

Multiflow

Box centrifugal fans

MFW & MFD



Box centrifugal fans with multi option outlet.

- Choice of outlet by moving side panels.
- Simplified installation through outlet options.
- Fully speed controllable.
- Insulated panels reduce condensation.
- Thermal protection of motor.
- Compact motor design.



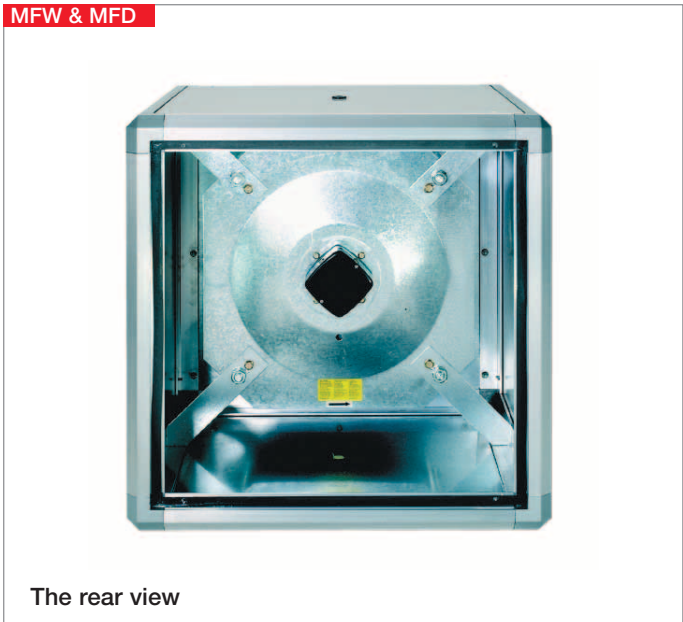
so refreshing

MFW & MFD



The front view

MFW & MFD



The rear view

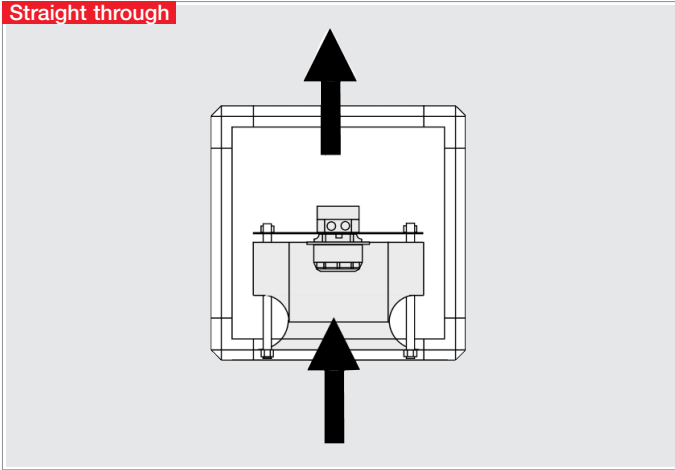
Specification

- Casing**
The unit frame is manufactured from extruded aluminium profile with polymer corners. The inlet panel is galvanised sheet steel with an integral spun inlet ring. The side panels are 20 mm double skinned galvanised sheet steel filled with a non-flammable fibreglass insulation providing noise and temperature insulation. The side panels are removable and interchangeable so that discharge is possible in different directions.
- Impeller**
All models have dynamically balanced backward curved centrifugal impellers for high efficiency and low noise levels. The blades are manufactured in plastic with galvanised support plates for sizes up to 450 mm and in aluminium for sizes 500 to 630. Each impeller together with its external rotor motor is statically and dynamically balanced to quality standard G 2.5 DIN ISO 19410.
- Inlet cones**
The inlet cone is made of galvanised sheet steel.
The cone design has been optimised to achieve the best possible airflow and is an integral part of the inlet panel.
- Motor**
External rotor motor with a die-cast aluminium casing, protected to IP 54. Thermal contacts for motor protection and radio suppression are fitted as standard. The ball bearings are sealed for life with a special lubricant to guarantee low noise and maintenance free operation.
- Motor protection**
All models are fitted with thermal contacts, which should be connected to a suitable motor protection unit (see below). The automatic resetting thermal contacts can be used wired in series with the motor windings on single-phase units. These thermal contactors are simply designed to protect the motor from damage by overheating.
- Electrical connection**
