

DAWN Cast Iron Exhaust Fans

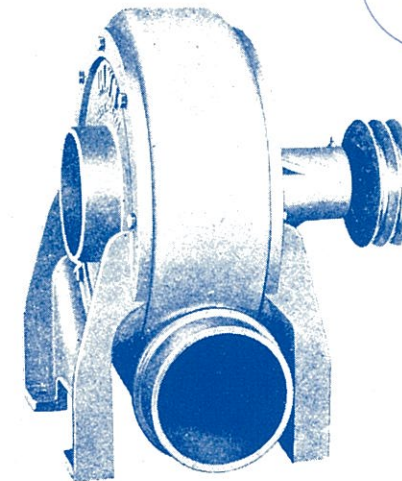
UNIVERSAL SERIES "B"

A completely new range of DAWN Centrifugal Fans has been introduced to supersede the range of DAWN Cast Iron Blowers and Exhausters which have been in production for many years.

There are six sizes in the range: 2½-B, 3-B, 3½-B, 4-B, 5-B, & 6-B.

WEIGHTS OF 'B' SERIES BLOWERS

No.	Motorised	Pulley Drive
6B	63 kg	57 kg
5B	45 kg	38 kg
4B	41 kg	32 kg
3½B	29 kg	23 kg
3B	23 kg	14 kg
2½B	18 kg	11 kg



DAWN 4-B BELT DRIVEN FAN

NEW FEATURES:

- All 16 Angular Positions of Discharge clockwise or counter-clockwise, as detailed in BS-848; Part 1: 1963 Appendix B, may be obtained from single fan.
- Sealed Bearings have additional Dust Protection.
- Higher Fan Efficiency, for more economical operation.
- Stronger and more Compact Construction.
- Standardization of Components.
- Inlets and Outlets of the same size for greater convenience when installing in ducting.

CONSTRUCTION:

All six sizes are available as Belt Driven units or as Direct Coupled motorised, Single or Three phase. **BELT DRIVEN:** The robust cast iron Case is designed to give long life when abrasive or corrosive materials are carried in the air stream. There are spigots of similar size at Inlet and Outlet to take Duct connections. The bearing housing forms part of the drive side cheek and houses two single row dust sealed bearings which carry a toughened steel spindle to which is attached a cast impeller. Additional dust protection is provided where the spindle enters the case. The bearings are grease lubricated. The impeller is cast in one piece and has six equi-spaced blades projecting from a shallow coned centre, its rigid construction will ensure many years of trouble free service. The standard impeller is cast aluminium for motorized units and gun metal for pulley drive units except size 6B which is cast steel. Cast aluminium impellers can be supplied for all pulley drive units if required.

MANUFACTURED BY:

