

Discharge & Return Air Grilles

Aluminum, Wood, & Plastic Styles



Assorted aluminum, wood, and plastic grilles shown



Marine Air discharge and return air grilles are available in a wide assortment of dimensions, styles, and materials to blend with any yacht's interior.

The vanes of discharge grilles are secured in nylon bushings for easy dependable positioning. RA-type return air grilles have one row of fixed vanes. Wood return air grilles have a lint screen which can be removed for cleaning.

Round plastic discharge grilles are also offered in several colors with and without shut-off dampers.

Micro-Particle Anti-Allergenic air filters, designed to capture diesel smoke, dust, lint, bilge odors, and pet dander, are available for Marine Air A/C systems. These filters mount to the unit's evaporator coil and are eight times more efficient than standard filters. Due to the high efficiency of these new filters, they should be inspected and replaced at frequent intervals. When using a filter on the unit, do not also have a filter on the grille, as that would cause too much restriction of the airflow.

Key Benefits

- Large selection and variety of grilles.
- Standard and custom materials complement all yacht interiors.
- Custom sizes available for any application.

Wood Frame Grilles

- Pop out louver panels with return air grilles have easy-to-clean replaceable filters.
- Supply air grilles have double-deflection, moveable louvers available in anodized bronze or aluminum finish.

Aluminum Grilles

- Supply air grilles have adjustable louvers to direct air flow.
- Return air grilles feature durable fixed-vane louvers.
- Return air grilles are supplied with or without filters depending on system requirements.
- Painted grilles are sprayed with polyurethane.
- Multiple colors.

Grille Sizing Per Unit

Unit Capacity in BTU/hr	Return		Supply	
	Sq. In.	Sq. cm	Sq. In.	Sq. cm
4,000	64	412.9	32	206.5
5,000	64	412.9	32	206.5
6,000	70	451.6	35	225.8
7,000	80	516.2	45	290.3
9,000	98	632.3	49	316.1
10,000	100	645.2	60	387.1
12,000	130	838.8	70	451.6
16,000	160	1032.3	80	516.2
18,000	200	1290.4	100	645.2
24,000	240	1548.5	140	903.3
30,000	350	2258.2	170	1096.8
36,000	360	2322.7	196	1264.6
48,000	480	3097.0	256	1651.7

Notes:

- Supply and Return Air Grille minimums are required to achieve rated capacity.
- Custom sizes and custom painted grilles are available. Contact Marine Air Systems for pricing and availability.

Product Characteristics

Wood Frame Grilles

- Cut-out dimensions are the nominal grille size, i.e., a 10' X 5' VH requires a 10' x 5' (25.4cm x 12.7cm) cut out.
- Outside frame dimensions are 0.9375' ± 0.0625' (2.4cm ± 0.16cm) larger than nominal grille size, i.e., a 10' X 5' VH has overall dimensions of 10.9375' X 5.9375' (27.8cm x 15.1cm).
- Depth of grilles: VH is 1.375' (3.5cm), VML is 1.875' (4.8cm), RA is 0.875' (2.2cm), measured from back of frame.
- Frame (flange) dimensions are 0.563' (1.4cm) on all sides.

Aluminum Grilles

- Cut-out dimensions for the TH, TV, and TRA style grilles are 0.375' (1.0cm) smaller than the nominal grille size, i.e., a 10' X 5' TH requires a 9.625' X 4.625' (24.4cm X 11.7cm) cut-out. The TRAF style grilles are 0.125' (0.3cm) smaller.
- Outside frame dimensions are 0.875' (2.2cm) larger than the nominal grille size, i.e., a 10' X 5' TH has overall dimensions of 10.875' X 5.875' (27.6cm x 14.9cm).
- Depth of grilles: TH and TRA are 0.875' (2.2cm), TRAF is 1' (2.5cm), measured from back of frame.
- Frame (flange) dimension is 0.625' (1.6cm) on all sides.

Plastic Grilles (Circular)

- Depth of grilles: 2SA is 1.31' (3.3cm), 3SA is 2.16' (5.5cm), 4SA is 2.38' (6.0cm), measured from back of frame.
- Frame (flange) dimensions: 2SA is 2.75' (7.0cm), 3SA is 3.875' (9.8cm), 4SA is 5.50' (14.0cm), in diameter.
- Cut-out dimensions are 2.0' (5.1cm), 3.0' (7.6cm), and 4.0' (10.2cm) respectively, in diameter.
- A special adapter is available to use the 4SA with 3.0" (7.6cm) ducting.

