Operating and installation manual

Tumble dryer TT130 / TT130C

487 18 91 21/01
98.24

Electrolux
Wascator

Tumble dryer / Condensate tumbler

List of contents:

Safety instructions

This machine is only intended for drying water-washed garments.

The machine must not be used for drying foam rubber or foam-like materials.

The machine must not be used for drying floor mops*.

The machine must not be used by children.

The machine must not be hosed down with water.

Mechanical and electrical installation must only be carried out by qualified personnel.

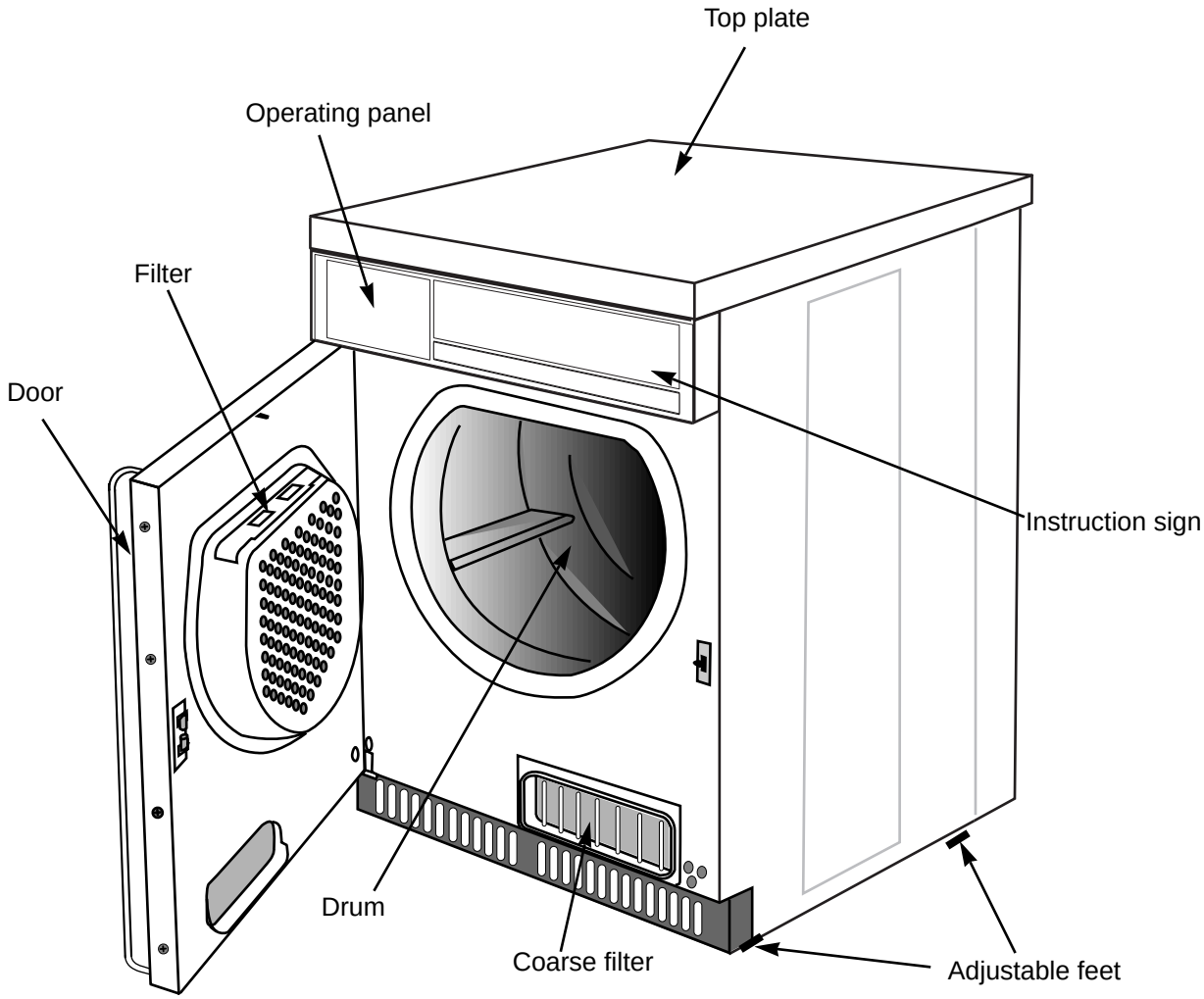
If the machine has a fault, this must be reported as soon as possible to the person in charge. This is important for your own safety and for the safety of others.

*Applies only to floor mops containing polypropylene.

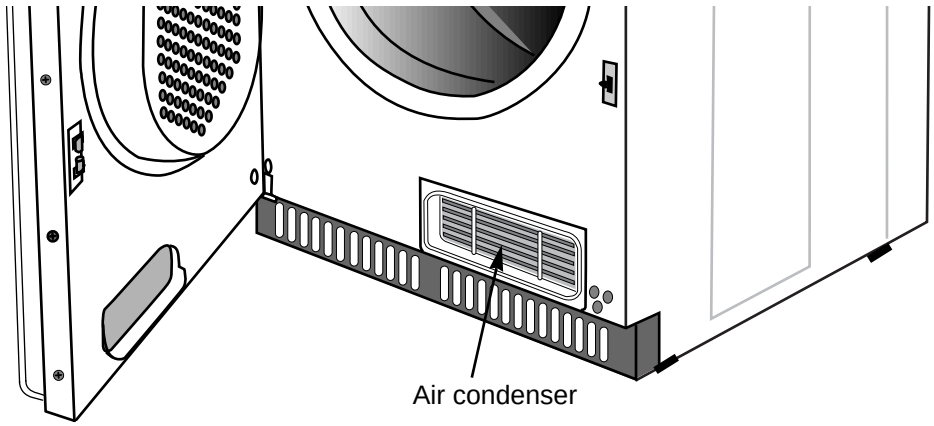
Remember that such textiles as silk and wool must not be dried in the tumbler.

The manufacturer reserves the right to modify design and material specifications without notice.

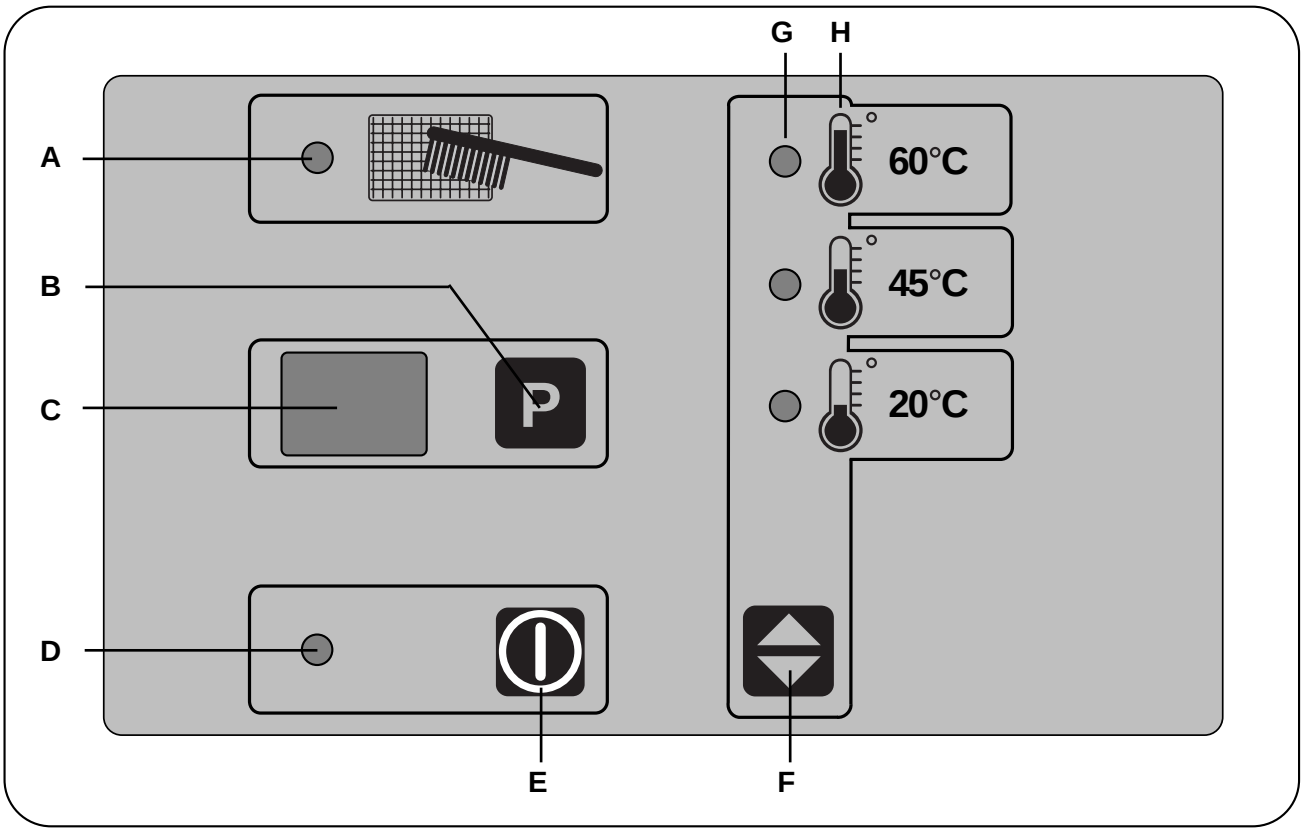
Description of tumble dryer



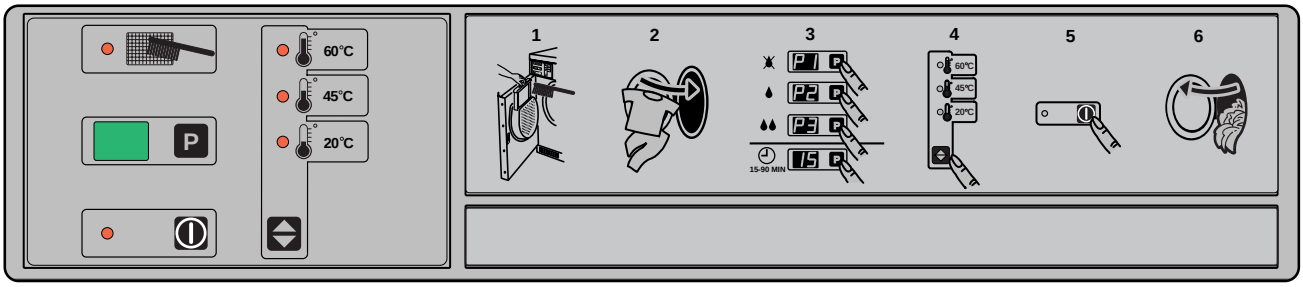
Condensate tumbler



Manual operation



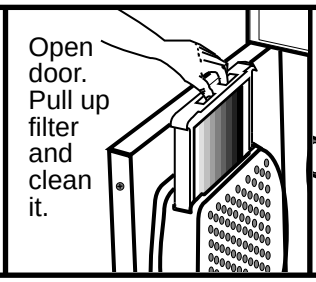
A. Filter: When the lamp is lit, the filter must be cleaned
B. Program selection button
C. Display indicates program: P1, P2, P3,
or in time control version: Drying time / residual time
D. Operating lamp
E. Start/stop button
F. Temperature selection button: 60°C, 45°C or no heat (20°C).
G. Lamps: lit to indicate selected temperature
H. Temperature symbols



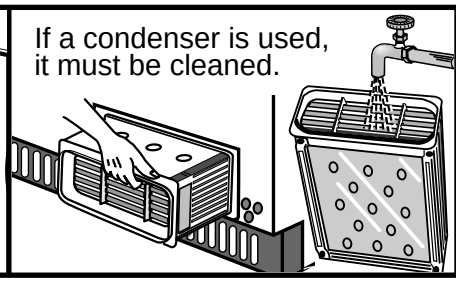
Manual operation

1

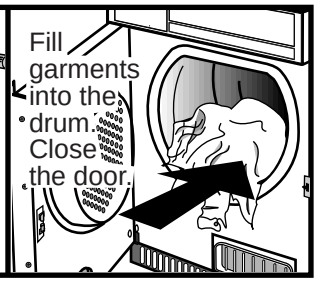
Open door. Pull up filter and clean it.



