

# Glide

## What You Need To Know



---

Understanding Glide  
and Superheat

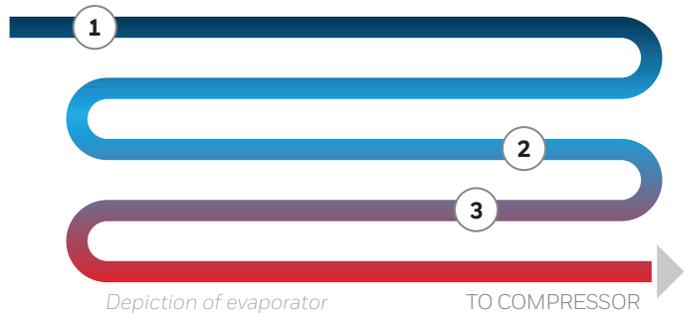
---

# Glide Matters

Many technicians are accustomed to using refrigerants that act as a single component with a boiling temperature that doesn't change within the evaporator or the condenser. But with zeotropic refrigerant blends, the temperature in the evaporator will be colder at the start of the coil than at the end and the temperature in the condenser will be warmer at the beginning than at the end. Simply put, the differences in these temperatures is the Glide.

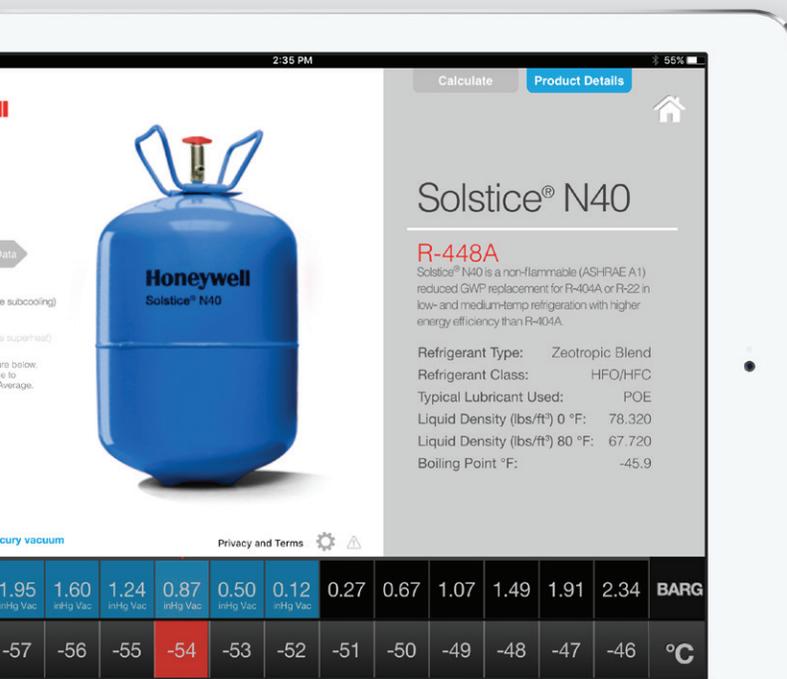
**Understanding Glide is the key to maintaining the desired temperature and protecting the compressor.**

- 1. Liquid** with a few bubbles (coldest)
- 2. Equal** vapor and liquid
- 3. Vapor and last** few drops of liquid (warmer)



## Why Glide Matters

Because different components in a blend boil at different temperatures, the temperature in the coil will vary as the mixture boils. If the expansion valve adjustment isn't made using the Dew Point, two things can happen. **FIRST**, the liquid may not vaporize before reaching the compressor, which can cause inefficiency and lead to compressor damage. **SECOND**, the blend may completely boil part way through the evaporator, leading to a loss of efficiency and required fixture temperature.



## ADJUSTING FOR GLIDE

When adjusting pressure and superheat, your goals are to achieve the desired temperature, maximize coil efficiency, and protect the compressor for long service life. It all starts by looking at the Pressure-Temperature (PT) chart included with your refrigerant or on the convenient Honeywell Refrigerants PT Chart app.



