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AIRVECTOR®

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SQUARE DIFFUSERS



MODEL DF4

4 CONE

MODEL DF4 - Fixed horizontal pattern

DF4 Supply Diffusers with integral round necks are recommended for heating, ventilating and cooling.

Round-neck-to-square-face construction results in a 360° air diffusion pattern similar to a full round diffuser. High diffusion induction rates result in rapid temperature and velocity equalization of the mixed air mass well above the zone of occupancy. Horizontal performance assures confident use of cooling temperature differential of 30° F and greater, at predicted low air motion 35 fpm in the zone of occupancy. DF4 Supply Diffusers perform efficiently with air loadings of 6 to 30 air changes per hour (based on 10 ft. ceiling height), and sound level range of NC 25 to 35.

Core is removable to facilitate access to duct (model DF4R), or non-removable (model DF4N).

FEATURES

- Full face 24" x 24" for all neck sizes.
(12" x 12" face available in 3 cone only)
- Heavy-gauge all-steel construction.
- Removable core (DF4R) can be removed without tools.
- Ideal for VAV systems.
- Powder paint coating - White.
- Matching OBD dampers available.
- Screw driver adjustment of OBD through diffuser face.

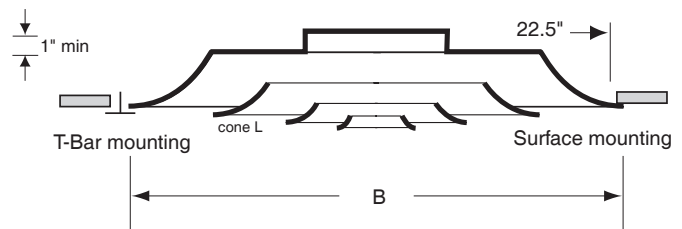


DF4

(Full face 24" x 24")

HANDY FEATURE:

One standard model suits both T-Bar and Drywall installations using rigid ducting.



Listed Size	Neck Dia	Nominal Face Size	Overall Face Size "B"	Drywall Ceiling Opening
2406	6	24 x 24	23 ³ / ₄ x 23 ³ / ₄	22 ¹ / ₂ x 22 ¹ / ₂
2408	8	24 x 24	23 ³ / ₄ x 23 ³ / ₄	22 ¹ / ₂ x 22 ¹ / ₂
2410	10	24 x 24	23 ³ / ₄ x 23 ³ / ₄	22 ¹ / ₂ x 22 ¹ / ₂
2412	12	24 x 24	23 ³ / ₄ x 23 ³ / ₄	22 ¹ / ₂ x 22 ¹ / ₂
2414	14	24 x 24	23 ³ / ₄ x 23 ³ / ₄	22 ¹ / ₂ x 22 ¹ / ₂

ENGINEERING PERFORMANCE DATA

MODEL DF4

4 CONE AIRVECTOR®

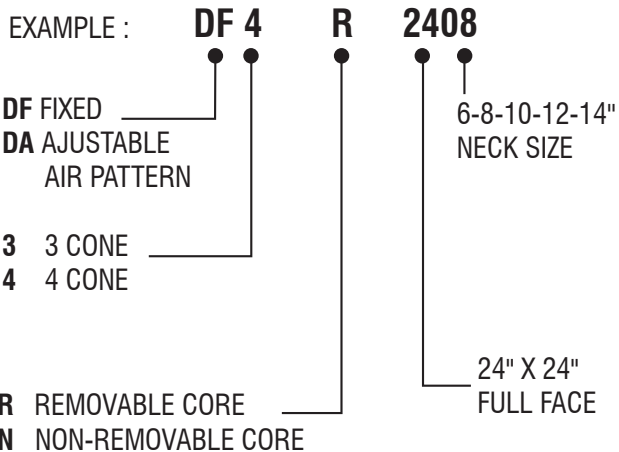
24" x 24" face

SIZE (inches)	Neck Velocity (fpm)	400	500	600	700	800	1000	1200	1400	1600
	Velocity Pressure (in H ₂ O)	.010	.016	.022	.031	.041	.062	.090	.122	.160
6	CFM	78	98	118	137	157	196	235	274	313
	Total Pressure	.02	.03	.04	.05	.07	.10	.14	.19	.24
	NC	< 20	< 20	< 20	< 20	< 20	22	28	32	36
	Throw (ft)	1-2-4	1-3-4	2-3-5	2-3-6	3-4-7	4-6-8	5-7-10	6-9-11	7-9-12
8	CFM	140	175	209	244	279	349	419	489	559
	Total Pressure	.02	.03	.04	.05	.08	.10	.15	.20	.25
	NC	< 20	< 20	< 20	< 20	< 20	26	31	36	41
	Throw (ft)	2-3-5	2-3-7	3-4-8	3-5-8	4-6-9	5-7-11	6-9-13	7-10-14	8-11-17
10	CFM	218	273	327	382	436	545	654	763	872
	Total Pressure	.02	.03	.04	.05	.08	.12	.17	.24	.30
	NC	< 20	< 20	< 20	< 20	< 20	22	29	34	38
	Throw (ft)	3-4-6	4-5-8	4-6-10	5-7-12	6-8-14	7-9-15	8-11-16	9-12-17	10-13-19
12	CFM	314	393	471	550	628	785	941	1099	1246
	Total Pressure	.02	.04	.05	.07	.09	.14	.20	.27	.36
	NC	< 20	< 20	< 20	20	23	39	36	41	46
	Throw (ft)	4-5-9	5-6-10	6-7-11	6-8-13	7-9-15	8-11-18	10-13-21	12-16-22	13-18-21
14	CFM	492>	615	738	861	984	1230	1476	1722	1968
	Total Pressure	.03	.04	.06	.08	.10	.18	.23	.30	.40
	NC	< 20	< 20	< 20	21	25	33	38	43	48
	Throw (ft)	4-6-10	5-6-11	6-8-14	7-10-16	8-11-18	10-14-20	12-16-22	14-19-24	15-20-26

NC Value based on 10 db room attenuation.

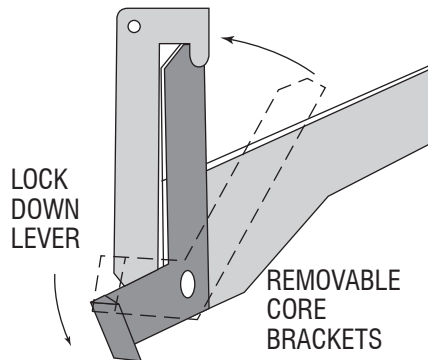
Throw Values are based on isothermal air and terminal velocities of 150 fpm, 100 fpm & 75 fpm respectively.
Total Pressure the sum of static pressure plus velocity pressure and is given in inches w.g.

HOW TO ORDER



IMPORTANT

Removable core models should have their core locked in place after installation for security reasons. Follow directions below.



Core Locking

SQUARE DIFFUSERS



MODEL DF3

3 CONE

MODEL DF3 - Fixed horizontal pattern

DF3 Supply Diffusers with integral round necks are recommended for heating, ventilating and cooling.

Round-neck-to-square-face construction results in a 360° air diffusion pattern similar to a full round diffuser. High diffusion induction rates result in rapid temperature and velocity equalization of the mixed air mass well above the zone of occupancy. Horizontal performance assures confident use of cooling temperature differential of 30° F and greater, at predicted low air motion 35 fpm in the zone of occupancy. DF3 Supply Diffusers perform efficiently with air loadings of 6 to 30 air changes per hour (based on 10 ft. ceiling height), and sound level range of NC 25 to 35.

Core is removable to facilitate access to duct (model DF3R), or non-removable (model DF3N).

FEATURES

- Full face 24" x 24" for all neck sizes.
- Full face 12" x 12" for 6" & 8" neck sizes.
- Heavy-gauge all-steel construction.
- Removable core (DF3R) can be removed without tools.
- Ideal for VAV systems.
- Powder paint coating - White.
- Matching OBD dampers available.
- Screw driver adjustment of OBD through diffuser face.

Listed Size	Neck Dia	Nominal Face Size	Overall Face Size "B"	Drywall Ceiling Opening
1206	6	12 x 12	11 ³ / ₄ x 11 ³ / ₄	10 ¹ / ₂ x 10 ¹ / ₂
1208	8	12 x 12	23 ³ / ₄ x 23 ³ / ₄	10 ¹ / ₂ x 10 ¹ / ₂
2406	6	24 x 24	23 ³ / ₄ x 23 ³ / ₄	22 ¹ / ₂ x 22 ¹ / ₂
2408	8	24 x 24	23 ³ / ₄ x 23 ³ / ₄	22 ¹ / ₂ x 22 ¹ / ₂
2410	10	24 x 24	23 ³ / ₄ x 23 ³ / ₄	22 ¹ / ₂ x 22 ¹ / ₂
2412	12	24 x 24	23 ³ / ₄ x 23 ³ / ₄	22 ¹ / ₂ x 22 ¹ / ₂
2414	14	24 x 24	23 ³ / ₄ x 23 ³ / ₄	22 ¹ / ₂ x 22 ¹ / ₂

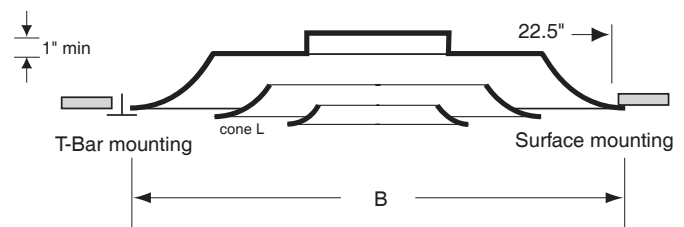


DF3

(Full face 24" x 24")

HANDY FEATURE:

One standard model suits both T-Bar and Drywall installations using rigid ducting.



ENGINEERING PERFORMANCE DATA

MODEL DF3

3 CONE



12" x 12" face

SIZE (inches)	Neck Velocity (fpm)	400	500	600	700	800	1000	1200	1400	1600
	Velocity Pressure (in H ₂ O)	.010	.016	.022	.031	.041	.062	.090	.122	.160
6	CFM	78	98	118	137	157	196	235	274	313
	Total Pressure	.02	.03	.04	.06	.07	.10	.16	.22	.29
	NC	< 20	< 20	< 20	< 20	<20	25	29	34	40
	Throw (ft)	2-3-6	3-4-7	4-5-9	4-5-10	5-6-11	6-8-12	7-9-13	8-10-15	9-11-16
8	CFM	140	175	209	244	279	349	419	489	559
	Total Pressure	.03	.04	.06	.07	.09	.14	.20	.28	.38
	NC	< 20	< 20	< 20	<20	<20	29	35	41	45
	Throw (ft)	2-4-7	3-5-9	4-7-10	5-8-11	6-9-12	7-10-14	8-12-17	10-12-18	11-14-20

24" x 24" face

SIZE (inches)	Neck Velocity (fpm)	400	500	600	700	800	1000	1200	1400	1600
	Velocity Pressure (in H ₂ O)	.010	.016	.022	.031	.041	.062	.090	.122	.160
6	CFM	78	98	118	137	157	196	235	274	313
	Total Pressure	.02	.03	.04	.05	.07	.10	.14	.19	.24
	NC	< 20	< 20	< 20	< 20	<20	22	28	32	36
	Throw (ft)	1-2-4	1-3-4	2-3-5	2-3-6	3-4-7	4-6-8	5-7-10	6-9-11	7-9-12
8	CFM	140	175	209	244	279	349	419	489	559
	Total Pressure	.02	.03	.04	.05	.08	.10	.15	.20	.25
	NC	< 20	< 20	< 20	<20	<20	26	31	36	41
	Throw (ft)	2-3-5	2-3-7	3-4-8	3-5-8	4-6-9	5-7-11	6-9-13	7-10-14	8-11-17
10	CFM	218	273	327	382	436	545	654	763	872
	Total Pressure	.02	.03	.04	.05	.08	.12	.17	.24	.30
	NC	< 20	< 20	< 20	<20	22	29	34	38	43
	Throw (ft)	3-4-6	4-5-8	4-6-10	5-7-12	6-8-14	7-9-15	8-11-16	9-12-17	10-13-19
12	CFM	314	393	471	550	628	785	941	1099	1246
	Total Pressure	.02	.04	.05	.07	.09	.14	.20	.27	.36
	NC	< 20	< 20	<20	20	23	39	36	41	46
	Throw (ft)	4-5-9	5-6-10	6-7-11	6-8-13	7-9-15	8-11-18	10-13-21	12-16-22	13-18-21
14	CFM	492>	615	738	861	984	1230	1476	1722	1968
	Total Pressure	.03	.04	.06	.08	.10	.18	.23	.30	.40
	NC	< 20	< 20	<20	21	25	33	38	43	48
	Throw (ft)	4-6-10	5-6-11	6-8-14	7-10-16	8-11-18	10-14-20	12-16-22	14-19-24	15-20-26

NC Value based on 10 db room attenuation.

Throw Values are based on isothermal air and terminal velocities of 150 fpm, 100 fpm & 75 fpm respectively.
Total Pressure the sum of static pressure plus velocity pressure and is given in inches w.g.

HOW TO ORDER

EXAMPLE :

DF 3

R

2408

DF FIXED
DA AJUSTABLE
AIR PATTERN

3 3 CONE
4 4 CONE

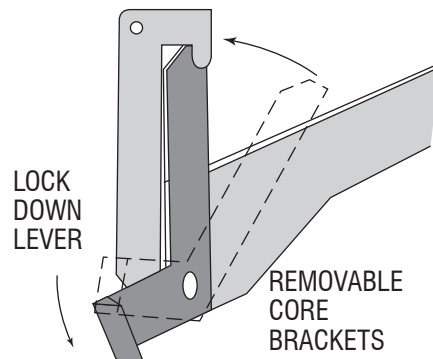
R REMOVABLE CORE
N NON-REMOVABLE CORE

6-8-10-12-14"
NECK SIZE

24" X 24"
FULL FACE

IMPORTANT

Removable core models should have their core locked in place after installation for security reasons. Follow directions below.



Core Locking

SQUARE DIFFUSERS



MODEL ISO

ARCHITECTURAL LINE Square Panel Diffuser

MODEL ISO

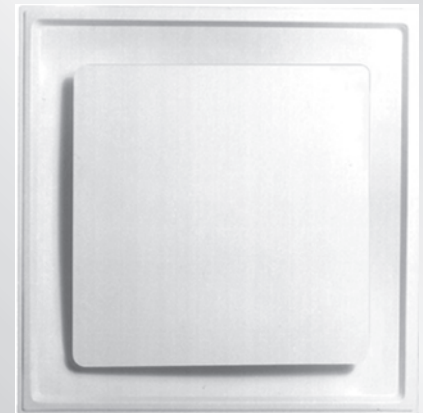
ISO Supply Diffusers with integral round necks are recommended for heating, ventilating and cooling.

Round-neck-to-square-face construction results in a 360° air diffusion pattern similar to a full round diffuser. High diffusion induction rates result in rapid temperature and velocity equalization of the mixed air mass well above the zone of occupancy. Horizontal performance assures confident use of cooling temperature differential of 30° F and greater, at predicted low air motion 35 fpm in the zone of occupancy. ISO Supply Diffusers perform efficiently with air loadings of 6 to 30 air changes per hour (based on 10 ft. ceiling height), and sound level range of NC 25 to 35.

Core is removable for access to optional damper (model ISOR), or non-removable (model ISON).

FEATURES

- Full face 24" x 24" for all neck sizes.
- Full face 12" x 12" for 6" & 8" neck sizes.
- Heavy-gauge all-steel construction.
- Removable core (ISOR) can be removed without tools.
- Ideal for VAV systems.
- Powder paint coating - White.
- Matching OBD dampers available.

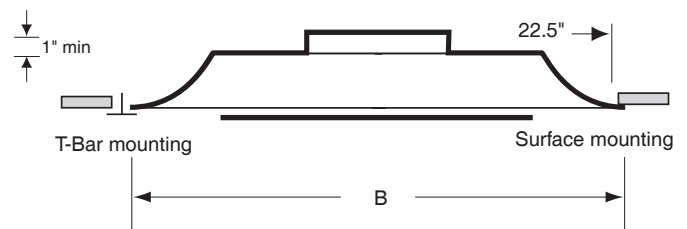


ISO

(Full face 24" x 24")

HANDY FEATURE:

One standard model suits both T-Bar and Drywall installations using rigid ducting.



Listed Size	Neck Dia	Nominal Face Size	Overall Face Size "B"	Drywall Ceiling Opening
1206	6	12 x 12	11 ³ / ₄ x 11 ³ / ₄	10 ¹ / ₂ x 10 ¹ / ₂
1208	8	12 x 12	11 ³ / ₄ x 11 ³ / ₄	10 ¹ / ₂ x 10 ¹ / ₂
2406	6	24 x 24	23 ³ / ₄ x 23 ³ / ₄	22 ¹ / ₂ x 22 ¹ / ₂
2408	8	24 x 24	23 ³ / ₄ x 23 ³ / ₄	22 ¹ / ₂ x 22 ¹ / ₂
2410	10	24 x 24	23 ³ / ₄ x 23 ³ / ₄	22 ¹ / ₂ x 22 ¹ / ₂
2412	12	24 x 24	23 ³ / ₄ x 23 ³ / ₄	22 ¹ / ₂ x 22 ¹ / ₂
2414	14	24 x 24	23 ³ / ₄ x 23 ³ / ₄	22 ¹ / ₂ x 22 ¹ / ₂

ENGINEERING PERFORMANCE DATA

MODEL ISO

SQUARE PANEL



12" x 12" face

SIZE (inches)	Neck Velocity (fpm)	400	500	600	700	800	1000	1200	1400	1600
	Velocity Pressure (in H ₂ O)	.010	.016	.022	.031	.041	.062	.090	.122	.160
6	CFM	78	98	118	137	157	196	235	274	313
	Total Pressure	.05	.07	.10	.14	.18	.29	.41	.58	.72
	NC	< 20	< 20	< 20	< 20	< 20	21	24	29	37
	Throw (ft)	2-3-6	3-4-7	4-5-9	4-5-10	5-6-11	6-8-12	7-9-13	8-10-15	9-11-16
8	CFM	140	175	209	244	279	349	419	489	559
	Total Pressure	.07	.10	.15	.21	.29	.42	.62	.84	1.00
	NC	< 20	< 20	< 20	< 20	< 20	25	30	38	45
	Throw (ft)	2-4-7	3-5-9	4-7-10	5-8-11	6-9-12	7-10-14	8-12-17	10-12-18	11-14-20

24" x 24" face

SIZE (inches)	Neck Velocity (fpm)	400	500	600	700	800	1000	1200	1400	1600
	Velocity Pressure (in H ₂ O)	.010	.016	.022	.031	.041	.062	.090	.122	.160
6	CFM	78	98	118	137	157	196	235	274	313
	Total Pressure	.02	.03	.04	.05	.08	.1	.14	.19	.24
	NC	< 20	< 20	< 20	< 20	< 20	23	27	32	37
	Throw (ft)	1-2-4	2-3-4	2-3-5	2-3-6	3-4-7	4-5-8	4-6-9	4-7-10	6-8-14
8	CFM	140	175	209	244	279	349	419	489	559
	Total Pressure	.02	.03	.04	.06	.08	.11	.17	.23	.29
	NC	< 20	< 20	< 20	< 20	< 20	28	32	36	41
	Throw (ft)	2-3-5	2-3-7	3-4-8	3-5-8	4-6-9	5-7-11	6-8-14	7-9-14	7-10-14
10	CFM	218	273	327	382	436	545	654	763	872
	Total Pressure	.03	.04	.06	.08	.11	.18	.24	.35	.48
	NC	< 20	< 20	< 20	< 20	23	29	36	40	44
	Throw (ft)	3-4-6	4-5-8	4-6-10	5-7-12	6-8-14	7-9-15	8-11-16	9-12-17	10-13-19
12	CFM	314	393	471	550	628	785	941	1099	1246
	Total Pressure	.04	.06	.08	.13	.16	.25	.35	.50	.67
	NC	< 20	< 20	< 20	21	24	31	38	43	47
	Throw (ft)	4-5-9	5-6-10	6-7-10	6-8-13	7-9-15	8-11-18	10-13-20	11-15-21	12-16-22
14	CFM	492	615	738	861	984	1230	1476	1722	1968
	Total Pressure	.05	.08	.13	.16	.22	.32	.43	.59	.80
	NC	< 20	< 20	< 20	22	27	34	40	43	47
	Throw (ft)	4-6-10	5-6-11	6-8-14	7-10-16	8-11-18	10-14-20	12-15-22	12-17-23	14-19-24

NC Value based on 10 db room attenuation.

Throw Values are based on isothermal air and terminal velocities of 150 fpm, 100 fpm & 75 fpm respectively.
Total Pressure the sum of static pressure plus velocity pressure and is given in inches w.g.

HOW TO ORDER

EXAMPLE : ISO

R

2408

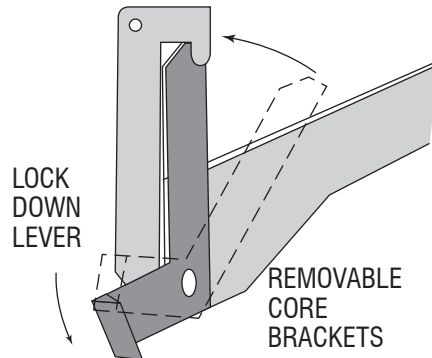
6-8-10-12-14"
NECK SIZE

24" X 24"
FULL FACE

R Removable Core
N Non Removable Core

IMPORTANT

Removable core models should have their core locked in place after installation for security reasons. Follow directions below.



Core Locking

PERFORATED DIFFUSERS



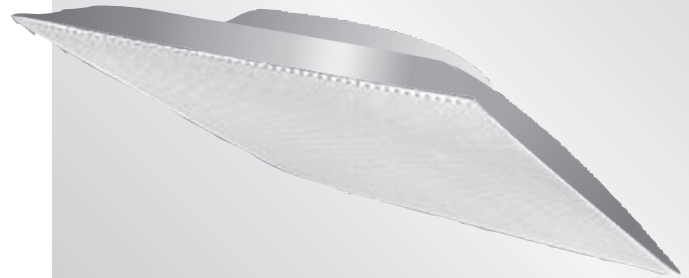
MODEL PSM & PRM with Metal Plenum

MODEL PSM - Supply Diffuser

PSM Supply Diffusers have high diffusion induction rates resulting in rapid temperature and velocity equalization of the mixed air mass well above the zone of occupancy.

The horizontal performance of their standard air pattern baffle or optional directional louvers ensure confident use of cooling differentials of 25°F and greater at predicted low air motion 35 fpm in the zone of occupancy.

PSM Supply diffusers perform efficiently with air loadings of 1 to 3 cfm per square feet of floor area, or 6 to 20 air changes per hour (based on 10 ft. ceiling height) and sound level range of NC 25 to 35.



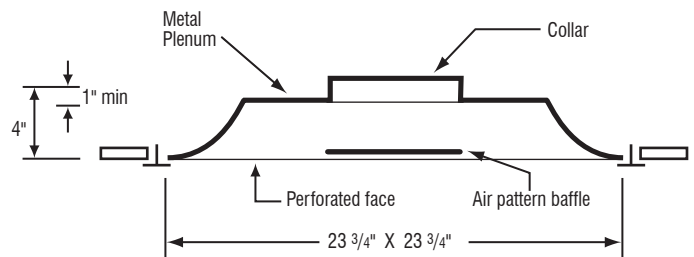
PSM
PRM

MODEL PRM - Return Diffusers

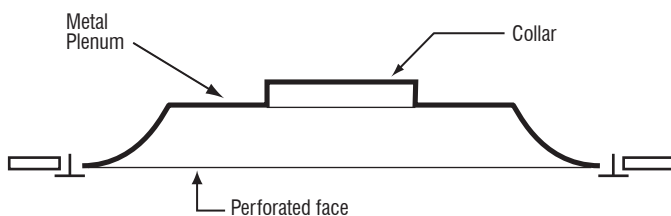
PRM Return Diffusers are similar to PSM but with the air pattern baffle removed. They are matched in appearance.

FEATURES

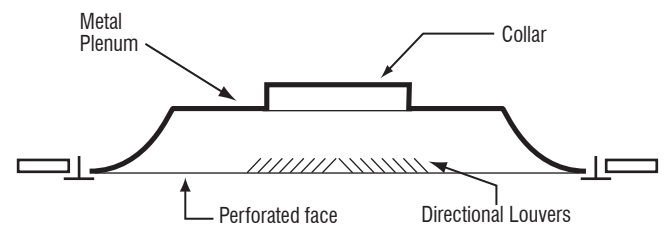
- Heavy gauge all steel construction.
- 24" X 24" face for neck sizes 6"-8"-10"-12"-14" D.
- Compatible with VAV Systems.
- Powder paint coating - White.
- Holes are $\frac{3}{16}$ " D. staggered $\frac{1}{4}$ " affording 53% free area.



**Model PSM Standard
(with Air Pattern Baffle)**



Model PRM Standard (with Baffle removed)



**Model PSM-L Optional
(with Directional Louvers - add Suffix-L)**

HOW TO ORDER

PS - PERF. SUPPLY

PR - PERF. RETURN

L OPTIONAL DIR. LOUVERS

(only with PSM)

PS M L

2408

COLLAR SIZE

24" X 24" FACE SIZE

ENGINEERING PERFORMANCE DATA



MODEL PSM - Supply Diffusers

24" x 24" face

SIZE	Neck Velocity (fpm)	400	500	600	700	800	1000	1200	1400
	Velocity Pressure (in H ₂ O)	.010	.016	.022	.031	.041	.062	.090	.122
6	CFM	78	98	118	137	157	196	235	274
	Total Pressure	.017	.027	.038	.053	.069	.109	.159	.215
	NC	< 20	< 20	< 20	21	27	32	37	41
	Throw (ft)	1-2-3	1-2-4	2-3-5	2-3-6	2-4-7	3-5-8	4-6-9	5-7-10
8	CFM	140	175	209	244	279	349	419	489
	Total Pressure	.018	.028	.040	.054	.071	.109	.160	.216
	NC	< 20	< 20	< 20	24	27	33	37	42
	Throw (ft)	1-3-5	2-3-6	2-4-7	3-5-8	4-6-10	5-8-12	6-9-14	7-10-15
10	CFM	218	273	327	382	436	545	654	763
	Total Pressure	.018	.026	.039	.054	.071	.109	.160	.216
	NC	< 20	< 20	< 20	23	28	36	41	47
	Throw (ft)	2-4-6	3-4-7	3-5-8	4-7-10	5-8-12	5-9-14	6-11-16	7-13-18
12	CFM	314	393	471	550	628	785	941	1099
	Total Pressure	.019	.029	.041	.057	.072	.111	.163	.218
	NC	< 20	< 20	20	25	30	39	43	49
	Throw (ft)	2-5-7	3-5-8	3-7-10	4-8-12	5-9-14	7-11-16	8-12-18	10-14-21
14	CFM	492	615	738	861	984	1230	1476	1722
	Total Pressure	.021	.032	.043	.075	.092	.141	.193	.261
	NC	< 20	< 20	21	26	34	40	45	50
	Throw (ft)	3-6-9	4-7-10	4-8-12	5-9-13	6-10-15	8-12-18	10-14-21	12-17-24

NC Value based on 10 db room attenuation.

Throw Values are based on isothermal air and terminal velocities of 150 fpm, 100 fpm & 75 fpm respectively.

Total Pressure the sum of static pressure plus velocity pressure and is given in inches w.g.

MODEL PRM - Return Diffusers

24" x 24" face

SIZE	Neck Velocity (fpm)	400	500	600	700	800	1000	1200	1400
	Velocity Pressure (in H ₂ O)	0.010	0.015	0.022	0.031	0.040	0.062	0.090	0.122
	Static Pressure (in H ₂ O)	-0.026	-0.042	-0.060	-0.078	-0.104	-0.160	-0.212	-0.290
6	CFM	78	98	118	13	15	196	235	27
	NC	< 20	< 20	< 20	< 20	< 20	20	23	26
8	CFM	140	175	209	244	279	349	419	489
	NC	< 20	< 20	< 20	21	22	24	27	29
10	CFM	218	273	327	382	436	545	654	763
	NC	< 20	< 20	21	23	25	28	30	32
12	CFM	314	393	471	550	628	785	941	1099
	NC	< 20	20	24	26	28	31	34	36
14	CFM	430	534	642	748	858	1072	1286	1500
	NC	22	25	28	30	32	35	37	39
16	CFM	558	698	836	978	1110	1390	1666	1950
	NC	26	28	30	34	37	40	43	46

PERFORATED DIFFUSERS



MODEL PSI & PRI with Fiberglass Plenum

MODEL PSI - Supply Diffuser

PSI Supply Diffusers have high diffusion induction rates resulting in rapid temperature and velocity equalization of the mixed air mass well above the zone of occupancy.

The horizontal performance of their air pattern baffle or optional directional louvers ensure confident use of cooling differentials of 25° F and greater, at predicted low air motion 35 fpm in the zone of occupancy.

PSI Supply Diffusers perform efficiently with air loadings of 1 to 3 cfm per square feet of floor area, or 6 to 20 air changes per hour (based on 10 ft. ceiling height) and sound level range of NC 25 to 35.



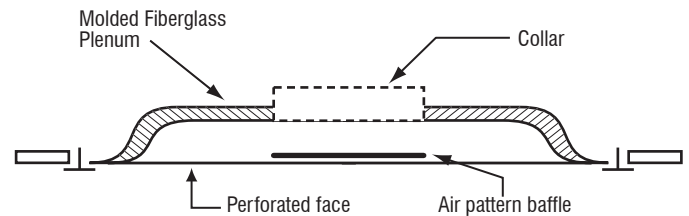
PSI
PRI

MODEL PRI - Return Diffusers

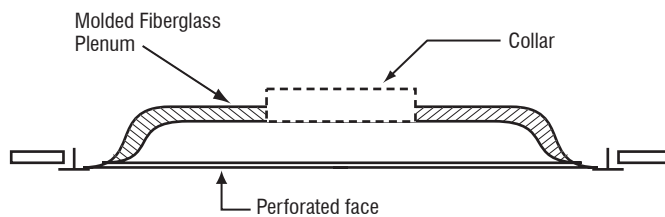
PRI Return Diffusers are similar to PSI but with the air pattern baffle removed. They are matched in appearance.

FEATURES

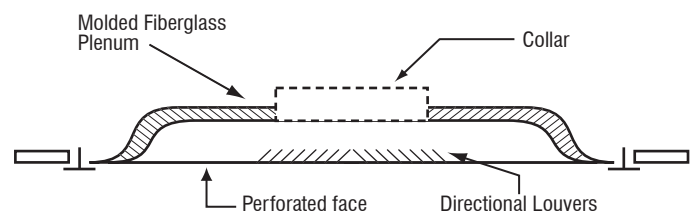
- Heavy gauge all steel construction.
- 24" X 24" face for neck sizes 6"-8"-10"-12"-14" D.
- Compatible with VAV Systems.
- Powder paint coating - White.
- Holes are $\frac{3}{16}$ " D. staggered $\frac{1}{4}$ " affording 53% free area.



