

PROTECTION



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

Configuration for models

/4-710 and 800.



Terminal box Wiring terminal box with cable gland PG-11 (except ATEX models).



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



Constructive configuration models 250, 315, 355 and 400 (excepted 6-355, 6-400 and ATEX)





For models TCBT/4-710 and 800mm Suspended flammable particles and nonconductive dust: Il 3D Ex tc IIIB T125°C Conductive dust: Il 3D Ex tc IIIC T125°C (with IP65 motor)

To select TCBT ATEX refer to performance curves, or Easyvent. Note electrical data may vary for ATEX motors. Range of cylindrical cased axial flow 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. All models are supplied with pre-wired wiring junction box located on the outside of the fan casing for easy wiring access. Available, depending upon the model, with single or three phase motors in 2, 4 or 6 poles.

Motors

Single phase motor (TCBB) or three phase motor (TCBT).

Models 250, 315, 355 and 400: External rotor motor, IP54, Class F, thermal protection, working temperature from -40°C to +40°C. Models 450, 500, 560, 630 and 6/710: IP65, Class F, thermal protection, working temperature from -40°C to +70°C. Models 4/710 and 800: IP55, Class F, working temperature from -40°C to +40°C.

All motors are speed controllable by autotransformer except models /4-560H, /4-630, 710 and T/800. Three phase motors are speed controllable by inverter. Electrical supplies: Single phase 220-240V-50Hz. [Capacitor located inside the wiring terminal box].

Three phase 220-240/380-415V-50Hz or 380-415V-50Hz.

(See characteristic chart).

Additional information

Standard air direction: form (B) configuration (impeller over motor).

On request

Air direction: form (A) configuration (motor over impeller). From Ø450 to Ø800, three phase motors 2 speed, 4/8 poles.

ATEX versions TCBT

On request, explosion proof versions in accordance with ATEX Directive, for 3 phase models. For ambient working temperatures: From -20°C to +55°C: models TCBT/4-315 to 630mm models TCBT/6-355 to 710mm From -20°C to +40°C: models TCBT/4-710 to 800mm models TCBT/6-800mm Motors IP55 Class F - ATEX Flameproof - Gas In standard ATEX version flameproof motors are without thermal protection. If used with frequency inverter, flameproof motors with a PTC-type thermal protection must be specified at order. For models TCBT/4-710 and 800mm 🖾 models 2G Exd IIB T4 🖾 models 2G Exd IIB(H2) T4 (with Ex d IIC T4 motor - ATEX Increased safety - Gas Not available TCBT/2-250/H 400V-50Hz TCBT/4-250/H 400V-50Hz TCBT/6-355/H 400V-50Hz TCBT/6-400/H 400V-50Hz Available for TCBT/6-400/H 230/400V-50Hz and larger sizes 😔 models 2G Exe II T3 - ATEX - Dust In standard ATEX version, ATEX motors for dust are without thermal protection. If used with frequency inverter, ATEX motors for

dust with a PTC-type thermal protection must be specified at order.



