



VENTILATION GRILLES

UM SERIES

OVERVIEW AND TECHNICAL DATA

CHARACTERISTICS :

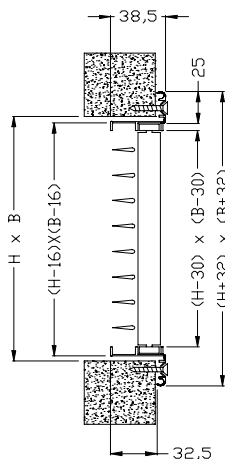
UM series ventilation grilles are completely adjustable air terminal devices with swinging blades which can be regulated one by one. These grilles can mount one or two lines of straight blades.

Frame: extruded aluminium, length 25 mm, rounded corners; it's constituted from 4 assembled parts. **Blades:** extruded aluminium with 20 mm as distance between the centres; the blades are pivoted on a self-locking nylon support fixed on the frame.

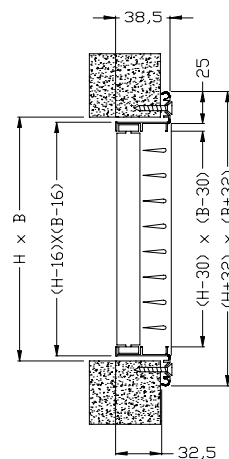
Transversal reinforcement: foreseen only for grilles with size upper than 600 mm. **Damper:** galvanized sheet steel, contrast blade motion.

Mounting frame: galvanized sheet steel suitable for installation with screws on frontal side or with clips. **Installation on wall:** by screws, by clips and mounting frame (without screws), with screws directly on the duct or on the wall, by clips or screws directly on the plenum. **Finishing:** anodized aluminium or painted aluminium with colour white RAL 9010 (epoxy powder treatment).

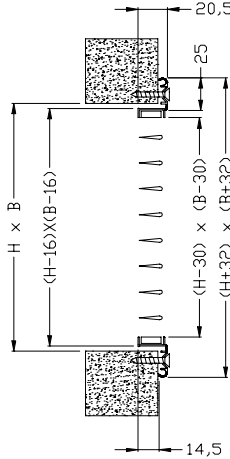
UM2V



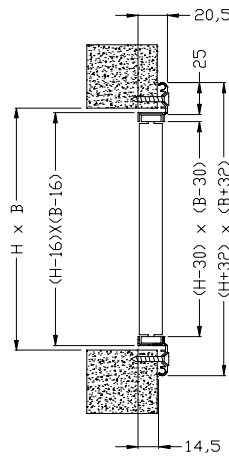
UM2H



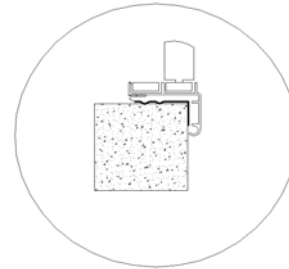
UMIH



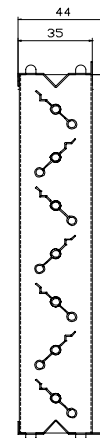
UMIV



Mounting system by clips.



Contrast calibration damper.

