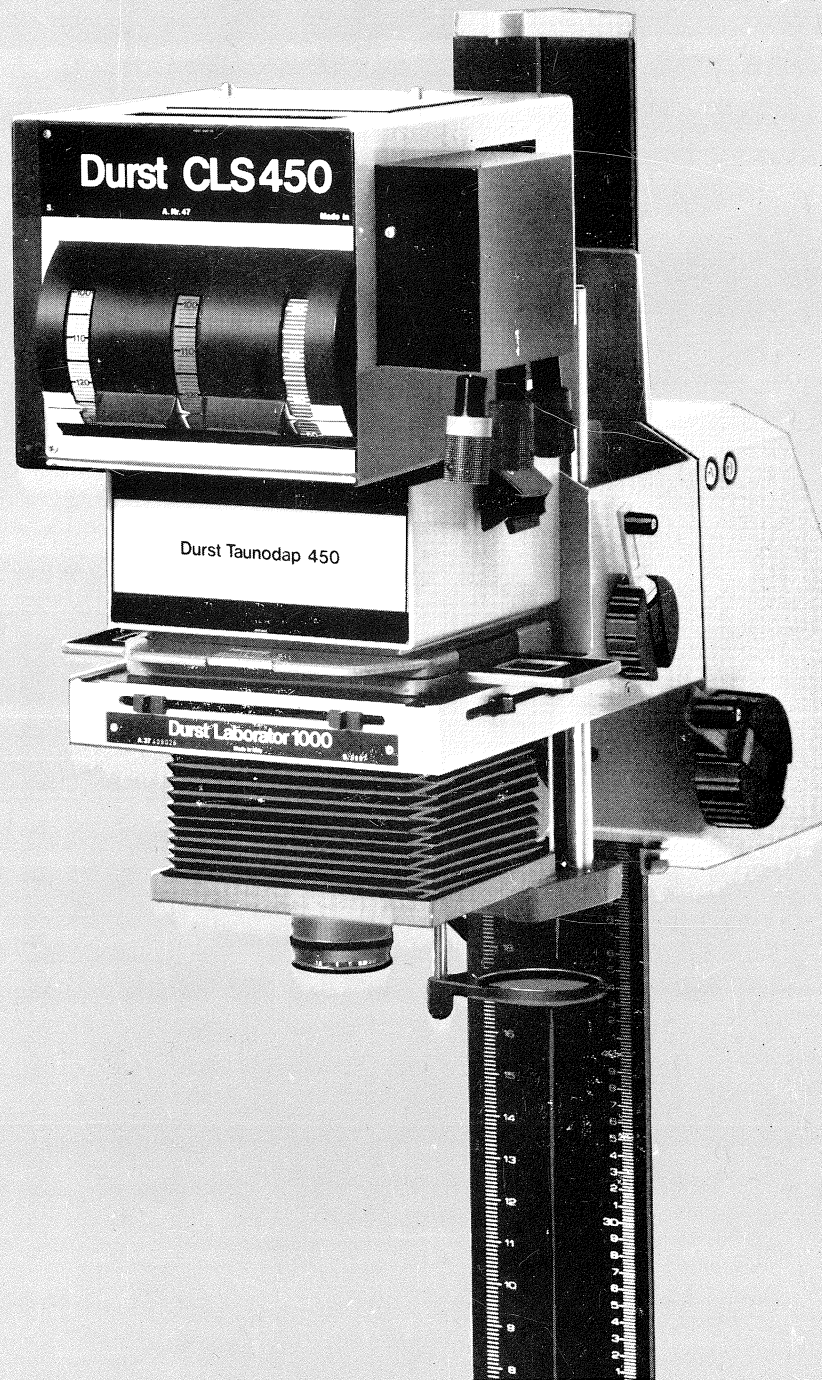


# DURST CLS 450

SERVICING INSTRUCTIONS



### **Technical description of servicing instructions for the TRA 450 plus CLS 450**

The TRA 450 transformer provides the current for the fan, the lamp, the dial illumination and the indicating lamp for the swung-out filters in the Durst colour mixing head.

For assembly and operation see the appropriate instructions.

**Important:** Never obstruct the openings at the top and bottom of the TRA 450.

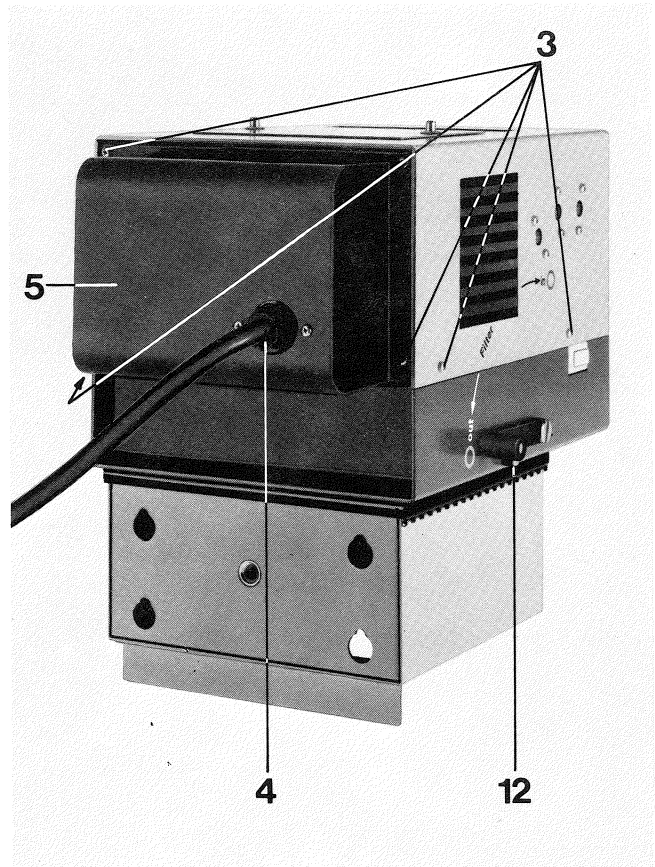
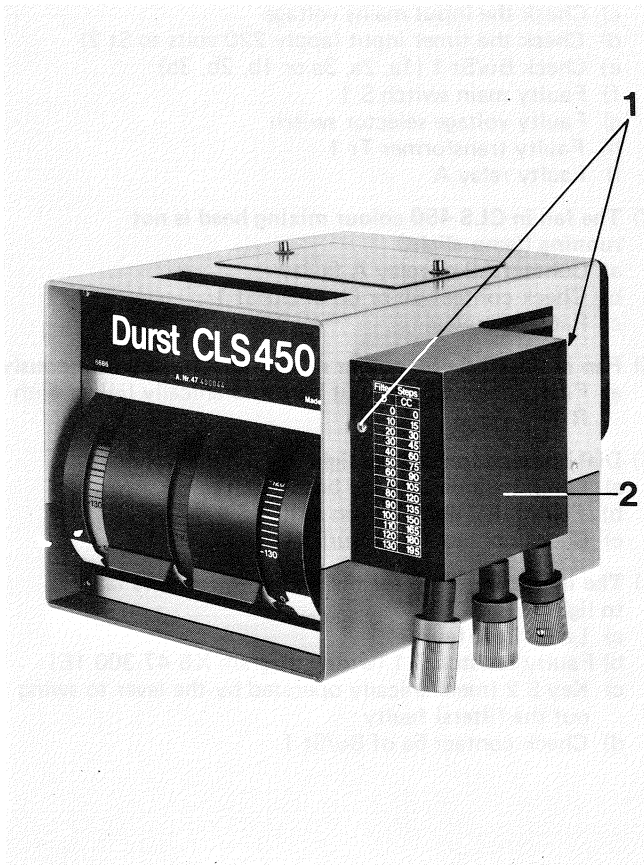
### **Trouble shooting list**

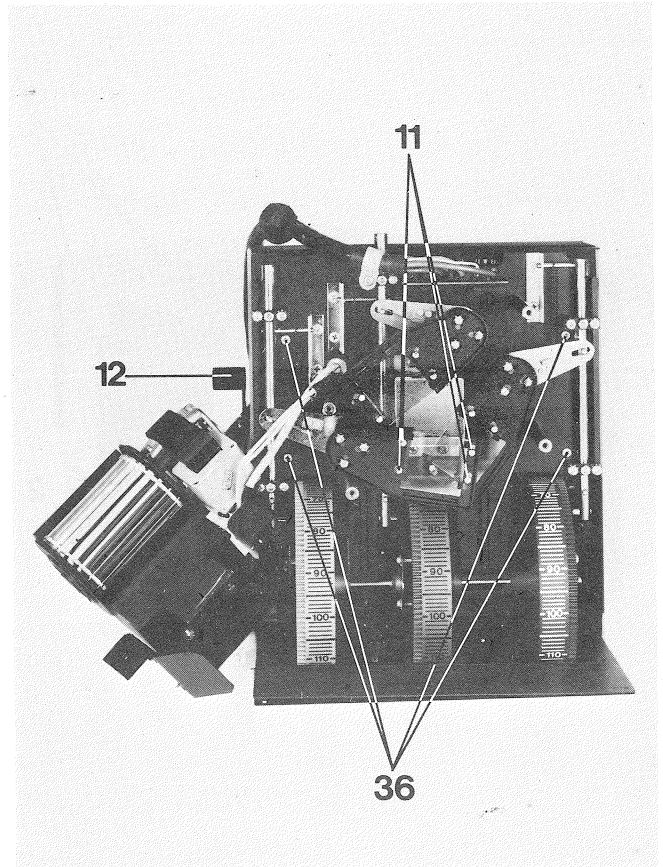
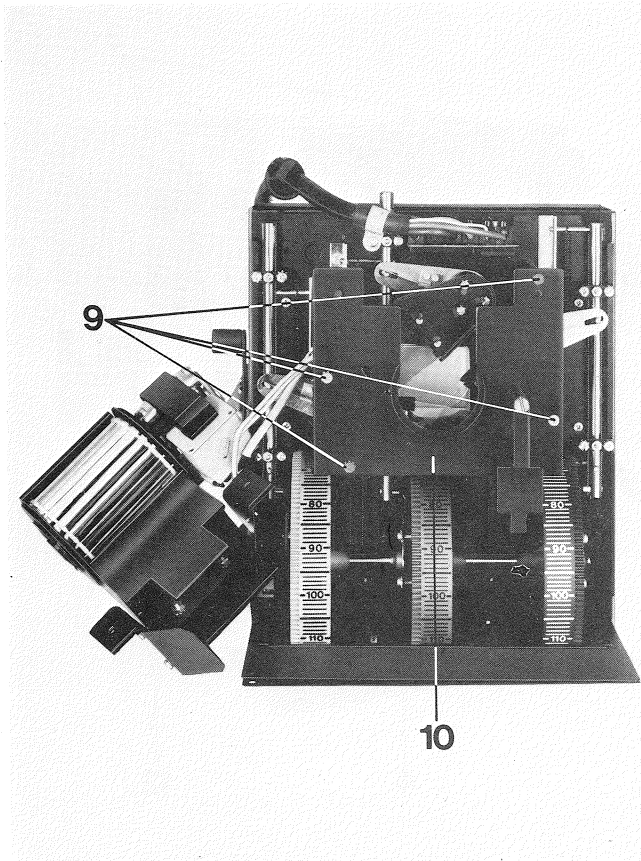
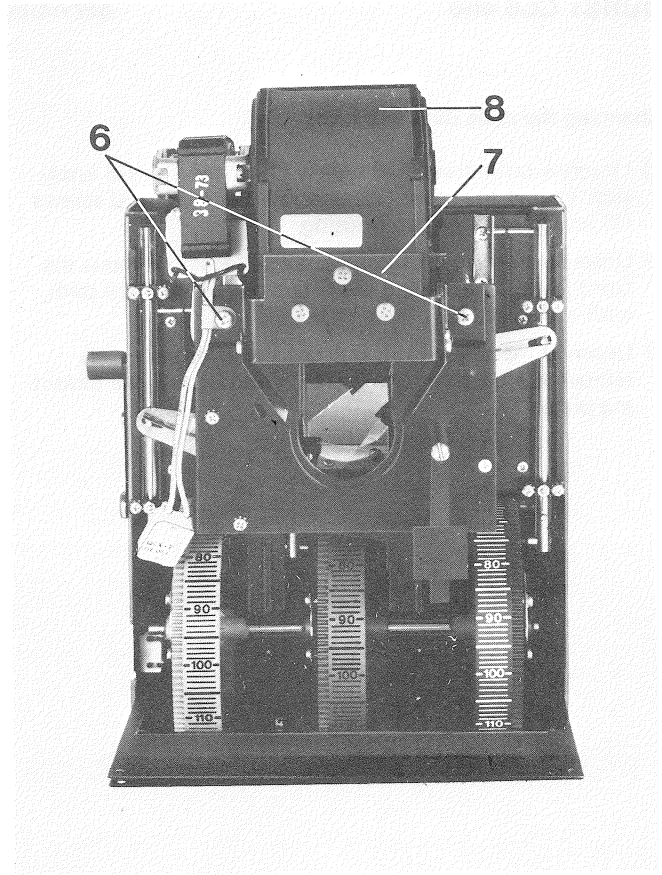
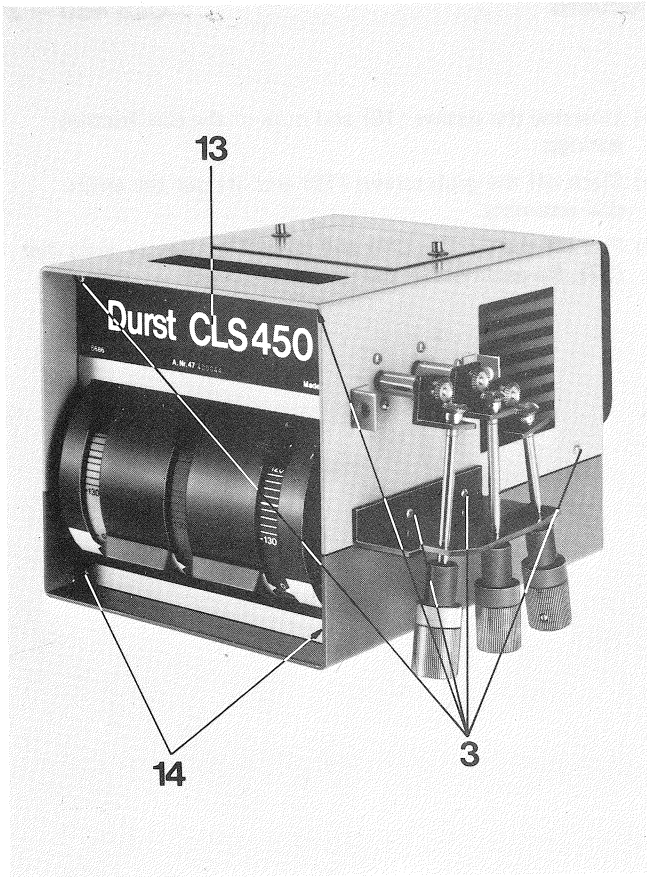
- 1) **The lamp in the CLS 450 colour mixing head fails to light**
  - a) Faulty lamp
  - b) Faulty fuse Si 1
  - c) Check the input mains voltage
  - d) Check the timer input (apply 220 volts to St 2)
  - e) Check Bu/St 1 (1a, 2a, 3a or 1b, 2b, 3b)
  - f) Faulty main switch S 1
  - g) Faulty voltage selector switch
  - h) Faulty transformer Tr 1
  - i) Faulty relay A
- 2) **The fan in CLS 450 colour mixing head is not running (lamp alight)**
  - a) Contact A2 of relay A faulty
  - b) Check contact 5b or 6b of Bu/St 1
  - c) Faulty fan
- 3) **Fan in the CLS 450 colour mixing head runs continuously**
  - a) Faulty thermal cut-out S2 (mechanically linked with R 1)
- 4) **Dial illumination fails to light**
  - a) Lamp La 3 or La 4 (or both) faulty
  - b) Faulty dial illumination switch S 1
  - c) Check contact 5a of Bu/St 1
- 5) **The indicating lamp for the swung-out filters fails to light**
  - a) Lamp La 2 faulty
  - b) Faulty resistor R 1 (wiring diagram XB 47.300.1E)
  - c) Key S 2 (mechanically operated by the lever to swing out the filters) faulty
  - d) Check contact 5a of Bu/St 1