DAWN TOOLS & VICES

1 NORRIS STREET, NORTH COBURG, VIC., 3058, AUSTRALIA —

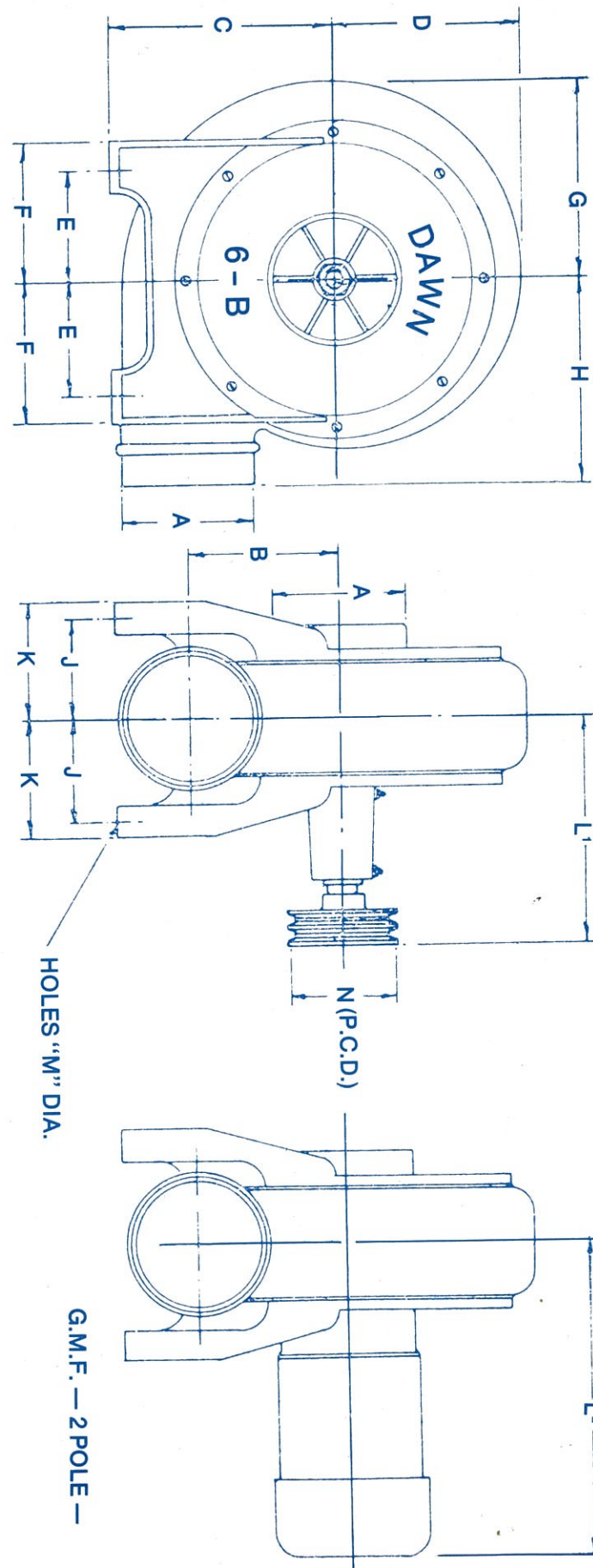
OBTAINABLE FROM:

PHONE:
350 3811
(6 Lines)



DAWN CAST-IRON BLOWERS & EXHAUSTERS

UNIVERSAL TYPE SERIES "B"



PULLEY DRIVEN

MOTORISED

G.M.F. — 2 POLE —

FAN No.	A	B	C	D	E	F	G	H	J	K	L ¹	L ²	M	N	PULLEY ROPES
2½B	75	75	125	100	50	75	110	115	65	75	150	350	10	65	1A
3B	90	110	175	135	90	115	145	150	75	85	150	350	10	75	1A
3½B	100	125	200	150	90	125	165	175	90	100	200	360	10	90	1A
4B	115	145	225	175	115	145	190	200	100	115	210	360	10	100	2A
5B	140	160	250	195	115	150	215	215	115	130	265	380	15	125	2B
6B	165	185	275	225	140	175	250	250	125	145	275	395	15	125	2B

All dimensions in millimetres.

MOTORISED: All construction details of the direct coupled Motorised units are the same as for Belt Driven except: The Drive side Cheek has bolted to it a Face-mounted 2 Pole 50 Hz Motor the shaft of which carries the Impeller. These are also double protected Dust Sealed. The standard Motor sizes are as follows:

2½-B, 0.18 kW	3-B, 0.18 kW	3½-B, 0.37 kW
4-B, 0.56 kW	5-B, 0.75 kW	6-B, 1.5 kW

For all Mounting Dimensions see page 4. Standard impellers cast Aluminium.

APPLICATIONS:

These Fans are designed primarily for the CONVEYING of solid materials such as; Sawdust, Bakelite Dust, Asbestos Dust, Cotton, Wool, etc., and for EXHAUSTING of Dust from Grinding and Polishing Wheels, Leather, Flock and Kapok, Woodworking and general Textile machinery. They are ideal also for the removal of Dust, Fumes, and Smoke.

They are also used as BLOWERS for general drying applications, for supplying supplementary combustion air to fire boxes, for cooling air blast to electrical equipment, for laboratory work requiring relatively small volume of air in the pressure range 0.12 kPa to 2.5 kPa, and for many other Blowing or Exhausting duties within the capacities shown in the Performance Tables on opposite page.

