

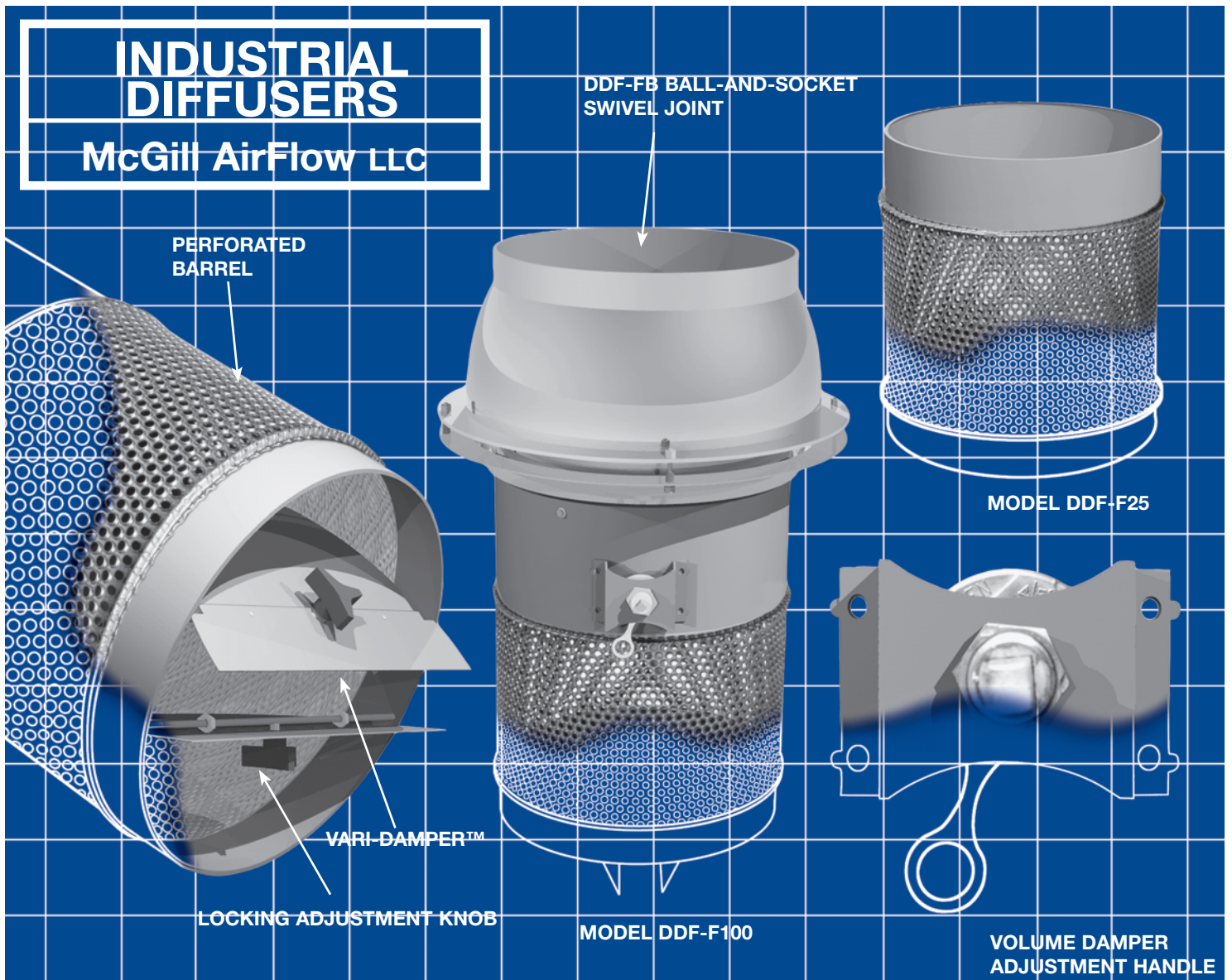
McGill AirFlow LLC

An enterprise of United McGill Corporation —  
Family owned and operated since 1951

# Duct-D-Fuser™ Terminal Outlets

## Factair™ Industrial Diffusers

a McGill AirFlow™ product



Industrial plants use ducted air distribution with low-level discharge for the most efficient heating and cooling of work zones located in large, open areas. The low-level discharge is accomplished through the use of drops from the main air system to the work zone.

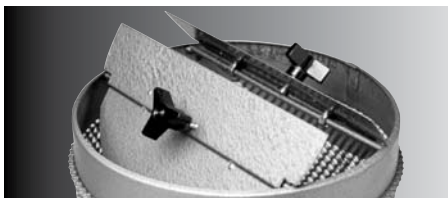
To effectively use low-level distribution for heating and cooling, positive control of the velocity of the ducted air over the worker is required. Because of the natural variables associated with each individual and the continuing change in ambient conditions, this important velocity level cannot be a preset figure. Ideally, the worker should be able to easily adjust the velocity and air pattern to suit his or her individual comfort needs.