If a condenser is used, it must be cleaned.



Fill garments into the drum. Close the door.



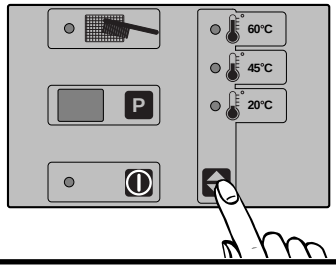
2

Select temperature

60°C

45°C

20°C



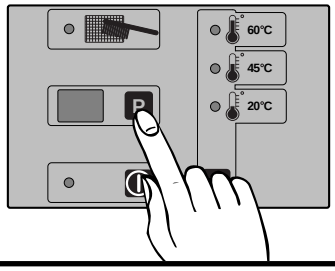
High 60°: PP/normal wash
Cotton and mixed textiles, approx. 5 kg. Drying at normal heat.

Medium 45°: Fine wash / mild wash
Delicate textiles, approx. 2.5 kg. Drying at low heat.

No heat 20°

3

Select program:
P1, P2, P3 or time, from 15 to 90 minutes.



P1 P — Extra dry

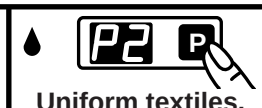
P2 P — Ready to put away

P3 P — Ironing dry

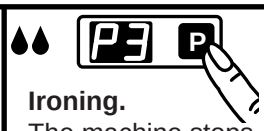
15-90 MIN 15 P — Time control in minutes, (15 to 90).

4

Strong textiles.
The machine stops automatically when the garments are **extra dry**.



Uniform textiles.
The machine stops automatically when the garments are **ready-to-put-away**.



Ironing.
The machine stops automatically when the garments are **ironing dry** (slightly moist).

Time control.
The machine stops when the selected time has ended.
Drying time:
15 to 90 minutes.

5

Start:
Press the start/stop button

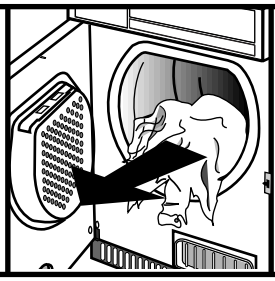
Stop:
The tumbler can always be stopped by opening the door.

Restart:
Close the door again and press the start/stop button.

The last few minutes of the drying time are the cooling-down period
(the garments are cooled).

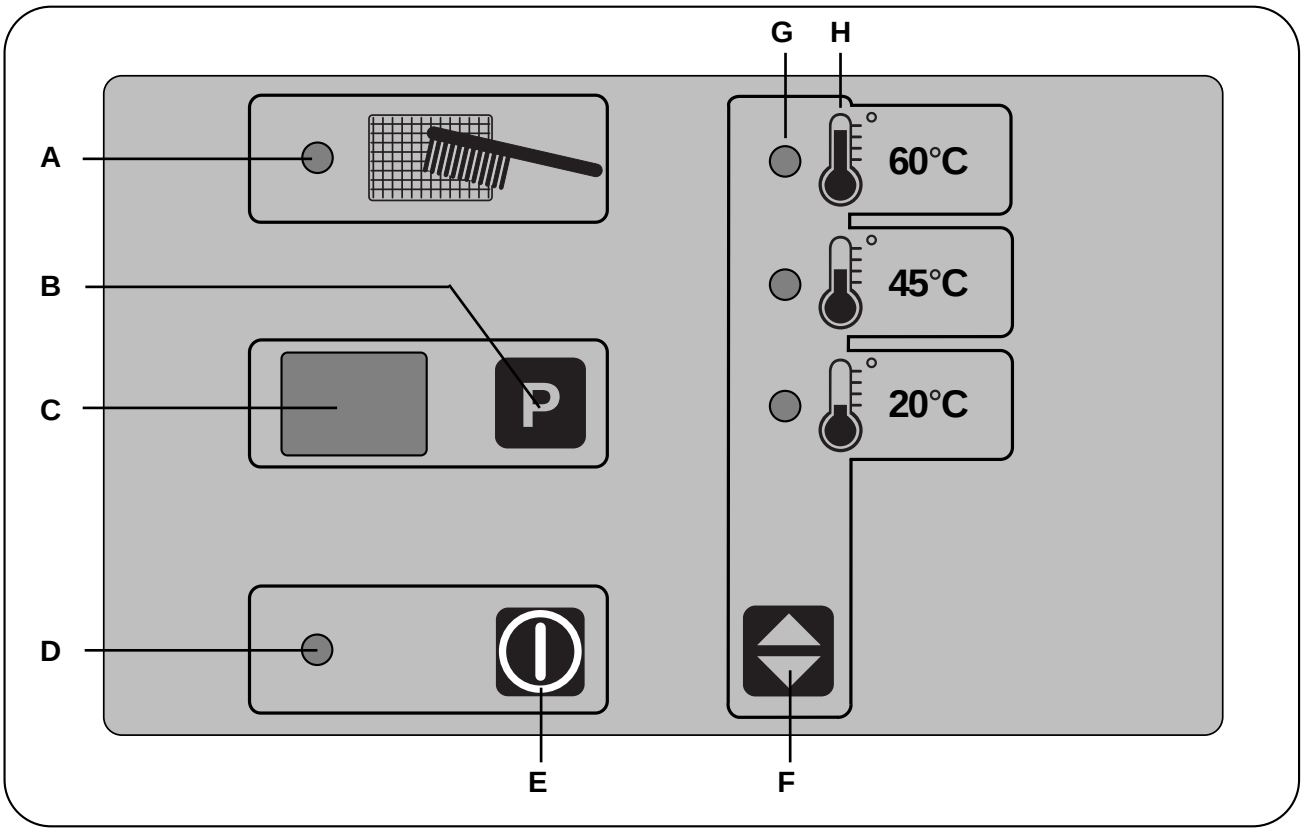
6

To prevent creasing:
Empty the tumble dryer as soon as the program has ended.

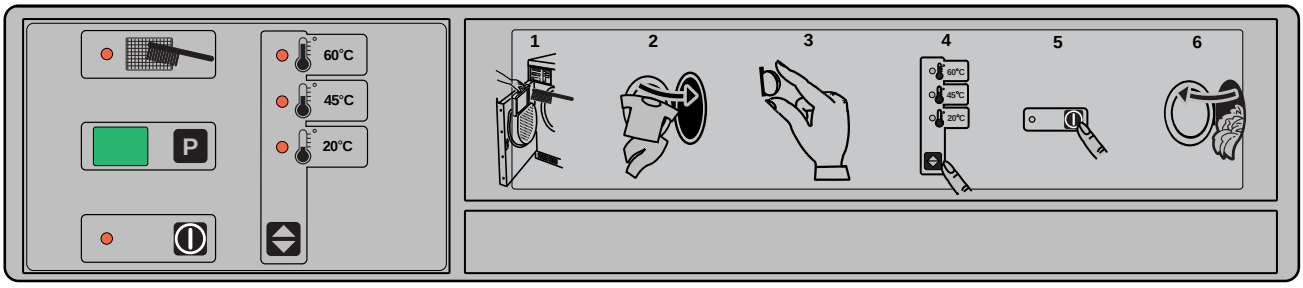


If the tumble dryer is not emptied immediately after the drying time has ended, an anti-crease programme is automatically engaged.
This means that the drum rotates at short intervals, thereby almost completely avoiding creasing.

Coin operation



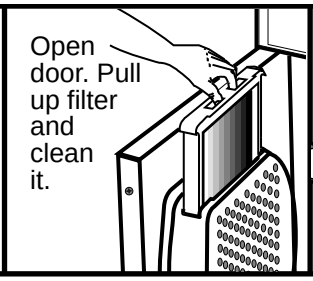
A. Filter: When the lamp is lit, the filter must be cleaned
B. Not active on coin-operated machines
C. The timer indicates: Paid drying time / residual time
D. Operating lamp
E. Start/stop button
F. Temperature selection button: 60°C, 45°C or no heat (20°C)
G. Lamps: lit to indicate selected temperature
H. Temperature symbols



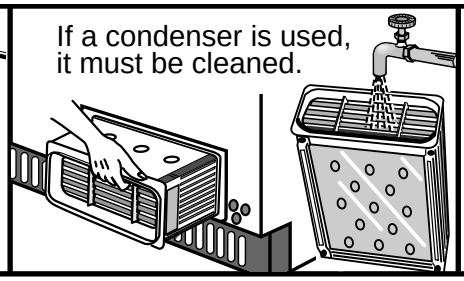
Coin operation

1

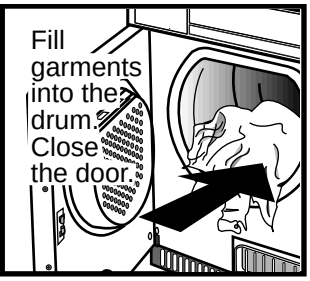
Open door. Pull up filter and clean it.



If a condenser is used, it must be cleaned.



Fill garments into the drum. Close the door.



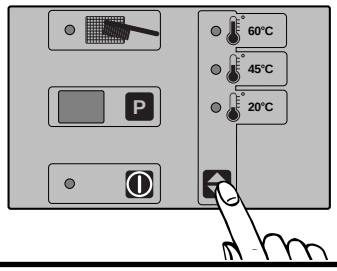
2

Select temperature:

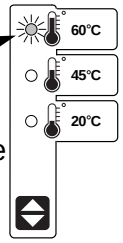
60°C

45°C

20°C



Lamp is lit to indicate selected temperature



High 60°C

Medium 45°C

No heat 20°C

3

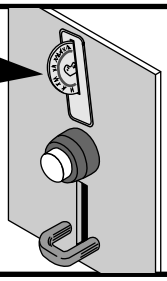
High 60°: PP / normal wash
Cotton and mixed textiles, approx. 5 kg.
Drying at normal heat.

Low 45°: Fine wash / mild wash
Delicate textiles, approx. 2.5 kg.
Drying at low heat.

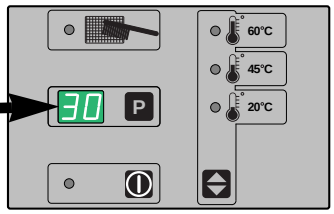
No heat, 20°C
Airing of ironing

4

Insert coins



until desired drying time is indicated on the timer before start.
The tumble dryer stops automatically when the paid drying time has ended



5

Start:
Press the start/stop button.

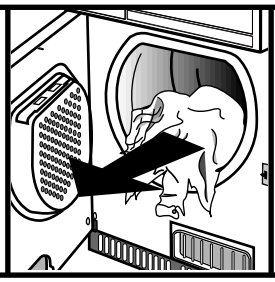
Stop:
The tumbler can always be stopped by opening the door.

Restart:
Close the door again and press the start/stop button.

The last few minutes of the drying time are the cooling-down period
(the garments are cooled).

