

Range of cylindrical cased axial fans fitted with aluminium impellers and manufactured from high grade rolled galvanised steel and protected against corrosion by cataforesis primer and black polyester paint finish.
Fited with 2 contra rotating complementary impellers manufactured from die-cast aluminium.
All models are supplied with pre-wired wiring junction box located on the outside of the fan casing for easy wiring access.
Available with single or three phase 4 poles motors.

**Motors**
All the motors are IP65, Class F insulation (1), equipped with thermal protection.
Single phase motors are variable voltage (Excepted TCBBX2/4-630).
Three phase motors suitable for inverter control.
Electrical supplies:
- Single phase 230V-50Hz (Capacitor located inside the wiring terminal box)
- Three phase 230/400V-50Hz.

(1) Working temperatures from -40ºC up to 70ºC.

ErP OK



**Contra rotating: High pressure**
Contra rotating system with two complementary impellers allowing the duplication of the pressure with the same air volume.



**Corrosion resistance**
Rolled steel casings and motor support protected by cataforesis primer and black polyester paint finish. Stainless steel screws.



**Terminal box**
Wiring terminal box with cable gland PG-11.



**Impeller dynamically balanced**
Impellers are dynamically balanced, according to ISO 1940 standard, giving vibration free operation.

## TECHNICAL CHARACTERISTICS

Before installation check that the product electrical characteristics listed on the data plate label (voltage, power, frequency, etc.) match those of the intended electrical supply.

| Model | Speed (rpm) | Diameter (mm) | Maximum absorbed power (W) | Maximum absorbed current (A) | | Sound pressure level* (dB(A)) | Maximum air volume ($m^3/h$) | Weight (kg) | Speed controller RMB/T | Variable frequency inverter | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | VFTM | | VFKB | |
| | | | | to 230 V | to 400 V | | | | | 1/230V** | 3/400V | 1/230V** | 3/400V |
| SINGLE PHASE | | | | | | | | | | | | | |
| TCBBx2/4-450 | 1420 | 450 | 1316 | 5,7 | – | 74 | 7.430 | 42 | RMB-8 | – | – | – | – |
| TCBBx2/4-500 | 1370 | 500 | 1957 | 9,0 | – | 76 | 9.950 | 50 | RMB-10 | – | – | – | – |
| TCBBx2/4-560 | 1370 | 560 | 2972 | 13,6 | – | 78 | 13.930 | 66 | – | – | – | – | – |
| TCBBx2/4-630 | 1400 | 630 | 3671 | 16,3 | – | 79 | 16.560 | 80 | – | – | – | – | – |
| THREE PHASE | | | | | | | | | | | | | |
| TCBTx2/4-450 | 1430 | 450 | 1309 | 5,2 | 3 | 74 | 7.250 | 42 | RMT-5 | VFTM MONO 1,1 | VFTM TRI 1,1 | VFKB 27 | VFKB 45 |
| TCBTx2/4-500 | 1390 | 500 | 1700 | 5,8 | 3,4 | 76 | 9.800 | 50 | RMT-5 | VFTM MONO 1,1 | VFTM TRI 1,5 | VFKB 27 | VFKB 45 |
| TCBTx2/4-560 | 1390 | 560 | 3173 | 10,0 | 5,8 | 78 | 15.170 | 66 | – | VFTM MONO 2,2 | VFTM TRI 3 | – | VFKB 48 |
| TCBTx2/4-630 | 1445 | 630 | 4014 | - | 7,4 | 79 | 17.810 | 80 | – | – | VFTM TRI 4 | – | VFKB 48 |

* Sound pressure level, measured in free field condition at a distance equivalent of three times the diameter of the impeller or a minimum of 1.5 meters wichever is the greater.
** Only for fans fitted with three phase motors 230/400V.

