



# SARMAAFARIN

Room Fan Coil Unit  
Ducted Fan Coil Unit



Certificate No.: Dbi - 2002011

FORM SSI - 42 (91)

فن کویل‌های اتاقی و کانالی

**42A, 42H, 42N**



42A ( vertical ) and 42H ( horizontal ) fan-coil units are room terminals ideally suited for air conditioning individual room in offices, motels, hotels, hospitals or apartments. Units are available in five sizes handling 210, 330, 430, 600 and 800 cfm ( high fan speed ). Base units include double-width fan, specially designed scroll, and resiliently mounted psc motor. Al secured to condensate pan or plate to form a single subassembly. This subassembly is attached to an insulated metal casing containing a 3-row cooling/heating coil with air vent and sweat connections ( right or left-hand ). A 3 - speed unit - mounted fan switch, cleanable filter, and secondary condensate pan complete the vertical assembly. A movable electric junction box completes the horizontal assembly.

DESCRIPTION

## 42A and 42H

**Full Line of Equipment to Cover Entire Job Potential** Numerous models, options and accessories to adapt unit to wide range of applications. Fewer Watts per cfm , standard 3- speed psc fan motors are designed for minimum current draw

**High - Capacity Performance** – Consistent, dependable performance is ensured by use of high - efficiency, field-reversible coils.

**Low First Cost** – These compact units with their factory - installed controls require minimum space and may be installed at minimum expense.

**Quiet Operation** – Low noise level is achieved by use of resiliently mounted slow - speed motors, built - in motor speed controls, internal insulation, and low - velocity air patterns.

**Precision-Made Die-Formed Enclosures** – Only 9 inches deep, each cabinet is factory assembled to base unit. Cabinet finish includes bonderizing with furnace baked paint.

## 42A Vertical Unit

**Decorator Color** – Standard white color.

**Removable Condensate Pan and Fan Assembly** – May be quickly detached from base unit for servicing.

**Automatic Air Vent** – Eliminates need to opening by inserting screwdriver thru discharge grille.

## 42H Horizontal Unit

**Lightweight and Compact** – Unit can usually be handled with ease by one man.

**Simplified Water and Condensate Connections** – Drain pan can be dropped by removing two bolts, giving ample room for water connections. The condensate line slips into an antisweat outlet stub and is secured by a factory- furnished, self-tightening wire clamp.

**Extended Discharge** – Eliminates need for special duct or grille adapters.

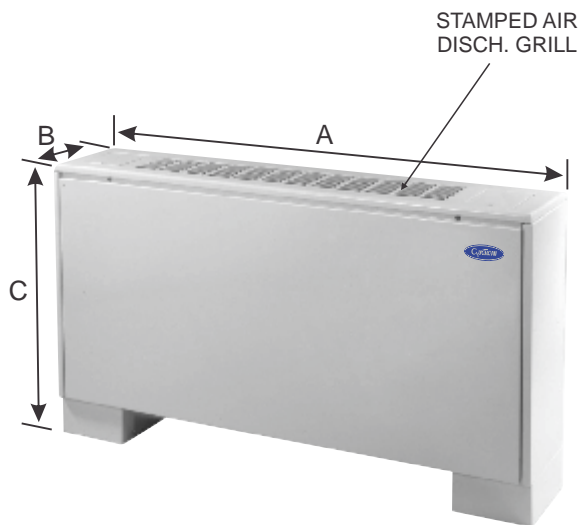
FEATURES

| 42A      | B                  | 020        | LH        |
|----------|--------------------|------------|-----------|
| Series   | Unit Type          | Size (cfm) | Coil      |
| Vertical | B: Top Discharge   | 020: 200   | LH: Left  |
|          |                    | 030: 300   | Hand      |
|          |                    | 040: 400   |           |
|          | C: Front Discharge | 060: 600   | RH: Right |
|          |                    | 080: 800   | Hand      |

