



nZero Group:
our brighter future together

Adam Wood – Product Specialist
Measurement Focus Group, 26 June 2024



Sign up for our newsletter | Follow us on LinkedIn



GROUP STRUCTURE

nZERO

nZERO

£26m
turnover

THYSON
TECHNOLOGY

| 38,000 Sq ft,
Cheshire UK
| 70 Employees

ORBITAL

| 45,000 Sq ft,
Staffordshire, UK
| 100 Employees



WHY WE EXIST



OUR WHY

Innovating our energy system to sustain our way of life whilst protecting our planet



OUR HOW

Solving complex strategic challenges for Energy Producers, Transporters, and Industrial Users across the energy sector bringing together new and existing technologies



OUR WHAT

We are the engineers, manufacturers, installers and maintainers of all our solutions

Safety | Service | Success | Sustainability | Strength

ZEVAC - Zero Emission
Vacuum and Compressor

Simple
Safe
Scalable
Sustainable Returns



ZEVAC - Zero Emission
Vacuum and Compressor

Simple
Safe
Scalable
Sustainable Returns



OVERVIEW

- | ZEVAC is a linear compressor meaning there is no spinning crankshaft or rotating drivetrain so has special functionality and advantages, such as handling 100% gas, mixed gas and liquids, and even 100% liquid service.
- | Portable gas and liquid cross-compression equipment easily integrated into operations and maintenance plans as a safe, reliable, and scalable alternative to natural gas venting and NGL flaring

SIMPLE TO SCALE

ZEVAC equipment is easy to use, quiet, compact, and portable. Integrating ZEVAC into routine maintenance activities is a simple way to address the high-frequency, low-magnitude venting and emissions escape happening every day.

QUICK TO IMPLEMENT

ZEVAC sells and rents equipment to operators and members of our ZEVAC Service Contractor Network (ZSN), allowing zero emissions standards to become part of every company's operations and maintenance plans and contract requirements—creating a quick and achievable path to compliance goals.

100% GAS TO LIQUID

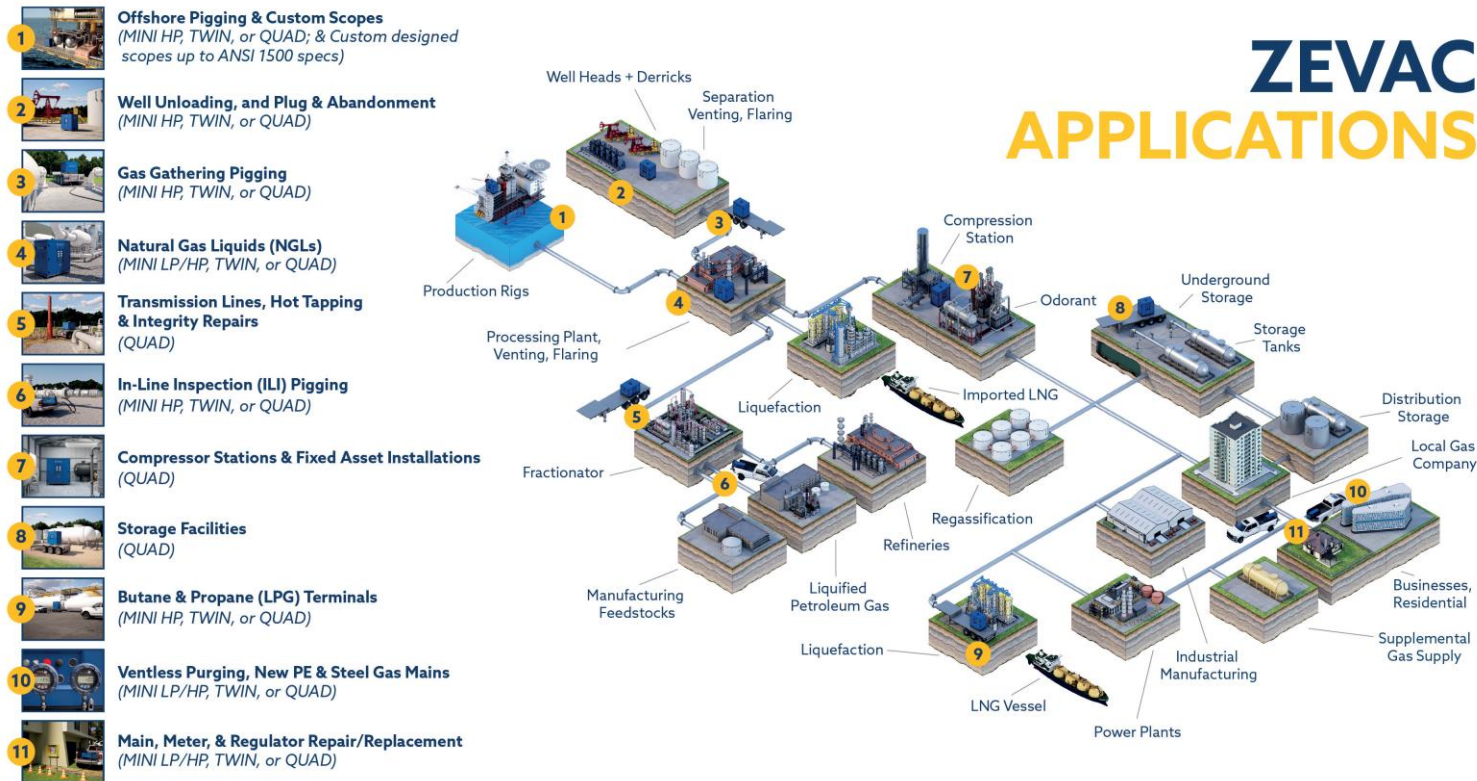
ZEVAC equipment is better than traditional cross-compression because it can capture and recover 100% clean and dry natural gas and any mixture up to 100% liquid content! ZEVAC is not only safer and more reliable, but also more versatile due to the wide range of user-friendly applications this capability creates.