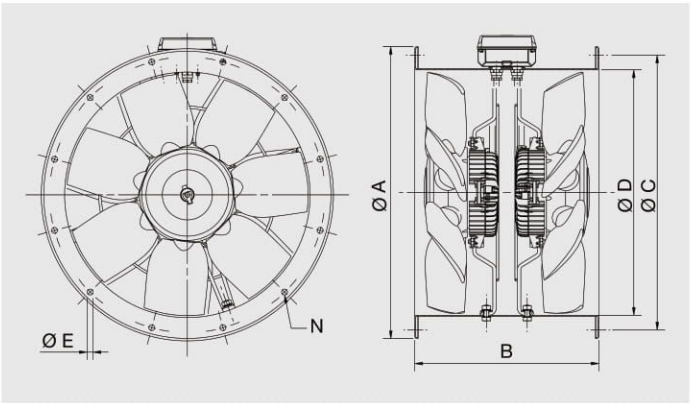
## ACOUSTIC CHARACTERISTICS

The sound levels –NPS- shown in the technical characteristic chart, correspond to the value of sound pressure dB(A), measured in free field conditions at a distance equivalent to three times the diameter of the impeller with a minimum of 1.5 meters.
The following table shows the sound power level spectrums in dB(A) measured with the fan ducted, at both inlet and discharge sides.

| Model | Air volume $m^3/h$ | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Global |
|---|---|---|---|---|---|---|---|---|---|---|
| 450 Inlet | 6.600 | 46 | 73 | 85 | 82 | 85 | 79 | 72 | 64 | 90 |
| | 5.850 | 46 | 73 | 84 | 81 | 83 | 79 | 71 | 64 | 88 |
| | 4.300 | 58 | 70 | 80 | 80 | 83 | 79 | 71 | 64 | 87 |
| 450 Outlet | 6.600 | 63 | 75 | 86 | 85 | 87 | 82 | 74 | 67 | 92 |
| | 5.850 | 53 | 73 | 85 | 84 | 87 | 81 | 74 | 67 | 91 |
| | 4.300 | 58 | 70 | 82 | 83 | 86 | 82 | 74 | 67 | 90 |
| 500 Inlet | 9.000 | 48 | 78 | 87 | 85 | 87 | 81 | 74 | 67 | 92 |
| | 7.500 | 52 | 76 | 85 | 85 | 85 | 80 | 73 | 65 | 90 |
| | 6.000 | 60 | 73 | 83 | 82 | 85 | 80 | 73 | 66 | 89 |
| 500 Outlet | 9.000 | 65 | 76 | 87 | 88 | 90 | 84 | 77 | 70 | 94 |
| | 7.500 | 62 | 75 | 86 | 87 | 88 | 83 | 76 | 69 | 92 |
| | 6.000 | 59 | 72 | 86 | 85 | 88 | 83 | 76 | 69 | 92 |

| Model | Air volume $m^3/h$ | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Global |
|---|---|---|---|---|---|---|---|---|---|---|
| 560 Inlet | 13.720 | 50 | 85 | 87 | 88 | 91 | 85 | 78 | 73 | 95 |
| | 10.800 | 57 | 79 | 83 | 86 | 89 | 84 | 78 | 72 | 93 |
| | 9.000 | 63 | 79 | 81 | 86 | 89 | 84 | 78 | 72 | 92 |
| 560 Outlet | 13.720 | 74 | 86 | 85 | 91 | 94 | 88 | 81 | 75 | 97 |
| | 10.800 | 70 | 82 | 84 | 88 | 92 | 87 | 81 | 74 | 95 |
| | 9.000 | 74 | 81 | 85 | 89 | 92 | 87 | 81 | 74 | 95 |
| 630 Inlet | 17.500 | 51 | 85 | 91 | 89 | 93 | 87 | 80 | 74 | 97 |
| | 15.600 | 55 | 85 | 85 | 88 | 91 | 86 | 80 | 73 | 95 |
| | 12.000 | 64 | 80 | 84 | 88 | 90 | 86 | 80 | 73 | 94 |
| 630 Outlet | 17.500 | 73 | 87 | 88 | 93 | 95 | 89 | 83 | 77 | 99 |
| | 15.600 | 71 | 87 | 86 | 91 | 94 | 89 | 83 | 76 | 98 |
| | 12.000 | 67 | 84 | 86 | 90 | 94 | 89 | 84 | 76 | 97 |