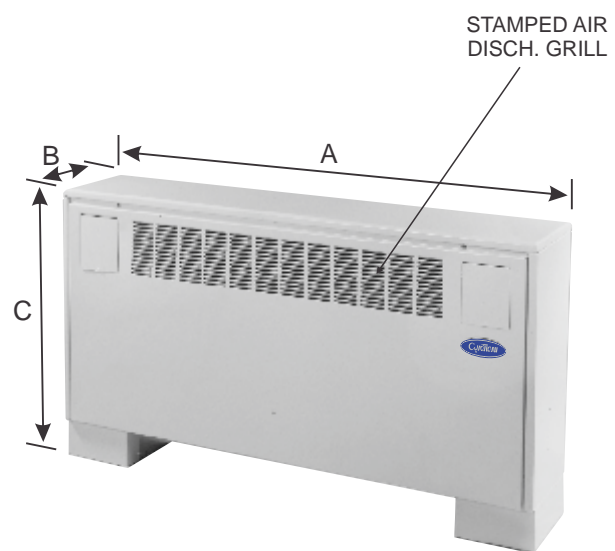
| 42H        | B                            | 020        | LH        |
|------------|------------------------------|------------|-----------|
| Series     | Unit Type                    | Size (cfm) | Coil      |
| Horizontal | B: Exposed with Cabinet      | 020: 200   | LH: Left  |
|            |                              | 030: 300   | Hand      |
|            |                              | 040: 400   |           |
|            | C-PLN: Concealed with Plenum | 060: 600   | RH: Right |
|            |                              | 080: 800   | Hand      |

| 42AB & 42AC Model |                             |             | 020      | 030      | 040      | 060      | 080      |
|-------------------|-----------------------------|-------------|----------|----------|----------|----------|----------|
| Fan               | Air Delivery (cfm)          | High        | 210      | 330      | 430      | 600      | 800      |
|                   |                             | Med.        | 165      | 255      | 330      | 410      | 640      |
|                   |                             | Low         | 120      | 190      | 250      | 300      | 450      |
| Type              |                             | Centrifugal |          |          |          |          |          |
| Qty               |                             | 1           | 1        | 2        | 2        | 2        |          |
| Coil              | No. of Rows                 |             | 3        | 3        | 3        | 3        | 3        |
|                   | Area (sq ft)                |             | 0.8      | 1.19     | 1.42     | 1.93     | 2.51     |
|                   | Connection (in)             | Supply      | ½ FPT    | ½ FPT    | ½ FPT    | ½ FPT    | ½ FPT    |
|                   |                             | Return      | ½ FPT    | ½ FPT    | ½ FPT    | ½ FPT    | ½ FPT    |
| Drain             |                             | OD          | OD       | OD       | OD       | OD       |          |
| Motor             | Qty.                        |             | 1        | 1        | 1        | 1        | 1        |
|                   | V-ph-Hz                     |             | 220-1-50 | 220-1-50 | 220-1-50 | 220-1-50 | 220-1-50 |
|                   | HP                          |             | 1/45     | 1/30     | 1/25     | 1/20     | 1/6      |
|                   | Name Plate Amps.            |             | 0.4      | 0.4      | 0.5      | 0.55     | 1.3      |
| Filter            | Qty                         |             | 1        | 1        | 1        | 1        | 1        |
|                   | Size (in)                   |             | 8x1x19¾  | 8x1x26¾  | 8x1x30¾  | 8x1x39¾  | 8x1x49¾  |
| Dimension         | A (mm)                      |             | 851      | 1029     | 1130     | 1359     | 1613     |
|                   | B (mm)                      |             | 227      | 227      | 227      | 227      | 227      |
|                   | C (mm)                      |             | 635      | 635      | 635      | 635      | 635      |
|                   | Approx. Wt (kg)             |             | 29       | 33       | 38.5     | 47.2     | 54.5     |
|                   | Air Grill Free Area (sq in) | Disch.      | 53.3     | 78.4     | 89.5     | 113.6    | 144.7    |
| Recirc.           |                             | 70          | 95       | 109      | 140      | 176      |          |

\* For more information about selection procedure and capacity tables visit [www.ssi.co.ir](http://www.ssi.co.ir)



