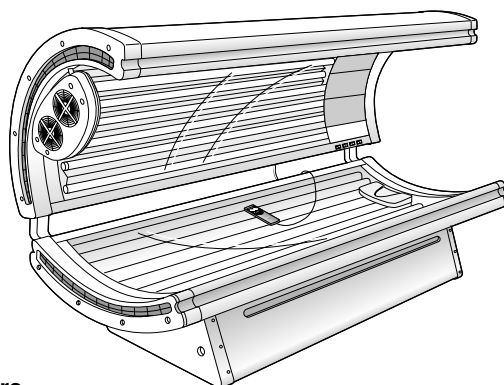
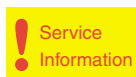


Service
Service
Service



SUNSTUDIO
COMBI

Domestic Appliances and Personal Care

Service Manual

SAP coding HB 581

GENERAL

The full-body solarium HB 581/A is equipped with a 30 minute timer.

After the pre-set tanning time, the appliance automatically switches off.

The facial tanner (HP 400 lamps) can be switched on in two steps (180/260W) by means of switch SK 1/SK 2.

After the facial tanner has been switched off, it can only be switched on again after the lamp has cooled down for 3 minutes!

It has eleven fans - six in the canopy and four in the couch and one in the control unit - for adequate cooling of the equipment during operation and two fans for body cooling.

If malfunctions occur, thermal switch (SK7/SK9/SK11) will prevent the temperature from rising to an unacceptable level.

The power supply will only be switched on via the relays (Re1/Re2) after the timer has been set.

When choosing a place for the appliance, make sure there is enough free space around the appliance to guarantee proper cooling.

This solarium has to be connected to 3-phase mains.

TECHNICAL DATA

Operating voltage	: 3 x 230V, 50Hz
Power consumption	: approx. 4250W
Ballast canopy	: 3 x 100W
	: 6 x 80W
Ballast couch	: 14 x 100W
Ballast power unit	: 16 x 80W
Starter canopy	: 16 x S12
	: 3 x MagneTek ZG 4,5D
Starter couch	: 14 x S12
Lamp canopy	: 16 x Cleo Performance 80W
	: 3 x HP 400
Lamp couch	: 14 x Cleo Performance 100W
Timer	: 30 min.
Safety class	: double insulation
Test mark	: CE
Length of mains cord	: approx. 3m
Irradiation field	: approx. 185 x 80 cm
Dimensions	: approx. 208 x 101 x 91 cm (L x W x H)



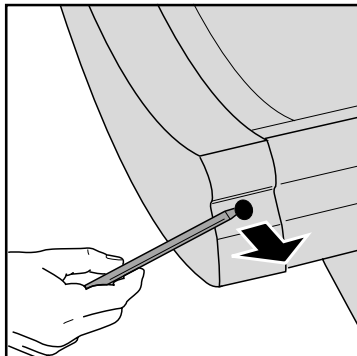
PHILIPS

DISASSEMBLY

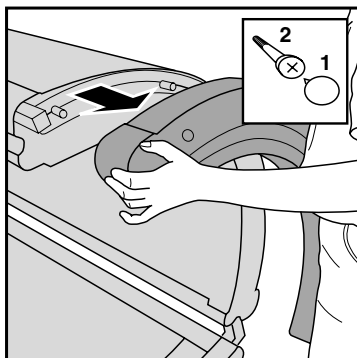
Canopy

Use an appropriate knife to carefully remove the two decorative caps that cover the plastic rivets (7) from the end covers of the lamp housing (35 + 40) and then lever the rivets out of the lamp housing with the knife.

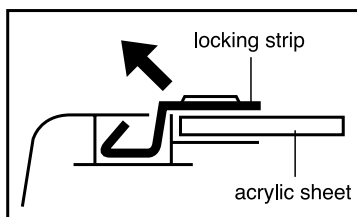
Use an appropriate screwdriver to carefully remove the 5 screw covers (34) and to loosen the screws (36).



Now the end covers can be removed from the lamp housing.



Unscrew the body cooling fan on the left side of the canopy and take it out.
Remove the screws.
Pull the ornamental/retaining strips (3) of the acrylic sheet (44) up and snap them out.



Lift the acrylic sheet from the appliance together with a second person.
The TL's (41 + 42), the starter (18) and the safety switch of the lamp filter (60) are now accessible.
To remove the cover of the lamp housing (38), first remove the decorative caps of the four plastic rivets (37) with a suitable knife.

Be careful: prevent scratches on the cover!

Then pull the cover of the lamp housing out of the grooves of the housing parts (39 + 43).
Lift the cover off the housing parts together with a second person and place it on a soft surface behind the appliance in such a way that the connecting cable (48) is not subjected to a too high mechanical load.

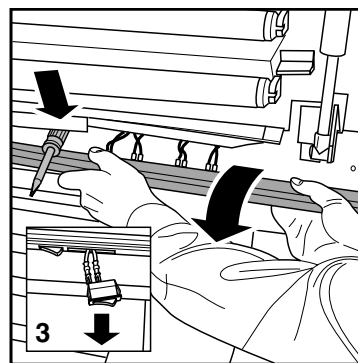
Now all the other parts of the lamp housing of the canopy are accessible and can be disassembled.
Before the HP 400 lamps can be taken out, the reflector (58) and the filter unit (59) have to be loosened and removed.

To disassemble the two upper fans (23), first remove the two ballasts and then lift the fans with the fan holders out of the housing so that the fixing screws can be loosened.

Mark the position of the filter holders before disassembly to make sure that they can be assembled in exactly the same position when reassembling the lamp housing, which is necessary to ensure that the rivets of the cover of the lamp housing (38) can be reinserted without a problem.

To disassemble switches SK 1-4 (55, 56, 57), the housing part (43) must be pushed inwards and downwards and kept apart with a suitable object. The housing part (43) is highly flexible.

Appliances from the first series have another rivet in their housing part (43) that must be removed before the housing can be pushed down. This rivet must not be replaced.



To disassemble the gas pressure springs (53), fold the canopy up and have a second person lock it in this position.

Push housing part (43) inwards and downwards and keep it apart with a suitable object.
Remove the spring retainer cover (54) with a suitable screwdriver and then loosen the retaining nut.

The gas pressure spring can now be removed from the appliance.

Always use a new spring retainer cover (54) when reassembling the appliance!

To disassemble the body cooling fans (64), take the two housing halves (63) apart after loosening four screws.

The fans that have already been unscrewed can now be disassembled further.

Couch

Use an appropriate knife to carefully remove the two decorative caps that cover the plastic rivets (7) from the end covers of the lamp housing (6 + 11).
Then lever the rivets out of the lamp housing with the knife.

