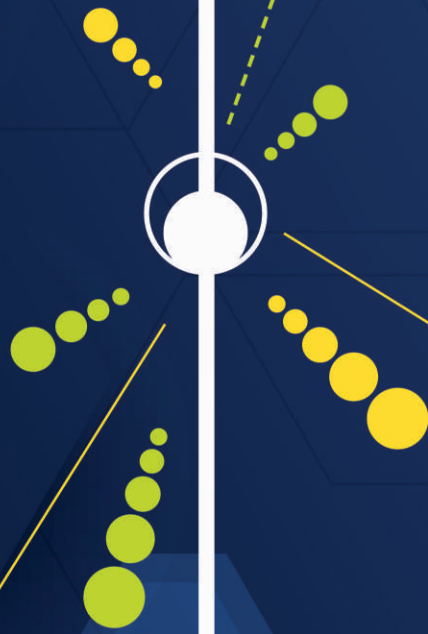


# TIDEWAY<sup>®</sup>

## Dynamic Acceleration



# 3-LOBE ROOTS BLOWER

**NEW**



*HIGH EFFICIENCY  
LOW NOISE  
LOW VIBRATION*



## Introductions:

Tideway Roots Blower series are modern compact blowers developed based on years of experiences and researching. The new 3-lobe roots blowers are known as Rotary Blowers, or can be used as vacuum pump. The state-of-the-art design enables blower package to perform high efficiency at substantial low noise and vibration. The high energy effective and low noise performance are the most environment friendly blower, they are developed along the growth of the demand of modern world.

Tideway Roots Blowers do not require lubrication in the interior compression air chamber, thus eliminating possible pollution and communication to the conveying medium. Hence, it can be used on very delicate job such as clean air transportation, water aeration, powder conveying, dehumidifying, mixing etc.

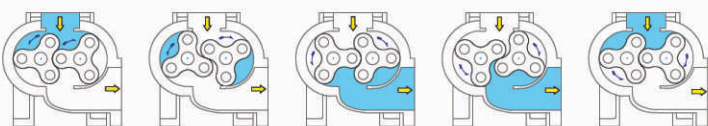
## Product features:

Compared to conventional 2-lobe Roots Blower, the 3-lobe Roots Blower contributes the following merits :

- More stable and uniform airflow
- Lower pulsation and capacity loss
- Lower vibration and noise
- Higher torsion rigidity
- Less rotation slip, blower speed can be reduced at same capacity request
- Lower energy consumption

## Working principals:

A pair of symmetrical rotors rotates in opposite directions, by means of the rotors rotation, air is captured from the inlet orifice. And in the meantime, the other parts of the rotors compress air and expel it through the outlet orifice. Totally 6 motions are taken place within the air chamber in one full revolution of rotors.



**HIGH EFFICIENCY  
LOW NOISE  
LOW VIBRATION**

## Standard Features:

- Delivers complete oil-free air
- Low oscillation and low noise
- Small airflow variation along the pressure variation
- Superior energy efficiency due to outstanding lobe profile
- Simple structure contributes least trouble and maintenance
- Uses high quality timing gears, precisely grounded and hardened guarantee smooth motion, low friction and low noise of the gear operation
- Rotors are machined and profiled by precision CNC Double Column Shaper, the rotors profile are uniform with least tolerance
- Non-contact Labyrinth Seals are used on main drive shaft of bigger models over 5", which can reduce shaft friction and heat generation, high quality seals are incorporated to ensure high air-tight ability on chamber, and oil leaking can be prevented

## Blower Package

### Standard Package Accessories:

- Blower Body
- Common Base
- Belts + Pulleys + Belt Guard
- Suction / Discharge Silencers
- Tee Joint
- Relief Valve
- Pressure Gage + Cock

### Performance Ranges:

- Orifice diameter : 40~300 mm (1.5"~12")
- Air Flow : 0.11~165.00 m<sup>3</sup>/min  
(3.9~5.825.0 CFM)
- Pressure : 1,000~8,000 mmAq  
(1.47~11.76 PSI)
- Axial Power Consumption : 0.27~233.0 kW  
(0.4~310 Hp)

## Vacuum Pump Package

### Standard Package Accessories:

- Blower Body
- Common Base
- Belts + Pulleys + Belt Guard
- Suction Silencer (Vacuum Filter Tank)
- Vacuum Relief Valve
- Gage Set (Vacuum Gage + Clog Indicator)
- Discharge Silencers + Elbow (90°)

### Performance Ranges:

- Orifice diameter : 50~300 mm (2"~12")
- Air Flow : 1.231~178.00 m<sup>3</sup>/min  
(43.4~6,283.0 CFM)
- Vacuum : -1,000~-6,000 mmAq  
(-1.42~8.53 PSI)
- Axial Power Consumption : 0.58~203.0 kW  
(1~275 Hp)

## Applications:

### Positive Pressure:

- Powder & Grain Conveyance
- Air Extraction
- Wastewater Aeration
- Septic Tank Air Supply
- Incinerator Air Supply
- Chemical Fluid Agitation
- Air Supply Source for Ozone Producer
- Aeration of Fish Tanks (Aquaculture)
- Paper Feeding for Printing Machine
- Backwash for Filters
- Air Dehydration

### Negative Pressure:

- Powder & Grain Conveyance
- Air Extraction
- Vacuum Drying
- Dehydration for Paper Machines
- Paper Sucking for Printing Machines
- Vacuum Suction
- Central Dust Collection  
(Paper, Blanking and Dust Collector)
- Vacuum Type Sewer Systems
- Vacuum Miking Pumps



## When making inquiry, customers shall provide the following data:

### 1. Application and Operation Condition

Describe the purpose to apply, operation hours per day, and continuous or intermittent operation

### 2. Flow Rate:

Provide the flow rate requirement, and state the air flow is the Normal Condition Airflow or the Standard Condition Airflow. The airflow shall be measured at the Suction orifice of blower/vacuum pump.

