



FAN FAMILY · RADIAL

Jitmitra Radial Fans

When the gas is dirty, abrasive or sticky and the static is high, the efficient backward fans simply erode. The Radial trades efficiency for ruggedness: heavy, widely-spaced straight blades that pass grit and build-up without clogging, hardface and re-line in place, and — wear-plated — take the heaviest dust loads in our range.

Capability envelope

Radial / paddle service

PARAMETER	STANDARD RANGE	ON APPLICATION
Volume flow	up to 2,25,000 CMH	higher on enquiry (engineered-to-order)
Static pressure	up to 2,000 mmWC	highest-pressure family in the range
Inlet dust loading	heaviest dust class we build, wear-plated	loading limits shared with your enquiry
Peak static efficiency	lowest in the range — a deliberate trade	ruggedness over running cost
Continuous gas temperature	up to 500 °C with high-temperature construction	wheel and casing metallurgy chosen for the duty
Drive power	up to 425 HP	our largest drive delivered to date
Blade tip speed (build class)	175 m/s Class 5 (open-paddle special 125 m/s)	FEA + NDT on the high-stress wheel
Balance quality	ISO 21940 G2.5 at the Class 5 tip	G6.3 general / G1.0 on application

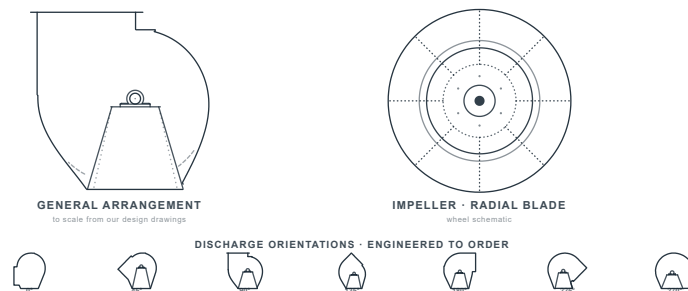


FIG. 1 General arrangement, impeller face and the discharge orientations we build — drawn to scale from our in-house design drawings. Every fan is engineered to your duty.

Construction & materials

documented on your GA

- **Blade form & wheels** — Radial paddle (straight blade, wide spacing) as the family form; radial-blade wheels from 310–3,050 mm diameter, compact HP blower to large ID fan; plus radial-paddle and open-paddle specials for the dirtiest material-transport duty.
- **Materials & wear protection** — MS standard; wear-resistant plate + hardfacing (qualified WPS) and bolt-in replaceable scroll/blade liners; ceramic or basalt liners for severe abrasion; SS304 / 316 full or airstream; Corten / duplex and dew-point coating or steam-tracing for flue gas below dew point.
- **Construction options** — wear-plated (the heavy-dust package); high-temperature (refractory/heat-shield + shaft cooling disc); spark-resistant (AMCA 99 Type A/B/C, self-declared ATEX) for combustible-dust zones; FRP-lined carbon-steel or stainless corrosion airstream; SWSI single-inlet standard for the high-static duty.
- **Drive & integrity** — Direct-coupled, V-belt or VFD; G2.5 balance mandatory at the 175 m/s Class 5 tip with FEA + NDT on the high-stress wheel; split SNL plummer-block bearings; shaft cooling disc above ~150 °C; isolation / tandem dampers for gas-tight ID service.

How a Jitmitra Radial fan is specified

AMCA conventions

SPECIFICATION FIELD	OPTIONS
Arrangement (AMCA 99)	Arr. 1 (overhung, fan bearings) / Arr. 8 (overhung on common base) / Arr. 9 (overhung, motor side) / Arr. 10 (overhung, motor inside base) — selected by drive, access and temperature; overhung is the usual radial-ID configuration.
Width / inlet	SWSI (single width, single inlet) standard for the Radial — single-inlet suits the high-static, dust-laden duty; DWDI considered only where flow demands it at moderate pressure.
Wheel type	Radial blade / paddle default; radial-paddle and open-paddle specials for the dirtiest, stickiest material-transport duty; choose by dust character, pressure and flow.

SPECIFICATION FIELD	OPTIONS
Class (by pressure / tip speed)	Class 5 heavy build at the 175 m/s tip for high pressure — heavier plate, FEA and NDT mandatory; lower class only where the duty point allows a lower tip speed.
Materials of construction	MS (standard) / wear-resistant plate + hardfaced (chrome-carbide WPS) blades with bolt-in replaceable liners / ceramic or basalt liners (severe abrasion) / 304L, 316L, Corten or duplex for corrosive and below-dew-point flue gas.
Construction options	Wear-plated (heavy-dust package) / high-temperature (heat shield + shaft cooling disc) / spark-resistant (AMCA 99 Type A/B/C, self-declared ATEX Cat 3) / FRP-lined carbon-steel or stainless airstream — combined as the gas requires (e.g. wear-plated and high-temperature for hot abrasive kiln gas).
Drive	Direct-coupled / V-belt / VFD. Drive up to 425 HP across the envelope; G2.5 balance with FEA + NDT at the Class 5 tip; split SNL bearings; shaft cooling disc above ~150 °C.
Discharge & rotation (AMCA orientation)	Rotation CW or CCW (viewed from drive side) with discharge angle per AMCA — TH/BH/UB/DB — set to match your duct take-off and installed footprint; isolation / tandem dampers for gas-tight ID.

Where the Radial runs

CEMENT & LIME Kiln / preheater ID, raw & cement mill, clinker-cooler and mill-vent fans.	IRON & STEEL / METALS Sinter-plant ID, EAF fume extraction (spark-resistant), material-laden draught.
THERMAL POWER Boiler ID on the dirty side, gas recirculation (GRF) on alloy-radial construction.	FOUNDRY & CASTING Cupola / furnace fume, sand-handling dust, abrasive material extraction.
MINING & MINERALS Ore-dust collection, material handling, abrasive mineral conveying.	POLLUTION CONTROL / APC OEM ESP / baghouse main fans, dust-extraction and conveying for APC packagers.
PHARMA & PROCESS Dust collection (dirty-side), grinding / welding dust, dilute & dense conveying.	YOUR DUTY POINT Send us flow, static pressure and the air / gas condition — we size the wheel to it and quote in 3 to 5 working days — 5 to 7 working days for ATEX and special projects.

Standards & conformity

PERFORMANCE Tested to the IS 4894 / ISO 5801 / AMCA 210 method, in-house on our 200 HP VFD rig. Tested-to-method — not AMCA-certified.	QUALITY SYSTEM ISO 9001:2015 — third-party certified (our only third-party certification).
CE CONFORMITY Self-declared per 2006/42/EC + 2014/35/EU. Not a notified-body certificate.	ATEX CONFORMITY Self-declared, spark-resistant (SR), Zone 2/22 Cat 3 per 2014/34/EU, where area classification requires.
BALANCE & VIBRATION Balance ISO 21940 (G6.3 std, G2.5 on request); fan vibration acceptance ISO 14694, measurement ISO 14695.	WELDING & HEAVY DUTY ASME Sec IX welders + WPS; API 673 available as project-specific scope for oil & gas.

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Figures indicate family capability; every fan is engineered to the customer's duty point and confirmed on the approved GA drawing.

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