

Training A600

Make
it
Wonderful





A600
Everything for a
perfect coffee

Intro

FOAMMASTER™

MAKE IT
Wonderful!

FRANKE

A600

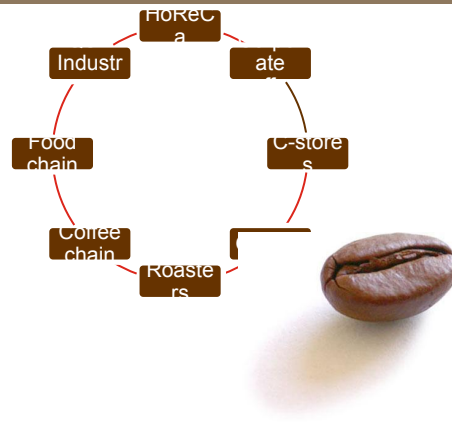
Overview

- Introduction
- Technical construction
- Operation
- Programming
- Water flow circuit diagram
- Accessibility components
- Commissioning
- Product adjustment
- Troubleshooting
- Cleaning



A600

Positioning/target groups



80 - 150 cups/day



150 - 250 cups/day

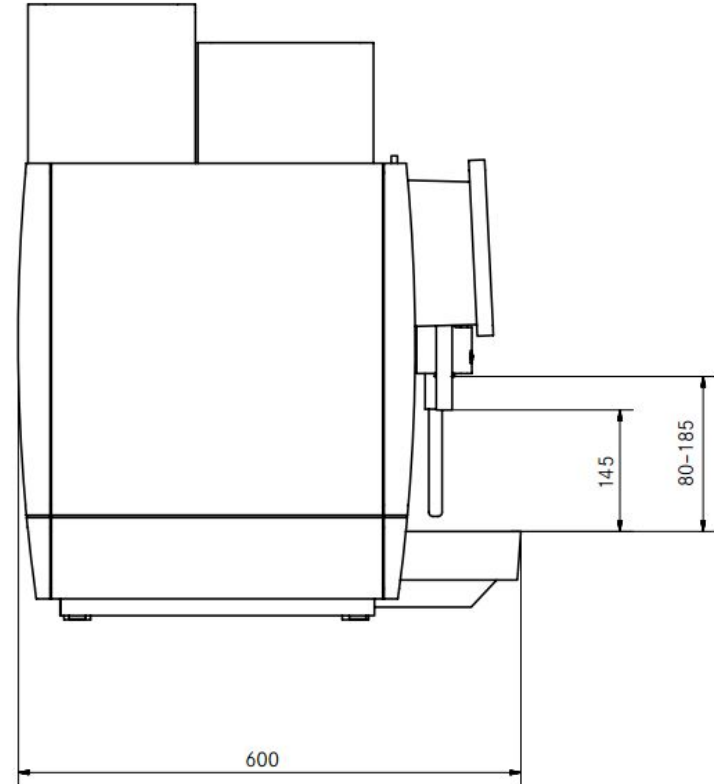


250+ cups/day



Introduction

Dimensions A600



Introduction

Features

PERFORMANCE (DOUBLE CUP) / OUTPUT PER HOUR

PER DIN 18873-2

Espresso	130
Coffee	100
Americano	100
Cappuccino	120 (130)
Chocolate (Instant)	140
Hot water	150

COLOR

black / anthrazit

MACHINE MODEL

A600
A600 MS
A600 FM

***ELECTRICAL CONNECTION**

200-240V 1L N PE, 50/60Hz, 16A, 2.4-2.8kW
220-240V 1L N PE, 50/60Hz, 16A, 2.4-2.8kW
220-240V 1L N PE, 50/60Hz, 16A, 2.4-2.8kW

(all locked)

ADD-ON UNITS

Refrigation unit Type SU05 MS (5 Lt)	200-240V 1L N PE, 50/60Hz, 10A, 100W
Refrigation unit Type SU05 FM (5 Lt)	200-240V 1L N PE, 50/60Hz, 10A, 2.1kW
KE200	230V, 1L N PE, 50/60Hz, 10A, 88W
Chill & Cup	230V, 1L N PE, 50/60Hz, 10A, 170W
UKE	230V, 1L N PE, 50/60Hz, 10A, 90W
UT320 / UT320 Twin	230V, 1L N PE, 50/60Hz, 10A, 100W
Cup warmer (120 Cups)	200-240V 1L N PE, 50/60Hz, 10A, 100W
Flavour Station (3 Flavours)	100-240V 1L N PE, 50/60Hz, 10A, 75W

Introduction

Machine overview

Up to two powder dosing units
Container capacity each 1 kg
Presence/volume monitoring

Up to two grinders with ceramic grinding discs
Container capacity of 2 x 1.2 kg respectively 1 x 2kg
Presence and volume monitoring

Heated cup storage tray

Different refrigeration unit models
Milk system «MS» (CF2) integrated in
A600. FM* Module with automatic
cleaning system and other

Hot water dispenser

Option water tank 4lt

Option removable drip tray
when no drain (just with water
tank)

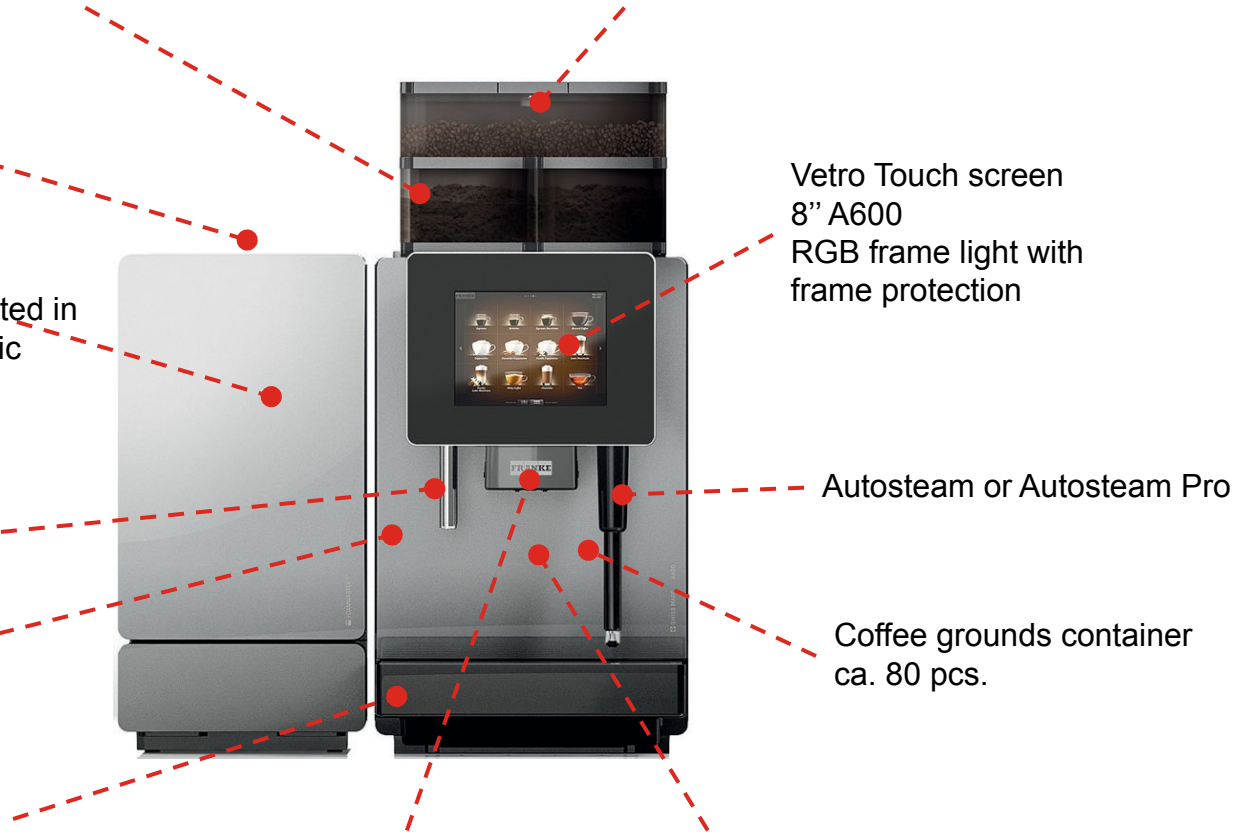
Vetro Touch screen
8" A600
RGB frame light with
frame protection

Autosteam or Autosteam Pro

Coffee grounds container
ca. 80 pcs.

Automatically height-adjustable
combined outlet (80-185 mm)

Removable brewing modules
3 modular brewing systems (43E/50E/50N mm)



Introduction

Available version and options

MACHINE TYPES:

A600 – without milk

A600 MS – Milk system (CF2)

A600 FM – Foam Master



A600



A600 KE200 left



A600 with
SU05 MS / FM left



Chill & Cup



UKE



UT320



UT320
Twin

POSSIBLE REFRIGRATION UNIT (MS / FM)

SU05 MS / FM with 5 Lt milk container

KE200 with 4Lt milk container (only MS)

Chill & Cup (only MS)

UKE (only MS)

UT320 / UT320 Twin (only MS)

BASIC MODEL

A600 with one grinder

hot water dispenser

40mm feet

Casing color black / anthrazit

OPTIONS

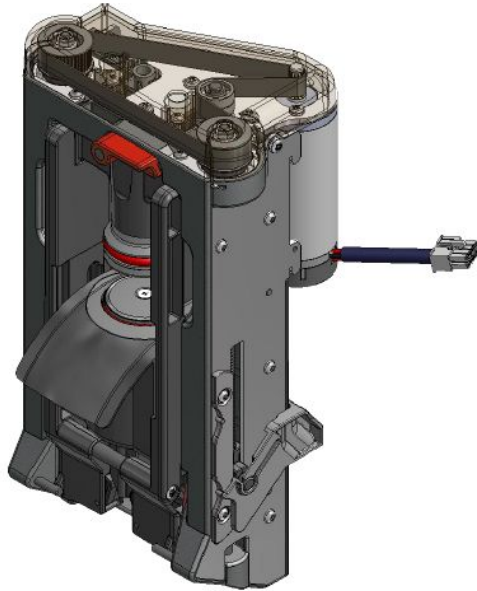
- 2nd grinder
- 2 x 2 kg bean container
- one or two separate powder dosing units (chocolate- or milk powder)
- Self service
- Grounds ejection
- M2M/Telemetrie
- Steam wand/Autosteam / Autosteam Pro
- Cup positioning guide
- Higher feet (70mm, 100mm)
- Water tank / drip tray (not for FM)
- Cup sensor
- Black Line

ADD-ON UNITS (OPTION)

- Flavour Station
- Cup warmer
- Billing unit system

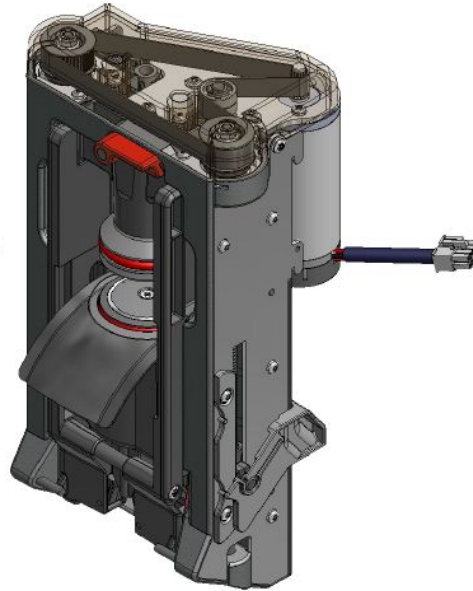
Introduction

Available version / brewing unit



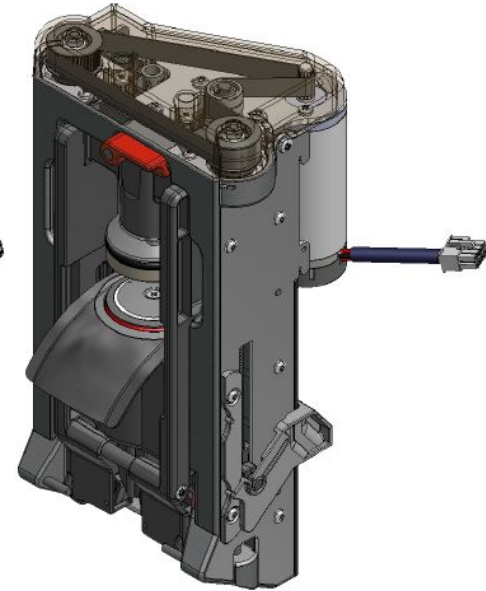
43E

One brewing system for Classic Espresso and perfect milk and coffee specialities



50E

One brewing system for higher outputs.



50N

One brewing system for espresso specialities and brewed coffee from one and the same machine

Introduction

Model code

Example A600 model code: **A600 FM 2G 1P H1 S2 SU05 FM 1C1M**

Model Code	Description	Comments
A600	A600 with VETRO TOUCH	A600 with VETRO TOUCH
FM	Machine category / Milchsystem or Foam Master)	Pump in cooling unit (FM)
1G / 2G	Numbers of grinders	1G always left hand side
1P / 2P	one or two separate powder dosing units	1P always right hand side
H1	Hot water dispenser	Left hand side
S2	Autosteam	Option, right hand side
SU05 FM 1C1M	Refrigation unit <5l	Foam Master Module
TW	Cup Warmer	Add on unit
FS3	Flavour Station (3 bottles)	Add on unit

Introduction

Scope of delivery



Cleaning tablets



Cleaning solution



Cleaning brushes



Microfiber cloth



Operating instruction



Key



Grinder adjusting



Cleaning brush



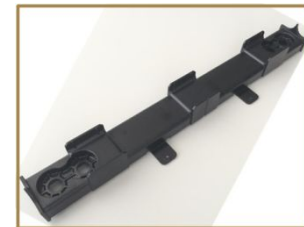
Cleaning container



USB Stick



Water connection
gasket



Base fastener
(just with SU)

Introduction

Hygiene

- Short milk tubes between refrigerator and coffee machine
- Milk pumps in the refrigerator
- Improved cleaning possibilities of the coverplate
- Automatic rinsing, cleaning and sanitizing program (ARCS)
- Simple assembly and disassembly of the combined coffee, milk and instant outlet.
- HACCP compliant (**H**azard **A**nalysis and **C**ritical **C**ontrol **P**oints)



Introduction

Vetro Touch



VETRO TOUCH SCREEN

The A600 machines are equipped with a 8 inch touchscreen and four flexible operating modes – in both full service and self-service areas.

The intuitive menu navigation with swipe technology allows for simple and efficient operation of the machine.

The range of products can be easily and individually adapted to suit requirements with up to four operating modes.

Images, short clips and advertising messages can be uploaded to the touchscreen via USB (media pool) to inform the user about special offers or to display company messages.



Introduction

The 4 operating modes

«INSPIRE ME»



«QUICK SELECT»



«CASH REGISTER»

«CUSTOM MODE»



SELF-SERVICED

«INSPIRE ME»

- Maximum of six customizable menu cards for the display of seasonal beverages
- The beverages can be displayed within the menu cards as with “QUICK SELECT”

«QUICK SELECT»

- Display of 6, 12 or 20 beverages per page (max. 5 pages)
- Possible to use the selection function (cup size, flavours, etc.)

CUSTOM MODE

«Quick Select»

- Display of 6, 12 or 20 beverages per page (max. 5 pages)
- Use of customized images

SERVICE-ASSISTED (NON-SELF-SERVICE)

«CASH REGISTER»

- Display of 4, 9 or 16 beverages per page (max. 5 pages)
- Pre-selection options displaying the pre-selected beverages

Introduction

Inspire Me



The menu cards can be used to display a pre-selected choice of beverages.

- A maximum of six customizable menu cards can be created

For example:

- Seasonal display to suggest popular summer or winter beverages
- Display according to recipe, classic or flavored beverages as well as cold beverages

Introduction

Quick Selection



- Number of beverages: 6, 12 or 20 per page (max. 5 pages)
- Use of Franke beverage images
- Display the prices per beverage in billing mode
- Customer-specific positioning of beverages

Restrictions

- Only possible for single orders, no pre-selection of cups is possible

Introduction

Quick select with upselling ideas



- Characteristics as described under “QUICK SELECT”
- Selection buttons for beverage sizes, milk selection, coffee selection (decaf), flavour

The additional screen offers up-selling potential which in turn allows the restaurateur to make additional sales. This operating mode can be individually programmed for each product.

Introduction

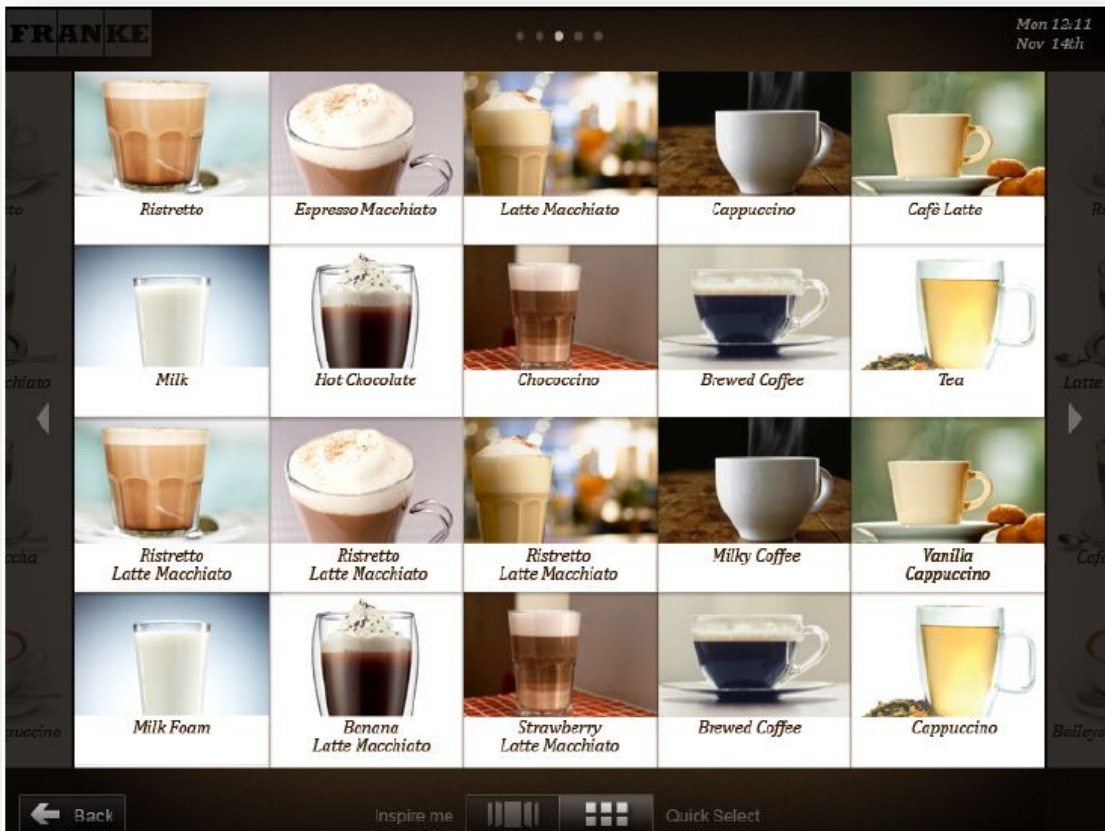
Cash Register



- Number of beverages: 4, 9 or 16 per page (max. 5 pages)
- Use of Franke beverage images or icons
- Customer-specific positioning of beverages
- Display of selected beverages in the pre-selection area (queue) in the order that they were entered
It is possible to delete pre-selected beverages from the cup pre-selection area at any time
- Selection buttons for beverage sizes, milk selection, coffee selection (decaf), flavour (selection function can be hidden)

Introduction

Custom Mode



Customers can customize the “QUICK SELECT” mode by uploading their own images to create their own specific menu navigation.