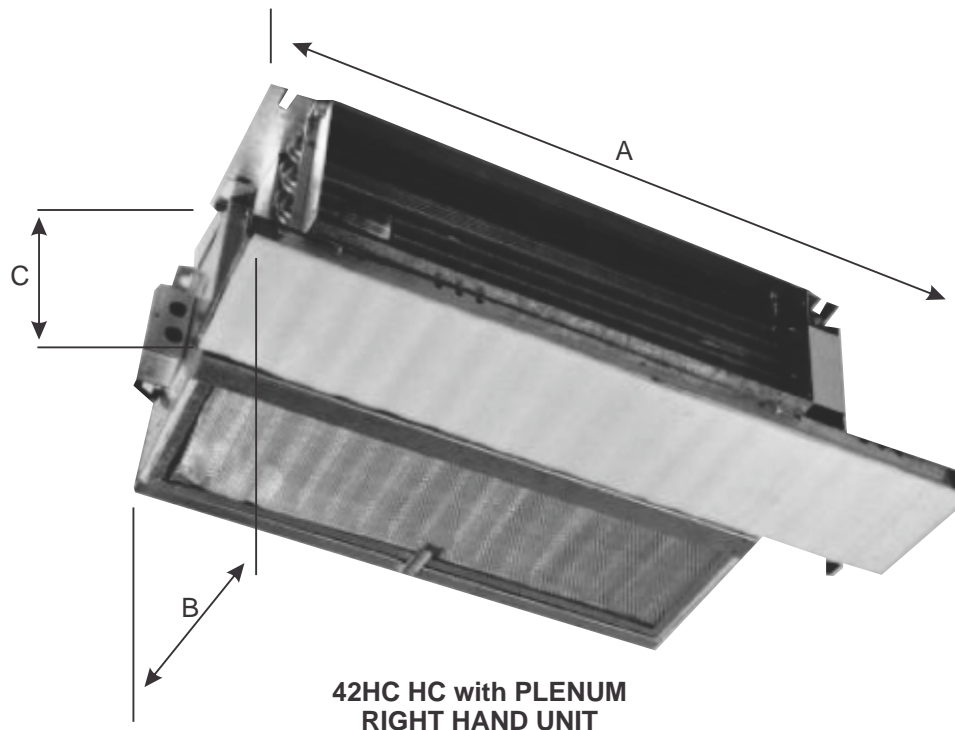
**42AB**



**42AC**

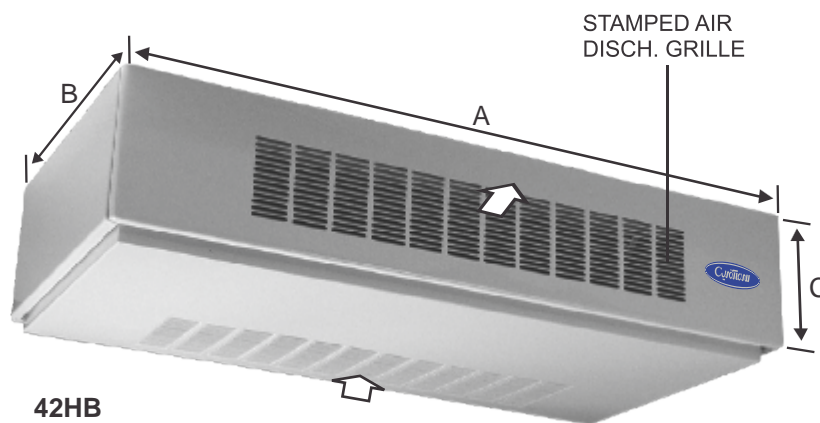
| 42HC-PLN Model |                             | 020         | 030      | 040      | 060      | 080      |          |
|----------------|-----------------------------|-------------|----------|----------|----------|----------|----------|
| Fan            | Air Delivery (cfm)          | High        | 210      | 330      | 430      | 600      | 800      |
|                |                             | Med.        | 165      | 255      | 330      | 410      | 640      |
|                |                             | Low         | 120      | 190      | 250      | 300      | 450      |
| Type           |                             | Centrifugal |          |          |          |          |          |
| Qty            |                             | 1           | 1        | 2        | 2        | 2        |          |
| Coil           | No. of Rows                 |             | 3        | 3        | 3        | 3        | 3        |
|                | Area (sq ft)                |             | 0.8      | 1.19     | 1.42     | 1.93     | 2.51     |
|                | Connection (in)             | Supply      | ½ FPT    | ½ FPT    | ½ FPT    | ½ FPT    | ½ FPT    |
|                |                             | Return      | ½ FPT    | ½ FPT    | ½ FPT    | ½ FPT    | ½ FPT    |
| Drain          |                             | ¾ OD        | ¾ OD     | ¾ OD     | ¾ OD     | ¾ OD     |          |
| Motor          | Qty.                        |             | 1        | 1        | 1        | 1        | 1        |
|                | V-ph-Hz                     |             | 220-1-50 | 220-1-50 | 220-1-50 | 220-1-50 | 220-1-50 |
|                | HP                          |             | 1/45     | 1/30     | 1/25     | 1/20     | 1/6      |
|                | Name Plate Amps.            |             | 0.4      | 0.4      | 0.5      | 0.55     | 1.3      |
| Filter         | Qty                         |             | 1        | 1        | 1        | 1        | 1        |
|                | Size (in)                   |             | 10x1x17  | 10x1x17  | 10x1x17  | 10x1x17  | 10x1x17  |
| Dimension      | A (mm)                      |             | 675      | 826      | 927      | 1156     | 1410     |
|                | B (mm)                      |             | 511      | 511      | 511      | 511      | 511      |
|                | C (mm)                      |             | 267      | 267      | 267      | 267      | 267      |
|                | Approx. Wt (kg)             |             | 14.5     | 17.2     | 20       | 24       | 30       |
|                | Air Grill Free Area (sq in) | Disch.      | 48.6     | 72.5     | 83.6     | 112.8    | 142.5    |
| Recirc.        |                             | 84.5        | 120      | 145      | 181      | 228      |          |

