■ **Application**
Noise-encapsulated centrifugal fan with retractable motor-impeller unit and motor located outside of the air flow. Suitable for harsh operating conditions and the transportation of contaminated, greasy, hot (up to +100 °C, types MBD EC up to +120 °C) and humid air against high resistances. Ideal as extract air fan for extraction hood in commercial kitchens.

□ **MB EC**
MegaBox types with EC drive technology are optionally available for energy-saving applications and the lowest operating costs.

■ **Casing**

□ **MB 315 – 400 and MB Ex**
Double-walled, made of galvanised steel sheet. Sound insulated by lining with 50 mm thick mineral wool insulation boards. Duct connectors on inlet side and outlet side, with rubber lip seal, adapted to standard diameter. Motor-impeller unit fully retractable for inspection and cleaning, suspended on stable hinges. Includes mounting rails made of galvanised steel with screwed-on vibration dampers for easy installation.

□ **MB 225 – 280 and MB EC**
Like MB 315 – 400, but lined with 30 mm thick mineral wool insulation boards. Comes with condensate drain and drip protection with the doors open as standard.

■ **Impeller**
High performance centrifugal impeller with good level of efficiency. All types are backward curved and made of aluminium, MB EC 225 to 250 made of galvanised steel sheet. MB Ex series types are forward curved and made of galvanised steel. Dynamically balanced in accordance with DIN ISO 21940-11 – quality grade 6.3.

■ **Drive**

□ **MB**
Maintenance-free squirrel-cage rotor motor in IEC dimensions pursuant to DIN EN 60034/ VDE 0530 and DIN EN 60335-1/ VDE 0700-1 as well as other relevant standards. With flange mounting and self-ventilation. Thermal overload protection through thermal contacts in the winding. Suitable for continuous operation S1. Insulation class F. Closed casing in protection category IP55.

□ **MB EC**
Energy-saving, speed-controllable EC external rotor motor in protection category IP55 with the highest level of efficiency, located outside of the air flow. Maintenance-free and radio interference-free, ball bearing mounted.

■ **Power control**

□ **MB**
All types (except for explosion-proof types) are speed-controllable using voltage reduction by means of transformer controllers. The three-phase current types can also be operated at two speeds by star/delta connection or motor protection circuit breaker. The power level can then be set according to requirements and optimally to the desired operating point. One or more fans can be operated until the max. rated current is reached with the offered speed controllers. 10% power reserves must be provided when dimensioning the speed controller.

□ **MB EC**
All EC types have continuously variable control using via speed potentiometer. Control is also possible via three level switch or continuously variable via universal control system or electronic differential pressure/temperature controller. Performance levels are shown on the performance curve as examples.

■ **Electrical connection**
Standard terminal box mounted to external cable, protection category IP55.
The swivelling range of the motor-impeller unit must be considered when cutting the connecting cable to length.
For MBD 315/2/2, 355/2/2 and 400/2/2, terminal box on outside of motor.

■ **Motor protection**

□ **MB**
With external thermal contacts on the terminal block, which must be wired to the motor protection circuit breaker.

□ **MB EC**
Integrated electronic temperature monitoring system for EC motor and electronics. If the maximum permissible motor temperature is exceeded, 3~ types will automatically reduce the speed which then returns back to the originally set value after cooling down. The motors in 1~ types will be deactivated if the maximum permissible temperature is exceeded.

■ **Explosion protection**
The explosion-proof types correspond to unit group II, category 2G for operation in zone 1 and 2 in accordance with Directive 2014/34/EU (ATEX).

■ **Air flow direction**
The air flow direction cannot be changed for centrifugal fans. The correct motor rotation direction is marked by arrows on the fan and must be checked during commissioning.

■ **Incorrect direction of rotation**
Operation in the incorrect direction of rotation overloads the AC motor and causes the thermal contacts to respond. Typical concomitant features include: Low flow rate, vibration and abnormal noise.

■ **Air flow temperature**
The maximum permissible air flow temperature is shown in the type table.

■ **Ambient temperature**
From –40 °C to +40 °C.

■ **Installation position, installation**
The swivelling range and weight of the motor-impeller unit and free accessibility must be taken into account for positioning.

■ **Structure-borne noise transmission**
to buildings and duct systems must be prevented. The fan must not be rigidly connected to the pipeline; flexible connecting sleeves (type FM, accessories) must be used.

■ References	Page
Planning information, acoustics	14 ff.
General techn. information, power control	18 ff.

■ Other accessories	Page
Flexible connecting sleeve, speed controller and protection circuit breakers	278 599 ff.
Universal control system, electronic controllers, speed potentiometer for MB EC types	613 ff.

By combining the parameters of static pressure increase Δp_{fa}, case-radiated noise and inlet side air noise as sound pressure at 1 m (free field conditions), the following table facilitates the selection of MegaBox centrifugal fans.

EC	Sound pres. Radiation	Sound pres. inlet side	Flow rate $\dot{V}$ m³/h depending on static pressure												
	L_{PA} dB(A)	L_{PA} dB(A)	(ΔP_{fa}) in Pa												
Type	at 4 m dist.	at 4 m dist.	**0**	**50**	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**1000**	**1500**	**2000**
MBW EC 225	55	66	1350	1238	1250	1123	1000	878	764	500					
MBW EC 250	56	73	1900	1815	1730	1560	1420	1270	1125	985	800				
MBW EC 280	56	71	2620	2550	2475	2320	2150	1945	1680	1380	1000	545			
MBD EC 280	58	75	3000	2940	2860	2740	2625	2440	2300	2140	1945	1625	900		
MBW EC 315	50	62	2150	2035	1915	1620	1000								
MBW EC 315 A	59	73	3400	3320	3235	3080	2920	2740	2550	2270	1900	1380			
MBW EC 315 B	65	81	4200	4140	4065	3920	3800	3670	3530	3380	3220	3090	2700		
MBW EC 355	54	69	3050	2920	2790	2470	2080	1350							
MBW EC 355 A	66	78	5000	4890	4830	4680	4550	4380	4240	4045	4100	3530	2914		
MBW EC 355 B	68	82	5600	5520	5450	5255	5130	4940	4770	4640	4470	4300	3850	2210	
MBD EC 400 A	68	80	5000	4890	4760	4565	4370	4130	3870	3520	3050	2200			
MBD EC 400 B	72	85	6550	6475	6400	6300	6160	6000	5800	5550	5350	5100	4550	2525	

	Sound pres. Radiation	Sound pres. inlet side	Flow rate $\dot{V}$ m³/h depending on static pressure												
	L_{PA} dB(A)	L_{PA} dB(A)	(ΔP_{fa}) in Pa												
Type	at 4 m dist.	at 4 m dist.	**0**	**50**	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**1000**	**1500**	**2000**
MBW 225/2	52	64	1170	1130	1090	1010	920	800	640	370					
MBD 225/2/2	52	65	1170	1130	1090	1000	900	790	650	310					
MBW 250/2	55	68	1620	1580	1530	1430	1320	1200	1040	850	510				
MBD 250/2/2	56	68	1590	1550	1510	1430	1330	1210	1050	860	250				
MBD 280/2/2	60	75	2520	2470	2420	2320	2190	2040	1880	1710	1510	1250			
MBW 315/4	41	61	1950	1820	1640	1270	820								
MBD 315/4/4	41	61	1990	1860	1720	1310	910								
MBD 315/2/2	64	80	3980	3910	3820	3660	3450	3500	3050	2750	2630	2440	2090	800	
MBW 355/4	43	60	2810	2660	2520	2070	1630	1140							
MBD 355/4/4	42	60	2850	2660	2440	2070	1650	1200							
MBD 355/2/2	68	84	5800	5770	5680	5480	5280	5030	4800	4570	4390	4160	3700	2700	
MBW 400/4	48	70	3550	3360	3170	2800	2470	2090	1640	750					
MBD 400/4/4	50	69	3440	3290	3140	2800	2460	2100	1630	720					
MBD 400/2/2	74	90	7500	7380	7270	7070	6830	6660	6480	6310	6130	5990	5610	4730	3500

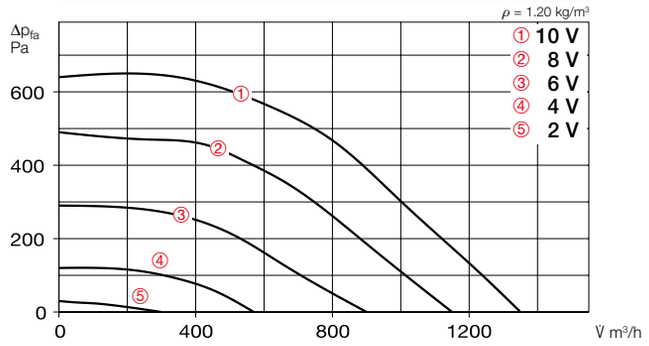
Ex	Sound pres. Radiation	Sound pres. inlet side	Flow rate $\dot{V}$ m³/h depending on static pressure												
	L_{PA} dB(A)	L_{PA} dB(A)	(ΔP_{fa}) in Pa												
Type	at 4 m dist.	at 4 m dist.	**0**	**50**	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**1000**	**1500**	**2000**
MBD 160/4 Ex	48	64	960	850	730										
MBD 160/2 Ex	63	79	2020	1970	1920	1820	1700	1570	1420	1270	1110				
MBD 180/4 Ex	51	67	1390	1290	1180	860									
MBD 200/4 Ex	54	70	*	*	1840	1530	1080								
MBD 225/4 Ex	56	74	*	2720	2570	2250	1840	940							
MBD 250/4 Ex	62	78	4130	3990	3840	3520	3150	2670	1950						
MBD 280/6 Ex	56	72	*	*	3240	2740									
MBD 280/4 Ex	65	81	*	*	*	*	4800	4410	3900	3150					

* Consider required minimum system resistance.

MB EC 225

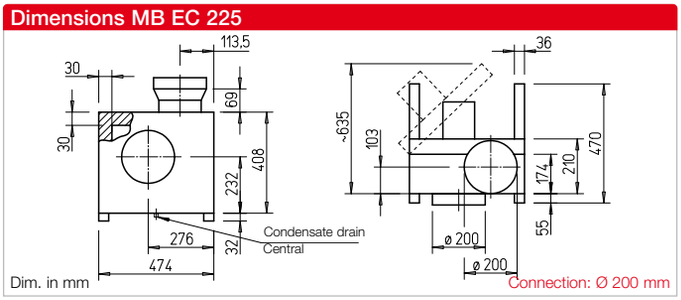
Performance curves MBW EC 225

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Radiation	dB(A)	63	47	50	52	58	57	51	41
L_{WA}	Inlet side	dB(A)	74	52	65	70	68	65	64	62
L_{WA}	Outlet side	dB(A)	77	53	64	73	67	70	66	61



	Free blowing					
Voltage V	**n** min⁻¹	**V̇** m³/h	**P** W	**I** A	**Lp** dB(A)	**SFP** kW/m³/s
10	3000	1350	230	1.00	55	0.61
8	2600	1150	150	0.68	52	0.47
6	2000	900	90	0.42	47	0.34
4	1300	570	50	0.27	38	0.25

Dimensions MB EC 225



Dim. in mm

Connection: Ø 200 mm

Casing
Double-walled, made of galvanised steel sheet. Sound insulated by lining with 30 mm thick mineral wool insulation boards. Duct connectors on inlet side and outlet side, with rubber lip seal, adapted to standard diameter. Motor-impeller unit fully retractable for inspection and cleaning, suspended on stable hinges. Comes with condensate drain and drip protection with the doors open as standard. Includes mounting rails made of galvanised steel with screwed-on vibration dampers for easy installation.

Impeller
Backward curved, free-running high performance centrifugal impeller made of galvanised steel, mounted directly on motor shaft. High efficiency, low noise. Dynamically balanced in accordance with DIN ISO 21940-11 – quality grade 6.3.

Drive
Energy-saving, speed-controllable EC internal rotor motor in protection category IP55 with the highest level of efficiency, located outside of the air flow. Maintenance-free and radio interference-free, ball bearing mounted.

Electrical connection
Standard terminal box (IP55) mounted to external cable.

Motor protection
Integrated electronic temperature monitoring system for EC motor and electronics. The motor is deactivated if the maximum permissible temperature is exceeded.

Power control
Continuously variable speed control with potentiometer or continuously variable speed control with universal control system (see table).
Performance levels are shown in the performance curve as an example.

Noise
The total level and range are specified above the performance diagram for:
- ☐ Case-radiated sound power
- ☐ Inlet side sound power
- ☐ Outlet side sound power

The case-radiated noise as sound pressure at 1 m (free field conditions) is also specified in the type table and the table below the performance curve.

Accessories

Wall bracket made of galv. steel sheet.
MB-WK EC225 Ref. no. 05526

Weather protection cover made of galv. steel sheet, mounted above motor.
MB-WSD EC225 No. 01856

Flexible connecting sleeve for installation between fan and duct.
☐ Max. temperature +70 °C
FM 200 Ref. no. 01670
☐ Max. temperature +120 °C
FM 200 T120 Ref. no. 01654

Accessory details	**Page**
Universal control system, electronic controller, speed potentiometer	613 ff.

