

CASE STUDY

Reduce downtime and increase profits in LDPE recycle gas cooler applications

Challenge

A Low Density Polyethylene (LDPE) plant on the U.S. Gulf Coast was unable to reliably isolate the recycle gas coolers for de-gassing, leading to extensive buildup of poly-oils and waxes, and eventually fouling. The accumulated polymers reduced the heat-transfer efficiency of the exchangers, resulting in restricted run rates. More than 1700 hours per year downtime was lost in unplanned shutdowns to manually steam-clean all the banks of coolers.

Solution

An investigation to identify opportunities for cost-savings and improved efficiency revealed that six MOGAS isolation valves performed without failure in this application for more than six years. This performance longevity was attributed to earlier MOGAS design recommendations based on the plant's unique process conditions. During the next turnaround, plant engineers upgraded an additional 14 isolation valves to the proven application-specific design from MOGAS.

Results

Due to the dependable sealing and absolute shut-off of the MOGAS valves, the plant can now reliably isolate the recycle gas coolers for de-gassing. This increase in operational efficiency has reduced downtime to only 7 hours per year, instead of the previous 1700 hours per year—contributing to over \$1.5M in savings.

Application-specific valve design that dependably isolates critical equipment can:

- minimize production losses
- reduce unplanned shutdowns
- lower maintenance costs
- generate more revenue and enhance profitability.

Conditions

Application:	Recycle Gas Cooler Isolation
Temperature:	450 to 550° F (232 to 288° C)
Pressure:	2700 to 2900 psig (186 to 200 bar g)
Valve Model:	C-Series
Valve Size:	3 and 4 inch (80 and 100 DN)
No. of Valves:	14



Application-specific design allowed this MOGAS ball valve to perform flawlessly for more than six years.