

# **Descriptive Technical Documentation**

**- Model-dependent -**

## **DTD no. 521-7135**

**Model(s): PT 7135 C, PT 7136, PT 5135 C,  
PT 5136**



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## **A Warning and Safety Instructions**

### **1 General information**

Service and repair work should only be carried out by suitably qualified persons in accordance with all appropriate local and national safety regulations.

Servicing, modification, testing and maintenance of electrical appliances should only be carried out in accordance with all appropriate legal requirements, accident prevention regulations and valid standards.

All regulations of the appropriate utility supply companies and standards relating to safety (not limited to electrical safety) are to be complied with.

Before any service work is commenced, the machine must be disconnected from the mains.

Even with the machine switched off, mains power may be applied to some components.

A general visual check should always be carried out.

## 2 Risk of injury due to sharp edges

There may be a risk of injury due to sharp edges.

Protective gloves should be worn and the edge protection, Mat. no. 05057680, should be used.



### **3 Electrical connection via plug connector**

It is always recommended to make electrical connection via a plug and socket so that electrical safety checks, e.g. during repair or service work, can be carried out easily.

The socket must be accessible after machine installation. This also applies even if an on-site mains switch is also already provided.

For models with a total connected load greater than 9 kW, an additional on-site mains switch must also be provided.

Electrical connection must be carried out in accordance with all appropriate legal requirements, accident prevention regulations and valid standards.

## 4 Touch current measurement

**Note**

On machines with an earth connection, touch current leakage measurements should be carried out on all accessible conductive parts that are not connected to the earth.

**Warning!**

Touch current measurement should only be carried out after the earth connection of the unit under test has been checked and found to be satisfactory!

Dangerous voltages may exist on defective machines as well as on accessible conductive parts that are not connected to earth!

**Note**

Touch current measurement should be carried out on the following accessible conductive parts:

- None.

## **B Modification History**

<b>When?</b>	<b>Who?</b>	<b>What?</b>
11.05.2005	Olaf Meyer zu Drewer	Initial compilation



## C Technical Data

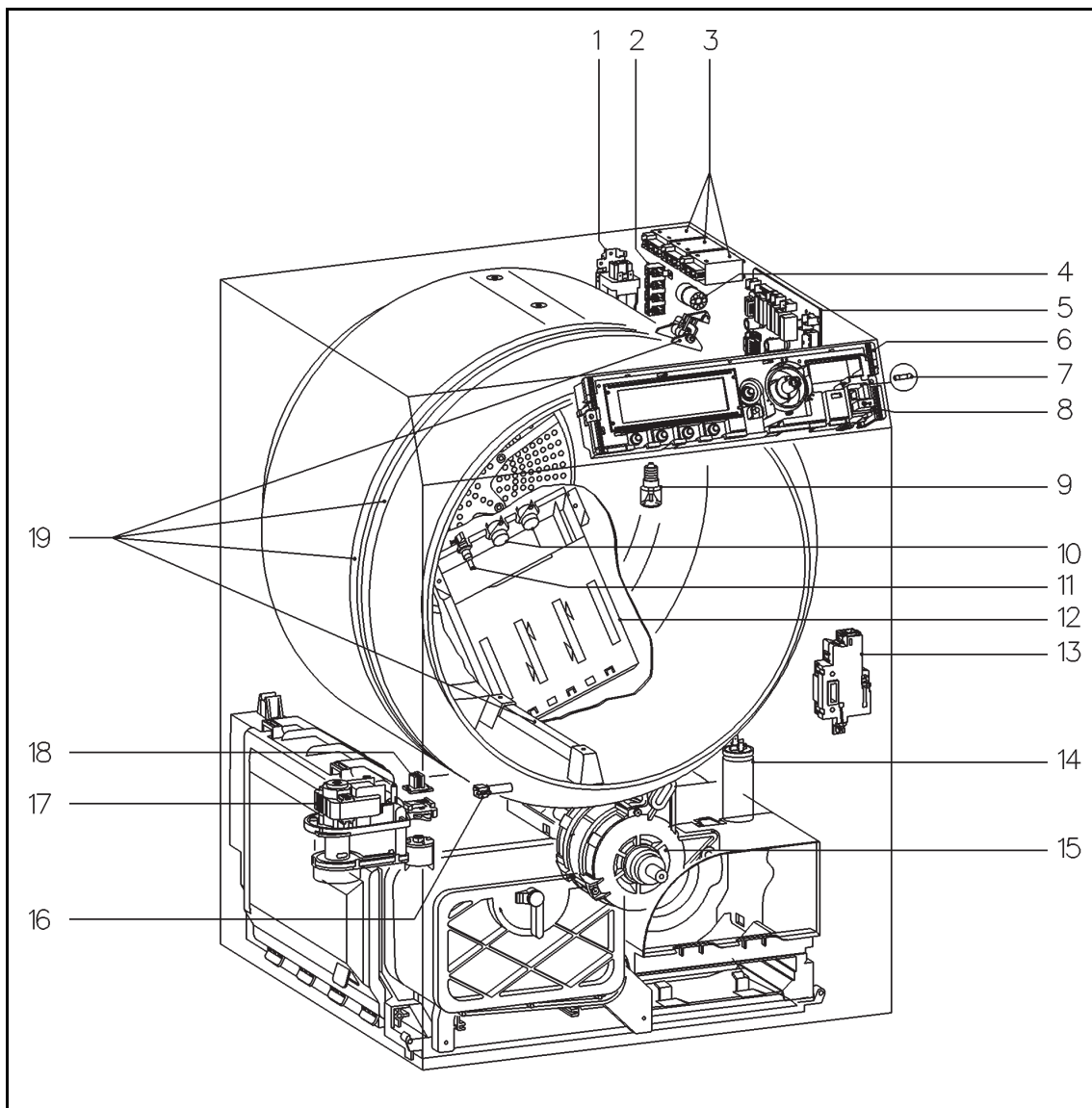
Semi-commercial machines	PT 7135 C	PT 7136	PT 5135 C	PT 5136
	Condenser dryer	Vented dryer	Condenser dryer	Vented dryer
Casing	Generation 2000, spaceframe construction			
	-	Filter flap / Cover	-	Filter flap / Cover
Door	Door opened mechanically via pushbutton switch with Bowden cable			
	Door lock contact switch (A2)			
Drum, bearing, sensors, heater bank	Maximum load, dry laundry, 6.5 kg			
	Drum volume 130 l			
	Heater bank (R1, R2, R3), 3-filament, 2-phase 3.45 kW (1.94 kW + 0.71 kW, 0.8 kW)	Heater bank (R1, R2, R3), 3-filament, 3-phase 6.14 kW (1.94 kW + 2.1 kW, 2.1 kW)	Heater bank (R1, R2, R3), 3-filament, 2-phase 3.45 kW (1.94 kW + 0.71 kW, 0.8 kW)	Heater bank (R1, R2, R3), 3-filament, 3-phase 6.14 kW (1.94 kW + 2.1 kW, 2.1 kW)
		NTC temperature sensor in heater bank behind perforated rear drum panel (2R30)	NTC temperature sensor in heater bank behind perforated rear drum panel (2R30)	NTC temperature sensor in heater bank behind perforated rear drum panel (2R30)
	Temperature limiter (F2), 170 °C, manual reset	Temperature limiter (F2), 175 °C, manual reset	Temperature limiter (F2), 170 °C, manual reset	Temperature limiter (F2), 175 °C, manual reset
Fill ring / Air guide	Drying air NTC temperature sensor in fill ring, 1R30			
	Drum light (H3/6). Bulb: 230 V, 15 W. Activation via relay on power module.			
Drive, fan	Motor for air flow and drum drive (M5). Power consumption approx. 250 W			
Fascia panel, control module	Graphic LCD display, 240 x 64 lines, multifunction selector		Graphic LCD display, 132 x 48 lines, rotary selector switch	
	Electronic selection module (2N1): EW 421	Electronic selection module (2N1): EW 421	Electronic selection module (2N1): EW 391	Electronic selection module (2N1): EW 391
	Fine-wire fuse (F7) 6.3 A, slow-blow			
Condenser box - Condenser dryer only	-	Finger safety switch (S32) on the fluff filter flap	-	-
Condensate pump (M13) - Condenser dryer only	Time- and level- controlled	-	Time- and level- controlled	-
	Max. drain pump head height 1 m, max. drain hose length 3 m	-	Max. drain pump head height 1 m, max. drain hose length 3 m	-
	Power consumption approx. 25 W	-	Power consumption approx. 25 W	-
Electrical connection - German standard models only	Connection cable length 1.6 m			
	Relay - Heating (K1), single armature relay, load rating 16 A, solenoid: 12 V DC, 200 Ω			
	Electronic power-programme module (1N1), ELP 320 with ID966	Electronic power-programme module (1N1), ELP 321 with ID966	Electronic power-programme module (1N1), ELP 390 with ID966	Electronic power-programme module (1N1), ELP 391 with ID966
	Can be updated via serial optical PC interface			
Drying technology	Tangle prevention: Reversing cycle times via random generator			
	Residual moisture indication: Laundry conductivity measurement process, time-left correction			
	Air path blockage monitoring via heater bank temperature sensor (2R30) behind perforated rear drum panel and fill ring temperature sensor (1R30)			

**Table 1:** Semi-commercial tumble dryer (KG-TR), 2000 series



## D Layout of Electrical Components

PT 7135 C



### Layout 1

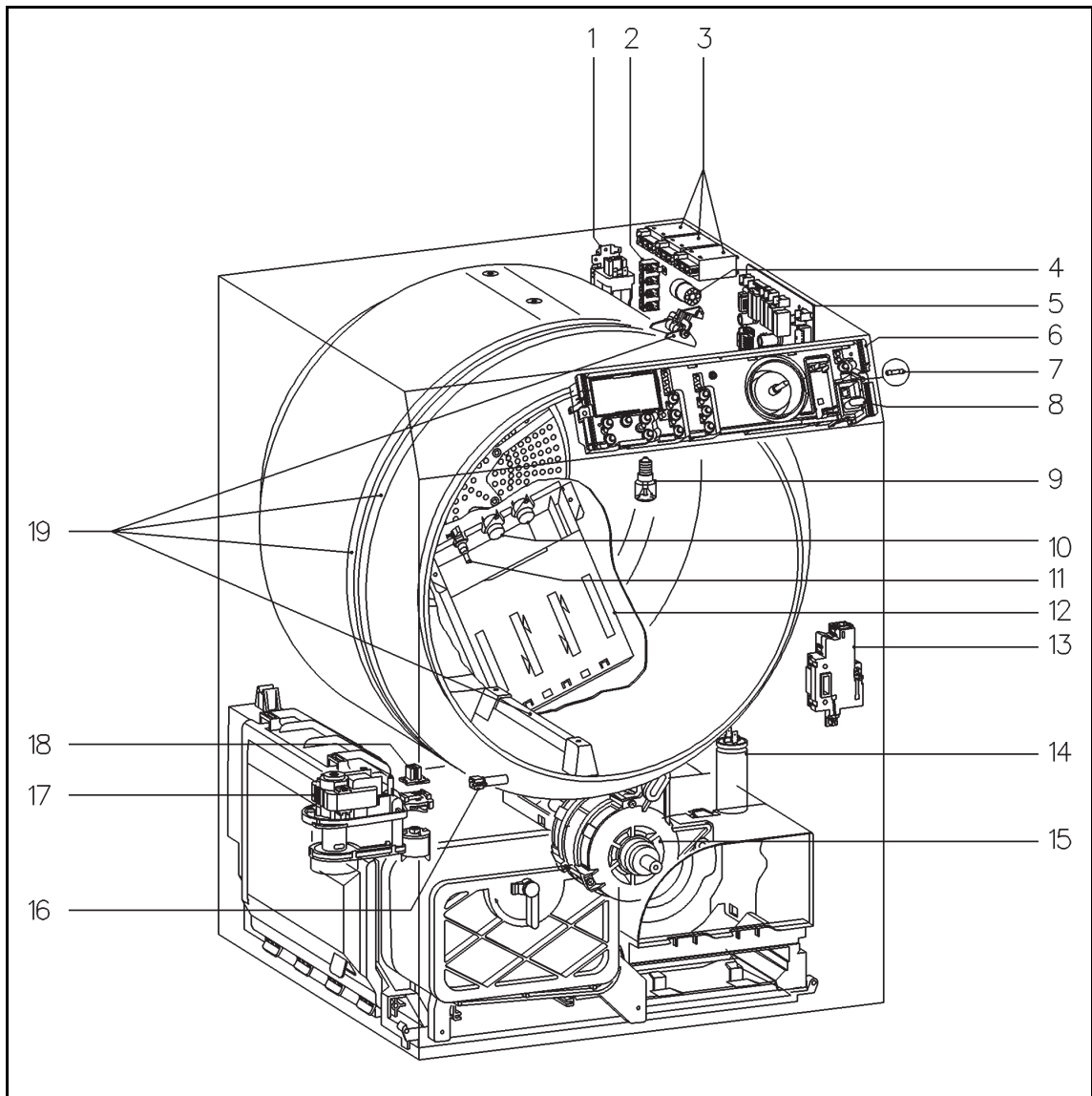
1 (Z1)	Interference suppression capacitor
2 X3/1	Mains terminal strip
3 (1K1/1, 2K1/1, 3K1/1)	Heating relay
4 (X1/1)	Payment system socket
P6	Payment system – Programme unit
P8	Payment system – Time unit
5 (1N1)	Power-programme module (ELP)
6 (2N1)	Selection module (EW)
7 (F7)	Fine-wire fuse
8 (S4)	Pushbutton - Door (Bowden cable)
9 (H3/6)	Light - Drum
10 (1F2, 2F2)	Temperature limiter