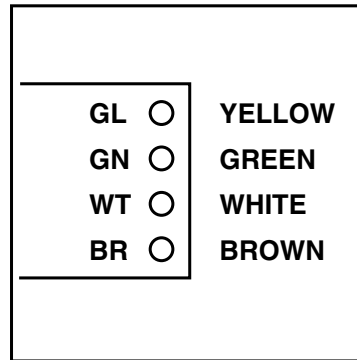
Use an appropriate screwdriver to carefully remove the 4 screw covers (34) and to loosen the screws (36).

Now the end covers can be removed from the lamp housing (6 + 11).

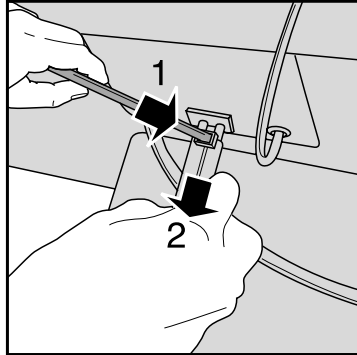
Pull the ornamental/retaining strips (3) of the acrylic sheet (10) up and snap them out.

Lift the acrylic sheet off the couch to gain access to the TL's (2), and starters (18).

To replace the remote control (33), unsolder connecting cable (32) from the remote control PCB.

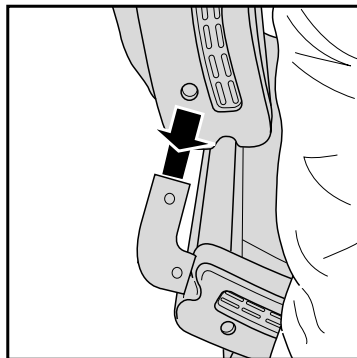
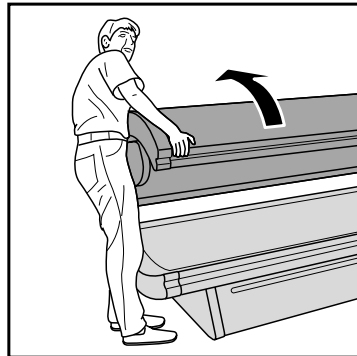


To disassemble the cover of the lamp housing (13), pull the connecting cable (48) of the canopy out of the socket in the couch.

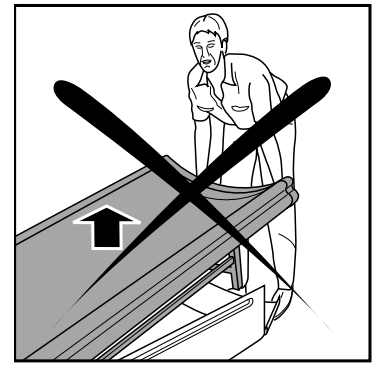
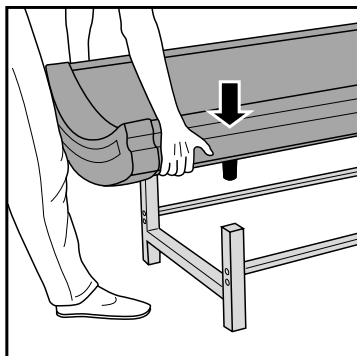


Lift the canopy off the couch together with a second person.

Place the canopy on a soft surface.



Then lift the couch off its frame together with a second person and place the couch on a soft surface with the lamps pointing downwards.



Loosen the screws located in the cover of the lamp housing next to the studs (8).

Pull the cover out of the grooves of the housing part (12) and lift it together with a second person off the rest of the housing and put it on a soft surface.

Now all the other parts of the lamp housing of the couch are accessible and can be disassembled.

ASSEMBLY

Canopy

When assembling the acrylic sheet (44), make sure the ornamental/retaining strips (3) have been snapped in properly.

Always use a new spring retainer (54) when reassembling the gas pressure springs (53)!

When assembling the housing part (43), make sure the housing part has been properly snapped in behind the metal strip.


Couch

When assembling the acrylic sheet (10), make sure the ornamental/retaining strips (3) have been snapped in properly.

When assembling the cover of the lamp housing (13), please make sure that the small housing cover (45) permitting entry of the mains cable and other connectors laps properly over the cover of the housing.

SERVICE TIPS

- If a fuse blows when you switch on the appliance, this is usually caused by a fuse that acts too quickly.
In such a case, use of a slow 16A safety fuse is recommended on account of the high starting current.
- The fuse may also be activated as a result of a defective ballast or an overloaded circuit.

- If one or more TL's have broken down, you can track down the failure cause by exchanging parts (ballasts, starters, lamps).
If these parts are OK, the wiring must be checked, especially the connections to the lamp holders.
- An unusually early blackening of the end of the TL's points to a wiring fault or a defective starter.
- The plug-in connections of the wires can be detached by means of a paper clip.
- Thermal switch (49) switches the HP 400 lamp off at a temperature of approx. 75°C.
After the lamp has cooled down (i.e. after approx. 15 minutes), the HP 400 lamp will automatically come on again.
- If the thermal switch turns the HP 400 lamp off repeatedly, check if the rpm of the fan isn't too low.
Put some thin oil on the bearings.
- When exchanging the HP 400 lamp, make sure you do not touch the new lamp with your bare hands, as finger prints could burn in and reduce the lamp's performance.
If you touch the lamp surface by accident, clean it with pure alcohol.
- New HP400 lamps may show colour differences.
This is not a defect, but a characteristic phenomenon of lamps of this type.
The discolourations disappear after a short period of use.
- If the glass pane with metal frame (59) have been disassembled, the HP 400 lamp cannot be started, as in that case microswitch (60) will be open.
- After repair, always check whether the glass pane with metal frame has been properly mounted.
- Always use protecting goggles when looking in the direction of burning lamps.
- The acrylic sheets can be cleaned with a moist cloth and some washing-up liquid.
Avoid the use of alcohol, alcohol-based cleaners, petrol, acetone or abrasives!
These substances can cause irreparable damage to the sheets.
- Disposal of used-up or broken lamps
 Used-up or broken lamps are chemical waste and must be disposed of in the appropriate manner.

IRRADIANCE

The measuring data indicated below were established with help of an UVX 36 meter and may only be checked with this equipment, since the values measured are relative values. The measurements must be taken after approx. 5 minutes in the centre of the irradiation field and at the distance indicated.

The following aspects must be checked or the following preliminary measurements must be taken:

- Mains voltage: 3 x 230V ~
- Room temperature approx.: 22-28°C
- Check the fans for failure-free operation as optimal irradiation is only guaranteed at the correct operating temperatures.
- Clean the reflectors, the lamps, the acrylic sheets and the glass pane.