**Changing the colour filters**

- 1) Unscrew both crosshead screws (1) at the control knob side, lift off the cover (2), unscrew the crosshead screws (3) and lift off the top housing.
  - 2) Unscrew the cable grip (4) and pull off the fan housing (5).
  - 3) Unscrew the crosshead screws (6) and remove the supporting bracket (7) together with the fan (8).
  - 4) Unscrew the crosshead screws (9) and remove the panel (10).
- 5) **Changing the yellow filter**  
Slack off the four screws (11), pull out the filter and insert a new filter with the coated side facing upwards. Then tighten the screws (11) again.
  - 6) **Changing the magenta filter**  
Move the lever (12) to swing the filter out of the light path and replace in the same way as the yellow filter.
  - 7) **Changing the cyan filter**  
Turn the cyan dial to zero and the yellow dial to 130, then change the cyan filter in the same way as the yellow filter.

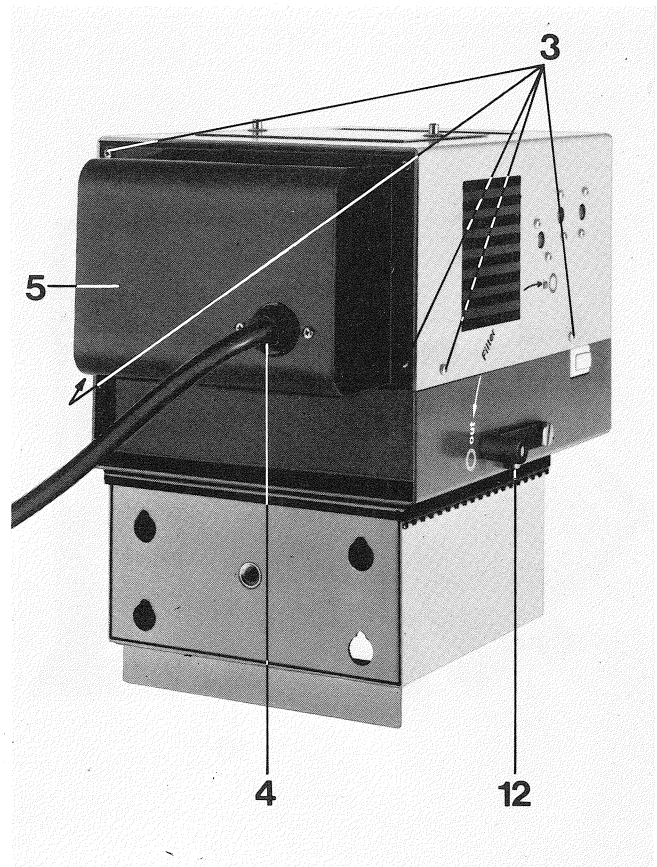
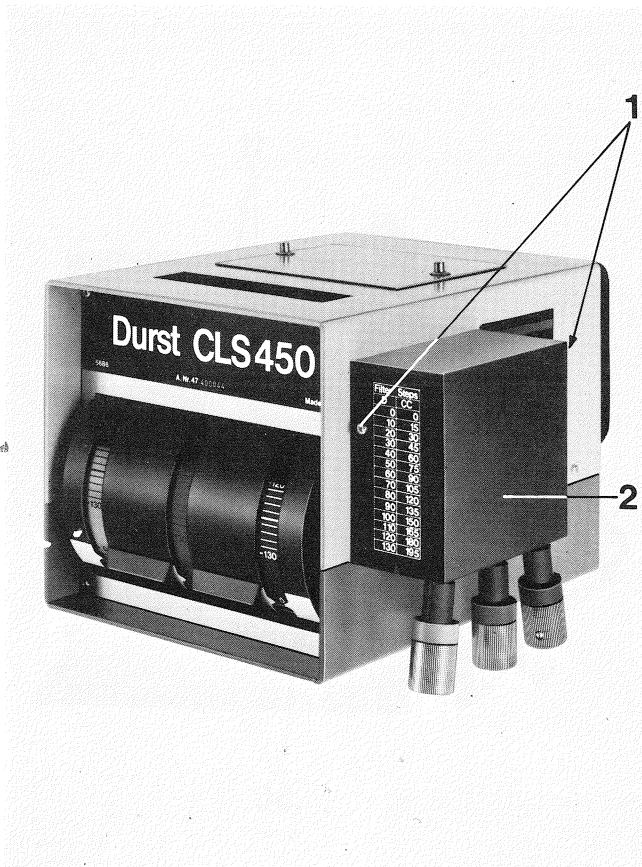




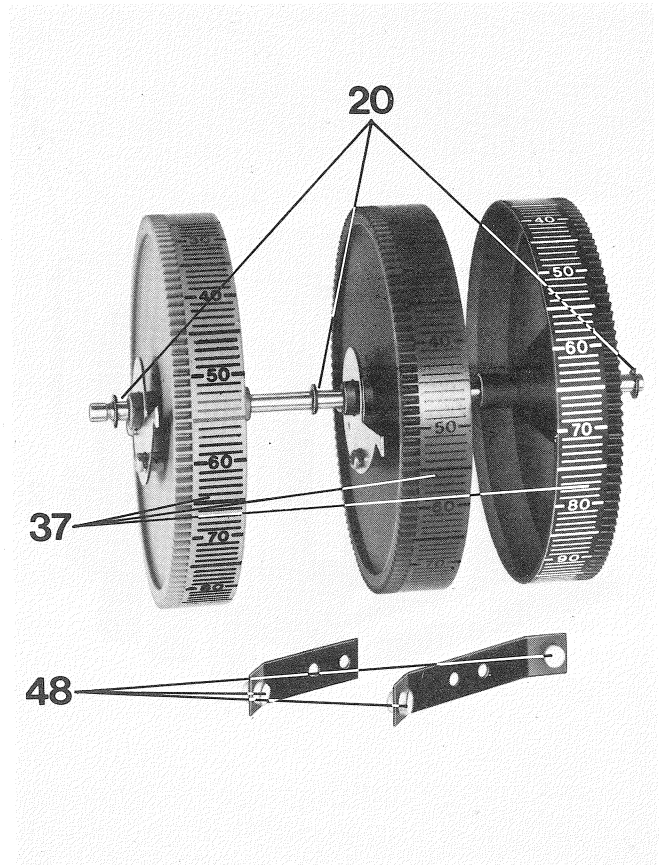
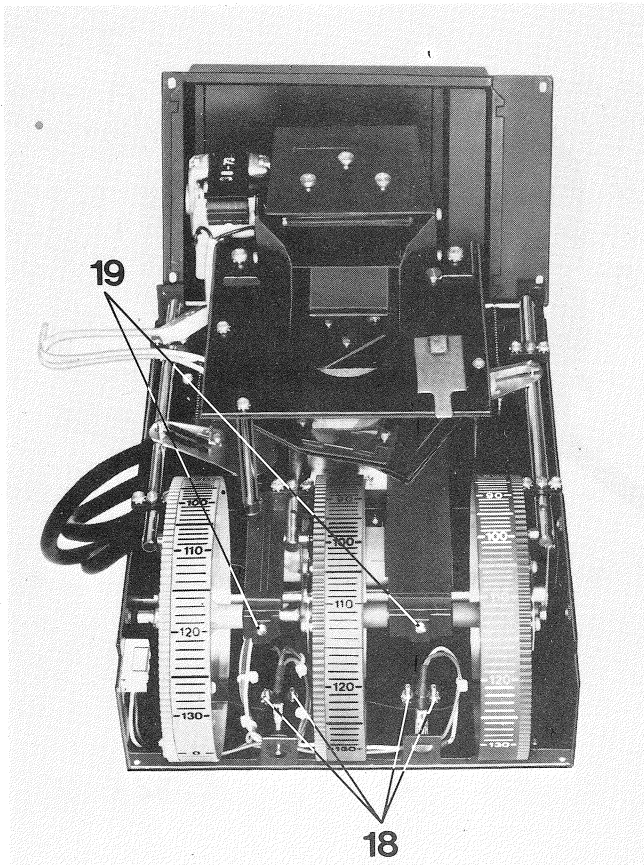
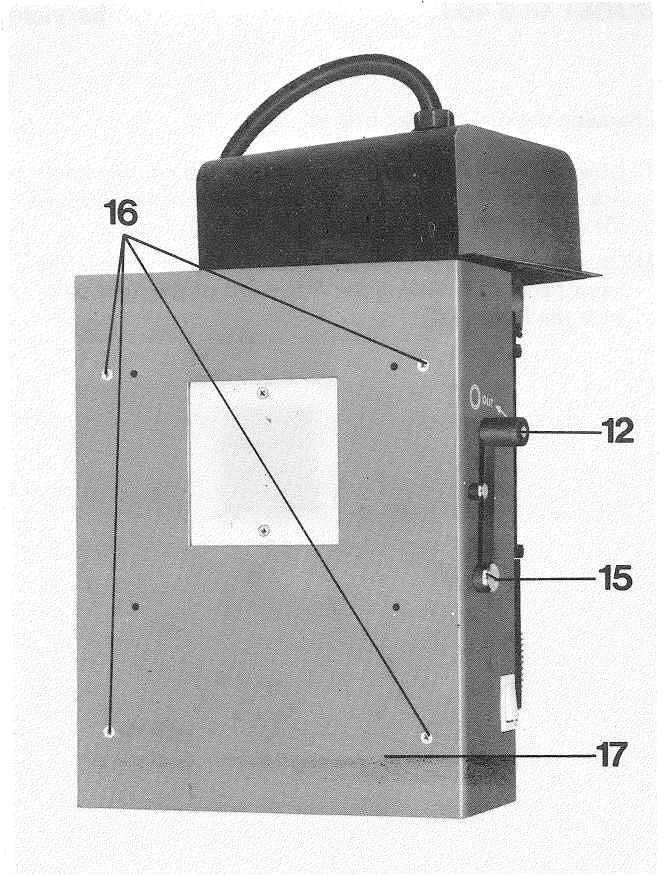
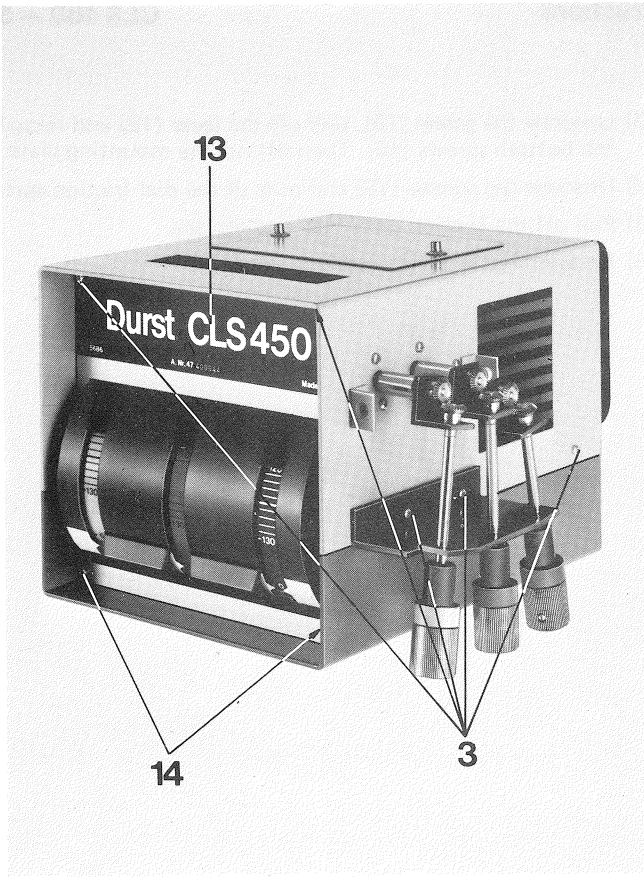
**Changing the scale dials and cams**

- 1) Unscrew both crosshead screws (1) at the control knob side, lift off the cover (2), unscrew the crosshead screws (3) and lift off the top housing.
- 2) Unscrew the two crosshead screws (14) and remove the front panel (13). Swing the filters out of the light path with the lever (12).
- 3) Unscrew the screw (15), pull off the lever (12) and remove the bottom screws (16). Then lift off the mounting plate (17).

- 4) Unscrew the screws (18) and nuts of the dial friction springs.
- 5) Slack off the grub screws (19) and lift out the entire dial assembly.
- 6) Pull off the circlips (20) and replace the faulty scale dial (37). Re-assemble in the reverse sequence.

