

EMI/RFI Shielded Air Filtration Panels (3000 Series)

Filtering of the intake air of electronic equipment enclosures where EMI/RFI shielding is also a criteria is the task of MAJR's line of shielded air filters. High-efficiency air filters are supplied ready to install with an EMI/RFI gasket as an integral part of the filter assembly. The rigidity of the mounting frame makes installation and removal for cleaning an easy task. The filter media used in the panels can be supplied as a dry or wet filter. Impingement of fine dust particles on filters with a glutinous oil coating is greatly enhanced.

The shielded air filter media shown represent the common sizes and mounting configurations available. In all cases, the EMI gasket is supplied as an integral part of the vent assembly.

Design Data EMI/RFI Shielding

Shielding Effectiveness vs Frequency — Table 1

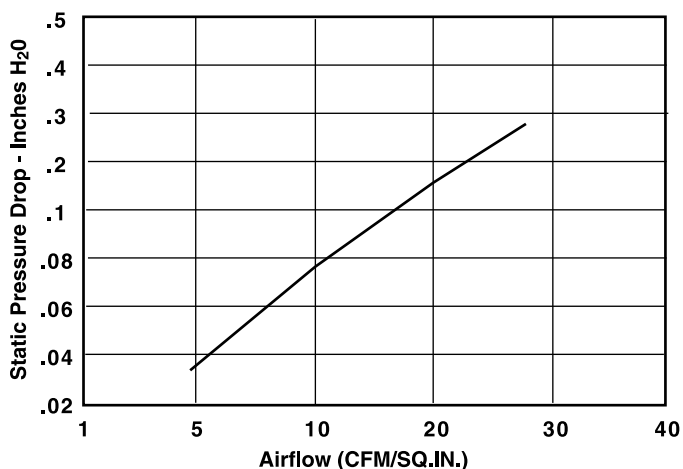
Field	Material Code - 57						
	Frequency						
	100 kHz	1 MHz	18 MHz	100 MHz	400 MHz	1 GHz	10 GHz
H	52	68	—	—	—	—	—
E	—	—	95	—	—	—	—
PW	—	—	—	90	70	65	50

Field	Material Code - 57 Trim Line						
	Frequency						
	100 kHz	1 MHz	18 MHz	100 MHz	400 MHz	1 GHz	10 GHz
H	29	36	—	—	—	—	—
E	—	—	75	—	—	—	—
PW	—	—	—	60	60	60	50

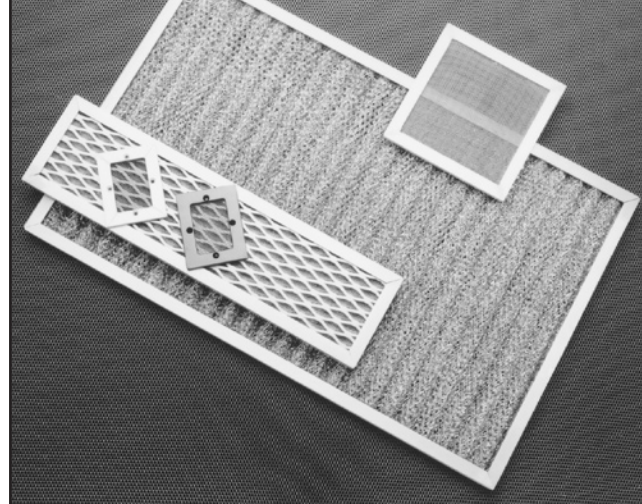
The values in Table 1 show shielding characteristics for standard MAJR shielded air filters. Note that the data indicated is based on a unit whose opening was 12.00 x 12.00 (305 x 305 mm) and tested under laboratory conditions.

Static Pressure Drop vs. Air Flow Resistance

Figure 1



The low resistance to air flow of these panels will minimize pressure drop within the cabinet allowing air to move freely through the intake while performing the desired dust filtration function. The curves in Figure 1 show the resistance per square inch for standard filter media.



Features

- Optimum Shielding, Air Flow and Dust Filtration**
 Installation of the air filter into the electronic enclosure provides an effective dust filter with minimal resistance to air flow while simultaneously providing attenuation of electromagnetic interference to levels indicated in Figure 1.
- Standard Configurations**
 The broad selection of sizes of shield air filter media provides the widest choice in design objectives.
- Ease of Installation**
 EMI/RFI shielded air filters are supplied with EMI/RFI gasket and mounting holes or captive fasteners — ready for installation into cabinet.
- Special Design**
 Many applications require a special shape or mounting configuration. MAJR's engineering group can assist with designs.

Mounting Installation

Four mounting frames are offered as a standard for installation into the cabinet. In each case, the extruded aluminum frame is designed with a "tooth" that bites into the filter grill to ensure grounding of frame to filter media.

