

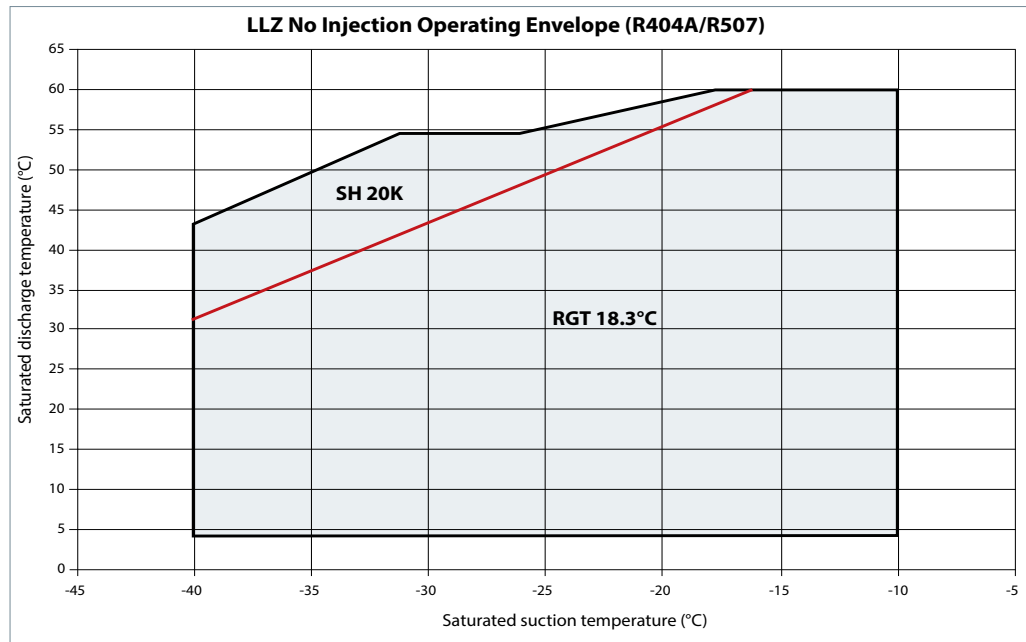
**Requirement**

**R** The operating envelope for LLZ scroll compressors is given in the figures below and guarantees reliable operations of the compressor for steady-state and operation.

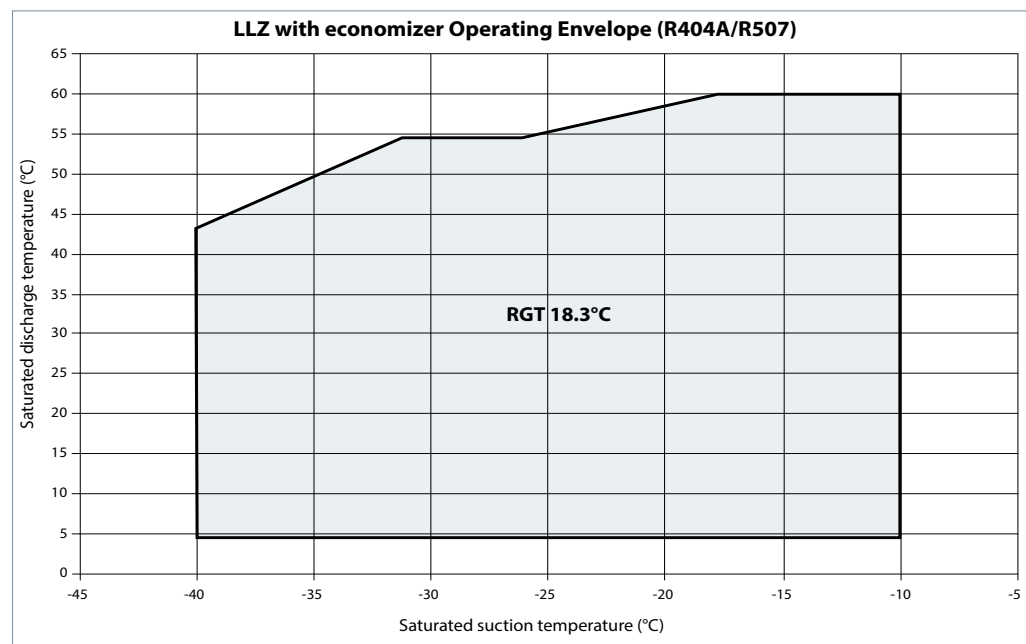
Steady-state operation envelope is valid for a suction superheat high than 5K

LLZ compressor operating envelop are difference with refrigerant and with/with out injection. The detail as following.