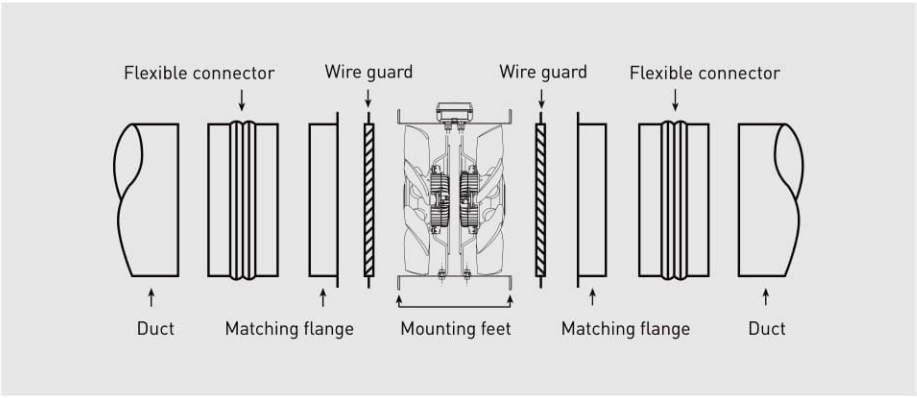
## DIMENSIONS (mm)




| Model | Ø A | B | Ø C | Ø D | Ø E | Number of holes N |
|---|---|---|---|---|---|---|
| 450 | 537 | 375 | 500 | 450 | 12 | 8 |
| TCBBx2/4-500 | 595 | 520 | 560 | 500 | 12 | 12 |
| TCBTx2/4-500 | 595 | 375 | 560 | 500 | 12 | 12 |
| 560 | 655 | 520 | 620 | 560 | 12 | 12 |
| 630 | 725 | 520 | 690 | 630 | 12 | 12 |

## MOUNTING ACCESSORIES



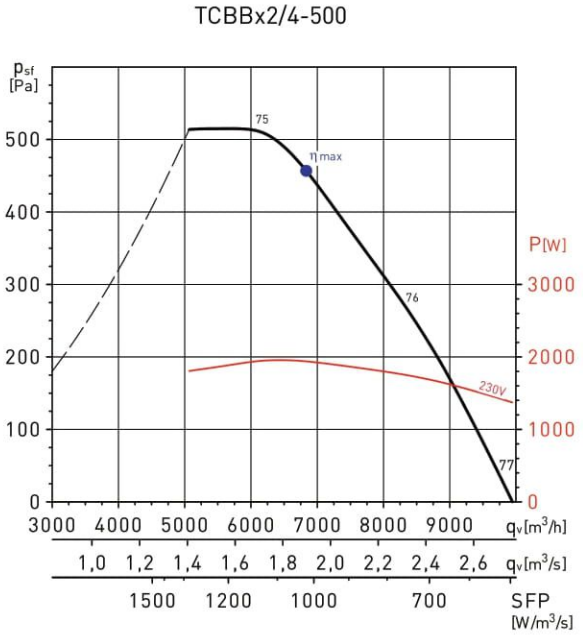



## PERFORMANCE CURVES TCBBx2 / TCBTx2

- $q_v$: Air volume in $m^3/h$ and $m^3/s$.
- $p_{sf}$: Static pressure in Pa.
- SFP: Specific fan power in $W/m^3/s$.
- P: Input power in W.
- Measurement category: C or D depending on the models.
- Efficiency category: Static or Total depending on the models.
- Fan tested with inlet bellmouth.
- Fan efficiency without VSD.
- Air flow data in accordance with ISO 5801.
- Sound pressure level dB(A), measured in a free field distance equal to 3 times the diameter, with a minimum of 1,5 m.

| | |
|---|---|
| **MC** | Measurement category |
| **EC** | Efficiency category |
| **VSD** | Speed control: supplied with the fan |
| **SR** | Specific ratio |
| **η[%]** | Efficiency |
| **N** | Efficiency grade |
| **[kW]** | Absorbed power |
| **[m³/h]** | Air volume |
| **[Pa]** | Static pressure |
| **[RPM]** | Speed |