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11 (2R30)	Drying air NTC temperature sensor - In heater bank behind perforated rear drum panel
12 (R1, R2, R3)	Heater bank
13 (A2)	Door lock
14 (C5)	Capacitor - Drum drive
15 (M5)	Motor - Air flow and drum drive
16 (1R30)	Drying air NTC temperature sensor - Fill ring
17 (M13)	Motor - Condensate pump
18 (B8/7)	Float switch - Condensate
19 (B3/1)	Sensor - Residual moisture



PT 5135 C



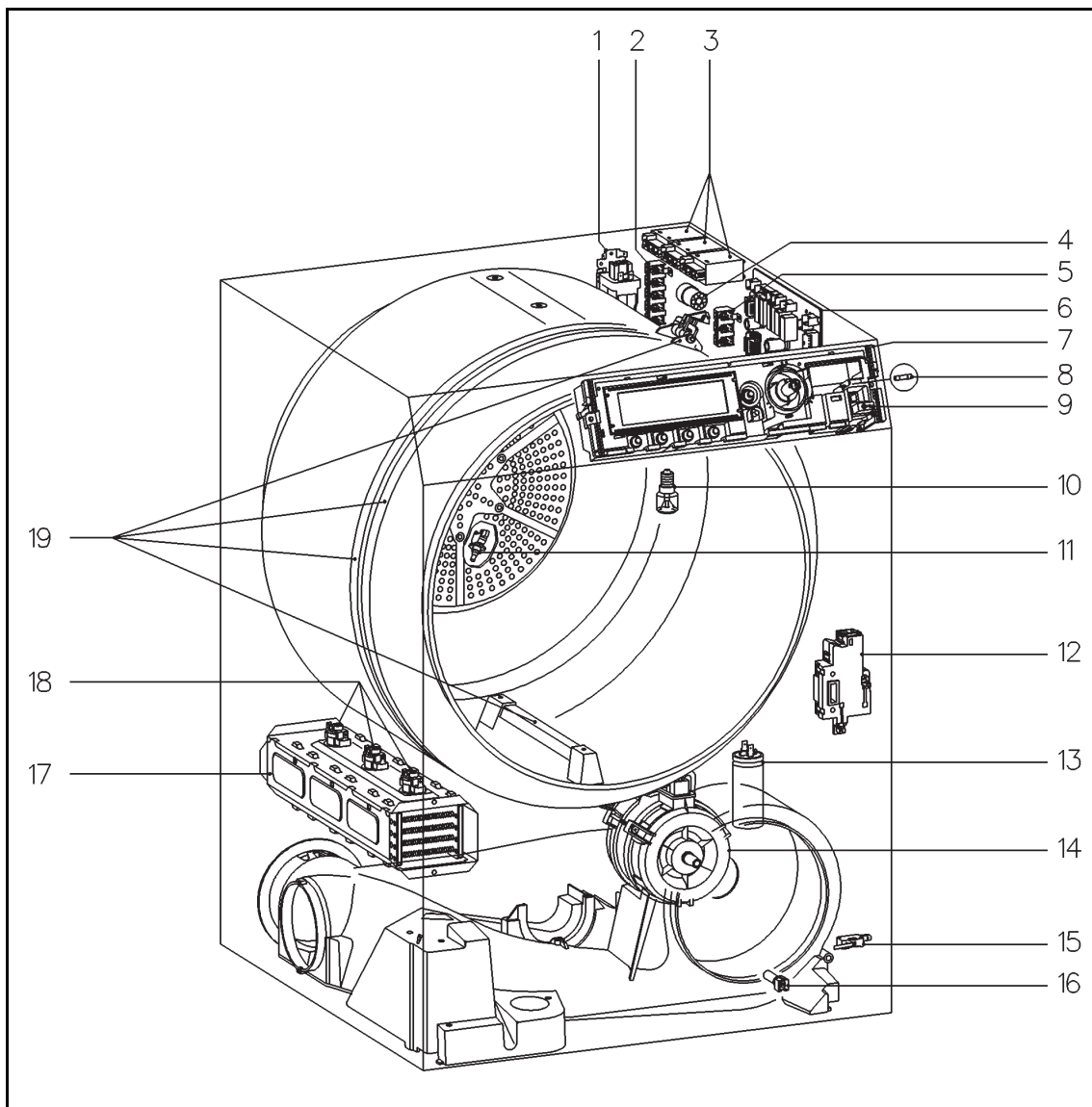
### Layout 2

1 (Z1)	Interference suppression capacitor
2 X3/1	Mains terminal strip
3 (1K1/1, 2K1/1, 3K1/1)	Heating relay
4 (X1/1)	Payment system socket
P6	Payment system – Programme unit
P8	Payment system – Time unit
5 (1N1)	Power-programme module (ELP)
6 (2N1)	Selection module (EW)
7 (F7)	Fine-wire fuse
8 (S4)	Pushbutton - Door (Bowden cable)
9 (H3/6)	Light - Drum
10 (1F2, 2F2)	Temperature limiter
11 (2R30)	Drying air NTC temperature sensor - In heater bank behind perforated rear drum panel

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12 (R1, R2, R3)	Heater bank
13 (A2)	Door lock
14 (C5)	Capacitor - Drum drive
15 (M5)	Motor - Air flow and drum drive
16 (1R30)	Drying air NTC temperature sensor - Fill ring
17 (M13)	Motor - Condensate pump
18 (B8/7)	Float switch - Condensate
19 (B3/1)	Sensor - Residual moisture

PT 7136



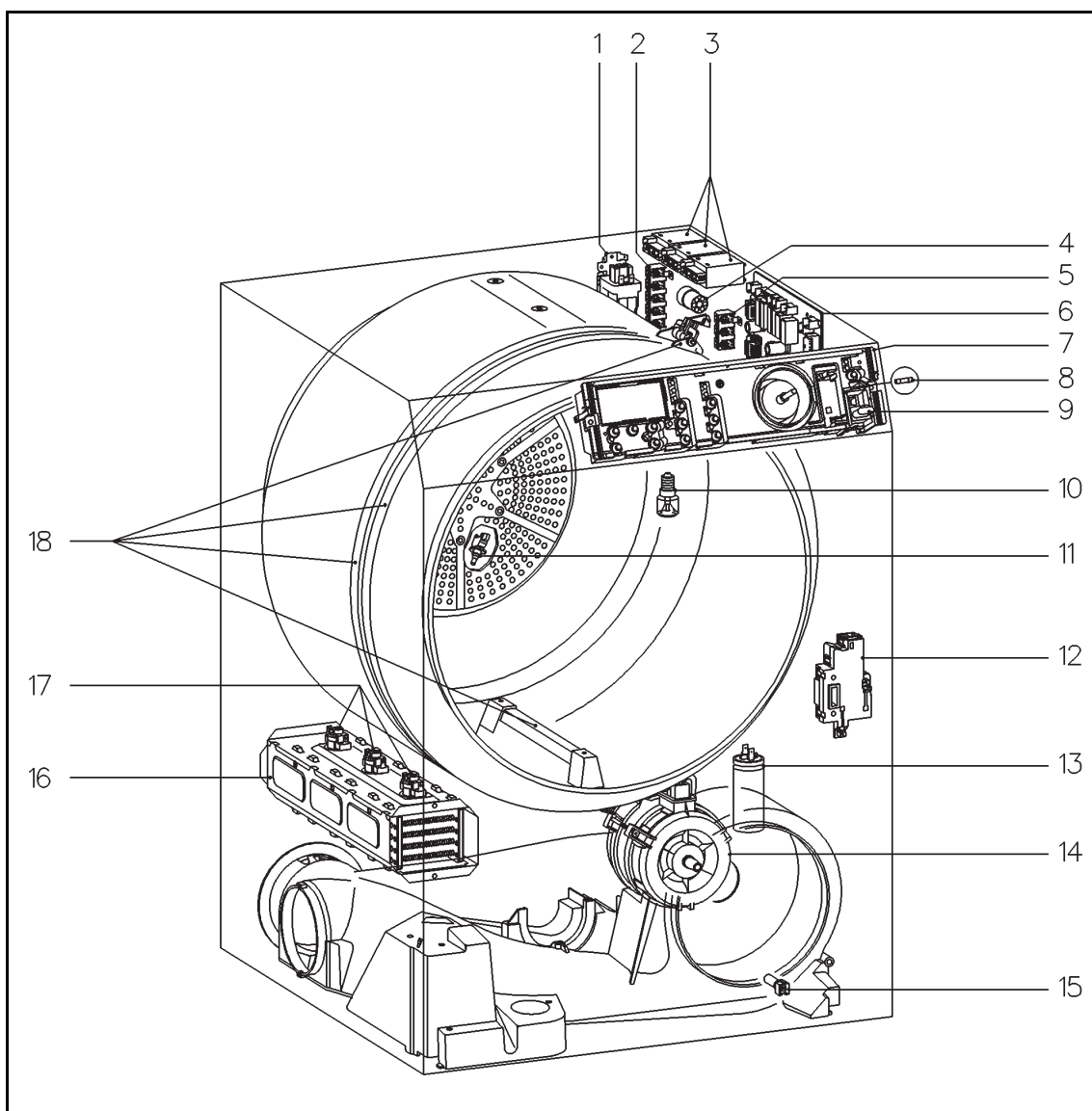
### Layout 3

1 (Z1)	Interference suppression capacitor
2 (X3/1)	Mains terminal strip
3 (1K1/1, 2K1/1, 3K1/1)	Heating relay
4 (X1/1)	Payment system socket
P6	Payment system – Programme unit
P8	Payment system – Time unit
5 (M2)	Fan (additional external cooling fan for Sweden)
6 (1N1)	Power-programme module (ELP)
7 (2N1)	Selection module (EW)
8 (F7)	Fine-wire fuse
9 (S4)	Pushbutton - Door (Bowden cable)
10 (H3/6)	Light - Drum
11 (2R30)	Drying air NTC temperature sensor - In heater bank behind perforated rear drum panel

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12 (A2)	Door lock
13 (C5)	Capacitor - Drum drive
14 (M5)	Motor - Air flow and drum drive
15 (S32)	Safety switch - Finger protection
16 (1R30)	Drying air NTC temperature sensor - Fill ring
17 (R1, R2, R3)	Heater bank
18 (1F2, 2F2, 3F2)	Temperature limiter (vented operation)
19 (B3/1)	Sensor - Residual moisture

PT 5136

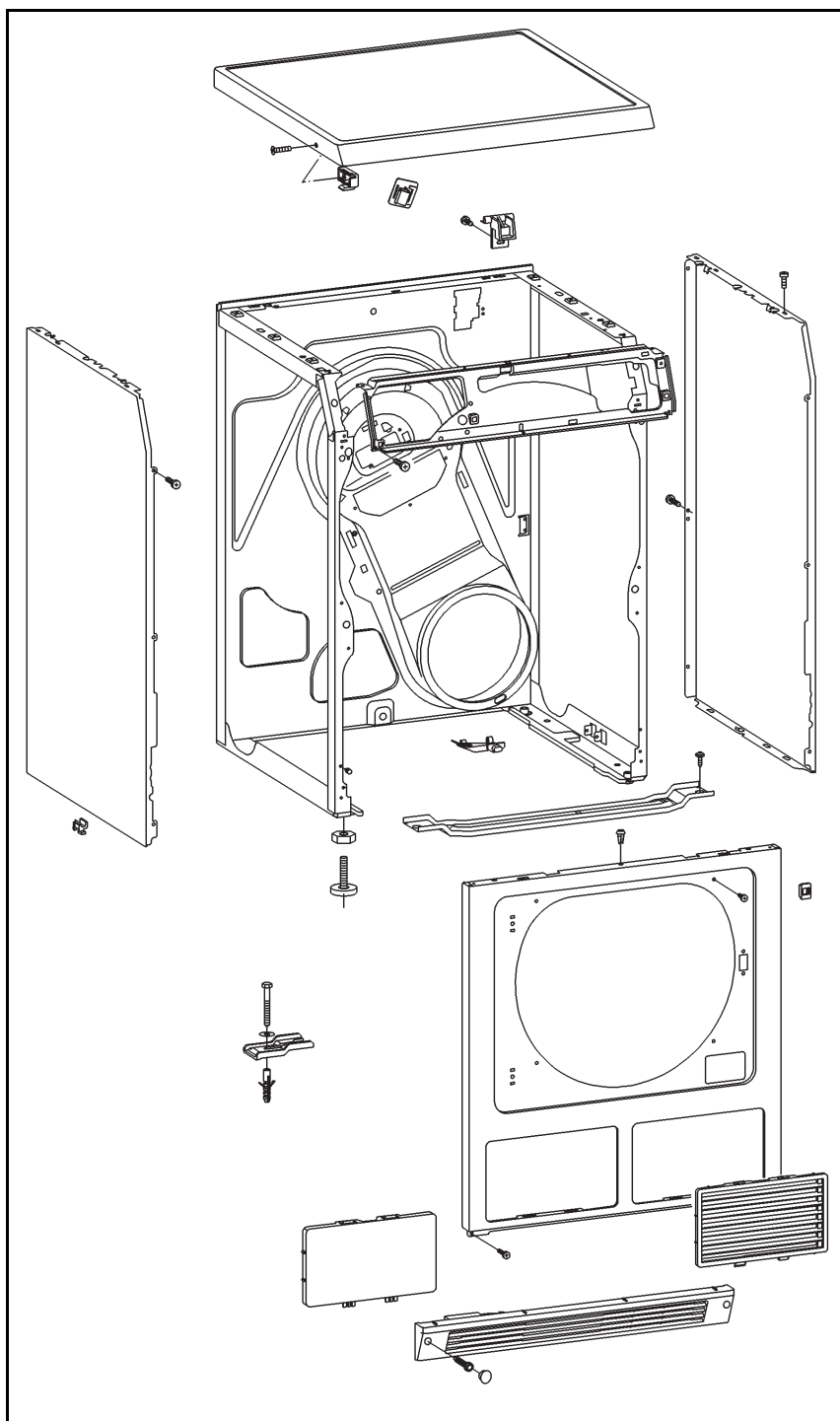


### Layout 4

1 (Z1)	Interference suppression capacitor
2 (X3/1)	Mains terminal strip
3 (1K1/1, 2K1/1, 3K1/1)	Heating relay
4 (X1/1)	Payment system socket
P6	Payment system – Programme unit
P8	Payment system – Time unit
5 (M2)	Fan (additional external cooling fan for Sweden)
6 (1N1)	Power-programme module (ELP)
7 (2N1)	Selection module (EW)
8 (F7)	Fine-wire fuse
9 (S4)	Pushbutton - Door (Bowden cable)
10 (H3/6)	Light - Drum
11 (2R30)	Drying air NTC temperature sensor - In heater bank behind perforated rear drum panel