**Model PSI Standard
(with Air Pattern Baffle)**



Model PRI Standard (with Baffle removed)



**Model PSI-L Optional
(with Directional Louvers - add Suffix-L)**

HOW TO ORDER

PS - PERF. SUPPLY
PR - PERF. RETURN

PS I L
┆ ┆
┆ ┆

OPTIONAL DIR. LOUVERS
(only with PSI)

ENGINEERING PERFORMANCE DATA



MODEL PSI - Supply Diffusers

24" x 24" face

SIZE	Neck Velocity (fpm)	400	500	600	700	800	1000	1200	1400
	Velocity Pressure (in H ₂ O)	.010	.016	.022	.031	.041	.062	.090	.122
6	CFM	78	98	118	137	157	196	235	274
	Total Pressure	.017	.027	.038	.053	.069	.109	.159	.215
	NC	< 20	< 20	< 20	21	27	32	37	41
	Throw (ft)	1-2-3	1-2-4	2-3-5	2-3-6	2-4-7	3-5-8	4-6-9	5-7-10
8	CFM	140	175	209	244	279	349	419	489
	Total Pressure	.018	.028	.040	.054	.071	.109	.160	.216
	NC	< 20	< 20	< 20	24	27	33	37	42
	Throw (ft)	1-3-5	2-3-6	2-4-7	3-5-8	4-6-10	5-8-12	6-9-14	7-10-15
10	CFM	218	273	327	382	436	545	654	763
	Total Pressure	.018	.026	.039	.054	.071	.109	.160	.216
	NC	< 20	< 20	< 20	23	28	36	41	47
	Throw (ft)	2-4-6	3-4-7	3-5-8	4-7-10	5-8-12	5-9-14	6-11-16	7-13-18
12	CFM	314	393	471	550	628	785	941	1099
	Total Pressure	.019	.029	.041	.057	.072	.111	.163	.218
	NC	< 20	< 20	20	25	30	39	43	49
	Throw (ft)	2-5-7	3-5-8	3-7-10	4-8-12	5-9-14	7-11-16	8-12-18	10-14-21
14	CFM	492	615	738	861	984	1230	1476	1722
	Total Pressure	.021	.032	.043	.075	.092	.141	.193	.261
	NC	< 20	< 20	21	26	34	40	45	50
	Throw (ft)	3-6-9	4-7-10	4-8-12	5-9-13	6-10-15	8-12-18	10-14-21	12-17-24

NC Value based on 10 db room attenuation.

Throw Values are based on isothermal air and thermal velocities of 150 fpm, 100 fpm & 75 fpm respectively.
Total Pressure the sum of static pressure plus velocity pressure and is given in inches w.g.

MODEL PRI - Return Diffusers

24" x 24" face

SIZE	Neck Velocity (fpm)	400	500	600	700	800	1000	1200	1400
	Velocity Pressure (in H ₂ O)	0.010	0.015	0.022	0.031	0.040	0.062	0.090	0.122
	Static Pressure (in H ₂ O)	-0.026	-0.042	-0.060	-0.078	-0.104	-0.160	-0.212	-0.290
6	CFM	78	98	118	13	15	196	235	27
	NC	< 20	< 20	< 20	< 20	< 20	20	23	26
8	CFM	140	175	209	244	279	349	419	489
	NC	< 20	< 20	< 20	21	22	24	27	29
10	CFM	218	273	327	382	436	545	654	763
	NC	< 20	< 20	21	23	25	28	30	32
12	CFM	314	393	471	550	628	785	941	1099
	NC	< 20	20	24	26	28	31	34	36
14	CFM	430	534	642	748	858	1072	1286	1500
	NC	22	25	28	30	32	35	37	39
16	CFM	558	698	836	978	1110	1390	1666	1950
	NC	26	28	30	34	37	40	43	46

RETURN GRILLES



EGGCRATE-MODELS ERT-ERU-ERN-ERI-ERE

Series ER grilles and registers have grid cores capable of transferring or returning high air volumes with minimum air pressure loss. They match in appearance grid louvers on luminaires. Models ERT - ERU - ERN fit lay-in tee bar openings in suspended grid ceilings. Model ERI comes with fibreglass back panel and also fits lay-in tee bar openings. Model ERE fits overlap openings in solid ceilings and walls.

FEATURES

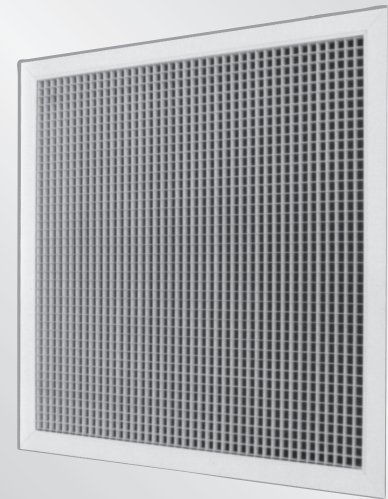
All Aluminum grilles

- Grid is $\frac{1}{2}$ " x $\frac{1}{2}$ " x $\frac{1}{2}$ ".
 - Frame is of extruded aluminum.
 - Suitable for T-bar installations (Overall size = Listed size - $\frac{1}{4}$ ").
 Model **ERT** (fig. 1) with $\frac{1}{4}$ " wide "L" frame.
 Model **ERU** (fig. 2) with "U" frame.
 Model **ERN** (fig. 3) aluminum core only.
 Model **ERI** (fig. 4) aluminum core with molded fiberglass back and aluminum foil vapor barrier scored for 6" to 14" D.
 - Suitable also for overlap installations, including drywall.
 (Collar size = Listed duct size - $\frac{1}{4}$ ").
 Model **ERE** (fig. 5) with $\frac{1}{4}$ " wide margin has countersunk mounting screw holes as standard feature. (Screws are provided).
- Model **ERE** is available with plaster frame (option -F) for use as plaster stop or as separate frame to facilitate grille removal.

Plastic grilles

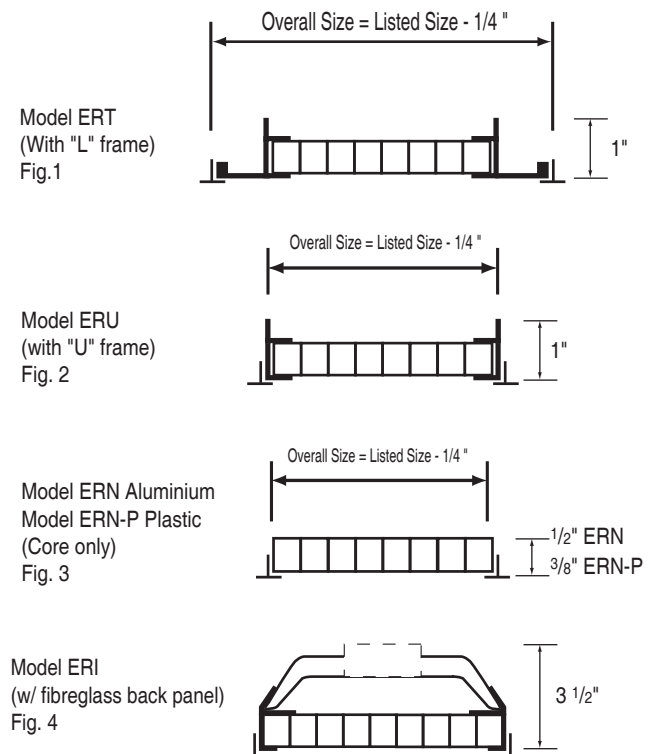
- Grid is $\frac{1}{2}$ " x $\frac{1}{2}$ " x $\frac{3}{8}$ ".
- Model **ERN-P** (fig. 3) with plastic core only.
- Standard grille and panel sizes:
 24" x 12" / 24" x 24" / 24" x 48".
 Other sizes are available in one piece up to 48" x 24".

MIN. W X H	MAX. W X H
6" x 4"	48" x 24"
2" increments of width and height.	
Multiple sections furnished for sizes greater than maximum width and height.	

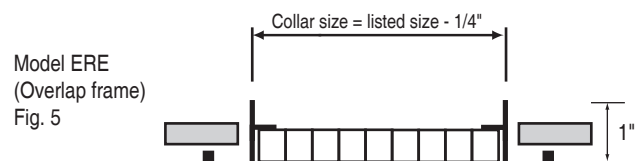


ERT
(shown here)

T-BAR INSTALLATIONS



DRY WALL INSTALLATIONS



ENGINEERING PERFORMANCE DATA

ER SERIES

RETURN GRILLES AIRVECTOR®

		NC 20-25 Application Non-Ducted		NC 25-30 Application Ducted		NC 30-40 Application Ducted	
		Ps		Ps		Ps	
Listed Size W x H (inches)	Ak	-0.02"	-0.03"	-0.08"	-0.10"	-0.15"	-0.20"
		CFM	CFM	CFM	CFM	CFM	CFM
10 x 6 12 x 6 10 x 8 12 x 8	.42 .50 .53 .63	140 170 195 235	170 210 240 290	280 340 390 475	315 380 440 530	385 465 535 645	445 535 615 745
10 x 10 18 x 6 12 x 12 18 x 12	.64 .75 .89 1.3	245 260 370 575	305 320 455 710	500 525 745 1155	560 590 835 1295	685 720 1020 1580	790 830 1170 1820
22 x 10 24 x 12 18 x 18 30 x 12	1.4 1.7 1.9 2.2	630 770 890 985	775 945 1095 1210	1260 1540 1785 1950	1410 1725 2000 2180	1720 2100 2440 2660	1980 2420 2780 3060
24 x 18 36 x 12 22 x 22 30 x 18	2.5 2.7 2.8 3.2	1200 1290 1340 1535	1470 1590 1650 1890	2400 2600 2700 3090	2690 2910 3020 3450 3280	3550 3680 4210	3770 4100 4240 4850
24 x 24 36 x 18 30 x 24 34 x 22	3.3 3.8 4.1 4.3	1620 1830 2040 2170	1990 2250 2510 2670	3250 3670 4100 4360	3640 4110 4590 4875	4440 5020 5600 5950	5125 5775 6450 6860
36 x 24 36 x 30 34 x 34 48 x 24	4.9 6.1 6.3 6.6	2470 3120 3190 3340	3040 3840 3930 4100	4960 6275 6425 6700	5550 7040 7200 7500	7650 8575 8775 9150	7775 9900 10100 10500
48 x 30 48 x 36 46 x 46	8.1 9.7 11.6	4190 5060 6100	5150 6240 7475	8400 10200 12200	9400 11400 13700	11425 13925 16700	13150 16100 19300

HOW TO ORDER

EXAMPLE :

ERT 2412

T for T-bar with "L" frame
U for T-bar with "U" frame
N for Aluminium core only
N-P for Plastic core only
E for Drywall
I for R6 Insulated back

Listed opening
size or duct size

EGG CRATE FILTER GRILLES



MODELS ERMF-ERIF-ERTF FOR TEE BAR LAY-IN INSTALLATIONS

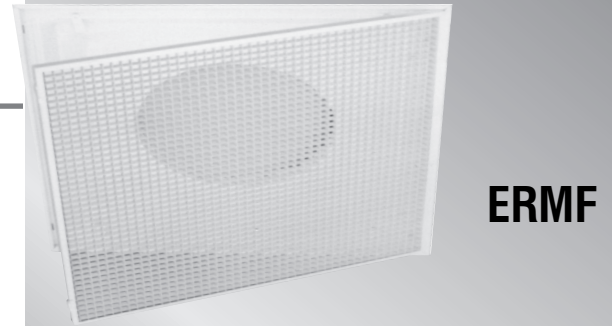
Series **ER** filter grilles have grid cores capable of transferring or returning high air volumes with minimum air pressure loss. They match in appearance grid louvers on luminaries.

The core consists of a 1/2" x 1/2" x 1/2" aluminum grid in a sturdy extruded aluminum U frame which swings in or out of the fixed back pan for easy access to the 1" standard filter or filter media (supplied by others). Two locking arms opposite to the two concealed hinges provide secure locking of the core in an unobtrusive manner.

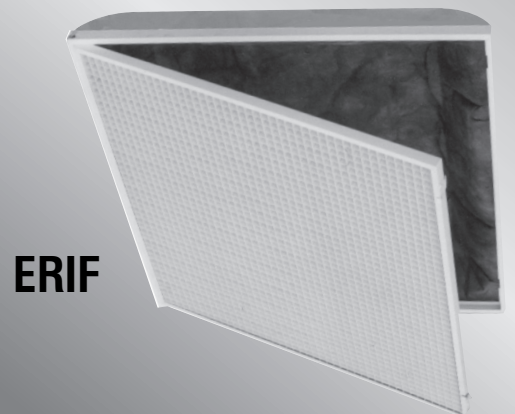
Model **ERMF** has steel back pan with heavy gauge steel reinforcing corners equivalent to 18 ga. so as to minimize damage due to handling.

Model **ERIF** has an insulated back pan consisting of a fixed extruded aluminum frame and a molded fiberglass pan suitable for round ducts connections up to 16" D. and scored for easy cutting of collar opening. This model has all aluminum metal components with sturdy corners so as to minimize damage due to handling.

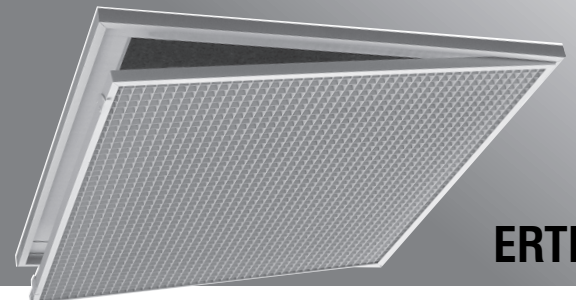
Model **ERTF** has a square filter frame to accommodate 20" x 20" filters and ducts of the same listed size. This model has sturdy corners so as to minimize damage due to handling.



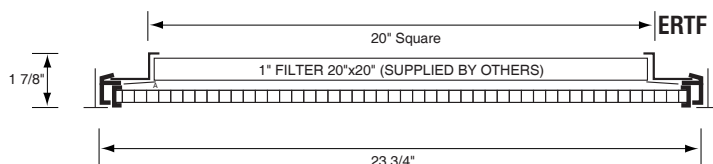
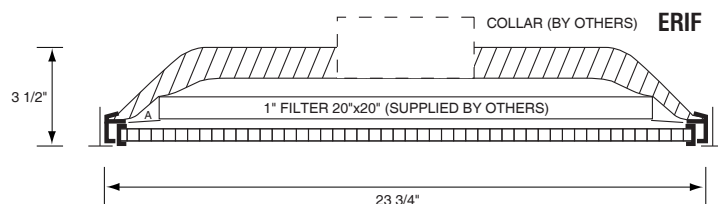
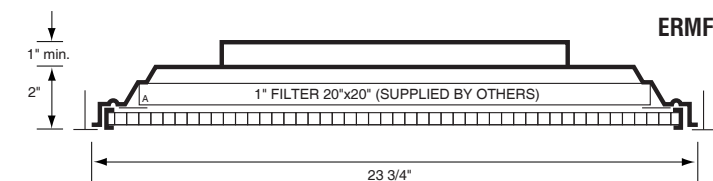
ERMF



ERIF



ERTF



PLASTIC EGG CRATES

All grilles are available with plastic core. Please specify by adding suffix "P". Example: ERMF-P, ERIF-P, ERTF-P etc. Plastic grid is 1/2" x 1/2" x 3/8".

HOW TO ORDER

M For metal back pan
I For molded f. glass back pan
T For rectangular duct connection

ERMF-P 24 08
 Collar Size
 24" x 24" Face Size
 For plastic core add suffix "P"

MODELS LRMF-LRIF-LRTF

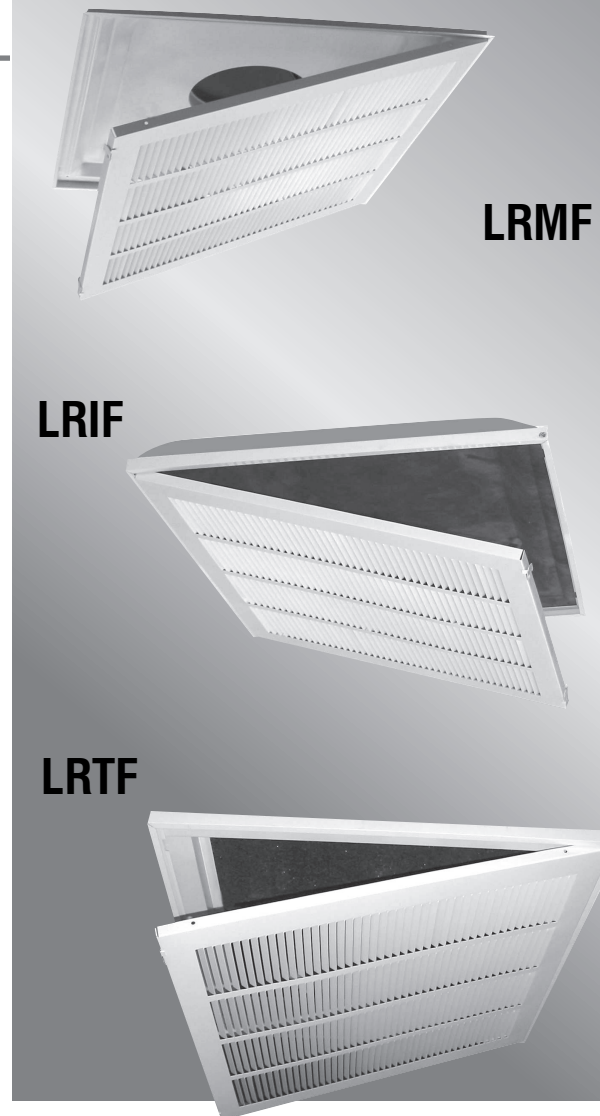
FOR TEE BAR LAY-IN INSTALLATIONS

Series **LR** filter grilles have their face lanced with rows of fins capable of transferring or returning high air volumes with minimum air pressure loss. The fins are set at 40° and spaced 1/2" apart. The face swings in or out of the fixed back pan for easy access to the 1" standard filter or filter media (supplied by others). Two locking arms opposite to the two concealed hinges provide secure locking of the face in an unobtrusive manner.

Model **LRMF** has steel back pan with heavy gauge steel reinforcing corners equivalent to 18 ga. so as to minimize damage due to handling.

Model **LRIF** has an insulated back pan consisting of a fixed extruded aluminum frame and a molded fiberglass pan suitable for round duct connections up to 16" D. and scored for easy cutting of collar opening. This model has sturdy corners so as to minimize damage due to handling.

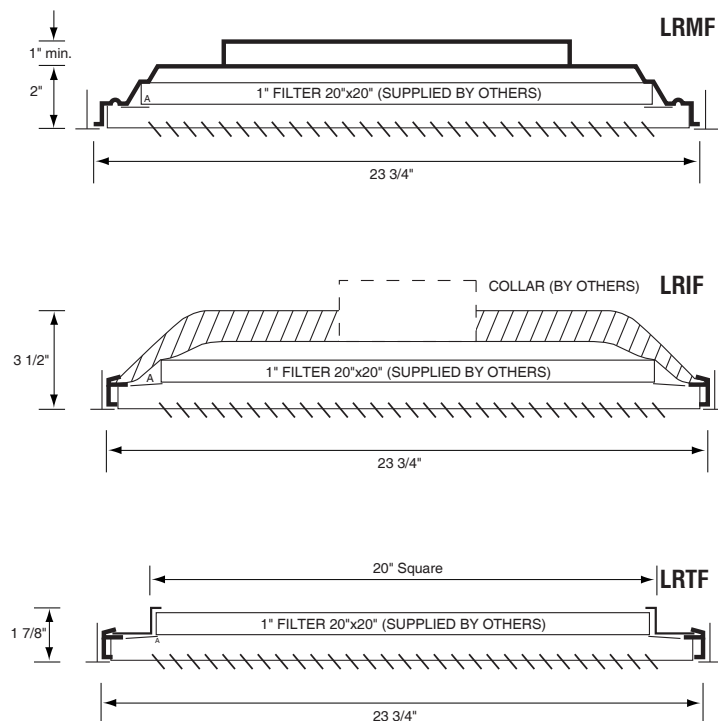
Model **LRTF** has a square filter frame to accommodate 20" x 20" filters and ducts of the same listed size. This model has sturdy corners so as to minimize damage due to handling.



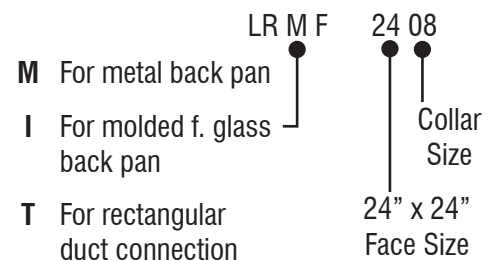
LRMF

LRIF

LRTF



HOW TO ORDER



MODELS PRMF-PRIF-PRTF FOR TEE BAR LAY-IN INSTALLATIONS

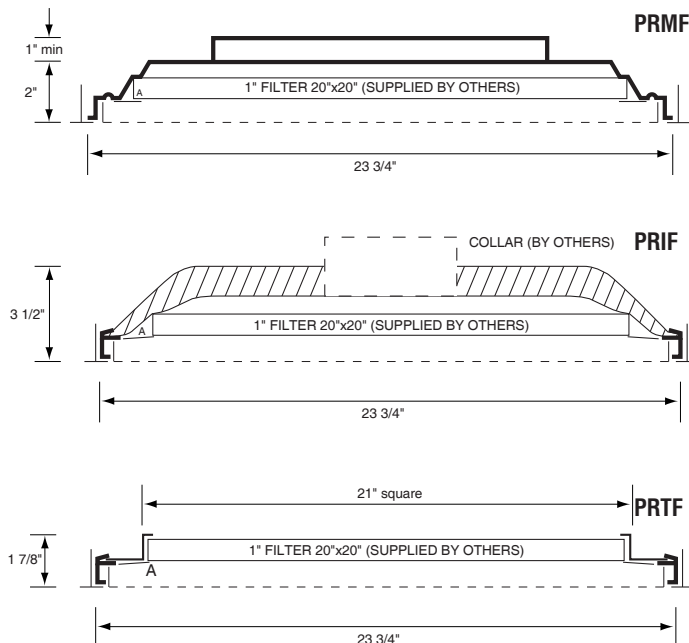
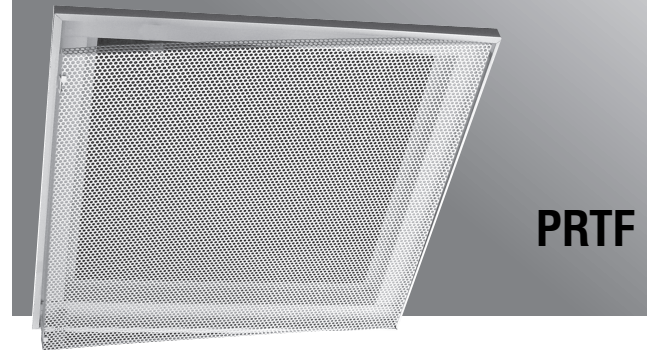
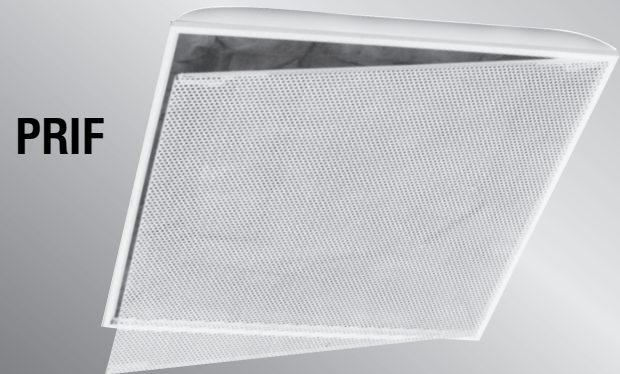
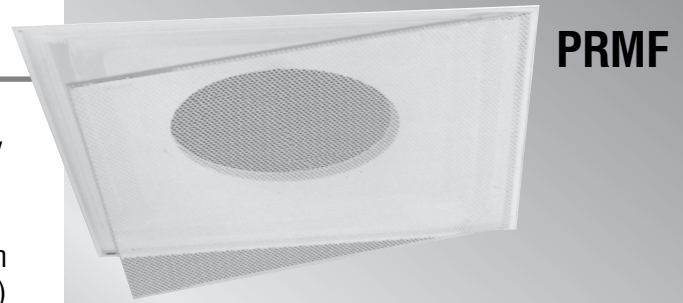
Series **PR** filter grilles match in appearance perforated face supply diffusers series PS.

The grille consists of a heavy gauge steel perforated face with 3/16" D. round holes on 1/4" staggered centers (53% free area) which swings in or out of the fixed back pan for easy access to the 1" filter 20" x 20" (supplied by others). Two locking arms opposite to the two concealed hinges provide secure locking of the grille in an unobtrusive manner.

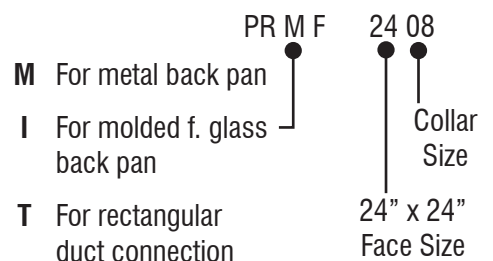
Model **PRMF** has steel back pan with 20" x 20" square filter frame, heavy gauge steel reinforcing corners equivalent to 18 ga. so as to minimize damage due to handling. Extruded round collars will accommodate ducts 6", 8", 10", 12", 14" & 16" D.

Model **PRIF** has an insulated back pan consisting of a fixed extruded aluminum frame and a molded fiberglass pan suitable for round ducts connections up to 16" D. and scored for easy cutting of collar opening. The extruded aluminum frame has sturdy corners so as to minimize damage due to handling.

Model **PRTF** has a square filter frame to accommodate 1" filters 20" x 20" and ducts of same listed size. The extruded aluminum frame has sturdy corners so as to minimize damage due to handling.



HOW TO ORDER



GRILLES & REGISTERS



	ALUMINUM	STEEL	
MODELS	GAA1	GSA1	supply, single deflection
	GAA2	GSA2	supply, double deflection
	GAA4	GSA4	return, single row fixed 42 degree

FRONT ROW BLADES DIRECTION:
 Parallel to short dimension: add suffix V
 Parallel to long dimension: add suffix H

DAMPERS: Grilles (no damper)
 Register (with damper):
 For registers with steel opposed blade damper: add suffix 7

Single deflection supply grilles and registers are recommended for applications requiring pattern adjustability in a single horizontal or vertical plane, sill or sidewall location at ceiling line, or heating application only.

Double-deflection supply grilles and registers are recommended for application in systems requiring optimum flexibility of pattern change to accommodate changing job conditions.

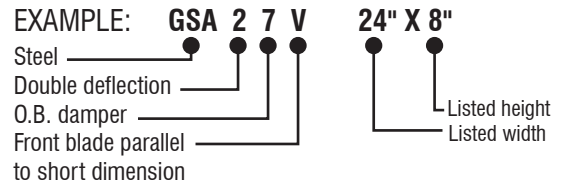
The combination of streamlined foil shaped bars and 17 mm (2/3-inch) bar spacing maintains a high effective area capacity of greater than 80% which minimizes outlet velocity, reduces pressure drop and assures quiet operation. Individually adjustable bars are capable of shortening throw up to one-half with a wide spread deflection requiring only a 20% increase in outlet velocity at a fixed volume.

GAA Series (aluminum) have extruded aluminum frame with roll formed aluminum bars.

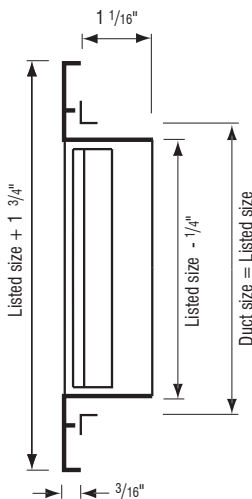
GSA Series (steel) have extruded aluminium frame with steel bars. This unique feature combines the beauty and rust resistance of the aluminium frame with the rigidity of steel bars.



