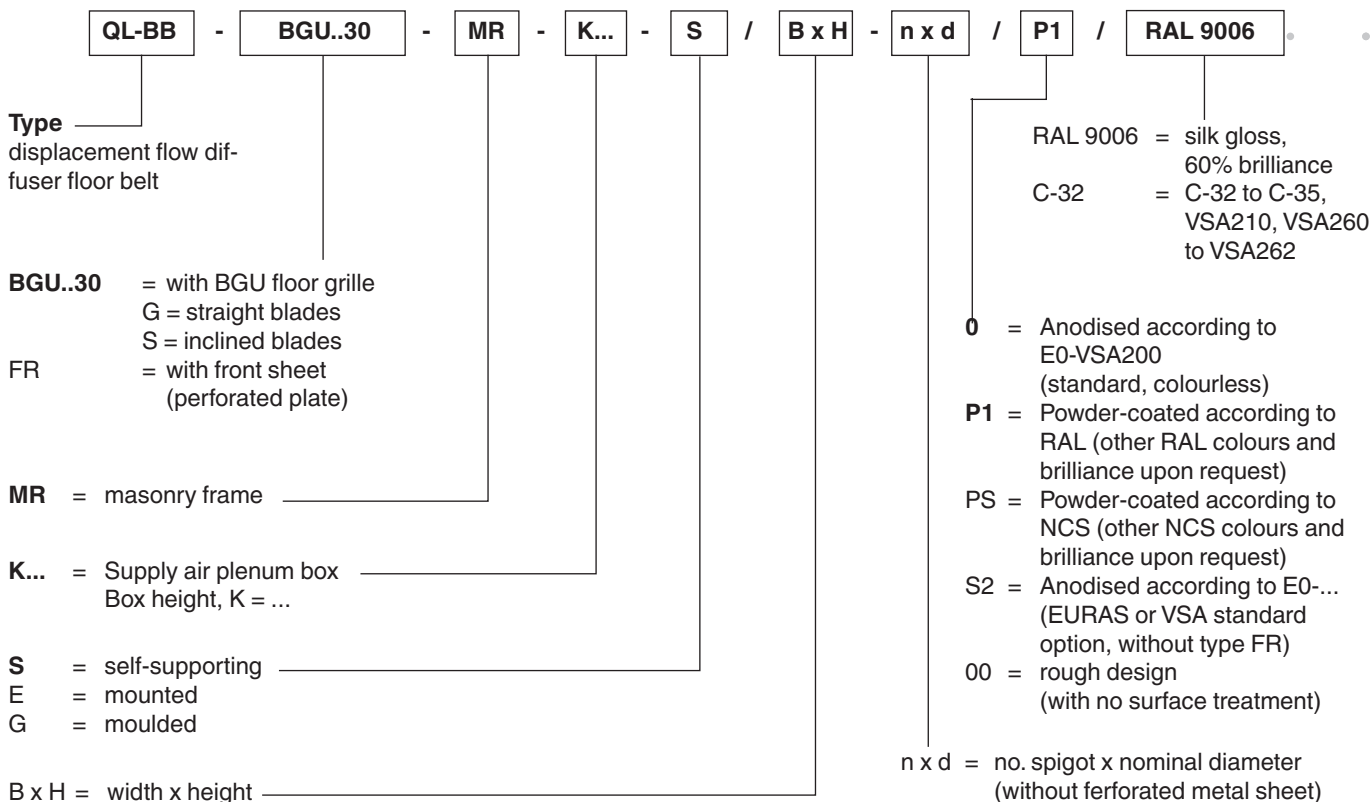


Size	$v_0$	$\dot{V}$		$\Delta p$	$L_w$
		[m/s]	[l/s]		
2000 x 195 - 3 x 100	0.1	25.3	91	5	<15
	0.2	50.8	183	19	34
	0.3	76.1	274	43	47



# Order details

## Order code



## Order examples

- 10 units QL-BB-FR-MR-K200-S/2000x95-3x160/P1/RAL 9006  
 2 units QL-BB-BGUG30NT-MR-K200-G/6000x145-9x125/P1/RAL 9006

## Specification texts

TROX HESCO displacement flow diffusers for optimum supply of prepared air into the room, according to the displacement principle. Even flow profile due to built-in special nozzles with moulded blades.

Displacement flow diffuser floor bands, QL-BB, for use as continuous bands inset into the floor in sections up to a maximum of 2.00m.

**Floor grilles** made of stable and walkable light metal profiles, colourless and anodised. Consisting of a frame with removable grille. Blades set out lengthwise, non-adjustable. The grille is fixed with plastic buffers.

**Front sheet (perforated sheet)** consisting of a frame and a front sheet inserted. The frame is made of light metal, colourless anodised, and the front sheet is made of galvanised sheet steel, the visible surface is painted according to RAL 9006. Other colours are available upon request.

## Material plenum box

Galvanised sheet steel, nozzles made of Polypropylene, according to UL 94, V-0, flame retardant