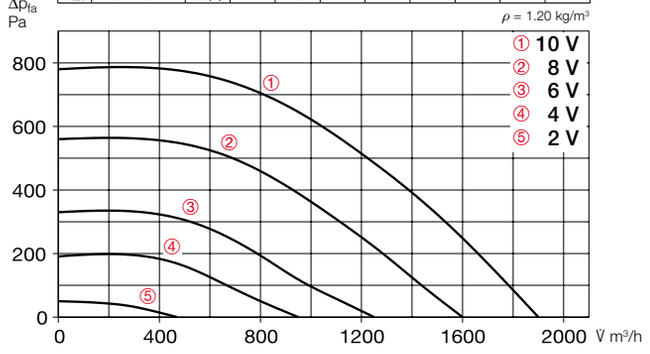
Type	Ref. no.	Connection Ø	Flow rate free blowing	Rated speed	Case-rad. sound pressure	Power consumption	Current consumption	Wiring diagram	Max. air flow temp.	Weight net aprx.	Universal control system		Speed potentiometer flush-mounted		Speed potentiometer surf.-mounted	
		mm	V̇ m³/h	min⁻¹	dB(A) at 1 m	kW	A	No.	+ °C	kg	**Type**	Ref. no.	**Type**	Ref. no.	**Type**	Ref. no.
Alternating current, 1~, 230 V, 50/60 Hz, EC motor, protection category IP55																
MBW EC 225	05842	200	1350	3000	55	0.27	1.20	985	100	25	**EUR EC** [1) 2)]	01347	**PU 10** [1)]	01734	**PA 10** [1)]	01735

1) Multiple EC fans can normally be connected. 2) Alternative electronic diff. pressure/temperature controller (EDR/ETR, No. 01437/01438) or three level speed switch (SU/SA, No. 04266/04267).

MB EC 250

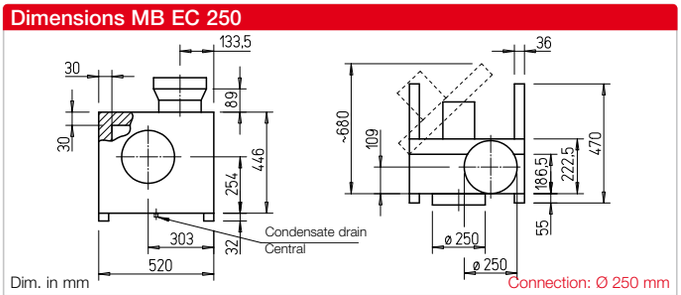
Performance curves MBW EC 250

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Radiation	dB(A)	64	43	52	60	56	57	52	46
L_{WA}	Inlet side	dB(A)	81	62	72	77	75	72	71	66
L_{WA}	Outlet side	dB(A)	83	62	71	79	75	76	71	65



	Free blowing					
Voltage V	**n** min⁻¹	**V̇** m³/h	**P** W	**I** A	**Lp** dB(A)	**SFP** kW/m³/s
10	3000	1900	310	1.30	56	0.59
8	2600	1600	200	0.90	51	0.45
6	2000	1250	110	0.51	47	0.32
4	1300	950	70	0.40	42	0.25

Dimensions MB EC 250



Casing
Double-walled, made of galvanised steel sheet. Sound insulated by lining with 30 mm thick mineral wool insulation boards. Duct connectors on inlet side and outlet side, with rubber lip seal, adapted to standard diameter. Motor-impeller unit fully retractable for inspection and cleaning, suspended on stable hinges. Comes with condensate drain and drip protection with the doors open as standard. Includes mounting rails made of galvanised steel with screwed-on vibration dampers for easy installation.

Impeller
Backward curved, free-running high performance centrifugal impeller made of galvanised steel, mounted directly on motor shaft. High efficiency, low noise. Dynamically balanced in accordance with DIN ISO 21940-11 – quality grade 6.3.

Drive
Energy-saving, speed-controllable EC internal rotor motor in protection category IP55 with the highest level of efficiency, located outside of the air flow. Maintenance-free and radio interference-free, ball bearing mounted.

Electrical connection
Standard terminal box (IP55) mounted to external cable.

Motor protection
Integrated electronic temperature monitoring system for EC motor and electronics. The motor is deactivated if the maximum permissible temperature is exceeded.

Power control
Continuously variable speed control with potentiometer or continuously variable speed control with universal control system (see table).
Performance levels are shown in the performance curve as an example.

Noise
The total level and range are specified above the performance diagram for:
- ☐ Case-radiated sound power
- ☐ Inlet side sound power
- ☐ Outlet side sound power

The case-radiated noise as sound pressure at 1 m (free field conditions) is also specified in the type table and the table below the performance curve.

Accessories

Wall bracket made of galv. steel sheet.
MB-WK EC250 Ref. no. 05526

Weather protection cover made of galv. steel sheet, mounted above motor.
MB-WSD EC250 Ref. no. 01856

Flexible connecting sleeve for installation between fan and duct
☐ Max. temperature +70 °C
FM 250 Ref. no. 01672
☐ Max. temperature +120 °C
FM 250 T120 Ref. no. 01655

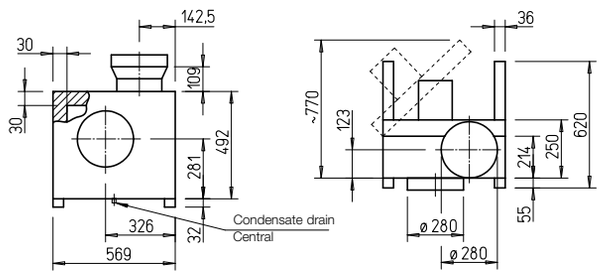
Accessory details	**Page**
Universal control system, electronic controller, speed potentiometer	613 ff.

Type	Ref. no.	Connection Ø	Flow rate free blowing	Rated speed	Case-rad. sound pressure	Power consumption	Current consumption	Wiring diagram	Max. air flow temp.	Weight net aprx.	Universal control system		Speed potentiometer flush-mounted		Speed potentiometer surf.-mounted	
		mm	V̇ m³/h	min⁻¹	dB(A) at 1 m	kW	A	No.	+ °C	kg	**Type**	Ref. no.	**Type**	Ref. no.	**Type**	Ref. no.
Alternating current, 1~, 230 V, 50/60 Hz, EC motor, protection category IP55																
MBW EC 250	05843	250	1900	3000	56	0.38	1.70	985	100	28.0	**EUR EC** [1)2)]	01347	**PU 10** [1)]	01734	**PA 10** [1)]	01735

1) Multiple EC fans can normally be connected. 2) Alternative electronic diff. pressure/temperature controller (EDR/ETR, No. 01437/01438) or three level speed switch (SU/SA, No. 04266/04267).

MB EC 280

Dimensions MB EC 280



Dim. in mm

Connection: Ø 280 mm

Casing
Double-walled, made of galvanised steel sheet. Sound insulated by lining with 30 mm thick mineral wool insulation boards. Duct connectors on inlet side and outlet side, with rubber lip seal, adapted to standard diameter. Motor-impeller unit fully retractable for inspection and cleaning, suspended on stable hinges. Comes with condensate drain and drip protection with the doors open as standard. Includes mounting rails made of galvanised steel with screwed-on vibration dampers for easy installation.

Impeller
Backward curved, free-running high performance centrifugal impeller made of galvanised steel, mounted directly on motor shaft. High efficiency, low noise. Dynamically balanced in accordance with DIN ISO 21940-11 – quality grade 6.3.

Drive
Energy-saving, speed-controllable EC internal rotor motor in protection category IP55 with the highest level of efficiency, located outside of the air flow. Maintenance-free and radio interference-free, ball bearing mounted.

Electrical connection
Standard terminal box (IP55) on outside of motor, mounted to external cable for 1~ type.

Motor protection
Integrated electronic temperature monitoring system for EC motor and electronics. If the maximum permissible motor temperature is exceeded, 3~ types will automatically reduce the speed which then returns back to the originally set value after cooling down. The motors in 1~ types will be deactivated if the maximum permissible temperature is exceeded.

Power control
Continuously variable speed control with potentiometer or continuously variable speed control with universal control system (see table).
Performance levels are shown in the performance curve as an example.

Noise
The total level and range are specified above the performance diagram for:
- ☐ Case-radiated sound power
- ☐ Inlet side sound power
- ☐ Outlet side sound power

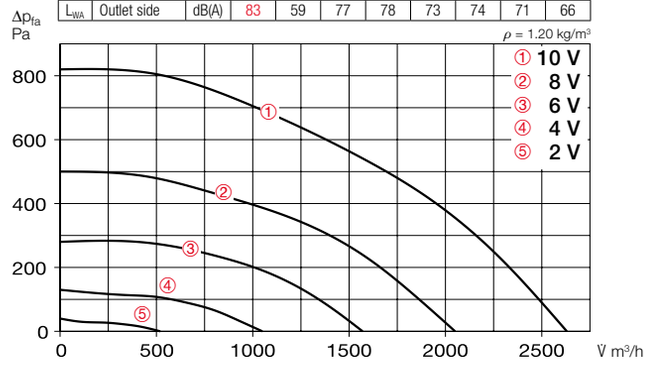
The case-radiated noise as sound pressure at 1 m (free field conditions) is also specified in the type table and the table below the performance curve.

Type	Ref. no.	Connection Ø	Flow rate free blowing	Rated speed	Case-rad. sound pressure	Power consumption	Current consumption	Wiring diagram	Max. air flow temp.	Weight net aprx.	Universal control system		Speed potentiometer flush-mounted		Speed potentiometer surf.-mounted	
		mm	V̇ m³/h	min⁻¹	dB(A) at 1 m	kW	A	No.	+ °C	kg	**Type**	Ref. no.	**Type**	Ref. no.	**Type**	Ref. no.
Alternating current, 1~, 230 V, 50/60 Hz, EC motor, protection category IP55																
MBW EC 280	05850	280	2630	2450	56	0.48	2.10	985	100	33.0	**EUR EC** [1) 2)]	01347	**PU 10** [1)]	01734	**PA 10** [1)]	01735
Three-phase current, 3~, 400 V, 50/60 Hz, EC motor, protection category IP55																
MBD EC 280	05845	280	3000	3000	58	0.75	1.40	988	120	34.0	**EUR EC** [1) 2)]	01347	**PU 10** [1)]	01734	**PA 10** [1)]	01735

1) Multiple EC fans can normally be connected. 2) Alternative electronic diff. pressure/temperature controller (EDR/ETR, No. 01437/01438) or three level speed switch (SU/SA, No. 04266/04267).

Performance curves MBW EC 280

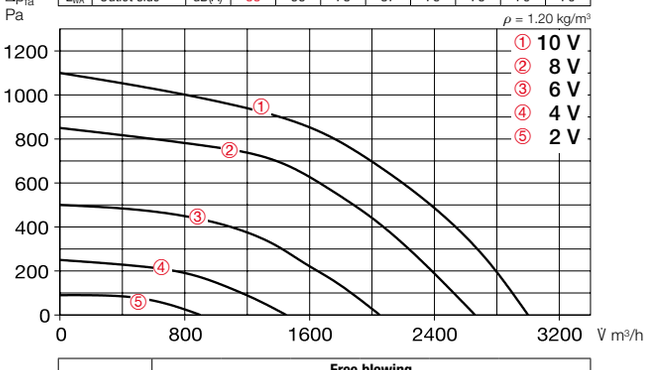
Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Radiation	dB(A)	64	51	60	57	53	56	52	47
L_{WA}	Inlet side	dB(A)	79	57	74	73	69	68	70	65
L_{WA}	Outlet side	dB(A)	83	59	77	78	73	74	71	66



	Free blowing					
Voltage V	**n** min⁻¹	**V̇** m³/h	**P** W	**I** A	**Lp** dB(A)	**SFP** kW/m³/s
10	2450	2630	430	1.90	56	0.59
8	2000	2050	220	0.95	52	0.39
6	1500	1570	100	0.42	46	0.23
4	1000	1030	40	0.20	40	0.14

Performance curves MBD EC 280

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Radiation	dB(A)	66	56	59	61	54	56	52	42
L_{WA}	Inlet side	dB(A)	83	63	73	81	76	73	73	70
L_{WA}	Outlet side	dB(A)	88	66	78	87	79	79	70	70

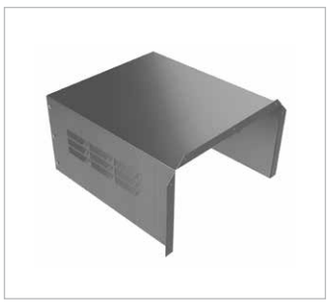


	Free blowing					
Voltage V	**n** min⁻¹	**V̇** m³/h	**P** W	**I** A	**Lp** dB(A)	**SFP** kW/m³/s
10	3000	3000	620	1,2	58	0.75
8	2600	2660	450	0.9	55	0.61
6	2000	2050	230	0.5	50	0.41
4	1400	1450	100	0.3	43	0.25

Accessories

Wall bracket
Bracket for wall installation, made of galvanised steel sheet.
MB-WK EC280 Ref. no. 05527

Weather protection cover
For protected outdoor coverage. Made of galvanised steel sheet, mounted above motor.
MB-WSD EC280 No. 01856



Flexible connecting sleeve
Includes 2 hose clamps; for installation between fan and duct system. Prevents structure-borne noise transmission and bridges installation tolerances.
– Max. temperature +70 °C
FM 280 Ref. no. 01673
– Max. temperature +120 °C
FM 280 T120 Ref. no. 01656

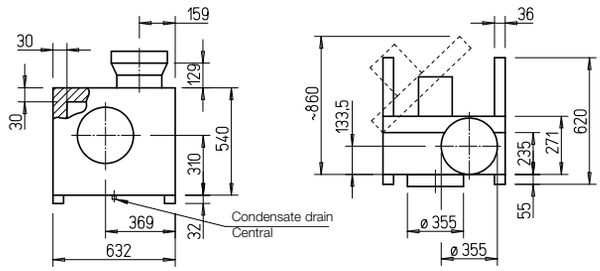
Universal control system
For continuously variable control or regulation of single phase and three-phase EC fans with a setpoint input of 0–10 V DC.
EUR EC Ref. no. 01347

Speed potentiometer
For direct control/setpoint setting for EC fans with potentiometer input.
PU 10 Ref. no. 01734
For flush-mounting.
PA 10 Ref. no. 01735
For surface-mounting.