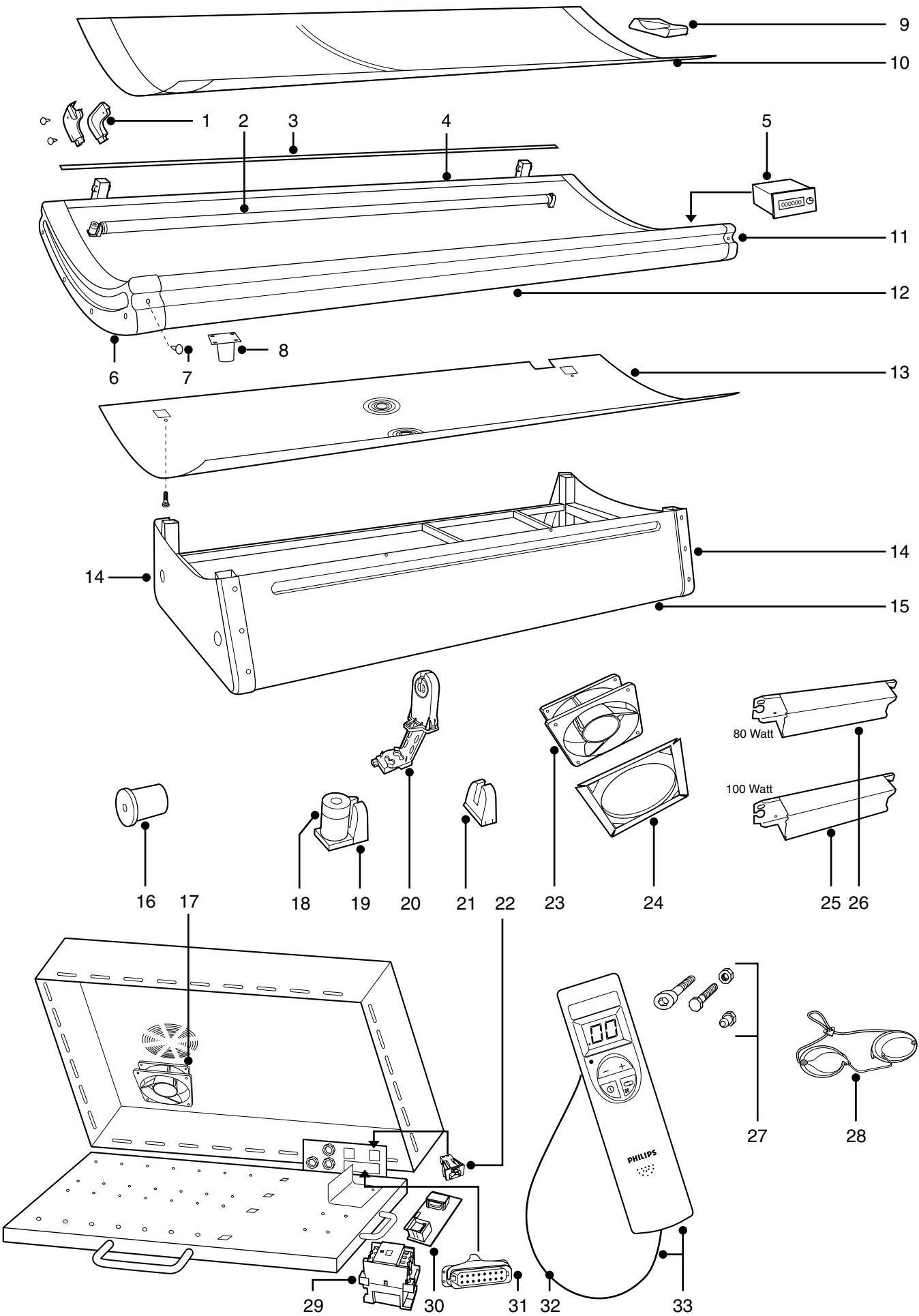
With regard to the minimum irradiation indicated below, you should bear in mind that this is not an absolute value at which the lamps must be replaced.

