

## DOOR/TRANSFER GRILLES

Nailor provides an assortment of door grilles that are designed to be completely sight proof and unobtrusive in appearance. They are constructed using extruded aluminum or steel materials. A fire-rated version is also available.

**Aluminum – Models 51DGD, 51DGS**

**Page F129**

**Steel – Models 61DGD, 61DGS, 61DGC**

**Page F130**

**Steel Fire Rated – Models 61DGD-FR**

**Page F131**



Models 51DGD, 61DGD-FR



Model 51RCD

## REVERSIBLE CORE

The versatile core in this series allows a combination of four different deflections and is removable without the need of special tools. Optional deflector vanes and an opposed blade damper are available for additional air control.

**Aluminum – Models 51RC, 51RCD**

**Page F134**

Suffix '-O' adds a steel OBD

Suffix '-OA' adds an aluminum OBD

## HEAVY DUTY EXTRUDED ALUMINUM BAR GRILLES AND REGISTERS

The grilles in this series are constructed to offer strength and durability for applications requiring strong impact resistance. The extruded aluminum frames are staked and welded, and the extruded aluminum blades are offered with a 0°, 15°, or 30° fixed deflection. Available for both supply and return air applications.

### SUPPLY AIR

#### FIXED FRONT BARS WITH REAR DEFLECTION VANES

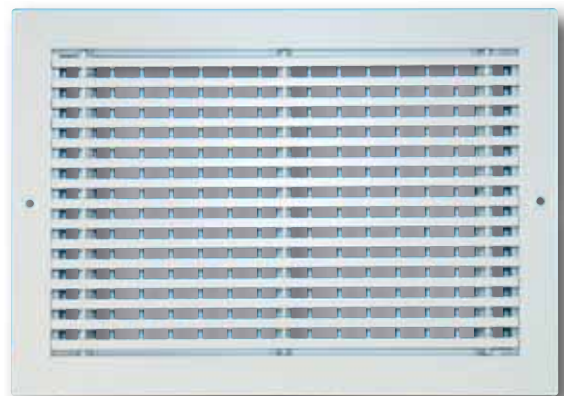
This supply air grille has adjustable rear vanes for directional control. The fixed extruded aluminum front blades are supported by a deep profile cross bar for strength.

**Models 51D30H-HD, 51D30V-HD, 51D15H-HD, 51D15V-HD, 51DFH-HD, 51DFV-HD**

**Page F139**

Suffix '-O' adds a steel OBD

Suffix '-OA' adds an aluminum OBD



Model 51D15H-HD

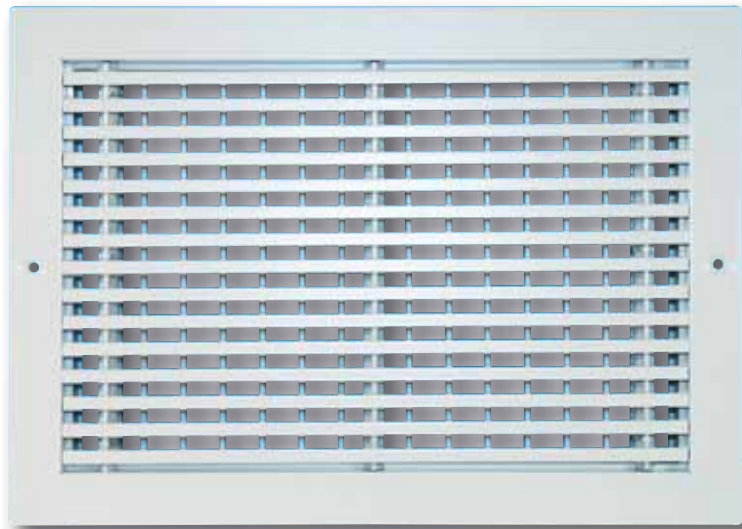
## ALUMINUM HEAVY DUTY BAR GRILLES AND REGISTERS

- SUPPLY

### Models:

- 51D30H-HD 30° Horizontal Blades
- 51D30V-HD 30° Vertical Blades
- 51D15H-HD 15° Horizontal Blades
- 51D15V-HD 15° Vertical Blades
- 51DFH-HD 0° Horizontal Blades
- 51DFV-HD 0° Vertical Blades

- Suffix '-O' adds a steel opposed blade damper
- Suffix '-OA' adds an aluminum opposed blade damper



Model 51D15H-HD

Nailor Model Series 51D00-HD Heavy Duty Supply Grilles and Registers are designed to combine heavy duty aluminum construction, pleasing architectural design and flexible air pattern versatility. They are constructed to offer the strength and durability required to withstand abuse in applications such as schools, gymnasiums, stairwells, hotels and other locations requiring strong impact resistance. The heavy duty extruded aluminum frame is staked and welded for maximum strength. Fixed front bars are reinforced and supported by a deep profile cross-bar on maximum 8" (203) centers. All models are supplied with a set of friction pivoted rear vanes on 3/4" (19) centers that are individually adjustable for directional control and air pattern spread.

### STANDARD FEATURES:

- Fixed front bars on 1/2" (13) centers are available in 0°, 15° or 30° deflection.
- 0° and 15° models feature 1/8" (3) bars and the 30° model features 1/4" (6) bars.
- Rear deflection vanes on 3/4" (19) centers are friction pivoted and adjustable in order to provide directional control and air pattern spread.
- 1" (25) wide face border with a 3/4" (19) overlap margin is standard, furnished with countersunk screw holes and mounting screws. Concealed mounting is optional.

- Available in sizes from 6" x 4" to 48" x 36" (152 x 102 to 1219 x 910) in single section construction.

### CONSTRUCTION MATERIAL:

- High quality heavy duty extruded aluminum frame with reinforced mitered corners.
- Optional steel opposed blade damper has a screwdriver slot operator for adjustment through the face of the register.
- Optional aluminum opposed blade damper is available.

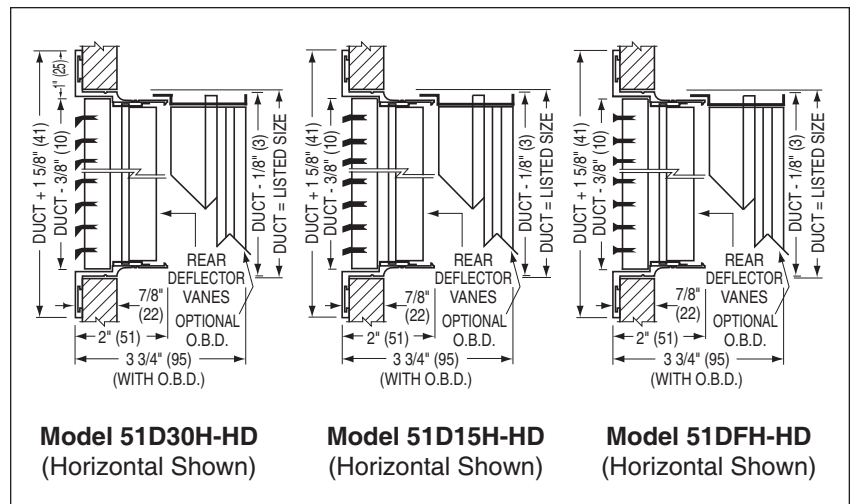
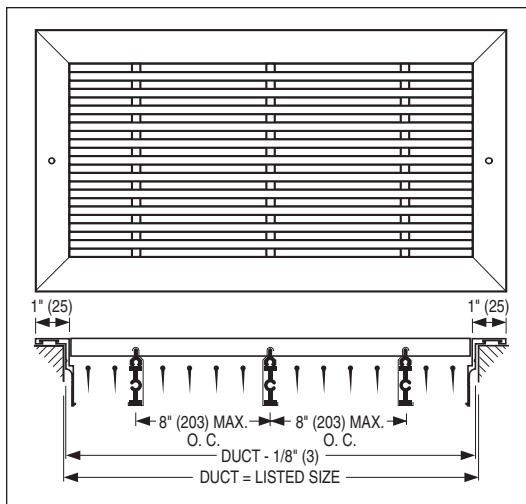
### FINISH OPTIONS:

- AW Appliance White finish is standard. Other finishes are available.

### OPTIONS AND ACCESSORIES:

- IS Insect Screen
- PF Plaster Frame
- GK Foam Gasket
- EQT Earthquake Tabs

For additional options and accessories, see page F191.



Model 51D30H-HD  
(Horizontal Shown)

Model 51D15H-HD  
(Horizontal Shown)

Model 51DFH-HD  
(Horizontal Shown)

