AXIAL FANS · EC MOTOR

EC AXIAL FAN 910 MM, 3~380 V

CODE SWK-EC910-W380-10 | **BRAND: KRUBO** | **MODEL K-EC910-W380-10**



- 910 MM · EC MOTOR
- 33,000 M³/H · 1020 RPM
- 3~380–480 V · 50/60 HZ
- IP54 · INSULATION CLASS F
- 0–10 V · PWM · 4–20 MA
- RS485 · MODBUS RTU

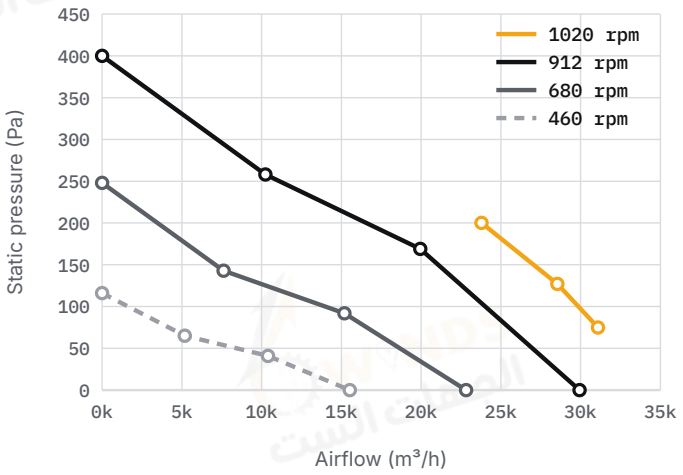
DESCRIPTION	EC axial fan, 910 mm, three-phase 380–480 V, with built-in speed controller, Modbus RTU communication and fault relay. For condensers, air-cooled equipment and ventilation.
SUPPLY	• 3~380 VAC nominal · range 3~380–480 VAC (+0 / −15%) · 50/60 Hz • Protect with a circuit breaker or time-lag fuse, 10–16 A
NOMINAL DATA	• Airflow 33,000 m³/h (±7%) · speed 1020 rpm (±15%) • Power input 1990 W (±7%) · current 3.5 A (±10%) · output power 1695 W • Maximum: 3400 W · 6.2 A • Noise LpA 84 dB(A), 1 m from the air inlet
BEST-EFFICIENCY POINT	200 Pa · 23,700 m³/h · 2770 W · 1020 rpm · ErP 2020, efficiency grade N 53.7
CONSTRUCTION	• Blade: plastic · inlet ring: cold-rolled steel plate, black • Motor and electronics IP54 · insulation class F · protection class I (with earth connected) • Vibration ≤ 5.4 mm/s · dynamic balance G6.3 at 1020 rpm ±10%
DIMENSIONS AND WEIGHT	• Square inlet-ring plate 1070 mm · 4 mounting holes Ø15 mm at 1010 mm centres • Overall depth 335 mm · weight 56 kg
ACCESSORIES	Inlet cone and fan guard
OPERATING CONDITIONS	−25 to +60 °C · 5–95% RH (operation and storage) · altitude up to 1000 m, derated from 1000 to 4000 m

SIX WINDS TRADING
Industrial & electrical supply · Jeddah, Saudi Arabia · CR 4030400579
Price, stock and delivery on request · specifications as stated by the manufacturer
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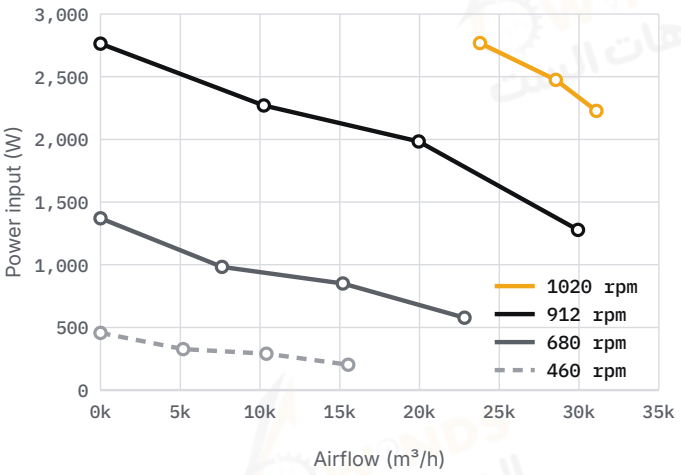
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PERFORMANCE CURVES

STATIC PRESSURE



POWER INPUT



Supply 380 V, 50 Hz. Curves drawn by Six Winds through the maker's test points below. Airflow to ISO 5801, installation category A, at 25 °C.