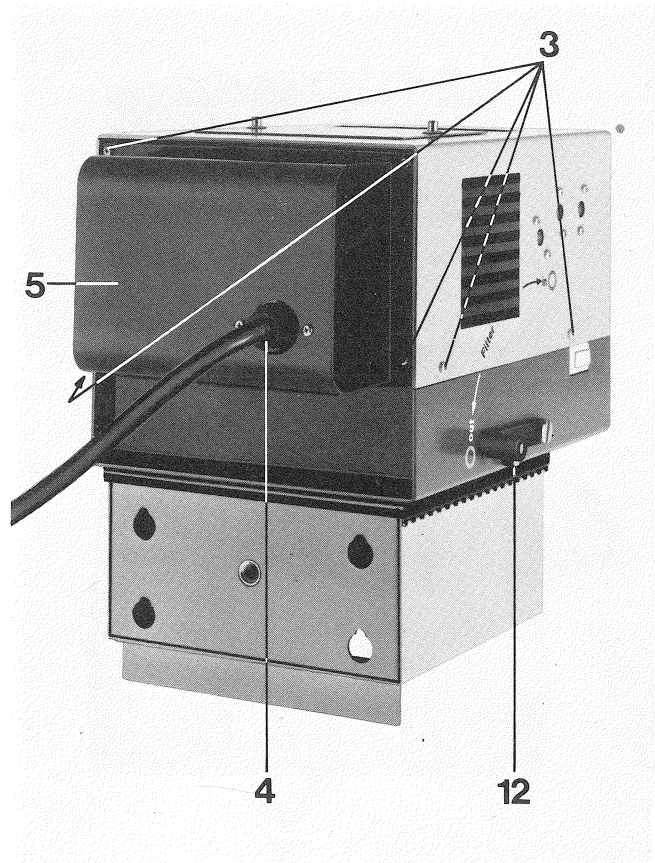
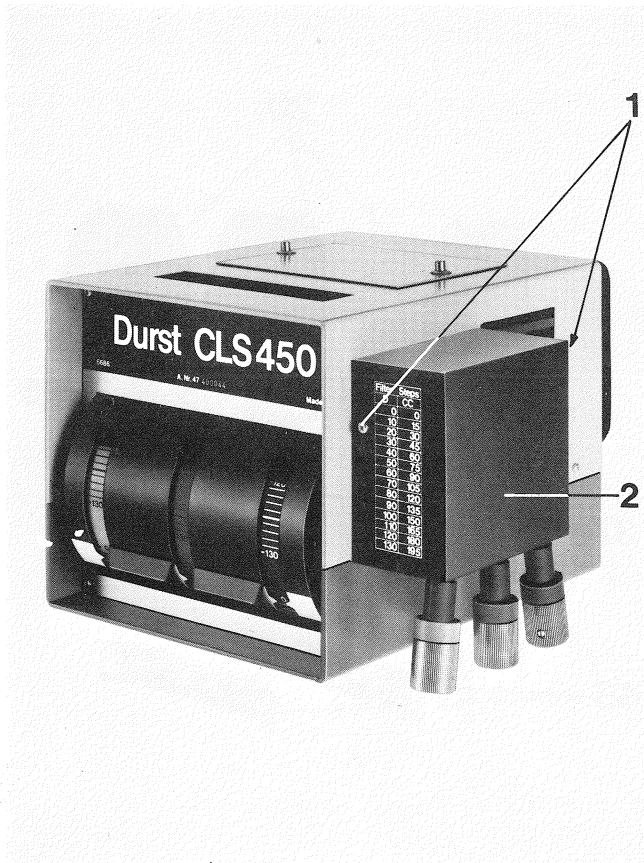


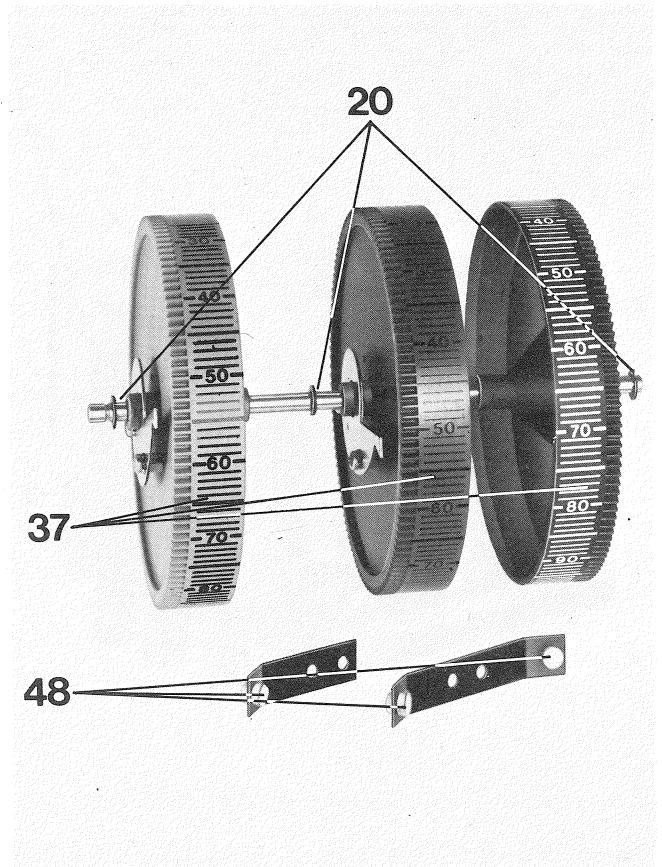
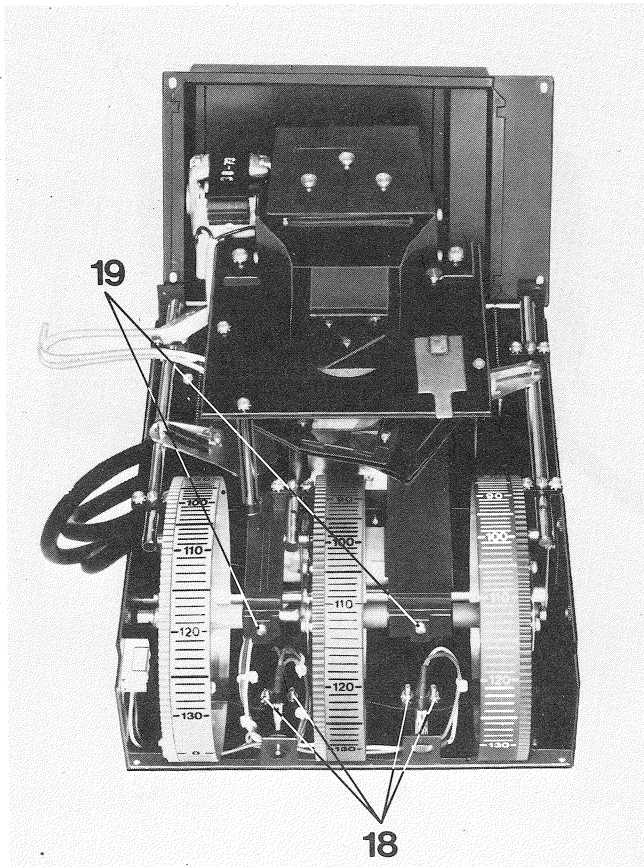
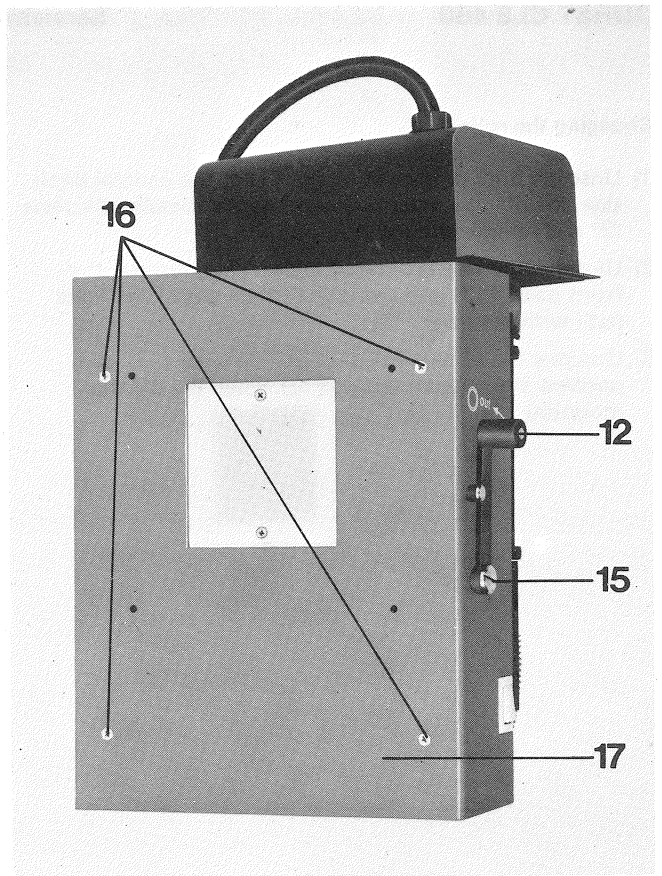
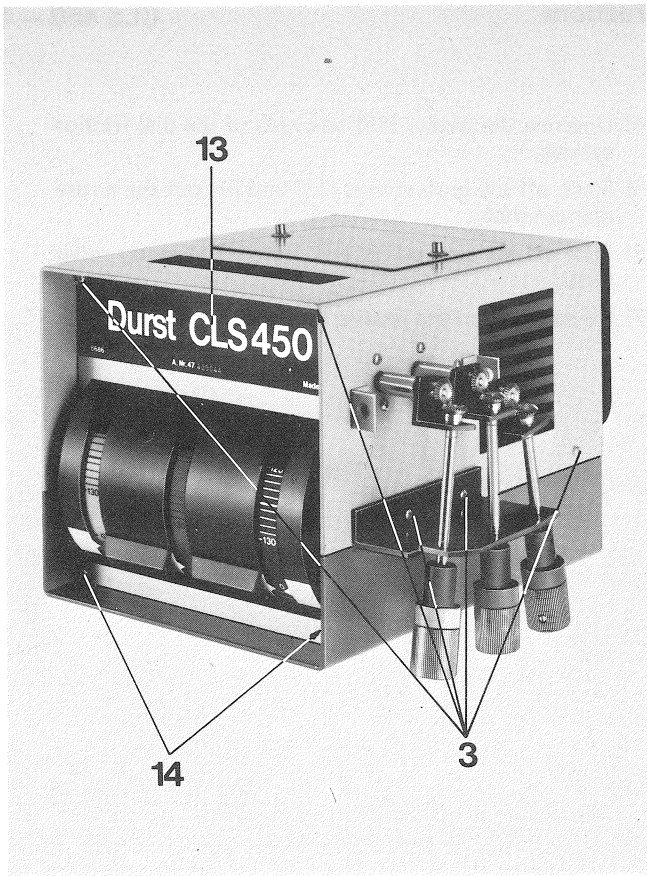




**Changing the dial friction brakes**

- 1) Unscrew both crosshead screws (1) at the control knob side, lift off the cover (2), unscrew the crosshead screws (3) and lift off the top housing.
- 2) Unscrew the two crosshead screws (14) and remove the front panel (13). Swing the filters out of the light path with the lever (12).
- 3) Unscrew the screw (15), pull off the lever (12) and remove the bottom screws (16). Then lift off the mounting plate (17).
- 4) Unscrew the screws (18) and nuts of the dial friction springs.
- 5) Pull off the friction pads (48) and replace.
- 6) Re-assemble in the reverse sequence.

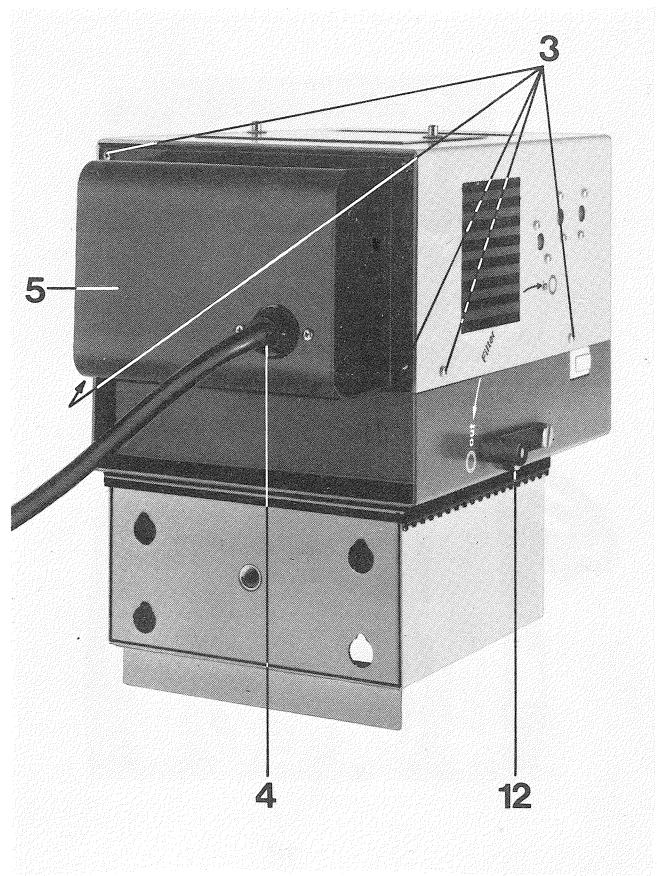
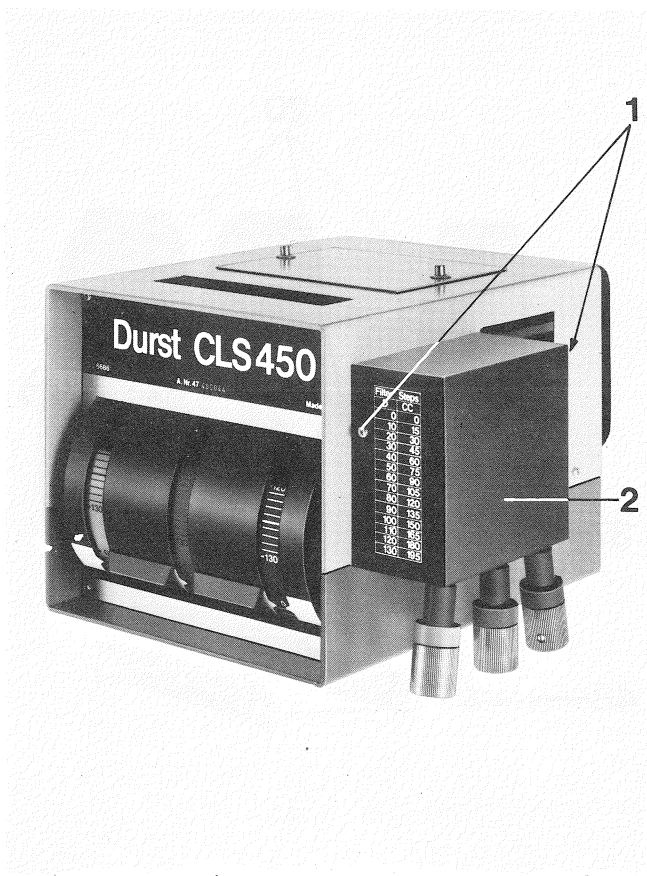


