MegaBox boxventilatoren





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### 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

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.

### O 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 interferencefree, ball bearing mounted.

### Power control

### O MB

All types (except for explosionproof 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 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 General techn. information,	14 ff.
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protection circuit breakers Universal control system,	599 ff.
alactropia controllara	
electronic controllers,	
speed potentiometer	



By combining the parameters of static pressure increase $\Delta p_{\text{fa}},$ 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.									
	Sound pres. Radiation	Sound pres. inlet side	Flow rate V	m³/h depend	ding on stati	c pressure											
EC	L <sub>PA</sub> dB(A)	L <sub>PA</sub> dB(A)	$(\Delta P_{fa})$ in Pa														
Туре	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			
MDD 50 400 A	00	00	5000	1000	1700	4505	4070	1100	0070	0500	0050	0000					
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 V	m <sup>3</sup> /h depen	ding on stati	c pressure									
	L <sub>PA</sub> dB(A)	L <sub>PA</sub> dB(A)	$(\Delta P_{fa})$ in Pa												
Туре	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 V	m³/h deper	nding on stat	ic pressure									
	L <sub>PA</sub> dB(A)	L <sub>PA</sub> dB(A)	$(\Delta P_{fa})$ in Pa												
Туре	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







### 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.

Туре	Ref. no.	Connection Ø	Flow rate free blowing	Rated speed	Case-rad. sound pressure	Power con- sumption	Current consump- tion	Wiring diagram	Max. air flow temp.	Weight net aprx.	Univ control	Universal control system		Speed pot nounted	entiometer surfm	ounted
		mm	₿ m³/h	min <sup>-1</sup>	dB(A) at 1 m	kW	А	No.	+ °C	kg	Туре	Ref. no.	Туре	Ref. no.	Туре	Ref. no.
Alternating cur	rrent, 1~, :	230 V, 50/60	Hz, EC motor	, protectior	category IP5	5										
MBW EC 225	05842	200	1350	3000	55	0.27	1.20	985	100	25	EUR EC 1)	<sup>2)</sup> 01347	PU 10 <sup>1)</sup>	01734	PA 10 <sup>1)</sup>	01735
1) Multiple EC fan	ns can norm	hally he conne	cted 2) Alterna	tive electror	nic diff pressur	e/temneratur	e controller (	EDB/ETB No	01437/014	438) or th	ree level si	need switc	h (SII/SA I	No 04266	(04267)	



## MegaBox EC Ø 250 mm, backward curved impeller

### 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 mad	e 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

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

Туре	Ref. no.	Connection Ø	Flow rate free blowing	Rated speed	Case-rad. sound pressure	Power con- sumption	Current consump- tion	Wiring diagram	Max. air flow temp.	Weight net aprx.	Univ control	Universal control system		Speed pot nounted	entiometer surfn	nounted
		mm	V m³∕h	min <sup>-1</sup>	dB(A) at 1 m	kW	А	No.	+ °C	kg	Туре	Ref. no.	Туре	Ref. no.	Туре	Ref. no.
Alternating cu	rrent, 1~,	230 V, 50/60	Hz, EC motor	, protectior	category IP5	5										
MBW EC 250	05843	250	1900	3000	56	0.38	1.70	985	100	28.0	EUR EC 1	) <sup>2)</sup> 01347	PU 10 1)	01734	PA 10 <sup>1)</sup>	01735
1) Multiple EC far	ns can norn	nally be conne	cted. 2) Alterna	ative electror	ic diff. pressur	e/temperatur	e controller (	EDR/ETR, No	01437/014	438) or th	ree level s	peed switc	h (SU/SA,	No. 04266	/04267).	



### MB EC 280



### 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

outside of motor, mounted to external cable for 1~ type.



### Motor protection

Dimensions MB EC 280

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.

Туре	Ref. no.	Connection Ø	Flow rate free blowing	Rated speed	Case-rad. sound pressure	Power con- sumption	Current consump- tion	Wiring diagram	Max. air flow temp.	Weight net aprx.	Unive control s	rsal ystem	fluch-n	Speed pot	entiometer surf -m	nounted
			bioting		procedie						-		nuon-n	Iounicu	SullII	Iounicu
		mm	V m³/h	min <sup>-1</sup>	dB(A) at 1 m	kW	A	No.	+ °C	kg	Туре	Ref. no.	Туре	Ref. no.	Туре	Ref. no.
Alternating cu	rrent, 1~, 2	230 V, 50/60	Hz, EC motor	, protectior	1 category IP5	5										
MBW EC 280	05850	280	2630	2450	56	0.48	2.10	985	100	33.0	EUR EC 1) 2	01347	PU 10 <sup>1)</sup>	01734	PA 10 <sup>1)</sup>	01735
Three-phase c	urrent, 3~	, 400 V, 50/6	60 Hz, EC moto	or, protectio	on category IF	P55										
MBD EC 280	05845	280	3000	3000	58	0.75	1.40	988	120	34.0	EUR EC 1) 2	01347	PU 10 <sup>1)</sup>	01734	PA 10 <sup>1)</sup>	01735
1) Multiple EC far	ns can norm	nally be conne	ected. 2) Alterna	ative electror	nic diff. pressur	e/temperatur	e controller	EDR/ETR, No	0. 01437/014	138) or th	ree level sp	eed switc	h (SU/SA,	No. 04266/	/04267).	



