

The Top Seven Questions to Ask Before Installing a “Compressed Natural Gas” Compressor Package.

THE DEVIL IS IN THE DETAILS.

We've all heard the saying, “the devil is in the details.” When it comes to installing a gas compressor package for field production of compressed natural gas this statement could not be truer. In our experience, if an operating company misses a few key details when arranging installation of a compressed natural gas compressor package, it can cost them time, money and grief. If details are missed when ordering a gas compressor it usually results in troublesome operational issues and becomes expensive to rectify once the compressor is installed.

The most common details that are missed are often the simplest and can be easily avoided by asking yourself a few basic questions before ordering a compressed natural gas compressor package.

THE SEVEN DEADLY SINS

Make your life easier, improve your compressor run time and increase your compressed natural gas production by asking these seven questions when ordering a gas compressor package:

1. How will you start the engine?

It's hard to produce gas if you can't start your compressor engine. Most field installed compressed natural gas compressor packages are driven by natural gas engines, which require pneumatics to be started. Pneumatic starters typically require between 60 – 90 psig to enable engine starting. The important questions to ask yourself are; (a) what is the required pressure for the starter on my compressed natural gas compressor package and (b) do I have this gas/air pressure available at the installation location?

All too often when a technician arrives at a field location for start-up, sufficient gas pressure is not available for starting the engine. Other options for engine starting are available; however making modifications in the field result in start-up delays and unnecessary added costs. You can avoid this by checking with your compressor supplier and field location to ensure that sufficient gas pressure is available to start the engine.

2. Have you confirmed the actual operating field pressures?

As simple as it may sound one of the most common issues when installing a compressed natural gas compressor package is incorrect operating conditions. The three critical pieces of data that need to be accurate are;

(a) well head suction pressure, (b) discharge or line pressure and (c) flow rate of the well at the stated suction and discharge pressures.

If the gas compressor is sized for an incorrect set of operating conditions it will not produce the flows you hoped for; which means you might have to settle for less compressed natural gas production than expected or bare the costs of changing the compressor gears in the field.

As simple as this may sound; sizing a gas compressor based on incorrect operating conditions happens much more often than you might expect. A great rule of thumb is to assume that the information you have is wrong and you should reconfirm it. If you can confirm the actual conditions with a field contact you might save yourself a bit of money and a lot of grief.

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3. Have you confirmed the installation requirements with your supplier?

Not all gas compressors are equal. Ask your compressor supplier for their installation requirements. It should look something like the document posted here www.gascompressors.ca/.

The questions you should ask your supplier are;

- a) What are the inlet and discharge connection sizes?
- b) What is the building size?
- c) What is the mounting surface requirement – gravel pad, piles, concrete, etc?
- d) What is the weight of the package and how will it be offloaded at the site?
- e) What are the sound levels of the compressor, and are these levels acceptable for the installation location?
- f) What are the grounding requirements? Most electrical panels need to be grounded to avoid operational issues.

If you ask these questions of your supplier you can avoid potential installation issues and ensure a successful start-up of your gas compressor.

4. Do you have liquids in your gas?

If you have liquids in your gas they need to be removed prior to compression. If liquids enter the gas compressor they will likely cause the compressor to fail. The question to ask is; (a) what volume of liquids is the well expected to produce and (b) what is the liquids handling capacity of the compressed natural gas compressor package? Not all compressors are created equal; check the specifications of the compressor from your supplier.

5. Who will train your operator?

You have the best chance of improving your compressor's run-time by ensuring that your operator is intimately familiar with the compressor package you plan to install. We have found that the most frequent cause of unnecessary downtime is operator related issues that could be avoided with a few hours of training. Ask your compressor supplier if they can provide your operator with training during start-up. Investing in a short training session will help reduce downtime and increase compressed natural gas production.

6. Is your compressor package adequately equipped?

You can avoid unnecessary downtime by ensuring that your gas compressor package is adequately equipped with options that enable it to keep running in a variety of situations. The most useful features that are often missed are;

- a) low suction make up, and;
- b) high discharge pressure recycle.

A low suction make up valve prevents the compressor from shutting down unnecessarily when the gas pressure from the well is reduced to an insufficient level.

A high discharge pressure recycle valve prevents the compressor from shutting down unnecessarily when the

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line pressure spikes or increases to a level higher than the compressed natural gas compressor package is designed to handle.

You can improve your compressor run time and compressed natural gas production by asking your compressor supplier to ensure your compressor is equipped with these options.

7. Are compressor sound levels going to be an issue?

Do you have landholders in the area that could be affected by the sound levels of the gas compressor package you plan to install? If so, how will you deal with it? Ask your compressor supplier these important questions;

- a) What are the sound levels of the gas compressor package you intend to install? A reputable compressor supplier will have acoustical field tests that provide actual sound levels for the gas compressor package you are installing.
- b) Are sound attenuation options available that can be added to reduce the noise levels of the gas compressor you are installing? For a better idea of what is available for sound suppression options view the SoundRanger noise reduction system tables in the screw compressor pages of the Brahma website at <http://www.brahmacompression.com/products/screw-compressors/>.

By asking these simple seven questions before installing a compressed natural gas compressor package, you can avoid the most common installation errors, and improve your compressor's run time.

Consult with a qualified Brahma gas compression expert if you have more questions.