



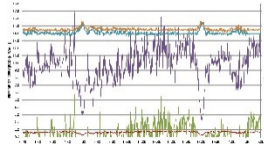
CASE STUDY

CLIENT:
Metalcraft Insulated
Panels Ltd

DATE:
July 2021

LOCATION:
Auckland

CATEGORY:
Services - Analysis &
Advice



NEW COMPRESSOR NOT REQUIRED

Metalcraft Insulated Panels Ltd requested the services of Plummer Compressors to investigate an intermittent problem with their compressed air system. It was suspected that the compressor may have become too small for the growing requirements of the factory.

In order to properly understand the situation Plummer Compressors recommended that a data logger be installed on the air compressor to record actual factory air demand over the course of a week or more.

Analysis of the data revealed the following: -

- Compressor average duty cycle was less than 40%
- Nil production demand was approx. 15% of compressor capacity
- Intermittent large spikes in demand were noted

Plummer Compressors carried out further investigation to identify the source of the spikes in air demand and ultimately it was traced to a vacuum lifter for sheets of metal, which has 52 vacuum cups with 26 compressed air powered venturi vacuum pumps.

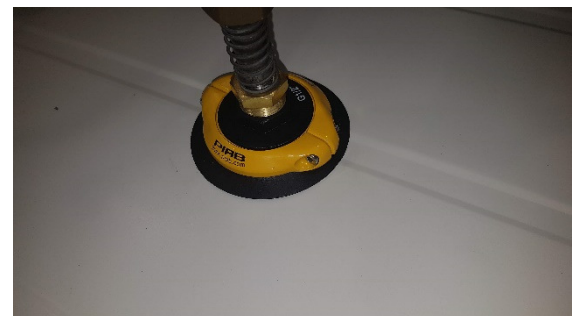
Three issues became apparent during our observations & research: -

1. Some of the vacuum cups were in a deteriorated condition
2. The vacuum cups were a convoluted type that were not always holding the sheet in a stable manner, whereas the original cups were the flat type
3. During lifting of shorter sheets of metal some of the vacuum cups do not press on to metal sheet but are left exposed – creating a huge vacuum leak

Metalcraft carried out Plummer Compressors recommendations to replace the vacuum cups with flat cups with an internal shut-off valve that open only on contact with a lifting surface. There was no loss in cup performance even with ridges on the metal sheets. Air pressure to the new cups could be reduced due to the improved performance with no open cups, which resulted in a decrease in air consumption.

Follow up logging showed a drop in peak air demand, leaving spare compressor capacity for future requirements. Metalcraft were very happy they called on the expertise of Plummer Compressors to analyse, diagnose and resolve their problem without pressure for the purchase of a new compressor.

Old style cup



PLUMMER COMPRESSORS AREAS OF EXPERTISE:

- Compressor station design/install/maintain
- Compressed air system audit & optimisation
- Piping system design & installation
- Air quality analysis & advice
- Nitrogen gas generators
- Blower & vacuum systems
- Pneumatic equipment & repairs
- 40bar PET systems
- Portable diesel & electric compressors

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