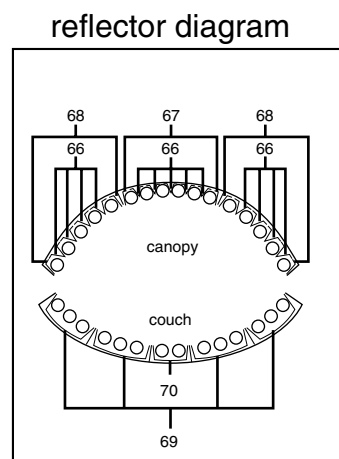
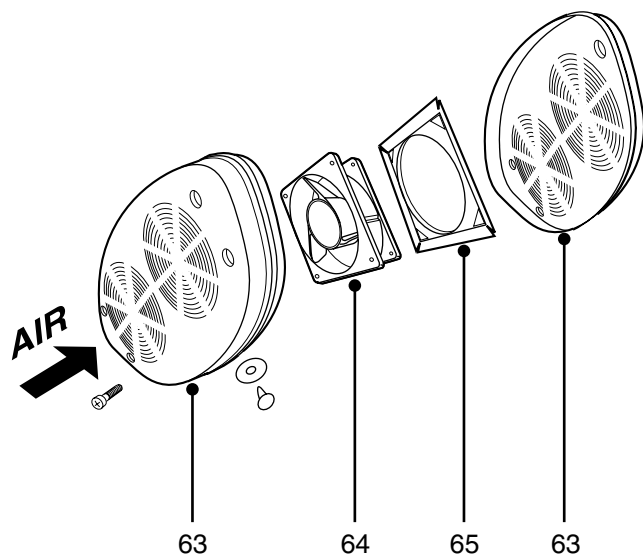
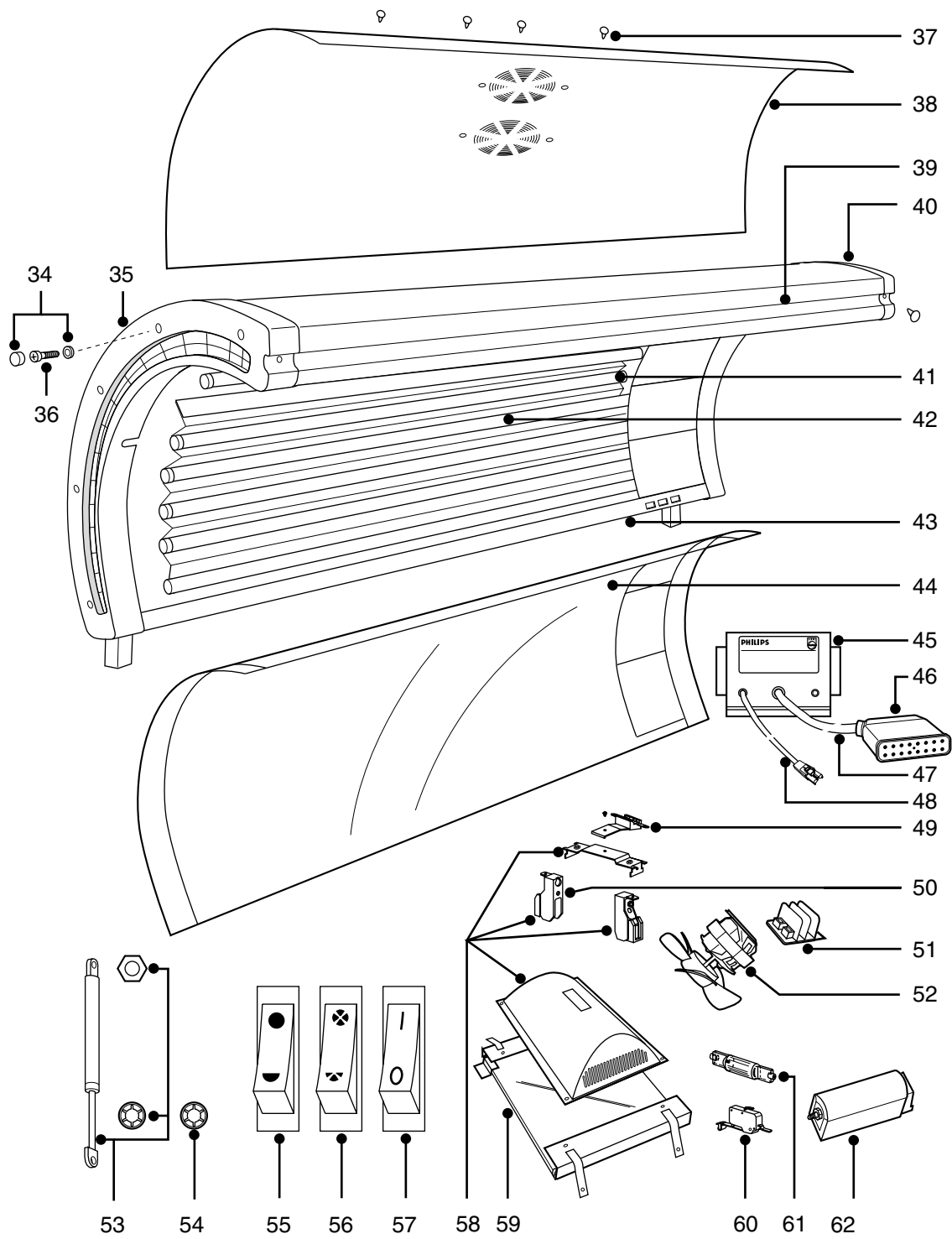
Depending on the skin type, the tanning session may also be extended so that the lamps can be used a little longer.

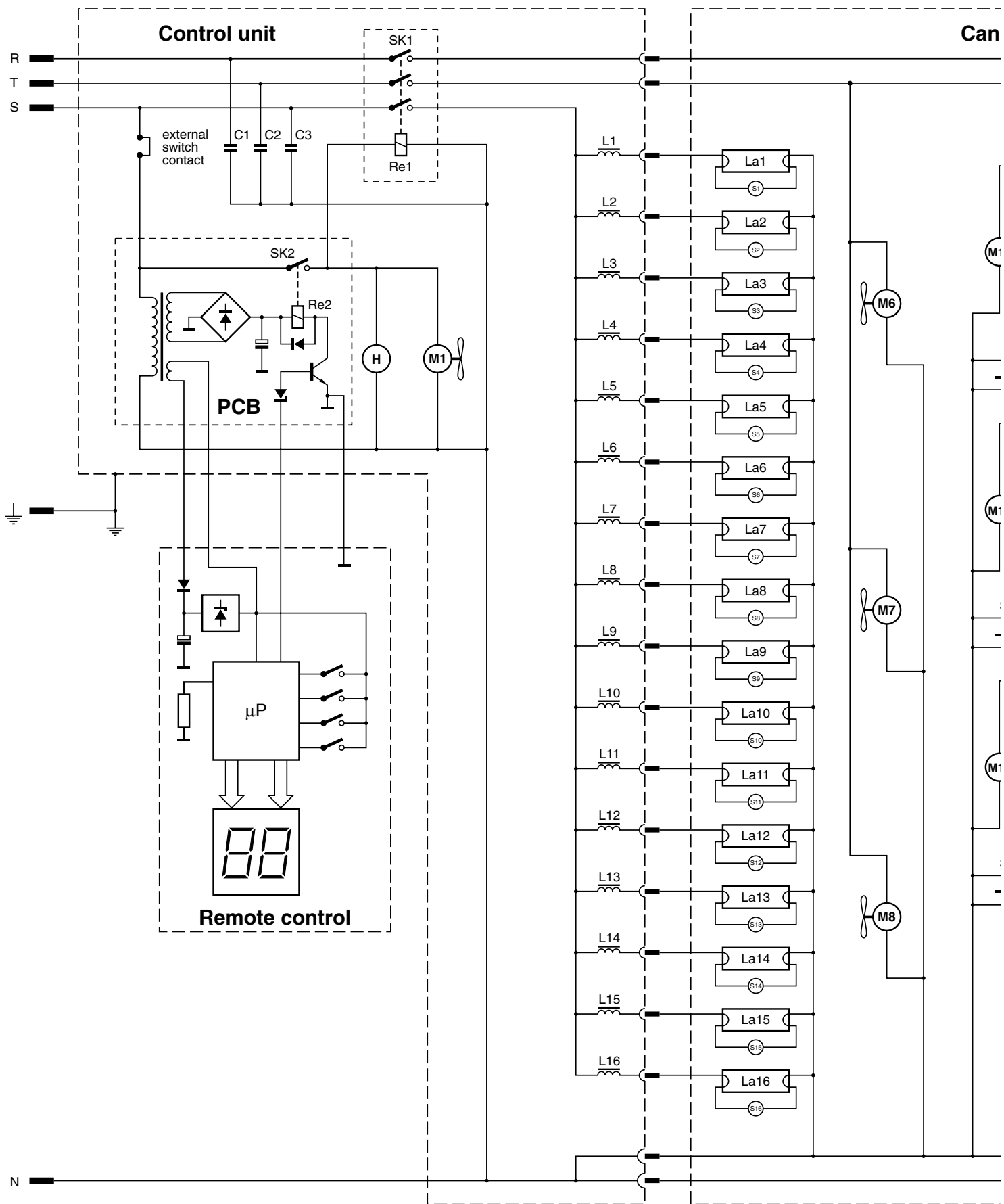
UVX 36 meter	distance in cm	output in mW/cm ² NEW (approx)	output in mW/cm ² MIN (approx)
Couch	2.5 cm from acrylic sheet couch	10.0	6.3
Canopy	30 cm from acrylic sheet couch	10.0	6.3
Canopy beneath the facial tanner	30 cm from acrylic sheet couch	6.1	3.9
Note: Switch SK1/SK2 of HP lamp (facial tanner) in position 2.			

