

6431 Overview of tightening torques

Microfilter cover to heating and air-conditioning unit	
	2Nm

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64 52 Air conditioning compressor

Tightening Torques

	Type	Thread	Tightening specifications	Torque
1AZ Refrigerant lines to air-conditioning compressor	F01 / F02 / F03 / F06 / F07 / F10 / F10h/F11 / F12 / F13 / F15 / F25 / F39	M8		18 Nm
	F10 / F11 / F15 / F16 / F18 / F20 / F21 / F22 / F25 / F26 / F30 / F31 / F32 / F33 / F34 / F35 / F36 / F80 / F82 / F83 / F87	M6		8 Nm
	N20 F18	M8x30		18 Nm
2AZ Oil filler plug, air conditioning compressor	F01 / F02 / F03 / F06 / F07 / F10 / F11 / F18 / F12 / F13 / F15 / F16 / F25 / F26 / F20 / F21 / F22 / F30 / F31 / F32 / F33 / F34 / F35 / F36 / F45 / F46 / F48 / F49 / F54 / F55 / F56 / F57 / F80 / F82 / F83 / F87 /			30±1 Nm
3AZ Air conditioning compressor on crankcase	N47T, F10 / F11 / F15 / F20 / F21 / F22 / F25 / F26 / F30 / F31 / F32 / F33 / F34 / F36	M10		38 Nm
	N13, F20 / F21 / F22 / F30 / F31	M8		22 Nm
	N20, F07 / F10 / F11 / F18 / F20 / F21 / F22 / F25 / F26 / F30 / F31 / F33 / F34 / F32 / F35 / F36	M10		38 Nm
	N54, F01 / F02	M8		19 Nm

	N55, F06 / F07 / F10 / F10h/F11 / F15 / F16 / F18 / F12 / F13 / F20 / F21 / F22 / F26 / F25 / F30 / F31 / F32 / F33 / F34 / F35 / F36 / F87	M8		19 Nm
	N57, F01 / F02 / F07 / F10 / F11	M8		19 Nm
	N57, F06 / F07 / F10 / F11 / F12 / F13 / F15 / F16 / F26 / F25 / F30 / F32 / F31 / F33 / F34 / F36	M10		38 Nm
	N63, F01 / F02 / F03 / F04 / F06 / F07 / F10 / F11 / F12 / F13	M8		21±3 Nm
	N63T, F15 / F16	M8		24,6 Nm
	N74, F01 / F02 / F03	M8		21±3 Nm
	F39 / F45 / F46 / F48 / F49 / F52 / F54 / F55 / F56 / F57 all / F60	M10		38 Nm
	B47, F10 / F11 / F20 / F21 / F22 / F23 / F25 / F26	M10		38 Nm
	B37, F20 / F21	M10		38 Nm
	B48, F30 / F31	M10		38 Nm
	B58, F30 / F31	M10		38 Nm
	B38, F20 / F21 / F22 / F23 / F30 / F31	M10		38 Nm
	S55, F80 / F82 / F83	M8		19 Nm
	S63, F85 / F86	M8		24,6 Nm
	N52, F01 / F02 / F10 / F11 / F18 / F25	M8	Replace screws. Torque: Angle of rotation:	10 Nm 180 °
4AZ Refrigerant lines to air-conditioning compressor	F04	M6		10±2 Nm
5AZ Air conditioning compressor holder on crankcase lower section	N55, F20 / F21 / F22 / F23 / F30 / F32 / F31 / F33 / F35 / F36 / F87			19 Nm
6AZ Refrigerant lines to component carrier	F10h	M6		8 Nm

7AZ Holder of refrigerant lines to air conditioning compressor	N57X, F10 / F11	M6		8 Nm
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64 53 Refrigerant Lines and Expansion Valve