Figure 2

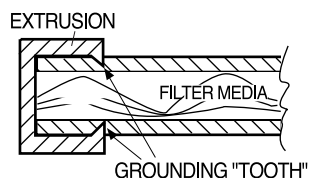


Figure 3
Through Hole Style 3031

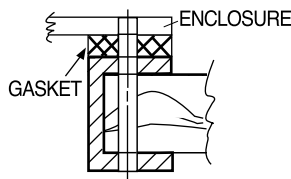


Figure 4
Captive Fastener Style 3032

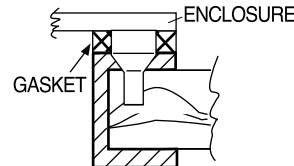


Figure 5
Recess Mount Style 3036

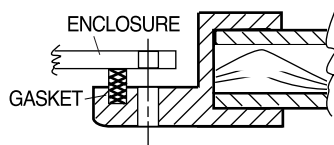


Figure 6
Trim Line Style 3038

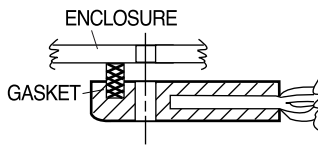


Figure 7
Through Hole Style 3033

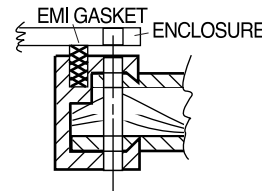


Table 2 - Style 3031 EMI/RFI Shielded Air Filtration Panel with Through Holes

OPENING		Part Number	FRAME DIMENSIONS										
Width	Length	Dry Filter	AA	BB	A	B	C	D	E	F	G	H	J
3.00 (76.2)	3.00 (76.2)	3031-20303-57	4.00 (101.6)	4.00 (101.6)	3.50 (88.9)	3.50 (88.9)	1.75 (44.5)	1.75 (44.5)	—	—	—	—	4
3.00 (76.2)	5.00 (127.0)	3031-20305-57	6.00 (152.4)	4.00 (101.6)	5.50 (139.7)	3.50 (88.9)	1.00 (25.4)	1.75 (44.5)	1	3.50 (88.9)	—	—	6
3.00 (76.2)	11.00 (279.4)	3031-20311-57	12.00 (304.8)	4.00 (101.6)	11.50 (292.1)	3.50 (88.9)	1.25 (31.8)	1.75 (44.5)	3	3.00 (76.2)	—	—	10
4.00 (101.6)	4.00 (101.6)	3031-20404-57	5.00 (127.0)	5.00 (127.0)	4.50 (114.3)	4.50 (114.3)	.750 (19.1)	2.25 (57.2)	1	3.00 (76.2)	—	—	6
4.00 (101.6)	9.00 (228.6)	3031-20409-57	10.00 (254.0)	5.00 (127.0)	9.50 (241.3)	4.50 (114.3)	1.25 (31.8)	2.25 (57.2)	2	3.50 (88.9)	—	—	8
5.00 (127.0)	5.00 (127.0))	3031-20505-57	6.00 (152.4)	6.00 (152.4)	5.50 (139.7)	5.50 (139.7)	1.00 (25.4)	1.00 (25.4)	1	3.50 (88.9)	1	3.50 (88.9)	8
5.00 (127.0)	11.00 (279.4)	3031-20511-57	12.00 (304.8)	6.00 (152.4)	11.50 (292.1)	5.50 (139.7)	1.25 (31.8)	1.00 (25.4)	3	3.00 (76.2)	1	3.50 (88.9)	12
6.00 (152.4)	6.00 (152.4)	3031-20606-57	7.00 (177.8)	7.00 (177.8)	6.50 (165.1)	6.50 (165.1)	1.50 (38.1)	1.50 (38.1)	1	3.50 (88.9)	1	3.50 (88.9)	8
6.00 (152.4)	9.00 (228.6)	3031-20609-57	10.00 (254.0)	7.00 (177.8)	9.50 (241.3)	6.50 (165.1)	1.25 (31.8)	1.50 (38.1)	2	3.50 (88.9)	1	3.50 (88.9)	10
7.00 (177.8)	14.00 (355.6)	3031-20714-57	15.00 (381.0)	8.00 (203.2)	14.50 (368.3)	7.50 (190.5)	.750 (19.1)	.750 (19.1)	4	3.25 (82.6)	2	3.00 (76.2)	16
9.00 (228.6)	9.00 (228.6)	3031-20909-57	10.00 (254.0)	10.00 (254.0)	9.50 (241.3)	9.50 (241.3)	1.25 (31.8)	1.25 (31.8)	2	3.50 (88.9)	2	3.50 (88.9)	12
11.00 (279.4)	11.00 (279.4)	3031-21111-57	12.00 (304.8)	12.00 (304.8)	11.50 (292.1)	11.50 (292.)	1.25 (31.8)	1.25 (31.8)	3	3.00 (76.2)	3	3.00 (76.2)	16
14.00 (355.6)	14.00 (335.6)	3031-21414-57	15.00 (381.0)	15.00 (381.0)	14.50 (368.3)	14.50 (368.3)	1.25 (31.8)	1.25 (31.8)	4	3.00 (76.2)	4	3.00 (76.2)	20
18.00 (457.2)	18.00 (457.2)	3031-21818-57	19.00 (482.6)	19.00 (482.6)	18.50 (469.9)	18.50 (469.9)	1.75 (44.5)	1.75 (44.5)	5	3.00 (76.2)	5	3.00 (76.2)	24