TEST POINTS

SPEED (RPM)	STATIC PRESSURE (PA)	AIRFLOW (M³/H)	POWER INPUT (W)	CURRENT (A)
460	116	0	456	0.88
460	65	5,185	327	0.68
460	41	10,394	290	0.62
460	0	15,529	202	0.47
680	248	0	1,371	2.34
680	143	7,618	983	1.68
680	92	15,196	850	1.47
680	0	22,823	577	1.06
912	400	0	2,764	4.80
912	258	10,242	2,270	3.83
912	169	19,942	1,984	3.35
912	0	29,933	1,278	2.17
1020	200	23,788	2,768	4.62
1020	127	28,534	2,475	4.17
1020	75	31,081	2,228	3.78

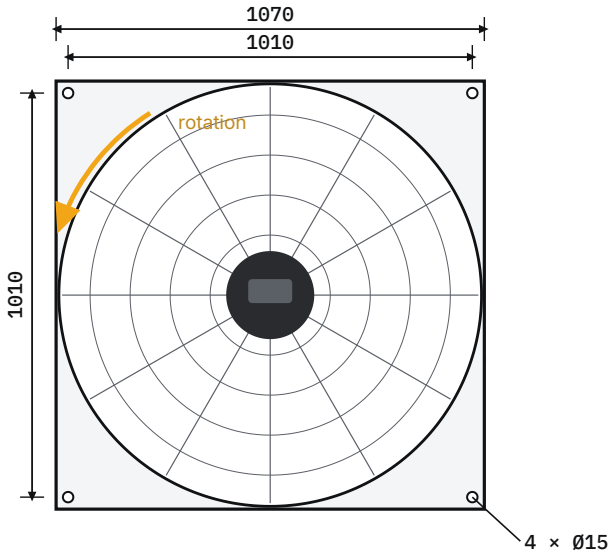
Best-efficiency point: 200 Pa · 23,700 m³/h · 2770 W · 1020 rpm (ErP 2020, efficiency grade N 53.7).

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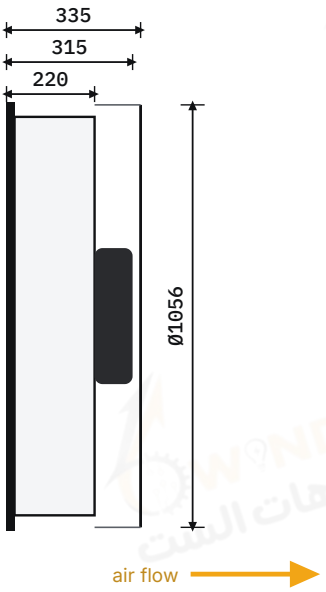
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DIMENSIONS

FRONT VIEW (MOTOR SIDE)

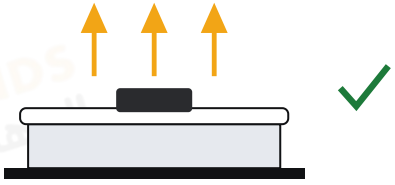


SIDE VIEW

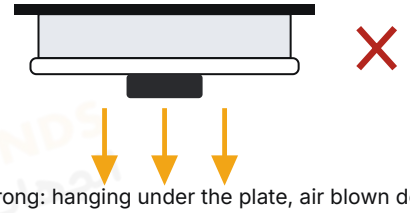


Dimensions in mm. Schematic, not to scale for manufacture.

INSTALLATION DIRECTION



Correct: plate at the bottom, motor on top, air blown upward



Wrong: hanging under the plate, air blown downward

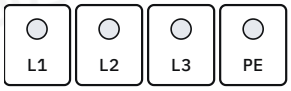
MOUNTING	Fix the plate through the 4 holes Ø15 mm (1010 mm centres) with screws no longer than specified. Lift by the plate, never by the blade or guard. Fit the inlet cone and fan guard as supplied; do not take the fan apart (it affects sealing and balance).
ROTATION AND AIR FLOW	As marked on the fan: air drawn through the inlet ring and blown out over the motor.