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12 (A2)	Door lock
13 (C5)	Capacitor - Drum drive
14 (M5)	Motor - Air flow and drum drive
15 (1R30)	Drying air NTC temperature sensor - Fill ring
16 (R1, R2, R3)	Heater bank
17 (1F2, 2F2, 3F2)	Temperature limiter
18 (B3/1)	Sensor - Residual moisture

**020 Door**

## **2 Function**

### **2.1 Door lock (A2)**

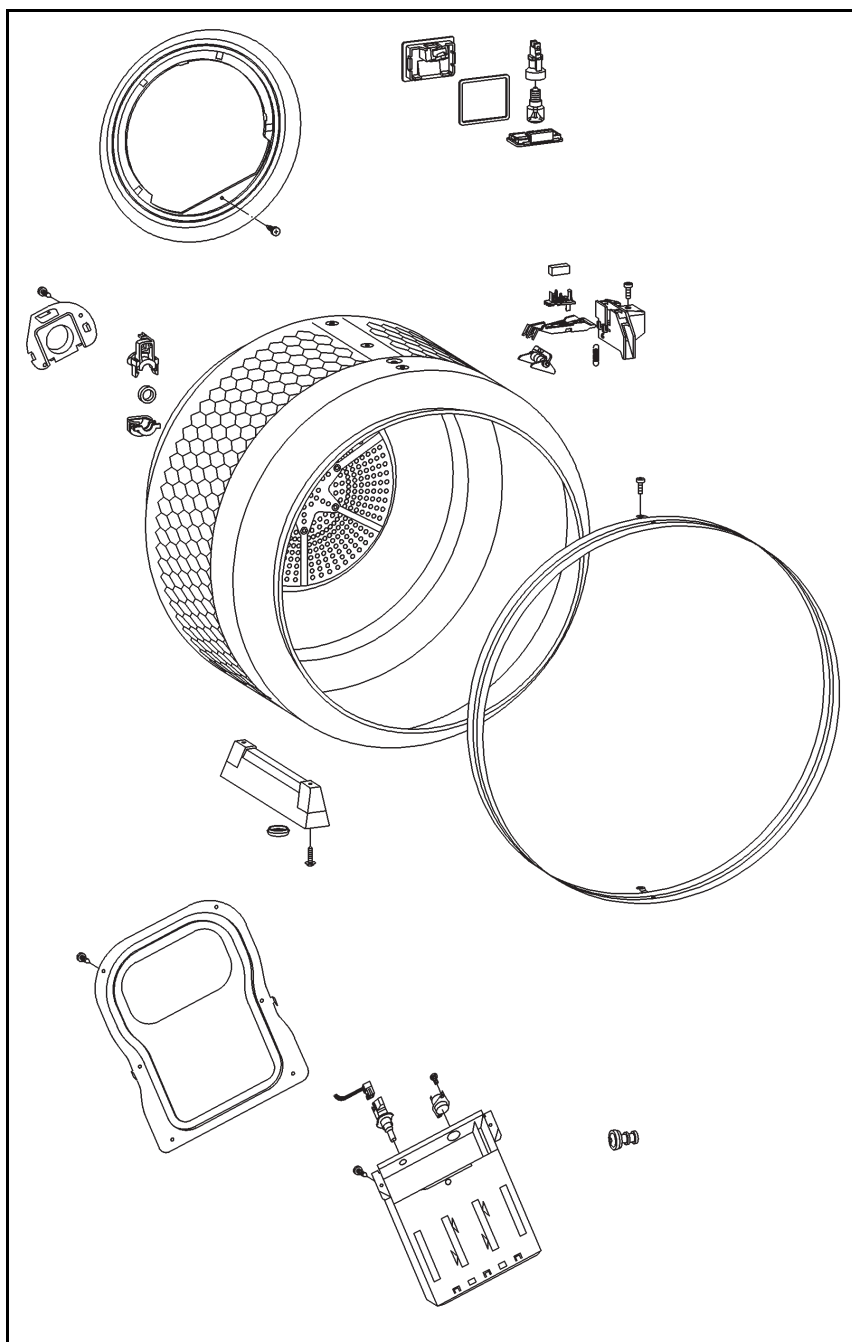
Door release via Bowden cable.

An open door is registered via a microswitch in the door lock.

Microswitch in door lock (A2): Drum door open = Contact open.



## 030 Drum, bearing, sensors, heater bank



# 1 Technical Data

Heater bank (R1, R2, R3)	Condenser dryer	Vented dryer
Heater rating with 230 V connection	3-filament, 2-phase	3-filament, 3-phase
	1.94 kW + 0.71 kW + 0.8 kW = 3.45 kW	1.94 kW + 2.1 kW + 2.1 = 6.14 kW

**Table 1:** Heater bank (R1, R2, R3)

Temperature (°C)	Resistance (kΩ)
0	340
5	261
10	203
15	159
20	126
25	100
30	80.2
35	64.8
40	52.7
45	43.1
50	35.5
55	29.4
60	24.5
65	20.5
70	17.3
75	14.6
80	12.5
85	10.6
90	9.13
93	8.34
95	7.86
100	6.80
110	5.14
120	3.95
130	3.07
140	2.41
150	1.92
160	1.55
170	1.26
180	1.03

Temperature (°C)	Resistance (kΩ)
190	0.852
200	0.710

**Table 2:** NTC temperature sensor - Heater bank (2R30) - Resistance values

Temperature (°C)	Resistance (kΩ)
0	38.0
5	29.7
10	23.4
15	18.6
20	14.9
25	12.0
30	9.73
35	7.96
40	6.55
45	5.42
50	4.52
55	3.78
60	3.19
65	2.70
70	2.29
75	1.96
80	1.68
85	1.45
90	1.25
93	1.15
95	1.09
100	1.06
110	0.73
120	0.569
130	0.449
140	0.358
150	0.289

**Table 3:** NTC temperature sensor - Fill ring (1R30) - Resistance values

## 2 Function

### 2.1 Heating control (R1, R2, R3)

#### Safety features:

If the fill ring temperature sensor (1R30) is defective, the heating is not activated.

The heating is switched off as soon as the heating relay is switched on for more than 5 s without the fan relay being activated.

The heating has a reswitch-on delay of 10 s and is switched off before, during and after a reversing pause.

### 2.2 Temperature limiter (F2)

#### Vented dryer:

Three 3/4 inch temperature limiters, 175 °C, with manual reset via pushbutton, located in the heater channel next to the heater bank.

#### Condenser dryer:

Two closed 3/4 inch temperature limiters, 170 °C, with manual reset via pushbutton, located on the heater bank.

### 2.3 NTC temperature sensor - Fill ring (1R30)

If the fill ring temperature sensor registers a drying air temperature less than -15 °C or greater than 160 °C, it is assumed to be defective.

### 2.4 NTC temperature sensor - Heater bank (2R30)

An open circuit at the heater bank temperature sensor (2R30) can only be registered with a temperature greater than 14 °C. As during operation lower temperatures can exist, the sensor is only checked when the heating has operated for at least 1 min.

If a short circuit exists at the heater bank temperature sensor (2R30), this is equivalent to a temperature of 250 °C and the heating is immediately switched off.

## 2.5 Light - Drum (H3/6)

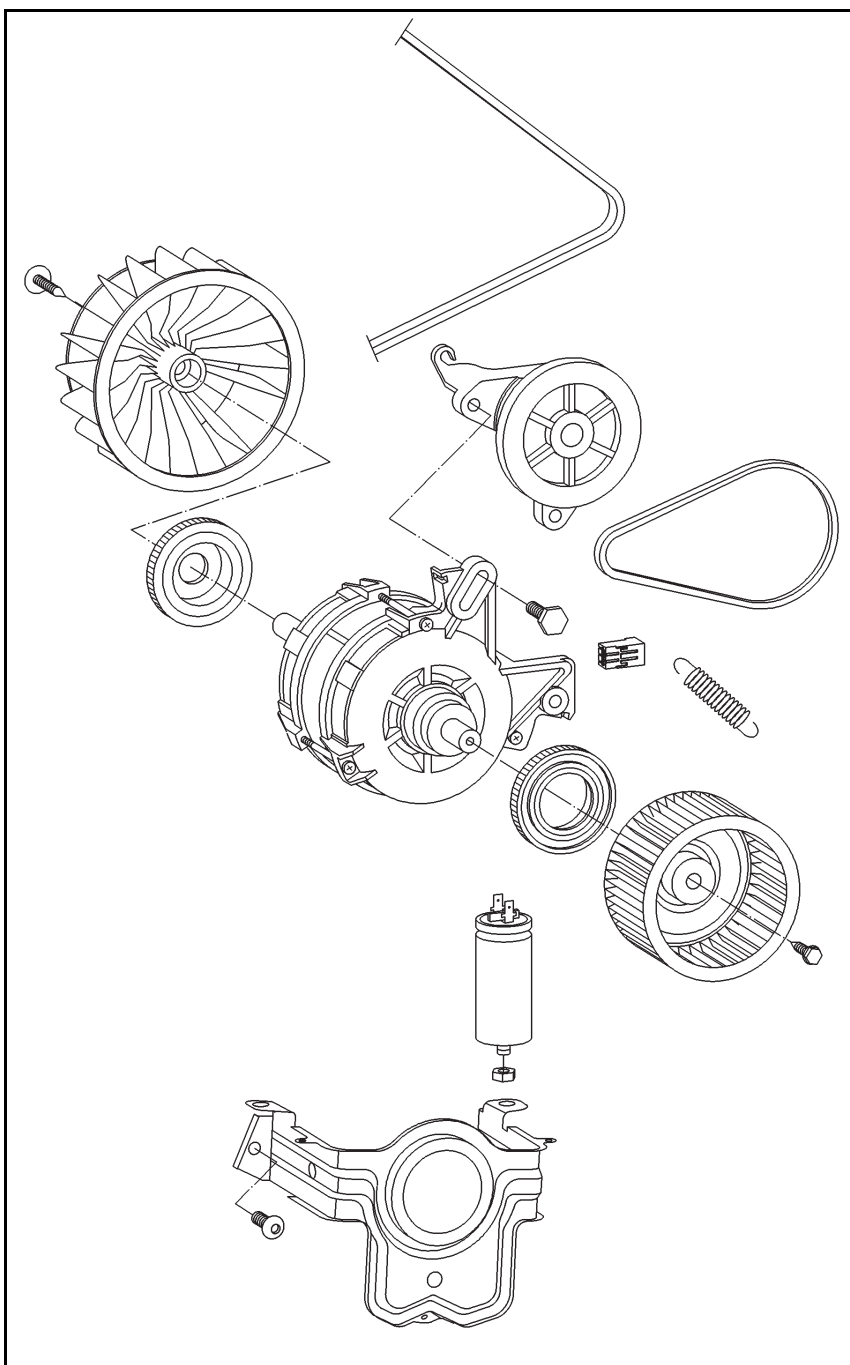
Lighting is time-controlled. It is switched on approx. 1 s after the door is opened.

Switch off delay: 5 min.

When the door is closed, the lighting is always switched off.



## 040 Drive



## 1 Technical Data

Cooling fan flow rate	Condenser dryer	Vented dryer
Cooling air	300 m <sup>3</sup> / h	–
Drying air	120 m <sup>3</sup> / h	300 m <sup>3</sup> / h. With 20 m vent duct > 200 m <sup>3</sup> / h

**Table 1**



## **2 Function**

### **2.1 Motor - Air flow and drum drive (M5)**

PT 7135 C, PT 5135 C

The motor drives the drum, drying air fan and cooling air fan at the same time.

