

What you need to consider...

Here are some questions relating to application characteristics, user preferences and other factors to evaluate and discuss with your Spencer representative.

What is the involved process?

What are the gas characteristics?

- Gas composition
- Volume/turndown
- Differential pressure
- Inlet temperature
- Inlet pressure

Is the gas hazardous, toxic, explosive, carcinogenic, flammable, corrosive or radioactive?

Is the gas expensive?

Certain gases such as argon must be protected from two-way leakage—no leakage out because it is expensive, no leakage in because it can't be contaminated.

How much leakage is permissible, in and out of the blower?

Consider whether leakage must be prevented in just one direction or both.

What is the most sensible sealing approach for this application?

Choose the appropriate seal for the application, considering maintenance costs as well as initial cost.

What is the duty cycle and the desired life expectancy of the blower?

For example, a pilot plant with a three-month life might use inexpensive coated blowers and discard them, rather than buying costly, long-life custom blowers using special alloys.

What is the budget for this blower?

Consider what tradeoffs in seals, materials and other features are acceptable.

What materials are required for this application?

Consider what materials will be used for process gas piping to and from the blower. Also bear in mind that Spencer offers three different ways to deal with corrosion:

- Extra-thick standard materials with built-in corrosion allowance
- Special coatings (page 9)
- Special materials of construction (page 9)

What are the ambient environmental conditions around the blower?

- Noise levels and restrictions
- Temperature
- Thermal cycling
- External corrosive risk from water vapor, acid fumes, etc.
- Altitude

Are there any applicable regulatory codes?

Are there any special quality control requirements?

Do you require special cleaning of the blower before delivery, to avoid process contamination?

Are there any special testing requirements? These are some examples: (any of which may be witness tests)

- Hydrostatic
- Halide leak
- Impeller overspeed
- Vibration
- Dye penetrant
- ASME PTC-10 Performance Test
- Octave band noise analysis

What accessory equipment and options do you require?

What electrical control considerations do you have?

Determine, for example, if the control panel should tie into a factory automation system or PLC.

Do you require a specific type of coupling between motor and blower?

Do you need special drive arrangements such as belt drive, variable frequency drive or an alternative driver such as a diesel engine?

For hermetic gas boosters, is the process gas compatible with the motor? Is the temperature low enough and the volume high enough to cool the motor?

Gas booster motors are sealed within the blower, where they must be cooled—but not damaged—by process gas flowing past continuously.