DIRECT DRIVE MOTOR

CMTB

Extremely robust open blade and single inlet centrifugal fans with sheet steel casing and impeller

Designed for air that is very dusty and with materials suspended in the air

*The images are provided only for illustrative purposes, the product may vary depending on its size, specifications and position.

Fan:
- Sheet steel casing.
- Backward curved impeller, made of very robust sheet steel, specially designed for air with a lot of dust and suspended materials.
- Directly coupled motor.
- With inspection and cleaning hatch from size 560 and up.

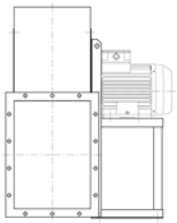
Motor:
- Motors with IE3 efficiency for powers equal to or greater than 0.75kW, except single-phase, 2-speed and 8-pole.
- Class F motors with ball bearings, IP55 protection.
- Three-phase 230/400 V 50 Hz (up to 4 kW) and 400/690 V 50 Hz (powers greater than 4 kW).
- Maximum temperature of air to be carried: -25 ºC +90 ºC.

Finishing:
- Anti-corrosive finish in polyester resin, polymerised at 190 ºC, after degreasing with phosphate-free nanotechnology treatment.

On request:
- Special windings for different voltages.
- Fan prepared to transport air up to +150 ºC.
- Special executions for temperatures + 300 ºC.
- Stainless steel fan.
- ATEX certified Category 2.
- System 8 elastic coupling.

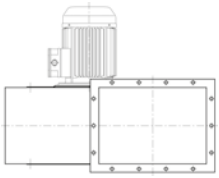
Direct drive motor construction method

SYSTEM 4



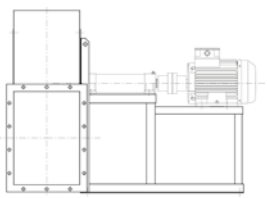
Direct drive, impeller mounted on the motor shaft, mounted on the pedestal.

SYSTEM 5



Direct drive, impeller mounted on the motor shaft, flange motor mounted on the fan casing.

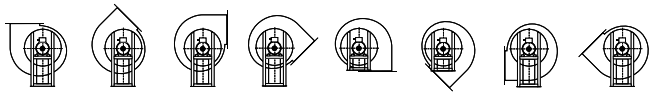
SYSTEM 8



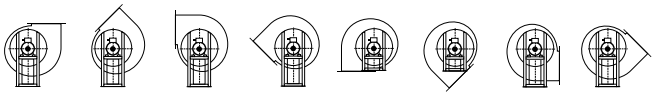
Elastic coupling drive, impeller mounted on the support shaft, mounted on the motor via an elastic coupling. Everything mounted together on a fan pedestal.

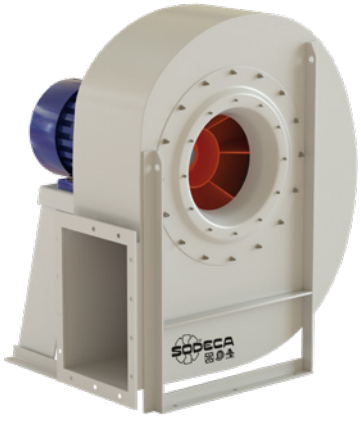
Orientations

RD 0	RD45	RD90	RD135	RD180	RD225	RD270	RD315



LG 0	LG45	LG90	LG135	LG180	LG225	LG270	LG315





CMTB-X

Centrifugal, open blade, belt driven fans fitted with electric motors and a standardized set of pulleys, belts and protectors in accordance with standard ISO 13857

Designed for air that is very dusty and with materials suspended in the air

*The images are provided only for illustrative purposes, the product may vary depending on its size, specifications and position.

Fan:
- Sheet steel casing.
- Backward curved impeller, made of very robust sheet steel, specially designed for air with a lot of dust and suspended materials.
- Engine mounted on general bench.
- With inspection and cleaning hatch from size 560 and up.

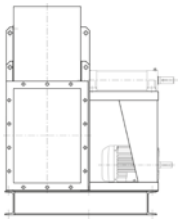
Motor:
- IE3 efficiency motors.
- Class F motors with ball bearings, IP55 protection.
- Three-phase 230/400 V 50 Hz (up to 4 kW) and 400/690 V 50 Hz (powers greater than 4 kW).
- Maximum temperature of air to be carried: -25 ºC +90 ºC.

Finishing:
- Anti-corrosive finish in polyester resin, polymerised at 190 ºC, after degreasing with phosphate-free nanotechnology treatment.

On request:
- Special windings for different voltages.
- Fan prepared to transport air up to +300 ºC.
- Stainless steel fan.
- ATEX certified Category 2.
- System 8 elastic coupling.

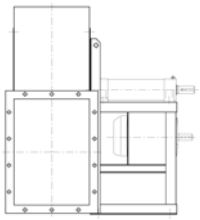
Belt-driven motor construction method

SYSTEM 12



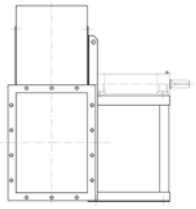
Transmission drive, identical to SYSTEM 1, with the motor and fan mounted on the common bench. Motor positions “W” or “Z” and exceptionally “X” or “Y”.

SYSTEM 9



Transmission drive, identical to SYSTEM 1, with the motor mounted on the side of the pedestal, in position “W” or “Z”.

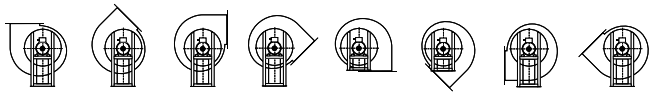
SYSTEM 1



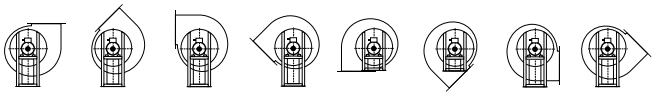
Transmission drive, impeller mounted on the support shaft. Support mounted on the pedestal.