Tightening Torques

	Type	Thread	Tightening specifications	Torque
1AZ Refrigerant lines to flange (expansion valve)	F01 / F02 / F03 / F04 / F06 / F07 / F10 / F11 / F18 / F12 / F13 / F20 / F21 / F22 / F23 / F30 / F31 / F32 / F33 / F34 / F35 / F36 / F45 / F46 / F48 / F49 / F52 / F54 / F55 / F56 / F57 / F60 / F80 / F82 / F83 / F87 /	M6		8 Nm
2AZ Expansion valve to heater - A/C	F01 / F02 / F03 / F04 / F06 / F07 / F10 / F11 / F18 / F12 / F13 / F20 / F21 / F22 / F23 / F25 / F26 / F30 / F31 / F32 / F33 / F34 / F35 / F36 / F45 / F46 / F48 / F49 / F52 / F54 / F55 / F56 / F57 / F60 / F80 / F82 / F83 / F87 /	M6		5,5 Nm
3AZ Refrigerant lines to capacitor	F01 / F02 / F03 / F04 / F06 / F07 / F10 / F11 / F18 / F12 / F13 / F20 / F21 / F22 / F23 / F30 / F31 / F32 / F33 / F34 / F35 / F36 / F45 / F46 / F48 / F49 / F52 / F54 / F55 / F56 / F57 / F60 / F80 / F82 / F83 / F87 /	M6		8 Nm
	F25 / F26	M6		9 Nm

4AZ Refrigerant lines to air-conditioning compressor	F01 / F02 / F03 / F04 / F06 / F07 / F10 / F11 / F18 / F12 / F13 / F20 / F21 / F22 / F23 / F25 / F26 / F30 / F31 / F32 / F33 / F34 / F35 / F36 / F45 / F46 / F48 / F49 / F52 / F54 / F55 / F56 / F57 / F60 / F87 /	M8		19 Nm
5AZ Rear air conditioner expansion valve coolant lines	F01 / F02 / F03	M6		5.5 Nm
6AZ Rear air conditioner expansion valve	F02 / F03			5 + 0.5 Nm
7AZ Intake pipe 1 to intake pipe 2	F01 / F02 / F03 / F04 / F10 / F60 / F52	M6		8 Nm
8AZ Refrigerant pressure sensor	F01 / F02 / F03 / F04 / F06 / F07 / F10 / F11 / F18 / F12 / F13 / F20 / F21 / F22 / F23 / F25 / F26 / F30 / F31 / F32 / F33 / F34 / F35 / F36 / F45 / F46 / F48 / F49 / F52 / F54 / F55 / F56 / F57 / F60 / F80 / F82 / F83 / F87 /			10 Nm
9AZ Sealing plate for refrigerant lines on bulkhead	F01 / F02 / F03 / F04 / F06 / F07 / F10 / F11 / F18 / F12 / F13			4 Nm
10AZ Expansion valve to retaining clip	F25 / F26	M6		8 Nm
11AZ Refrigerant lines to expansion valve	F25 / F26			18 Nm
12AZ Refrigerant lines with retaining clip to expansion valve	F10h / F01h / F02h			5 Nm
13AZ Refrigerant line to high-voltage battery unit	F01h / F02h / F10h / F30h	M6		8 Nm

14AZ Nuts for expansion valve	F10h / F01h / F02h	M5		3,5 Nm
15AZ Expansion valve to high-voltage battery unit	F30h	M6		8,8 Nm
16AZ Refrigerant line to refrigerant line	F30 / F31 / F60	M6		8 Nm

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64 53 Refrigerant Lines and Expansion Valve

Tightening Torques

	Type	Thread	Tightening specifications	Torque
1AZ Refrigerant lines to flange (expansion valve)	F01 / F02 / F03 / F04 / F06 / F07 / F10 / F11 / F18 / F12 / F13 / F20 / F21 / F22 / F23 / F30 / F31 / F32 / F33 / F34 / F35 / F36 / F45 / F46 / F48 / F49 / F52 / F54 / F55 / F56 / F57 / F60 / F80 / F82 / F83 / F87 /	M6		8 Nm
2AZ Expansion valve to heater - A/C	F01 / F02 / F03 / F04 / F06 / F07 / F10 / F11 / F18 / F12 / F13 / F20 / F21 / F22 / F23 / F25 / F26 / F30 / F31 / F32 / F33 / F34 / F35 / F36 / F45 / F46 / F48 / F49 / F52 / F54 / F55 / F56 / F57 / F60 / F80 / F82 / F83 / F87 /	M6		5,5 Nm
3AZ Refrigerant lines to capacitor	F01 / F02 / F03 / F04 / F06 / F07 / F10 / F11 / F18 / F12 / F13 / F20 / F21 / F22 / F23 / F30 / F31 / F32 / F33 / F34 / F35 / F36 / F45 / F46 / F48 / F49 / F52 / F54 / F55 / F56 / F57 / F60 / F80 / F82 / F83 / F87 /	M6		8 Nm
	F25 / F26	M6		9 Nm

