

**Application**

Architecturally pleasing unit with low sound levels. Provides the perfect balance between the architectural need for full-face eggcrate and the cost requirement for efficient installation.

**Standard Features**

- Aluminum (RA) or Steel (RU) frame.
- 1/2"x1/2"x1/2" or 1/2"x1/2"x1" eggcrate core.
- Removable core.
- Access to balancing damper without need to remove core.
- Round inlets 6" - 18" on 24"x24" nominal face units.
- Square inlets 6"x6" - 18"x18" on 24"x24" nominal face units.
- Round inlets 6" - 8" on 12"x12" nominal face sizes.
- Square inlets 6"x6" - 8"x8" on 12"x12" nominal face sizes.
- The standard finish is electrocoat acrylic baked enamel.
- The standard color is #11 bright white.

**Optional Features**

- Grilles can be set in panels for mounting in grids that are larger than the nominal face (p. A267).

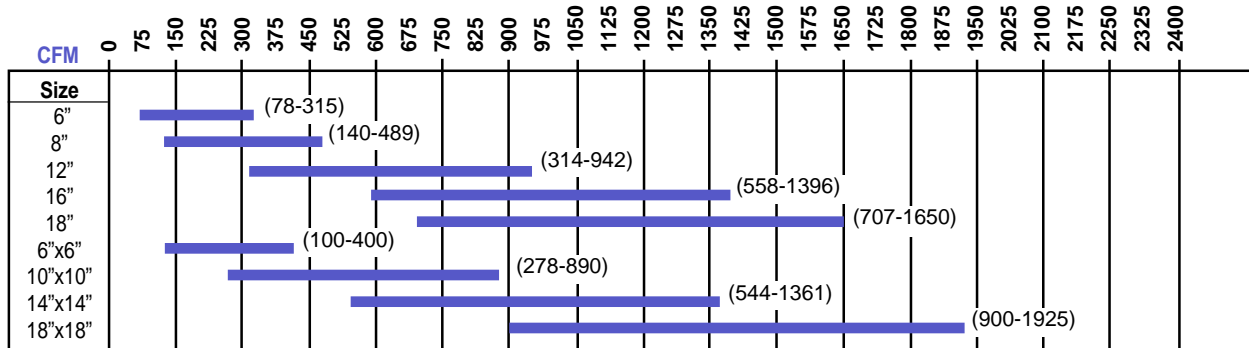
**Accessories**

- Recommended damper for the round inlet models is model KXMB (p. A429).
- Recommended damper for the square inlet models is model KXAA (p. A435).
- To surface mount this product, use auxiliary frame KXFA (p. A447).