\* For more information about selection procedure and capacity tables visit [www.ssi.co.ir](http://www.ssi.co.ir)



| 42HB Model |                             |             | 020      | 030      | 040      | 060      | 080      |
|------------|-----------------------------|-------------|----------|----------|----------|----------|----------|
| Fan        | Air Delivery (cfm)          | High        | 210      | 330      | 430      | 600      | 800      |
|            |                             | Med.        | 165      | 255      | 330      | 410      | 640      |
|            |                             | Low         | 120      | 190      | 250      | 300      | 450      |
| Type       |                             | Centrifugal |          |          |          |          |          |
| Qty        |                             | 1           | 1        | 2        | 2        | 2        |          |
| Coil       | No. of Rows                 |             | 3        | 3        | 3        | 3        | 3        |
|            | Area (sq ft)                |             | 0.8      | 1.19     | 1.42     | 1.93     | 2.51     |
|            | Connection (in)             | Supply      | ½ FPT    | ½ FPT    | ½ FPT    | ½ FPT    | ½ FPT    |
|            |                             | Return      | ½ FPT    | ½ FPT    | ½ FPT    | ½ FPT    | ½ FPT    |
| Drain      |                             | OD          | OD       | OD       | OD       | OD       |          |
| Motor      | Qty.                        |             | 1        | 1        | 1        | 1        | 1        |
|            | V-ph-Hz                     |             | 220-1-50 | 220-1-50 | 220-1-50 | 220-1-50 | 220-1-50 |
|            | HP                          |             | 1/45     | 1/30     | 1/25     | 1/20     | 1/6      |
|            | Name Plate Amps.            |             | 0.4      | 0.4      | 0.5      | 0.55     | 1.3      |
| Filter     | Qty                         |             | 1        | 1        | 1        | 1        | 1        |
|            | Size (in)                   |             | 8x1x19¾  | 8x1x26¾  | 8x1x30¾  | 8x1x39¾  | 8x1x49¾  |
| Dimension  | A (mm)                      |             | 851      | 1029     | 1130     | 1359     | 1613     |
|            | B (mm)                      |             | 578      | 578      | 578      | 578      | 578      |
|            | C (mm)                      |             | 248      | 248      | 248      | 248      | 248      |
|            | Approx. Wt (kg)             |             | 32.2     | 37.2     | 43.5     | 53.5     | 62       |
|            | Air Grill Free Area (sq in) | Disch.      | 48.6     | 72.5     | 83.6     | 112.8    | 142.5    |
| Recirc.    |                             | 84.5        | 120      | 145      | 181      | 228      |          |

\* For more information about selection procedure and capacity tables visit [www.ssi.co.ir](http://www.ssi.co.ir)



## CONTROLS

### Fan - Water Flow Control

The 42A, H units may be controlled by the following methods: 1- Fan Cycling - Regulates temperature by manual or thermostatic control of fan. This method is recommended only where provision is made for shutting off chilled water when the fan is off.

2- Water Flow - Regulates temperature by manual or thermostatic control of water valves without cycling of the fan. Water control packages (manual solenoid, or motorized) are factory-furnished and installed. Pneumatic piping packages are field installed. Manual

shutoff valves are included in all water-side control packages. The standard 42A,H unit is controlled by manually setting the 3-flow control is recommended to prevent unit sweating caused by continuous flow of chilled water when the fan is off. The Fan-Water Flow Control Selection table lists the component combinations available for fan cycling and/or water flow control. Read across the table to make a selection.