Own product images can be uploaded to the touchscreen via USB and the media pool, and can be allocated to the corresponding recipes.

- Display of 6, 12 or 20 beverages per page (max. 5 pages)

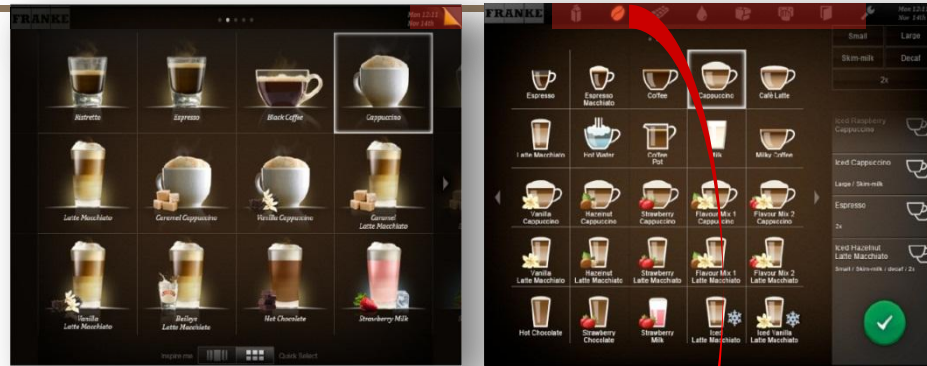
RESTRICTIONS

Simultaneous use of own images and Franke images is not possible.

Switching between “INSPIRE ME” and “CUSTOM MODE” is not possible.

Introduction

Error message



Error messages generally appear in the dashboard and light up in different colours.

A detailed description of the error message is displayed in a message box by selecting the corresponding symbol or banner.

If user intervention is necessary, this can be carried out via the message box directly. The user will be guided through the necessary steps with the help of images.

COLOR CODE AND MEANING OF ERROR MESSAGES

YELLOW

Machine is in fully functioning order
E.g. advance notice of "Empty grounds container"

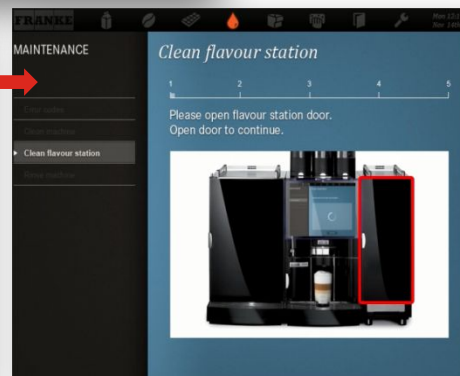
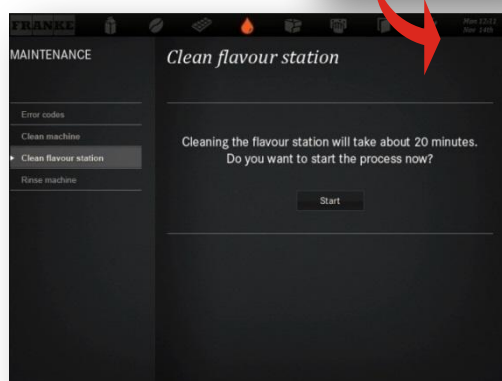
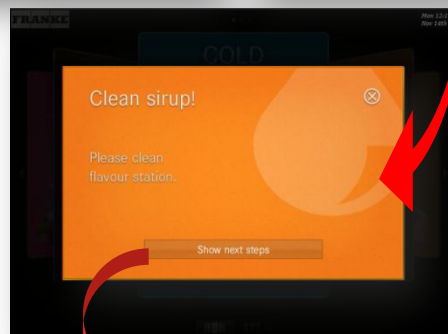
ORANGE

Machine has limited functionality
E.g. "Milk container empty" - products with added milk can no longer be selected

RED

Machine is no longer functioning
E.g. "Door open"

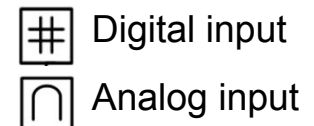
Flashing backlight in same color as error message.



Technical construction

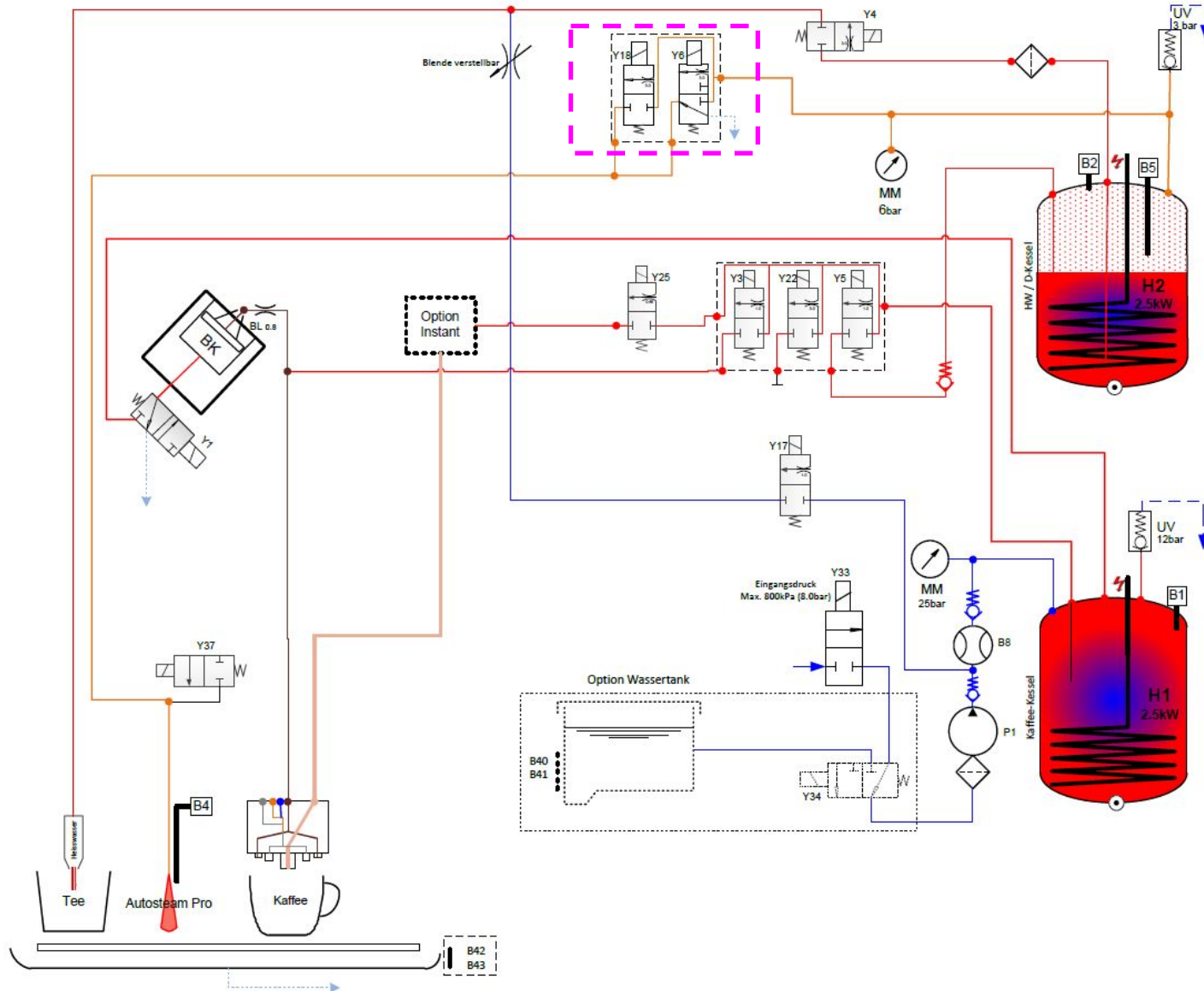
Overview

- Water flow circuit diagram TS/MS/FM
- Water connection
- Pump
- Flowmeter
- Valves (Plastic)
- Heating unit's TS/MS/FM
- Cold water valve block TS/MS/FM
- Coffeeboiler
- Hot water valve block TS/MS/FM
- Brewing valve
- Hotwater / steam boiler
- Hot water valve
- Steam valve block TS/MS/FM
- Milkssystem and FM Module
- Brewing unit
- Coffee outlet
- Front door
- Instant system
- Coverplate
- Grinder
- Electronic overview
- PCB's
- Vetro Touch
- Milk system and FM Module
- Flavour Station



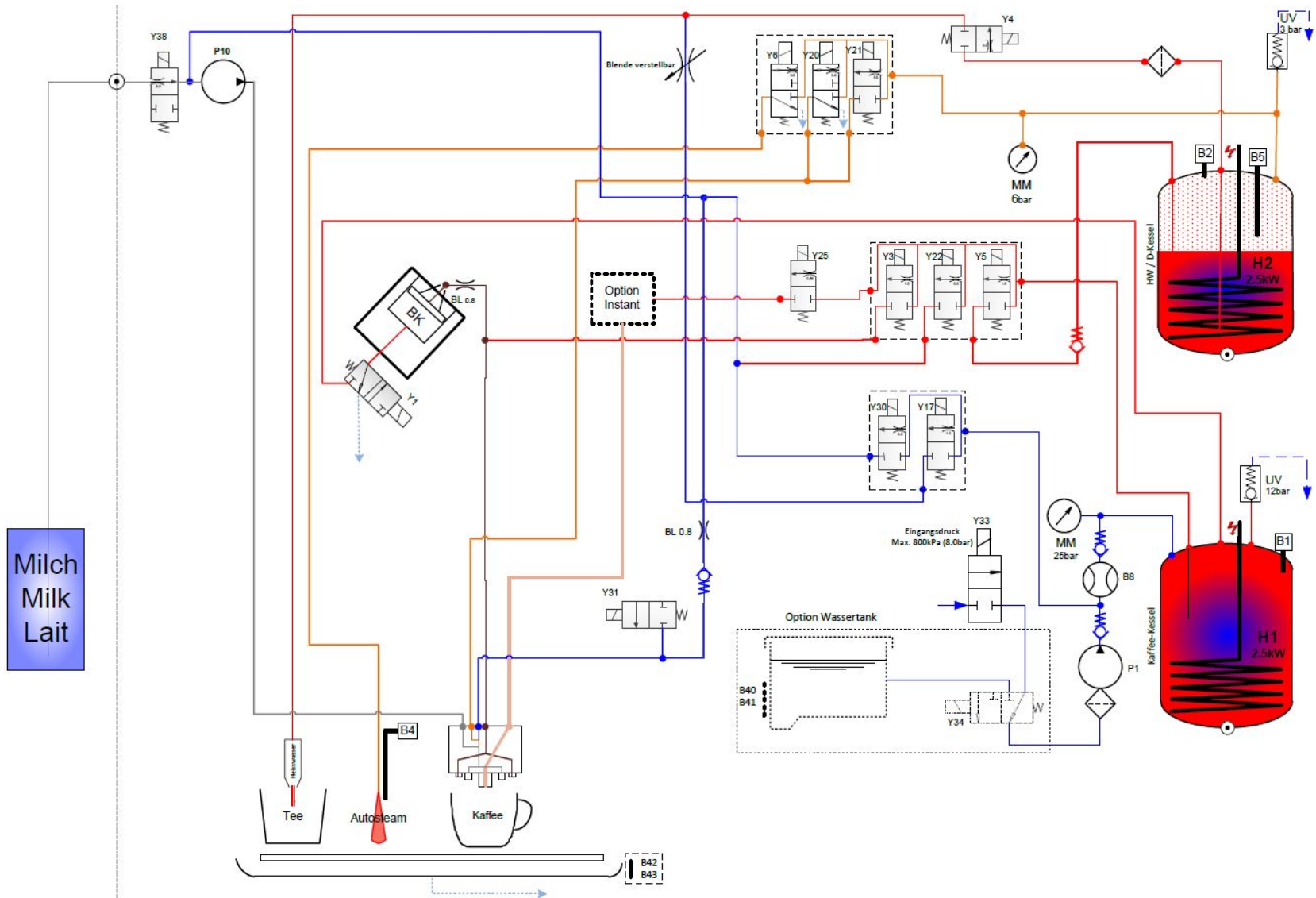
Technical construction

Water flow circuit diagram TS



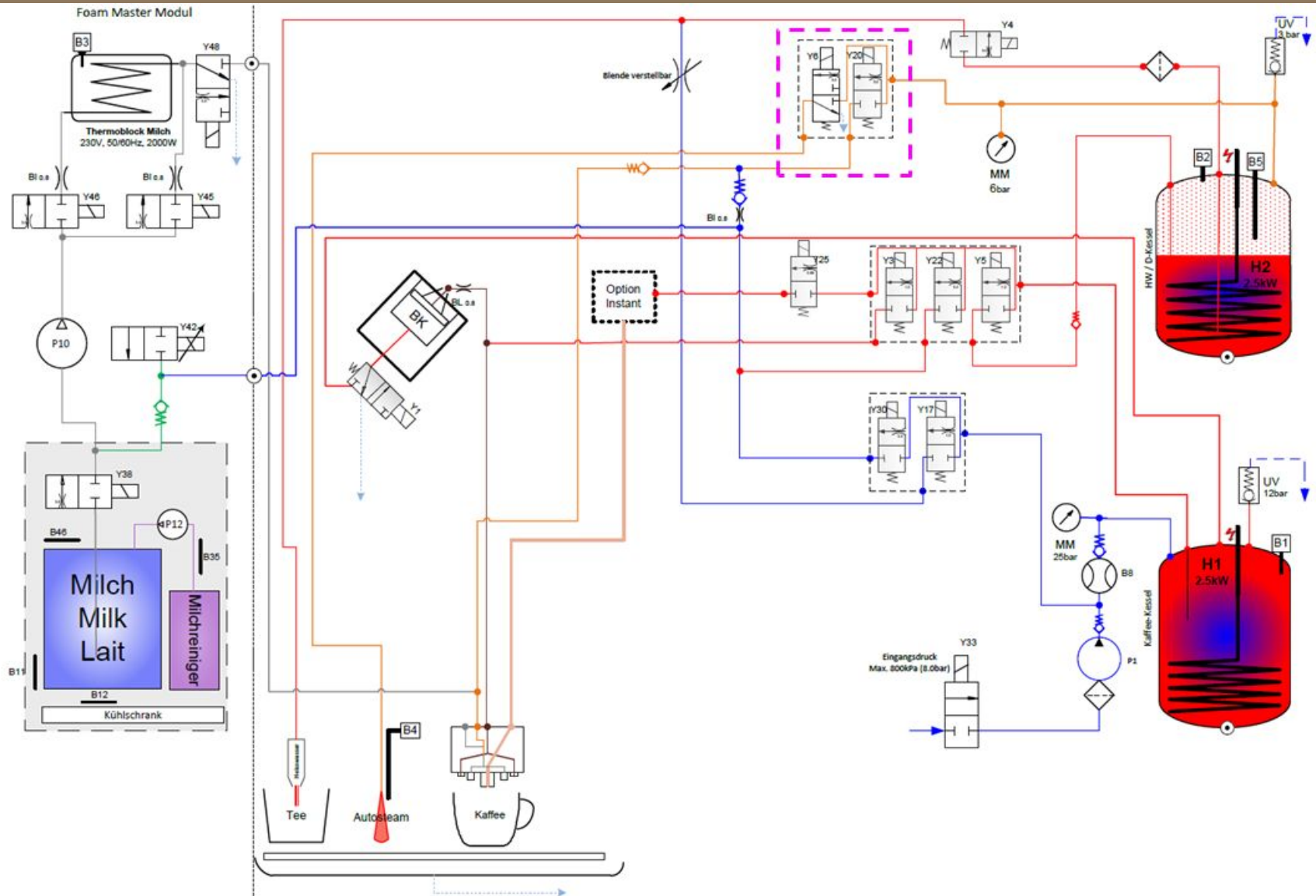
Technical construction

Water flow circuit diagram MS



Technical construction

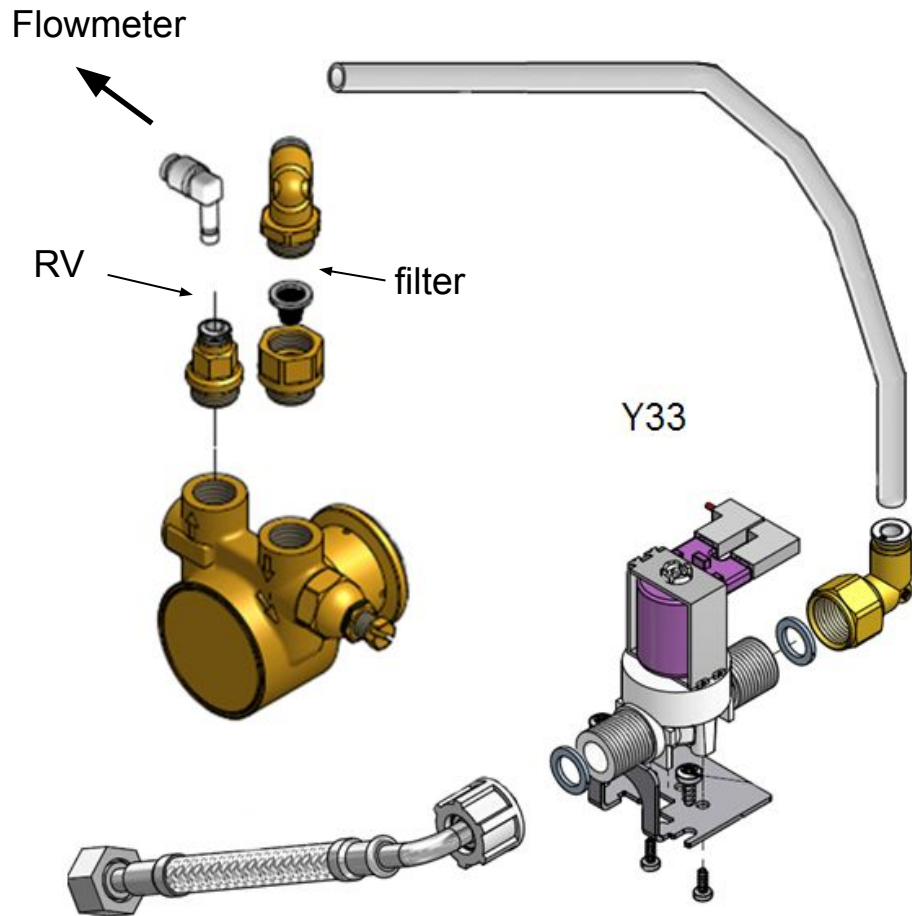
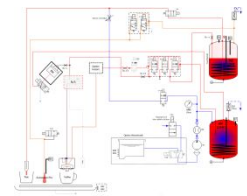
Water flow circuit diagram FM*



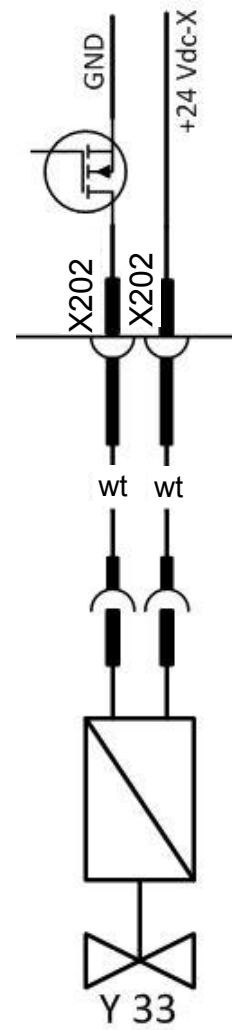
*Lizenziert von Thermoplan/Licensed by Thermoplan