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Grille Dimensions

Wood Frame Grilles			
Supply Air, Primary		Supply Air, Secondary Closeable	
Model VH		Model VML	
7' X 7'	10' X 5'	4' X 4'	6' X 4'
12' X 5'	14' X 4'	8' X 4'	8' X 8'
14' X 5'	14' X 6'	10' X 4'	12' X 4'
16' X 4'			
Supply Air, Secondary		Return Air with Filter	
Model VH		Model RA	
4' X 4'	6' X 4'	7' X 7'	12' X 14'
8' X 4'	10' X 4'	8' X 8'	14' X 7'
12' X 4'		8' X 10'	14' X 10'
		11' X 8'	14' X 12'
		12' X 12'	16' X 9'
Plastic Grilles (Round and Closeable Supply Air Grilles)			
Model	2SA	3SA	4SA
Duct Size	2'	3'	4'
Aluminum Grilles			
Supply Air		Return Air	
Model TH	Model TV	Model TRAF (with Filter); Model TRA (without Filter)	
4' X 4'	10' X 4'	8' X 11'	14' X 7'
7' X 7'	12' X 3'	10' X 4'	14' X 10'
8' X 4'	12' X 4'	11' X 7'	14' X 12'
10' X 4'	12' X 5'	11' X 8'	16' X 9'
10' X 5'	12' X 6'	11' X 12'	20' X 5'
	14' X 4'	12' X 12'	22' X 7'
	14' X 5'		28' X 6'
	14' X 6'		
	14' X 7'		
	16' X 4'		
	18' X 3'		
	20' X 5'		
	24' X 3'		

Note:

- Multiply the dimensions above by 2.54 to calculate for centimeters.

Dealer:



FEATURES

Design

Large Selection and Variety of Grilles

- Standard and custom materials complement all yacht interiors.
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Wood Frame Grilles

- Pop out lower panels with Return Air Grilles have easy to clean replaceable filters.
- Supply Air Grilles have double deflection, moveable louvers available in anodized bronze or aluminum finish.

Aluminum Grilles

- Supply air grilles have adjustable louvers to direct air flow.
- Return air grilles feature durable fixed-vane louvers.
- Return air grilles are supplied either with or without filters depending on system requirements.
- Painted grilles are sprayed with polyurethane.
- Multiple color selection.

Product Characteristics

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- A special adapter is available to use the 4SA with 3.0" (7.6cm) ducting.

The following Supply and Return Air Grille minimums are required to achieve rated capacity.⁽¹⁾

Unit (BTUs)	Return		Supply	
	Sq. In	Sq. cm	Sq. In	Sq. cm
4,000	64	412.9	32	206.5
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Note: Custom sizes and custom painted grilles are offered. Contact us for pricing and availability.



DIMENSIONS (WIDTH X HEIGHT)⁽²⁾

Wood Frame Grilles

Supply Air - Primary Model VH

7 x 7
10 x 5
12 x 5
12 x 6
14 x 4
14 x 5
14 x 6
16 x 4

Supply Air Secondary Closeable Model VML

4 x 4
6 x 4
8 x 4
8 x 8
10 x 4
12 x 4

Supply Air - Secondary Model VH

4 x 4
6 x 4
8 x 4
10 x 4
12 x 4

Return Air with Filter Model RA

7 x 7 12 x 14
8 x 8 14 x 7
8 x 10 14 x 10
11 x 8 14 x 12
12 x 12 16 x 9

Plastic Grilles

Round and Closeable Supply Air Grilles

Model	2SA	3SA	4SA
Duct Size	2"	3"	4"

Aluminum Grilles

Supply Air	
Model TH	Model TV
4 x 4	10 x 4 14 x 6
7 x 7	12 x 3 14 x 7
8 x 4	12 x 4 16 x 4
10 x 4	12 x 5 18 x 3
10 x 5	12 x 6 20 x 5
	14 x 4 24 x 3
	14 x 5

Return Air With Filter Model TRAF	
Return Air Without Filter Model TRA	
8 x 11	14 x 7
10 x 4	14 x 10
11 x 7	14 x 12
11 x 8	16 x 9
11 x 12	20 x 5
12 x 12	22 x 7
	28 x 6

⁽¹⁾ See the Blow Thru (L-2138) and Slim Line (L-2140) air handler spec sheets to size grilles for those units.

⁽²⁾ All sizes are in inches, multiply by 2.54 to calculate dimensions in centimeters.

Installation Guidelines for Supply & Return Air Grilles

When choosing the proper size grilles for any system, primary consideration should be given to the capacity of that system and its necessary air flow (CFM). Reduced or restricted air flow due to undersized grilles or poor installation will result in loss of performance and/or inefficient operation of the system.

Standard air flow for any system is nominally rated at approximately 400 CFM (680 CMH) per ton (12,000 BTU/Hr). In order to maintain this air flow, return air grilles are to be a minimum of 140 sq. in. (903 sq cm) of surface area per ton. If the grille is in close proximity to the evaporator coil, it should match the actual dimensions of the coil as closely as possible to prevent obstruction of air flow through part of the coil which would result in loss of performance.

Supply air grilles are to maintain a minimum of 70 square inches of surface area per ton. This can be maintained using a single grille or a combination of smaller grilles, provided proper installation methods are followed. In either case, an even and unrestricted air flow across the entire surface of the grille(s) is the ultimate goal in any installation.

Placement of grilles is important to ensure proper system performance. Supply air grilles are to be located as high as possible in any cabin area. They should also be located to distribute air across the cabin as evenly as possible. Air flow across the ceiling of any area provides for even temperatures (no hot spots) and complete circulation of the air.

