# GGC

جي جي سي

شركة الخليج لفتحات التكييف المركزي

# GULF GRILLES CO.
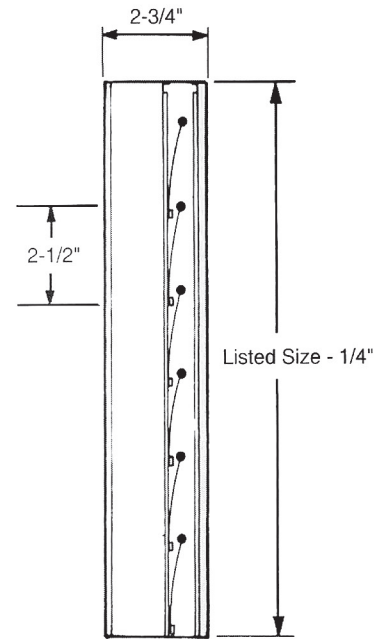
# GRAVITY
# SHUTTERS
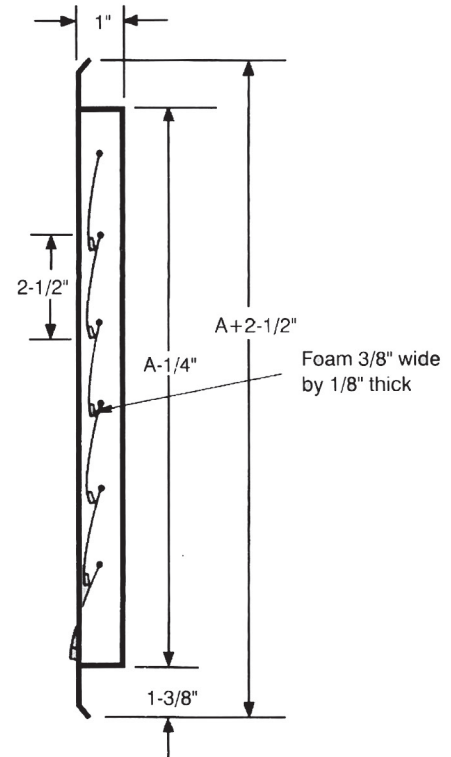
Dimension labels: 1", 2-1/2", A-1/4", A+2-1/2", 1-3/8", Foam 3/8" wide by 1/8" thick

## PRODUCT DESCRIPTION

A horizontal operable shutter which operates to equalize the pressure across it.

● The frame and blades are extruded aluminium alloy and are polyester powder coated with a white finish.

● The frame has a typical wall thickness of 1/16" and is separated from the movable blades by an extruded rigid PVC track, which is riveted to and becomes an integral part of the frame.

● A 1/8" thick, 3/8" wide foam tape is installed on the blades where they overlap to insure a good seal and to reduce noise.

● Each shutter is carefully designed to equalize the pressure in such areas as a compressor or fan room with the outside.

● The blades are designed and positioned in such a way that if the pressure in the room increase the blades automatically lift and open relieving the pressure in the room.

● When the room pressure is normalized the blades drop to the closed position by gravity.

● These devices are also employed at the end of the exhaust ducts where they would open when the exhaust fan was turned on and would close when the fan was turned off.

● Standard finish white for frame and blades. Painted under electrostatic polyester powder coated system. Other colors available on request. The polyester powder on highest quality are used to enhance the appearance of the units.

# DD4-X

## GRAVITY SHUTTER
### HORIZONTAL OPERABLE PRESSURE RELIEF SHUTTER
### (DUCT MOUNTING)

جي جي سي

**G G C**

2-3/4"

2-1/2"

Listed Size - 1/4"

## PRODUCT DESCRIPTION

A horizontal operable shutter which operates to equalize the pressure across it.

● The frame and blades are extruded aluminium alloy and are polyester powder coated with a white finish.

● The frame has a typical wall thickness of 1/16" and is separated from the movable blades by an extruded rigid PVC track which is riveted to and becomes an integral part of the frame.

● A 1/8" thick 3/8" wide foam tape is installed on the blades where they overlap to insure a good seal and to reduce noise.

● Each shutter is carefully designed to equalize the pressure in such areas of the duct, where the pressure in the duct has to be maintained.

● The blades are designed and positioned in such a way where the pressure in the duct increases the blades automatically lift and open relieving the pressure in the duct.

● When the duct pressure is normalized, the blades drop to the closed positioned by gravity.

● These devices are also employed at the end of the exhaust ducts where they would open when the exhaust fan was turned on and would close when the fan was turned off.

● In a multi-unit installation will prevent back draught through a non-operating unit.

