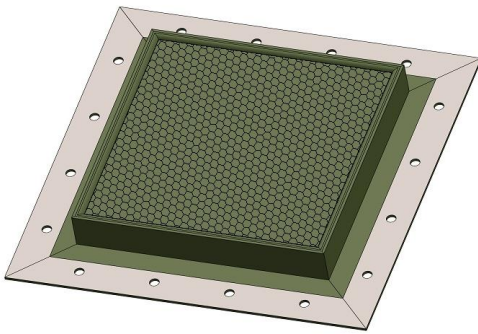


TECHNICAL SPECIFICATION

Shielded Honeycomb air vent



Description:

Honeycomb vent are utilized to obtain effective electromagnetic shielding while assuring, at the same time, excellent airflow. The filters may be provided in various materials, with or without frame and gaskets (and environmental sealing), ready for installation.

Applications:

They are used in all apparatus where electromagnetic shielding and airflow are required, such as for example, military, shelter, electrical control panel, etc., air conditioning systems.

Material:

Honeycomb cell may be realised in different materials according to the requested utilisation:

- **Steel – C1010 with electric Tin soldering (standard configuration).**

This is the type most utilised, both in civil and military applications, for the correct compromise between costs, performance, and corrosion resistance. This resistance may be improved with painted coatings (both conductive and/or protective from the aggression of external elements).

Shielding Effectiveness from 9 KHz to 40 GHz.

- **Brass with electric Tin soldering (only on demand).**

Utilized both in the industrial and military sectors: excellent resistance to corrosion and reasonable costs.

Shielding Effectiveness from 9 KHz to 40 GHz.

- **Stainless steel SS304 with electric Tin soldering (only on demand).**

Utilisation both in civil and military sectors, excellent for all environments.

Shielding Effectiveness from 9 KHz to 40 GHz.

- **Stainless steel AISI 316 L with electric Tin soldering (only on demand).**

Utilisation both in civil and military sectors, excellent for all environments.

Shielding Effectiveness from 9 KHz to 40 GHz.

Honeycomb frame may be realised in different materials according to the requested utilisation:

- **Stainless steel AISI 304 (standard configuration).**

Utilisation both in civil and military sectors, excellent for all environments.

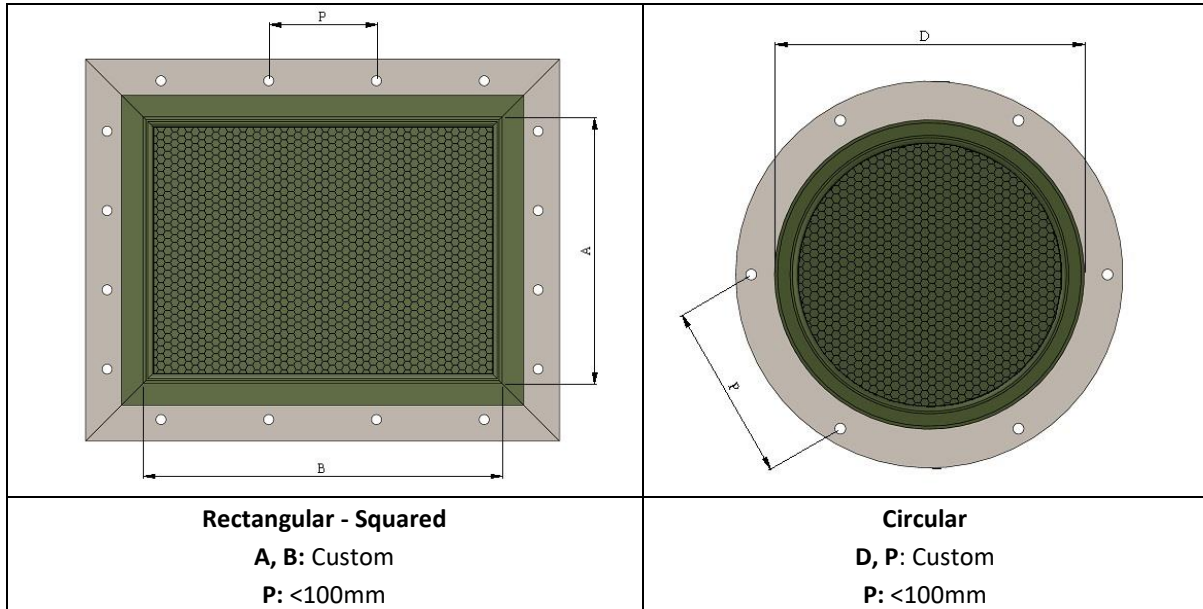
Shielding Effectiveness from 9 KHz to 40 GHz.

- **Stainless steel AISI 316 L (only on demand).**

Utilisation both in civil and military sectors, excellent for all environments.

Shielding Effectiveness from 9 KHz to 40 GHz.