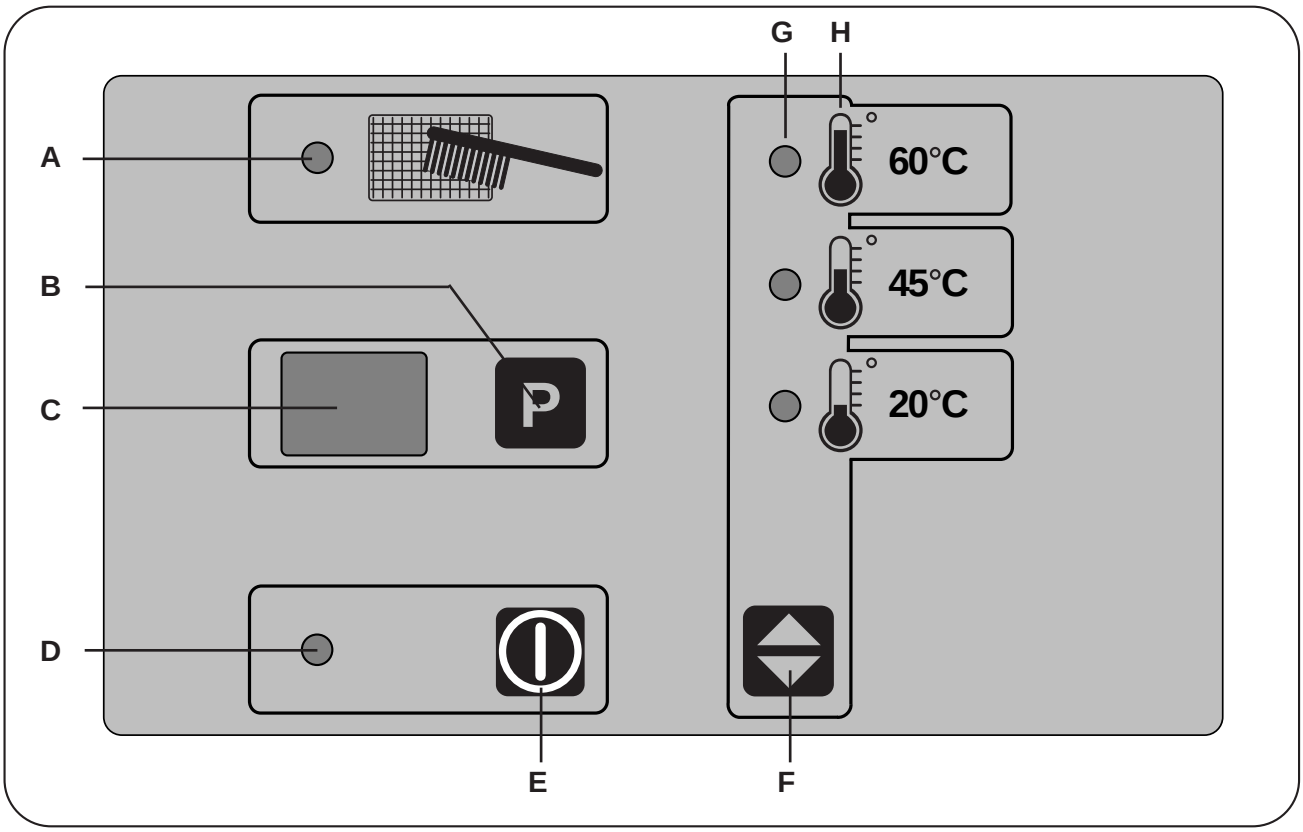
6

To prevent creasing:
Empty the tumble dryer as soon as the program has ended.



If the tumble dryer is not emptied immediately after the drying time has ended, an anti-crease programme is automatically engaged.
This means that the drum rotates at short intervals, thereby almost completely avoiding creasing.

Machine controlled via a central panel



A. Filter: When the lamp is lit, the filter must be cleaned

B.
C. } Not active on machines controlled via a central panel

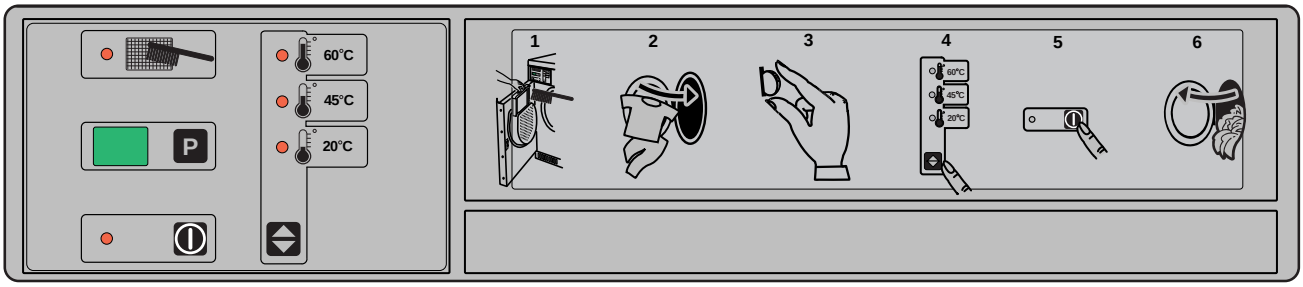
D. Operating lamp / flashes: Ready to start

E. Start/stop button

F. Temperature selection button: 60°C, 45°C or no heat

G. Lamps: lit to indicate selected temperature

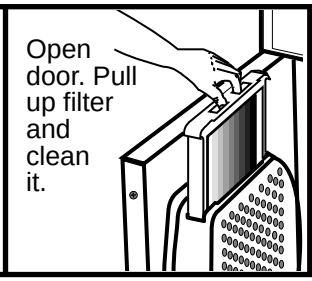
H. Temperature symbols



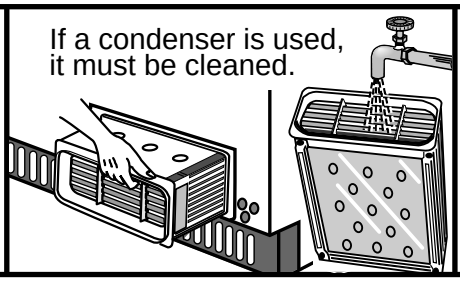
Machine controlled via a central panel

1

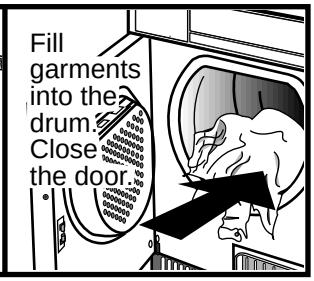
Open door. Pull up filter and clean it.



If a condenser is used, it must be cleaned.



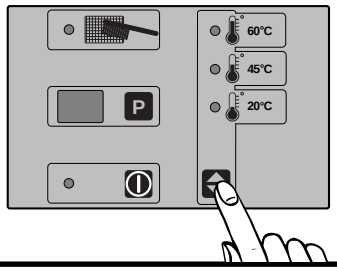
Fill garments into the drum. Close the door.



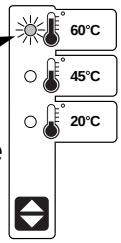
2

Select temperature:

- 60°C
- 45°C
- 20°C



Lamp is lit to indicate selected temperature



High 60°C

Medium 45°C

No heat 20°C

3

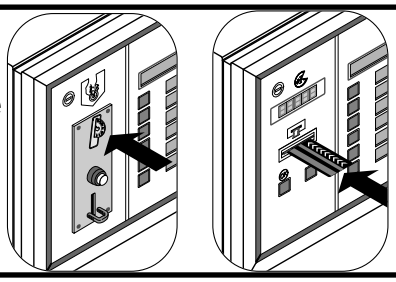
High 60°: PP / normal wash
Cotton and mixed textiles, approx. 5 kg.
Drying at normal heat.

Low 45°: Fine wash / mild wash
Delicate textiles, approx. 2.5 kg.
Drying at low heat.

No heat, 20°C
Airing of ironing

4

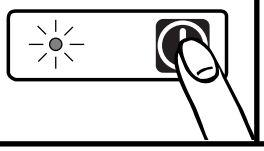
Pay for desired drying time on the control panel.



The machine has been reserved and is ready to start when the lamp flashes.

5

Start:
Press the start/stop button.



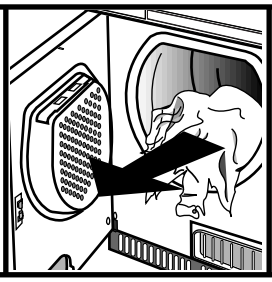
Stop:
Press the start/stop button or open the door.
Restart:
Close the door and press the start/stop button.

The tumbler stops automatically when the paid drying time has ended.

The last few minutes of the drying time are the cooling-down period
(the garments are cooled).

6

To prevent creasing:
Empty the tumble dryer as soon as the program has ended.



If the tumble dryer is not emptied immediately after the drying time has ended, an anti-crease programme is automatically engaged.
This means that the drum rotates at short intervals, thereby almost completely avoiding creasing.

Maintenance

The following should be carried out at regular intervals, depending on the frequency of use.

Daily

- Check that the drum stops when the door is opened.

(1) (2)
- Check that the lint screen in the door has been cleaned. The lint screen must be removed for cleaning. Use a soft brush or your hand. **Remember to re-install the lint screen.**
- Check that the gaskets around the coarse filter/air condenser and the door gasket have been cleaned. Clean with a moist cloth.
- Check that the lint screen is unbroken.
- Check that the machine will not start until the start button has been activated.

(3) (4)
- On condensate machines, the air condenser must also be checked for lint and dust. Remove for cleaning.

Monthly (on condensate machines)

(4)
- **At least once a month the condenser must be cleaned of lint by rinsing it with water until the lamellae are clean. Soak in hot water if required.**

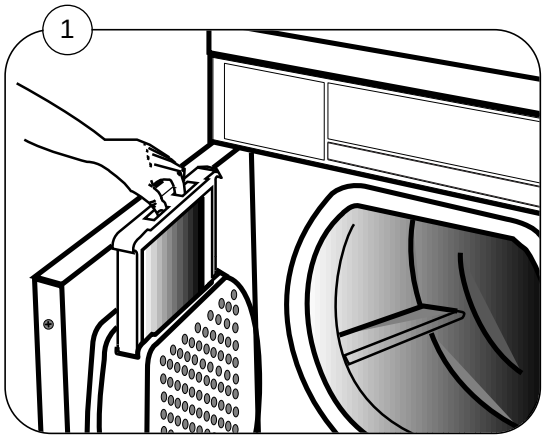
Quarterly/Semi-annually

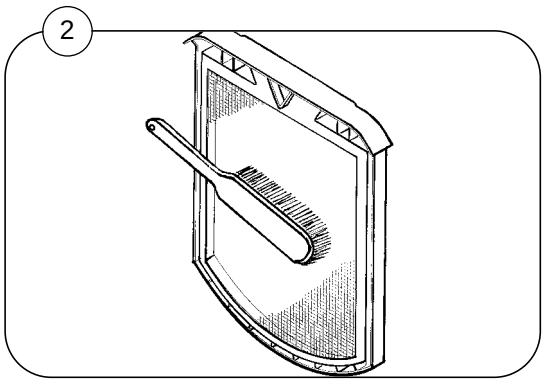
- Check that the fresh-air intake at the rear of the machine is not clogged by lint or blocked in any other way.
- Check that the evacuation system is tight and that the duchts are not clogged by lint or dust or blocked in any other way.

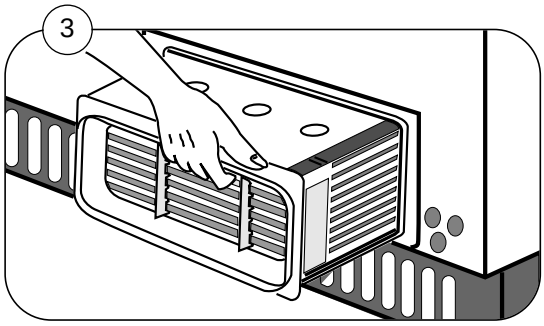
(4)
- Clean drum and beads with a mild detergent (using a sponge) at least once every three months.
- Remove the coarse filter for lint removal.
- On condensate machines carry out the monthly cleaning described above.

