

*134-XS and 134-S series compressors*

*Application range*

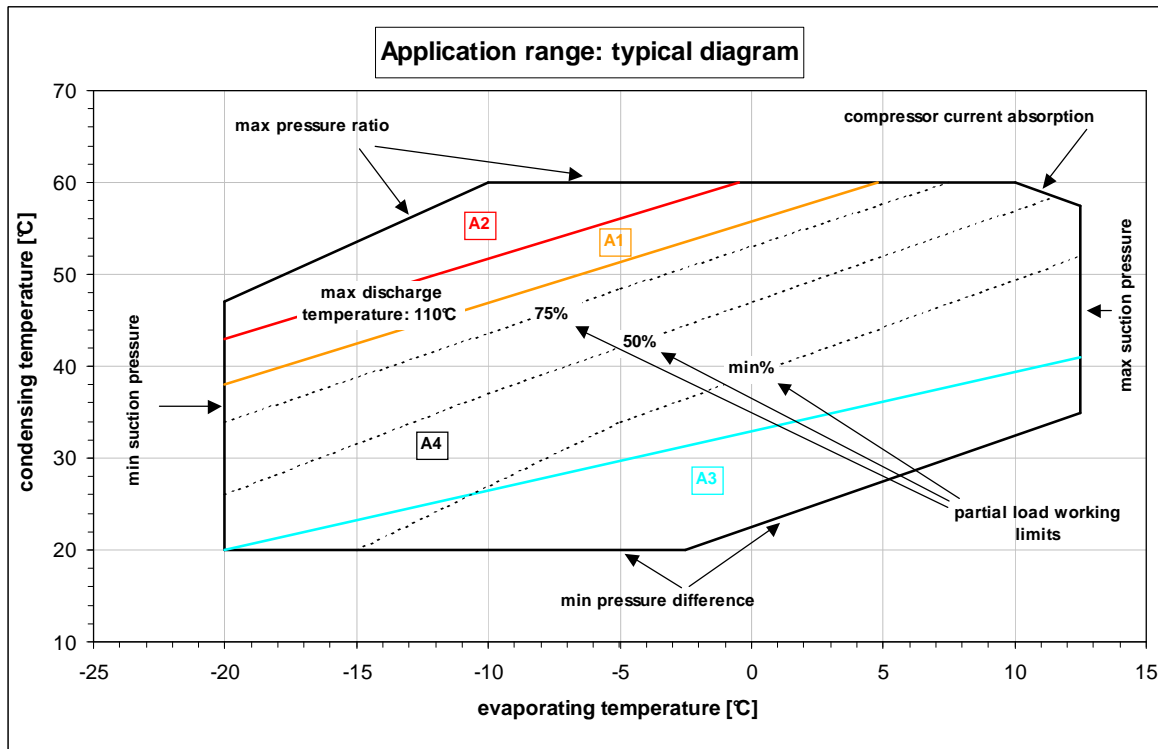
*(EA-10-01-E)*

<b>10</b>	<b>APPLICATION RANGE</b>	<b>2</b>
10.1	OPERATING RANGE WITH R-134a	2

## 10 Application range

### 10.1 Operating range with R-134a

The normal admissible operating conditions for the 134-XS/S series compressors, with changes in evaporation and condensing temperature, are defined by a polygon, as highlighted in picture 10-A.