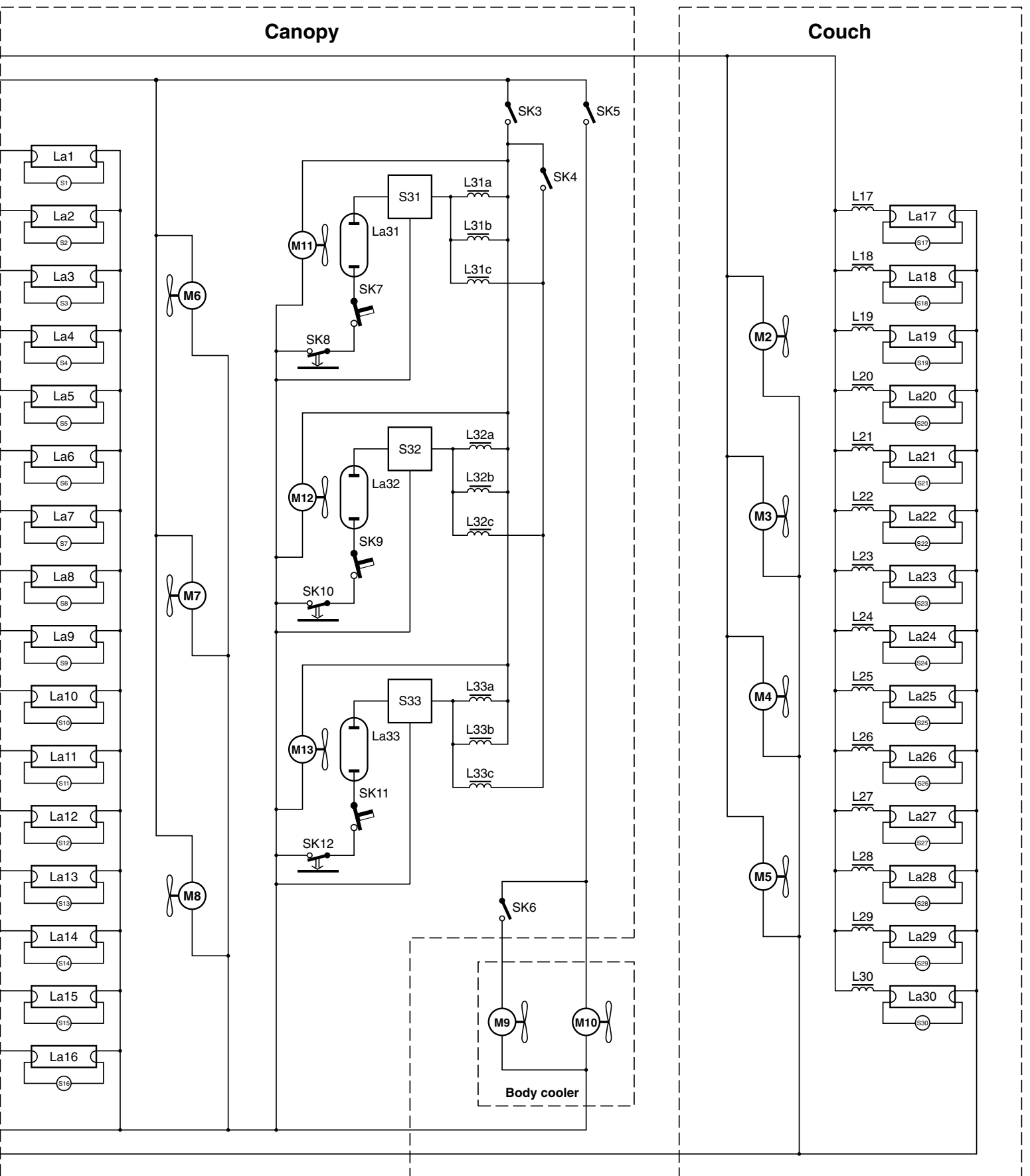
1	9965 000 01958	housing + cover hinge	40	9965 000 01953	end cover canopy R
2	4822 134 30014	tl Cleo Performance 100W	41	= 2	
3	9965 000 01944	locking strip	42	4822 134 80191	tl Cleo Performance 80W
4	9965 000 01945	side cover back couch	43	9965 000 01943	side panel back canopy
5	4822 344 40197	hours counter	44	9965 000 05097	acrylic sheet canopy
6	9965 000 01955	end cover couch L/R	45	4822 442 01239	cover inlet
7	9965 000 02712	push rivet 6x9.5	46	9965 000 05094	16p. connector male
8	9965 000 03043	connecting tube	47	9965 000 05092	18c. cable
9	9965 000 01956	pillow	48	4822 320 11909	connecting cable
10	9965 000 01950	acrylic sheet couch	49	4822 252 11301	automatic cut-out 75C
11	= 6		50	4822 325 20102	lamp holder HPA
12	9965 000 01942	side cover front couch/canopy	51	4822 265 31006	connecting block 2Sx6C
13	9965 000 05088	cover couch	52	4222 062 94320	fan HPA
14	9965 000 02730	stand side panel	53	9965 000 01936	gas spring 5648MW
15	9965 000 02731	stand front panel	54	9965 000 02909	cap spring fix 10mm
16	9965 000 03044	screw plug	55	9965 000 01948	switch HPA
17	9965 000 05090	fan power unit	56	9965 000 01947	switch body blower
18	4822 219 80258	starter S12	57	9965 000 01946	switch on/off
19	4822 255 10374	lamp/starter holder couch	58	9965 000 02726	HPA reflector
20	9965 000 01933	lamp/starter holder canopy	59	9965 000 02785	filter complete
21	4822 255 10375	lamp holder couch	60	4822 271 30619	micro switch
21	9965 000 01934	lamp holder canopy	61	4822 134 10088	HPA lamp
22	4822 265 10944	2-p socket	62	4822 214 12272	HPA starter
23	4822 361 10966	fan 230V	63	9965 000 01957	housing + cover
24	9965 000 01935	rubber sealing	64	= 23	
25	4822 146 10791	ballast 100W	65	= 24	
26	4822 146 10792	ballast 80W	66	9965 000 05095	reflector canopy
27	9965 000 01959	mounting set	67	9965 000 01941	reflector canopy
28	4822 690 80147	HB072 prot. Goggles	68	9965 000 05096	reflector canopy
29	9965 000 05091	el. magn. switch	69	9965 000 05085	reflector couch
30	4822 218 11844	power module	70	9965 000 05086	reflector couch
31	9965 000 05093	16p. connector female			
32	4222 062 94310	r.c. cable			
33	4822 218 10629	remote control with cable			
34	9965 000 02739	set of 5 caps + rings			
35	9965 000 01954	end cover canopy L			
36	4822 502 14539	s.t.screw 4.8x19			
37	4822 532 12791	push rivet 6x7.5			
38	9965 000 05098	cover canopy			
39	= 12				