### **2.2 Motor - Air flow and drum drive (M5)**

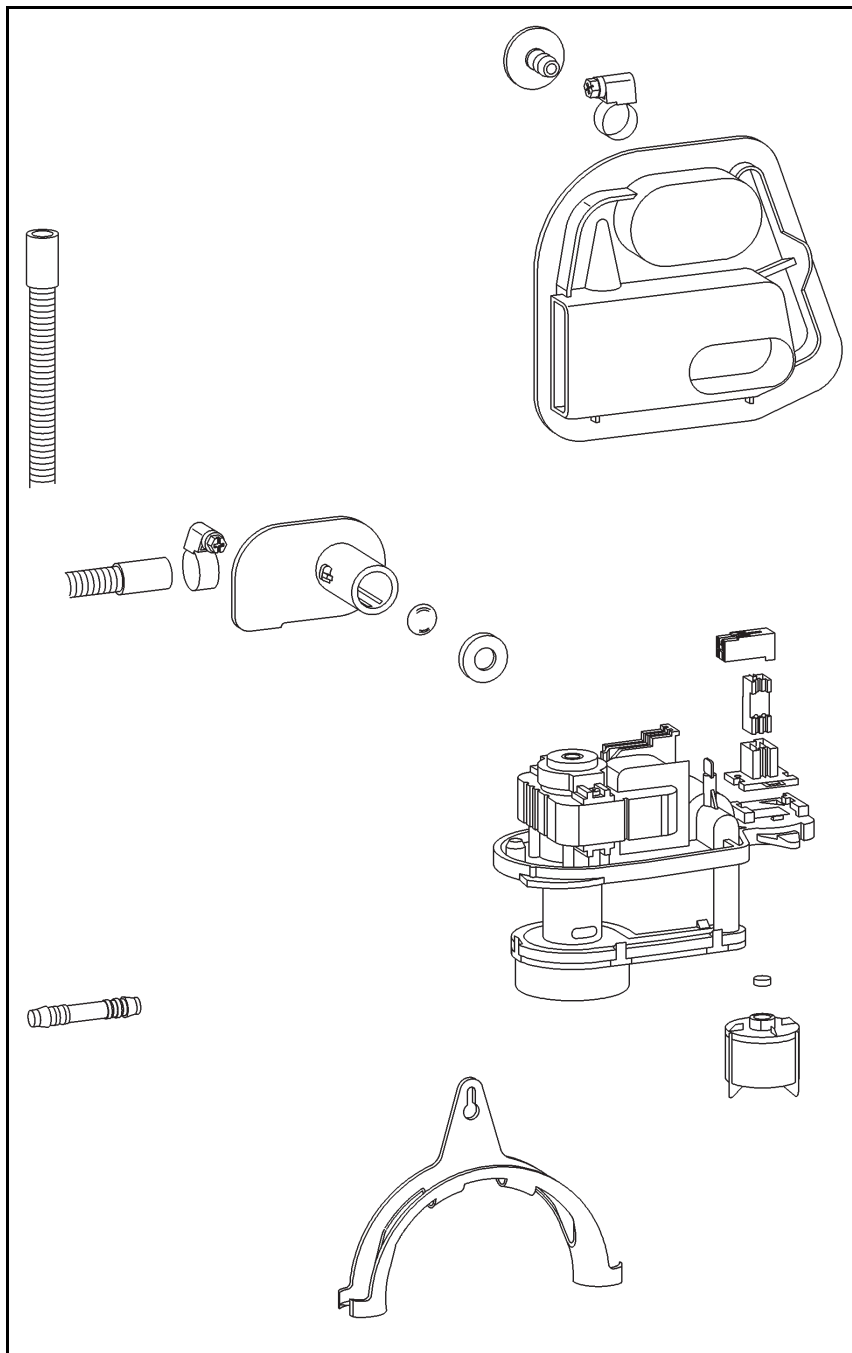
PT 7136, PT 5136

The motor drives the drum and drying air fan at the same time.



## 070 Condensate pump (M5)

PT 7135 C, PT 5135 C

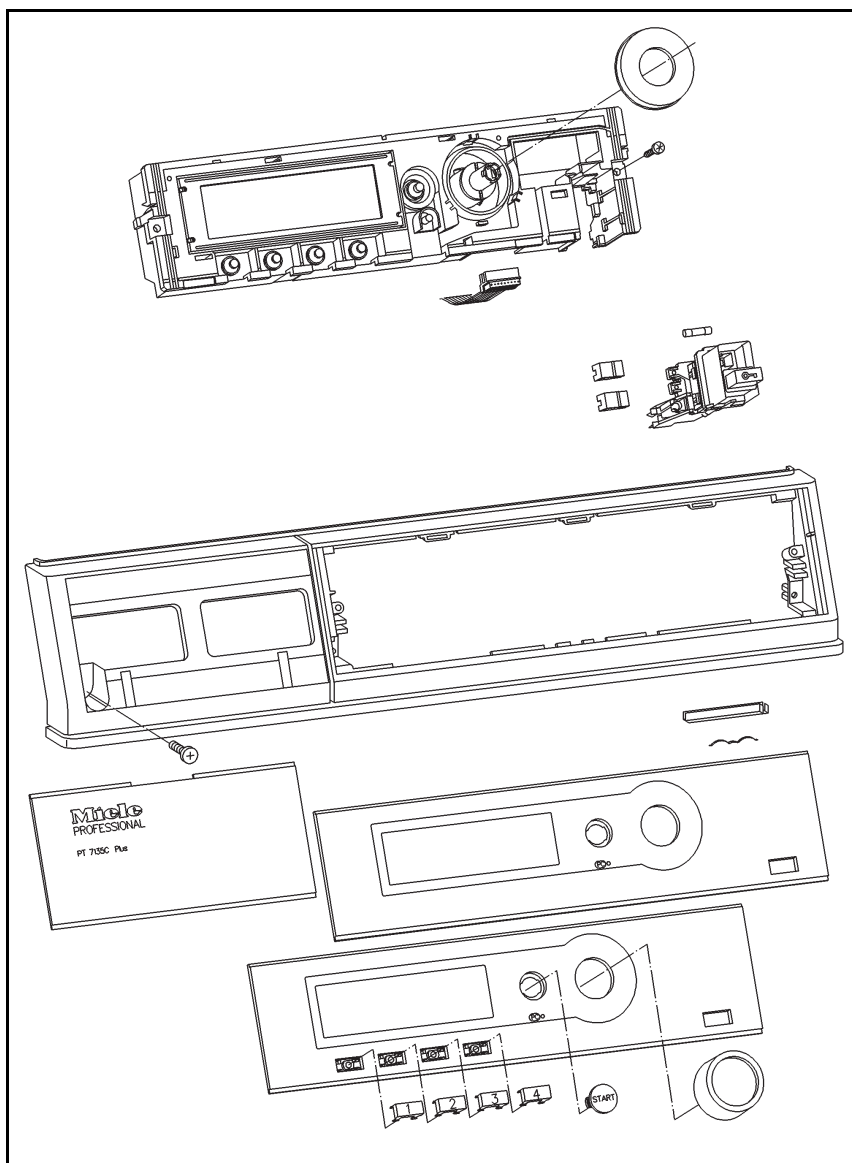


## **2      Function**

### **2.1      Level sensing - Float switch - Condensate (B8/7)**

Level sensing is via a reed switch.

## 080 Fascia panel



# 1 Technical Data

PT 7135 C and PT 7136	Cottons	Minimum iron	Automatic	Outerwea	Shirts	Denim	Proofing
Extra dry							
Normal +	- 2%	0%	-2%				
Normal	0%	2%	0%	2%	0%	2%	0%
Hand iron $\Delta$	8%	8%	8%	8%	8%	8%	
Hand iron $\Delta\Delta$	12%						
Machine iron	20%						

**Table 1:** Standard residual moisture levels

PT 5135 C and PT 5136	Cottons	Minimum iron	Automatic	Outer wear	Shirts	Denim	Proofing	Towelling
Extra dry								
Normal +	- 2%	0%	- 2%					- 2%
Normal	0%	2%	0%	2%	0%	0%	0%	
Hand iron $\Delta$	8%	8%	8%	8%	8%	8%		
Machine iron	20%							

**Table 2:** Standard residual moisture levels

Residual moisture level adjustment programmable function, see 080 2.6 Residual moisture level adjustment programmable function.

## 2 Function

### 2.1 Overriding time control

After programme start, an overriding time control of approx. 180 min applies to all residual moisture drying programmes.

After this time has expired, the drying programme is cancelled and the cooling stage for faults is activated. The anti-crease action phase is cancelled.

The fault is saved and can be called up in the service mode.

### 2.2 No-load recognition

No-load recognition and registration of very dry laundry can only take place with residual moisture drying programmes.

The programme is cancelled, a cooling phase is started and the buzzer sounds intermittently.

### 2.3 Insufficient air flow measurement

During warming up, the temperature increase at the heater bank temperature sensor (2R30) is monitored.

If the air path is blocked, this temperature increases rapidly and a fault is registered. The fault indication **Insufficient air/Leakage** is displayed.

### 2.4 Time of day programmable function

This is used to set the time of day display.

## 2.5 Extended cooling phase programmable function

An extended cooling phase means that the laundry temperature is lower at the end of the programme.

A lower laundry temperature reduces the perception of dampness in the load.

Extended cooling has no effect with timed programmes.

## 2.6 Residual moisture level adjustment programmable function

The standard residual moisture levels can be modified to make them dryer or damper.

PT 7135 C and PT 7136: Standard residual moisture levels, see 080 Table 1.

PT 5135 C and PT 5136: Standard residual moisture levels, see 080 Table 2.

Display bar	1	2	3	4	5	6	7
Residual moisture adjustment	Damper 3	Damper 2	Damper 1	<b>Normal</b>	Dryer 1	Dryer 2	Dryer 3

**Table 3:** Residual moisture level adjustment - Cottons

Display bars	1	2	3	4	5	6	7
Residual moisture adjustment	Damper 3	Damper 2	Damper 1	<b>Normal</b>	Dryer 1	Dryer 2	Dryer 3

**Table 4:** Residual moisture level adjustment - Minimum iron

Display bars	1	2	3	4	5	6	7	8	9	10	11
Residual moisture adjustment	26%	25%	24%	23%	22%	21%	<b>20%</b>	19%	18%	17%	16%
	Damper						Normal	Dryer			

**Table 5:** Residual moisture level adjustment - Cottons, machine iron



## 2.7 Clean the airways warning modification programmable function

This function can be used to modify the circumstances under which the **Clean the airways** warning is displayed to suit individual requirements, see the operating instructions or programming mode.

PT 7135 C and PT 7136: Service Dept. programming mode, see Programming mode summary, 080 4.1.

PT 7136 vented dryer: The warning is reset via the finger protection safety switch (S32) after opening the fluff filter flap.

PT 5135 C and PT 5136: Service Dept. programming mode, see Programming mode summary, 080 4.2.

## 2.8 Automatic programmable function

PT 7135 C, PT 7136, PT 5135 C, PT 5136

This function can be used to add the **Automatic** programme to the programme list.

## 2.9 Clean filters programmable function

PT 7136

When drying laundry which develops high levels of fluff, frequent cleaning of the large surface area filter is necessary.

With a vented dryer this warning is shown at intervals and indicates that the filters must be cleaned regularly.

This function can be used to modify the circumstances under which the **Clean filters** warning is displayed to suit individual requirements, see the operating instructions or programming mode.

Service Dept. programming mode, see Programming mode summary, 080 4.1.

## 2.10 Clean heat exchanger programmable function

PT 7135 C, PT 5135 C

With a condenser dryer this warning is shown at intervals and indicates that the heat exchanger must be cleaned regularly.

This function can be used to modify the circumstances under which the **Clean heat exchanger** warning is displayed to suit individual requirements, see the operating instructions or programming mode.

PT 7135 C: Service Dept. programming mode, see Programming mode summary, 080 4.1.

PT 5135 C: Service Dept. programming mode, see Programming mode summary, 080 4.2.

## 2.11 Residual moisture level display programmable function

PT 7135 C, PT 7136

This function can be used to programme the machine to display the current residual moisture level of the load being dried in percent.

## 2.12 Cool air free programmable function, with payment system operation

With payment system operation, this function can be set to provide the **Cool air** programme at no charge.

The **Cool air** free programmable function is only available with payment system operation.

## 2.13 Payment system programmable function

This is used to set the type of payment system. The appropriate operating procedure is shown in the display.

For payment system details, see 090 2.3 Payment system.

PT 7135 C and PT 7136 only: For central control via RS 232 interface, see 090 2.4 Central control via RS 232 interface with 9-pole plug

## 2.14 Operator code programmable function

With installation in a launderette, the domestic operation programmable functions can be blocked.

### **Option code not required (domestic use):**

Domestic programmable functions are freely available.

Supervisor programmable functions are not accessible.

### **Option code required (supervisor):**

Access to domestic and supervisor programmable functions via code entry.

The code is freely selectable. If the code is no longer known to the supervisor, then it can be reset to **000** by resetting all programmable functions to the standard settings.

## 2.15 Signal to payment system socket (X1/1) pin 7 programmable function

In order to reset an external payment system at the end of a programme, the machine provides a mains voltage signal for 5 s applied to the payment system connection socket (X1/1), pin 7 (payment system contact).

## 2.16 **Overriding time control modification programmable function with payment system operation**

To reduce the possibility of unauthorised manipulation with payment system operation, the overriding time can be reduced.

For overriding time control details, see 080 2.1 Overriding time control.

## 2.17 **Programme lock programmable function with payment system operation**

To reduce the possibility of unauthorised manipulation with payment system operation, the programme lock feature can be activated.

Depending on the set options, the programme will be locked immediately the programme is started or after a certain period.

If the door is opened when the programme is locked, the programme will be cancelled and the payment already made will be lost.

To ensure that laundry can still be added, the programme lock can be set to become active after a certain time has elapsed.

## 2.18 **Cool air timed programme maximum duration setting programmable function**

This is used to set the maximum duration of the **Cool air** timed programme.

PT 7135 C and PT 7136: The programme duration can be reduced via the multifunction selector switch but cannot be increased again.

PT 5135 C and PT 5136: The programme duration can be reduced via the + / - buttons, but cannot be increased again.

## 2.19 Warm air timed programme maximum duration setting programmable function

This is used to set the maximum duration of the **Warm air** timed programme.

PT 7135 C and PT 7136: The programme duration can be reduced via the multifunction selector switch but cannot be increased again.

PT 5135 C and PT 5136: The programme duration can be reduced via the + / - buttons, but cannot be increased again.

## 2.20 Delay start programmable function

This is used to activate the delay start feature.

If the delay start feature is deactivated, the display shows the time of day in the style that has been set with the time of day programmable function.

## 2.21 Language programmable function

PT 7135 C, PT 7136

### International:

Multilingual start screen, e.g. for multilingual countries and camp sites.

The desired language is selected before the basic programme menu and is applicable for only one programme.

The **Sort language** programmable function is available to select and sort four favourite languages for international installations.

## 2.22 Standard settings programmable function

To reset all programmable functions to standard settings.

The code no. for accessing the supervisor level will be reset to **000**.

## 3 Fault Repair

### 3.1 Warning indication: Clean filter

PT 7136

#### Cause

This warning is given at certain intervals as a reminder that the filters must be cleaned.

#### Remedy

##### Note

Clean the fluff filters regularly, see the operating instructions.

- ✎ Clean both parts of the large surface area filter behind the service panel and the filters in the door opening.

