

# TECHNICALLY SPEAKING

By Ed Brink, Meier Supply Training and Technical Specialist



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Meier Supply Co., Inc., 123 Brown Street, Johnson City, NY 13790

[www.MeierSupply.com](http://www.MeierSupply.com) [EBrink@MeierSupply.com](mailto:EBrink@MeierSupply.com) 607-797-7700

## Slugging

**There are many reasons why a compressor fails:** Refrigerant Flood Back, Lack of Lubrication, Flooded Starts, Liquid Slugging and Overheating. All cause premature failure of compressors. Fortunately for us each has a specific cause and identifiable wear patterns or failure characteristics. This bulletin will focus on slugging.

**Slugging is defined as liquid refrigerant, oil or a combination of both being present** in the cylinder during the compression stroke. If the quantity of refrigerant entering the compressor is small enough, the heat within the cylinder and the heat of compression will cause the liquid to flash into a vapor causing scoring and wear of the cylinder wall and piston. If the quantity of liquid entering the cylinder is too large and it is not all flashed off, the compressor will try to compress the liquid resulting in bent or broken valves, crank shafts, connecting rods and blown gaskets.

**When slugging occurs the damage left behind is easily detectable.** When inspecting a broken crank shaft or connect rod, the damage is more representative of a shearing force. The components will be cleanly broken with little signs of twisting. When the rod caps are removed there will be little or no visible signs of scoring or wear on the caps and bearing.

**The most important thing to remember about slugging** is that it is usually symptom of other system problems like flood back and flooded starts. Each of these topics will be discussed more in-depth in future bulletins.

**With air cooled compressors**, slugging is usually a symptom of a flood back, while in **refrigerant cooled compressors** slugging is usually a symptom of flooded starts. Further examination of the compressor components will help identify the true cause of the compressor failure.

**Next month's article** will focus on causes and corrections for refrigerant floodback.

*\* For additional support contact Meier Supply at any of our locations \**

If you have any questions, please contact:  
Ed Brink, Meier Supply Technical and Training Specialist  
email: [EBrink@MeierSupply.com](mailto:EBrink@MeierSupply.com)  
phone: 607-797-7700

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