The Factair industrial diffuser from McGill AirFlow is the first device of its kind to truly allow the worker to control the velocity and pattern of the low-level air being discharged into the work zone.

## Features

The Factair diffuser uses perforations on the air diffusion section of the body. This multitude of closely spaced perforations ensures a diffused air pattern.

The principal feature of the Factair diffuser is the wide range of air discharge patterns made possible by adjusting its various components, such as the unique Vari-Damper™ airflow control device. These patterns range from a direct, full-velocity flow through a gradually widening pattern with lower velocity. The pattern can be controlled by setting the Vari-Damper airflow controller in an open, intermediate, or closed position with the easy-to-use adjustable, locking knobs. If desired, the air volume can be shut off almost completely on Factair Models DDF-F50 and DDF-F100 by using the in-line volume control damper.

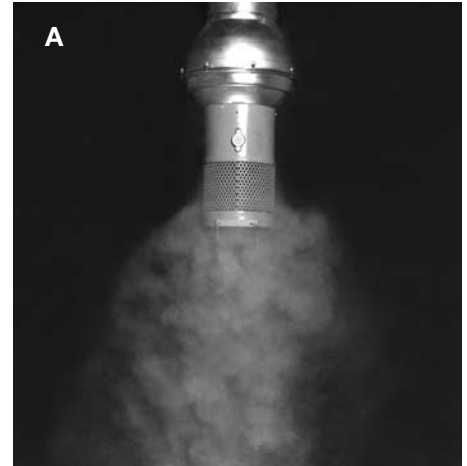


Vari-Damper with its easy-to-use, fully adjustable, locking knobs.

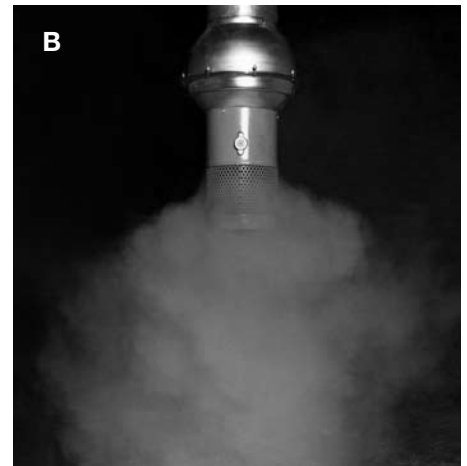
## Air Pattern Selection

These pictures show an 8-inch diameter Factair Model DDF-F100 with 1890 fpm duct supply velocity and 660 cfm discharge. Air velocity measurements taken at the centerline axis, 2 feet from the unit, were: (A) +1700 fpm; (B) +600 fpm; and (C) -70 fpm.

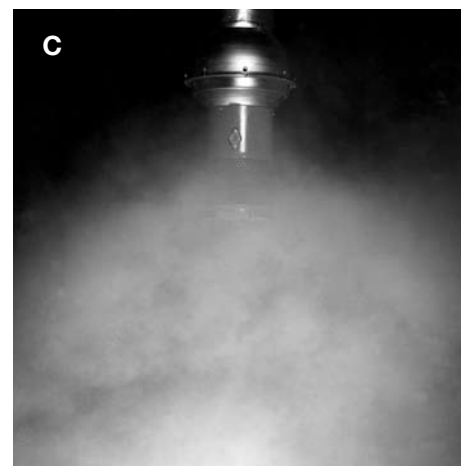
**A.** With the Factair diffuser's Vari-Damper airflow controller fully open, test smoke is projected at full velocity through the base of the outlet in an axial, "straight-down" pattern. Lateral airflow through the barrel perforations is negligible.



**B.** With the Vari-Damper airflow controller set at an intermediate position, a proportional amount of airflow through the perforations combines with axial flow for a wider air pattern and decreased direct velocity. The wide range of intermediate positions possible with the Vari-damper airflow controller allows an equally wide range of possible air patterns and velocities.



**C.** With the Vari-Damper airflow controller completely closed, most of the air is discharged through the barrel perforations, producing a hollow-cone air pattern.



## Performance Data

Refer to McGill AirFlow's *Factair Performance Data Sheets* for selection of unit size based on available pressure and desired throw and acoustics characteristics.

## Models and Dimensions

There is a Factair model for any desired combination of direction, volume, pattern, or velocity. All four Factair models include the discharge section that combines the perforated barrel and Vari-Damper airflow controller at

the base. Factair Model DDF-F75 includes a ball-and-socket swivel joint that permits the worker to adjust the airflow up to 15° in any direction from the centerline axis. Models 50 and 100 include an internal volume damper for flow control.