The rating plate shows the correct operating voltage range. The motor terminal box is fitted on the rear of the motor inside the unit. One side panel has a pre-drilled hole for the cable to pass through. This side panel can be positioned to suit the required side by exchanging it with any other panel.
- Speed control**
All models are speed controllable with matched 5 step auto-transformer speed controllers listed in the table below. All models can also be inverter controlled.
- Temperatures**
Maximum ambient airflow operating temperatures are shown in the table below.
- Installation**
Simple fan design for easy installation able to be installed at any angle or position with a choice of straight through or side outlet positions.
- Guards**
The Multiflow units are designed for connection into ducted systems both up-stream and down-stream and therefore are not supplied with guards. If the moving parts of the unit are exposed then suitable protection guards must be fitted.
- Dimensions**
All dimensions shown in the table are in millimetres.
- Air performance curves.**
The air performance curves have been produced using the inlet test chamber method in accordance with DIN 24163.
- Sound levels**
The sound levels have been produced from tests in accordance with DIN 45653 part 38. The figures are 'A' scale weighted levels L_{WA} and are given for the mid performance position with correction values for high and low pressures. The sound spectrum figures are 'A' weighted.

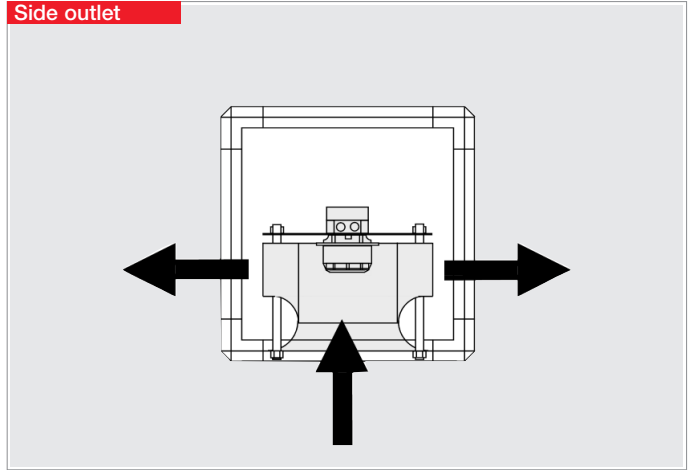
Technical data

Size mm	Model		Ref. No	Number of poles	Motor kW		Amps		Max. air flow temp. +°C	IP rating	5 Step transformer speed controller				Starter with full motor protection	
	Single phase	Three phase			230V	400V	230V	400V			single phase		three phase		230V	400V
					kW	kW	A	A			Type	Ref. No	Type	Ref. No		
355	MFW 355/4	-	7864	4	0.33	0.33	1.50	0.70	45	IP54	TSW 1.5	1495	-	-	MW	-
400	MFW 400/4	-	7865	4	0.54	0.48	2.55	0.90	45	IP54	TSW 3.0	1496	-	-	MW	-
450	MFW 450/4	-	7866	4	0.76	0.71	3.50	1.40	45	IP54	TSW 5.0	1497	-	-	MW	-
500	MFW 500/4	-	7867	4	1.70	1.80	7.50	3.70	45	IP54	TSW 7.5	1596	-	-	MW	-
560	-	MFD 560/4	7868	4	-	2.50	-	4.80	40	IP54	-	-	TSD 5.5	1503	-	MD
630	-	MFD 630/4	7869	4	-	4.00	-	6.90	40	IP54	-	-	TSD 7.0	1504	-	MD