Orientations

RD 0	RD45	RD90	RD135	RD180	RD225	RD270	RD315



LG 0	LG45	LG90	LG135	LG180	LG225	LG270	LG315



QUICK SELECT SYSTEM 4

Outlet characteristics

						V m³/s														
Model	**Frame**	**kW ass**	**kW inst.**	**r.p.m.**	**dB**	**0.16**	**0.18**	**0.2**	**0.23**	**0.26**	**0.3**	**0.33**	**0.36**	**0.4**	**0.46**	**0.52**	**0.58**	**0.66**	**0.75**	**0.83**
						Pt kgf/m²=mmH₂O														
CMTB 250	71 B/2	0.53	0.55	2810	75	99	97	94	92	90	89	78								
CMTB 280	80 B/2	0.9	1.1	2820	80				135	134	132	130	125	122	120	119				
CMTB 310	90 S/2	1.3	1.5	2840	82							175	174	172	165	155	145	140		
CMTB 350	112 M/2	3.7	4	2860	90											230	229	228	226	224
CMTB 400	132 SB/2	7.1	7.5	2900	92															284

						V m³/s							
Model	**Frame**	**kW ass**	**kW inst.**	**r.p.m.**	**dB**	**0.93**	**1**	**1.2**	**1.35**	**1.5**	**1.8**	**1.9**	**2**
						Pt kgf/m²=mmH₂O							
CMTB 350	112 M/2	3.7	4	2860	90	220	218						
CMTB 400	132 SB/2	7.1	7.5	2900	92	284	284	280	276	274	270		
CMTB 450	160 MA/2	10.5	11	2910	95			365	365	365	360	355	
CMTB 470	160 MB/2	14.2	15	2930	97				415	410	405	400	390

Flow margin ±5%
Noise level margin + 3... 5 dB

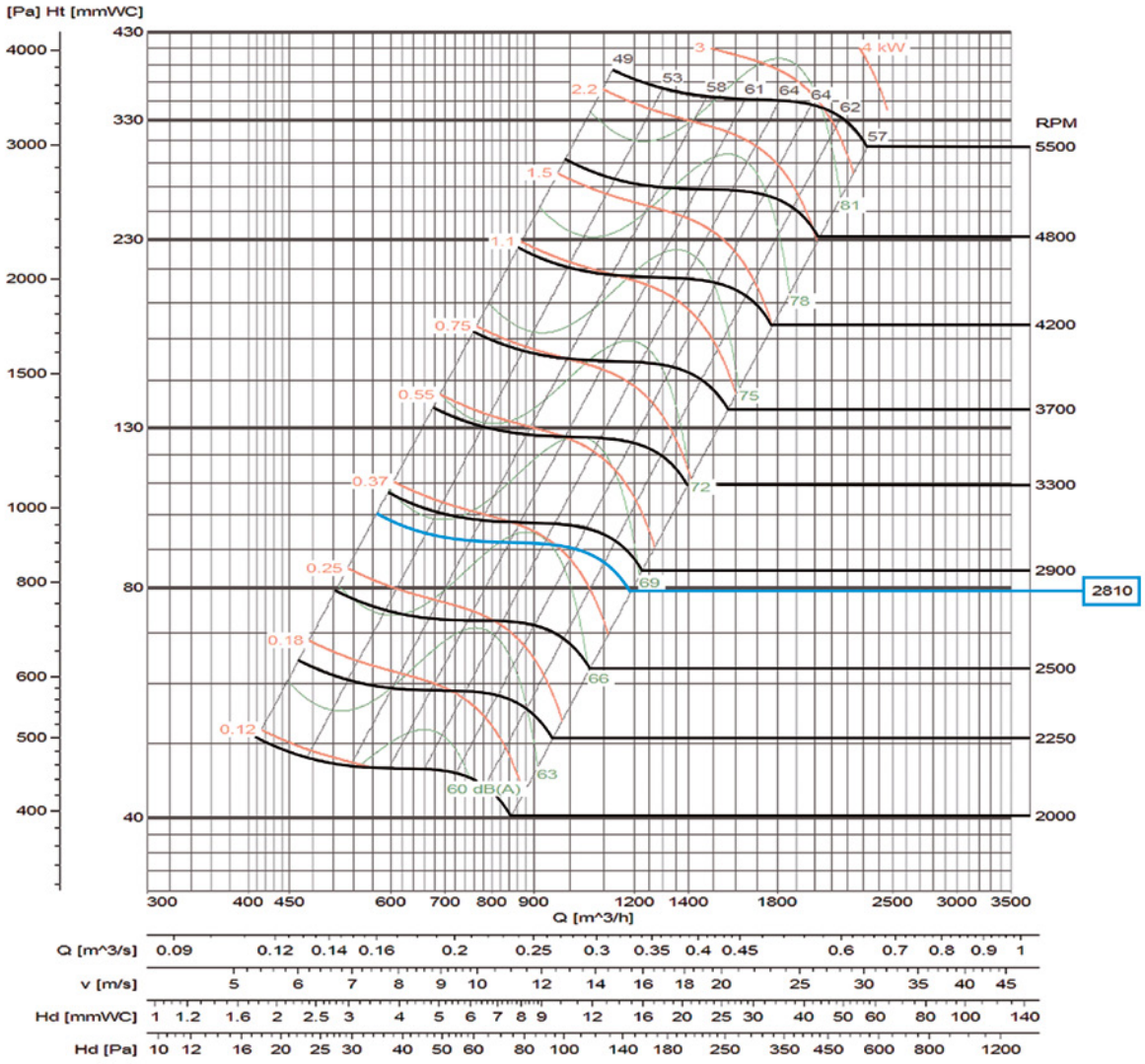
Inlet characteristics

						V m³/s														
Model	**Frame**	**kW ass**	**kW inst.**	**r.p.m.**	**dB**	**0.16**	**0.18**	**0.2**	**0.23**	**0.26**	**0.3**	**0.33**	**0.36**	**0.4**	**0.46**	**0.52**	**0.58**	**0.66**	**0.75**	**0.83**
						Pt kgf/m²=mmH₂O														
CMTB 250	71 B/2	0.53	0.55	2810	78	96	94	91	89	87	86	76								
CMTB 280	80 B/2	0.9	1.1	2820	83				131	130	128	126	121	118	116	115				
CMTB 310	90 S/2	1.3	1.5	2840	85							170	169	167	160	150	141	136		
CMTB 350	112 M/2	3.7	4	2860	93											223	222	221	219	217
CMTB 400	132 SB/2	7.1	7.5	2900	95															275