Change to
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for Wet Filter.

*Please see figure 6 on page 39 for a dimensional reference drawing.

Table 3 - Style 3033 EMI/RFI Shielded Air Filtration Panel with Through Holes

OPENING		Part Number Dry Filter	FRAME DIMENSIONS										
Width	Length		AA	BB	A	B	C	D	E	F	G	H	J
3.00 (76.2)	3.00 (76.2)	3033-20303-57	4.25 (107.9)	4.25 (107.9)	3.50 (88.9)	3.50 (88.9)	1.75 (44.5)	1.75 (44.5)	—	—	—	—	4
3.00 (76.2)	5.00 (127.0)	3033-20305-57	6.25 (158.8)	4.25 (107.9)	5.50 (139.7)	3.50 (88.9)	1.00 (25.4)	1.75 (44.5)	1	3.50 (88.9)	—	—	6
3.00 (76.2)	11.00 (279.4)	3033-20311-57	12.25 (311.2)	4.25 (107.9)	11.50 (292.1)	3.50 (88.9)	1.25 (31.8)	1.75 (44.5)	3	3.00 (76.2)	—	—	10
4.00 (101.6)	4.00 (101.6)	3033-20404-57	5.25 (133.4)	5.25 (133.4)	4.50 (114.3)	4.50 (114.3)	.750 (19.1)	2.25 (57.2)	1	3.00 (76.2)	—	—	6
4.00 (101.6)	9.00 (228.6)	3033-20409-57	10.25 (260.4)	5.25 (133.4)	9.50 (241.3)	4.50 (114.3)	1.25 (31.8)	2.25 (57.2)	2	3.50 (88.9)	—	—	8
5.00 (127.0)	5.00 (127.0))	3033-20505-57	6.25 (158.6)	6.25 (158.6)	5.50 (139.7)	5.50 (139.7)	1.00 (25.4)	1.00 (25.4)	1	3.50 (88.9)	1	3.50 (88.9)	8
5.00 (127.0)	11.00 (279.4)	3033-20511-57	12.25 (311.2)	6.25 (158.6)	11.50 (292.1)	5.50 (139.7)	1.25 (31.8)	1.00 (25.4)	3	3.00 (76.2)	1	3.50 (88.9)	12
6.00 (152.4)	6.00 (152.4)	3033-20606-57	7.25 (184.2)	7.25 (184.2)	6.50 (165.1)	6.50 (165.1)	1.50 (38.1)	1.50 (38.1)	1	3.50 (88.9)	1	3.50 (88.9)	8
6.00 (152.4)	9.00 (228.6)	3033-20609-57	10.25 (260.4)	7.25 (184.2)	9.50 (241.3)	6.50 (165.1)	1.25 (31.8)	1.50 (38.1)	2	3.50 (88.9)	1	3.50 (88.9)	10
7.00 (177.8)	14.00 (355.6)	3033-20714-57	15.25 (387.4)	8.25 (209.6)	14.50 (368.3)	7.50 (190.5)	1.50 (38.1)	1.50 (38.1)	3	3.50 (88.9)	1	3.50 (88.9)	16
9.00 (228.6)	9.00 (228.6)	3033-20909-57	10.25 (260.4)	10.25 (260.4)	9.50 (241.3)	9.50 (241.3)	1.25 (31.8)	1.25 (31.8)	2	3.50 (88.9)	2	3.50 (88.9)	12
11.00 (279.4)	11.00 (279.4)	3033-21111-57	12.25 (311.2)	12.25 (311.2)	11.50 (292.1)	11.50 (292.1)	1.25 (31.8)	1.25 (31.8)	3	3.00 (76.2)	3	3.00 (76.2)	16
14.00 (355.6)	14.00 (335.6)	3033-21414-57	15.25 (387.4)	15.25 (387.4)	14.50 (368.3)	14.50 (368.3)	1.25 (31.8)	1.25 (31.8)	4	3.00 (76.2)	4	3.00 (76.2)	20
18.00 (457.2)	18.00 (457.2)	3033-21818-57	19.25 (488.9)	19.25 (488.9)	18.50 (469.9)	18.50 (469.9)	1.75 (44.5)	1.75 (44.5)	5	3.00 (76.2)	5	3.00 (76.2)	24

Change to
-58
for Wet Filter.

