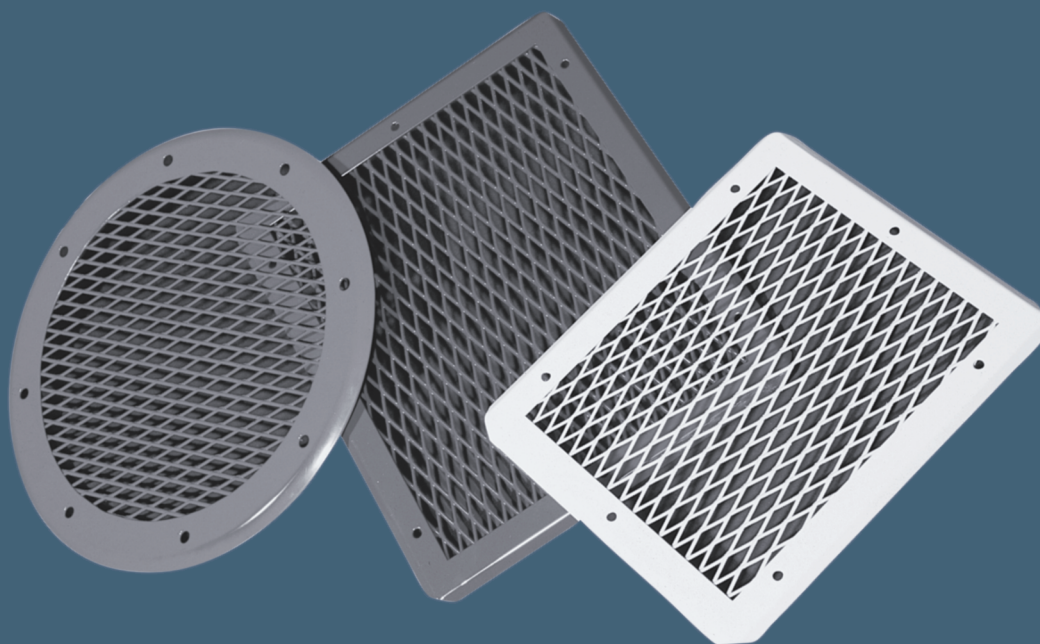


MANDÍK®

COVERING/PROTECTION GRILLE SQUARE AND ROUND

KMM



These technical specifications state a row of manufactured sizes and models of covering/protection grilles (further only grilles) KMM. It is valid for production, designing, ordering, delivery, assembly and operation.

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II. GENERAL INFORMATION

1. Description

- 1.1. Cover grilles are used to cover side holes and free ends of piping, or to be fitted into the wall. Grilles prevent passing larger objects.

Square grates are fixed to side holes or free ends of duct with screws 6.3 x 16 according to EN ISO 1481. Free ends of duct are adapted by notching in corners up to length of "C" and bending. Corners remain free. Notching, bending, cutting the side holes out, boring, and fitting the grill is made during assembly.

- 1.2. Grilles with frame for fitting to the wall are supplied as a unit.
- 1.3. Grilles are designed for macroclimatic areas with mild climate according to EN 60 721-3-3 zm.A2. Grilles are suitable for systems without abrasive, chemical and adhesive particles.
- 1.4. If is not noticed other way, all dimensions and weight are in millimeters and kilograms.

2. Design

- 2.1. Grilles consist of a flange, panel made of tensile metal, and frame for fitting to wall if required. Dimensions A = 800 and higher have grilles provided with a central stiffening belt.
- 2.2. Design of grilles by location is marked by first supplementary number next to dash in the ordering key.