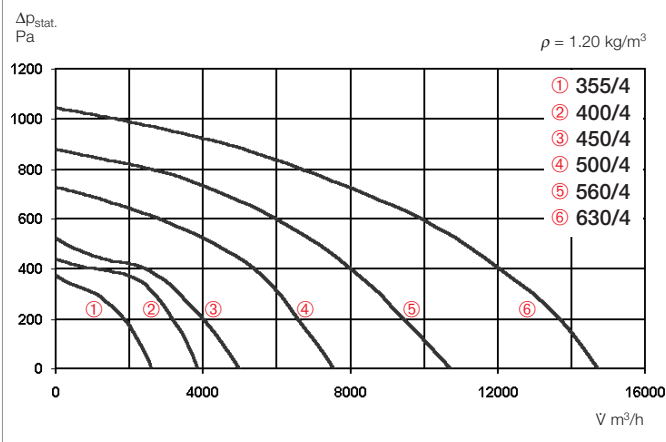
Straight through



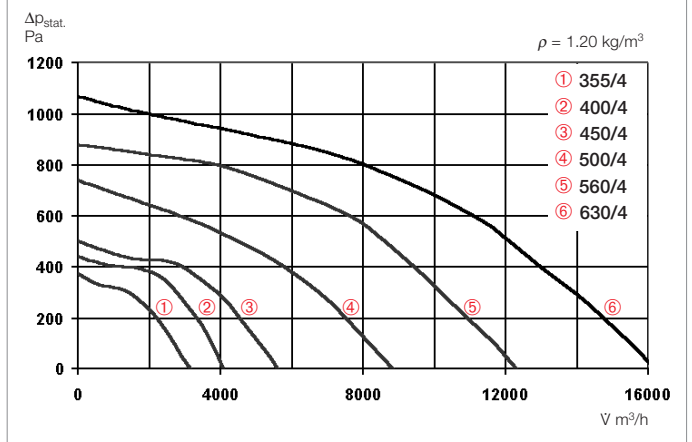
Side outlet



Straight through



Side outlet



Selection table

Straight through

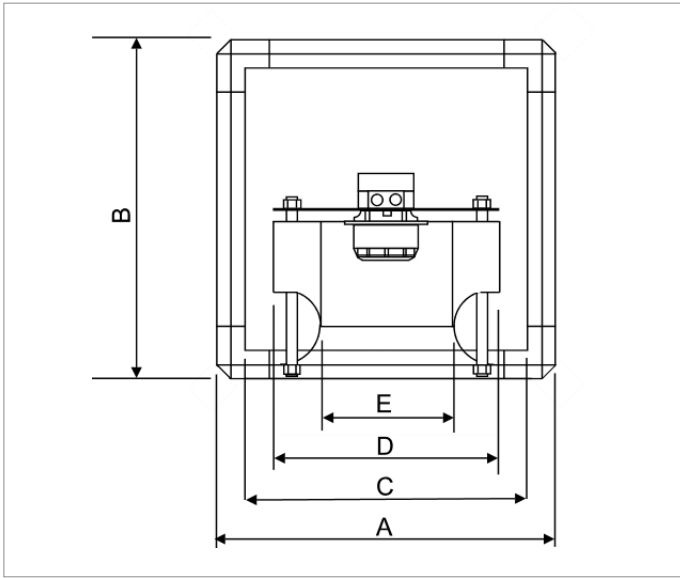
Size	Model	Electrical supply	Air volume flow m ³ /s against static pressure Pa												
			0	50	100	150	200	250	300	400	500	600	700	800	900
355	MFW 355/4	230 V/1ph /50 Hz	0.722	0.683	0.636	0.583	0.522	0.433	0.322						
400	MFW 400/4	230 V/1ph /50 Hz	1.069	1.036	0.992	0.944	0.886	0.822	0.747	0.333					
450	MFW 450/4	230 V/1ph /50 Hz	1.389	1.333	1.261	1.181	1.114	1.028	0.939	0.683					
500	MFW 500/4	230 V/1ph /50 Hz	2.097	2.042	1.967	1.903	1.833	1.767	1.694	1.500	1.208	0.792	0.222		
560	MFD 560/4	400 V/3ph /50 Hz	2.972	2.889	2.806	2.722	2.625	2.528	2.444	2.222	1.986	1.667	1.278	0.750	
630	MFD 630/4	400 V/3ph /50 Hz	4.083	4.028	3.958	3.889	3.806	3.708	3.611	3.347	3.083	2.764	2.347	1.875	1.306

