

DWT SERIES AXIAL ROOF VENTILATION FAN

Technical Product Datasheet & Engineering Specifications | Cloud Electricals Co. (Saudi Arabia)

Product Role: The DWT series axial roof fan is designed for high-capacity, low-to-medium static pressure general roof ventilation in industrial facilities, warehouses, mechanical plant rooms, sports arenas, and commercial buildings.

Aerodynamic Design: Equipped with high-efficiency direct-drive wide-chord axial propeller blades matched to a bellmouth venturi inlet and a spun aluminum weatherproof discharge cowl. Provides optimal airflow extraction with minimal energy consumption and low operating sound levels.



Motor & Electrical Supply: 100% copper-wound continuous-duty motor with temperature rise rating $\leq 50K$. Dual voltage support: Single-Phase 220–240V / 60Hz and Three-Phase 380V / 60Hz (50Hz compatible).

Key Engineering Features

100% Copper Motor: Heavy-duty copper winding rated for low $\leq 50K$ thermal rise in harsh ambient climates up to $+50^{\circ}C$.	Spun Aluminum Cowl: Weatherproof, corrosion-resistant aerodynamic discharge cowl protects against wind-driven rain.
Carbon Steel Housing: Heavy-gauge welded steel mounting base plate (L × L) with baked anti-corrosion protective finish.	Dual-Speed Motor Options: Models DWT5# through DWT8# offer 960 RPM (quiet) and 1420 RPM (high performance) options.
Standardized Curb Openings: Designed for standard square roof curbs from 400 × 400 mm up to 1000 × 1000 mm.	Direct-Drive Reliability: Impeller mounted directly to motor shaft, eliminating belt wear, tensioning, and alignment downtime.

Operating Limits & Application Suitability

Approved Airstreams: Clean, non-hazardous ambient ventilation air up to $+50^{\circ}C$ in industrial warehouses, assembly shops, logistics hubs, and commercial buildings.

Prohibited Airstreams: (1) Commercial cooking grease hoods (select NFPA 96 / UL 762 Upblast Roof Fan); (2) High-temperature emergency smoke spill (select $300^{\circ}C/2hr$ Civil Defence VDO Fan); (3) Corrosive acid laboratory chemical fumes; (4) Flammable/explosive ATEX gas environments.

DWT AXIAL ROOF FAN — MODEL PERFORMANCE SPECIFICATIONS

Unbundled Performance Pairs at Total Pressure (Pt) | 60Hz / 50Hz Voltage & Speed Configurations

Model / Config	Voltage / Phase	Power (kW/HP)	Speed	Airflow (m³/h)	Airflow (CFM)	Press. (Pt)	Noise	Curb (GxG)
DWT3#	1~230V / 3~380V	0.08 / 0.1	1420 RPM	1,600	941 CFM	65 Pa	≤ 65 dB(A)	400×400 mm
DWT3.5#	1~230V / 3~380V	0.37 / 0.5	1420 RPM	3,700	2,176 CFM	130 Pa	≤ 67 dB(A)	440×440 mm
DWT4#	1~230V / 3~380V	0.55 / 0.8	1420 RPM	5,300	3,118 CFM	166 Pa	≤ 72 dB(A)	470×470 mm
DWT5# (Low Speed)	1~230V / 3~380V	0.37 / 0.5	960 RPM	7,700	4,529 CFM	98 Pa	≤ 68 dB(A)	650×650 mm
DWT5# (High Spd 1-Ph)	1~230V 60Hz	0.75 / 1.0	1420 RPM	9,300	5,471 CFM	196 Pa	≤ 74 dB(A)	650×650 mm
DWT5# (High Spd 3-Ph)	3~380V 60Hz	0.75 / 1.0	1420 RPM	9,300	5,471 CFM	196 Pa	≤ 74 dB(A)	650×650 mm
DWT6# (Low Speed)	1~230V / 3~380V	1.10 / 1.5	960 RPM	13,000	7,647 CFM	176 Pa	≤ 71 dB(A)	770×770 mm
DWT6# (High Spd 1-Ph)	1~230V 60Hz	2.20 / 3.0	1420 RPM	18,700	11,000 CFM	294 Pa	≤ 75 dB(A)	770×770 mm
DWT6# (High Spd 3-Ph)	3~380V 60Hz	2.20 / 3.0	1420 RPM	18,700	11,000 CFM	294 Pa	≤ 75 dB(A)	770×770 mm
DWT7# (1-Ph High Spd)	1~230V 60Hz	2.20 / 3.0	1420 RPM	24,000	14,118 CFM	300 Pa	≤ 78 dB(A)	900×900 mm
DWT7# (3-Ph Low Spd)	3~380V 60Hz	2.20 / 3.0	960 RPM	23,000	13,529 CFM	195 Pa	≤ 75 dB(A)	900×900 mm
DWT7# (3-Ph High Spd)	3~380V 60Hz	3.00 / 4.0	1420 RPM	24,500	14,412 CFM	315 Pa	≤ 78 dB(A)	900×900 mm
DWT8# (Low Speed)	1~230V / 3~380V	2.20 / 3.0	960 RPM	28,000	16,471 CFM	196 Pa	≤ 78 dB(A)	1000×1000 mm
DWT8# (3-Ph High Spd)	3~380V 60Hz	4.00 / 5.4	1420 RPM	30,000	17,647 CFM	345 Pa	≤ 81 dB(A)	1000×1000 mm

Testing & Engineering Basis: Performance data is based on manufacturer test conditions at the rated total pressure (Pt) and rotational speed. Noise levels dB(A) are measured at 1.0 m hemispherical distance in free field conditions. Voltage selection (230V 1-Phase vs 380V 3-Phase) must be confirmed prior to procurement.

DWT AXIAL ROOF FAN — DIMENSIONS & CURB MOUNTING

Rough-In Structural Curb Sizes, Cowl Clearance & Installation Best Practices

Model	Cowl ØA (mm)	Total H (mm)	Hood h (mm)	Duct ØD (mm)	Base LxL (mm)	Curb GxG (mm)	Holes N-ØK	Thicknes s δ
DWT3#	720	485	205	320	440 × 440	400 × 400	4 - Ø10	3 mm
DWT3.5#	720	485	205	370	480 × 480	440 × 440	4 - Ø10	3 mm
DWT4#	720	525	205	420	520 × 520	470 × 470	4 - Ø14	3 mm
DWT5#	1124	610	270	520	700 × 700	650 × 650	4 - Ø14	3 mm
DWT6#	1124	680	270	620	900 × 900	770 × 770	4 - Ø14	3 mm
DWT7#	1334	770	310	720	1000 × 1000	900 × 900	4 - Ø14	5 mm
DWT8#	1480	800	360	820	1100 × 1100	1000 × 1000	4 - Ø14	5 mm

Roof Curb Mounting Guidelines

- 1. Curb Construction:** Provide a reinforced concrete or heavy-gauge galvanized steel upstand curb minimum 300 mm above finished roof level with outside dimensions matching Curb Size (G × G).

2. Sealing & Vibration Isolation: Place continuous closed-cell neoprene/EPDM gasket tape along the top curb perimeter before seating the fan base plate (L × L).

3. Anchor Fastening: Secure using 4 stainless steel anchor bolts through the pre-drilled base holes (N-ΦK) with isolation washers.

4. Electrical Disconnect: Install an IP65 local lockable isolator switch on the curb exterior for safe rooftop maintenance and compliance with Saudi electrical codes.

Cloud Electricals Co. — Commercial Ventilation Division

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