						V m³/s							
Model	**Frame**	**kW ass**	**kW inst.**	**r.p.m.**	**dB**	**0.93**	**1**	**1.2**	**1.35**	**1.5**	**1.8**	**1.9**	**2**
						Pt kgf/m²=mmH₂O							
CMTB 350	112 M/2	3.7	4	2860	93	213	211						
CMTB 400	132 SB/2	7.1	7.5	2900	95	275	275	272	268	266	262		
CMTB 450	160 MA/2	10.5	11	2910	98			354	354	354	349	344	
CMTB 470	160 MB/2	14.2	15	2930	100				403	398	393	388	378

Flow margin ±5%
Noise level margin + 3... 5 dB

CMTB 250



Flow margin ±5%
Noise level margin + 3... 5 dB
Margin of kW absorbed ±3%

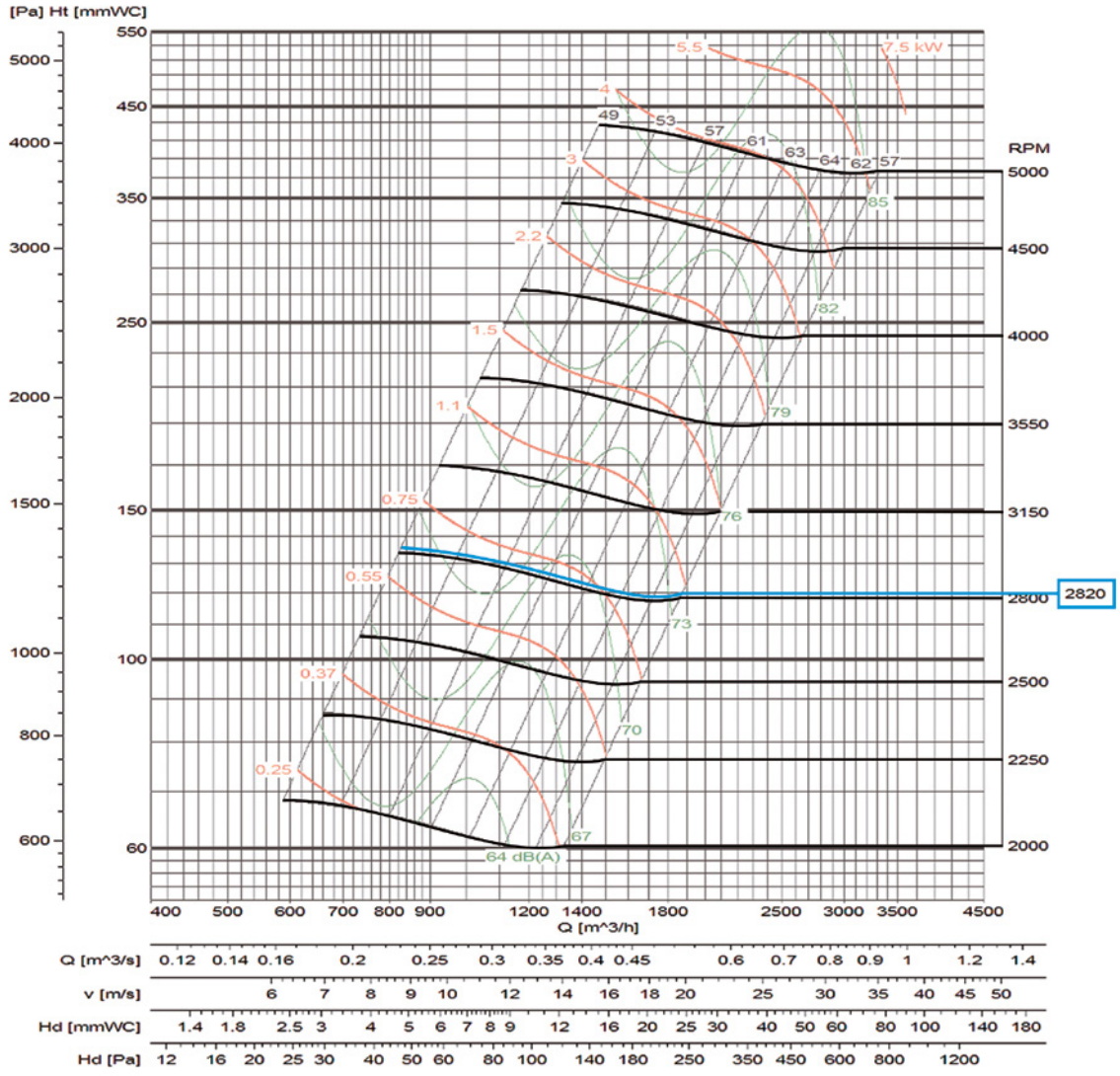
Outlet characteristics.

Rpm

Characteristics for: system 4 and 5 in direct drive motor with 2/4/6/8 poles depending on the model.

