

Contractor Service Tips

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Refrigerant Floodback

Q: What is refrigerant floodback?

Refrigerant floodback is a result of liquid refrigerant returning to the compressor during the running cycle. The oil is diluted with refrigerant to the point it cannot properly lubricate the load bearing surfaces.

Q: What are the signs of refrigerant floodback in an air-cooled compressor?

Worn pistons and cylinders; and, no evidence of overheating.

Q: How does refrigerant floodback happen in an air-cooled compressor?

The liquid washed the oil off the pistons and cylinders during the suction stroke causing them to wear during the compression stroke.

Q: What are the signs of refrigerant floodback in a refrigerant-cooled compressor?

The center and rear bearings are worn or seized, there is a dragging rotor and shorted stator, a progressively scored crankshaft, and worn or broken rods.

Q: How does refrigerant floodback happen in a refrigerant-cooled compressor?

The liquid dilutes the oil in the crankcase and the refrigerant rich oil will be pumped to the rods and the bearings through the crankshaft. As the refrigerant boils off, there will not be enough oil for sufficient lubrication at the bearings farthest from the oil pump. The center and rear bearings may seize or may wear enough to allow the rotor to drop and drag on the stator causing it to short.

Q: What can be done to avoid refrigerant floodback?

- (1) Maintain proper evaporator and compressor superheat.
- (2) Correct abnormally low load conditions.
- (3) Install accumulators to stop uncontrolled liquid return.