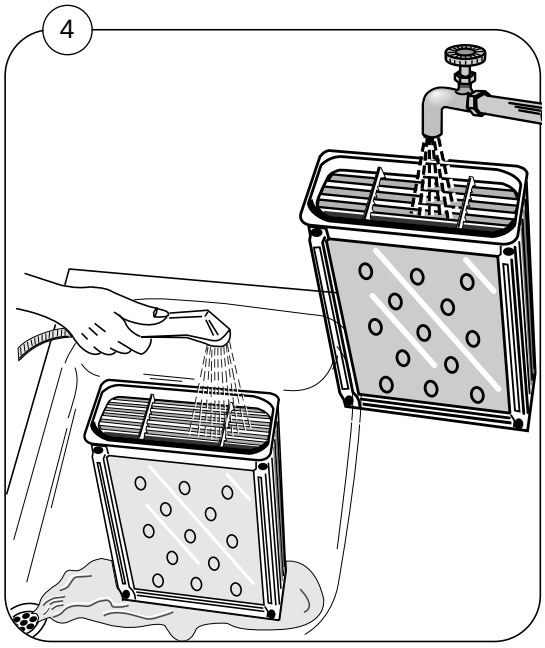
Annually

- Check that the fresh-air intake to the room and the vent ducts/pipes in and from the room are not clogged by lint/dust or in any other way. Clean as required, depending on the frequency of use. Minimum once a year.
- At least once a year the inside wearing parts of the machine should be checked by a service person and cleaned of lint.









Unpacking

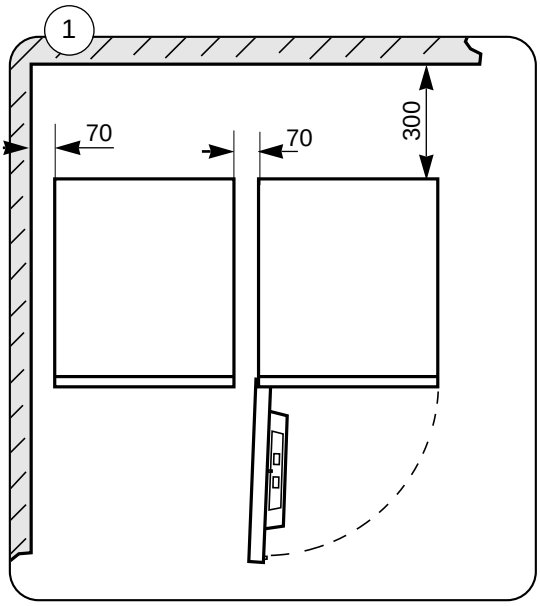
Unpack the machine from the packaging. Loosen the machine from the pallet by cutting the plastic ribbon.

Positioning

Select a location to ensure that work can be done as easily as possible by the user and the service technician alike. Note that he dryer door is reversible.

1 The distance to a wall or other equipment behind the machine should be at least 300 mm, and the distance to the sides at least 70 mm. (If the machine is to be equipped with a coin box, the width of the coin box must be added). Please note that for the purpose of servicing the machine there should be free access to the back of the machine.

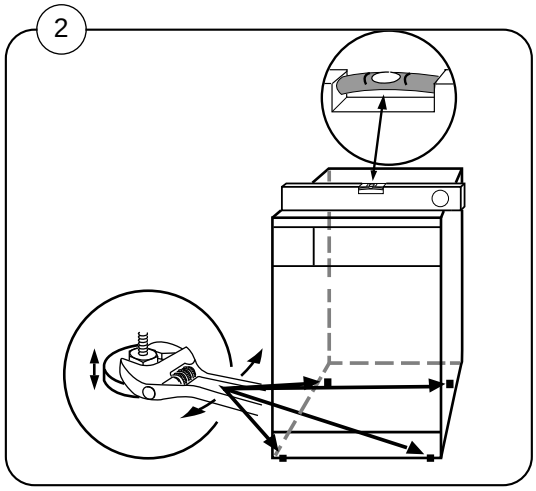
The tumble dryer can also be placed on a 55-litre washing machine to form a washing column.



Mechanical installation

Adjust the machine to ensure that it is horizontal and stands firmly on all four feet.

2 The max. height adjustment of the feet is 14 mm.



Floor installation

3 The machine can be installed directly on the floor and fastened by means of the accompanying cups **A** (see fig. 3).

Fasten the cups by means of the screws.

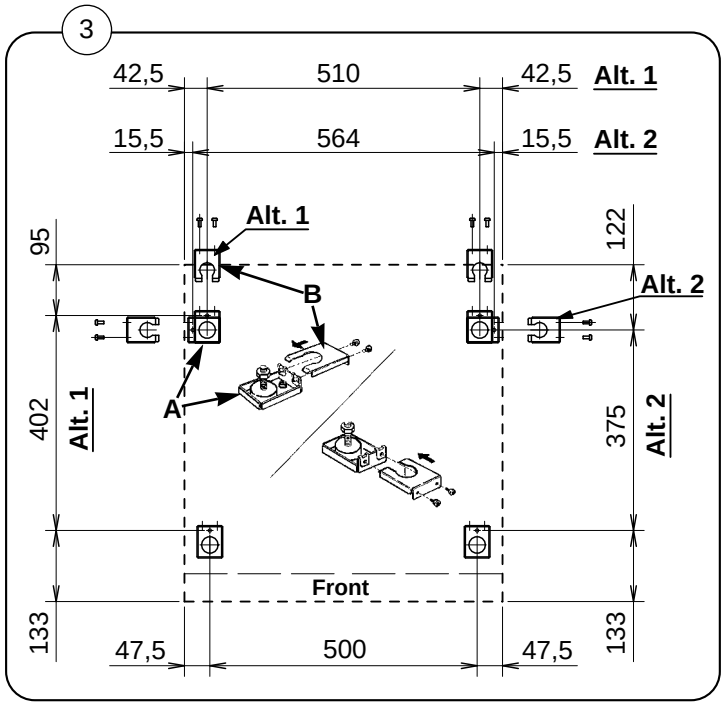
A drilling plan is given in fig. 3 in the form of alternative 1 (from the rear) or 2 (from the side), depending on the space for mounting the rocker brackets **B**.

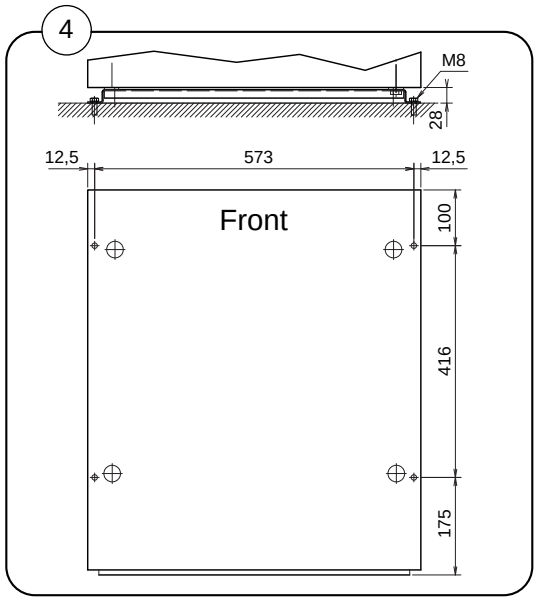
Drill the rawlplug holes using a 10 mm drill.

Installation on board a ship

4 If the machine is intended for installation on board a ship, the factory mounts fittings (instead of feet) on the machine for attachment to the ship floor by means of 4 M8 bolts.

A drilling plan can be seen from fig. 4.





Washing column

The tumbler can be installed on top of a 55-litre washing machine WE 55/HS 255 or on a 130-litre tumbler TT130(C)/130T(C).

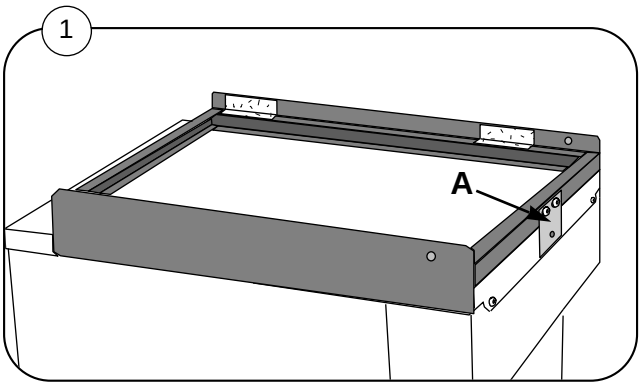
The washer at the bottom must be levelled and rest on all four feet.

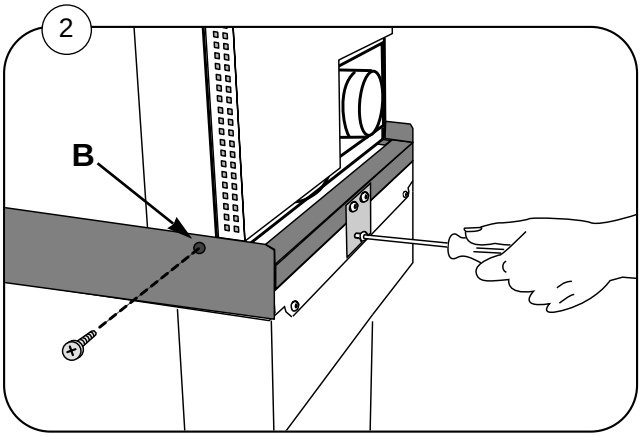
1

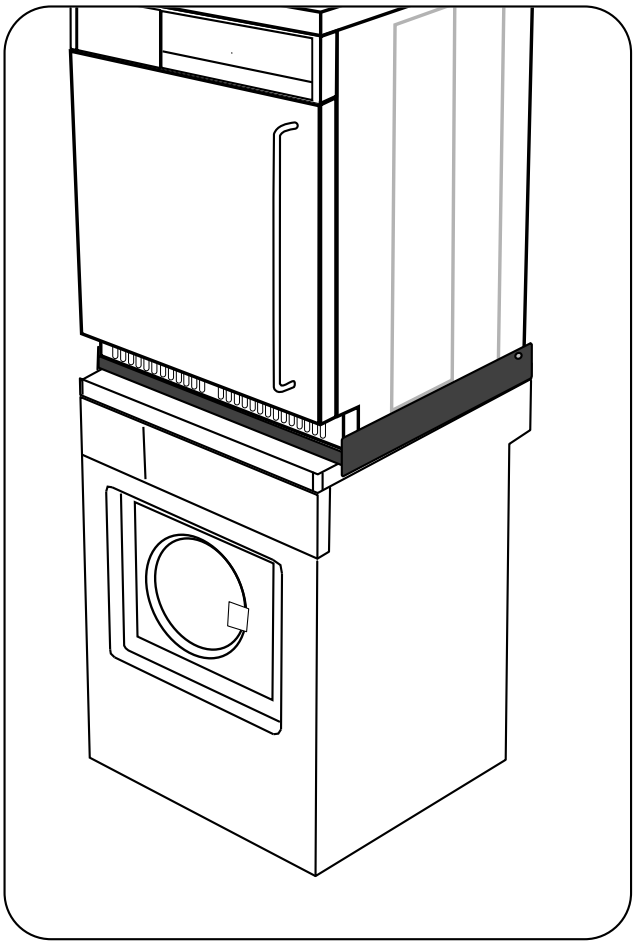
- Place the frame on the top plate of the lower machine, ensuring that the holes for the fastening bracket **A** are at the rear.
- Screw the tumbler feet of the upper machine all the way home to ensure that they do not touch the top plate of the lower machine.