Characteristic curves

CMTB 280



Flow margin ±5%
Noise level margin + 3... 5 dB
Margin of kW absorbed ±3%

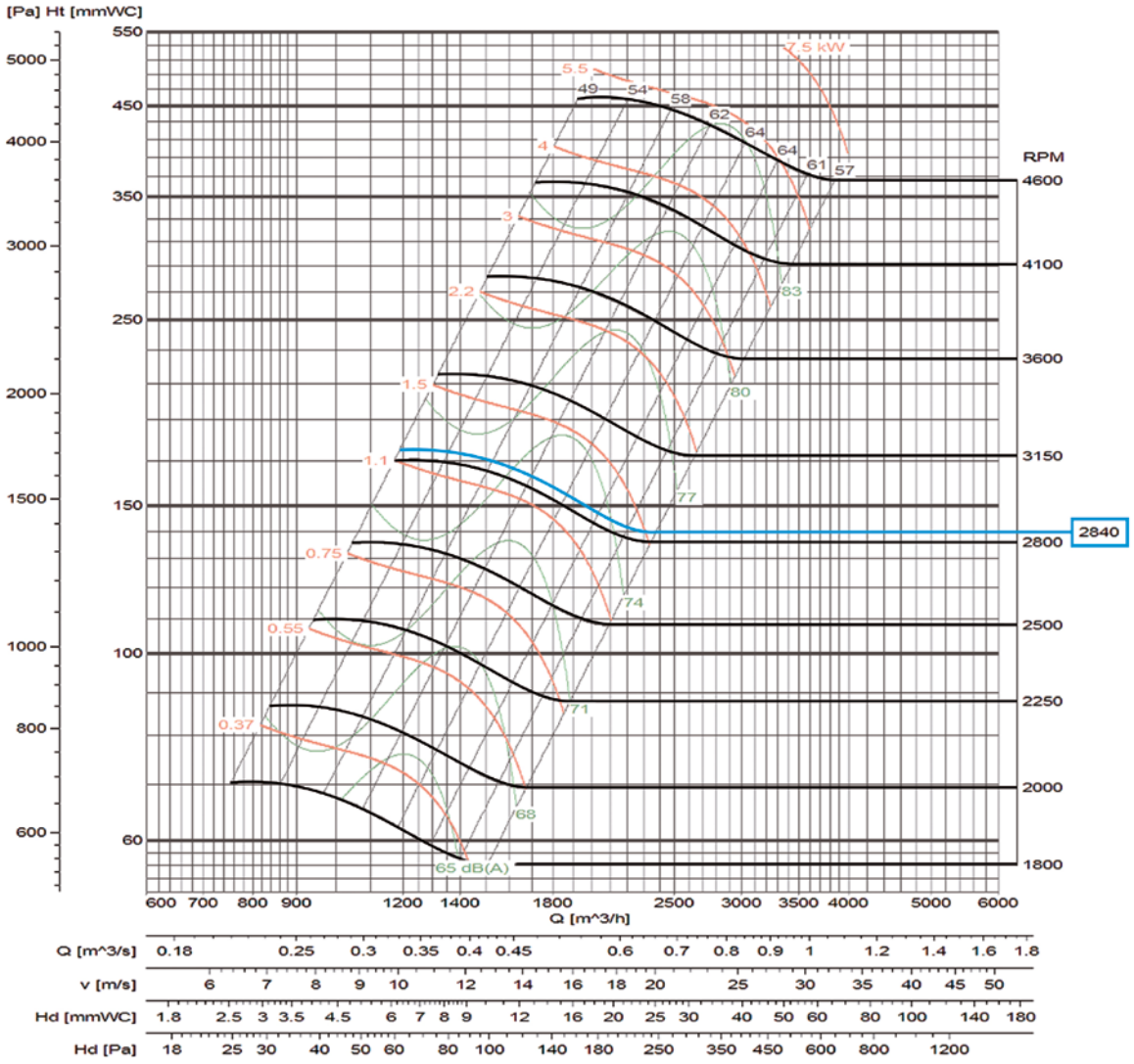
Outlet characteristics.

Rpm

Characteristics for: system 4 and 5 in direct drive motor with 2/4/6/8 poles depending on the model.

LARGE SERIES

CMTB 310



Flow margin ±5%
Noise level margin + 3... 5 dB
Margin of kW absorbed ±3%

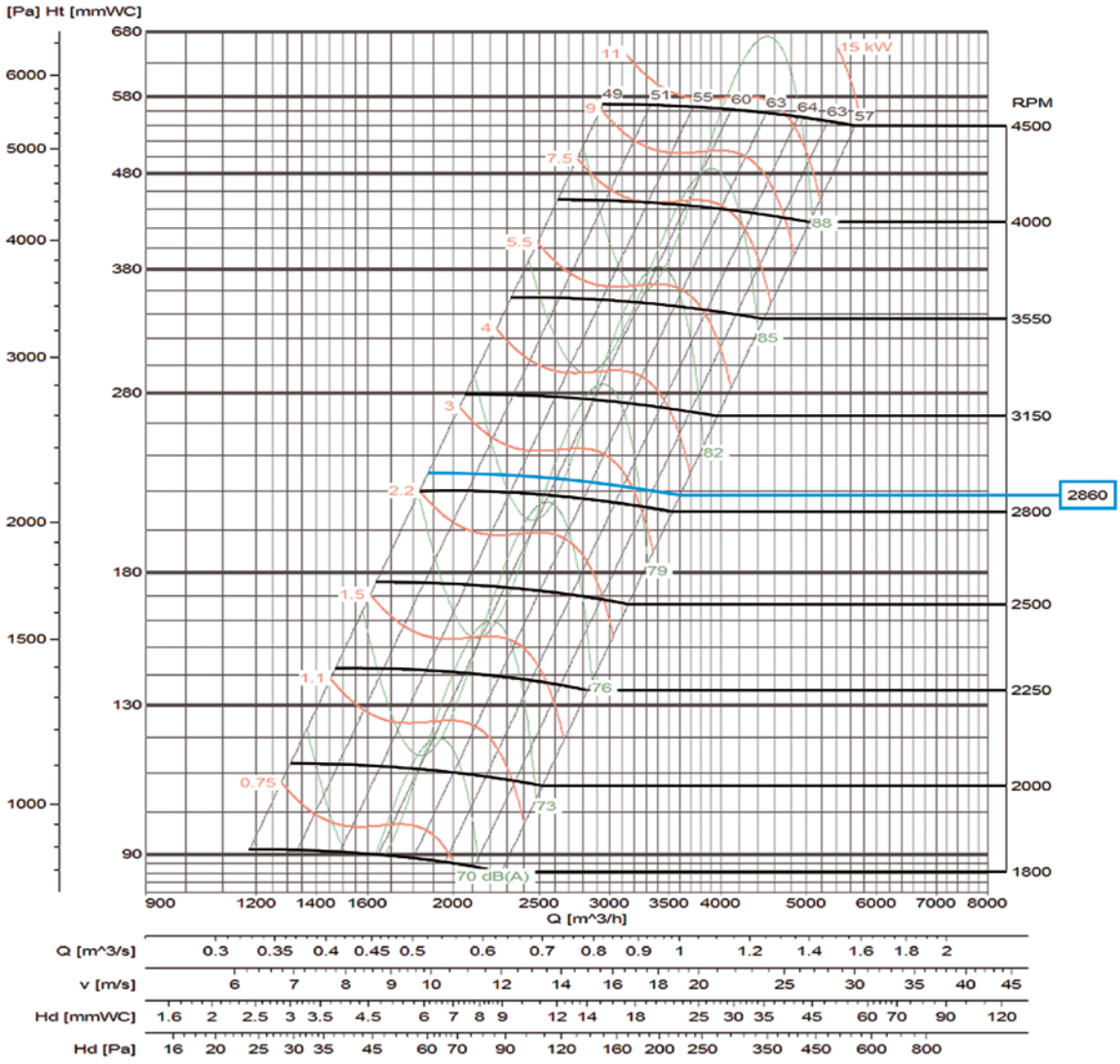
Outlet characteristics.

