

Success Story: Reviving the past to power the future: Compressor retrofit saves 20 tons of CO₂

Safety and
sustainability



A major LNG/LPG storage operator in India was facing a critical challenge in procuring a new onshore vapor recovery compressor. The customer was constrained by a tight timeline and a limited budget, making the purchase of a new compressor impossible. They turned to Burckhardt Compression India for a solution that could meet both their operational and financial requirements and received a game-changing alternative.

Instead of delivering a new machine, we proposed a sustainable and cost-effective alternative: revamping and restoring a 30-year-old, out-of-service Laby® compressor.

The project included complete engineering, disassembly, refurbishment, reassembly, and testing bringing the asset successfully back into full operation. This approach not only aligned with the customer's budget and schedule but also supported circular economy principles and avoided approx. 20 metric tons of CO₂ emissions, contributing to their ESG goals.

Customer challenges

- Minimize capital investment by reusing an existing offshore-duty compressor
- Adapt compressor for continuous operation in onshore industrial application
- Meet performance requirements under varying gas compositions and load conditions
- Ensure long-term reliability, operational safety & compliance with regulatory standards

Burckhardt Compression solution

Re-engineering & application adaptation

Compressor sizing and process revalidation were performed to match the new onshore vapor recovery requirements, addressing the challenge of adapting an offshore-duty machine to variable onshore loads and gas conditions.

Component redesign & system conversion

Critical components, including valves, flywheel, and unloaders were redesigned for new operating parameters. The drive system was converted from direct-coupled to belt-driven, and the unloader system from hydraulic to pneumatic, supporting performance reliability and site compatibility.

Asset dismantling & restoration

Seized and aged components were carefully dismantled using a combination of chemical, mechanical, and precision machining techniques, helping to preserve reusable parts and aligning with the customer's goal to reduce capital investment.

Plant integration & engineering support

Site-specific engineering (P&ID, utility mapping, instrumentation) ensured smooth integration of the refurbished compressor into the customer's existing plant, resolving challenges related to process fit, control systems, and regulatory compliance.

Testing, documentation & delivery

The compressor was fully assembled, tested, and validated before dispatch ensuring mechanical integrity and performance. Comprehensive documentation and customer support ensured operational readiness and reinforced trust in the reuse strategy.

Customer benefits

- Significant cost savings: reuse of an idle legacy compressor avoiding the higher capital cost of new equipment procurement
- Faster project delivery: revamp completed within eight months reducing lead time compared to sourcing new equipment
- Improved process compatibility: compressor was custom engineered to meet the new onshore LPG vapor recovery requirements ensuring optimal performance under varying loads and gas conditions
- Enhanced plant integration: tailored engineering and instrumentation support ensured smooth installation into existing infrastructure
- Sustainability & ESG impact: aligned with circular economy and ESG goals by avoiding ~20 tons of CO₂ emissions
- Operational reliability: upgraded design, proven testing, and system integration delivered a reliable, field-ready machine

Compressor data

Burckhardt Compression			
Type	Laby® 2K160-2H	Gas	LPG + Butane
Power	110 kW / 147 hp	Suction pressure Discharge pressure	1.02 bara / 14.79 psia 11.05 bara / 160.09 psia
Speed	500 rpm	Lubrication	None



30-year-old Laby® compressor being dismantled



Fully refurbished Laby® compressor ready for onshore vapor recovery duty.

“It was a pleasure to see how the team from Burckhardt Compression India carefully listened to our requirements, fully understood our expectations, and developed an excellent solution. This solution supports all our business objectives as well as our sustainability goals. From a technical perspective, we were impressed by how effectively the team adapted the compressor to our specific needs. Thank you for taking on our challenge and delivering such a strong result.”

What our customer says