## PERFORMANCE DATA:

### ALUMINUM HEAVY DUTY BAR GRILLES AND REGISTERS • 51D00-HD SERIES

#### MODELS: 51D30H-HD, 51D30V-HD, 51D15H-HD, 51D15V-HD, 51DFH-HD, 51DFV-HD

Listed Duct Size (inches)	Alternate Sizes (inches)	Core Area (sq. ft.)	Ak Factor	Core Velocity		200	300	400	500	600	700	800	900	1000	
				Velocity	Pressure	.003	.006	.010	.016	.022	.031	.040	.051	.062	
				Total Pressure	0° 22 1/2° 45°	.014 .016 .025	.031 .037 .057	.057 .064 .099	.088 .101 .154	.127 .146 .220	.174 .199 .304	.228 .261 .400	.287 .330 .503	.353 .408 .620	
6 x 6	8 x 4 10 x 4	0.20		CFM		40	60	80	100	120	140	160	180	200	
				Noise Criteria		-	-	-	-	24	29	33	36	39	
				Throw	0° 22 1/2° 45°	2-5-10 2-4-8 1-2-5	5-7-13 4-6-10 3-4-7	7-9-16 6-7-13 4-5-8	8-12-18 6-10-14 4-6-9	10-14-20 8-11-16 5-7-10	11-15-21 9-12-17 6-8-11	12-16-23 10-13-18 6-8-12	14-17-24 11-14-19 7-8-12	15-18-25 12-14-20 8-9-13	
8 x 6	10 x 5 12 x 4	0.27		CFM		54	81	108	135	162	189	216	243	270	
				Noise Criteria		-	-	-	-	20	25	30	34	37	40
				Throw	0° 22 1/2° 45°	2-5-12 2-4-10 1-2-6	5-8-15 4-6-12 3-4-8	8-12-18 6-10-14 4-6-9	10-14-20 8-11-16 5-7-10	11-16-23 9-13-18 6-8-12	13-18-25 10-14-20 7-9-13	15-19-27 12-15-22 8-10-14	16-20-28 13-16-22 8-10-14	17-21-30 14-17-24 9-11-15	
10 x 6	12 x 5 16 x 4	0.35		CFM		70	105	140	175	210	245	280	315	350	
				Noise Criteria		-	-	-	-	21	26	31	35	38	41
				Throw	0° 22 1/2° 45°	3-6-14 2-5-11 1-3-7	6-9-18 5-7-14 3-5-9	9-13-21 7-10-17 5-7-11	10-16-24 8-13-19 5-8-12	12-19-26 10-15-21 6-10-13	15-20-28 12-16-22 8-10-14	17-21-30 14-17-24 9-11-15	19-22-31 15-18-25 9-11-15	20-23-33 16-18-26 10-12-17	
8 x 8	14 x 5	0.38		CFM		76	114	152	190	228	266	304	342	380	
				Noise Criteria		-	-	-	-	22	27	33	36	39	43
				Throw	0° 22 1/2° 45°	3-6-15 2-5-12 1-3-7	6-9-19 5-7-15 3-5-10	9-14-22 7-11-18 5-7-11	11-16-25 9-13-20 6-8-13	13-19-27 10-15-22 7-10-14	16-21-29 13-17-23 8-11-15	18-22-32 14-18-26 9-11-16	18-23-32 14-18-26 9-11-16	19-24-34 15-19-27 10-12-17	
12 x 6	18 x 4	0.42		CFM		84	126	168	210	252	294	336	378	420	
				Noise Criteria		-	-	-	-	22	27	33	36	39	42
				Throw	0° 22 1/2° 45°	3-6-15 2-5-12 1-3-7	6-9-19 5-7-15 3-5-10	9-14-22 7-11-18 5-7-11	11-16-25 9-13-20 6-8-13	13-19-27 10-15-22 7-10-14	16-21-30 13-17-24 8-11-15	18-22-32 14-18-26 9-11-16	18-23-32 14-18-26 9-11-16	19-11-16 15-19-27 10-12-17	
14 x 6	10 x 8	0.50		CFM		100	150	200	250	300	350	400	450	500	
				Noise Criteria		-	-	-	-	23	28	33	37	40	43
				Throw	0° 22 1/2° 45°	3-7-16 2-6-13 1-3-8	6-11-20 5-9-16 3-6-10	10-15-23 8-12-18 5-8-12	12-18-25 10-14-20 6-9-13	15-20-28 12-16-22 8-10-14	16-22-31 13-18-25 8-11-16	19-23-33 15-18-26 10-12-17	20-24-34 16-19-27 10-12-17	21-25-36 17-20-29 11-13-18	
12 x 8	16 x 6 24 x 4	0.58		CFM		116	174	232	290	348	406	464	522	580	
				Noise Criteria		-	-	-	-	25	29	34	38	41	44
				Throw	0° 22 1/2° 45°	3-7-17 2-6-14 1-3-8	7-11-21 6-9-17 4-6-11	10-15-24 8-12-19 5-8-12	12-19-27 10-15-22 6-10-14	15-21-30 12-17-24 8-11-15	17-23-32 14-18-26 9-12-16	20-24-34 16-19-27 10-12-17	21-26-36 17-21-29 10-13-18	22-27-38 18-22-30 11-14-19	
10 x 10	14 x 7 26 x 4	0.61		CFM		122	183	244	305	366	427	488	549	610	
				Noise Criteria		-	-	-	-	24	29	34	38	41	44
				Throw	0° 22 1/2° 45°	3-7-17 2-6-14 1-3-8	7-11-21 6-9-17 4-6-11	10-16-24 8-13-19 5-8-12	13-19-28 10-15-22 7-10-14	16-21-30 13-17-24 8-11-15	17-23-32 14-18-26 9-12-16	20-24-35 16-19-28 10-12-18	22-27-37 18-22-30 11-13-18	23-28-39 18-22-31 12-14-20	
18 x 6	14 x 8 28 x 4 30 x 4	0.65		CFM		130	195	260	325	390	455	520	585	650	
				Noise Criteria		-	-	-	-	25	30	35	39	42	45
				Throw	0° 22 1/2° 45°	3-8-18 2-6-14 1-3-9	7-12-22 6-10-18 4-6-11	11-16-25 9-13-20 6-8-13	13-20-29 10-16-23 7-10-15	16-22-32 13-18-26 8-11-16	18-24-34 14-19-27 9-12-17	21-25-36 17-20-29 11-13-18	23-27-38 18-22-30 11-13-19	24-29-40 19-23-32 12-15-20	
12 x 10	20 x 6 24 x 5	0.74		CFM		148	222	296	370	444	518	592	666	740	
				Noise Criteria		-	-	-	-	25	30	35	39	42	45
				Throw	0° 22 1/2° 45°	4-8-19 3-6-15 1-3-9	8-13-24 6-10-19 4-7-12	11-17-27 9-14-22 6-9-14	14-21-31 11-17-25 7-11-16	17-24-33 14-19-26 9-12-17	20-26-36 16-21-29 10-13-18	22-27-39 18-22-31 11-14-20	24-29-41 19-23-33 12-14-20	25-31-43 20-25-34 13-16-22	
22 x 6	16 x 8 28 x 5 36 x 4	0.80		CFM		160	240	320	400	480	560	640	720	800	
				Noise Criteria		-	-	-	-	26	31	36	40	43	46
				Throw	0° 22 1/2° 45°	4-8-20 3-6-16 1-3-10	8-13-25 6-10-20 4-7-13	11-18-28 9-14-22 6-9-14	15-22-32 12-18-26 8-11-16	18-25-35 14-20-28 9-13-18	20-27-38 16-22-30 10-14-19	23-28-41 18-22-33 12-14-21	25-30-43 20-24-34 12-15-21	26-32-45 21-26-36 13-16-23	
12 x 12	14 x 10 18 x 8 24 x 6 38 x 4	0.90		CFM		180	270	360	450	540	630	720	810	900	
				Noise Criteria		-	-	-	-	26	31	36	40	43	46
				Throw	0° 22 1/2° 45°	4-9-21 3-7-17 1-4-10	9-14-26 7-11-21 5-7-13	12-18-29 10-14-23 6-9-15	15-23-33 12-18-26 8-12-17	18-26-36 14-21-29 9-13-18	21-27-39 17-22-31 11-14-20	24-29-42 19-23-34 12-15-21	26-31-45 21-25-36 13-15-22	27-33-47 22-26-38 14-17-24	

For performance data notes, see F142.