Rpm

Characteristics for: system 4 and 5 in direct drive motor with 2/4/6/8 poles depending on the model.

Characteristic curves

CMTB 350



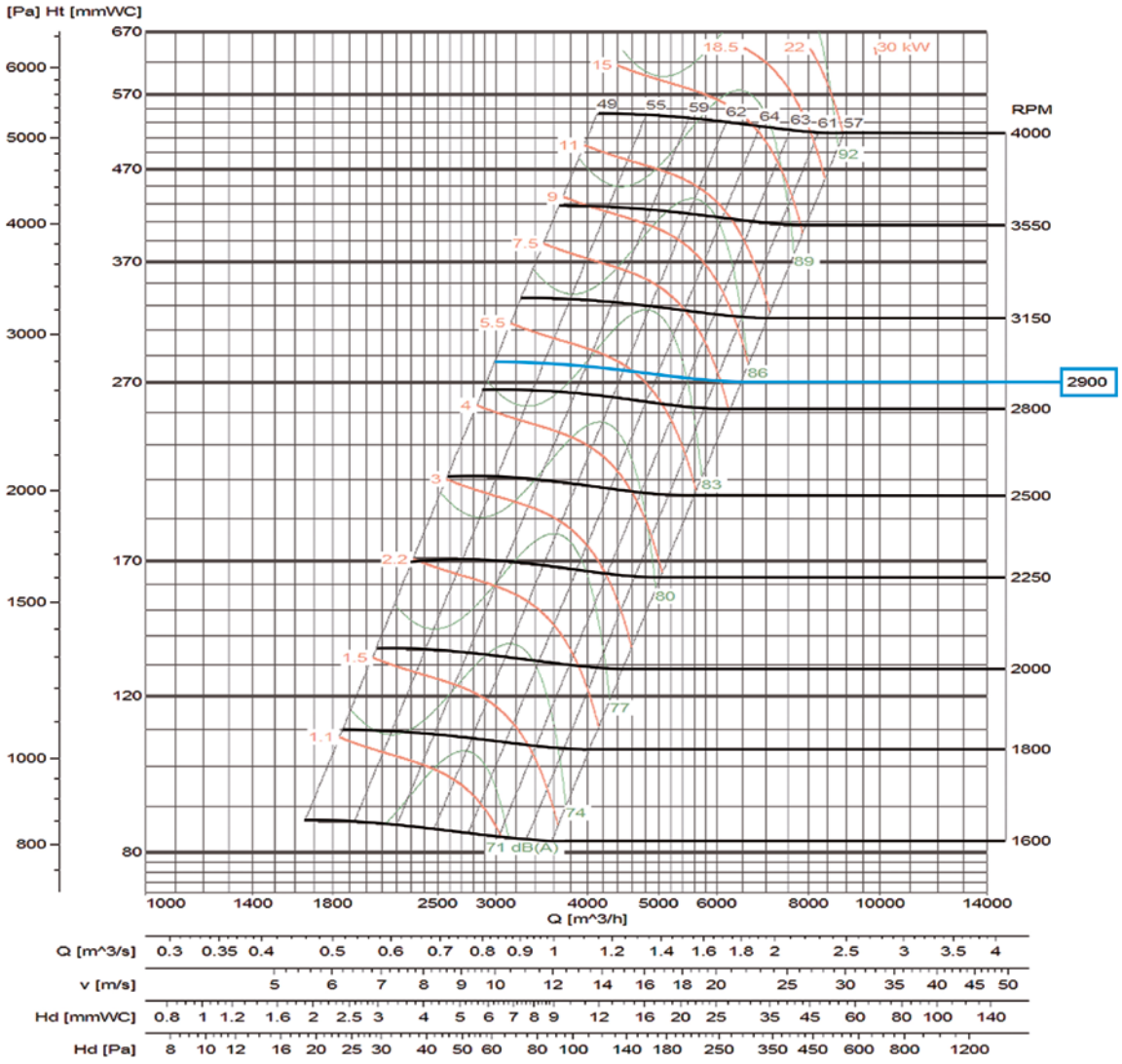
Flow margin ±5%
Noise level margin + 3... 5 dB
Margin of kW absorbed ±3%

Outlet characteristics.

Rpm

Characteristics for: system 4 and 5 in direct drive motor with 2/4/6/8 poles depending on the model.