HB 581/A

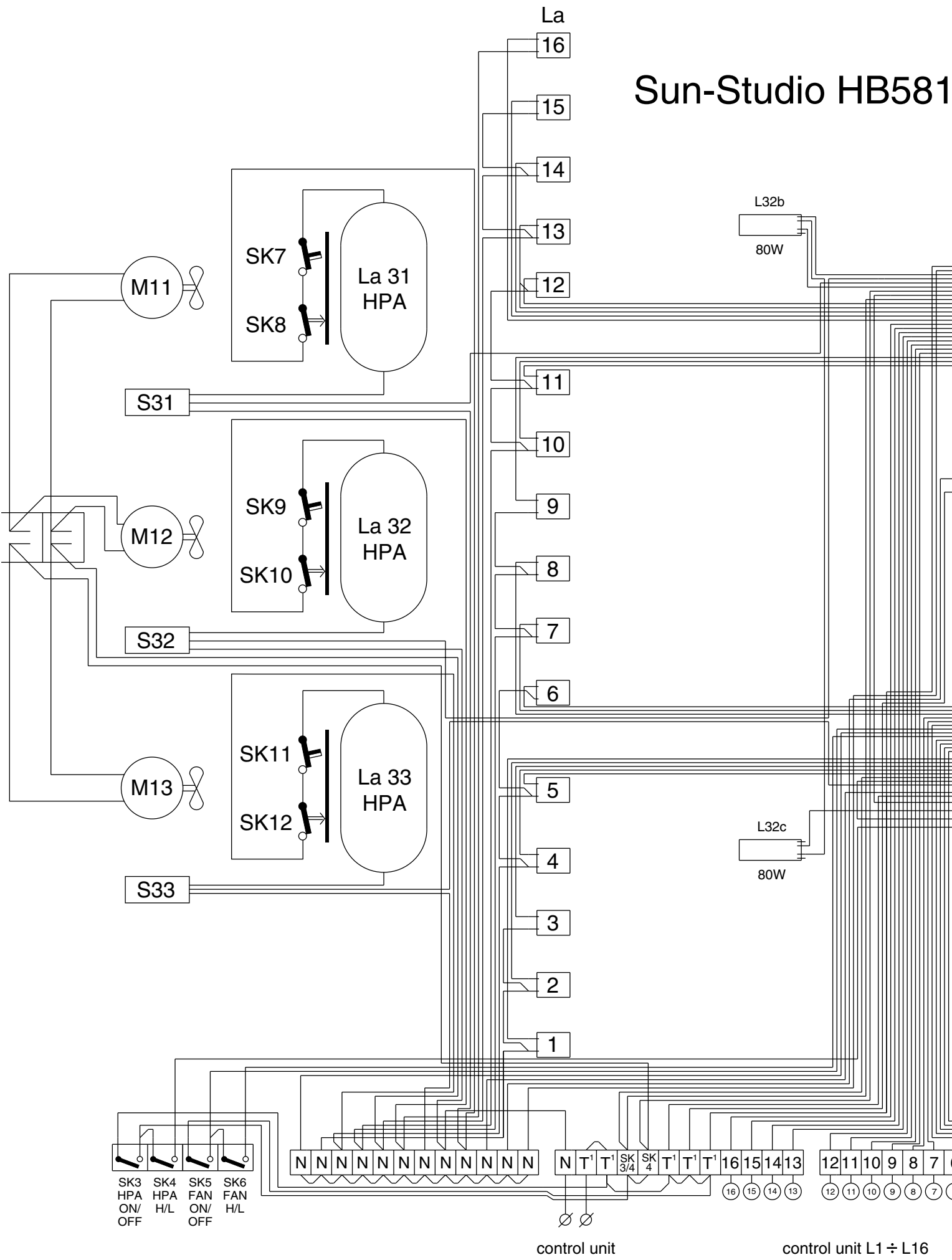




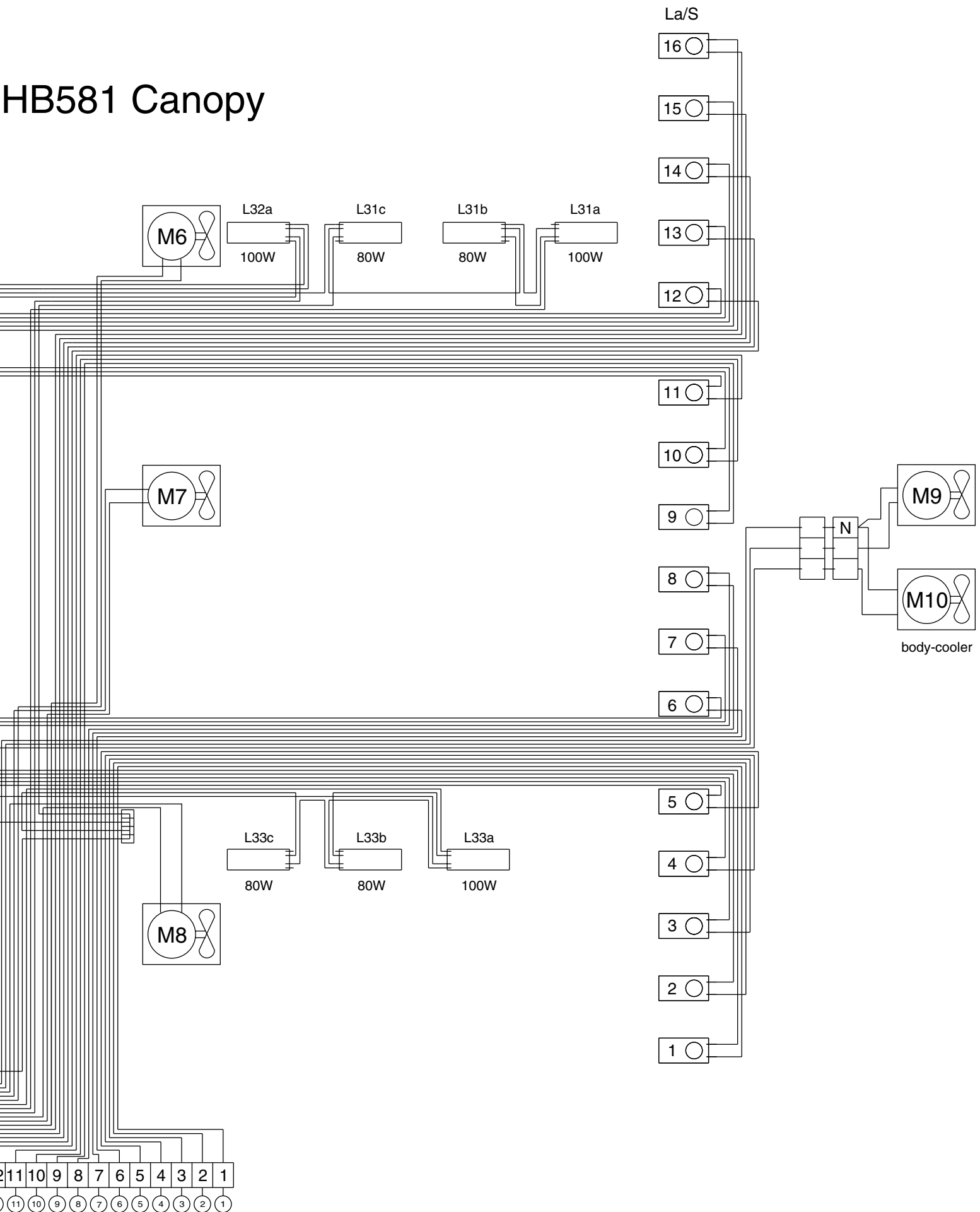


