



APPLICATION

Waste-to-energy / incinerator ID

The induced-draft fan on a municipal- or hazardous-waste incineration line pulls the whole gas train — from the boiler pass, through the APC islands, to the stack. The gas is hot, dust-laden, and above all chloride-bearing: HCl, HF, SO_x and heavy-metal salts that a standard flue-gas fan is not built to survive.

Capability envelope

WtE / incinerator ID service

PARAMETER	STANDARD RANGE	ON APPLICATION
Volume flow	up to 2,25,000 CMH	higher on enquiry
Static pressure	up to 2,000 mmWC	higher on enquiry
Continuous gas temperature	up to 500 °C	wheel and casing metallurgy chosen for the duty
Corrosion (wetted metallurgy)	316L floor; duplex or higher alloy on chloride	FRP / rubber-ebonite lining on saturated wet-scrubber duty
Inlet particulate loading	low on clean-side; high dust load on raw-gas	higher with enhanced wear protection
Drive power	up to 425 HP	our largest drive delivered to date
Balance quality	ISO 21940 G6.3	G2.5 / G1.0 on application
Bearing life (design target)	L10h ≥ 40,000 h continuous	longer L10 on application

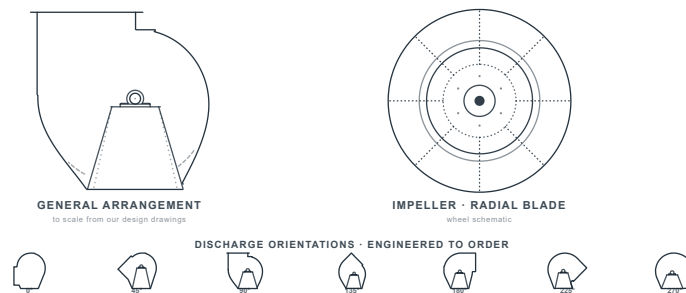


FIG. 1 Representative arrangement — a Jitamitra Radial fan, the family most often applied to this duty. The exact family and wheel are engineered to your operating point.

Construction & materials

documented on your GA

- **Metallurgy to the gas analysis** — 316L floor for moderate chloride; duplex or a higher alloy to your specification for high HCl / HF and stress-corrosion risk; FRP coating or rubber-ebonite lining on the coldest saturated wet-scrubber duty. Wetted surfaces sized to your measured HCl, HF, SO_x and dew point — never a generic 'stainless'.
- **Dew-point & drainage** — Hot-side fans get casing insulation and heat tracing to hold the wall above the acid dew point; wet-side fans get a fully-drained volute, low-point drain and a flow path that sheds condensate. Special coating or lining where the gas is saturated by design.
- **Wheel geometry & wear** — Radial-tipped backward-curved for efficiency on cleaner clean-side duty; straight-radial self-cleaning where salt and reagent fouling dominate. AR400 bolted-in wear plates and hard-faced leading edges on abrasive raw-gas duty, replaceable in place through access doors.
- **Thermal management & sealing** — Fabric or metal expansion joints for growth of order ~25 mm on a long run at 350 °C; shaft cooling disc standard above 400 °C; and a purged or labyrinth shaft seal that keeps chloride-laden gas and salt slurry off the shaft and out of the bearings.

How a Jitamitra Waste-to-energy / incinerator ID 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, temperature and corrosion isolation.
Width / inlet	SWSI (single width, single inlet) default for WtE ID duty; DWDI (double width, double inlet) for high flow at moderate pressure on large lines.
Wheel type	Radial-tipped backward-curved (default, best efficiency on cleaner clean-side gas) / straight-radial self-cleaning (salt and reagent fouling) / backward-curved (clean-gas, high-efficiency duty after final polishing).

SPECIFICATION FIELD	OPTIONS
Class (by pressure / outlet velocity)	Class I / II / III selected from the duty point on the pressure-vs-outlet-velocity limits; higher class = heavier construction for higher pressure and tip speed.
Materials of construction	316L floor / duplex or a higher alloy to your specification for high chloride and dew-point acid / IS 2062 or SA 516 Gr 70 casing on hot raw-gas duty / FRP coating or rubber-ebonite lining on saturated wet-scrubber gas / AR400 bolted wear plates where abrasive.
Drive	Direct-coupled / V-belt / VFD (default for variable-draft control). Drive up to 425 HP across the envelope; speed typically 600–1,800 RPM.
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 duct take-off and installed footprint.
Accessories, dew-point & corrosion scope	Inlet vane damper or VFD control; special coating, special material of construction and FRP-rubber-ebonite lining for chloride and wet gas; casing insulation and heat tracing to hold the wall above dew point; fully-drained casing with low-point drain; purged or labyrinth shaft seal against salt slurry; fabric or metal expansion joints; shaft cooling disc above 400 °C; bolted-in wear plates, inspection and washing doors.

Where the Waste-to-energy / incinerator ID runs

WASTE-TO-ENERGY Municipal-solid-waste incineration ID, refuse-derived-fuel boiler ID, moving-grate and fluidised-bed WtE draught.	HAZARDOUS & MEDICAL WASTE Rotary-kiln and controlled-air incinerator ID, medical-waste and industrial-waste flue-gas fans.
CHEMICALS & PETROCHEM Liquid- and solvent-waste incinerator ID, spent-acid and chlorinated-stream thermal oxidiser draught.	POLLUTION-CONTROL OEMS ID fans supplied as a sub-package to APC-train, scrubber and stack builders — wetted metallurgy and interface documented up front.
THERMAL POWER Co-fired biomass and RDF boiler ID where the fuel adds a chloride load a coal fan is not built for.	CEMENT & LIME Alternative-fuel (RDF / tyre-derived) co-processing draught with elevated chloride carry-over.
PULP & PAPER Recovery-boiler and sludge-incinerator ID on chloride-bearing streams.	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.