## Technical Data and Listed Sizes
## Area Factor

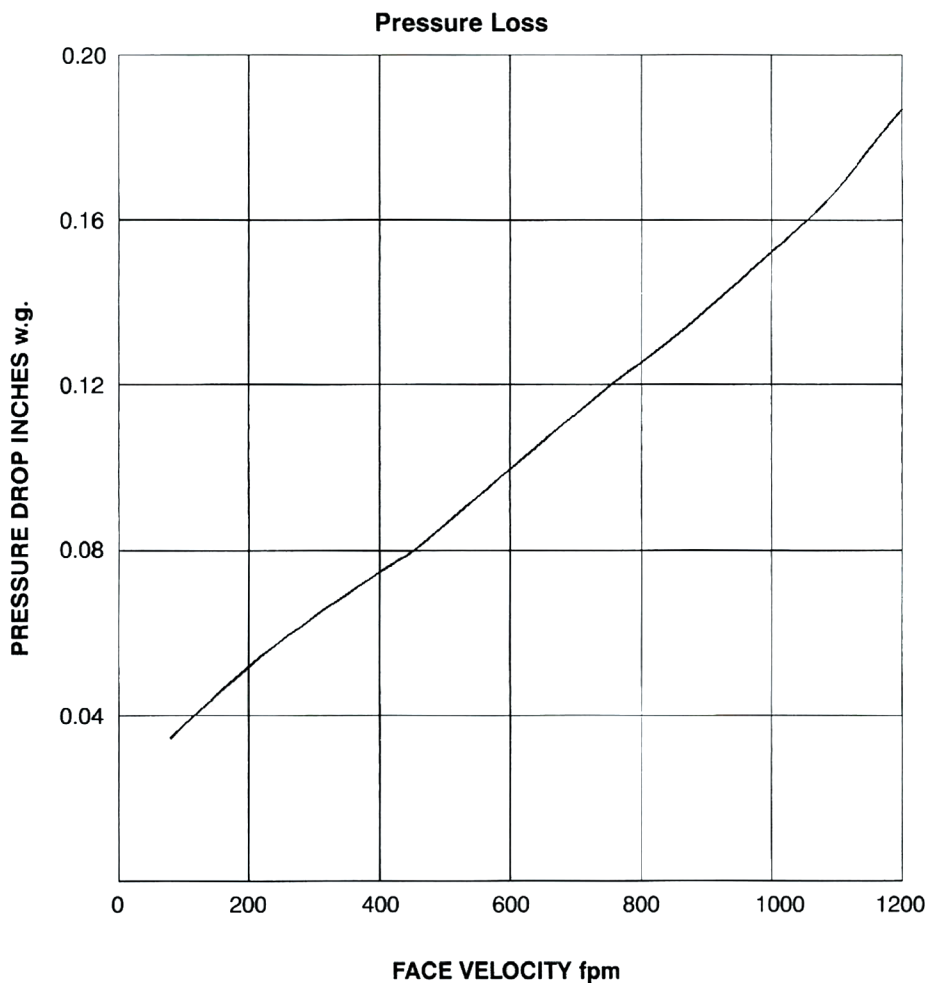| Listed Height (inches) | Listed Width (inches) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **12** | **14** | **16** | **18** | **20** | **24** | **30** | **36** | **42** | **48** | **54** | **60** | **72** |
| 12 | 0.81 | 0.96 | 1.10 | 1.25 | 1.40 | 1.64 | 2.08 | 2.47 | 2.91 | 3.30 | 3.74 | 4.13 | 4.96 |
| 16 | 1.08 | 1.27 | 1.47 | 1.66 | 1.86 | 2.18 | 2.77 | 3.29 | 3.87 | 4.44 | 5.02 | 5.49 | 6.60 |
| 20 | 1.36 | 1.60 | 1.85 | 2.09 | 2.33 | 2.75 | 3.48 | 4.13 | 4.87 | 5.52 | 6.25 | 6.91 | 8.30 |
| 24 | 1.62 | 1.92 | 2.21 | 2.50 | 2.79 | 3.29 | 4.16 | 4.95 | 5.82 | 6.61 | 7.48 | 8.27 | 9.93 |
| 28 | 1.89 | 2.23 | 2.57 | 2.91 | 3.25 | 3.83 | 4.85 | 5.76 | 6.78 | 7.69 | 8.71 | 9.63 | 11.56 |
| 32 | 2.16 | 2.55 | 2.93 | 3.32 | 3.71 | 4.37 | 5.53 | 6.57 | 7.74 | 8.78 | 9.94 | 10.99 | 13.19 |
| 36 | 2.44 | 2.87 | 3.31 | 3.75 | 4.19 | 4.93 | 6.24 | 7.42 | 8.73 | 9.91 | 11.22 | 12.40 | 14.89 |
| 40 | 2.70 | 3.19 | 3.68 | 4.16 | 4.65 | 5.47 | 6.93 | 8.23 | 9.69 | 11.00 | 12.45 | 13.76 | 16.52 |
| 44 | 2.97 | 3.50 | 4.04 | 4.57 | 5.11 | 6.01 | 7.61 | 9.05 | 10.65 | 12.08 | 13.68 | 15.12 | 18.16 |
| 48 | 3.25 | 3.83 | 4.42 | 5.00 | 5.59 | 6.57 | 8.32 | 9.89 | 11.64 | 13.21 | 14.97 | 16.54 | 19.86 |
| 52 | 3.52 | 4.15 | 4.78 | 5.41 | 6.04 | 7.11 | 9.01 | 10.71 | 12.60 | 14.30 | 16.20 | 17.89 | 21.49 |
| 56 | 3.78 | 4.46 | 5.14 | 5.82 | 6.50 | 7.65 | 9.69 | 11.52 | 13.56 | 15.39 | 17.43 | 19.25 | 23.12 |
| 60 | 4.06 | 4.79 | 5.52 | 6.25 | 6.98 | 8.21 | 10.40 | 12.36 | 14.55 | 16.52 | 18.71 | 20.67 | 24.82 |

