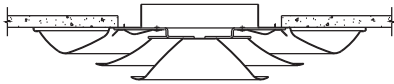


## Fixed Discharge Round Diffuser Steel (SSEA) and Aluminum (SSFM)



### Application

High capacity unit with low sound levels, suitable for large spaces where no discharge adjustment is required.

### Standard Features

- Available in heavy gauge steel or aluminum construction.
- Aluminum available through size 18 only.
- Core is easily removed for installation or maintenance.
- Neck sizes 4" through 36".
- Neck is sized to fit over duct for minimum air leakage.
- Discharge is fixed horizontal setting.
- Center button is removable for easy access to damper.
- Standard finish is Carnes Electrocoat Acrylic Baked Enamel. Other finishes are available upon request.
- The standard color is #11 Bright White. Other colors are available on request.

### Optional Features

- Safety chain (Option S) prevents damage or injury when removing core by connecting the core to the form.
- Gasket (Option G) minimizes air leaks around edge of diffuser.
- Sizes 14" and smaller can be set in a 24"x24" T-bar panel (Option T) for easier installation (p. A21).

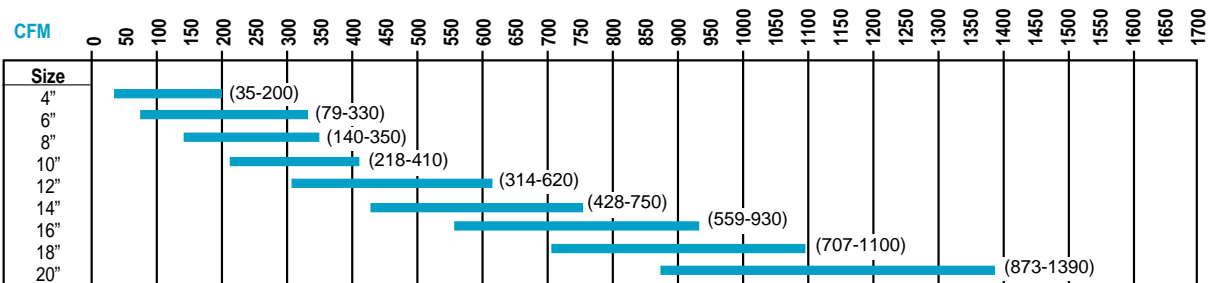
### Accessories

- When specifying damper for sizes 4-24, use Opposed Blade Round Damper Model KXRA (p. A431).
- When specifying damper for sizes 28-36, use Radial Deflector Damper Model KXNA (p. A434).

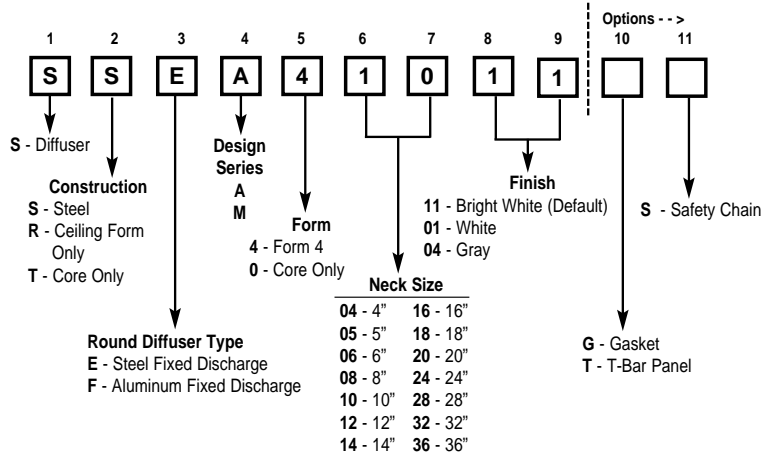
ROUND DIFFUSERS

### Quick Select Chart

This shows units with: • A maximum NC/RC of 35.  
• A minimum face velocity of 400 FPM.

