

SECTION 11371 - BLOWERS, POSITIVE DISPLACEMENT

City of San Diego, CWP Guidelines

PART 1 - GENERAL

1.1 WORK OF THIS SECTION

- A. The WORK of this Section includes providing [] positive displacement blowers and all appurtenant work, complete and operable, with all necessary accessories, tools, drives, piping, fittings, valves, connectors, safety devices, controls, and spare parts to obtain a workable installation suitable for continuous operation 24 hours per day, as indicated.

1.2 RELATED SECTIONS

- A. The WORK of the following Sections applies to the WORK of this Section. Other Sections of the Specifications, not referenced below, shall also apply to the extent required for proper performance of this WORK.

1. Section 11370 Blowers, Compressors, and Vacuum Pumps, General

1.3 SERVICES OF MANUFACTURER

- A. **Inspection, Startup and Field Adjustment:** An authorized service representative shall visit the site to assist and witness the following:
1. Installation of the equipment - [one] day for each blower.
 2. Inspection, adjustment, startup and field testing - [one] day for each blower.
 3. Instruction of OWNER'S personnel - [one] day total.

PART 2 - PRODUCTS

2.1 GENERAL

- A. **Operating Conditions:** Positive displacement blower operating conditions shall be as follows:

Identification number[s]	- []
Location	- []
Service	- []
Elevation above sea (ft)	- []
Capacity (acfm) at 14.7 psia and 68 degree F	- []
Suction pressure	- atm minus 0.2 psi
Discharge pressure (psig)	- []
Inlet temperature (degrees F) max	- []
Inlet temperature (degrees F) min	- []
Blower speed, max (RPM)	- []
Motor size, min (hp)	- []
Motor speed, max (RPM)	- []
Suction flange size (in)	- []
Discharge flange size (in)	- []

Flange rating (psi) - []

B. **Equipment Requirements:** Positive displacement blowers shall be of rotary, 2-lobe or 3-lobe, involute design suitable for continuous operation 24-hours per day. All blowers shall be based upon data previously established by tests in accordance with ANSI/ASME PTC 9 Performance Test Code.

C. **Drive:** The drive shall be a [V-belt-type] [direct drive] with heavy-duty, high efficiency electric motor, suitable for [indoor] [outdoor] installation, in accordance with Section 16040 for []-volt, []-phase, []-Hz supply.

D. **Accessories:** Each blower shall be furnished as a complete unit, with the following minimum accessories, all necessary pipes, fittings, supports, controls, and other components indicated:

- 1 - air intake filter-silencer with support and disposable, industrial type, high efficiency filter elements
- 1 - set of spring-type, restrained, heavy-duty vibration isolators
- 1 - set of stainless steel anchor bolts, nuts and washers
- 1 - flanged discharge silencer
- 2 - stainless steel, braided, flanged flexible connectors, not less than 9 inches long
- 1 - pressure relief valve
- 1 - silent spring-loaded check valve
- 1 - butterfly valve suitable for hot gases
- 1 - pressure gauge with valve
- 1 - pressure switch

E. **Equipment Construction:** Basic equipment construction and materials required shall be as follows:

- Impellers - cast-iron, machined, permanently fastened to steel shaft, dynamically balanced.
- Headplates - cast-iron, machined and ground internally to close tolerances.
- Impeller case - cast-iron, machined, with heavy rib reinforcement [vertical] [horizontal] style.
- Bearings - anti-friction bearings with thrust control, rated for a minimum L-10 life of 100,000 hours.
- Timing gear - steel, accurately cut and bolted to timing hub.
- Lubrication - oil splash lubrication from oil-tight housing. Drive-end bearings may be grease lubricated, with lip-type seals.
- Drive shaft - [extended steel shaft for V-belt drive.] [steel stub shaft with flexible coupling for direct drive.]
- Drive - [V-belt] [direct] drive with steel safety guard.

Base - heavy cast-iron or fabricated steel base, common for blower and motor. [Motor to be fitted with adjustable slide rails.]

2.2 NAMEPLATES, TOOLS, AND SPARE PARTS

A. The WORK includes the following spare parts for each blower:

1. 2 sets of all gaskets, washers, and O-rings
2. 2 sets of all seals
3. 2 sets of all blower and motor bearings
4. 2 sets of all [belts] [couplings]
5. 4 sets of all air filter elements
6. 1 set of all flexible connectors
7. 1 set of timing gears

2.3 MANUFACTURERS

A. Blowers of the type or model indicated shall be manufactured by one of the following (or equal):

1. Roots Division (Dresser Industries, Inc.), model []
2. Cooper Industries (Sutorbilt), model []
3. Tuthill Corporation (M-D Pneumatics), model []

PART 3 - EXECUTION

3.1 INSTALLATION

A. All equipment shall be installed in accordance with the manufacturer's written instructions and approved procedures submitted with the shop drawings.

** END OF SECTION **