Accessory details	**Page**
Universal control system, electronic controller, speed potentiometer	613 ff.

MB EC 315

Dimensions MB EC 315



Dim. in mm

Connection: Ø 355 mm

Casing
Double-walled, made of galvanised steel sheet. Sound insulated by lining with 30 mm thick mineral wool insulation boards. Duct connectors on inlet side and outlet side, with rubber lip seal, adapted to standard diameter. Motor-impeller unit fully retractable for inspection and cleaning, suspended on stable hinges. Comes with condensate drain and drip protection with the doors open as standard. Includes mounting rails made of galvanised steel with screwed-on vibration dampers for easy installation.

Impeller
Backward curved, free-running high performance centrifugal impeller made of galvanised steel, mounted directly on motor shaft. High efficiency, low noise. Dynamically balanced in accordance with DIN ISO 21940-11 – quality grade 6.3.

Drive
Energy-saving, speed-controllable EC internal rotor motor in protection category IP55 with the highest level of efficiency, located outside of the air flow. Maintenance-free and radio interference-free, ball bearing mounted.

Electrical connection
Standard terminal box (IP55) on outside of motor, mounted to external cable for 1~ type.

Motor protection
Integrated electronic temperature monitoring system for EC motor and electronics. If the maximum permissible motor temperature is exceeded, 3~ types will automatically reduce the speed which then returns back to the originally set value after cooling down. The motors in 1~ types will be deactivated if the maximum permissible temperature is exceeded.

Power control
Continuously variable speed control with potentiometer or continuously variable speed control with universal control system (see table).
Performance levels are shown in the performance curve as an example.

Noise
The total level and range are specified above the performance diagram for:
- ☐ Case-radiated sound power
- ☐ Inlet side sound power
- ☐ Outlet side sound power

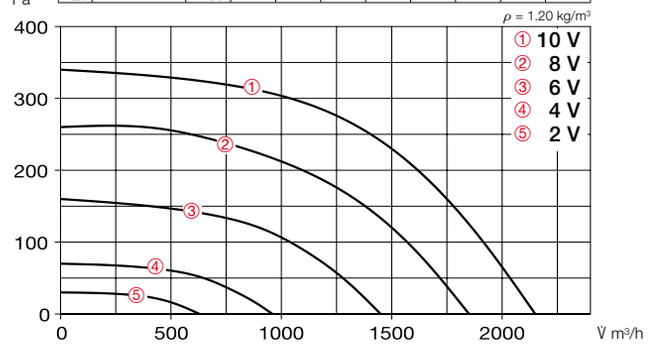
The case-radiated noise as sound pressure at 1 m (free field conditions) is also specified in the type table and the table below the performance curve.

Type	Ref. no.	Connection Ø	Flow rate free blowing	Rated speed	Case-rad. sound pressure	Power consumption	Current consumption	Wiring diagram	Max. air flow temp.	Weight net aprx.	Universal control system		Speed potentiometer flush-mounted		Speed potentiometer surf.-mounted	
		mm	V̇ m³/h	min⁻¹	dB(A) at 1 m	kW	A	No.	+ °C	kg	Type	Ref. no.	Type	Ref. no.	Type	Ref. no.
Alternating current, 1~, 230 V, 50/60 Hz, EC motor, protection category IP55																
MBW EC 315	05852	355	2150	1500	50	0.20	0.85	985	100	43.0	**EUR EC** [1) 2)]	01347	**PU 10** [1)]	01734	**PA 10** [1)]	01735
Three-phase current, 3~, 400 V, 50/60 Hz, EC motor, protection category IP55																
MBD EC 315 A	05851	355	3400	2400	59	0.72	1.30	988	120	44.0	**EUR EC** [1) 2)]	01347	**PU 10** [1)]	01734	**PA 10** [1)]	01735
MBD EC 315 B	05846	355	4200	3000	65	1.38	2.20	988	120	50.0	**EUR EC** [1) 2)]	01347	**PU 10** [1)]	01734	**PA 10** [1)]	01735

1) Multiple EC fans can normally be connected. 2) Alternative electronic diff. pressure/temperature controller (EDR/ETR, No. 01437/01438) or three level speed switch (SU/SA, No. 04266/04267).04266/04267), see accessories.

Performance curves MBW EC 315

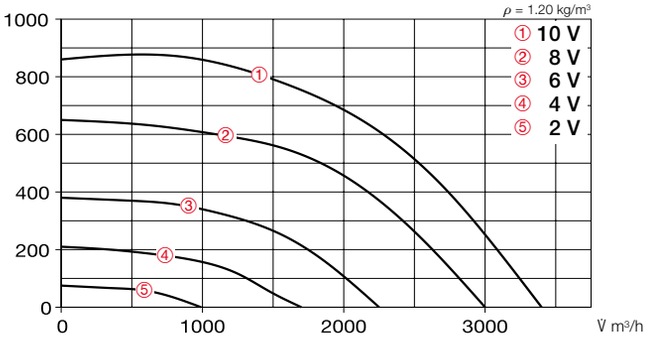
Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Radiation	dB(A)	58	47	51	52	49	47	45	41
L_{WA}	Inlet side	dB(A)	70	56	64	65	62	63	59	52
L_{WA}	Outlet side	dB(A)	72	56	66	68	65	65	58	51



	Free blowing					
Voltage V	**n** min⁻¹	**V̇** m³/h	**P** W	**I** A	**Lp** dB(A)	**SFP** kW/m³/s
10	1500	2150	150	0.69	50	0.25
8	1300	1850	110	0.50	46	0.21
6	1000	1450	70	0.35	40	0.17
4	700	960	30	0.24	33	0.12

Performance curves MBD EC 315 A

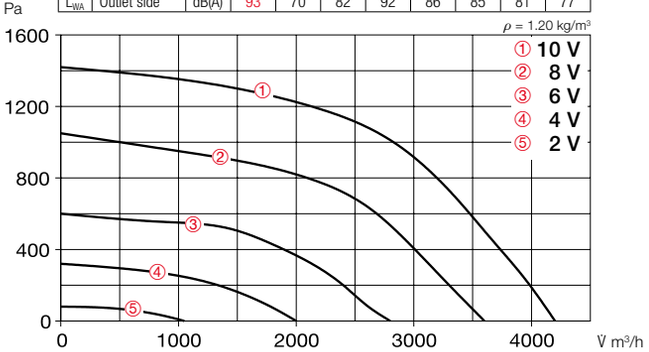
Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Radiation	dB(A)	67	52	64	60	58	53	55	56
L_{WA}	Inlet side	dB(A)	81	59	76	73	70	72	72	67
L_{WA}	Outlet side	dB(A)	84	61	80	76	75	75	71	66



	Free blowing					
Voltage V	**n** min⁻¹	**V̇** m³/h	**P** W	**I** A	**Lp** dB(A)	**SFP** kW/m³/s
10	2400	3400	560	1.10	59	0.60
8	2100	3000	400	0.77	56	0.48
6	1600	2250	200	0.43	50	0.32
4	1200	1700	100	0.25	46	0.21

Performance curves MBD EC 315 B

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Radiation	dB(A)	73	50	62	72	66	65	71	57
L_{WA}	Inlet side	dB(A)	89	66	75	86	78	80	81	76
L_{WA}	Outlet side	dB(A)	93	70	82	92	86	85	81	77

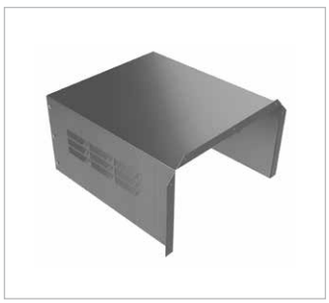


	Free blowing					
Voltage V	**n** min⁻¹	**V̇** m³/h	**P** W	**I** A	**Lp** dB(A)	**SFP** kW/m³/s
10	3000	4200	1200	1.80	65	1.01
8	2600	3600	750	1,20	62	0.75
6	2000	2800	370	0.65	56	0.48
4	1400	2000	190	0.41	49	0.34

Accessories

Wall bracket
Bracket for wall installation, made of galvanised steel sheet.
MB-WK EC315 Ref. no. 05527

Weather protection cover
For protected outdoor coverage. Made of galvanised steel sheet, mounted above motor.
MB-WSD EC315 No. 01865



Flexible connecting sleeve
Includes 2 hose clamps; for installation between fan and duct system. Prevents structure-borne noise transmission and bridges installation tolerances.
– Max. temperature +70 °C
FM 355 Ref. no. 01675
– Max. temperature +120 °C
FM 355 T120 Ref. no. 01658

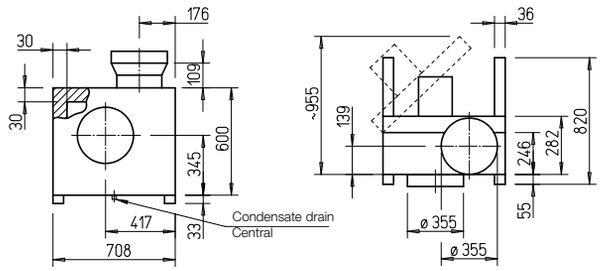
Universal control system
For continuously variable control or regulation of single phase and three-phase EC fans with a setpoint input of 0–10 V DC.
EUR EC Ref. no. 01347

Speed potentiometer
For direct control/setpoint setting for EC fans with potentiometer input.
PU 10 Ref. no. 01734
For flush-mounting.
PA 10 Ref. no. 01735
For surface-mounting.

Accessory details	**Page**
Universal control system, electronic controller, speed potentiometer	613 ff.

MB EC 355

Dimensions MB EC 355



Dim. in mm

Connection: Ø 355 mm

Casing
Double-walled, made of galvanised steel sheet. Sound insulated by lining with 30 mm thick mineral wool insulation boards. Duct connectors on inlet side and outlet side, with rubber lip seal, adapted to standard diameter. Motor-impeller unit fully retractable for inspection and cleaning, suspended on stable hinges. Comes with condensate drain and drip protection with the doors open as standard. Includes mounting rails made of galvanised steel with screwed-on vibration dampers for easy installation.

Impeller
Backward curved, free-running high performance centrifugal impeller made of galvanised steel, mounted directly on motor shaft. High efficiency, low noise. Dynamically balanced in accordance with DIN ISO 21940-11 – quality grade 6.3.

Drive
Energy-saving, speed-controllable EC internal rotor motor in protection category IP55 with the highest level of efficiency, located outside of the air flow. Maintenance-free and radio interference-free, ball bearing mounted.

Electrical connection
Standard terminal box (IP55) on outside of motor, mounted to external cable for 1~ type.

Motor protection
Integrated electronic temperature monitoring system for EC motor and electronics. If the maximum permissible motor temperature is exceeded, 3~ types will automatically reduce the speed which then returns back to the originally set value after cooling down. The motors in 1~ types will be deactivated if the maximum permissible temperature is exceeded.

Power control
Continuously variable speed control with potentiometer or continuously variable speed control with universal control system (see table).
Performance levels are shown in the performance curve as an example.

Noise
The total level and range are specified above the performance diagram for:
- ☐ Case-radiated sound power
- ☐ Inlet side sound power
- ☐ Outlet side sound power

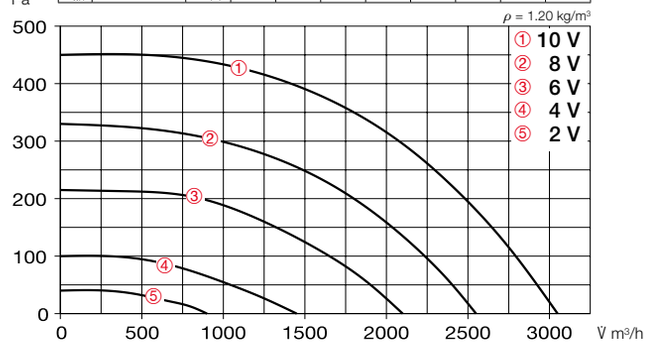
The case-radiated noise as sound pressure at 1 m (free field conditions) is also specified in the type table and the table below the performance curve.

Type	Ref. no.	Connection Ø	Flow rate free blowing	Rated speed	Case-rad. sound pressure	Power consumption	Current consumption	Wiring diagram	Max. air flow temp.	Weight net aprx.	Universal control system		Speed potentiometer flush-mounted		Speed potentiometer surf.-mounted	
		mm	V̇ m³/h	min⁻¹	dB(A) at 1 m	kW	A	No.	+ °C	kg	Type	Ref. no.	Type	Ref. no.	Type	Ref. no.
Alternating current, 1~, 230 V, 50/60 Hz, EC motor, protection category IP55																
MBW EC 355	05854	355	3050	1500	54	0.33	1.50	985	100	50.0	**EUR EC** [1) 2)]	01347	**PU 10** [1)]	01734	**PA 10** [1)]	01735
Three-phase current, 3~, 400 V, 50/60 Hz, EC motor, protection category IP55																
MBD EC 355 A	05853	355	5000	2500	66	1.45	2.20	988	120	56.0	**EUR EC** [1) 2)]	01347	**PU 10** [1)]	01734	**PA 10** [1)]	01735
MBD EC 355 B	05847	355	5600	2800	68	1.90	3.10	988	120	63.0	**EUR EC** [1) 2)]	01347	**PU 10** [1)]	01734	**PA 10** [1)]	01735

[1)] Multiple EC fans can normally be connected. [2)] Alternative electronic diff. pressure/temperature controller (EDR/ETR, No. 01437/01438) or three level speed switch (SU/SA, No. 04266/04267), see Accessories.