2

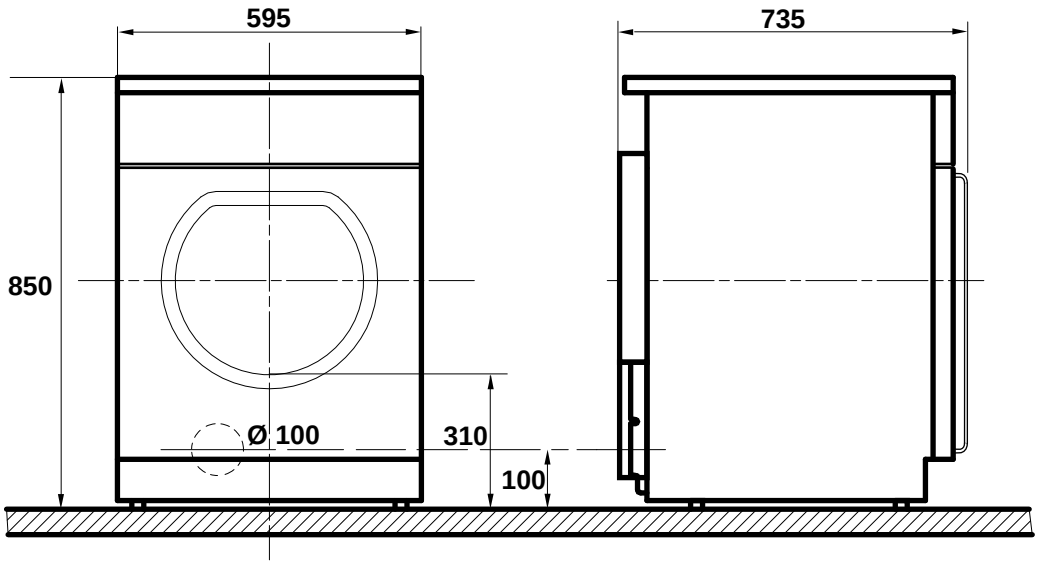
- Lift the tumbler into position, thereby making sure that the machine fronts flush.
- As a protection against tilting, the two accompanying plate screws are to be inserted in either side in holes **B**.
- If holes **B** are not providedin the side plates, drill them with a 3.3 mm drill.

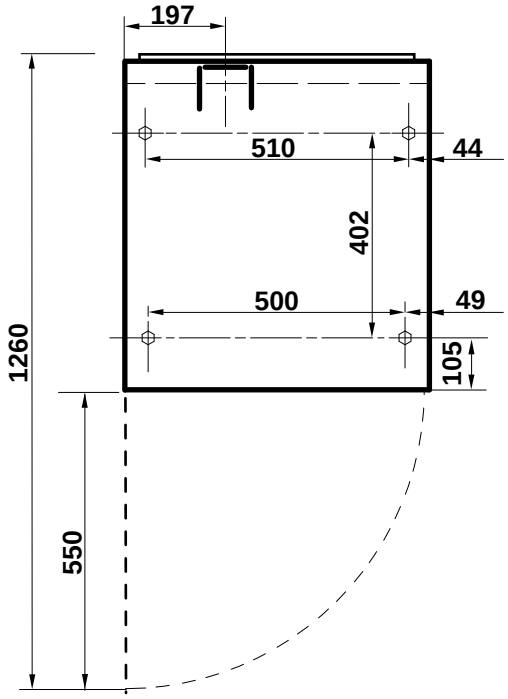




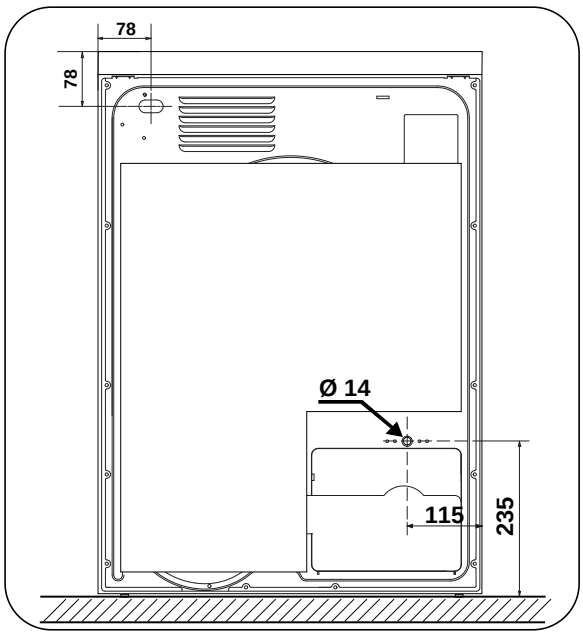


Dimension sketch





Condensate tumbler outlet branch



Technical data

Electric heating		Tumbler	Condensate tumbler
Drum volume		**130 litres**	**130 litres**
Dimensions:	Width	595 mm	595 mm
	Depth	735 mm	735 mm
	Height	850 mm	850 mm
Weight:	Net	48 kg	52 kg
Drum:	Diameter	575 mm	575 mm
	Depth	500 mm	500 mm
	RPM	53 rpm	53 rpm
	G-factor	0,9	0,9
Capacity:	Factor 1:25	5,2 kg	5,2 kg
	Factor 1:33	3,9 kg	3,9 kg
Motor:	Power	0,20 kW	0,27 kW
	RPM 50 Hz	2800 rpm	2800 rpm
	RPM 60 Hz	3360 rpm	3360 rpm
Heat effect:		5,1/3,2/1,9 kW	3,0/2,0 kW
Air consumption:		260 m^3/h	
Piping:	Air-evacuation	Ø 100	
	Condensate		1/2" hose to drain
Pressure drop: Air-evacuation 50/60 Hz		Max. 60 Pa	
Sound pressure level		< 70 dB (A)	< 70 dB (A)

Electrical connections

Electrical installation must be carried out by a qualified personnel

The tumble dryer must be given a fuse group of its own.

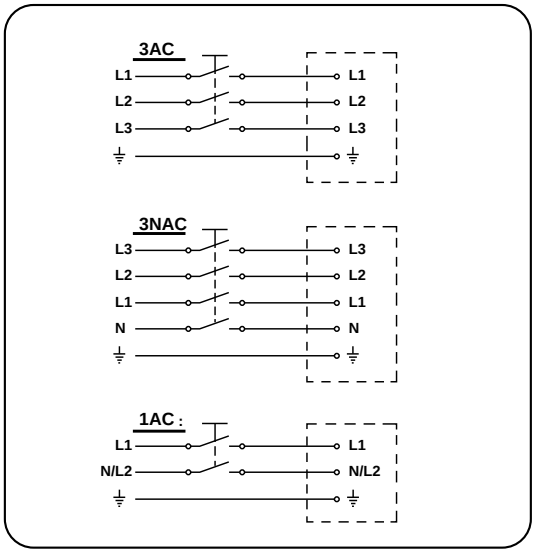
For each tumbler, a multi-pole permanent switch is to be placed in the permanent installation. It must be easily accessible, but there must be no mistaking it for the operating switch for the tumbler.

The motor features an integrated thermal fuse.

Remove the top plate of the tumble dryer to connect the cable. Install the tumble dryer as a permanent installation. See dimensions in the table.

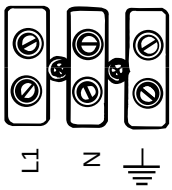
Function check, see page 19.

The tumble dryer must be equipped with supplementary protection in accordance with current regulations.



Connection of external contactor

A connection terminal is available for controlling an external fan.



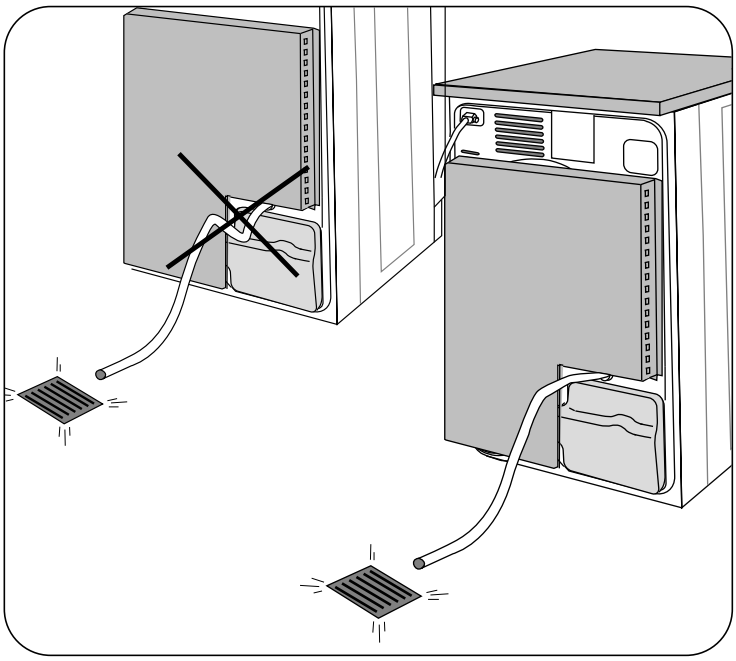
External connection max. 1,25A

Cable dimensioning table

Type	Voltage		Power intake	Heating	Fuse
Standard tumble dryer	400-440V	3N / 3 AC	5,3 kW	5,1 kW	10A
	200-240V	3 AC	5,3 kW	5,1 kW	16A
	230-240V	1 AC	2,1 / 3,4 kW	1,9 / 3,2 kW	10 / 16A
Conden-sate tumbler	400-440V	3N / 3 AC	2,4 / 3,4 kW	2,0 / 3,0 kW	10A
	200-240V	3 AC	2,4 / 3,4 kW	2,0 / 3,0 kW	10A
	200-240V	1 AC	2,4 / 3,4 kW	2,0 / 3,0 kW	10 / 16A

Condensate tumbler

Description:



When using a condensate tumbler there are no problems about evacuating humid, dusty air from the machine.

The air is circulated in a closed system between the tumbler and condensing unit.

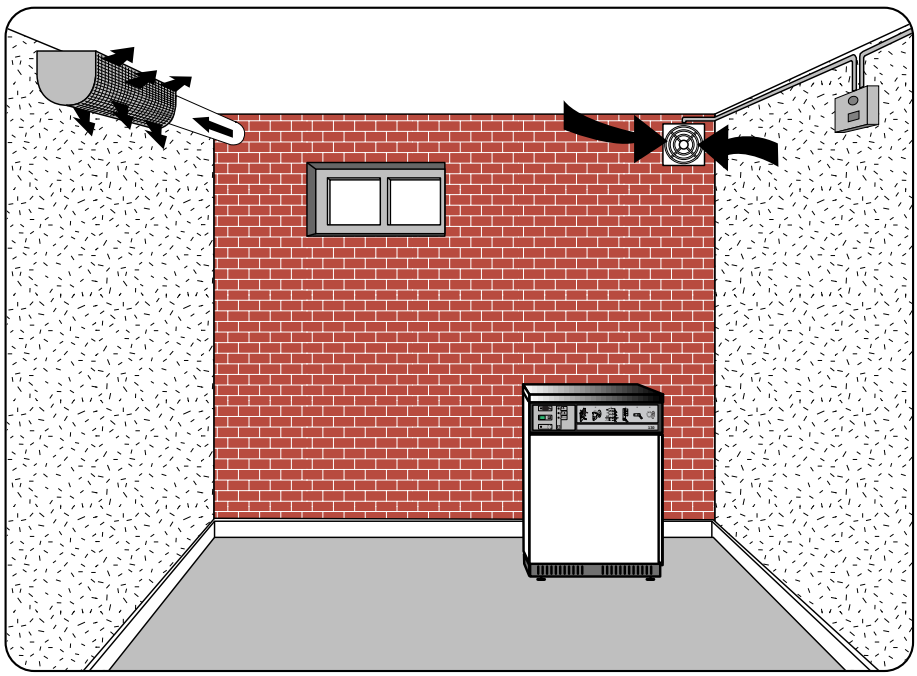
The water in the garments condenses in the condensing unit.

The air in the room is used as a coolant in the condensing unit.

All the energy (3,4/2,4 kW) used for drying the garments ends up in the room in the form of heat. The moisture ends up as water in the drains.

During operation, the room experiences a temperature increase, which results in a need for ventilation.