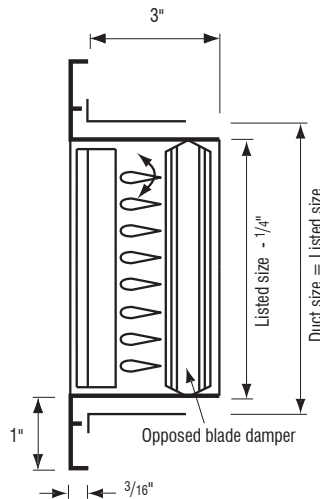
HOW TO ORDER



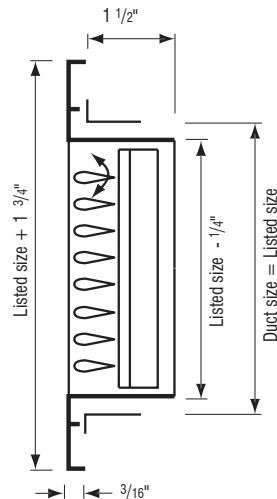
MAX. LISTED SIZE: 36"x36" (multiple sections furnished for larger sizes)
FINISH: Powder baked enamel paint for durability. White is standard. (Other finishes available)



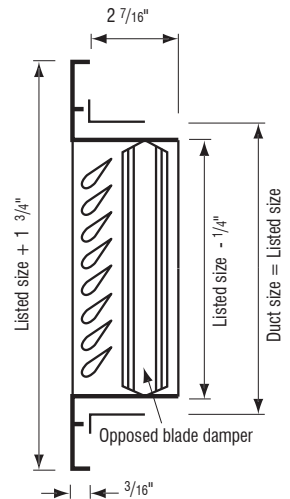
GSA10V
 Supply
 Single Deflection



GSA27V
 Supply Double Deflection
 with Damper



GSA20H
 Supply Double Deflection



GSA47H
 Return, fixed 42 degree
 with Damper

ENGINEERING PERFORMANCE DATA

SUPPLY AIR GRILLES AND REGISTERS

Single and Double Deflection adjustable Type - Series GSA & GAA



TABLE 1

LISTED HEIGHT										Outlet Velocity 450-600 FPM					Outlet Velocity 550-700 FPM					Outlet Velocity 600-800 FPM					Outlet Velocity 700-1000 FPM					
										CFM	Deflection				CFM	Deflection				CFM	Deflection				CFM	Deflection				
0°	22°	42°	55°	0°	22°	42°	55°	0°	22°		42°	55°	0°	22°		42°	55°													
V _K				V _K				V _K				V _K																		
450	500	550	600	550	600	650	700	600	700		750	800	700	800		900	1000													
P _T				P _T				P _T				P _T																		
.01	.01	.02	.02	.02	.02	.03	.03	.02	.03	.04	.04	.03	.04	.05	.06															
Throw (T) V _T 75										Throw (T) V _T 75																				
4	5	6	8	10	12	14	16	18	20	24																				
6	5										40	6	5	4	3	45	8	7	6	4	60	10	9	7	5	65	11	10	8	6
8	6										50	7	6	5	4	60	9	11	6	5	70	11	10	8	6	80	12	11	9	7
10	8	6									75	9	7	6	5	90	10	9	7	6	100	12	11	9	7	125	13	12	10	8
12	10	8									100	10	8	6	5	125	11	9	8	7	150	13	12	9	8	175	14	13	11	8
14	12	10	8								125	11	9	7	6	150	12	11	9	7	175	14	13	10	8	200	16	14	11	9
18	14	12									150	11	10	8	7	175	13	11	10	8	200	15	14	11	9	250	17	15	12	10
20	16	14	10								175	12	11	9	7	200	15	13	11	9	250	17	15	12	9	275	19	17	14	11
24	20	16	12	10							225	13	12	10	8	275	16	14	12	10	300	19	16	13	10	350	21	18	15	12
30	24	20	14	12							300	14	13	11	9	350	18	15	13	10	425	20	17	15	11	475	24	20	17	13
38	30	24	18	14	12						350	17	14	12	9	425	20	17	13	11	500	22	20	17	12	550	26	22	18	14
40	32	26	20	16	14						400	18	16	13	10	475	21	18	15	12	550	24	21	18	13	650	28	24	20	15
44	36	30	24	18	16	14					450	19	17	13	11	550	22	19	17	13	625	26	22	19	14	725	30	25	22	17
44	36	26	22	18	16						500	20	17	14	12	600	24	20	18	13	700	27	24	20	15	800	32	27	23	18
48	40	30	24	20	18	16					600	21	18	15	12	700	25	22	18	14	850	29	25	22	16	950	34	29	25	19
48	40	38	30	24	22	18					700	23	20	17	13	850	28	24	20	15	975	33	28	24	18	1125	37	31	27	21
	40	32	28	24	20	18					800	25	21	18	14	950	31	26	22	17	1125	35	30	26	20	1275	39	34	29	22
	42	36	30	26	24	22	20				900	27	22	19	15	1100	32	27	23	18	1250	36	31	27	21	1450	42	36	31	23
	46	42	36	30	26	24	22				1000	29	25	21	16	1200	34	29	25	19	1400	40	34	29	22	1600	45	39	34	25
		44	38	34	30	28	24				1250	32	27	23	18	1500	36	30	27	23	1750	43	37	31	24	2000	48	43	36	27
		48	42	36	34	28	24				1500	34	29	25	19	1800	39	32	29	25	2100	45	40	34	26	2400	52	46	39	30
		44	40	36	30	24	20				1750	37	32	27	21	2100	42	35	32	27	2450	48	44	37	28	2800	55	49	42	32
			48	42	36	28	24				2000	39	34	29	22	2400	45	38	34	29	2800	52	46	40	30	3200	58	52	44	34
			48	40	36	30	24				2250	41	36	30	24	2700	48	40	36	31	3150	54	48	42	32	3600	61	54	46	37
			42	38	32	25	20				2500	43	38	32	25	3000	51	42	38	33	3500	57	51	44	33	4000	64	57	49	39
			48	40	34	27	20				3000	46	40	34	27	3600	54	45	40	35	4200	60	53	47	35	4800	68	60	52	42

NC 30

NC 35



NC40

SYMBOLS

V_T Terminal Velocity in fpm
V_R Room Velocity in fpm
V_K Outlet Velocity in fpm

A_K Outlet area in Sq. Feet
P_T Total Pressure H₂O
P_S Static Pressure H₂O

NC Re 8db Room attenuation
T Throw in feet at X and Y

ENGINEERING PERFORMANCE DATA

SUPPLY AIR GRILLES AND REGISTERS

Single and Double Deflection adjustable Type - Series GSA & GAA



AIR PATTERN SETTINGS

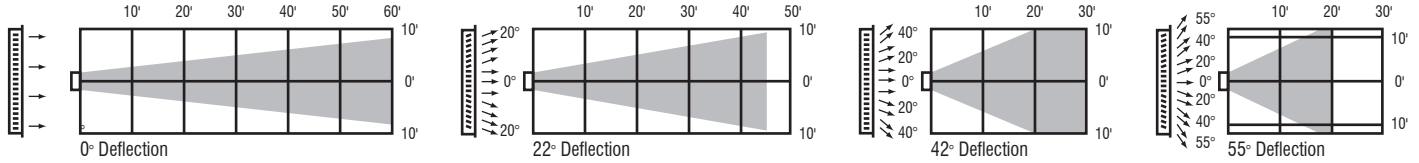


TABLE 1 (Cont'd)

LISTED HEIGHT				Outlet Velocity 900-1200 FPM					Outlet Velocity 1100-1450 FPM				Outlet Velocity 1250-1700 FPM				Outlet Velocity 1450-1900 FPM																												
				CFM	Deflection				CFM	Deflection				CFM	Deflection				CFM	Deflection																									
					0°	20°	40°	55°		0°	20°	40°	55°		0°	20°	40°	55°		0°	20°	40°	55°																						
					V _k					V _k					V _k					V _k																									
					900	1000	1100	1200		1100	1200	1300	1450		1250	1400	1550	1700		1450	1600	1750	1900																						
					P _T					P _T					P _T					P _T																									
.05 .06 .08 .09				.08 .09 .10 .13				.09 .12 .15 .18				.13 .16 .19 .3																																	
Throw (T) V _r 75				Throw (T) V _r 75				Throw (T) V _r 75				Throw (T) V _r 75																																	
4	5	6	8	10	12	14	16	18	20	24																																			
6	5										80	13	11	9	7	100	15	13	11	8	125	18	15	13	10	150	19	16	13	10	175	21	18	14	11	225	24	20	17	13	275	27	23	19	15
8	6										100	15	13	11	8	125	18	15	13	10	150	21	18	14	11	175	25	21	17	13	225	27	23	19	15	300	30	26	22	18	375	33	29	25	21
10	8	6									150	17	14	12	9	175	20	17	14	11	200	24	20	17	13	225	27	23	19	15	300	30	26	22	18	375	33	29	25	21	450	36	32	28	24
12	10	8									200	18	15	13	10	250	22	19	15	12	275	25	21	18	14	325	29	25	21	17	400	33	28	24	18	475	36	32	26	20	600	35	30	26	20
14	12	10	8								250	21	18	15	11	300	15	21	18	14	350	28	25	20	15	400	33	28	24	18	475	36	32	26	20	600	35	30	26	20	850	41	35	30	23
18	14	12									300	24	20	16	13	350	27	24	20	15	425	31	27	22	17	475	36	32	26	20	600	35	30	26	20	850	41	35	30	23	1125	45	39	33	25
20	16	14	10								350	25	21	18	14	425	30	25	21	17	500	34	30	25	19	550	39	32	27	21	600	35	30	26	20	850	41	35	30	23	1125	45	39	33	25
24	20	16	12	10							450	27	23	19	15	550	32	28	24	18	625	37	32	27	22	725	42	36	31	24	800	36	31	26	20	1075	43	37	32	24	1250	51	43	37	28
30	24	20	14	12							600	29	25	21	16	725	35	30	26	20	850	41	35	30	23	950	45	40	34	26	1075	43	37	32	24	1250	51	43	37	28	1600	58	51	44	34
38	30	24	18	14	12						700	32	28	24	18	850	39	33	28	21	975	45	39	33	25	1125	49	43	38	28	1200	45	40	34	26	1400	53	45	39	30	1600	58	51	44	34
40	32	26	20	16	14						800	34	30	25	19	950	41	35	30	22	1125	48	41	35	27	1275	52	46	40	31	1450	48	42	36	28	1675	57	48	42	32	1925	61	54	46	36
44	36	30	24	18	16	14					900	36	31	26	20	1075	43	37	32	24	1250	51	43	37	28	1450	55	49	42	32	1675	52	45	40	31	1950	60	51	45	35	2250	60	51	45	35
44	36	26	22	18	16						1000	39	33	28	22	1200	45	40	34	26	1400	53	45	39	30	1600	58	51	44	34	1800	49	44	40	31	2150	59	51	46	35	2500	61	54	46	36
48	40	30	24	20	18	16					1200	42	36	31	24	1450	48	42	36	28	1675	57	48	42	32	1925	61	54	46	36	2150	59	51	46	35	2500	61	54	46	36	3000	60	54	48	36
48	38	30	24	22	18						1400	45	39	34	26	1675	52	45	40	31	1950	60	51	45	35	2250	60	51	45	35	2400	54	49	43	38	2800	61	53	43	32	3500	60	54	48	36
	40	32	28	24	20	18					1600	47	43	37	28	1925	56	48	43	34	2250	61	53	43	32	2500	62	53	43	32	2400	54	49	43	38	2800	61	53	43	32	3500	60	54	48	36
	42	36	30	26	24	22	20				1800	49	44	40	31	2150	59	51	46	35	2500	61	53	43	32	2750	62	53	43	32	2400	54	49	43	38	2800	61	53	43	32	3500	60	54	48	36
	46	42	36	30	26	24	22				2000	52	47	42	32	2400	54	49	43	38	2800	61	53	43	32	3200	62	53	43	32	2400	54	49	43	38	2800	61	53	43	32	3500	60	54	48	36
											2500	56	50	45	34	3000	59	53	47	39	3500	60	54	48	36	4000	62	53	43	32	2400	54	49	43	38	2800	61	53	43	32	3500	60	54	48	36
											3000					3600					4200					4800	62	53	43	32	2400	54	49	43	38	2800	61	53	43	32	3500	60	54	48	36
											3500					4200					4900					5600	62	53	43	32	2400	54	49	43	38	2800	61	53	43	32	3500	60	54	48	36
											4000					4800					5600					6000	62	53	43	32	2400	54	49	43	38	2800	61	53	43	32	3500	60	54	48	36
											4500					5400					6000						62	53	43	32	2400	54	49	43	38	2800	61	53	43	32	3500	60	54	48	36
											5000																62	53	43	32	2400	54	49	43	38	2800	61	53	43	32	3500	60	54	48	36
											6000																62	53	43	32	2400	54	49	43	38	2800	61	53	43	32	3500	60	54	48	36

ENGINEERING PERFORMANCE DATA

SUPPLY AIR GRILLES AND REGISTERS

Single and Double Deflection adjustable Type - Series GSA & GAA



THROW FACTORS

Throw values (T) in Table 1 are based on a Terminal Velocity (V_T) of 75 fpm. Throw values at other terminal velocities (V_T 50 to V_T 150 fpm) are established by multiplying throw (T) in table 1 by Throw Factor in table below.

Multiply Throw (T) in Table 1 by Factor				
VT (fpm)	50	75	100	150
Throw factor	x 1.5	x 1.0	x .76	x .5

Grille sound ratings will be increased by integral or localized air volume dampering, by non-uniform air flow in the grille collar and by the addition of inherent system noise.

REGISTER THROTTLING CORRECTION

Damper throttling effect (excess pressure drop due to part closing of damper)	Press. Drop In. H ₂ O		
	.05"	.05"	.05"
Approximate damper opening	3/4	2/3	1/2
NC addition to single outlet sound rating	5	10	15

Damper throttling effect = excess pressure drop created by partially closing the register damper.

NC addition to be added to NC values of table 1.

Performance of any size not shown in the tables will be the same as for the size shown with the same listed size area.

EXAMPLE:

A 36 x 16 size (not shown) has a listed area of 576 sq. in. Its performance will be identical to a 24 x 24 size (shown) which has the same listed size area of 576 sq. in.

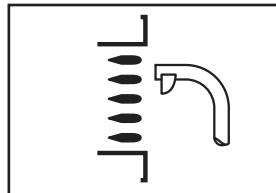
A_K OUTLET AREA IN SQ. FEET

LISTED WIDTH	LISTED HEIGHT								DEFLECTION						
	4	5	6	8	10	12	14	16	18	20	24	0°	22°	42°	55°
	6	5											.09	.08	.07
8	6											.11	.10	.09	.08
10	8	6										.17	.15	.13	.12
12	10	8										.22	.20	.18	.17
14	12	10	8									.28	.25	.23	.21
18	14	12										.33	.30	.27	.25
20	16	14	10									.39	.35	.32	.29
24	20	16	12	10								.50	.45	.41	.38
30	24	20	14	12								.67	.60	.55	.50
38	30	24	18	14	12							.78	.70	.64	.58
40	32	26	20	16	14							.89	.80	.73	.67
44	36	30	24	18	16	14						1.0	.90	.82	.75
44	36	26	22	18	16							1.1	1.0	.91	.83
48	40	30	24	20	18	16						1.3	1.2	1.1	1.0
48	38	30	24	22	18							1.6	1.4	1.3	1.2
	40	32	28	24	20	18						1.8	1.6	1.5	1.3
		42	36	30	26	24	20					2.0	1.8	1.6	1.5
		46	42	36	30	26	24	22				2.2	2.0	1.8	1.7
			44	38	34	30	28	24				2.8	2.5	2.3	2.1
				48	42	36	34	28				3.3	3.0	2.7	2.5
					44	40	36	30				3.9	3.5	3.2	2.9
						48	42	36				4.5	4.0	3.6	3.3
							48	40				5.0	4.5	4.1	3.8
								42				5.6	5.0	4.5	4.2
								48				6.7	6.0	5.4	5.0

Example;

Listed size 24 x 10 GAA27 deflection setting 42° A_K area = 1.1 sq. feet.

AIR MEASUREMENT



2220A Velometer Jet for V_K velocity measurement CFM = $A_K \times V_K$

ENGINEERING PERFORMANCE DATA

SUPPLY AIR GRILLES AND REGISTERS

Single and Double Deflection adjustable Type - Series GSA & GAA



Total air drop from sidewall outlet

The drop of an air stream varies directly with cooling temperature differential, throw and inversely with outlet velocity (V_k). The total drop of a cooled air stream is tabulated for two typical conditions of cooling temperature differentials and a range of throws and outlet velocities.

V_k in fpm	Sidewall Throw In Feet													
	10		15		20		25		30		40		50	
	- 18F	- 25F	- 18F	- 25F	- 18F	- 25F	- 18F	- 25F	- 18F	- 25F	- 18F	- 25F	- 18F	- 25F
500	3.5	4.0	5.5	6.0	7.5	8.5	9.0	10.0	10.5	13.5	15.5	18.0	18.5	23.0
750	2.5	3.5	4.0	5.5	6.0	6.5	7.0	8.0	8.5	10.5	11.5	14.5	15.0	18.5
1000	2.0	3.0	3.5	4.0	5.0	5.5	6.0	6.5	7.0	8.5	10.0	12.0	12.5	16.0
1250	2.0	2.5	3.0	3.5	4.5	5.0	5.5	6.0	6.5	7.5	9.0	11.0	11.5	13.5
1500	1.5	2.0	3.0	3.0	4.0	4.5	5.0	5.5	6.0	7.0	8.5	9.5	10.5	12.5
1750	1.0	2.0	2.5	2.5	3.5	4.0	4.5	5.0	5.5	6.5	8.0	9.0	10.0	11.5
2000	1.0	1.5	2.5	2.5	3.5	4.0	4.0	4.5	5.0	6.0	7.5	8.5	9.5	10.5

TOTAL AIR DROP

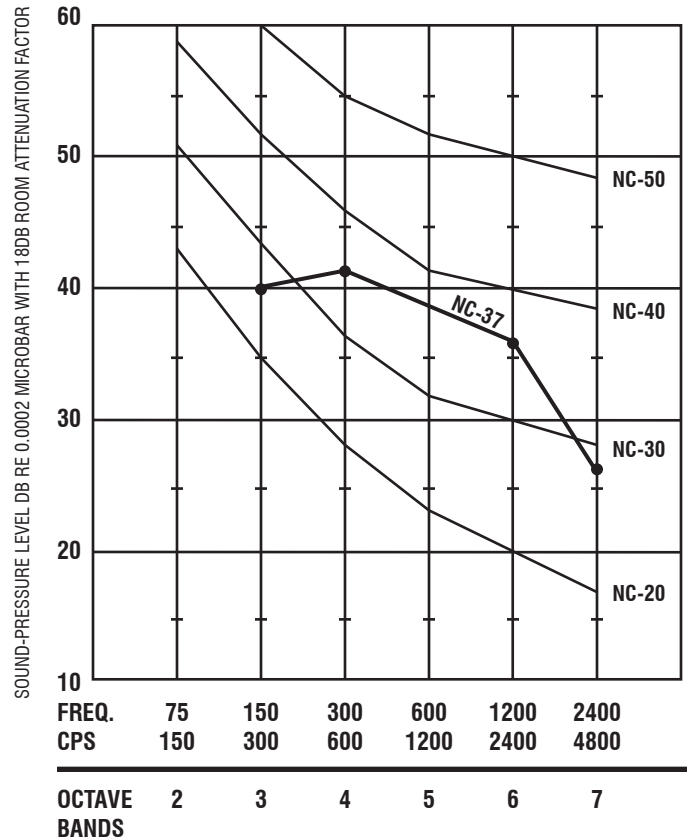
DROP DUE TO SPREAD + DROP DUE TO COOLING TEMPERATURE DIFFERENTIAL

RECOMMENDED NC CRITERIA

NC Curve	Communication Environment	Typical Occupancy
Below NC 25	Extremely quiet environment, suppressed speech is quite audible, suitable for acute pickup of all sounds.	Broadcasting studios, concert halls, music rooms.
NC 30	Very quiet office, suitable for large conferences; telephone use satisfactory.	Resistances, theatres, libraries, executive offices, directors' rooms.
NC 35	Quiet office; satisfactory for conference at a 15 ft. table; normal voice 10-30 ft.; telephone use satisfactory.	Private offices, schools, hotel rooms, courtrooms, churches, hospital rooms.
NC 40	Satisfactory for conferences at a 6-8 ft. table; normal voice 6-12 ft.; telephone use satisfactory.	General offices, labs, dining rooms.
NC 45	Satisfactory for conferences at a 4-5 ft. table; normal voice 3-6 ft.; raised voice 6-12 ft.; telephone use occasionally difficult.	Retail store cafeterias, lobby areas, large drafting & engineering offices, reception areas.
Above NC 50	Unsatisfactory for conferences of more than two or three persons; normal voice 1-2 ft.; raised voice 3-6 ft.; telephone use slightly difficult.	IBM rooms, stenographic pools, print machine rooms, process areas.

TYPICAL NC SPECTRUM T64

24" x 6" 22° DEFLECTION
(975 CFM) V_k (1400 FPM)



ENGINEERING PERFORMANCE DATA

RETURN AIR GRILLES AND REGISTERS

Fixed Bar Type 42° Deflected Bars



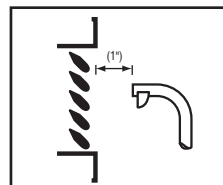
Listed Size W x H	A _K	NC 20-25 Application Non-Ducted		NC 25-30 Application Ducted		NC 30-40 Application Ducted	
		P _S		P _S		P _S	
		- .02"	- .03"	- .08"	- .10"	- .15"	- .20"
		CFM	CFM	CFM	CFM	CFM	CFM
8 x 4	.26	55	65	105	115	140	160
8 x 6	.34	75	90	145	160	195	225
10 x 6	.42	90	110	180	200	245	280
12 x 6	.50	110	135	220	245	300	345
10 x 8	.53	125	150	245	275	335	385
12 x 8	.63	155	190	310	345	420	485
10 x 10	.64	160	195	315	350	425	490
18 x 6	.75	170	205	335	375	455	525
12 x 12	.89	240	290	470	525	640	735
18 x 12	1.3	370	450	735	825	1005	1155
22 x 10	1.4	380	465	755	845	1030	1185
24 x 12	1.7	505	615	1000	1120	1365	1570
18 x 18	1.9	575	700	1140	1275	1555	1790
34 x 10	2.1	600	732	1195	1340	1635	1880
30 x 12	2.2	630	770	1255	1405	1715	1970
24 x 18	2.5	770	940	1530	1715	2090	2405
22 x 22	2.8	880	1075	1750	1960	2390	2750
30 x 18	3.2	970	1185	1930	2160	2635	3030
24 x 24	3.3	1040	1270	2070	2320	2830	3255
36 x 18	3.8	1170	1425	2320	2600	3170	3645
30 x 24	4.1	1320	1610	2625	2940	3585	4120
34 x 22	4.3	1355	1655	2695	3020	3685	4235
36 x 24	4.9	1580	1925	3135	3510	4280	4920
46 x 22	5.9	1940	2365	3855	4315	5265	6055
36 x 30	6.1	2010	2450	3995	4475	5460	6280
48 x 24	6.6	2130	2600	4240	4750	5795	6665
48 x 30	8.1	2700	3295	5370	6015	7340	8440
48 x 36	9.7	3220	3930	6405	7175	8755	10065

Performance of any size not shown in the tables will be the same as for the size shown with the same listed size area.

EXAMPLE:

A 36 x 16 size (not shown) has a listed area of 576 sq. in. Its performance will be identical to a 24 x 24 size (shown) which has the same listed size area of 576 sq. in.

AIR MEASUREMENT



SYMBOLS P_S Static Pressure Inches H₂O
 A_K Outlet Area, 1" Out from Face
 NC Re 10 db Room attenuation

2220A Velometer Jet for V_K velocity measurement.

$$CFM = A_K \times V_K$$

SUBMITTAL SHEET



N° DF4

Ceiling Square Diffuser - 4 Cone Fixed air pattern

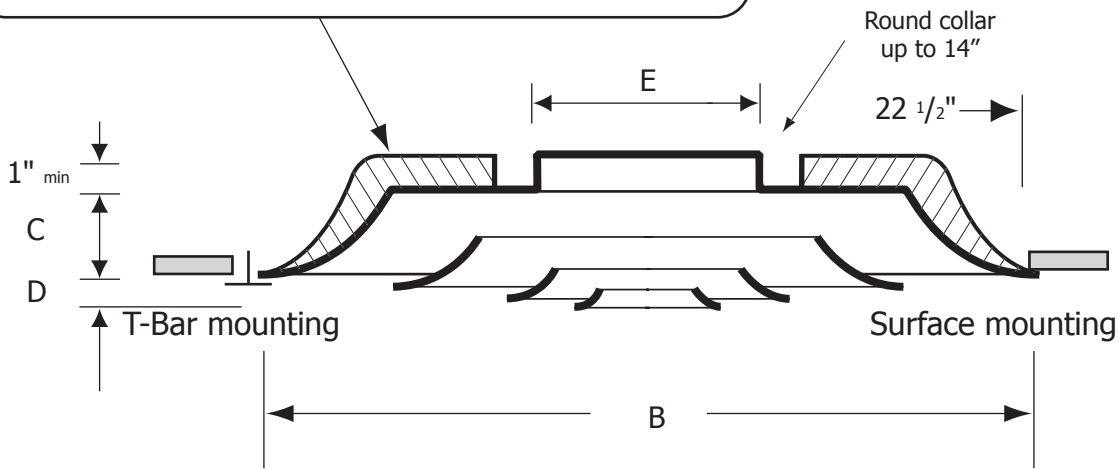
- Material:** Stamped heavy gauge steel.
- Finish:** Powder paint coating - white.
- Air Pattern:** Fixed horizontal 360° diffusion.
- Mounting:** Surface or Lay-in T-bar ceiling.
- Core Removal: (DF4R only)** Unlock hanger brackets by swiveling lever down. Holding cone L at opposite sides, push upwards, then turn clockwise and drop core free from back plenum.



Optional fiberglass insulation on back panel, complies with A.S.T.M. E84 flame and smoke test.

R2 (fit to collar) R4 (fit to collar) R6

- DF4R** Removable Core
- DF4N** Non removable Core



✓	Model #	Duct Size	E	Face Dim B x B	C	D
	DF4 2406	6	5 7/8"	23 3/4" x 23 3/4"	2 7/8"	7/8"
	DF4 2408	8	7 7/8"	23 3/4" x 23 3/4"	2 7/8"	7/8"
	DF4 2410	10	9 7/8"	23 3/4" x 23 3/4"	2 7/8"	7/8"
	DF4 2412	12	11 7/8"	23 3/4" x 23 3/4"	2 7/8"	7/8"
	DF4 2414	14	13 7/8"	23 3/4" x 23 3/4"	2 7/8"	7/8"

Job: _____

Architect: _____

Engineer: _____

Contractor: _____

SUBMITTAL SHEET



N° DF3

Ceiling Square Diffuser - 3 Cone Fixed air pattern

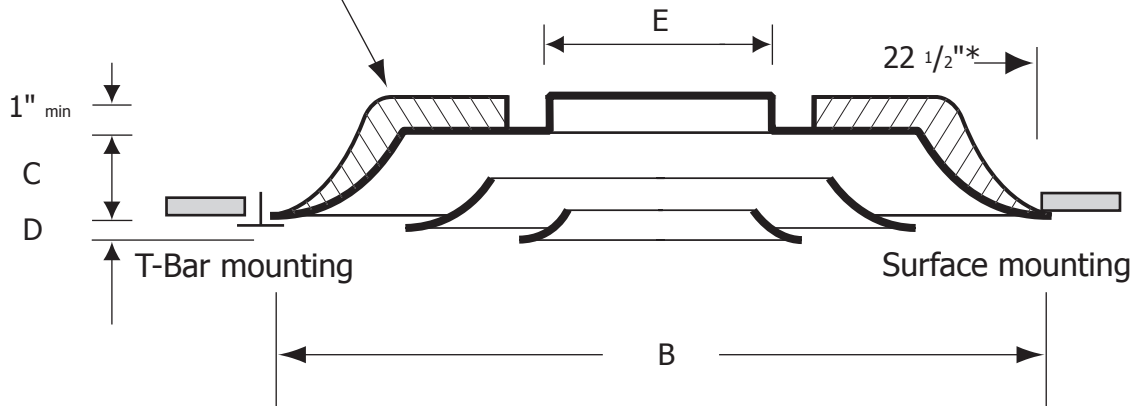
- Material:** Stamped heavy gauge steel.
Finish: Powder paint coating - white.
Air Pattern: Fixed horizontal 360° diffusion.
Mounting: Surface or Lay-in T-bar ceiling.
Core Removal: (DF3R only) Unlock hanger brackets by swiveling lever down. Holding cone L at opposite sides, push upwards, then turn clockwise and drop core free from back plenum.



Optional fiberglass insulation on back panel, complies with A.S.T.M. E84 flame and smoke test. (Available only on models with 24" x 24" face)

- R2 (fit to collar) R4 (fit to collar) R6

- DF3R** Removable Core
 DF3N Non removable Core



*10.5" for 12 X 12 face



✓	Model #	Duct Size	E	Face Dim B x B	C	D
	DF3 1206	6	5 7/8"	11 3/4" x 11 3/4"	1 3/4"	7/16"
	DF3 1208	8	7 7/8"	11 3/4" x 11 3/4"	1 3/4"	7/16"
	DF3 2406	6	5 7/8"	23 3/4" x 23 3/4"	2 7/8"	7/8"
	DF3 2408	8	7 7/8"	23 3/4" x 23 3/4"	2 7/8"	7/8"
	DF3 2410	10	9 7/8"	23 3/4" x 23 3/4"	2 7/8"	7/8"
	DF3 2412	12	11 7/8"	23 3/4" x 23 3/4"	2 7/8"	7/8"
	DF3 2414	14	13 7/8"	23 3/4" x 23 3/4"	2 7/8"	7/8"

Job: _____

Architect: _____

Engineer: _____

Contractor: _____

SUBMITTAL SHEET



N° DF4 -R6-00

Ceiling Square Diffuser - 4 Cone Fixed air pattern

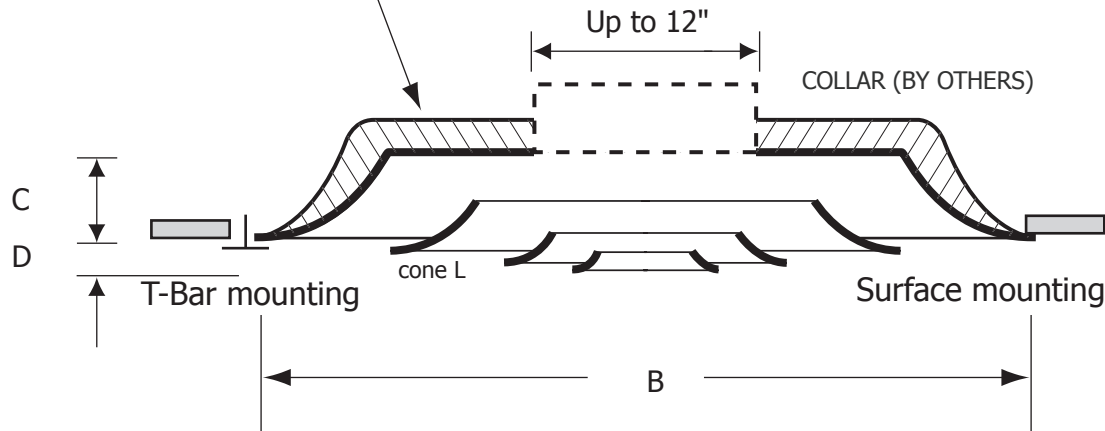
- Material:** Stamped heavy gauge steel.
- Finish:** Powder paint coating - white.
- Air Pattern:** Fixed horizontal 360° diffusion.
- Mounting:** Surface or Lay-in T-bar ceiling.
- Core Removal:
(DF4R only)** Unlock hanger brackets by swiveling lever down. Holding cone L at opposite sides, push upwards, then turn clockwise and drop core free from back plenum.



R6 fiberglass back complies with A.S.T.M. E84 flame and smoke test.

Scored for collar sizes up to 12" D.
Contractor to install job-specific collar in field.
For size 14", please refer to model DF3 -R6 2414.

- DF4R** Removable Core
- DF4N** Non removable Core



Model #	Face Dim B x B	C	D
DF4 -R6-00	23 3/4" x 23 3/4"	2 7/8"	7/8"

Job: _____

Architect: _____

Engineer: _____

Contractor: _____

SUBMITTAL SHEET



N° DF3 -R6-00

Ceiling Square Diffuser - 3 Cone Fixed air pattern

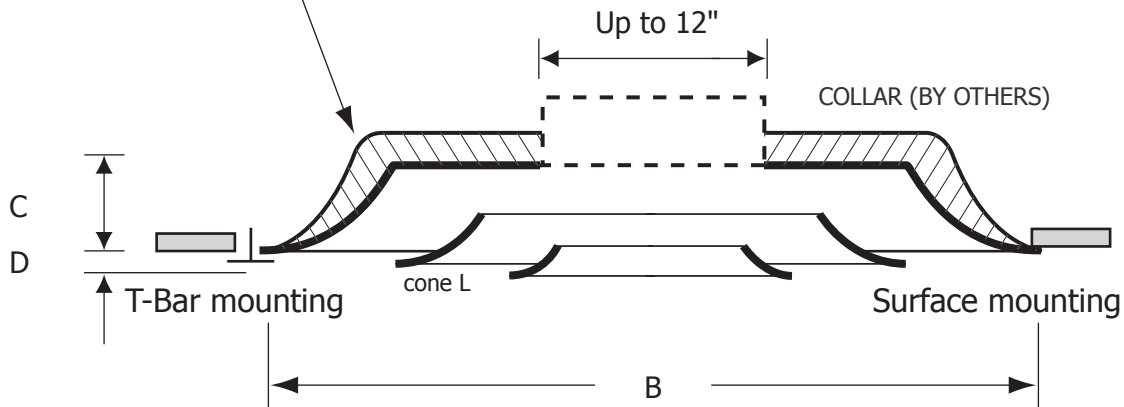
- Material:** Stamped heavy gauge steel.
- Finish:** Powder paint coating - white.
- Air Pattern:** Fixed horizontal 360° diffusion.
- Mounting:** Surface or Lay-in T-bar ceiling.
- Core Removal: (DF3R only)** Unlock hanger brackets by swiveling lever down. Holding cone L at opposite sides, push upwards, then turn clockwise and drop core free from back plenum.