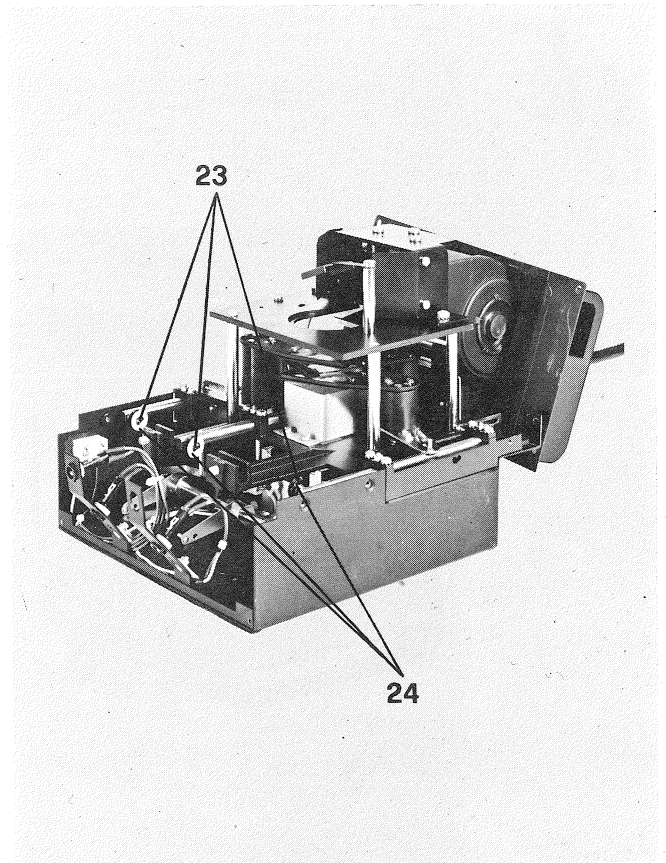
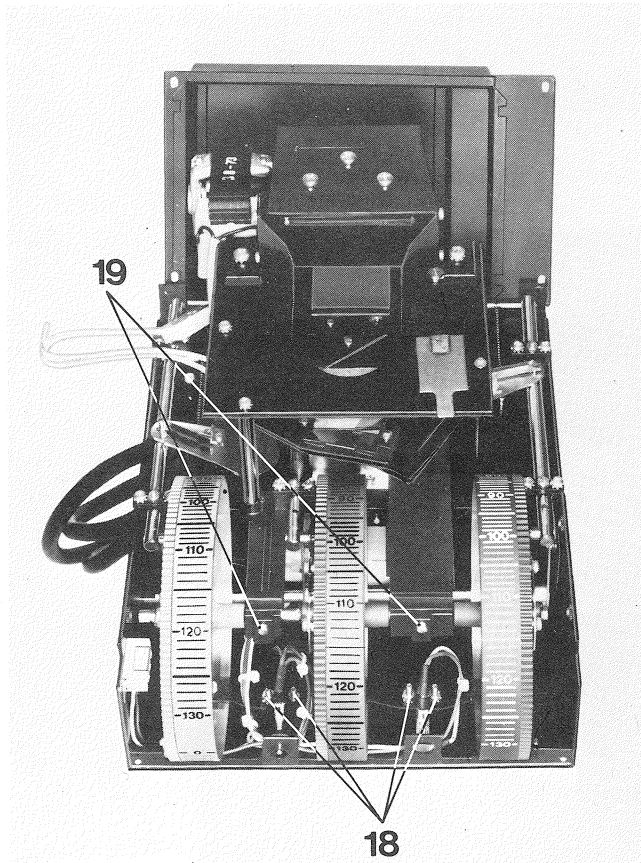
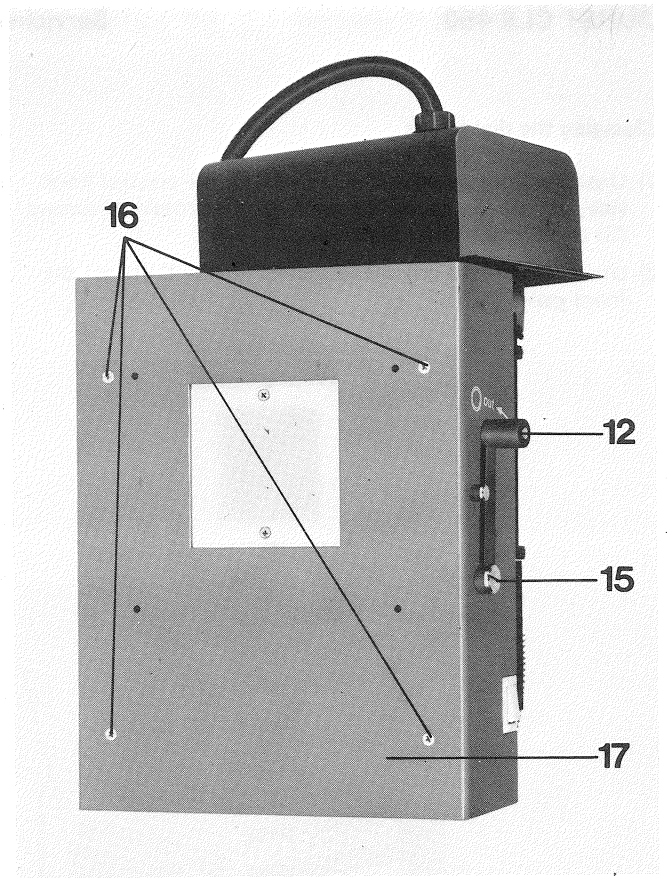
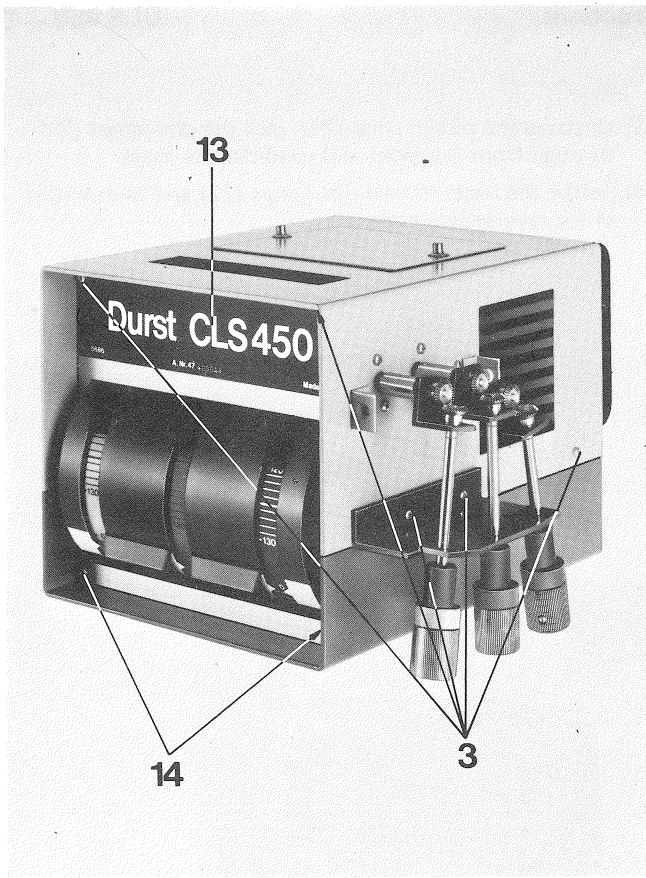




**Changing the rollers**

- 1) Unscrew both crosshead screws (1) at the control knob side, lift off the cover (2), unscrew the crosshead screws (3) and remove the top housing.
- 2) Unscrew the two crosshead screws (14), remove the front panel (13) and swing the filters out of the light path with the lever (12).
- 3) Unscrew the screw (15), pull off the lever (12) and unscrew the bottom screws (16). Then lift off the mounting plate (17).
- 4) Unscrew the screws (18) and nuts of the dial friction springs.
- 5) Slack off the grub screws (19) and lift out the entire dial assembly.
- 6) Prise off the circlip (23) and replace the faulty roller (14).
- 7) Re-assemble in the reverse sequence.

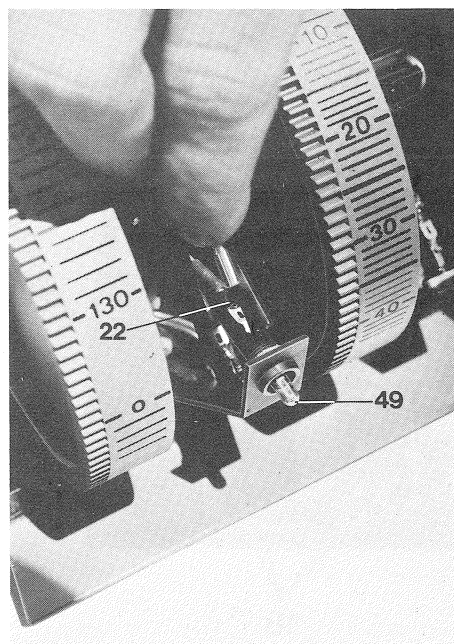
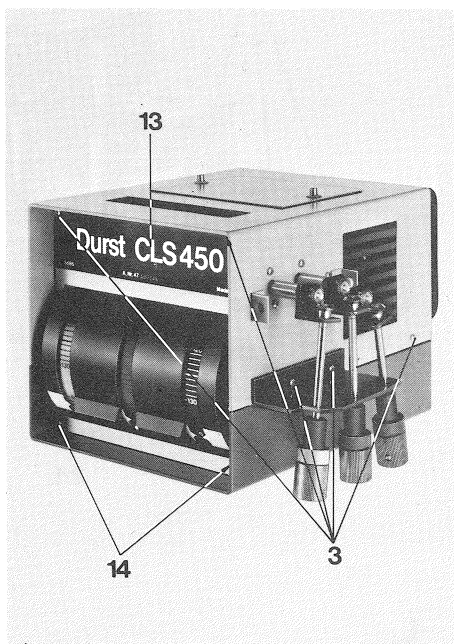
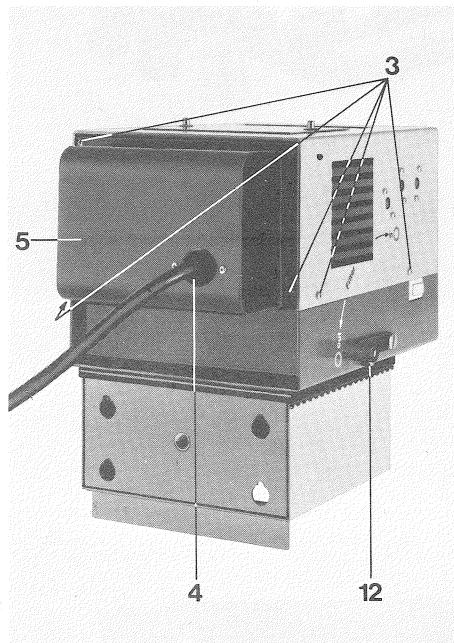
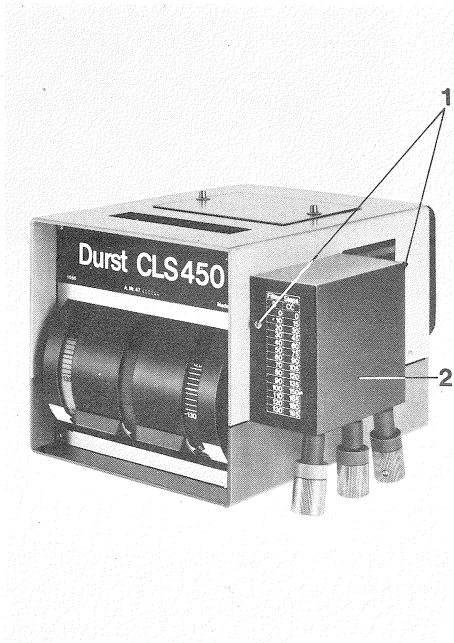




**Changing the dial lamps**

- 1) Unscrew both crosshead screws (1) at the control knob side, lift off the cover (2), unscrew the crosshead screws (3) and remove the top housing.
- 2) Unscrew the two crosshead screws (14) and lift off the front panel (13).

- 3) Unscrew the milled rings (21), pull the dial lamps (22) through from the front and unsolder the leads.
- 4) Solder the leads to new dial lamps (22) and re-assemble in the reverse sequence.