Installation of ventilation system



For ventilation, a thermostatically controlled fan, type EQ 250, is used. It can be ordered as item no. 988 80 20 43.

The fan is to be placed on a wall facing the outside behind the condensate tumbler, while the thermostat is placed further into the room in an accessible place.

The fresh air intake must end in the room in front of the machine, diagonally from the fan.

Pressure drop max.: 10 Pa.

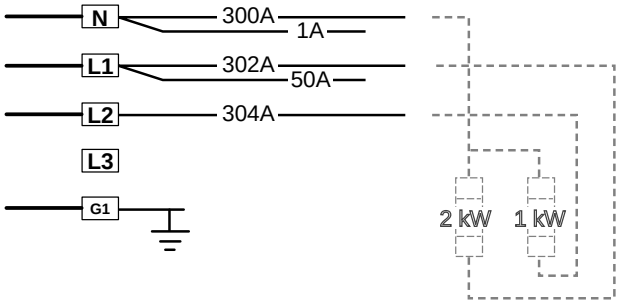
The fresh air requirement per machine is 750 m3/h (if the temperature is to be kept constant).

The need for fresh air varies and is controlled by the thermostat.

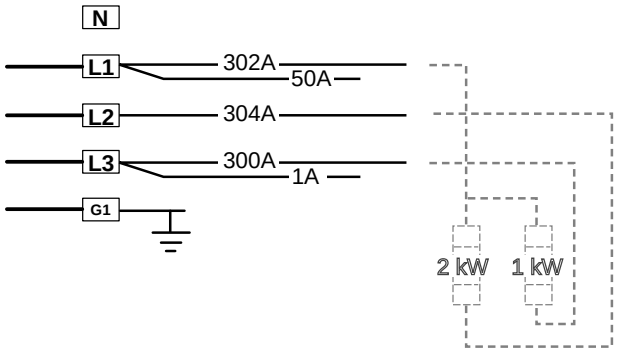
Wiring

Changing over the condensate tumbler

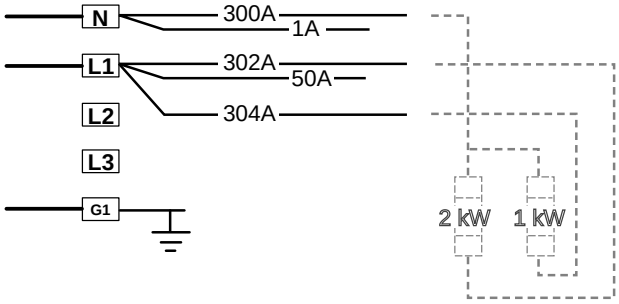
400V-415V - 2N AC / 3,4kW



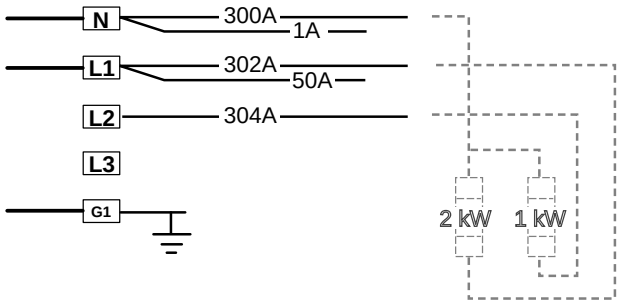
200V-240V - 3 AC / 3,4kW



200V-240V - AC / 3,4kW



200V-240V - AC / 2,4kW

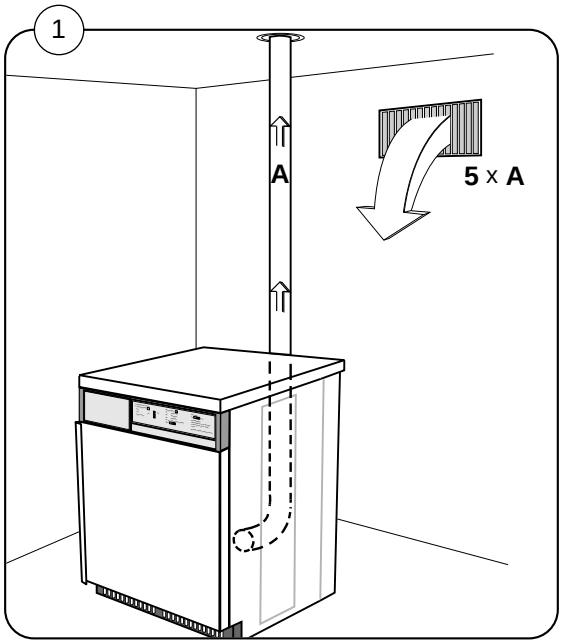


Installation

Evacuation system for tumbler dryer (does not apply to condensate tumbler, see following page)

Fresh air

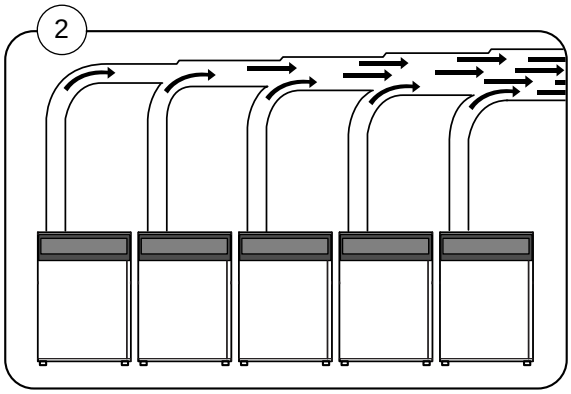
(1) For the machine to work optimally with the shortest possible drying time, it is important for the air input to the room to come from an aperture from outside through which the same amount of air is taken into the room as is blown out. To avoid a draught in the room, the air inlet should preferably be placed behind the machine. *) The free area of the air inlet aperture must be five times the area of the air outlet pipe. The resistance in the grating/slats should not exceed 10 Pa (0.1 mbar). The air consumption is approx.. 260 m3/h.



Outlet pipe/duct

It is recommended that each machine be connected separately by to a smooth air outlet pipe with the lowest possible friction.

(2) **If more than one machine is connected to the same outlet pipe, the pipe diameter must be increased after each machine, just as all machines must be equipped with a counter-pressure grating to prevent humid air from running back into machines that are not in operation.**



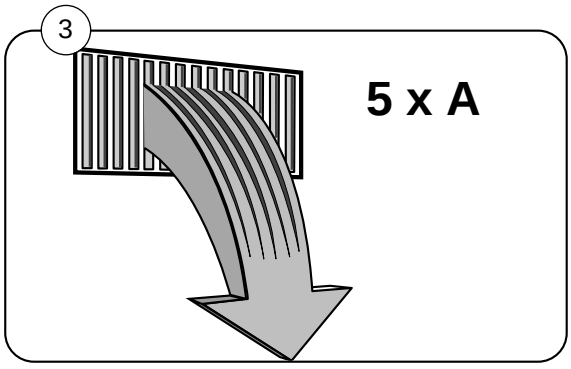
The pipe must end outside in the open and its aperture must be protected against rain and impurities.

Note! In cold areas, condensation may cause frost damage to the building.

If there is any doubt concerning the design of an evacuation system, please do not hesitate to contact our service organization or dealer.

(3) *) The free area is the area which the air can flow through without resistance from grate/slatted opening.

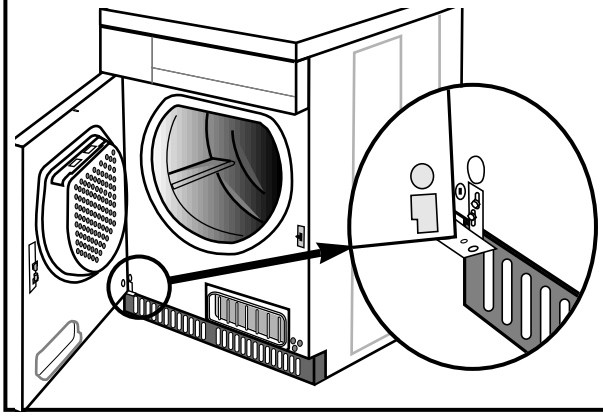
Please note that grates/slatted openings often block half the total area of the fresh air intake. Remember to make allowance for this fact when dimensioning.



For pipe lengths in excess of 6 meters, the diameter must be increased.

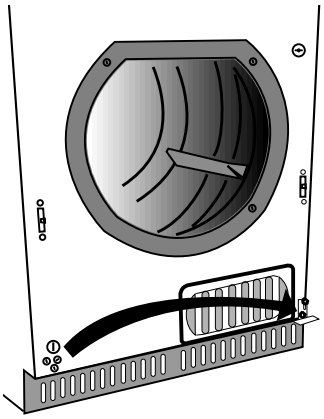
No. of tumblers	Outlet m^3/h	d mm	Fresh-air intake cm^2	Pipe length 0-6 m d	Pipe length 6-50m d
1	260	ø100	400	ø100	ø120
2	520	ø100	800	ø160	ø200
3	780	ø100	1200	ø200	ø250
4	1040	ø100	1600	ø250	ø350

Reversing the door hanging

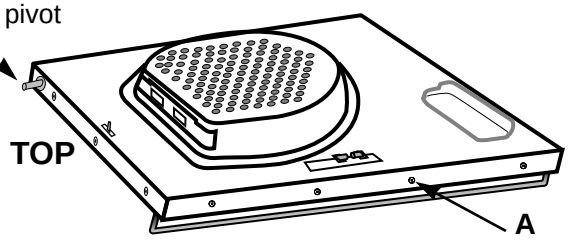


1. Disconnect the power supply to the machine.
2. Loosen the hinge mounting and push it down to allow the door to be lifted off. See point 4.
Unscrew the hinge mounting.
NB! Hold the door securely while loosening the screws.

3. Unscrew the cover screws at the opposite side and loosely attach the hinge mounting. Screw in the cover screws where the hinge was previously mounted.

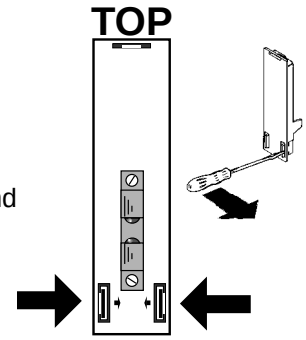


Upper pivot

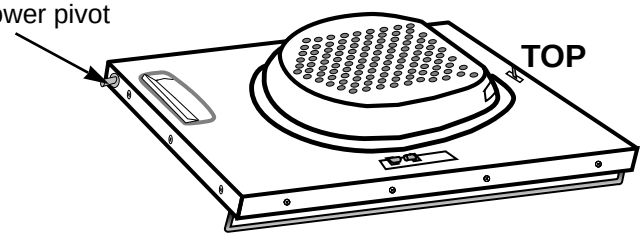


4. Lay the door on a non-abrasive base.
5. Remove all screws (**A**=14 pcs.) from the edges.
6. Remove the upper and lower pivots.

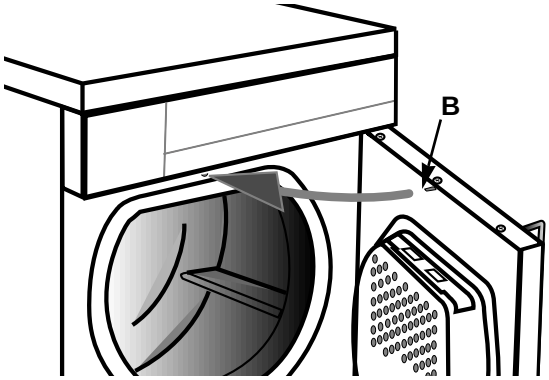
7. Release the locking plates by loosening the barb with a screwdriver.
8. Lift off the back panel. Press the locking plates out, swap them over and press into position.



Lower pivot



9. Turn the back panel 180° (half a turn) as shown.
10. Assemble the door. Tighten the screws along the edges. Fit the upper and lower pivots.