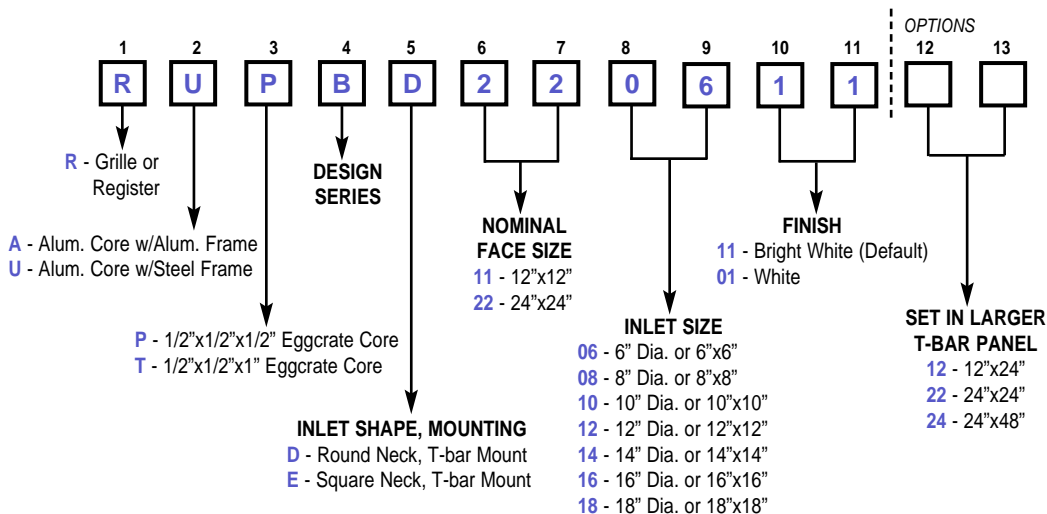
**Quick Select Chart**

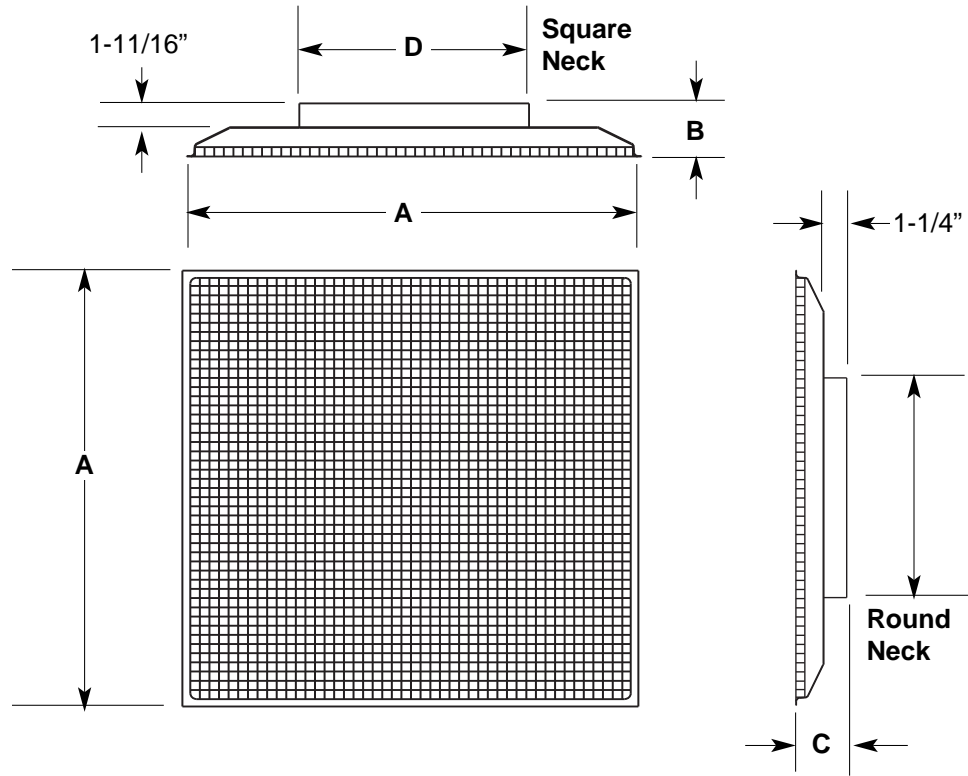
This shows 24"x24" units with:

- A maximum NC/RC of 35.
- A minimum duct velocity of 400 FPM.



**Model Numbering System**





**1/2" x 1/2" x 1/2" Core Models RAPB, RUPB**

**1/2" x 1/2" x 1" Core Models RATB, RUTB**

Dim.	Description	Nominal Face Size	
		12" x 12"	24" x 24"
A	Face O. D.	11-3/4"	23-3/4"
B	Square Neck Unit Height	2-15/16"	3-3/16"
C	Round Neck Unit Height	2-1/2"	2-3/4"
D	Square Neck I. D.	Nom. +1/8"	Nom. +1/8"
E	Round Neck O. D.	Nom. -1/8"	Nom. -1/8"

Dim.	Description	Nominal Face Size	
		12" x 12"	24" x 24"
A	Face O. D.	11-3/4"	23-3/4"
B	Square Neck Unit Height	3-7/16"	3-11/16"
C	Round Neck Unit Height	3"	3-1/4"
D	Square Neck I. D.	Nom. +1/8"	Nom. +1/8"
E	Round Neck O. D.	Nom. -1/8"	Nom. -1/8"

**Notes**

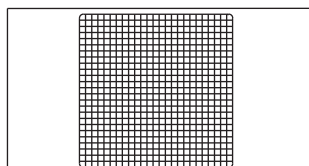
- The inlet on the round neck units is undersized by 1/8" to fit inside the duct.
- The inlet on the square neck units is oversized by 1/8" to fit over the duct.

**Panel Options 12, 22 and 24**

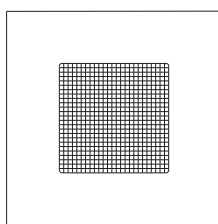
**Application**

This option is used when the ceiling style requires a grid that is larger than the face of the grille. As an example, when the design calls for a 24" x 24" face grille, but the ceiling is a 24" x 48" grid.

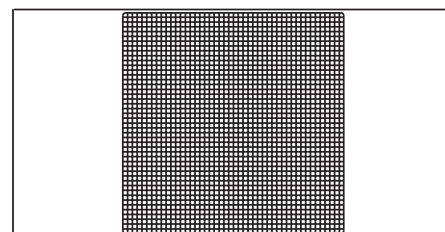
**Option 12**  
12" x 12" face unit  
set in a 12" x 24" panel