**Model DDF-F100**<sup>1, 2, 3, 4</sup>



**Model DDF-F75**<sup>1, 3, 4</sup>



**Model DDF-F50**<sup>2, 3, 4</sup>



**Model DDF-F25**<sup>3, 4</sup>



**DDF-FB Ball-and-Socket Swivel Joint**



1. Directional Adjustment, 2. Volume Control, 3. Pattern Control, 4. Velocity Control

## Standard Dimensions

**Table 1**—Factair Approximate Overall Length (excluding insertion collar for duct connection)

Diameter (inches)	Model F25 (inches)	Model F50 (inches)	Model F75 (inches)	Model F100 (inches)	Collar Gauge
4	8 <sup>3</sup> / <sub>8</sub>	10 <sup>7</sup> / <sub>8</sub>	15 <sup>7</sup> / <sub>8</sub>	18 <sup>3</sup> / <sub>8</sub>	20
6	9 <sup>3</sup> / <sub>4</sub>	12 <sup>1</sup> / <sub>4</sub>	18 <sup>1</sup> / <sub>4</sub>	20 <sup>3</sup> / <sub>4</sub>	20
8	11 <sup>1</sup> / <sub>8</sub>	13 <sup>5</sup> / <sub>8</sub>	21 <sup>1</sup> / <sub>8</sub>	23 <sup>5</sup> / <sub>8</sub>	20
10	12 <sup>3</sup> / <sub>8</sub>	14 <sup>7</sup> / <sub>8</sub>	22 <sup>5</sup> / <sub>8</sub>	24 <sup>5</sup> / <sub>8</sub>	20
12	13 <sup>3</sup> / <sub>4</sub>	16 <sup>1</sup> / <sub>4</sub>	23 <sup>3</sup> / <sub>4</sub>	26 <sup>1</sup> / <sub>4</sub>	20
14	15 <sup>1</sup> / <sub>8</sub>	17 <sup>5</sup> / <sub>8</sub>	26 <sup>7</sup> / <sub>8</sub>	29 <sup>5</sup> / <sub>8</sub>	20
16	16 <sup>3</sup> / <sub>8</sub>	18 <sup>7</sup> / <sub>8</sub>	28 <sup>3</sup> / <sub>8</sub>	30 <sup>7</sup> / <sub>8</sub>	20
18	17 <sup>3</sup> / <sub>4</sub>	20 <sup>1</sup> / <sub>4</sub>	30	32 <sup>1</sup> / <sub>2</sub>	18
20	19 <sup>1</sup> / <sub>16</sub>	21 <sup>9</sup> / <sub>16</sub>	31 <sup>1</sup> / <sub>16</sub>	33 <sup>9</sup> / <sub>16</sub>	18
22	20 <sup>3</sup> / <sub>8</sub>	22 <sup>7</sup> / <sub>8</sub>	32 <sup>7</sup> / <sub>8</sub>	35 <sup>3</sup> / <sub>8</sub>	18
24	21 <sup>3</sup> / <sub>4</sub>	24 <sup>1</sup> / <sub>4</sub>	34 <sup>1</sup> / <sub>4</sub>	36 <sup>3</sup> / <sub>4</sub>	18
26	21 <sup>1</sup> / <sub>16</sub>	25 <sup>9</sup> / <sub>16</sub>	33 <sup>9</sup> / <sub>16</sub>	38 <sup>1</sup> / <sub>16</sub>	18

**Table 2**—DDF-FB Ball-and-Socket Swivel Joint

Diameter (inches)	Height (inches)	Width (inches)	Gauge (galvanized steel)
3	9	9	20
4	9	9	20
6	10	11 <sup>1</sup> / <sub>4</sub>	20
8	11 <sup>1</sup> / <sub>2</sub>	13 <sup>1</sup> / <sub>4</sub>	20
10	11 <sup>1</sup> / <sub>2</sub>	16	20
12	11 <sup>1</sup> / <sub>2</sub>	17 <sup>1</sup> / <sub>2</sub>	18
14	13 <sup>1</sup> / <sub>4</sub>	20 <sup>1</sup> / <sub>8</sub>	18
16	13 <sup>1</sup> / <sub>2</sub>	22 <sup>1</sup> / <sub>8</sub>	18
18	13 <sup>3</sup> / <sub>4</sub>	24	18
20	13 <sup>1</sup> / <sub>2</sub>	26	18
22	14	28	18
24	14	30	18
26	14	32	18

## Materials of Construction

The Factair diffuser (barrel section, perforated section, and dampers) is constructed of the following materials:

- painted (metallic hammer-tone blue) galvanized steel — standard
- 304 and 316 stainless steel
- Aluminum
- galvanized steel

The DDF-FB ball-and-socket swivel joints are constructed of:

- galvanized steel—standard
- carbon steel
- 304 and 316 stainless steel
- Aluminum



Factair industrial diffusers allow workers to fully adjust the air pattern to meet their individual work zone and comfort needs.

United McGill® is a registered trademark and Factair™, McGill AirFlow™, and Vari-Damper™ are trademarks of United McGill Corporation.

McGill AirFlow products depicted in this brochure were current at the time of publication. As a quality-conscious manufacturer, McGill AirFlow continually seeks ways to improve its products to better serve its customers. Therefore, all designs, specifications, and product features are subject to change without notice.

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