11. Mount the door. Push the hinge mounting upwards and tighten the screws.
12. Test the door (use washers to adjust the hinge if necessary). Check that door pin (**B**) is aligned with the microswitch aperture.
13. Connect the power to the machine. Finally, check that the machine stops when the door is opened.

Running hours counter

The machine is equipped with a running hour counter to track the number of hours that the machine has been in operation.
The running hours read-out (a 6-digit number) is given in the display.
Running hours are shown each time the power is connected to the machine.

Example of machine having run for 12796 hours:

Switch the machine off and on again.

Time:

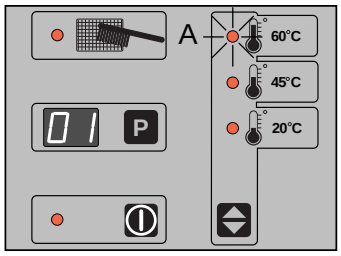
10 sec.

After approx. 10 seconds

4 sec.

the first two digits of a 6-digit number **01 — —** are shown, and at the same time, lamp **A** lights up.
After 4 seconds, the lamp and the two digits are turned off.

01 -- --



2 sec.

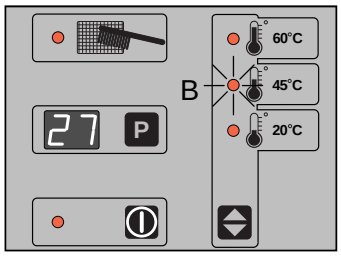
After a two-second pause

-- -- --

4 sec.

the next two digits **– 27 –** show while lamp **B** is lit. After 4 seconds, the lamp and the two digits are turned off.

-- 27 --



2 sec.

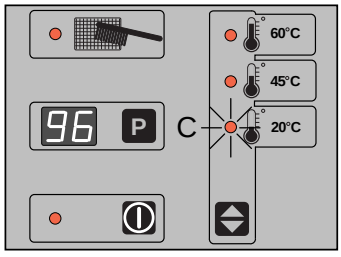
After a two-second pause

-- -- --

4 sec.

the last two digits, **— — 96** are shown, with lamp **C** lit, for 4 seconds.

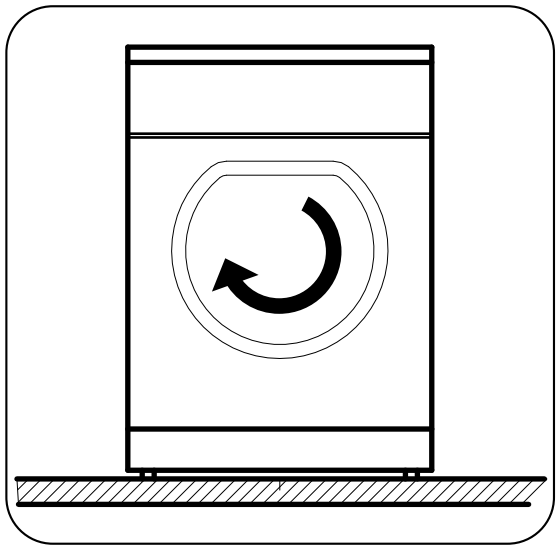
-- -- 96



Altogether, the machine has been in operation for 01-27-96 = 12796 hours.
The machine is now ready for use.

Function check

Must be carried out by a skilled person. Check whether the drum is empty and the door has been closed.



Start the machine.

Check whether the safety lock is working. The drum must stop if the front door is opened.

The tumbler has a one-phased motor, which is why the direction of rotation (clockwise) is always correct.

NB! On tumblers for use on board a ship (3-phased motor on marine version) the direction of rotation must be checked. This is done by selecting the “No heat” program. Start the machine. Open the door quickly after and observe the direction of rotation of the drum (clockwise).

If the direction of rotation is not correct, swop two phases on the connection terminal.

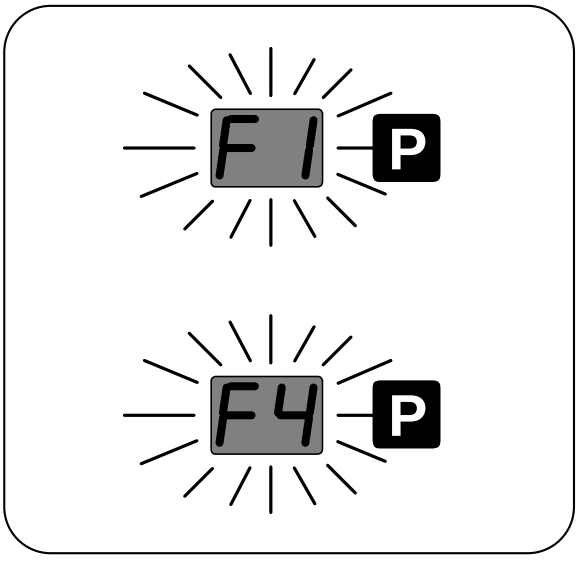
Let the machine work for 5 minutes on a program that requires heat. Then check whether the heating is working by opening the front door to check if heat can be felt.

If the above test-points are found to be in order, the tumbler is ready for use.

If deficiencies or faults are detected, please contact your local service organisation/dealer.

Error codes

These machines feature automatic fault reporting, displayed in the form of flashing error codes.



F1 = **Setting of machine type and variant missing.** F1 is displayed when the PCB is replaced or if the machine is connected to mains while the service button is active. (Machine type and variant must be set in the service programme).

F4 = **Thermal sensor disconnected.** Loose or broken wire

Parameter programming

The programming facility is used for changing (programming) the preset machine values

General comment on the electronic controls BASIC 3:

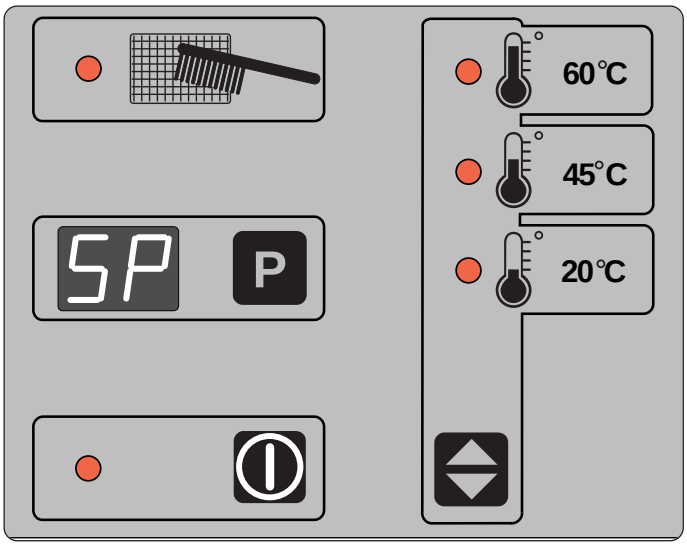
Programming is only to be carried out by qualified personnel.

Since the electronic controls (BASIC 3) are used in different types and variants of tumble-dryers, the machine type should always be checked and possibly changed to precisely match the machine to be used (replace print-board/change parameters).

The machine parameters can be changed by switching the electronic controls to Programming. After this setting, the display will read SP and the three push-buttons will now be used to change the parameters, see next page.

Control panel

Machine type: Standard 130 and 130 Condensate



Adjustable parameters:

00	Machine types
01-03	Temperature
04	Temperature hysteresis
05	Time interval
06	Max. time or “coin 2”
07	Running time between reversals
08	Cooling time
09-11	Residual moisture level
12-14	Extra drying time

Change of machine parameters

At the plant specific values have been pre-set for the tumbler, such as:
Time, temperature, cooling, reversing, etc.

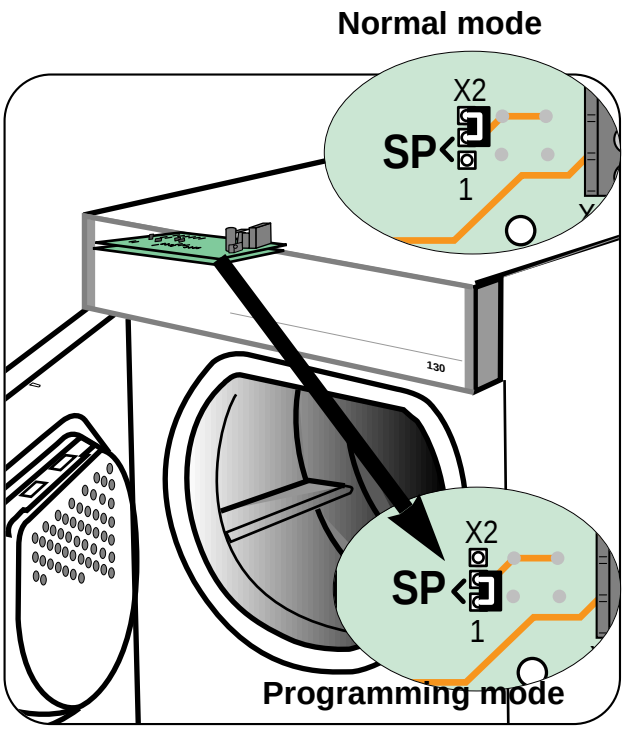
Switching to Parameter Programming

Open the door .Remove the top plate.

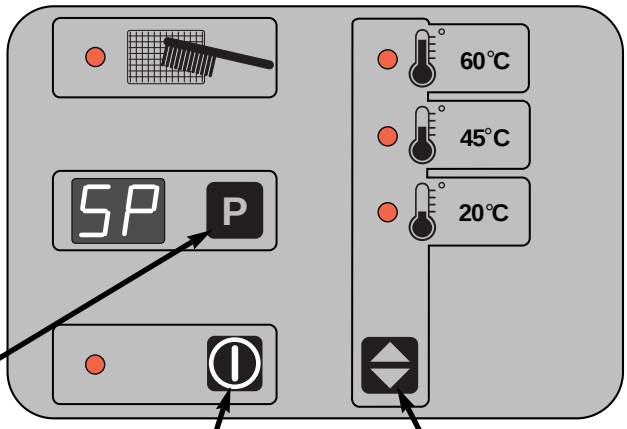
Move the jumper on the print-board to position **SP** as indicated by the arrow. **Attention!** The print-board carries a 230 V voltage. (It is always possible to leave the programming mode by moving the jumper back to its original position).

NB! The power to the machine must be on when the button is activated.

(**Warning!** If the button is activated without the power being on and the power is turned on afterwards, a testing and diagnosis program will start.)



The display now reads **SP** (service program). The three keys which the arrows are pointing at must now be used for adjusting the machine settings.



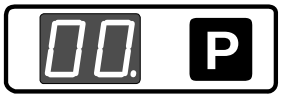
P button, change between the different parameters

Count down

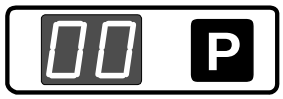
Count up

Change of machine type

Press the P-button; the display will read ***00***. which is the first parameter (first parameter ***00.*** = machine type).
The parameter numbers are shown for two seconds with a dot after the last digit.



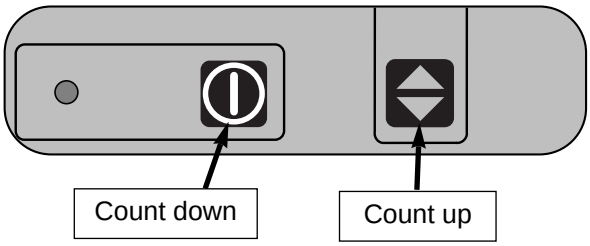
After two seconds the machine type selected will be displayed. Example ***00*** corresponds to manual time control.



Parameter programming

Change of machine type, continued

The machine type can be changed by using the buttons to count up or down.