R6 fiberglass back complies with A.S.T.M. E84 flame and smoke test.

Scored for collar sizes up to 12" D.
Contractor to install job-specific collar in field.
For size 14", please refer to model DF3 -R6 2414.

- DF3R** Removable Core
- DF3N** Non removable Core



Model #	Face Dim B x B	C	D
DF3 -R6-00	23 3/4" x 23 3/4"	2 7/8"	7/8"

Job: _____

Architect: _____

Engineer: _____

Contractor: _____

SUBMITTAL SHEET



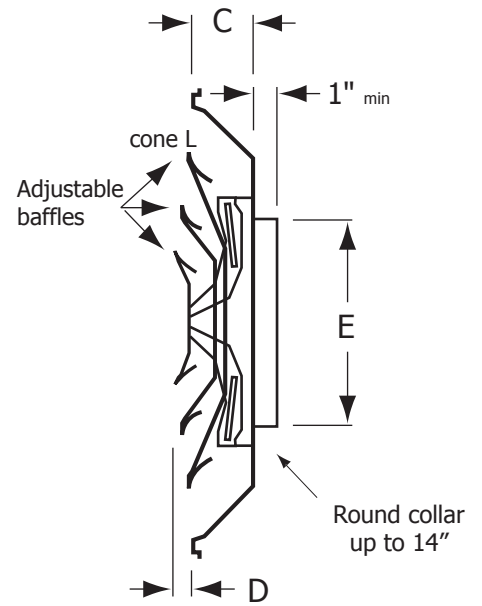
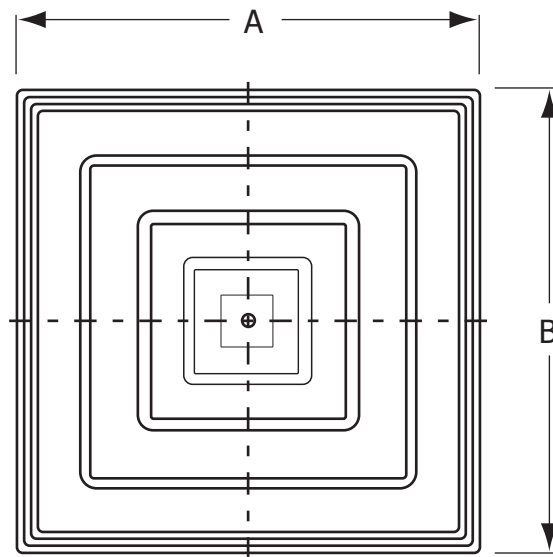
N° DA4R

Ceiling Supply Air Diffuser 4 Cone adjustable

- Material:** Stamped heavy gauge steel.
Finish: Powder paint coating - white.
Air Pattern: Adjustable horizontal air pattern, full face.
Mounting: Surface or lay-in T-bar ceiling.
Core Removal: Unlock hanger brackets by swiveling lever down. Holding cone L at opposite sides, push upwards, then turn clockwise and drop core free from back plenum.



DA4R



✓	Model #	Duct Size	Overall Face Dimension "A" x "B"	Depth Of Unit Dimension "C"	Exposed Depth Dimension "D"	Collar Diameter "E"
	DA4R 2406	6	23 3/4" x 23 3/4"	2 7/8"	7/8"	5 7/8"
	DA4R 2408	8	23 3/4" x 23 3/4"	2 7/8"	7/8"	7 7/8"
	DA4R 2410	10	23 3/4" x 23 3/4"	2 7/8"	7/8"	9 7/8"
	DA4R 2412	12	23 3/4" x 23 3/4"	2 7/8"	7/8"	11 7/8"
	DA4R 2414	14	23 3/4" x 23 3/4"	2 7/8"	7/8"	13 7/8"

All dimensions in inches

Job: _____

 Architect: _____
 Engineer: _____
 Contractor: _____

Rev. 0

SUBMITTAL SHEET



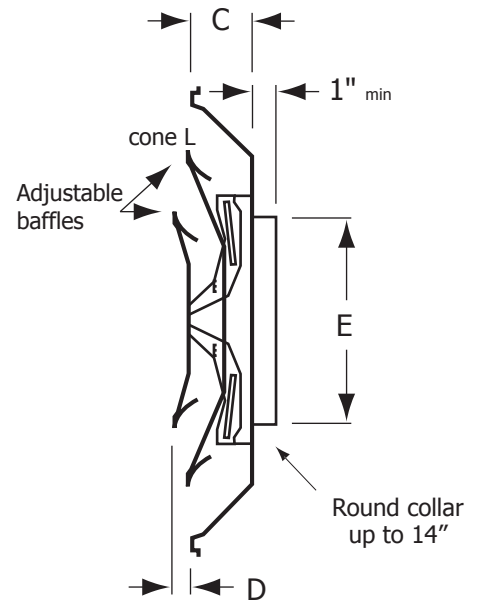
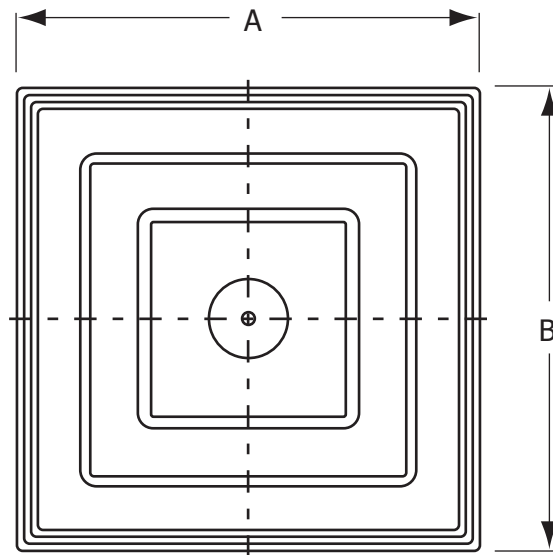
N° DA3R

Ceiling Supply Air Diffuser 3 Cone adjustable

- Material:** Stamped heavy gauge steel.
Finish: Powder paint coating - white.
Air Pattern: Adjustable horizontal air pattern, full face.
Mounting: Surface or lay-in T-bar ceiling.
Core Removal: Unlock hanger brackets by swiveling lever down. Holding cone L at opposite sides, push upwards, then turn clockwise and drop core free from back plenum.



DA3R



✓	Model #	Duct Size	Overall Face Dimension "A" x "B"	Depth Of Unit Dimension "C"	Exposed Depth Dimension "D"	Collar Diameter "E"
	DA3R 1206	6	11 3/4" x 11 3/4"	1 3/4"	7/16"	5 7/8"
	DA3R 1208	8	11 3/4" x 11 3/4"	1 3/4"	7/16"	7 7/8"
	DA3R 2406	6	23 3/4" x 23 3/4"	2 7/8"	7/8"	5 7/8"
	DA3R 2408	8	23 3/4" x 23 3/4"	2 7/8"	7/8"	7 7/8"
	DA3R 2410	10	23 3/4" x 23 3/4"	2 7/8"	7/8"	9 7/8"
	DA3R 2412	12	23 3/4" x 23 3/4"	2 7/8"	7/8"	11 7/8"
	DA3R 2414	14	23 3/4" x 23 3/4"	2 7/8"	7/8"	13 7/8"

Job: _____

 Architect: _____
 Engineer: _____
 Contractor: _____

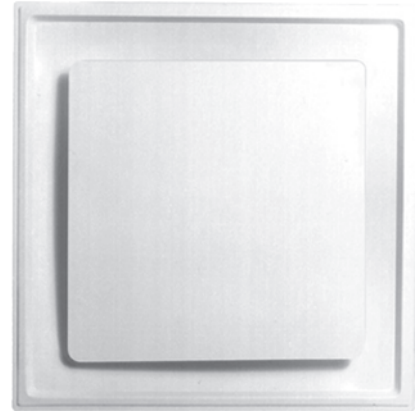
All dimensions in inches

SUBMITTAL SHEET



Nº ISO

Square Panel Diffuser - Architectural Line Four-way pattern

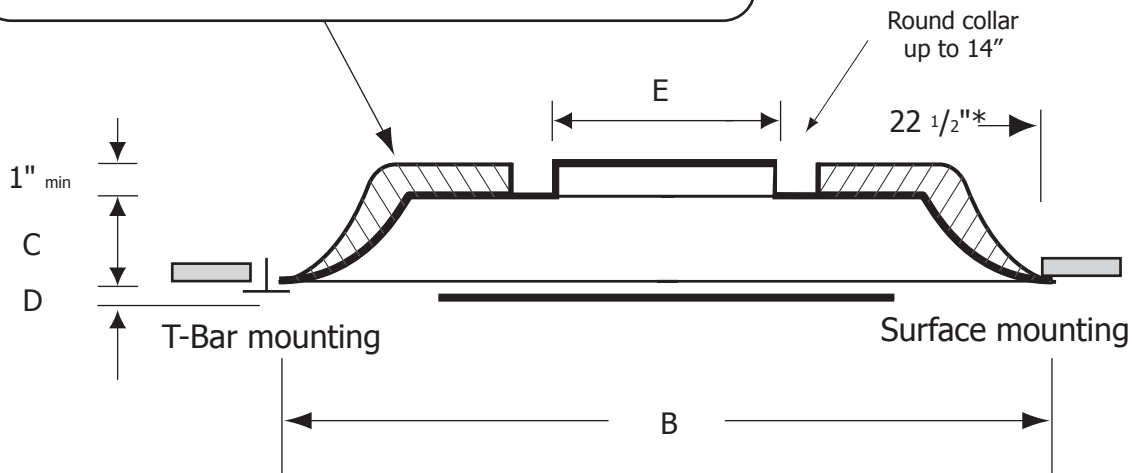


Material: Stamped heavy gauge steel.
Finish: Powder paint coating - white.
Mounting: Surface or Lay-in T-bar ceiling.
Air Pattern: Fixed horizontal 360° diffusion.
Core Removal: (ISO-R only) Unlock hanger brackets by swiveling lever down. Holding core panel at opposite sides, push upwards, then turn clockwise and drop core free from back plenum.

Optional fiberglass insulation on back panel, complies with A.S.T.M. E84 flame and smoke test. (Available only on models with 24" x 24" face)

R2 (fit to collar) R4 (fit to collar) R6

- ISOR** Removable Core
 ISON Non removable Core



* 10.5" for 12 X 12 face



✓	Model #	Duct Size	E	Face Dim B x B	C	D
	ISO 1206	6	5 7/8"	11 3/4" x 11 3/4"	1 3/4"	7/16"
	ISO 1208	8	7 7/8"	11 3/4" x 11 3/4"	1 3/4"	7/16"
	ISO 2406	6	5 7/8"	23 3/4" x 23 3/4"	2 7/8"	7/8"
	ISO 2408	8	7 7/8"	23 3/4" x 23 3/4"	2 7/8"	7/8"
	ISO 2410	10	9 7/8"	23 3/4" x 23 3/4"	2 7/8"	7/8"
	ISO 2412	12	11 7/8"	23 3/4" x 23 3/4"	2 7/8"	7/8"
	ISO 2414	14	13 7/8"	23 3/4" x 23 3/4"	2 7/8"	7/8"

Job: _____

Architect: _____

Engineer: _____

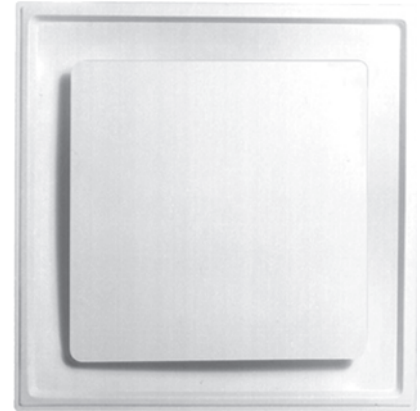
Contractor: _____

SUBMITTAL SHEET



Nº ISO -R6-00

Square Panel Diffuser - Architectural Line Four-way pattern

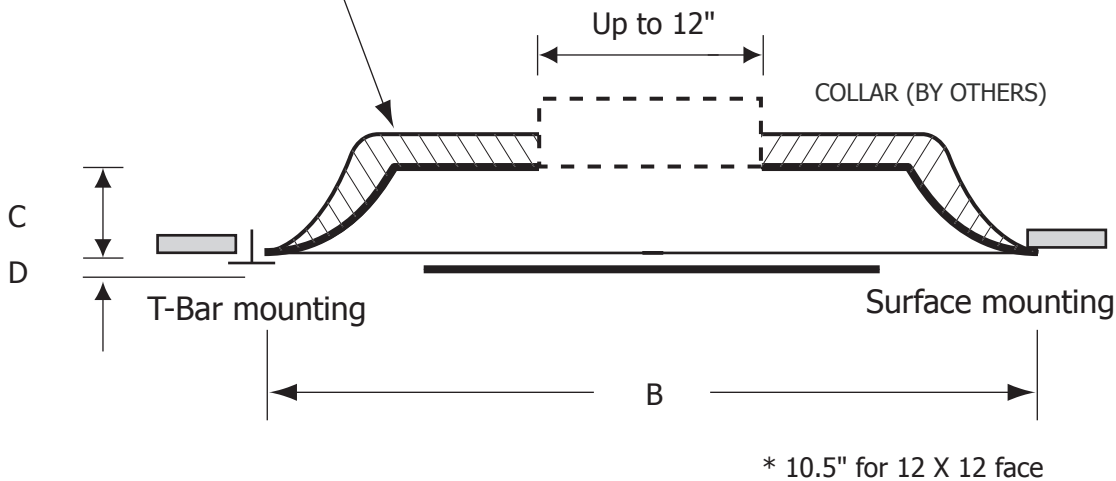


- Material:** Stamped heavy gauge steel.
- Finish:** Powder paint coating - white.
- Mounting:** Surface or Lay-in T-bar ceiling.
- Air Pattern:** Fixed horizontal 360° diffusion.
- Core Removal:
(ISOR only)** Unlock hanger brackets by swiveling lever down. Holding core panel at opposite sides, push upwards, then turn clockwise and drop core free from back plenum.

R6 fiberglass back complies with A.S.T.M. E84 flame and smoke test.

Scored for collar sizes up to 12" D.
Contractor to install job-specific collar in field.
For size 14", please refer to model ISO -R6 2414.

- ISOR** Removable Core
- ISON** Non removable Core



Model #	Face Dim B x B	C	D
ISO -R6-00	23 3/4" x 23 3/4"	2 7/8"	7/8"

Job: _____

Architect: _____

Engineer: _____

Contractor: _____

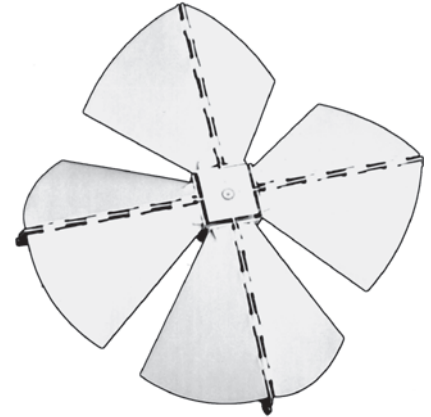
SUBMITTAL SHEET



N° N4

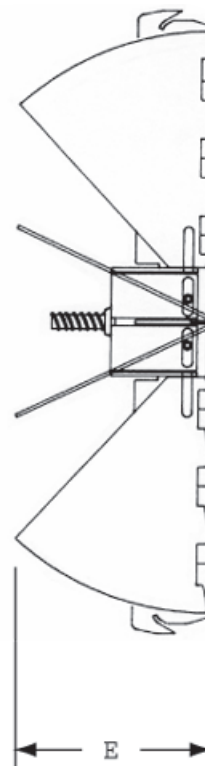
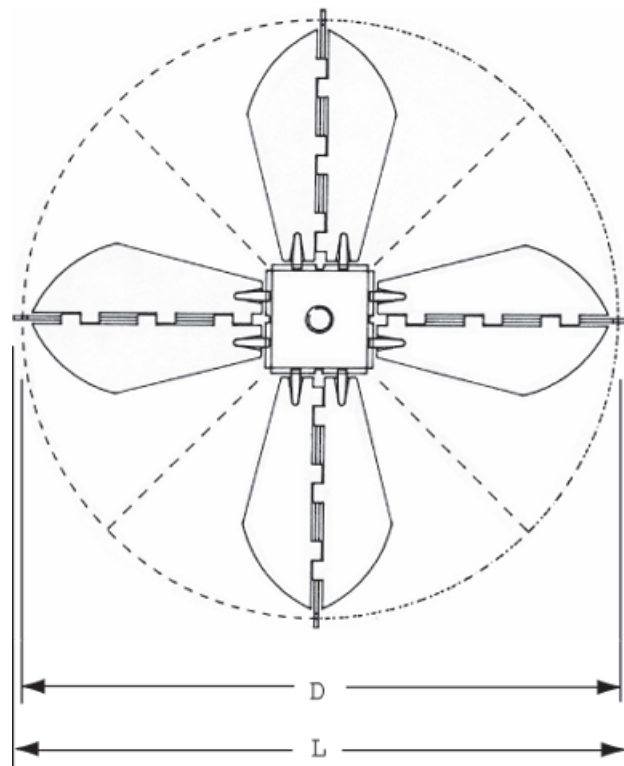
Round Opposed Blade Damper

Material: All galvanized steel.
Finish: Mill finish standard.
Mounting: Round collar of diffuser.



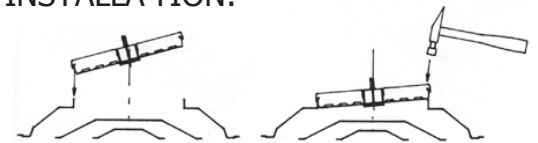
N4

8" shown here



VERTICAL OPERATOR ACCEPTS STANDARD SCREWDRIVER FOR SLOTTED OR HEX HEAD THRU DIFFUSER FACE

INSTALLATION:



✓	Model #	Nom. Size	Overall Dimensions		
			Blade (D)	Brace (L)	Depth (E)
	N4 06	6"	5 3/4"	6"	2 3/8"
	N4 08	8"	7 3/4"	8"	3 1/8"
	N4 10	10"	9 3/4"	10"	3 3/4"
	N4 12	12"	11 3/4"	12"	4 1/2"
	N4 14	14"	13 3/4"	14"	5 1/4"

Job: _____

Architect: _____

Engineer: _____

Contractor: _____

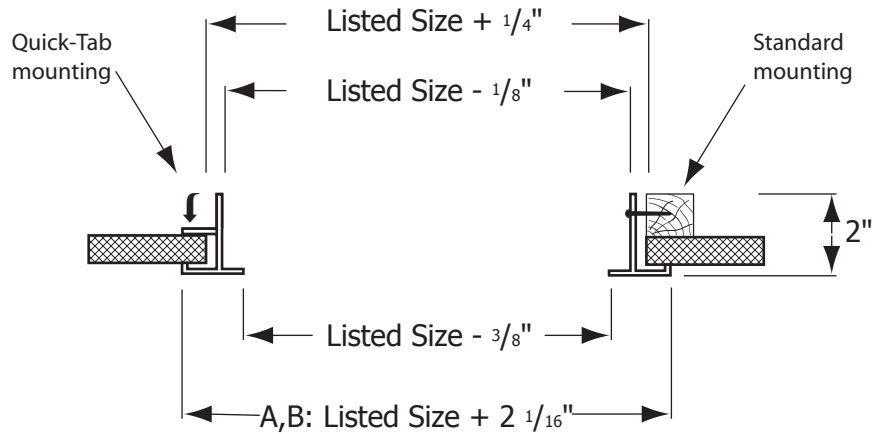
SUBMITTAL SHEET



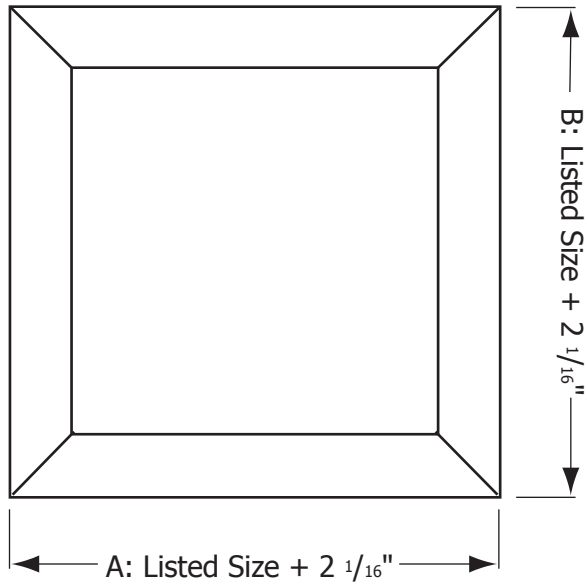
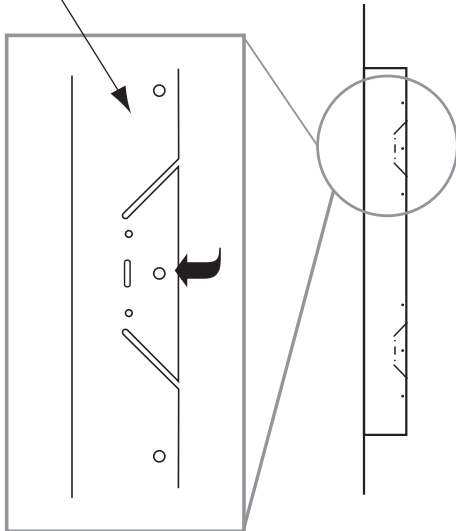
N° PF

Plaster And Drywall Frame

Material: All aluminium construction.



PRACTICAL FEATURE:
Depress quick-tabs to sandwich drywall



✓	Model #	Face Dim. A x B
	PF 1212	14 1/16" x 14 1/16"
	PF 1224	14 1/16" x 26 1/16"
	PF 2424	26 1/16" x 26 1/16"

Finish	
White <input type="checkbox"/>	Custom (please specify) <input type="checkbox"/>

Job: _____

Architect: _____

Engineer: _____

Contractor: _____

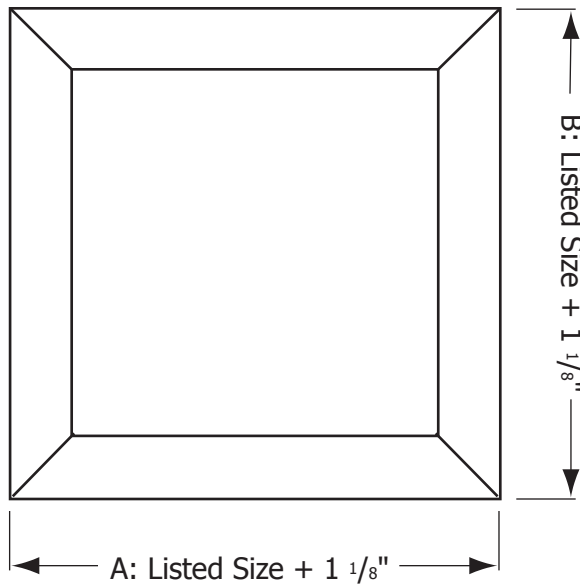
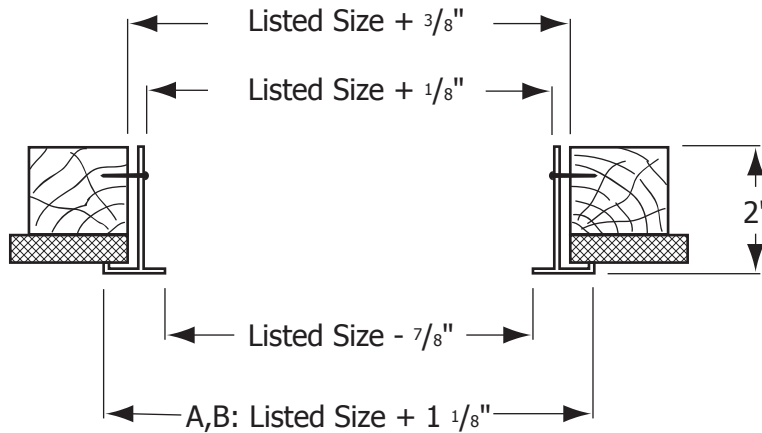
SUBMITTAL SHEET



N° PF-S

Plaster And Drywall Frame

Material: All steel construction.
Finish: Powder paint coating - white.



✓	Model #	Face Dim. A x B
	PF-S 1212	13 1/8" x 13 1/8"
	PF-S 1224	13 1/8" x 25 1/8"
	PF-S 2424	25 1/8" x 25 1/8"

Finish	
White <input type="checkbox"/>	Custom (please specify) <input type="checkbox"/>

Job: _____

Architect: _____
Engineer: _____
Contractor: _____

SUBMITTAL SHEET



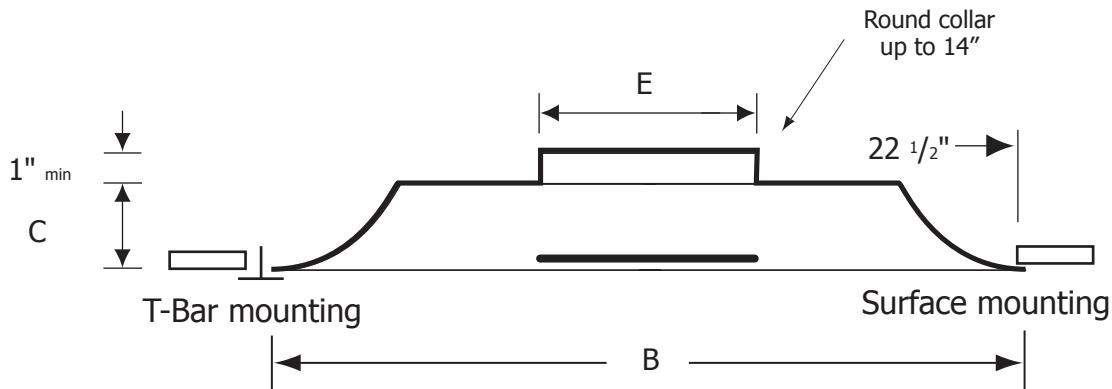
N° PSM

Perforated Face Supply Diffuser Fixed face - baffle deflector

- Material:** Stamped heavy gauge steel back panel. Coated steel perforated face with 3/16" diam. round holes on 1/4" staggered centers, affords 53% free area.
- Finish:** Powder paint coating - white.
- Air pattern:** Fixed horizontal 360° diffusion.
- Mounting:** Lay-in T-bar ceiling.



PSM



✓	Model #	Duct Size	E	Face Dim B x B	C
	PSM 2406	6	5 7/8"	23 3/4" x 23 3/4"	2 7/8"
	PSM 2408	8	7 7/8"	23 3/4" x 23 3/4"	2 7/8"
	PSM 2410	10	9 7/8"	23 3/4" x 23 3/4"	2 7/8"
	PSM 2412	12	11 7/8"	23 3/4" x 23 3/4"	2 7/8"
	PSM 2414	14	13 7/8"	23 3/4" x 23 3/4"	2 7/8"

Job: _____

Architect: _____

Engineer: _____

Contractor: _____

SUBMITTAL SHEET



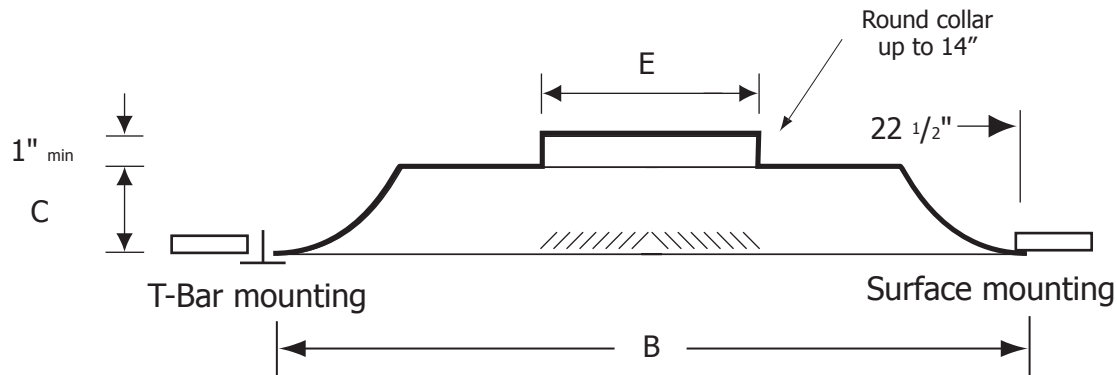
N° PSML

Perforated Face Supply Diffuser Fixed face - directional louvers deflectors

- Material:** Stamped heavy gauge steel back panel. Coated steel perforated face with 3/16" diam. round holes on 1/4" staggered centers, affords 53% free area.
- Finish:** Powder paint coating - white.
- Air pattern:** Fixed horizontal 360° diffusion.
- Mounting:** Lay-in T-bar ceiling.



