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Model **FF-C**

FREE FLO CURVED ARCHITECTURAL SLOT DIFFUSERS

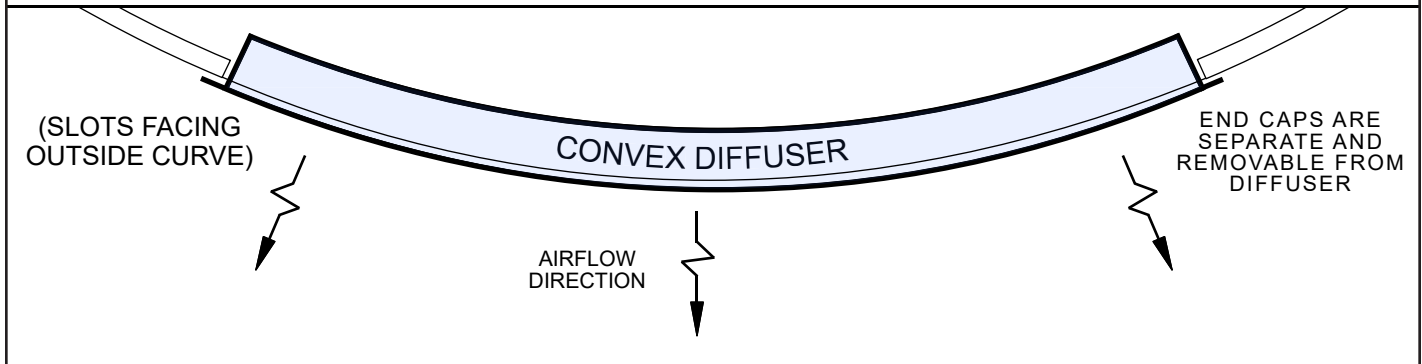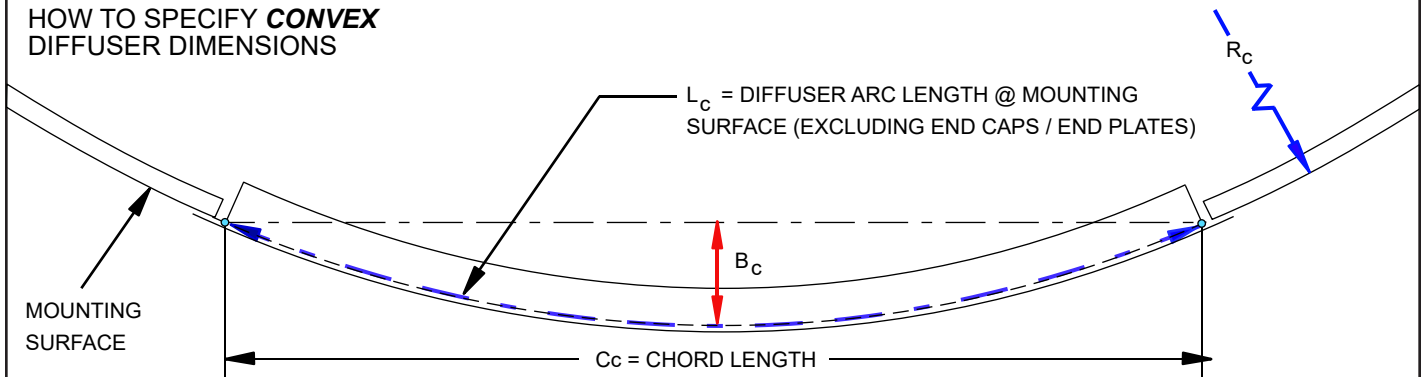*CONVEX (X) APPLICATIONS*

PRODUCT FEATURES

- Installed on **CONVEX** ceilings / walls / surfaces
- Field adjustable pattern controllers to change air discharge direction from horizontal to vertical projection (no integral volume control)
- Any single piece diffuser must have a constant radius (Rc)
- Diffusers with arc lengths greater than 120" will be provided with center and / or end sections
- Refer to the applicable Free Flo submittal sheets for dimensional details, border type, ceiling opening requirements
- Can be used for supply or return applications
- Contact factory for other configurations not shown - slot width, # slots, frame type
- Opening Arc Length = Diffuser Arc Length + 1/2"