## MegaBox EC Ø 280 mm, backward curved impeller

### Performance curves MBW EC 280



#### Performance curves MBD EC 280 Hz Tot. 125 250 500 1k 2k 4k 8k dB(A) 66 56 59 61 54 56 52 42 Frequency L<sub>WA</sub> Radiation Inlet side dB(A) 83 63 73 81 76 73 73 70 L<sub>WA</sub> ∆p<sub>fa</sub> Pa Outlet side dB(A) 88 66 78 87 79 79 70 70 $\rho = 1.20 \text{ kg/m}$ 10 V 1200 \_<mark>2</mark> 8 V \_3 6 V 1000 \_**4** V -<u>5</u>2V 800 600 400 200 0 ò 1600 2400 3200 V m3/h 800 Free blowing **∛** m³/h Voltage V n min<sup>-1</sup> ΡW ΙA Lp dB(A) SFP kW/m<sup>3</sup>/s 10 3000 3000 620 12 58 0.75 2600 2660 0.61 8 450 0.9 55 2000 230 0.41 2050 0.5 50 6 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 Ref. no. 01656 FM 280 T120

### 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 innut

nput.			
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



### 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

Dimensions MB EC 315

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.

Туре	Ref. no.	Connection Ø	Flow rate free	Rated speed	Case-rad. sound	Power con- sumption	Current consump-	Wiring diagram	Max. air flow temp.	Weight net	Universal control system		Speed potentiometer				
			blowing		pressure		tion			aprx.				flush-mounted		ounted	
		mm	V m³/h	min-1	dB(A) at 1 m	kW	А	No.	+ °C	kg	Туре	Ref. no.	Туре	Ref. no.	Туре	Ref. no.	
Alternating cur	rrent, 1~,	230 V, 50/60	Hz, EC motor	, protectio	n category IP5	55											
MBW EC 315	05852	355	2150	1500	50	0.20	0.85	985	100	43.0	EUR EC 1) 2	01347	PU 10 <sup>1)</sup>	01734	PA 10 <sup>1)</sup>	01735	
Three-phase c	urrent, 3~	, 400 V, 50/6	0 Hz, EC moto	or, protecti	on category IF	P55											
MBD EC 315 A	05851	355	3400	2400	59	0.72	1.30	988	120	44.0	EUR EC 1) 2	01347	PU 10 <sup>1)</sup>	01734	PA 10 <sup>1)</sup>	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 <sup>1)</sup>	01734	PA 10 <sup>1)</sup>	01735	
1) Multiple EC fan	is can norn	nally be conne	cted. 2) Alterna	ative electro	nic diff. pressur	re/temperatur	e controller (	EDR/ETR, No	01437/014	438) or th	nree level spe	ed switcl	h (SU/SA, N	No. 04266/	/04267).04	266/04267),	see

accessories



## MegaBox EC Ø 315 mm, backward curved impeller

### Performance curves MBW EC 315





#### Performance curves MBD EC 315 B Hz Tot. 125 250 500 1k 2k 4k 8k dB(A) 73 50 62 72 66 65 71 57 dB(A) 89 66 75 86 78 80 81 76 Frequency L<sub>WA</sub> Radiation L<sub>WA</sub> Inlet side dB(A) ∆p<sub>fa</sub> Pa L<sub>WA</sub> Outlet side dB(A) **93** 70 82 92 86 85 81 77 1.20 kg/ 1600 10 V 2 8 V 1 3 6 V 1200 (4) 4 V (5) 2 V -0 800 3 400 0-Ó 1000 2000 3000 4000 ∛ m³/h Free blowing **V** m³/h ΡW Lp dB(A) SFP kW/m<sup>3</sup>/s Voltage V n min IA 10 3000 4200 1200 1.80 65 1.01 8 2600 3600 750 1 20 62 0.75 2000 2800 370 0.48 6 0.65 56 1400 2000 190 49 0.34 0.41 4

### 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 Ref. no. 01658 FM 355 T120

### 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-mountin	g.
PA 10	Ref. no. 01735
-	

For surface-mounting.



EC box fans





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



### **MB EC 355**



### 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

example.

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

### specified above the performance diagram for:

Case-radiated sound power

The total level and range are

- 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.