Performance curves MBW EC 355

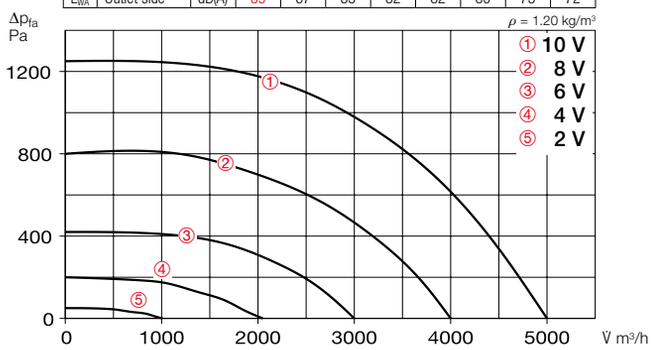
Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Radiation	dB(A)	62	52	58	55	54	51	52	50
L_{WA}	Inlet side	dB(A)	75	57	72	67	64	65	64	65
L_{WA}	Outlet side	dB(A)	78	58	74	71	70	69	65	64



	Free blowing					
Voltage V	**n** min⁻¹	**V̇** m³/h	**P** W	**I** A	**Lp** dB(A)	**SFP** kW/m³/s
10	1500	3050	300	1,20	54	0.35
8	1250	2550	180	0.78	52	0.25
6	1000	2100	100	0.50	47	0.17
4	700	1450	50	0.27	42	0.13

Performance curves MBD EC 355 A

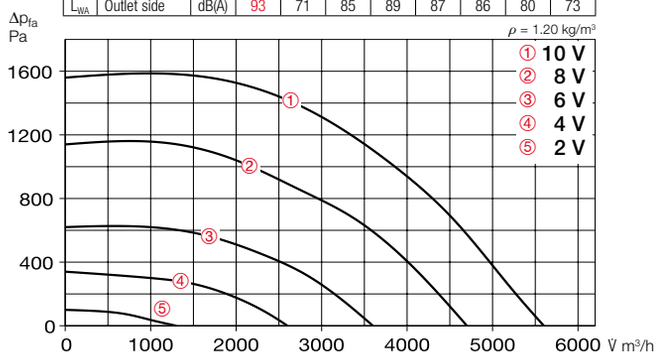
Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Radiation	dB(A)	74	57	69	66	65	62	62	60
L_{WA}	Inlet side	dB(A)	86	65	82	78	76	75	76	71
L_{WA}	Outlet side	dB(A)	89	67	85	82	82	80	75	72



	Free blowing					
Voltage V	**n** min⁻¹	**V̇** m³/h	**P** W	**I** A	**Lp** dB(A)	**SFP** kW/m³/s
10	2500	5000	1200	1.80	66	0.86
8	2000	4000	630	1.10	62	0.57
6	1500	3000	300	0.58	56	0.36
4	1000	2050	100	0.23	48	0.18

Performance curves MBD EC 355 B

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Radiation	dB(A)	76	58	69	72	68	69	67	60
L_{WA}	Inlet side	dB(A)	88	69	81	85	80	80	77	71
L_{WA}	Outlet side	dB(A)	93	71	85	89	87	86	80	73

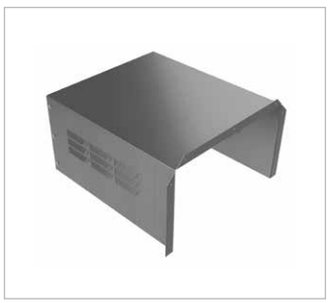


	Free blowing					
Voltage V	**n** min⁻¹	**V̇** m³/h	**P** W	**I** A	**Lp** dB(A)	**SFP** kW/m³/s
10	2800	5600	1600	2.60	68	1.03
8	2350	4700	1000	1.70	65	0.75
6	1800	3600	500	0.90	59	0.50
4	1300	2600	230	0.51	52	0.31

Accessories

Wall bracket
Bracket for wall installation, made of galvanised steel sheet.
MB-WK EC355 Ref. no. 05528

Weather protection cover
For protected outdoor coverage. Made of galvanised steel sheet, mounted above motor.
MB-WSD EC355 No. 01865



Flexible connecting sleeve
Includes 2 hose clamps; for installation between fan and duct system. Prevents structure-borne noise transmission and bridges installation tolerances.
– Max. temperature +70 °C
FM 355 Ref. no. 01675
– Max. temperature +120 °C
FM 355 T120 Ref. no. 01658

Universal control system
For continuously variable control or regulation of single phase and three-phase EC fans with a setpoint input of 0–10 V DC.
EUR EC Ref. no. 01347

Speed potentiometer
For direct control/setpoint setting for EC fans with potentiometer input.
PU 10 Ref. no. 01734
For flush-mounting.
PA 10 Ref. no. 01735
For surface-mounting.

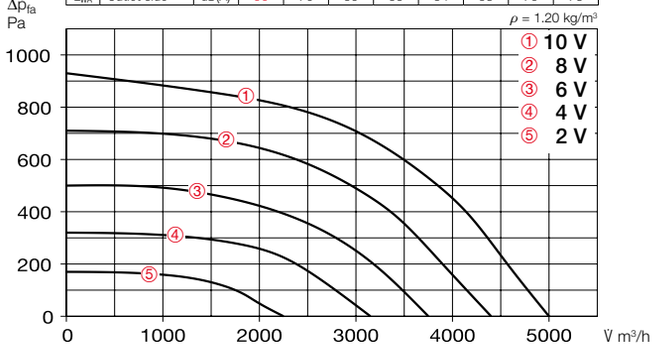
Accessory details	**Page**
Universal control system, electronic controller, speed potentiometer	613 ff.

EC box fans

MB EC 400

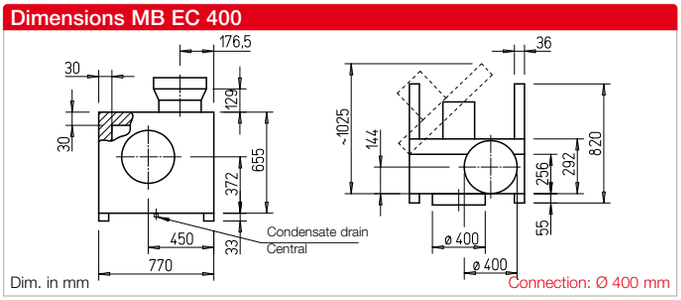
Performance curves MBD EC 400 A

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Radiation	dB(A)	76	55	69	70	71	68	63	60
L_{WA}	Inlet side	dB(A)	88	65	81	82	79	80	79	73
L_{WA}	Outlet side	dB(A)	90	70	89	85	84	83	79	73



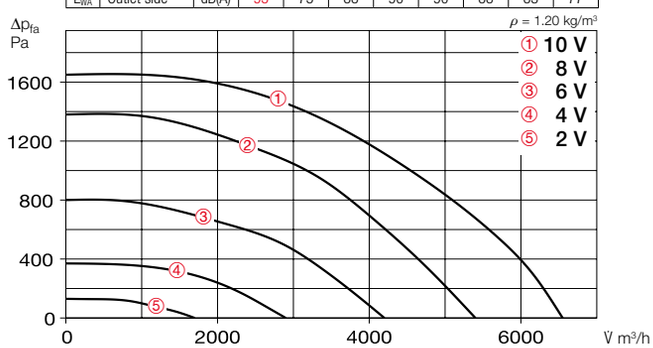
	Free blowing					
Voltage V	**n** min⁻¹	**V̇** m³/h	**P** W	**I** A	**Lp** dB(A)	**SFP** kW/m³/s
10	2000	5000	1120	1.80	68	0.81
8	1750	4400	800	1.30	65	0.65
6	1500	3750	520	0.90	62	0.50
4	1250	3150	320	0.60	57	0.37

Dimensions MB EC 400



Performance curves MBD EC 400 B

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Radiation	dB(A)	80	60	73	75	76	73	67	63
L_{WA}	Inlet side	dB(A)	93	71	86	88	84	85	84	79
L_{WA}	Outlet side	dB(A)	95	75	88	90	90	88	83	77



	Free blowing					
Voltage V	**n** min⁻¹	**V̇** m³/h	**P** W	**I** A	**Lp** dB(A)	**SFP** kW/m³/s
10	2600	6550	2300	3.60	72	1,27
8	2300	5400	1600	2.60	69	1.06
6	1800	4200	800	1.50	64	0.68
4	1250	2900	270	0.60	57	0.35

Casing
See description on page 320 for casing, impeller, drive and noise.

Electrical connection
Standard terminal box (IP55) on outside of motor.

Motor protection
Integrated electronic temperature monitoring system for EC motor and electronics. If the maximum permissible motor temperature is exceeded, the speed will be automatically reduced and then returned back to the originally set value after cooling down.

Power control
Continuously variable speed control with potentiometer or continuously variable speed control with universal control system (see table).
Performance levels are shown in the performance curve as an example.

Accessories

Wall bracket
Made of galvanised steel sheet.
MB-WK EC400 Ref. no. 05528

Weather protection cover
Made of galvanised steel sheet, mounted above motor.
MB-WSD EC400 No. 01865

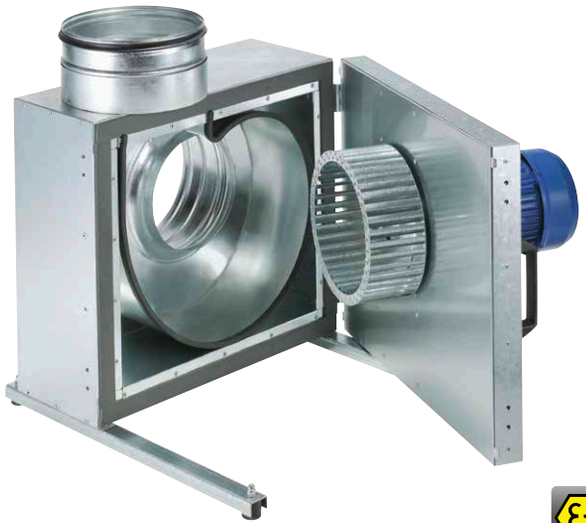
Flexible connecting sleeve
For installation between fan and duct.
– Max. temperature +70 °C
FM 400 Ref. no. 01676
– Max. temperature +120 °C
FM 400 T120 Ref. no. 01659

Accessory details	**Page**
Universal control system, electronic controller, speed potentiometer	613 ff.

Type	Ref. no.	Connection Ø	Flow rate free blowing	Rated speed	Case-rad. sound pressure	Power consumption	Current consumption	Wiring diagram	Max. air flow temp.	Weight net aprx.	Universal control system		Speed potentiometer flush-mounted		Speed potentiometer surf.-mounted	
		mm	V̇ m³/h	min⁻¹	dB(A) at 1 m	kW	A	No.	+ °C	kg	**Type**	Ref. no.	**Type**	Ref. no.	**Type**	Ref. no.
Three-phase current, 3~, 400 V, 50/60 Hz, EC motor, protection category IP55																
MBD EC 400 A	05855	400	5000	2000	68	1.30	2.00	988	120	65.0	**EUR EC** [1) 2)]	01347	**PU 10** [1)]	01734	**PA 10** [1)]	01735
MBD EC 400 B	05848	400	6550	2600	72	2.65	4.10	988	120	72.0	**EUR EC** [1) 2)]	01347	**PU 10** [1)]	01734	**PA 10** [1)]	01735

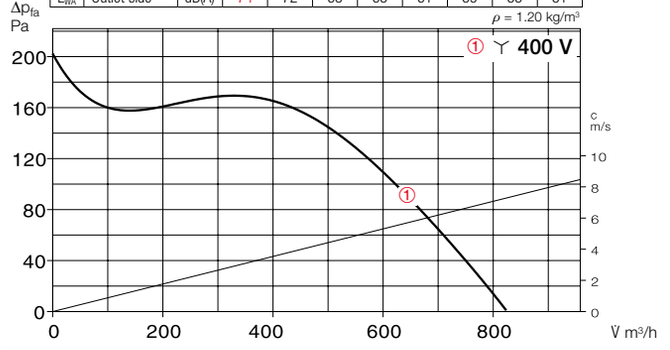
1) Multiple EC fans can normally be connected. 2) Alternative electronic diff. pressure/temperature controller (EDR/ETR, No. 01437/01438) or three level speed switch (SU/SA, No. 04266/04267), see accessories.