PSML



✓	Model #	Duct Size	E	Face Dim B x B	C
	PSML 2406	6	5 7/8"	23 3/4" x 23 3/4"	2 7/8"
	PSML 2408	8	7 7/8"	23 3/4" x 23 3/4"	2 7/8"
	PSML 2410	10	9 7/8"	23 3/4" x 23 3/4"	2 7/8"
	PSML 2412	12	11 7/8"	23 3/4" x 23 3/4"	2 7/8"
	PSML 2414	14	13 7/8"	23 3/4" x 23 3/4"	2 7/8"

Job: _____

Architect: _____

Engineer: _____

Contractor: _____

SUBMITTAL SHEET



N° PRM

Perforated Face Return Diffuser Fixed face

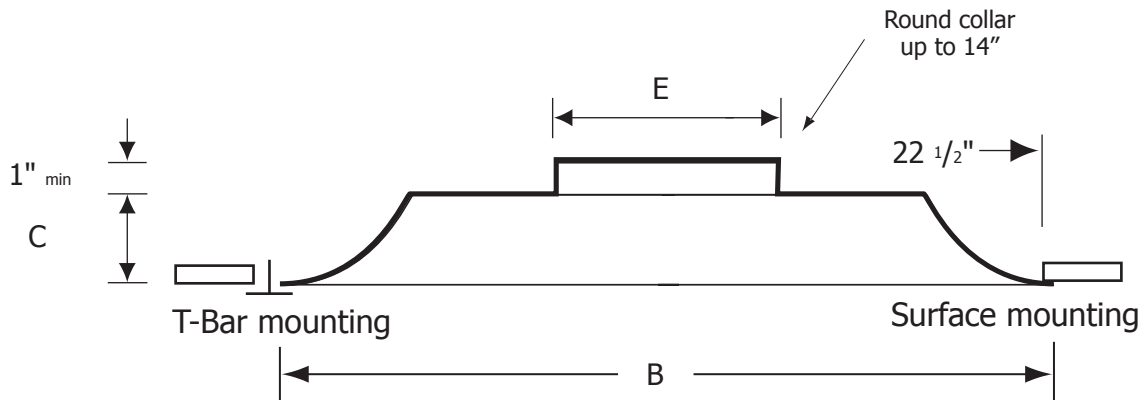
Material: Stamped heavy gauge steel back panel. Coated steel perforated face with 3/16" diam. round holes on 1/4" staggered centers, affords 53% free area.

Finish: Powder paint coating - white.

Mounting: Lay-in T-bar ceiling.



PRM



✓	Model #	Duct Size	E	Face Dim B x B	C
	PRM 2406	6	5 7/8"	23 3/4" x 23 3/4"	2 7/8"
	PRM 2408	8	7 7/8"	23 3/4" x 23 3/4"	2 7/8"
	PRM 2410	10	9 7/8"	23 3/4" x 23 3/4"	2 7/8"
	PRM 2412	12	11 7/8"	23 3/4" x 23 3/4"	2 7/8"
	PRM 2414	14	13 7/8"	23 3/4" x 23 3/4"	2 7/8"

Job: _____

Architect: _____

Engineer: _____

Contractor: _____

SUBMITTAL SHEET



N° PSI

Perforated Face Supply Diffuser with Molded Fiberglass Back Panel Fixed face - baffle deflector

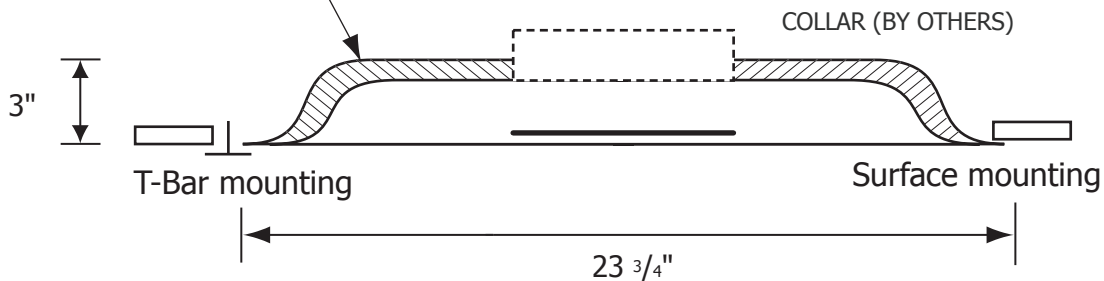
Material: Molded fiberglass back with aluminum foil vapor barrier scored for 6" to 14" D. Steel perforated face with 3/16" diam. holes on 1/4" staggered centers, affords 53% free area.

Finish: Powder paint coating - white.
Air pattern: Fixed horizontal 360° diffusion.
Mounting: Lay-in T-bar ceiling.



PSI

Fiberglass back complies with A.S.T.M. E84 flame and smoke test. Scored for collar sizes up to 14" D.
 R4 R6



Job: _____

Architect: _____
Engineer: _____
Contractor: _____

SUBMITTAL SHEET



N° PSIL

Perforated Face Supply Diffuser with Molded Fiberglass Back Panel Fixed face - directional louvers deflector

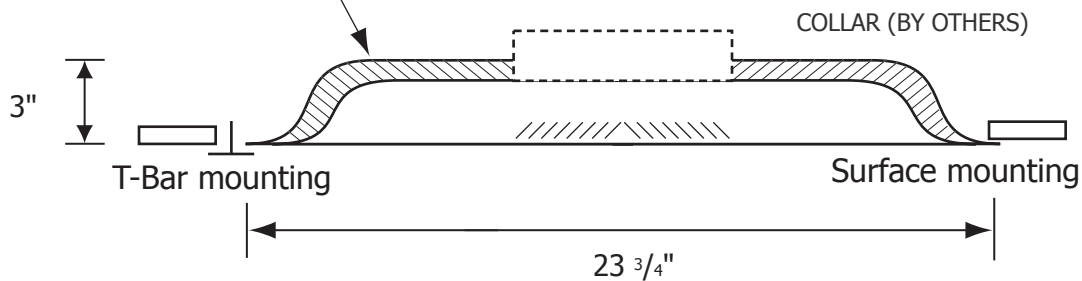


Material: Molded fiberglass back with aluminum foil vapor barrier scored for 6" to 14" D. Steel perforated face with 3/16" diam. holes on 1/4" staggered centers, affords 53% free area.

Finish: Powder paint coating - white.
Air pattern: Fixed horizontal 360° diffusion.
Mounting: Lay-in T-bar ceiling.

PSIL

Fiberglass back complies with
A.S.T.M. E84 flame and smoke test.
Scored for collar sizes up to 14" D.
 R4 R6



Job: _____

Architect: _____

Engineer: _____

Contractor: _____

SUBMITTAL SHEET



N° PRI

Perforated Face Return Diffuser with Molded Fiberglass Back Panel Fixed face

Material: Molded fiberglass back with aluminum foil vapor barrier scored for 6" to 14" D. Steel perforated face with 3/16" diam. holes on 1/4" staggered centers, affords 53% free area.

Finish: Powder paint coating - white.

Mounting: Lay-in T-bar ceiling.

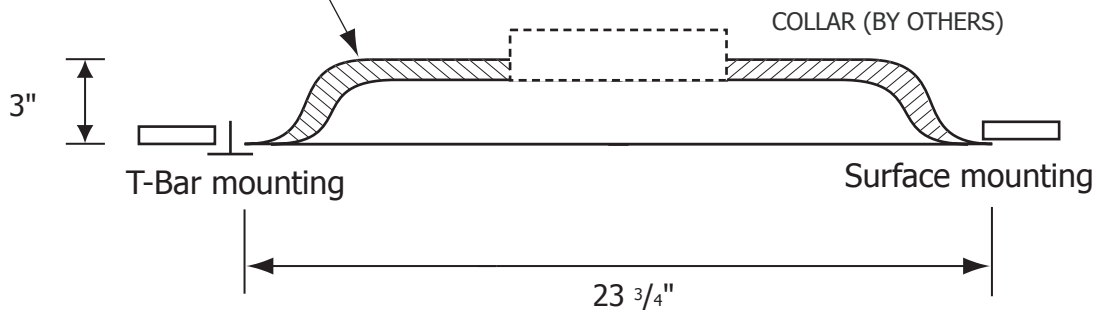


PRI

Fiberglass back complies with A.S.T.M. E84 flame and smoke test. Scored for collar sizes up to 14" D.

R4

R6



Job: _____

Architect: _____

Engineer: _____

Contractor: _____

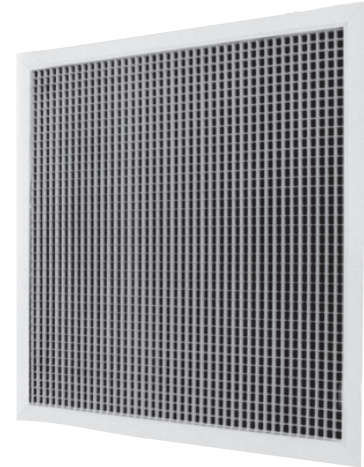
SUBMITTAL SHEET



N° ERT / ERT7

Eggcrate Return Grille, T-Bar Mount

Material: All aluminium construction.
Mounting: Lay-in T-bar ceiling.
 No mounting holes.
Grid core: Aluminum 1/2" X 1/2" X 1/2".

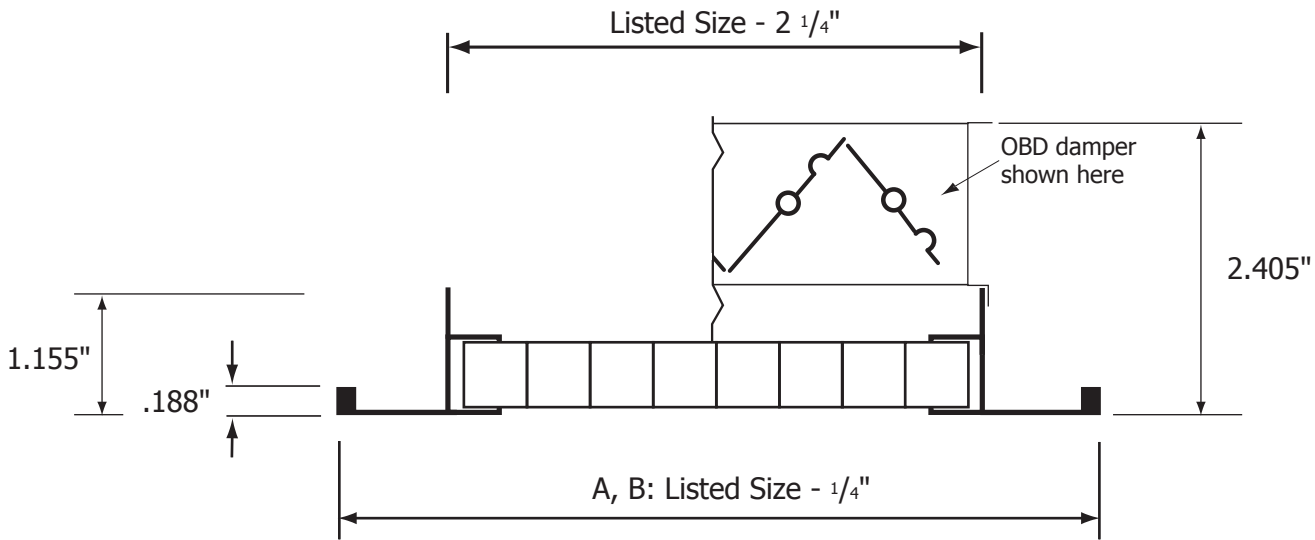


Finish	
White <input type="checkbox"/>	Custom (please specify) <input type="checkbox"/>

ERT / ERT7
 (ERT 2424 shown here)

ERT (without OBD damper)

ERT7 (with OBD damper)



Custom dimensions available upon request.

✓	Model #	Face Dim. A x B
	ERT 1212	11 3/4" x 11 3/4"
	ERT 1224	11 3/4" x 23 3/4"
	ERT 2424	23 3/4" x 23 3/4"
	ERT 2448	23 3/4" x 47 3/4"



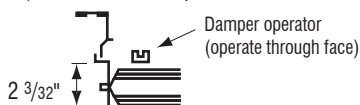
Job: _____

Architect: _____

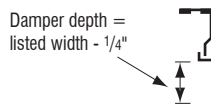
Engineer: _____

Contractor: _____

#7 STEEL DAMPER FURNISHED ON LISTED WIDTHS OF 4" AND OVER (for 1" increments only)



#9 STEEL DAMPER FURNISHED ON LISTED WIDTHS UNDER 4"



All dimensions in inches

Rev. 5

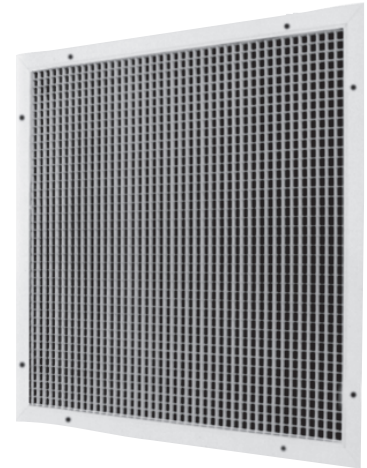
SUBMITTAL SHEET



N° ERE / ERE7

Eggcrate Return Grille for Surface Mount

- Material:** All aluminium construction.
Mounting: Drywall or any surface mounting.
 Countersunk mounting holes on frame.
Grid core: Aluminum $\frac{1}{2}$ " x $\frac{1}{2}$ " x $\frac{1}{2}$ ".

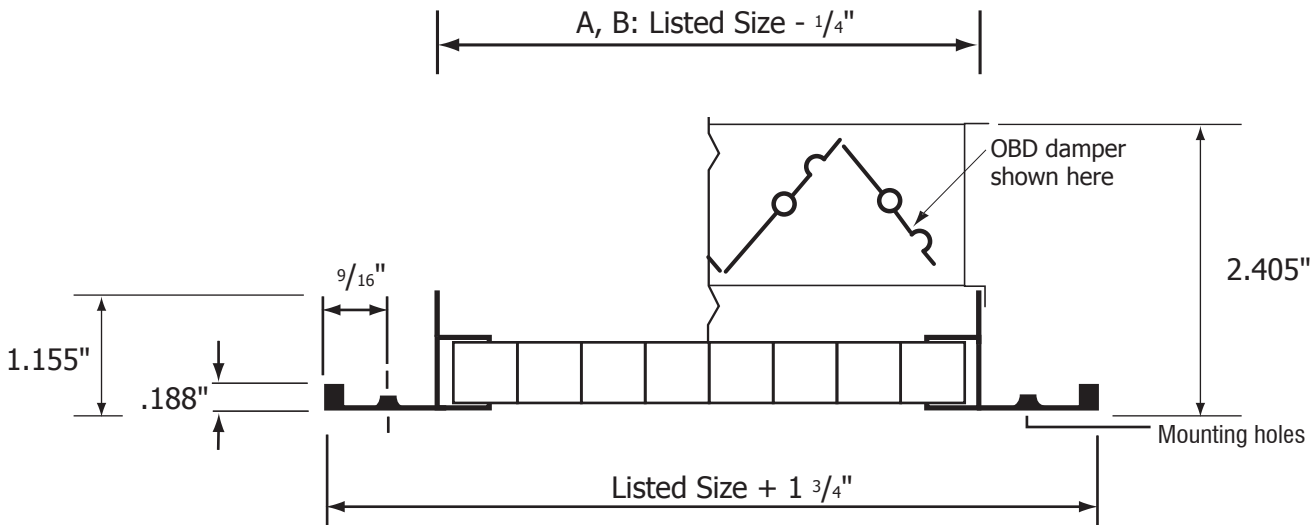


ERE / ERE7
 (ERE 2424 shown here)

Finish	
White <input type="checkbox"/>	Custom (please specify) <input type="checkbox"/>

ERE (without OBD damper)

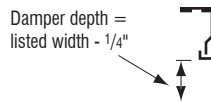
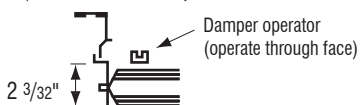
ERE7 (with OBD damper)



Size limits	Width A		Height B	
	in	mm	in	mm
Minimum	4	102	4	102
Maximum	48	1219	48	1219

#7 STEEL DAMPER FURNISHED ON LISTED WIDTHS OF 4" AND OVER (for 1" increments only)

#9 STEEL DAMPER FURNISHED ON LISTED WIDTHS UNDER 4"



All dimensions in inches

Job: _____

 Architect: _____
 Engineer: _____
 Contractor: _____

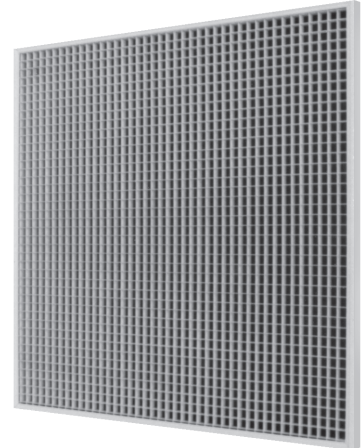
SUBMITTAL SHEET



N° ERU / ERU7

Eggcrate Return Grille with "U" Frame

- Material:** All aluminium construction.
Mounting: T-bar lay-in.
 No mounting holes.
Grid core: Aluminum $\frac{1}{2}$ " x $\frac{1}{2}$ " x $\frac{1}{2}$ ".

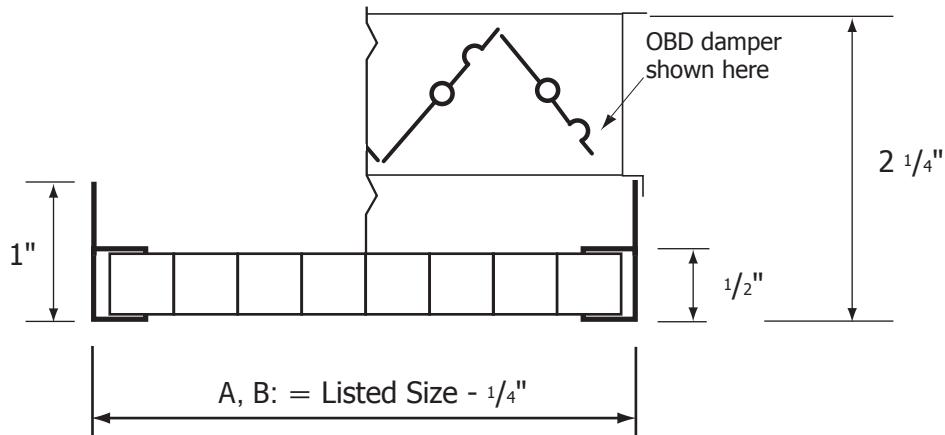


ERU / ERU7
 (ERU 2424 shown here)

Finish	
White <input type="checkbox"/>	Custom (please specify) <input type="checkbox"/>

ERU (without OBD damper)

ERU7 (with OBD damper)



Custom dimensions available upon request.

✓	Model #	Face Dim. A x B
	ERU 1212	11 $\frac{3}{4}$ " x 11 $\frac{3}{4}$ "
	ERU 1224	11 $\frac{3}{4}$ " x 23 $\frac{3}{4}$ "
	ERU 2424	23 $\frac{3}{4}$ " x 23 $\frac{3}{4}$ "
	ERU 2448	23 $\frac{3}{4}$ " x 47 $\frac{3}{4}$ "



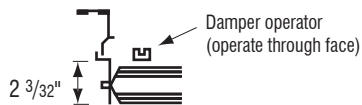
Job: _____

Architect: _____

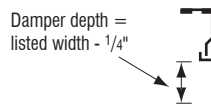
Engineer: _____

Contractor: _____

#7 STEEL DAMPER FURNISHED ON LISTED WIDTHS OF 4" AND OVER (for 1" increments only)



#9 STEEL DAMPER FURNISHED ON LISTED WIDTHS UNDER 4"



All dimensions in inches

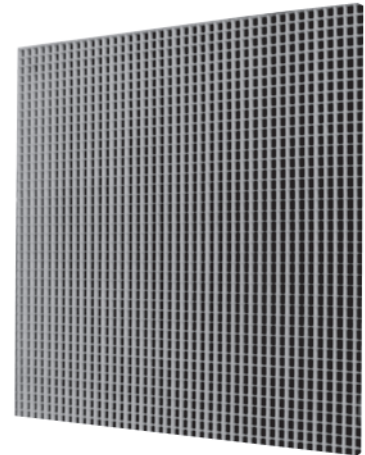
SUBMITTAL SHEET



N° ERN

Eggcrate Return Grille - Core Only

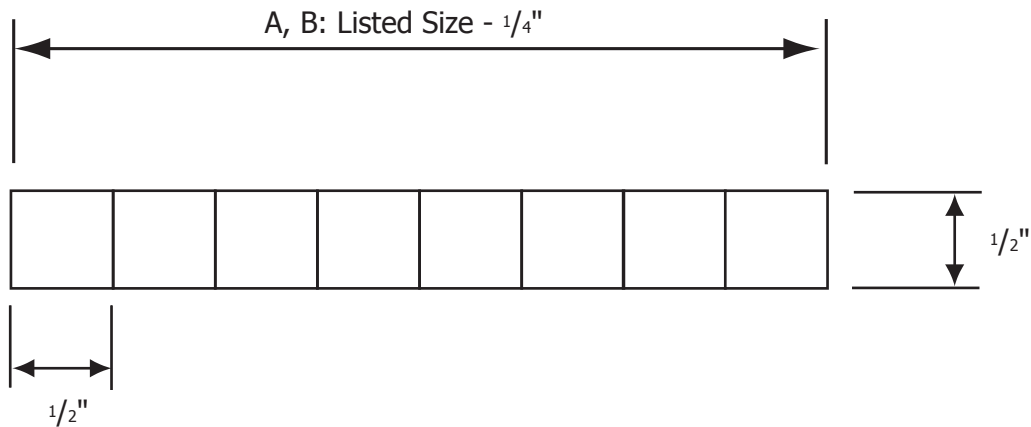
Material: All aluminum.
Mounting: Lay-in T-bar ceiling.
Grid core: Aluminum 1/2" X 1/2" X 1/2".



Finish	
White <input type="checkbox"/>	Custom (please specify) <input type="checkbox"/>

ERN

Aluminum Grid Core



✓	Model #	Face Dim. A x B
	ERN 1212	11 3/4" x 11 3/4"
	ERN 1224	11 3/4" x 23 3/4"
	ERN 2424	23 3/4" x 23 3/4"
	ERN 2448	23 3/4" x 47 3/4"

Job: _____

Architect: _____

Engineer: _____

Contractor: _____

All dimensions in inches

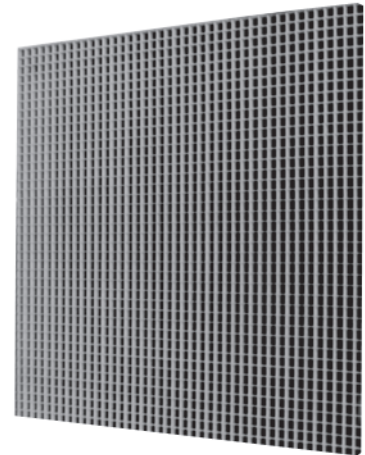
SUBMITTAL SHEET



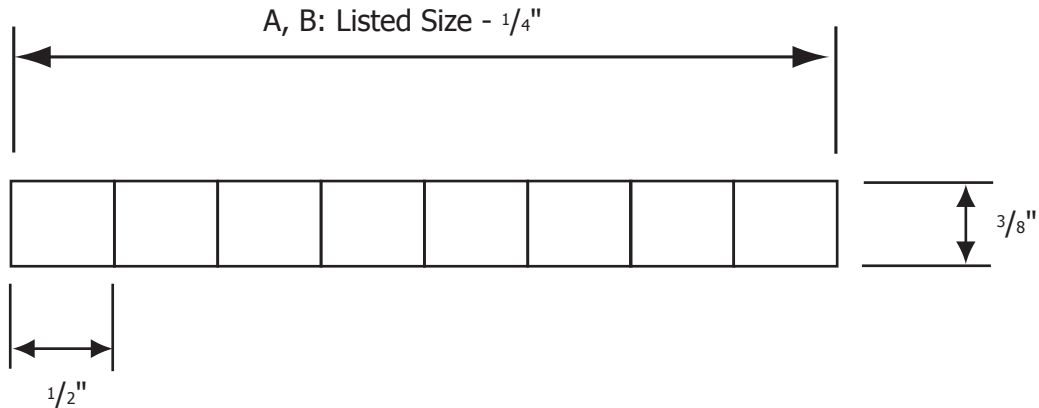
N° ERN-P

Eggcrate Return Grille - Core Only

Material: Polystyrene-based material.
Finish: White color.
Mounting: Lay-in T-bar ceiling.
Grid core: Plastic $\frac{1}{2}$ " X $\frac{1}{2}$ " X $\frac{3}{8}$ ".



ERN-P
Plastic Grid Core



✓	Model #	Face Dim. A x B
	ERN-P 1212	$11 \frac{3}{4}$ " x $11 \frac{3}{4}$ "
	ERN-P 1224	$11 \frac{3}{4}$ " x $23 \frac{3}{4}$ "
	ERN-P 2424	$23 \frac{3}{4}$ " x $23 \frac{3}{4}$ "
	ERN-P 2448	$23 \frac{3}{4}$ " x $47 \frac{3}{4}$ "

Job: _____

Architect: _____

Engineer: _____

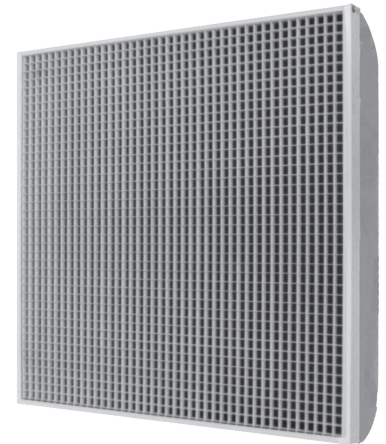
Contractor: _____

SUBMITTAL SHEET



N° ERI

Aluminum Egg Crate Return with Molded Fiberglass Back Panel



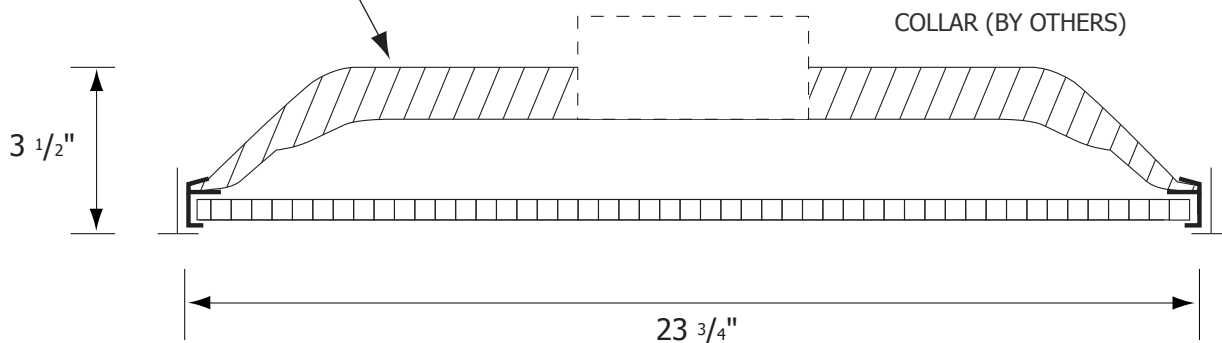
- Material:** Molded fiberglass back with aluminum foil vapor barrier scored for 6" to 14" D. in an extruded aluminum fixed frame.
- Grid core:** Aluminum 1/2" X 1/2" X 1/2".
- Finish:** Powder paint coating - white.
- Mounting:** T-bar Lay-in ceiling.

ERI

Fiberglass back complies with A.S.T.M. E84 flame and smoke test. Scored for collar sizes up to 14" D.

R4

R6



Job: _____

Architect: _____

Engineer: _____

Contractor: _____

SUBMITTAL SHEET



N° ERMF

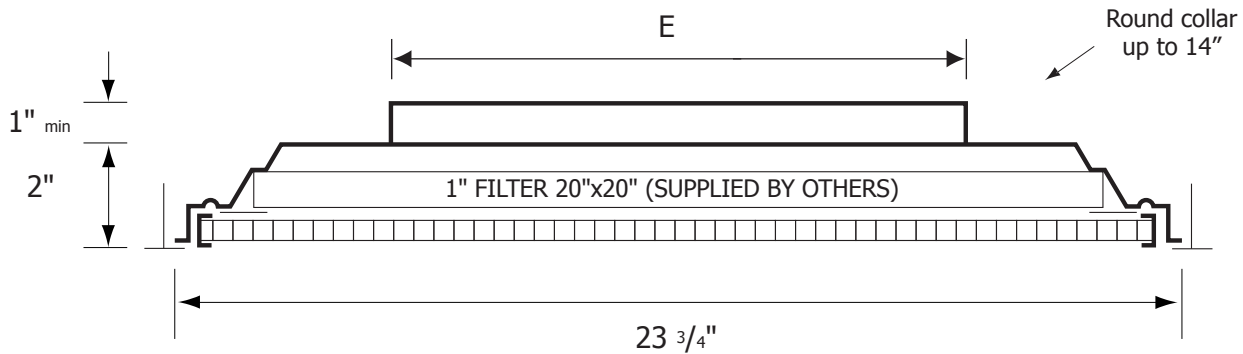
Aluminum Egg Crate Filter Return with Steel Back Panel Hinged face

Material: Stamped heavy gauge steel back panels with reinforcing corners. Aluminum grid 1/2"x 1/2"x 1/2" in hinged extruded aluminum U frame swings in and out of fixed frame for access to 20" x 20" filter, by others.



Finish: Powder paint coating - white.
Mounting: T-bar Lay-in ceiling.

ERMF



✓	Model #	Duct Size	E	Face Dim
	ERMF 2406	6	5 7/8"	23 3/4" x 23 3/4"
	ERMF 2408	8	7 7/8"	23 3/4" x 23 3/4"
	ERMF 2410	10	9 7/8"	23 3/4" x 23 3/4"
	ERMF 2412	12	11 7/8"	23 3/4" x 23 3/4"
	ERMF 2414	14	13 7/8"	23 3/4" x 23 3/4"

Job: _____

Architect: _____

Engineer: _____

Contractor: _____

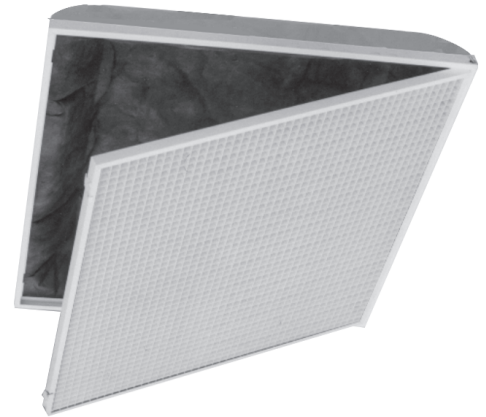
SUBMITTAL SHEET



N° ERIF

Aluminum Egg Crate Filter Return with Molded Fiberglass Back Panel Hinged face

- Material:** Molded fiberglass back with aluminum foil vapor barrier scored for 6" to 14" D. in an extruded aluminum fixed frame. Aluminum grid 1/2"x1/2"x1/2" in hinged extruded aluminum U frame, swing in and out of fixed frame for access to 20"x20" filter, by others.
- Finish:** Powder paint coating - white.
- Mounting:** T-bar Lay-in ceiling.