## EXAMPLE CURVE

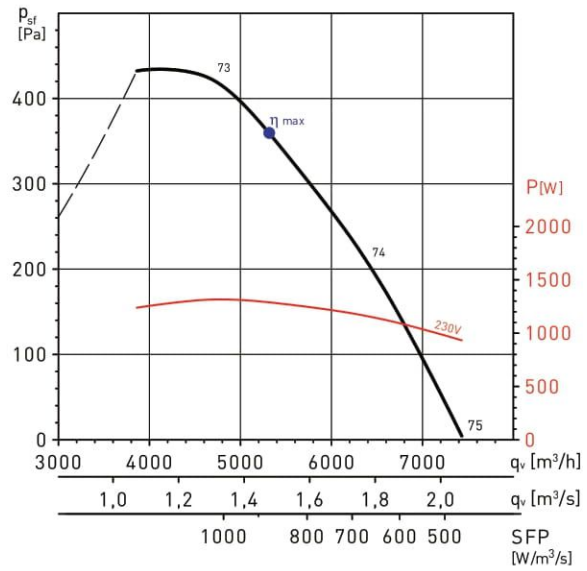



| MC* | EC* | VSD* | SR* | η[%]* | N* | [kW] | [m³/h] | [Pa] | [RPM] |
|---|---|---|---|---|---|---|---|---|---|
| C | Static | No | 1 | 45,1 | 49,6 | 1,957 | 6383 | 498 | 1394 |

* See example curve.

## PERFORMANCE CURVES – 4 POLE MOTOR

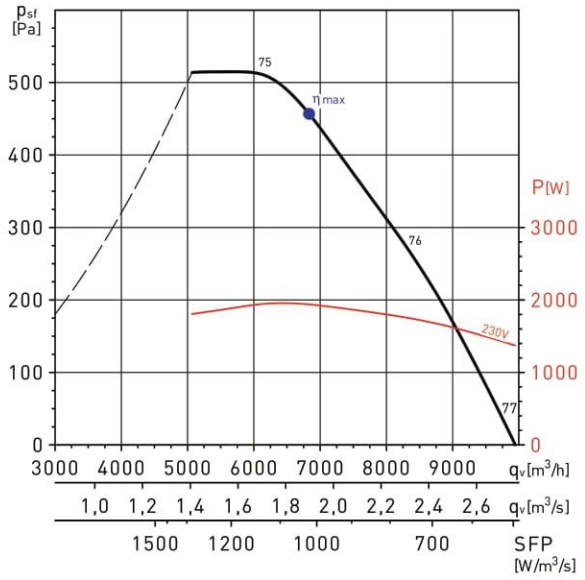
TCBBx2/4-450




| MC* | EC* | VSD* | SR* | η[%]* | N* | [kW] | [m³/h] | [Pa] | [RPM] |
|---|---|---|---|---|---|---|---|---|---|
| C | Static | No | 1 | 41,9 | 47,5 | 1,316 | 4842 | 411 | 1349 |

* See example curve.

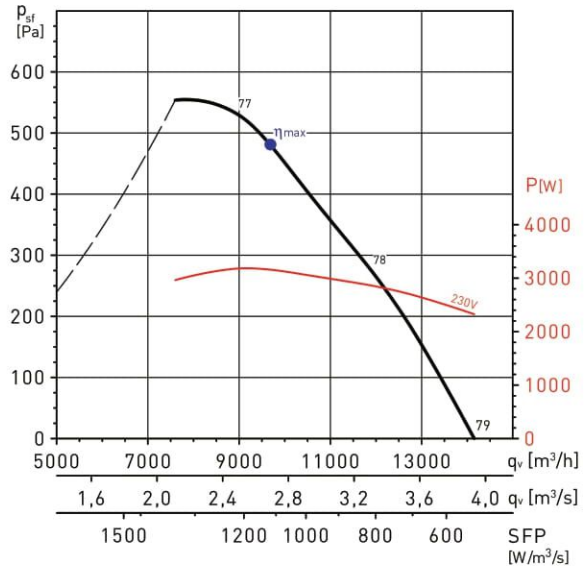
TCBBx2/4-500




| MC* | EC* | VSD* | SR* | η[%]* | N* | [kW] | [m³/h] | [Pa] | [RPM] |
|---|---|---|---|---|---|---|---|---|---|
| C | Static | No | 1 | 45,1 | 49,6 | 1,957 | 6383 | 498 | 1394 |

* See example curve.