4AZ Refrigerant lines to air-conditioning compressor	F01 / F02 / F03 / F04 / F06 / F07 / F10 / F11 / F18 / F12 / F13 / F20 / F21 / F22 / F23 / F25 / F26 / F30 / F31 / F32 / F33 / F34 / F35 / F36 / F45 / F46 / F48 / F49 / F52 / F54 / F55 / F56 / F57 / F60 / F87 /	M8		19 Nm
5AZ Rear air conditioner expansion valve coolant lines	F01 / F02 / F03	M6		5.5 Nm
6AZ Rear air conditioner expansion valve	F02 / F03			5 + 0.5 Nm
7AZ Intake pipe 1 to intake pipe 2	F01 / F02 / F03 / F04 / F10 / F60 / F52	M6		8 Nm
8AZ Refrigerant pressure sensor	F01 / F02 / F03 / F04 / F06 / F07 / F10 / F11 / F18 / F12 / F13 / F20 / F21 / F22 / F23 / F25 / F26 / F30 / F31 / F32 / F33 / F34 / F35 / F36 / F45 / F46 / F48 / F49 / F52 / F54 / F55 / F56 / F57 / F60 / F80 / F82 / F83 / F87 /			10 Nm
9AZ Sealing plate for refrigerant lines on bulkhead	F01 / F02 / F03 / F04 / F06 / F07 / F10 / F11 / F18 / F12 / F13			4 Nm
10AZ Expansion valve to retaining clip	F25 / F26	M6		8 Nm
11AZ Refrigerant lines to expansion valve	F25 / F26			18 Nm
12AZ Refrigerant lines with retaining clip to expansion valve	F10h / F01h / F02h			5 Nm
13AZ Refrigerant line to high-voltage battery unit	F01h / F02h / F10h / F30h	M6		8 Nm

14AZ Nuts for expansion valve	F10h / F01h / F02h	M5		3,5 Nm
15AZ Expansion valve to high-voltage battery unit	F30h	M6		8,8 Nm
16AZ Refrigerant line to refrigerant line	F30 / F31 / F60	M6		8 Nm

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64 operating fluid overview

Expendable materials

Refrigerant R134a	12 kg, Bottle	83199408386
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Expendable materials

Heating and air conditioning system cleaning agent	1000 ml, Bottle	83192180507
	5000 ml, Bottle	83192219932

Expendable materials

Heating and air conditioning system cleaning agent	100 ml, Can	83192409611
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Expendable materials

Ozonizer	100 ml, Can	83192318666
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Expendable materials

Refrigerant oil PAG-Å-L Denso ND8	500 ml, Can	81342147762
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Expendable materials

UV additive Waeco	500 ml, Can	83192232504
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Expendable materials

Cartridge set for leak detector case	3x, Cartridge	83192232569
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Expendable materials

Cleaning agent UV filter	237 ml, Spray bottle	83192243942
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Expendable materials

Refrigerant R1234yf	5 kg, Bottle	83192354790
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Expendable materials

UV additive	472,5 ml, Can	83192243934
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Expendable materials

Refrigerant oil Sanden SP-A2 * TU = Trade Unit. TU numbers cannot be ordered! For invoicing purposes only. EU	250 ml, Can	83222339920
	10 ml	83192287382

	10 ml, TU*	83190143174
Expendable materials		
Refrigerant oil	250 ml, Can	81229407724
* TU = Trade Unit. TU numbers cannot be ordered! For invoicing purposes only.	10 ml, TU*	83190143174

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Sealing frame attachment part	
M6x20	2,3Nm

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