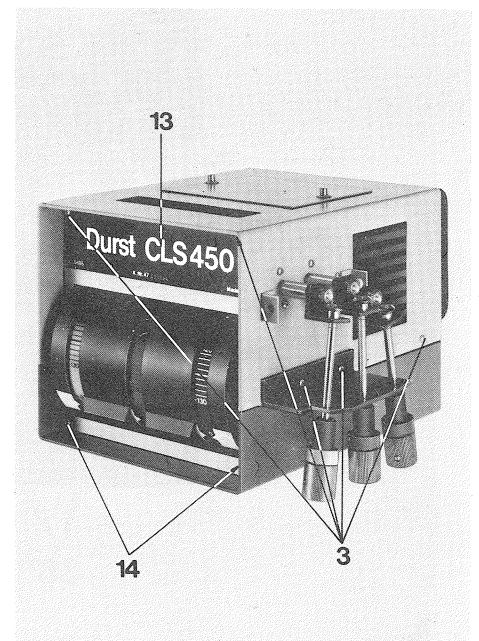
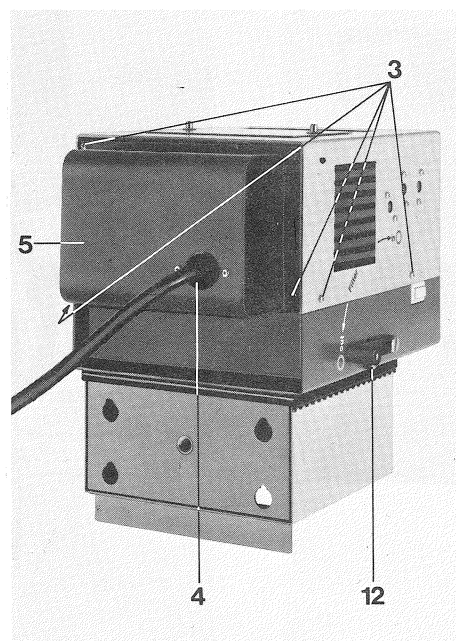
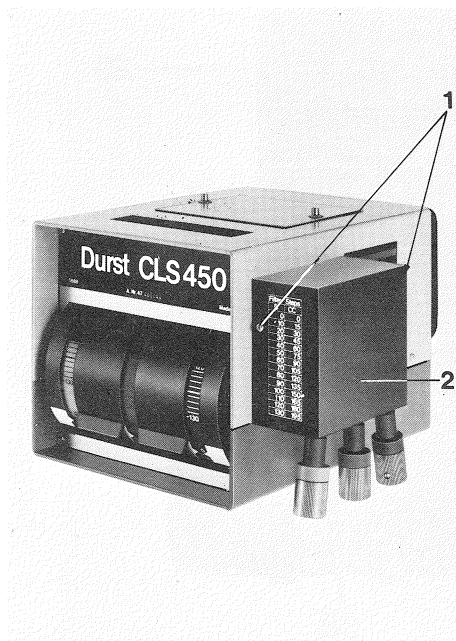


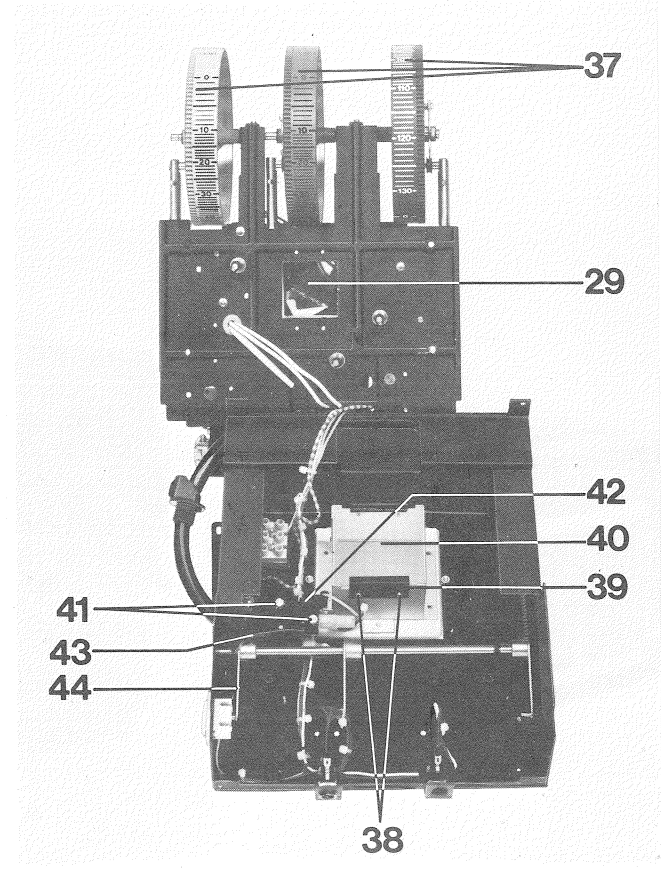
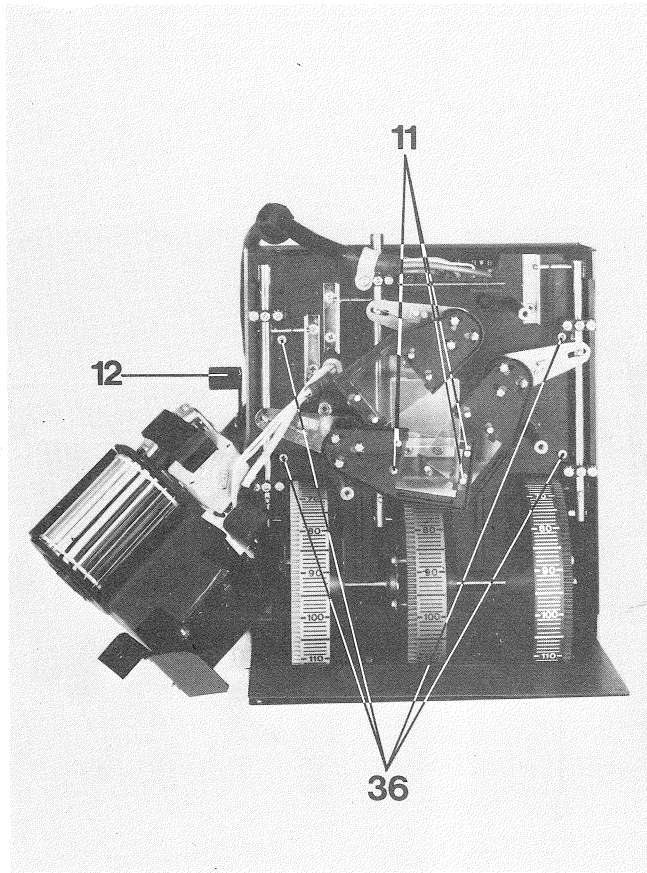
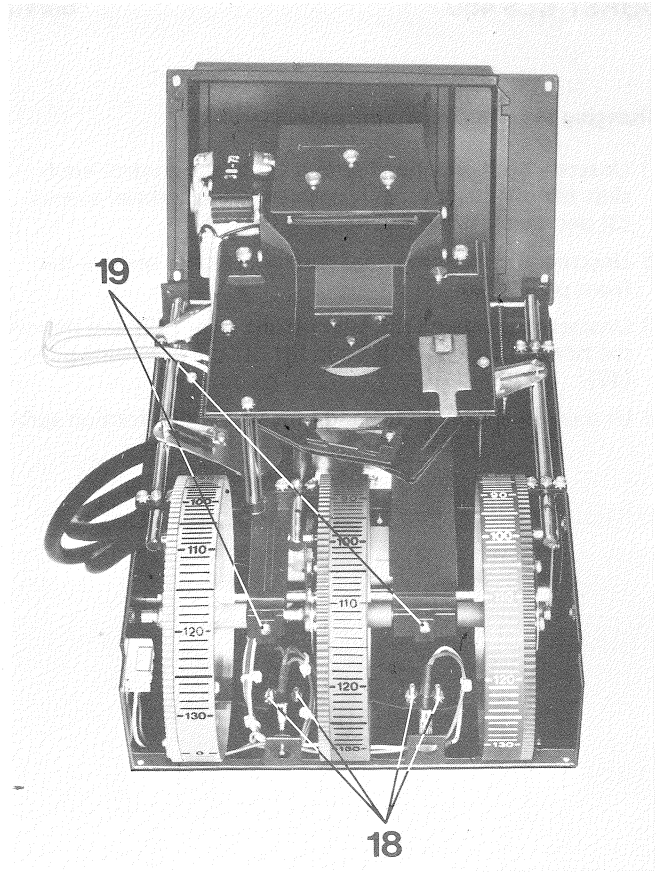
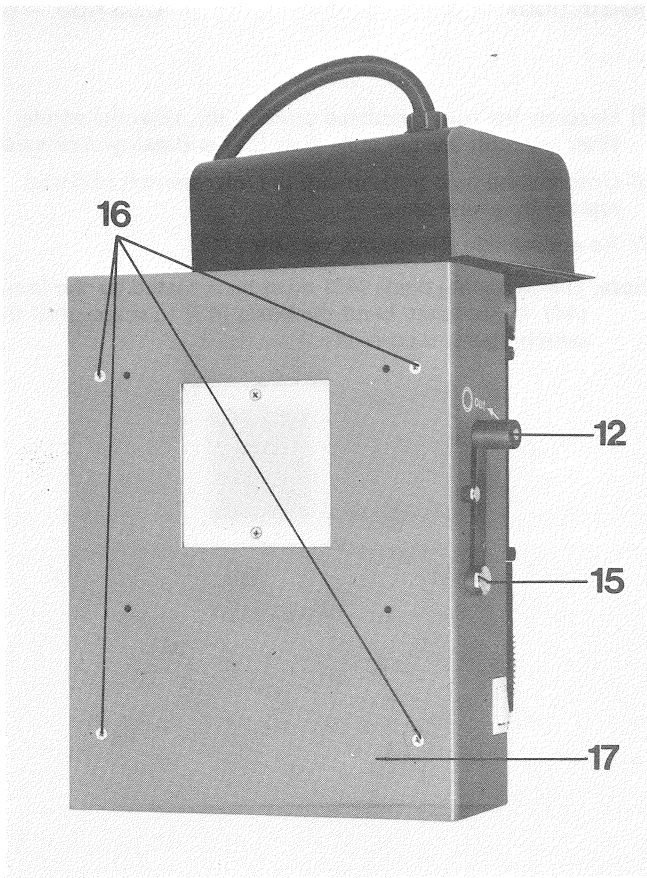


**Changing the white-light indicating switch**

- 1) Unscrew both crosshead screws (1) at the control knob side, lift off the cover (2), unscrew the crosshead screws (3) and take off the top housing.
- 2) Unscrew the two crosshead screws (14) and remove the front panel (13).
- 3) Unscrew the screw (15), pull off the lever (12) and remove the bottom screws (16). Then lift off the mounting plate (17).
- 4) Unscrew the screws (18) and nuts of the dial friction springs.
- 5) Unscrew the four crosshead screws (36), raise the whole filter assembly by the scale dials (37) and swing backwards.
- 6) Unscrew the nuts (41), unclip the microswitch (42) and replace by a new one.
- 7) Re-assemble in the reverse sequence.

**Note:** The switching blade (43) must be actuated by the lever (44). If necessary bend the blade (43) to shape until the switch operates correctly.

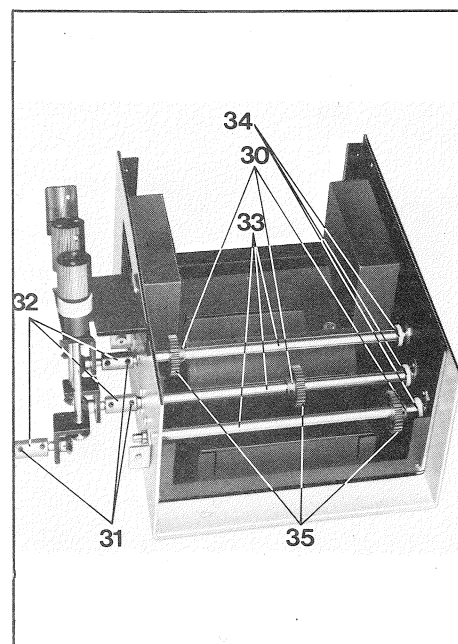
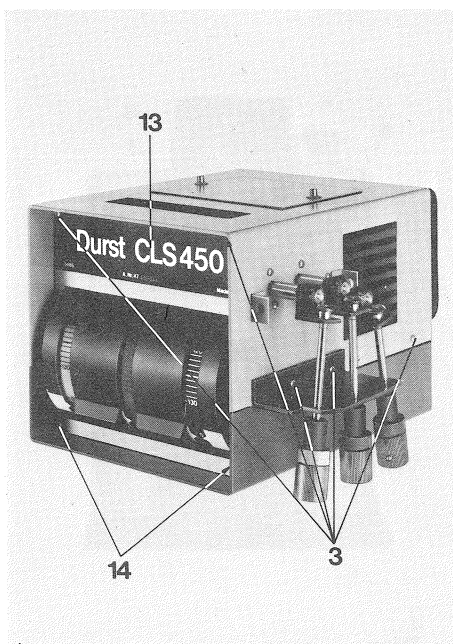
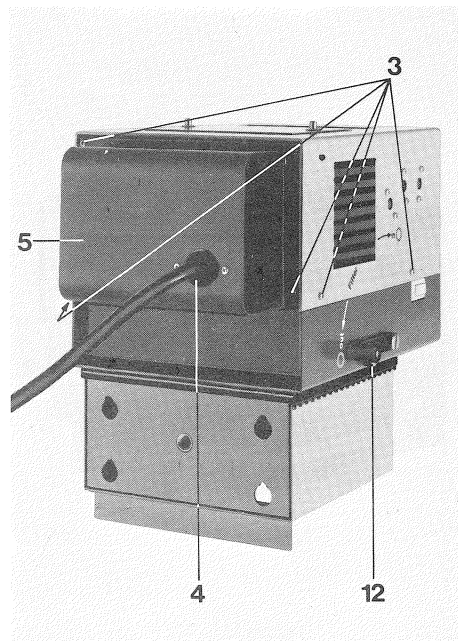
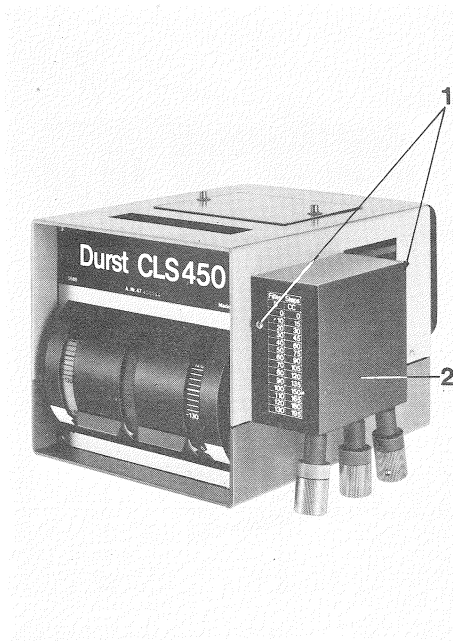




**Changing the gear wheels**

- 1) Unscrew both crosshead screws (1) at the control knob side, lift off the cover (2), unscrew the crosshead screws (3) and remove the top housing.
- 2) Knock out the appropriate fixing pin (30), slack off the inner socket head screw (31) and pull the coupling sleeve (32) off the shaft (33).

