

Maintenance and inspection of spring-applied brakes

For safe and trouble-free operation, spring-applied brakes must be checked and maintained on a recurring basis. In the plant, the expenses associated with service work can be reduced by ensuring that the brakes are easily accessible. This should be taken into consideration when fitting the drives in the plant and during installation.

The necessary maintenance intervals for working brakes are derived initially from the load on the brake in the application. When calculating the maintenance interval, all causes of wear must be taken into consideration. For low-load brakes, e.g. holding brakes with emergency stop, it is recommended that a regular inspection is carried out at fixed time intervals. To reduce costs, the inspection can be performed during other regular maintenance work carried out at the plant.

If the brakes are not maintained, this can result in failures, loss of production or damage to the plant. Therefore, a maintenance concept adapted to the operating conditions and brake loads must be drawn up for each application. The following table lists the maintenance intervals and work required for the INTORQ spring-applied brake series. Maintenance work is to be carried out in line with the detailed descriptions in the INTORQ operating instructions for the respective brakes.

Series	Time interval	Maintenance work
BFK457-xx BFK460-xx BFK461-xx	For service brakes: <ul style="list-style-type: none"> As shown in service life calculation, Otherwise half-yearly, At the latest after 4000 operating hours 	Inspections for an installed brake: <ul style="list-style-type: none"> Check release function and control Measure air gap (adjust if necessary) Measure rotor thickness (replace rotor if necessary) Thermal damaging to armature plate or flange (dark blue starting action)
BFK458-xxx BFK468-xxx	For holding brakes with emergency stop: <ul style="list-style-type: none"> At least every 2 years At the latest after 1 million cycles 	Inspections after brake dismantled: <ul style="list-style-type: none"> Check backlash of the rotor tooth system (change rejected rotors) Move away torque support on sleeve bolts and armature plate Check springs for damage Check armature plate and flange <ul style="list-style-type: none"> - Evenness of BG06-BG12 < 0.06 mm - Evenness of BG14-BG25 < 0.1 mm - Max. infeed depth = nominal air gap of the BG <p>Brakes with defective armature plates, sleeve bolts, springs or flanges must be completely replaced.</p>
BFK458-xxL	For service brakes: <ul style="list-style-type: none"> As shown in service life calculation, Otherwise half-yearly, At the latest after 4000 operating hours For holding brakes with emergency stop: <ul style="list-style-type: none"> At least every 2 years At the latest after 10 million cycles Plan shorter intervals for frequent emergency stops 	
BFK418-xxR	Holding brake with emergency stop: <ul style="list-style-type: none"> At least every 2 years At the latest after 5 million cycles Plan shorter intervals for frequent emergency stops 	Inspection of the brake fitted in the motor: <ul style="list-style-type: none"> Check release function and control Wear control only possible by measuring the release current (current?) <p>Worn-out BFK418s must be completely replaced - repairs not possible.</p>

As a general rule, during inspection and maintenance work the following must be taken into consideration:

- Remove any contamination from oils and greases with a brake cleaner, determining the cause of the problem and then, if necessary, replace the brake. Any dirt or particles in the air gap between the stator and armature plate can affect the function and must be removed.
- After replacing the rotor, the original braking torque is only reached after the friction surface has been broken in. After changing the rotor an increased initial wear occurs on worn-in armature plates and flanges. In this case, adjust the air gap early on if necessary.