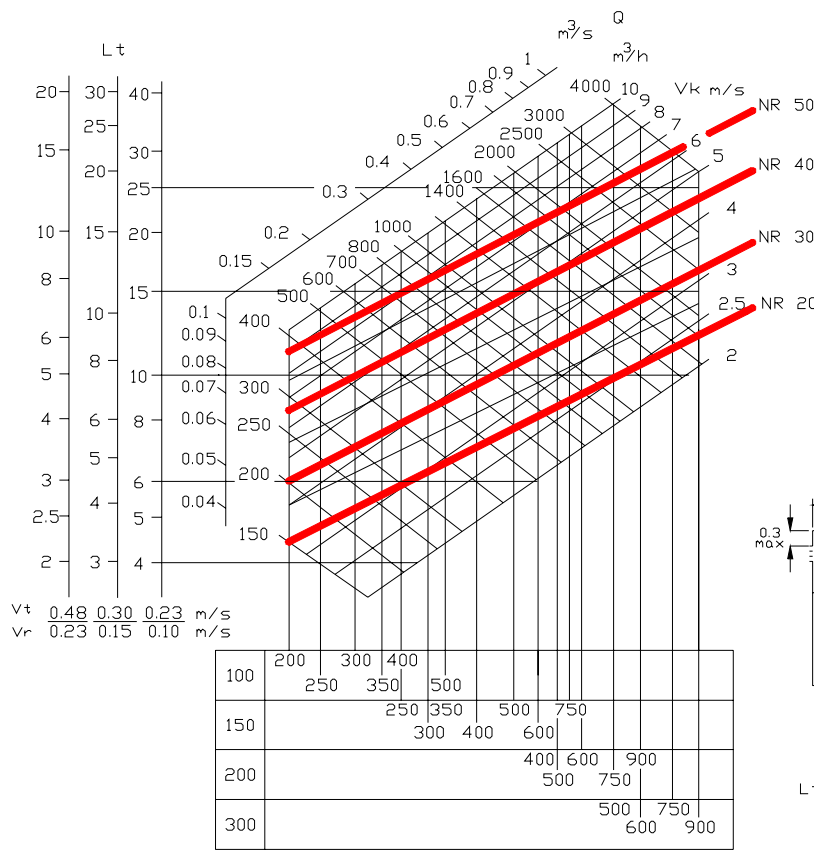




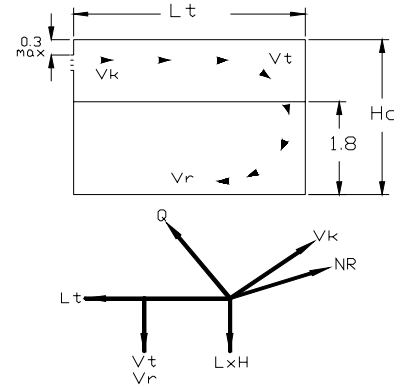
VENTILATION GRILLES

PERFORMANCE

UM SERIES



- Hc = Room height (m)
- Q = Air flow rate (m^3/h)
- Pt = Total pressure (mm c.a.)
- Vk = Effective velocity from ATD (m/s)
- Ak = Area factor of ATD (m^2)
- Lt = Throw (m)
- Vt = Terminal velocity in the stream at distance X (m/s)
- Vr = Average residual velocity in the occupied zone (m/s)
- Ls = Spread (m)
- Ld = Total drop (m)
- Lds = Isothermal drop (m)
- Ldt = Not isothermal drop (m)
- rtk = Temperature difference ($^{\circ}C$)
- NR = Noise Rate
- LwA = Power acoustic level dB(A)



	Throw correction (L_t) in relation to the temperature differential on exit (Δt_k)			Throw correction (L_t) without ceiling effect	
	Cooling	Ventilation	Heating	Minimum distance between grille and ceiling (m)	Factor
Δt_k	$-10^{\circ}C$	$0^{\circ}C$	$+15^{\circ}C$	0,9	$L_t \times 0,8$
L_t	$\times 1,0$	$\times 1,1$	$\times 1,2$		



VENTILATION GRILLES REGULATION

PERFORMANCE

UM SERIES

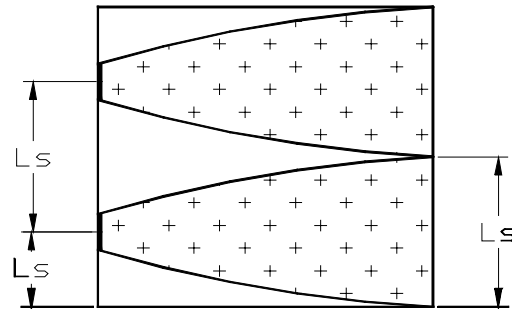
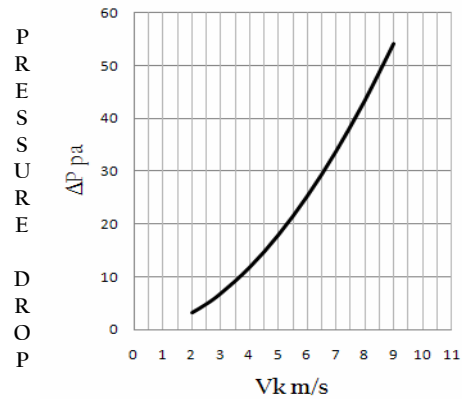
The characteristics of the air flow trend in a room are depending on several variables. The main regulation is carried out by a suitable selection of blades deflection angle (vertical and/or horizontal). The blades can be oriented one by one.