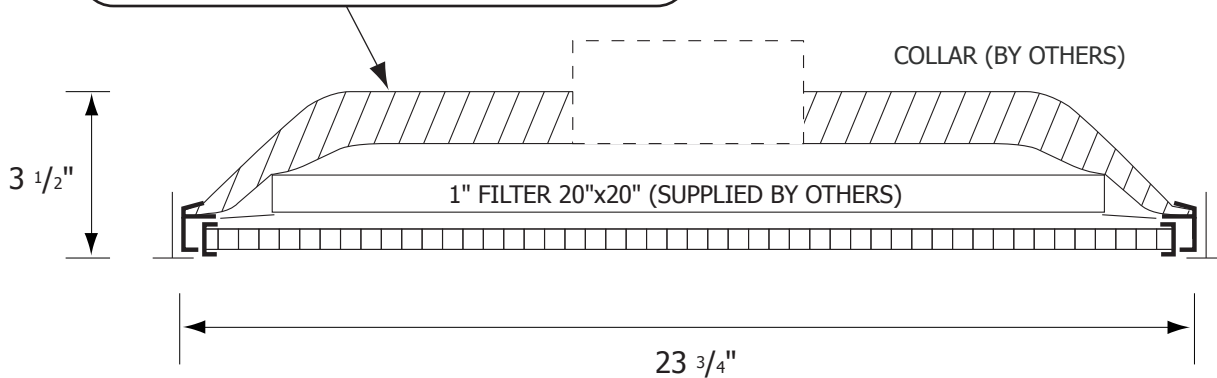


ERIF

Fiberglass back complies with A.S.T.M. E84 flame and smoke test. Scored for collar sizes up to 14" D.

R4

R6



Job: _____

Architect: _____

Engineer: _____

Contractor: _____

SUBMITTAL SHEET

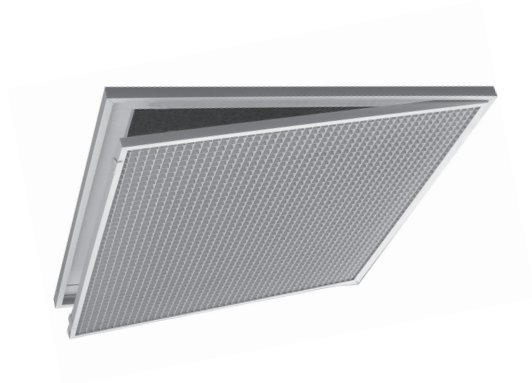


N° ERTF

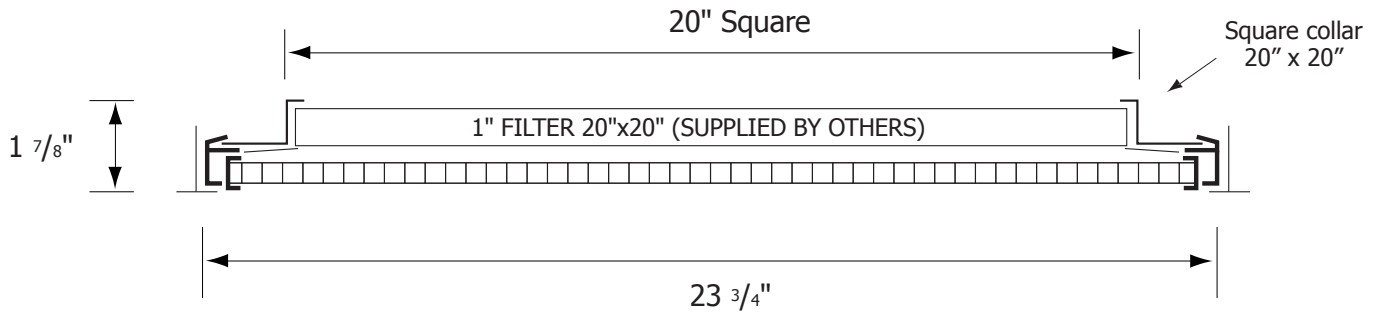
Aluminum Egg Crate Filter Return with 20" x 20" Filter Frame Hinged face - Steel Back

Material: Steel filter frame will accept 20"x20" standard 1" filter. Aluminum egg crate grid 1/2"x1/2"x1/2" in hinged extruded aluminum U frame, swings in and out of fixed frame for access to 20" x 20" filter, by others.

Finish: Powder paint coating - white.
Mounting: T-bar Lay-in ceiling.



ERTF



Job: _____

Architect: _____

Engineer: _____

Contractor: _____

SUBMITTAL SHEET



N° LRMF

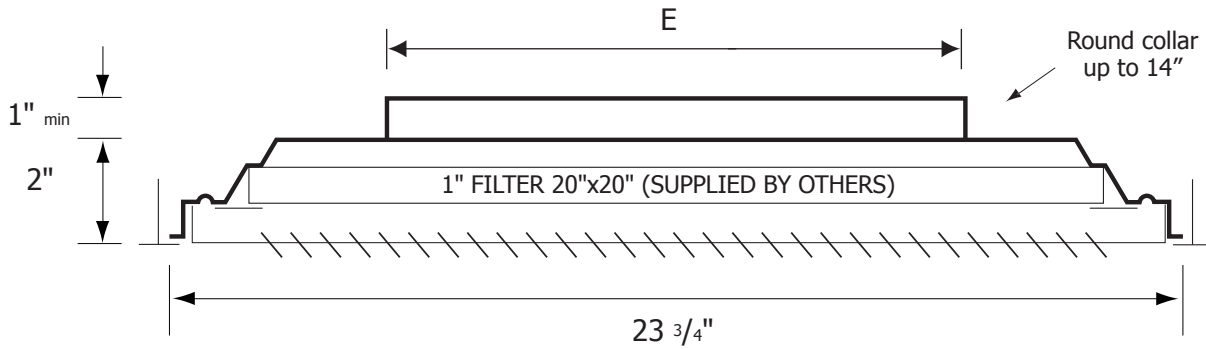
Lanced Face Filter Return with Steel Fiberglass Back Panel Hinged face

Material: Stamped heavy gauge steel backpanel with reinforcing corners. Steel lanced face with 1/2" spaced fins at 40° swings in and out of fixed frame, for access to 20"x20" filter, by others.

Finish: Powder paint coating - white.
Mounting: T-bar Lay-in ceiling.



LRMF



✓	Model #	Duct Size	E	Face Dim
	LRMF 2406	6	5 7/8"	23 3/4" x 23 3/4"
	LRMF 2408	8	7 7/8"	23 3/4" x 23 3/4"
	LRMF 2410	10	9 7/8"	23 3/4" x 23 3/4"
	LRMF 2412	12	11 7/8"	23 3/4" x 23 3/4"
	LRMF 2414	14	13 7/8"	23 3/4" x 23 3/4"

Job: _____

Architect: _____

Engineer: _____

Contractor: _____

SUBMITTAL SHEET



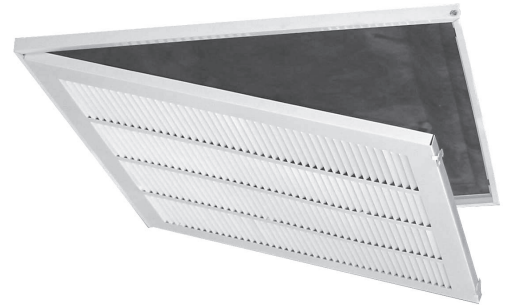
N° LRIF

Lanced Face Filter Return with Molded Fiberglass Back Panel Hinged face

Material: Molded fiberglass back with aluminum foil vapor barrier scored for 6" to 14" D. in an extruded aluminum fixed frame. Steel lanced face with 1/2" spaced fins set at 40° swings in and out of fixed frame, for access to 20"x20" filter, by others.

Finish: Powder paint coating - white.

Mounting: T-bar Lay-in ceiling.

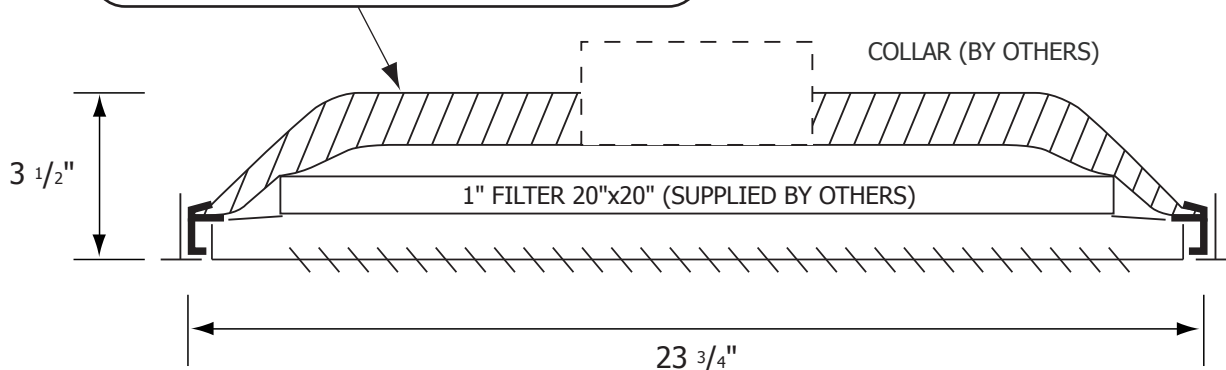


LRIF

Fiberglass back complies with A.S.T.M. E84 flame and smoke test. Scored for collar sizes up to 14" D.

R4

R6



Job: _____

Architect: _____
Engineer: _____
Contractor: _____

SUBMITTAL SHEET



N° LRTF

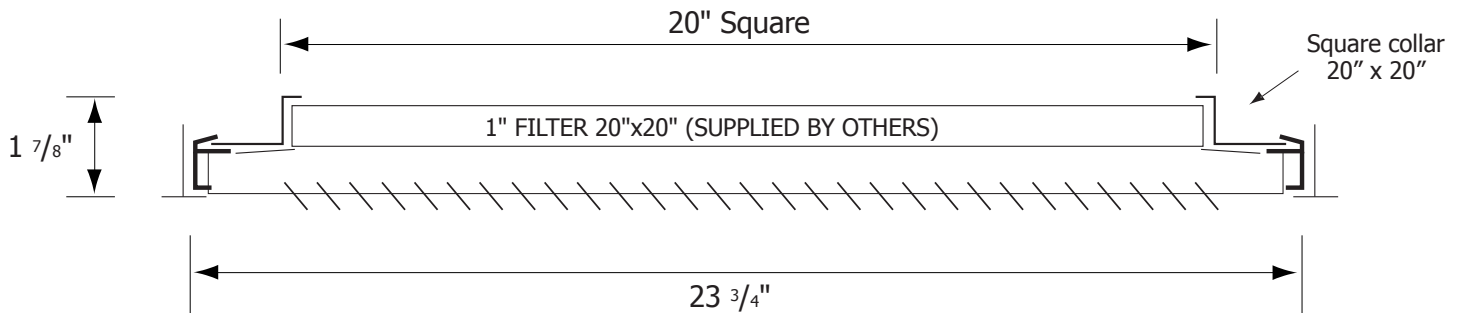
Lanced Face Filter Return with 20" x 20" filter frame Hinged face

Material: Steel filter frame will accept standard 1" filter. Steel lanced face with 1/2" spaced fins at 40° swings in and out of fixed frame, for access to 20"x20" filter, by others.

Finish: Powder paint coating - white.
Mounting: T-bar Lay-in ceiling.



LRTF



Job: _____

Architect: _____

Engineer: _____

Contractor: _____

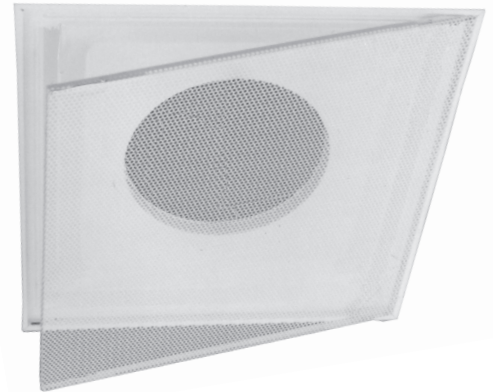
SUBMITTAL SHEET



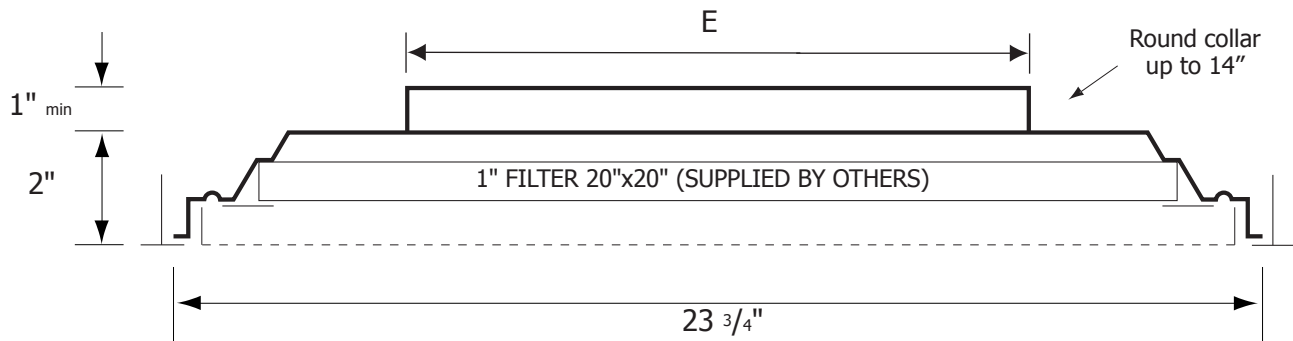
N° PRMF

Perforated Face Filter Return with Steel Back Panel Hinged face

- Material:** Stamped heavy gauge steel back panel with reinforcing corners. Steel perforated face with 3/16" diam. holes on 1/4" staggered centers, affords 53% free area and swings in and out of fixed frame for access to 20"x20" filter by others.
- Finish:** Powder paint coating - white.
- Mounting:** T-bar Lay-in ceiling.



PRMF



✓	Model #	Duct Size	E	Face Dim
	PRMF 2406	6	5 7/8"	23 3/4" x 23 3/4"
	PRMF 2408	8	7 7/8"	23 3/4" x 23 3/4"
	PRMF 2410	10	9 7/8"	23 3/4" x 23 3/4"
	PRMF 2412	12	11 7/8"	23 3/4" x 23 3/4"
	PRMF 2414	14	13 7/8"	23 3/4" x 23 3/4"

Job: _____

Architect: _____

Engineer: _____

Contractor: _____

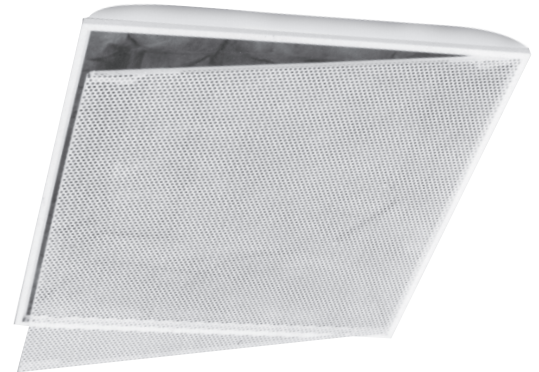
SUBMITTAL SHEET



N° PRIF

Perforated Face Filter Return with Molded Fiberglass Back Panel Hinged face

- Material:** Molded fiberglass back with aluminum foil vapor barrier scored for 6" to 14" D. in an extruded aluminum fixed frame. Steel perforated face with 3/16" diam. holes on 1/4" staggered centers, affords 53% free area and swings in and out of fixed frame.
- Finish:** Powder paint coating - white.
- Mounting:** T-bar Lay-in ceiling.

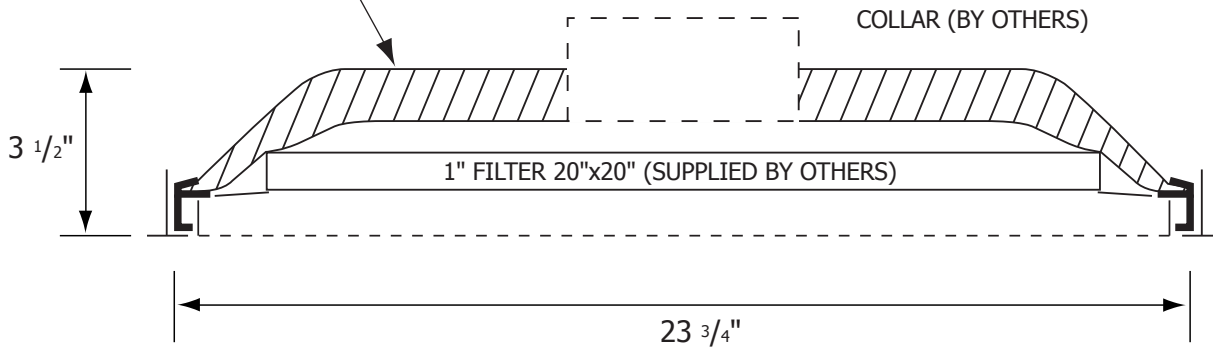


PRIF

Fiberglass back complies with A.S.T.M. E84 flame and smoke test. Scored for collar sizes up to 14" D.

R4

R6



Job: _____

Architect: _____

Engineer: _____

Contractor: _____

SUBMITTAL SHEET

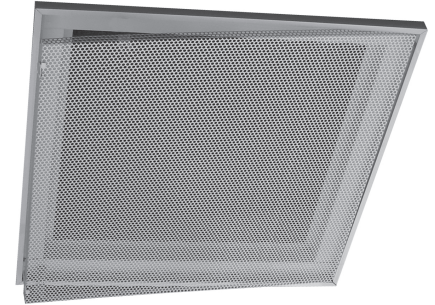


N° PRTF

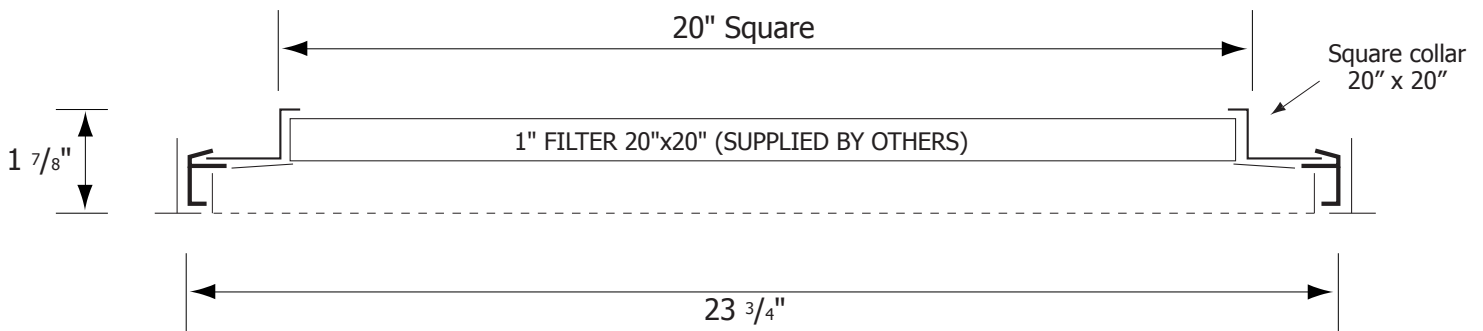
Perforated Face Filter Return with 20" X 20" Filter frame Hinged face

Material: Steel filter frame will accept standard 1" filter. Steel perforated face with 3/16" diam. holes on 1/4" staggered centers, affords 53% free area and swings in and out of fixed frame for access to 20"x20" filter by others.

Finish: Powder paint coating - white.
Mounting: T-bar Lay-in ceiling.



PRTF



Job: _____

Architect: _____

Engineer: _____

Contractor: _____

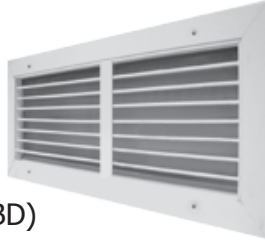
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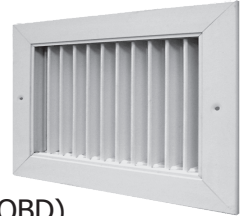
N° GSA1

Single Deflection Supply Grille Adjustable Air Pattern

- GSA10** (Steel)
- GSA17** (Steel + OBD)
- GAA10** (Aluminum)
- GAA17** (Aluminum + OBD)



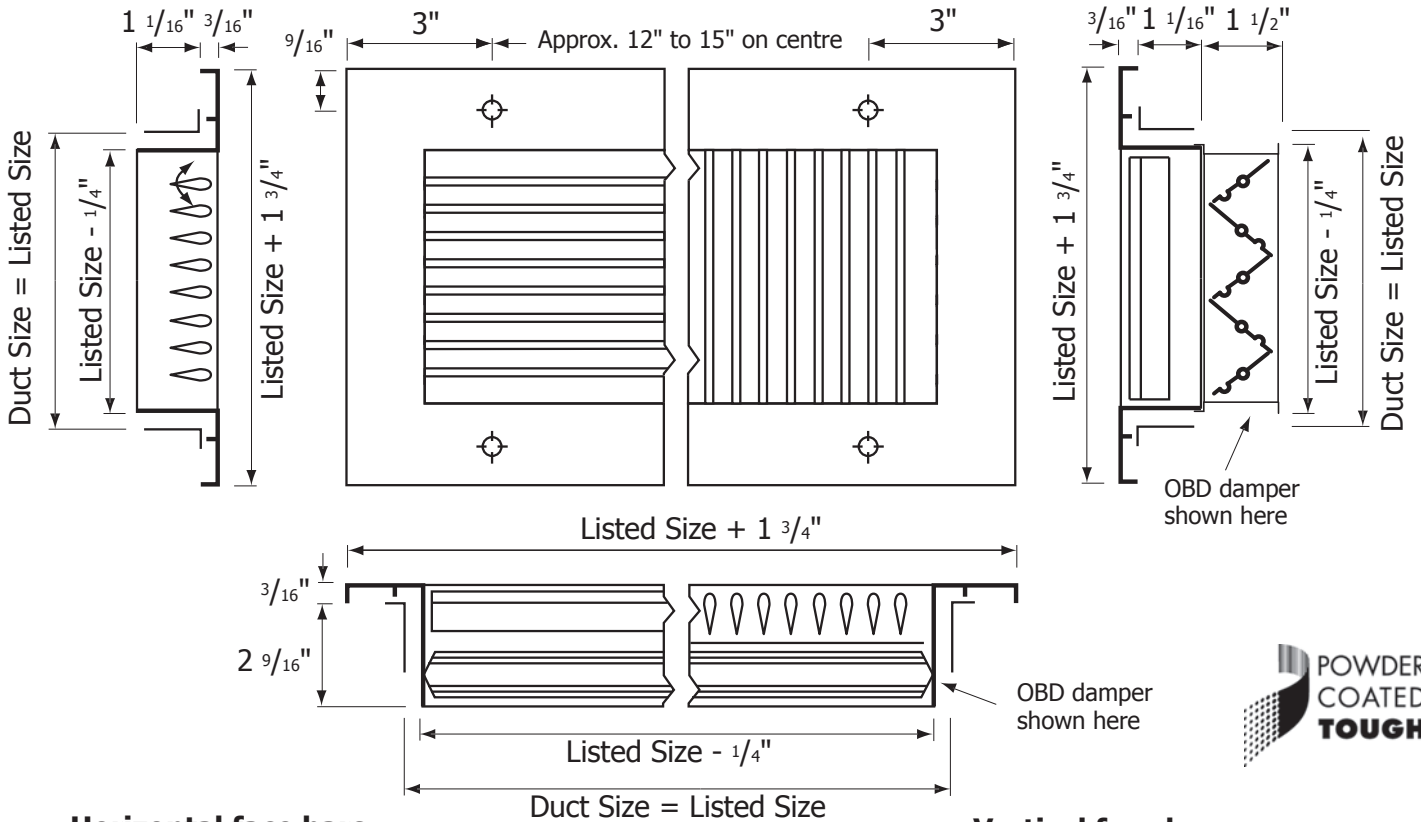
- GSA10-V** (Steel)
- GSA17-V** (Steel + OBD)
- GAA10-V** (Aluminum)
- GAA17-V** (Aluminum + OBD)



Horizontal face bars

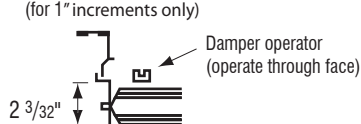
(Shown with mullion, for w>18")

Vertical face bars

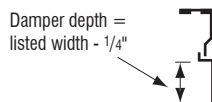


Finish	
White <input type="checkbox"/>	Custom (please specify) <input type="checkbox"/>

#7 STEEL DAMPER FURNISHED ON LISTED WIDTHS OF 4" AND OVER (for 1" increments only)



#9 STEEL DAMPER FURNISHED ON LISTED WIDTHS UNDER 4"



Job: _____

Architect: _____

Engineer: _____

Contractor: _____

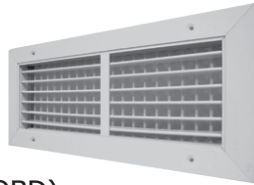
SUBMITTAL SHEET



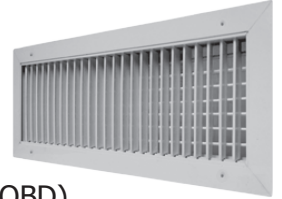
N° GSA2

Double Deflection Supply Grille Adjustable Air Pattern Extruded Aluminum Frame

- GSA20** (Steel fins)
- GSA27** (Steel fins + OBD)
- GAA20** (Aluminum fins)
- GAA27** (Aluminum fins + OBD)



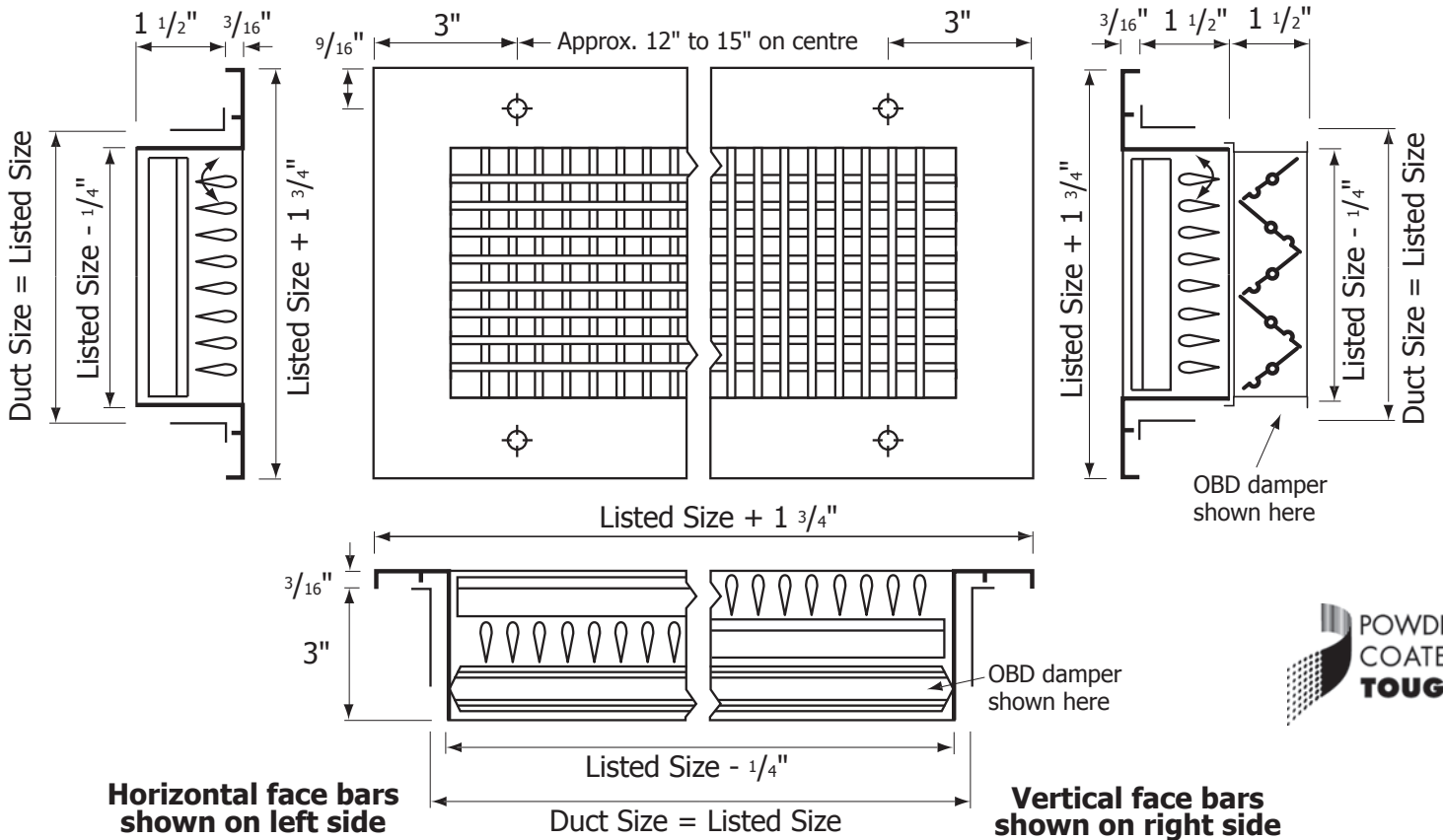
- GSA20-V** (Steel fins)
- GSA27-V** (Steel fins + OBD)
- GAA20-V** (Aluminum fins)
- GAA27-V** (Aluminum fins + OBD)



Horizontal face bars

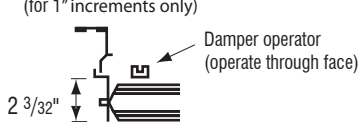
(Shown with mullion, for w>18")

Vertical face bars

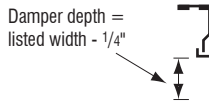


Finish	
White <input type="checkbox"/>	Custom (please specify) <input type="checkbox"/>

#7 STEEL DAMPER FURNISHED ON LISTED WIDTHS OF 4" AND OVER (for 1" increments only)



#9 STEEL DAMPER FURNISHED ON LISTED WIDTHS UNDER 4"



Job: _____

Architect: _____

Engineer: _____

Contractor: _____

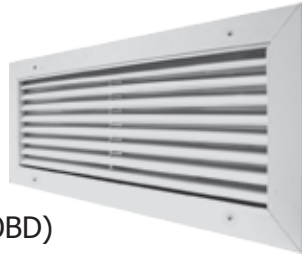
SUBMITTAL SHEET



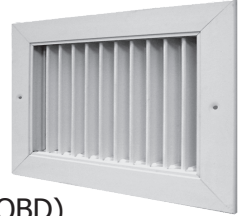
N° GSA4

Fixed 42 degree Deflection Return Grille

- GSA40** (Steel)
- GSA47** (Steel + OBD)
- GAA40** (Aluminum)
- GAA47** (Aluminum + OBD)