Туре	Ref. no.	Connection Ø	Flow rate free	Rated speed	Case-rad. sound	Power con- sumption	Current consump-	Wiring diagram	Max. air flow temp.	Weight net	Unive control s	Universal control system		Speed pot	entiometer		
			blowing		pressure		tion			aprx.			flush-mo	ounted	surfm	ounted	
		mm	V m³/h	min-1	dB(A) at 1 m	kW	А	No.	+ °C	kg	Туре	Ref. no.	Туре	Ref. no.	Туре	Ref. no.	
Alternating cu	rrent, 1~,	230 V, 50/60	Hz, EC motor	, protectio	n category IP5	5											
MBW EC 355	05854	355	3050	1500	54	0.33	1.50	985	100	50.0	EUR EC 1) 2	01347	PU 10 <sup>1)</sup>	01734	PA 10 <sup>1)</sup>	01735	
Three-phase c	urrent, 3~	, 400 V, 50/6	0 Hz, EC moto	or, protecti	on category IF	P55											
MBD EC 355 A	05853	355	5000	2500	66	1.45	2.20	988	120	56.0	EUR EC 1) 2	9 01347	PU 10 <sup>1)</sup>	01734	PA 10 <sup>1)</sup>	01735	
MBD EC 355 B	05847	355	5600	2800	68	1.90	3.10	988	120	63.0	EUR EC 1) 2	9 01347	PU 10 <sup>1)</sup>	01734	PA 10 <sup>1)</sup>	01735	
1) Multiple EC far	ns can norm	nally be conne	cted. 2) Alterna	ative electror	nic diff. pressur	e/temperatur	e controller (	EDR/ETR, No	01437/014	438) or th	iree level sp	eed switcl	h (SU/SA, N	lo. 04266/	04267), se	e Accessories	



## MegaBox EC Ø 355 mm, backward curved impeller

### Performance curves MBW EC 355





#### Performance curves MBD EC 355 B Hz Tot. 125 250 500 1k 2k 4k 8k dB(A) 76 58 69 72 68 69 67 60 dB(A) 88 69 81 85 80 80 77 71 Frequency L<sub>WA</sub> Radiation L<sub>WA</sub> Inlet side dB(A) L<sub>wA</sub> Outlet side dB(A) **93** 71 85 89 87 86 80 73 ∆p<sub>fa</sub> Pa $\rho = 1.20 \text{ kg/s}$ 10 V 1600 2 8 V 3 6 V (4) 4 V 1200 (5) 2 V 800 3 400 0 1000 2000 3000 4000 5000 6000 V m³/h 0 Free blowing **V** m³/h ΡW Lp dB(A) SFP kW/m<sup>3</sup>/s Voltage V n min IA 10 2800 5600 1600 2.60 68 8 2350 4700 1000 1 70 65 0.75 3600 1800 0.90 0.50 6 500 59 1300 0.31 2600 230 0.51 52 4

### 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 Ref. no. 01658 FM 355 T120

### 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.

### MegaBox EC Ø 400 mm, backward curved impeller











### 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

## Performance curves MBD EC 400 B



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

Туре	Ref. no.	Connection Ø	Flow rate free blowing	Rated speed	Case-rad. sound pressure	Power con- sumption	Current consump- tion	Wiring diagram	Max. air flow temp.	Weight net aprx.	Unive control s	rsal system	Speed potentiometer flush-mounted surfm		entiometer surfm	ounted
		mm	V m³∕h	min-1	dB(A) at 1 m	kW	А	No.	+ °C	kg	Туре	Ref. no.	Туре	Ref. no.	Туре	Ref. no.
Three-phase c	urrent, 3~	, 400 V, 50/6	0 Hz, EC moto	or, protectio	on category IF	55										
MBD EC 400 A	05855	400	5000	2000	68	1.30	2.00	988	120	65.0	EUR EC 1) 2	9 01347	PU 10 <sup>1)</sup>	01734	PA 10 <sup>1)</sup>	01735
MBD EC 400 B	05848	400	6550	2600	72	2.65	4.10	988	120	72.0	EUR EC 1) 2	9 01347	PU 10 <sup>1)</sup>	01734	PA 10 <sup>1)</sup>	01735
1) Multiple EC fan	is can norn	ally be conne	cted. 2) Alterna	tive electror	nic diff. pressur	e/temperatur	e controller (	EDR/ETR, No	01437/014	138) or th	iree level sp	eed switcl	n (SU/SA, N	lo. 04266/	/04267), se	e accessories.



## MegaBox Ø 160 mm, forward curved impeller

### MB 160 Ex



### Dimensions MB 160 Ex



### 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.



### Performance curves MBD 160/2 Ex



### Accessories

### Wall bracket

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

### Weather protection cover

Made of galvanised	d steel sheet,
mounted above me	otor.
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 Rat free spe		Case-rad. sound	Power con- sumption*	Curr consun	rent nption*	Wiring diagram	Max. a tempe	iir flow rature	Weight net	Trans	former spee	d controller	5-step	Mot. prot	t. circ. break. ecting built-in
		biowing		prossure		at rated voltage	in contr. mode		Rat. vol	Control	apix.	with m circuit	otor prot. breaker	w/o mo circuit	otor prot. breaker		
		V m³∕h	min-1	dB(A) at 1m	kW	А	А	No.	+ °C	+ °C	kg	Туре	Ref. no.	Туре	Ref. no.	Туре	Ref. no.
Explosion-pro	of, II 2G Ex	ch IIB T3 Gb,	motor Ex e	, three-phase	e current 40	0 V, 50 Hz	, protectio	on 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 p	ermitted	Not p	ermitted		-
* For ex-proof types: Motor ratings, see info p. 20.																	

