• Provides medical air at 4bar (400 kPa) and surgical air at 7 bar (700 kPa) for use in patient accommodation and operating departments

• Meets the requirements of HTM 2022 - Medical Gas Pipeline Systems

• Duplex, Triplex and Quadruplex configurations to suit system requirements

• Proven design based on established technology in medical applications

• Flexible design allows compact installations in existing and new plant rooms

• Oil injected screw compressors for quiet and vibration free operation

• Duplex heatless desiccant medical air dryer including economy circuit

• Electronic controls and monitoring ensure reliable plant operation

• Plant controls are configured to minimise running costs

• Controls include connections for medical gas alarm system and BMS

• Plant includes all interconnecting pipework and wiring

• Plant is fully tested and certified prior to dispatch

• Modular format allows upgrade from Duplex to Triplex and Quadruplex to meet future hospital demand

• Alternative plant layouts available on request

• Upgradeable to HTM 02-01 for future compliance
AA Series Compressors

P3 AA Series Medical Air Plant uses oil injected screw compressors as standard, providing:

- The most modern, cost effective method of generating compressed air
- Compact design eliminating excess pipework and potential oil leaks
- Noise insulated cabinet keeping noise levels to a minimum
- Vibration damping mountings
- Ease of maintenance via individual access panels
- Reliability and long service life
- Run on timer to accommodate variations in medical air demand and increase efficiency of compressor
- Spin-on oil separator and filter reduces downtime and maintenance costs
- Suitable for both continuous and frequent stop/start running

Reciprocating and oil-free compressors are available on request

Duplex Filter/Dryer

A proven design based on extensive research and development

Each plant features a duty and standby filter/dryer assembly including:

Multi stage filtration purifying compressed air to the European Pharmacopoeia monograph, specified in HTM 2022
- 0.01 micron filtration removes ultra fine particulate
- Activated carbon filtration guarantees oil-free air
- Medical sterile filtration removes bacteria
- Filters include differential pressure gauges to indicate filter performance and requirement for filter replacement

Twin tower dryer columns
- Containing highly absorbent desiccant to reduce water content of air below concentration specified in HTM 2022 of 115vpm (equivalent to atmospheric pressure dewpoint of -40 °C)
- Continuous monitoring of dewpoint controls automatic changeover between columns to reliably maintain dewpoint below -46 °C

Filter/dryer assemblies can be individually isolated for maintenance on dryer columns or exchanging filter elements

Duplex pressure regulators regulate air pressure to 4 or 7 bar, arranged in parallel to permit maintenance without interruption to air supply

In event of power supply interruption, fail-safe system maintains supply using stored medical air by closing exhaust and purge valves, and opening inlet and outlet valves

Air Receivers

Plant includes air receivers to capacity specified in HTM 2202
**P3 AA Series 50Hz - HTM 2022 Medical Air Plant Rev 2a 010316**

**Electronic Air Plant Control**

- Monitors and automatically ensures continuity of supply via multiple fail-safe systems
- Transducer control and digital displays
- Displays plant status and alarm conditions
- User-adjustable control functions via fascia pushbuttons and internal DIP switches
- Automatic duty compressor selection with lock facility and manual override
- Plant status signal outputs to remote medical gas alarm system and BMS
- Compact design, mounted adjacent to pump starter panels for user convenience
- Automatically restarts plant following power supply interruption

**Electronic Dryer Control**

- Automatic control of each medical filter/dryer assembly
- Continuous monitoring and display of dewpoint of medical air
- Automatic duty dryer selection with manual override for routine maintenance
- Automatic isolation of duty dryer and selection of standby should dewpoint fall below -46°C
- Economy mode setting matches dryer regeneration to medical air demand
- Plant status signal outputs to remote medical gas alarm system and BMS

**HTM 2022 Medical Air Plant Selection Guide**

For sizing of medical air plant, HTM 2022 states that:

The plant should include at least two compressors, but additional compressors may be included provided that in all cases the total capacity will provide 100% of system design flow with one compressor not running

Once a flow rate requirement for the plant has been calculated, consideration can be given to the number of pumps to be specified

**Duplex**

- Suitable for small systems or where plant room size does not allow larger layouts
- Provides future potential for upgrade in capacity

**Triplex**

- Suitable for medium design flows
- Flexible - additional compressors can be 'called for' to meet medical air demand
- Efficient - smaller pumps than duplex plant [for a given flow rate] will warm up more quickly, and run more efficiently in periods of lower demand
- Air output can more closely match demand than duplex plant
- Provides future potential for upgrade in capacity

**Quadruplex**

- Suitable for higher design flows
- Flexible - additional compressors can be 'called for' to meet medical air demand
- Air output can more closely match demand than duplex or triplex plant

**Nominal pipeline pressures**

- 4 bar [medical air], 7 bar [surgical air]
## Technical Data

### Duplex Plant

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Flow Rate (l/min)</th>
<th>Motor Power (kW)</th>
<th>Noise Level (dB)</th>
<th>No. of Power Supplies</th>
<th>400V Distribution Breaker (A)</th>
<th>No. of Receivers</th>
<th>Total Receiver Capacity (l)</th>
<th>Typical Dimensions L x W x H (mm)</th>
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### Triplex Plant

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