- Normal Condition Airflow : measured at 0° C, 760 mmHg absolute pressure, Relative Humidity is around 0 %.
- Standard Condition Airflow : measured at 20° C, 760 mmHg absolute pressure, Relative Humidity is around 65 %.

### 3. Working Pressure:

Provide the static pressure at the Discharge orifice or Suction-Discharge pressure difference, if the suction pressure is not 1 atm (760 mmHg), both suction and discharge pressures shall be provided.

### 4. Type of Gas:

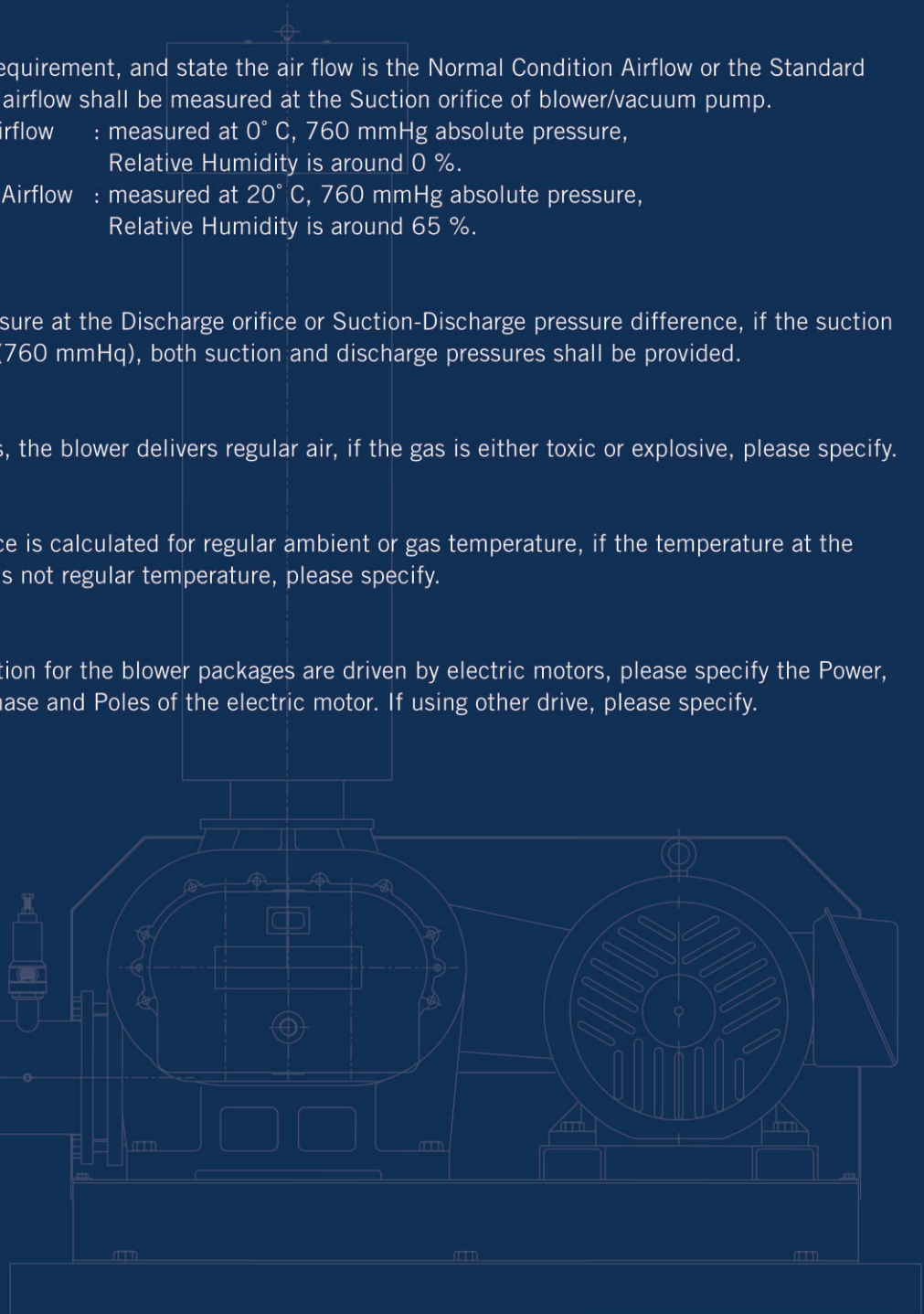
Specify the type of gas, the blower delivers regular air, if the gas is either toxic or explosive, please specify.

### 5. Gas Temperature:

The blower performance is calculated for regular ambient or gas temperature, if the temperature at the blower suction orifice is not regular temperature, please specify.

### 6. Type of Blower Drive:

The standard composition for the blower packages are driven by electric motors, please specify the Power, Voltage, Frequency, Phase and Poles of the electric motor. If using other drive, please specify.



**TIDEWAY**<sup>®</sup>  
TIDEWAY UNION CORPORATION

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