Tab. 2.2.1. Design of grilles by location

Design	Location	First supplementary number
grilles with flanges	to sides of piping or free ends of piping	.2
grilles with flanges, frame and holders	for fitting to the wall	.3

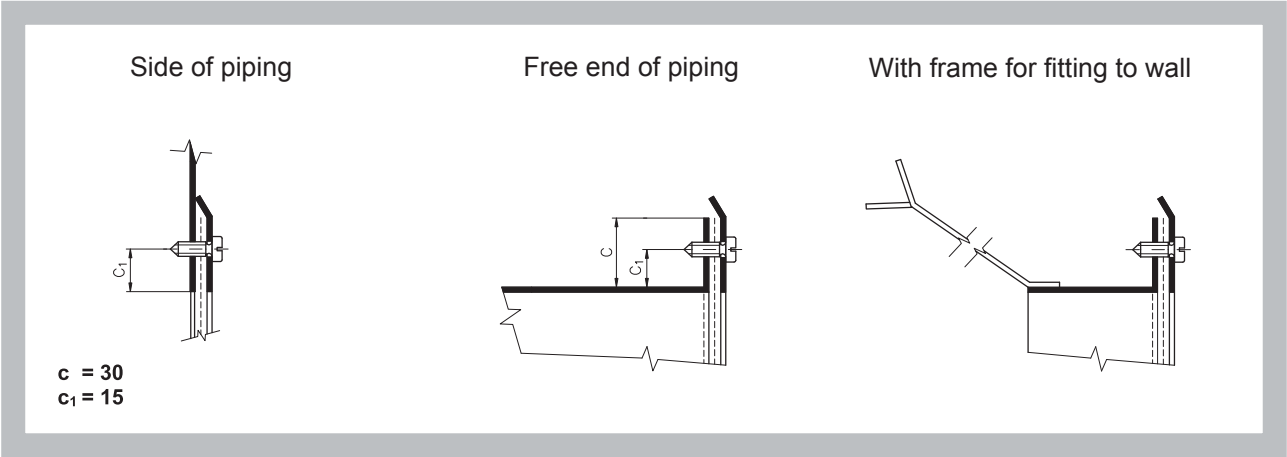
- 2.3. Design of grilles by surface painting and colour shades is marked by second supplementary number next to dash in the ordering key.

Tab. 2.3.1. Design of grilles by surface painting and colour shades

Design	Second supplementary number
Surface treatment by painting	- ground coat
	- RAL 9010 - shade - white
	- RAL 9001 - shade - cream
	- RAL 9006 - shade - aluminium
AtyFigal shade - agreement with the manufacturer	.x9