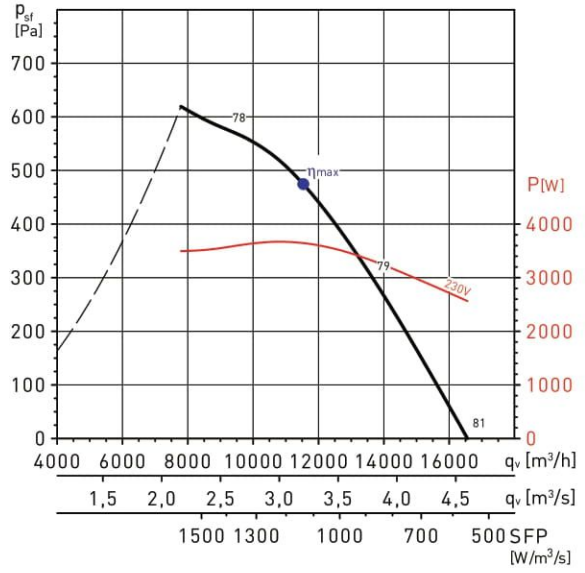
TCBBx2/4-560




| MC* | EC* | VSD* | SR* | η[%]* | N* | [kW] | [m³/h] | [Pa] | [RPM] |
|---|---|---|---|---|---|---|---|---|---|
| C | Static | No | 1 | 41,9 | 45,2 | 2,970 | 8741 | 513 | 1311 |

* See example curve.

TCBBx2/4-630

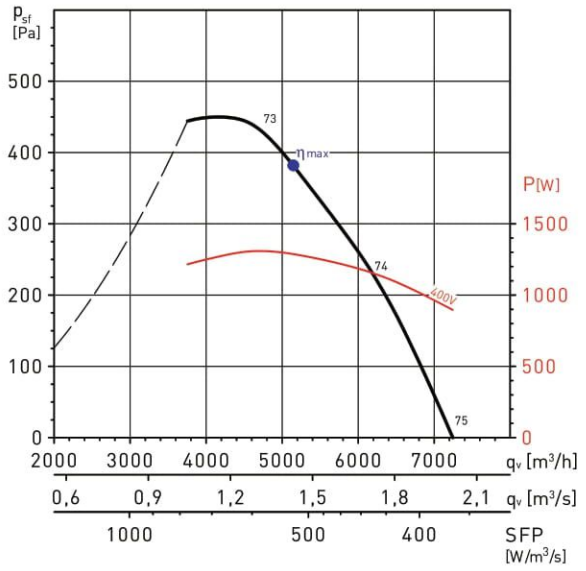



| MC* | EC* | VSD* | SR* | η[%]* | N* | [kW] | [m³/h] | [Pa] | [RPM] |
|---|---|---|---|---|---|---|---|---|---|
| C | Static | No | 1 | 42,4 | 45,2 | 3,665 | 10542 | 536 | 1285 |

* See example curve.