Technical construction

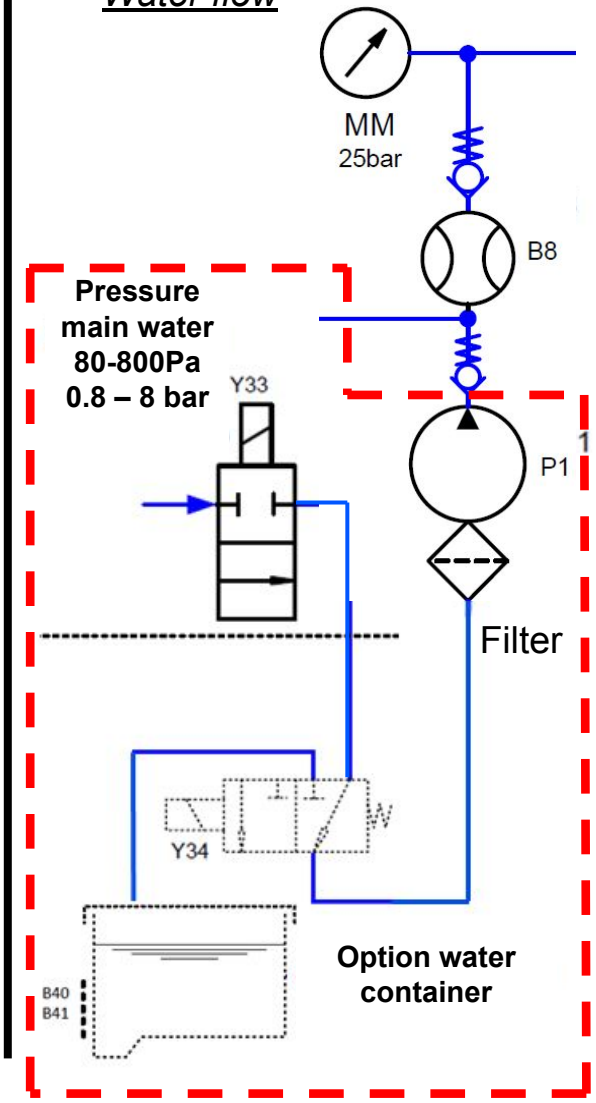
Water connection



Electrical

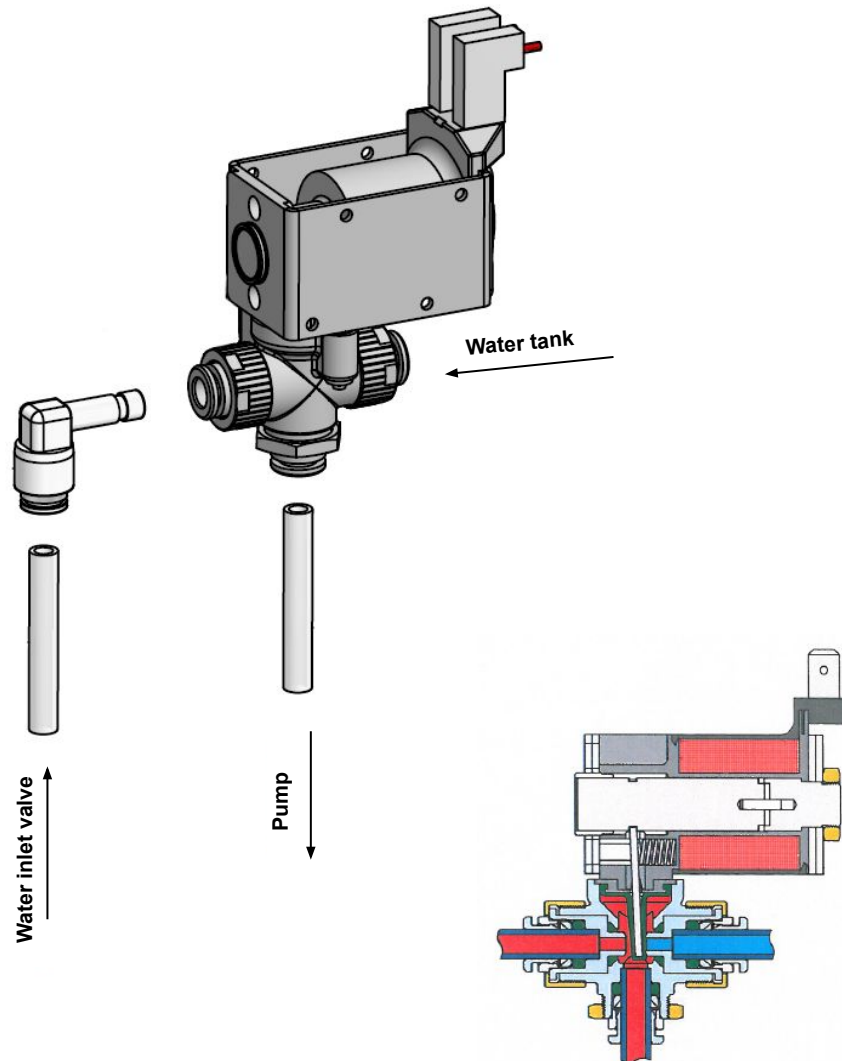
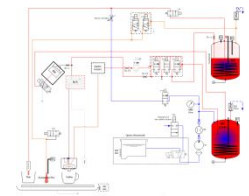


Water flow

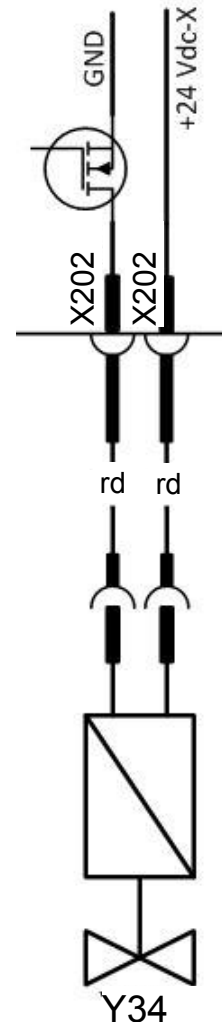


Technical construction

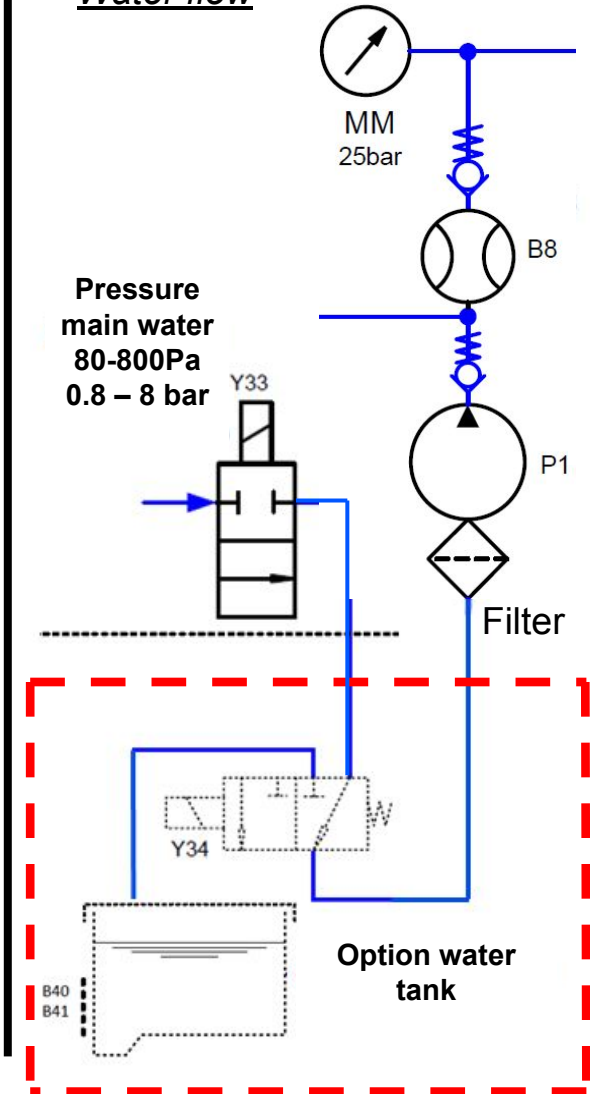
Water gate valve Y34 (only option water tank)



Electrical

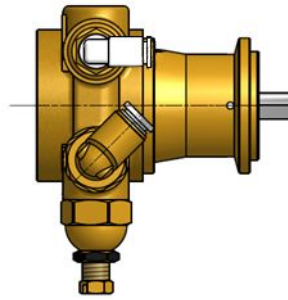
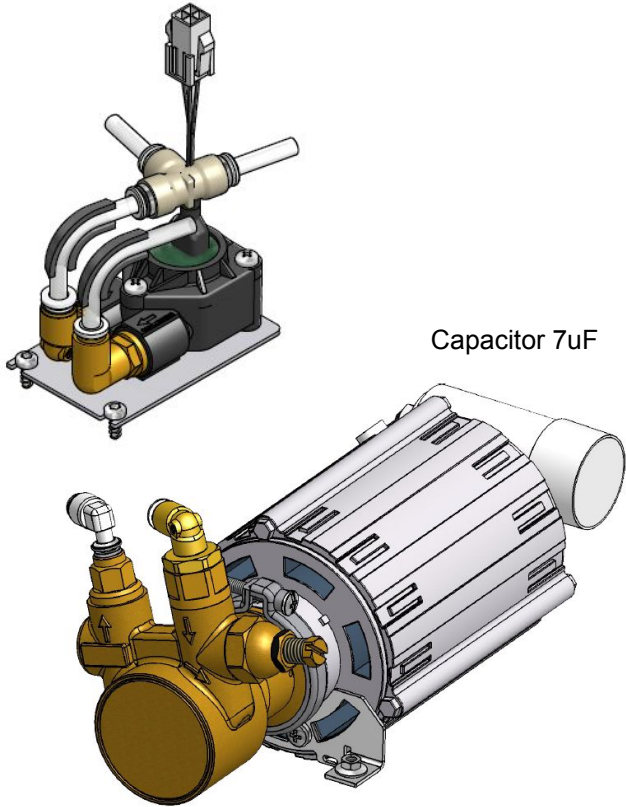
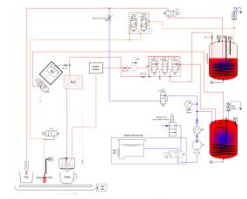


Water flow

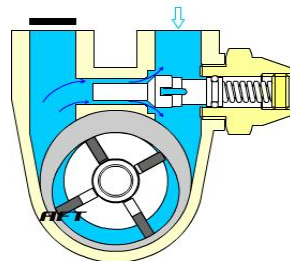
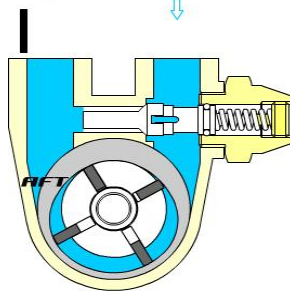


Technical construction

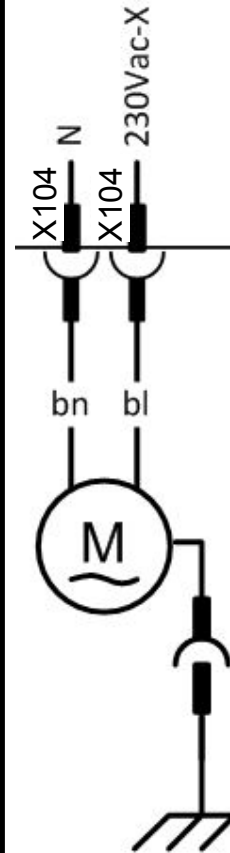
Pump



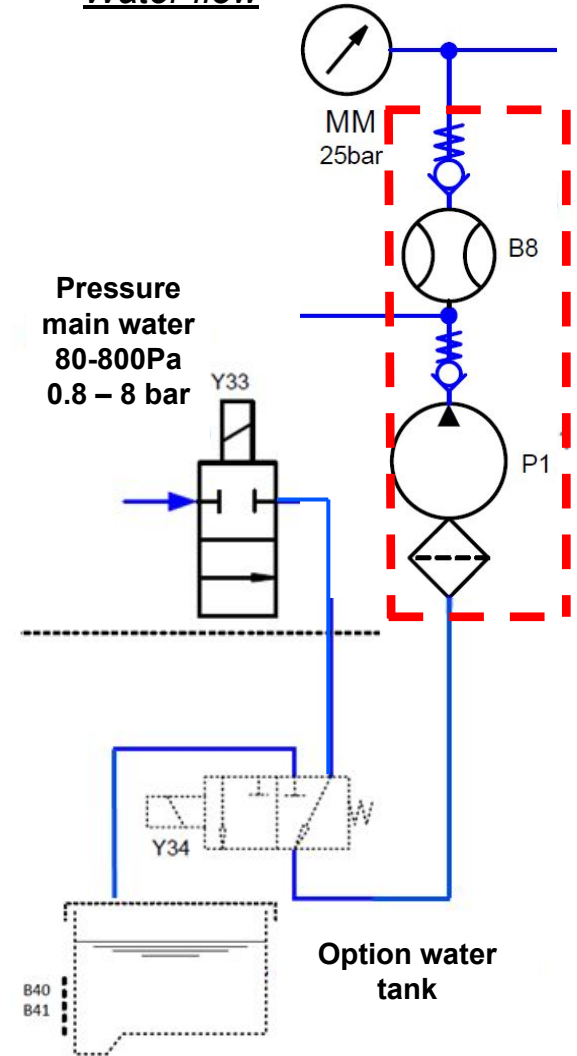
Bypass
Adjustment of
water pressure



Electrical

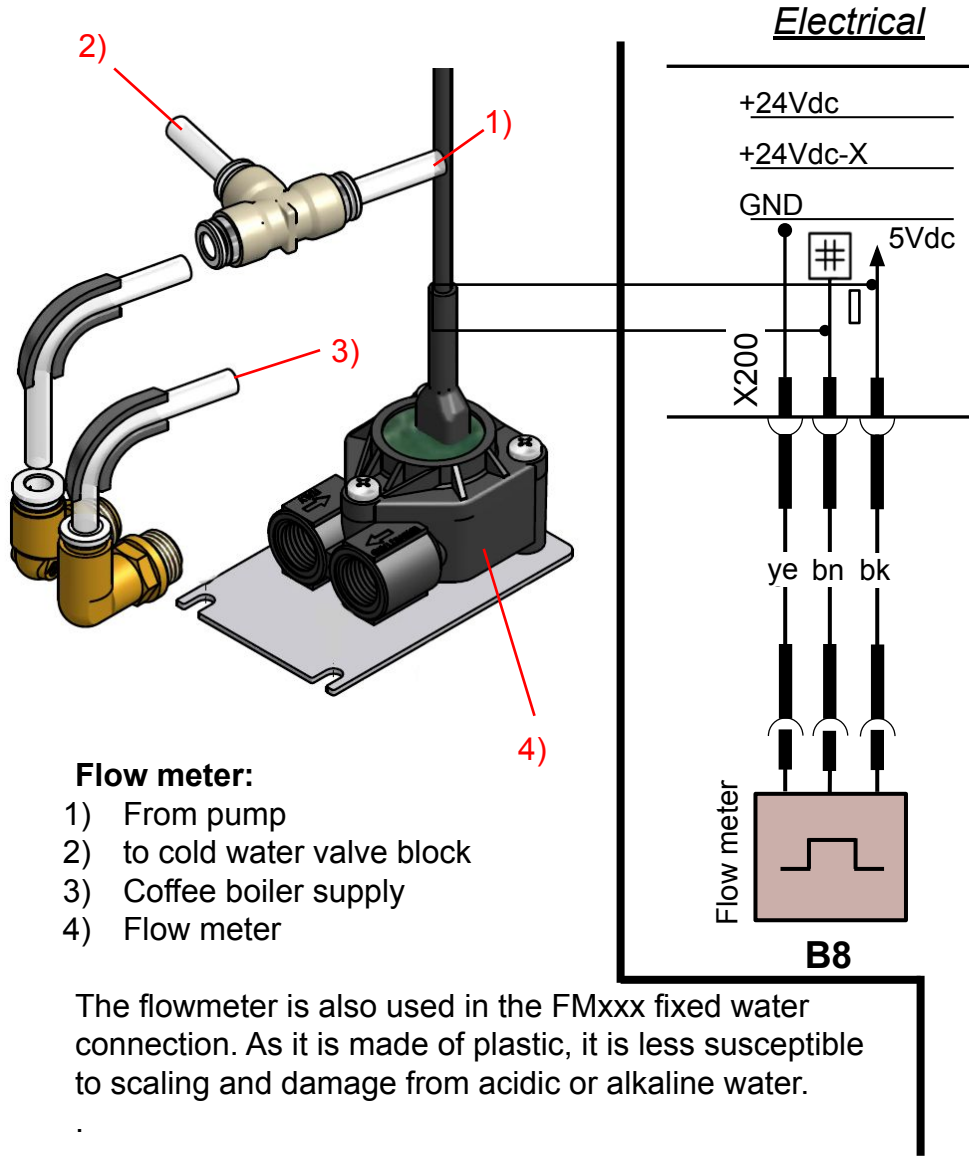
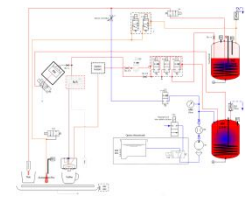


Water flow



Technical construction

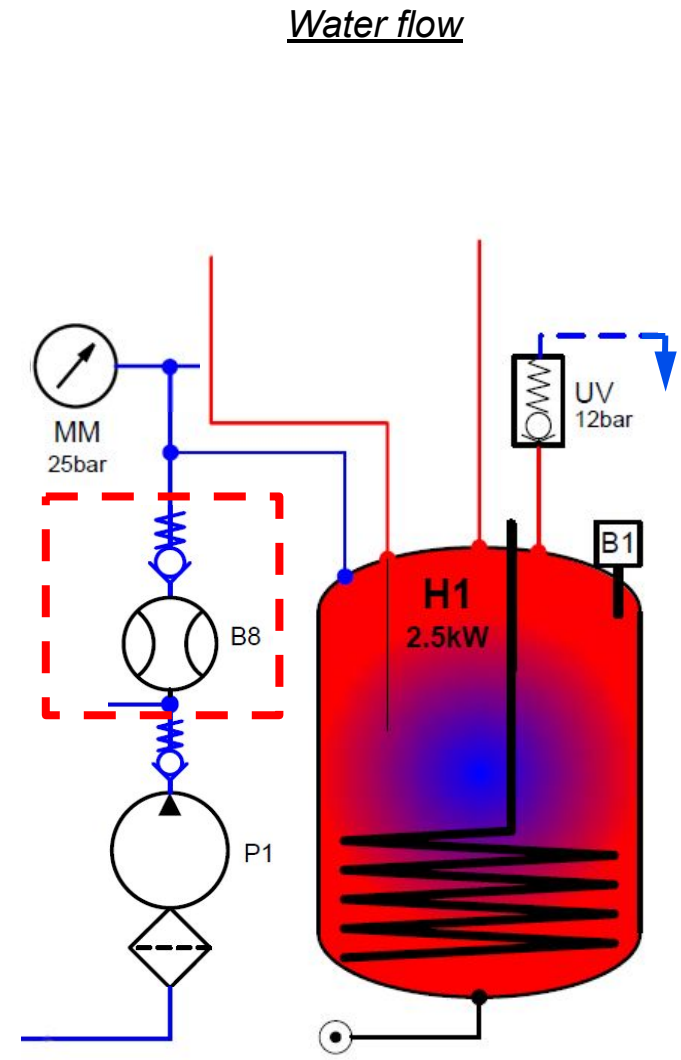
Flow meter



Flow meter:

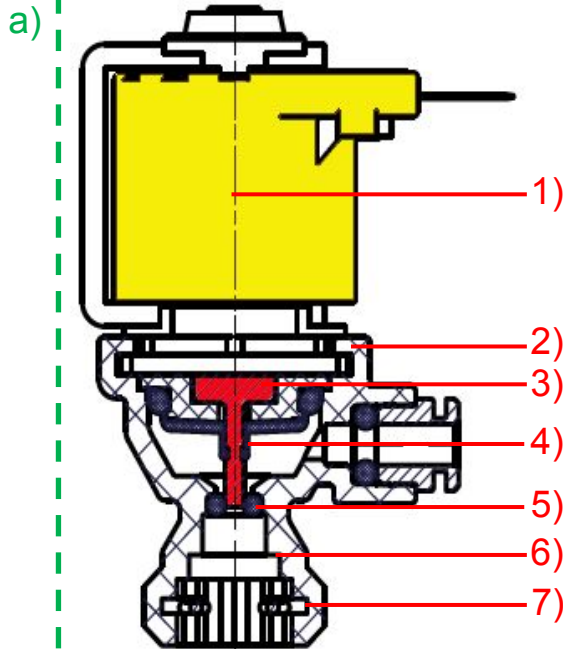
- 1) From pump
- 2) to cold water valve block
- 3) Coffee boiler supply
- 4) Flow meter

The flowmeter is also used in the FMxxx fixed water connection. As it is made of plastic, it is less susceptible to scaling and damage from acidic or alkaline water.