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 (r.p.m.)	Diameter (mm)	Maximum absorbed	Maxi curi	mum rent	Sound pressure	Maximum airflow	Weight (kg)	Spe contr	Speed controller		Variable frequency inverter	
			(W)	a 230 V	a 400 V	(dB(A))	(111 / 11)		RFR	RMB/T	VFTM	VEKB	
				4 200 1	SING	_E PHASE 2	POLE		NLD	1112,1		THE STATE	
TCBB/2-250/H	2680	250	123	0,5	-	62	1.680	8	-	-	-	-	
					SING	_E PHASE 4	POLE						
TCBB/4-250/H	1430	250	44	0,2	-	42	900	8	REB-1	RMB-1,5	-	-	
TCBB/4-315/H	1435	315	105	0,6	-	52	1.990	11	REB-1	RMB-1,5	-	-	
TCBB/4-355/H	1420	355	120	0,6	-	52	2.460	13,2	REB-2,5	RMB-1,5	-	-	
TCBB/4-400/H	1410	400	277	1,1	-	60	5.050	15,5	REB-2,5	RMB-3,5	-	-	
TCBB/4-450/H	1410	450	591	2,5	-	63	6.940	21	-	-	-	-	
TCBB/4-500/H	1410	500	636	2,8	-	66	7.500	25	REB-5	RMB-3,5	-	-	
TCBB/4-560/L	1405	560	1289	6	-	68	11.990	33	REB-10	RMB-8	-	-	
TCBB/4-560/H	1400	560	1308	6	-	69	12.170	34,7	-	-	-	-	
TCBB/4-630/L	1365	630	1707	7,5	-	70	15.980	40	-	-	-	-	
					SING	E PHASE 6	POLE						
TCBB/6-355/H	880	355	92	0,4	-	46	2.160	13,2	REB-1	RMB-1,5	-	-	
TCBB/6-400/H	870	400	118	0,5	-	48	2.820	15,5	REB-1	RMB-1,5	-	-	
TCBB/6-500/H	920	500	226	1	-	57	5.250	24,8	REB-2,5	RMB-1,5	-	-	
TCBB/6-560/L	930	560	375	1,6	-	60	7.810	33,5	REB-5	RMB-3,5	-	-	
TCBB/6-630/L	920	630	514	2,1	-	60	10.410	38,5	REB-5	RMB-8	-	-	
TCBB/6-710/L	930	710	849	4,2	-	62	14.480	46	-	-	-	-	
					THRE	E PHASE 2 I	POLE						
TCBT/2-250/H	2775	250	114	0,3	0,2	62	1.730	8	-	-	TRI-0,37	VFKB-45	
					THRE	E PHASE 4 I	POLE						
TCBT/4-250/H	1470	250	42	0,3	0,2	42	900	8	-	RMT-1,5	TRI-0,37	VFKB-45	
TCBT/4-315/H	1445	315	99	0,5	0,3	51	1.950	11	-	RMT-1,5	TRI-0,37	VFKB-45	
TCBT/4-355/H	1415	355	117	0,5	0,3	52	2.470	13,2	-	RMT-1,5	TRI-0,37	VFKB-45	
TCBT/4-400/H	1410	400	268	0,9	0,5	60	4.950	15,5	-	RMT-1,5	TRI-0,37	VFKB-45	
TCBT/4-450/H	1405	450	526	1,9	1,1	63	6.650	21	-	RMT-2,5	TRI-0,55	VFKB-45	
TCBT/4-500/H	1420	500	641	2,6	1,5	66	7.590	25	-	RMT-2,5	TRI-0,55	VFKB-45	
TCBT/4-560/L	1415	560	1184	3,8	2,2	68	12.090	33	-	RMT-2,5	TRI-0,75	VFKB-45	
TCBT/4-560/H	1390	560	1348	4,2	2,4	69	13.370	34,7	-	-	TRI-1,1	VFKB-45	
TCBT/4-630/L	1410	630	1768	5,9	3,4	70	16.370	39	-	-	TRI-1,5	VFKB-45	
TCBT/4-630/H	1400	630	1940	6,2	3,6	70	17.030	40	-	-	TRI-1,5	VFKB-45	
TCBT/4-710/L	1435	710	2175	6,4	3,7	73	20.290	46	-	-	TRI-1,5	VFKB-45	
TCBT/4-710/H	1460	710	3441	10,6	6,1	73	26.420	54	-	-	TRI-3	VFKB-48	
TCBT/4-800/L	1460	800	3750	11,3	6,5	76	29.950	65	-	-	TRI-3	VFKB-48	
TCBT/4-800/K	1460	800	5177	-	8,8	76	34.950	68	-	-	TRI-4	-	
TCBT/4-800/G	1470	800	6146	-	11,1	77	38.500	81	-	-	TRI-5,5	-	
TCBT/4-800/H	1475	800	7688	-	13	78	42.490	89	-	-	TRI-5,5	-	
TODT // 055/01		0.55	0.7	0 (THRE	E PHASE 6 I	POLE	10.0					
ICB1/6-355/H	900	355	97	0,4	0,2	47	2.250	13,2	-	RMT-1,5	TRI-0,37	VFKB-45	
TCB1/6-400/H	860	400	116	0,4	0,2	49	2.970	15,5	-	RMT-1,5	TRI-0,37	VFKB-45	
TCB1/6-450/H	940	450	161	0,7	0,4	54	4.020	20,7	-	RMT-1,5	TRI-0,37	VFKB-45	
TCB1/6-500/H	930	500	198	0,9	0,5	57	4.990	24,8	-	RMI-1,5	TRI-0,37	VFKB-45	
TCB1/6-560/H	920	560	363	1,4	0,8	60	7.630	33,5	-	RMT-2,5	TRI-0,55	VEKB-45	
TCB1/6-630/L	915	630	595	-	1,3	60	10.940	38	-	RMT-2,5	TRI-0,55	VEKB-45	
TCB1/6-630/H	950	630	906	-	2,7	62	13.610	38,5	-	RM1-5	TRI-1,1	VEKB-45	
TCB1/6-710/L	910	710	967	3,5	2,0	62	16.240	46	-	-	TRI-1,1	VEKB-45	
TCB1/6-710/H	910	710	1378	5,4	3,1	63	19.120	46	-	-	TRI-1,1	VEKB-45	
TCB1/6-800/L	965	800	1278	4,7	2,7	66	20.770	57	-	-	TRI-1,1	VEKB-45	
TCB1/6-800/K	975	800	1592	5,7	3,3	66	24.090	64	-	-	TRI-1,5	VFKB-45	
TCB1/6-800/G	975	800	1968	8,0	4,6	67	26.310	68	-	-	TRI-2,2	VFKB-45	
ICB1/6-800/H	970	800	2345	8,7	5	68	27.910	80	-	-	TRI-2,2	VEKB 48	