**Option 22**  
12" x 12" face unit  
set in a 24" x 24" panel



**Option 24**  
24" x 24" face unit  
set in a 24" x 48" panel



Duct Velocity (fpm)	300	400	500	600	700	800	900	1000	1200	1400
Velocity Pressure	0.006	0.010	0.016	0.022	0.031	0.040	0.051	0.062	0.090	0.122
<b>6" Diameter</b>										
Flow (CFM)	59	78	98	118	137	157	176	196	235	274
Neg. Static Press.	0.011	0.019	0.029	0.042	0.056	0.073	0.092	0.113	0.162	0.218
Sound (NC/RC)	--/--	--/--	--/--	--/--	12/--	14/13N	17/16N	19/20N	24/25N	29/30N
<b>8" Diameter</b>										
Flow (CFM)	105	140	175	209	244	279	314	349	419	489
Neg. Static Press.	0.011	0.019	0.030	0.042	0.057	0.074	0.092	0.113	0.163	0.218
Sound (NC/RC)	--/--	--/--	--/--	11/--	14/13H	17/17N	20/20N	23/24N	28/30N	34/34H
<b>10" Diameter</b>										
Flow (CFM)	164	218	273	327	382	436	491	545	654	763
Neg. Static Press.	0.011	0.020	0.031	0.044	0.058	0.076	0.095	0.118	0.165	0.226
Sound (NC/RC)	--/--	--/--	--/--	13/12H	16/16H	19/21N	22/24N	26/28N	32/33N	38/37H
<b>12" Diameter</b>										
Flow (CFM)	236	314	393	471	550	628	707	785	942	1099
Neg. Static Press.	0.012	0.021	0.033	0.047	0.062	0.082	0.102	0.127	0.178	0.242
Sound (NC/RC)	--/--	--/--	--/--	14/15H	18/19H	22/24N	25/27N	28/31N	35/35N	42/40H
<b>14" Diameter</b>										
Flow (CFM)	321	428	535	641	748	855	962	1069	1282	1497
Neg. Static Press.	0.013	0.023	0.036	0.052	0.070	0.091	0.114	0.142	0.199	0.271
Sound (NC/RC)	--/--	--/--	12/11H	16/16H	19/21H	23/26N	27/29N	31/33N	38/38H	45/42H
<b>16" Diameter</b>										
Flow (CFM)	419	558	698	838	977	1117	1256	1396	1675	1954
Neg. Static Press.	0.015	0.027	0.043	0.062	0.085	0.109	0.138	0.172	0.247	0.338
Sound (NC/RC)	--/--	--/--	13/13H	17/19H	21/23H	25/29N	29/32N	33/35N	41/40H	49/45H
<b>18" Diameter</b>										
Flow (CFM)	530	707	884	1060	1237	1414	1590	1767	2120	2474
Neg. Static Press.	0.019	0.035	0.057	0.084	0.114	0.151	0.188	0.234	0.337	0.452
Sound (NC/RC)	--/--	--/--	14/14H	19/20H	23/25H	27/30N	31/34N	36/37H	44/42H	52/47H
<b>6" x 6"</b>										
Flow (CFM)	75	100	125	150	175	200	225	250	300	350
Neg. Static Press.	0.011	0.018	0.029	0.041	0.055	0.072	0.091	0.111	0.160	0.217
Sound (NC/RC)	--/--	--/--	--/--	--/--	--/--	12/12N	15/16N	17/20N	21/25N	26/30N
<b>8" x 8"</b>										
Flow (CFM)	133	178	222	267	311	356	400	444	533	622
Neg. Static Press.	0.011	0.018	0.029	0.042	0.057	0.074	0.093	0.115	0.164	0.223
Sound (NC/RC)	--/--	--/--	--/--	--/--	13/13N	16/16N	19/20N	22/24N	27/30N	33/34N
<b>10" x 10"</b>										
Flow (CFM)	208	278	347	416	486	555	625	694	833	972
Neg. Static Press.	0.011	0.019	0.030	0.043	0.058	0.076	0.094	0.119	0.169	0.228
Sound (NC/RC)	--/--	--/--	--/--	12/12H	16/16N	20/20N	23/24N	26/27N	32/33N	39/38N
<b>12" x 12"</b>										
Flow (CFM)	300	400	500	600	700	800	900	1000	1200	1400
Neg. Static Press.	0.011	0.020	0.031	0.045	0.062	0.080	0.100	0.124	0.174	0.239
Sound (NC/RC)	--/--	--/--	11/11H	15/15H	19/20N	23/24N	26/27N	30/31N	37/37N	45/41H
<b>14" x 14"</b>										
Flow (CFM)	408	544	681	817	953	1089	1225	1361	1633	1905
Neg. Static Press.	0.015	0.026	0.040	0.059	0.080	0.104	0.129	0.162	0.228	0.320
Sound (NC/RC)	--/--	--/--	13/13H	17/18N	21/22N	26/27N	30/31N	35/34N	43/40N	51/44H
<b>16" x 16"</b>										
Flow (CFM)	533	711	889	1067	1245	1422	1600	1778	2134	2489
Neg. Static Press.	0.024	0.041	0.063	0.091	0.121	0.155	0.198	0.245	0.345	0.471
Sound (NC/RC)	--/--	--/11H	15/15H	20/20N	24/25N	29/30N	34/34N	39/37N	48/43H	57/47H
<b>18" x 18"</b>										
Flow (CFM)	675	900	1125	1350	1575	1800	2025	2250	2700	3150
Neg. Static Press.	0.036	0.063	0.095	0.133	0.175	0.221	0.283	0.351	0.483	0.668
Sound (NC/RC)	--/--	--/12H	17/18H	22/23N	27/28N	32/33N	37/37N	43/40N	52/46H	62/50H

**Notes on**

**Performance Data**

- Performance data is based on tests conducted in accordance with ANSI/ASHRAE Standard 70-1991.
- Actual performance in the field may vary.
- Testing was conducted in isothermal conditions.
- Sound level values are based on a room absorption of 10db re 10<sup>-12</sup> watts.

