FanAir India Pvt. Ltd.

FAT Series
Double Inlet Double Width
Centrifugal Fan
With forward curved wheel

FanAir India Pvt Ltd certifies that the FAT series: version L, F - model 7x7 to 18x18 shown herein is licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA publication 211 and AMCA publication 311 and comply with the requirements of the AMCA certified ratings program.
FAT SERIES
DIDW CENTRIFUGAL FANS - FORWARD WHEEL

FAT Series is a Double Inlet Double Width (DIDW) centrifugal blower with forward curved wheel. These fans are suitable for supply and exhaust application in commercial & industrial (HVAC) systems. These impeller are statically & dynamically balanced.

TYPE

The FAT series is available in Type L - with Leg and Type F - with Frame as shown in Fig. 1 :-

- Fan Sizes :: 7-7 to 18-18
- Air Volume :: upto 10200 CMH
- Total Press :: up to 600 Pa

<table>
<thead>
<tr>
<th>Type L</th>
<th>Type F</th>
</tr>
</thead>
<tbody>
<tr>
<td>This type are supplied with mounting feet and can be mounted in three different fan orientation.</td>
<td>This type has a frame on both side of the fans which gives better strength and rigidity. Possibilities of mounting in four different fan orientation.</td>
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</tbody>
</table>

Fig. 1

FAT TWIN FAN

FAT series is also available in twin fan version, with two double inlet fans mounted on the same shaft. To select for twin fans, use the curves of single fan with the following factors :-

- Volume \( \times 2 \)
- Absorbed Power \( \times 2.15 \)
- Speed \( \times 1.05 \)
- Noise \( +3 \text{ dB} \)

This series is available in type L2 and F2 as shown in fig. 2 :-

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<tr>
<th>Type L2</th>
<th>Type F2</th>
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<tr>
<td>Size: 7-7 to 18-18</td>
<td>Size: 7-7 to 18-18</td>
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<tr>
<td>Vol.: Upto 20400 CMH</td>
<td>Vol.: Upto 20400 CMH</td>
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<td>Static Pres.: 500 Pa</td>
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Fig. 2

Performance of FAT TWIN FAN are not AMCA Licensed
TECHNICAL SPECIFICATION

WHEEL

The wheel of FAT series is made of galvanised sheet steel forward curved blades. To obtain a maximum efficiency & low noise level, these wheel are specially profiled. A die cast aluminium hub with a precisely machined bore a key way is fitted to the wheel plates. The wheel is statically and dynamically balanced.

HOUSING

The housing is manufactured in galvanized sheet steel with the housing fixed to the side plates by using pittsburg lock for sizes.

FRAME

For type “L” leg is made of GI sheet which is manufactured by the process of punching and bending in a way that ensures correct dimensions and also maximum rigidity in its class. For type “F” frames are of GI sheet angle in which GI sheet is sheared, bend and spot welded to form a rigid frame to provide strength and stability to the fan.

SHAFT

Shafts are manufactured from EN8 carbon with key ways at both ends and at the centre for hub of wheel. All dimensional tolerances of the shaft are fully checked to ensure a precision fit. All shafts are then coated with an anti corrosion varnish after assembly.

BEARINGS

All bearings used are deep groove ball bearing type sealed at both side. The bearings are self-aligning with an eccentric locking collar for clamping onto the shaft and each bearing sits in side a moulded rubber housing.

All the bearings are lubricated for life and maintenance-free under normal operating conditions.

FAN ROTATION AND DISCHARGE

The rotation and discharge of the fan is in accordance with AMCA Standard 99-16. The direction of rotation is determined from the drive side of the fan [refer Fig. 3]:

- CW - clockwise rotation
- CCW - counter-clockwise rotation

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Fig. 3 - Fan rotation and discharge
MOTOR POSITION

The position of the motor for belt drive centrifugal fan is in accordance with Location of motor is determined by facing the drive side of fan and designating the positions by letters W, X, Y, or Z. (Fig. 4)

MOTOR SELECTION

The power curves shown on each performance graph represent the absorbed power at the shaft of the fan measured in KW. To determine the power of the motor to be installed, a correction factor as shown in Fig.5 should be applied to compensate for transmission losses.