### MegaBox Ø 180 mm, forward curved impeller



### MB 180 Ex







### 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, aero-

dynamically 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 Rated free speed		Case-rad. sound pressure	Power con- sumption*	Current consumption*		Wiring diagram	Max. air flow temperature		Weight net	Transformer speed controller 5-step				Mot. prot. circ. break. for connecting built-in		
		priwoid		pressure		at rated voltage	in contr. mode		Rat. vol	Control	aprx.	with motor prot. circuit breaker		w/o motor prot. circuit breaker		thermal contacts		
		₿ m³/h	min <sup>-1</sup>	dB(A) at 1m	kW	А	А	No.	+ °C	+ °C	kg	Type Ref. no		Туре	Ref. no.	Туре	Ref. no.	
Explosion-proc	of, II 2G Ex	h IIB T3 Gb, r	motor Ex e	, three-phase	e current 400	) V, 50 Hz,	protectio	n category	IP55									
MBD 180/4 Ex	06004	1370	1420	51	0.37	1.08	-	470	40	-	29.0	Not per	mitted	Not pe	ermitted		-	
* For Ex types: Me	otor ratings	, see info p. 20	).															



### MegaBox Ø 200 mm, forward curved impeller

### MB 200 Ex



#### Performance curves MBD 200/4 Ex Frequency L<sub>WA</sub> Radiation Hz Tot. 125 250 500 1k 2k 4k 8k 54 51 47 45 41 dB(A) 58 37 60 L<sub>WA</sub> Inlet side dB(A) 76 72 69 65 63 59 55 L<sub>WA</sub> Outlet side dB(A) 78 74 71 67 65 61 57 ∆p<sub>fa</sub> Pa ho = 1.20 kg/m<sup>2</sup> 1 Y 400 V 320 240 c m/s 20 160-16 12 80 8 Δ 0 0 500 1000 1500 ΰ m³/h

### Dimensions MB 200 Ex



### 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 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 Rated free speed blowing		Case-rad. sound pressure	Power con- sumption*	Curr consun	rent nption*	Wiring diagram	Max. a tempe	iir flow rature	Weight net	Transf	ormer spee	d controller	5-step	Mot. prot. for conne	. circ. break. cting built-in
		blowing		pressure		at rated voltage	in contr. mode		Rat. vol	Control	артх.	with mo circuit l	tor prot. preaker	w/o mo circuit	otor prot. breaker	thermal contacts	
		₿ m³/h	min <sup>-1</sup>	dB(A) at 1m	kW	А	А	No.	+ °C	+ °C	kg	Туре	Ref. no.	Type Ref. no.		Туре	Ref. no.
Explosion-proc	of, II 2G Ex	h IIB T3 Gb, i	notor Ex e	, three-phase	e current 40	0 V, 50 Hz,	, protectio	on category	IP55								
MBD 200/4 Ex	06008	1840	1430	54	0.55	1.36	-	470	40	-	35.0	Not pe	rmitted	Not p	ermitted		-
* For Ex types: Mo	otor ratings,	see info p. 20	).														

