

BUILDING THE BEHEMOTH - A D48JR STEAM COMPRESSOR

By Gary O'Connell, Principle Engineer • Ryan Rottier, Product Director AC Compressor Centrifugal Compressors • Andy Jansen, Regional Sales Manager

RMS received an order from a mining customer for a new AC Compressor D48JR steam compressor package for their plant expansion project. The compressor was to be part of the steam process used in production, and would help the customer boost their output capacity to meet higher demands for its products.



Figure 1 : For scale: Matt Miller, Director of Houston Operations

The steam compressor package consisted of a complete drive train, mounting skid, and lubricating oil system.

The D48JR compressor is a single stage overhung compressor with a 55" diameter open wheel impeller. The physical size of this compressor is impressive, standing 12-ft tall from the bottom of the casing to the top of the discharge flange, and weighing approximately 40,000 lbs.! The lubricating oil system is a standalone package providing approximately 40 GPM of oil to the rotating equipment bearings.

RMS designed the custom compressor package based on requirements defined by the customer. Compressor operating conditions were evaluated for optimum compressor efficiency, and the compressor was designed around these conditions. Detailed specifications were created for the major components of the package and key strategic suppliers were selected to supply these components. Assembly of the compressor package was completed in two manufacturing facilities. The large physical size of the compressor prevented it from being mounted on the same base as the motor and gear, so it was shipped separately from the base and coupled to the gear in the field. The compressor was assembled in the RMS Houston facility, and the motor/gear baseplate and lubrication system were assembled at one of RMS's key suppliers, all under the diligent supervision of RMS experienced staff.

The compressor and package components will be shipped to site, where the customer, along with RMS's experienced field service staff, will assemble the package on the customer's prefabricated foundation. After assembling all the interconnecting steam and lube oil piping, and verifying control systems, the compressor package will be commissioned and ready for production.

All AC Compressor Centrifugal Compressors are custom designed to meet specific customer operating conditions, resulting in the most efficient compressor possible. As customer processes change, compressor conditions typically change as well, leading to less efficient operation. If the operating parameters change

significantly, the compressor can be re-rated to bring the operation back to the most efficient point possible. RMS specializes in compressor re-rates, upgrades, and new compressor designs to meet a wide variety of

customer process applications, always with the goal of improving compressor operations or expanding plant capabilities.

For more information:

Gary O'Connell, Principle Engineer
Ryan Rottier, Product Director AC Compressor
Centrifugal Compressors
Andy Jansen, Regional Sales Manager
Email: goconnell@rotatingmachinery.com
rrottier@rotatingmachinery.com
ajansen@rotatingmachinery.com
Tel: 484-821-0702

Headquarters

2760 Baglyos Cir.
Bethlehem, PA 18020

Houston Office

16676 Northchase Dr., Ste 400
Houston, TX 77060

rotatingmachinery.com

Tel: 484-821-0702

Parts: rms@rotatingmachinery.com



Rotating Machinery Services, Inc. | 2760 Baglyos Circle, Bethlehem, PA 18020 | Tel: 484-821-0702

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