CMTB 400



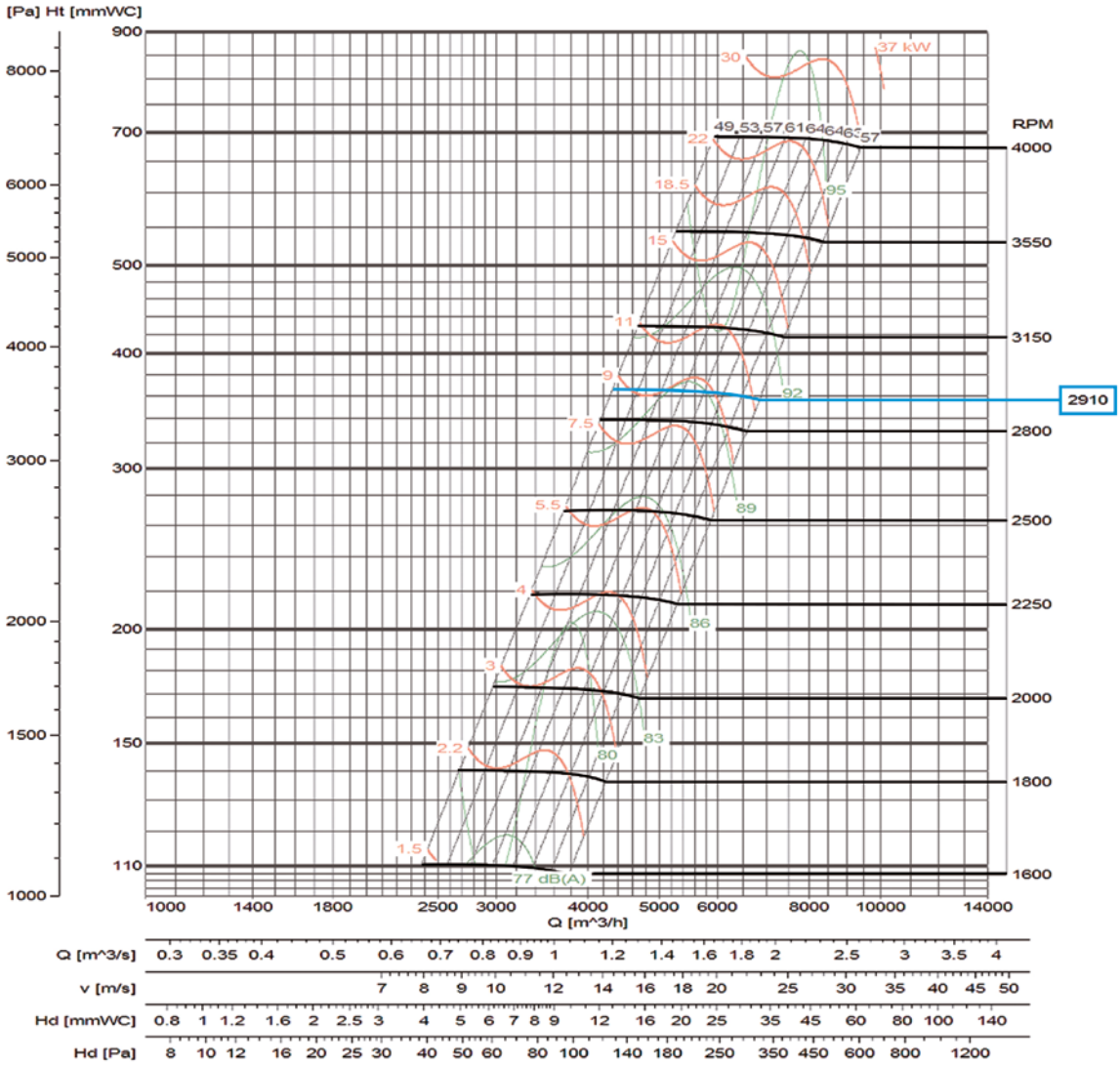
Flow margin ±5%
Noise level margin + 3... 5 dB
Margin of kW absorbed ±3%

Outlet characteristics.

Rpm — Characteristics for: system 4 and 5 in direct drive motor with 2/4/6/8 poles depending on the model.

Characteristic curves

CMTB 450



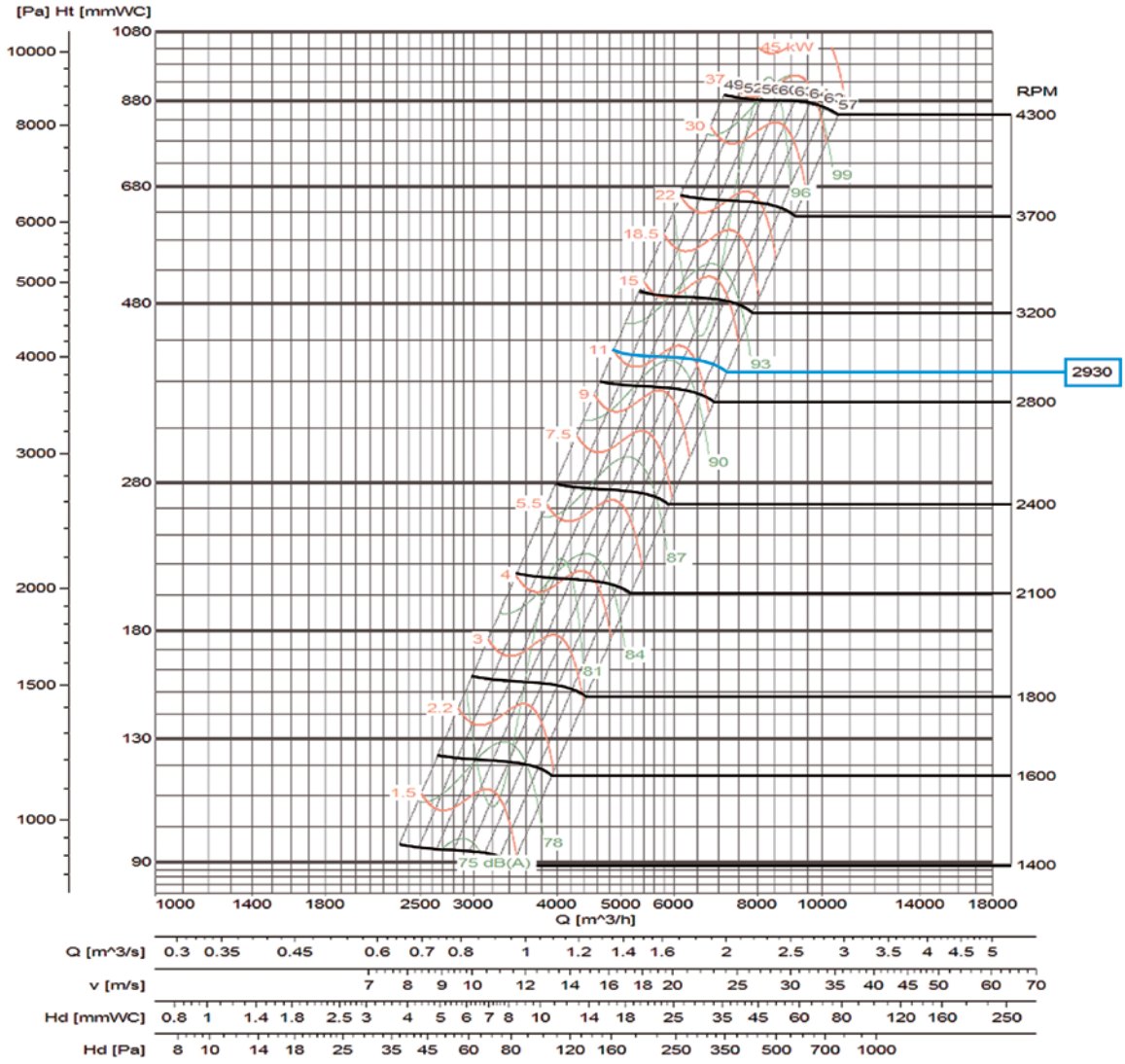
Flow margin ±5%
Noise level margin + 3... 5 dB
Margin of kW absorbed ±3%

Outlet characteristics.