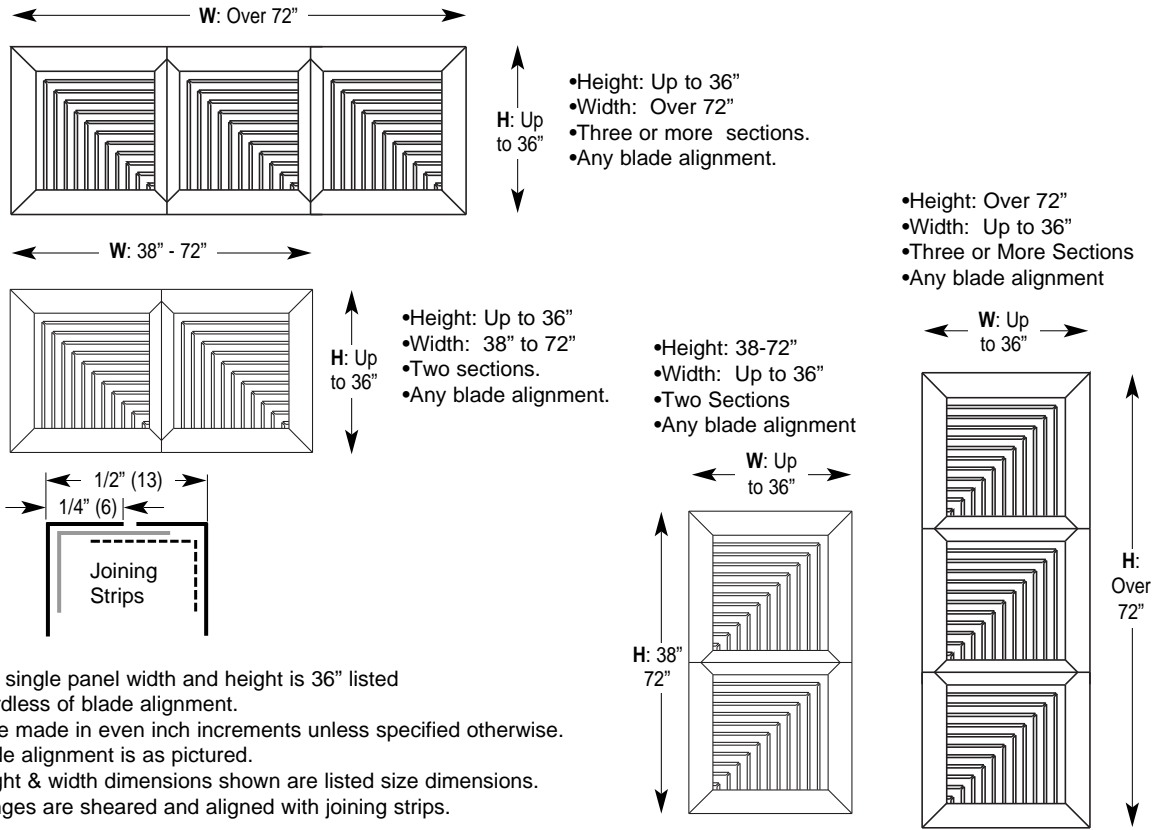
**Units of Measure Used:**

- Velocity is given in Feet per Minute (fpm).
- Pressure given in Inches of Water (w.g.).
- Air flows are given in Cubic Feet per Minute (CFM).
- Sound data is given in both NC and RC. NC is first with RC second, separated by a slash.

**Multi-Panel Construction for the following Registers & Grilles**

	Steel	Stainless Steel	Aluminum
Single Deflection	RSSB, RTSB	RLSB, RMSB, RKSB	RASM, RNSM
Double Deflection	RSDB, RTDB	RLDB, RMDB, RKDB	RADM, RNDM
0° Fixed Return	RSRB, RTRB	RLRB, RMRB, RKRB	RARM, RNRM
45° Fixed Return	RSAB, RTAB	RLAB, RMAB, RKAB	RAAM, RNAM

**In-line Construction**



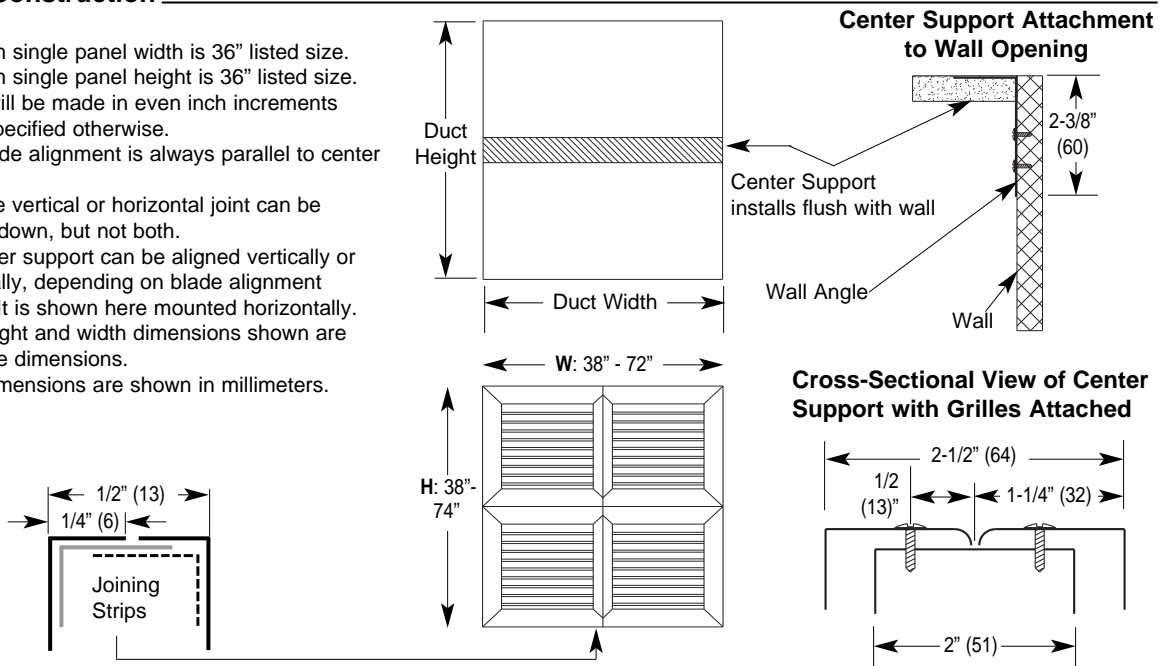
**Notes:**

1. Maximum single panel width and height is 36" listed size regardless of blade alignment.
2. Panels are made in even inch increments unless specified otherwise.
3. Front blade alignment is as pictured.
4. Grille height & width dimensions shown are listed size dimensions.
5. Panel flanges are sheared and aligned with joining strips.