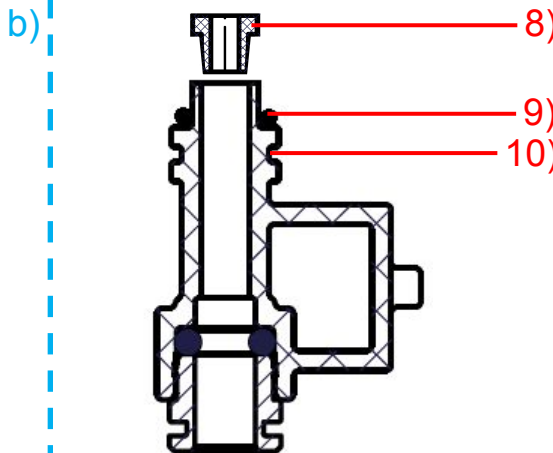
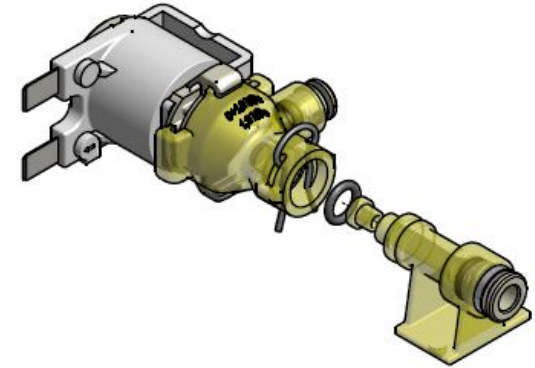


Technical construction

2/2- way plastic valve



- 1) Coil
- 2) Bayonet lock
- 3) Plunger with ram (stainless steel)
- 4) Sealing diaphragm EPDM
(ethylene propylene diene monomer)
- 5) O-ring (ram seal)
- 6) Sealing surface
- 7) Guide clamp
- 8) Valve body seat
- 9) O-ring (seals on sealing surface 6)
- 10) Groove for clamp



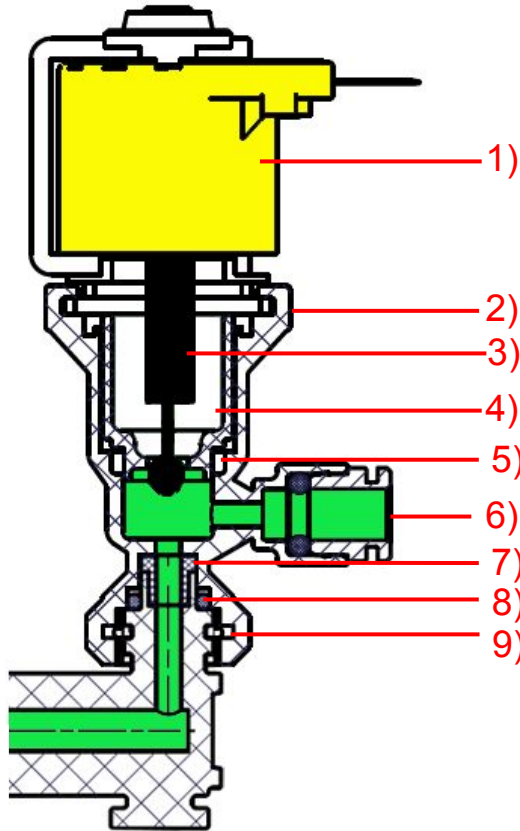
These plastic valves are less susceptible to scaling and easier to replace on account of their modular design. Due to the diaphragm, the rear part of the plunger is not submerged (separate from medium). There is no overseat or underseat and the valves can open on both sides in case of excessive operating pressure. The valves were specially designed for Franke Kaffeemaschinen AG.

Technical data:

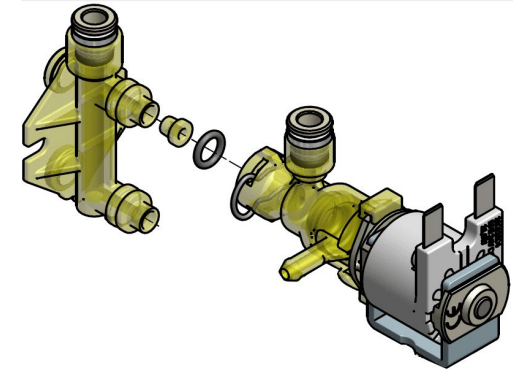
Test pressure: 12 bar
 Operating pressure: 8 bar
 Valve body material: Radel (polyphenylsulfone, PPSU)
 Room temperature: up to 80°C
 Medium temperature: up to 140°C
 Voltage: 24 V
 Power output: 11.8 W

Technical construction

3/2 way plastic valve



- 1) Coil
- 2) Bayonet lock
- 3) Plunger with ram (plastic)
- 4) Internal part (positionable over 180°)
- 5) O-ring
- 6) AVS quick-release lock
- 7) Valve body seat
- 8) O-ring
- 9) Groove for clamp



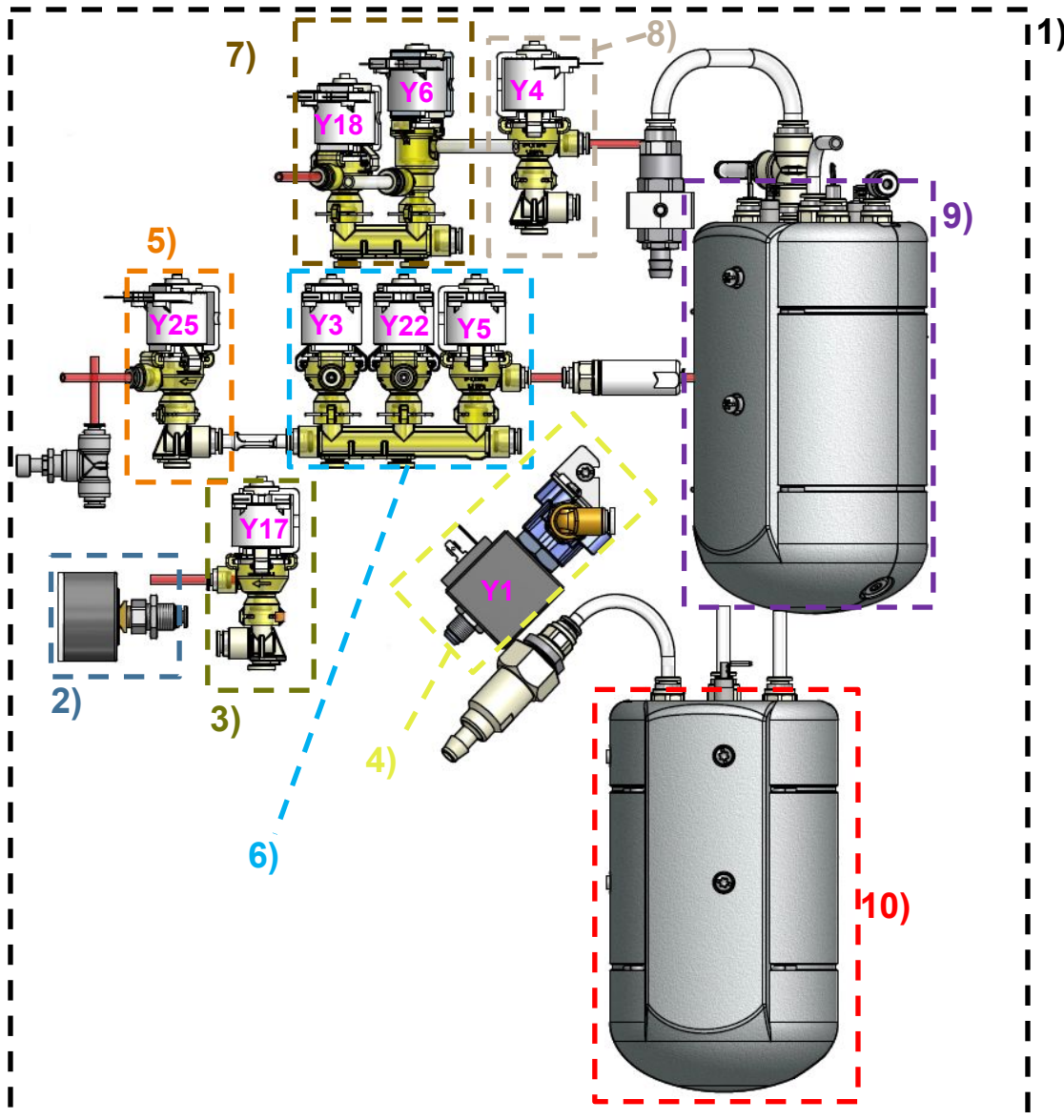
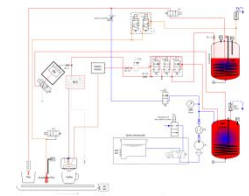
These plastic valves are less susceptible to scaling and easier to replace on account of their modular design. In this valve, too, the rear part of the plunger is not submerged (separate from medium). The valves were specially designed for Franke Kaffeemaschinen AG.

Technical data:

Test pressure: 5 bar
Operating pressure: 4 bar
Valve body material: Radel (polyphenylsulfone, PPSU)
Room temperature: up to 80°C
Medium temperature: up to 140°C
Voltage: 24 V
Power output: 11.8 W

Technical construction

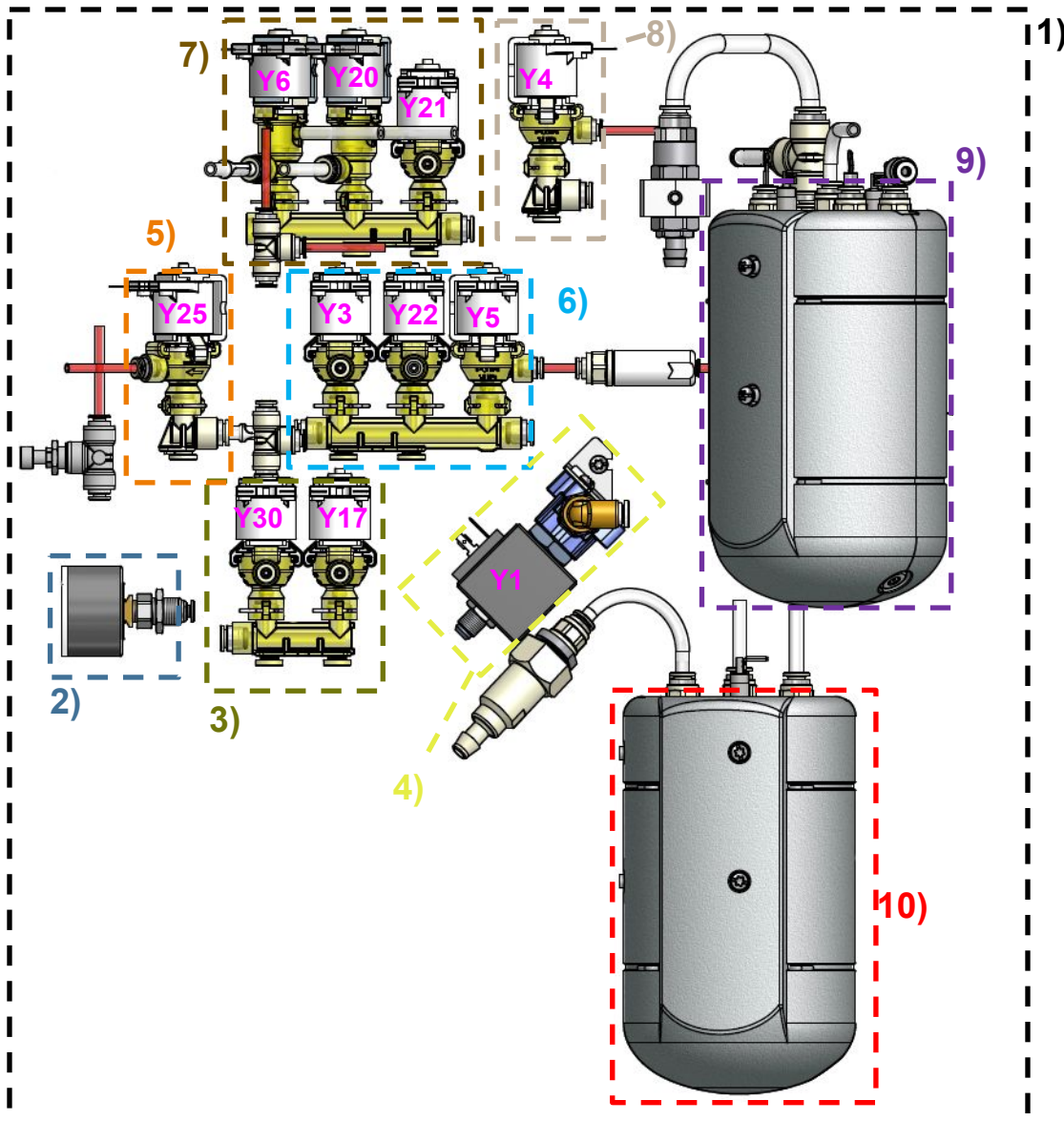
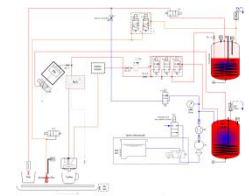
Heating unit TS



- 1) Heating unit
- 2) Pressure gauge
- 3) Cold water valve block Y17
- 4) Brewing valve Y4
- 5) Instant valve Y25 (Option)
- 6) Hot water valve block Y3, Y22, Y5
- 7) Steam valve block Y18, Y6
- 8) Hot water valve (tea) Y4
- 9) Hot water / steam boiler (0.9l)
- 10) Coffee boiler (0.9l)

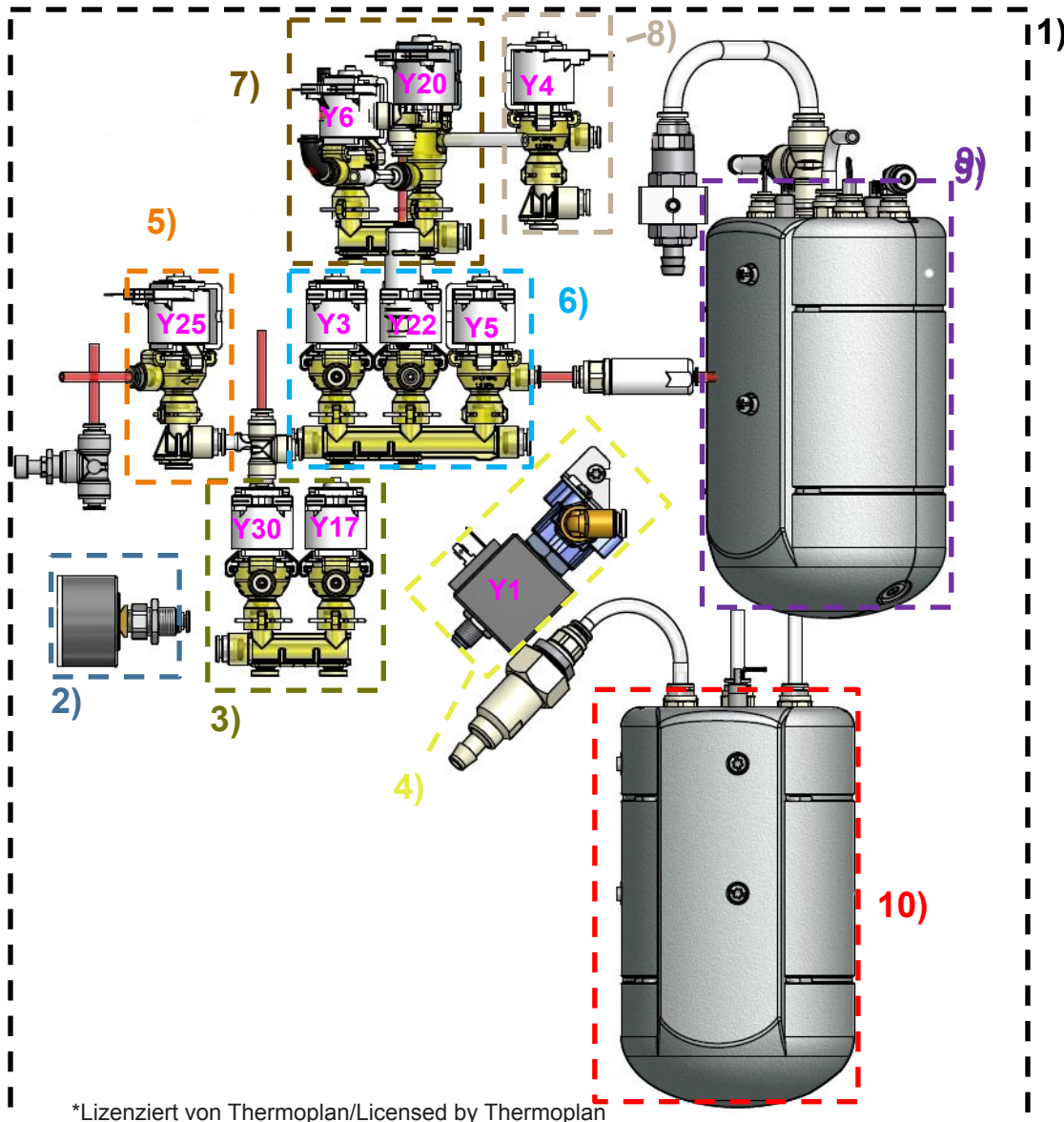
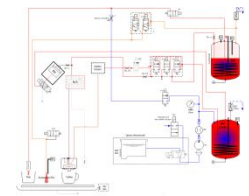
Technical construction

Heating unit MS



- 1) Heating unit
- 2) Pressure gauge
- 3) Cold water valve block Y30, Y17
- 4) Brewing valve Y4
- 5) Instant valve Y25 (Option)
- 6) Hot water valve block Y3, Y22, Y5
- 7) Steam valve block Y6, Y20,21
- 8) Hot water valve (tea) Y4
- 9) Hot water / steam boiler(0.9l)
- 10) Coffee boiler (0.9l)