## PERFORMANCE CURVES – 4 POLE MOTOR

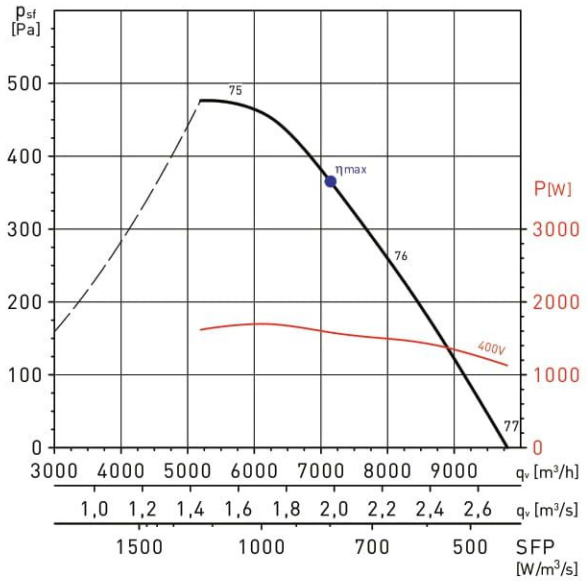
TCBTx2/4-450




| MC* | EC* | VSD* | SR* | η[%]* | N* | [kW] | [m³/h] | [Pa] | [RPM] |
|---|---|---|---|---|---|---|---|---|---|
| C | Static | No | 1 | 43,0 | 48,6 | 1,309 | 4705 | 432 | 1375 |

* See example curve.

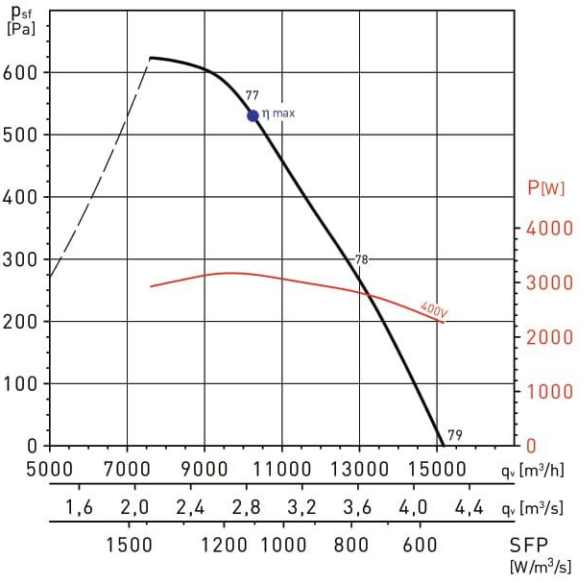
TCBTx2/4-500




| MC* | EC* | VSD* | SR* | η[%]* | N* | [kW] | [m³/h] | [Pa] | [RPM] |
|---|---|---|---|---|---|---|---|---|---|
| D | Total | No | 1 | 53,5 | 58,6 | 1,581 | 7145 | 427 | 1348 |

* See example curve.

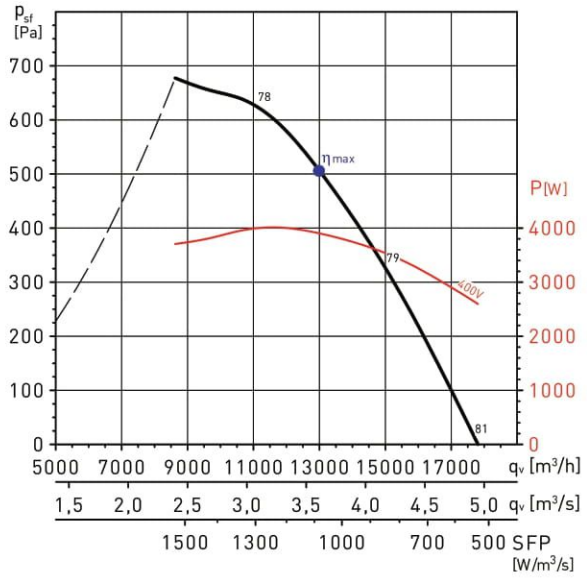
TCBTx2/4-560




| MC* | EC* | VSD* | SR* | η[%]* | N* | [kW] | [m³/h] | [Pa] | [RPM] |
|---|---|---|---|---|---|---|---|---|---|
| D | Total | No | 1 | 55,0 | 58,2 | 3,148 | 10254 | 611 | 1365 |

* See example curve.

TCBTx2/4-630




| MC* | EC* | VSD* | SR* | η[%]* | N* | [kW] | [m³/h] | [Pa] | [RPM] |
|---|---|---|---|---|---|---|---|---|---|
| D | Total | No | 1 | 54,2 | 56,8 | 3,903 | 12997 | 587 | 1387 |

* See example curve.