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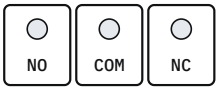
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ELECTRICAL CONNECTION

KL1 · MAINS



KL2 · FAULT RELAY

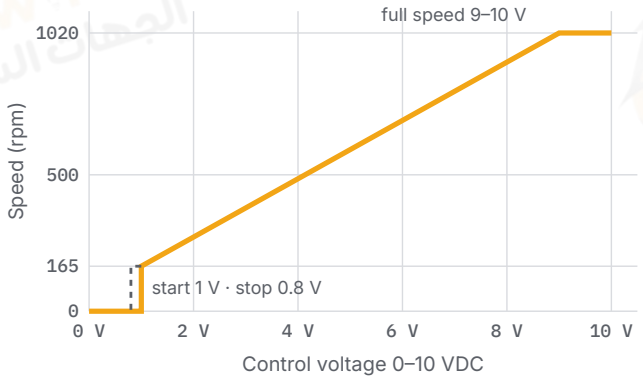


KL3 · CONTROL (PINS 1-12)



TERMINAL	SIGNAL	FUNCTION
1 / 3	RSA	RS485 bus A (Modbus RTU)
2 / 4	RSB	RS485 bus B (Modbus RTU)
5 / 11	GND	Signal ground of the control terminal
6 / 10	Ain1U	Speed input 0–10 VDC or PWM (use this or 4–20 mA)
7	4–20 mA	Speed input 4–20 mA (use this or 0–10 V / PWM)
8	+20 V	20 VDC ±2 V output, max. 20 mA (e.g. potentiometer)
9	+10 V	10 VDC ±1 V output, max. 5 mA (e.g. potentiometer)
12	FG	Speed / fault feedback
KL2	NO · COM · NC	Fault relay 250 VAC 2 A (AC1): NO open and NC closed in normal running; they change over on a fault or with no power
KL1	L1 · L2 · L3 · PE	3~380–480 VAC 50/60 Hz and earth; protect with a circuit breaker or time-lag fuse 10–16 A

SPEED CONTROL AND COMMUNICATION



RS485 A / B in a chain, shielded twisted pair



Line length up to 200 m · up to 20 fans per line

FG output: 5 square pulses per revolution, 50% duty



Pull-up 20 kΩ to +10 V (±1 V) · keep the FG line protected from static

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CONTROL SIGNALS, PROTECTION AND SAFETY

0-10 VDC	Starts at 1.0 V ±0.2 V and stops about 0.2 V below that (about 0.8 V); full speed at 9–10 V. Keep the input below 12 V.
PWM	10–10.5 V amplitude, 1–10 kHz. Starts at 10% ±2% duty and stops about 2% below that; full speed at 90–100%. Keep below 12 V.
4-20 MA	Starts at 5 mA ±1 mA and stops about 1 mA below that; full speed at 18.5–20 mA. Keep below 25 mA.
PROTECTION	• Soft start: full speed after 30 s, limiting the inrush current • Over-voltage (540 ±20 VAC), under-voltage (280 ±20 VAC) and phase loss: the drive stops and the fault relay changes over • Power-module over-temperature in two stages: the fan slows down, then stops • Output over-current and locked rotor (input current stays below rated) · starts against wind below 285 rpm
STANDARDS AND TESTS	• GB 14711 · JB/T 10562-2006 · CE (EMC) · RoHS 2.0 / REACH · withstand voltage to GB/T 21418 • EMC emissions to GB 17799.4 (EN IEC 61000-6-4:2019) • Tested at 25 °C, 85% RH · airflow to ISO 5801 category A · noise to GB/T 2888, 1 m from the inlet, axis horizontal
SERVICE LIFE	40,000 h at rated voltage, 40 °C ambient, continuous full-speed running (varies with the real duty)
NAMEPLATE	3~380 V · 50/60 Hz · input 1990 W · output 1695 W · 3.5 A · 1020 rpm · class F · IP54 · max. 6.2 A / 3400 W
SAFETY	• Isolate the supply and wait before opening the terminal box: terminals can stay live after switch-off • With a speed signal present the fan restarts by itself after a fault or power cut • Keep hands, clothing and hair away from the blade; fit the guard before running • Lift by the plate, never by the blade; 56 kg, use two people or a hoist • Noise can exceed 70 dB(A): use hearing protection near a running fan • Connect the earth; use the correct cable glands to keep IP54; do not use extension leads
ORDERING	Quote Six Winds code SWK-EC910-W380-10 (maker model K-EC910-W380-10), the quantity and the supply voltage, with inlet cone and fan guard if needed. Delivered to Riyadh, Jeddah, Dammam and every region of Saudi Arabia.

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