



APPLICATION

Kitchen / commercial exhaust

A commercial-kitchen exhaust fan pulls grease-laden cooking effluent through the hood, grease duct and any pollution unit to discharge — day in, day out, above occupied dining and working space. Grease condenses on every surface it touches, so the fan has to be cleanable by design, safe if that grease catches, and quiet enough to sit near people.

Capability envelope

kitchen / commercial exhaust service

PARAMETER	STANDARD RANGE	ON APPLICATION
Volume flow	up to 2,25,000 CMH	higher on enquiry
Static pressure	100–600 mmWC typical	up to 2,000 mmWC on long-duct or scrubbed extract
Air temperature	ambient to 60 °C (normal cooking effluent)	to the grease-fire rating stated for the project
Construction (grease)	cleanable — bolted access doors, drain, withdrawable wheel	304 / 316L stainless or food-grade coating on wetted surfaces
Sound level	<85 dB(A) @ 1 m	<75 dB(A) with acoustic enclosure
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

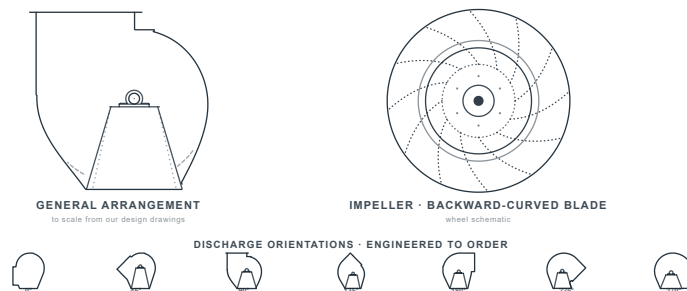


FIG. 1 Representative arrangement — a Jitamitra Backward-Curved fan, the family most often applied to this duty. The exact family and wheel are engineered to your operating point.

Construction & materials

documented on your GA

- **Cleanable construction** — Bolted-in access doors on the casing and a drain plug at the volute low point; a wheel and inlet cone that withdraw for washing rather than a welded-shut assembly. Smooth 304 or 316L stainless or a food-grade coating on wetted surfaces so grease releases on a wash instead of baking on.
- **Grease-fire safety** — Where a grease-fire duty is called out we build to move hot products of combustion on fire mode — casing and bearings selected for elevated temperature (built and in-house tested to 500 °C at the envelope ceiling), heat-rated wiring, and a discharge arrangement that carries flame clear of the roof and intakes. Stated honestly as built and in-house tested to the stated class.
- **Impeller & acoustics** — Backward-curved or airfoil-bladed wheel for the quietest running at good static efficiency, rather than a noisy forward-curved wheel. Inlet and outlet silencers, acoustic-lagged casing and, where the fan sits directly above diners, a custom acoustic enclosure down to <75 dB(A).
- **Discharge & control** — Roof or wall ventilator, or ducted, with discharge routed clear of fresh-air intakes and set to the installed footprint. VFD default — kitchen extract turns down between service and off-peak, and speed control holds hood capture rate and saves fan power against a fixed-speed fan throttled by a damper.

How a Jitamitra Kitchen / commercial exhaust 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 for cleaning, and discharge arrangement.
Width / inlet	SWSI (single width, single inlet) default for kitchen and commercial extract; DWDI (double width, double inlet) for high flow at moderate pressure on large food-court or terminal exhaust.

SPECIFICATION FIELD	OPTIONS
Wheel type	Backward-curved (default, quiet and cleanable) / airfoil-bladed (highest efficiency on large continuous extract) — forward-curved avoided on grease duty because it packs and is hard to clean.
Configuration / discharge	Ducted centrifugal, or roof / wall powered ventilator (PRV, upblast or downblast), with discharge routed clear of fresh-air intakes; weatherproof cowl and bird screen on rooftop mounts.
Materials of construction	MS + food-grade coating (standard) / 304 or 316L stainless on wetted surfaces for grease release and washdown / IS 2062 or SA 516 Gr 70 casing where a grease-fire mode is rated to elevated temperature.
Drive	Direct-coupled / V-belt / VFD (default for service-to-off-peak turndown and hood-capture 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 grease-duct take-off, roof penetration and installed footprint.
Accessories & acoustic scope	Bolted-in cleaning access doors, drain plug at the low point, withdrawable wheel and inlet cone; flexible connection / expansion joint at the duct; inlet and outlet silencers with acoustic-lagged casing, acoustic enclosure for <75 dB(A); isolation / shut-off damper; heat-rated build and discharge arrangement on grease-fire-mode scope.

Where the Kitchen / commercial exhaust runs

HOSPITALITY & COMMERCIAL BUILDINGS Hotel, restaurant and food-court kitchen extract, banquet and canteen ventilation, general commercial building exhaust.	FOOD & BEVERAGE Central-kitchen and cloud-kitchen extract, bakery and roasting-line exhaust, process-kitchen ventilation.
AIRPORTS & LARGE INFRASTRUCTURE Terminal food-court and concourse-kitchen extract, lounge and staff-canteen exhaust at scale.	INSTITUTIONAL CATERING Hospital, campus, hostel and industrial-canteen kitchen extract on continuous-service duty.
TEXTILE & LIGHT INDUSTRY General building and process exhaust, canteen and utility-block ventilation on manufacturing sites.	RETAIL & MALLS Mall food-court hood extract, back-of-house kitchen exhaust and general tenant ventilation.
FACILITY & BUILDING SERVICES General commercial exhaust for building-services contractors and HVAC integrators, supplied to the interface.	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.