Spread correction:

Spread (L_s) is the maximum distance between two vertical planes tangent to a specified envelope and perpendicular to a plane through the centre of ATD core. The envelope is depending on the terminal velocity (V_t) that is a function of the throw (L_t).

The regulation is carried out by a suitable orientation of the vertical front blades and the second line blades.

The air flow divergence angle changes all characteristics of the ventilation. The delivery air flow characteristics are shown on the diagrams. These characteristics are correct only for grilles without deflection (parallel blades with 0 degree deflection angle). For different deflections, throw (L_t), area factor (A_k), effective velocity air supplied (V_k) and acoustic level (NR) must be changed using the correction factor shown on the table below. For the described deflection, the spread is shown as the function of throw (L_t) (figure 3). At the end of the throw, the spread must be tangent to the lateral walls or tangent to the other envelope (if there is more than one grille in the same room) (see figure 2).

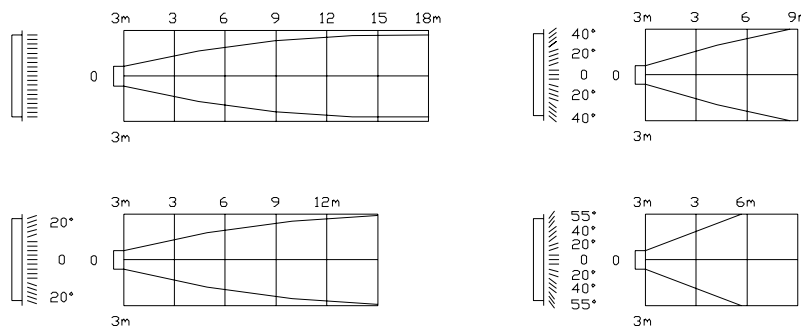


(Figure no. 2)

CORRECTION as
function of
vertical deflection

Type of grille	Inclination	A_k	V_k	L_t	NR
UM2V UM2H	20°	x 0,87	x 1,15	x 0,85	+ 3
	40°	x 0,80	x 1,25	x 0,75	+ 5
	55°	x 0,75	x 1,33	x 0,55	+ 8

DEFLECTION



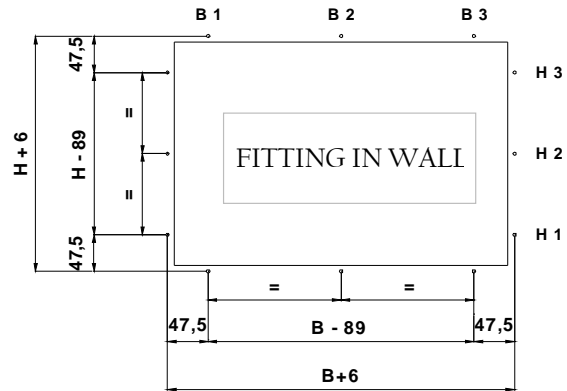
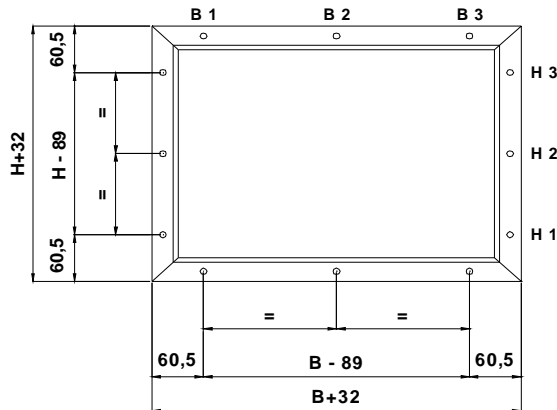
(Figure no. 3)