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Box fans

### MegaBox Ø 225 mm, backward / forward curved impeller





Ref. no.	Flow rate free	Rated speed	Case-rad. sound pressure	Power con- sumption*	Curr consun	rent nption*	Wiring diagram	Max. a tempe	ir flow rature	Weight net	Transf	ormer spee	d controller 5	-step	Mot. prot	. circ. break. cting built-in
	plowing		pressure	at rated in con voltage mode		in contr. mode		Rat. vol	Control	aprx.	with mo circuit	tor prot. breaker	w/o moto circuit bi	or prot. reaker	thomat contact	
	V m³/h	min <sup>-1</sup>	dB(A) at 1m	kW	А	А	No.	+ °C	+ °C	kg	Туре	Ref. no.	Туре	Ref. no.	Туре	Ref. no.
Alternating current, 230 V, 50 Hz, Capacitor motor, protection category IP55																
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
ree-phase	current moto	or, 400 V, 50	) Hz, ∀/∆ cor	nnection, pro	otection ca	ategory IP	55									
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 <sup>2)</sup>	01571
losion-proo	of, II 2G Ex h	IIB T3 Gb, n	notor Ex e, thi	ree-phase c	urrent 400	Volt, 50 I	Hz, protect	ion categ	jory IP55							
<sup>4)</sup> 06011	2770	1390	56	0.75	2.00	-	470	40	-	40	Not pe	ermitted	Not per	mitted		-
lotor ratings,	, see info p. 2	0.	1) Incl. ope	2)	Incl. opera	ting and s	ng and speed switch		motor protection circuit break			ker: Type MD, No. 058		49.		
	Ref. no. rrent, 230 1 06456 iree-phase 06457 losion-proc 4) 06011 lotor ratings	Ref. no.         Flow rate free blowing           V m³/h           rrent, 230 V, 50 Hz, Cap 06456           06456           1170           rree-phase current moto 06457           06457           1100/1170           losion-proof, II 2G Ex h           4) 06011           2770           lotor ratings, see info p. 2	Ref. no.         Flow rate free blowing         Rated speed           V m³/h         min <sup>-1</sup> rrrent, 230 V, 50 Hz, Capacitor moto 06456         1170         2900           oree-phase current motor, 400 V, 50         06457         1100/1170         2675/2885           losion-proof, II 2G Ex h IIB T3 Gb, n         4) 06011         2770         1390           lotor ratings, see info p. 20.         200	Ref. no.         Flow rate free blowing         Rated speed         Case-rad. sound pressure           V m³/h         min³         dB(A) at 1m           Image: Case-rad. sound pressure         V         min³         dB(A) at 1m           Image: Case-rad. sound pressure         V         Main ³         dB(A) at 1m           Image: Case-rad. pressure         2900         52           Image: Case-rad. pressure         2900         52           Image: Case-rad. pressure         2675/2885         49.52           Image: Case-rad. pressure         1390         56           Image: Case-rad. pressure         N Image: Case-rad. pressure         N Image: Case-rad. pressure	Ref. no.         Flow rate free blowing         Rated speed         Case-rad. sound pressure         Power con- sumption*           V m³/h         min·1         dB(A) at 1m         kW           rrent, 230 V, 50 Hz, Capacitor motor, protection 06456         1170         2900         52         0.21           06456         1170         2900         52         0.21           ore-phase current motor, 400 V, 50 Hz, ∀/△ connection, pro 06457         1100/1170         2675/2885         49.52         0.16/0.20           losion-proof, II 2G Ex h IIB T3 Gb, motor Ex e, three-phase current 9 06011         2770         1390         56         0.75           lotor ratings, see info p. 20.         " Incl. operating switch         " Incl. operating switch         " Incl. operating switch	Ref. no.         Flow rate free blowing         Rated speed         Case-rad. sound pressure         Power con- sumption*         Curr consur- at rated voltage           V m³/h         min <sup>-1</sup> dB(A) at 1m         kW         A           Irrent, 230 V, 50 Hz, Capacitor motor, protection 6456         1170         2900         52         0.21         1.10           Irree-phase current motor, 400 V, 50 Hz, Y/A con- consur- 06457         1100/1170         2675/2885         49.52         0.16/0.20         0.29/0.57           Iosion-proof, II 2G Ex h IIB T3 Gb, motor Ex e, three-phase current 4000 40 06011         2770         1390         56         0.75         2.00           10 lotor ratings, see info p. 20.         10 lotoperating switch.         1         1         1	Ref. no.         Flow rate free blowing         Rated speed         Case-rad. sound pressure         Power con- sumption*         Current at rated voltage         in contr. in contr. mode           V m³/h         min <sup>-1</sup> dB(A) at 1m         kW         A         A           rrent, 230 V, 50 Hz, Capacitor motor, protection category IP55         06456         1170         2900         52         0.21         1.10         1.80           rree-phase current motor, 400 V, 50 Hz, Y/△ connection, protection category IP         06457         1100/1170         2675/2885         49.52         0.16/0.20         0.29/0.57         0.57           losion-proof, II 2G Ex h IIB T3 Gb, motor Ex e, three-phase current 400 V-VI, 50 I         1         1390         56         0.75         2.00         -           40 06011         2770         1390         56         0.75         2.00         -	Ref. no.       Flow rate free blowing       Rated speed       Case-rad. sound pressure       Power consumption*       Current consumption*       Wiring diagram $V$ m³/h       min¹       dB(A) at 1m       kW       A       A       No.         rrent, 230 V, 50 Hz, Capacitor motor, protection category IP55       06456       1170       2900       52       0.21       1.10       1.80       1119         ree-phase current motor, 400 V, 50 Hz, $Y/A$ connection, protection category IP55       06457       1100/1170       2675/2885       49.52       0.16/0.20       0.29/0.57       0.57       520         losion-proof, II 2G Ex h IIB T3 Gb, motor Ex e, three-phase current 400 Volt, 50 Hz, protect       470       0.075       2.00       -       470 $^{9}$ 06011       2770       1390       56       0.75       2.00       -       470	Ref. no.         Flow rate free blowing         Rated speed         Case-rad. sound pressure         Power con- sumption*         Current consumption*         Wiring diagram         Max.at tempe Rat. vol           V m³/h         min <sup>-1</sup> dB(A) at 1m         kW         A         A         No.         + °C           rrent, 230 V, 50 Hz, Capacitor motor, protection category IP55         06456         1170         2900         52         0.21         1.10         1.80         1119         100           rree-phase current motor, 400 V, 50 Hz, Y/A connection, protection category IP55         0.6457         1100/1170         2675/2885         49.52         0.16/0.20         0.29/0.57         0.57         520         100           losion-proof, II 2G Ex h IIB T3 Gb, motor Ex e, three-phase current 400 Volt, 50 Hz, protect-rategory see info p. 20.         1390         56         0.75         2.00         -         470         40	Ref. no.       Flow rate free blowing       Rated speed       Case-rad. sound pressure       Power con- sound pressure       Current consumption* at rated voltage       Current in contr. mode       Wiring diagram       Max. air flow temperature         V $m^3/h$ min <sup>-1</sup> dB(A) at 1m       kW       A       A       No.       + °C       + °C         voltage       1170       2900       52       0.21       1.10       1.80       1119       100       60         Integration of the pressure         06456       1170       2900       52       0.21       1.10       1.80       1119       100       60         Integration of the pressure o	Ref. no.       Flow rate free blowing       Rated speed       Case-rad. sound pressure       Power con- sumption*       Current at rated voltage       Winng diagram       Max.air flow temperature       Weight net aprx.         V $m/n$ min <sup>-1</sup> dB(A) at 1m       kW       A       A       No.       + °C       + °C       kg         Incent, 230       V, 50 Hz, Capacitor motor, protection category IP55       0.6456       1170       2900       52       0.21       1.10       1.80       1119       100       60       25.0         Ince-phase current motor, 400 V, 50 Hz, $\gamma/\Delta$ concetion, protection category IP55       0.57       5.20       100       60       25.0         Iosion-proof, II 2G Ex h IIB T3 Gb, motor Ex e, three-phase current 400       Volt, 50 Hz, protection category IP55       100       60       25.0         40       06011       2770       1390       56       0.75       2.00       -       470       40       -       40	Ref. no.Flow rate free blowingRated speedCase-rad. sound pressurePower con- sumption*Current consumption* at rated voltageWiring in contr. modeMax. air flow temperatureWeight net at at rated in contr. modeMax. air flow temperatureWeight net at at rated in contr. modeTransf at rated in contr. modeVm³/hmin-1dB(A) at 1mkWAANo.+ °C+ °CkgTyperrent, 230 V, 50 Hz, Capacitor motor, protection category IP550645611702900520.211.101.8011191006025.0MWS 3rree-phase current motor, 400 V, 50 Hz, $\gamma'/\Delta$ connection, protection category IP550.16/0.200.29/0.570.575201006025.0RDS 1losion-proof, II 2G Ex h IIB T3 Gb, motor Ex e, three-phase current 400Volt, 50 Hz, protection category IP55-40Not pe $^{0}$ 0601127701390560.752.00-47040-40Not pe $^{0}$ loct or ratings, see info p. 20. $^{1}$ lncl. operating switch. $^{2}$ lncl. operating and speed switch. $^{3}$ Req. motor protection category	Ref. no.Flow rate free blowingRated speedCase-rad. sound pressurePower con- sound pressureCurrent consumption*Wiring at rated voltageMax. air flow temperature nodeWeight net nodeTransformer speed with motor prot. circuit breakerVm³/hmin-1dB(A) at 1mkWAANo.+ °C+ °CkgTypeRef. no.renet, 230V, 50 Hz, Capacitor motor, protection category IP550.645611702900520.211.101.8011191006025.0MWS 301948ree-phase current motor, 400V, 50 Hz, $\gamma/\Delta$ connection, protection category IP550.16/0.200.29/0.570.575201006025.0RDS 101314losion-prot, II 2G Ex hIIB T3 Gb, motor Ex e, three-phase current 400Volt, 50 Hz, protection category IP5590.0752.00-47040-40Not permittedof 061127701390560.752.00-47040-40Not permitted	Ref. no.Flow rate free blowingRated speedCase-rad. sound pressurePower con- sound pressureCurrent consumption*Wining diagramMax. air flow temperature Rat. vol.Weight net motTransformer speed controller 5With motor prot. circuit breakerin contr. voltagein contr. modein contr.Wining diagramMax. air flow temperature No.Weight net apr.Transformer speed controller 5With motor prot. circuit breakerin contr. voltagein contr. modeNo.+ °C+ °CkgTypeRef. no.TypeWith motor prot. circuit breakerin contr. voltagein contr. modein contr. modeNo.+ °C+ °CkgTypeRef. no.TypeInterespondence of the protection category IP550.6161.1001.8011191006025.0MWS 30.1948TSW 3.0Interespondence of the protection category IP551.100/11702675/288549.520.16/0.200.29/0.570.575201006025.0RDS 10.1314TSD 0.8 °Iosion-prot lotor ratings, see info p. 20.1.390560.752.00-47040-40Not permittedNot per totor circuit breaker: Type MD	Ref. no.       Flow rate free blowing       Rated speed       Case-rad. sound pressure       Power consumption* at rated voltage       in contr. on diagram       Max. air flow temperature mode       Weight temperature mode       Transformer speed controller 5-step         V m³/h       min-1       dB(A) at 1m       kW       A       A       No.       + °C       + °C       kg       Type       Ref. no.       Type       Ref. no.         rment, 230 V, 50 Hz, Capacitor motor, protection category IP55       0.615       1110       1.80       1119       100       60       25.0       MWS 3       01948       TSW 3.0       01496         rece-phase current motor, 400 V, 50 Hz, Y/A connection, protection category IP55       0.16/0.20       0.29/0.57       0.57       520       100       60       25.0       RDS 1       01314       TSD 0.8 <sup>3</sup> 01500         losion-prot, II 2G Ex h IIB T3 Gb, motor Ex e, three-phase current 400       Vit, 50 Hz, protection category IP55       -       40       0.75       2.00       -       470       40       -       40       Not permitted       Not permitted       Not permitted         of 6011       2770       1390       56       0.75       2.00       -       470       40       -       40       Not permitted       Not permitted	Ref. no.       Flow rate free blowing       Rated speed       Case-rad. sound pressure       Power consumption* at rated voltage       Wiring diagram       Max.air flow temperature rate of the pressure       Weight free blowing       Transformer speed controller 5-step       Mot. protection control for conner the pressure       Woring at rate of voltage       No.       + °C       + °C       + °C       kg       Transformer speed controller 5-step       Mot. protection control for conner the pressure       Mot. protection control for conner the pressure       Woring at rate of voltage       No.       + °C       + °C       kg       Type       Ref. no.       Type       <