1. Shape

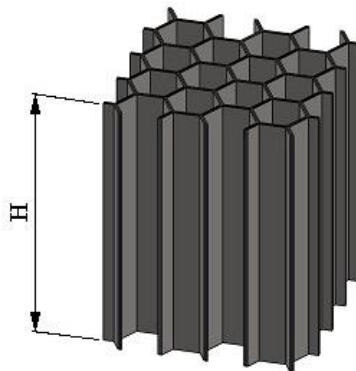


**THE ORIENTATION OF THE HONEYCOMB CELL IS RANDOM.
 IT WILL BE FIXED ONLY ON SPECIFIC REQUEST.**

2. Tollerances

DIMENSIONAL TOLERANCES								
MORE THAN (mm)	0	3	6	30	120	400	1000	2000
UP TO (mm)	3	6	30	120	400	1000	2000	4000
C tolerance class ± NOT CNC Manufacturing process	0,5	0,5	0,5	0,8	1,2	2,0	3,0	4,0

3. Filter width



The width of the filter can be 12.7 mm (1/2") or 25.4 mm (1")

4. Material

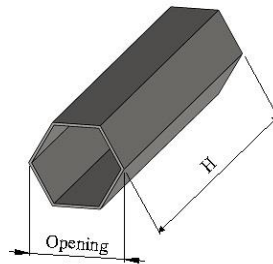
BR = Brass

S = Steel – C1010

SS = Stainless steel SS304

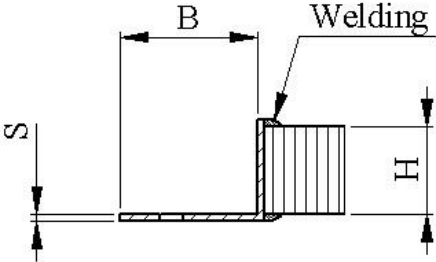
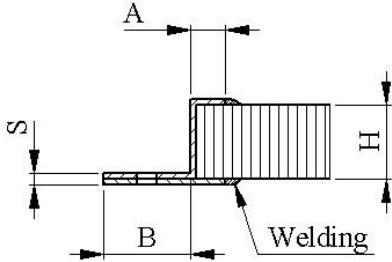
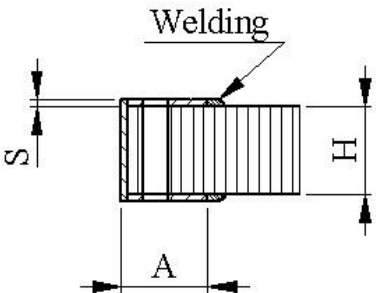
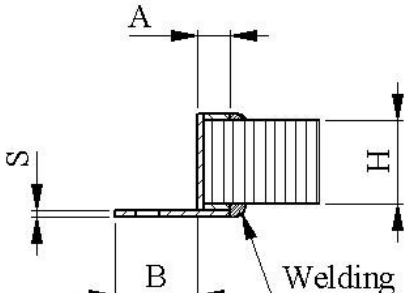
SS316 = Stainless steel AISI 316 L

5. Cell Size



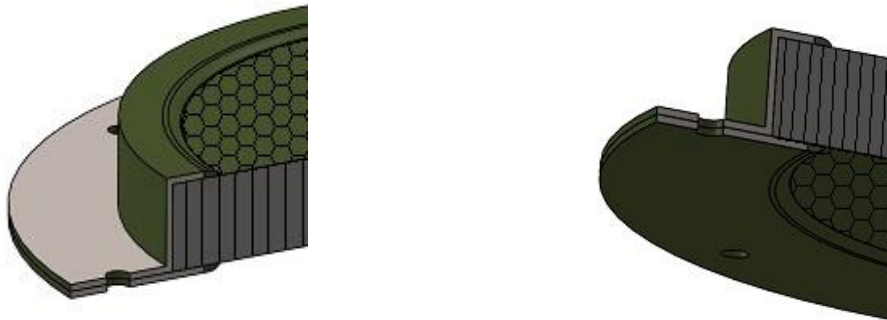
STANDARD OPENING		STANDARD DEPTH (H)
1/8"	3,18 mm	12,7 mm
3/16"	4,76 mm	25 mm

6. Standard frame

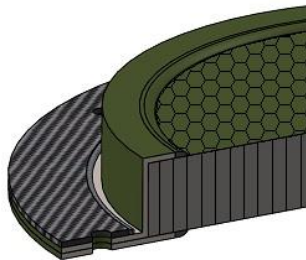
<p>Type L frame</p> 	<p>Type H1 Frame</p> 
<p>H: 12.7 mm (1/2") / 25.4 mm (1") B: Custom S: 1 – 2 – 3 mm</p>	<p>H: 12.7 mm (1/2") / 25.4 mm (1") A, B: Custom S: 1 – 2 – 3 mm</p>
<p>Type C frame</p> 	<p>Type H2 Frame</p> 
<p>H: 12.7 mm (1/2") / 25.4 mm (1") A: Custom S: 1 – 2 – 3 mm</p>	<p>H: 12.7 mm (1/2") / 25.4 mm (1") A, B: Custom S: 1 – 2 – 3 mm</p>

7. Treatment

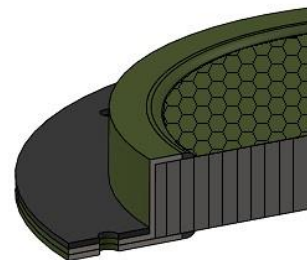
Honeycomb air vent panel filters made in steel is treated with anti-corrosion treatment and protection paint.



