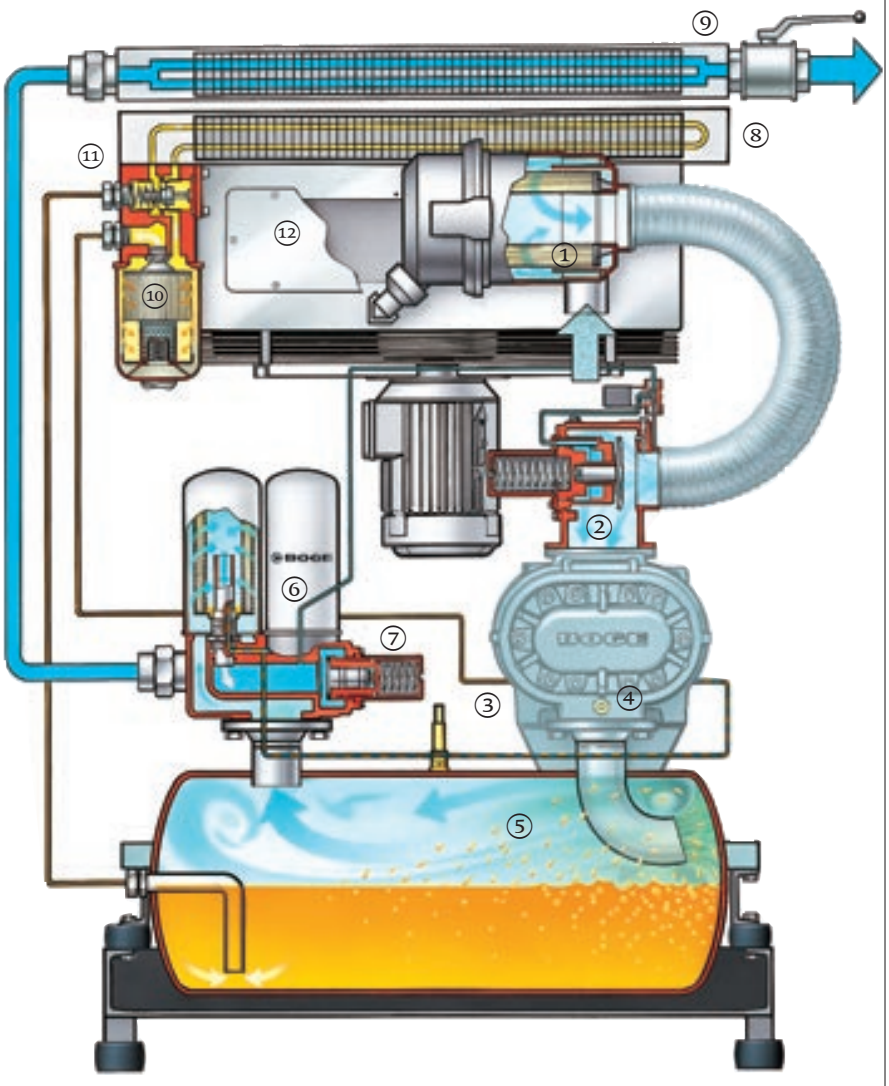
How it works:
S series air and oil system



① Intake filter with microfilter paper insert
② Multi-function intake controller
③ Oil injection
④ Compressor airend
⑤ Oil separator vessel
⑥ Oil separator cartridge
⑦ Minimum pressure non-return valve
⑧ Oil cooler and
⑨ Aftercooler parallel with cooling air flow
⑩ Oil Microfilter
⑪ Thermostatic valve
⑫ Cleaning access point

BOGE S series screw compressors draw in atmospheric air through a cabinet pre-filter mat, into a paper intake filter ① before entering the multifunction intake regulator ②. The cleaned air then passes into the airend which is driven by an electric motor.

Continuously cooled BOGE compressor oil is then injected into the screws in accurately metered quantities ③.
Oil fulfils three functions:
- Cooling
- Sealing
- Lubrication

It absorbs and removes the heat generated by the compression process. At the same time, it seals the compression gap between the contra rotating screws and the airend, as well as lubricating the rotor bearings.

The compressed air oil mixture leaves the airend ④ via a flanged connection directly onto the horizontal separation vessel ⑤ without any pressure loss. Here, the oil is initially separated by mechanical impingement and finally by precipitation caused by the rapid reduction in flow velocity, to an efficiency of more than 99%. There is zero pressure reduction.

By the time the compressed air passes through the final spin-on oil separator cartridge ⑥ there is a minimal residual oil content of only 1-3 mg/m³ in every operating mode.

After final separation, the air passes through the minimum pressure valve ⑦ and into the cooler pack ⑨ where it is cooled to approx. 8°C above inlet temperature. A large percentage of the condensate contained in the compressed air is separated here. The compressed air then finally reaches the network via a normal gate valve.

Oil separated in the horizontal separation vessel rapidly de-aerates and therefore reduces foam quickly. Downstream in the generously sized oil cooler ⑧ there is optimum cooling for re-injection to the airend. The final spin-on oil filter cartridge cleans the oil so that it can be re-circulated. A thermostatic oil valve ⑪ ensures that all BOGE screw compressors work at an optimum temperature in all operating phases.