

QUBE 400 / PACKAGE SPECIFICATIONS

1. **General** – The blower package shall be complete with structural frame and supports for mounting of all accessories. Each unit is to include low noise blower, drive motor, inlet filter/silencer, check valve, pressure relief valve, sound attenuating enclosure, all factory mounted by the blower supplier with a minimum of 50 years experience with blower packaging.
 - 1.1. The blower package shall be an enclosed model. The blower shall be superior in the industry and of high efficient design. Alternate selections not allowed.
 - 1.2. Layout of the unit shall be such to allow ease of access for service and maintenance operations.
 - 1.3. Oil fill and oil drain shall both have single entry/exit points and located in the front preventing need for operators to reach over any component.
 - 1.4. No vents or ducts are allowed in front of enclosure that may interfere with personnel.
 - 1.5. System discharge shall be out the rear of the enclosure.
 - 1.6. Fork lift accessible with integral fork pockets for safety and security during transport.
2. **Blower Type**
 - 2.1. Positive displacement rotary lobe type, designed for air service. The blower shall be designed to allow up to 18 psig (1.2 barG) continuous duty at standard conditions. Blower shall be equipped with integrated ports designed to reduce noise.
 - 2.1.1. **Casing** – Shall be made of ASTM A48–Class 30 cast iron.
 - 2.1.2. **Bearings**–Designed for 35,000 minimum L₁₀ hours at 18 psig (1.2 bar) and 4,000 RPM.
 - 2.1.2.1. Double row ball on gear end.
 - 2.1.2.2. Single row cylindrical on free end.
 - 2.1.3. **Lubrication**
 - 2.1.3.1. Splash lubrication shall be used on both the drive end and non-drive end. Greased bearings are not allowed.
 - 2.1.4. **Seals**
 - 2.1.4.1. Lip oil seals with piston lab seal shall be utilized on internal shafts.
 - 2.1.4.2. A triple lip seal of high temperature FKM shall be utilized on the drive shaft.
 - 2.1.4.3. A vent cavity between the process side and oil side of the seals. Gravity shall be adequate to drain condensation.
 - 2.1.5. **Rotors**
 - 2.1.5.1. 3-lobe rotor profile design for maximum efficiency and reduced pressure pulsations. Single piece, integral shaft and lobe, precision machined from high strength ductile iron. All rotors shall be dynamically balanced to assure efficient and smooth operation at all speeds.
 - 2.1.6. **Covers**
 - 2.1.6.1. Oil reservoirs shall be made of ASTM A48-Class 30 cast iron, and of large capacity to maximize service life. Sealing surface shall be precision machined.
 - 2.1.7. **Gears**
 - 2.1.7.1. High strength alloy steel gears.
 - 2.1.8. **Flange/Port Fitting**
 - 2.1.8.1. Piping connections are to be integral with the blower housing casing.
 - 2.1.8.2. ANSI or DIN metric dimensioned flanges
3. **Base frame**
 - 3.1. The blower package is to be of standard engineered designs of the blower manufacturer, assembled by the blower manufacturer only and be of such to maintain alignment and reduce vibration.
 - 3.2. The structural components shall be isolated by vibration isolators.
4. **Drive**
 - 4.1. The blower shall be v-belt driven. Belts shall be type VX.
 - 4.2. An automatic belt tensioning system with use of a pivoting motor base, spring tensioning assistance shall be installed to reduce maintenance.
 - 4.3. A visual indicator shall be included to allow for quick inspection with adjustment easily accessible from front door.

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5. Discharge silencer

Discharge silencers shall not be used. Blower and package design shall be such that no discharge silencer is required to achieve 75 dBA. This reduces silencer losses and equals reduced maintenance and lifetime costs.

6. Sound enclosure

- 6.1. Powder coated steel construction.
- 6.2. Acoustical foam to be 2" thick fully reticulated, broad band, with de-coupled barrier to isolate vibration and low/high frequency sound.
- 6.3. Minimum 22-24 dBA attenuation.
- 6.4. Heat from the enclosure to be removed by use of a mechanical fan driven off the blower shaft.

7. Connections

- 7.1. ANSI flange, NPT, or DIN connections available.

8. Relief valve

- 8.1. Spring loaded, 2", 390°F (200°C), 0-18 psig.

9. Check valve

Swing type, supplied and mounted on discharge. Flapper shall be of sufficient design to assure minimum pressure loss at maximum flow.

10. Gauges

- 10.1. Pressure Gauge- 2" dial, steel case with polished stainless steel bezel, temperature range -40° to 150°F, (-40° to 66°C), pressure range 0-30 psi.
- 10.2. Filter Restriction Gauge- 2" dial, steel case with polished stainless steel bezel, temperature range -40° to 150°F, (-40° to 66°C), pressure range 0-30" H₂O vacuum.

11. Inlet Filter

- 11.1. Paper element 99.9% efficiency, 2" H₂O drop at 400 CFM and clean.
- 11.2. Filter restriction gauge-2" dial, plated steel case, polished stainless steel bezel. 1/8-27 NPTM brass, 0-30" H₂O, (0-76 cm)

12. Discharge Flexible connector (Optional)

- 12.1. Flanged, single arch, rated for 25 psig/15 "Hg and 350° F.

13. Motor

- 13.1. NEMA or IEC frames
- 13.2. [insert detailed description based on customer request]