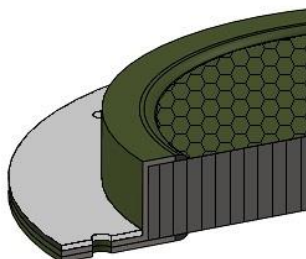
8. Gaskets (on demand)



Twinshield Gasket (D.A. Specification)



Non Woven gaskets

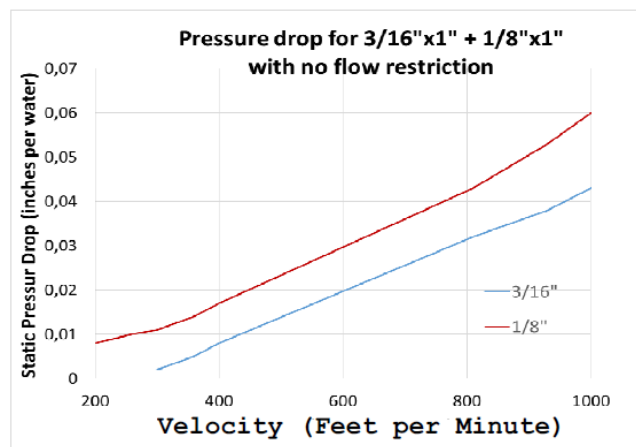


Electrically conductive silicon gaskets

9. Shielding effectiveness

Shielding Effectiveness							
MATERIAL		Brass	Brass	Brass	Steel and Stainless Steel	Steel and Stainless Steel	Steel and Stainless Steel
Frequency	Field	1/8" x 1/2"	1/8" x 1"	3/16"x 1"	1/8" x 1/2"	1/8"x 1"	3/16"x 1"
10 KHz	Magnetic	38	80	70	50	85	72
100 KHz	Magnetic	80	100	95	90	118	108
1 MHz	Magnetic	105	110	110	110	118	115
10 MHz	Magnetic	105	110	110	110	118	115
1 KHz	Electrical	110	110	110	110	111	111
10 KHz	Electrical	115	115	115	115	115	115
100KHz	Electrical	115	120	120	115	120	120
1MHz	Electrical	115	120	120	115	120	120
10 MHz	Electrical	115	120	120	115	120	120
100 MHz	Plane Wave	115	130	130	115	130	130
400 MHz	Plane Wave	115	130	130	115	130	130
1 GHz	Plane Wave	105	120	120	105	120	120
10 GHz	Microwaves	105	120	120	105	120	120
18 GHz	Microwaves	105	110	110	105	110	110
26 GHz	MM waves	105	110	110	105	110	110
40 GHz	MM waves	60	110	N/A	60	110	N/A

10. Pressure drop



The chart indicates the pressure drop due to the presence of the honeycomb filter, in relation to the speed of the incoming air. This parameter must be considered in the project, for the calculation of the net size of the honeycomb panel, to ensure the minimum required flow within the room, where the filter has to be installed.

Requested data for Honeycomb definition				
Shape	Rectangular - Squared (see table)			
		"A"	mm	
		"B"	mm	
	Drill on customer design			
	Circular (see table)			
		"D"	mm	
Drill on customer design				
Cell	Opening	3,18 mm (1/8")	<input type="checkbox"/>	
		4,76 mm (3/16")	<input type="checkbox"/>	
	"H"	12,7 mm	<input type="checkbox"/>	
		25 mm	<input type="checkbox"/>	
Cell material	Steel C1010		<input type="checkbox"/>	
	Brass		<input type="checkbox"/>	
	Steel AISI 304		<input type="checkbox"/>	
	Steel AISI 316 L		<input type="checkbox"/>	
Frame <i>see table</i>	"L"	"B"	mm	
		"S"	1 mm	<input type="checkbox"/>
			2 mm	<input type="checkbox"/>
	3 mm		<input type="checkbox"/>	
	"C"	"A"	mm	
		"S"	1 mm	<input type="checkbox"/>
			2 mm	<input type="checkbox"/>
	3 mm		<input type="checkbox"/>	
	"H1"	"A"	mm	
		"B"	mm	
		"S"	1 mm	<input type="checkbox"/>
			2 mm	<input type="checkbox"/>
			3 mm	<input type="checkbox"/>
		"H2"	"A"	mm
	"B"		mm	
	"S"		1 mm	<input type="checkbox"/>
			2 mm	<input type="checkbox"/>
			3 mm	<input type="checkbox"/>
Frame material	Steel AISI 304		<input type="checkbox"/>	
	Steel AISI 316 L		<input type="checkbox"/>	
Superficial treatment				
Anti-corrosion treatment + protection paint			<input type="checkbox"/>	
Gasket	Electrically conductive silicon		<input type="checkbox"/>	
	Twinshield		<input type="checkbox"/>	
	Non Woven		<input type="checkbox"/>	

Standard configuration

Only on demand