MB 160 Ex



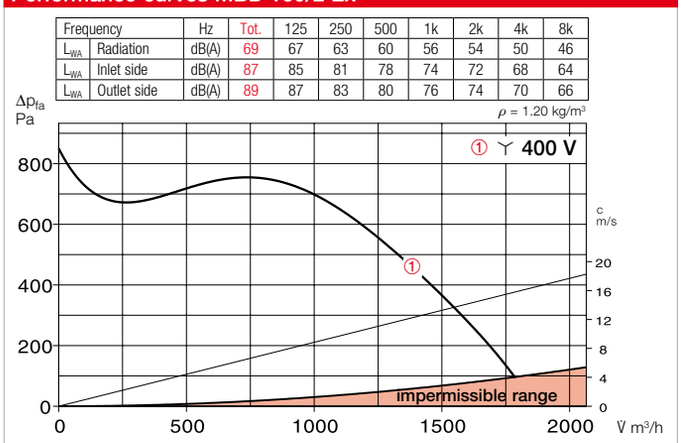
Performance curves MBD 160/4 Ex

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Radiation	dB(A)	54	52	48	45	41	39	35	31
L_{WA}	Inlet side	dB(A)	72	70	66	63	59	57	53	49
L_{WA}	Outlet side	dB(A)	74	72	68	65	61	59	55	51

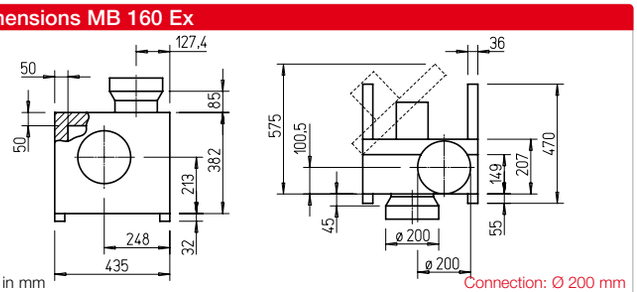


Performance curves MBD 160/2 Ex

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Radiation	dB(A)	69	67	63	60	56	54	50	46
L_{WA}	Inlet side	dB(A)	87	85	81	78	74	72	68	64
L_{WA}	Outlet side	dB(A)	89	87	83	80	76	74	70	66



Dimensions MB 160 Ex



Dim. in mm

Connection: Ø 200 mm

Casing

Double-walled, made of galvanised sheet steel. Sound insulated by lining with 50 mm thick mineral wool insulation boards. Duct connectors on inlet side and outlet side, with rubber lip seal, adapted to standard diameter. Motor-impeller unit fully retractable for inspection and cleaning, suspended on stable hinges. Includes mounting rails made of galvanised steel with screwed-on vibration dampers for easy installation.

Impeller

Forward curved high performance centrifugal impeller made of galvanised steel, dynamically balanced together with the motor.
High efficiency, low noise, aerodynamically optimised volute casing.

Drive

Through maintenance-free IEC flange motor in protection category IP55.
Ball bearing mounted, radio interference-free.

Electrical connection

Standard terminal box (IP55) on outside of motor.

Accessories

Wall bracket
Made of galvanised steel sheet.
MB-WK 160 Ref. no. 05526

Weather protection cover
Made of galvanised steel sheet, mounted above motor.
MB-WSD Ref. no. 01856

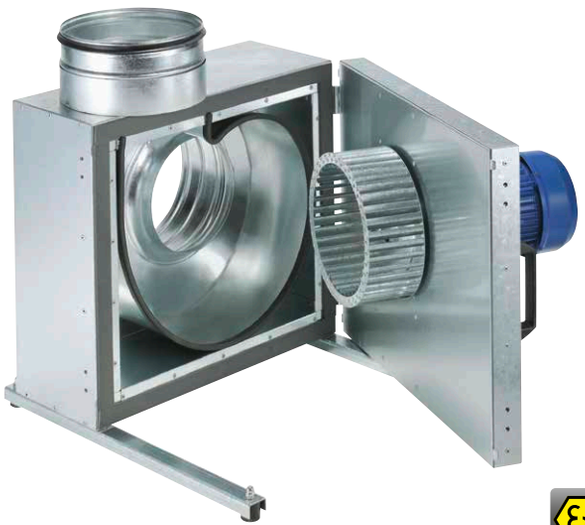
Flexible connecting sleeve
For installation between fan and duct.
FM 200 Ex Ref. no. 01686

Reference	Page
Techn. description, selection table	320 ff.

Type	Ref. no.	Flow rate free blowing	Rated speed	Case-rad. sound pressure	Power consumption*	Current consumption*		Wiring diagram	Max. air flow temperature		Weight net aprx.	Transformer speed controller 5-step				Mot. prot. circ. break. for connecting built-in thermal contacts	
						at rated voltage	in contr. mode		Rat. vol..	Control		with motor prot. circuit breaker		w/o motor prot. circuit breaker			
		V̇ m³/h	min⁻¹	dB(A) at 1m	kW	A	A	No.	+ °C	+ °C	kg	Type	Ref. no.	Type	Ref. no.	Type	Ref. no.
Explosion-proof, II 2G Ex h IIB T3 Gb, motor Ex e, three-phase current 400 V, 50 Hz, protection category IP55																	
MBD 160/4 Ex	06001	970	1370	48	0.37	1.08	–	470	40	–	25.0	Not permitted		Not permitted		–	
MBD 160/2 Ex	06002	2020	2840	63	1.50	3.15	–	470	40	–	34.0	Not permitted		Not permitted		–	

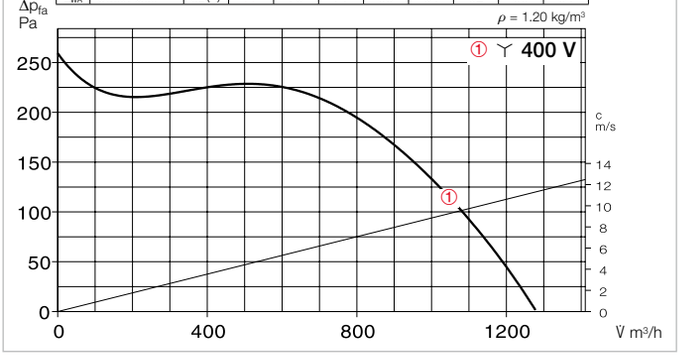
* For ex-proof types: Motor ratings, see info p. 20.

MB 180 Ex

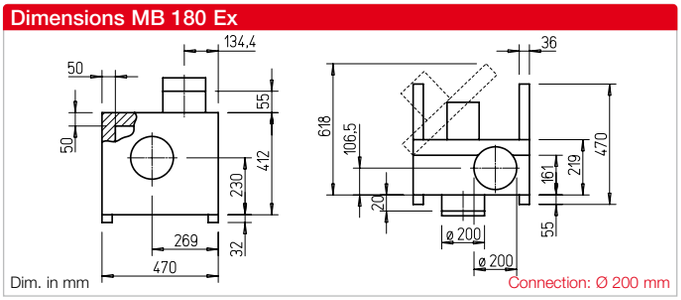


Performance curves MBD 180/4 Ex

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Radiation	dB(A)	57	55	51	58	44	42	38	34
L_{WA}	Inlet side	dB(A)	75	73	69	66	62	60	56	52
L_{WA}	Outlet side	dB(A)	77	75	71	68	64	62	58	54



Dimensions MB 180 Ex



Dim. in mm

Connection: Ø 200 mm

Casing

Double-walled, made of galvanised steel sheet. Sound insulated by lining with 50 mm thick mineral wool insulation boards. Duct connectors on inlet side and outlet side, with rubber lip seal, adapted to standard diameter. Motor-impeller unit fully retractable for inspection and cleaning, suspended on stable hinges. Includes mounting rails made of galvanised steel with screwed-on vibration dampers for easy installation.

Impeller

Forward curved high performance centrifugal impeller made of galvanised steel, dynamically balanced together with the motor.
High efficiency, low noise, aerodynamically optimised volute casing.

Drive

Through maintenance-free IEC flange motor in protection category IP55.
Ball bearing mounted, radio interference-free.

Electrical connection

Standard terminal box (IP55) on outside of motor.

Accessories

Wall bracket
Made of galvanised steel sheet.
MB-WK 180 Ref. no. 05526

Weather protection cover
Made of galvanised steel sheet, mounted above motor.
MB-WSD Ref. no. 01856

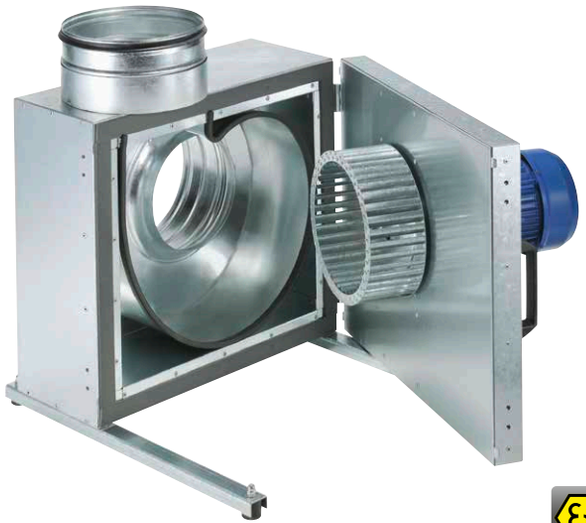
Flexible connecting sleeve
For installation between fan and duct.
FM 200 Ex Ref. no. 01686

Reference	Page
Techn. description, selection table	320 ff.

Type	Ref. no.	Flow rate free blowing	Rated speed	Case-rad. sound pressure	Power consumption*	Current consumption*		Wiring diagram	Max. air flow temperature		Weight net aprx.	Transformer speed controller 5-step				Mot. prot. circ. break. for connecting built-in thermal contacts	
						at rated voltage	in contr. mode		Rat. vol..	Control		with motor prot. circuit breaker		w/o motor prot. circuit breaker			
		V̇ m³/h	min⁻¹	dB(A) at 1m	kW	A	A	No.	+ °C	+ °C	kg	Type	Ref. no.	Type	Ref. no.	Type	Ref. no.
Explosion-proof, II 2G Ex h IIB T3 Gb, motor Ex e, three-phase current 400 V, 50 Hz, protection category IP55																	
MBD 180/4 Ex	06004	1370	1420	51	0.37	1.08	–	470	40	–	29.0	Not permitted		Not permitted		–	

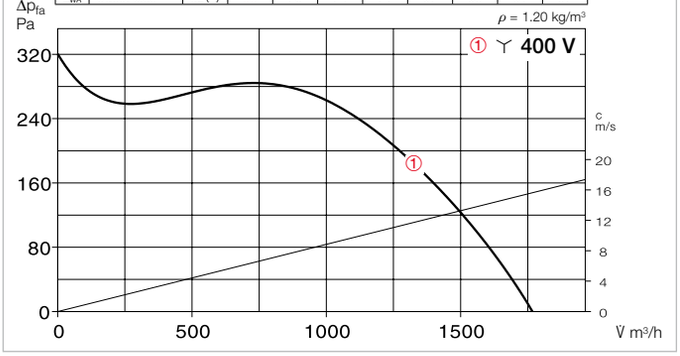
* For Ex types: Motor ratings, see info p. 20.

MB 200 Ex

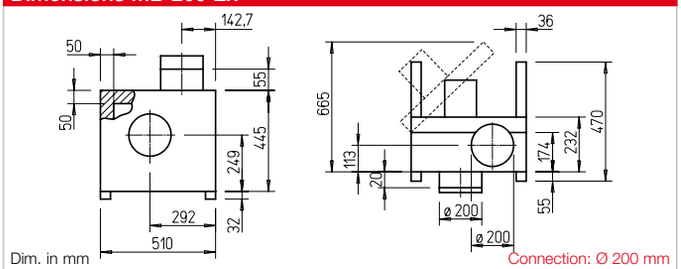


Performance curves MBD 200/4 Ex

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Radiation	dB(A)	60	58	54	51	47	45	41	37
L_{WA}	Inlet side	dB(A)	78	76	72	69	65	63	59	55
L_{WA}	Outlet side	dB(A)	80	78	74	71	67	65	61	57



Dimensions MB 200 Ex



Dim. in mm

Connection: Ø 200 mm

Casing

Double-walled, made of galvanised sheet steel. Sound insulated by lining with 50 mm thick mineral wool insulation boards. Duct connectors on inlet side and outlet side, with rubber lip seal, adapted to standard diameter. Motor-impeller unit fully retractable for inspection and cleaning, suspended on stable hinges. Includes mounting rails made of galvanised steel with screwed-on vibration dampers for easy installation.

Impeller

Forward curved high performance centrifugal impeller made of galvanised steel, dynamically balanced together with the motor.
High efficiency, low noise, aerodynamically optimised volute casing.

Drive

Through maintenance-free IEC flange motor in protection category IP55.
Ball bearing mounted, radio interference-free.

Electrical connection

Standard terminal box (IP55) on outside of motor.

Accessories

Wall bracket
Made of galvanised steel sheet.
MB-WK 200 Ref. no. 05526

Weather protection cover
Made of galvanised steel sheet, mounted above motor.
MB-WSD Ref. no. 01856

Flexible connecting sleeve
For installation between fan and duct.
FM 200 Ex Ref. no. 01686

Reference	Page
Techn. description, selection table	320 ff.

Type	Ref. no.	Flow rate free blowing	Rated speed	Case-rad. sound pressure	Power consumption*	Current consumption*		Wiring diagram	Max. air flow temperature		Weight net aprx.	Transformer speed controller 5-step				Mot. prot. circ. break. for connecting built-in thermal contacts	
						at rated voltage	in contr. mode		Rat. vol..	Control		with motor prot. circuit breaker		w/o motor prot. circuit breaker			
		V̇ m³/h	min⁻¹	dB(A) at 1m	kW	A	A	No.	+ °C	+ °C	kg	Type	Ref. no.	Type	Ref. no.	Type	Ref. no.
Explosion-proof, II 2G Ex h IIB T3 Gb, motor Ex e, three-phase current 400 V, 50 Hz, protection category IP55																	
MBD 200/4 Ex	06008	1840	1430	54	0.55	1.36	–	470	40	–	35.0	Not permitted		Not permitted		–	

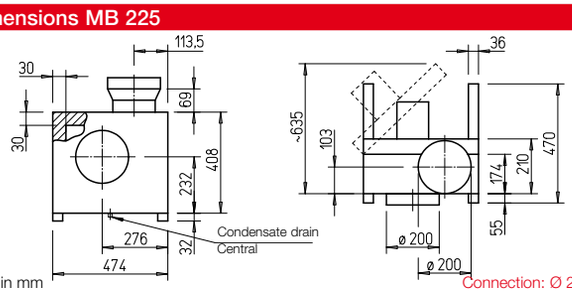
* For Ex types: Motor ratings, see info p. 20.