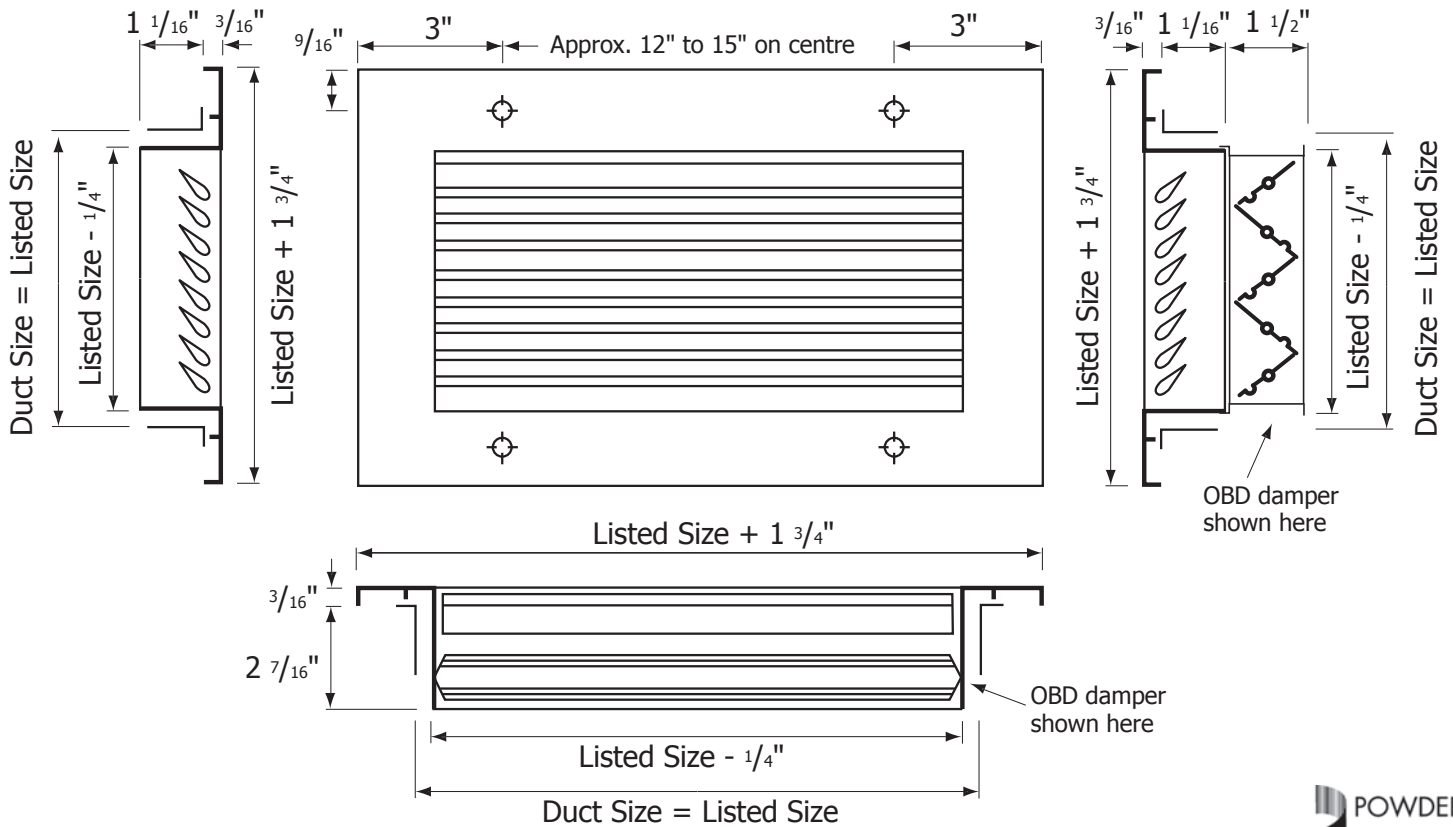


- GSA40-V** (Steel)
- GSA47-V** (Steel + OBD)
- GAA40-V** (Aluminum)
- GAA47-V** (Aluminum + OBD)



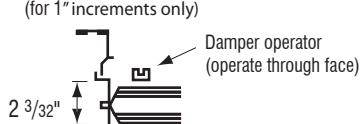
Horizontal face bars
(Shown with recessed mullion, for w>18")

Vertical face bars

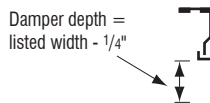


Finish	
White <input type="checkbox"/>	Custom (please specify) <input type="checkbox"/>

#7 STEEL DAMPER FURNISHED ON LISTED WIDTHS OF 4" AND OVER (for 1" increments only)



#9 STEEL DAMPER FURNISHED ON LISTED WIDTHS UNDER 4"



Job: _____

Architect: _____

Engineer: _____

Contractor: _____

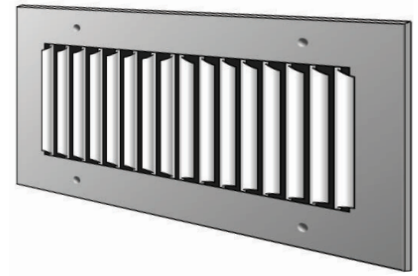
SUBMITTAL SHEET



N° GCA2

Curved Adjustable Blade Supply Grille (2 Way)

- Material:** Extruded aluminum with mechanically fastened corners.
- Mounting:** Drywall or any surface mounting. Countersunk mounting holes on frame.
- Air Pattern:** 180° Diffusion
Adjustable blades spaced $\frac{2}{3}$ " apart



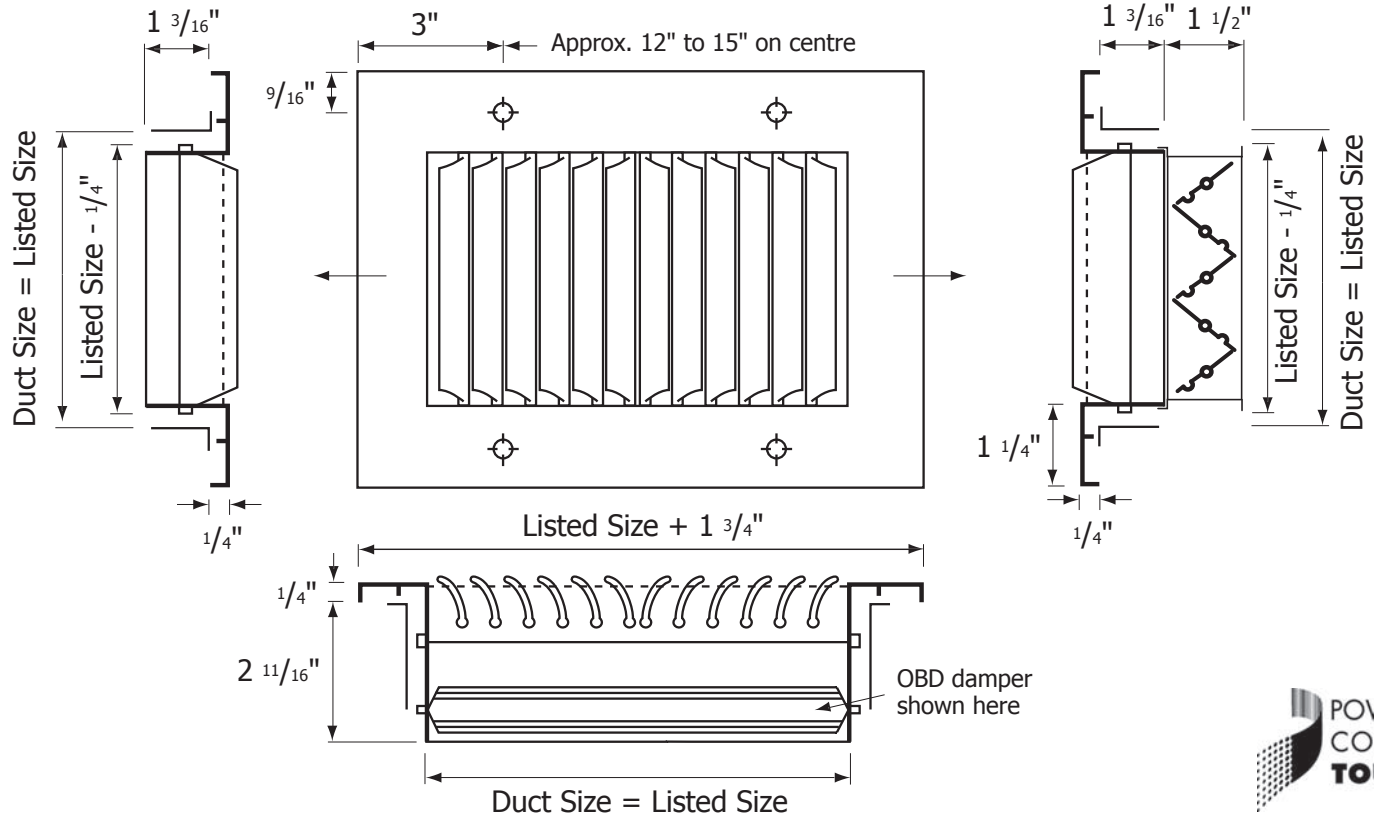
GCA2

Vertical face blades (Default)

- GCA20** Without OBD damper
- GCA27** With OBD damper

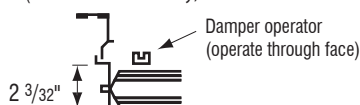
Horizontal face blades

- GCA20-H** Without OBD damper
- GCA27-H** With OBD damper

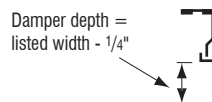


Finish	
White	Custom (please specify)

#7 STEEL DAMPER FURNISHED ON LISTED WIDTHS OF 4" AND OVER (for 1" increments only)



#9 STEEL DAMPER FURNISHED ON LISTED WIDTHS UNDER 4"



All dimensions in inches

Job: _____

Architect: _____

Engineer: _____

Contractor: _____

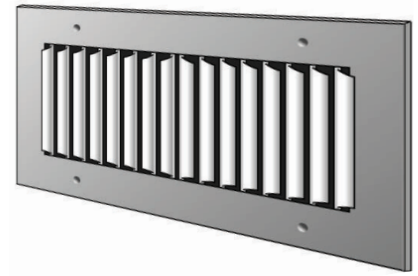
SUBMITTAL SHEET



N° GCA5

Curved Fixed Blade Supply Grille (2 Way)

- Material:** Extruded aluminum with mechanically fastened corners.
- Mounting:** Drywall or any surface mounting. Countersunk mounting holes on frame.
- Air Pattern:** 180° Diffusion
Fixed blades spaced $\frac{2}{3}$ " apart



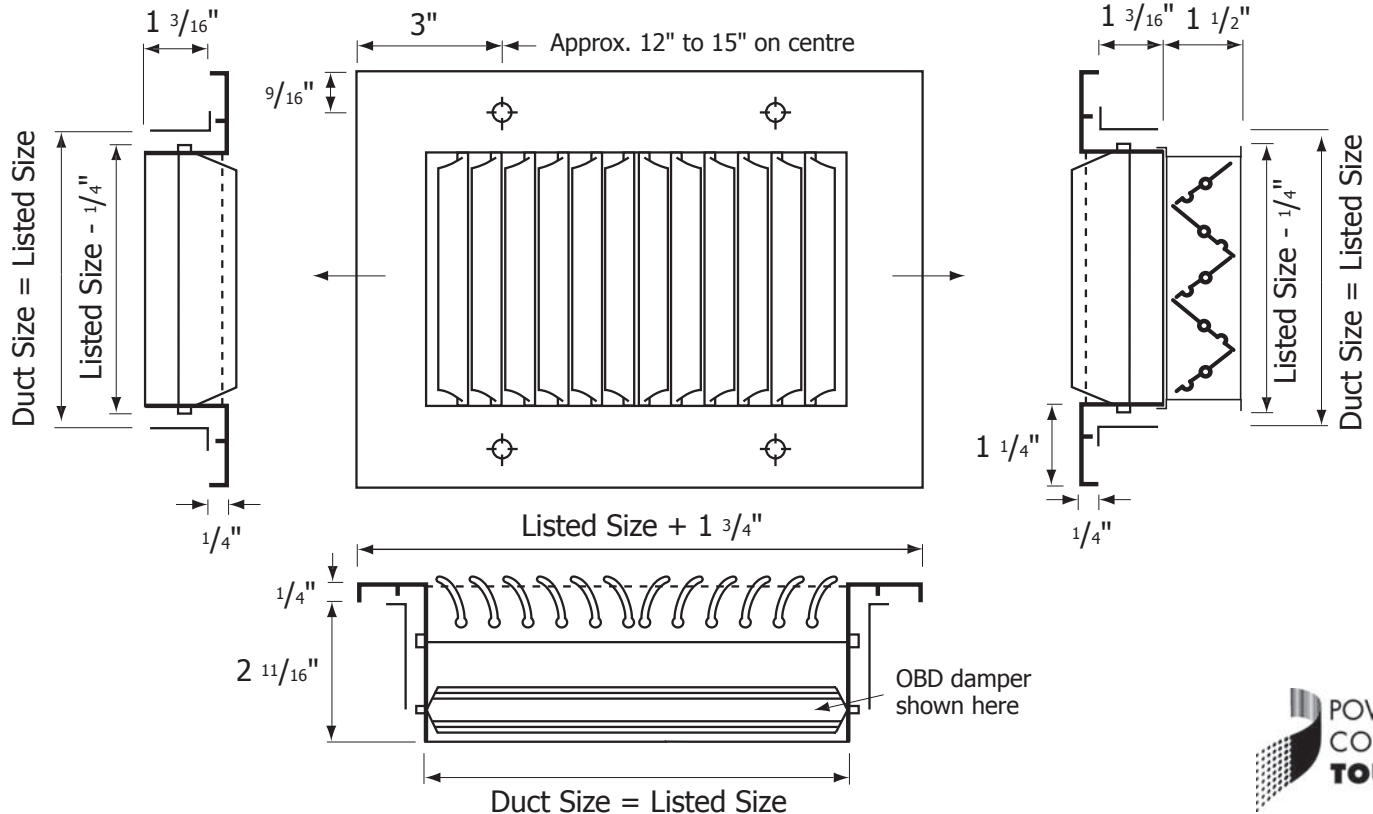
GCA5

Vertical face blades (Default)

- GCA50** Without OBD damper
- GCA57** With OBD damper

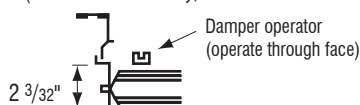
Horizontal face blades

- GCA50-H** Without OBD damper
- GCA57-H** With OBD damper

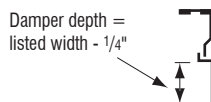


Finish	
White	Custom (please specify)

#7 STEEL DAMPER FURNISHED ON LISTED WIDTHS OF 4" AND OVER (for 1" increments only)



#9 STEEL DAMPER FURNISHED ON LISTED WIDTHS UNDER 4"



All dimensions in inches

Job: _____

Architect: _____

Engineer: _____

Contractor: _____

SUBMITTAL SHEET



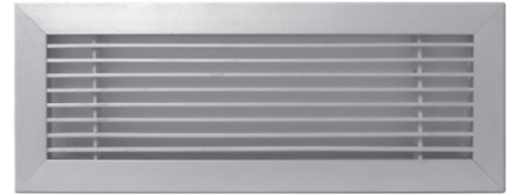
N° ALB10 / ALB17

ALB Architectural Linear Bar Grille

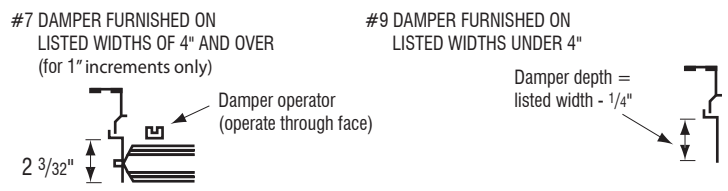
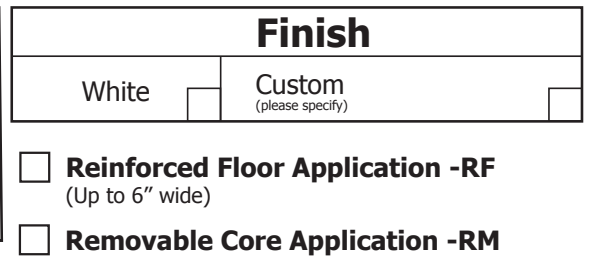
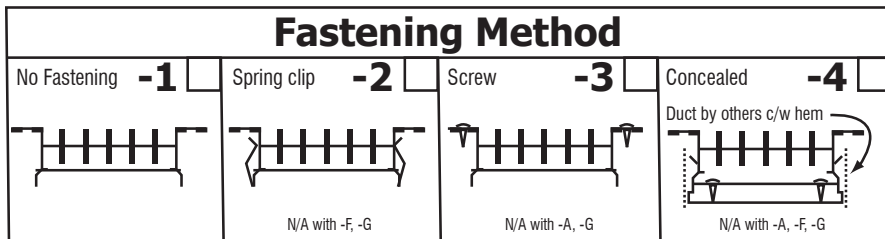
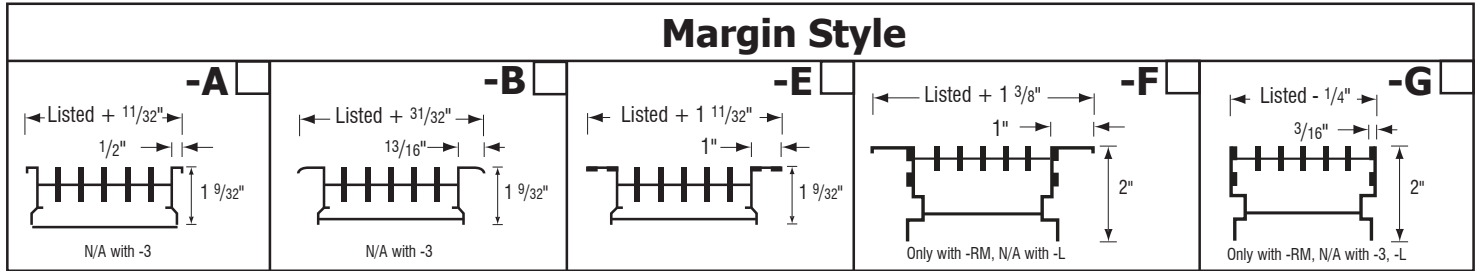
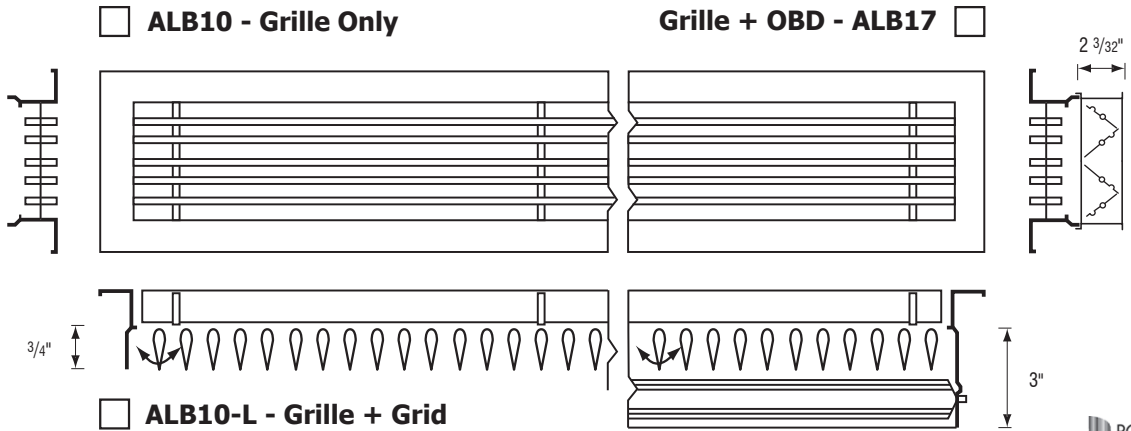
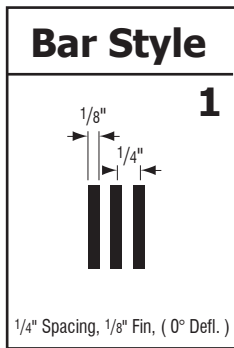
Material: Extruded aluminum
Length over 72 inches supplied as 2 or more sections

Opposed Blade Damper (optional):

- Galvanized steel construction
- Key-operated through grille face



ALB10 / ALB17



All dimensions in inches
Dimensions shown contain expansion tolerances based on temperature rise of 40°F above the ambient temperature at which the material is fabricated.

Job: _____

Architect: _____

Engineer: _____

Contractor: _____

SUBMITTAL SHEET



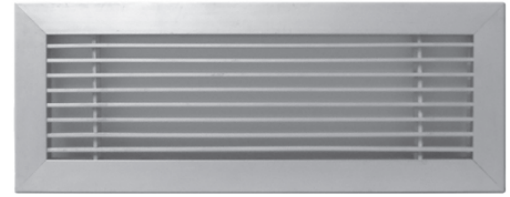
N° ALB20 / ALB27

ALB Architectural Linear Bar Grille

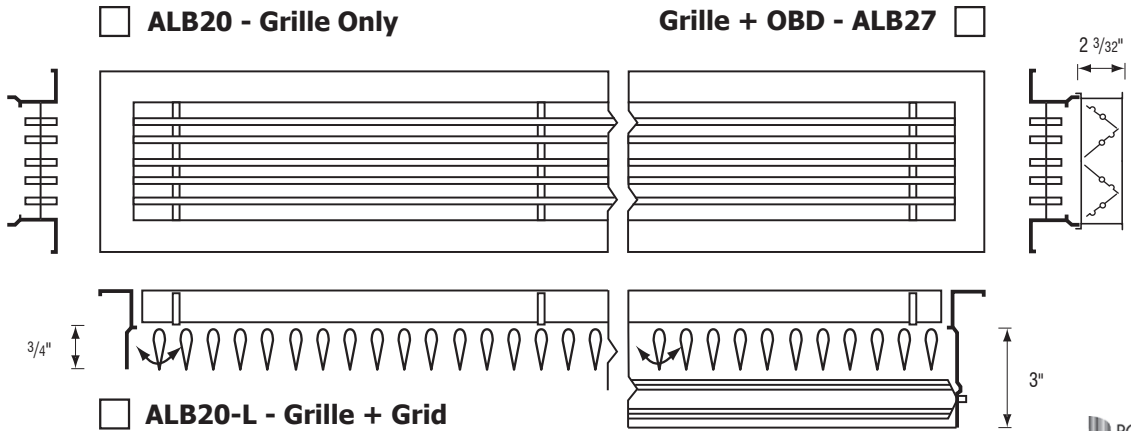
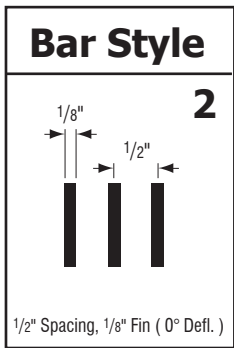
Material: Extruded aluminum
Length over 72 inches supplied as 2 or more sections

Opposed Blade Damper (optional):

- Galvanized steel construction
- Key-operated through grille face

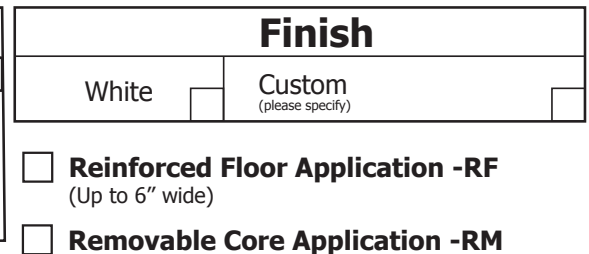
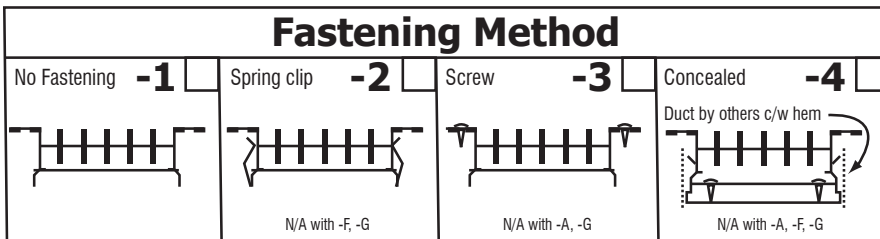
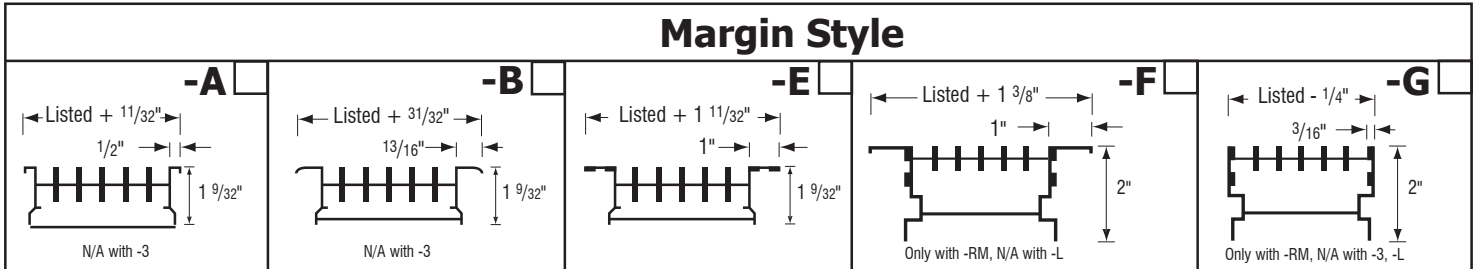


ALB20 / ALB27

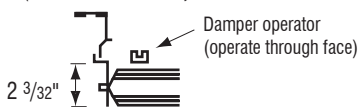


ALB20-L - Grille + Grid

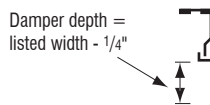
Grille + OBD + Grid - ALB27-L



#7 DAMPER FURNISHED ON LISTED WIDTHS OF 4" AND OVER (for 1" increments only)



#9 DAMPER FURNISHED ON LISTED WIDTHS UNDER 4"



All dimensions in inches
Dimensions shown contain expansion tolerances based on temperature rise of 40°F above the ambient temperature at which the material is fabricated.

Job: _____

Architect: _____

Engineer: _____

Contractor: _____

SUBMITTAL SHEET



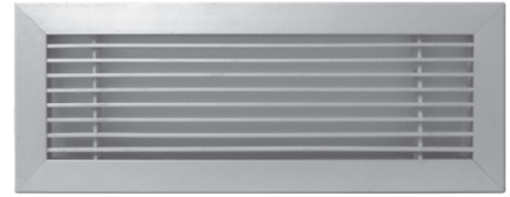
N° ALB30 / ALB37

ALB Architectural Linear Bar Grille

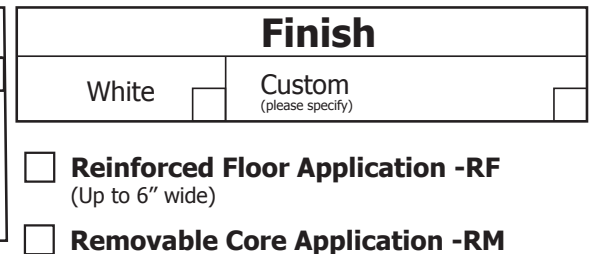
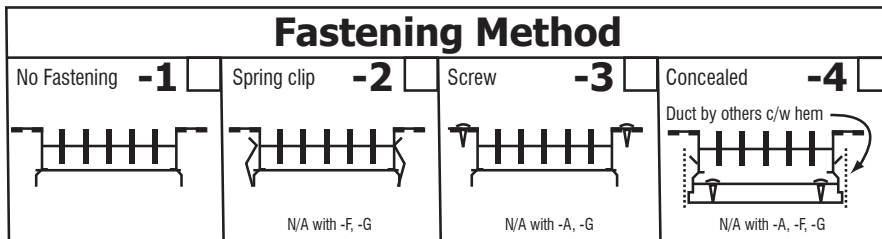
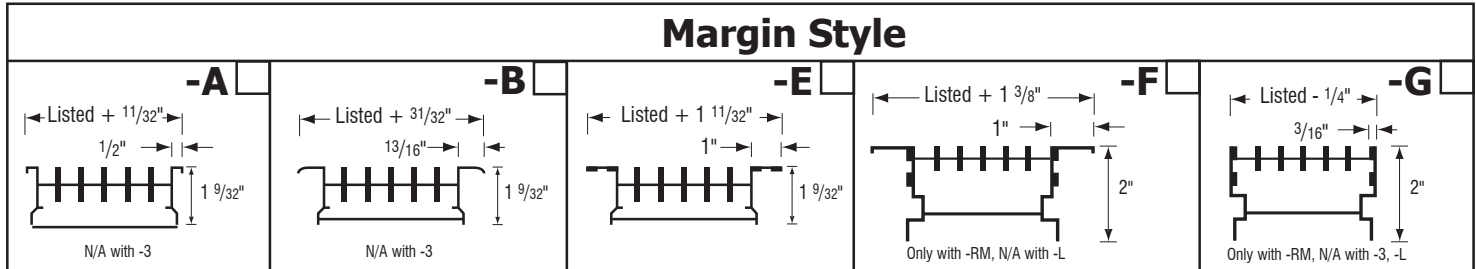
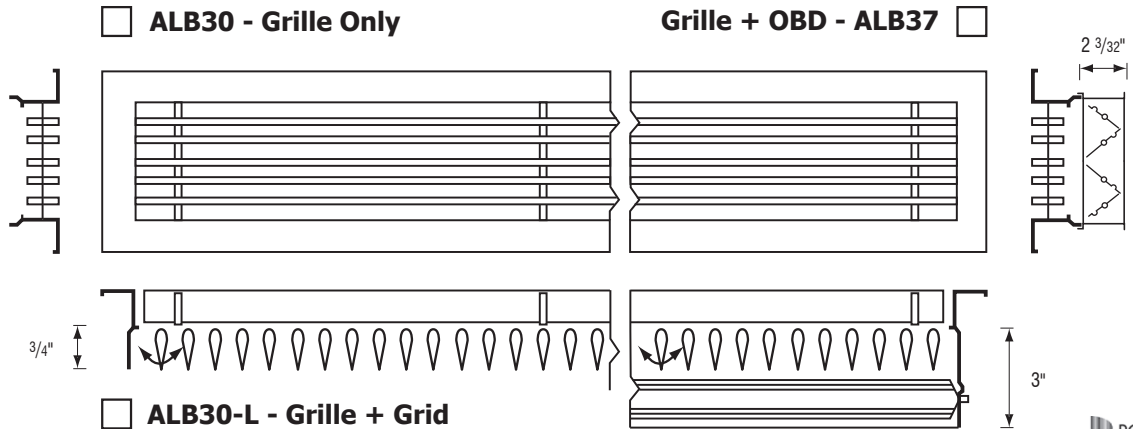
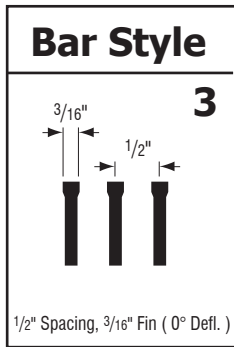
Material: Extruded aluminum
Length over 72 inches supplied as 2 or more sections

Opposed Blade Damper (optional):

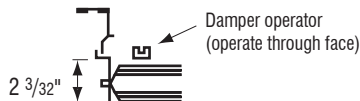
- Galvanized steel construction
- Key-operated through grille face



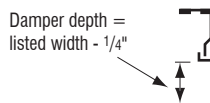
ALB30 / ALB37



#7 DAMPER FURNISHED ON LISTED WIDTHS OF 4" AND OVER (for 1" increments only)



#9 DAMPER FURNISHED ON LISTED WIDTHS UNDER 4"



All dimensions in inches
Dimensions shown contain expansion tolerances based on temperature rise of 40°F above the ambient temperature at which the material is fabricated.