BENEFITS



APPLICATIONS

ZE VAC APPLICATIONS



ZEVAC FOR COMPRESSOR STATIONS



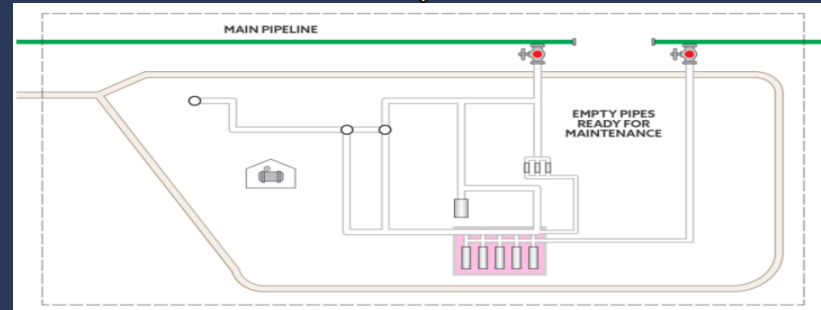
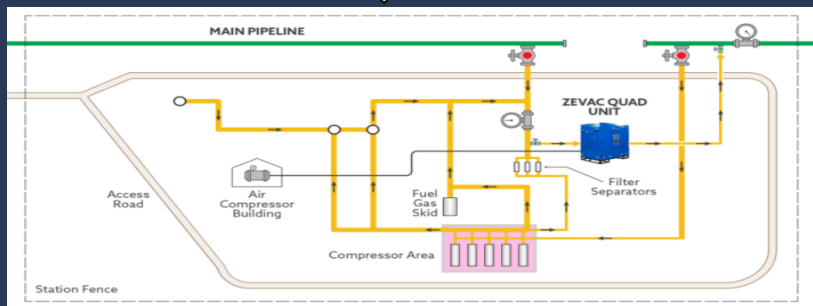
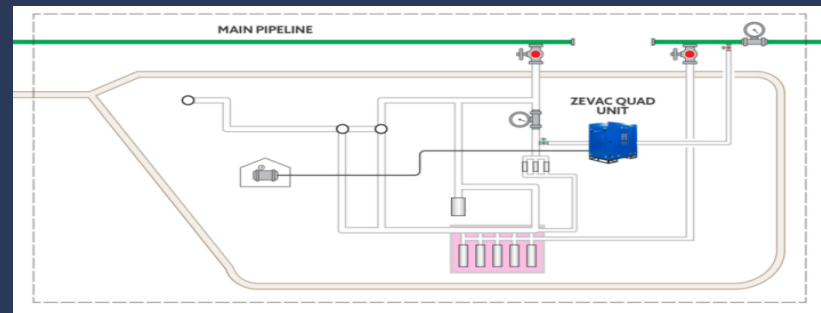
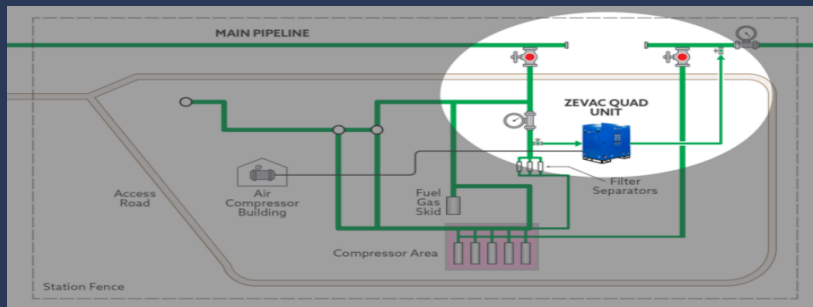
Pressure begins to decrease due to friction caused by the pipeline itself. So, the gas must be repressurized throughout the line in order to allow the transportation to remain as efficient as possible.