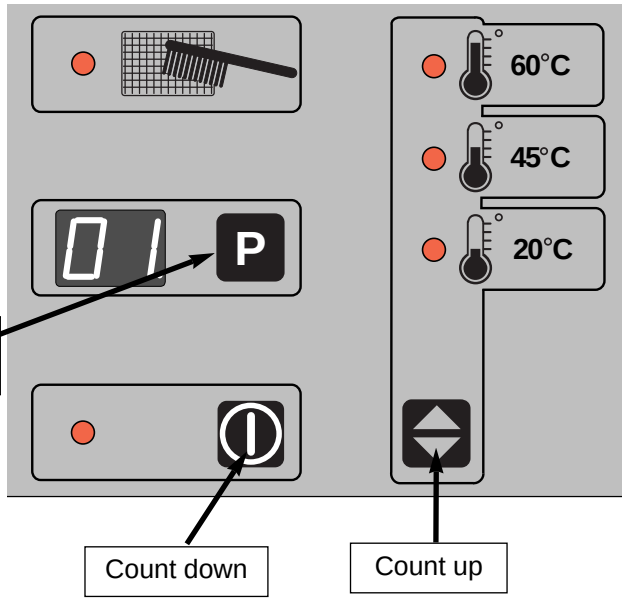


Machine types and variants

Machine type	Manual control of time	Coin	Central control panel		
130/ 130 Condensate	00	01	02		

Change of parameters

When the machine type has been selected, push the P-button; parameter no. ***01.*** will come up on the display: After two seconds a value is shown that can be changed by means of the count up/down buttons.



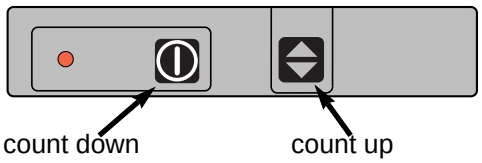
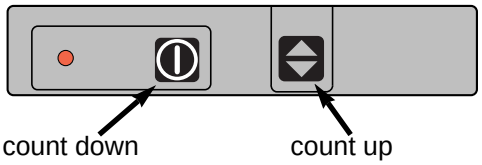
Now press the P-button again; the next parameter number will come up on the display.
After two seconds a value is shown that can be changed by means of the count up/down buttons, etc....
It is possible to scroll the parameters by pushing the P-button repeatedly.

Note! Parameter 6 = maximum running time for a manual machine or running per coin insert on “coin insert 2” (double coin insert). If maximum running time on a manual machine is changed e.g. to 30 minutes, the machine cannot choose to run more than the maximum time, i.e. 30 minutes.

Parameter programming

Parameter no. can be seen by pressing the P button	**Value / factory setting** can be seen and adjusted when the P button is released	**Adjustment required:** Press the *"count up/down"* buttons

Temperature setting

01 P Temperature program 60°C 60°C / 45°C / 20°C	Value = 32°C - 85°C Factory setting = 72°C 72 P	
02 P Temperature program 45°C 60°C / 45°C / 20°C	Value = 32°C - 85°C Factory setting = 50°C 50 P	
03 P Program without heating 60°C / 45°C / 20°C	Value = no heat Factory setting = -- -- P	**Cannot** be adjusted
04 P Temperature hysteresis The difference between heat on and off	Value = 01°C - 10°C Factory setting = 03°C 02 P	

Time setting

05 P Time interval Running time per pulse (per coin insert - or push if time-controlled)	Can be set to a value between 0.1 and 90 minutes. Factory setting = 15 15 P	**From 0.1 to 9.9 minutes** the setting can be changed by increments of 1/10 minute per push. **From 10 to 90 minutes** the setting can be changed by increments of 1 minute per push.
06 P Max. running time or Time interval coin 2 Max. running time on manual machine or running time per coin insert on coin 2 (double insert)	Can be set to a value between 0.1 and 90 minutes. Factory setting = 60/90 60 P Standard 90 P Condensate	**From 0.1 to 9.9 minutes** the setting can be changed by increments of 1/10 minute per push. **From 10 to 90 minutes** the setting can be changed by increments of 1 minute per push.

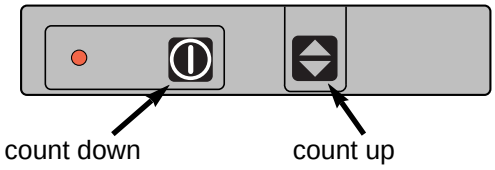
Reversing

07 P Running time before and after reversing	Can be set to a value between 0.1 and 9,9 minutes. Factory setting = 5.0 5.0 P	Change the setting by 1/10 minute per push.

Parameter programming

Parameter no. can be seen by pressing the P button	**Value / factory setting** can be seen and adjusted when the P button is released	**Adjustment required:** Press the *"count up/down"* buttons

Cooling time

08 P Cooling time	Running time without heat at end of program	Value = 00 - 10 mins. Factory setting = 03 03 P	

Residual moisture level,

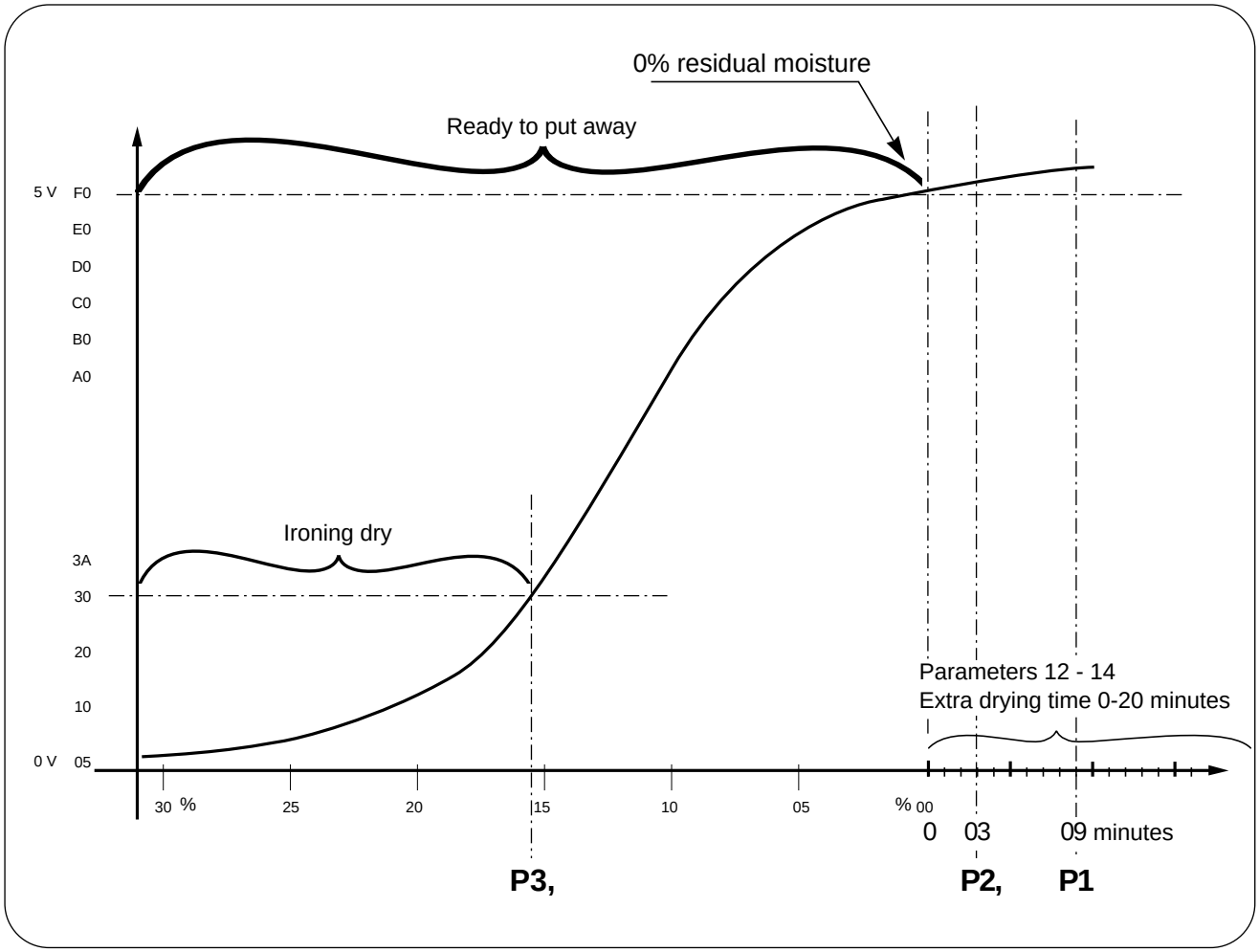
09 P Program **P1 = extra dry**	Residual moisture level, ***F0***=ready to put away	Can be set to a value between 05 and F0. Factory setting F0 F0 P	The values for residual moisture are given in hexadecimals (05-F0). See explanation on following page.
10 P Program **P2 = ready to put away**	Residual moisture level, ***F0***=ready to put away	Can be set to a value between 05 and F0. Factory setting F0 F0 P	
11 P Program **P3 = iron dry**	Residual moisture level, ***30 / 0C*** = iron dry	Can be set to a value between 05 and F0. Factory setting 30/0C 30 P Standard 0C P Condensate	

Extra drying time

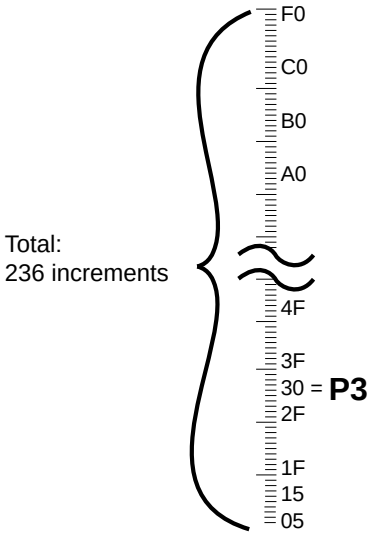
12 P Program **P1 = extra dry**	Extra drying time in minutes	Can be set to a value between 00 and 20 minutes. Factory setting 09 09 P	Extra drying time when the value set in parameter 09 has been reached.
13 P Program **P2 = ready to put away**	Extra drying time in minutes	Can be set to a value between 00 and 20 minutes. Factory setting 03 03 P	Extra drying time when the value set in parameter 10 has been reached.
14 P Program **P3 = iron dry**	Extra drying time in minutes	Can be set to a value between 00 and 20 minutes. Factory setting 00 00 P	Extra drying time when the value set in parameter 11 has been reached.

See explanation of residual moisture level on the following page.

Residual moisture level



Explanation of Y-axis (hexadecimals)



The values for residual moisture are shown in the display in so-called hexadecimals - a series of numbers covering a total of 16 values for each digit (0,1,2,3,———9,A,B,C,D,E,F). A total of 236 values can be shown.

Example:
P3, ironing dry, parameter no. ***11 = 30*.**

If the clothes are not dry enough, add increments by using the “count up” button: ***31,32,33,34,.....3A,3b,3C,3d...*** etc. up to ***F0***

Quick-view parameter listing.

The following values have been programmed into the machine at the factory:

Parameter number	Value / setting			Parameter
00.	Man. 00	Coin* 01	CP* 02	Standard and condensate; manual, coin or CP control
01.	72			Program with high temperature: 60°C
02.	50			Program with low temperature: 45°C
03.	--			No heat (cannot be adjusted)
04.	03			Temperature hysteresis
05.	15			Time interval, time per pulse (per coin or push)
06.	Standard 60	Condensate 90		Max. running time or running time per coin insert on ”coin 2”
07.	5,0			Running time between reversings
08.	03			Cooling time
09.	F0			Moisture level: P1 (extra dry)
10.	F0			Moisture level: P2 (ready to put away)
11.	Standard 60	Condensate 90		Moisture level: P3 (iron dry)
12.	09			Extra drying time: P1
13.	03			Extra drying time: P2
14.	00			Extra drying time: P3

* Payment machines can run free of charge by selecting machine code 43