Rpm

Characteristics for: system 4 and 5 in direct drive motor with 2/4/6/8 poles depending on the model.

CMTB 470



Flow margin ±5%
Noise level margin + 3... 5 dB
Margin of kW absorbed ±3%

Outlet characteristics.

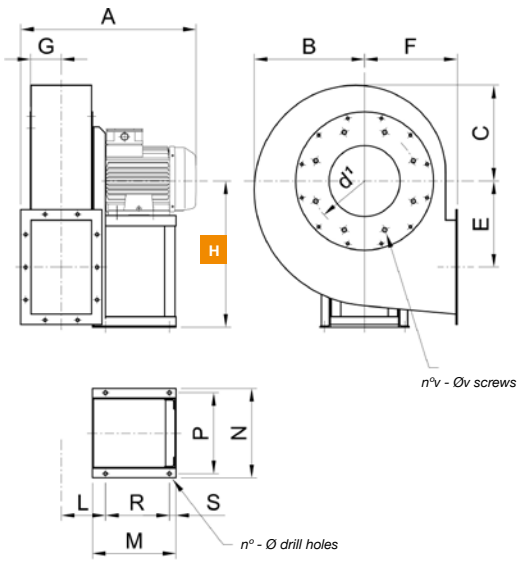
Rpm

Characteristics for: system 4 and 5 in direct drive motor with 2/4/6/8 poles depending on the model.

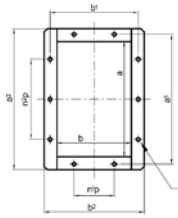
Dimensions mm

SYSTEM 4

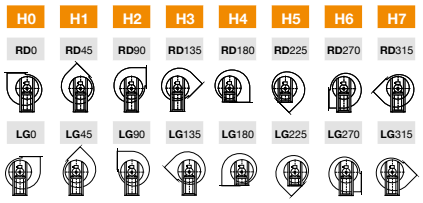
CMTB 250...470



OUTLET NOZZLE



ORIENTATIONS



H *The measurement of height H (distance between the ground and the axis) varies depending on the orientations

MOD.	FRAME	A*	B	C	E	F	G	H0-1-2-3	H4-5	H6-7	L	M*	N	P	R*	S
CMTB 250	71 B/2	375	215	190	160	180	67	315	180	315	111	190	244	220	115	25
CMTB 280	80 B/2	415	255	225	200	220	74	375	220	375	118	190	244	220	115	25
CMTB 310	90 S/2	465	285	245	225	240	86	400	240	400	125	215	269	245	140	25
CMTB 350	112 M/2	540	330	295	250	290	104	500	290	500	146	260	312	280	185	25
CMTB 400	132 SB/2	675	425	370	330	355	118	560	355	560	169	320	342	310	245	25
CMTB 450	160 MA/2	745	425	370	330	355	118	560	355	560	169	425	490	450	345	30
CMTB 470	160 MB/2	745	425	370	330	355	118	560	355	560	169	425	490	450	345	30

						OUTLET NOZZLE										
MOD.	n°	Φ	d¹	n°v	Φv	a	b	a¹	b¹	a²	b²	n¹p	n²p	n°f	Φf	kg	WD²
CMTB 250	4	10	200	8	M6	184	116	219	151	254	186	-	1-112	6	12	25	0.05
CMTB 280	4	10	241	8	M6	204	129	241	166	274	199	-	1-112	6	12	35	0.08
CMTB 310	4	10	265	8	M6	229	144	265	181	299	214	1-112	1-112	8	12	45	0.2
CMTB 350	4	12	332	8	M8	284	185	332	232	364	265	1-125	2-125	10	12	70	0.6
CMTB 400	4	12	405	8	M8	360	231	405	274	440	311	1-125	2-125	10	12	110	1
CMTB 450	4	14	405	8	M8	360	231	405	274	440	311	1-125	2-125	10	12	145	1.3
CMTB 470	4	14	405	8	M8	360	231	405	274	440	311	1-125	2-125	10	12	150	1.6

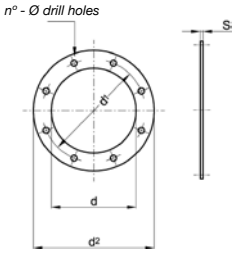
*For "HIGH TEMP." constructions, elevations "A-M-R" + 50 mm.
(kg) Weight of fan with motor.
WD² = Moment of inertia of the impeller, expressed in Kg x m²

To obtain the dimensions of systems 1, 9 and 12 consult with our technical team.

