

## Nitrogen Generation is Taking Off

### The Challenge

A world leading aircraft manufacturer recently invested in a brand new maintenance facility to support its commitment to supply and maintain critical military aircraft. Maziak were commissioned to design and install a dedicated Nitrogen Generation system to supply the tyre overhaul workshop as part of this major development.

The use of Nitrogen ( $N_2$ ) in aircraft tyres is the worldwide standard, also extending to race cars and in some places it is available for commercial and domestic use. The benefits of  $N_2$  are twofold:

- ◆  $N_2$  gas is very dry, a key factor when an aircraft is descending from the chilly heights of 30,000ft and expecting the wheels to do their job.
- ◆ An  $N_2$  molecule is slightly larger than that of oxygen and so migrates at a much slower rate through the walls of the tyre.

These two factors ensure that the integrity of the tyres are maintained whatever the conditions.

### Maziaks' Solution

The traditional method of buying in packs of high pressure cylinders was initially considered as a source of nitrogen, however, following consultations with Maziak and Parker Domnick Hunter, a complete compressed air to Nitrogen Generation package was recommended to enable the facility to produce its own high-grade nitrogen gas for tyre inflation.

This gives a number of key benefits:

- ◆ The ability to generate nitrogen on demand is a more efficient option. There is no need to plan ahead to ensure bottles are delivered to the right place at the right time.
- ◆ On-site generation is also a much more cost effective solution. With no longer being at the mercy of liquid nitrogen suppliers and fluctuating gas costs.
- ◆ Health & Safety issues relating to the handling and storage of  $N_2$  are no longer relevant.

The system utilises the Parker Midi-gas generator and drying technology coupled with a high pressure Bauer booster to enable a large volume of readymade nitrogen captured from the air to be ready on demand.

### Results

Nitrogen is available 24/7 at the touch of a button to satisfy the manufacturer's specific requirements, at reduced cost and improved efficiency compared to the traditional sourcing of  $N_2$ .

