

# Pre Pleat 40

## *Extended Surface Pleated Filters*

PB-700-0400

### General

Flanders Precisionaire Pre Pleat 40 extended surface pleated filters are designed to operate in most every type of installation. Available in 1 in., 2 in., and 4 in. nominal thickness, these filters have an average atmospheric dust spot efficiency range of 25-30% per ASHRAE Standard 52.1 test methods. Pre Pleat 40 filters offer greater efficiency and service life than disposable filters, pad and frame systems, or metal washable filters. The overall design of this product makes these filters the accepted choice in applications requiring high performance and extended service.

These filters are suitable for variable air volume systems. Operating face velocity ranges are from 0 to 500 fpm for 1 in. and 2 in. filters, and from 0 to 625 fpm for 4 in. filters. Two styles are available: Standard capacity with 11 pleats per lineal foot and high capacity with 15 pleats per lineal foot.

Pre Pleat 40 filters are UL 900 Class 2 listed but are available with UL Class 1 listing.

### Important Features

Radial wedge pleats minimize end losses and reduces pressure drop

Expanded metal grid prevents media flutter while in operation

Diagonal and horizontal support members provide frame strength

Filter media pack is sealed to eliminate air bypass

Average ASHRAE efficiency is 25-30%

Average arrestance is 90%-92%

### Versatility

Most heating, air conditioning, or ventilating systems can be upgraded with the use of Pre Pleat 40 filters in place of existing flat panel types. The inherent strength of the filter allows for easy changeout as it will not collapse, warp, or bend in normal service.

Pre Pleat 40 filters are available in a wide range of sizes and will fit most commercial and industrial installations with little or no system modification. Fasteners are available to adapt the filter to existing filter banks.

### Installation Considerations

Pre Pleat 40 pleated filters are suitable as primary filters and can be installed in Type 9 Holding Frames, K-Trac Framing Modules, Surepleat Side Access Housings and similar existing hardware. They may be used as prefilters for Precision Pak, PrecisionCell and Rigid-Air filters in these framing systems and in Sureseal Side Access Housings.

### Physical Data

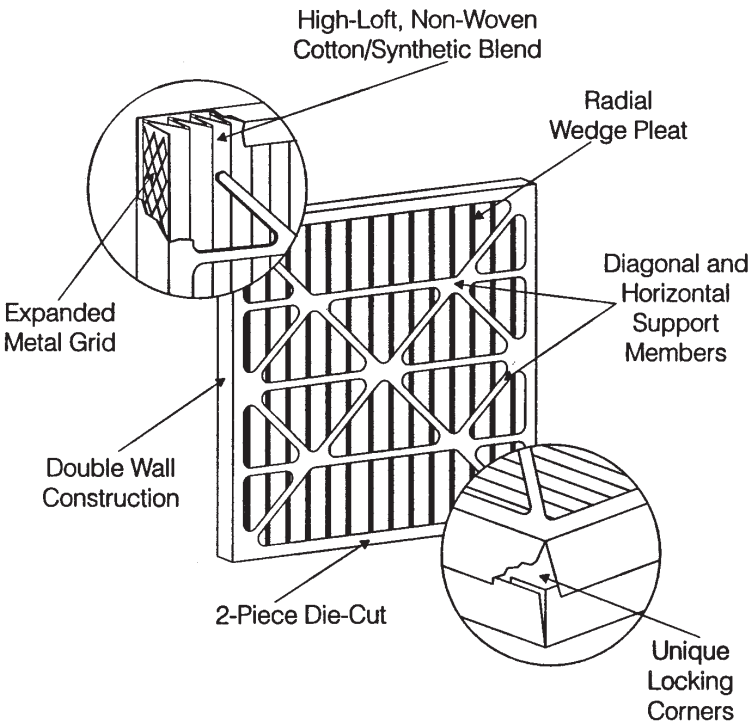
**Media:** High-loft, non-woven cotton/synthetic blend

**Media Support:** Diamond-shaped expanded metal

**Pleat Design:** Radial wedge

**Frame:** Moisture-resistant carrier board





## Construction

Filter frames are constructed from two pieces of die-cut, moisture-resistant carrier board. Components “telescope” into one another and provide double-wall construction and a precision fit. The frame includes diagonal and horizontal support members bonded to the media on the air entering and leaving sides for unsurpassed frame strength. Locking corners and positive media-to-frame seal reduces the possibility of air bypass.

