Valeo Compressor Oil Procedures

Date: April 2020

Subject: Compressor Oil Bulletin

Affected Models: Systems using Valeo TM16, 21, 31, 43, 55 or 65 Compressors. Carlyle O5G

Compressor oil is in the refrigeration system to both lubricate the compressor and to keep it running cool under normal operation. Problems arise when there is too much oil (i.e. lack of lubrication) or not enough oil to sustain the life of the compressor. The compressors we receive from Valeo compressor group contain a specific amount and type of compressor oil.

Note

The TM 43 compressor compressor comes with 800cc or 27 ozs. of oil.

If the refrigerant charge is less than 5kg or 11lbs there is no need to add oil to the system. If the refrigerant system charge

Is less or greater than 11 lbs it is necessary to adjust the oil charge according to the chart below.

TM 43 Refrigerant Charge lbs.	Additional oil needed oz.	TM 43 Refrigerant Charge lbs.	Additional oil needed oz.	TM 43 Refrigerant Charge lbs.	Oil Removed oz.	TM 43 Refrigerant Charge lbs.	Oil Removed oz.
17.6	8.5	13.6	3.4	10.5	0.56	7.4	5
17.2	7.9	13.2	2.8	10.1	1.1	6.6	5.6
16.7	7.3	12.7	2.3	9.7	1.7	6.1	6.2
16.3	6.7	12.3	1.7	9.2	2.3	5.7	6.8
15.8	6.2	11.9	1.1	8.8	2.8	5.2	7.3
15.4	5.6	11.4	0.6	8.3	3.4	4.8	7.9
14.9	5	11	0	7.9	3.9	4.4	8.5
14.5	4.5			7.4	4.5		
14.1	3.9			7	5		

Valeo Compressor Oil Procedures

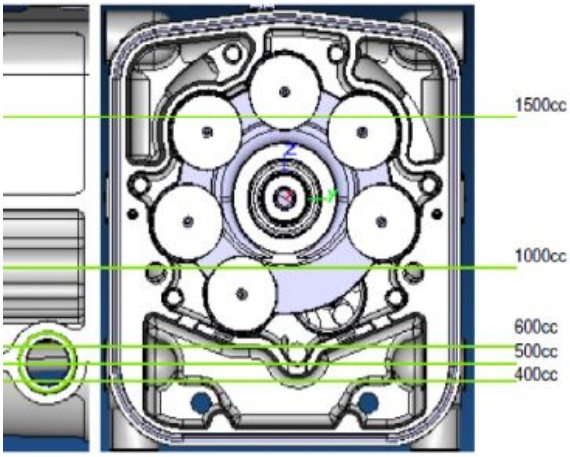
Note
The TM 55/65 compressor comes with 1500cc or 50.72oz of oil. If the refrigerant charge is less than 22 lbs. of 134a refrigerant there is no need to add oil to the system. If a suction line accumulator is being added to the system continue to add the 4 oz. in the accumulator. If the refrigerant charge is over 22 lbs. of 134a refrigerant add 2 oz of oil for every pound of refrigerant.

TM 55/65 Refrigerant Charge lbs	Remove oil oz.	TM 55/65 Refrigerant Charge lbs	Remove oil oz.	TM 55/65 Refrigerant Charge lbs	Remove oil oz.	TM 55/65 Refrigerant Charge lbs	Remove oil oz.
22	0	18.1	5.7	14.1	11.4	10.1	17.1
21.6	0.63	17.6	6.3	13.6	12	9.7	17.7
21.1	1.2	17.2	6.9	13.2	12.7	9.2	18.4
20.7	1.9	16.7	7.6	12.7	13.3	8.8	19
20.3	2.5	16.3	8.2	12.3	13.9	8.3	19.6
19.8	3.1	15.8	8.8	11.9	14.6	7.9	20.3
19.4	3.8	15.4	9.5	11.4	15.2	7.5	20.9
18.9	4.4	14.9	10.1	11	15.8	7	21.5
18.5	5	14.5	10.7	10.5	16.5	6.6	22.2

While running the a/c system and performing the PDI, look at the compressor sight glass. You should see oil ¼ to ½ in the sightglass. Shut the system down and recheck the sightglass. As the oil drains back to the compressor, it is not uncommon to see a full sightglass.

Valeo Compressor Oil Procedures

Below is a picture of the sightglass for the Valeo TM43, TM 55, and TM65 compressor with an oil retaining sump.



The TM 16 and TM 21 Valeo compressors both come with 180cc or 6.08oz

Unfortunately these compressors are (automotive style) and do not have an oil retaining sump i.e. no sightglass. Therefore the oil must travel through the refrigeration system with the refrigerant.

Note
It is our recommendation when installing the automotive style compressors the oil charge is 2oz of PAG 46 per each pound of refrigerant.

1) Oil Type
    a) Brand: Valeo supplies BVA
    b) Viscosity: PAG 46
        POE 68
    c) Type: PAG (Polyalkylene Glycol) most commonly used.
        POE 68 (Polyester) commonly used in transit compressors.

Valeo Compressor Oil Procedures

The oils that we use in the refrigeration system are extremely hygroscopic (retain moisture). Therefore it is imperative when adding oil to the system it is done in a manner to reduce the possibility of moisture entering the refrigeration system. Any question about evacuation and charging procedures please refer to the R-134a Refrigerant Circuit Evacuation Guidelines for Valeo AC on the google drive.

Compressor Type	Standard Oil Volume	Suction Line Accumulator	
TM16 & TM21 Orifice	2.0 oz/ pound of R-134a	Add 4oz. Per	
TM16 & TM21 Thermal Expansion Valve (TXV)	2.0 oz/ pound of R-134a	Add 4oz. Per	
TM31,43,55,65 (Orifice)	2.0 oz/ pound of R-134a	Add 4oz. Per	Only add oil if the refrigerant charge is over 22lbs.
TM31,43,55,65 (TXV)	2.0 oz/ pound of R-134a	Add 4oz. Per	Only add oil if the refrigerant charge is over 22lbs.