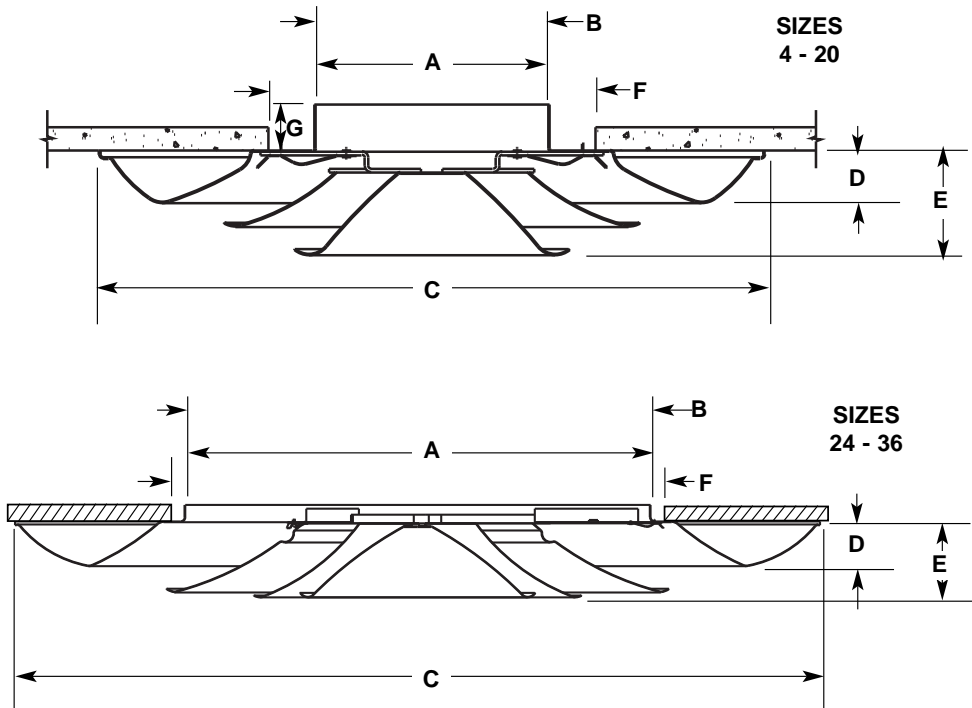


### Model Numbering System



**DIMENSIONAL DATA - Fixed Round Diffuser (SSEA, SSFM)**

**ROUND DIFFUSERS**



Dim	Description	Neck Size (Dimensions In Inches)							
		4	5	6	8	10	12	14	
A	Neck I. D.	4-1/16	5-1/16	6-1/16	8-1/16	10-1/16	12-1/16	14-1/16	
B	Neck O. D.	4-1/8	5-1/8	6-1/8	8-1/8	10-1/8	12-1/8	14-1/8	
C	Frame O. D.	14-1/2	14-1/2	14-1/2	17-9/16	19-13/16	22-1/16	24-1/16	
D	Form Projection	1-3/16	1-3/16	1-3/16	1-3/8	1-3/8	1-3/8	1-1/2	
E	Overall Projection	1-15/16	1-15/16	1-15/16	2-3/8	1-7/8	2-5/16	2-5/16	
F	Rec. Ceiling Opening	7-1/4	7-1/4	7-1/4	9-1/4	11-1/4	13-1/4	15-1/4	
G	Collar Height	3/4	1-3/8	1	1	1	1	1	

Dim	Description	Neck Size (Dimensions In Inches)							
		16	18	20	24	28	32	36	
A	Neck I. D.	16-1/16	18-1/16	20-1/16	24-1/16	28-1/16	32-1/16	36-1/16	
B	Neck O. D.	16-1/8	18-1/8	20-1/8	24-1/8	28-1/8	32-1/8	36-1/8	
C	Frame O. D.	28-13/16	32-1/16	33-9/16	39-5/16	48-9/16	60-13/16	60-13/16	
D	Form Projection	2-1/8	2-1/8	2-1/4	2-5/8	2-11/16	2-7/8	2-7/8	
E	Overall Projection	2-3/4	3-1/8	3-1/8	3-11/16	4-1/2	4-15/16	4-15/16	
F	Rec. Ceiling Opening	17-1/4	19-1/4	21-1/4	25-1/4	29-1/4	33-1/4	37-1/4	
G	Collar Height	1	1	1	1	1	1	1	

