

**MODEL**

- SHR - Steel, louvered ceiling diffuser
- 5SHR - Aluminum, louvered ceiling diffuser

**FEATURES**

- Core is removable from face of diffuser
- Maintains a horizontal discharge air pattern from maximum to minimum CFM
- Excellent choice for VAV applications with high loads

**INLET SIZES**

- Round: 6" - 16" (2" increments)
- Square: 6"x6" - 18"x18" (3" increments)

**FRAME STYLES**

- F21 - Surface mount, beveled
- F22 - Surface mount, flat
- F23 - Lay-in T-bar
- F24 - Snap-in T-bar
- F27 - Spline
- F98 - 5/16" step down

**PANEL SIZES**

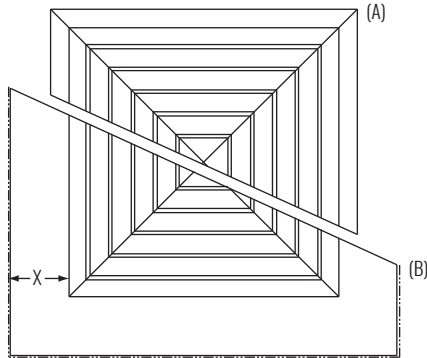
- 12"x12"
- 24"x24"

**COMPATIBLE OPTIONS AND ACCESSORIES**

- PR10 - Steel, radial opposed blade damper
- PRN100 - Steel, radial fan damper
- RP12 - Steel, butterfly bladed damper
- PRD10 - Steel, radial opposed blade damper (duct mount)
- PRD100 - Steel, radial fan damper (duct mount)
- PR12 - Steel, butterfly bladed damper (duct mount)
- RSG15 - Steel, round straightening grid (duct mount)
- PRSG15 - Steel, round straightening grid
- OBDDM - Steel, square or rectangular damper (duct mount)
- EX8 - Steel duct extractor with 1" blade spacing (duct mount)
- EX88 - Steel duct extractor with 2" blade spacing (duct mount)
- HCF23 - Steel, hard ceiling frame (F23 only)
- 5HCF23 - Aluminum, hard ceiling frame (F23 only)



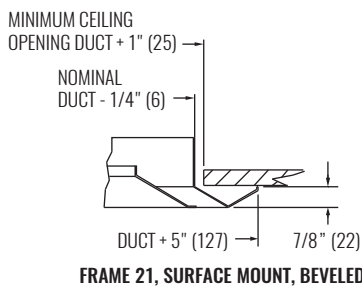
## DIMENSIONAL DATA



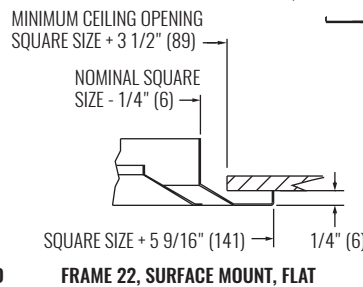
**FRAME STYLE DIFFERENCES**  
A = SURFACE MOUNT, B = LAY-IN T-BAR

DIMENSIONS - AVAILABLE INLET SIZES			
PANEL SIZE	NOMINAL SQUARE	NOMINAL ROUND	HEIGHT (H)
12"x12"	6", (9" <sup>1</sup> )	6"	3 1/8" (79)
	9" <sup>1</sup>	8"	3 3/8" (86)
24"x24"	6", 9", 12", 15", 18"	6"	3 1/8" (79)
	9", 12", 15", 18"	8"	3 3/8" (86)
	12", 15", 18"	10"	3 3/8" (86)
	12", 15", 18"	12"	3 3/8" (86)
	15", 18"	14"	3 3/8" (86)
	18"	16"	3 3/8" (86)

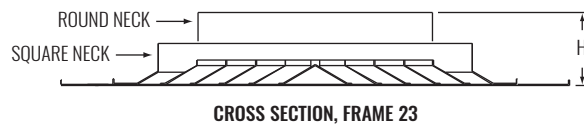
NOTE: <sup>1</sup> Available in 4-way discharge air pattern only.



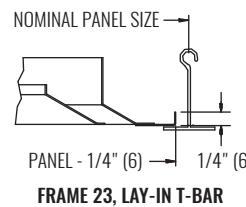
**FRAME 21, SURFACE MOUNT, BEVELED**



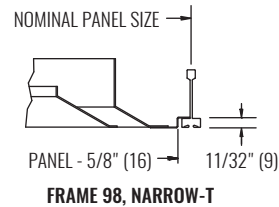
**FRAME 22, SURFACE MOUNT, FLAT**



**CROSS SECTION, FRAME 23**



**FRAME 23, LAY-IN T-BAR**



**FRAME 98, NARROW-T**

NOTES: Dimensions in parentheses are millimeters (mm). Illustrations shown are for a 24"x24" panel. Dimension 'X' will vary with inlet sizes for Frames 23, 24, 27, and 98.

## PERFORMANCE AND DESIGN DATA

SIZE		PERFORMANCE - HORIZONTAL THROW				DESIGN		
NOMINAL SQUARE INLET	NOMINAL ROUND INLET	NC (< 25)		NC (25 - 40)		CFM @ NC=30	SPACING @ 0.6 CFM/sf (ft)	MINIMUM CFM/sf
		CFM	THROW (ft)	CFM	THROW (ft)			
6"x6"	6"	78 - 190	6 - 14	196 - 314	14 - 23	235	20	0.21
9"x9"	8"	140 - 326	8 - 18	349 - 558	19 - 30	380	24	0.22
12"x12"	10"	218 - 491	9 - 21	527 - 763	23 - 33	600	28	0.24
12"x12"	12"	314 - 680	11 - 25	706 - 1099	26 - 40	750	34	0.25
15"x15"	14"	427 - 926	13 - 29	961 - 1495	30 - 46	1100	38	0.28
18"x18"	6"	78 - 190	6 - 14	196 - 275	14 - 20	235	18	0.30
18"x18"	8"	140 - 326	8 - 18	349 - 523	19 - 28	400	22	0.36
18"x18"	10"	218 - 491	9 - 21	545 - 763	24 - 33	600	26	0.40
18"x18"	12"	314 - 680	11 - 25	706 - 1099	26 - 40	900	30	0.42
18"x18"	14"	427 - 925	13 - 29	961 - 1495	30 - 46	1100	36	0.45
18"x18"	16"	558 - 1116	15 - 30	1256 - 1953	34 - 53	1500	40	0.50

NOTES: Information shown is abbreviated. See website for complete information. Dimensions in parentheses are millimeters (mm). Throw value ranges are given for isothermal conditions, unless otherwise noted, and a terminal velocity of 50 FPM (0.25 m/s). NC ranges are based on octave band 2 - 7 sound power levels minus a room absorption of 10dB, re 10<sup>-12</sup> Watts. Data was obtained from tests conducted in accordance with ANSI/ASHRAE Standard 70, ISO Standard 5219, and ISO Standard 3741. Design spacing is recommended distance between diffusers in an open plan office based on ADPI > 80%, 9ft ceiling, and 55°F discharge at 30 NC and 0.6 CFM/sf. Minimum CFM/sf is based on recommended spacing at 80% ADPI. Design recommendations not applicable to vertical throw. "N/A" in design table denotes situations which do not result in ADPI>80% and are therefore not recommended.