Surface Frame Models (S)

☐ FF-C-**S**-10-1-X   1" Slot Width, 1 Slot
☐ FF-C-**S**-10-2-X   1" Slot Width, 2 Slots
☐ FF-C-**S**-15-1-X   1-1/2" Slot Width, 1 Slot
☐ FF-C-**S**-15-2-X   1-1/2" Slot Width, 2 Slots

Plaster / Mud Frame Models (BF)

☐ FF-C-**BF**-10-1-X   1" Slot Width, 1 Slot
☐ FF-C-**BF**-10-2-X   1" Slot Width, 2 Slots
☐ FF-C-**BF**-15-1-X   1-1/2" Slot Width, 1 Slot
☐ FF-C-**BF**-15-2-X   1-1/2" Slot Width, 2 Slots

(RETURN MODELS WITHOUT PATTERN CONTROLLER: *FFR* REPLACES *FF*)

(SLOTS FACING OUTSIDE CURVE)

CONVEX DIFFUSER

END CAPS ARE SEPARATE AND REMOVABLE FROM DIFFUSER

AIRFLOW DIRECTION

HOW TO SPECIFY *CONVEX* DIFFUSER DIMENSIONS

R_C

L_C = DIFFUSER ARC LENGTH @ MOUNTING SURFACE (EXCLUDING END CAPS / END PLATES)

B_C

MOUNTING SURFACE

Cc = CHORD LENGTH

	DIFFUSER DIMENSIONS				
TAG:	Arc Length	Chord Length	Radius	Rise	Angle
	L_C	C_C	R_C	B_C	A_C

IMPORTANT: ONLY 2 OF THE 5 DIMENSIONS SHOWN ARE REQUIRED TO DEFINE DIFFUSER CURVATURE

All dimensions are in inches.