**LLZ Compressor with R404A/R507, code2/4/9, Non Injection**

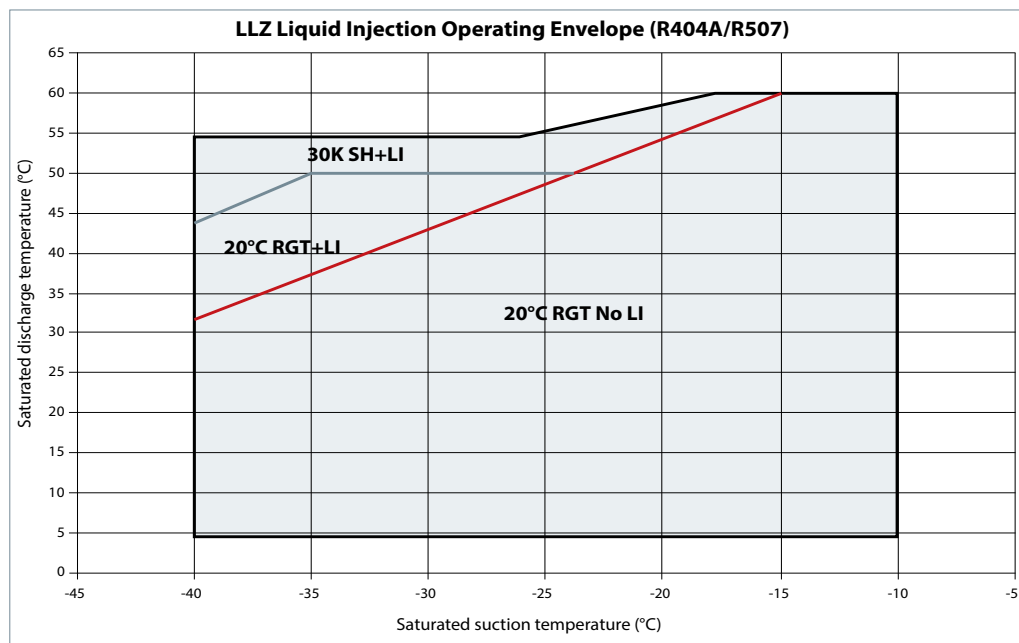


**LLZ Compressor with R404A/R507, code2/4/9, with economizer line**



GENERAL INFORMATION  
PRODUCT INFORMATION  
SYSTEM DESIGN  
INTEGRATION INTO SYSTEM  
ORDERING INFORMATION

**LLZ Compressor with R404A/R507, code2/4/9, with liquid injection(LI)**



Pressure settings		R404A/R507
Working range high side	bar(g)	5.94-27.74
Working range low side	bar(g)	0.33-3.34
Maximum high pressure safety switch setting	bar(g)	29.7
Minimum low pressure safety switch setting	bar(g)	0.15
Minimum low pressure pump-down switch setting	bar(g)	0.33

**R** LP and HP safety switches must never be bypassed nor delayed and must stop all the compressors.

When caused low by LP safety switch, limit the number of auto-restart to maximum 5 times within 12 hours.

**!** HP safety switch must be manual reset

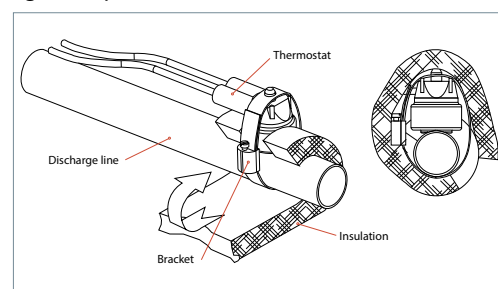
Depending on application operating envelope, you must define HP and LP limits within operating envelope and pressure setting table above.

- The thermostat must be attached to the discharge line within 150 mm from the compressor discharge port and must be thermally insulated and tightly fixed on the pipe.

For LLZ compressors, the external Discharge Gas Temperature protection (DGT) is required if the high and low pressure switch settings do not protect the compressor against operations beyond its specific application envelope.

- The DGT should be set to open at a discharge gas temperature of 135°C.

The discharge gas thermostat accessory kit (code 7750009) includes all components required for installation as shown on the right. DGT installation must respect below requirements:



## Manage operating envelope

### Evaluate the risk

We consider two types of operating envelope management:

<p>Basic:</p> <ul style="list-style-type: none"> <li>• HP and LP switch</li> <li>• MOP (Max Operating Pressure) ensured by expansion device</li> <li>• Condensing pressure control</li> <li>• (DGT integrated)</li> </ul>	<p>Advanced:</p> <ul style="list-style-type: none"> <li>• HP and LP sensor</li> <li>• Operating envelope limits (permanent and transient) integrated into control logic</li> <li>• (DGT integrated)</li> </ul>
	<p>No additional test are required</p>