Job: _____

Architect: _____

Engineer: _____

Contractor: _____

SUBMITTAL SHEET



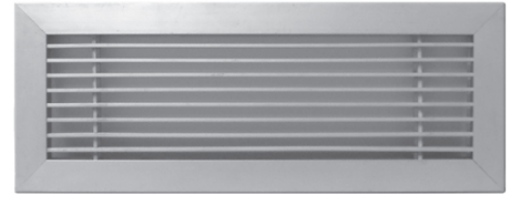
N° ALB40 / ALB47

ALB Architectural Linear Bar Grille

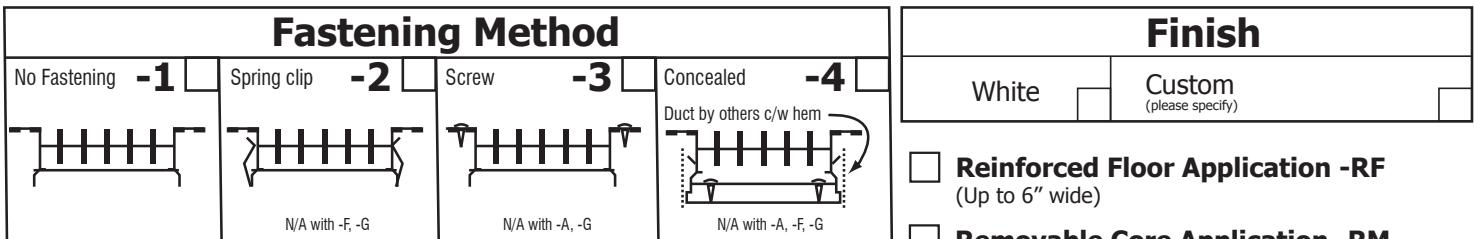
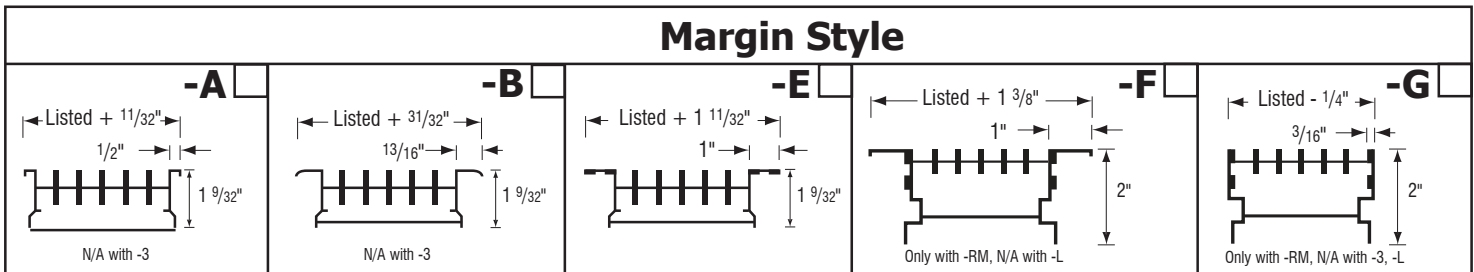
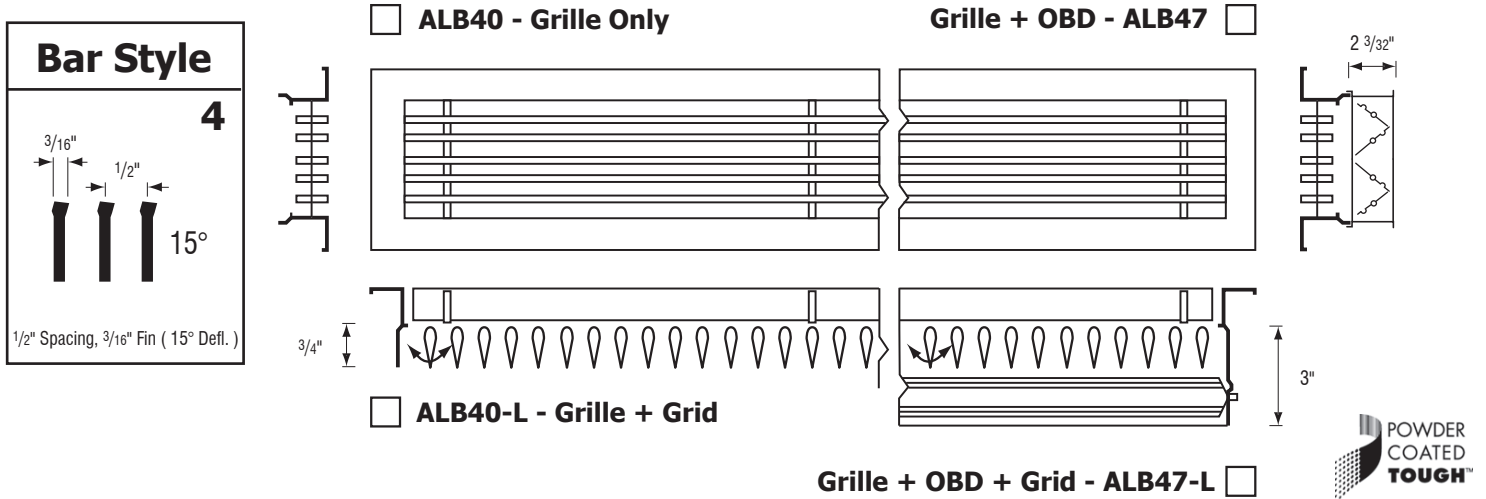
Material: Extruded aluminum
Length over 72 inches supplied as 2 or more sections

Opposed Blade Damper (optional):

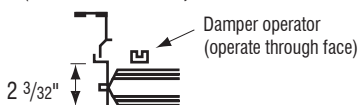
- Galvanized steel construction
- Key-operated through grille face



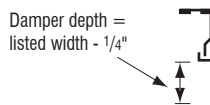
ALB40 / ALB47



#7 DAMPER FURNISHED ON LISTED WIDTHS OF 4" AND OVER (for 1" increments only)



#9 DAMPER FURNISHED ON LISTED WIDTHS UNDER 4"



All dimensions in inches
Dimensions shown contain expansion tolerances based on temperature rise of 40°F above the ambient temperature at which the material is fabricated.

Job: _____

Architect: _____

Engineer: _____

Contractor: _____

SUBMITTAL SHEET



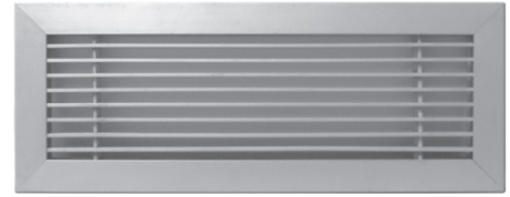
N° ALB50 / ALB57

ALB Architectural Linear Bar Grille

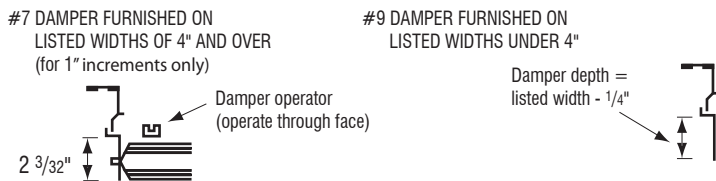
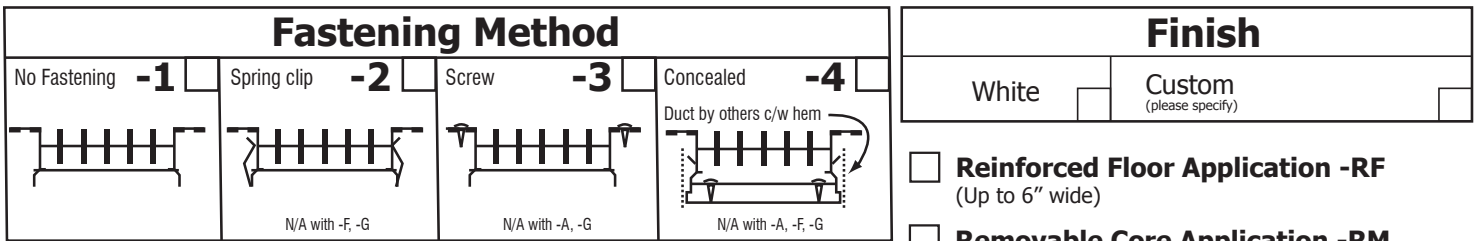
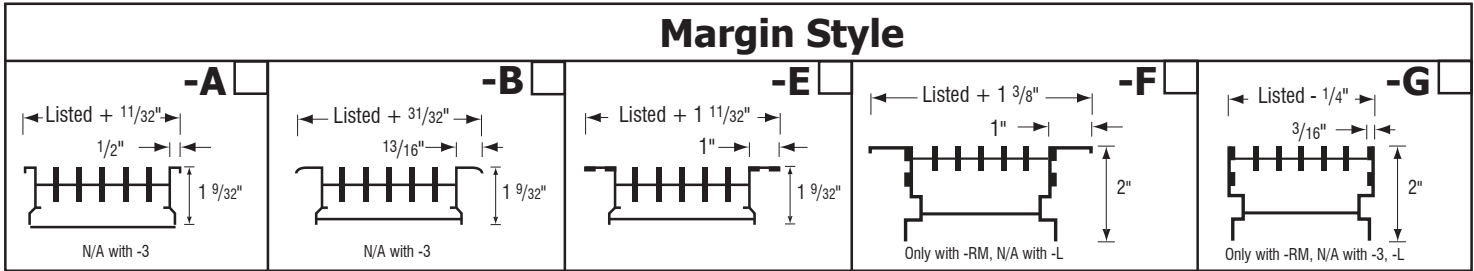
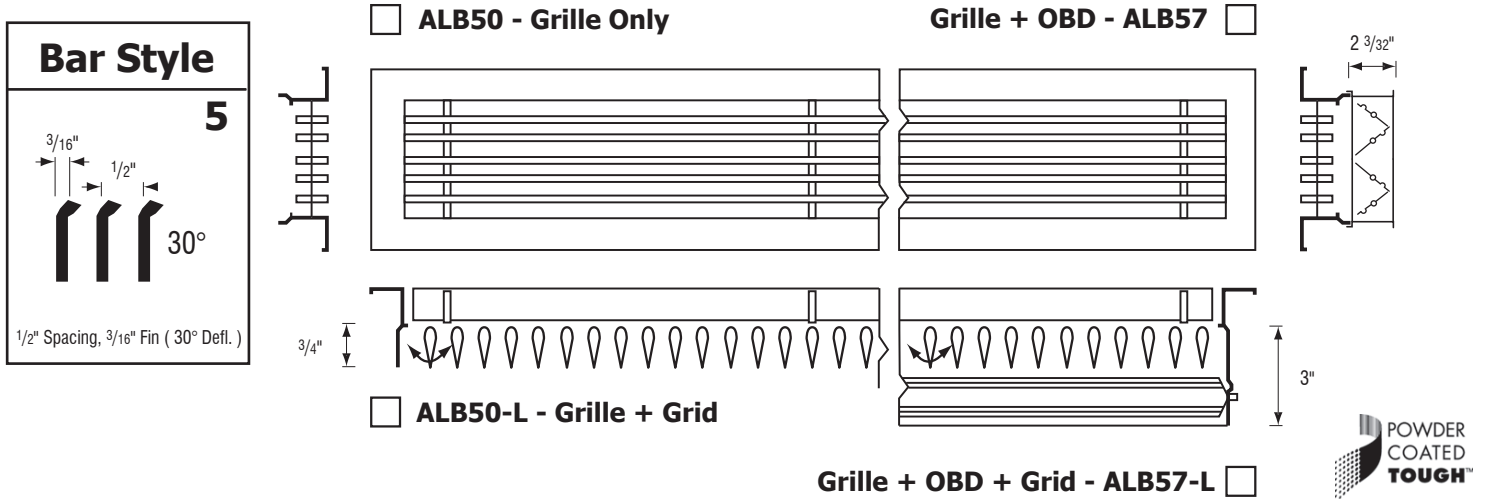
Material: Extruded aluminum
Length over 72 inches supplied as 2 or more sections

Opposed Blade Damper (optional):

- Galvanized steel construction
- Key-operated through grille face



ALB50 / ALB57



All dimensions in inches
Dimensions shown contain expansion tolerances based on temperature rise of 40°F above the ambient temperature at which the material is fabricated.

Job: _____

Architect: _____

Engineer: _____

Contractor: _____

SUBMITTAL SHEET



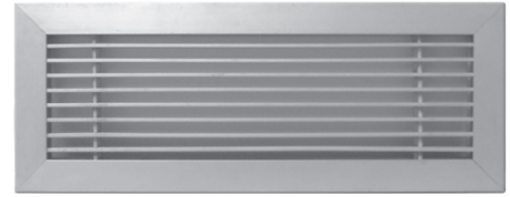
N° ALB60 / ALB67

ALB Architectural Linear Bar Grille

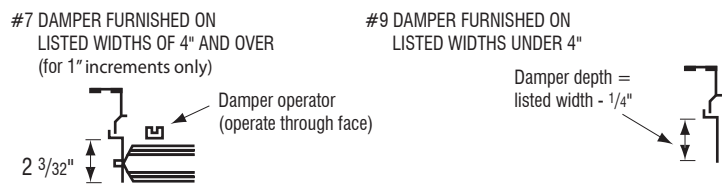
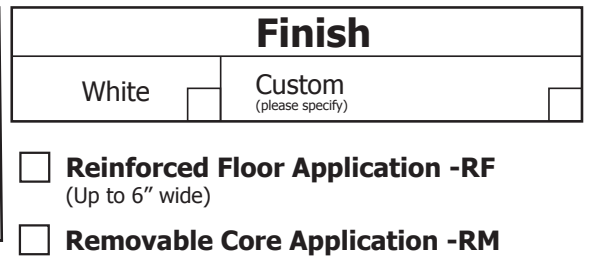
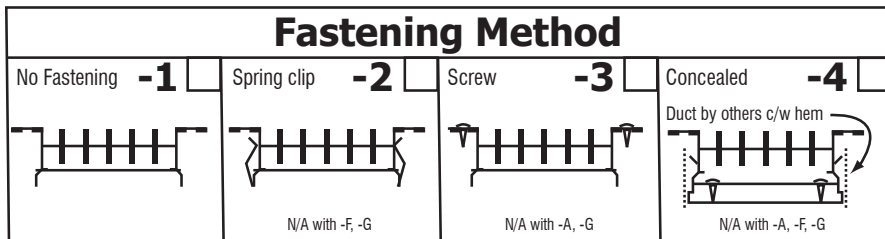
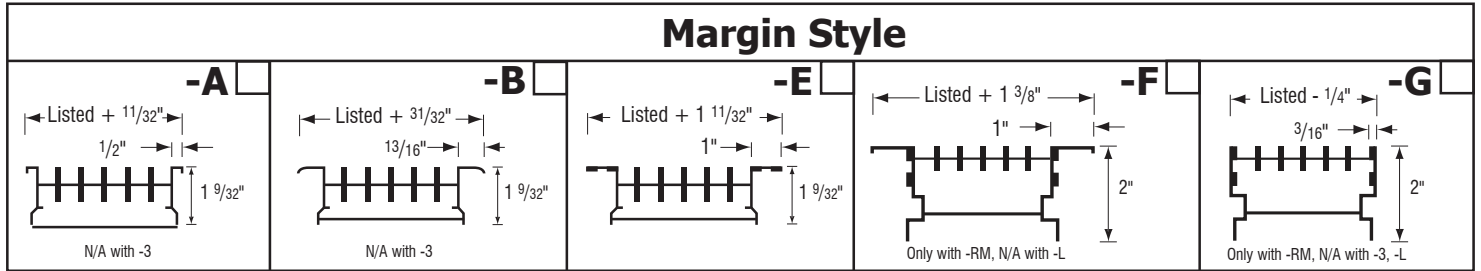
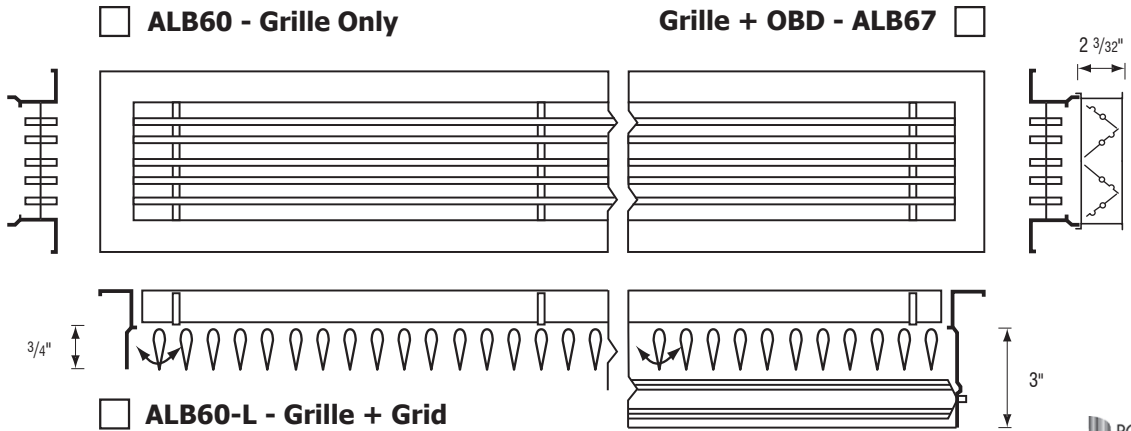
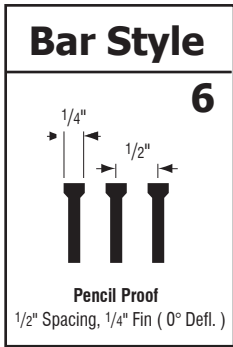
Material: Extruded aluminum
Length over 72 inches supplied as 2 or more sections

Opposed Blade Damper (optional):

- Galvanized steel construction
- Key-operated through grille face



ALB60 / ALB67



All dimensions in inches
Dimensions shown contain expansion tolerances based on temperature rise of 40°F above the ambient temperature at which the material is fabricated.

Job: _____

Architect: _____

Engineer: _____

Contractor: _____

SUBMITTAL SHEET



ALS10 / ALS17

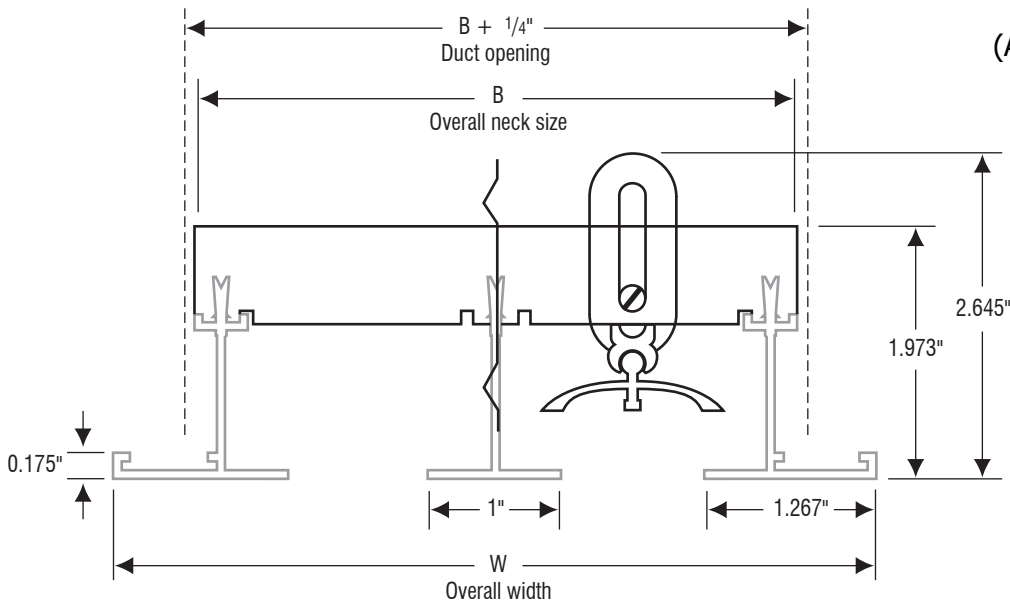
Linear 1" Slot Diffuser

Material: Extruded aluminum construction
Mounting: Surface or Lay-in T-bar ceiling.



- ALS10** without pattern-control damper
 ALS17 with pattern-control damper

ALS10 / ALS17
 (ALS17 two slots shown here)



Style	
Surface mounting	-E
Nominal + 7/8"	
T-bar mounting (N/A with -3, -4)	-T
Nominal - 1/4"	

✓	NO. OF SLOTS	B	W
	01	2 3/8"	3 17/32"
	02	4 3/8"	5 17/32"
	03	6 3/8"	7 17/32"
	04	8 3/8"	9 17/32"
	05	10 3/8"	11 17/32"
	06	12 3/8"	13 17/32"
	07	14 3/8"	15 17/32"
	08	16 3/8"	17 17/32"
	09	18 3/8"	19 17/32"
	10	20 3/8"	21 17/32"

Fastening Method		
No Fastening -1	Screw -3	Concealed -4
	 N/A with -T	 N/A with -T

Finish	
White	Custom (please specify)

Job: _____

Architect: _____

Engineer: _____

Contractor: _____

SUBMITTAL SHEET



ALS20 / ALS27

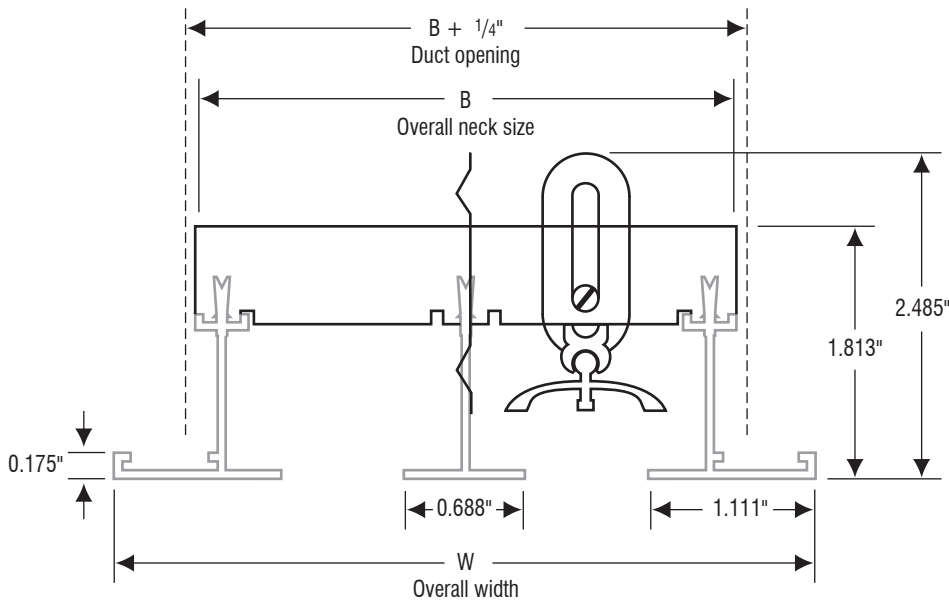
Linear 1/2" Slot Diffuser

Material: Extruded aluminum construction
Mounting: Surface or Lay-in T-bar ceiling.

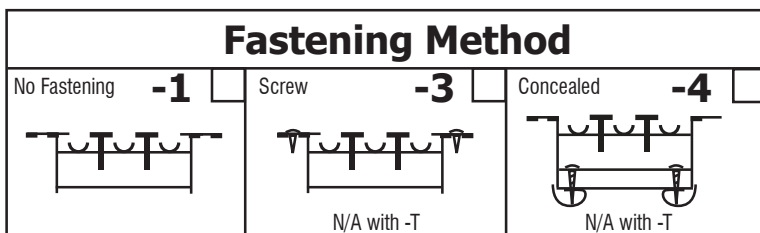
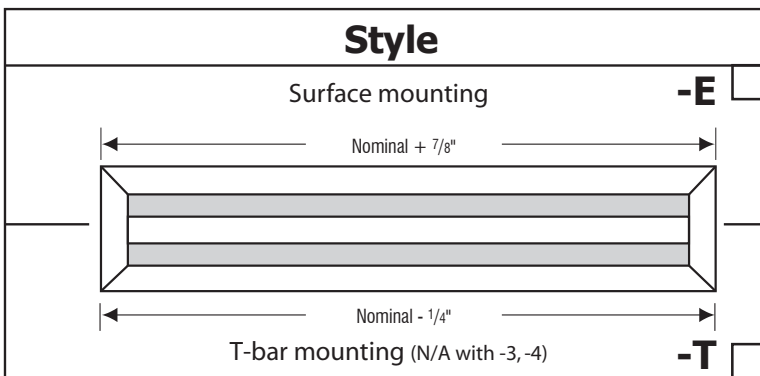


ALS20 without pattern-control damper
 ALS27 with pattern-control damper

ALS20 / ALS27
 (ALS27 two slots shown here)



✓	NO. OF SLOTS	B	W
	01	1 ⁹ / ₁₆ "	2 ²³ / ₃₂ "
	02	2 ³ / ₄ "	3 ²⁹ / ₃₂ "
	03	3 ¹⁵ / ₁₆ "	5 ³ / ₃₂ "
	04	5 ¹ / ₈ "	6 ⁹ / ₃₂ "
	05	6 ⁵ / ₁₆ "	7 ¹⁵ / ₃₂ "
	06	7 ¹ / ₂ "	8 ²¹ / ₃₂ "
	07	8 ¹¹ / ₁₆ "	9 ²⁷ / ₃₂ "
	08	9 ⁷ / ₈ "	11 ¹ / ₃₂ "
	09	11 ¹ / ₁₆ "	12 ⁷ / ₃₂ "
	10	12 ¹ / ₄ "	13 ¹³ / ₃₂ "



Job: _____

Architect: _____

Engineer: _____

Contractor: _____

SUBMITTAL SHEET



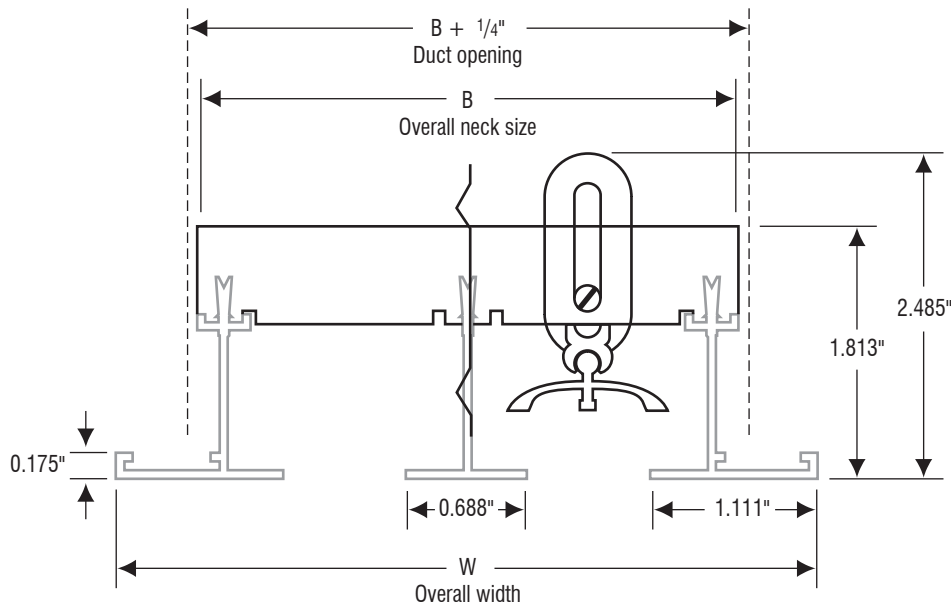
ALS30 / ALS37

Linear 3/4" Slot Diffuser

Material: Extruded aluminum construction
Mounting: Surface or Lay-in T-bar ceiling.



- ALS30** without pattern-control damper
 ALS37 with pattern-control damper



ALS30 / ALS37
 (ALS37 two slots shown here)



Style	
Surface mounting	-E <input type="checkbox"/>
T-bar mounting (N/A with -3, -4)	-T <input type="checkbox"/>

✓	NO. OF SLOTS	B	W
	01	1 13/16"	2 31/32"
	02	3 1/4"	4 13/32"
	03	4 11/16"	5 27/32"
	04	6 1/8"	7 9/32"
	05	7 9/16"	8 23/32"
	06	9"	10 5/32"
	07	10 7/16"	11 19/32"
	08	11 7/8"	13 1/32"
	09	13 5/16"	14 15/32"
	10	14 7/8"	15 29/32"

Fastening Method		
No Fastening -1 <input type="checkbox"/>	Screw -3 <input type="checkbox"/>	Concealed -4 <input type="checkbox"/>
	 N/A with -T	 N/A with -T

Finish	
White <input type="checkbox"/>	Custom (please specify) <input type="checkbox"/>

Job: _____

 Architect: _____
 Engineer: _____
 Contractor: _____

SUBMITTAL SHEET



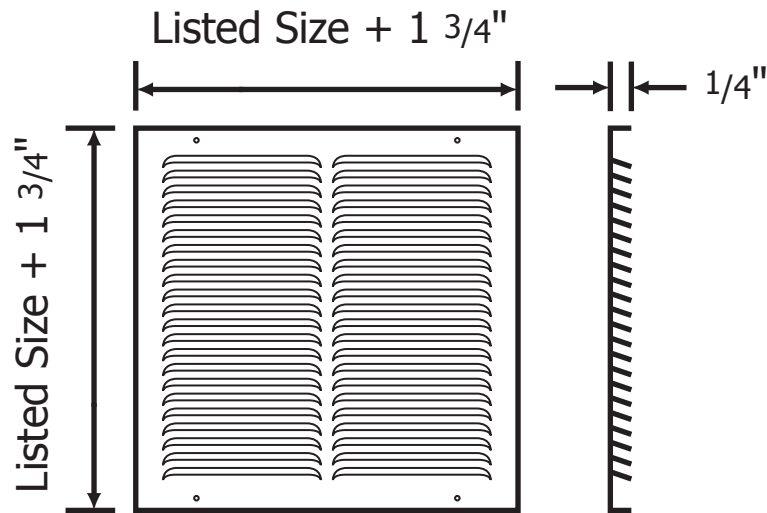
N° RR

Residential Return - Louvered Fixed air pattern

Material: Stamped heavy gauge steel.
Finish: Powder paint coating - white.
Air Pattern: Fixed
Mounting: Surface



RR Residential Return



Job:	_____
Architect:	_____
Engineer:	_____
Contractor:	_____