| Control Components                  |              | VERTICAL UNIT CONTROLS |                  |             |                 | VERTICAL UNIT CONTROLS |                  |             |                  |  |                  |      |                |  |            |      |                |
|-------------------------------------|--------------|------------------------|------------------|-------------|-----------------|------------------------|------------------|-------------|------------------|--|------------------|------|----------------|--|------------|------|----------------|
| Type                                | Method       | Control Components     |                  | Change-over | Water Valve     | Control Components*    |                  | Change-over | Water Valve      |  |                  |      |                |  |            |      |                |
|                                     |              | Master                 | Auxiliary        |             |                 | Master                 | Auxiliary        |             |                  |  |                  |      |                |  |            |      |                |
| Fan Cycling                         | Manual       | Fan Switch             | None             | Central     | Man. Shutoff    | Fan Switch             | None             | Central     | Man. Shutoff     |  |                  |      |                |  |            |      |                |
|                                     |              |                        |                  |             |                 | Fan Switch             | None             | Central     | 2-Wat Solenoid   |  |                  |      |                |  |            |      |                |
|                                     |              |                        |                  |             |                 | Fan Switch             | None             | Central     | 2-Wat Motorized  |  |                  |      |                |  |            |      |                |
|                                     | Thermostatic | Fan Switch †           | Thermostat, Wall | Man.        | Man. Shutoff    | Fan Switch             | Thermostat       | Auto        | Man. Shutoff     |  |                  |      |                |  |            |      |                |
|                                     |              |                        |                  |             |                 |                        |                  |             |                  | On-Off Toggle ‡  | Thermostat ‡     | Auto | Man. Shutoff   | Fan Switch   | Thermostat | Man. | 2-Wat Solenoid |
|                                     |              |                        |                  |             |                 |                        |                  |             |                  |  |                  |      |                |  |            |      |                |
| On-Off Toggle ‡                     | Thermostat ‡ | Auto                   | Man. 3-Way       | Fan Switch  | Thermostat      | Man.                   | 2-Wat Motorized  |             |                  |  |                  |      |                |  |            |      |                |
|                                     |              |                        |                  |             |                 |                        |                  | Fan Switch  | Thermostat, Wall | Man.   | Man. 3-Way       |      |                |  |            |      |                |
| Water Flow Continuous Fan Operation | Manual       | Fan Switch †           | None             | Central     | Man. 3-Way      | -                      | -                | -           | -                |  |                  |      |                |  |            |      |                |
|                                     |              |                        |                  |             |                 | Fan Switch, Unit       | Thermostat, Unit | Central     | 2-Wat Solenoid   | Fan Switch   | Thermostat       | Auto | 2-Wat Solenoid |  |            |      |                |
|                                     | Thermostatic | Fan Switch, Unit       | Thermostat, Unit | Auto        | 2-Wat Motorized | Fan Switch             | Thermostat       | Auto        | 2-Wat Motorized  |  |                  |      |                |  |            |      |                |
|                                     |              |                        |                  |             |                 |                        |                  |             |                  | Fan Switch, Unit   | Thermostat, Unit | Auto | 2-Wat Solenoid | Fan Switch   | Thermostat | Auto | 2-Wat Solenoid |
|                                     |              |                        |                  |             |                 |                        |                  |             |                  |  |                  |      |                |  |            |      |                |
|                                     |              |                        |                  |             |                 |                        |                  |             |                  | Pneumatic Control Piping Packages (valves & unit/wall thermostats field supplied and installed/) |                  |      | 2- or 3- way   | Pneumatic Control Piping Packages (valves & unit/wall thermostats field supplied and installed/) |            |      | 2- or 3-way    |

\* Thermostats and fan speed switches for horizontal units are wall mounted.

† Fan speed switch with no OFF position.

‡ Provides Hi-Lo cooling and Lo-Off heating fan control; thermostat, On-Off toggle and changover are unit mounted.



The 42N product range combines aesthetic and attractive design with versatility to satisfy any application need, from large office buildings or hotels to shops and residential applications.

This new product series is characterized by concentrated, innovative technology, unusual for a simple product like a fan coil. The result is a product that is easy to select and install.

It is available in seven sizes, with an air range from 90 l/s to 440 l/s (190 to 930 cfm) at high fan speed.

Two types of fans are available, a tangential fan for size 16 to 50, ideal for applications where low noise level is the most important selection parameter, and a centrifugal fan, available for sizes 60 and 75, for applications where static pressure and air flow are the main requirements.

The two fan versions are available in any combination, from cabinet models for floor, wall or under-ceiling installation to models without cabinet for furred-in installation.

## Features

With its sleek styling the 42N blends in perfectly with any room decor. The steel panels are protected by a high-quality paint finish.

The flexibility of the unit drain pan allows the same unit to be installed in a vertical or horizontal position without the need for a dedicated accessory.

The 42N units have been designed for extremely quiet operation with sound (pressure and power) levels that set new standards in the industry. The tangential fan with its unique uneven spacing between blades (up to size 33) ensures almost noiseless operation. Particular attention has been given to the low fan speed, typically used at night.