#### Cause

**Clean filter** warning shown too soon/late.

#### Remedy

- ✎ The circumstances under which the **Clean filters** warning is displayed can be modified to suit individual requirements, see the operating instructions or programming mode.
- ✎ Service Dept. programming mode, see Programming mode summary, 080 4.1.

## 3.2 Warning indication: Clean heat exchanger

PT 7135 C, PT 5135 C

### Cause

With a condenser dryer this warning is shown at intervals and indicates that the heat exchanger must be cleaned regularly.

### Remedy

#### Note

Clean the heat exchanger regularly, see the operating instructions.

↻ Clean the heat exchanger.

### Cause

**Clean heat exchanger** warning shown too soon/late.

### Remedy

- ↻ The circumstances under which the **Clean heat exchanger** warning is displayed can be modified to suit individual requirements, see the operating instructions or programming mode.
- ↻ PT 7135 C: Service Dept. programming mode, see Programming mode summary, 080 4.1.
- ↻ PT 5135 C: Service Dept. programming mode, see Programming mode summary, 080 4.2.

### 3.3 **Warning indication: Adjust the load – The drum is empty or the laundry too dry**

#### **Symptom**

This warning can only be displayed with residual moisture drying programmes (i.e. not timed drying).

The programme is cancelled, a cooling phase is started and the buzzer sounds intermittently.

This warning is cancelled when the door is opened.

#### **Cause**

The drum is empty or loaded with a few small items only.

The residual moisture sensing circuit has high resistance and the sensing system registers no load (no load recognition). This is not a technical fault.

#### **Remedy**

✍ Modify the load or select a timed drying programme.

#### **Cause**

Residual moisture sensor (B3/1) defective.

#### **Residual moisture sensor check**

- ✍ PT 7135 C and PT 7136: Check the residual moisture sensor circuit for low resistance (continuity), see the service mode Service mode summary, 080 4.5.
- ✍ PT 5135 C and PT 5136: Check the residual moisture sensor circuit for low resistance (continuity), see the service mode Service mode summary, 080 4.6.
- ✍ No load recognition, see 080 2.2 No-load recognition.



### 3.4 Demonstration mode active

#### Symptom

A programme start is not possible and the programming and service modes cannot be accessed.

#### Cause

The demonstration mode is active.

#### Remedy

- ✍ PT 7135 C and PT 7136: Demonstration mode deactivation, see Demonstration mode activation / deactivation, 080 4.3.
- ✍ PT 5135 C and PT 5136: Demonstration mode deactivation, see Demonstration mode activation / deactivation, 080 4.4.

### 3.5 Fault indication: Drain fault – Check the drain path

#### Symptom

Applicable to condenser dryer only.

The programme is cancelled, a cooling phase is started and the buzzer sounds intermittently.

This warning is cancelled when the door is opened.

#### Cause

Float switch - Condensate (B8/7) in the condensate pump housing is defective (short-circuited).

#### Remedy

- ✍ Check the float switch - Condensate (B8/7). Exchange it if necessary.
- ✍ PT 7135 C and PT 7136: Service mode, see Service mode summary, 080 4.5.
- ✍ PT 5135 C and PT 5136: Service mode, see Service mode summary, 080 4.6.

#### Cause

Condensate pump (M13) defective.

**Remedy**

- ↯ Check the condensate pump (M13). Exchange it if necessary.
- ↯ PT 7135 C and PT 7136: Service mode, see Service mode summary, 080 4.5.
- ↯ PT 5135 C and PT 5136: Service mode, see Service mode summary, 080 4.6.

**Cause**

The condensate drainage path is blocked.

**Remedy**

- ↯ Check the drainage path for blockages. Repair as necessary.

### 3.6 Fault indication: Clean the airways

**Symptom**

The programme continues normally or is interrupted.

The fault is indicated at the end of the cooling down phase.

The fault is saved in the fault memory, see Fault code **F66**, air leakage fault, 080 3.19.

PT 7135 C and PT 7136: This warning is cancelled when the door is opened.

**Cause**

Air paths are clogged.

Insufficient air flow registered, see 080 2.3 Insufficient air flow measurement.

**Remedy****Note**

Check and clean the filters regularly, see the operating instructions.

- ↯ Clean the fluff filters in the door cap and door fill ring.
- ↯ Condenser dryer: Remove the heat exchanger and clean it.
- ↯ Check and clean the air paths.

**Cause**

**Clean the airways** warning shown too early/late.

**Remedy**

- ↯ The point at which the **Clean the airways** warning is shown can be adjusted to suit the needs of the operator, see the operating instructions or programming mode.
- ↯ PT 7135 C and PT 7136: For Service Dept. programming mode see Programming mode summary, 080 4.1.
- ↯ PT 5135 C and PT 5136: For Service Dept. programming mode see Programming mode summary, 080 4.2.

**3.7 Fault indication: Technical fault****Symptom**

In normal operation mode the display shows **Technical fault**.

Programme interruption, cooling down phase, intermittent buzzer operation.

This fault indication is deleted by pressing the multifunction selector switch.

**Cause**

The power-programme module (ELP) or selection module (EW) has registered a fault.

The power-programme module (ELP) interrupts the programme.

The displayed fault is the reason for the programme interruption.

**Remedy**

- ↯ PT 7135 C and PT 7136: For fault memory check, see the Service mode, Service mode summary, 080 4.5.
- ↯ PT 5135 C and PT 5136: For fault memory check, see the Service mode, Service mode summary, 080 4.6.
- ↯ Check the Mat. nos. to verify that the correct selection module (EW) and power-programme module (ELP) are fitted.
- ↯ Check the electrical connection between the power-programme module (ELP) and selection module (EW).

### 3.8 Fault code F1, heater bank NTC sensor short-circuited

#### Symptom

In normal operation mode the display shows **Technical fault**.

Programme interruption, cooling down phase, intermittent buzzer operation.

Only the **Cool air** timed programme can be operated.

This fault indication is deleted by pressing the multifunction selector switch.

#### Cause

Heater bank temperature sensor (2R30) short-circuited ( $> 250^{\circ}\text{C}$ ).

#### Remedy

- ↯ Check the heater bank temperature sensor (2R30), its leads and its plug connections for short or open circuit.
- ↯ Check the heater bank temperature sensor (2R30) for correct performance, see 030 Table 2.

### 3.9 Fault code F2, heater bank NTC sensor open-circuited

#### Symptom

In normal operation mode the display shows **Technical fault**.

Programme interruption, cooling down phase, intermittent buzzer operation.

Only the **Cool air** timed programme can be operated.

This fault indication is deleted by pressing the multifunction selector switch.

#### Cause

Heater bank temperature sensor (2R30) open-circuited ( $< 20^{\circ}\text{C}$ ). Only registered after the heating has been switched on for at least 1 min.

#### Remedy

- ↯ Check the heater bank temperature sensor (2R30), its leads and its plug connections for short or open circuit.
- ↯ Check the heater bank temperature sensor (2R30) for correct performance, see 030 Table 2.

**Cause**

Heater bank not heating.

**Remedy**

↯ Check the heater bank (R) for short or open circuit.

**Cause**

Heating relay (K1).

**Remedy**

↯ Check the heating relay (K1).

**Cause**

Temperature limiter (F2).

**Remedy**

↯ Check the temperature limiter F2 for continuity.

### 3.10 **Fault code F3, fill ring NTC sensor short-circuited**

**Symptom**

In normal operation mode the display shows **Technical fault**.

Programme interruption, cooling down phase, intermittent buzzer operation.

Only the **Cool air** timed programme can be operated.

This fault indication is deleted by pressing the multifunction selector switch.

**Cause**

Fill ring temperature sensor (1R30) short-circuited (> 160°C).

**Remedy**

↯ Check the fill ring temperature sensor (1R30), its leads and its plug connections for short or open circuit.

↯ Check the fill ring temperature sensor (1R30) for correct performance, see 030 Table 3.

### 3.11 Fault code F4, fill ring NTC sensor open-circuited

#### Symptom

In normal operation mode the display shows **Technical fault**.

Programme interruption, cooling down phase, intermittent buzzer operation.

Only the **Cool air** timed programme can be operated.

This fault indication is deleted by pressing the multifunction selector switch.

#### Cause

Fill ring temperature sensor (1R30) open-circuited ( $< 15^{\circ}\text{C}$ ).

#### Remedy

- ↯ Check the fill ring temperature sensor (1R30), its leads and its plug connections for short or open circuit.
- ↯ Check the fill ring temperature sensor (1R30) for correct performance, see 030 Table 3.

### 3.12 Fault code F41, faulty EEPROM / data fault

#### Symptom

The programme operates with default values.

In normal operation mode the display shows **Technical fault**.

Programme interruption, cooling down phase, intermittent buzzer operation.

This warning is cancelled when the door is opened.

#### Cause

Faulty EEPROM / data fault.

#### Remedy

- ↯ If there is no functional fault, a remedy is not required.
- ↯ Otherwise exchange the power-programme module (1N1, ELP).

### 3.13 Fault code F43, model type not programmed

#### Cause

In normal operation mode this fault is not indicated via the display.

The selection module (EW) and power-programme module (ELP) do not match.

#### Remedy

- ✎ Check the Mat. nos. to verify that the correct selection module (EW) and power-programme module (ELP) are fitted.

### 3.14 Fault code F45, faulty flash RAM/ data fault

#### Symptom

In normal operation mode the display shows **Technical fault**.

Programme interruption, cooling down phase, intermittent buzzer operation.

#### Cause

Faulty flash RAM/ data fault.

#### Remedy

- ✎ Check the Mat. nos. to verify that the correct selection module (EW) and power-programme module (ELP) are fitted.
- ✎ Reset all programmable functions to standard settings. Then modify the desired programmable functions.
- ✎ Exchange the power-programme module (ELP).

### 3.15 Fault code F46, display fault

#### Symptom

Programme interruption, cooling down phase, intermittent buzzer operation.

#### Cause

Internal display fault on selection module (EW). Display driver for LCD module defective.

#### Remedy

↯ Exchange the selection module (EW).

### 3.16 Fault code F47, communication fault between selection module (EW) and power-programme module (ELP)

#### Symptom

In normal operation mode the display shows **Technical fault**.

Programme interruption, cooling down phase, intermittent buzzer operation.

With operation with a payment system, the programme end signal is provided at the payment system socket (X1/1) pin 7.

#### Cause

Selection module (EW) - Power-programme module (ELP) interface fault.

#### Remedy

↯ Check the electrical connection between the selection module (EW) and power-programme module (ELP).



### 3.17 **Fault code F50, motor stationary and heating operates for 5 s**

#### **Symptom**

The motor for air flow and drum drive (M5) is stationary.

This fault occurs in normal operating mode and the following occurs: Programme interruption, cooling down phase, intermittent buzzer operation for 2 min.

This warning is cancelled when the door is opened.

#### **Cause**

The heating has operated for longer than 5 s with the motor stationary. This is a power-programme module (ELP) fault.

#### **Remedy**

- ↯ Check the motor (M5).
- ↯ Exchange the power-programme module (ELP).

### 3.18 **Fault code F55, overriding time limit exceeded (approx. 180 min)**

#### **Symptom**

Only applicable to residual moisture programmes.

This fault occurs in normal operating mode and the following occurs: Programme interruption, cooling down phase, intermittent buzzer operation for 2 min.

This warning is cancelled when the door is opened.

For the overriding time limit, see 080 2.1 Overriding time control.

#### **Cause**

Laundry too wet or dryer overloaded.

#### **Remedy**

- ↯ Spin the laundry more or reduce the quantity.

#### **Cause**

Electrically conductive item in load (e.g. zip).

#### **Remedy**

- ↯ Select a hot air drying programme.

**Cause**

Air path clogged.

**Remedy**

↯ Check and clean the air paths.

**Cause**

Heater bank not heating.

**Remedy**

↯ Check the heater bank (R1) for short or open circuit.

**Cause**

Heating relay (K1/1).

**Remedy**

↯ Check the heating relay (K1/1).

**Cause**

Temperature limiter (F2).

**Remedy**

↯ Check the temperature limiter (F2) for continuity.

**Cause**

Residual moisture sensor (B3/1) defective.

**Residual moisture sensor check**

↯ PT 7135 C and PT 7136: Check the residual moisture sensor for high resistance, see service mode Service mode summary, 080 4.5.

↯ PT 5135 C and PT 5136: Check the residual moisture sensor for high resistance, see service mode Service mode summary, 080 4.6.

### 3.19 Fault code F66, air leakage fault

#### Symptom

In normal operation mode the display shows **Clean the airways**.

#### Cause

Air path clogged.

Insufficient air flow registered, see 080 2.3 Insufficient air flow measurement.

#### Remedy

🔧 Check and clean the air paths.

## 4 Service

### 4.1 Programming mode summary

PT 7135 C, PT 7136

#### Initial requirements

- ✎ Finish or cancel any programme in operation, including the demonstration mode.
- ✎ Open the door.
- ✎ Disconnect the fill ring NTC temperature sensor (1R30) plug.

#### Note

If the fill ring NTC temperature sensor (1R30) plug is disconnected at the power-programme module (1N1), then power is also no longer supplied to the door lock (A2). In this case the programming mode cannot be accessed.

- ✎ If the international multilingual start screen is shown, select the desired language.

#### Accessing

#### Note

After it is begun, the accessing procedure must be completed within 10 s.

- ✎ Press and hold the **Start** button.
- ✎ Close the door.
- ✎ As soon as the **Start** button flashes, release the **Start** button.
- ✎ Immediately press and release the **Start** button **5 times** and at the **5th time hold it pressed in** until programmable functions are shown in the display.

#### Acknowledgement indicator

Successful accessing of the programming mode is indicated by rapid flashing (5 Hz) of the **Start** button.

The display shows the Service Dept. programmable functions.

If the accessing procedure has been unsuccessful, the control automatically reverts to the normal operating mode.

## Options

The set option is indicated by a **V** next to it.