## PERFORMANCE DATA:

### ALUMINUM HEAVY DUTY BAR GRILLES AND REGISTERS • 51D00-HD SERIES

MODELS: 51D30H-HD, 51D30V-HD, 51D15H-HD, 51D15V-HD, 51DFH-HD, 51DFV-HD

Listed Duct Size (inches)	Alternate Sizes (inches)	Core Area (sq. ft.)	Ak Factor	Core Velocity		200	300	400	500	600	700	800	900	1000
				Velocity	Pressure	.003	.006	.010	.016	.022	.031	.040	.051	.062
				0°	22 1/2°	.014	.031	.057	.088	.127	.174	.228	.287	.353
18 x 10	30 x 6	1.13		CFM		226	339	452	565	678	791	904	1130	1130
				Noise Criteria		-	-	20	27	32	37	41	44	47
				Throw	0°	4-10-23	9-15-29	14-20-33	17-25-36	20-29-40	24-30-43	27-33-46	28-34-48	30-36-51
				22 1/2°	3-8-18	7-12-23	11-16-26	14-20-29	16-23-32	19-24-34	22-26-37	22-27-38	24-29-41	
				45°	1-5-11	5-8-15	7-10-17	9-13-18	10-15-20	12-15-22	14-17-23	14-17-23	15-18-26	
14 x 14	16 x 12 20 x 10 24 x 8 34 x 6	1.24		CFM		248	372	496	620	744	868	992	1116	1240
				Noise Criteria		-	-	20	27	32	37	41	44	47
				Throw	0°	5-12-26	11-18-33	16-25-39	20-29-42	24-33-47	27-36-51	31-39-54	33-40-57	35-42-60
				22 1/2°	4-10-21	9-14-26	13-20-31	16-23-34	19-26-38	22-29-41	25-31-43	26-32-46	28-34-48	
				45°	2-6-13	6-9-17	8-13-20	10-15-21	12-17-24	14-18-26	16-20-27	16-20-28	18-21-30	
18 x 12	16 x 14 22 x 10 28 x 8 38 x 6	1.37		CFM		274	411	548	685	822	959	1096	1233	1370
				Noise Criteria		-	-	21	28	33	38	42	45	48
				Throw	0°	5-12-26	11-18-33	16-25-39	20-29-42	24-33-47	27-36-51	31-39-54	33-41-58	35-43-61
				22 1/2°	4-10-21	9-14-26	13-20-31	16-23-34	19-26-38	22-29-41	25-31-43	26-32-46	28-34-49	
				45°	2-6-13	6-9-17	8-13-20	10-15-21	12-17-24	14-18-26	16-20-27	16-20-29	18-22-31	
24 x 10	20 x 12 30 x 8	1.52		CFM		304	456	608	760	912	1064	1216	1368	1520
				Noise Criteria		-	-	21	28	33	38	42	45	48
				Throw	0°	6-12-28	12-19-35	16-25-41	21-32-45	25-35-50	29-38-53	34-41-57	35-43-61	37-45-64
				22 1/2°	5-10-22	10-15-28	13-20-33	17-26-36	20-28-40	23-30-42	27-33-46	28-34-49	30-36-51	
				45°	3-6-14	6-10-18	8-13-21	11-16-23	13-18-25	15-19-27	17-21-29	17-21-30	19-23-32	
16 x 16	18 x 14 22 x 12 30 x 8	1.64		CFM		328	492	656	820	984	1148	1312	1476	1640
				Noise Criteria		-	-	21	28	33	38	42	45	48
				Throw	0°	6-13-30	12-20-37	17-26-42	22-32-47	26-37-51	31-40-56	35-42-59	37-45-64	39-47-67
				22 1/2°	5-10-24	10-16-30	14-21-34	18-26-38	21-30-41	25-32-45	28-34-47	30-36-51	31-38-54	
				45°	3-6-15	6-10-19	9-13-21	11-16-24	13-19-26	16-20-28	18-21-30	18-22-32	20-24-34	
24 x 12	18 x 16 22 x 14 30 x 10 36 x 8	1.85		CFM		370	555	740	925	1110	1295	1480	1665	1850
				Noise Criteria		-	15	22	29	34	39	43	46	49
				Throw	0°	6-13-30	12-20-38	18-27-44	22-33-48	27-38-54	32-40-58	36-44-62	38-46-65	40-48-69
				22 1/2°	5-10-24	10-16-30	14-22-35	18-26-38	22-30-43	26-32-46	29-35-50	30-37-52	32-38-55	
				45°	3-6-15	6-10-19	9-14-22	11-17-24	14-19-27	16-20-29	18-22-31	19-23-32	20-24-35	
18 x 18	20 x 16 24 x 14 28 x 12 32 x 10	2.10		CFM		420	630	840	1050	1260	1470	1680	1890	2100
				Noise Criteria		-	15	22	29	34	39	43	46	49
				Throw	0°	6-14-32	13-21-40	19-29-47	24-36-52	29-40-57	33-43-62	38-47-66	40-49-70	42-52-74
				22 1/2°	5-11-26	10-17-32	15-23-38	19-29-42	23-32-46	26-34-50	30-38-53	32-39-66	34-42-59	
				45°	3-7-16	7-11-20	10-15-24	12-18-26	15-20-29	17-22-31	19-24-33	20-24-35	21-26-37	
30 x 12	20 x 18 22 x 16 26 x 14 36 x 10	2.32		CFM		464	696	928	1160	1392	1624	1856	2088	2320
				Noise Criteria		-	16	23	30	35	40	44	47	50
				Throw	0°	7-15-34	14-23-43	21-31-50	26-39-56	31-43-61	36-47-67	41-50-71	44-53-75	46-56-79
				22 1/2°	6-12-27	11-18-34	17-25-40	21-31-45	25-34-49	29-38-54	33-40-57	35-42-60	32-45-63	
				45°	3-7-17	7-12-22	11-16-25	13-20-28	16-22-31	18-24-34	21-25-36	22-26-37	23-28-40	
24 x 16	32 x 12	2.50		CFM		500	750	1000	1250	1500	1750	2000	2250	2500
				Noise Criteria		-	16	23	30	35	40	44	47	50
				Throw	0°	7-16-36	14-24-45	22-32-52	27-40-58	32-45-64	37-49-68	43-52-74	46-55-78	48-58-82
				22 1/2°	6-13-29	11-19-36	18-26-42	22-32-46	26-36-51	30-39-54	34-42-59	37-44-62	38-46-66	
				45°	3-8-18	7-12-23	11-16-26	14-20-29	16-23-32	19-25-34	22-26-37	23-27-39	24-29-41	
20 x 20	22 x 18	2.61		CFM		522	783	1044	1305	1566	1827	2088	2349	2610
				Noise Criteria		-	16	23	30	35	40	44	47	50
				Throw	0°	7-16-37	15-24-46	22-32-53	27-41-59	32-46-65	38-50-70	44-53-75	46-56-80	49-59-84
				22 1/2°	6-13-30	12-19-37	18-26-42	22-33-47	26-37-52	30-40-56	35-42-60	37-45-64	39-47-67	
				45°	3-8-18	8-12-23	11-16-27	14-21-30	16-23-33	19-25-35	22-27-38	23-28-40	25-30-42	
36 x 12	22 x 20 24 x 18 26 x 16 30 x 14	2.79		CFM		558	837	1116	1395	1674	1953	2232	2511	2790
				Noise Criteria		-	16	23	30	35	40	44	47	50
				Throw	0°	7-16-38	15-25-48	23-34-55	28-42-61	34-48-68	4-51-73	45-55-77	47-58-82	50-61-86
				22 1/2°	6-13-30	12-20-38	18-27-44	22-34-49	27-38-54	32-41-58	36-44-62	38-46-66	40-49-69	
				45°	3-8-19	8-13-24	12-17-28	14-21-31	17-24-34	20-26-37	23-28-39	23-29-41	25-31-43	
22 x 22	24 x 20 26 x 18 30 x 16 40 x 12	3.17		CFM		634	951	1268	1585	1902	2219	2536	2853	3170
				Noise Criteria		-	17	24	31	36	41	45	48	51
				Throw	0°	8-18-40	17-27-50	24-36-58	29-45-65	36-50-71	42-54-77	47-58-82	50-62-87	53-65-92
				22 1/2°	6-14-32	14-22-40	19-29-46	23-36-52	29-40-57	34-43-62	38-46-66	40-50-70	42-52-74	
				45°	4-9-20	9-14-25	12-18-29	15-23-33	18-25-36	21-27-39	24-29-41	25-31-43	27-33-46	

GRILLES AND REGISTERS

F

For performance data notes, see F142.

## PERFORMANCE DATA:

### ALUMINUM HEAVY DUTY BAR GRILLES AND REGISTERS • 51D00-HD SERIES

#### MODELS: 51D30H-HD, 51D30V-HD, 51D15H-HD, 51D15V-HD, 51DFH-HD, 51DFV-HD

Listed Duct Size (inches)	Alternate Sizes (inches)	Core Area (sq. ft.)	Ak Factor	Core Velocity		200	300	400	500	600	700	800	900	1000
				Velocity	Pressure	.003	.006	.010	.016	.022	.031	.040	.051	.062
				0°	22 1/2°	.014	.031	.057	.088	.127	.174	.228	.287	.353
Total Pressure		45°	.016	.037	.064	.101	.146	.199	.261	.330	.408			
					.025	.057	.099	.154	.220	.304	.400	.503	.620	
42 x 12	36 x 14	3.27	1.68 1.56 1.44	CFM	654	981	1308	1635	1962	2289	2616	2943	3270	
				Noise Criteria	-	17	24	31	36	41	45	48	51	
				Throw	0°	8-18-41	17-27-51	24-36-59	30-45-66	36-51-72	42-55-77	48-59-83	50-63-88	53-66-93
				22 1/2°	6-14-33	14-22-41	19-29-47	24-36-53	29-41-58	34-44-58	38-47-66	40-50-70	42-53-74	
				45°	4-9-20	9-14-26	12-18-30	15-23-33	18-26-36	24-30-42	25-31-44	27-33-47		
30 x 18	24 x 22 34 x 16 40 x 14	3.54	1.81 1.68 1.56	CFM	708	1062	1416	1770	2124	2478	2832	3186	3540	
				Noise Criteria	-	17	24	31	36	41	45	48	51	
				Throw	0°	9-18-42	18-28-53	25-37-61	31-47-69	37-53-75	44-57-81	50-61-86	53-65-92	56-69-97
				22 1/2°	7-14-34	14-22-42	20-30-49	25-38-55	30-42-60	35-46-65	40-49-69	42-52-74	45-55-78	
				45°	4-9-20	9-14-27	13-19-31	16-24-35	19-27-38	22-29-41	25-31-43	26-32-46	28-35-49	
24 x 24	26 x 22 28 x 20 32 x 18 36 x 16	3.79	1.93 1.80 1.66	CFM	758	1137	1516	1895	2274	2653	3032	3411	3790	
				Noise Criteria	-	17	24	31	36	41	45	48	51	
				Throw	0°	9-19-44	18-29-55	26-39-62	33-48-70	39-55-77	45-59-83	51-62-89	54-66-94	57-70-99
				22 1/2°	7-15-35	14-23-44	21-31-50	26-38-56	31-44-62	36-47-66	41-50-71	45-53-75	46-56-79	
				45°	4-9-22	9-15-28	13-20-31	17-24-35	20-28-39	23-30-42	26-31-45	27-33-47	29-35-50	
36 x 18	32 x 20 40 x 16 46 x 14	4.29	2.18 2.03 1.87	CFM	858	1287	1716	2145	2574	3003	3432	3861	4290	
				Noise Criteria	-	18	25	32	37	42	46	49	52	
				Throw	0°	9-20-46	19-31-58	28-42-68	35-52-75	42-58-83	48-63-89	55-68-95	58-71-101	61-75-106
				22 1/2°	7-16-37	15-25-46	22-34-54	28-42-60	34-46-66	38-50-71	44-54-76	46-57-81	49-60-85	
				45°	4-10-23	10-16-29	14-21-34	18-26-38	21-29-42	24-32-45	28-34-48	29-35-50	31-38-53	
26 x 26	28 x 24 48 x 14	4.47	2.25 2.10 1.93	CFM	894	1341	1788	2235	2682	3129	3576	4023	4470	
				Noise Criteria	-	18	25	32	37	42	46	49	52	
				Throw	0°	9-21-47	19-32-59	28-43-69	35-53-77	43-59-85	49-65-91	56-69-98	60-73-103	63-77-109
				22 1/2°	7-17-38	15-26-47	22-34-55	28-42-62	34-47-68	39-52-73	45-55-78	48-58-82	50-62-87	
				45°	4-10-23	10-16-30	14-22-35	18-27-32	22-30-43	25-33-46	28-35-49	30-36-51	32-39-55	
30 x 24	32 x 22 36 x 20 40 x 18	4.77	2.42 2.25 2.08	CFM	954	1431	1908	2385	2862	3339	3816	4293	4770	
				Noise Criteria	-	18	25	32	37	42	46	49	52	
				Throw	0°	10-22-49	20-33-61	29-44-71	36-54-79	44-61-87	51-67-94	58-71-101	62-75-106	65-79-112
				22 1/2°	8-18-39	16-26-49	23-35-57	29-43-63	35-49-70	41-54-75	46-57-81	50-60-85	52-63-90	
				45°	5-11-24	10-17-31	15-22-36	18-27-40	22-31-44	26-34-47	29-36-51	31-37-53	33-40-56	
28 x 28	30 x 26 36 x 22 40 x 20	5.20	2.66 2.48 2.29	CFM	1040	1560	2080	2600	3120	3640	4160	4680	5200	
				Noise Criteria	-	19	26	33	38	43	47	50	53	
				Throw	0°	10-22-50	21-34-63	30-45-74	38-56-82	45-63-90	53-69-97	60-74-104	64-78-110	67-82-116
				22 1/2°	8-18-40	17-27-50	24-36-59	30-45-66	36-50-72	42-55-78	48-59-83	51-62-88	54-66-93	
				45°	5-11-25	11-17-32	15-23-37	19-28-41	23-32-45	27-35-49	30-37-52	32-39-55	34-41-58	
36 x 24	40 x 22 44 x 20	5.74	2.91 2.71 2.50	CFM	1148	1722	2296	2870	3444	4018	4592	5166	5740	
				Noise Criteria	-	19	26	33	38	43	47	50	53	
				Throw	0°	11-24-54	23-36-68	32-49-78	41-60-88	49-68-96	57-74-104	64-78-112	68-84-118	72-88-124
				22 1/2°	9-19-43	18-29-54	26-39-62	33-48-70	39-54-77	46-59-83	51-62-90	54-67-94	58-70-99	
				45°	5-12-27	12-18-34	16-25-39	21-30-44	25-34-48	29-37-52	32-39-56	34-42-59	36-44-62	
42 x 24	36 x 28 42 x 24 46 x 22	6.72	3.40 3.16 2.31	CFM	1344	2016	2688	3360	4032	4704	5376	6048	6720	
				Noise Criteria	-	20	27	34	39	44	48	51	54	
				Throw	0°	12-26-58	24-39-72	34-51-83	43-64-93	51-72-102	60-78-111	68-84-118	73-88-125	77-93-132
				22 1/2°	10-21-46	19-31-58	27-41-67	34-51-74	41-58-82	48-62-89	54-67-94	58-70-100	62-74-106	
				45°	6-13-29	12-20-36	17-26-42	22-32-47	26-36-51	30-39-56	34-42-59	36-44-62	39-47-66	
36 x 30	38 x 28	7.22	3.64 3.39 3.13	CFM	1444	2166	2888	3610	4332	5054	5776	6498	7220	
				Noise Criteria	-	20	27	34	39	44	48	51	54	
				Throw	0°	12-26-61	25-40-76	36-54-87	45-68-98	54-76-108	63-82-116	71-87-124	76-93-132	80-98-139
				22 1/2°	10-21-49	20-32-61	29-43-70	36-54-78	43-61-86	50-66-93	57-70-99	61-74-106	64-78-111	
				45°	6-13-30	13-20-38	18-27-44	23-34-49	27-38-54	32-41-58	36-44-62	38-46-66	40-49-70	
48 x 24	34 x 34 36 x 32 38 x 30 42 x 28	7.69	3.88 3.61 3.34	CFM	1538	2307	3076	3845	4614	5383	6152	6921	7690	
				Noise Criteria	-	21	28	35	40	45	49	52	55	
				Throw	0°	13-27-62	26-41-77	37-55-90	46-69-100	55-77-109	64-84-118	73-90-127	78-95-135	82-200-142
				22 1/2°	10-22-50	21-33-62	30-44-72	37-55-80	44-62-87	51-67-94	58-72-102	62-76-108	66-80-114	
				45°	6-13-31	13-22-39	19-28-45	23-45-50	28-39-55	32-42-59	37-45-64	39-47-67	41-50-71	