### Note:

For sizes not shown, the approximate area factor can be calculated by using the formula below:

$$\text{*Area Factor} = \frac{.875 \,(\text{Height}) \times (\text{Width} - 1.5)}{144}$$

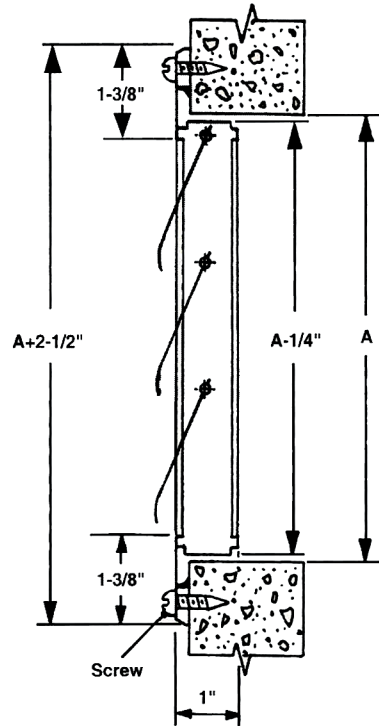To calculate the air volume (CFM) multiply the area factor by the face velocity.

$$\text{CFM} = \text{Area Factor} \times \text{Face Velocity}.$$

\* Area Factor calculation assumes gravity shutter blades 100% open.

**Pressure Loss**



PRESSURE DROP INCHES w.g. vs FACE VELOCITY fpm

جي جي سي

**GGC**

**Model: DL4-X**

1-3/8"

A+2-1/2"

A-1/4"

A

1-3/8"

Screw

1"

**A = Listed Size**

**MODEL : DD4-X**

RIVET

DUCT
SYSTEM 1

FAN 1
or
UNIT 1

AIR FLOW

DUCT
SYSTEM 2

FAN 2
or
UNIT 2
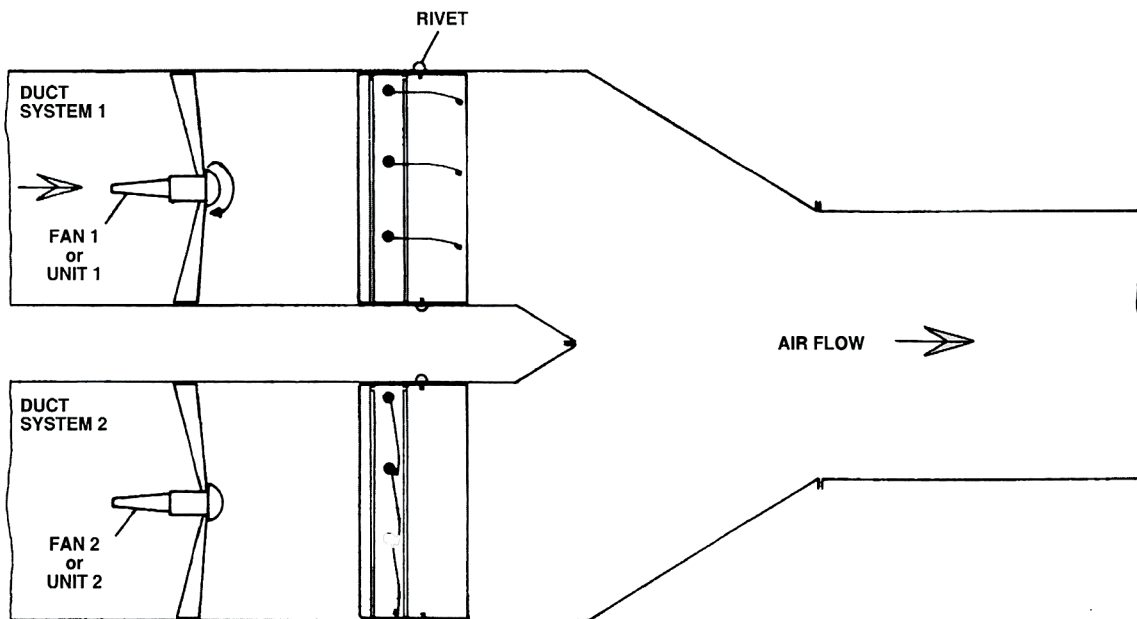
**Unit 1 in Operation**
**Unit 2 in stand-by**