**Ganged Construction**

**Notes:**

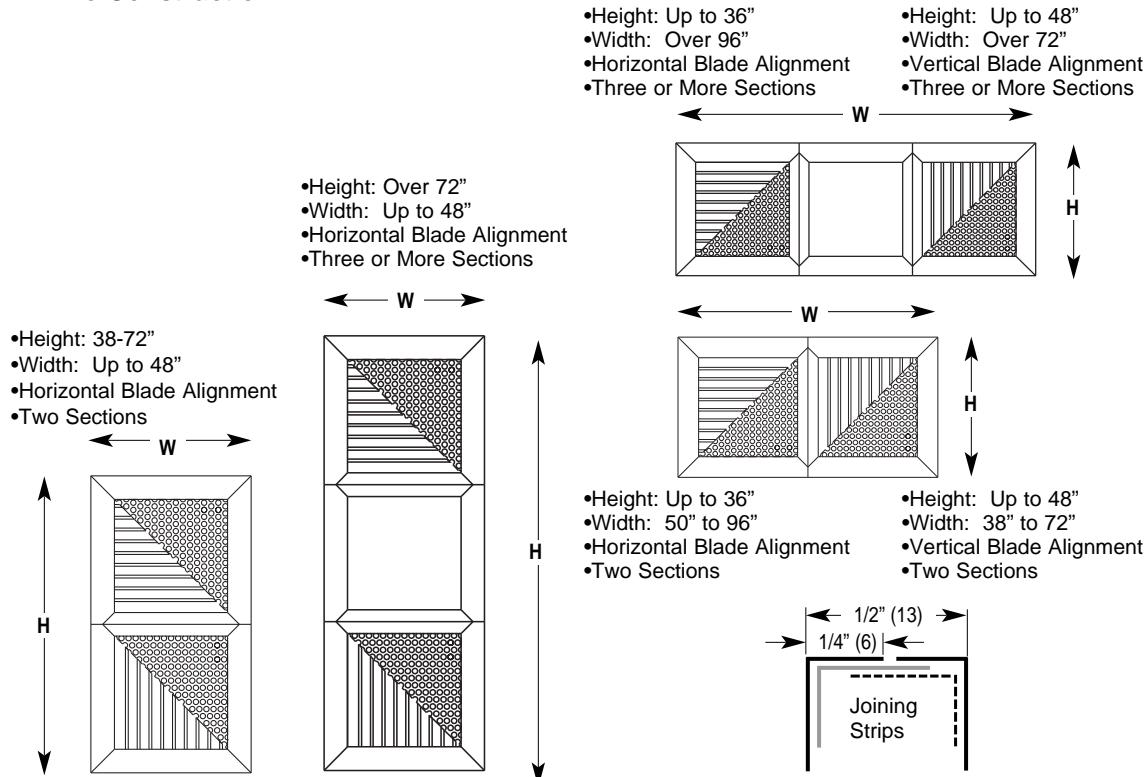
1. Maximum single panel width is 36" listed size.
2. Maximum single panel height is 36" listed size.
3. Panels will be made in even inch increments unless specified otherwise.
4. Front blade alignment is always parallel to center support.
5. Either the vertical or horizontal joint can be sheared down, but not both.
6. The center support can be aligned vertically or horizontally, depending on blade alignment desired. It is shown here mounted horizontally.
7. Grille height and width dimensions shown are listed size dimensions.
8. Metric dimensions are shown in millimeters.



## Multi-Panel Construction for the following Registers & Grilles

Steel  
 Louvered Return RSLA, RTLA  
 Perforated Return RSFA, RTFA

### In-Line Construction



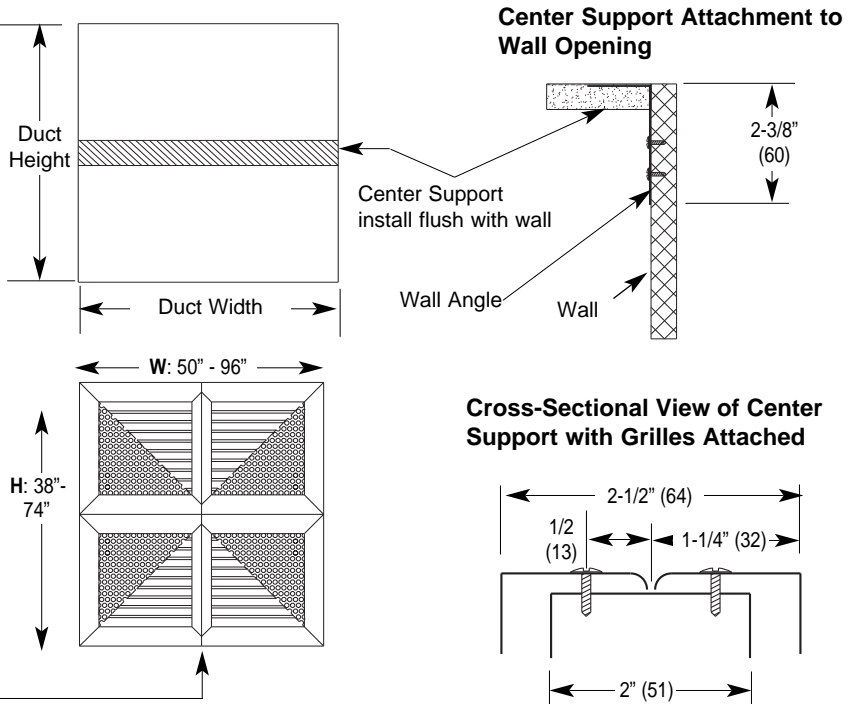
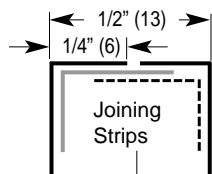
#### Notes:

1. Panels will be made in even inch increments unless specified otherwise.
2. Dimensions shown are listed size dimensions.
3. Max. blade length on louvered face models is nominal 48".
4. Panels are sheared and aligned with joining strips.

### Ganged Construction

#### Notes:

1. Either the vertical or horizontal joint can be sheared down, but not both.
2. Maximum single panel width is 48" listed size.
3. Maximum blade length on louvered face models is listed size 48".
4. Maximum single panel height is 36" listed size.
5. Panels are made in even inch increments unless specified otherwise.
6. Blade alignment is always parallel to center support.
7. The center support can be aligned vertically or horizontally, depending on the blade alignment desired. It is shown here mounted horizontally.
8. Grille dimensions shown are listed size dimensions.

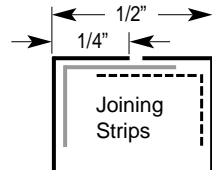
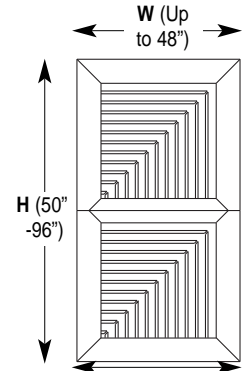


**Multi-Panel In-Line Construction**

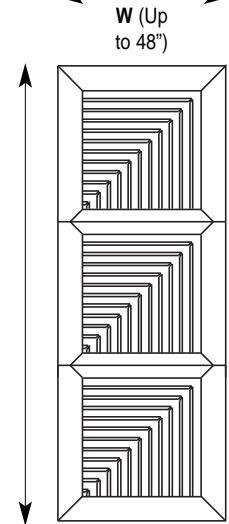
**Notes:**

1. Maximum single panel width and height is 48" nominal size, regardless of blade alignment.
2. Panels are made in even inch increments unless specified otherwise.
3. Front blade alignment is as pictured.
4. Grille dimensions shown are nominal dimensions.
5. Panel flanges are sheared and aligned with joining strips.

- Height: 50-96"
- Width: Up to 48"
- Two Sections
- Any Blade Alignment

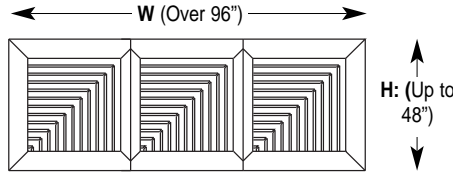
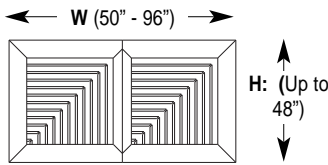


- Height: Over 96"
- Width: Up to 48"
- Three or more Sections
- Any Blade Alignment



- Height: Up to 48"
- Width: 50" - 96"
- (Two Sections)
- Any Blade Alignment

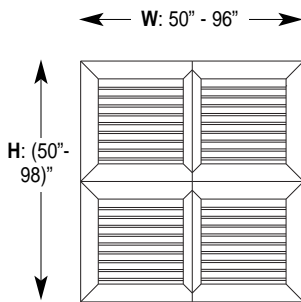
- Height: Up to 48"
- Width: Over 96"
- Three or more Sections
- Any Blade Alignment



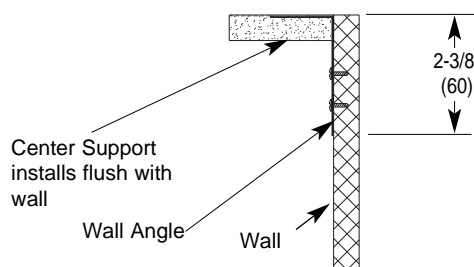
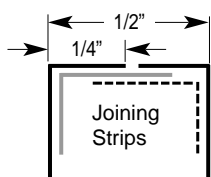
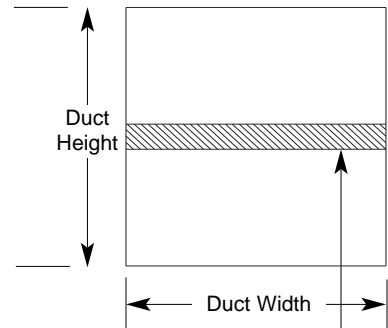
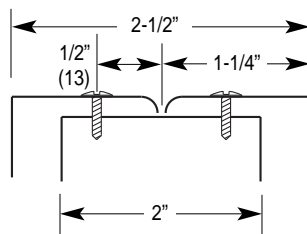
**Multi-Panel Ganged Construction**

**Notes:**

1. Maximum single panel width and height are 48" nominal size.
2. Panels are made in even inch increments unless specified otherwise.
3. Front blade alignment is always parallel to center support.
4. Either the vertical or horizontal joint can be sheared down, but not both.
5. The center support can be aligned vertically or horizontally, depending on blade alignment desired.
6. Grille dimensions shown are nominal dimensions.