#### Performance Notes:

- Performance data is based on Models 51DFH-HD and 51DFV-HD with 0° deflection front blades. For 15° and 30° deflection models, use: —
- Tabulated data includes OBD (damper). Without OBD, multiply Total Pressure (TP) by 0.8. Subtract 4 NC from the NC value given.

3. Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.

4. Noise Criteria values were obtained using a 0° horizontal deflection near blade setting. For deflection settings of 22 1/2° and 45°, add 2 and 7 Noise Criteria (NC) to the tabulated NC level respectively.

5. Data derived from tests conducted with ANSI/ASHRAE Standard 70 – 2006.

#### Correction Factor

Model	Deflection	TP	NC
51D15	15°	x 1.2	+ 3
51D30	30°	x 1.5	+ 7

## HOW TO ORDER

### MODEL SERIES: 51D00-HD

### HEAVY DUTY BAR SUPPLY GRILLES AND REGISTERS – ALUMINUM

EXAMPLE: 51D15H-HD - O - 24 x 12 - S - AW - DMI - A - —

- |  |   |   |
|--|---|---|
| <p>1. <b>Models</b><br/> <b>Double Deflection</b><br/> <b>Horizontal/Long Dimension Blades:</b><br/>                     51DFH-HD Fixed 0° Deflection<br/>                     51D15H-HD Fixed 15° Deflection<br/>                     51D30H-HD Fixed 30° Deflection<br/> <b>Vertical/Short Dimension Blades:</b><br/>                     51DFV-HD Fixed 0° Deflection<br/>                     51D15V-HD Fixed 15° Deflection<br/>                     51D30V-HD Fixed 30° Deflection</p> <p>2. <b>Damper (OBD)</b><br/>                     O Steel<br/>                     OA Aluminum<br/>                     — No Damper</p> <p>3. <b>Nominal Width x Height</b><br/>                     inches (mm)</p> <p>4. <b>Frame/Border Type</b><br/>                     S Surface Mount (default)</p> | <p>5. <b>Finish</b><br/>                     AW Appliance White (default)<br/>                     AL Aluminum<br/>                     BK Black<br/>                     BW British White<br/>                     LBP Light Bronze Paint<br/>                     MBP Medium Bronze Paint<br/>                     DBP Dark Bronze Paint<br/>                     MI Mill<br/>                     PC Prime Coat<br/>                     SA Satin (Clear) Anodized<br/>                     SP Special Custom Color</p> <p>6. <b>Opposed Blade Damper Finish</b><br/>                     DMI Mill (default)<br/>                     DBK Painted Black</p> <p>7. <b>Fastening</b><br/>                     A Screw Holes (default)<br/>                     C Concealed Mounting Straps<br/>                     N None</p> | <p><b>OPTIONS &amp; ACCESSORIES:</b><br/>                     — None (default)</p> <p>8. <b>Plaster Sub-Frame</b><br/>                     PF Plaster Sub-Frame</p> <p>9. <b>Insect Screen</b><br/>                     IS Insect Screen</p> <p>10. <b>Gaskets</b><br/>                     GK Foam Gasket</p> <p>11. <b>Earthquake Tabs</b><br/>                     EQT Earthquake Tabs</p> <p><b>Notes:</b><br/>                     1. Front bars are fixed deflection. Rear directional vanes (blades) are adjustable and perpendicular to front bars.<br/>                     2. For a standard grille with no special requirements, specification is only required as far as the damper selection. The "default" will automatically be selected. For example, an aluminum 30° fixed deflection with rear deflection vane register, horizontal blade direction and steel damper, is Model 51D30H-HD-O. Unit will be supplied with screw holes and AW Appliance White finish.<br/>                     3. The larger dimension must always be specified first; for example, 24" x 12" (610 x 305), not 12" x 24" (305 x 610).</p> |
|--|---|---|

## HOW TO SPECIFY

### MODEL SERIES: 51D00-HD

### HEAVY DUTY BAR SUPPLY GRILLES AND REGISTERS – ALUMINUM

#### SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model** (select one) **51D30H-HD, 51D30V-HD, 51D15H-HD, 51D15V-HD, 51DFH-HD** or **51DFV-HD Aluminum Heavy Duty Bar Supply Grilles** with rear deflection vanes of the type and size as shown on the plans and air distribution schedules. The grille shall have extruded aluminum reinforced blades and welded frame. The front bars are to be fixed on 1/2" (13) centers and the rear deflection vanes are to be adjustable on 3/4" (19) centers. The finish shall be AW Appliance White (optional finishes are available).

(Optional) An opposed blade damper, constructed of heavy gauge corrosion-resistant steel (aluminum is optional) and operable from the face of the grille, shall be provided with all units.

The manufacturer shall provide published performance data for the grille, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 2006.

## PRODUCT OVERVIEW OPTIONS AND ACCESSORIES FOR GRILLES AND REGISTERS

### MOUNTING FRAMES

- Up to four methods of fastening available for most models.
- Sub-frame available for professionally finished openings.
- Surface mount adapter frame for plaster and sheet rock ceilings are available in steel and aluminum. They simplify installation, save time and allow ceiling plenum access.
- Panel mounting available to suit architectural ceiling systems.

### OPTIONS

- A selection of optional items that are available on grilles and registers.
- Information on custom sizing for special applications.

### FINISHES

- Selection of standard and non-standard finishes to choose from.
- Anodizing of aluminum products.

### AIR BALANCING DEVICES

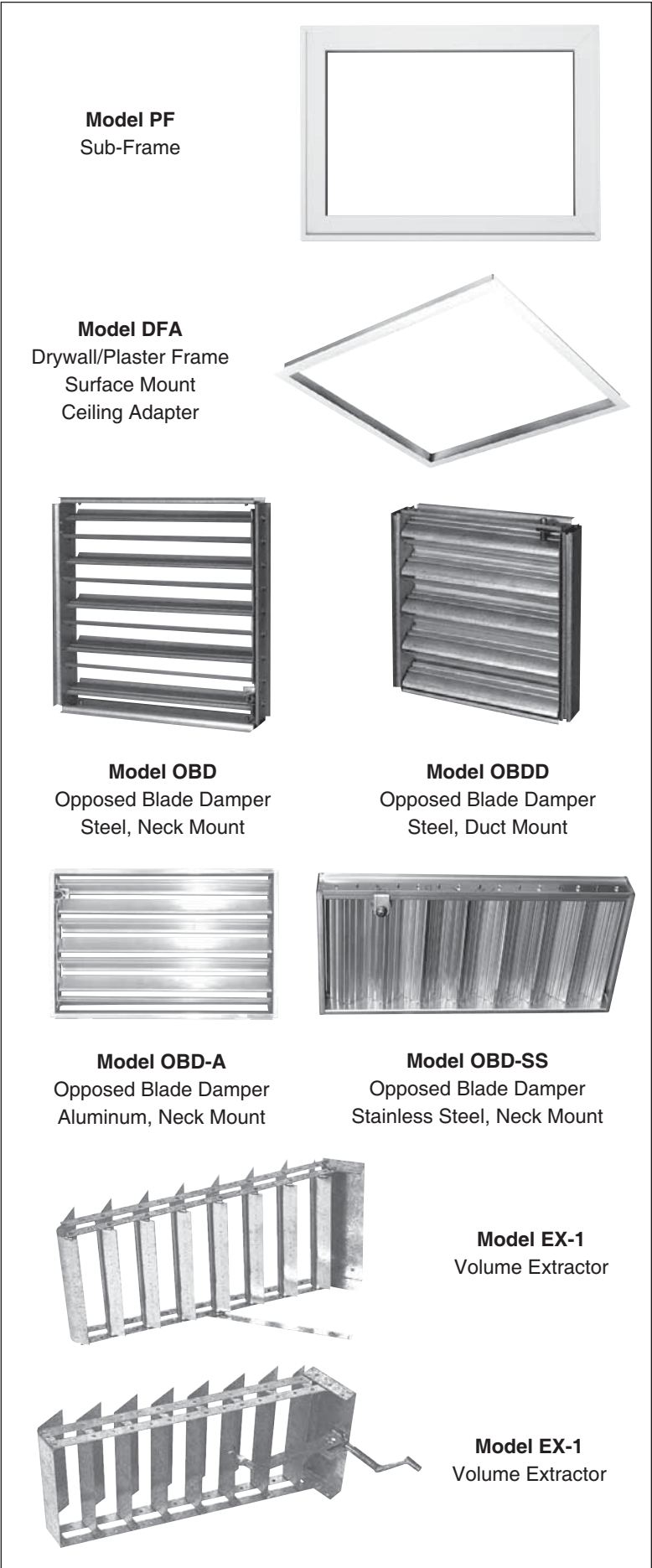
- Opposed blade dampers for every application.
- Volume extractors.