LARGE SERIES

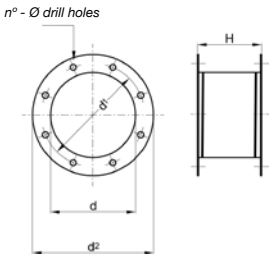
Accessories

Inlet counter flange



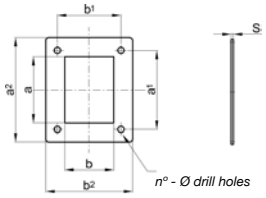
MOD.	d	d¹	d²	n°	Φ	s	kg
CMTB 250	165	200	235	8	9	4	0.65
CMTB 280	205	241	275	8	9	4	0.75
CMTB 310	229	265	299	8	9	4	0.8
CMTB 350	286	332	366	8	11	5	1.6
CMTB 400	361	405	441	8	11	5	2
CMTB 450	361	405	441	8	11	5	2
CMTB 470	361	405	441	8	11	5	2

Inlet anti-vibration seal



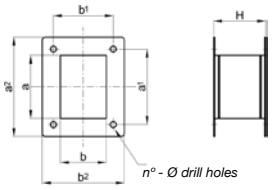
MOD.	d	d¹	d²	n°	Φ	H	kg
CMTB 250	165	200	235	8	9	200	1.5
CMTB 280	205	241	275	8	9	200	1.7
CMTB 310	229	265	299	8	9	200	1.8
CMTB 350	286	332	366	8	11	200	3.5
CMTB 400	361	405	441	8	11	200	4.3
CMTB 450	361	405	441	8	11	200	4.3
CMTB 470	361	405	441	8	11	200	4.3

Impulsion counter-flange



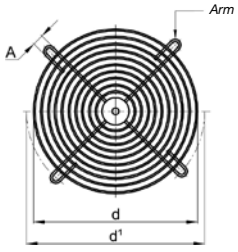
MOD.	a	b	a¹	b¹	a²	b²	n¹p	n²p	n⁰	Φ	s	kg
CMTB 250	184	116	219	151	254	186	-	1-112	6	12	4	0.8
CMTB 280	204	129	241	166	274	199	-	1-112	6	12	4	0.9
CMTB 310	229	144	265	181	299	214	1-112	1-112	8	12	4	1
CMTB 350	284	185	332	232	364	265	1-125	2-125	10	12	5	1.7
CMTB 400	360	231	405	274	440	311	1-125	2-125	10	12	5	2
CMTB 450	360	231	405	274	440	311	1-125	2-125	10	12	5	2
CMTB 470	360	231	405	274	440	311	1-125	2.125	10	12	5	2

Impulsion anti-vibration seal



MOD.	a	b	a¹	b¹	a²	b²	n¹p	n²p	n⁰	Φ	H	kg
CMTB 250	184	116	219	151	254	186	-	1-112	6	12	200	1.8
CMTB 280	204	129	241	166	274	199	-	1-112	6	12	200	2
CMTB 310	229	144	265	181	299	214	1-112	1-112	8	12	200	2.2
CMTB 350	284	185	332	232	364	265	1-125	2-125	10	12	200	3.7
CMTB 400	360	231	405	274	440	311	1-125	2-125	10	12	200	4.3
CMTB 450	360	231	405	274	440	311	1-125	2-125	10	12	200	4.3
CMTB 470	360	231	405	274	440	311	1-125	2-125	10	12	200	4.3

Inlet protection mesh

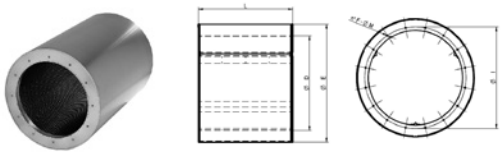


MOD.	d	d¹	A	n°	kg
CMTB 250	165	200	9	4	0.15
CMTB 280	205	241	9	4	0.2
CMTB 310	229	265	9	4	0.25
CMTB 350	286	332	11	4	0.35
CMTB 400	361	405	11	4	0.7
CMTB 450	361	405	11	4	0.7
CMTB 470	361	405	11	4	0.7

Circular silencers

Silencers are used to lower the noise level at air conditioning or ventilation installation manufactured using galvanised steel.

- Upon request: other constructions using different materials.

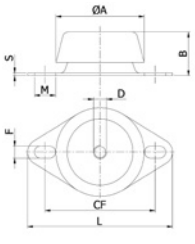


øD	øE	L	øl	F	øM
315	515	ØD,1.5ØD, 2ØD	355	8	M8
355	555	ØD,1.5ØD, 2ØD	395	8	M8
400	600	ØD,1.5ØD, 2ØD	450	8	M8
450	650	ØD,1.5ØD, 2ØD	500	8	M8
500	700	ØD,1.5ØD, 2ØD	560	12	M8
560	760	ØD,1.5ØD, 2ØD	620	12	M8
630	830	ØD,1.5ØD, 2ØD	690	12	M8
710	910	ØD,1.5ØD, 2ØD	770	16	M8
800	1000	ØD,1.5ØD, 2ØD	860	16	M8

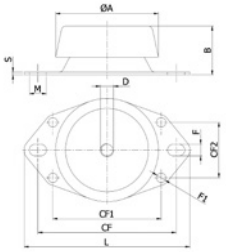
øD	øE	L	øl	F	øM
900	1100	ØD,1.5ØD, 2ØD	970	16	M10
1000	1200	ØD,1.5ØD, 2ØD	1070	16	M10
1120	1320	ØD,1.5ØD, 2ØD	1190	20	M10
1250	1450	ØD,1.5ØD, 2ØD	1320	20	M10
1400	1600	ØD,1.5ØD, 2ØD	1470	20	M10
1500	1700	ØD,1.5ØD, 2ØD	1570	20	M10
1600	1800	ØD,1.5ØD, 2ØD	1680	24	M14
1700	1900	ØD,1.5ØD, 2ØD	1780	24	M14
1800	2000	ØD,1.5ØD, 2ØD	1880	24	M14

Shock absorbers

TYPE 1



TYPE 2



MOD.	SHOCK-ABSORBERS MODEL	TYPE	øA	B	D	CF	CF1	CF2	F	øF1	L	M	S
CMTB 250	CF 623110	1	67	33...34	10	76.5	-	-	9	-	90.5	16	2
CMTB 280	CF 623110	1	67	33...34	10	76.5	-	-	9	-	90.5	16	2
CMTB 310	CF 623110	1	67	33...34	10	76.5	-	-	9	-	90.5	16	2
CMTB 350	CF 623110	1	67	33...34	10	76.5	-	-	9	-	90.5	16	2
CMTB 400	CF 623110	1	67	33...34	10	76.5	-	-	9	-	90.5	16	2
CMTB 450	CF 924512	2	92	44...45	12	120	98	50	10.5	8.5	130	15.5	2.5
CMTB 470	CF 924512	2	92	44...45	12	120	98	50	10.5	8.5	130	15.5	2.5