

CASE STUDY

BAFFLED TANK FOR MORE EFFICIENT COOLING

H-E PARTS MINING SOLUTIONS COOLING DIVISION (H-E PARTS) ARE A LEADING PROVIDER OF RELIABLE, APPLICATION SPECIFIC HEAT TRANSFER SOLUTIONS. H-E PARTS MANUFACTURE AND SUPPLY HIGH QUALITY, INNOVATIVE PRODUCTS THAT ARE TAILORED TO OUR CUSTOMERS SPECIFIC REQUIREMENTS. H-E PARTS IN-HOUSE ENGINEERING, PRODUCT AND SERVICE OFFERINGS, GUARANTEE WE SUPPORT CUSTOMERS THROUGHOUT THE FULL PRODUCT LIFECYCLE AND ENSURES THE LOWEST TOTAL COST OF OWNERSHIP IS ACHIEVED.

PROBLEM

A mining services provider approached H-E Parts and asked them to address the reliability of their OEM supplied aftercooler. The previously supplied aftercooler was failing due to premature cracking in the center of the cooling tank and tubes.

Upon inspection, H-E Parts engineers confirmed that the fault in the aftercooler was due to the intake air flow being directed to the center of the aftercooler only, which was creating hot spots and pressure pockets along the inlet header and center cores.

SOLUTION

H-E Parts engineers designed a baffled aftercooler utilizing their COR Cooling™ bar and plate product line and expertise to redistribute the heat flow throughout the aftercooler.

The COR Cooling™ baffled design works by creating paths to evenly distribute the airflow across the aftercooler, preventing heat pockets and pressure build up throughout. These heat pockets, if not distributed evenly, can lead to pressure build up that can cause vibrations responsible for premature cracking or internal part failure. The COR Cooling™ baffled design has multiple airholes for ventilation and improved air distribution. The multiple airholes have reduced the heat profile peak significantly around the port entry which is where the bulk of the issues were seen for the customer. Additional benefits to the baffled design are:

- Increased maintenance efficiency
- Utilizes an aluminum material for a more efficient cool
- The baffles hold internal parts in place to reduce vibration that can lead to internal part failure
- Reinforced corner blocks to prevent premature cracking

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| LOCATION | Bowen Basin, Australia |
| APPLICATION | CompAir mobile air compressor |
| PRODUCT | COR Cooling™ aftercooler |



CONTINUED BENEFITS

The COR Cooling™ baffled aftercooler has been in continuous service effectively for two years with no operational concerns. Since its commissioning H-E Parts has been awarded an additional sale on a second machine based on the reliability and outcomes from this engineering solution. In that time, H-E Parts have been awarded with further work due to the reliability of the solution provided and the timely manner in which it was conducted.