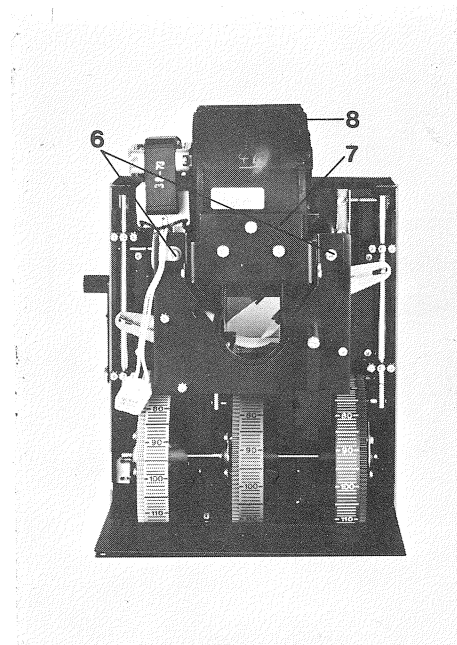
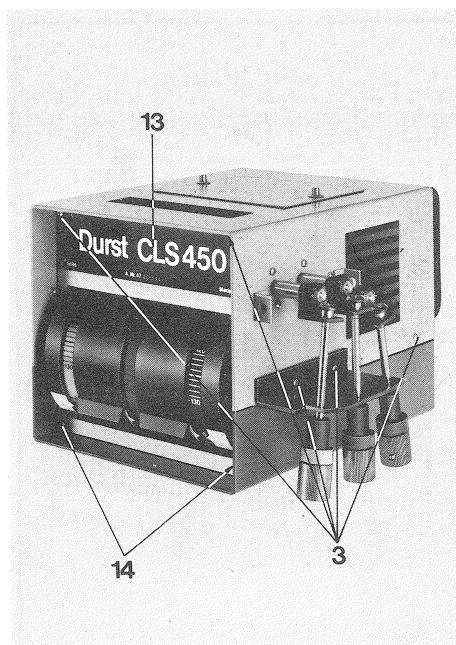
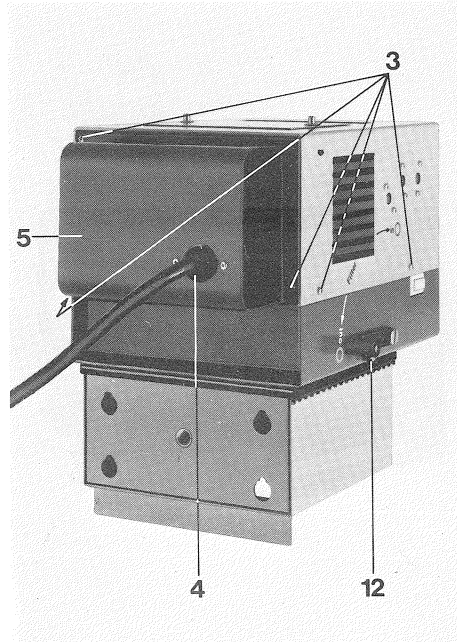
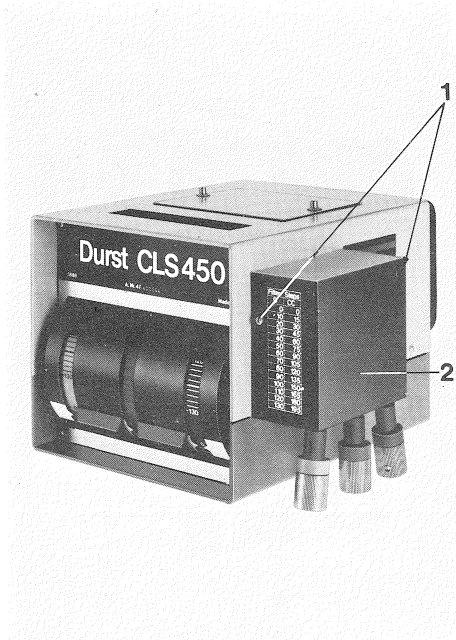
- 3) Prise off the circlips (34), pull out the shaft (33) and remove the pinion (35).
- 4) Mount a new pinion and re-assemble in the reverse sequence.

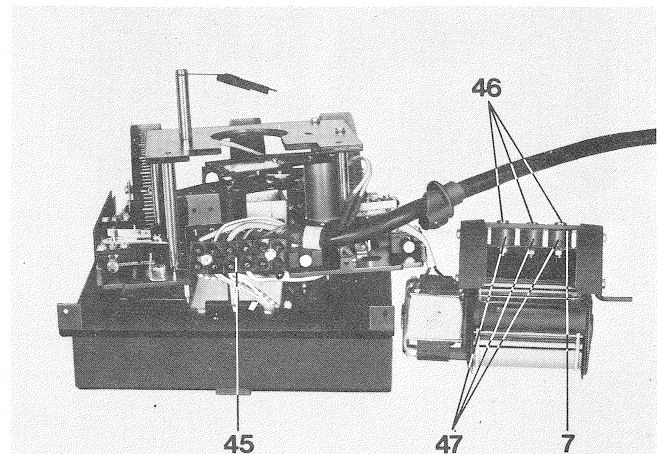
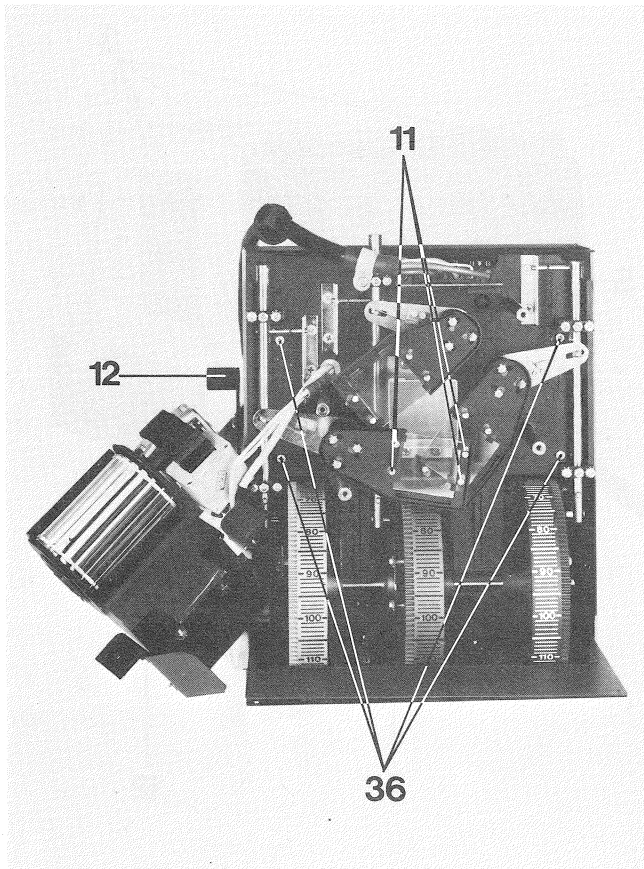
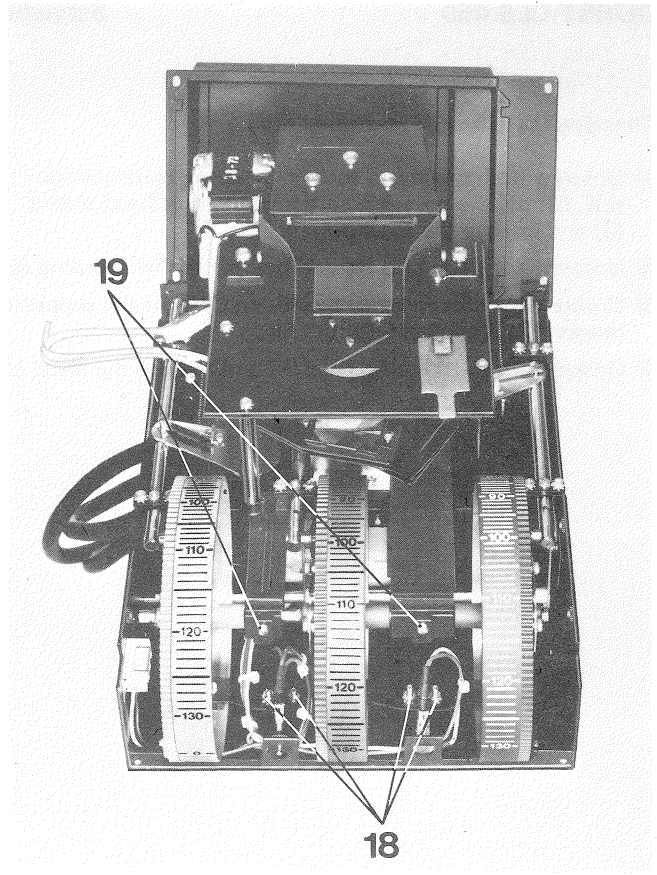
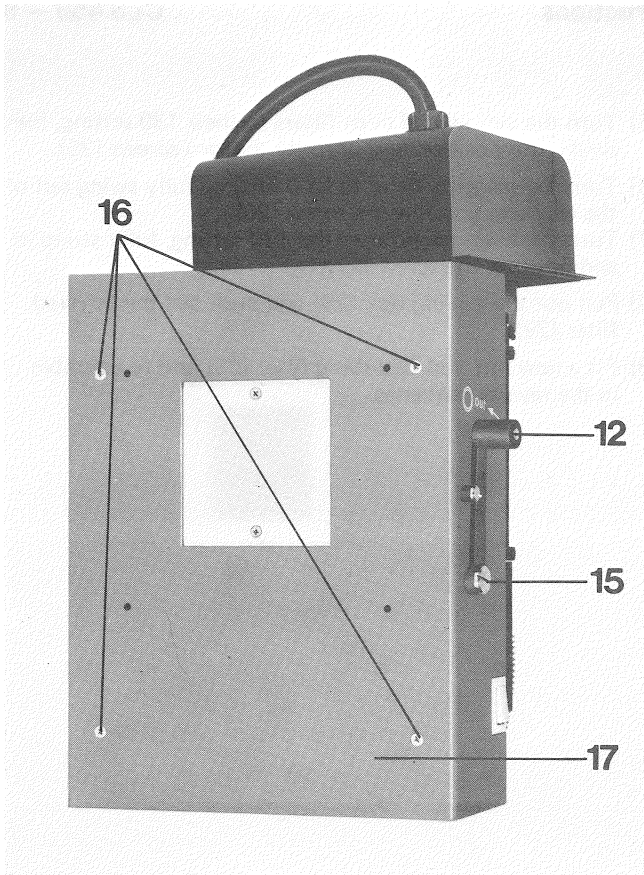




**Changing the fan**

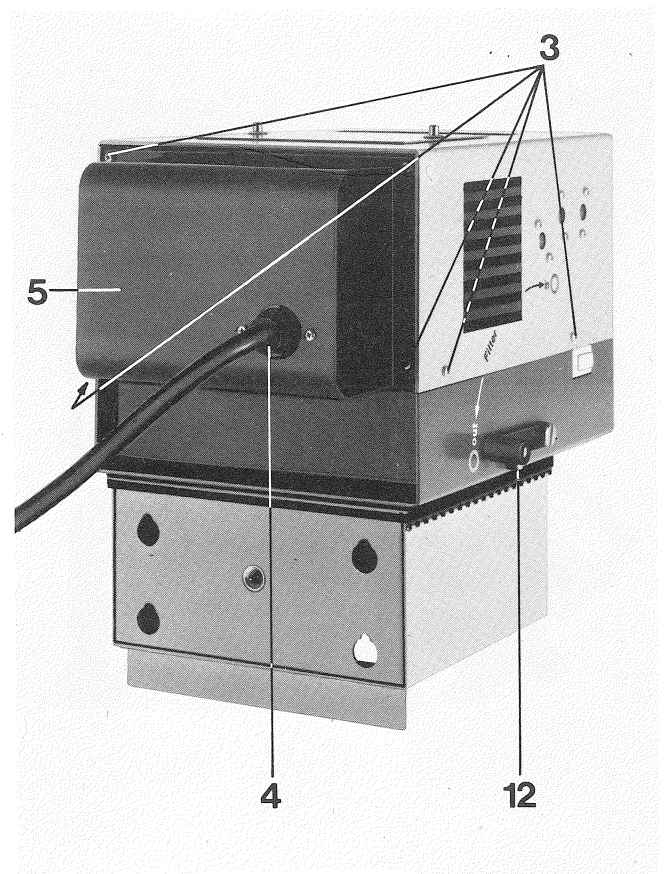
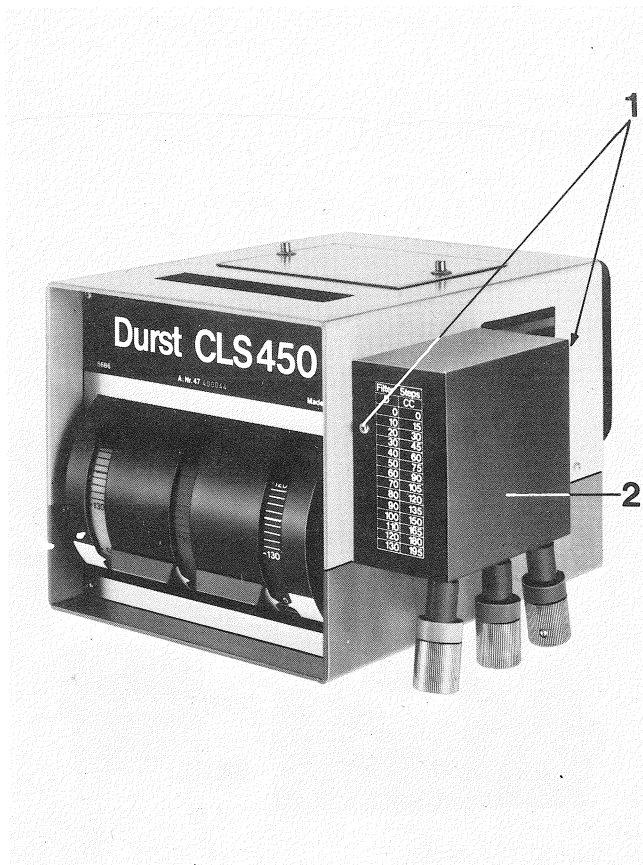
- 1) Unscrew both crosshead screws (1) at the control knob side, lift off the cover (2), unscrew the crosshead screws (3) and remove the top housing.
- 2) Unscrew the cable grip (4) and pull off the fan housing (5).
- 3) Unscrew the crosshead screw (6) and remove the supporting bracket (7) complete with the fan (8).
- 4) Unscrew the two crosshead screws (14) and remove the front panel (13).
- 5) Unscrew the screws (15), pull off the lever (12) and remove the bottom screws (16). Then lift off the mounting plate (17).
- 6) Unscrew the screws (18) and nuts of the dial friction springs.
- 7) Unscrew the four crosshead screws (36) and lift the whole filter assembly at the back.
- 8) Release the motor cable from the terminal strip (45).
- 9) Unscrew the crosshead screws (46) with their nuts and lift off the supporting bracket (7), then screw it complete with the spacing sleeves (47) to the new fan.
- 10) Re-attach the motor cable to the terminal strip (45).
- 11) Re-assemble in the reverse sequence.