**Pleated filter:** The standard filter for the 42N series is a complete new concept: the filtration surface is pleated, resulting in a 87% larger surface than a conventional filter with the following additional advantages:

- Lower air flow per unit area, resulting in lower pressure drop and reduced noise level

- The average interval between filter cleaning is three times longer, compared to standard filters.

- The filter material is polypropylene and the grade is EU1.

**Filter position:** In the 42N series the filter is located at the bottom of the unit. Cleaning is easy: once the two screws at the either side of the filter have been removed, the filter frame can be pulled down and the filter can be removed easily. Re-assembly is just as easy, reversing the sequence.

The filter and filter position within the unit are designed to prevent air bypass around the filter, to ensure that the air is always filtered and clean.

**Ease of installation:** the 42N series fan coils are extremely easy to install. For horizontal under-ceiling installations with cabinet ceiling-void application the installer's task has been significantly simplified.

Robust hooks allow easy and fast attachment of the unit: the installer only has to place it in a horizontal position. No calculation is needed to determine the correct slope for proper condensate water drainage.

For concealed ducted applications, both air intake and outlet can be mounted on the unit before installing them together as a single piece in the false ceiling.

Even the installation of floor-mounted units is now easier the new hook dimensions and positions help fixing the units firmly against the wall.

All these technical improvements minimise installation time and improve the long-term reliability, avoiding small mistakes that could impair the reliability of installed units over time.

| 42N    | F                       | 16                                       | S           | F                             | U       |
|--------|-------------------------|--|-------------|-------------------------------|---------|
| Series | Unit Type               | Size (cfm)                               | Version     | Coil                          | Control |
|        | Z: Exposed with Cabinet | 16: 191<br>25: 278<br>33: 335            | S: Standard | F: Left Hand<br>G: Right HAnd |         |
|        | F: Concealed            | 43: 481<br>50: 513<br>60: 718<br>75: 927 |             |                               |         |



# PHYSICAL DATA



| 42NZ Model |                    |            | 16       | 25       | 33       | 43       | 50          | 60       | 75       |
|------------|--------------------|------------|----------|----------|----------|----------|-------------|----------|----------|
| Fan        | Air Delivery (cfm) | High       | 191      | 278      | 335      | 481      | 513         | 718      | 927      |
|            |                    | Med.       | 146      | 210      | 271      | 380      | 416         | 577      | 695      |
|            |                    | Low        | 91       | 153      | 147      | 235      | 271         | 371      | 483      |
| Type       |                    | Tangential |          |          |          |          | Centrifugal |          |          |
| Qty        |                    | 1          | 1        | 1        | 1        | 1        | 2           | 2        |          |
| Coil       | No. of Rows        |            | 3        | 3        | 3        | 3        | 3           | 3        | 3        |
|            | Area (sq ft)       |            | 1.1      | 1.7      | 1.7      | 2.2      | 2.2         | 2.8      | 2.8      |
|            | Connection (in)    | Supply     | ¾NPT     | ¾NPT     | ¾NPT     | ¾NPT     | ¾NPT        | ¾NPT     | ¾NPT     |
|            |                    | Return     | ¾NPT     | ¾NPT     | ¾NPT     | ¾NPT     | ¾NPT        | ¾NPT     | ¾NPT     |
| Drain      |                    | ½          | ½        | ½        | ½        | ½        | ½           | ½        |          |
| Motor      | Qty.               |            | 1        | 1        | 1        | 1        | 1           | 1        | 1        |
|            | V-ph-Hz            |            | 220-1-50 | 220-1-50 | 220-1-50 | 220-1-51 | 220-1-52    | 220-1-50 | 220-1-50 |
|            | Power Input (w)    |            | 32       | 32       | 44       | 57       | 69          | 113      | 164      |
|            | Current drawn (A)  |            | 0.14     | 0.15     | 0.19     | 0.25     | 0.31        | 0.51     | 0.72     |
| Filter     | Qty                |            | 1        | 1        | 1        | 1        | 1           | 1        | 1        |
|            | Size (mm)          |            | 189×391  | 189×591  | 189×591  | 189×790  | 189×790     | 189×990  | 189×990  |
| Dimension  | A (mm)             |            | 830      | 1030     | 1030     | 1230     | 1230        | 1430     | 1430     |
|            | B (mm)             |            | 220      | 220      | 220      | 220      | 220         | 220      | 220      |
|            | C (mm)             |            | 657      | 657      | 657      | 657      | 657         | 657      | 657      |
|            | D (mm)             |            | 557      | 557      | 557      | 557      | 557         | 557      | 557      |
|            | Approx. Wt (kg)    |            | 17       | 19       | 19       | 22       | 22          | 35       | 35       |