PERFORMANCE:

The Performance Tables shown opposite are taken from actual tests performed in accordance with BS-848: Part 1:1963. Test Method No. 3. Test readings have been corrected to Standard Air conditions which, according to the above specification is, "Atmospheric air having a weight per unit volume of 0.0012 kg/m³ i.e., Air at 20°C temperature, 100 kPa barometric pressure, 62% relative humidity. Linear velocities are given in the Tables to assist in selection of a Fan for Conveying or Exhausting of solid materials.

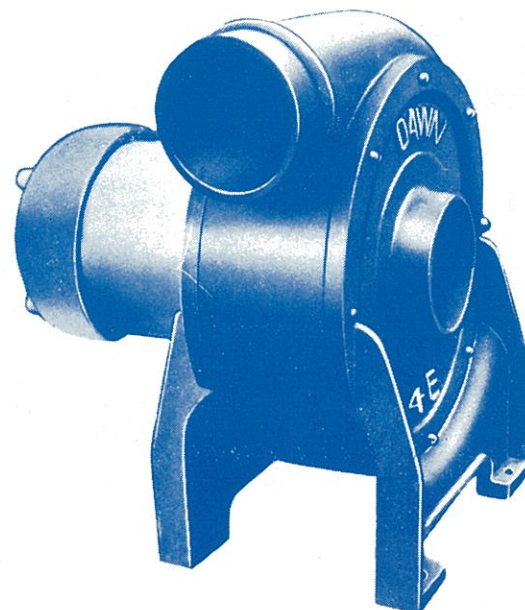
kW shown in the Tables is the Fan requirement at each point of rating, transmission losses of the drive must be added in selecting motor size.

OPERATION CHARACTERISTICS:

These Fans operate in conjunction with a duct system of varying lengths and diameters depending on the actual number of branch ducts and length of air travel, and they may either exhaust materials or merely exhaust or blow air. The system resistance is different in every case and the required air volume is a function of the particular job to be done. Each application means a separate volume-static pressure relationship and hence the fans are required to operate over a speed range to achieve the particular conditions required in each application. This means that they must generally be belt driven to alter fan shaft speed from the motor drive speed.

"DAWN" MILL Exhaust Fans:

If the capacity your application requires exceeds the capacity of this range of Fans, may we refer you to the "DAWN" Fabricated Steel MILL EXHAUST range with capacities up to 9400 L/s @ 2.5 kPa. Static Pressure resistance.



"DAWN" 4-B MOTORISED FAN

DAWN CAST IRON EXHAUST FANS

UNIVERSAL SERIES "B"

PERFORMANCE TABLES:

kPa	0.06	0.12	0.18	0.25	0.37	0.5	0.6	0.75	1.0	1.25	1.5	1.75	2.0	2.25	2.5	2.75	3.0
No. 2½ B — 2850 r/min.																	
L/s	46	40	29	nd						Test Duct Area — 0.003 m²							
m/s	16	14	13														
kW	0.03	0.023	0.015	0.015													
3500 r/min.																	
L/s	60	54	48	35	nd												
m/s	19	17	15	11	0.03												
kW	0.045	0.0375	0.0375	0.03	0.023												
4000 r/min.																	
L/s	71	66	62	47	40	nd											
m/s	22	21	20	15	13												
kW	0.11	0.098	0.083	0.045	0.0375												
No. 3 B — 2000 r/min.																	
L/s	68	58	45	39	nd					Test Duct Area — 0.0046 m²							
m/s	15	13	10	9													
kW	0.06	0.0375	0.0375	0.03	0.03												
2850 r/min.																	
L/s	103	97	92	88	74	62	49	nd									
m/s	23	21	20	19	16	14	11										
kW	0.17	0.16	0.15	0.13	0.12	0.11	0.11	0.11									
3500 r/min.																	
L/s	125	122	120	110	99	88	78	58	nd								
m/s	27	27	27	24	22	19	17	13									
kW	0.29	0.28	0.25	0.24	0.23	0.22	0.22	0.2	0.19								
4000 r/min.																	
L/s		141	137	130	124	115	110	88	69	nd							
m/s		31	30	29	27	25	24	17	15								
kW		0.56	0.56	0.51	0.48	0.47	0.36	0.32	0.29	0.25							
4500 r/min.																	
L/s			160	158	152	143	134	117	101	86	65	nd					
m/s			35	35	33	32	30	26	22	19	14						
kW			0.80	0.70	0.54	0.53	0.53	0.50	0.47	0.44	0.37	0.34					
No. 3½ B — 2000 r/min.																	
L/s	118	106	94	59	nd					Test Duct Area — 0.0062 m²							
m/s	19	17	15	10													
kW	0.16	0.14	0.12	0.11	0.09												
2850 r/min.																	
L/s		167	160	143	127	106	76	nd									
m/s		27	26	23	21	17	13										
kW		0.41	0.35	0.33	0.32	0.31	0.30	0.25									
3500 r/min.																	
L/s			207	200	188	174	160	127	68	nd							
m/s			33	32	30	28	26	21	11								
kW			0.68	0.68	0.67	0.65	0.65	0.63	0.43	0.33							
4000 r/min.																	
L/s				235	227	216	205	181	150	111	nd						
m/s				38	37	35	33	29	24	18							
kW				1.2	1.1	1.1	1.1	0.98	0.90	0.68	0.49						
4500 r/min.																	
L/s					244	228	205	179	148	115	68	nd					
m/s					40	37	33	29	24	19	11						
kW					1.28	1.2	1.2	1.13	1.05	0.90	0.69	0.63					
No. 4 B — 2000 r/min.																	
L/s	157		133	90	nd					Test Duct Area — 0.0081 m²							
m/s	20		17	11													
kW	0.22		0.17	0.11	0.07												
2850 r/min.																	
L/s	244		233	202	185	139	82	nd									
m/s	30		29	25	23	17	10										
kW	0.47		0.44	0.41	0.20	0.33	0.22	0.14									
3500 r/min.																	
L/s	315		299	276	251	233	209	173	138	nd							
m/s	39		37	34	31	29	26	21	17								
kW	0.83		0.75	0.75	0.74	0.71	0.64	0.62	0.5	0.5							
4000 r/min.																	
L/s			346	321	308	285	266	255	228	191	165	90	nd				
m/s			43	40	38	35	33	30	28	24	20	11					
kW			1.43	1.28	1.2	1.13	1.13	1.05	0.98	0.90	0.83	0.47	0.45				
No. 5 B — 2000 r/min.																	
L/s	270		229	162	nd					Test Duct Area — 0.0127 m²							
m/s	21		18	13													
kW	0.33		0.31	0.29	0.19												
2850 r/min.																	
L/s	398		390	345	304	257	192	nd									
m/s	32		31	27	24	20	15										
kW	0.75		0.74	0.71	0.68	0.65	0.53	0.35									
3500 r/min.																	
L/s	479		475	453	422	395	355	304	257	nd							
m/s	38		38	36	33	31	28	24	20								
kW	1.55		1.52	1.45	1.33	1.26	1.23	1.13	1.03	0.94							
4000 r/min.																	
L/s	555		545	520	498	475	447	414	378	336	294	229	nd				
m/s	44		43	41	39	37	36	33	30	27	23	18					
kW	2.24		2.12	2.01	1.87	1.85	1.79	1.79	1.73	1.65	1.58	1.28	1.2				
No. 6 B — 2000 r/min.																	
L/s	468		456	369	287	nd				Test Duct Area — 0.0182 m²							
m/s	26		25	20	16												
kW	0.64		0.63	0.56	0.52	0.45											
2850 r/min.																	
L/s			672	620	573	510	456	405	331	235	nd						
m/s			37	34	32	28	25	22	18	13							
kW			1.60	1.57	1.53	1.51	1.49	1.46	1.30	0.98	0.90						
3500 r/min.																	
L/s			827	792	750	712	672	620	573	524	498	439	369	235			
m/s			46	43	41	39	37	34	32	29	27	24	20	13			
kW			3.42	3.27	3.08	3.03	2.94	2.88	2.84	2.76	2.7	2.51	2.24	1.46			
4000 r/min.																	
L/s			917	891	860	827	785	740	703	663	620	585	562	524			
m/s			51	49	47	46	43	41	39	36	34	32	31	29			
kW			4.3	4.1	3.99	3.92	3.9	3.87	3.84	3.81	3.77	3.77	3.75	3.69			