Effective air balancing of an HVAC System requires the correct selection, specification and installation of the right product to suit the system design.

Nailor offers a comprehensive range of models and options to cover all applications.

Nailor balancing devices are:

- Easy to select and specify. Many items can be supplied as factory mounted or packaged accessories on grilles and registers.
- Designed to offer a smooth, accurate and predictable response during adjustment for precise air metering.
- Designed to provide quick access and adjustment.
- Engineered with attention to optimizing airflow, in order to minimize noise, turbulence and pressure drop.

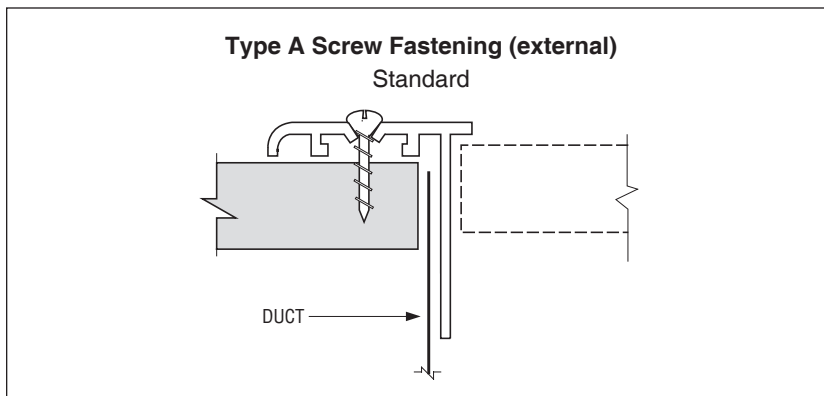


## Fastening and Border Frames

### Type A Screw Fastening (External)

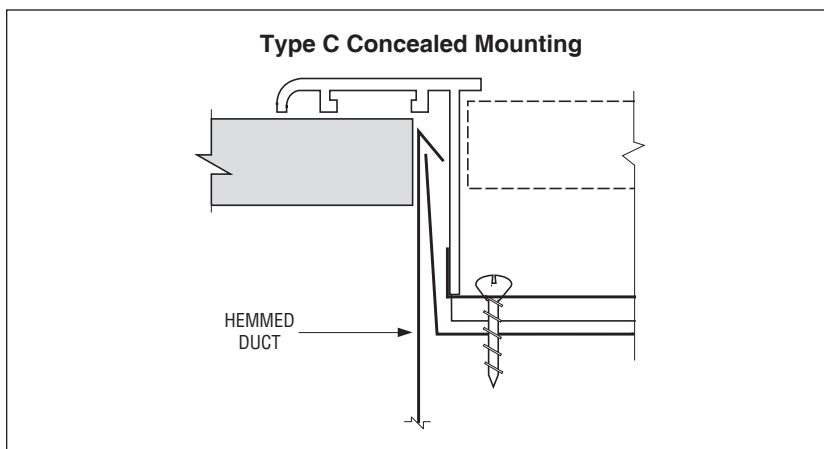
Standard method of fastening for all Nailor grilles and registers in surface mount applications. All Nailor grilles and registers are supplied this way unless specified otherwise. Universal application for all models and cost effective installation.

Screw holes are countersunk in the frame for most models to provide an aesthetically pleasing appearance and are sized for #8 x 1 1/2" (38) oval-head screws which are supplied from the factory packed with each grille or register and are painted to match the specified finish.



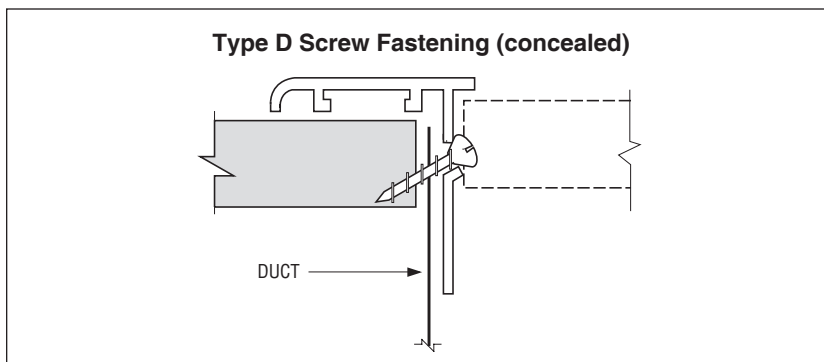
### Type C Concealed Mounting

Grilles and registers are supplied with concealed mounting straps (at additional cost) which permit surface mounting with concealed screws, allowing a clean frame appearance. The bracket is shipped loose for installation in the field (by others). The bracket attaches to the back of the grille screws to an adjustable mounting strap which can either be secured directly to the duct wall or hooked into a hem formed in the end of the duct. Not available on return air grilles with 1/2" (13) spacing and a fixed angled blade deflection. Maximum size: 36" x 36" (914 x 914).



### Type D Screw Fastening (Concealed)

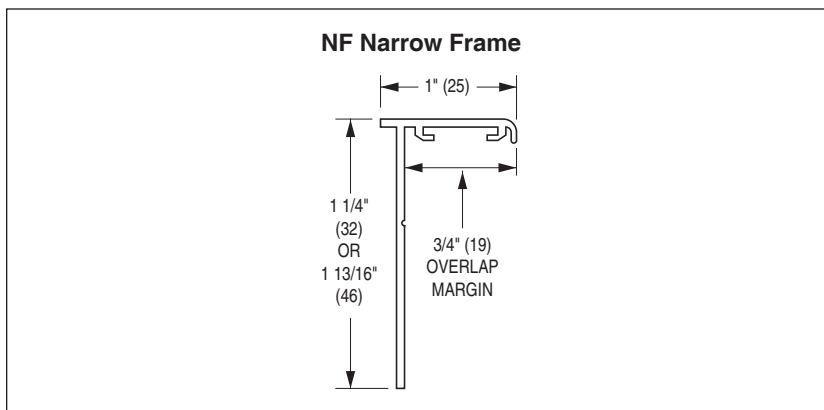
Screw holes are provided in the neck of the grille or register frame. Screws are field installed at an angle through the grille frame and into the ductwork, providing a clean frame appearance. Installation is more difficult than Type A due to the space constriction between the grille blades. Care must be taken not to bend or scratch the grille. Not recommended on return air grilles with a fixed angled blade deflection as accessibility to screw holes is greatly restricted.



### Type NF Narrow Frame

An optional reduced 1" (25) wide narrow border frame is available on most aluminum models to satisfy architectural considerations.

See individual models for availability.

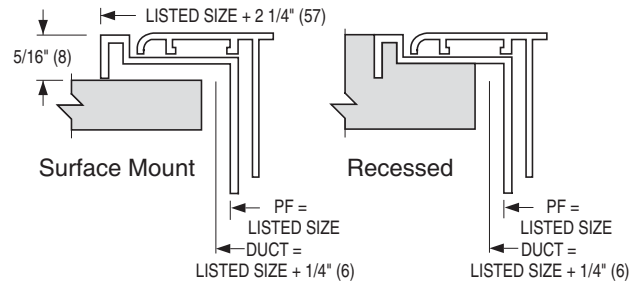




## Mounting Frames

### PF Plaster/Mounting Frame

Available (at additional cost) with most standard steel and aluminum grilles and registers. The Model PF Plaster Frame is constructed from extruded aluminum and provides a convenient and professional way for finishing off the grille or register opening. It provides a stable anchor for attachment, while enabling the grille or register to be detached and replaced readily without disturbing the finished surface of the wall or ceiling opening. It may be used for surface mounting on various materials or recess mounted in wet plaster.



Model PF Plaster Frame

### DFS (Steel), DFA (Aluminum) Drywall/Plaster Frame

The DF Series are for mounting in finished drywall or plaster ceilings to accept any standard lay-in type grille, register, diffuser or other ceiling component. Installation of the air outlet is as simple as inserting them in a standard lay-in T-Bar type ceiling system.

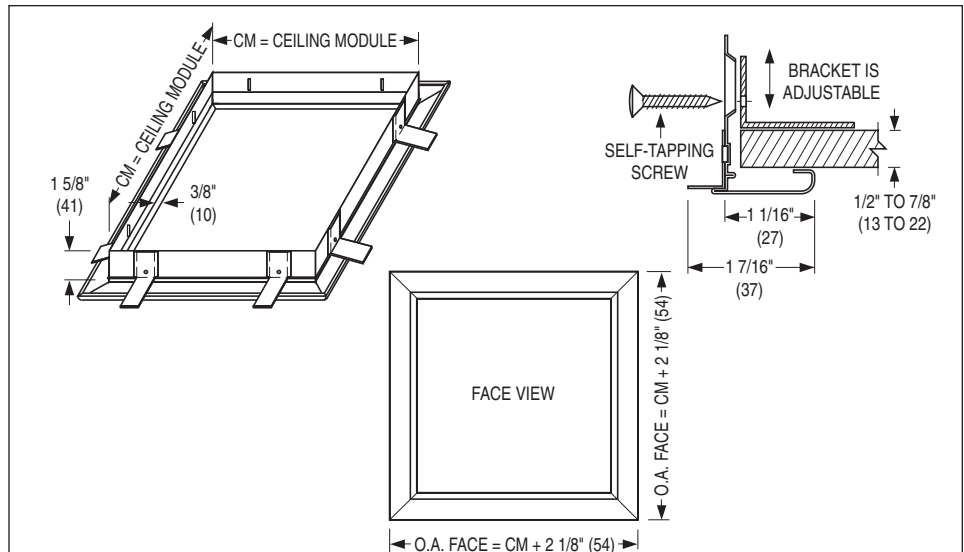
The DF Series simplifies and reduces installation time compared with surface mount type diffusers. This is especially true where flexible duct is utilized. A major benefit is that the DF Series allows access to the ceiling plenum space above for maintenance purposes without the need for separate access doors. The finished appearance is professional and aesthetically pleasing.