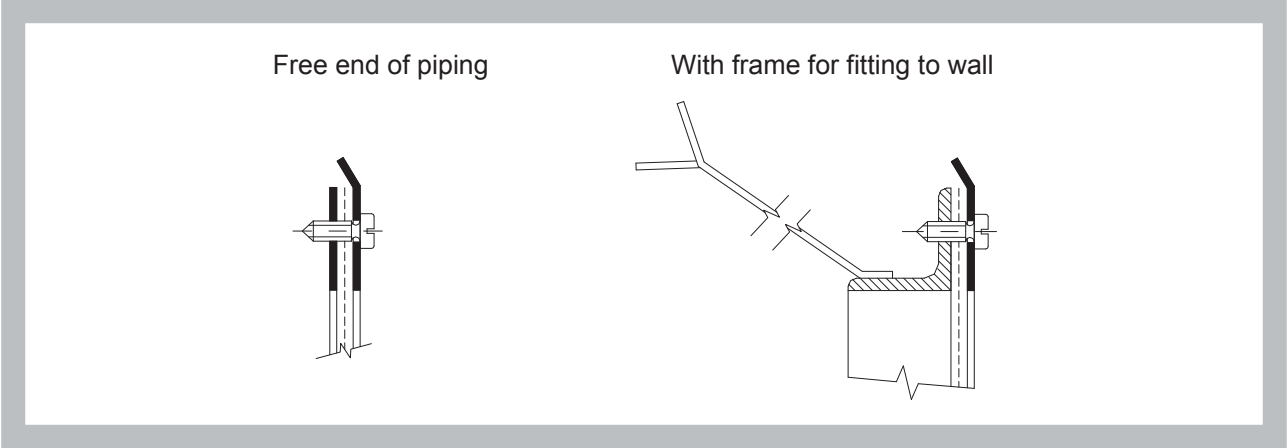
2.4. Square grilles

Fig. 1 Square grilles - detail of mounting



2.5. Round grilles

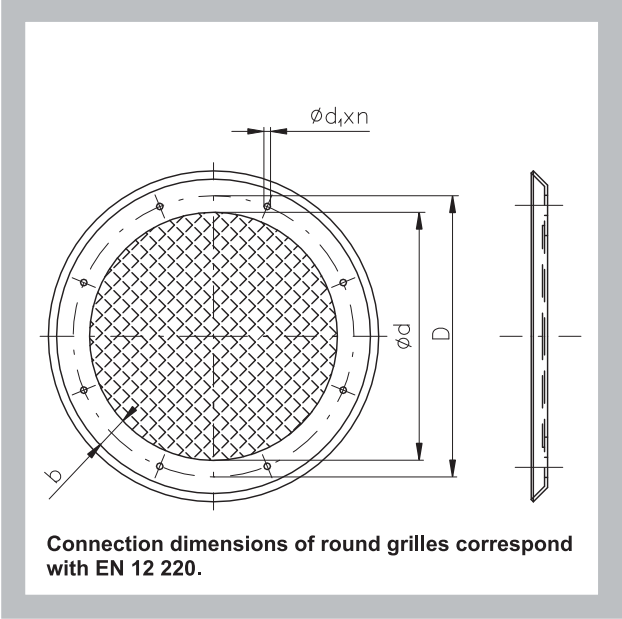
Fig. 2 Round grilles - detail of mounting



3. Dimestions, weights

3.1. Round grilles

Fig. 3

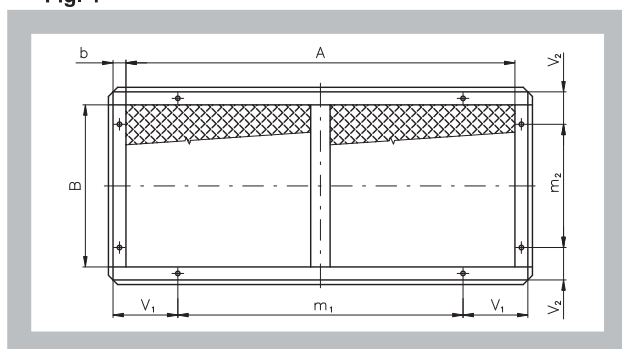


Tab. 3.1.1. Round grilles - dimentions

ød	D	d ₁	n	b	Holders pcs.	Weight			
						Design			
						.2	.3		
100	130	10	4	25	2	0,2	0,6		
160	195		8	30		4	0,4	0,9	
200	235				0,5		1,2		
250	285							0,6	1,4
280	315								
315	350	0,8	1,9						
355	390			0,9	2,2				
400	445					1,2	3,8		
450	495							1,4	4,9
500	545	1,5	5,4						
560	605			1,8	5,9				
630	680					2,2	8,1		
710	760							2,5	9,4
800	860	3,2	10,8						

3.2. Square grilles

Fig. 4



Tab. 3.2.1. Square grilles - dimentions

AxB	V ₁	m ₁	V ₂	m ₂	b	d	n	Holders pcs.	Weigth		
									Design		
									.2	.3	
125 x 125	92,5	-	92,5	-	30	7	4	2	0,30	0,80	
160 x 125	110	-	92,5	-					0,35	0,90	
x 160			110						0,40	1,00	
200 x 125	130	-	92,5	-					0,40	1,00	
x 160			110						0,45	1,10	
x 200			130						0,50	1,25	
250 x 125	60	190	92,5	-			6	0,45	1,15		
x 160			110					0,50	1,25		
x 200			130					0,60	1,30		
x 250			60					190	0,65	1,55	
315 x 125	60	255	92,5	-			6	4	0,60	1,60	
x 160			110						0,70	1,65	
x 200			130						0,75	1,80	
x 250			60				190		0,80	1,90	
x 315			255				0,95		2,15		
400 x 160	110	240	110	-			6	4	0,80	1,90	
x 200			130						0,90	2,10	
x 250			60						190	0,95	2,15
x 315			255				1,10		2,45		
x 400			110				240		1,30	2,80	
500 x 200			130				-		1,10	2,45	
x 250	110	170	60	190			10	6	1,25	2,75	
x 315			225	1,35					2,95		
x 400			240	1,40					3,05		
x 500			170	1,60					3,50		
630 x 250	110	235	60	190			10	4	1,35	2,85	
x 315			225	1,45					3,10		
x 400			240	1,65					3,50		
x 500			110	170			12		6	1,80	4,00
x 630			235	2,30					4,50		
800 x 315	110	320	60	255			10	4	2,40	5,50	
x 400			240	2,70					6,00		
x 500			110	170			12	6	2,80	6,50	
x 630									235	3,00	7,00
x 800									320	3,50	8,00
1000 x 400									240	10	6
x 500	170	12	3,30	7,50							
x 630	235		3,60	8,00							
x 800	320		4,20	9,00							
1250 x 500	110		363	110			170	14	8	4,20	9,00
x 630		235					4,50			9,50	
x 800		320					10			4,90	10,50