- ↺ **Programmable function selection:** Turn the multifunction selector switch to **mark** the desired function and press the multifunction selector switch to **confirm** the selection.
- ↺ **Option selection:** Turn the multifunction selector switch to **mark** the desired option and press the multifunction selector switch to **confirm** the selection.

### Note

**Highlighted options are standard settings.**

**If an electronic module is supplied as a replacement part, the highlighted options should be set to suit the machine in which the module is fitted!**

Programmable function	Option
<b>Language</b>	Language for operating, programming and service modes
<b>Sort language</b>	Select and sort four favourite languages for international installations
<b>Anti-crease action</b>	Off
	<b>On</b>
<b>Buzzer</b>	Off
	<b>Normal</b>
	Loud
<b>Clock display</b> , see 080 2.4 Time of day programmable function	<b>24 h clock</b>
	12 h clock am/pm
	No clock, 24 h Delay start
Display <b>contrast</b>	Standard contrast setting: <b>Bar diagram level 4</b>
Display <b>brightness</b>	Standard brightness setting: <b>Bar diagram level 5</b>
<b>Stand-by</b>	On: Display und backlight switched off automatically after 10 min
	<b>Not in programme in operation:</b> Stand-by only before and after programme but not while it is in operation
<b>Extended cooling time</b> , see 080 2.5 Extended cooling phase programmable function	<b>0 min</b>
	2 min
	4 min
	6 min
	8 min
	10 min
	12 min
	14 min
	16 min
	18 min
<b>Save</b>	On: <b>Save</b> option available. Favourite programmes can be allocated to direct selection buttons.
	<b>Off: Save option not available</b>
<b>Residual moisture level adjustment - Cottons</b>	The standard residual moisture levels can be modified to make them up to 3 stages dryer or damper, see 080 2.6 Residual moisture level adjustment programmable function
<b>Residual moisture level adjustment - Minimum iron</b>	The standard residual moisture levels can be modified to make them up to 3 stages dryer or damper, see 080 2.6 Residual moisture level adjustment programmable function
<b>Residual moisture level adjustment - Machine iron</b>	The standard residual moisture levels can be modified to make them dryer or damper, see 080 2.6 Residual moisture level adjustment programmable function
<b>Clean the airways</b> warning, see 080 2.7 <b>Clean the airways</b> warning modification programmable function	Off
	Reduced sensitivity
	<b>Normal</b>
	Sensitive
<b>Automatic</b> programme, see 080 2.8 <b>Automatic</b> programmable function	On: <b>Automatic</b> programme included in programme list
	Off: <b>Automatic</b> programme <b>not</b> included in programme list

Programmable function	Option
<b>Clean filters</b> warning, vented dryers only, see 080 2.9 <b>Clean filters</b> programmable function	Off
	Display after 5 h
	Display after 10 h
	Display after 15 h
	<b>Display after 20 h</b>
	Display after 25 h
	Display after 30 h
	Display after 35 h
	Display after 40 h
	Display after 45 h
	Display after 50 h
	Display after 55 h
<b>Clean heat exchanger</b> warning, condenser dryers only, see 080 2.10 <b>Clean heat exchanger</b> programmable function	Off
	Display after 100 h
	Display after 200 h
	Display after 300 h
	<b>Display after 400 h</b>
	Display after 500 h
	Display after 600 h
	Display after 700 h
	Display after 800 h
	Display after 1000 h
	Display after 1200 h
	Display after 1400 h
Display after 1600 h	
<b>Residual moisture level display</b> , see 080 2.11 Residual moisture level display programmable function	<b>Without percentage indication</b>
	With percentage indication
<b>Cool air</b> free, with payment system operation, see 080 2.12 <b>Cool air</b> free programmable function, with payment system operation	Yes
	<b>No</b>
<b>Payment system operation</b> , see 080 2.13 Payment system programmable function	<b>Off</b>
	Programme operation (MZK)
	Timed operation (MZZ)
	IK 6 (RS 232)
	RS 232 interface active
<b>Supervisor level code</b> , see 080 2.14 Operator code programmable function	<b>Code not required. Domestic programmable functions can be modified.</b>
	Code required. After code entry, domestic and supervisor programmable functions can be modified.
<b>Signal to payment system socket (X1/1) pin 7</b> , see 080 2.15 Signal to payment system socket (X1/1) pin 7 programmable function	<b>At programme end</b>
	When <b>Start</b> button is released
	When <b>Start</b> button is released and at programme end

Programmable function	Option
<b>Overriding time control modification with payment system operation</b> , see 080 2.16 Overriding time control modification programmable function with payment system operation	120 min
	135 min
	150 min
	165 min
	<b>180 min</b>
	195 min
	210 min
	225 min
	240 min
<b>Programme lock with payment system operation</b> after releasing the <b>Start</b> button, see 080 2.17 Programme lock programmable function with payment system operation	None
	Immediately
	1 min
	2 min
	<b>3 min</b>
	4 min
<b>Cool air timed programme maximum duration</b> , see 080 2.18 <b>Cool air</b> timed programme maximum duration setting programmable function	10 min
	20 min
	30 min
	40 min
	50 min
	60 min
	70 min
	80 min
	90 min
	100 min
	110 min
	<b>120 min</b>
	<b>Warm air timed programme maximum duration</b> , see 080 2.19 <b>Warm air</b> timed programme maximum duration setting programmable function
20 min	
25 min	
30 min	
35 min	
40 min	
45 min	
50 min	
55 min	
<b>60 min</b>	
90 min	
120 min	
<b>Delay start</b> , see 080 2.20 Delay start programmable function	Active
	<b>Inactive</b>
<b>Language setting</b> , see 080 2.21 Language programmable function	<b>National</b>
	International, additional welcoming menu (favourite languages)
<b>Standard settings</b> , see 080 2.22 Standard settings programmable function	Reset all programmable functions to <b>standard settings</b>

**Table 6:** Programming mode summary



## Save and quit

### Note

Confirmed programmable options are saved.

- ✎ Reconnect the fill ring NTC temperature sensor (1R30) plug.

## 4.2 Programming mode summary

PT 5135 C, PT 5136

### Initial requirements

- ✎ Finish or cancel any programme in operation, including the demonstration mode.
- ✎ Open the door.
- ✎ Disconnect the fill ring NTC temperature sensor (1R30) plug.

### Note

If the fill ring NTC temperature sensor (1R30) plug is disconnected at the power-programme module (1N1), then power is also no longer supplied to the door lock (A2). In this case the programming mode cannot be accessed.

- ✎ During initial commissioning only: Select the desired language.

### Accessing

### Note

After it is begun, the accessing procedure must be completed within 10 s.

- ✎ Press and hold the **Start** button.
- ✎ Close the door.
- ✎ As soon as the **Start** LED flashes, release the **Start** button.
- ✎ Immediately press and release the **Start** button **5 times** and at the **5th time hold it pressed in** until the **Start** LED flashes.

### Acknowledgement indicator

Successful accessing of the programming mode is indicated by rapid flashing (5 Hz) of the **Start** LED.

The display shows the Service Dept. programmable functions.

If the accessing procedure has been unsuccessful, the control automatically reverts to the normal operating mode.

### Options

✎ **Programmable function selection:** Press the + / - buttons as appropriate to **mark** the desired function and press the **OK** button to **confirm** the selection.

The set option is indicated by a **V** next to it.

✎ **Option selection:** Press the + / - buttons as appropriate to **mark** the desired option and press the **OK** button to **confirm** the selection.

#### Note

**Highlighted options are standard settings.**

**If an electronic module is supplied as a replacement part, the highlighted options should be set to suit the machine in which the module is fitted!**

Programmable function	Option
Language	Language for operating, programming and service modes
Anti-crease action	<b>On</b>
	Off
Clock display, see 080 2.4 Time of day programmable function	<b>24 h clock</b>
	12 h clock am/pm
	No clock, 24 h Delay start
Supervisor level	<b>Code modification</b>
Display contrast	Standard contrast setting: <b>Bar diagram level 4</b>
Display brightness	Standard brightness setting: <b>Bar diagram level 5</b>
Stand-by	On: Display und backlight switched off automatically after 10 min
	<b>Not in programme in operation:</b> Stand-by only before and after programme but not while it is in operation
Buzzer	Off
	<b>Normal</b>
	Loud
Extended cooling time, see 080 2.5 Extended cooling phase programmable function	<b>0 min</b>
	2 min
	4 min
	6 min
	8 min
	10 min
	12 min
	14 min
	16 min
18 min	
Residual moisture level adjustment - Cottons	The standard residual moisture levels can be modified to make them up to 3 stages dryer or damper, see 080 2.6 Residual moisture level adjustment programmable function

Programmable function	Option
<b>Residual moisture level adjustment - Minimum iron</b>	The standard residual moisture levels can be modified to make them up to 3 stages dryer or damper, see 080 2.6 Residual moisture level adjustment programmable function
<b>Residual moisture level adjustment - Machine iron</b>	The standard residual moisture levels can be modified to make them dryer or damper, see 080 2.6 Residual moisture level adjustment programmable function
<b>Clean the airways</b> warning, see 080 2.7 <b>Clean the airways</b> warning modification programmable function	Off
	Reduced sensitivity
	<b>Normal</b>
	Sensitive
<b>Clean heat exchanger</b> warning, condenser dryers only, see 080 2.10 <b>Clean heat exchanger</b> programmable function	Off
	Display after 100 h
	Display after 200 h
	Display after 300 h
	Display after 400 h
	<b>Display after 500 h</b>
	Display after 600 h
	Display after 700 h
	Display after 800 h
	Display after 1000 h
	Display after 1200 h
	Display after 1400 h
Display after 1600 h	
<b>Cool air</b> free, with payment system operation, see 080 2.12 <b>Cool air</b> free programmable function, with payment system operation	<b>Yes</b>
	No
<b>Payment system operation</b> , see 080 2.13 Payment system programmable function	<b>Off</b> (Delay start possible)
	Programme operation (MZK)
	Timed operation (MZZ)
	RS 232 interface active
<b>Supervisor level code</b> , see 080 2.14 Operator code programmable function	<b>Code not required. User programmable functions can be modified.</b>
	Code required. After code entry, supervisor programmable functions can be modified.
<b>Signal to payment system socket (X1/1) pin 7</b> , see 080 2.15 Signal to payment system socket (X1/1) pin 7 programmable function	<b>At programme end</b>
	When <b>Start</b> button is released and at programme end
<b>Overriding time control modification with payment system operation</b> , see 080 2.16 Overriding time control modification programmable function with payment system operation	120 min
	135 min
	150 min
	165 min
	<b>180 min</b>
	195 min
	210 min
	225 min
	240 min

Programmable function	Option
<b>Programme lock with payment system operation</b> after releasing the <b>Start</b> button, see 080 2.17 Programme lock programmable function with payment system operation	None
	Immediately
	1 min
	2 min
	<b>3 min</b>
	4 min
<b>Cool air timed programme maximum duration</b> , see 080 2.18 <b>Cool air</b> timed programme maximum duration setting programmable function	10 min
	20 min
	30 min
	40 min
	50 min
	60 min
	70 min
	80 min
	90 min
	100 min
	110 min
	<b>120 min</b>
<b>Warm air timed programme maximum duration</b> , see 080 2.19 <b>Warm air</b> timed programme maximum duration setting programmable function	15 min
	20 min
	25 min
	30 min
	35 min
	40 min
	45 min
	50 min
	55 min
	<b>60 Min</b>
	90 min
	120 min
<b>Delay start</b> , see 080 2.20 Delay start programmable function	Active
	<b>Inactive</b>
<b>Automatic</b> programme, see 080 2.8 <b>Automatic</b> programmable function	On: <b>Automatic</b> programme included in programme list
	Off: <b>Automatic</b> programme <b>not</b> included in programme list
<b>Standard settings</b> , see 080 2.22 Standard settings programmable function	Reset all programmable functions to <b>standard settings</b>

**Table 7:** Programming mode summary

## Save and quit

### Note

Confirmed programmable options are saved.

🔧 Reconnect the fill ring NTC temperature sensor (1R30) plug.

## 4.3 Demonstration mode activation / deactivation

PT 7135 C, PT 7136

### Initial requirements

- ✎ Finish or cancel any programme in operation.
- ✎ Open the door.
- ✎ If the international multilingual start screen is shown, select the desired language.

### Accessing

#### Note

After it is begun, the accessing procedure must be completed within 10 s.

- ✎ Press and hold the **Start** button.
- ✎ Close the door.
- ✎ As soon as the **Start** button **lights up constantly**, after approx. 5 s, release the **Start** button.

#### Note

During deactivation the **Start** button does not light up constantly.

- ✎ Immediately press and hold the **Start** button again until an appropriate instruction is shown in the display (approx. 5 s).
- ✎ Follow the instruction shown in the display.

### Acknowledgement indicator

The demonstration programme operates.

If the accessing procedure has been unsuccessful, the control automatically reverts to the normal operating mode.

### Options

The demonstration mode programme duration is approx. 90 s. After a short pause, it starts again automatically.

#### Note

After an interruption in the mains supply, the demonstration mode programme begins again automatically.

### Save and quit

- ✎ Demonstration programme deactivation: Repeat the accessing procedure.

## 4.4 Demonstration mode activation / deactivation

PT 5135 C, PT 5136

### Initial requirements

- ✎ Finish or cancel any programme in operation.
- ✎ Open the door.

### Accessing

#### Note

After it is begun, the accessing procedure must be completed within 10 s.

- ✎ Press and hold the **Start** button.
- ✎ Close the door.
- ✎ As soon as the **Start LED lights up constantly**, after approx. 5 s, release the **Start** button.

#### Note

During deactivation the **Start** button does not light up constantly.

- ✎ Immediately press and hold the **Start** button again until an appropriate instruction is shown in the display (approx. 5 s).
- ✎ Follow the instruction shown in the display.

### Acknowledgement indicator

The demonstration programme operates.

If the accessing procedure has been unsuccessful, the control automatically reverts to the normal operating mode.

### Options

The demonstration mode programme duration is approx. 90 s. After a short pause, it starts again automatically.