\* For more information about selection procedure and capacity tables visit [www.ssi.co.ir](http://www.ssi.co.ir)



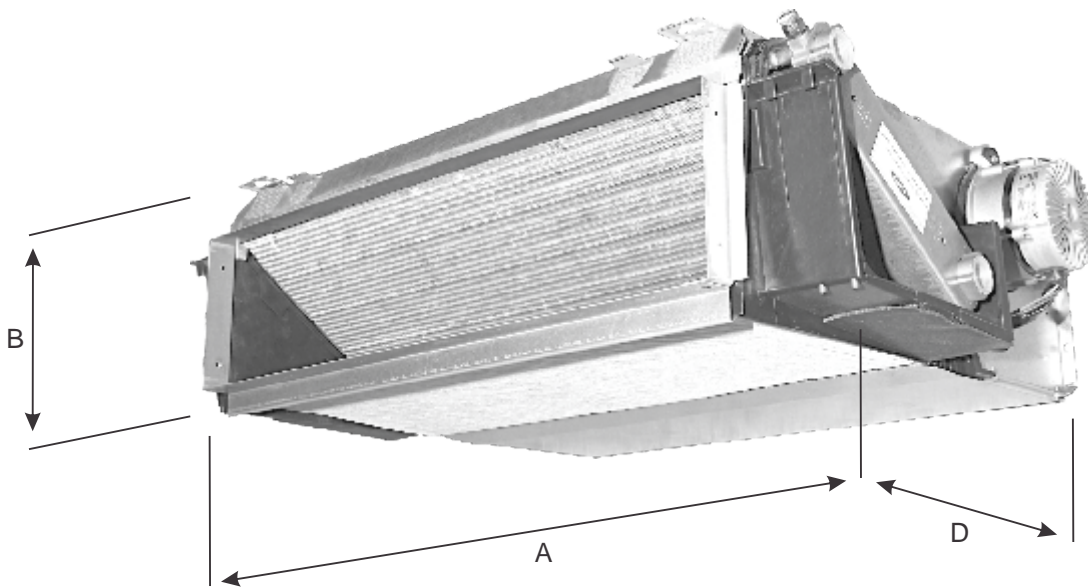
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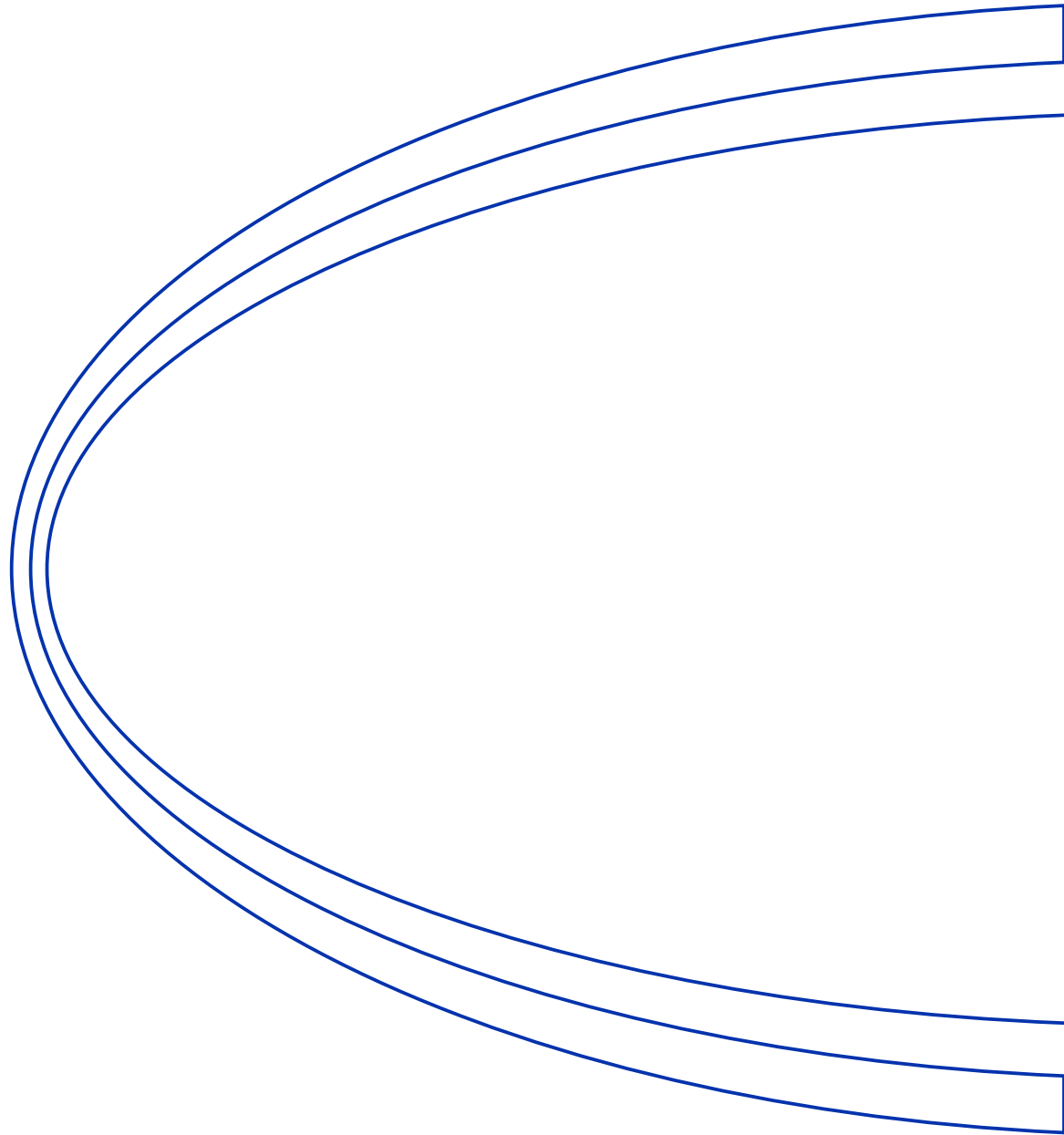
| 42NF Model |                    |            | 16       | 25       | 33       | 43       | 50          | 60       | 75       |
|------------|--------------------|------------|----------|----------|----------|----------|-------------|----------|----------|
| Fan        | Air Delivery (cfm) | High       | 191      | 278      | 335      | 481      | 513         | 718      | 927      |
|            |                    | Med.       | 146      | 210      | 271      | 380      | 416         | 577      | 695      |
|            |                    | Low        | 91       | 153      | 147      | 235      | 271         | 371      | 483      |
|            | Type               | Tangential |          |          |          |          | Centrifugal |          |          |
|            | Qty                | 1          | 1        | 1        | 1        | 1        | 2           | 2        |          |
| Coil       | No. of Rows        |            | 3        | 3        | 3        | 3        | 3           | 3        | 3        |
|            | Area (sq ft)       |            | 1.1      | 1.7      | 1.7      | 2.2      | 2.2         | 2.8      | 2.8      |
|            | Connection (in)    | Supply     | ¾NPT     | ¾NPT     | ¾NPT     | ¾NPT     | ¾NPT        | ¾NPT     | ¾NPT     |
|            |                    | Return     | ¾NPT     | ¾NPT     | ¾NPT     | ¾NPT     | ¾NPT        | ¾NPT     | ¾NPT     |