**Notes:**  
 1. The neck is sized to fit over the duct so as to minimize air leakage.

**PERFORMANCE DATA - 3-Position and Infinite Adjustable Round Diffusers (SSEA, SSFM)**

Neck Velocity (FPM)	200	400	600	800	1000	1200	1400	1600
Velocity Pressure (WG)	0.003	0.010	0.022	0.040	0.062	0.090	0.122	0.160
<b>Airflow (CFM)</b>	<b>17</b>	<b>35</b>	<b>52</b>	<b>70</b>	<b>87</b>	<b>105</b>	<b>122</b>	<b>140</b>
4" Total Pressure (WG)	0.005	0.02	0.05	0.09	0.14	0.20	0.27	0.36
Sound Level (NC/RC)	--/--	--/--	--/--	13/12H	17/15H	18/17H	20/19H	21/21H
Radius of Diffusion (Ft)	1-1-2	1-1-3	2-2-4	2-3-5	3-4-7	3-5-8	4-5-9	5-6-11
<b>Airflow (CFM)</b>	<b>27</b>	<b>55</b>	<b>82</b>	<b>109</b>	<b>136</b>	<b>164</b>	<b>191</b>	<b>218</b>
5" Total Pressure (WG)	0.01	0.03	0.07	0.11	0.17	0.24	0.32	0.42
Sound Level (NC/RC)	--/--	--/--	14/11H	17/16H	19/19H	22/22H	24/24H	27/26H
Radius of Diffusion (Ft)	1-1-2	1-2-3	2-3-5	3-4-6	3-5-8	4-6-9	5-7-11	6-8-13
<b>Airflow (CFM)</b>	<b>39</b>	<b>79</b>	<b>118</b>	<b>157</b>	<b>196</b>	<b>236</b>	<b>275</b>	<b>314</b>
6" Total Pressure (WG)	0.01	0.04	0.08	0.13	0.20	0.28	0.38	0.48
Sound Level (NC/RC)	--/--	13/10H	17/16H	21/21H	23/23H	28/27H	30/29H	32/31H
Radius of Diffusion (Ft)	1-1-2	1-2-4	2-3-6	3-5-8	4-6-10	5-7-12	6-8-13	7-9-16
<b>Airflow (CFM)</b>	<b>70</b>	<b>140</b>	<b>209</b>	<b>279</b>	<b>349</b>	<b>419</b>	<b>489</b>	<b>559</b>
8" Total Pressure (WG)	0.01	0.03	0.07	0.12	0.18	0.27	0.37	0.48
Sound Level (NC/RC)	--/--	19/19H	27/26H	31/30H	34/33H	38/37H	42/40H	44/42H
Radius of Diffusion (Ft)	1-1-3	2-3-5	3-4-8	4-6-10	5-7-13	7-9-15	8-11-18	9-12-20
<b>Airflow (CFM)</b>	<b>109</b>	<b>218</b>	<b>327</b>	<b>436</b>	<b>545</b>	<b>654</b>	<b>764</b>	<b>873</b>
10" Total Pressure (WG)	0.01	0.06	0.12	0.24	0.36	0.52	0.72	0.96
Sound Level (NC/RC)	--/--	21/23H	30/31H	37/37H	42/42H	47/47N	50/50N	52/53N
Radius of Diffusion (Ft)	1-2-3	2-3-6	4-5-10	5-7-13	7-9-16	8-11-19	10-13-22	11-15-25
<b>Airflow (CFM)</b>	<b>157</b>	<b>314</b>	<b>471</b>	<b>628</b>	<b>785</b>	<b>942</b>	<b>1100</b>	<b>1257</b>
12" Total Pressure (WG)	0.01	0.04	0.10	0.20	0.37	0.49	0.67	0.88
Sound Level (NC/RC)	--/--	24/25H	31/32H	36/37H	42/43N	48/48N	51/51N	54/54N
Radius of Diffusion (Ft)	1-2-4	3-4-8	4-6-11	6-9-15	8-11-19	9-13-22	11-16-26	13-18-30
<b>Airflow (CFM)</b>	<b>214</b>	<b>428</b>	<b>641</b>	<b>855</b>	<b>1069</b>	<b>1283</b>	<b>1497</b>	<b>1710</b>
14" Total Pressure (WG)	0.02	0.05	0.11	0.20	0.31	0.44	0.59	0.78
Sound Level (NC/RC)	--/--	25/26H	32/32H	38/38N	43/43N	48/48N	52/52N	55/55N
Radius of Diffusion (Ft)	2-2-4	3-5-9	5-7-13	7-10-17	9-13-22	11-16-26	13-18-30	15-21-34
<b>Airflow (CFM)</b>	<b>279</b>	<b>559</b>	<b>838</b>	<b>1117</b>	<b>1396</b>	<b>1676</b>	<b>1955</b>	<b>2234</b>
16" Total Pressure (WG)	0.01	0.07	0.14	0.26	0.41	0.59	0.82	1.06
Sound Level (NC/RC)	--/--	26/27H	33/33N	39/39N	44/44N	49/49N	52/52N	56/56N
Radius of Diffusion (Ft)	2-3-5	4-6-10	6-9-15	8-12-20	10-15-25	13-18-29	15-21-35	17-24-39