If is required, we can supply all inter-dimensions of above given basic range.

III. TECHNICAL DATA

4. Basic parameters

4.1. Active surface area 78 %.

4.2. Coefficients of pressure losses:

Up to size A = 630	on inlet side -	$\xi = 2,2$
	on outlet side -	$\xi = 1,5$

From size A = 800	on inlet side -	$\xi = 2,4$
	on outlet side -	$\xi = 1,7$

4.3. Pressure loss calculation:

$$\Delta p = \xi \cdot \rho \cdot \frac{v^2}{2}$$

Δp [Pa] Pressure loss

v [m.s⁻¹] air flow speed in nominal grilles section

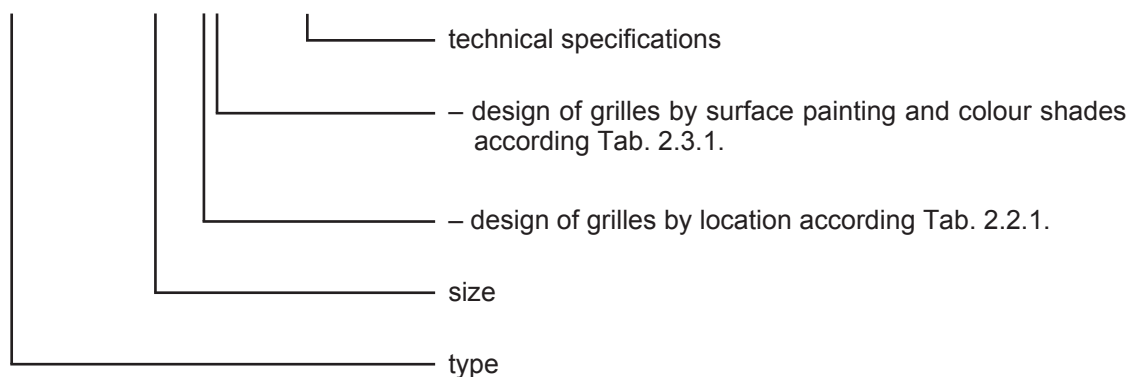
ρ [kg.m⁻³] Air density

ξ [-] coefficient of local pressure loss for the nominal grilles section

IV. ORDERING INFORMATION

5. Ordering key

KMM 400x400 - .23 TPM 002/96



V. MATERIAL, FINISHING**6. Material**

- 6.1. The grille flanges and panels from tensile metal are made of material class 11 and coated according Tab 2.3.1. Frames for fitting to the wall are provided only with a ground coat.

VI. PACKING, TRANSPORTATION, TAKE-OVER, STORAGE AND GUARANTEE**7. Logistic terms**

- 7.1. Grilles are supplied packed in shrink foil. While transported and stored they must be protected against mechanical damage and weather conditions.
- 7.2. If no method of take-over is mentioned in the order, handing the goods over to the carrier will be considered as a take-over.
- 7.3. Grilles have to be stored in covered buildings, in the environment without aggressive steams, gases and dusts.

8. Guarantee

- 8.1. The manufacturer provides a guarantee to the cover grilles for the period of 24 months from the date of shipment.

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The producer reserves the right for innovations of the product. For actual product information see
www.mandik.com