**Standard Finish:** AW Appliance White. Other finishes are available.

**Model DFS** is installed quickly and easily using adjustable fastening angle brackets which adapt to various ceiling thicknesses. Frames are roll-formed corrosion-resistant steel with staked and mitered corners.

IMPERIAL MODULES		METRIC MODULES
Imperial Units (inches)	S.I. Units (mm)	S.I. Units (mm)
12 x 12	305 x 305	300 x 300
16 x 16	406 x 406	400 x 400
20 x 20	508 x 508	500 x 500
24 x 12	610 x 305	600 x 300
24 x 24	610 x 610	600 x 600

Ceiling opening = CM + 1/4" (6)

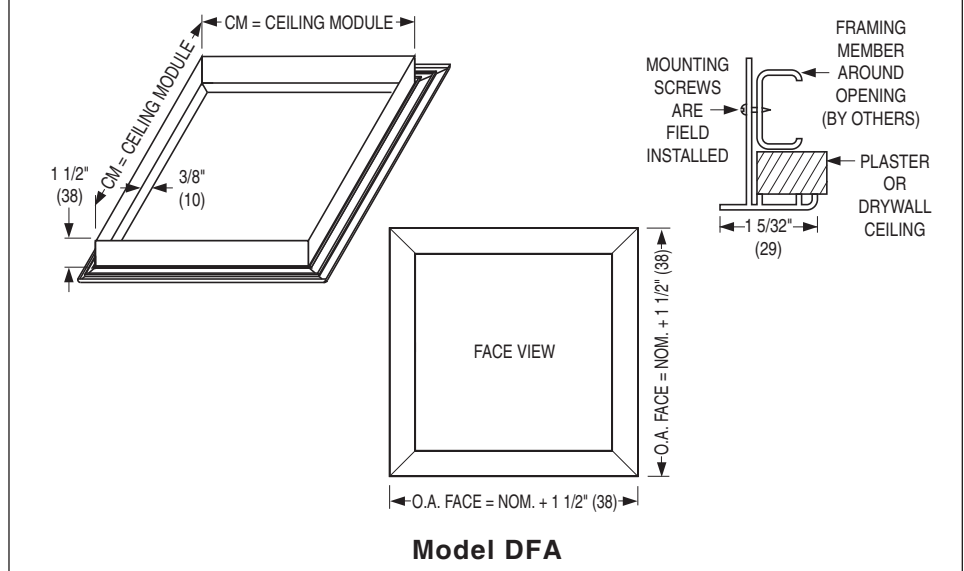


Model DFS

**Model DFA** requires framing of the ceiling opening with 'C' channel or wood studs for attachment with mounting screws (by others).

IMPERIAL MODULES		METRIC MODULES
Imperial Units (inches)	S.I. Units (mm)	S.I. Units (mm)
12 x 12	305 x 305	300 x 300
16 x 16	406 x 406	400 x 400
20 x 20	508 x 508	500 x 500
24 x 12	610 x 305	600 x 300
24 x 24	610 x 610	600 x 600
36 x 24	914 x 610	900 x 600
48 x 12	1219 x 305	1200 x 300
48 x 24	1219 x 1219	1200 x 600
60 x 12	1524 x 305	1500 x 300

Ceiling opening = CM + 1/4" (6)



Model DFA

## Panel Mounting/Ceiling Modules

A panel can be added to the majority of Nailor's steel and aluminum return grilles to suit many special architectural ceiling designs and ceiling module sizes. These panel mount grilles are available in corrosion-resistant steel for the 6100 series steel grilles and both aluminum and corrosion-resistant steel for the 5100 and 7100 series aluminum grilles.

To specify a steel panel; add the suffix S to the end of the selected panel variant. To specify an aluminum panel; add the suffix A to the end of the selected panel variant. e.g. If a steel panel is required with a Spline Type ceiling module, the variant code will become SPS.

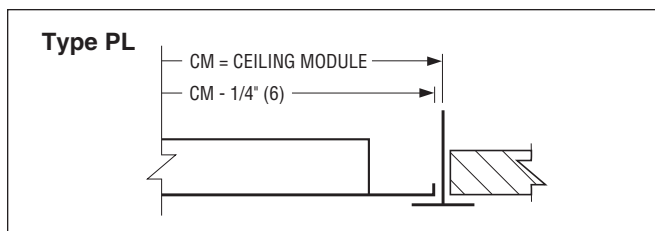
The maximum grille neck sizes available for panel mounting will be the ceiling module size selected - 3" (76).

### Available Ceiling Module Sizes

Ceiling Module	
Imperial Units (in.)	Metric Units (mm)
12 x 12	300 x 300
24 x 12	600 x 300
36 x 12	900 x 300
48 x 12	1200 x 300
20 x 20	500 x 500
24 x 24	600 x 600
36 x 24	900 x 600
48 x 24	1200 x 600

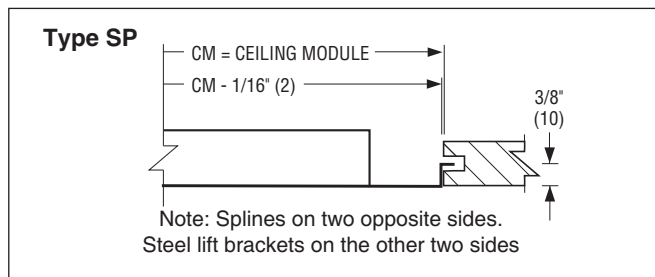
### Border Type PL: Lay-in T-Bar

Grille or register is mounted in an extended panel to suit standard T-Bar Lay-in Type ceilings.



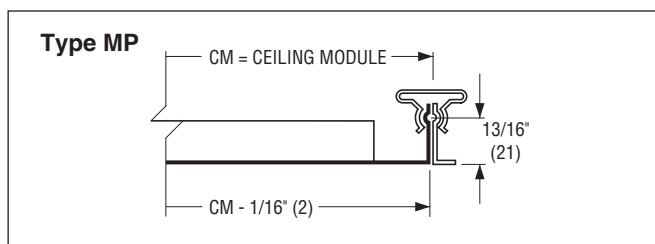
### Border Type SP: Spline

The grille or register is mounted in an extended panel to suit spline type ceiling modules.



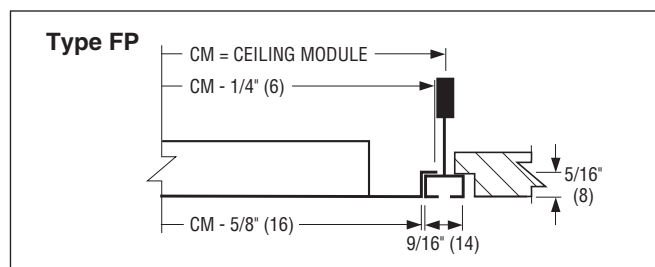
### Border Type MP: Metal Pan/Snap-in

The grille or register is mounted in an extended panel to suit metal pan ceilings that have snap-in type ceiling modules.



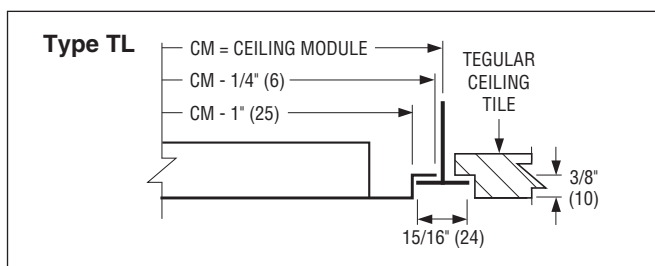
### Border Type FP: Narrow Regressed T-Bar (Fineline®)

The grille or register is mounted in an extended panel that will fit a narrow regressed T-Bar ceiling grid.



### Border Type TL: Tegular Type T-Bar

The grille or register is mounted in a panel that will extend below the T-Bar ceiling grid.



## Options, Custom Sizing and Finishes

### OPTIONS:

#### **RACA Return Air Crosstalk Attenuator**

Return Air Crosstalk Attenuator is designed to greatly reduce the amount of sound transferred from the return air plenum through open vents or return grilles, into the adjoining space.

#### **EQT Earthquake Tabs**

Earthquake (seismic) retaining safety tabs are available; factory installed on grilles or registers when required by local building code that units be independently restrained and safety wired to supporting structure.

#### **GK Foam Gaskets**

An optional foam gasket is available factory installed on the rear of all Type S corrosion-resistant steel and aluminum surface mount grilles and registers.

Eliminates air leakage and the possibility of dirt streaking and smudging from entrainment, particularly when installed on unevenly finished surfaces such as stucco.

#### **IS Insect Screen**

1/16" (2) galvanized steel mesh, factory installed.

### CUSTOM SIZING:

#### **Oversized Units**

For specialized applications and architectural considerations; certain grilles and registers can be manufactured in single sections larger than the standard published maximum size at additional cost. Aspect ratio, tolerances, manufacturing capability and weight have all to be considered by the factory prior to acceptance. Consult your Nailor representative for specific applications.

#### **Fractional/Hard Metric Sizes**

Nailor grilles and registers have been designed and are manufactured to suit HVAC systems where the duct design has been done using Imperial Units of measurement (i.e. feet and inches). The majority of Nailor grilles and registers are fabricated as standard in 1" (25) nominal incremental units, giving the designer great flexibility during sizing selection.

At additional cost, the majority of Nailor grilles and registers can be custom fabricated in fractional sizes for special applications and in Hard Metric (S.I. Units) when the HVAC duct design has been done using the Metric System.

Consult your Nailor representative for availability on specific project applications.

### FINISHES:

#### **POWDER COAT**

##### **AW Appliance White (standard)**

A white finish that is currently the industry standard. Closely matches standard finishes supplied by the majority of T-Bar ceiling system manufacturers. (No additional cost).

##### **AL Aluminum**

Contains suspended metal particles to give the appearance of a silver grey metallic or anodized finish. (No additional cost).