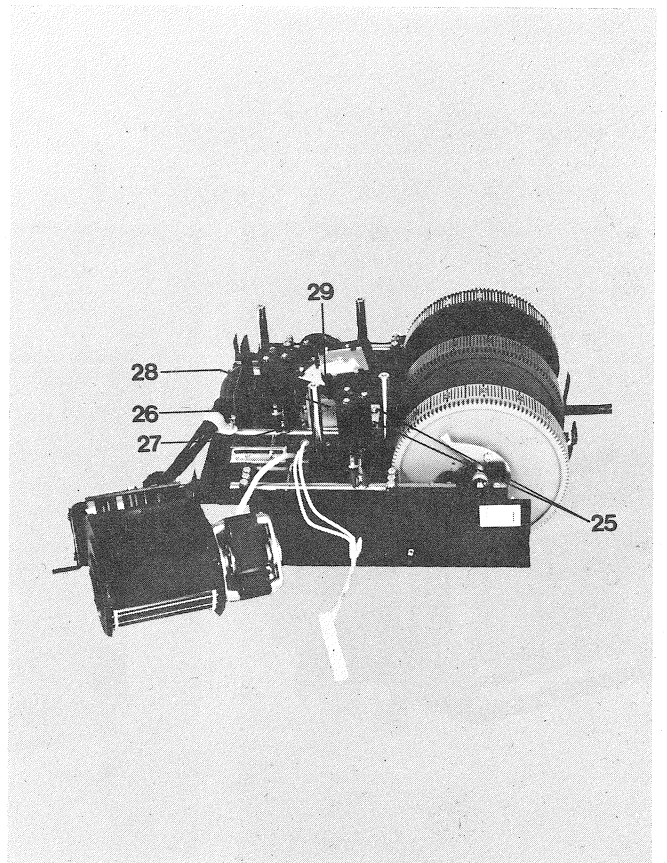
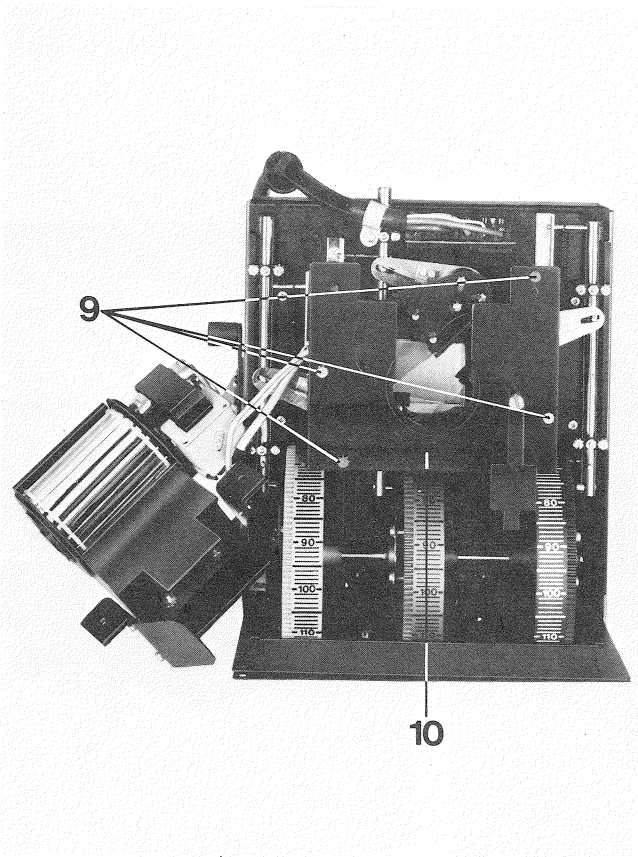
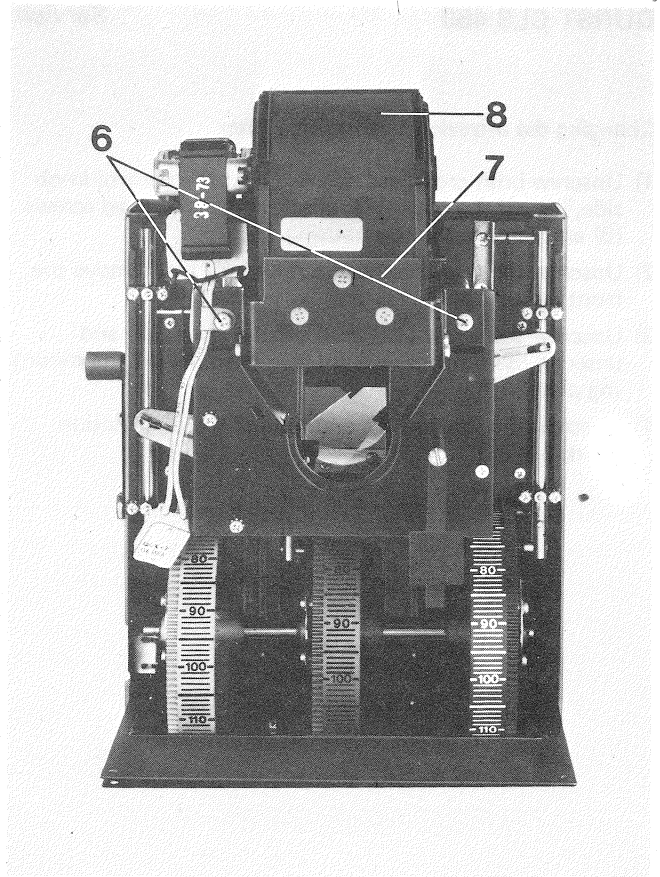
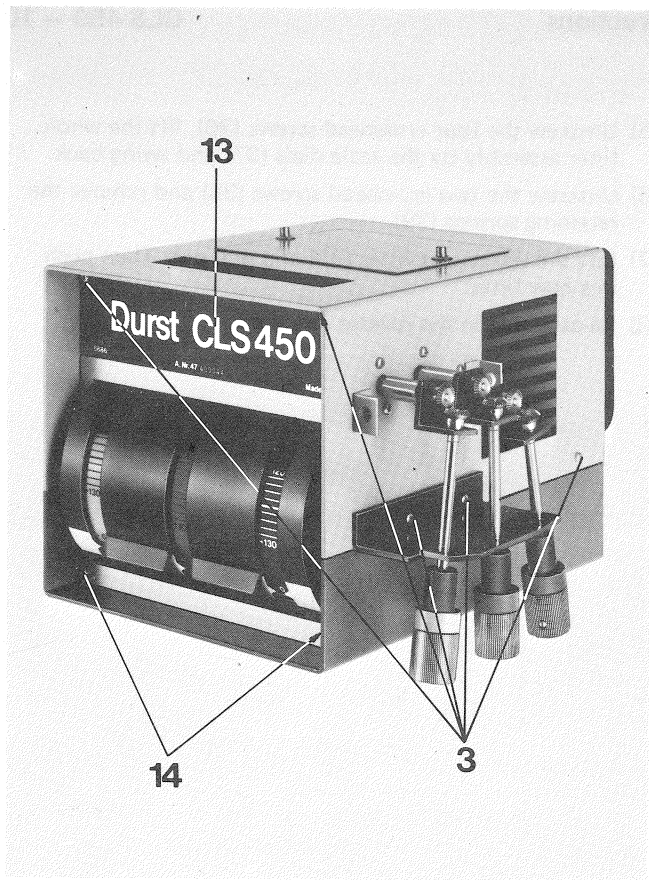


**Changing the infrared—absorbing filter**

- 1) Unscrew both crosshead screws (1) at the control knob side, lift off the cover (2), unscrew the crosshead screws (3) and remove the top housing.
- 2) Unscrew the cable grip (4) and pull off the fan housing (5).
- 3) Unscrew the crosshead screws (6) and lift off the supporting bracket (7) complete with the fan.
- 4) Unscrew the crosshead screws (9) and remove the panel (10).
- 5) Turn the yellow and cyan filters to their 130 setting, fully swing into position and unscrew the two screws (25).
- 6) Turn the magenta filter to its 0 setting, fully swing out of the way and unscrew the screw (26).
- 7) Turn the magenta filter to the 130 setting, fully swing in and unscrew the screw (27).
- 8) Pull out the mixing box (28) and push out the infrared filter (29).
- 9) Fit a new infrared absorbing filter (29) and re-assemble in the reverse sequence.

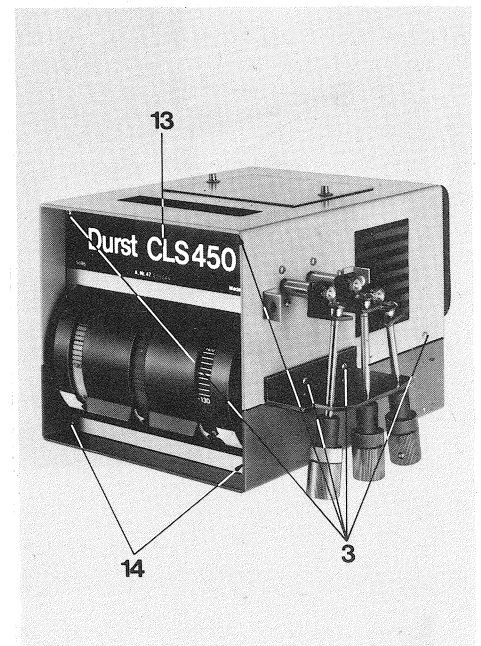
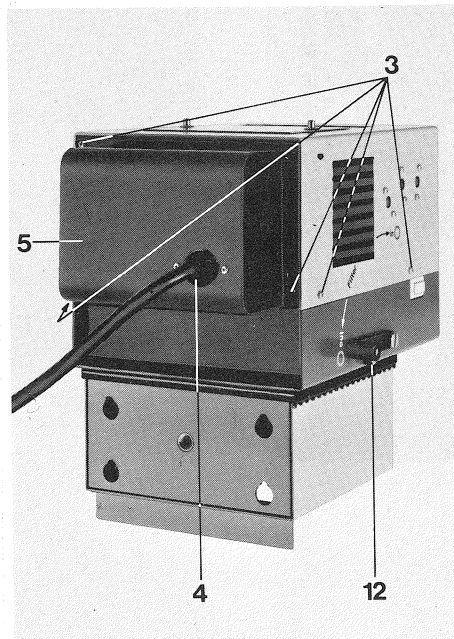
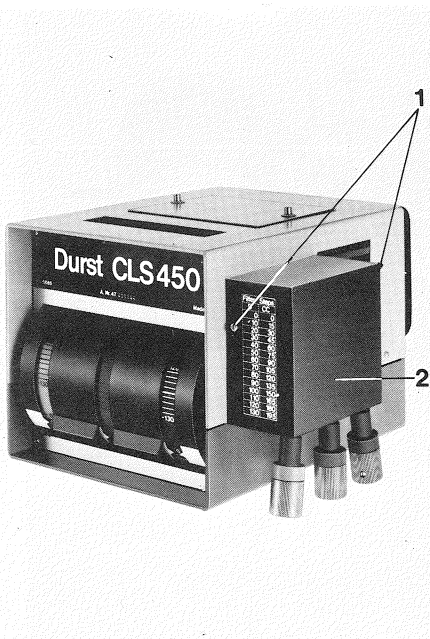