**Cross-Sectional View of Center Support**



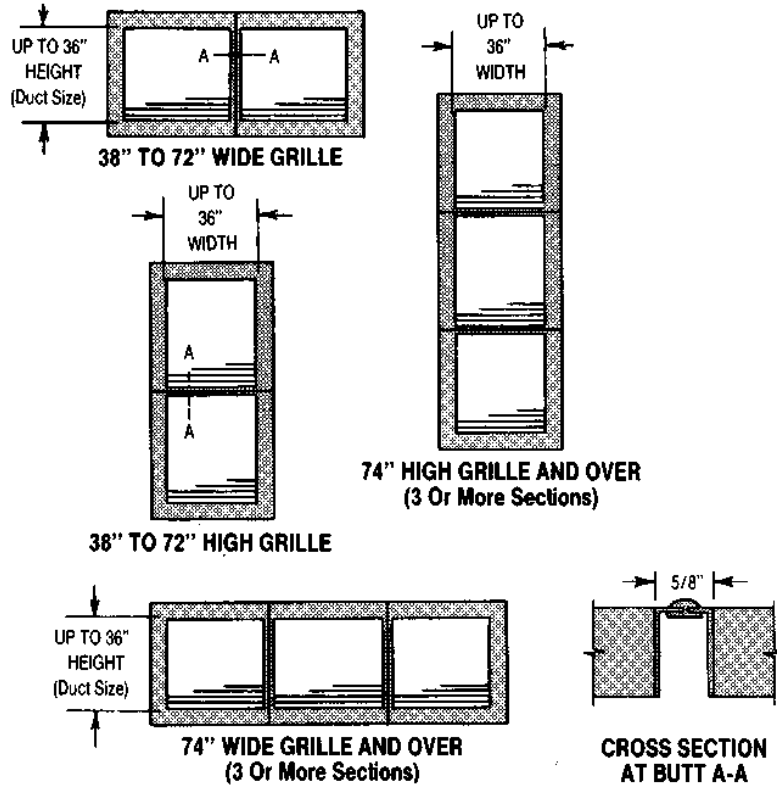
Center Support Mounted flush with wall (Shown aligned horizontally).

Sq. & Rect. Registers & Grilles

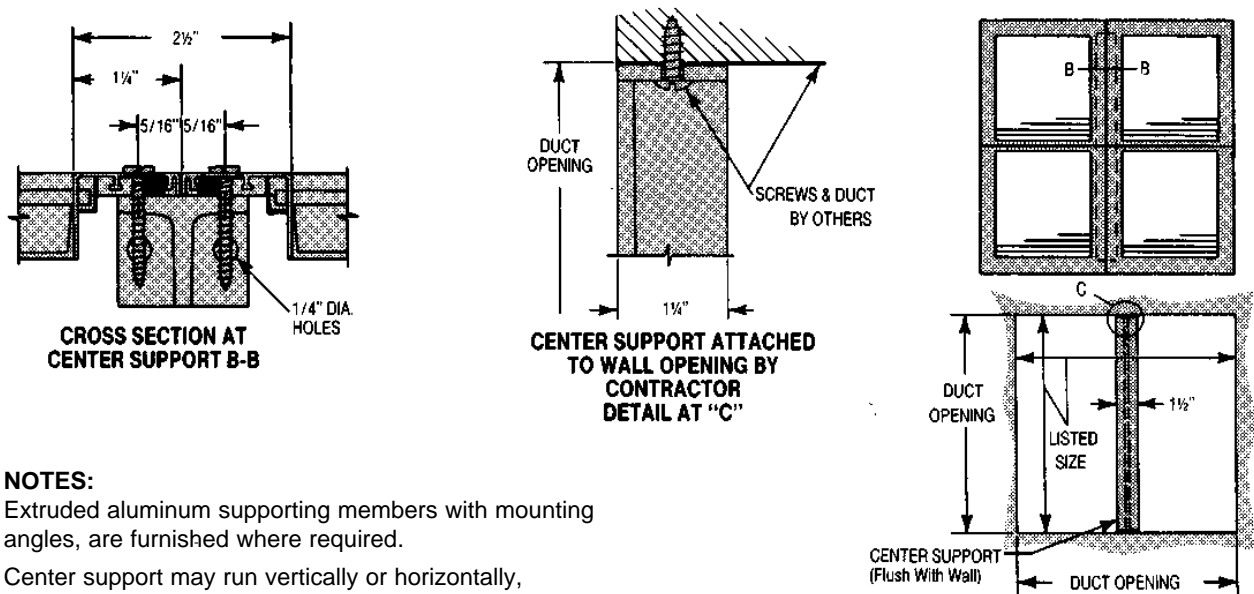
All Sections of Butted Grilles or Registers will be made in Listed Sizes as Standard.

**STANDARD REGISTERS AND GRILLES**

Applies to all models except louvered return air registers and grilles and door partition grilles.  
Registers and grilles over 36" x 36" butting two or more grilles together.



**GRILLES AND REGISTERS HAVING FOUR SECTIONS AND OVER**



**NOTES:**

Extruded aluminum supporting members with mounting angles, are furnished where required.

Center support may run vertically or horizontally, depending upon combination of grilles used.