##### **WH Off-White**

Has a creamy appearance. (Additional cost)

##### **BW British White**

Matches most white ceiling tiles. (No additional cost)

##### **LBP Light Bronze Paint**

An economical alternative that closely matches industry standard anodizing in color, sheen and appearance. (Additional cost)

##### **MBP Medium Bronze Paint**

An economical alternative that closely matches industry standard anodizing in color, sheen and appearance. (Additional cost)

##### **DBP Dark Bronze Paint**

An economical alternative that closely matches industry standard anodizing in color, sheen and appearance. (Additional cost)

##### **BK Black**

This black has a matte finish. (Additional cost)

##### **SP Special**

The Nailor range of diffusers are available in any color for special architectural consideration. Custom colors are individually mixed to match customer supplied samples. (Additional cost)

### ALUMINUM PRODUCT FINISHES:

##### **SA Satin (Clear) Anodized**

Adds a smooth satin finish to further protect the aluminum from corrosion (clear). (Additional cost)

### STAINLESS STEEL PRODUCT FINISH ONLY:

##### **#4 Brushed Satin Polished**

Stainless Steel models only. (No additional cost)

### ALSO AVAILABLE:

##### **MI Mill Finish**

(No additional cost).

##### **PPA Paint Prepared Aluminum (Washed only)**

(No additional cost).

##### **PC Prime Coat Paint**

Color will vary (Additional cost).

## Sound Reduction for Return Air Grilles

### RETURN AIR CROSSTALK ATTENUATOR – STEEL – RETURN AIR GRILLES

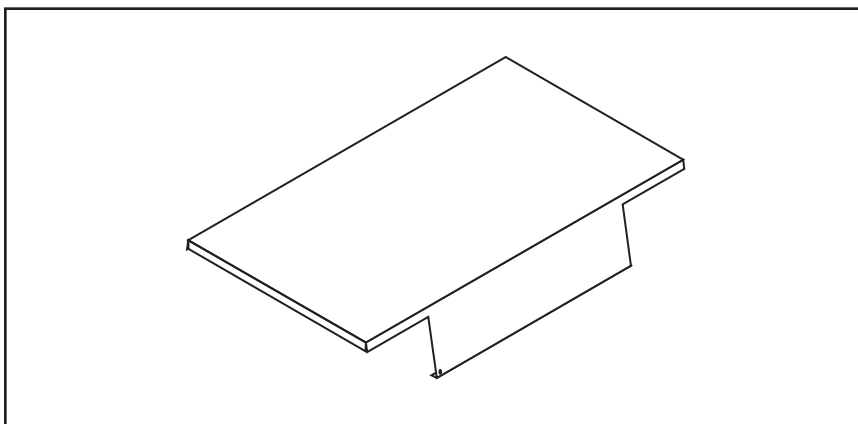
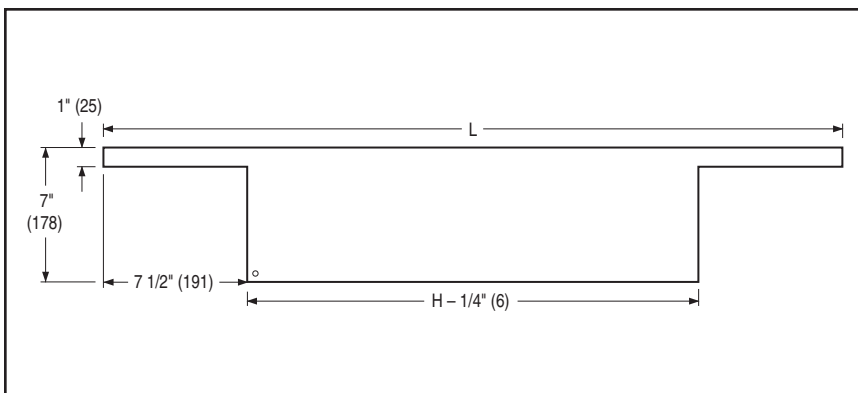
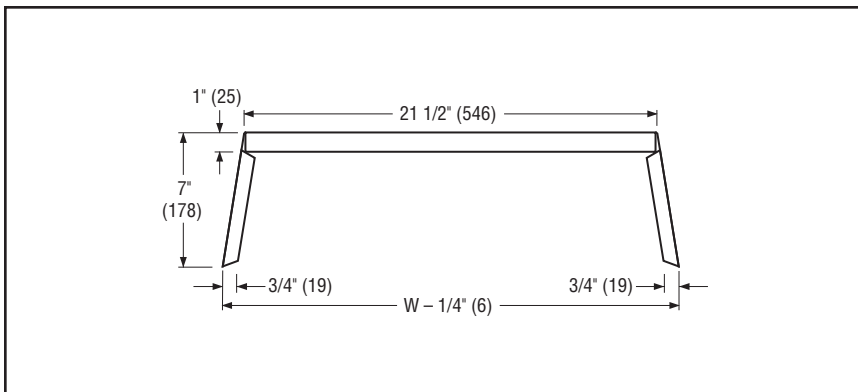
Nailor Model RACA Return Air Crosstalk Attenuator is designed to greatly reduce the amount of sound transferred from the return air plenum through open vents or return grilles, into the adjoining space. For use with non-ducted return grilles in Lay-in T-Bar applications, the RACA allows return air to flow through with minimal pressure drop, while reducing the sound transmission by 7 – 10 NC. Constructed of 22 gauge galvanized steel, the compact, light weight design takes up minimal space in the return plenum, rests on the ceiling grid for easy installation and works effectively as a light shield. Available with 1" (25) fiberglass insulation as standard or optional 1" (25) fiber-free closed cell foam insulation. The RACA fits standard grille sizes and is ideal for interior offices, conference rooms, hotel rooms as well as recording studios.

#### FEATURES:

- Economical and light- weight design.
- Fits standard grille sizes.
- Easy installation sits on ceiling grid.
- Compact design takes up minimal space in return plenum.
- 1" (25) fiberglass insulation (standard).

#### DIMENSIONAL DATA:

CM Ceiling Module	W	H	L
12" x 12" (305 x 305)	12" (305)	12" (305)	26 1/2" (673)
24" x 12" (610 x 305)	24" (610)	12" (305)	26 1/2" (673)
20" x 20" (508 x 508)	20" (508)	20" (508)	34 1/2" (876)
24" x 24" (610 x 610)	24" (610)	24" (610)	38 1/2" (978)
30" x 30" (762 x 762)	30" (762)	30" (762)	44 1/2" (1130)
48" x 24" (1219 x 610)	48" (1219)	24" (610)	38 1/2" (978)



## Air Balancing Devices

### OPPOSED BLADE DAMPERS — STEEL AND ALUMINUM

Nailor Opposed Blade Dampers are manufactured from heavy gauge, roll-formed, corrosion-resistant steel or extruded aluminum blades and frame with miscellaneous steel components.

The gang operated multi-blade design with blades closing at 45 degrees permits fine volume control for accurate balancing with minimum disturbance to the airflow pattern. Blades are individually pivoted on 1" (25) centers.

#### GRILLE MOUNT MODELS:

**OBD Steel**

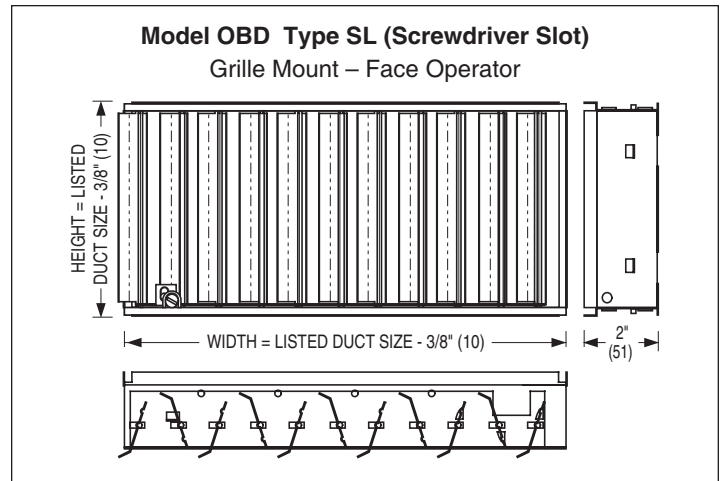
**OBD-A Aluminum**

This style of damper mounts directly on the neck of the grille and is sized to fit most Nailor grilles. Uses steel barbed S-clips for easy field mounting or removal when ordered separately. Supplied as standard with a screwdriver slot operator (Type SL) on supply registers and a screwdriver pivot lever operator (Type PL) on fixed, angled deflection return registers. Type SL operator is standard if damper is ordered separately from grille. A lever operator (Type GL) is available as an option on fixed, angled deflection return registers. Can be specified as an integral part of the grille (register) by adding a - O (steel) or - OA (aluminum) suffix to the grille model.

Min. Size = 4" x 2 1/2" (102 x 64) Max. Size = 24" x 24" (610 x 610).

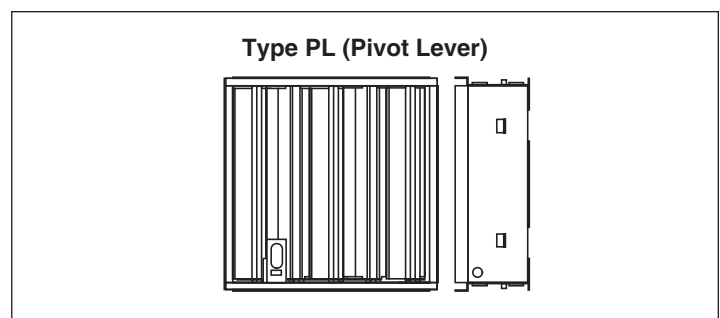
#### Type SL Operator

The SL Operator incorporates a screwdriver slot, which adjusts from the face of the register. This operator is the standard supplied with supply air registers such as the single and double deflection adjustable blade.



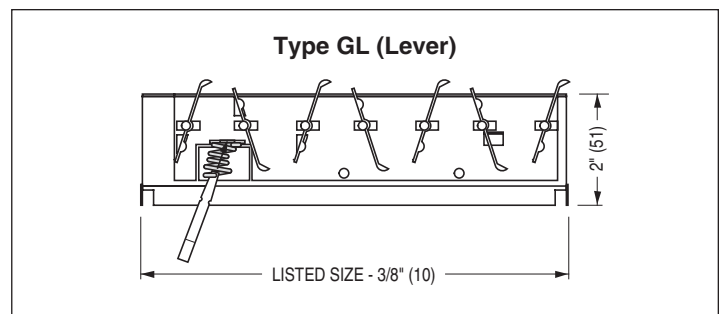
#### Type PL Operator

The PL Operator is a concealed pivot lever, which is adjusted from the face of the register using a screwdriver. This operator is for use only on fixed blade, angled deflection, return air grilles. When specifying, the blade orientation of the damper must be opposite of the grille.