MB 225

(Fig. similar)

Also available in version:

Dimensions MB 225

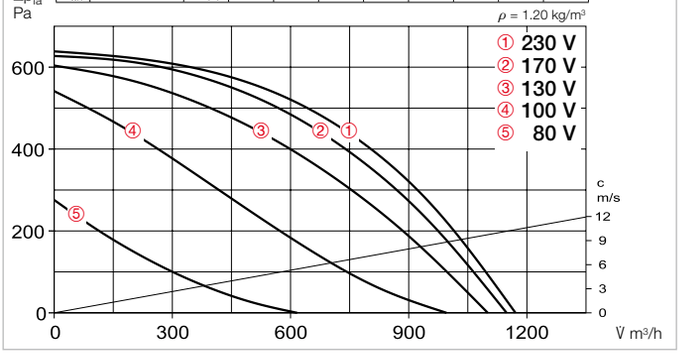


Dim. in mm

Connection: Ø 200 mm

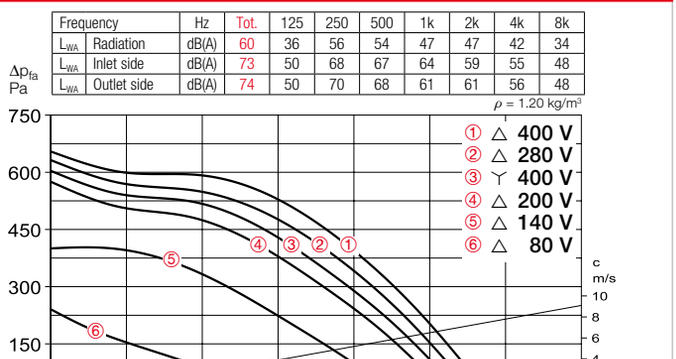
Performance curves MBW 225/2

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Radiation	dB(A)	60	36	56	55	48	47	42	33
L_{WA}	Inlet side	dB(A)	72	51	67	67	65	59	54	47
L_{WA}	Outlet side	dB(A)	74	50	70	69	62	61	56	47



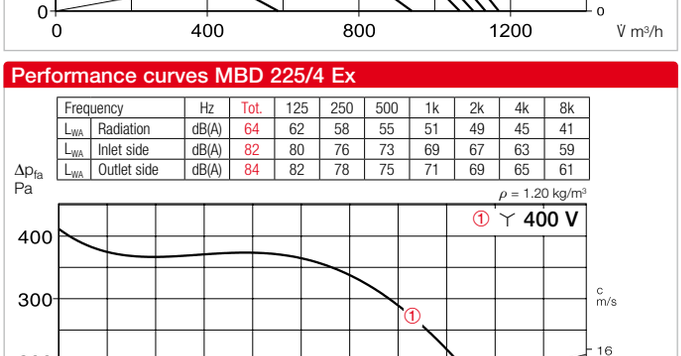
Performance curves MBD 225/2/2

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Radiation	dB(A)	60	36	56	54	47	47	42	34
L_{WA}	Inlet side	dB(A)	73	50	68	67	64	59	55	48
L_{WA}	Outlet side	dB(A)	74	50	70	68	61	61	56	48



Performance curves MBD 225/4 Ex

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Radiation	dB(A)	64	62	58	55	51	49	45	41
L_{WA}	Inlet side	dB(A)	82	80	76	73	69	67	63	59
L_{WA}	Outlet side	dB(A)	84	82	78	75	71	69	65	61



Casing
See page 320.

Impeller
Backward curved high performance centrifugal impeller made of aluminium, forward curved and made of galvanised steel for explosion-proof types. Dynamically balanced together with the motor. High efficiency, low noise, aerodynamically optimised casing.

Drive
Through maintenance-free, speed-controllable IEC flange motor in protection category IP55. Ball bearing mounted, radio interference-free.

Electrical connection
Standard terminal box (IP55) mounted to external cable, on outside of motor for explosion-proof types.

Motor protection
With external thermal contacts on the terminal block, which must be wired to the motor protection circuit breaker.

Power control
See page 320.

Accessories

Wall bracket made of galv. steel sheet.
MB-WK EC225 Ref. no. 05526

Wall bracket for Ex types.
MB-WK 225 Ref. no. 05527

Weather protection cover (galv. steel sheet), mounted above motor.
MB-WSD Ref. no. 01856

Flexible connecting sleeve for installation between fan and duct.
FM 200 (+70 °C) No. 01670
FM 200 T120 (+120 °C) No. 01654
FM 250 Ex No. 01688

Speed switch and on/off switch for two-speed ⅄/△ switchable three-phase current fans.
DS 2 [3] Ref. no. 01351

Type	Ref. no.	Flow rate free blowing	Rated speed	Case-rad. sound pressure	Power consumption*	Current consumption* at rated voltage	Current consumption* in contr. mode	Wiring diagram	Max. air flow temperature Rat. vol..	Max. air flow temperature Control	Weight net aprx.	Transformer speed controller 5-step with motor prot. circuit breaker	Ref. no.	Transformer speed controller 5-step w/o motor prot. circuit breaker	Ref. no.	Mot. prot. circ. break. for connecting built-in thermal contacts	Ref. no.
		V̇ m³/h	min⁻¹	dB(A) at 1m	kW	A	A	No.	+ °C	+ °C	kg	Type		Type		Type	
Alternating current, 230 V, 50 Hz, Capacitor motor, protection category IP55																	
MBW 225/2	06456	1170	2900	52	0.21	1.10	1.80	1119	100	60	25.0	**MWS 3**	01948	**TSW 3.0**	01496	**MW** [1]	01579
Two-speed, three-phase current motor, 400 V, 50 Hz, ⅄/△ connection, protection category IP55																	
MBD 225/2/2	06457	1100/1170	2675/2885	49.52	0.16/0.20	0.29/0.57	0.57	520	100	60	25.0	**RDS 1**	01314	**TSD 0.8** [3]	01500	**M 4** [2]	01571
Ex **Explosion-proof, II 2G Ex h IIB T3 Gb, motor Ex e, three-phase current 400 Volt, 50 Hz, protection category IP55**																	
MBD 225/4 Ex [4]	06011	2770	1390	56	0.75	2.00	–	470	40	–	40	Not permitted		Not permitted		–	

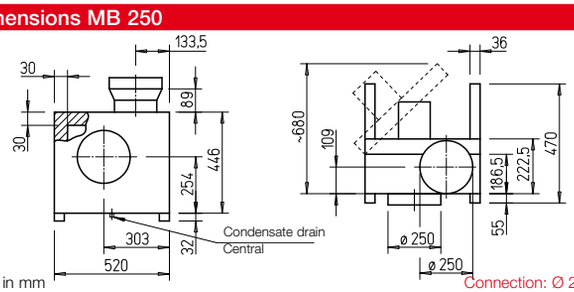
* For Ex types: Motor ratings, see info p. 20. [1] Incl. operating switch. [2] Incl. operating and speed switch. [3] Req. motor protection circuit breaker: Type MD, No. 05849.
[4] Dimensional drawing at www.HeliosSelect.de.

MB 250

(Fig. similar)

Also available in version: Ex

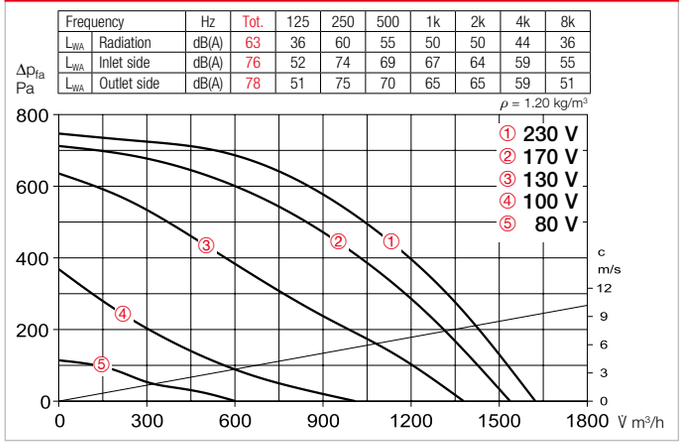
Dimensions MB 250



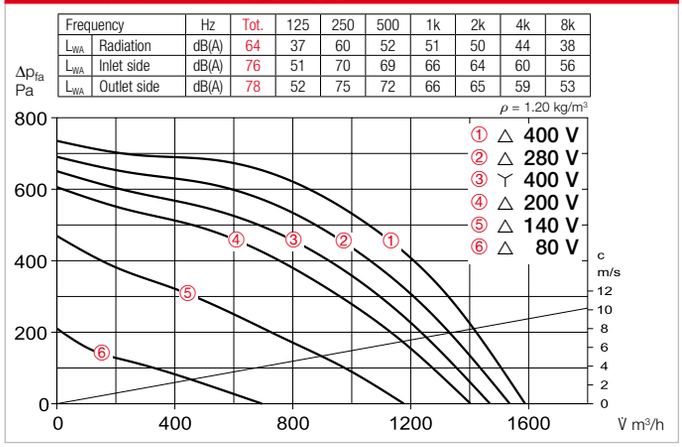
Dim. in mm

Connection: Ø 250 mm

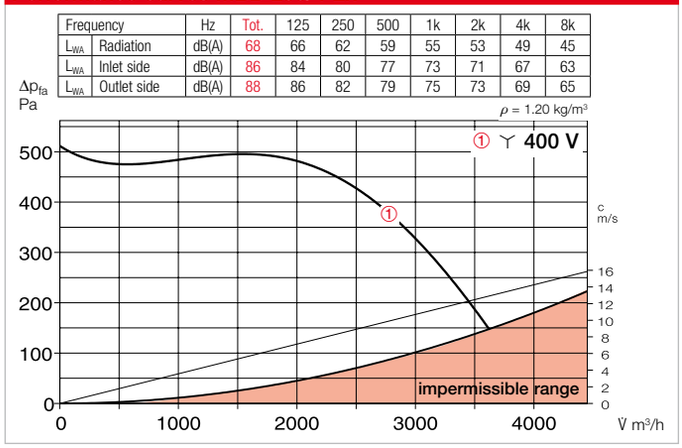
Performance curves MBW 250/2



Performance curves MBD 250/2/2



Performance curves MBD 250/4 Ex



Casing
See page 320.

Impeller
Backward curved high performance centrifugal impeller made of aluminium, forward curved and made of galvanised steel for explosion-proof types. Dynamically balanced together with the motor. High efficiency, low noise, aerodynamically optimised casing.

Drive
Through maintenance-free, speed-controllable IEC flange motor in protection category IP55. Ball bearing mounted, radio interference-free.

Electrical connection
Standard terminal box (IP55) mounted to external cable, on outside of motor for explosion-proof types.

Motor protection
With external thermal contacts on the terminal block, which must be wired to the motor protection circuit breaker.

Power control
See page 320.

Accessories

Wall bracket made of galv. steel sheet.
MB-WK EC250 Ref. no. 05526

Wall bracket for Ex types.
MB-WK 250 Ref. no. 05527

Weather protection cover (galv. steel sheet), mounted above motor.
MB-WSD Ref. no. 01856

Flexible connecting sleeve for installation between fan and duct.
FM 250 (+70 °C) No. 01672
FM 250 T120 (+120 °C) No. 01655
FM 315 Ex No. 01690

Speed switch and on/off switch for two-speed Y/△ switchable three-phase current fans.
DS 2 [3] Ref. no. 01351

Type	Ref. no.	Flow rate free blowing	Rated speed	Case-rad. sound pressure	Power consumption*	Current consumption* at rated voltage	Current consumption* in contr. mode	Wiring diagram	Max. air flow temperature Rat. vol..	Max. air flow temperature Control	Weight net aprx.	Transformer speed controller 5-step with motor prot. circuit breaker Type	Ref. no.	Transformer speed controller 5-step w/o motor prot. circuit breaker Type	Ref. no.	Mot. prot. circ. break. for connecting built-in thermal contacts Type	Ref. no.
		V̇ m³/h	min⁻¹	dB(A) at 1m	kW	A	A	No.	+ °C	+ °C	kg						
Alternating current, 230 V, 50 Hz, Capacitor motor, protection category IP55																	
MBW 250/2	06458	1620	2840	55	0.30	1.40	2.10	1119	100	60	28.0	**MWS 3**	01948	**TSW 3.0**	01496	**MW** [1]	01579
Two-speed, three-phase current motor, 400 V, 50 Hz, Y/△ connection, protection category IP55																	
MBD 250/2/2	06459	1470/1600	2500/2820	53/56	0.23/0.29	0.40/0.70	0.70	520	100	60	28.0	**RDS 1**	01314	**TSD 0.8** [3]	01500	**M 4** [2]	01571
Ex **Explosion-proof, II 2G Ex h IIB T3 Gb, motor Ex e, three-phase current 400 Volt, 50 Hz, protection category IP55**																	
MBD 250/4 Ex [4]	06014	4140	1405	62	1.50	3.35	–	470	40	–	52.0	Not permitted		Not permitted		–	

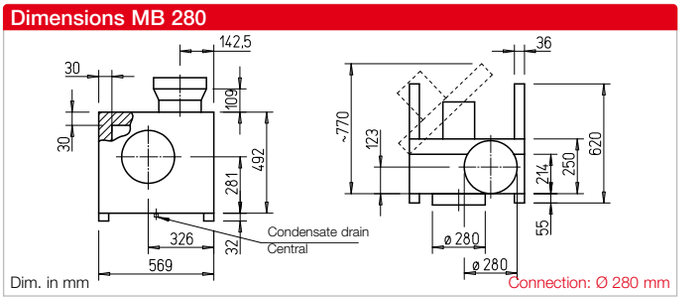
* For Ex types: Motor ratings, see info p. 20.
[1] Incl. operating switch.
[2] Incl. operating and speed switch.
[3] Req. motor protection circuit breaker: Type MD, No. 05849.
[4] Dimensional drawing at www.HeliosSelect.de..