VENTILATION GRILLES

TECHNICAL CHARACTERISTICS

UM
SERIES



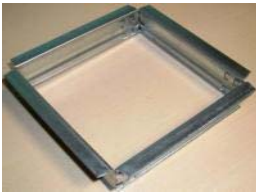
REFERENCE TO NOMINAL SIZES OF GRILLE

B=BASE

H= HEIGHT

NECESSARY HOLES							
B	B1	B2	B3	H	H1	H2	H3
100				100		X	
200				200		X	
300				300		X	
400				400	X		X
				500	X		X
				600	X		X
				700	X		X
				800	X	X	X
				900	X	X	X
				1000	X	X	X
				1100	X	X	X
				1200	X	X	X
				1300	X	X	X
				1400	X	X	X

NECESSARY HOLES							
B	B1	B2	B3	H	H1	H2	H3
500	X		X	100			
600	X		X	200			
700	X		X	300			
800	X	X	X	400			
900	X	X	X	500			
1000	X	X	X	600		X	
1100	X	X	X	700		X	
1200	X	X	X	800		X	
1300	X	X	X	900		X	
1400	X	X	X	1000	X	X	X
1500	X	X	X	1100	X	X	X
				1200	X	X	X
				1300	X	X	X
				1400	X	X	X
				1500	X	X	X



COUNTERFRAMES FOR SUPPLY AND RETURN GRILLES

UTC
SERIES

OVERVIEW

OVERVIEW

The UTC series counterframes used for supply and return grilles are a strong frame on which the fixing clips can rest. They are required if the grilles need to be frequently removed for cleaning, inspection, filter changing and other similar jobs. The UTC counterframes can be installed both next to steel ducts and on masonry walls.

Bendable parts are placed inside the fixing agent of the wall and a frame that will be completely hidden from the frame of the grille itself, for fixing by means of screws or rivets to the duct wall.

The use of the counterframe on the side of the steel duct allows the use of grilles with fixing clips rather than with screws, therefore allowing to undertake jobs that require removing and reinstalling the grille with the up most simplicity without the need of tools.

The use of the counterframe on masonry walls allows for an almost unlimited number of removals and replacements of the grille without ever damaging or wearing-out the border of the hole made in the wall. The position of the grille can therefore be maintained, precise and secure.

TECHNICAL CHARACTERISTICS

The UTC Series counterframes are made of four separate parts, of galvanized carbon steel sheet, fixable to each other without the need of tools. The parts are completely interchangeable as the particular system of connection eliminated the need to distinguish between horizontal and vertical parts and with between left and right parts.

As shown in the illustration, the necessary space for the counterframe needs to be 5mm more than the nominal size of the grille.

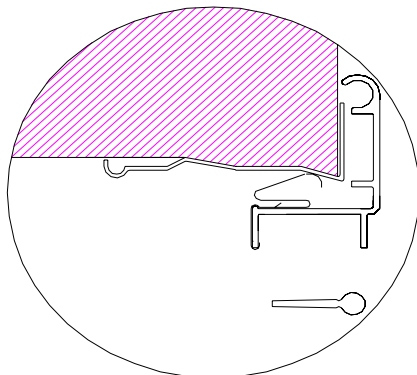
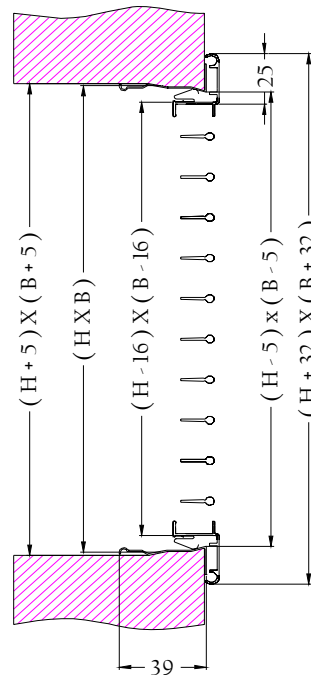
The parts are supplied unassembled, the complete interchangeability helps to easily manage the parts kept in stock.

