



APPLICATION

Pneumatic conveying

Moving cement, fly ash, polymer pellets, flour or pharma intermediates through pipework needs pressure rise that ordinary fans cannot reach. Conveying duty pushes into the 1,000–2,000 mmWC band — roughly twice typical ID/FD pressure — with abrasive solids in the gas stream and, often, combustible-dust classification.

Capability envelope

conveying service

PARAMETER	STANDARD RANGE	ON APPLICATION
Volume flow	up to 1,00,000 CMH (conveying duty is typically lower flow than ID/FD)	higher on enquiry
Static pressure	up to 2,000 mmWC single-stage; higher with two-stage	3,000+ mmWC with custom multi-stage
Operating temperature	ambient to 80 °C (typical conveying air)	up to 200 °C for hot-process material conveying
Material loading	dilute up to 15 kg/kg; dense 15–100 kg/kg	higher dense-phase on enquiry
ATEX	Zone 22 (Cat 3D) self-declared for combustible materials	—
Drive power	up to 425 HP	our largest drive delivered to date
Speed	600–1,800 RPM typical; high-pressure single-stage to 2,950 RPM+	per duty + sound limits
Balance quality	ISO 21940 G6.3	G2.5 / G1.0 on application

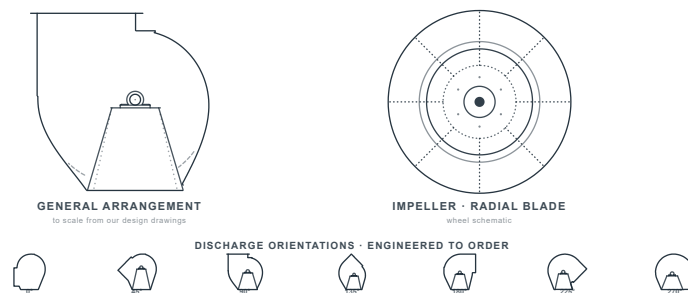


FIG. 1 Representative arrangement — a Jitmitra Radial fan, the family most often applied to this duty. The exact family and wheel are engineered to your operating point.

Construction & materials

documented on your GA

- **Stage configuration** — single-stage high-pressure impeller to ~1,500 mmWC; two impellers in series in one casing with an interstage seal for 2,000+ mmWC — compact against two fans manifolded.
- **Wheel geometry** — backward-curved efficient profile for clean-dust service; radial-tipped self-cleaning profile when the material is sticky or accumulates on the blade.
- **Wear & materials** — MS + AR400 with hard-faced wheel for cement / fly ash; 304 SS food-grade for flour and sugar; 316L or Duplex 2205 for pharma and corrosive intermediates; aluminium wheel for combustible biomass.
- **Sealing & control** — labyrinth shaft seal for clean service, mechanical-contact seal + gas purge for hazardous duty, pressure-rated bolted access — holding to ~250 mbar gauge; VFD control standard so the operating point holds as the line empties or chokes.

How a Jitmitra Pneumatic conveying fan is specified

AMCA conventions

SPECIFICATION FIELD	OPTIONS
Arrangement (AMCA 99)	Arr. 1 (overhung, fan bearings) / Arr. 4 (direct, motor on base) / Arr. 8 (overhung on common base) / Arr. 9 (overhung, motor side) / Arr. 10 (overhung, motor inside base) — selected by drive, access and pressure class.
Stage / inlet	Single-stage SWSI (single width, single inlet) to ~1,500 mmWC; two-stage in series in one casing for 2,000+ mmWC dense-phase duty.
Wheel type	Backward-curved (default, best efficiency, clean-dust) / radial-tipped self-cleaning (sticky or accumulating material) / high-speed single-stage (maximum pressure rise).

SPECIFICATION FIELD	OPTIONS
Class (by pressure / outlet velocity)	Class II / III selected from the duty point on the pressure-vs-outlet-velocity limits; conveying duty sits high on the pressure axis, so heavier construction is the norm.
Materials of construction	MS + AR400 with hard-faced wheel (cement / fly ash) / 304 SS food-grade (flour, sugar, spices) / 316L or Duplex 2205 (pharma, corrosive intermediates) / aluminium wheel with anti-static (combustible biomass and powders).
Drive	Direct-coupled / V-belt / VFD (default, so the operating point holds through an empty or choked line). Drive up to 425 HP; coupling service factor 1.5 minimum for the high-torque high-pressure load.
Discharge & rotation (AMCA orientation)	Rotation CW or CCW (viewed from drive side) with discharge angle per AMCA — e.g. TH/BH/UB/DB — set to match your conveying-line take-off and installed footprint.
Accessories & ATEX scope	Inlet/outlet silencers (high-pressure conveying runs noisier than FD duty); labyrinth or mechanical-contact + gas-purge shaft seal; bolted-and-gasketed pressure-rated access doors and inlet cone; AR400 wear plates; ATEX package — non-sparking impeller, bronze rub ring, bonded earthing, anti-static coating, T-class — where the dust is combustible.

Where the Pneumatic conveying runs

CEMENT Cement, fly ash, raw meal and clinker dust to silo and through transfer lines.	POWER GENERATION Fly ash to silo, bottom ash, and fly ash to disposal.
FOOD PROCESSING Flour, sugar, salt, spices, milk powder, infant formula and cocoa — food-grade, ATEX.	PHARMACEUTICALS APIs, excipients, granulation feed and dispensing-line transport — sanitary, CIP-ready, ATEX.
POLYMERS Pellets, regrind, powder feedstock and masterbatch — pellet impact and attrition control.	CHEMICALS Pigments, dyes, fertiliser intermediates and polymer powders — corrosion plus abrasion.
METALLURGY Aluminium powder, slag dust and refractory fines — severe combustible-dust risk.	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.