The filter media is a high-loft, reinforced, non-woven cotton/synthetic blend. It is continuously laminated to an expanded metal grid on the air leaving side to provide pleat stability throughout the life of the filters and prevent media flutter while in operation.

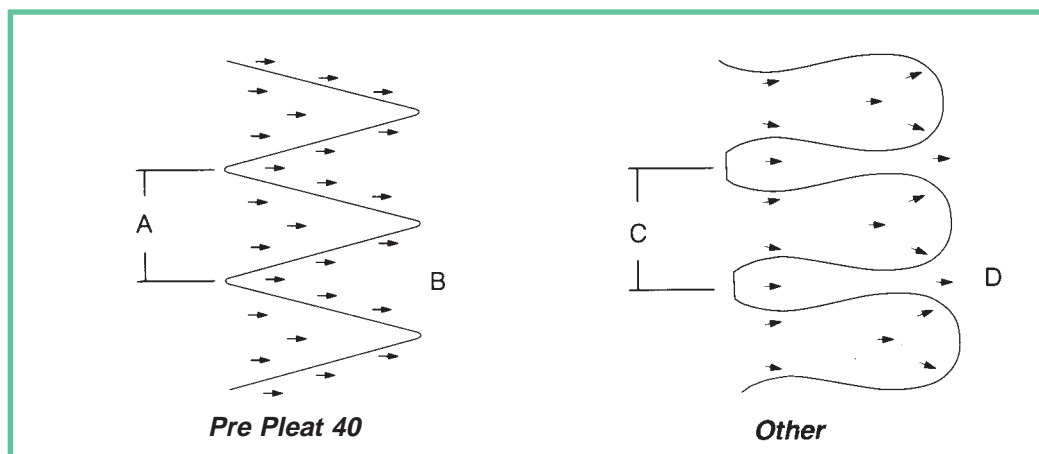
Flanders Precisionaire’s unique radial wedge pleat allows for total media usage and provides maximum air flow and dust holding capacity.

## Principles of Operation

Flanders Precisionaire’s radial wedge pleat insures that the greatest media area is exposed to the air flow to promote uniform dust loading. Competitive filters cannot maintain this rigid shape and tend to flatten out, using only a portion of the media.

This radial wedge creates an air exit area (B) equal to the air entering area (A), which minimizes end losses and reduces pressure drop.

Non-radial wedge pleats have unequal air exit (D) and air entering (C) areas, which cause higher resistance and uneven use of media.