Table 4 - Style 3036 EMI/RFI Shielded Air Filtration Panel with Through Holes

OPENING		Part Number Dry Filter	FRAME DIMENSIONS										
Width	Length		AA	BB	A	B	C	D	E	F	G	H	J
3.00 (76.2)	3.00 (76.2)	3036-20303-57	5.25 (133.4)	5.25 (133.4)	4.50 (114.3)	4.50 (114.3)	2.25 (57.2)	2.25 (57.2)	—	—	—	—	4
3.00 (76.2)	5.00 (127.0)	3036-20305-57	7.25 (184.15)	5.25 (133.4)	6.50 (165.2)	4.50 (114.3)	1.75 (44.5)	2.25 (57.2)	1	3.50 (88.9)	—	—	6
3.00 (76.2)	11.00 (279.4)	3036-20311-57	13.25 (336.6)	5.25 (133.4)	12.50 (317.5)	4.50 (114.3)	1.75 (44.5)	2.25 (57.2)	3	3.00 (76.2)	—	—	10
4.00 (101.6)	4.00 (101.6)	3036-20404-57	6.25 (158.8)	6.25 (158.8)	5.50 (139.7)	5.50 (139.7)	1.00 (25.4)	1.00 (25.4)	1	3.50 (88.9)	1	3.50 (88.9)	8
4.00 (101.6)	9.00 (228.6)	3036-20409-57	11.25 (366.6)	6.25 (158.8)	10.50 (266.7)	5.50 (139.7)	.75 (19.1)	1.00 (25.4)	3	3.00 (76.2)	1	3.50 (88.9)	12
5.00 (127.0)	5.00 (127.0))	3036-20505-57	7.25 (184.15)	7.25 (184.15)	6.50 (165.2)	6.50 (165.2)	.50 (12.7)	1.50 (38.1)	2	2.75 (69.9)	1	3.50 (88.9)	10
5.00 (127.0)	11.00 (279.4)	3036-20511-57	13.25 (336.6)	7.25 (184.15)	12.50 (317.5)	6.50 (165.2)	1.00 (25.4)	1.50 (38.1)	3	3.50 (88.9)	1	3.50 (88.9)	12
6.00 (152.4)	6.00 (152.4)	3036-20606-57	8.25 (209.6)	8.25 (209.6)	7.50 (190.5)	7.50 (190.5)	.75 (19.1)	.75 (19.1)	2	3.00 (76.2)	2	3.00 (76.2)	12
6.00 (152.4)	9.00 (228.6)	3036-20609-57	11.25 (285.7)	8.25 (209.6)	10.50 (266.7)	7.50 (190.5)	.75 (19.1)	.75 (19.1)	2	3.00 (76.2)	2	3.00 (76.2)	14
7.00 (177.8)	14.00 (355.6)	3036-20714-57	16.25 (412.8)	9.25 (234.9)	15.50 (393.7)	8.50 (215.9)	.75 (19.1)	.75 (19.1)	4	3.50 (88.9)	2	3.50 (88.9)	16
9.00 (228.6)	9.00 (228.6)	3036-20909-57	11.25 (285.7)	11.25 (285.7)	10.50 (266.7)	10.50 (266.7)	.75 (19.1)	.75 (19.1)	3	3.00 (76.2)	3	3.00 (76.2)	16
11.00 (279.4)	11.00 (279.4)	3036-21111-57	13.25 (336.6)	13.25 (336.6)	12.50 (317.5)	12.50 (317.5)	1.00 (25.4)	1.00 (25.4)	3	3.50 (88.9)	3	3.50 (88.9)	16
14.00 (355.6)	14.00 (335.6)	3036-21414-57	16.25 (412.8)	16.25 (412.8)	15.50 (393.7)	15.50 (393.7)	.75 (19.1)	.75 (19.1)	4	3.50 (88.9)	4	3.50 (88.9)	20
18.00 (457.2)	18.00 (457.2)	3036-21818-57	20.25 (514.35)	20.25 (514.35)	19.50 (495.3)	19.50 (495.3)	.75 (19.1)	.75 (19.1)	6	3.00 (76.2)	6	3.00 (76.2)	28

Change to
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for Wet Filter.