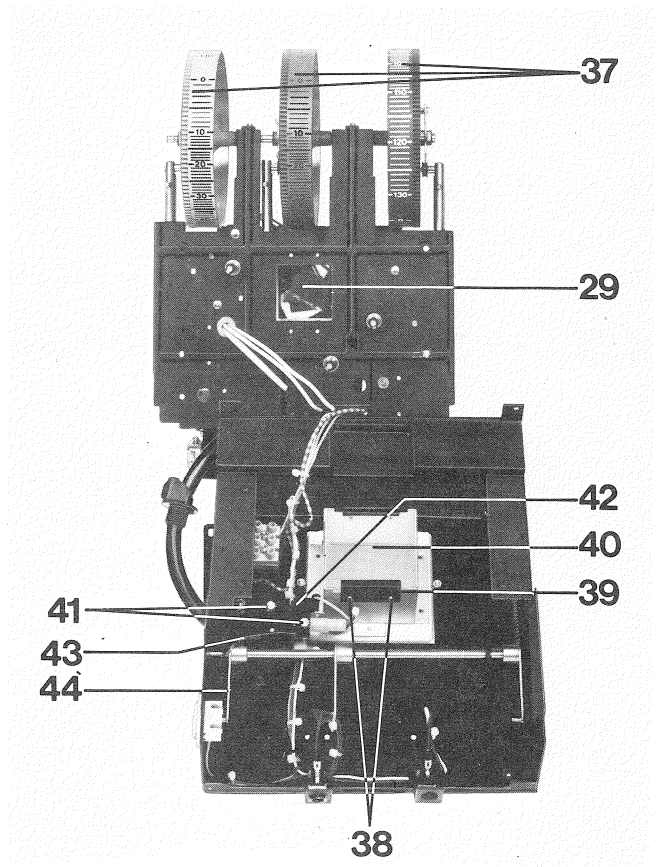
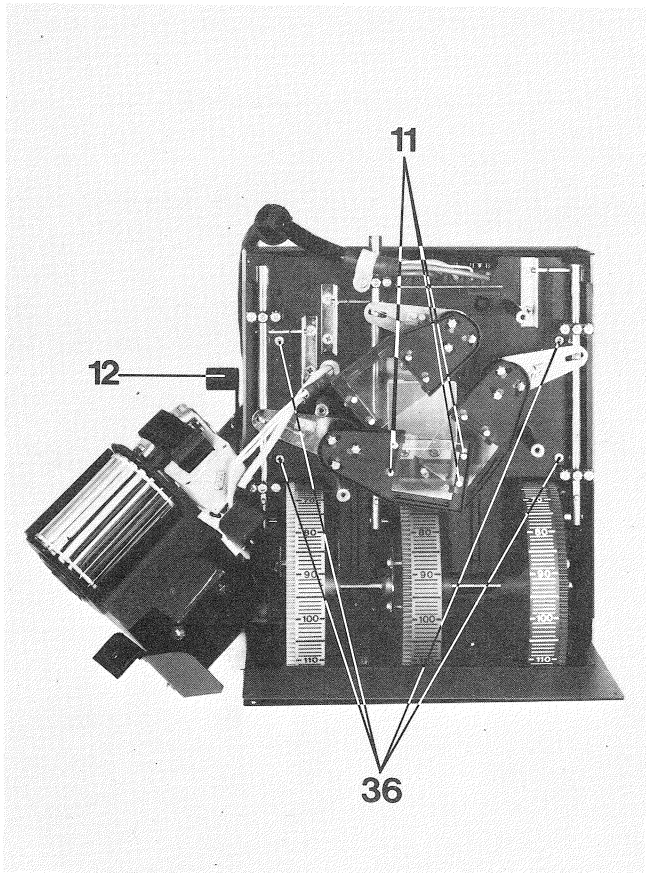
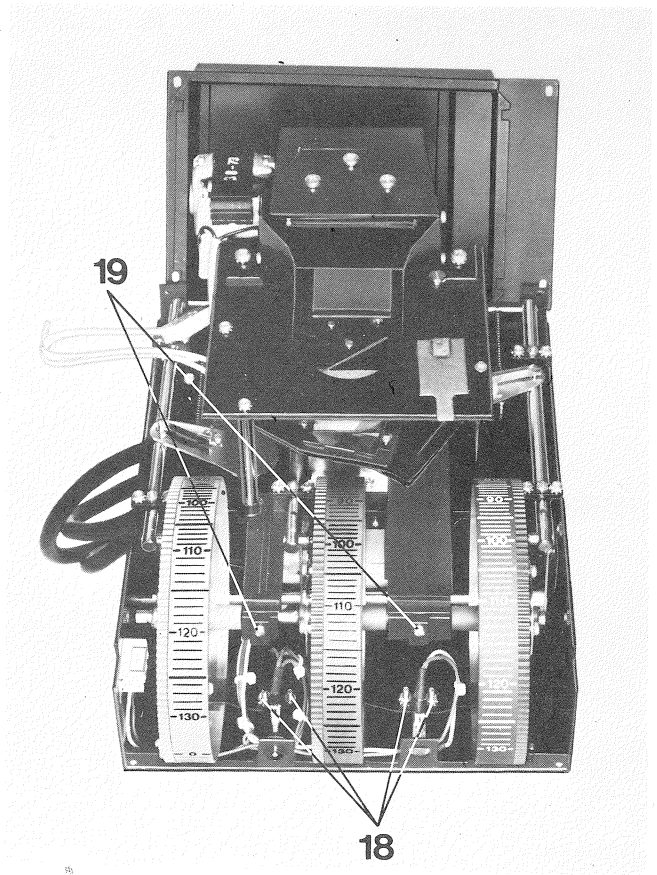
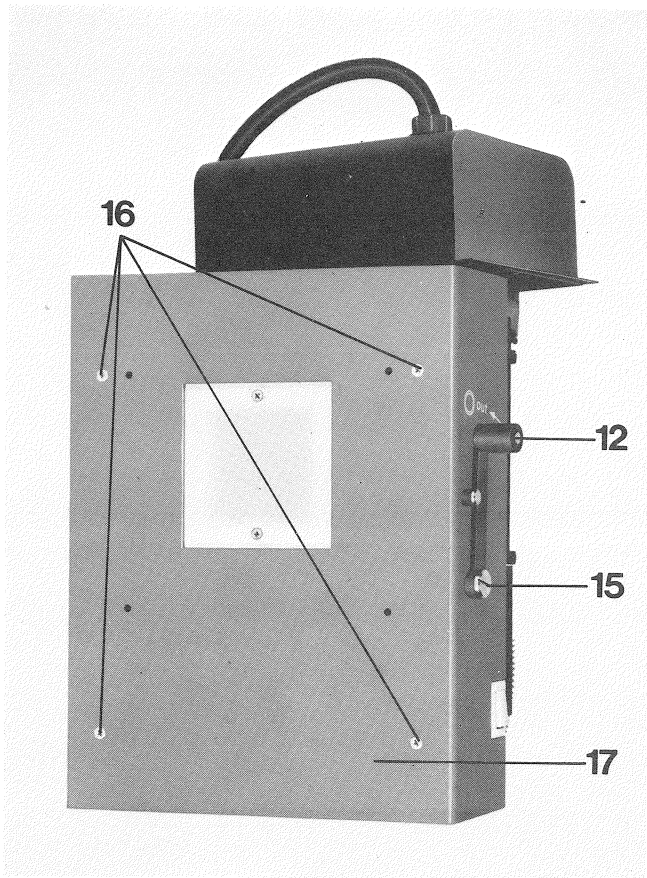




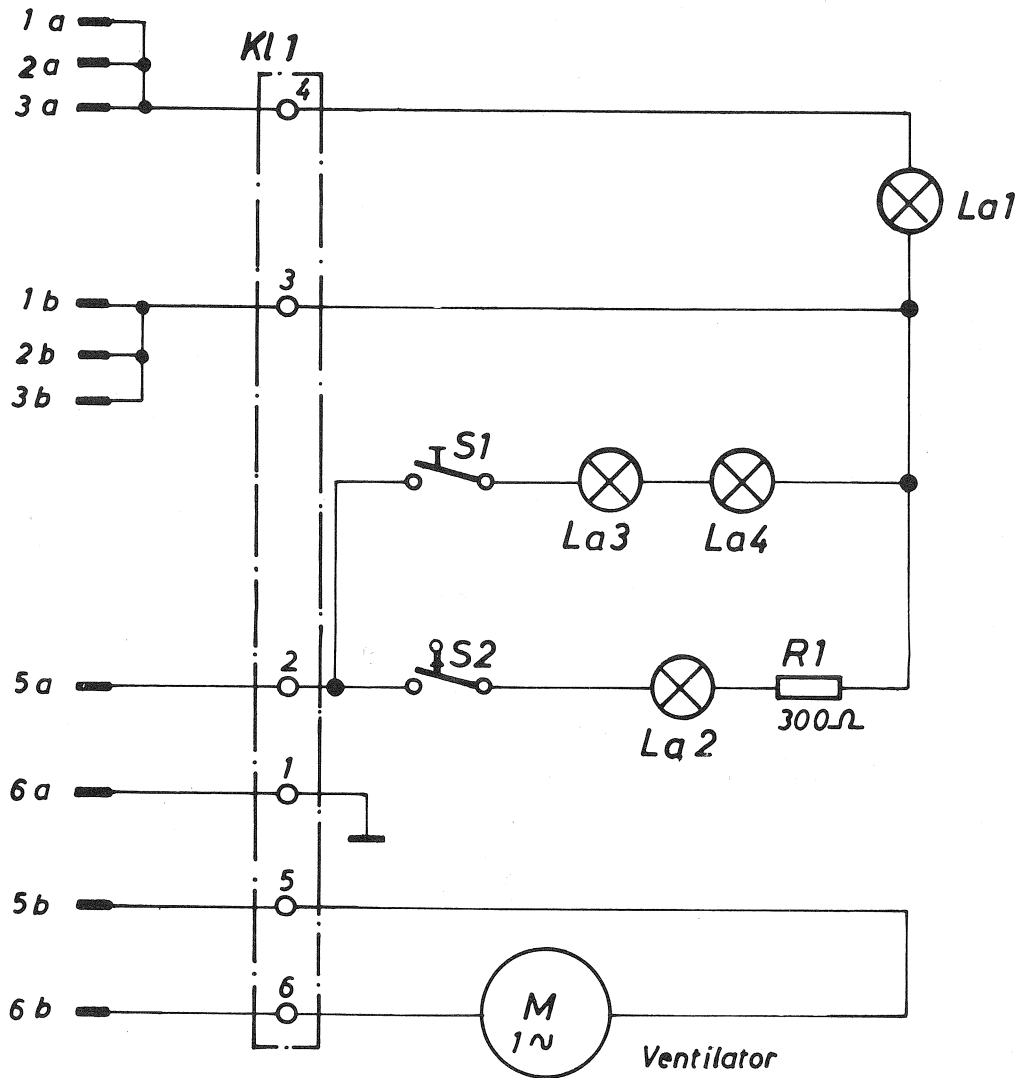
**Changing the ultraviolet—absorbing filter**

- 1) Unscrew both crosshead screws (1) at the control knob side, lift off the cover (2), unscrew the crosshead screws (3) and remove the top housing.
- 2) Unscrew the two crosshead screws (14) and remove the front panel (13).
- 3) Unscrew the screw (15), pull off the lever (12) and unscrew the bottom screws (16). Then lift off the mounting plate (17).
- 4) Unscrew the screws (18) and nuts of the dial friction springs.
- 5) Unscrew the four crosshead screws (36), lift the whole filter assembly by the scale dials (37) and swing back.
- 6) Unscrew the two crosshead screws (38) and remove the retaining springs (39).
- 7) Lift the ultraviolet filter (40) and pull out. Then push in a new filter.
- 8) Re-assemble in the reverse sequence.









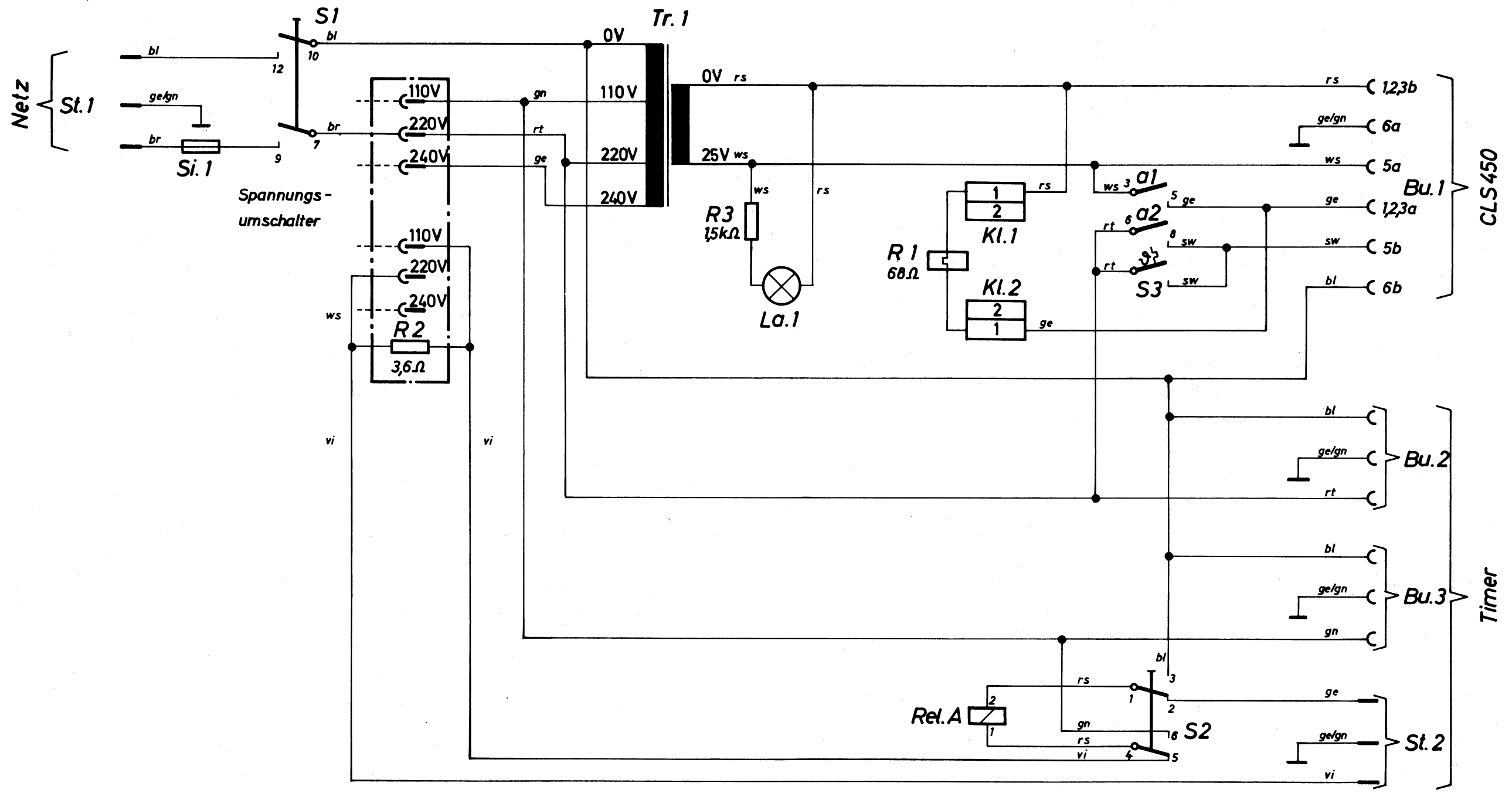
La1 24V 250W

La2..La4 12V40mA

R1 nach WNEL103

S1 Art. 142

Code <b>COLIZU 450</b>		Benennung <b>Schaltbild</b>				Zn.Nr. <b>XB 47. 300.1E</b>		
<b>DURST A.G.</b> Bolzano-Bozen	Ausgabe	A	B	C	D	Datum	Name	
	Datum					Gez 16/8/83	<i>ofago</i>	
	Name					Gepr		
	Änd.Mitt.					Normgepr		



Rel.A V23008 A0015 A052 110V/60 Hz.  
 R1 nach WNEL 107  
 R2 nach WNEL 106  
 R3 nach WNEL 102  
 Si.1 { für 110V M5A  
       für 220V M2,5A  
 S1,2 Type 14.25.0101 16A 250V  
 S3 28043.22 60°  
 La.1 24V 20mA  
 Tr.1 Zn.Nr. TB47.700.0E

				Freimaßst.			
				Tag	Name		
				Bearb.	10.3.75	RE.	
				Gepr.			
				Norm.			
3	Tr. 1	10.3.75	RE.	Durst S.A. Bolzano-Bozen		Schaltbild	-
2	S2, La.1, R3	10.3.75	RE.				
1	Bu.3						
Ausgabe	Änderung	Tag	Name			TA47.300.3D	TRA 450