## Performance Data

### Capacities And Dimensions

| Nominal Depth (in.) | Nominal Size H x W x D (in.) | Standard Capacity |      |         |      |                     |                    | High Capacity |      |         |      |                     |                    |
|---------------------|------------------------------|-------------------|------|---------|------|---------------------|--------------------|---------------|------|---------|------|---------------------|--------------------|
|                     |                              | 300 fpm           |      | 500 fpm |      | Media Area (sq. ft) | Weight Each (lbs.) | 300 fpm       |      | 500 fpm |      | Media Area (sq. ft) | Weight Each (lbs.) |
|                     |                              | cfm               | PD   | cfm     | PD   |                     |                    | cfm           | PD   | cfm     | PD   |                     |                    |
| 1                   | 10 x 10 x 1                  | 210               | .15  | 347     | .35  | 1.1                 | .2                 | 210           | .13  | 347     | .33  | 1.6                 | .2                 |
|                     | 10 x 20 x 1                  | 417               | .15  | 694     | .35  | 2.2                 | .3                 | 417           | .13  | 694     | .33  | 3.2                 | .4                 |
|                     | 12 x 20 x 1                  | 500               | .15  | 833     | .35  | 2.7                 | .4                 | 500           | .13  | 833     | .33  | 3.8                 | .5                 |
|                     | 12 x 24 x 1                  | 600               | .15  | 1000    | .35  | 3.5                 | .5                 | 600           | .13  | 1000    | .33  | 4.5                 | .6                 |
|                     | 14 x 20 x 1                  | 583               | .15  | 972     | .35  | 3.1                 | .5                 | 583           | .13  | 972     | .33  | 4.5                 | .6                 |
|                     | 14 x 25 x 1                  | 729               | .15  | 1215    | .35  | 4.0                 | .6                 | 729           | .13  | 1215    | .33  | 5.3                 | .7                 |
|                     | 15 x 20 x 1                  | 625               | .15  | 1042    | .35  | 3.3                 | .6                 | 625           | .13  | 1042    | .33  | 4.8                 | .7                 |
|                     | 16 x 20 x 1                  | 667               | .15  | 1110    | .35  | 3.6                 | .6                 | 667           | .13  | 1110    | .33  | 4.8                 | .7                 |
|                     | 16 x 25 x 1                  | 834               | .15  | 1390    | .35  | 4.6                 | .7                 | 834           | .13  | 1390    | .33  | 6.1                 | .8                 |
|                     | 20 x 20 x 1                  | 834               | .15  | 1390    | .35  | 4.6                 | .7                 | 834           | .13  | 1390    | .33  | 6.1                 | .8                 |
|                     | 18 x 24 x 1                  | 900               | .15  | 1500    | .35  | 4.8                 | .7                 | 900           | .13  | 1500    | .33  | 6.9                 | .9                 |
|                     | 18 x 25 x 1                  | 945               | .15  | 1575    | .35  | 5.0                 | .7                 | 945           | .13  | 1575    | .33  | 7.2                 | .9                 |
|                     | 20 x 24 x 1                  | 1000              | .15  | 1667    | .35  | 5.3                 | .8                 | 1000          | .13  | 1667    | .33  | 7.7                 | 1.0                |
|                     | 20 x 25 x 1                  | 1042              | .15  | 1735    | .35  | 5.5                 | .8                 | 1042          | .13  | 1735    | .33  | 7.6                 | 1.0                |
| 24 x 24 x 1         | 1200                         | .15               | 2000 | .35     | 6.4  | .9                  | 1200               | .13           | 2000 | .33     | 8.9  | 1.1                 |                    |
| 2                   | 10 x 20 x 2                  | 417               | .12  | 694     | .27  | 4.5                 | .6                 | 417           | .11  | 694     | .25  | 6.4                 | .8                 |
|                     | 12 x 20 x 2                  | 500               | .12  | 833     | .27  | 5.3                 | .7                 | 500           | .11  | 833     | .25  | 7.7                 | .9                 |
|                     | 12 x 24 x 2                  | 600               | .12  | 1000    | .27  | 5.8                 | .8                 | 600           | .11  | 1000    | .25  | 8.7                 | 1.0                |
|                     | 14 x 20 x 2                  | 583               | .12  | 972     | .27  | 6.2                 | .8                 | 583           | .11  | 972     | .25  | 8.9                 | 1.0                |
|                     | 14 x 25 x 2                  | 729               | .12  | 1215    | .27  | 7.8                 | 1.0                | 729           | .11  | 1215    | .25  | 11.2                | 1.2                |
|                     | 15 x 20 x 2                  | 625               | .12  | 1042    | .27  | 6.7                 | .8                 | 625           | .11  | 1042    | .25  | 9.6                 | 1.0                |
|                     | 16 x 20 x 2                  | 667               | .12  | 1110    | .27  | 6.6                 | .9                 | 667           | .11  | 1110    | .25  | 10.0                | 1.1                |
|                     | 16 x 25 x 2                  | 834               | .12  | 1390    | .27  | 8.3                 | 1.1                | 834           | .11  | 1390    | .25  | 12.4                | 1.3                |
|                     | 18 x 24 x 2                  | 900               | .12  | 1500    | .27  | 9.6                 | 1.2                | 900           | .11  | 1500    | .25  | 13.8                | 1.5                |
|                     | 18 x 25 x 2                  | 938               | .12  | 1563    | .27  | 10.0                | 1.3                | 938           | .11  | 1563    | .25  | 14.4                | 1.6                |
|                     | 20 x 20 x 2                  | 834               | .12  | 1390    | .27  | 8.3                 | 1.1                | 834           | .11  | 1390    | .25  | 12.4                | 1.3                |
|                     | 20 x 24 x 2                  | 1000              | .12  | 1667    | .27  | 10.7                | 1.3                | 1000          | .11  | 1667    | .25  | 15.3                | 1.6                |
|                     | 20 x 25 x 2                  | 1042              | .12  | 1735    | .27  | 10.3                | 1.3                | 1042          | .11  | 1735    | .25  | 15.5                | 1.6                |
|                     | 24 x 24 x 2                  | 1200              | .12  | 2000    | .27  | 12.3                | 1.5                | 1200          | .11  | 2000    | .25  | 17.8                | 1.8                |
| 25 x 25 x 2         | 1300                         | .12               | 2170 | .27     | 13.3 | 1.6                 | 1300               | .11           | 2170 | .25     | 19.2 | 1.9                 |                    |