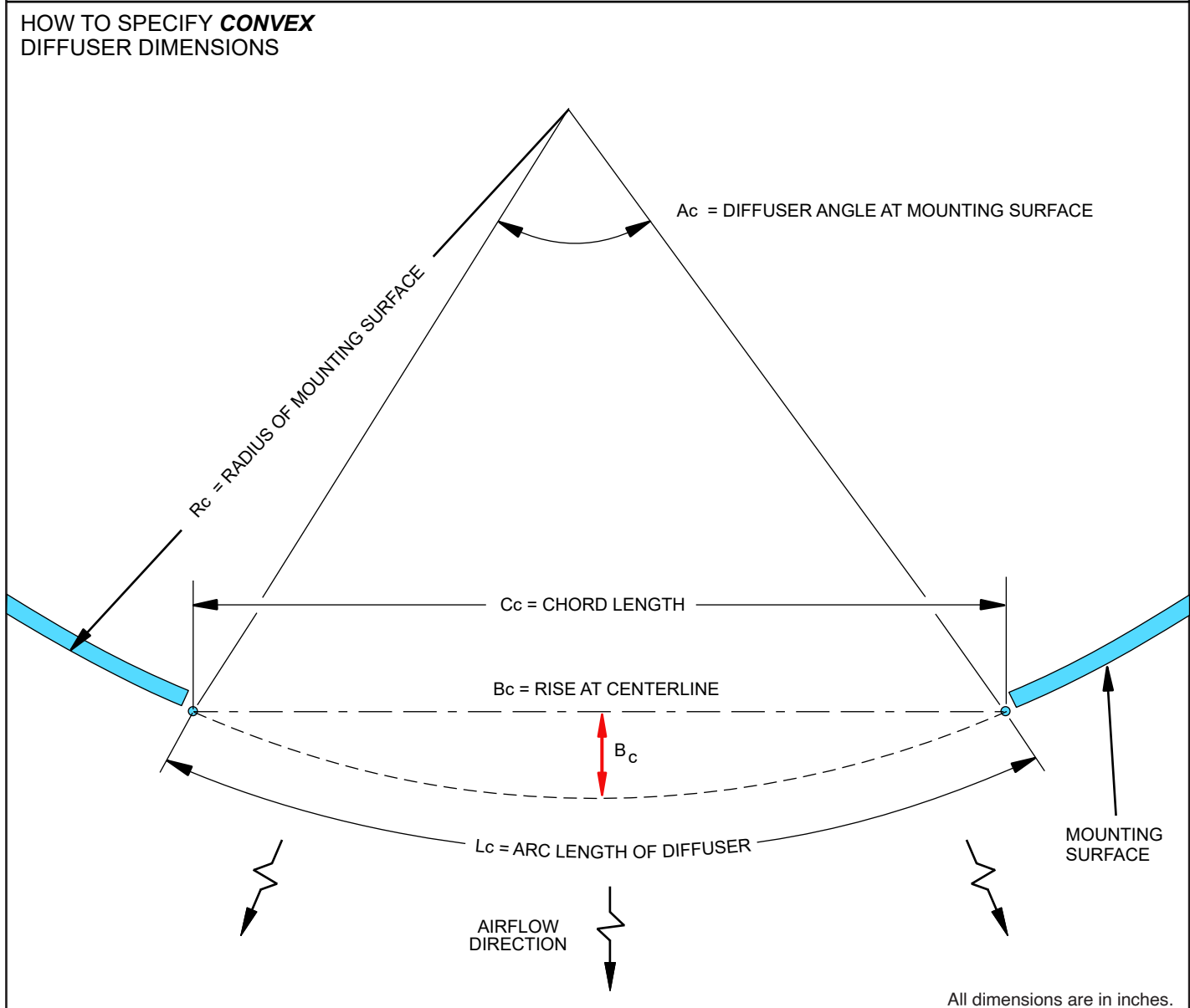**JOB NAME:**   **SUBMITTED BY:**

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FREE FLO CURVED DIFFUSERS
CONVEX (X) APPLICATIONS

CALCULATING CURVING DIMENSIONS

DIFFUSER DIMENSIONS

Any 2 of the following 5 dimensions define the required curving for the diffuser. These dimensions reference the diffuser at the mounting surface:

	Example:
Lc = ARC Length	Lc = 102.64"
Rc = RADIUS	Rc = 130.00"
Cc = CHORD Length (< Diameter)	Cc = 100.00"
Bc = RISE	Bc = 10"
Ac = ANGLE, degrees	Ac = 45.24°

IF YOU KNOW:

Cc & Bc :	$R = (C^2 + 4B^2) / (8B)$
	$A = 2 \times Arcsin\ (C/2R)$
	$L = .017453 \times R \times A$
Lc & Rc :	$A = 57.296 \times L / R$
	$C = 2 \times R \times Sin\ (A/2)$
Lc & Ac :	$R = L / (.017453 \times A)$
	$C = 2 \times R \times Sin\ (A/2)$
Cc & Rc :	$A = 2 \times Arcsin\ (C/2R)$
	$L = .017453 \times R \times A$

HOW TO SPECIFY *CONVEX* DIFFUSER DIMENSIONS

Ac = DIFFUSER ANGLE AT MOUNTING SURFACE

Rc = RADIUS OF MOUNTING SURFACE

Cc = CHORD LENGTH

Bc = RISE AT CENTERLINE

B_c

Lc = ARC LENGTH OF DIFFUSER

MOUNTING SURFACE

AIRFLOW DIRECTION

All dimensions are in inches.

