INSTRUCTIONS

99TA516068 F

99TA516068 F (for RCD use only)

Instruction Sheet Number: **99TA516068 F**

Description: COMPRESSOR INSTALLATION PACKET

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⚠ WARNING

HAZARDS: ELECTRIC SHOCK / PRESSURE / EXPLOSION

REFRIGERANT AND OIL UNDER PRESSURE

- **Bodily injury may result from explosion and/or fire if power is supplied to compressor with terminal box cover removed or unsecured. Terminal pins may blow-out causing injuries, death or fire.**
- **Do not touch terminals, or wiring at terminals, or remove terminal cover or any part of compressor until power is disconnected and pressure is relieved. See safety instructions A, B, and C.**

ELECTRIC SHOCK

- **Bodily injury or death may result from electrocution if terminal cover is removed while power is supplied to compressor.**
- **Do not supply power to compressor unless terminal cover is secured in place and all service valves are open.**

Safety Instructions:

Service or maintenance must be performed only by trained certified technicians and according to service instructions.

A. Follow recognized safety practices and wear protective goggles.
B. Disconnect and lockout all electrical power. Electrical measurements during operation must be taken outside of the compressor terminal box.
C. Isolate the compressor from the system. Reclaim all refrigerant in the compressor. Do not disassemble bolts, plugs, fittings, etc. unless all pressure has been relieved from the compressor. The oil filter cavity must be relieved independently from the rest of the compressor since it can be isolated by the oil check valve.

NOTE: Valves may be sealing off refrigerant from the rest of the system. Do not open isolation valves while servicing the compressor.

Package Contents:

Item	Part No.	Qty.	Description
1	3TB0818	1	Terminal Box Gasket
2	KK71EW354	1	Suction O-Ring
3	KK71EW234	1	Discharge O-Ring
4	KK71EW223	1	Economizer O-Ring
5	19XL680001	1	O-Ring Grease
6	HK01CB002	1	Low Pressure Switch
7	KLE-LLM5	1	5mm Allen Head Wrench
8	KLE-SL16	1	¼" Allen Head Wrench
9	FC024A	1	¾" Crowsfoot Wrench
10	DC80SA005	1	Oil Line Fitting
11	HY69DS044	2	Electrical Quick Connect (M)
12	HY69SD054	2	Electrical Quick Connect (F)
13	99TA516068	1	Instruction Sheet

General Instructions:

- Inspect the compressor for shipping damage.
- All 06N compressors have the same physical dimensions and will look identical. Check the replacement compressor model number for the proper voltage, displacement, and motor cooling scheme designations.

NOTE: All digits in the model number must be the same except the 5th and 12th digits which do not affect the application of the compressor.

- Review the unit service instructions completely prior to beginning any service work on the compressor.

Failed Compressor Removal:

WARNING: Do not attempt to remove the compressor terminal box cover until all electrical power is disconnected and pressure is relieved Terminal pins may blow-out causing injuries, death, and/or fire.

1. Disconnect and lock out all electrical power to the compressor.
2. Isolate the compressor from the system & reclaim all refrigerant out of the compressor. The oil filter cavity pressure must be relieved independently from the rest of the compressor since it can be isolated by the oil check valve.
3. After refrigerant is recovered, label and remove all controls components (solenoid coils, transducers, pressure switches) from the compressor.
4. Remove the terminal box cover, then label and remove motor sensor wires and power leads. Remove the terminal box from the compressor casings.
5. Disconnect the discharge, motor cooling, and oil lines from the compressor. Remove the oil line fitting in the compressor to avoid damage during compressor removal.
6. WARNING: Support the compressor with rigging equipment capable of a minimum of 1000 lbs. (450 kg.) DO NOT use sling rigging to rig the compressor. Use the factory installed lifting plates/eyes to rig the compressor.
7. With the compressor properly supported, disconnect all mounting connections, including the suction flange bolts/nuts.
8. If studs are used for the suction connection, remove the studs prior to lifting the compressor off of the cooler. Studs left in place can scratch the cooler flange leading to leaks after re-assembly.
9. Remove the compressor from the unit. Use care to contain oil dripping from the compressor.
10. Clean the suction, discharge, and motor cooling flange faces in preparation for the replacement compressor. Remove and replace the motor cooling o-ring.
11. Check the condition of the oil in the discharge area and in the holding pan located in the suction pipe of the cooler. Oil should be replaced under any of the following circumstances:

    Moisture content > 100ppm
    Acidity (TAN) > 0.35 KOH/mg
    Viscosity <90% of rated viscosity (198cSt for Castrol SW220 oil)
    Refrigerant must be driven from solution prior taking to any viscosity tests.
    Color Dark or Black oil should be replaced.