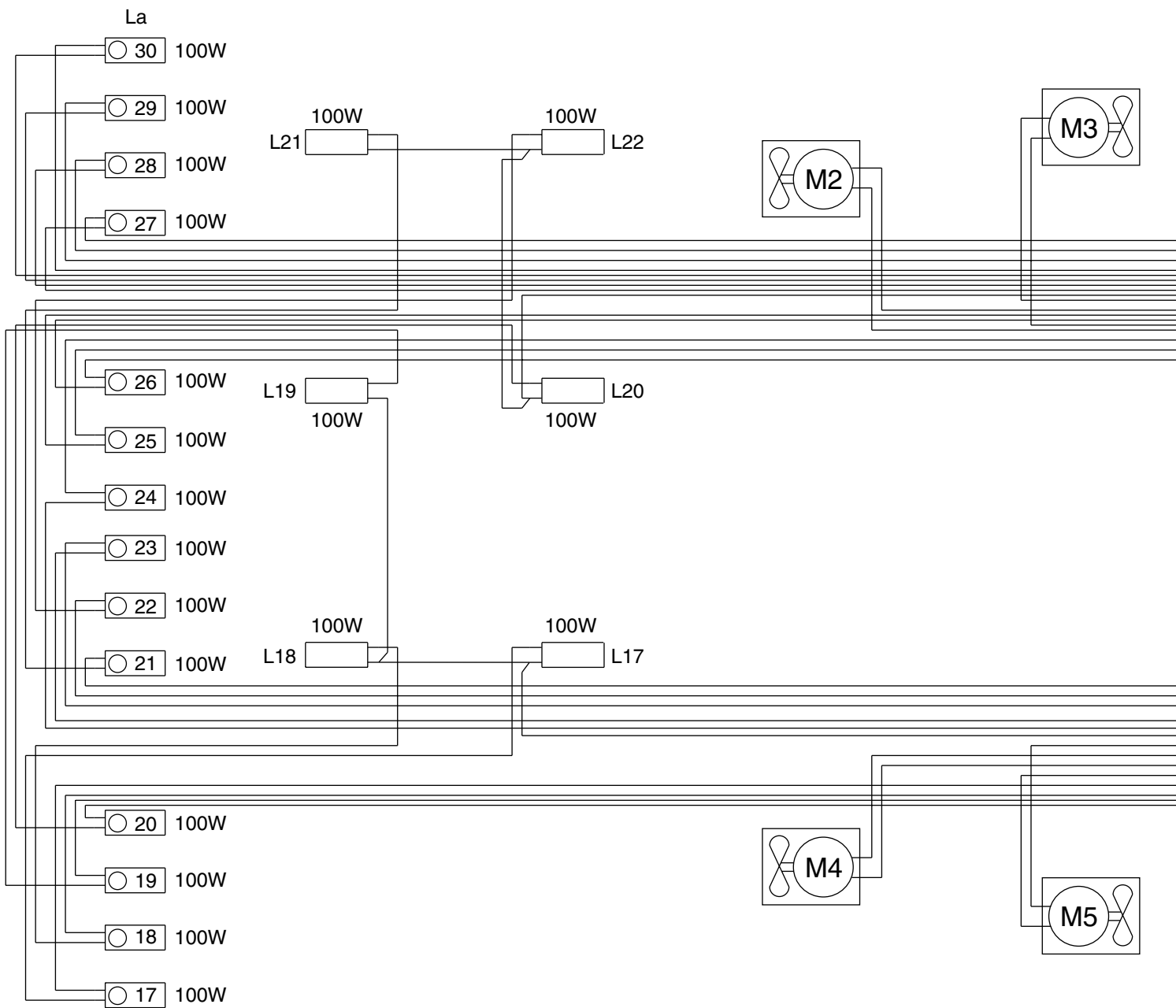


Sun-Studio HB581

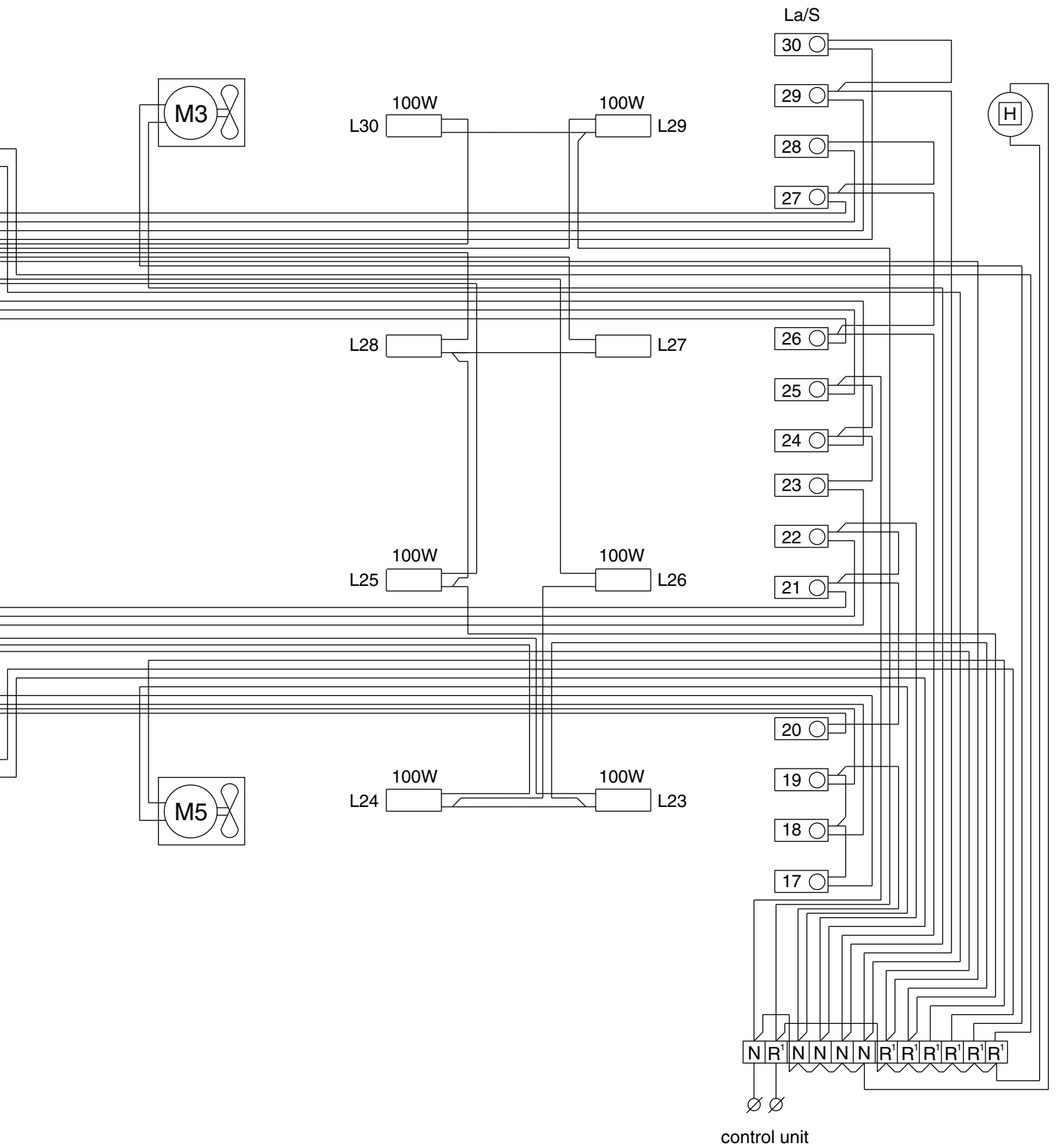