<b>Airflow (CFM)</b>	<b>353</b>	<b>707</b>	<b>1060</b>	<b>1414</b>	<b>1767</b>	<b>2121</b>	<b>2474</b>	<b>2827</b>
18" Total Pressure (WG)	0.01	0.05	0.11	0.22	0.35	0.53	0.72	0.96
Sound Level (NC/RC)	--/--	27/27H	34/34N	39/39N	44/44N	49/49N	53/53N	56/56N
Radius of Diffusion (Ft)	2-3-6	4-6-11	7-10-17	9-13-22	11-16-27	14-20-33	17-23-38	19-27-44
<b>Airflow (CFM)</b>	<b>436</b>	<b>873</b>	<b>1309</b>	<b>1745</b>	<b>2182</b>	<b>2618</b>	<b>3054</b>	<b>3491</b>
20" Total Pressure (WG)	0.01	0.05	0.12	0.24	0.36	0.54	0.76	1.00
Sound Level (NC/RC)	--/--	27/28N	34/34N	39/39N	44/44N	50/50N	53/53N	57/57N
Radius of Diffusion (Ft)	2-3-6	5-7-13	7-11-18	10-14-24	13-18-30	15-22-36	18-26-42	21-30-48
<b>Airflow (CFM)</b>	<b>628</b>	<b>1257</b>	<b>1885</b>	<b>2513</b>	<b>3142</b>	<b>3770</b>	<b>4398</b>	<b>5027</b>
24" Total Pressure (WG)	0.01	0.05	0.12	0.20	0.28	0.40	0.54	0.71
Sound Level (NC/RC)	--/--	28/28N	35/35N	40/40N	45/45N	50/51N	54/54N	58/58N
Radius of Diffusion (Ft)	3-4-8	5-8-15	9-13-22	12-17-29	15-22-36	18-26-44	22-30-51	25-36-58
<b>Airflow (CFM)</b>	<b>855</b>	<b>1710</b>	<b>2566</b>	<b>3421</b>	<b>4276</b>	<b>5131</b>	<b>5986</b>	<b>6842</b>
28" Total Pressure (WG)	0.01	0.06	0.11	0.19	0.28	0.39	0.52	0.66
Sound Level (NC/RC)	--/--	28/29N	35/35N	40/41N	45/46N	51/51N	54/54N	59/59N
Radius of Diffusion (Ft)	3-5-9	6-10-17	10-15-26	14-20-34	17-25-42	21-30-50	25-35-59	29-41-66
<b>Airflow (CFM)</b>	<b>1117</b>	<b>2234</b>	<b>3351</b>	<b>4468</b>	<b>5585</b>	<b>6702</b>	<b>7819</b>	<b>8936</b>
32" Total Pressure (WG)	0.004	0.02	0.04	0.07	0.11	0.16	0.21	0.28
Sound Level (NC/RC)	--/--	29/29N	36/36N	41/41N	46/46N	51/52N	55/56N	59/60N
Radius of Diffusion (Ft)	3-5-10	7-11-20	11-17-29	15-23-38	20-29-48	24-34-57	27-41-67	33-46-76
<b>Airflow (CFM)</b>	<b>1414</b>	<b>2827</b>	<b>4241</b>	<b>5655</b>	<b>7069</b>	<b>8482</b>	<b>9896</b>	<b>11310</b>
36" Total Pressure (WG)	0.006	0.03	0.05	0.10	0.16	0.23	0.30	0.40
Sound Level (NC/RC)	--/--	29/29N	36/37N	41/42N	46/47N	52/53N	56/57N	60/60N
Radius of Diffusion (Ft)	4-6-11	8-12-22	13-19-33	17-25-43	22-32-54	27-39-64	32-47-75	37-53-86

**Notes on**

**Performance Data:**

- Performance data is based on tests conducted according to ANSI/ASHRAE Standard 70-1991.
- Actual performance in the field may vary.
- Testing was conducted in isothermal conditions.
- Sound levels are based on a room absorption of 10db re 10<sup>-12</sup> watts.
- A "--" indicates an NC or RC level less than 10.

**Units of Measure Used:**

- The duct velocity is given in Feet per Minute (FPM).
- Velocity Pressure and Total Pressure are given in Inches of Water (W.G.).
- Radius of Diffusion values are given in feet for terminal velocities of 150, 100 and 50 FPM, respectively.
- Sound data is given in both NC (Noise Criteria) and RC (Room Criteria). NC is first with RC second, separated by a slash.

ROUND DIFFUSERS