Selection table

Side outlet

Size	Model	Electrical supply	Air volume flow m ³ /s against static pressure Pa												
			0	50	100	150	200	250	300	400	500	600	700	800	900
355	MFW 355/4	230 V/1ph /50 Hz	0.872	0.808	0.750	0.689	0.619	0.525	0.403						
400	MFW 400/4	230 V/1ph /50 Hz	1.130	1.089	1.036	0.986	0.928	0.856	0.775	0.444					
450	MFW 450/4	230 V/1ph /50 Hz	1.556	1.500	1.417	1.347	1.264	1.189	1.089	0.828					
500	MFW 500/4	230 V/1ph /50 Hz	2.458	2.364	2.272	2.194	2.089	1.986	1.883	1.611	1.261	0.789	0.242		
560	MFD 560/4	400 V/3ph /50 Hz	3.417	3.344	3.250	3.161	3.042	2.939	2.833	2.625	2.043	2.111	1.672	1.111	
630	MFD 630/4	400 V/3ph /50 Hz	4.500	4.389	4.292	4.208	4.097	3.972	3.875	3.611	3.361	3.083	2.722	2.250	1.514

Dimensions and weights



Type	Ref No.	Dimensions in mm					kg
		A	B	C	D	E	
MFW 355/4	7864	500	500	420	365	224	33
MFW 400/4	7865	670	670	590	404	253	52
MFW 450/4	7866	670	670	590	454	286	58
MFW 500/4	7867	670	670	590	504	321	66
MFD 560/4	7868	800	800	720	570	361	95
MFD 630/4	7869	800	800	720	634	407	105

Sound levels

Inlet/ outlet mm	Model	Ref. No.	Sound power dB(A)	Sound pressure level at 4 m dB(A)	High pressure add	Low pressure add	Sound power level dB(A)							
							63	125	250	500	1000	2000	4000	8000
Nominal size 355														
Inlet	MFW 355/4	7864	66	46	-3	4	39	53	58	60	60	67	53	48
Outlet	MFW 355/4	7864	70	50	-3	4	43	58	61	63	65	62	53	48
Nominal size 400														
Inlet	MFW 400/4	7865	72	52	-2	3	45	60	64	66	66	63	59	53
Outlet	MFW 400/4	7865	76	56	-2	3	47	64	68	69	71	68	60	55
Nominal size 450														
Inlet	MFW 450/4	7866	74	54	-2	5	46	61	65	67	68	66	62	52
Outlet	MFW 450/4	7866	78	68	-2	5	49	58	70	71	73	70	63	53
Nominal size 500														
Inlet	MFW 500/4	7867	74	58	-2	4	55	61	66	66	70	69	61	54
Outlet	MFW 500/4	7867	82	62	-2	4	54	66	74	75	77	74	66	56
Nominal size 560														
Inlet	MFD 560/4	7868	82	62	-5	2	59	65	70	70	74	73	65	58
Outlet	MFD 560/4	7868	86	66	-5	2	58	70	78	79	81	78	70	60
Nominal size 630														
Inlet	MFD 630/4	7869	86	66	-1	4	63	69	74	74	79	78	70	61
Outlet	MFD 630/4	7869	90	70	-1	4	60	74	81	85	85	82	75	67

The sound levels are given for the mid pressure of the fans performance. The amount to add to all figures where high or low pressure selections are made are shown in the table above.