

REMANUFACTURING SPECIFICATIONS

SCOPE

This document sets forth the requirements for remanufacturing of reciprocating air conditioning compressors. Each compressor, upon completion of the remanufacturing process, will be equal to or exceed the original equipment specifications in terms of performance and life expectancy. The remanufacturer will provide evidence of a quality assurance program, under which these compressors are remanufactured comparable to the ISO 9000 standard. When remanufactured under these conditions the compressors, for all practical purposes, can be viewed as new compressors.

GENERAL REQUIREMENTS

Tools and/or machines used in the remanufacturing process shall be calibrated on a regular basis and the calibration shall be traceable to the NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY. Trained technicians under the supervision of quality assurance personnel shall perform each step of the remanufacturing process. The quality system shall provide for a system of inspections that are recorded and traceable to quality document compliance. The environment where the compressors are remanufactured will be conducive to quality workmanship in terms of temperature, humidity, and cleanliness. Documents that can be obtained from the OEM in connection with the service, repair, and/or remanufacturing shall be maintained at the remanufacturing facility. These documents should be the most recent revisions available. Records of all the above requirements must be maintained and available for review.

SPECIFIC REQUIREMENTS

See attachment D for specific requirements covered by this solicitation.

RECEIVING

All compressors that are received must be completely identified as to customer, model number, serial number, contract number, purchase order number, job number, etc. as required. Any special instructions as to a compressor or lot of compressors shall be recorded and maintained. A system adequate for informing customers of non-conforming material must be in place. The remanufacturer must maintain records of receiving inspection

DISASSEMBLY

Each compressor is to be thoroughly disassembled so that all components are visible for inspection. Each compressor shall be inspected and a failure analysis

recorded which would include the model number, serial number, and customer name at a minimum. These reports shall be maintained at the remanufacturing facility. The remanufacturer shall be capable of providing statistical analysis based on these reports.

MACHINING

Any part of a compressor that can be refurbished or improved by machining may be done as long as that part is equal to or greater than the original equipment in terms of tolerance and durability. A machined part shall not reduce the capacity or life expectancy of the finished compressor. The remanufacturer shall be able to provide maintenance schedule and records to demonstrate equipment accuracy and reliability.

ASSEMBLY

Each compressor shall be assembled with new gaskets, valve rings/reeds, valve springs, and sleeve bearings as applicable. In no instance shall gaskets, valve rings/reeds, or sleeve bearings be reused. Each compressor shall be assembled in a clean environment and each part shall be coated with new lubricant prior to assembly. All necessary tolerance checks, torque checks, or any other check made during assembly shall be recorded and tracked for each individual compressor. After assembly each compressor shall be checked for leaks in accordance with their design and proper practice and the results recorded. The remanufacturer must maintain records of assembly, which include, at a minimum, torques and tolerances.

FINAL TEST

After assembly and leak testing each compressor will be charged with the appropriate type and amount of lubricant. Each compressor shall then be run tested. If applicable each of the following is to be checked and the results recorded:

- A. Amperage Draw
- B. Oil Pressure (in both directions)
- C. Valve Performance
- D. Unloader Operation
- E. Sound Level

If a compressor does not pass any of these tests then this is to be recorded. The reason for the system non-compliance shall be discovered, corrected, and recorded. The non-conformance caused by the non-compliance shall also be

corrected and recorded. The compressor shall then be tested again. Once a compressor has passed the tests it will be sealed airtight.

MAKE READY

Each compressor will be charged with a holding charge of dry nitrogen no greater than 30 psi and not less than 10 psi. Each compressor will then be painted with a quality paint to prevent corrosion or oxidizing. The paint for a given compressor will be of the appropriate color and type as determined by the remanufacturer or negotiated by the customer. Each compressor will have the necessary and appropriate labels affixed to it along with a nameplate, which identifies it by model number, serial number, and part number if applicable. The nameplate shall have the name, address, and phone number of the remanufacturer unless the contract specifies an alternative.

PACKAGING

Each compressor will be packaged appropriately for shipment and/or storage as determined by the remanufacturer or negotiated by the customer. This may include an appropriate pallet, box, banding, fasteners, and labeling.

WARRANTY PROCESS

The remanufacturer will be able to demonstrate that “in warranty” failures are analyzed and the results are used to determine if the failure is the result of the remanufacturing process. If such is the case then changes to the remanufacturing process must be implemented to prevent further failures. The changes made and reason for such changes will be documented and maintained on file at the remanufacturers facility. A plan shall be maintained for positive recall of product when necessary.

PERSONNEL

The remanufacturer shall have on file documentation that indicates personnel involved in the remanufacturing process are adequately trained and supervised to perform their function(s). Personnel responsible for administering the quality control system over the remanufacturing process shall be adequately qualified to do so. The remanufacturer for proof shall keep documentation thereof.

OPEN ISSUES

The remanufacturer shall respond to any or all open issues within 24 hours, during normal business hours, with appropriate documentation if necessary. Such response will include any plan to correct a situation as necessary. Any

impact in delivery or changes to the warranty period due to such situation shall be adequately documented.