Replacement Compressor Preparation:

12. Service compressors are shipped with a dry air holding charge. The Holding charge should be vented in Two locations; the compressor through the high pressure ports near the compressor discharge and at the Oil service port.
13. Remove the motor cooling shipping flange. Verify that the motor cooling inlet screen is in place.
14. Remove the discharge shipping flange. All compressors are run tested in the factory and will have some residual oil in the discharge area, use care to contain oil when opening the compressor.
15. Remove and replace the discharge o-ring, wipe the o-ring groove prior to installing the new o-ring.
16. Remove the schrader core from the top high pressure port fitting. This is the location of the high pressure switch which must be installed with direct access to the gas passage.
17. Lift the compressor from the shipping skid and remove the suction cover plate, use care to contain oil when opening the compressor.

18. Remove the suction o-ring and clean the flange and o-ring groove. Verify that the suction inlet screen is in place.
19. If the chiller uses studs for the suction connection, install three of the four studs leaving out the outboard stud closest to the gear end of the compressor. The studs should be bottomed out in the threaded hole then backed off ¼ to ½ turn.
20. Lightly grease the new replacement o-ring and install in the compressor just prior to installing the compressor on the chiller.

Replacement Compressor Installation:

21. It is preferable to leave the terminal box on the replacement compressor during installation in the chiller. The terminal box provides protection for the terminal pins, any damage sustained to the terminal pins is Not repairable and would require another compressor changeout.
22. Rig the compressor into position, when possible using the suction studs to drift the compressor into position. Be careful that the suction o-ring remains in its groove during assembly.

NOTE: It is important to use the proper length fasteners when installing the compressor on the unit. Do not use fasteners that are supplied with the replacement compressor as they may not be the correct length.

23. Install the fourth stud into the compressor. Reconnect the mounting fasteners and torque the suction bolts to 60-100 lb-ft, (81-136 Nm).
24. Reconnect the discharge line (and pre-filter bracket, if applicable). Hand tighten the bolts until all four are snug. Using a "star" pattern, torque discharge bolts to 60-100 lb-ft (81-136 Nm). It is critical to evenly tighten the four bolts to avoid casing damage.
25. Reconnect the motor cooling line, torque the bolts to 60-80 lb-ft, (81-108 Nm).
26. Remove the oil supply plug using the ¼" Allen wrench and install the oil supply fitting on the new compressor. Torque to 17-19 lb-ft, (23-26 Nm).
27. Reconnect the oil supply line and tighten the compressor fitting. Do not over-torque the compression fitting as this may create a leak.
28. Re-install the control components (solenoid coils, pressure transducers and switches) on the compressor.
29. Re-install the terminal box and connect the motor sensor wire and power wires being careful to reconnect exactly as done on the failed compressor. Using a back-up wrench, torque the terminal pin nuts to 15-20 lb-ft, (20-27 Nm).

Caution: Do not over-torque the terminal pin nuts as this may cause damage to the insulators and/or seals.

30. Re-install the terminal box cover and securely fasten.

WARNING: Do not apply power or pressure to the compressor without the terminal box cover in place and securely fastened. Failure to do so could result in bodily injury or death.

31. Temporarily install the low pressure switch supplied with this kit on the second high pressure port using a standard ¼" service hose. The switch will not reset until 10 psig of pressure are present on the switch.
32. Temporarily wire the low pressure switch in series with the compressor's high pressure switch. Connectors are provided to wire the switch into the line at the compressor protection module. The high pressure switch connection to the CPM board is made on;
    HN67LM100: Pin 2 of the nine pin connector
    HN67LM101: Pin 1 of the J3 or J7 connector

Replacement Compressor Start-up:

33. Leak check and evacuate the compressor.
34. Recharge the circuit with the appropriate amounts of oil and refrigerant.
35. Open all service valves to the compressor.
36. Restore electrical power to the unit.
37. Reset the reverse rotation low pressure switch.
38. Check the function of all of the control components, i.e., unloader solenoids, oil solenoid, and motor cooling solenoid.

39. Start the compressor according to the instructions in the unit service literature. If the compressor will not start, check that the reverse rotation low pressure switch has been reset.
40. If the compressor shuts down immediately check to see if the reverse rotation pressure switch is tripped. If so, disconnect and lockout all electrical power, then troubleshoot and correct the cause of the reverse rotation.
41. Once proper rotation has been verified disconnect and lockout the power to the chiller. The reverse rotation low pressure switch can then be removed from the compressor and high pressure switch circuit.

Failed Compressor Return:

42. Install the unused terminal box on the failed compressor.
43. SEAL THE FAILED COMPRESSOR using the shipping plates from the replacement compressor to seal the failed compressor.
44. Return the failed compressor in the shipping container provided with the replacement compressor, fasten the compressor securely within the crate.
45. Return the failed compressor according to the appropriate service policies.