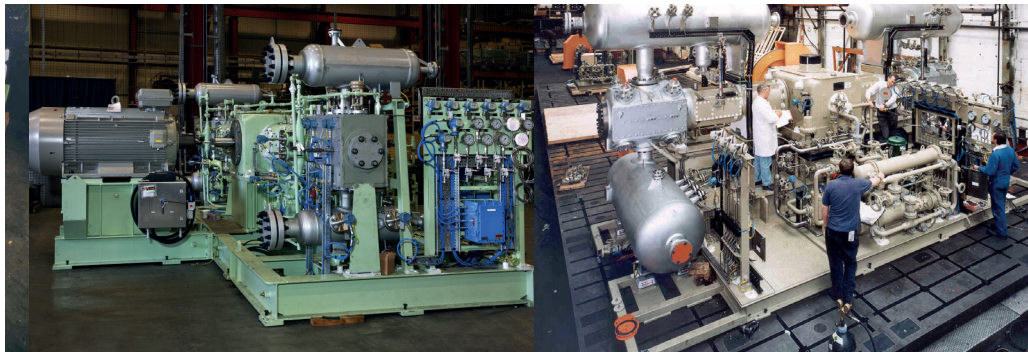




**WE CAN HELP YOU WHETHER YOU HAVE:**

- Peter Brotherhood compressor
- New compressor
- Legacy compressors

## Increase the operational lifetime of your legacy equipment. More safety. More efficiency.

### Performance improvement

We offer an extensive range of improvements to reciprocating gas compressors. Ranging from upgrading components to extend service life and improve operating efficiency, through to reverse engineered revamps; tailored to suit the end-users change in operational conditions and/or gas composition, by offering a cost effective alternative to replacing existing capital equipment.

Significant cost savings can be obtained when revamping a compressor by putting in place measures to reduce machine capacity, rather than relying on the bypass valve; in some instances the payback for this engineering solution can be less than one year.

We support the full product life cycle of our own and other OEM equipment, and subsequently offer engineered solutions to resolve the root cause of unplanned compressor shutdowns to improve reliability and subsequently reduce maintenance/operating costs.

### Safety & Efficiency Solutions

| PROBLEM                                                                                                                                                                                         | SOLUTIONS                                                                                                                                                                                                                                                                                                       | BENEFITS                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Revamp</b><br><br>Change in operating conditions e.g. Pressure and temperature<br><br>Change in gas composition or additional gas to be considered<br><br>Change of process flow requirement | <ul style="list-style-type: none"> <li>• Modified or replaced cylinder and internal assemblies</li> <li>• Install fixed or variable clearance pockets</li> <li>• Install variable capacity control systems</li> <li>• Evaluate suitability of dampeners</li> <li>• Assess suitability of drive motor</li> </ul> | <ul style="list-style-type: none"> <li>• Optimised performance and power consumption</li> <li>• Cost effective alternative to purchasing new equipment</li> <li>• Compliance to current safety and industry standards</li> <li>• Enhanced efficiency</li> <li>• Power savings for reduced capacity applications</li> </ul> |
| <b>Upgrade</b><br><br>Part's availability i.e. obsolete cylinder patterns and difficult to machine parts, resulting in long lead times                                                          | Opportunity to upgrade cylinder and/or their associated components to incorporate the latest design features and compliance with current industry and safety standards                                                                                                                                          | <ul style="list-style-type: none"> <li>• Innovative designs in accordance with latest API 618 standard; increasing availability, improved safety, shorter lead times</li> <li>• Life-cycle cost advantage through improved efficiency gains and minimised downtime</li> </ul>                                              |
| Gas leaks                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>• Optimised valve cover designs</li> <li>• Upgrade inert buffer control system and gas packing design</li> <li>• Upgrade original components exposed to cyclic stress</li> </ul>                                                                                         | <ul style="list-style-type: none"> <li>• Enhanced efficiency that encompasses the latest design features and technologies</li> </ul>                                                                                                                                                                                       |
| Downtime due to excessive cylinder gas valve maintenance and/or failures                                                                                                                        | <ul style="list-style-type: none"> <li>• Performance analysis to ensure valve is sized for current application</li> <li>• Upgrade valves and lubricator control systems</li> <li>• Resolve pulsation effects on cylinder</li> </ul>                                                                             | <ul style="list-style-type: none"> <li>• Increased performance and extended operation</li> <li>• Improved operational reliability and the availability of future spares</li> </ul>                                                                                                                                         |
| Short life cycle on wear parts e.g. Gas packing, piston and bearer rings                                                                                                                        | <ul style="list-style-type: none"> <li>• Upgrade to a reliable and continuous lubrication control system</li> <li>• Upgrade piston rod to ensure sufficient wear resistance from gas service</li> <li>• Redesign piston to achieve recommended bearing load</li> </ul>                                          | <ul style="list-style-type: none"> <li>• Compliance to current industry and safety standards</li> </ul>                                                                                                                                                                                                                    |

#### MINOR UPGRADES WE CAN OFFER AS RETROFITS TO RECIPROCATING GAS COMPRESSORS:

- Comply with current safety and industry practices through the replacement of manually operated valve unloader and clearance pockets
- Improve reliability and longer life with piston assembly upgrades reducing bearing loads and using the latest advancements in ring materials
- Install condition monitoring equipment to better understand machine health
- Improvements to tempered water systems for better cooling
- Upgraded lubricators for extended piston and bearer ring life
- Upgrade fixings and joint designs to prevent loosening and failures



**EE SUPPLY SDN BHD**  
 T: +603-4142 2103 F: +603-4143 7150  
 E: sales@eesupply.com.my