Stations have a lower pressure at the inlet and higher pressure at the outlet, they “recompress” the natural gas within the line and allow it to continue through the line. Often, they operate at varying pressures ranging from 13 bar to as high as 100 bar. A typical station consists of an inlet pipeline, a fuel gas system, a liquid handling system, various compression units, a compression yard pipeline, and a discharge pipeline.

To maintain their efficiency and safety, compressors must be taken offline for maintenance periodically.



ZEVAC FOR COMPRESSOR STATIONS



ZEVAC FOR PIGGING

On a transmission system, pigging is a routine occurrence. Pigging can be performed for any number of reasons and is one of the most common activities performed by gas transmission divisions. There are many reasons to perform a pigging run. Pigging can be done to perform routine maintenance to ensure nothing has happened to the integrity of the pipe. This process is often referred to as an ILL pigging run or In Line Inspection.

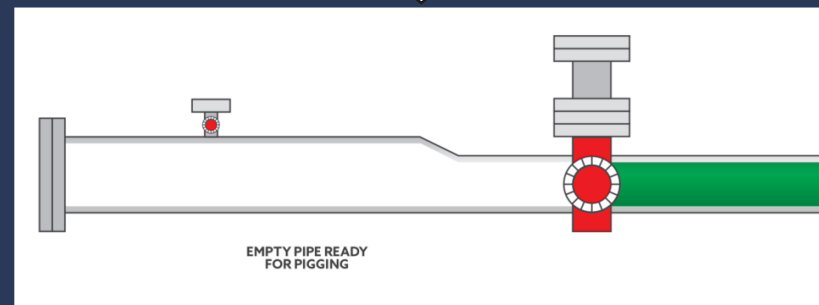
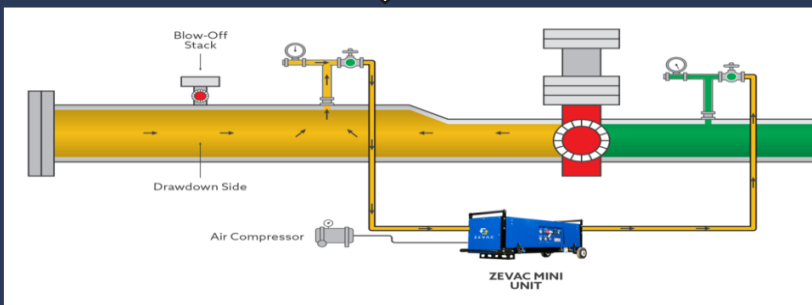
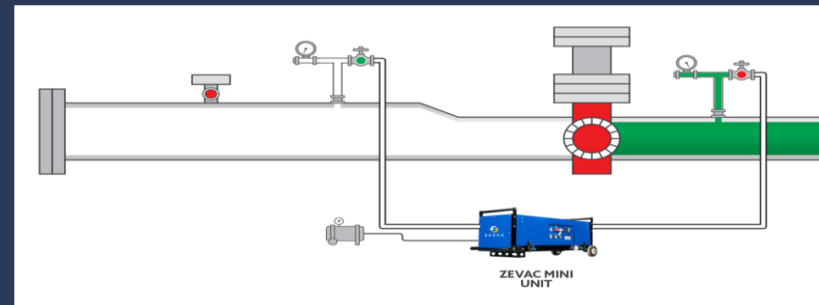
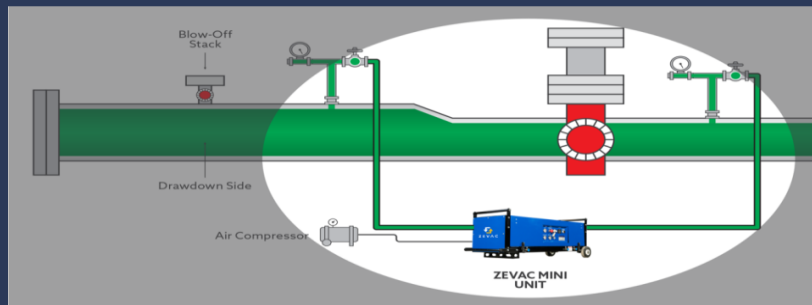
This activity serves as preventative maintenance to ensure that there is nothing present in or obstructing the inside of the pipe. Additionally, it can also be considered another type of preventative maintenance by using a cleaning pig that effectively removes any deposits or debris from the pipe walls.