MB 280

(Fig. similar)

Also available in version: Ex

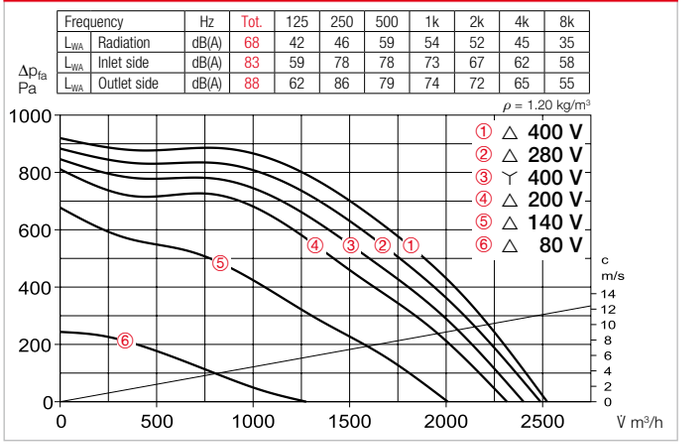
Dimensions MB 280



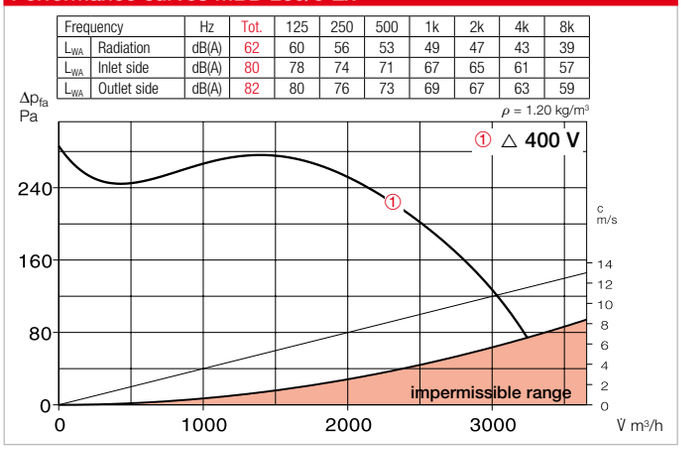
Dim. in mm

Connection: Ø 280 mm

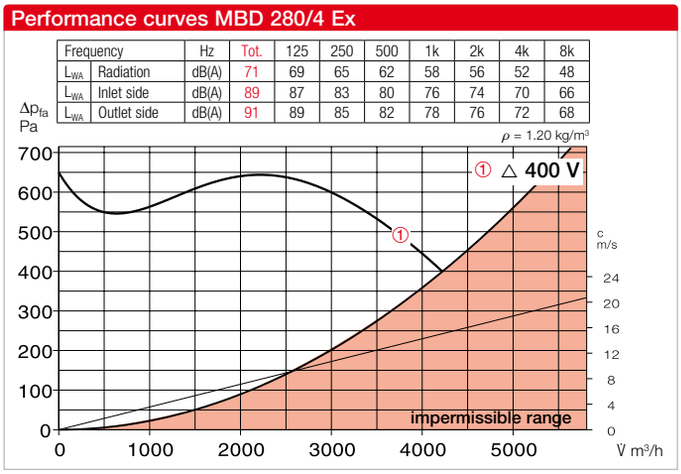
Performance curves MBD 280/2/2



Performance curves MBD 280/6 Ex



Performance curves MBD 280/4 Ex



Casing
See page 320.

Impeller
Backward curved high performance centrifugal impeller made of aluminium, forward curved and made of galvanised steel for explosion-proof types. Dynamically balanced together with the motor. High efficiency, low noise, aerodynamically optimised casing.

Drive
Through maintenance-free, speed-controllable IEC flange motor in protection category IP55. Ball bearing mounted, radio interference-free.

Electrical connection
Standard terminal box (IP55) mounted to external cable, on outside of motor for explosion-proof types.

Motor protection
With external thermal contacts on the terminal block, which must be wired to the motor protection circuit breaker.

Power control
See page 320.

Accessories

Wall bracket made of galv. steel sheet.
MB-WK EC280 Ref. no. 05527

Wall bracket for Ex types.
MB-WK 280 Ref. no. 05527

Weather protection cover (galv. steel sheet), mounted above motor.
MB-WSD Ref. no. 01856

Flexible connecting sleeve for installation between fan and duct.
FM 280 (+70 °C) No. 01673
FM 280 T120 (+120 °C) No. 01656
FM 315 Ex No. 01690

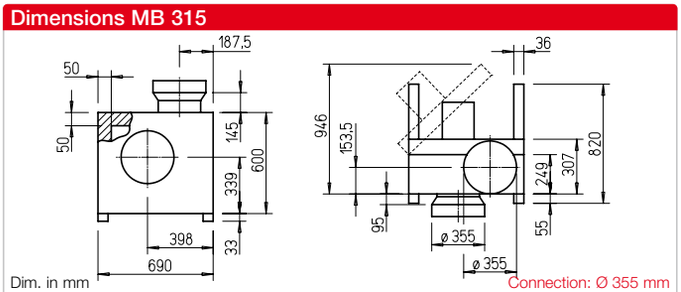
Speed switch and on/off switch for two-speed ⅄/△ switchable three-phase current fans.
DS 2 [2] Ref. no. 01351

Type	Ref. no.	Flow rate free blowing	Rated speed	Case-rad. sound pressure	Power consumption*	Current consumption* at rated voltage	Current consumption* in contr. mode	Wiring diagram	Max. air flow temperature Rat. vol..	Max. air flow temperature Control	Weight net aprx.	Transformer speed controller 5-step with motor prot. circuit breaker		Transformer speed controller 5-step w/o motor prot. circuit breaker		Mot. prot. circ. break. for connecting built-in thermal contacts	
		V̇ m³/h	min⁻¹	dB(A) at 1m	kW	A	A	No.	+ °C	+ °C	kg	Type	Ref. no.	Type	Ref. no.	Type	Ref. no.
Two-speed, three-phase current motor, 400 V, 50 Hz, ⅄/△ connection, protection category IP55																	
MBD 280/2/2	06460	2400/2520	2680/2890	56/60	0.48/0.57	0.80/1.50	1.60	520	100	60	35.0	**RDS 2**	01315	**TSD 3.0** [2]	01502	**M 4** [1]	01571
Ex **Explosion-proof, II 2G Ex h IIB T3 Gb, motor Ex e, three-phase current 400 Volt, 50 Hz, protection category IP55**																	
MBD 280/6 Ex [3]	06016	2960	925	56	0.95	2.70	–	498	40	–	60.0	Not permitted		Not permitted		–	
MBD 280/4 Ex [3]	06017	4960	1420	65	2.00	4.65	–	498	40	–	68.0	Not permitted		Not permitted		–	

* For Ex types: Motor ratings, see info p.20. [1] Incl. operating and speed switch. [2] Req. motor prot. circuit breaker: Type MD, No. 05849. [3] Dim. drawing at www.HeliosSelect.de.

MB 315

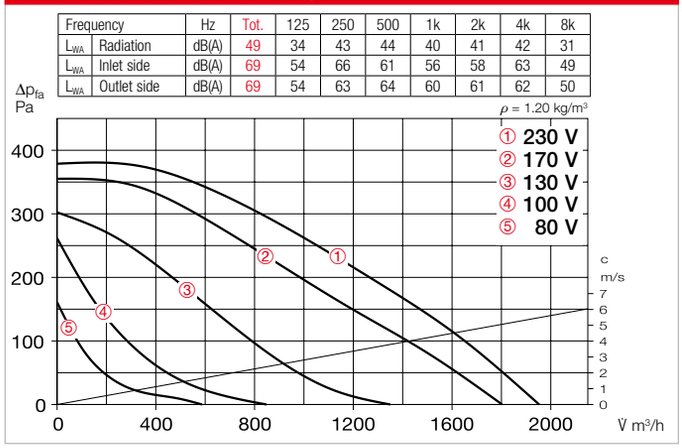
Dimensions MB 315



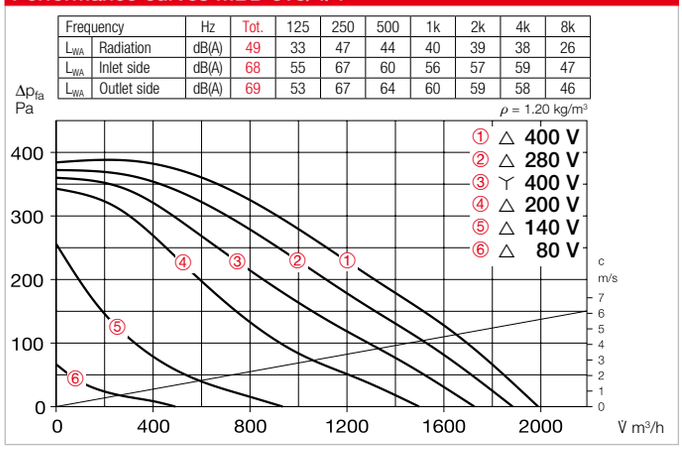
Dim. in mm

Connection: Ø 355 mm

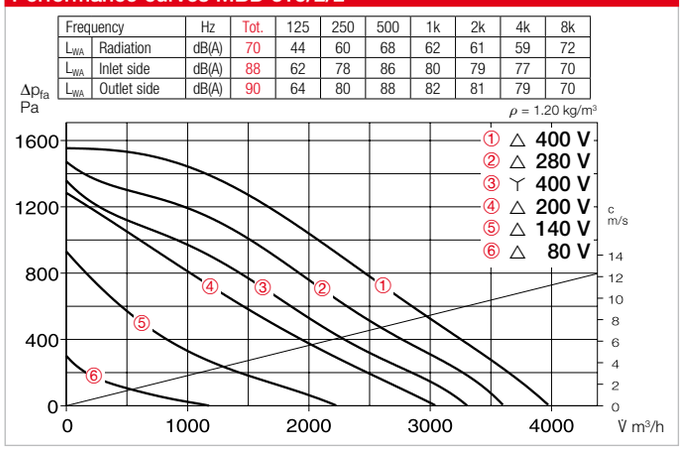
Performance curves MBW 315/4



Performance curves MBD 315/4/4



Performance curves MBD 315/2/2



Casing
See page 320.

Impeller
Backward curved high performance centrifugal impeller made of aluminium, mounted directly on motor shaft.
High efficiency, low noise, aerodynamically optimised volute casing.
Dynamically balanced in accordance with DIN ISO 21940-11 – quality grade 6.3.

Drive
Through maintenance-free, speed-controllable IEC flange motor in protection category IP55. Ball bearing mounted, radio interference-free.

Electrical connection
Standard terminal box (IP55) mounted to external cable, on outside of motor for type MBD 315/2/2.

Motor protection
With external thermal contacts on the terminal block, which must be wired to the motor protection circuit breaker.

Power control
All types are speed-controllable using voltage reduction by means of transformer (accessories).
The 3~ types can also be operated at two speeds using a ⅄/△ switch or motor protection circuit breaker M 4. Performance levels are shown in the performance diagram.

Accessories

Wall bracket made of galv. steel sheet.
MB-WK 315 Ref. no. 05528

Weather protection cover (galv. steel sheet), mounted above motor.
MB-WSD Ref. no. 01856

Flexible connecting sleeve for installation between fan and duct.
FM 355 (+70 °C) No. 01675
FM 355 T120 (+120 °C) No. 01658

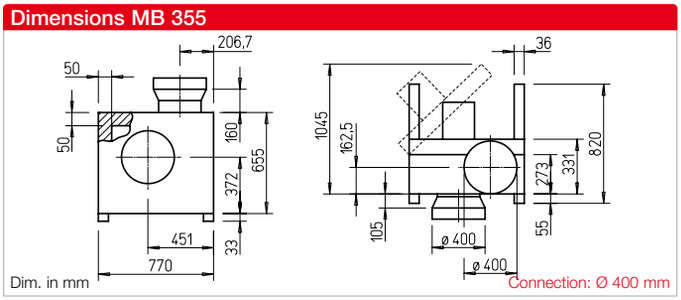
Speed switch and on/off switch for two-speed ⅄/△ switchable three-phase current fans.
DS 2 [3] Ref. no. 01351

Type	Ref. no.	Flow rate free blowing	Rated speed	Case-rad. sound pressure	Power consumption	Current consumption at rated voltage	Current consumption in contr. mode	Wiring diagram	Max. air flow temperature Rat. vol..	Max. air flow temperature Control	Weight net aprx.	Transformer speed controller 5-step with motor prot. circuit breaker		Transformer speed controller 5-step w/o motor prot. circuit breaker		Mot. prot. circ. break. for connecting built-in thermal contacts	
		V̇ m³/h	min⁻¹	dB(A) at 1m	kW	A	A	No.	+ °C	+ °C	kg	Type	Ref. no.	Type	Ref. no.	Type	Ref. no.
Alternating current, 230 V, 50 Hz, Capacitor motor, protection category IP55																	
MBW 315/4	05929	1950	1400	41	0.16	0.80	0.97	1119	100	60	72.0	**MWS 1.5**	01947	**TSW 1.5**	01495	**MW** [1]	01579
Two-speed, three-phase current motor, 400 V, 50 Hz, ⅄/△ connection, protection category IP55																	
MBD 315/4/4	05945	1730/1990	1180/1430	37/41	0.14/0.16	0.27/0.37	0.46	520	100	60	72.0	**RDS 1**	01314	**TSD 0.8** [3]	01500	**M 4** [2]	01571
MBD 315/2/2	05946	3300/3980	2270/2780	60/64	0.86/1.16	1.40/2.20	2.40	520	100	60	75.0	**RDS 4**	01316	**TSD 3.0** [3]	01502	**M 4** [2]	01571

[1] Incl. operating switch. [2] Incl. operating and speed switch. [3] Req. motor protection circuit breaker: Type MD, No. 05849.