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FREE FLO CURVED DIFFUSERS
CONVEX (X) APPLICATIONS

CEILING OPENING DIMENSIONS

1-Slot Shown

E = CEILING OPENING

Q

ADJUSTABLE PATTERN CONTROLLER

Rc = RADIUS OF MOUNTING SURFACE

C

MOUNTING SURFACE
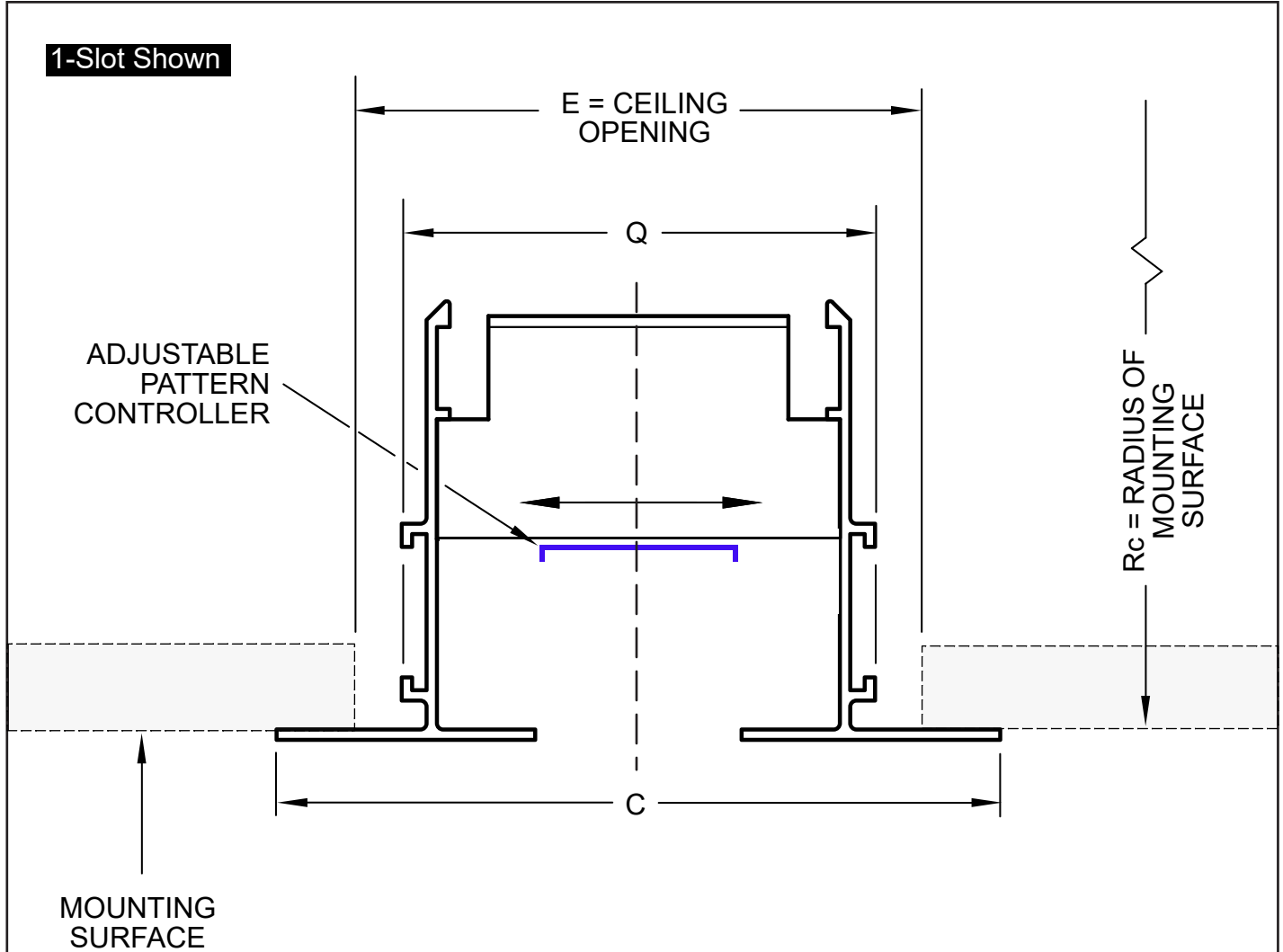
MODELS	SLOT WIDTH	# SLOTS	C	E	Q
FF-C-S-X (SURFACE FRAME)	1"	1	3-1/2	2-3/8	2-9/32
		2	5-1/2	4-3/8	4-9/32
	1-1/2"	1	4-1/2	3-3/8	3-9/32
		2	7-1/2	6-3/8	6-9/32
FF-C-BF-X (PLASTER / MUD FRAME)	2"	1	5-1/2	4-3/8	4-11/32
		2	9-1/2	8-3/8	8-11/32

Contact factory for other slot widths and quantity of slots.

All dimensions are in inches.

JOB NAME: **SUBMITTED BY:**

Product information is subject to change without notice.
Drawing is not to scale.

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Rev -