| Drain      |                    | ½          | ½        | ½        | ½        | ½        | ½           | ½        |          |
| Motor      | Qty.               |            | 1        | 1        | 1        | 1        | 1           | 1        | 1        |
|            | V-ph-Hz            |            | 220-1-50 | 220-1-50 | 220-1-50 | 220-1-51 | 220-1-52    | 220-1-50 | 220-1-50 |
|            | Power Input (w)    |            | 32       | 32       | 44       | 57       | 69          | 113      | 164      |
|            | Current drawn (A)  |            | 0.14     | 0.15     | 0.19     | 0.25     | 0.31        | 0.51     | 0.72     |
| Filter     | Qty                |            | 1        | 1        | 1        | 1        | 1           | 1        | 1        |
|            | Size (mm)          |            | 189x391  | 189x591  | 189x591  | 189x790  | 189x790     | 189x990  | 189x990  |
| Dimension  | A (mm)             |            | 602.5    | 802.5    | 802.5    | 1002.5   | 1002.5      | 1202.5   | 1202.5   |
|            | B (mm)             |            | 220      | 220      | 220      | 220      | 220         | 220      | 220      |
|            | C (mm)**           |            | 640      | 640      | 640      | 640      | 640         | 640      | 640      |
|            | D (mm)             |            | 540      | 540      | 540      | 540      | 540         | 540      | 540      |
|            | Approx. Wt (kg)    |            | 13       | 15       | 15       | 16       | 16          | 28       | 28       |

\* For more information about selection procedure and capacity tables visit [www.ssi.co.ir](http://www.ssi.co.ir)

\*\* C: indicates height for vertical installation (including supports)







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