| Depth | Nominal Size H x W x D (in.) | Standard Capacity |     |         |     |                     |                    | High Capacity |     |         |     |                     |                    |
|-------|------------------------------|-------------------|-----|---------|-----|---------------------|--------------------|---------------|-----|---------|-----|---------------------|--------------------|
|       |                              | 300 fpm           |     | 625 fpm |     | Media Area (sq. ft) | Weight Each (lbs.) | 300 fpm       |     | 625 fpm |     | Media Area (sq. ft) | Weight Each (lbs.) |
|       |                              | cfm               | PD  | cfm     | PD  |                     |                    | cfm           | PD  | cfm     | PD  |                     |                    |
| 4     | 12 x 24 x 4                  | 600               | .10 | 1250    | .30 | 11.6                | 1.5                | 600           | .09 | 1250    | .28 | 14.0                | 1.7                |
|       | 16 x 20 x 4                  | 667               | .10 | 1390    | .30 | 11.8                | 1.7                | 667           | .09 | 1390    | .28 | 15.5                | 1.8                |
|       | 16 x 25 x 4                  | 834               | .10 | 1735    | .30 | 15.0                | 2.0                | 834           | .09 | 1735    | .28 | 19.6                | 2.2                |
|       | 18 x 24 x 4                  | 900               | .10 | 1500    | .30 | 17.4                | 2.1                | 900           | .09 | 1500    | .28 | 21.9                | 2.3                |
|       | 20 x 20 x 4                  | 834               | .10 | 1735    | .30 | 15.0                | 2.0                | 834           | .09 | 1735    | .28 | 19.6                | 2.2                |
|       | 20 x 24 x 4                  | 1000              | .10 | 1667    | .30 | 19.3                | 2.3                | 1000          | .09 | 1667    | .28 | 24.3                | 2.5                |
|       | 20 x 25 x 4                  | 1042              | .10 | 2170    | .30 | 20.2                | 2.3                | 1042          | .09 | 2170    | .28 | 24.0                | 2.5                |
|       | 24 x 24 x 4                  | 1200              | .10 | 2500    | .30 | 22.3                | 2.5                | 1200          | .09 | 2500    | .28 | 28.0                | 3.0                |
|       | 25 x 29 x 4                  | 1500              | .10 | 3100    | .30 | 27.2                | 3.1                | 1500          | .09 | 3100    | .28 | 34.0                | 3.6                |
|       | 28 x 30 x 4                  | 1680              | .10 | 3500    | .30 | 31.3                | 3.5                | 1680          | .09 | 3500    | .28 | 39.0                | 4.2                |

