

E-mail: ian@wgtanker.com or www.wgtanker.com
Repairs: (Stuart) 01538 308 383, Tanker Sales: (Ian) 07976 839 733,
Tanker Hire: (Richard) 07976 811 215, Spares: (Daniel) 01538 308 008

Acoustic Enclosures



Arclid Transport of Sandbach have recently taken delivery of a new 42 m³ FFB tipping tanker, supplied and painted by WG Tankers. We have fitted the latest version of the WG acoustic enclosure to the GHH CS 750/ JCB power pack and have incorporated a number of new features, which enhance the already advanced design of the enclosure, and we will look at some of these in detail.

It was not many years ago that noise levels of 90 Dba at 1m was considered to be the ultimate in acoustic engineering for this type of application. However, by constant refinement and attention to detail, this target has now been reduced to 80 Dba, using largely the same equipment, but by scrutinising all aspects in the design. Although the noise level has only been reduced by 10%, the effect is much more dramatic than the numbers suggest as the perceived sound level reduction is nearer 30%.

There has been no weight penalty incurred, indeed the weight of the enclosure has reduced over the years due to optimum design of the components and so reducing weight, but maintaining strength.

The most fundamental of all the factors to be considered is the balance between noise attenuation and heat dissipation. As an indication of how effective we have become in this field, the picture on the next page shows the clear plastic pipe running from the air intake at the top of the enclosure, down towards the compressor. These pipes do not have a high temperature resistance, so the fact that we can use them for this application is the visual proof of the effectiveness of our design.

You will also notice in the picture below, that we do not use the standard intake filter for the compressor, as the shape of it is not compatible with the critical dimensions, which are essential in achieving correct airflow through the enclosure. There are, in fact, a number of other small, but critical features that we incorporate, but because they are so significant, we will not be disclosing them here.

As a matter of passing reference, we leave the compressor in primer as a further coat of paint can lead to a slight rise in temperature within the enclosure.



The picture below shows the very neat and tidy installation which we achieve on all our installations. We currently use the JCB 4 cylinder turbocharged engine, which has comparable performance but is more readily available than the Perkins equivalent engine. We have been using the JCB engine for many years and found it to be very suitable for this application. The drive from the engine to the GHH CS 750 compressor is via a heavy duty centrifugal clutch, which we have found to be the most effective way of introducing power to the compressor from the engine, in a controlled manner.

A novel feature which we have now introduced, is a venting device for when the engine is first started. Air is initially vented to atmosphere, via a silencer, for a few moments and then the venting valve shuts automatically and air is diverted to the tank. In this way the GHH compressor is already running freely before the load is applied.

You will notice that we radius the forward corners of the enclosure to increase the swing clearance on front mounted power packs. We have been doing this for some time and we note that one of our competitors has now adopted the same layout, and has also started to fit the air intake, for the compressor, externally.

