



Contents

00 - Technical data	1
1 Safety information	1
1.1 Safety precautions when working on air conditioning systems	1
1.2 Safety precautions when handling refrigerants	1
1.3 Safety measures for working on vehicles with high-voltage system	2
1.4 Safety precautions when working in the vicinity of high-voltage components	3
1.5 Safety precautions when working on cooling system	3
2 General information	4
2.1 Type plates	4
3 Repair notes	7
3.1 Working on refrigerant circuit	7
3.2 General repair instructions	7
3.3 Refrigerant circuit seals	8
4 Technical data	9
4.1 Refrigerant capacity	9
4.2 Refrigerant oil capacities	9
4.3 Oil distribution	10
80 - Heating	11
1 Heating system	11
87 - Air conditioning system	12
1 Overview of fitting locations - air conditioning system	12
1.1 Overview of fitting locations – components not located in passenger compartment	12
1.2 Overview of fitting locations - components located in front section of passenger compartment	23
2 Refrigerant circuit	32
2.1 System overview - refrigerant circuit	32
2.2 Assembly overview – condenser	39
2.3 Removing and installing refrigerant circuit pressure sender G805	42
2.4 Removing and installing expansion valve	44
2.5 Removing and installing condenser	47
2.6 Removing and installing desiccant bag or cartridge	51
2.7 Removing and installing receiver with desiccant cartridge	54
2.8 Removing and installing evacuating and charging valves on low and high-pressure side	56
2.9 Removing and installing refrigerant pressure and temperature sender G395	61
2.10 Removing and installing refrigerant pressure and temperature sender 3 G827	64
2.11 Removing and installing refrigerant pressure and temperature sender 4 G828	66
2.12 Removing and installing refrigerant pressure and temperature sender 5 G829	69
2.13 Removing and installing refrigerant shut-off valve 5 N643	71
2.14 Removing and installing heat exchanger for heating condenser	73
2.15 Removing and installing heat condenser	78
2.16 Removing and installing refrigerant line, e-Golf	80
2.17 Removing and installing refrigerant line, e-Golf with heat pump	86
3 Valve unit of heat pump	109
3.1 Assembly overview – valve unit of heat pump	109
3.2 Removing and installing valve unit of heat pump	112
3.3 Dismantling and assembling valve unit of heat pump	119
3.4 Removing and installing refrigerant expansion valve 1 N636	124
3.5 Removing and installing refrigerant expansion valve 2 N637	130
3.6 Removing and installing refrigerant expansion valve 3 N638	136
3.7 Removing and installing refrigerant shut-off valve 1 N696	141



3.8	Removing and installing refrigerant shut-off valve 4 N642	144
3.9	Removing and installing refrigerant pressure and temperature sender 2 G826	149
4	Air conditioner compressor	153
4.1	Assembly overview – air conditioner compressor	153
4.2	Removing electrical air conditioner compressor V470 from and attaching to bracket	154
4.3	Removing and installing electrical air conditioner compressor V470	156
4.4	Removing and installing high-voltage system fuse 3 S353	161
5	Control motors	162
5.1	Overview of fitting locations – control motors at front	162
5.2	Removing and installing defroster flap control motor V107 with potentiometer G135	165
5.3	Removing and installing left temperature flap control motor V158 with potentiometer G220	168
5.4	Removing and installing right temperature flap control motor V159 with potentiometer G221	173
5.5	Removing and installing fresh air/air recirculation, air flow flap control motor V425 with potentiometer G644	177
5.6	Removing and installing front air distribution flap control motor V426 with potentiometer for front air distribution flap control motor G642	181
5.7	Removing and installing air distribution flap adjustment unit	186
6	Front heater and air conditioning unit	190
6.1	Assembly overview – heater and air conditioning unit	190
6.2	Assembly overview - add-on parts of heater and air conditioning unit and of air intake box	196
6.3	Assembly overview – evaporator housing	198
6.4	Assembly overview - flaps and partitions in air distribution housing	199
6.5	Removing and installing heater and air conditioning unit	201
6.6	Dismantling and assembling heater and air conditioning unit	213
6.7	Removing and installing air distribution housing	215
6.8	Removing and installing bracket for heater and air conditioning unit	216
6.9	Removing and installing evaporator	217
6.10	Removing and installing fresh air blower control unit J126	219
6.11	Removing and installing dust and pollen filter	221
6.12	Removing and installing fresh air blower V2	225
6.13	Removing and installing heat exchanger	228
6.14	Removing and installing coolant pipes on heat exchanger	239
6.15	Removing and installing evaporator temperature sensor G308	241
6.16	Checking condensation drain	243
6.17	Removing and installing condensation drain	244
7	Air duct	249
7.1	Assembly overview – air duct and air distribution in passenger compartment	249
7.2	Removing and installing fresh air intake	250
7.3	Removing and installing cover for fresh air intake	253
7.4	Removing and installing air intake duct	254
7.5	Removing and installing driver side footwell vents	255
7.6	Removing and installing front passenger side footwell vents	257
7.7	Removing and installing rear footwell vent	259
7.8	Removing and installing air duct for rear centre console vent	261
7.9	Checking forced ventilation for passenger compartment	261
7.10	Removing and installing forced ventilation for passenger compartment	262
7.11	Removing and installing air duct for defroster vent	263
7.12	Removing and installing air duct for centre dash panel vent	263
8	Coolant circuit	265
8.1	Overview of fitting locations – coolant circuit	265
8.2	Removing and installing high-voltage heater (PTC) Z115/high-voltage heater (PTC) J848	267
8.3	Removing and installing coolant circulation pump before high-voltage heater (PTC) V509	270
8.4	Removing and installing coolant changeover valve 1 N632	272
8.5	Removing and installing air conditioning system coolant temperature sender G110	274
8.6	Removing and installing temperature sender before charging unit G931	275



9	Operating and display unit	278
9.1	Overview of fitting locations – operating and display unit	278
9.2	Removing and installing operating and display unit, front	280
10	Other controlling and regulating components	282
10.1	Removing and installing sunlight penetration photosensor G107	282
10.2	Removing and installing air quality sensor G238	283
10.3	Working principles of air quality sensor G238	285
10.4	Removing and installing ambient temperature sensor G17	286
10.5	Removing and installing humidity sender for air conditioning system G260	288
10.6	Removing and installing left vent temperature sender G150	288
10.7	Removing and installing right vent temperature sender G151	289
10.8	Removing and installing footwell vent temperature sender G192	290
10.9	Removing and installing thermal management control unit J1024	291