

Oil air conditioning (A/C) system, filling

Special tools: 981 1994-4

Topping up the lubricating oil

Warning! Do not mix oil types. Always use the correct type of compressor oil.

Note! Too much lubricating oil will impair cooling. Too little lubricating oil will damage the compressor.

The oil must be topped up when repairing a leak or when replacing a component. The quantity required for the component in question will depend on whether leakage has taken place slowly or quickly.

Slow leakage (longer than 24 hours)

With a slow leak, there is normally minimal risk of oil loss.

When installing new components the following procedures apply:

Rapid leakage (e.g. hose rupture)

Rapid leakage often means that lubricating oil escapes with the refrigerant.

When replacing components the new components or the system (which should be filled through the service valve) must have the oil volumes given below, except for the compressor (see the "Compressor" section below):

Accumulator	30 cm ³
Evaporator	50 cm ³
Condenser	30 cm ³
Tube	10 cm ³
Hose	10 cm ³

Compressor

Preparatory operations for oil return

- Measure the volume of the oil drained from the compressor
- Replace the volume of drained oil according to the table below:

Reusing the compressor	
Drained oil	Filling with oil
	Replace the volume

$\geq 70 \text{ cm}^3$ oil	of drained oil with the corresponding quantity.
$< 70 \text{ cm}^3$ oil	Fill with 70 cm^3 of oil.
New compressor	
Drained oil	Filling with oil
$\geq 70 \text{ cm}^3$ oil	Replace the drained oil volume with the same amount that was drained from the old compressor.
$< 70 \text{ cm}^3$ oil	Fill with 70 cm^3 of oil.

Caution! When installing a completely new system:

Check that there is oil in the compressor. The other components should contain no oil.

Replacing the receiver

Replace the receiver in the following instances:

- When replacing the compressor (compressor seizure for example):
- Refrigerant leakage, where nearly 100% has leaked out of the system. (The system has no pressure)
- When replacing any air conditioning (A/C) component outside the warranty period.

Filling the A/C system with oil

Note! On newer filling/draining/vacuum pumping stations there is a reservoir for injecting oil. This can be used before filling with refrigerant and after vacuum pumping without needing to remove the needle valve in the service valve.

Note! Fill with oil before vacuum pumping.

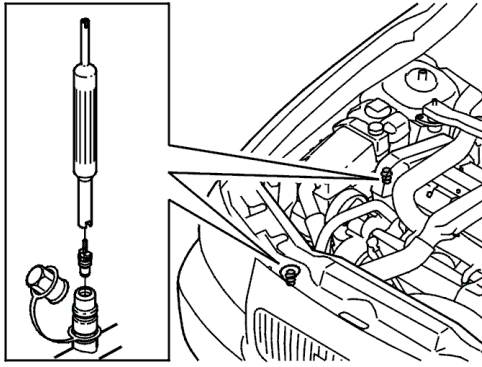
Filling with PAG oil

When replacing pipes or hoses the oil can be filled through the service valve.

The procedure for topping up PAG oil (P/N 8708581–7) in the car is as follows:

- Remove the needle valve in the service valve using valve tool **981 1994-4**.

Use the filling syringe (without plastic hose) supplied with the unit to top up the oil. Clean the syringe to avoid the possibility of mixing



different types of oil.

- Check according to the table above.
Measure how much oil is to be added. After topping up the oil, reinstall the needle valve.

Note! Use only your thumb and index finger when tightening the service valve using the valve needle tool 981 1994-4 . This is to prevent damage to the seal for the valve.