nZERO



ZEVAC FOR PIGGING

nZERO



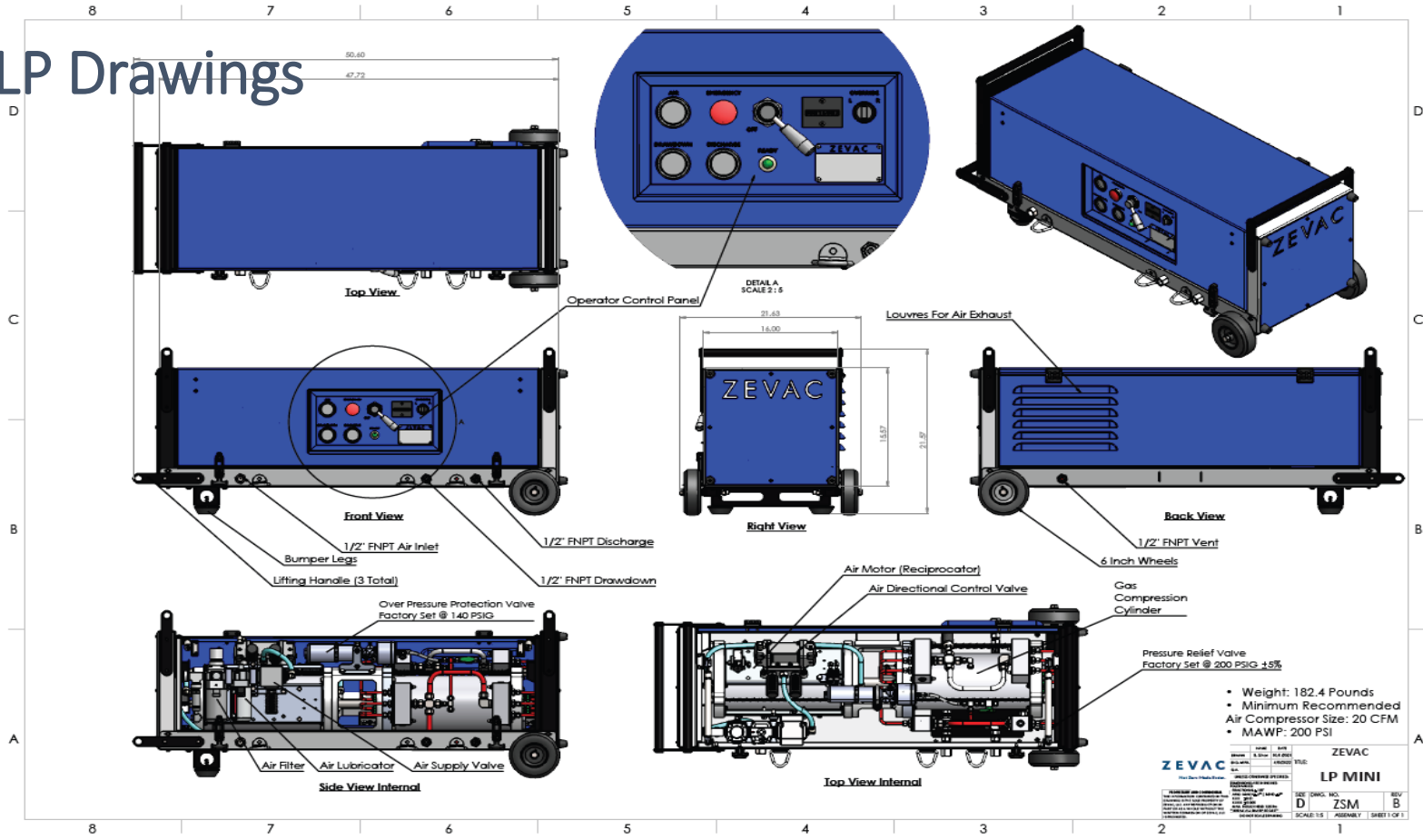
ZEVAC MINI

The ZEVAC MINI is small enough to be built directly into service vehicles and powered by onboard air or easily placed in the bed of a pickup truck.

Low-pressure and high-pressure versions are available at different price points to meet your unique application needs. Like all ZEVAC equipment, both pressure versions of the MINI are gas and liquid, capable of maximizing safety and reducing organizational risk.



