

6 Heating element



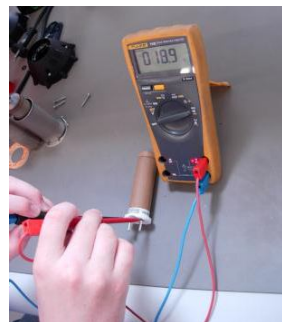
Unscrew PT pan head screws KA35x20 (4x) and remove heater tube including mica tube



Heating element and gasket may be removed now

- Do a visual inspection of the heating element; replace the heating element if it is either mechanically damaged or if any heating channels are clogged
- Check resistance of the heating element (see table below)

Ohmmeter



Voltage [V]	Power [W]	Resistance [Ω]	Voltage [V]	Power [W]	Resistance [Ω]
120	550	approx. 26	230	550	approx. 96
120	1050	approx. 14	230	1050	approx. 50
120	1500	approx. 10	230	1500	approx. 34

7 Possible causes of errors

Error	Possible cause	Method of resolution
Tool does not heat, motor runs	Heating element defective	Replace heating element (chapter 6)
	Triac defective	Replace electronic circuit board (chapter 4.6)
	Temperature limit switch defective	
	Photo device defective	
Motor does not run	Carbon brushes got jammed	Extract carbon brushes and re-insert them the same way
	Carbon brushes essentially abraded	Replace carbon brushes (O-motor chapter 5.3.1)
	Commutator defective	Replace motor (O-Motor chapter 5.3.2, F-Motor chapter 5.4.1)
	Bearing defect	
	Flex wires of the motor not correctly connected	Check whether flex wires are connected correctly
Tool does not heat and motor does not run	Power supply cord not correctly plugged in	Check connection of spring-type terminal for power supply
Max. output temperature too low	Heating element with incorrect ratings	Replace heating element (chapter 6)
	Nozzle defective: Photo device receives interfering light	Replace nozzle
	Electronic circuit board defective	Replace electronic circuit board
Max. output temperature too high	Photo device polluted	Clean up photo device
	Heating element with incorrect ratings	Replace heating element (chapter 6)
Excessive noise	Bearing defect	Replace motor (O-motor chapter 5.3.2, F-motor chapter 5.4.1)
Power consumption of motor >100W	Commutator defective: <ul style="list-style-type: none"> • Worn out lamella • Bluish discoloration • Deep grooves (U-shaped) 	Replace motor (O-motor chapter 5.3.2, F-motor chapter 5.4.1)
Unsteady sound performance (jolting, loose contact)	Carbon brushes essentially abraded or blocked	O-motor: Replace carbon brushes (chapter 5.3.1)
		F-motor: Replace motor (chapter 5.4.1)

8 Wiring diagram