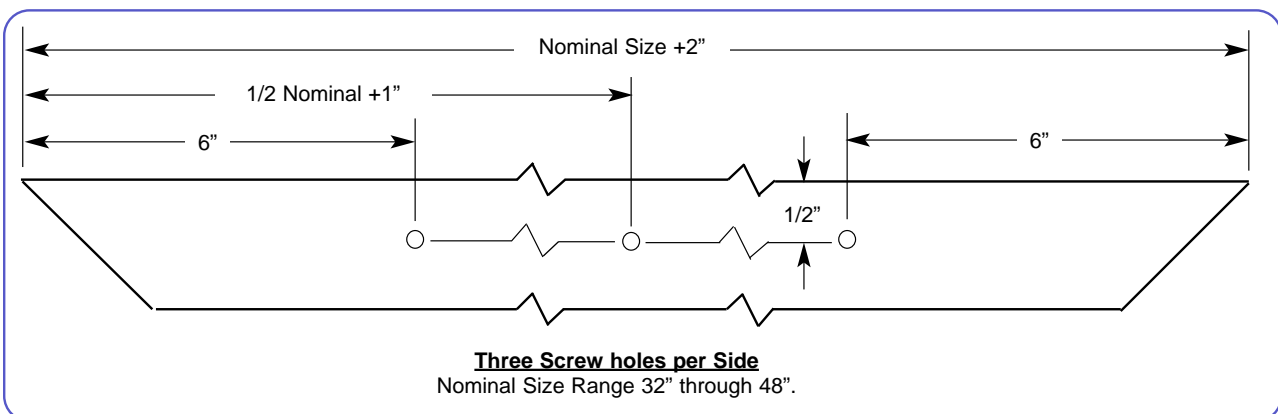
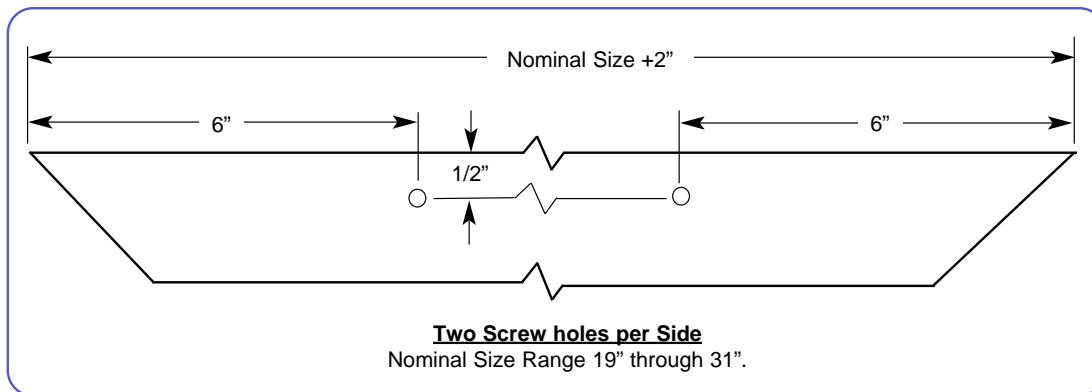
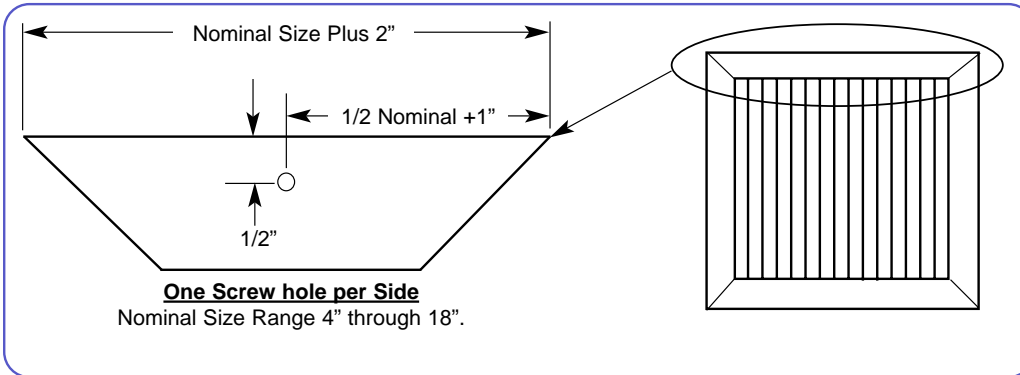
Combination of panels will be furnished to fit duct opening with satisfactory clearance.

**Screw Hole Location for the following Registers & Grilles**

	<u>Steel</u>	<u>Aluminum</u>	<u>Stainless Steel</u>
Single Deflection	RSSB, RTSB	RASM, RNSM	RLSB, RMSB, RKSB
Double Deflection	RSDB, RTDB	RADM, RNDM	RLDB, RMDB, RKDB
0° Fixed Return	RSRB, RTRB	RARM, RNRM	RLRB, RMRB, RKRB
45° Fixed Return	RSAB, RTAB	RAAM, RNAM	RLAB, RMAB, RKAB
Louvered Return	RSLA, RTLA	-----	-----
Perforated Return	RSFA, RTFA	RAFM, RNFM	-----

**Notes:**

- Screw holes on the face are standard on Registers and Grilles.
- Steel R&G can be ordered without screw holes, for use with concealed hangers (Opt. N).
- The screw holes is 5/32" in diameter.
- Each Register or Grille is provided with the appropriate number of screws as standard.
- The standard screw is #8 x 1-1/4" pan head screw, with a flat blade head.
- Tamper-proof screws are available as an option (Opt. B).



Sq. & Rect. Registers & Grilles