IOS



ANDROID

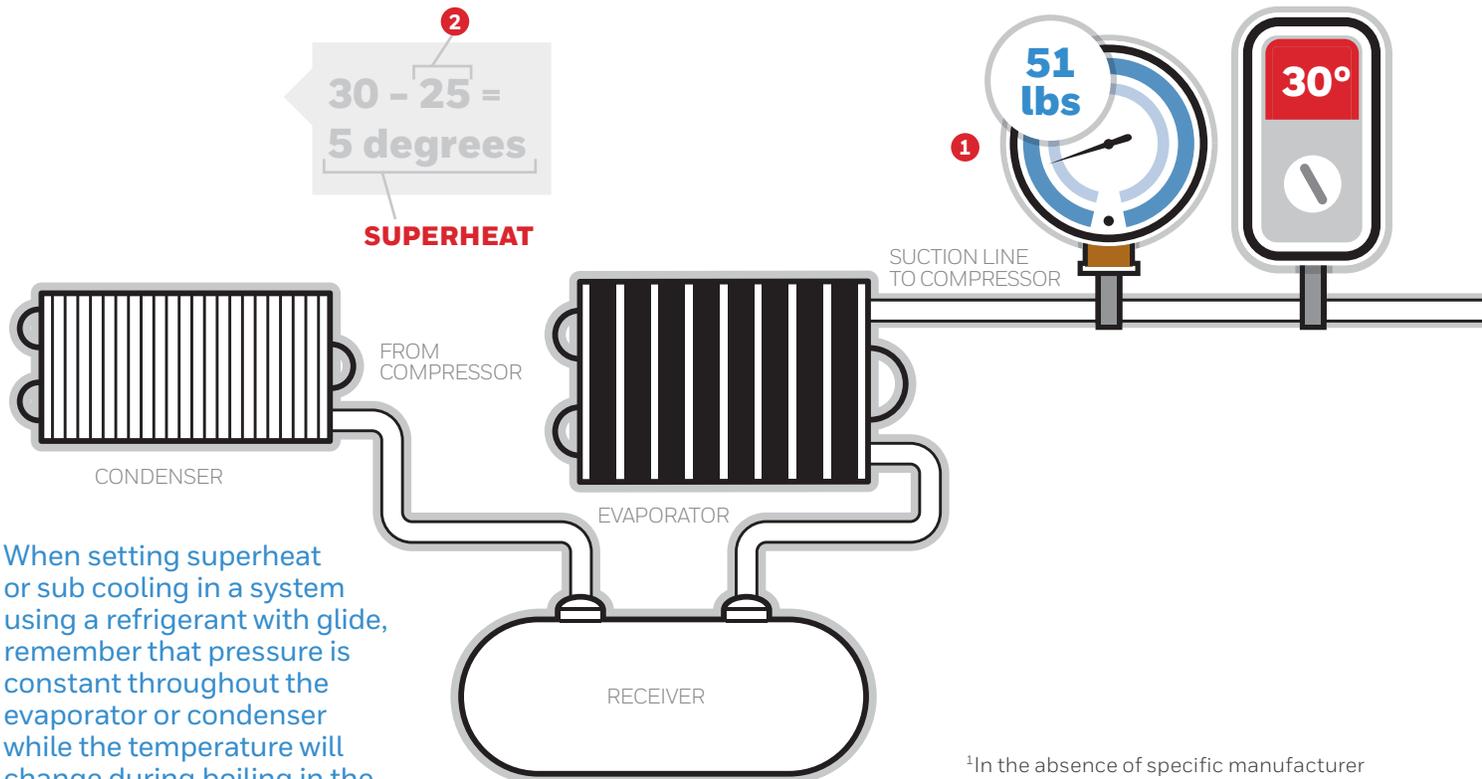
## SETTING EVAPORATOR PRESSURE

In this Honeywell Solstice® N40 PT chart, we want to achieve an **average** coil temperature of 20° F, as noted by the (4). Using the chart as reference, we know that we can begin by setting the Pressure to 51 psig (1).

PRESSURE (psig)	TEMPERATURE		
	AVERAGE	BUBBLE	DEW
	°F		
45	15	10	20
46	16	11	21
47	17	12	22
48	18	12	23
49	18	13	24
50	19	14	24
<b>1</b> 51	20 <b>4</b>	15 <b>3</b>	25 <b>2</b>
52	21	16	26
53	22	16	27
54	22	17	28
55	23	18	28

## SETTING SUPERHEAT

In order to set the superheat<sup>1</sup>, find the Dew Point temperature corresponding to the coil pressure. The evaporator coil pressure and dew temperature are shown as 1) and 2) in chart above. To get superheat compare the dew temperature from the chart to the actual temperature of the evaporator outlet piping. The difference in these two temperatures is the superheat. In this example, when the pressure is 51psig and the pipe temperature is 30 degrees, the superheat will be 30 minus 25, or 5 degrees. As you continue to take temperature readings, you can adjust the superheat and pressure as needed until you’ve achieved the desired coil temperature.



When setting superheat or sub cooling in a system using a refrigerant with glide, remember that pressure is constant throughout the evaporator or condenser while the temperature will change during boiling in the evaporator or condensing in the condenser.

<sup>1</sup>In the absence of specific manufacturer recommendations, a 4 to 6° F superheat for low temperature and 6 to 8° F for medium temperature is recommended.

**Learn More**

PT Charts for all Honeywell refrigerants are available in the free Honeywell Refrigerants PT Chart app. You can also get technical support by contacting your Honeywell representative or visiting [honeywell-refrigerants.com](http://honeywell-refrigerants.com).

**For more information**

[www.honeywell-refrigerants.com/americas](http://www.honeywell-refrigerants.com/americas)

**Honeywell Refrigerants**

115 Tabor Road  
Morris Plains, NJ 07950  
800-631-8138

Although Honeywell International Inc. believes that the information contained herein is accurate and reliable, it is presented without guarantee or responsibility of any kind and does not constitute any representation or warranty of Honeywell International Inc., either expressed or implied. A number of factors may affect the performance of any products used in conjunction with user's materials, such as other raw materials, application, formulation, environmental factors and manufacturing conditions among others, all of which must be taken into account by the user in producing or using the products. The user should not assume that all necessary data for the proper evaluation of these products are contained herein. Information provided herein does not relieve the user from the responsibility of carrying out its own tests and experiments, and the user assumes all risks and liabilities (including, but not limited to, risks relating to results, patent infringement, regulatory compliance and health, safety and environment) related to the use of the products and/or information contained herein.

June 2017  
© 2017 Honeywell International Inc. All rights reserved.

**Honeywell**