* Sound pressure level measured in free field conditions at a distance equivalent to three times the diameter of the impeller with a minimum of 1,5 meters. For more information see Acoustic characteristics.



REFERENCE



- 1 T: Cylindrical cased axial flow fan.
- **2 C:** Series designation.
- 3 Impeller type:
 B: Ø 250 Ø 400 Fixed blade impeller manufactured from aluminium sheet. Ø 450 - Ø 800 Adjustable blade aluminium impeller.
- 4 Supply type:
 - **B:** Single phase.
 - **T:** Three phase.
- **5** Number of poles:
 - **2:** (approx. 2800 rpm 50 Hz)
 - **4:** (approx. 1400 rpm 50 Hz)
 - **6**: (approx. 900 rpm 50 Hz)

SUPPLY VOLTAGES AND FREQUENCIES



6 -	Nominal	diameter	of fan	in.	mm

- 7 Pitch angle.
- 8 Direction of air:A: Motor over Impeller.
- B: Impeller over Motor.
 9 Voltage: 230 V (single phase). 230/400 V (three phase). 400 V (three phase).
- **10 -** Frequency of service: 50 Hz 60 Hz
- **11 -** Special versions:
 - **2 V:** Two speed motors.
 - 4/8 poles of motor for models:

Ø 450 up to Ø 800 mm. 6/12 poles of motor for models from Ø 710 up to Ø 800 mm. C: Condensation drain holes on motor.

EX: Explosion proof and flame proof versions.

Mains supply voltage	Motor type	Connection	Speed
SINGLE PHASE 220V-50Hz, 240V-50Hz	230V 50Hz	See wiring diagram	High
THREE PHASE	220 // 00 // 50 !!-	\bigtriangleup	High
240V-50Hz	230/4007 50HZ	\downarrow	Low*
	230/400V 50Hz	X	High
380V-50Hz	(00)/ 5011-	\bigtriangleup	High
415V-50HZ	400V 50HZ	L	Low*

* For models allowed by speed controller RMT.

ACOUSTIC CHARACTERISTICS

The sound levels shown in the technical characteristic chart and performance curves, 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.

Sound power level spectrum in dB(A) at the corresponding frequency band in Hz and the point of maximum flow.

Model	63	125	250	500	1000	2000	4000	8000	LwA
/2-250/H	31	44	59	65	74	70	64	56	76
Model	63	125	250	500	1000	2000	4000	8000	LwA
/4-250/H	24	37	41	47	52	52	47	41	57
/4-315/H	40	51	45	53	59	59	51	43	63
/4-355/H	24	40	45	55	58	58	49	42	62
/4-400/H	46	53	59	66	69	69	66	58	74
/4-450/H	46	58	65	71	73	71	67	59	77
/4-500/H	50	62	69	75	76	75	70	62	81
/4-560/L	52	64	71	77	78	77	72	64	83
/4-560/H	53	65	72	78	79	78	73	65	84
/4-630/L	56	67	75	80	82	81	76	68	87
/4-630/H	56	67	75	80	82	81	76	68	87
/4-710/L	53	69	79	85	86	84	78	70	91
/4-710/H	60	72	79	85	86	85	80	72	91
/4-800/L	57	73	83	90	91	88	82	74	95
/4-800/K	63	75	82	88	90	88	84	76	94
/4-800/G	64	76	83	89	90	89	84	76	95
/4-800/H	66	77	84	90	92	91	86	78	96