**Note**

After an interruption in the mains supply, the demonstration mode programme begins again automatically.

**Save and quit**

- ✎ Demonstration programme deactivation: Repeat the accessing procedure.

## 4.5 Service mode summary

PT 7135 C, PT 7136

**Initial requirements**

- ✎ Ensure the machine is installed and connected correctly.
- ✎ Finish or cancel any programme in operation, including the demonstration mode.
- ✎ Open the door.
- ✎ If the international multilingual start screen is shown, select the desired language.

**Accessing****Note**

After it is begun, the accessing procedure must be completed within 10 s.

- ✎ Press and hold the **Start** button.
- ✎ Close the door.
- ✎ As soon as the **Start** button flashes, release the **Start** button.
- ✎ Immediately press and release the **Start** button **3 times** and at the **3rd time hold it pressed in** until service mode functions are shown in the display.

**Acknowledgement indicator**

Successful accessing of the service mode is indicated by slow flashing of the **Start** button (1 Hz).

The display shows the service mode functions.

If the accessing procedure has been unsuccessful, the control automatically reverts to the normal operating mode.

## Options

- ✎ **Service function selection:** Turn the multifunction selector switch as appropriate.
- ✎ **Service function start and test step advance:** Press the multifunction selector switch.

### Note

The service mode is switched off automatically 30 min after the last service function has been checked.

Service function	Component / Sensor tested		
Software version	Selection module (EW) ID no. Power-programme module (ELP) ID no.		
Fault register display <sup>1)</sup> and deletion <sup>2)</sup>	Fault cause	Fault code	Remedy
	No fault registered	F 0	None required
	Heater bank NTC sensor short-circuited	F 1	See Fault code <b>F1</b> , heater bank NTC sensor short-circuited, 080 3.8
	Heater bank NTC sensor open-circuited	F 2	See Fault code <b>F2</b> , heater bank NTC sensor open-circuited, 080 3.9
	Fill ring NTC sensor short-circuited	F 3	See Fault code <b>F3</b> , fill ring NTC sensor short-circuited, 080 3.10
	Fill ring NTC sensor open-circuited	F 4	See Fault code <b>F4</b> , fill ring NTC sensor open-circuited, 080 3.11
	Faulty EEPROM / data fault	F 41	See Fault code <b>F41</b> , faulty EEPROM / data fault, 080 3.12
	Model type not programmed	F 43	See Fault code <b>F43</b> , model type not programmed, 080 3.13
	Faulty flash RAM/ data fault	F 45	See Fault code <b>F45</b> , faulty flash RAM/ data fault, 080 3.14
	Display fault	F 46	See Fault code <b>F46</b> , display fault, 080 3.15
	Communication fault between EW / ELP electronic modules	F 47	See Fault code <b>F47</b> , communication fault between selection module (EW) and power-programme module (ELP), 080 3.16
	Motor stationary and heating operates for 5 s	F 50	See Fault code <b>F50</b> , motor stationary and heating operates for 5 s, 080 3.17
	Overriding time limit exceeded	F 55	See Fault code <b>F55</b> , overriding time limit exceeded (approx. 180 min), 080 3.18
	Air leakage fault	F 66	See Fault code <b>F66</b> , air leakage fault, 080 3.19



Service function	Component / Sensor tested		
<b>Component activation</b>	<b>Component activation</b>	<b>Function tested/Machine response</b>	
	All components	Inactive	
	Drive/Fan motor (M5)	Drum turns with reversing as follows: 10 s anticlockwise, 2.5 s pause, 10 s clockwise, 2.5 s pause, etc.	
	Heating 1 and drive/fan motor (M5)	The heating relay 1K1/1 is activated and the drum turns with reversing as follows: 600 s anticlockwise, 2.5 s pause, 10 s clockwise, 2.5 s pause	
	Condensate pump (M13) (condenser dryer only)	Condensate pump activated	
	Residual moisture sensor (B3/1) circuit, low resistance check	Provide an electrical bridge between the drum and a rib	In case of fault: Check the residual moisture sensor circuit.
	Residual moisture sensor (B3/1) circuit, high resistance check	Without electrical bridge between the drum and a rib	In case of fault: Check the residual moisture sensor circuit.
	Heating 1 and 2, and drive/fan motor (M5)	The heating relays 1K1/1 and 2K1/1 are activated, and the drum turns with reversing as follows: 600 s anticlockwise, 2.5 s pause, 10 s clockwise, 2.5 s pause	
	Heating 1, 2 and 3, and drive/fan motor (M5)	The heating relays 1K1/1, 2K1/1 and 3K1/1 are activated, and the drum turns with reversing as follows: 600 s anticlockwise, 2.5 s pause, 10 s clockwise, 2.5 s pause	
	Payment system socket (X1/1), programme end signal	Mains voltage applied between pin 7 and pin 3	
	Payment system socket (X1/1), ready signal	Mains voltage applied between pin 1 and pin 3	
	Additional fan (2M2). Vented dryer only, for external fan.	Live (phase) and neutral conductors are switched on	
<b>Sensor test</b>	<b>Sensors</b>	<b>State</b>	
	All sensors	Inactive	
	Float switch - Condensate (B8/7)	No water in condenser box => Float switch not activated => Switch open => <b>Buzzer off</b>	
		Water in condenser box => Float switch activated => Switch closed => <b>Buzzer on</b>	
	Door lock (A2)	Door closed => Switch closed => <b>Buzzer on</b>	
		Door open => Switch open => <b>Buzzer off</b>	
	Payment system contact, payment system socket (X1/1)	Connection wire bridge fitted between 1W14 pin 1/2	
Connection wire bridge not fitted between 1W14 pin 1/2			
Finger protection safety switch (S32) (fluff filter flap, vented dryer only)	Flap closed => Switch closed => <b>Buzzer on</b>		
	Flap open => Switch open => <b>Buzzer off</b>		
<b>Operating hours counter display</b>	Power-programme module (ELP)	Operating hours display. Time from start of programme, without delay start, until the start of the anti-crease phase.	
<b>Controls</b>	Display / LED test	All display points flash at the same time	
	Display background light (backlight)	The backlight flashes on and off	
	Buzzer	Audible signal – Condenser dryer:	Intermittent
		Audible signal – Vented dryer:	Continuous
	Buttons	Display indication for activated buttons	

**Table 8:** Service mode summary

- 1) If **several faults** are registered, their codes are shown one after the other in ascending order when the **Start** button is pressed.
- 2) **Fault code deletion:** Press the **Start** button for longer than 5 s during the fault code display (all stored fault codes are deleted).

**Quit (without saving)**

- ✎ Open the door.

**4.6 Service mode summary**

PT 5135 C, PT 5136

**Initial requirements**

- ✎ Ensure the machine is installed and connected correctly.
- ✎ Finish or cancel any programme in operation, including the demonstration mode.
- ✎ Open the door.

**Accessing****Note**

After it is begun, the accessing procedure must be completed within 10 s.

- ✎ Press and hold the **Start** button.
- ✎ Close the door.
- ✎ As soon as the **Start** LED flashes, release the **Start** button.
- ✎ Immediately press and release the **Start** button **3 times** and at the **3rd time hold it pressed in** until the **Start** LED flashes slowly.

**Acknowledgement indicator**

Successful accessing of the service mode is indicated by slow flashing of the **Start** LED (1 Hz).

The display shows the service mode functions.

If the accessing procedure has been unsuccessful, the control automatically reverts to the normal operating mode.

**Options**

- ✎ **Service function selection:** Press the + / - buttons as appropriate.
- ✎ **Service function start and test step advance:** Press the **OK** button.
- ✎ **Back to main level:** Press the **OK** button.

### Note

The service mode is switched off automatically 30 min after the last service function has been checked.

Service function	Component / Sensor tested		
Software version	Selection module (EW) ID no. Power-programme module (ELP) ID no.		
Fault register display <sup>1)</sup> and deletion <sup>2)</sup>	<b>Fault cause</b>	<b>Fault code</b>	<b>Remedy</b>
	No fault registered	F 0	None required
	Heater bank NTC sensor short-circuited	F 1	See Fault code <b>F1</b> , heater bank NTC sensor short-circuited, 080 3.8
	Heater bank NTC sensor open-circuited	F 2	See Fault code <b>F2</b> , heater bank NTC sensor open-circuited, 080 3.9
	Fill ring NTC sensor short-circuited	F 3	See Fault code <b>F3</b> , fill ring NTC sensor short-circuited, 080 3.10
	Fill ring NTC sensor open-circuited	F 4	See Fault code <b>F4</b> , fill ring NTC sensor open-circuited, 080 3.11
	Faulty EEPROM / data fault	F 41	See Fault code <b>F41</b> , faulty EEPROM / data fault, 080 3.12
	Model type not programmed	F 43	See Fault code <b>F43</b> , model type not programmed, 080 3.13
	Faulty flash RAM/ data fault	F 45	See Fault code <b>F45</b> , faulty flash RAM/ data fault, 080 3.14
	Display fault	F 46	See Fault code <b>F46</b> , display fault, 080 3.15
	Communication fault between EW / ELP electronic modules	F 47	See Fault code <b>F47</b> , communication fault between selection module (EW) and power-programme module (ELP), 080 3.16
	Motor stationary and heating operates for 5 s	F 50	See Fault code <b>F50</b> , motor stationary and heating operates for 5 s, 080 3.17
	Overriding time limit exceeded	F 55	See Fault code <b>F55</b> , overriding time limit exceeded (approx. 180 min), 080 3.18
	Air leakage fault	F 66	See Fault code <b>F66</b> , air leakage fault, 080 3.19


Service function	Component / Sensor tested		
<b>Component activation</b>	<b>Component activation</b>	<b>Function tested/Machine response</b>	
	All components	Inactive	
	Drive/Fan motor (M5)	Drum turns with reversing as follows: 10 s anticlockwise, 2.5 s pause, 10 s clockwise, 2.5 s pause, etc.	
	Heating 1 and drive/fan motor (M5)	The heating relay 1K1/1 is activated and the drum turns with reversing as follows: 600 s anticlockwise, 2.5 s pause, 10 s clockwise, 2.5 s pause	
	Condensate pump (M13) (condenser dryer only)	Condensate pump activated	
	Residual moisture sensor (B3/1) circuit, low resistance check	Provide an electrical bridge between the drum and a rib	In case of fault: Check the residual moisture sensor circuit.
	Residual moisture sensor (B3/1) circuit, high resistance check	Without electrical bridge between the drum and a rib	In case of fault: Check the residual moisture sensor circuit.
	Heating 1 and 2, and drive/fan motor (M5)	The heating relays 1K1/1 and 2K1/1 are activated, and the drum turns with reversing as follows: 600 s anticlockwise, 2.5 s pause, 10 s clockwise, 2.5 s pause	
	Heating 1, 2 and 3, and drive/fan motor (M5)	The heating relays 1K1/1, 2K1/1 and 3K1/1 are activated, and the drum turns with reversing as follows: 600 s anticlockwise, 2.5 s pause, 10 s clockwise, 2.5 s pause	
	Payment system socket (X1/1), programme end signal	Mains voltage applied between pin 7 and pin 3	
	Payment system socket (X1/1), ready signal	Mains voltage applied between pin 1 and pin 3	
	Additional fan (2M2). Vented dryer only, for external fan.	Live (phase) and neutral conductors are switched on	
	<b>Sensor test</b>	<b>Sensors</b>	<b>State</b>
All sensors		Inactive	
Float switch - Condensate (B8/7)		No water in condenser box => Float switch not activated => Switch open => <b>Buzzer off</b>	
		Water in condenser box => Float switch activated => Switch closed => <b>Buzzer on</b>	
Door lock (A2)		Door closed => Switch closed => <b>Buzzer on</b>	
		Door open => Switch open => <b>Buzzer off</b>	
Payment system contact, payment system socket (X1/1)		Connection wire bridge fitted between 1W14 pin 1/2	
	Connection wire bridge not fitted between 1W14 pin 1/2		
Finger protection safety switch (S32) (fluff filter flap, vented dryer only)	Flap closed => Switch closed => <b>Buzzer on</b>		
	Flap open => Switch open => <b>Buzzer off</b>		
<b>Operating hours counter display</b>	Power-programme module (ELP)	Operating hours display. Time from start of programme, without delay start, until the start of the anti-crease phase.	