Technical construction Heating unit FM*

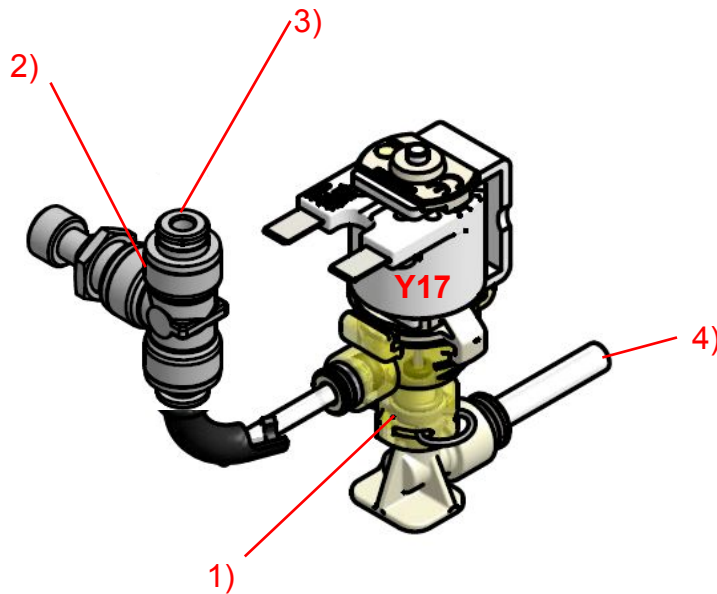


- 1) Heating unit
- 2) Pressure gauge
- 3) Cold water valve block Y30, Y17
- 4) Brewing valve Y4
- 5) Instant valve Y25 (Option)
- 6) Hot water valve block Y3, Y22, Y5
- 7) Steam valve block Y6, Y20
- 8) Hot water valve (tea) Y4
- 9) Hot water / steam boiler(0.9l)
- 10) Coffee boiler (0.9l)

*Lizenziert von Thermoplan/Licensed by Thermoplan

Technical construction

Cold water valve block (TS)



Y17:

Function: cold water by-pass valve

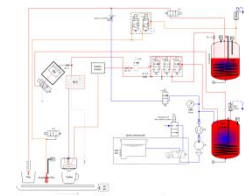
Cable: green

Remark: reduced opening 1.0mm

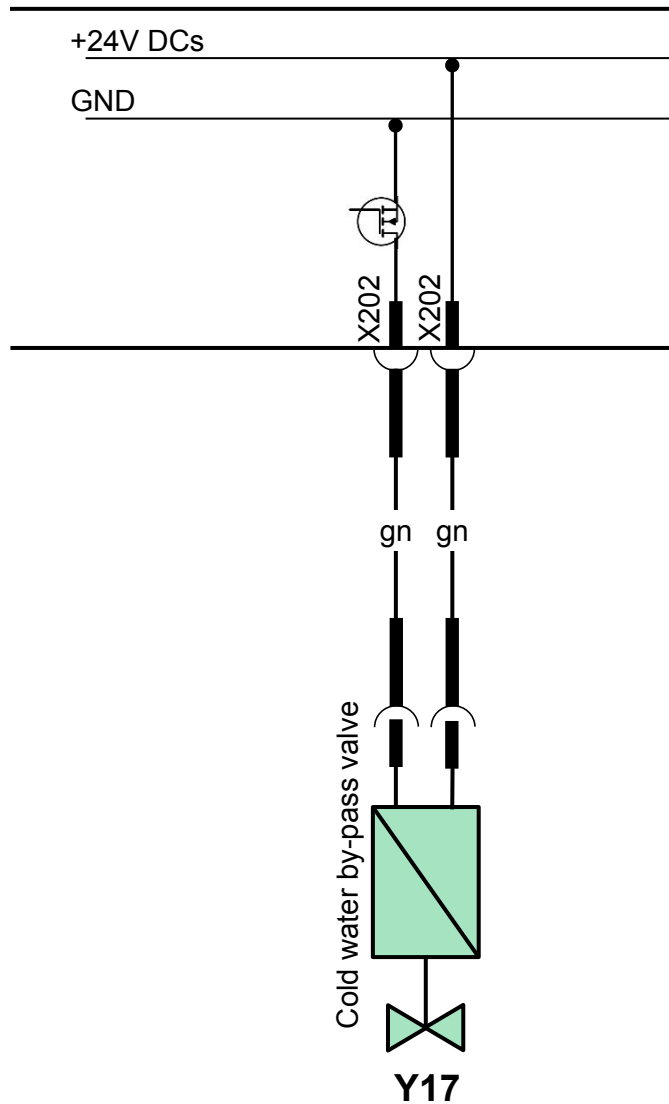
- 1) 1-fold valve block (Basic)
- 2) Manually adjustable restrictor for cold water addition
- 3) to Y-piece hot water outlet (tea)
- 4) Inlet from pump/flow meter

Technical construction

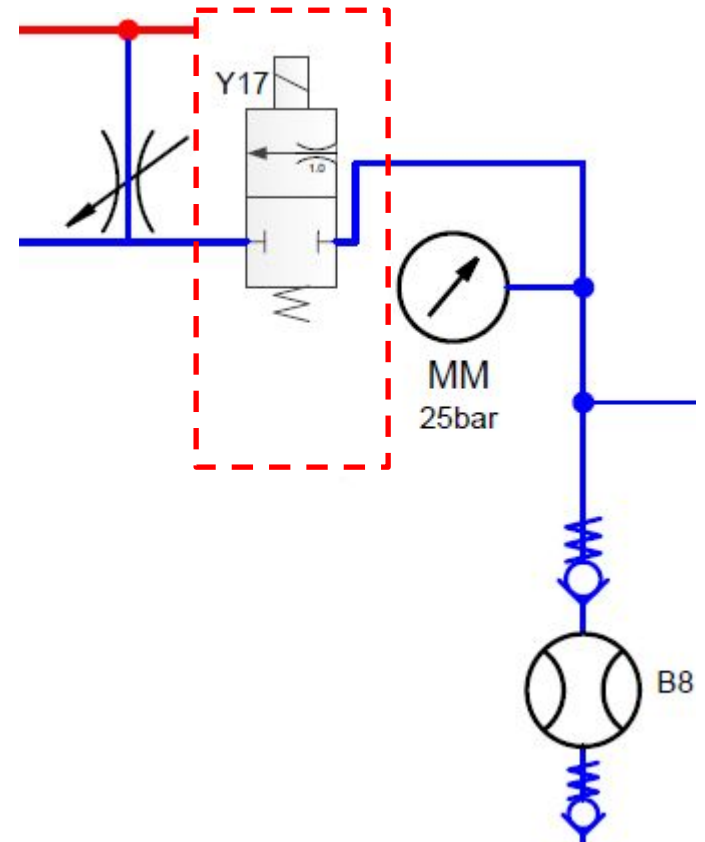
Cold water valve block (TS)



Electrical

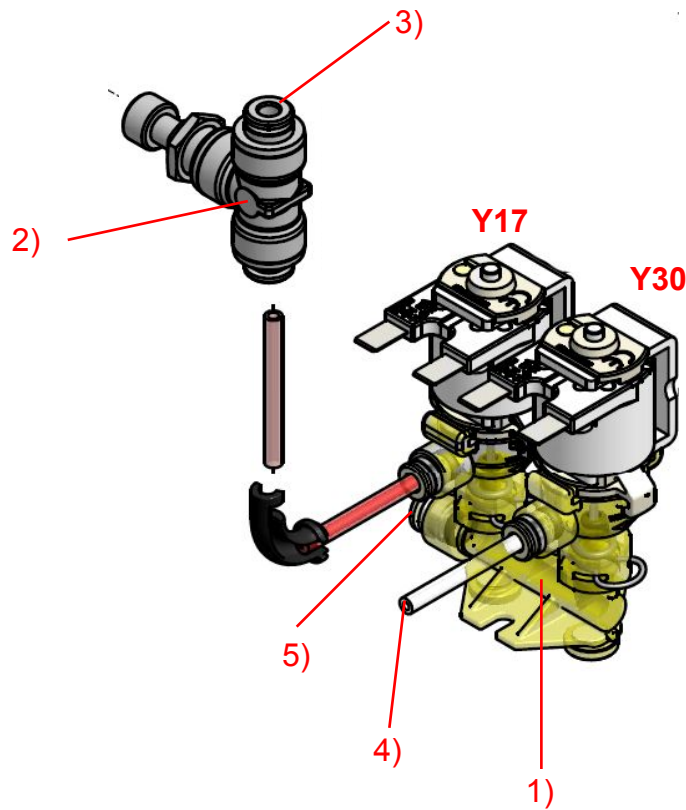


Water flow



Technical construction

Cold water valve block (MS)



Y30:

Function: cold water rinsing line

Cable: white

Remark: opening 3.0 mm

Y17:

Function: cold water by-pass valve

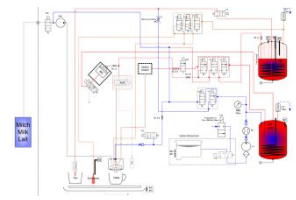
Cable: green

Remark: reduced opening 1.0 mm

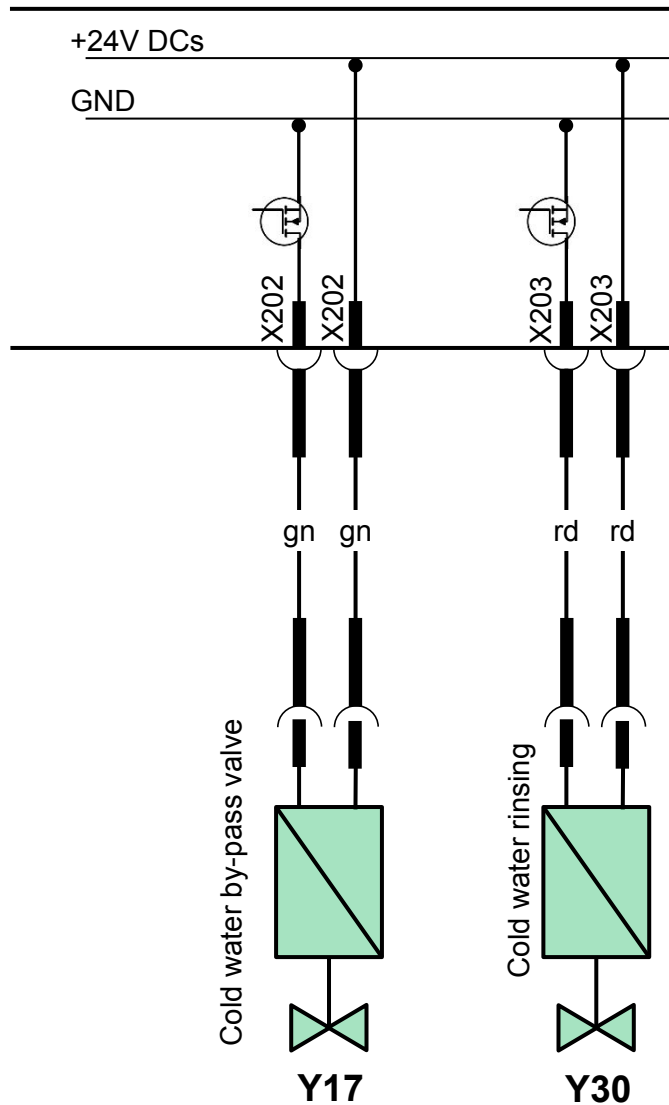
- 1) 2-fold valve block (Basic)
- 2) Manually adjustable restrictor for cold water addition
- 3) to Y-piece hot water outlet (tea)
- 4) to milk line/milk pump
- 5) Inlet from pump/flow meter

Technical construction

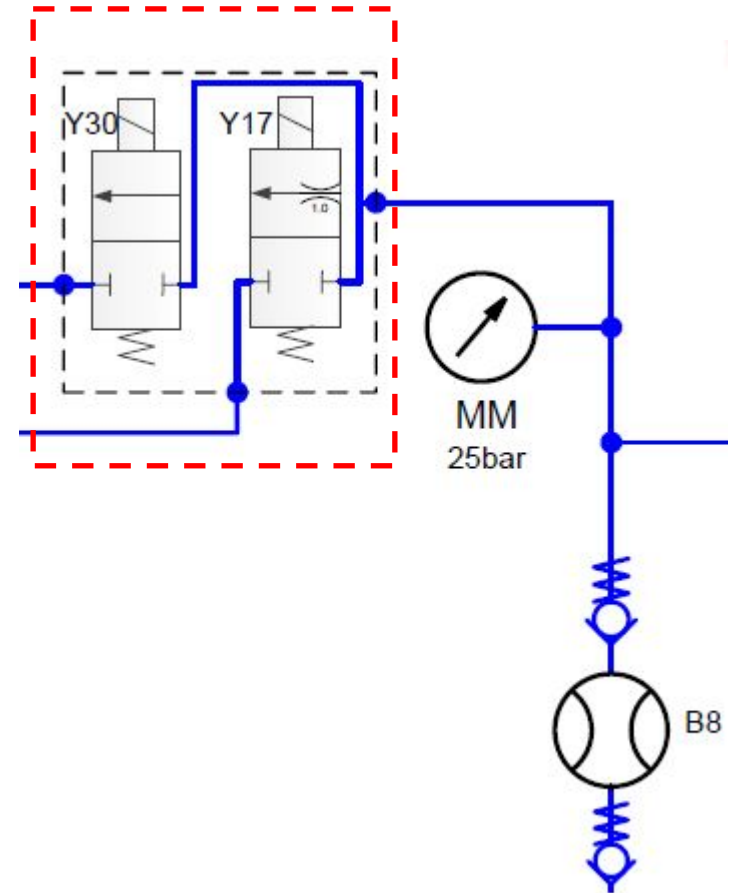
Cold water valve block (MS)



Electrical

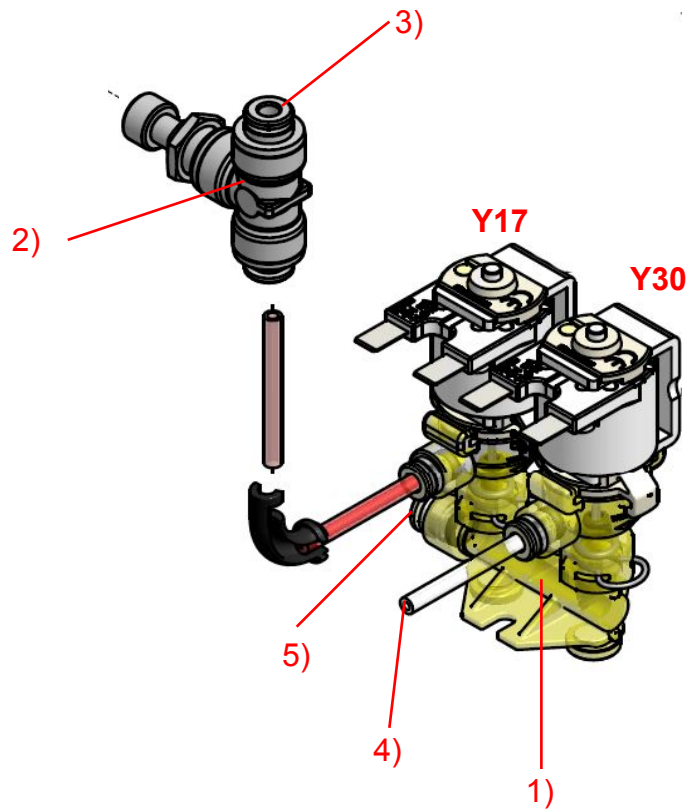


Water flow



Technical construction

Cold water valve block (FM*)



Y30:

Function: cold water rinsing line

Cable: white

Remark: opening 3.0 mm

Y17:

Function: cold water by-pass valve

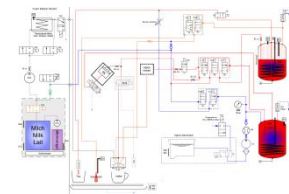
Cable: green

Remark: reduced opening 1.0 mm

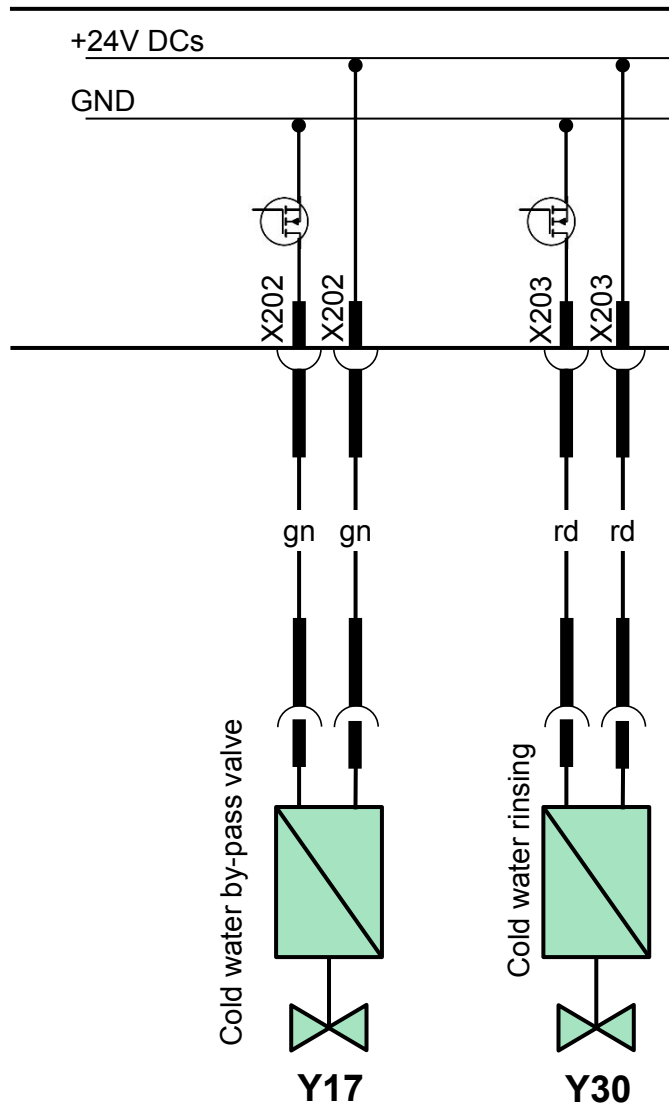
- 1) 2-fold valve block (Basic)
- 2) Manually adjustable restrictor for cold water addition
- 3) to Y-piece hot water outlet (tea)
- 4) to milk line/milk pump
- 5) Inlet from pump/flow meter