Model	63	125	250	500	1000	2000	4000	8000	LwA
/6-355/H	31	42	49	55	57	55	51	43	61
/6-400/H	33	44	51	57	59	58	53	45	64
/6-450/H	40	51	58	63	64	62	56	48	69
/6-500/H	43	53	61	66	66	64	58	50	71
/6-560/L	46	57	64	69	70	67	61	53	74
/6-560/H	46	56	64	69	69	67	61	53	74
/6-630/L	49	59	66	71	72	70	64	56	77
/6-630/H	51	61	68	73	74	72	66	58	79
/6-710/L	52	62	69	75	75	73	67	59	80
/6-710/H	53	64	71	76	77	75	69	61	82
/6-800/L	51	66	76	79	79	76	69	61	84
/6-800/K	51	66	76	79	79	76	69	61	84
/6-800/G	56	67	74	79	80	78	72	64	85
/6-800/H	58	69	76	81	82	79	73	65	86



DIMENSIONS (mm)







Models 250, 315, 355 and 400

Model ØΑ ØΒ ØD ØΕ Number С of holes Ν 400 (6 poles) 400 (4 poles) 710 (6 poles)





Model	ØA	В	С	ØD	E			
				4 poles	6 poles	8 poles		
710/L (4 poles)	806	770	380	710	415	-	-	
710/H (4 poles)	806	770	380	710	444	-	-	
800/L	896	860	380	800	437	408	383	
800/K	896	860	380	800	448	437	408	
800/G	896	860	380	800	447 (5,5kW) 515 (7,5kW)	448	437	
800/H	896	860	380	800	515	477	437	



MOUNTING ACCESSORIES







Matching flange	Duct

Model	W	ire guard	Matching	Mounting	Bellmouth	Flexible	Flexible connector
	Inlet	Outlet	flange	feet	protection	connector	explosion proof
	(impeller side)	(motor side)			guard		(ATEX)
TCBB / TCBT 250	DEF-250 T	DEF-250 T	ARO BRIDA COMPACT-250	PIE-250	-	ACOP.BRIDA-250	ACOPEL EX 250/160 N
TCBB / TCBT 315	DEF-315 T	DEF-315 T	ARO BRIDA COMPACT-315	PIE-315	EMB-315 T	ACOP.BRIDA-315	ACOPEL EX 315/160 N
TCBB / TCBT 355	DEF-355 T	DEF-355 T	ARO BRIDA COMPACT-355	PIE-355	EMB-355 T	ACOP.BRIDA-355	ACOPEL EX 355/160 N
TCBB / TCBT 400	DEF-400 T	DEF-400 T	ARO BRIDA COMPACT-400	PIE-400	EMB-400 T	ACOP.BRIDA-400	ACOPEL EX 400/160 N
TCBB / TCBT 450	DEF-450 T	DEF-450 T	ARO BRIDA COMPACT-450	PIE-450	EMB-450 T	ACOP.BRIDA-450	ACOPEL EX 450/160 N
TCBB / TCBT 500	DEF-500 T	DEF-500 T	ARO BRIDA COMPACT-500	PIE-500	EMB-500 T	ACOP.BRIDA-500	ACOPEL EX 500/160 N
TCBB / TCBT 560	DEF-560 T	DEF-560 T	ARO BRIDA COMPACT-560	PIE-560	EMB-560 T	ACOP.BRIDA-560	ACOPEL EX 560/160 N
TCBB / TCBT 630	DEF-630 T	DEF-630 T	ARO BRIDA COMPACT-630	PIE-630	EMB-630 T	ACOP.BRIDA-630	ACOPEL EX 630/160 N
TCBT 4-710/H	DEF-710 T	DEF-710/H-T DESCARGA	ARO BRIDA COMPACT-710	PIE-710	EMB-710 T	ACOP.BRIDA-710	ACOPEL EX 710/160 N
TCBT 4-710/L	DEF-710 T	DEF-710/L-T DESCARGA	ARO BRIDA COMPACT-710	PIE-710	EMB-710 T	ACOP.BRIDA-710	ACOPEL EX 710/160 N
TCBB / TCBT 6-710	DEF-710 T	DEF-710 T	ARO BRIDA COMPACT-710	PIE-710	EMB-710 T	ACOP.BRIDA-710	ACOPEL EX 710/160 N
TCBT 800	DEF-800 T	DEF.DES.TGT/THGT-800*	ARO BRIDA COMPACT-800	PIE-800	EMB-800 T	ACOP.BRIDA-800	ACOPEL EX 800/160 N

* For more information see Mounting achas cessories.