Service function	Component / Sensor tested		
Controls	Display / LED test	All display points flash at the same time	
		Alle LEDs and the illuminated switch surround flash at the same time	
	Display background light (backlight)	The backlight flashes on and off	
	Buzzer	Audible signal – Condenser dryer:	Intermittent
		Audible signal – Vented dryer:	Continuous
	Buttons	Display indication for activated buttons	
	Rotary selector switch (DWS) test	Display indication for programme positions	

**Table 9:** Service mode summary

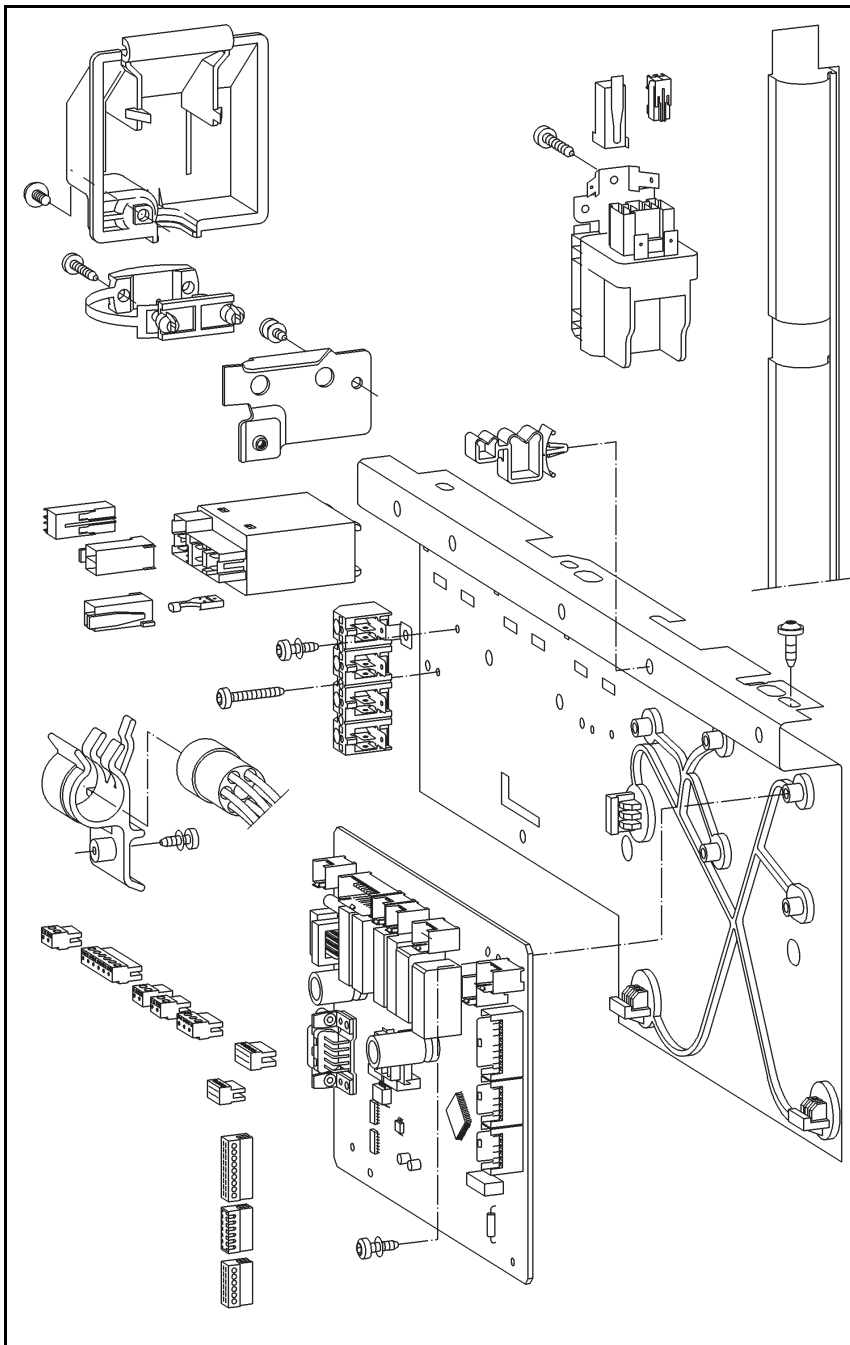
- <sup>1)</sup> If **several faults** are registered, their codes are shown one after the other in ascending order when the **Start** button is pressed.
- <sup>2)</sup> **Fault code deletion:** Press the **Start** button for longer than 5 s during the fault code display (all stored fault codes are deleted).

### Quit (without saving)

 Open the door.



## 090 Electrical components



## 2 Function

### 2.1 Mains terminal strip (X3/1)

PT 7136, PT 5136

Depending on the country version, the mains terminal strip (X3/1) has a 4-/5-pole connection cable with strain relief.

### 2.2 Payment system socket (X1/1)

Payment system socket (X1/1) - Tumble dryer side	Potential	Pin
Voltage supply switched by tumble dryer (ready for operation signal)	L`	1
Start permitted by payment system	L`	2
Voltage supply direct for payment system	N	3
Voltage supply direct for payment system	L	4
Neutral switched by payment system - Time unit	N`	5
Direct earth conductor	PE	6
Start reset signal / Time stop / Programme end signal	L`	7

**Table 1:** Payment system socket (X1/1) pin allocation

### 2.3 Payment system

The tumble dryer is pre-fitted with the requirements for operation in conjunction with a payment system.

#### **Payment system (programme operation):**

The payment system provides the machine with a “start permitted” signal. After the programme has been started, it continues without further influence from the payment system.

For further details, see Payment system (programme operation), 090 4.2.

#### **Payment system (timed operation):**

The payment system provides the machine with a constant “operation permitted” signal throughout the period of timed operation that has been purchased.

The programme continues so long as the signal is provided.

If the signal is interrupted, the programme and time left are stopped and the machine components are switched off.

For further details, see Payment system (timed operation), 090 4.3.



## **2.4 Central control via RS 232 interface with 9-pole plug**

**PT 7135 C, PT 7136**

Possible to use one central control/payment system.

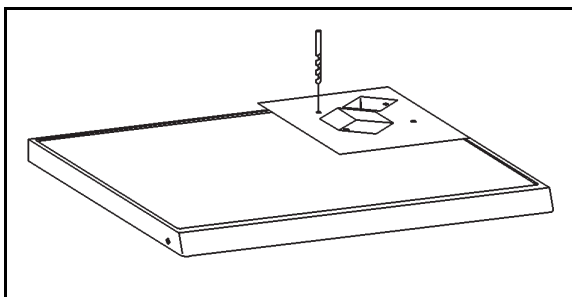
Control data can be read and modified.

For further details, see Central control via RS 232 interface, 090 4.4.

## 4 Service

### 4.1 Fitting payment system on machine lid

- ✎ Remove the machine lid.

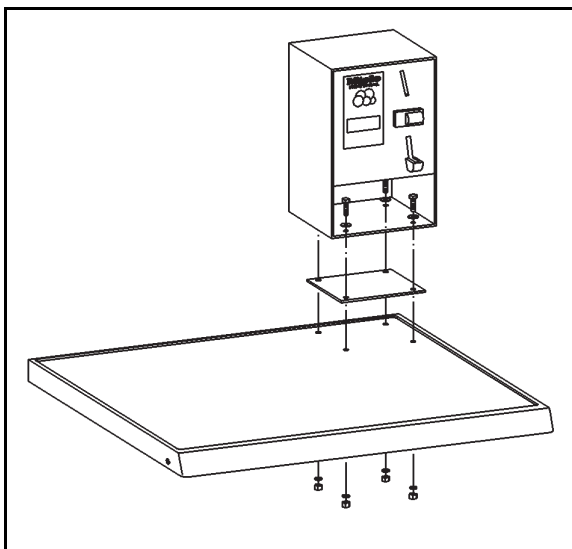


**Fig. 1**

#### **Warning!**

When drilling through the machine lid, take care to not drill into the surface on which it is resting!

- ✎ Drill 4 fixing holes through the machine lid in accordance with the payment system template.



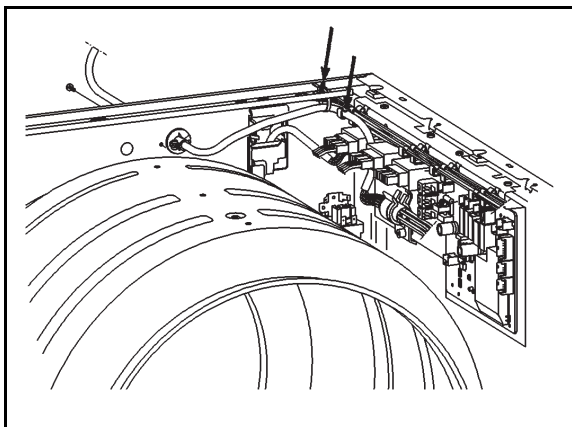
**Fig. 2**

- ✎ Place the plastic underlay on the machine lid. Secure the payment system to the lid on the underlay using the screws, washers, retaining rings and nuts provided.
- ✎ Refit the machine lid.

## 4.2 Payment system (programme operation)

### Note

The instructions given in the documentation provided with the payment system must be followed.



**Fig. 3**

- ✎ Open the pre-punched opening/s in the rear casing for the electrical connections as necessary.

### Warning!

Take care to lay wires such that they cannot be damaged by sharp edges.

- ✎ Fit the appropriate through-feed parts on the wires. Secure the through-feeds on the rear casing.
- ✎ Lay the payment system wire to the payment system socket (X1/1).
- ✎ At the payment system socket (X1/1), cut through the wire bridge 1W14 between pins 1 and 2. Insulate the wire ends.
- ✎ Set the tumble dryer payment system programmable option to **Programme operation**.
- ✎ PT 7135 C and PT 7136: For Service Dept. programming mode see Programming mode summary, 080 4.1.
- ✎ PT 5135 C and PT 5136: For Service Dept. programming mode see Programming mode summary, 080 4.2.
- ✎ Fit the payment system on the machine lid, see Fitting payment system on machine lid, 090 4.1.

### 4.3 Payment system (timed operation)

**Note**

The instructions given in the documentation provided with the payment system must be followed.

**Warning!**

The connection has been modified.

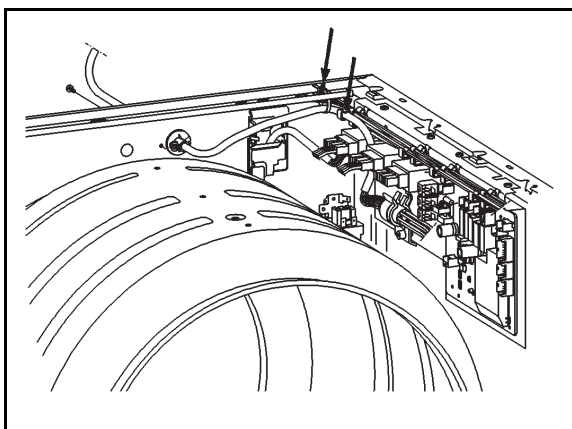
Danger of short circuit.

When a time payment system C 5003 is fitted, the connection from pin 7 to connection 2 on the payment system must be disconnected.

A bridge must be made in the payment system from connection 3 (operational signal) to connection 2 (transformer).

With incorrect connection, connection from pin 7 to connection 2 on the payment system not disconnected, a short circuit will exist at the end of the programme.

Check the wiring diagram.



**Fig. 4**

- ✎ Open the pre-punched opening/s in the rear casing for the electrical connections as necessary.

**Warning!**

Take care to lay wires such that they cannot be damaged by sharp edges.

- ✎ Fit the appropriate through-feed parts on the wires. Secure the through-feeds on the rear casing.
- ✎ Lay the payment system wire to the payment system socket (X1/1).
- ✎ At the payment system socket (X1/1), cut through the wire bridge 2W14 between pins 3 and 5. Insulate the wire ends.

- ✎ Set the tumble dryer payment system programmable option to **Timed operation**.
- ✎ PT 7135 C and PT 7136: For Service Dept. programming mode see Programming mode summary, 080 4.1.
- ✎ PT 5135 C and PT 5136: For Service Dept. programming mode see Programming mode summary, 080 4.2.
- ✎ Fit the payment system on the machine lid, see Fitting payment system on machine lid, 090 4.1.

#### 4.4 Central control via RS 232 interface

PT 7135 C, PT 7136

##### **Danger!**

Risk of electric shock due to voltage transfer with incorrectly laid data cables.

##### **Note**

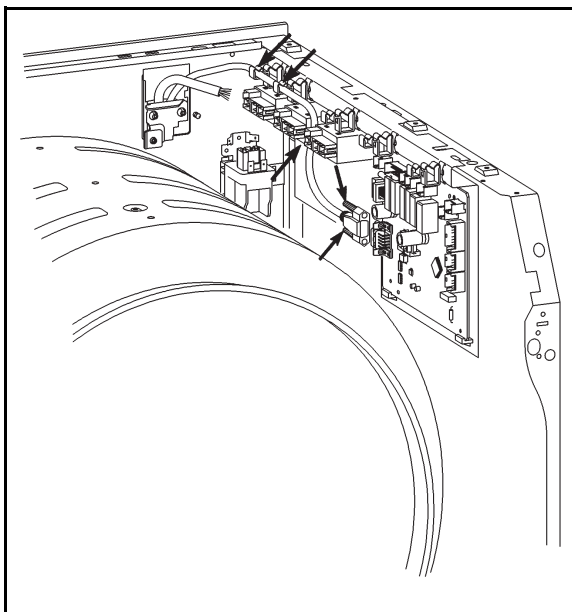
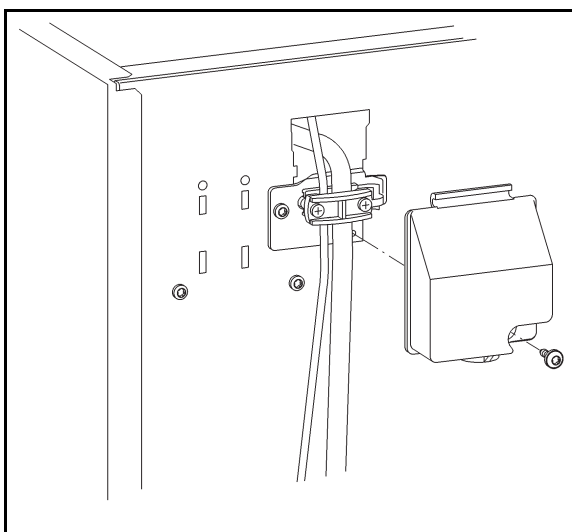
The instructions given in the documentation provided with the central control must be followed.

##### **Warning!**

Take care to lay wires such that they cannot be damaged by sharp edges.

Take care to lay wires such that they do not touch the drum.

- ✎ Remove the machine lid.

**Fig. 5****Fig. 6**

- ↗ Unscrew and remove the mains connection box lid. Loosen the cable strain relief.
- ↗ Pass the data cable through the casing opening for the mains connection cable. Lay the data cable to the RS 232 interface on the power-programme module (ELP).
- ↗ Connect the data cable plug to the RS 232 interface and secure it with the screws.
- ↗ Secure the data cable in the strain relief together with the mains connection cable.

- ✂ At the payment system socket (X1/1), cut either through the wire bridge 1W14 between pins 1 and 2 or the wire bridge 2W14 between pins 3 and 5 as desired. Insulate the wire ends.
- ✂ At the tumble dryer, set the payment system programmable option to **RS 232**, see Programming mode summary, 080 4.1.