#### Type GL Operator

The GL Operator incorporates a lever that adjusts without the use of tools. The lever operator extends through the grille face and is an alternative for fixed blade, angled deflection, return air grilles. When specifying, the blade orientation of the damper must be opposite of the grille being used and the grille model must be specified.



## Air Balancing Devices

### DUCT MOUNT MODELS:

**OBDD Steel**

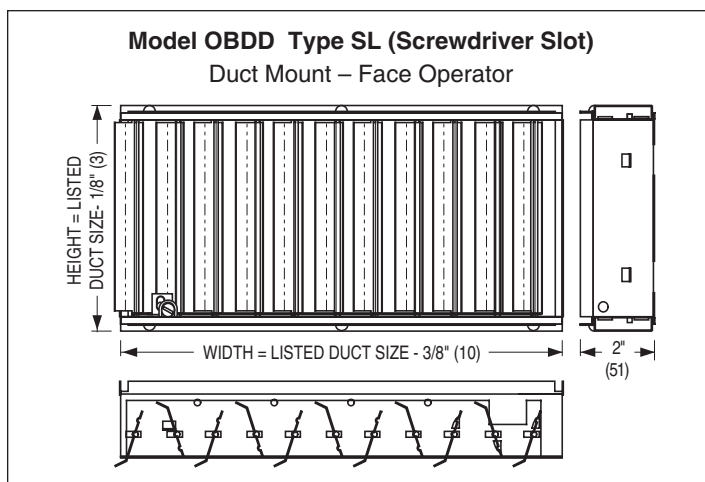
**OBDD-A Aluminum**

Designed for field installation, this damper mounts independently in the duct, separate from and behind the grille. Sized to suit and offer a friction fit in nominally sized ducts. Secure the dampers with 1/2" (13) long sheet metal screws (by others) through the double walled sub-frame. Supplied as standard with a screwdriver slot operator (Type SL).

Min. Size = 4" x 2 1/2" (102 x 64) Max. Size = 24" x 24" (610 x 610)

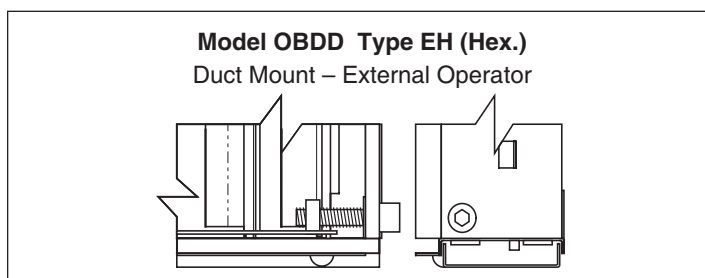
### Type SL Operator

These models are supplied with a screwdriver slot face operator that is accessed from inside the duct by removing the grille.



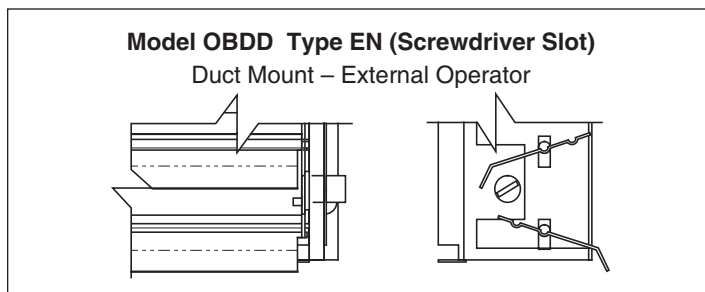
### Type EH Operator

The EH Operator incorporates an external hex device that penetrates the duct wall to provide control. For use with 3/16" (5) Allen key wrench (by others).



### Type EN Operator

The EN Operator incorporates an external (nylon) screwdriver slot device. This device is controlled externally through the duct.



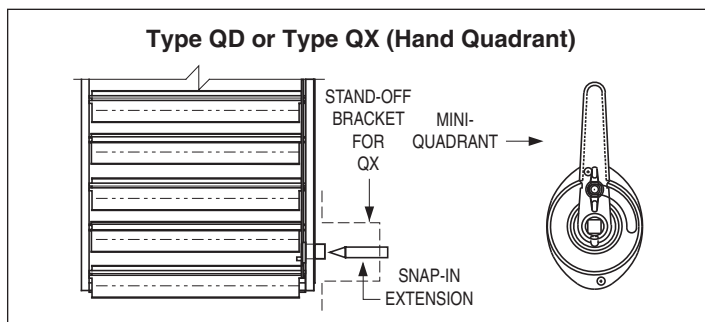
### Type QD Operator \*

The QD Operator includes a nylon snap-in extension that fits an external (nylon) operator. This device also includes a hand locking quadrant operator for control and position indication.

### Type QX Operator \*

The QX Operator includes a nylon snap-in extension that fits an external (nylon) operator. This device also includes a 2" (51) stand-off bracket and hand locking quadrant for control and position indication. To ensure quadrant is located on vertical side of duct, specify damper with blades parallel to the horizontal duct dimension.

\*Not available on Model OBDD-A



## Air Balancing Devices

### OPPOSED BLADE DAMPERS — STAINLESS STEEL

Nailor Stainless Steel Opposed Blade Dampers feature heavy gauge, roll-formed blades and a heavy duty frame in all stainless steel construction. Type 304 stainless steel is standard with Type 316 as an available option.

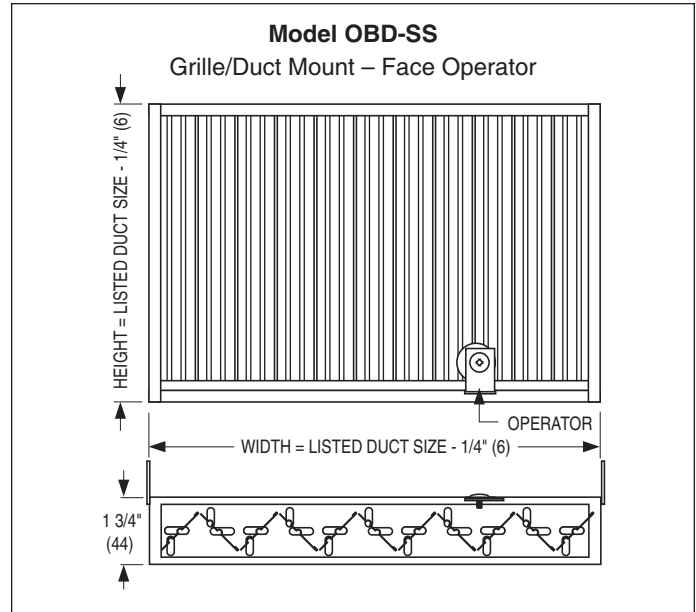
The gang operated multi-blade design with blades closing at 45 degrees permits fine volume control for accurate balancing with minimum disturbance to the airflow pattern. Blades are individually pivoted on 1" (25) centers.

#### GRILLE/DUCT MOUNT MODELS:

##### OBD-SS Stainless Steel

When ordered as part of the stainless steel grille, (using the suffix '-O' on the model number), the dampers are factory welded to the grille frame to provide a secure non-removable connection. If the dampers are ordered separately, they are supplied with mounting tabs. The tabs allow the dampers to be field installed onto a grille or to be mounted independently in the duct, separate from and behind the grille.

All Nailor stainless steel dampers feature a Philip's head screwdriver operator that is accessed through the face of the grille.



## Volume Extractors

### MODEL SERIES

**EX** Blades on 2" centers

**EXD** Blades on 1" centers

The **Model Series EX Volume Extractors** uniformly divert air from the main duct into the branch take-off and across the face of a grille or diffuser. Gang-operated parallel blades available on 2" (51) or 1" (25) centers pivot from full open to full closed with blades overlapping for shut-off. The curved blade design improves airflow by reducing turbulence, thereby reducing noise and pressure drop.

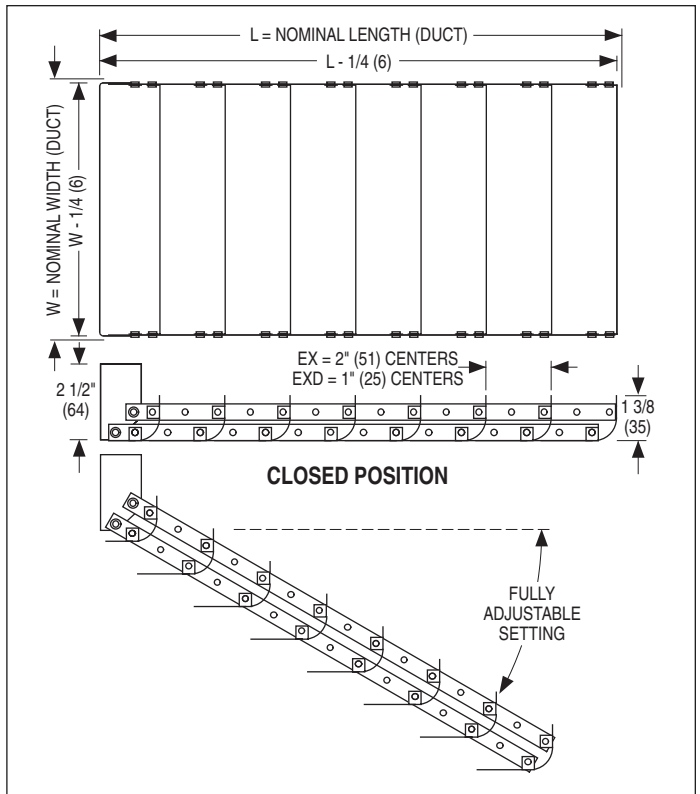
Specify or order: Length x Width. (Length is first dimension. Blades are parallel to width, second dimension).

### FEATURES:

- Material: Galvanized steel.
- Minimum size: 6" x 4" (152 x 102).
- Maximum size: 36" x 36" (914 x 914).

### Operator Types

<p><b>EX/EXD-1</b> Standard unit with adjusting strap.</p>	
<p><b>EX/EXD-1-R</b> Rod operator for external operation.</p>	
<p><b>EX/EXD-2</b> Linkage with 7/16" (11) square hole (2 per unit). Remote operator (eg. Young Regulator #1) by others.</p>	
<p><b>EX/EXD-3</b> Screw gear operator. Adjusts with 3/16" (48) wrench (by others).</p>	



### Optional Accessories

<p><b>RLD</b> Locking device for Models <b>EX/EXD-1-R</b>.</p>	
--	--