AVAILABLE SIZES

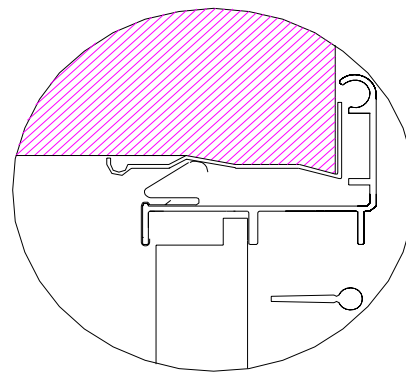
The available sizes for each part range from 100mm up to a maximum of 1400mm, in multiples of 50mm.

Special sizes are also available on request.

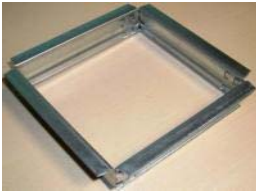
By composing the various sizes, all the necessary sizes are achievable.



Mounting with single deflection grille



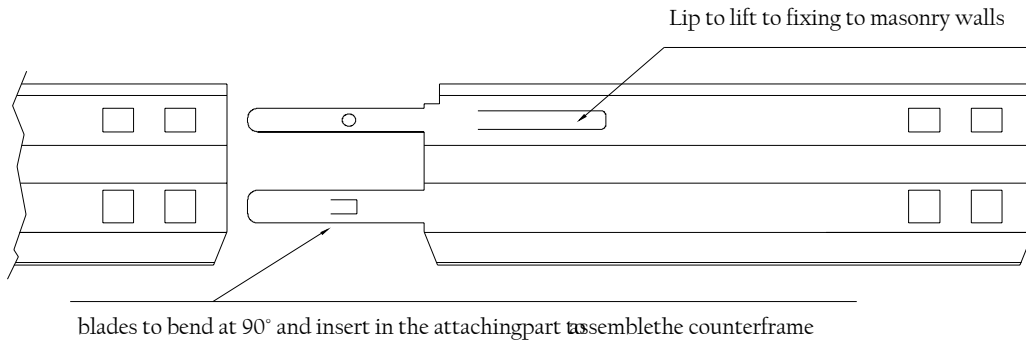
Mounting with double deflection grille



**COUNTERFRAMES FOR SUPPLY
AND RETURN GRILLES**

UTC
SERIES

OVERVIEW



Detail of the fixing method between parts

This system allows to quickly assemble the counterframe, even during the construction phase.

CODES	
UTC	XXX
part counterframe	length (mm)

Example:

To order a counterframe for a 400x200mm grille, request:

UTC-400 - 2 pieces

UTC-200 - 2 pieces

To order a counterframe for a 300x300 grille, request:

UTC-300 - 4 pieces

COUNTERFRAME SIZES WITH AVAILABLE PARTS KEPT IN STOCK																
HEIGHT H	1000															
	900															
	800															
	700															
	600															
	563															
	500															
	450															
	400															
	350															
	300															
	250															
	200															
	150															
	100															
		100	150	200	250	300	350	400	450	500	563	600	700	800	900	1000
		BASE B														

The 563x563 size is for grilles with a 595x595mm outside frame measurement, used for modular counterceilings.