Technical construction

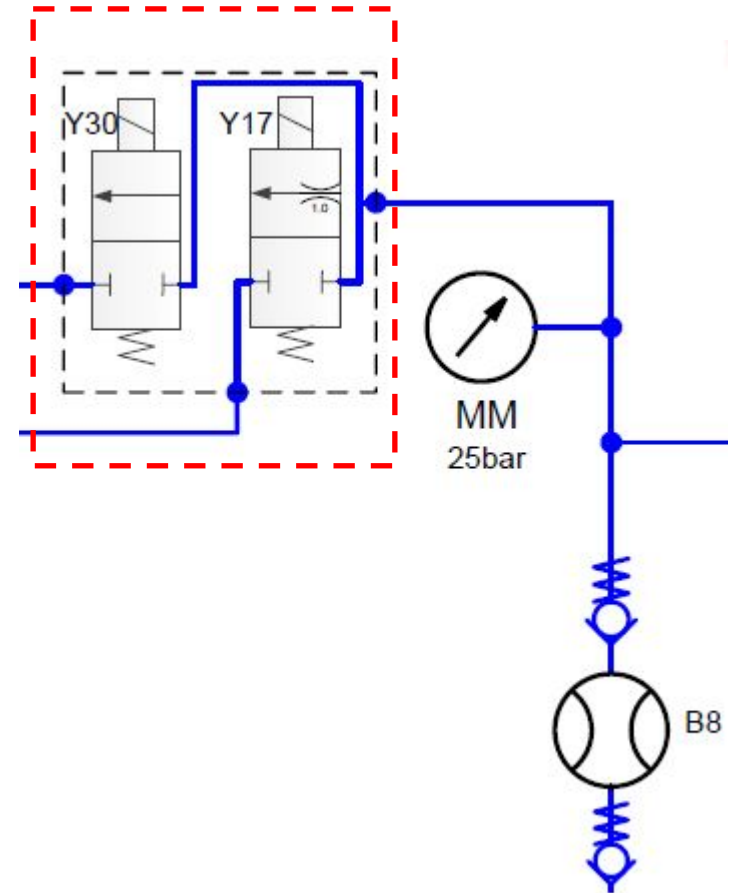
Cold water valve block (FM)



Electrical

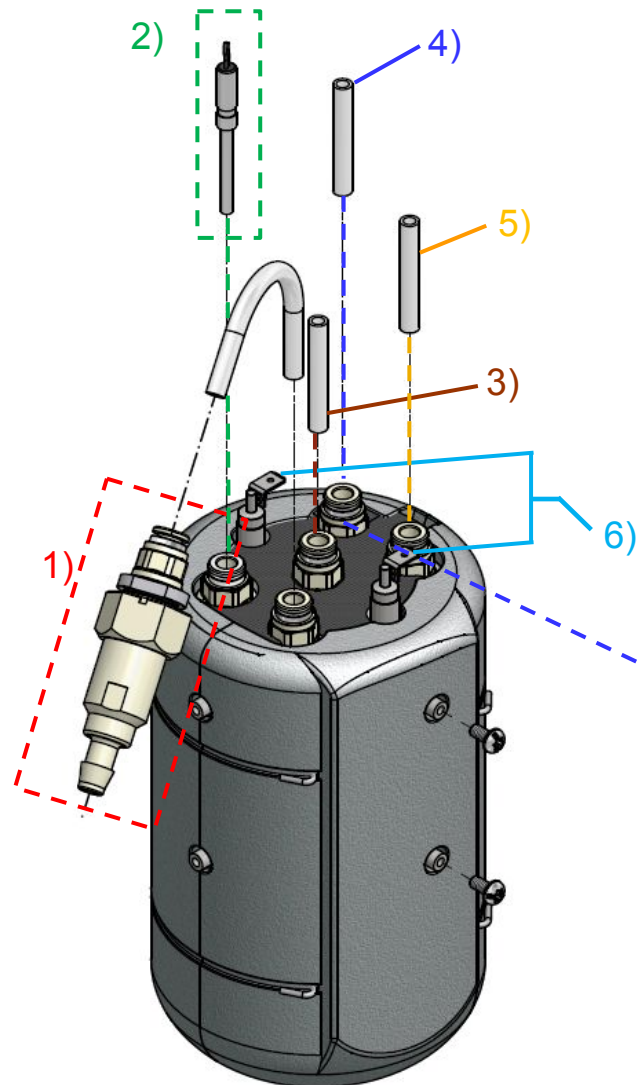


Waterflow



Technical construction

Coffee boiler 2.5kW (0.9l)

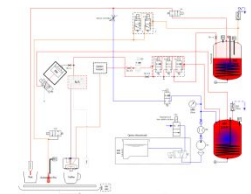


- 1) Safety valve 12 bar (Spectra)
- 2) NTC temperature sensor
- 3) Coffee boiler supply
- 4) Output hot water block
- 5) Output brewing valve
- 6) Electrical connection of heating element with integrated thermal fuse (safety fuse) 216°C (Pura)

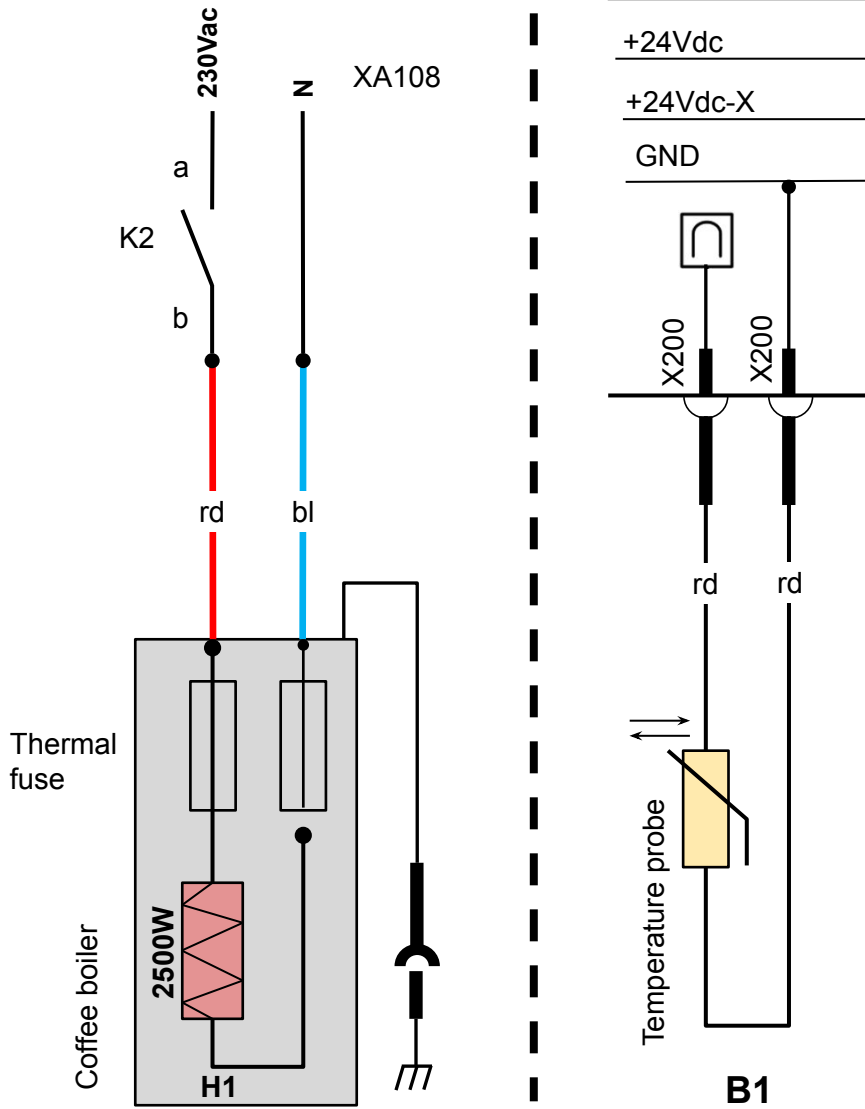
The coffee boiler is the same as the tea / steam boiler. The design is identical. The safety switch-off is achieved using two safety fuses. The maximum pressure remains at 12 bar.

Technical construction

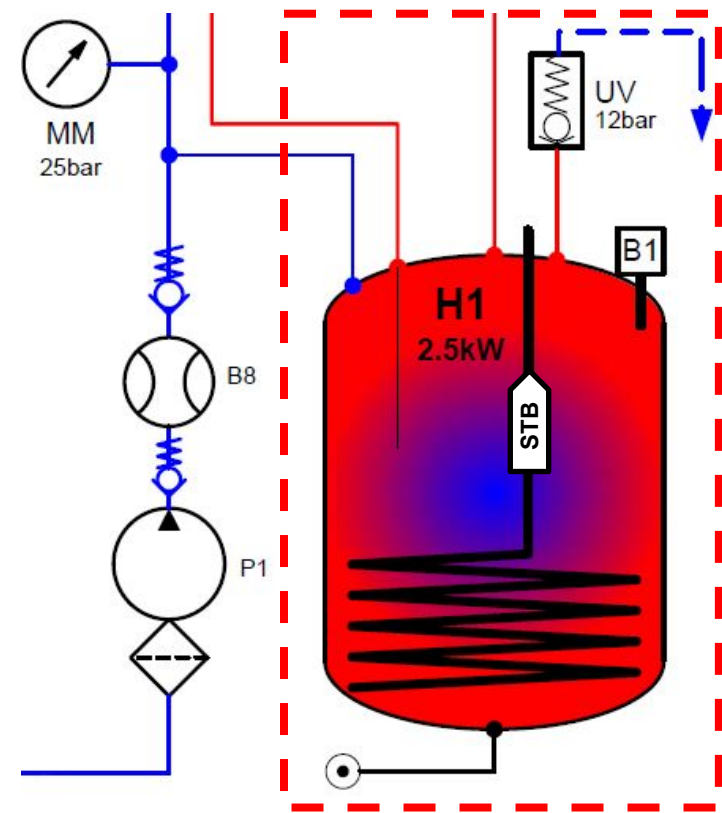
Coffee boiler 2.5kW (0.9l)



Electrical

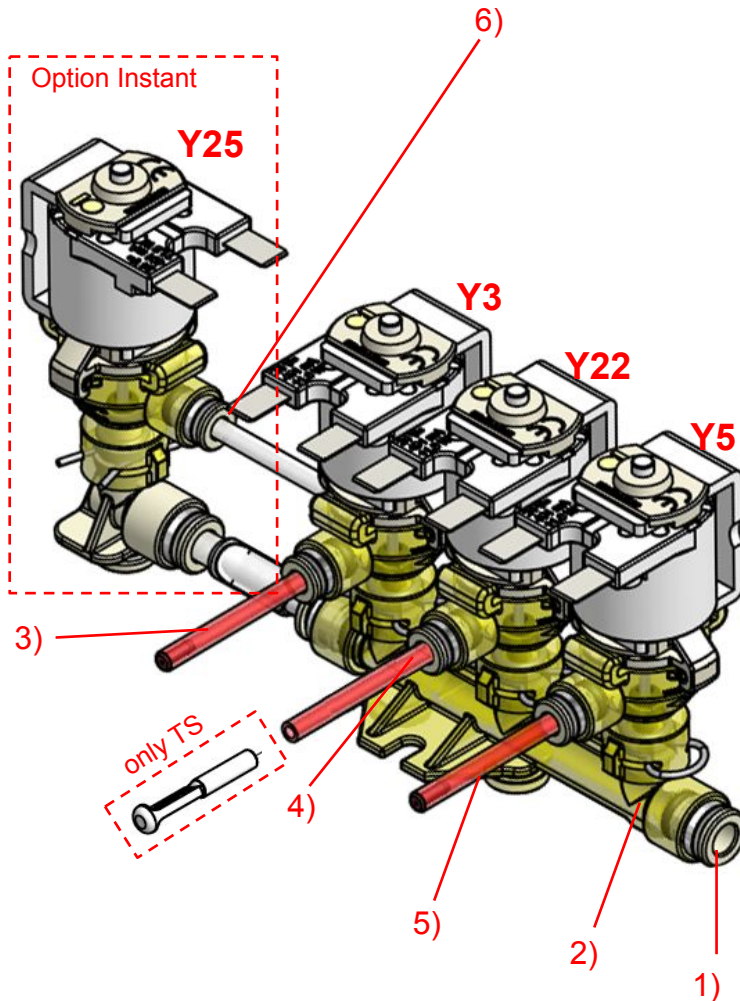


Water flow



Technical construction

Hot water valve block (TS, MS, FM)



Hot water valve block:

Y3:

Function: bypass valve coffee
 Cable: grey
 Remark: reduced opening 1.0mm

Y22:

Function: hot water milk rinsing line (sanitizing)
 only MS and FM
 Cable: pink
 Remark: opening 3.0mm

Y5:

Function: hot water / steam boiler supply
 Cable: yellow
 Remark: reduced opening 1.0mm

- 1) Inlet from coffee boiler
- 2) 3-fold valve block (Basic)
- 3) Coffee bypass
- 4) to Y-piece from valve Y30
- 5) to hot water / steam boiler
- 6) to instant mixer

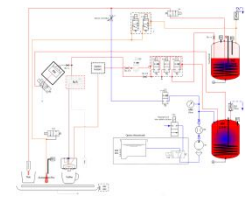
Instant (Option):

Y25:

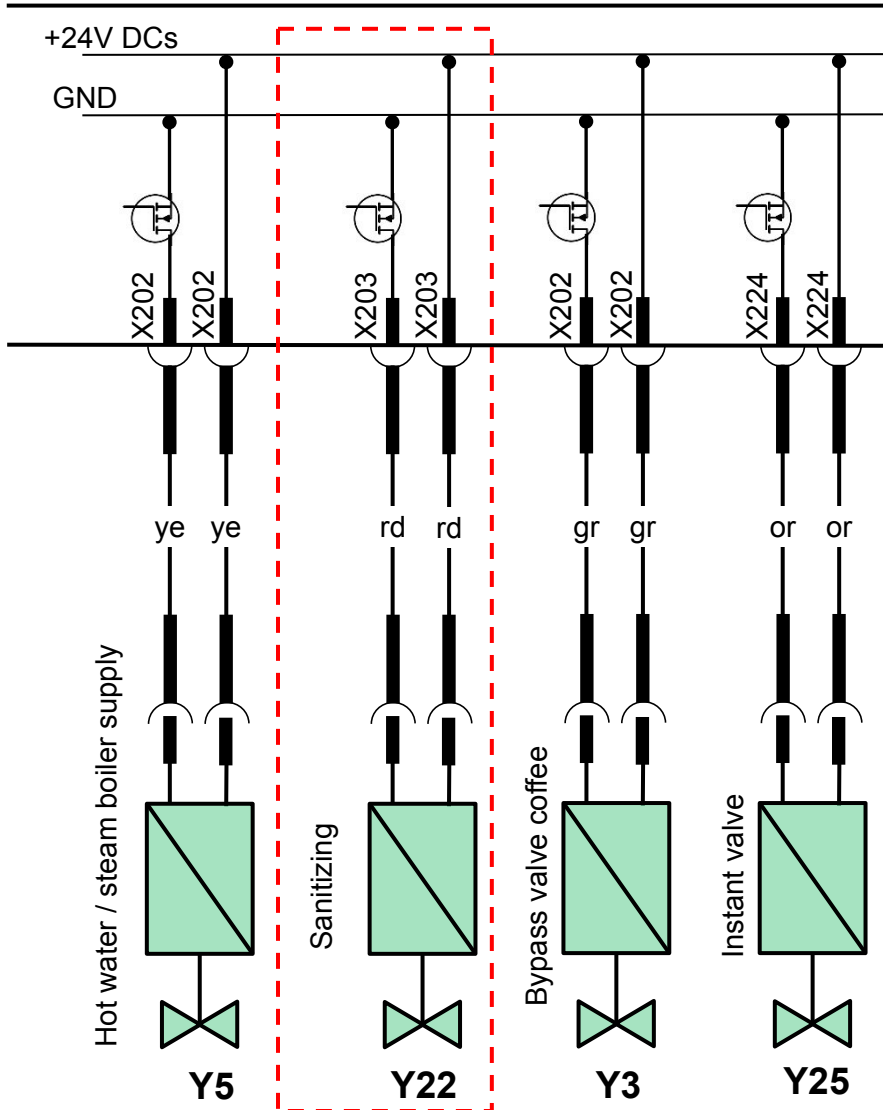
Function: Ventil-Instant
 Cable: rot
 Remark: reduced opening 0.65mm

Technical construction

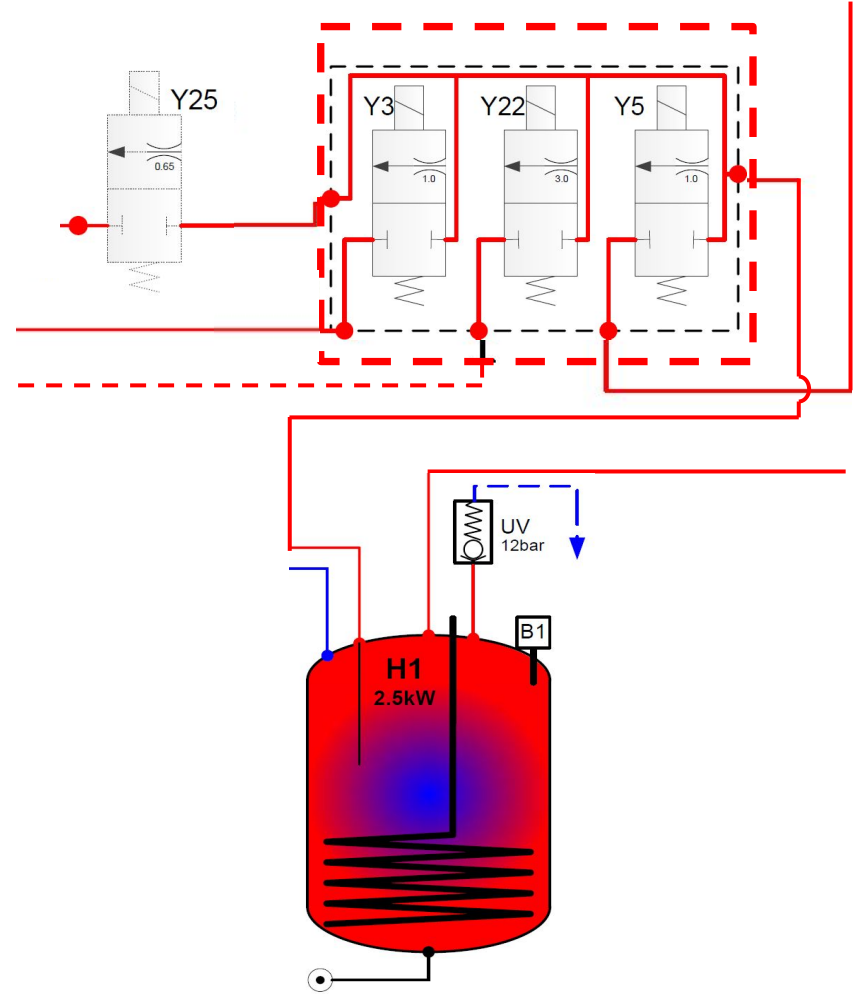
Hot water valve block (TS, MS, FM)



Electrical

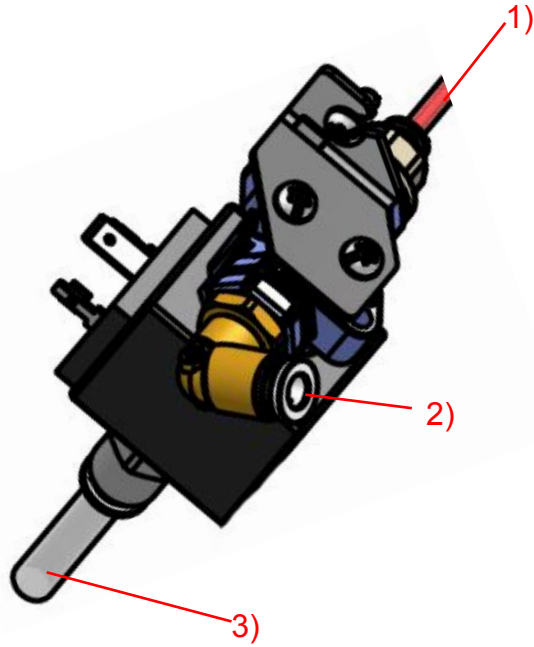


Water flow



Technical construction

Brewing valve Y1 (TS, MS, FM)