When supply air grilles cannot be located high and must be installed lower (i.e., countertop, etc.), they are to be installed in such a way as to channel air flow up and across the conditioned area. Properly directed louvers and built-up wedges both help to achieve proper air circulation in this application.

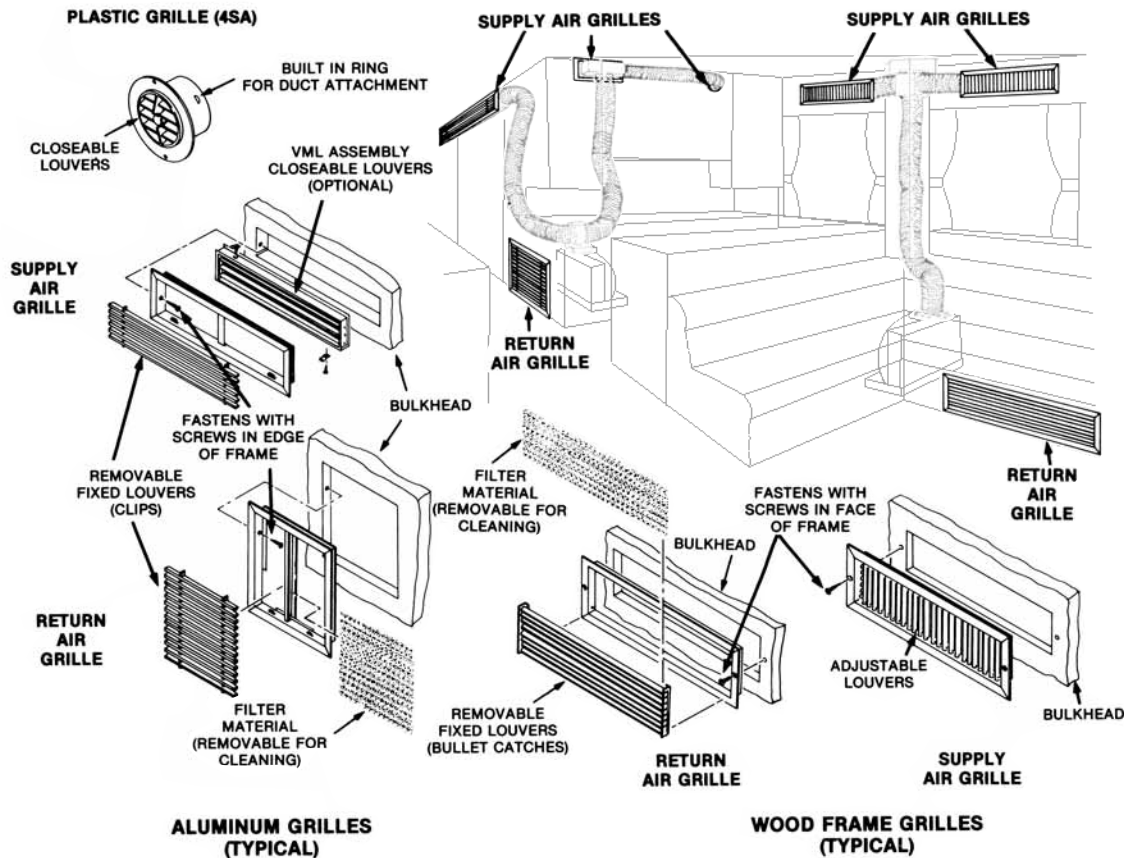
In no instance should a supply air discharge be directed towards a

return air grille. This will cause the system to prematurely cycle off (short cycle) and prevent the cabin area from achieving the desired temperature.

Return air grilles are to be installed low in a cabin area and in close proximity to the evaporator coil of the system. If any plenum, chase or duct work is constructed between the return air grille and the face of the evaporator coil, all cross-sectional areas must maintain a minimum surface area equivalent to that of the return air grille. If any open area exists between the grille and the coil, care must be used to prevent this area from being obstructed (stowage, parts, etc.). Return air should only be available to the system from the cabin area(s) that are being attached. Units should not be exposed to engine rooms, bilges or other areas where fumes or odors could be drawn into the system. Compartments housing equipment should be completely sealed from these areas.

Some return air grilles are manufactured with a removable filter attached. This filter must be used to catch and trap particles in the air (dust, lint, etc.) that otherwise would be deposited on and in the evaporator coil, restricting the air flow through it. The louvre section of each grille is designed to be easily removed (clips or bullet catches) to access the filter material for cleaning on a regular basis. If no filter is attached to the grille, then a filter must be installed on the a/c unit.

Now Available: Micro-Particle Anti-Allergenic air filters which are designed to capture diesel smoke, dust, lint, bilge odors, and pet dander. These filters mount to the unit's evaporator coil and are eight times more efficient than standard filters. Due to the high efficiency of these new filters, they should be inspected and replaced at frequent intervals. When using a filter on the unit, do not also have a filter on the grille as that would cause too much restriction of the airflow.



In the interest of product improvement, specifications and design as outlined herein are subject to change without prior notice.

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