ELECTRICAL ACCESSORIES



REB-1N / REB-2,5N Single phase electronic speed controllers.









REB-5 REB-10 Single phase electronic speed controllers.





RMB/RMT Single and three phase auto transformer speed controllers.

COM D/S To connect three phase fans with 400 V motor. For three phase models.

VFKB IP65 Adjustable frequency drives for three phase motors from 0,37 to 4 kW 230V or 400V.



TCBB/TCBT PERFORMANCE CURVES

- q_{ν} : Airflow in m³/h and m³/s.
- psf: Static pressure in Pa.
- SFP: Specific fan power in W/m³/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 speed control.
- Airflow 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.

МС	Measurement category
EC	Efficiency category
VSD	Speed control: supplied with the fan
SR	Specific ratio
η [%]	Efficiency
Ν	Efficiency grade
[kW]	Absorbed power
[m³/h]	Airflow
[Pa]	Static pressure
[RPM]	Speed

PERFORMANCE CURVES - 2 POLE MOTORS







PERFORMANCE CURVES - 4 POLE MOTORS











P[w] - 800

600

-400

200

<u>q</u>, [m³/h]

[W/m³/s]

n

2,1 q_v [m³/s] 240 SFP

230v

7000

PERFORMANCE CURVES - 4 POLE MOTORS





TCBB/4-500/H

η max

p_{sf} [Pa]

160

120

80

40

0

2000

0,6

3000

0,9

600

4000

1,2

500

5000

1,5

400

6000

1,8

300







PERFORMANCE CURVES - 4 POLE MOTORS









PERFORMANCE CURVES - 4 POLE MOTORS









S.P

PERFORMANCE CURVES - 4 POLE MOTORS









www.solerpalau.com



P[W]

4000

3000

2000

1000

Λ

<u>q</u>, [m³/h]

 $q_v [m^3/s]$

SFP [W/m³/s]

341 1451

CYLINDRICAL CASED AXIAL FLOW FANS COMPACT TCBB / TCBT Series - ALUMINIUM IMPELLERS

PERFORMANCE CURVES - 4 POLE MOTORS





TCBT/4-710/H

16000

4,0

1

20000

600

61,4 64,4 3,346 21563

6,0

SR η[%] N [kW] [m³/h] [Pa] [RPM]

5,0

700

12000

VSD

No

3,0

EC

Total

max

73

24000

500

7,0

400

400V

p_{sf} [Pa]

350

300

250

200

150

100

50

0

МС

D

8000





PERFORMANCE CURVES - 4 POLE MOTORS





94



PERFORMANCE CURVES - 6 POLE MOTORS









S.P













P[w]

300

200

-100

LO

SFP

 $q_v [m^3/h]$

q_v [m³/s]

[W/m³/s]

[Pa] [RPM]

899

58

PERFORMANCE CURVES - 6 POLE MOTORS





TCBT/6-500/H

57

4000

1,2

150

29,2 40,0 0,197 3608

N [kW] [m³/h]

5000

110

1,5

p_{sf} [Pa]

60

50

40

30

20

10

0

МС

С

1000

0,3

EC

Static

2000

VSD

No

0,6

3000

SR

1

0,9

220 200

η[%]



(S.P)

P[w]

1500

-1000

500

0

SFP [W/m³/s]

[Pa] [RPM]

894

134

q_v [m³/h]

q_v [m³/s]







TCBT/6-710/L

4000 6000 8000 10000 12000 14000 16000

η[%]

53,7

3,0

300

3,5

4,0

240 200

N [kW] [m³/h]

60,3 0,921

4,5

13209

2,5

SR

1

nmax

p_{sf} [Pa]

120

90

60

30

Ο

MC

D

1,5

EC

Total

2,0

VSD

No



MC	EC	VSD	SR	η[%]	N	[kW]	[m ³ /h]	[Pa]	[RPM]
D	Total	No	1	52,7	58,2	1,376	15643	167	897

S.P

CYLINDRICAL CASED AXIAL FLOW FANS COMPACT TCBB / TCBT Series - ALUMINIUM IMPELLERS

PERFORMANCE CURVES - 6 POLE MOTORS



MC	EC	VSD	SR	η[%]	N	[kW]	[m³/h]	[Pa]	[RPM]
D	Total	No	1	60,1	65,2	1,584	18352	187	965





			.11.103		LIVAA1	[111.1.1]	[[]]	
D Tota	l No	1	58,6	63,1	1,968	19904	209	971