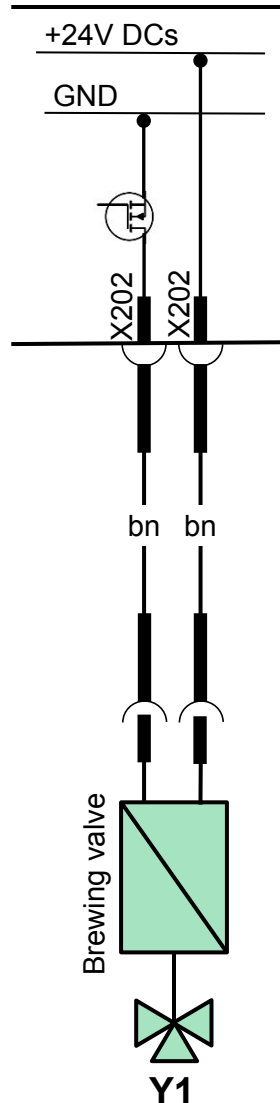
Brewing valve Y1:

Function: brewing valve

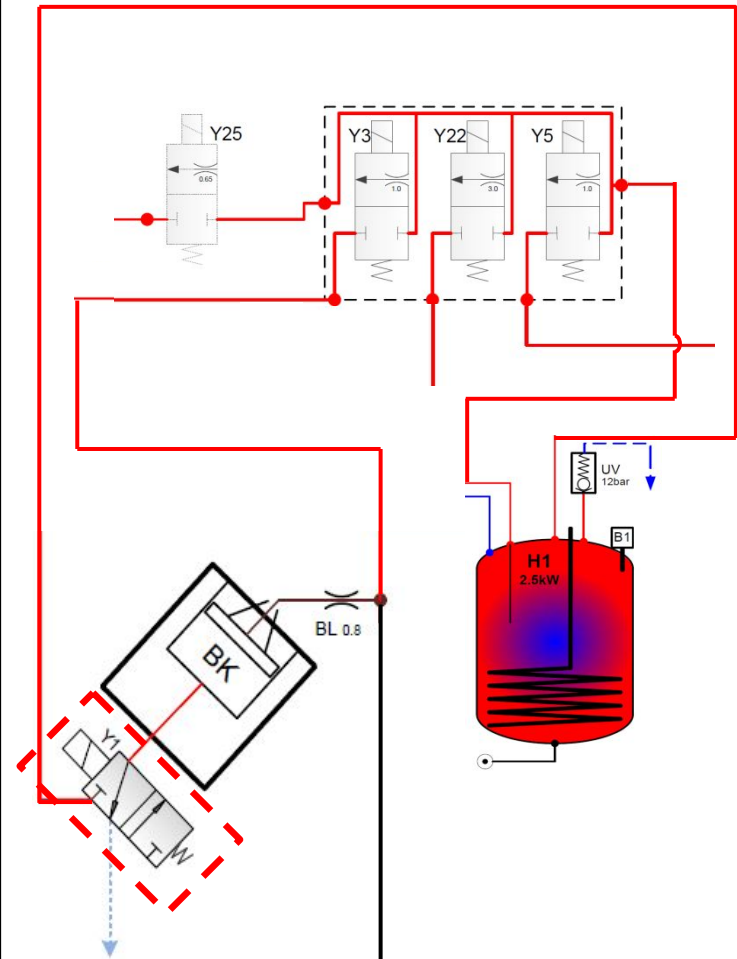
Cable: brown

- 1) To brewing unit
- 2) From coffee boiler
- 3) Drainage of brewing unit (dribble box)

Electrical

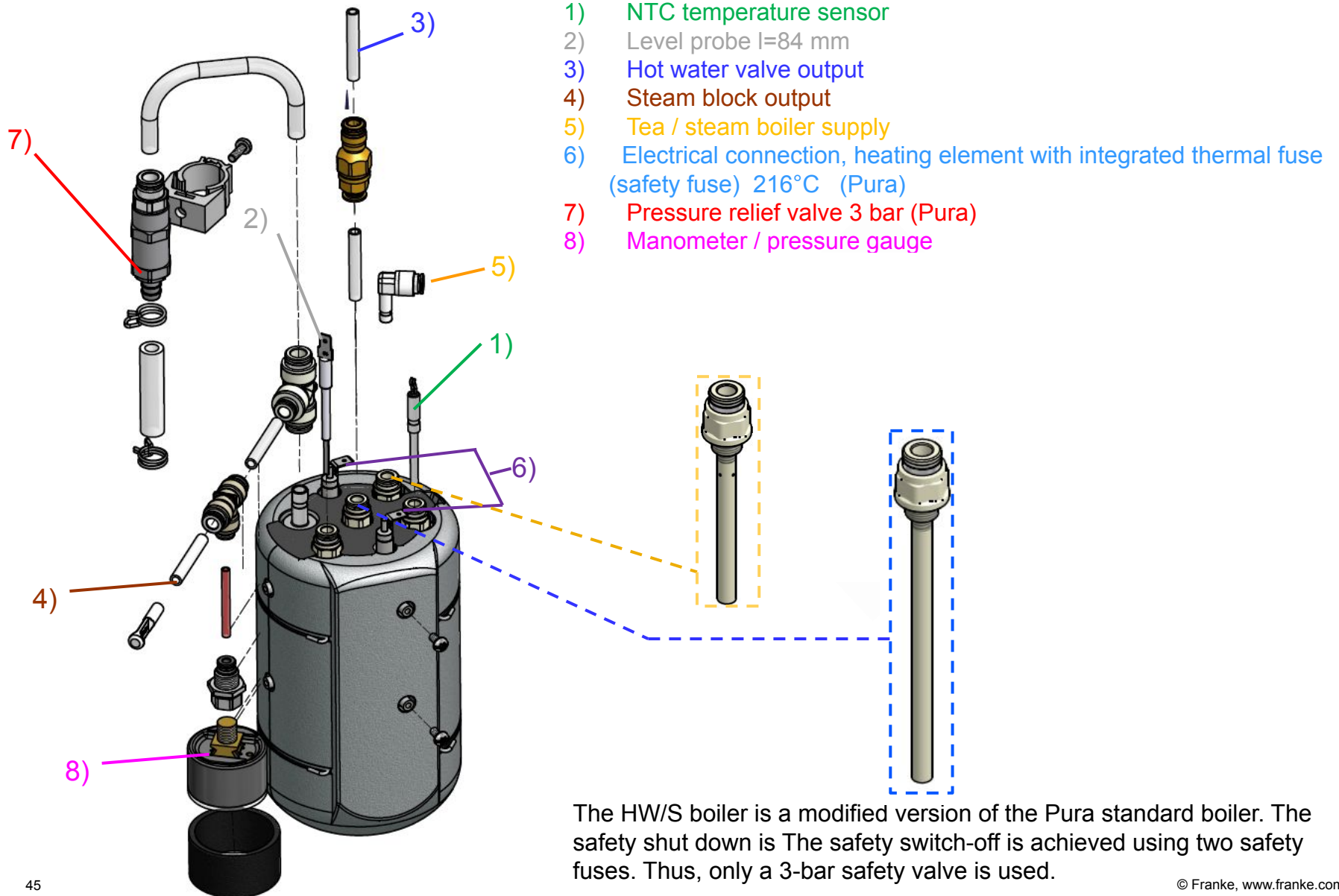


Water flow



Technical construction

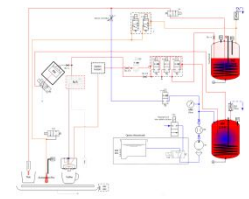
Hot water / steam boiler, 2.5kW (0.9l)



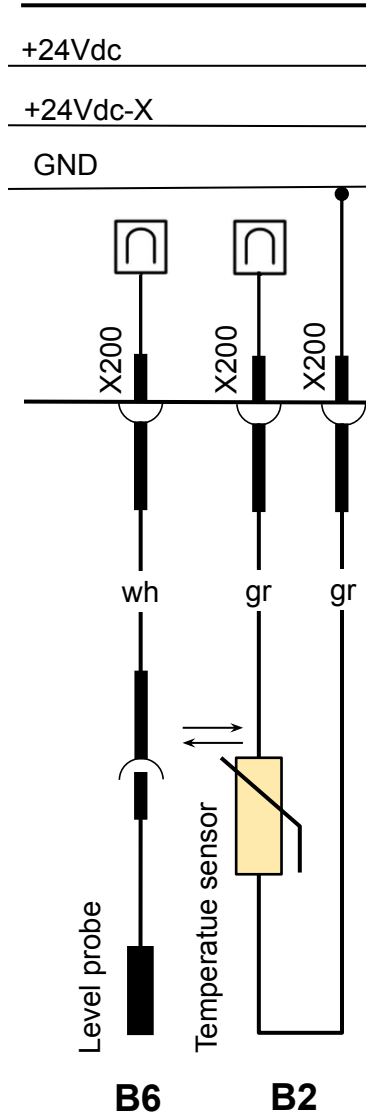
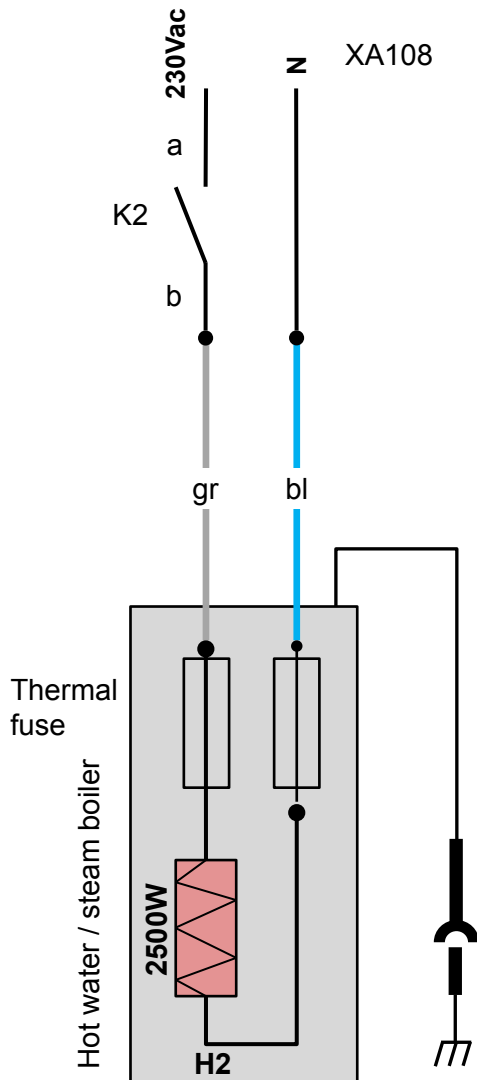
The HW/S boiler is a modified version of the Pura standard boiler. The safety shut down is achieved using two safety fuses. Thus, only a 3-bar safety valve is used.

Technical construction

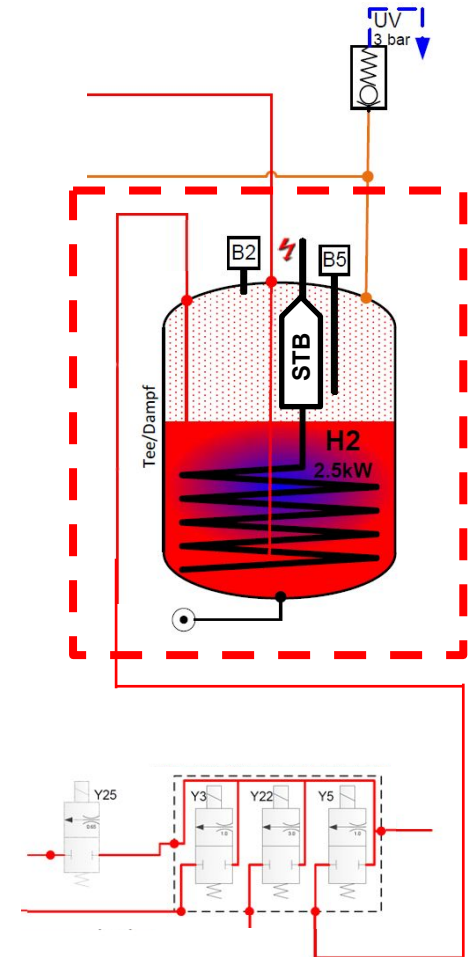
Hot water / steam boiler, 2.5kW (0.9l)



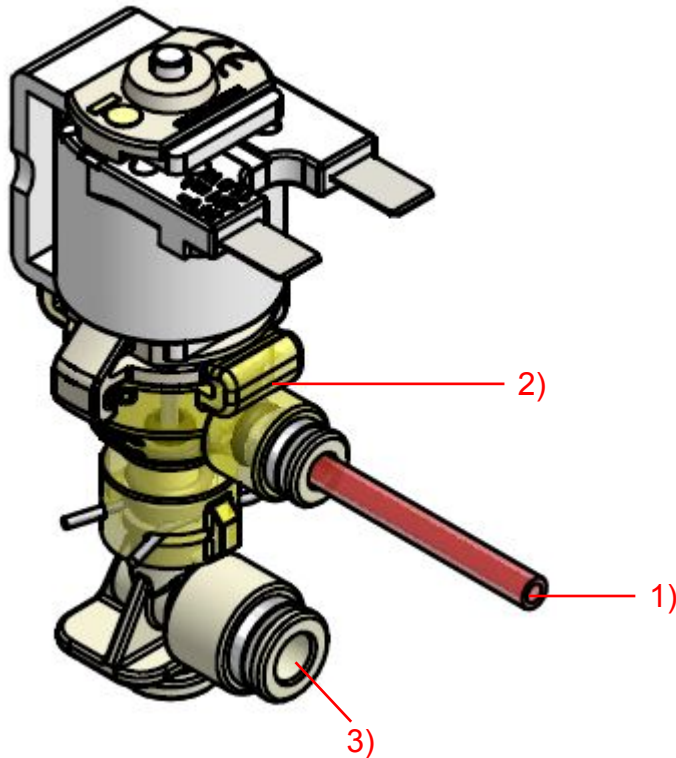
Electrical



Water flow



Technische Konstruktion Hot water valve (TS, MS, FM)

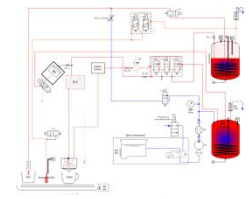


Y4:
Function: Hot water / tea
Cable: blue
Remark: opening 3.0mm

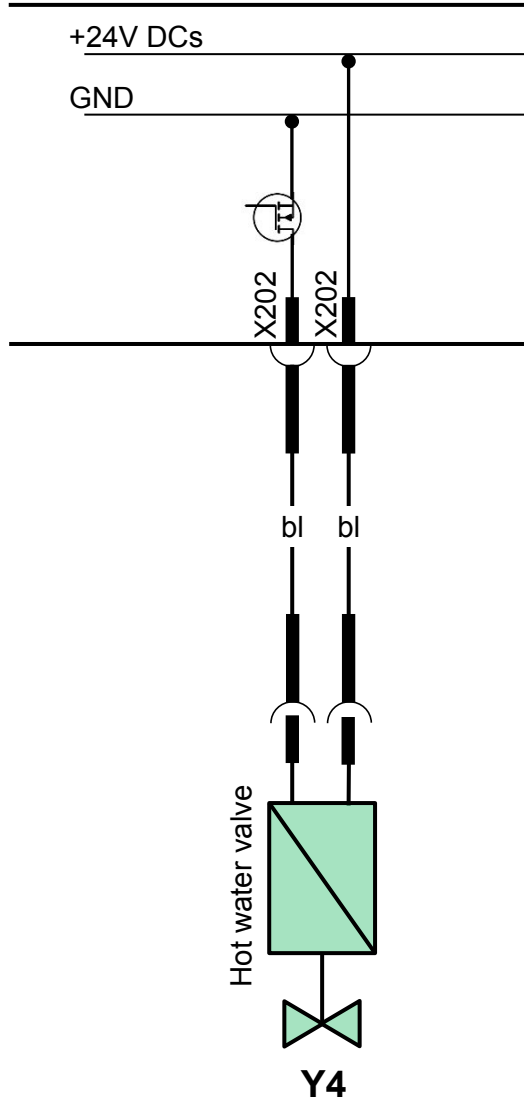
- 1) To front plug-in connection / cold water bypass
- 2) 1-fold valve block
- 3) From hot water / steam boiler

Technical construction

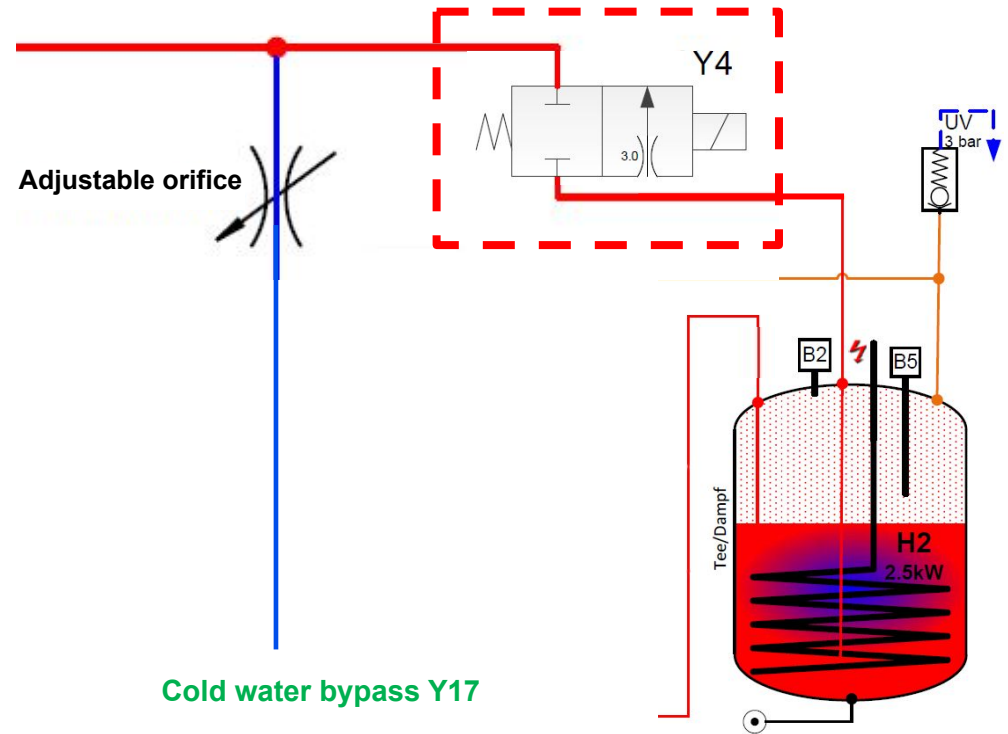
Steam valve block (TS, MS, FM)

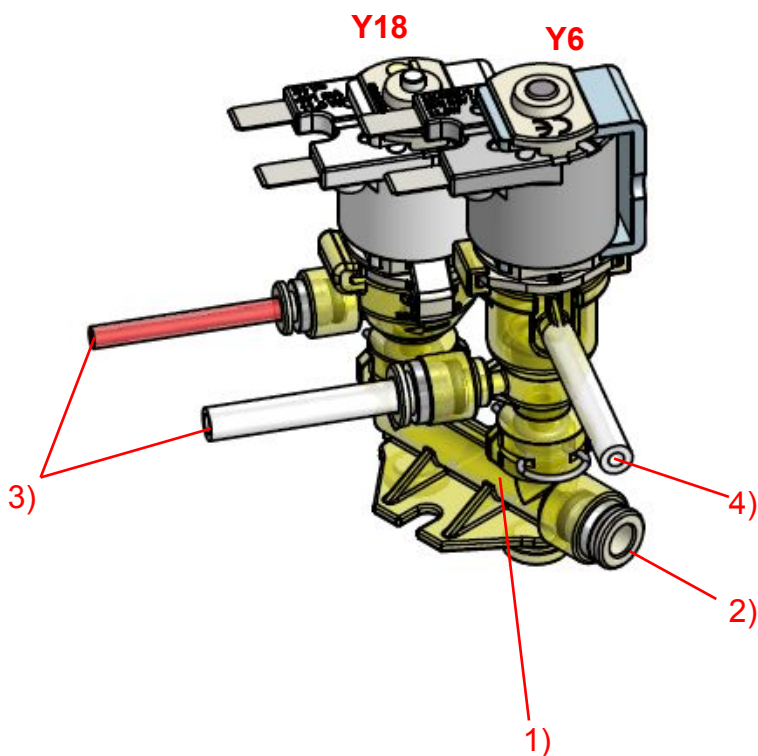


Electrical



Water flow





Y6:

