



APPLICATION

Biofilter / odour control

An odour-control fan moves humid, odorous, often saturated foul air from a covered tank, headworks or process hood through a biofilter or chemical scrubber before it reaches the property line. The air carries moisture at or below its dew point, hydrogen sulphide and organic acids, and the fan usually sits close to occupied buildings or a community boundary.

Capability envelope

odour-control service

PARAMETER	STANDARD RANGE	ON APPLICATION
Volume flow	up to 2,25,000 CMH	higher on enquiry
Static pressure	up to 1,000 mmWC	up to 2,000 mmWC for long ducting + high-resistance media beds
Air temperature	ambient, saturated (at dew point)	elevated on heated / dried odour streams
Corrosion class	316L stainless for moderate H ₂ S	duplex / an FRP coating / FRP-rubber-ebonite lining on high-H ₂ S saturated air
Sound level	<85 dB(A) @ 1 m	<75 dB(A) with silencers + acoustic enclosure for boundary limits
Drive power	up to 425 HP	our largest drive delivered to date
Speed	600–1,800 RPM typical	per duty + sound limits
Balance quality	ISO 21940 G6.3	G2.5 / G1.0 on application

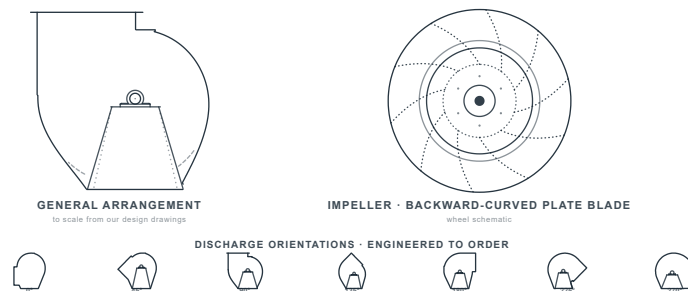


FIG. 1 Representative arrangement — a Jitmitra Backward-Curved Plate fan, the family most often applied to this duty. The exact family and wheel are engineered to your operating point.

Construction & materials

documented on your GA

- **Materials & corrosion protection** — 316L stainless for moderate H₂S; duplex or an FRP coating for high-H₂S saturated air; FRP-rubber-ebonite lining or a heavy-duty special coating on the wetted casing where the acid load is severe. The wetted metallurgy is selected to your gas analysis, not a default.
- **Condensate & drainage** — Casing sloped to a low-point drain with a trapped connection; continuously-welded internal seams (no crevice traps); a shaft seal and heat/moisture slinger to keep condensate out of the bearing housing; drain and inspection doors so the scroll can be flushed in place.
- **Impeller geometry** — Backward-curved / backward-inclined wheels — the air is clean of abrasive dust, so the focus is efficiency and a smooth, easily-drained profile rather than wear protection. Coated or solid corrosion-resistant construction to match the casing.
- **Acoustic & control scope** — Inlet / outlet silencers and acoustic-lagged casing to hold the boundary limit; VFD default so the fan tracks the rising media resistance and turns down when the load allows, instead of throttling against a damper and adding noise.

How a Jitmitra Biofilter / odour control 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 drainage.
Width / inlet	SWSI (single width, single inlet) default for odour-control duty; DWDI (double width, double inlet) for high flow at moderate pressure on large plant-wide collection.

SPECIFICATION FIELD	OPTIONS
Wheel type	Backward-curved or backward-inclined (default, best efficiency on clean-of-dust foul air) / backward-curved-plate where a rugged, easily-drained coated wheel is preferred on saturated service.
Class (by pressure / outlet velocity)	Class I / II / III selected from the duty point on the pressure-vs-outlet-velocity limits; most odour-control duty sits in the lower classes given the modest pressure.
Materials of construction	316L stainless (moderate H ₂ S) / duplex stainless / FRP coating / FRP-rubber-ebonite lining or heavy-duty special coating on the wetted casing for severe acid service — matched to the gas analysis.
Drive	Direct-coupled / V-belt / VFD (default for tracking media resistance and turndown). 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, biofilter inlet and installed footprint.
Sealing & drainage scope	Shaft seal against foul-air leakage; low-point casing drain with trapped connection; continuously-welded internal seams; moisture slinger on the shaft; drain and inspection doors for in-place flushing.
Accessories & acoustic scope	Inlet vane damper or VFD control; flexible connection / expansion joint at inlet and outlet; inlet and outlet silencers with acoustic-lagged casing; acoustic enclosure for <75 dB(A) at a boundary limit; isolation / shut-off damper for maintenance.

Where the Biofilter / odour control runs

WATER & WASTEWATER Covered-tank and headworks foul-air extraction, sludge-handling and dewatering odour capture, pump-station and screen-room biofilter fans.	FOOD & BEVERAGE Rendering, cooking and effluent-plant odour extraction, process-hood foul air to scrubber or biofilter.
CHEMICALS & PETROCHEM Effluent-treatment and process-vent odour control, foul-air draught to wet or chemical scrubber.	POLLUTION-CONTROL OEMS Odour-control fans supplied as a sub-package to biofilter and scrubber builders — corrosion metallurgy and interface documented up front.
MUNICIPAL / UTILITIES Sewage-treatment-works and pump-station odour abatement at a residential boundary, sound engineered to the consent limit.	PULP & PAPER Effluent and process foul-air extraction to biofilter, saturated corrosive-air duty.
PHARMACEUTICALS Effluent-plant and process odour extraction, corrosion-resistant containment build.	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.

Jitamitra Electro Engineering Private Limited

Works Units N-7 & B-20/2, MIDC Ahilyanagar (Ahmednagar) 414111 · Sales: Karvenagar, Pune 411052
Part of the Zen Group of Industries (est. 1993) · CIN U31908PN2009PTC134884

+91 83291 72325

sales@jitamitrablowers.com
jitamitrablowers.com

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