**PLENUM FOR
VENTILATION GRILLES**

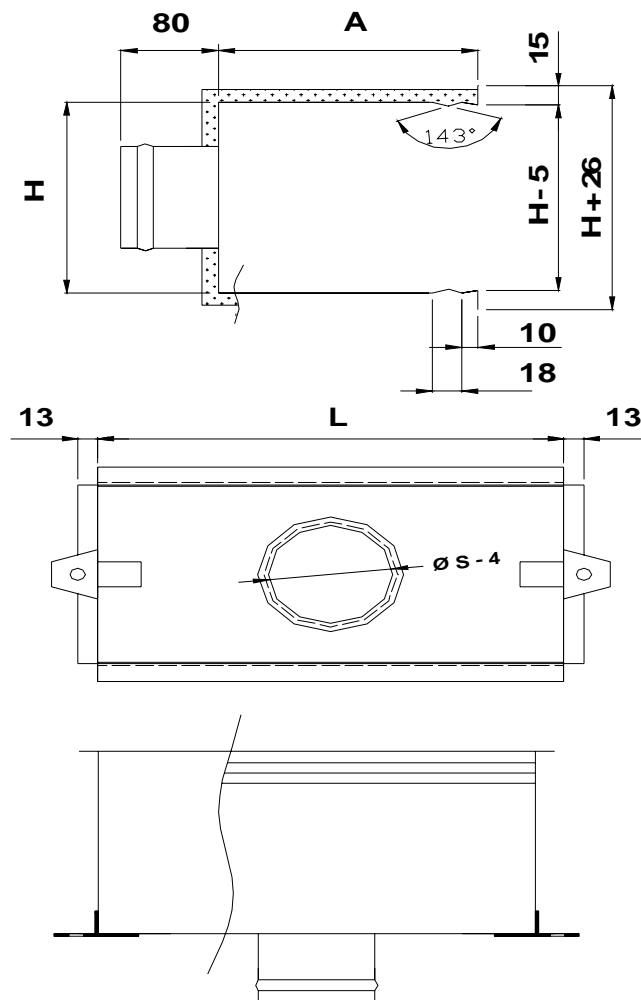
PP 30
SERIES

TECHNICAL CHARACTERISTICS

PP 30				
L	H	A	N°	S
200	100	140	1	80
300		140	1	80
400		140	1	80
500		140	2	80
600		140	2	80
700		140	2	80
800		140	2	80
1000		140	2	80
200	150	180	1	127
300		180	1	127
400		180	1	127
500		180	2	127
600		180	2	127
700		180	2	127
800		180	2	127
900		180	2	127
1000		180	2	127
200		200	220	1
300	220		1	150
400	220		1	180
500	220		1	180
600	220		2	150
700	220		2	150
800	220		2	150
900	220		2	180
1000	220		2	180
200	250		220	1
300		220	1	200
400		220	1	200
500		220	1	200
600		220	2	150
700		220	2	150
800		220	2	150
900		220	2	180
1000		220	2	180
300		300	260	1
400	260		1	250
500	260		1	250
600	260		2	160
700	260		2	160
800	260		2	160
900	260		2	200
1000	260		2	200

400	260	1	350	
500	260	1	350	
600	260	2	160	
700	400	2	160	
800	260	2	160	
900	260	2	200	
1000	260	2	200	
515	515	150	1	250
563*	563	270	1	350