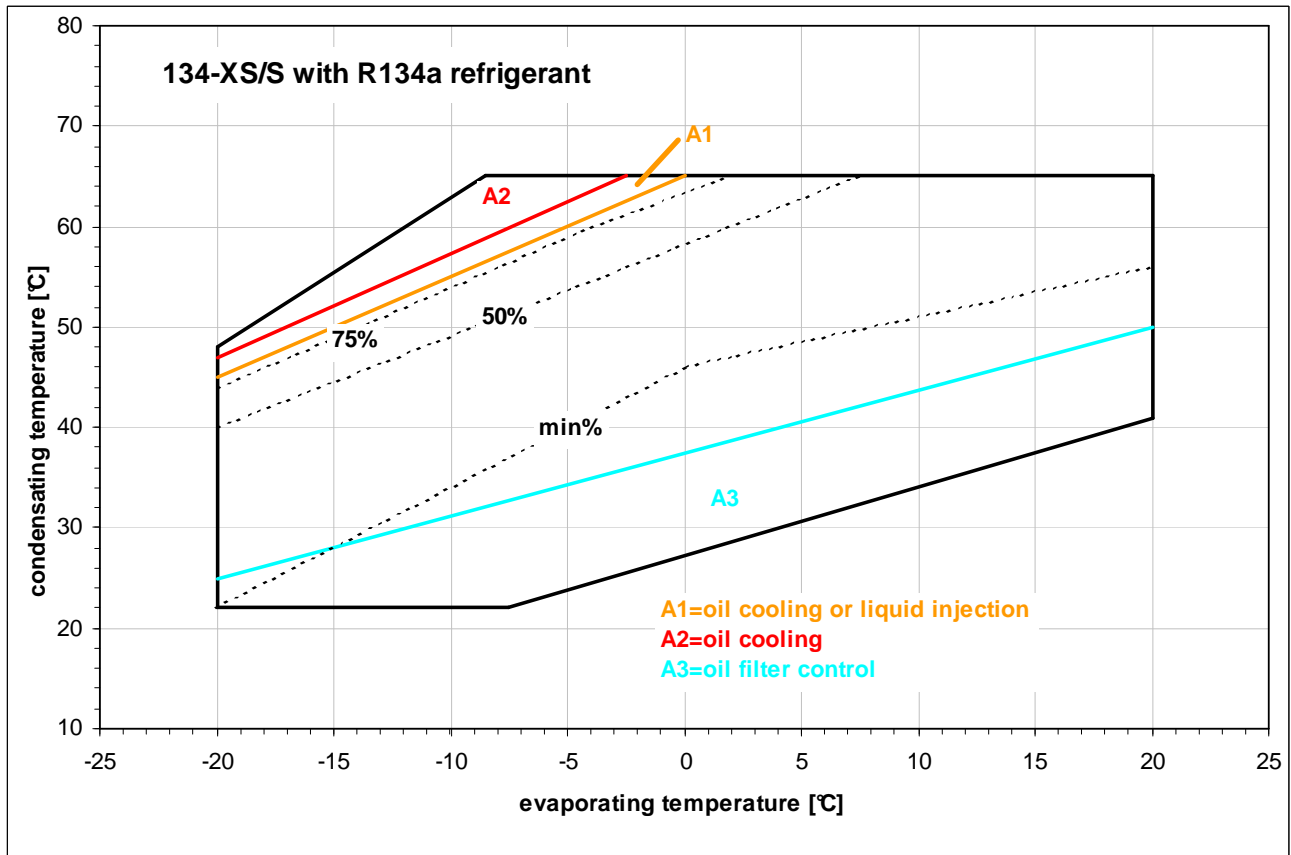
**Picture 10-A: typical application range;**

The entire field of operation of the compressor is divided into four areas, featuring special precautions that must be adopted so as to ensure correct operation; specifically:

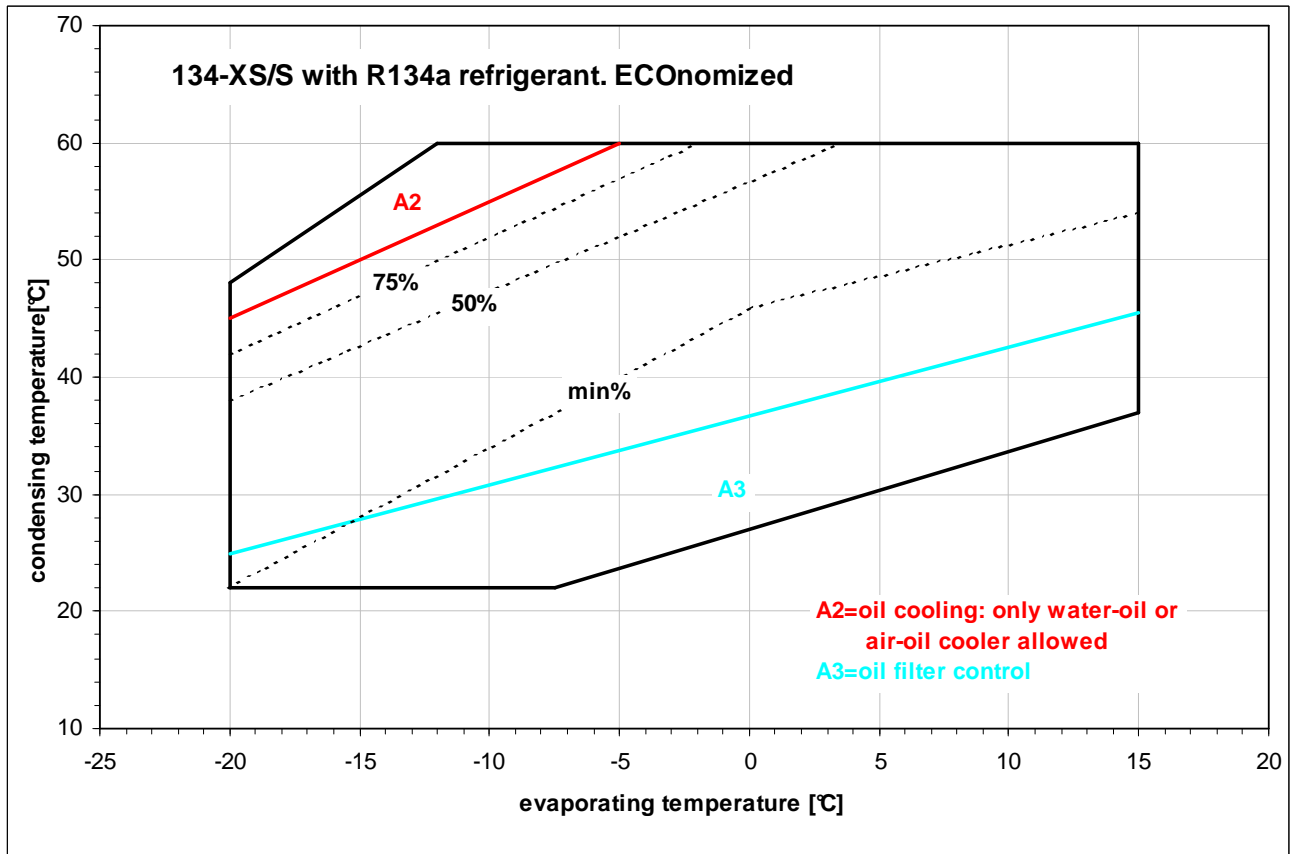
- Area A1: area in which the correct operation of the compressor requires additional cooling by the injection of liquid (refrigerant) or cooling of the oil in an external circuit (air-oil, water-oil and refrigerant-oil heat exchangers), see chapter EA-11: “Additional cooling”;
- Area A2: area in which additional cooling must be provided only by cooling the oil. Use air-oil or water-oil exchangers (the injection of liquid into the compressor is not allowed), see chapter EA-11: “Additional cooling”;
- Area A3: area in which the status of the oil filter needs to be monitored: the pressure drop allowed across the filter must be less than 1.5 bar; if the pressure drop across the filter is greater than 1.5 bar, the compressor must be stopped and the filter replaced. When the filter has been replaced, check the condition of the new filter after around 200-300 hours of operation. The pressure drop across a clean filter is less than 0.8 bar, see chapter EA-02: “Lubrication”;
- Area A4: area of standard compressor operation;

In addition to the above given areas, the diagram gives also, as dotted lines, the working limits on partial load: 75%, 50% and min%. For each partial load, these lines limits the maximum possible condensation temperature in relation to the evaporation temperature.

The following paragraphs describe the operating limits for the 134-XS/S compressors, depending on whether the ECONOMIZER circuit is featured or not. All the operating limits refer to a suction vapour superheat of 10K.



Picture 10-B: application range for the standard work;



Picture 10-C: application range for work with the economiser circuit;