4) Dimensional drawing at www.HeliosSelect.de.



MB 250

### MegaBox Ø 250 mm, backward / forward curved impeller





- 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 explosionproof types.

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

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Power control
 See page 320.
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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. Ref. no. 01856 MB-WSD







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  $Y / \Delta$  switchable three-phase current fans. DS 23) Ref. no. 01351

Type Ref. no.		Flow rate free blowing	rate Rated Case-ra ee speed sound wing pressur		Case-rad. Power con- sound sumption* pressure		Current consumption* at rated in contr. voltage mode		Max. a tempe Rat. vol	Max. air flow temperature Rat. vol		Transi with mo	ormer spee tor prot. breaker	Mot. prot. for connec therma	circ. break. cting built-in I contacts		
		∀ m³/h	min-1	dB(A) at 1m	kW	A	А	No.	+°C	+°C	kg	Туре	Ref. no.	Туре	Ref. no.	Туре	Ref. no.
Alternating cu	urrent, 230	V, 50 Hz, Cap	acitor moto	or, protection	category IP	55											
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, th	nree-phase	current mot	or, 400 V, 50	) Hz, ∀/∆ coi	nnection, pr	otection ca	ategory IF	P55									
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 <sup>2)</sup>	01571
🚯 Ex 🛛 Exp	losion-proc	of, II 2G Ex h	IIB T3 Gb, n	notor Ex e, th	ree-phase c	urrent 400	Volt, 50	Hz, protect	ion categ	gory IP55	i						
MBD 250/4 Ex	<b>4</b> ) 06014	4140	1405	62	1.50	3.35	-	470	40	-	52.0	Not pe	ermitted	Not per	mitted		-
* For Ex types: N	Notor ratings	, see info p. 2	10. nt de	<sup>1)</sup> Incl. ope	erating switch	l. <sup>2)</sup>	Incl. operation	ating and s	peed swite	ch. <sup>3)</sup> Req	. motor p	rotection c	ircuit break	er: Type MD	, No. 058	49.	

onal drawind at www.He

### MegaBox Ø 280 mm, backward / forward curved impeller





Drive

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

aerodynamically optimised casing.

Electrical connection Standard terminal box (IP55) mounted to external cable, on outside of motor for explosionproof types. 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-WSDRef. no. 01856



1000

2000

3000

 Speed switch and on/off switch

 for two-speed Y/∆ switchable

 three-phase current fans.

 DS 2<sup>2</sup>

 Ref. no. 01351

impermissible range

5000

4000

20

16

12

8

4

0

Ϋ́ m³/h

Туре	Ref. no.	Flow rate free	Rated speed	Case-rad. sound	Power con- sumption*	Curr consum	ent ption*	Wiring diagram	Max. a tempe	ir flow rature	Weight net	Transf	ormer spee	d controller 5	-step	Mot. prot.	circ. break. ting built-in
		pinmoid		pressure		at rated voltage	in contr. mode		Rat. vol	Control	αμιχ.	with mo circuit t	t breaker w/o motor pro circuit breake		or prot. reaker	ulennai	CUIILAULS
		V m³/h	min-1	dB(A) at 1m	kW	А	А	No.	+ °C	+ °C	kg	Туре	Ref. no.	Туре	Ref. no.	Туре	Ref. no.
Two-speed, th	ree-phase	current moto	or, 400 V, 50	Hz, ∀/∆ cor	nnection, pr	otection ca	ategory IF	55									
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 <sup>2)</sup>	01502	M 4 <sup>1)</sup>	01571
🚯 Ex 🛛 Expl	osion-pro	of, II 2G Ex h	IIB T3 Gb, m	otor Ex e, th	ree-phase c	urrent 400	Volt, 50	Hz, protect	ion categ	jory IP55							
MBD 280/6 Ex	<sup>3)</sup> 06016	2960	925	56	0.95	2.70	-	498	40	-	60.0	Not pe	rmitted	Not per	mitted		-
MBD 280/4 Ex	<sup>3)</sup> 06017	4960	1420	65	2.00	4.65	-	498	40	-	68.0	Not pe	rmitted	Not per	mitted		-
* For Ex types: M	otor ratings	, see info p.20	). <sup>1)</sup> Incl. ope	erating and sp	eed switch.	2) Req. mot	or prot. cii	rcuit breaker	: Type MI	D, No. 05	849. <sup>3)</sup>	Dim. drawir	ng at www	HeliosSelect	.de.		