*Plenum for grilles with external frame dimensions 595x595





**PLENUM FOR
VENTILATION GRILLES**

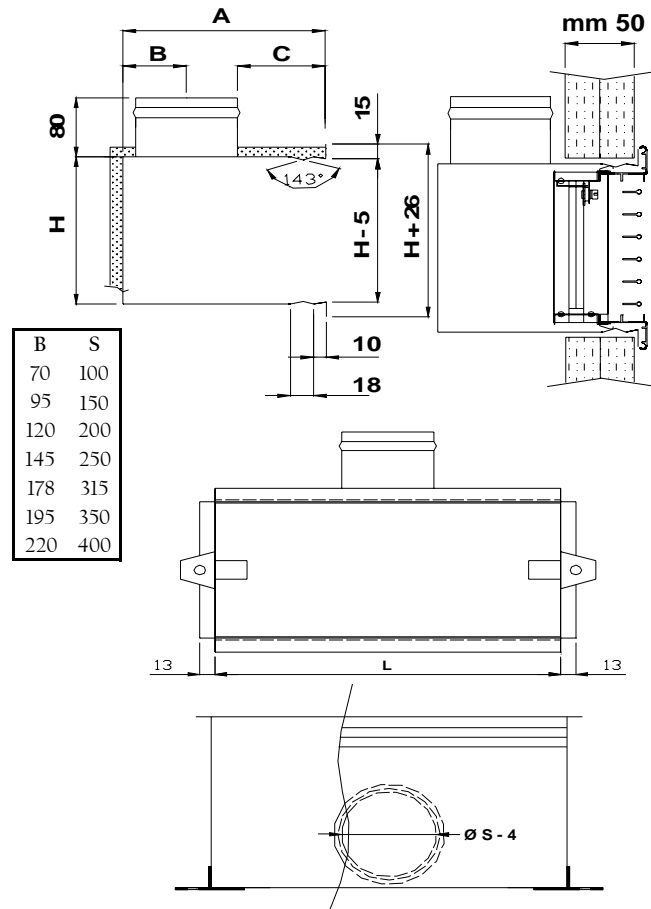
**PP 40
SERIES**

TECHNICAL CHARACTERISTICS

PP 40						
L	H	A	B	C	N°	S
200	100	200	70	80	1	100
300		250	95	80	1	150
400		250	95	80	1	150
500		300	120	80	1	200
600		300	120	80	1	200
700		350	145	80	1	250
800		350	145	80	1	250
1000		350	145	80	1	250
200	150	250	95	80	1	150
300		300	120	80	1	200
400		300	120	80	1	200
500		350	145	80	1	250
600		350	145	80	1	250
700		350	145	80	1	250
800		415	178	80	1	315
900		415	178	80	1	315
1000	415	178	80	1	315	
200	200	250	95	80	1	150
300		250	95	80	1	150
400		350	145	80	1	250
500		350	145	80	1	250
600		415	178	80	1	315
700		415	178	80	1	315
800		415	178	80	1	315
900		450	195	80	1	350
1000	450	195	80	1	350	
200	250	300	120	80	1	200
300		300	120	80	1	200
400		350	145	80	1	250
500		350	145	80	1	250
600		415	178	80	1	315
700		415	178	80	1	315
800		415	178	80	1	315
900		450	195	80	1	350
1000	450	195	80	1	350	
300	300	350	145	80	1	250
400		415	178	80	1	315
500		450	195	80	1	350
600		450	195	80	1	350
700		450	195	80	1	350
800		450	195	80	1	350
900		500	220	80	1	400
1000		500	220	80	1	400

400	450	195	80	1	350	
500	450	195	80	1	350	
600	450	195	80	1	350	
700	400	450	195	80	1	350
800	450	195	80	1	350	
900	500	220	80	1	400	
1000	500	220	80	1	400	
515	515	320	145	50	1	250
563*	563	450	195	80	1	350

*Plenum for grilles with external frame dimensions 595x595





CONTROL DAMPERS

SC SERIES

OVERVIEW TECHNICAL CHARACTERISTICS

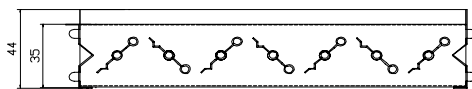
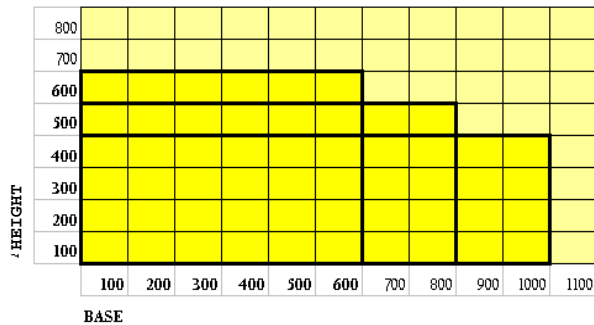
OVERVIEW AND CHARACTERISTICS :

The contrast control dampers of SC series can be fitted to UM series inlet grilles, UP series outlet grilles, and GI series industrial grilles. They are held in place by special patented clips, designed both for fitting the damper to the grille and for fitting it on a false frame.

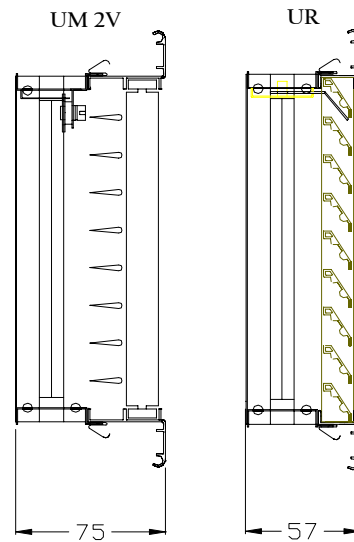
The SC series dampers are made entirely of galvanised steel and have a mechanism for moving and closing all the blades simultaneously.