MB 355

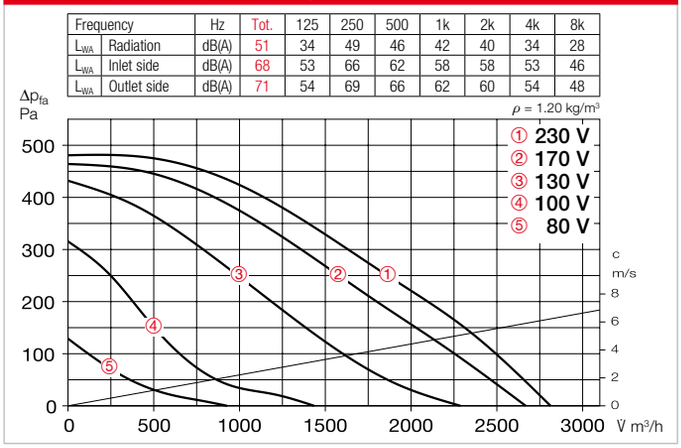
Dimensions MB 355



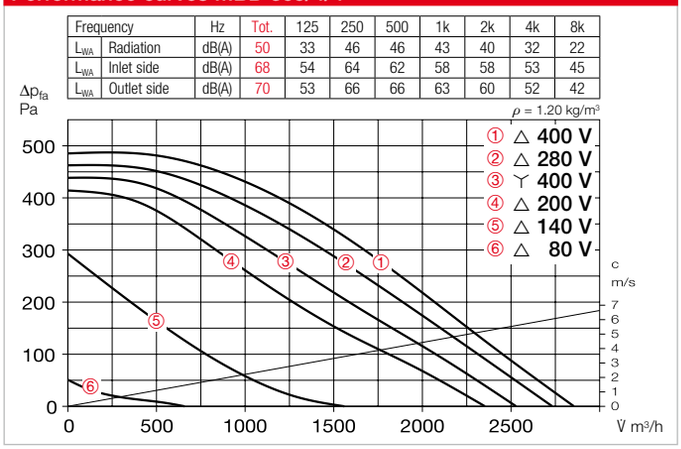
Dim. in mm

Connection: Ø 400 mm

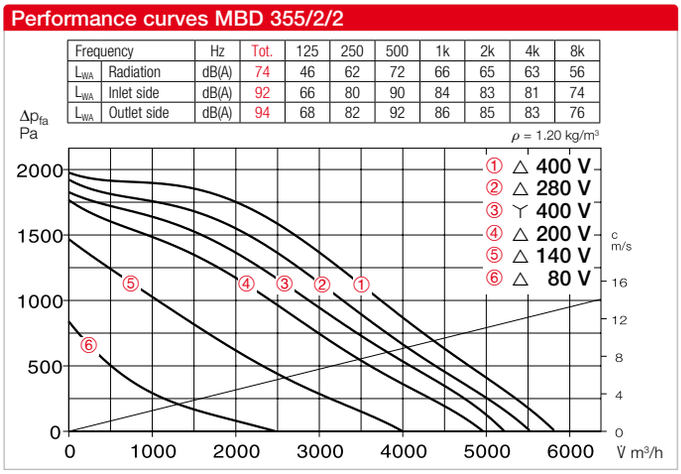
Performance curves MBW 355/4



Performance curves MBD 355/4/4



Performance curves MBD 355/2/2



Casing
See page 320.

Impeller
Backward curved high performance centrifugal impeller made of aluminium, mounted directly on motor shaft.
High efficiency, low noise, aerodynamically optimised volute casing.
Dynamically balanced in accordance with DIN ISO 21940-11 – quality grade 6.3.

Drive
Through maintenance-free, speed-controllable IEC flange motor in protection category IP55. Ball bearing mounted, radio interference-free.

Electrical connection
Standard terminal box (IP55) mounted to external cable, on outside of motor for type MBD 355/2/2.

Motor protection
With external thermal contacts on the terminal block, which must be wired to the motor protection circuit breaker.

Power control
All types are speed-controllable using voltage reduction by means of transformer (accessories).
The 3~ types can also be operated at two speeds using a ⅄/△ switch or motor protection circuit breaker M 4. Performance levels are shown in the performance diagram.

Accessories

Wall bracket made of galv. steel sheet.
MB-WK 355 Ref. no. 05528

Weather protection cover (galv. steel sheet), mounted above motor.
MB-WSD Ref. no. 01856

Flexible connecting sleeve for installation between fan and duct.
FM 400 (+70 °C) No. 01676
FM 400 T120(+120 °C) No. 01659

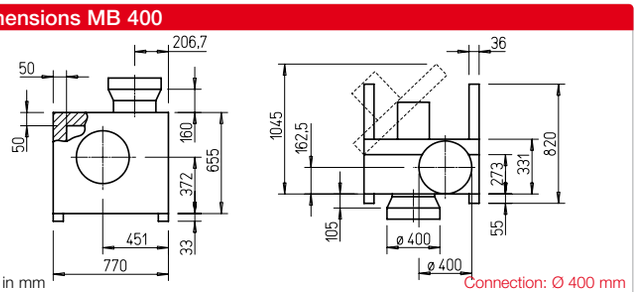
Speed switch and on/off switch for two-speed ⅄/△ switchable three-phase current fans.
DS 2 [3] Ref. no. 01351

Type	Ref. no.	Flow rate free blowing	Rated speed	Case-rad. sound pressure	Power consumption	Current consumption at rated voltage	Current consumption in contr. mode	Wiring diagram	Max. air flow temperature Rat. vol..	Max. air flow temperature Control	Weight net aprx.	Transformer speed controller 5-step with motor prot. circuit breaker	Ref. no.	Transformer speed controller 5-step w/o motor prot. circuit breaker	Ref. no.	Mot. prot. circ. break. for connecting built-in thermal contacts	Ref. no.
		V̇ m³/h	min⁻¹	dB(A) at 1m	kW	A	A	No.	+ °C	+ °C	kg	Type		Type		Type	
Alternating current, 230 V, 50 Hz, Capacitor motor, protection category IP55																	
MBW 355/4	05951	2810	1410	43	0.30	1.40	1.90	1119	100	60	81.0	**MWS 3**	01948	**TSW 3.0**	01496	**MW** [1]	01579
Two-speed, three-phase current motor, 400 V, 50 Hz, ⅄/△ connection, protection category IP55																	
MBD 355/4/4	05947	2530/2850	1240/1430	40/42	0.26/0.30	0.45/0.63	0.84	520	100	60	81.0	**RDS 2**	01315	**TSD 1.5** [3]	01501	**M 4** [2]	01571
MBD 355/2/2	05948	5210/5800	2840/2510	65/68	2.20/1.65	2.9/5.0	5.50	520	100	60	100.0	**RDS 7**	01578	**TSD 7.0** [3]	01504	**M 4** [2]	01571

[1] Incl. operating switch. [2] Incl. operating and speed switch. [3] Req. motor protection circuit breaker: Type MD, No. 05849.

MB 400

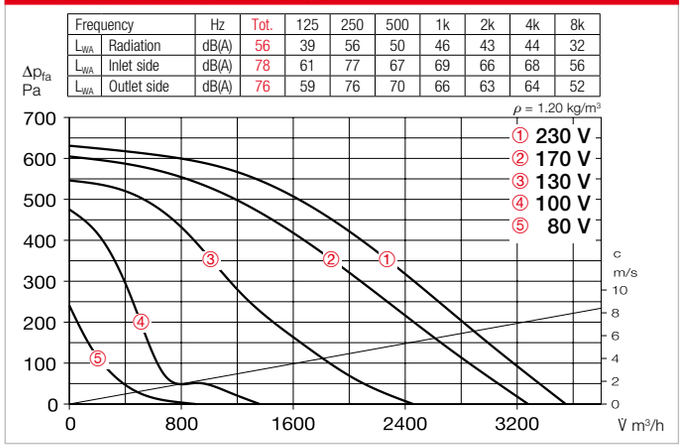
Dimensions MB 400



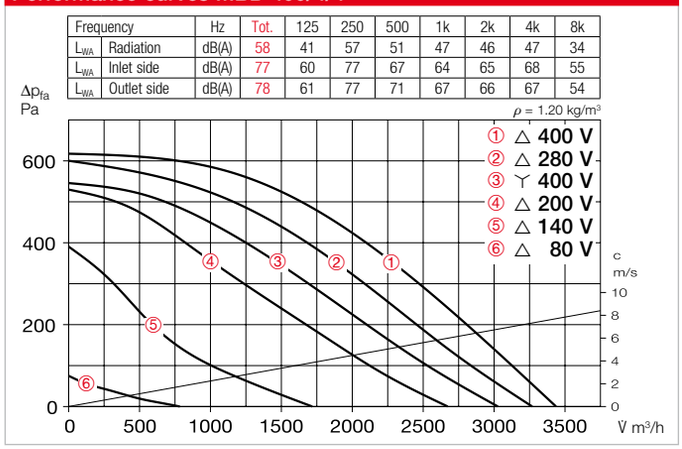
Dim. in mm

Connection: Ø 400 mm

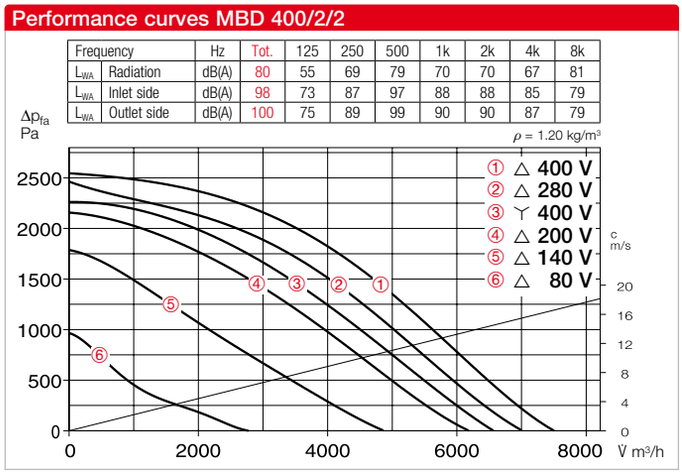
Performance curves MBW 400/4



Performance curves MBD 400/4/4



Performance curves MBD 400/2/2



Casing
See page 320.

Impeller
Backward curved high performance centrifugal impeller made of aluminium, mounted directly on motor shaft.
High efficiency, low noise, aerodynamically optimised volute casing.
Dynamically balanced in accordance with DIN ISO 21940-11 – quality grade 6.3.

Drive
Through maintenance-free, speed-controllable IEC flange motor in protection category IP55. Ball bearing mounted, radio interference-free.

Electrical connection
Standard terminal box (IP55) mounted to external cable, on outside of motor for type MBD 400/2/2.

Motor protection
With external thermal contacts on the terminal block, which must be wired to the motor protection circuit breaker.

Power control
All types are speed-controllable using voltage reduction by means of transformer (accessories). The 3~ types can also be operated at two speeds using a ⋎/△ switch or motor protection circuit breaker M 4. Performance levels are shown in the performance diagram.

Accessories

Wall bracket made of galv. steel sheet.
MB-WK 400 Ref. no. 05528

Weather protection cover (galv. steel sheet), mounted above motor.
MB-WSD Ref. no. 01856

Flexible connecting sleeve for installation between fan and duct.
FM 400 (+70 °C) No. 01676
FM 400 T120 (+120 °C) No. 01659

Speed switch and on/off switch for two-speed ⋎/△ switchable three-phase current fans.
DS 2 [3] Ref. no. 01351

Type	Ref. no.	Flow rate free blowing	Rated speed	Case-rad. sound pressure	Power consumption	Current consumption at rated voltage	Current consumption in contr. mode	Wiring diagram	Max. air flow temperature Rat. vol..	Max. air flow temperature Control	Weight net aprx.	Transformer speed controller 5-step with motor prot. circuit breaker	Ref. no.	Transformer speed controller 5-step w/o motor prot. circuit breaker	Ref. no.	Mot. prot. circ. break. for connecting built-in thermal contacts	Ref. no.
		V̇ m³/h	min⁻¹	dB(A) at 1m	kW	A	A	No.	+ °C	+ °C	kg	Type		Type		Type	
Alternating current, 230 V, 50 Hz, Capacitor motor, protection category IP55																	
MBW 400/4	05953	3550	1410	48	0.49	2.50	3.70	1119	100	60	85.0	**MWS 5**	01949	**TSW 7.5**	01596	**MW** [1]	01579
Two-speed, three-phase current motor, 400 V, 50 Hz, ⋎/△ connection, protection category IP55																	
MBD 400/4/4	05955	3030/3440	1180/1410	46/50	0.41/0.50	0.71/1.00	1.30	520	100	60	82.0	**RDS 2**	01315	**TSD 1.5** [3]	01501	**M 4** [2]	01571
MBD 400/2/2	05949	6570/7500	2840/2510	71/74	3.10/3.70	6.10/4.80	9.00	520	100	60	110.0	**RDS 11**	01332	**TSD 11** [3]	01513	**M 4** [2]	01571

[1] Incl. operating switch. [2] Incl. operating and speed switch. [3] Req. motor protection circuit breaker: Type MD, No. 05849.