



# MANGAN INDUSTRIAL GROUP

## CENTRIFUGAL FANS

### Experiences:

- Flow Rate Up to 2,500,000 m<sup>3</sup>/hr
- Differential Pressure Up to 270 mbar
- Up to 6.5 MW
- Dual Drives (Electric motor and steam turbine)
- Gas temperature Up to 700 °C

### Capabilities:

- Centrifugal Fan with Air Foil, Backward curves, backward inclined, radial tip, Single and Double Suction impellers with any type alloy materials.

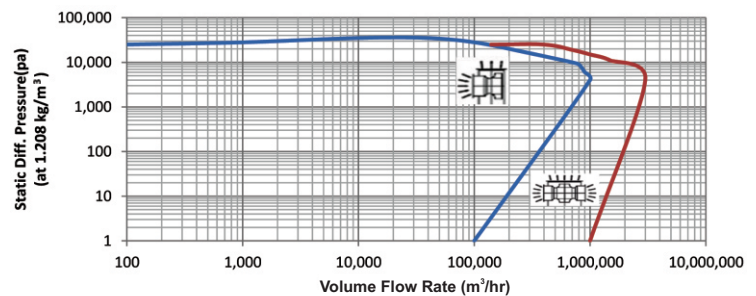


- High volume and high pressure fans for any Type Process Gas
- CFD Simulation of Fan Package with Ducting and Rotor dynamic analysis
- Centrifugal Fans can to meet **API 673**
- Workshop Performance Curve Test According to **ASME PTC 11** or **AMCA 210**

### Industries and Application:

- Power Plants Boiler FD fans, ID Fans & GRI Fans

- Hydrocracking, Ethylene, Ammonia and Urea, Methanol, Alumina Process Fans
- Iron and Steel Making Plants
  - Sinter Plant Process Fans
  - Pellet Plants Process Fans
  - Direct Reduction Plant Process fans
- Cement Industry Pre-heater Fans, Mills Fans, Filter Process Fans
- Clean Air HVAC Fans
- Dirty and Highly Corrosive
- Highly Erosion Fans with Welding Hard Facing Impellers
- Sealing and Cooling High Pressure Fans
- Pneumatic Conveying High Pressure Fans



### Accessories

- Industrial Dampers, Inlet Vanes with Electric and Pneumatic Actuator
- Inlet and Outlet Silencer, Acoustic Enclosure
- Inlet Filter
- Expansion Joints





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## CENTRIFUGAL BLOWERS



- Sealing System
  - Dry Gas Seal Single or Double arrangement
  - Turbo Labyrinth seal

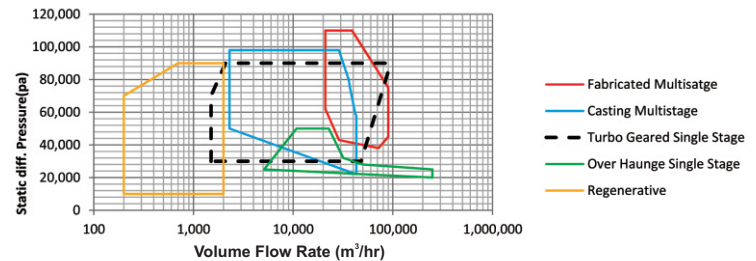
### Industries and Application:

- Aeration Blower for Waste Water Treatment Unit
- Petroleum and Chemical industries
- Sulphur Recovery Unit and Tail Gas Recovery
- Vapor Recovery and Gas Boosters Unit
- Thermal Oxidation
- Central Vacuum System
- Pneumatic Conveying
- Combustion Air Blower for Carbon Black Production
- Sulphuric Acid Unit
- Sealing Gas Blower for Steel Direct Reduction Plant

### Experiences:

MANGAN can offer **API 672** Compliant Blowers with Small Deviations

- Up to 280,000 m<sup>3</sup>/hr Flow Rate
- Up to 700 mbar
- Up to 2.5 MW
- Gas Temperature up to 250 °C, Steam Jacketed for H<sub>2</sub>S Content Process Gas
- Dry Gas seal and Turbo Labyrinth Seal with N<sub>2</sub> Purge Gas Supply System
- Work Shop Performance Curve According to **ASME PTC 10**



### Capabilities:

- Blower Type
  - Regenerative Blower for Low Flow Rate and High Pressure
  - Multistage centrifugal Blower Axial and Radial Split
  - Single Stage High Speed Geared Centrifugal Blower
- Impellers
  - Closed or Semi open 2-D and 3-D impellers
  - Milled or Welded Impellers



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