This mechanism is a simple longitudinal plate that links all the blades, and can be removed by unscrewing a nut using a screwdriver. The careful design, precise assembly, and the quality of the materials used, make this an economical, practical, and efficient component.

Contrast control damper - dimensions that can be created in a single solution



Contrast control damper - overall dimensions for UM2V and UR



Contrast control damper - detail of patented fixing clips





VENTILATION GRILLE COMBINED WITH EXTRACT GRILLE

UMR
SERIES

OVERVIEW TECHNICAL CHARACTERISTICS

OVERVIEW AND CHARACTERISTICS :

Also the grillesUM Rbelong to the seriesUM. These units are composed by a double or single deflection grille with adjustable blades and an extract grille with fixed blades mounted on the same frame.

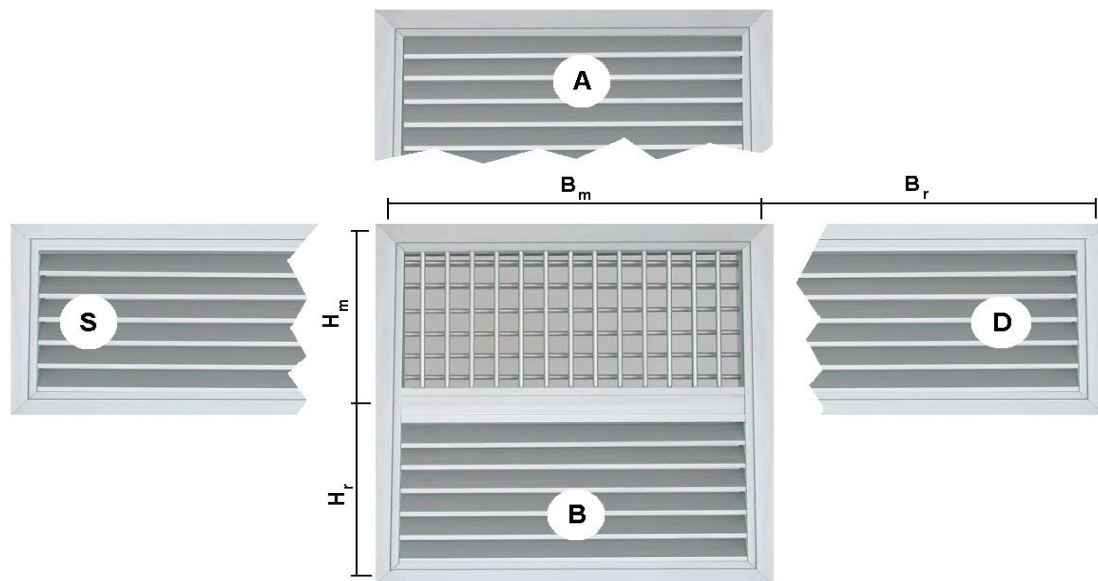
The grillesUM Rare used in those applications, in which the supply and in-take actions are converged on the same opening. Using the type of grilles seriesUM Rcan help to avoid difficulties, waste of time and additional work during the installation.

The construction modality allows to meet all construction and size requirements of the customers.

For the characteristics please see pages of this catalogue referred to UM ventilation grilles and UR extract grilles.

CONSTRUCTIONS :

The possibilities of the construction make refer to all the various models dUM (double or single deflection with horizontal or vertical frontal line) and the position of the extract grille UR (high A, down B, right D, left S) on the ventilation grille. The dimensi of the two units (base x height / bases x height) give more detailed information which could be necessary for the construction.



UM	Ventilation grille
1/2	1/2 blades line
V/H	Vertical / horizontal frontal line
R	Extract grille
A/B/D/S	Position of the extract grille
$B_m \times (H_m + H_r)$	Sizes for constructions A / B
$(B_m + B_r) \times H_m$	Sizes for constructions D / S

Example: UM 2V RD (300+500)x200
Double deflection grille- vertical frontal line- with extract grille on the right side. Nominal sizes of the ventilation grill 300x200, of the extract