Mini LP Drawings



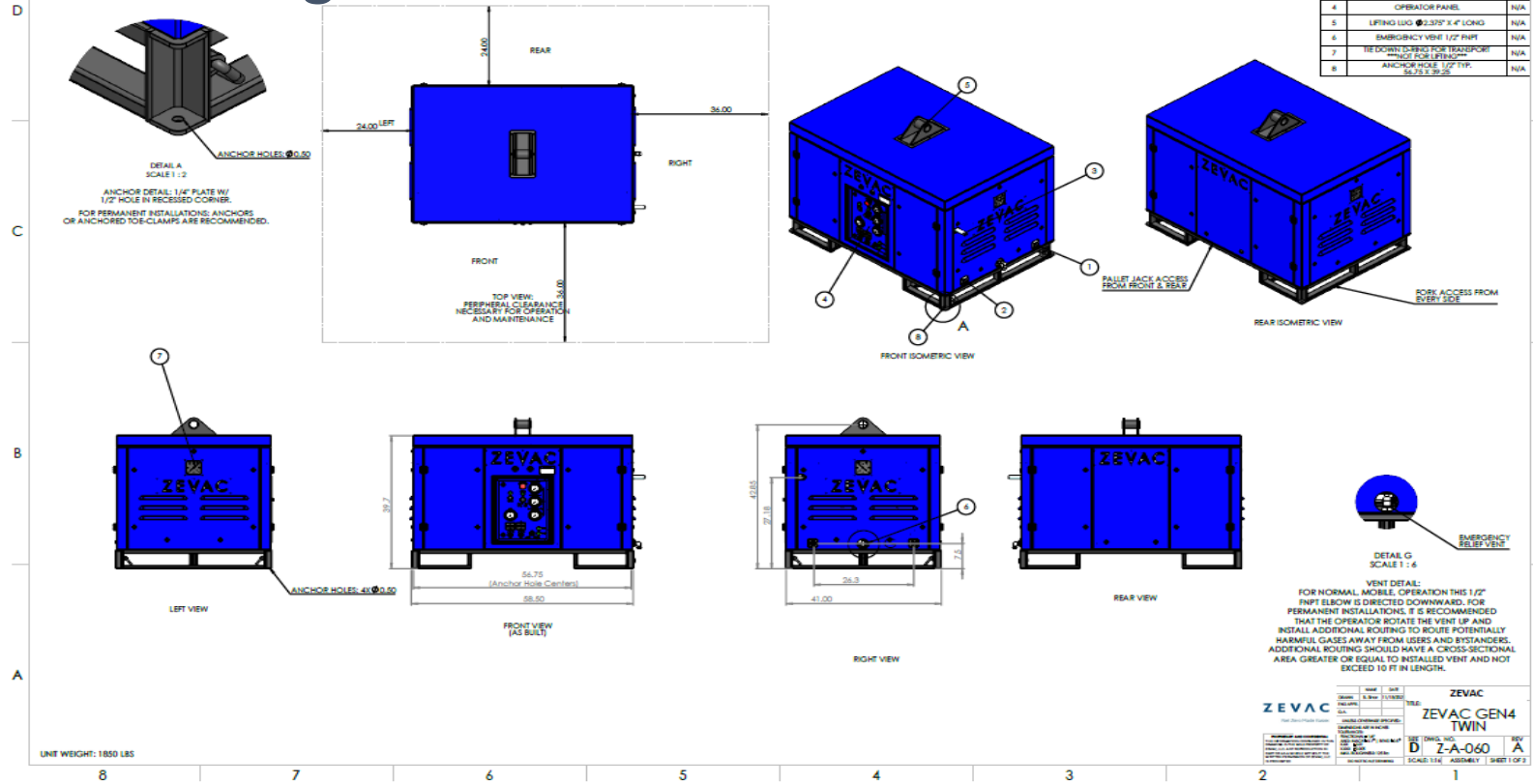
ZEVAC TWIN G4

The ZEVAC TWIN G4 (4th Generation) is a favourite of operators and contractors involved in wet gas pigging operations. The TWIN fits in the bed of a pickup truck, packs the power needed to draw down medium-sized applications quickly, and like all ZEVAC equipment, can recover and capture any mixture of product from 100% gas to 100% liquid.

Low-pressure and high-pressure versions are available at different price points to meet your unique application needs.