For conversion to horsepower (HP) use multiplying factor 1.34.

Fig. 4 - Motor Position

Fig. 5 – Recommended for compensation
**DYNAMIC PRESSURE**

The dynamic pressure and outlet air velocity shown on each curved are calculated on the full air discharge area, i.e. ducted outlet conditions.

With free outlet conditions, the velocity pressure is higher. To determine this new value, multiply the velocity pressure of the ducted outlet obtained from the fan curve by the following correction factor “K”.

Fan performances calculated with this correction factors are not licensed by AMCA International.

**PERFORMANCE**

The performance data shown on each diagram has been tested and measured in accordance to AMCA Standard 210.

Ratings are referred to the standard air density with the total pressure as a function of the air volume, using logarithmic scales.

It is essential that, the same installation type and test standard are used at all times, when comparing fan.

FAT 7x7 to 10x10 [K = 3.2] KAT 12x12 to 18x18 [K = 2.6]

**NOISE**

The Noise level shown on each diagram refer to the sound power “A-weighted” and the data on the inlet side has been measured in accordance with AMCA Standard 300 configuration “B”. The noise level of the fans are determined as follows:

Sound power level - (”A” scale) : Lw (A) as catalogue

Octave band spectrum: Lw = Lw(A) + Lw rel. dB

Sound pressure level :

A) Free field
   Lp (A) = Lw(A) - (20log10 d) - 11

B) Room conditions
   Lp (A) = Lw(A) - (20log d) - 8

Where d = distance from fan (m)
Volume Flow Rate 'Q' = 3700 CMH (Q)
Static Pressure = 300 Pa
Dynamic Pressure = 33 Pa
Shaft Power (H) = 0.58 KW
Sound Power Level Lw(A) = 77 dB(A)

Outlet Velocity (V) = 7.3 m/s
Total Pressure (Pv) = 333 Pa
Fan Speed = 885 RPM
Total Efficiency (η) = 60.5%

Notes:
1. Performance certified is for Installation Type B: Free inlet & ducted outlet.
2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. Values shown are for inlet LwiA sound power levels for Installation Type B: Free inlet, ducted outlet.
5. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301.
Notes:
1. Performance certified is for Installation Type B: Free inlet & ducted outlet.
2. Power rating (kW) does not include transmission losses.
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4. Values shown are for inlet LwA sound power levels for Installation Type B: Free inlet, ducted outlet.
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Fan Efficiency Grade: FEG75

Notes:
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2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
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5. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301.
Fan Efficiency Grade :- FEG71

Notes:
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Fan Efficiency Grade: FEG71

Notes:
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2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. Values shown are for inlet Lwa sound power levels for Installation Type B: Free inlet, ducted outlet.
5. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301.
Fan Efficiency Grade :- FEG67

Notes:
1. Performance certified is for Installation Type B: Free inlet & ducted outlet.
2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. Values shown are for inlet LwA sound power levels for Installation Type B: Free inlet, ducted outlet.
5. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301.
Fan Efficiency Grade :- FEG71

Notes:
1. Performance certified is for Installation Type B: Free inlet & ducted outlet.
2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. Values shown are for inlet LwA sound power levels for Installation Type B: Free inlet, ducted outlet.
5. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301.
Dimension:

FAT ‘L’

FAT 7x7 - 18x18 ‘L’

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All dimensions are in mm.
## Dimension:

### FAT ‘F’

![Diagram of FAT ‘F’](image)

### FAT 7x7 - 18x18 ‘F’

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All dimensions are in mm.
Dimension:

FAT ‘L2’

FAT 7x7 - 18x18 ‘L2’

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All dimensions are in mm.
Dimension:

**FAT ‘F2’**

![Diagram of FAT ‘F2’ model](image)

**FAT 7x7 - 18x18 ‘F2’**

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</tr>
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</tr>
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</table>

All dimensions are in mm.
FanAir India Pvt. Ltd.
Add :- Plot No. 4, Khasra No. 73/19/2/22/1, swarn park, near metro pillar no. 469 mundka delhi-110041
Mob :- 9811347199, 9811937730, 9811323237, 9814936793
Tel :- 011-25280119
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