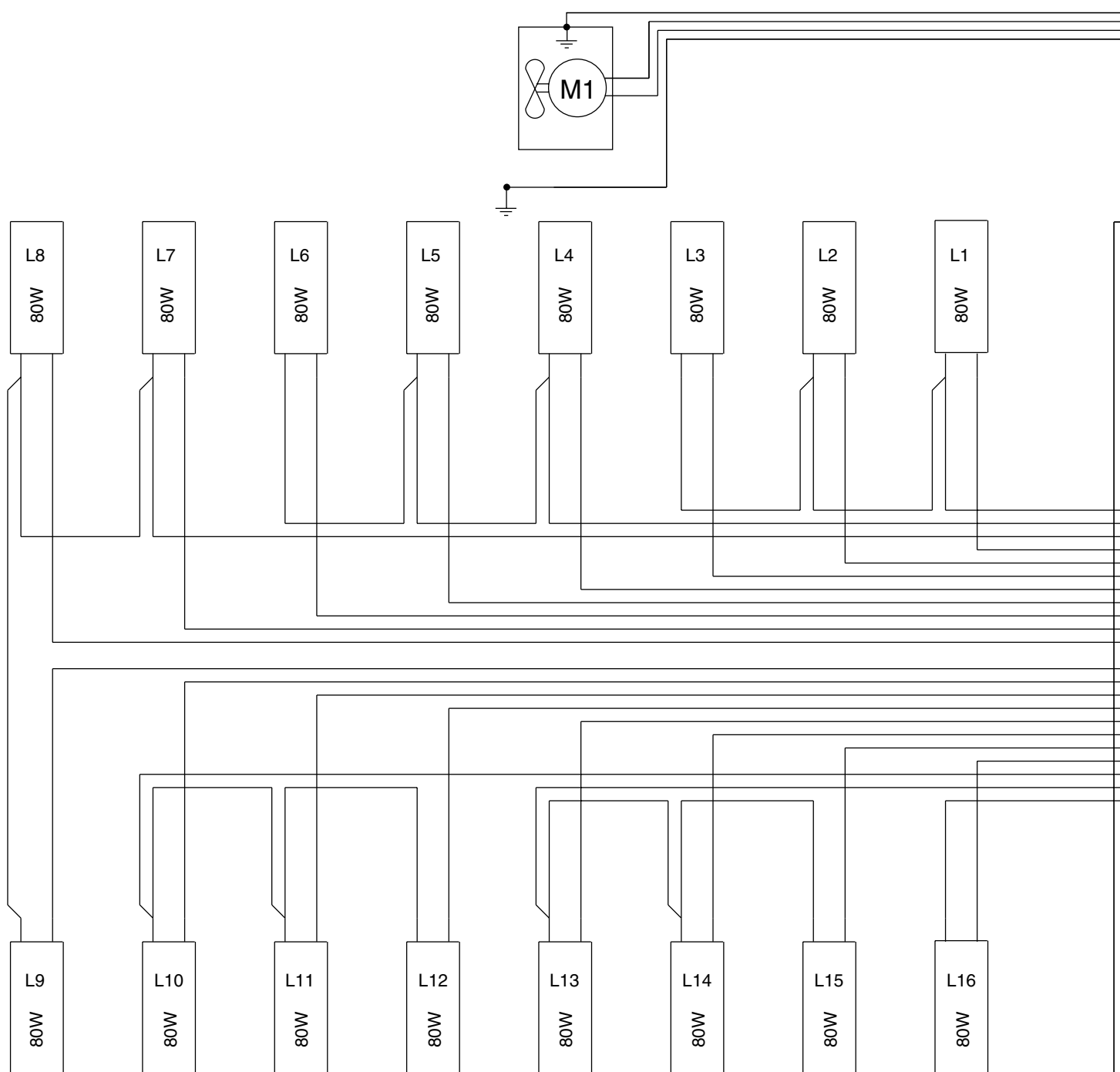
HB581 Canopy





Couch HB 580/81





control unit HB 581