Twin G4 Drawings



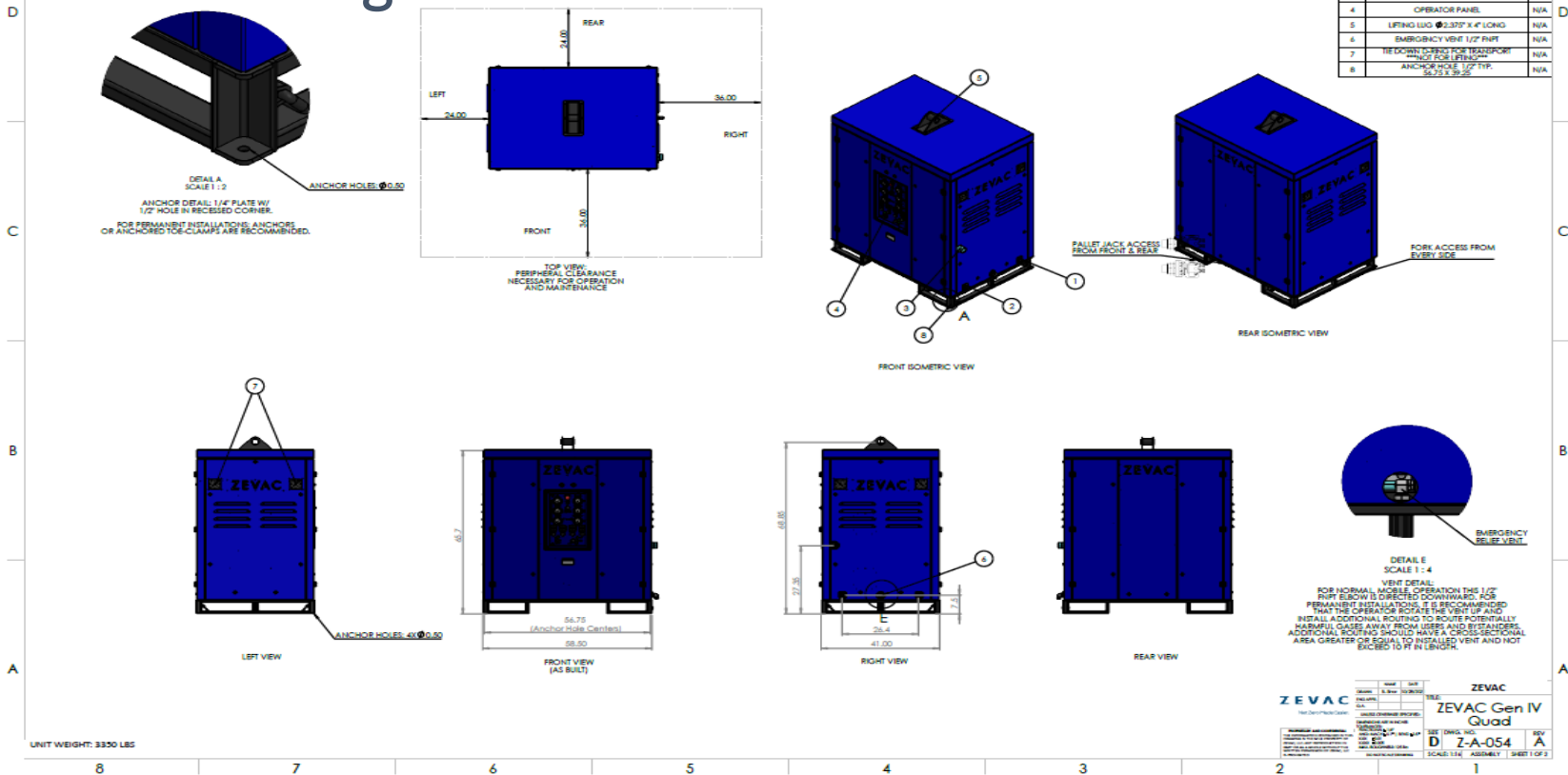
ZEVAC QUAD G4

With premium versatility to tackle the broadest range of applications, the ZEVAC QUAD G4 (4th Generation) has built-in multi-pressure capability, with the ability to change pressure differential settings on the fly, from low to medium to high and then high+ (for 100% liquids).

Still portable enough to be transported on a flatbed or trailer, the QUAD is the ultimate combination of form, fit, and function



QUAD G4 Drawings



ZEVAC OVERVIEW



	MINI	MINI-HP	TWIN-LP (G4)	TWIN-HP (G4)	QUAD (G4)
Limited standard warranty	1 year part and labour				
Noise suppression silencer	Not required		< 85 dB (included)		
Gas Pressure Range (Bar)	0 - 10.3	0 - 102	0 - 41.4	0 - 102	0 - 102
Over-pressure Cut-off Set Range (Bar)	0.1 - 10.3	10.3 - 102	10.3 - 102	10.3 - 102	10.3 - 102
Under-pressure Cut-off Set Range (Bar)	N/A	0.1 - 3.4	0.1 - 3.4	0.1 - 3.4	0.1 - 3.4
Max flow rate (scm/h)	93.5	680	1020	1870	2040
Typical air compressor (scm/h)	≤153	153 - 305	314 - 637		637 - 1274
Recommended min. air compressor spec	102 scmh @ 10.3 bar	212 scmh @ 10.3 bar	314 scmh @ 10.3 bar		637 cmh @ 10.3 bar
Standard Operating Temperature Range (°C)	-23° to 121°C				
Weight (kg)	83.94	158.80	839.38		1519.96
Dimensions (L x W x H) (cm)	129.5 x 55.8 x 55.8	129.5 x 58.4 x 55.8	148.6 x 104.1 x 116.8		148.6 x 104.1 x 182.9
Typical deployment	Bed/onboard crew truck		Bed of truck; trailer		Flatbed; trailer



Adam Wood
Product Specialist

AdamW@orbital-uk.com
+44 (0)7792 436143



www.thyson.com



www.orbital-uk.com



Thank you for your time