300

200

100

0

0



## MegaBox Ø 315 mm, backward curved impeller

### MB 315





### 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  $\Upsilon/\Delta$ 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-WSDRef. no. 01856





### Performance curves MBD 315/2/2



 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 Y/△ switchable

 three-phase current fans.

 DS 2<sup>3</sup>

 Ref. no. 01351

Туре	Ref. no.	o. Flow rate Rated Case- free speed sour blowing press		Case-rad. sound pressure	Power con- sumption	Current cor at rated voltage	nsumption in contr. mode	Wiring diagram	Max. a tempe Rat. vol	ir flow rature Control	Weight net aprx.	Transformer speed controller 5-step with motor prot. circuit breaker				Mot. prot. circ. break. for connecting built-in thermal contacts		
		V m³/h	min <sup>-1</sup>	dB(A) at 1m	kW	А	А	No.	+ °C	+ °C	kg	Туре	Ref. no.	Туре	Ref. no.	Туре	Ref. no.	
Alternating cu	rrent, 230	V, 50 Hz, Cap	acitor moto	r, protection	category IP	55												
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, th	ree-phase	current moto	or, 400 V, 50	) Hz, ∀/∆ con	nection, pr	otection ca	ategory IP	55										
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 <sup>2)</sup>	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 <sup>3)</sup>	01502	M 4 <sup>2)</sup>	01571	
1) Incl. operating	switch.	2) Incl. opera	iting and spe	ed switch.	<sup>3)</sup> Req. motor protection circuit breaker: Type MD, No. 05849.													

### MegaBox Ø 355 mm, backward curved impeller



28

46

48

m/s 8

6

2 Lο

3000 V m3/h

m/s

65432

Ϋ́ m³/h



200

100

0

0

500

1000



### Casing See page 320.

### Impeller

Backward curved high performance centrifugal impeller made of aluminium, mounted directly on motor shaft. High efficiency, low noise, aero-

dynamically optimised volute casina.

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  $\curlyvee/\triangle$ 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



1500

2000

2500

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

Performance curves MBW 355/4

Speed switch and on/off switch for two-speed  $\vee / \triangle$  switchable three-phase current fans. DS 2<sup>3)</sup> Ref. no. 01351

Туре	Ref. no.	Flow rate free blowing	Rated speed	Case-rad. sound pressure	Power con- sumption	Power con- sumption         Current consumption         Wiring diagram         Max. air flow temperature         Weight net aprx.         Transformer sp net aprx.           at rated voltage         in contr. mode         Rat. vol         Control         with motor prot circuit breaker		ormer spee tor prot. oreaker	d controller 5 w/o moto circuit bi	-step or prot. reaker	Mot. prot. for connec thermal	circ. break. ting built-in contacts					
		V m³/h	min-1	dB(A) at 1m	kW	А	А	No.	+ °C	+ °C	kg	Туре	Ref. no.	Туре	Ref. no.	Туре	Ref. no.
Alternating cu	rrent, 230	V, 50 Hz, Cap	acitor moto	r, protection	category IP	55											
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, th	ree-phase	current moto	or, 400 V, 50	) Hz, ∀/∆ cor	nnection, pr	otection ca	ategory IP	55									
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 <sup>2)</sup>	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 <sup>2)</sup>	01571
I) Incl. operating	switch.	2) Incl. opera	ating and spe	ed switch.	3) Rec	1. motor pro	tection cire	cuit breaker	: Type MD	, No. 058	349.						

# MB 355



## MegaBox Ø 400 mm, backward curved impeller

### MB 400





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  $\Upsilon/\Delta$ 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-WSDRef. no. 01856



### Performance curves MBD 400/4/4



### Performance curves MBD 400/2/2



 
 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 Y/△ switchable

 three-phase current fans.

 DS 2<sup>3</sup>

 Ref. no. 01351

Туре	Ref. no.	Flow rate free blowing	Rated speed	Case-rad. sound pressure	Power con- sumption	con- Current consumption contribution contributico contribution contribution contributico contributico contri		Wiring diagram	Max. ai temper Rat. vol	ir flow rature Control	Weight net aprx.	leight Transformer spe net aprx. with motor prot. circuit breaker		d controller 5 w/o moto circuit b	-step or prot. reaker	Mot. prot. for connec thermal	circ. break. ting built-in contacts
		V m³/h	min-1	dB(A) at 1m	kW	А	А	No.	+ °C	+ °C	kg	Туре	Ref. no.	Туре	Ref. no.	Туре	Ref. no.
Alternating cu	rrent, 230	V, 50 Hz, Cap	acitor moto	r, protection	category IP	55											
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 <sup>1)</sup>	01579
Two-speed, th	ree-phase	current moto	or, 400 V, 50	) Hz, ∀/∆ cor	nection, pr	otection ca	ategory IP	55									
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 <sup>2)</sup>	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 <sup>3)</sup>	01513	M 4 <sup>2)</sup>	01571
<sup>1)</sup> Incl. operating	switch.	vitch. <sup>2)</sup> Incl. operating and speed switch. <sup>3)</sup> Req. motor protection circuit breaker: Type MD, No. 05849.															