### Notes:

1. PD represents clean pressure drop in inches w.g. The recommended final pressure drop for all models is 1.0 in. w.g. System design may dictate a lower change-out point.
2. Actual filter face size for 12 x 24 and 24 x 24 filters is 5/8 in. under on height and width. Actual face size on all other sizes is 1/2 in. under on height and width.
3. Actual filter depth is 1/8 in. under for all nominal 1 in. deep filters. Actual filter depth is 1/4 in. under for all nominal 2 in. and 4 in. deep filters.
4. For capacities other than those shown, ratio the face velocities.
5. Performance tolerances conform to Section 7.4 of ARI Standard 850.

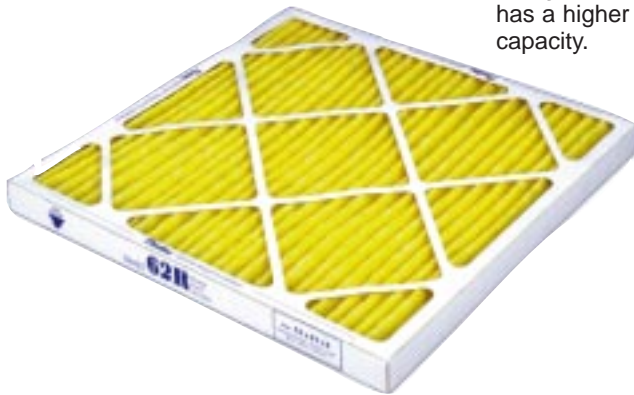
# The Pre Pleat Series of Pleated Air filters



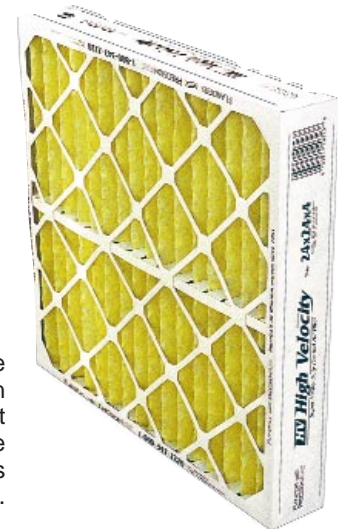
Pre Pleat Class 1 air filters are designed for applications where a UL Class 1 fire rated filter is required and metal frames are unsuitable.



Pre Pleat HT air filters are designed for applications where the temperatures reach up to 500 °F.



62R high efficiency pleated air filters contain an electrostatically charged filtration media which has a higher dust holding capacity.



Pre Pleat HV air filters are designed to operate in high velocity and turbulent air applications where standard pleated filters tend to fail.

## Guide Specifications

### 1.0 General

1.1 Medium efficiency filters shall be Pre Pleat 40 extended surface pleated filters as manufactured by Flanders Precisionaire.

1.2 Filter sizes and capacities shall be as scheduled on the drawings.

1.3 Filters shall be UL 900 Class 1 or 2 listed.

### 2.0 Filter Construction

2.1 Filters shall be constructed of reinforced, non-woven cotton/synthetic blend media laminated to an expanded metal grid on the air leaving side and formed into radial wedge pleats.

2.2 Frame shall be moisture-resistant carrier board with diagonal and horizontal support members on the

upstream and downstream sides, and shall have locking corners.

### 3.0 Performance

3.1 Initial and final resistances shall not exceed the scheduled values.

3.2 Media area must equal or exceed that of the specified filter.

3.3 The average atmospheric dust spot efficiency shall be 25-30% as determined by ASHRAE Standard 52.1 test methods.

3.4 The manufacturer shall guarantee performance as stated in the literature within tolerances as outlined in Section 7.4 of ARI Standard 850.