Fuction: Autosteam (3/2 way valve)

Cable: brown

Remark: Opening 3.0mm

Y18:

Fuction: Autosteam (2/2 way valve)

Cable: black

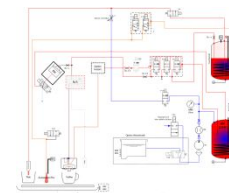
Remark: opening 3.0mm

- 1) 2-fold valve block (Basic)
- 2) Inlet from hot water / steam boiler
- 3) To front plug-in connection / Autosteam
- 4) Bleed (dribble box)

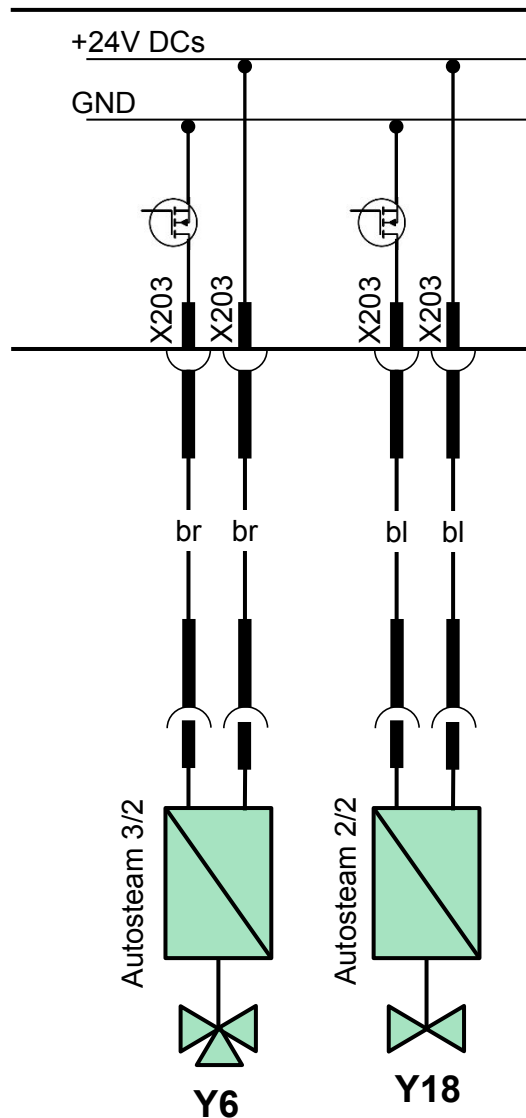
Steam valve block is installed just with option S1, S2 or S3!

Technical construction

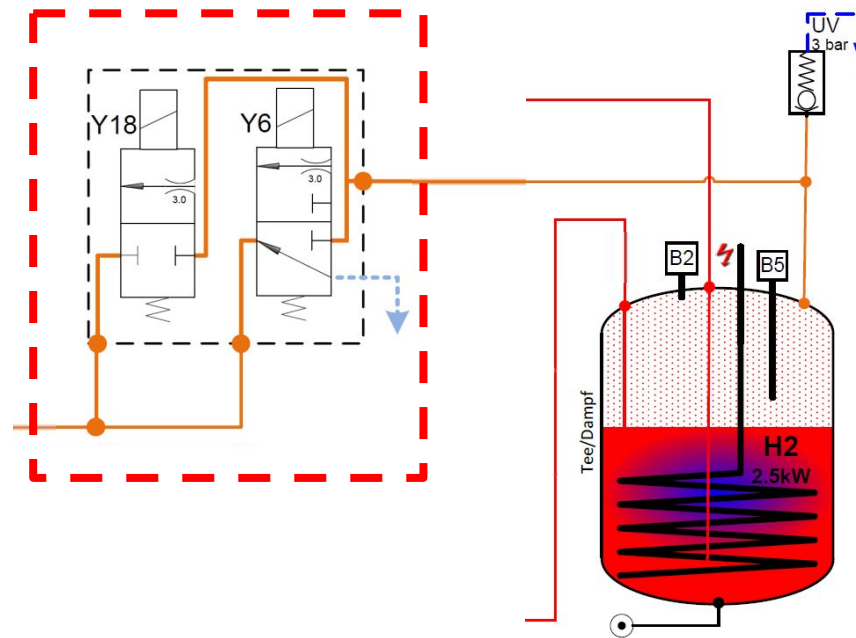
Steam valve block TS



Electrical

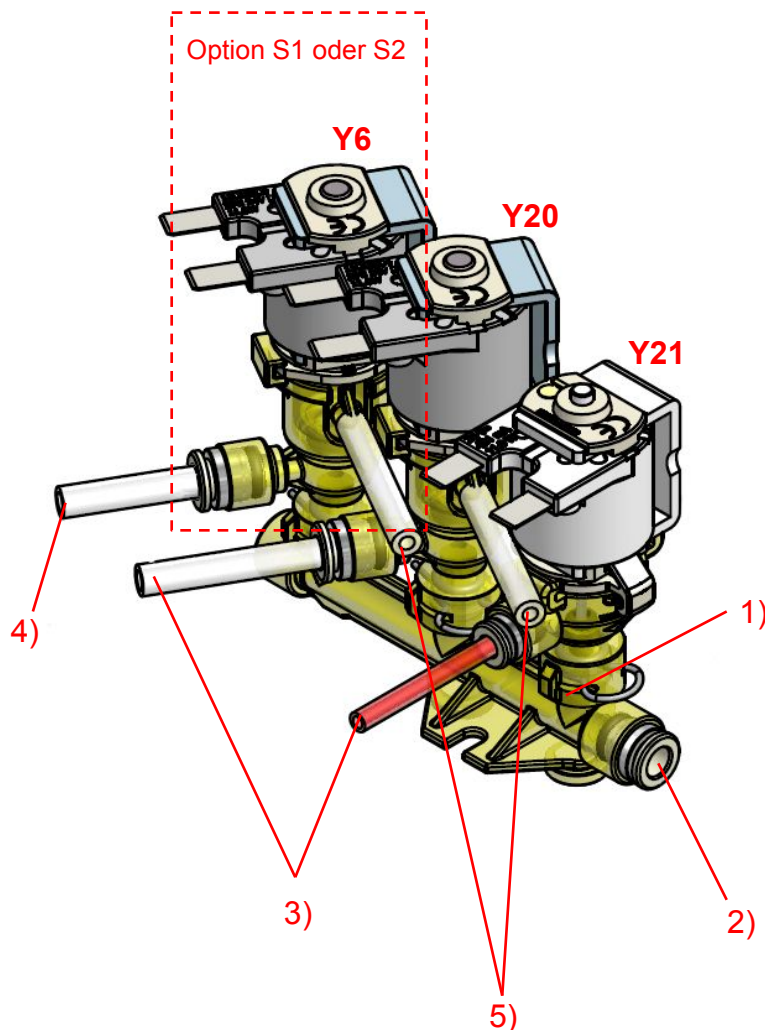


Water flow



Technical construction

Steam valve block MS



Y6:

Function: Autosteam (3/2-way valve)

Cable: brown

Remark: opening 3.0mm

Valve Y6 is for option S1 or S2 and is always installed.

Y20:

Function: milk steam (3/2-way valve)

Cable: violet

Remark: opening 3.0mm

Y21:

Function: milk steam (2/2-way valve)

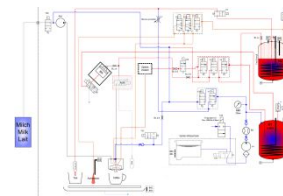
Cable: white

Remark: Durchlass 3.0mm

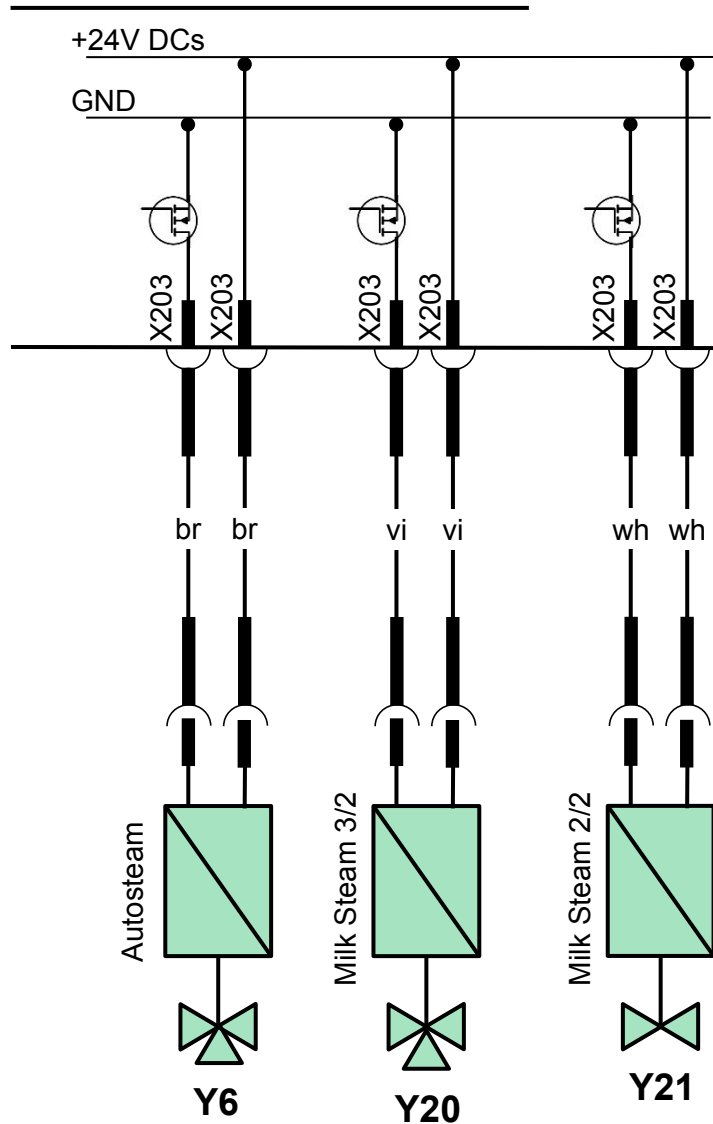
- 1) 3-fold valve block (Basic)
- 2) Inlet from hot water / steam boiler
- 3) To front plug-in connection
- 4) To outlet Autosteam
- 5) Bleed (dribble box)

Technical construction

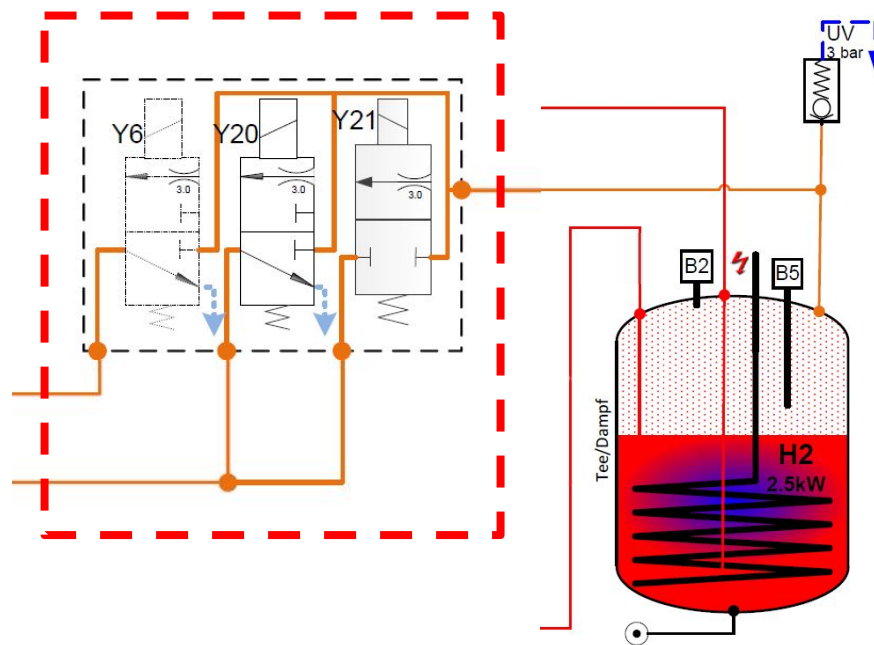
Steam valve block MS

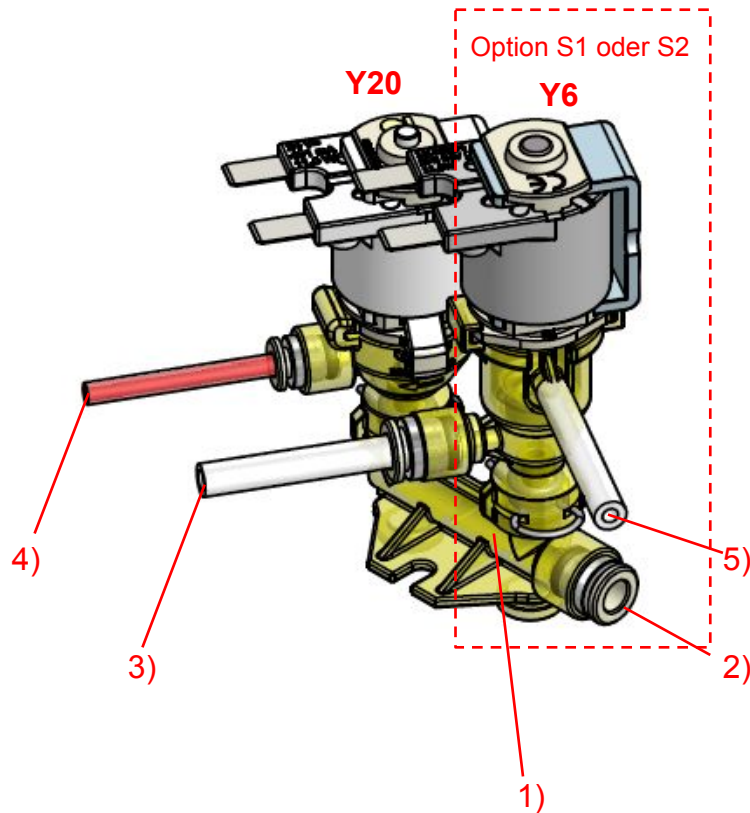


Electrical



Water flow





Y6:

Function: Autosteam (3/2-way valve)

Cable: brown

Remark: opening 3.0mm

Autosteam valve Y6 just installed with option S1 or S2!

Y20:

Function: milk steam (2/2-way valve)

Cable: violet

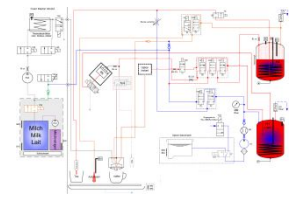
Remark: opening 3.0mm

- 1) 2-fold valve block if with option S1 or S2, otherwise just 1-fold valve block (Y20)
- 1) Inlet from hot water / steam boiler
- 2) To front plug-in connection
- 3) To milk line
- 4) Bleed (dribble box)

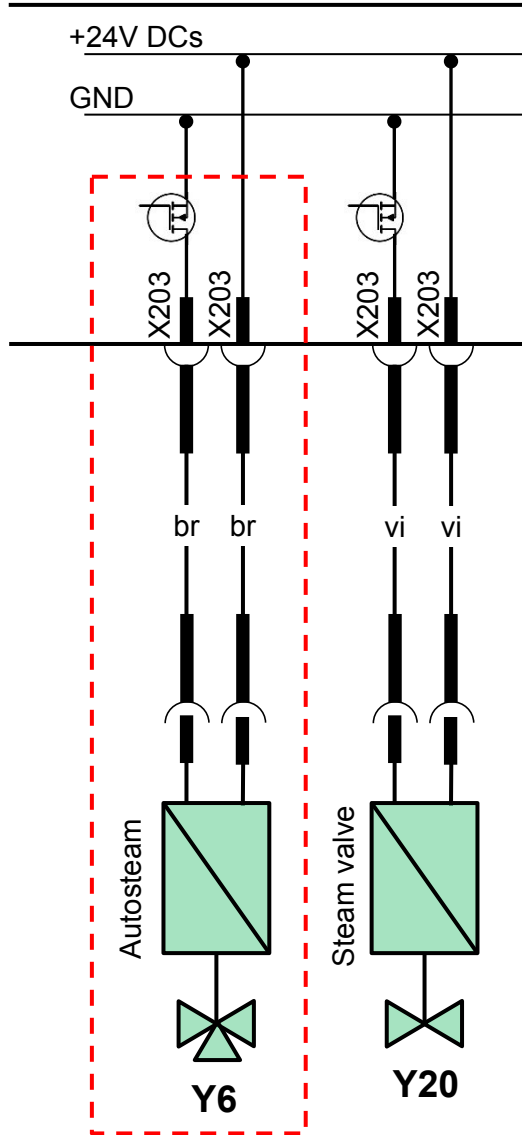
The Y20 is designed to heat the milk further after it has already been heated by the thermoblock, without causing it to caramelize. Products with a temperature of up to 80°C can be produced without spraying.

Technical construction

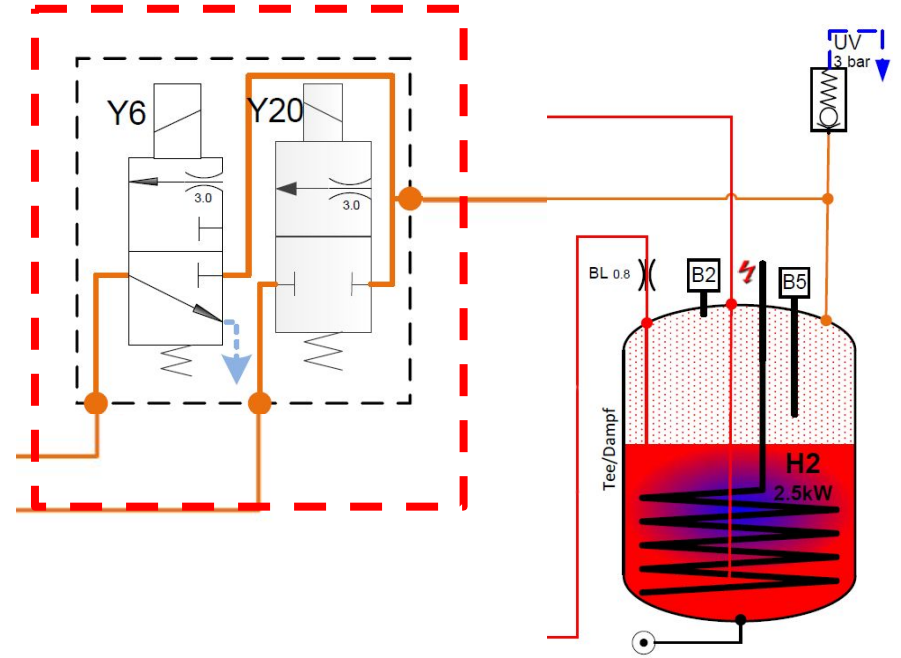
Steam valve block FM



Electrical

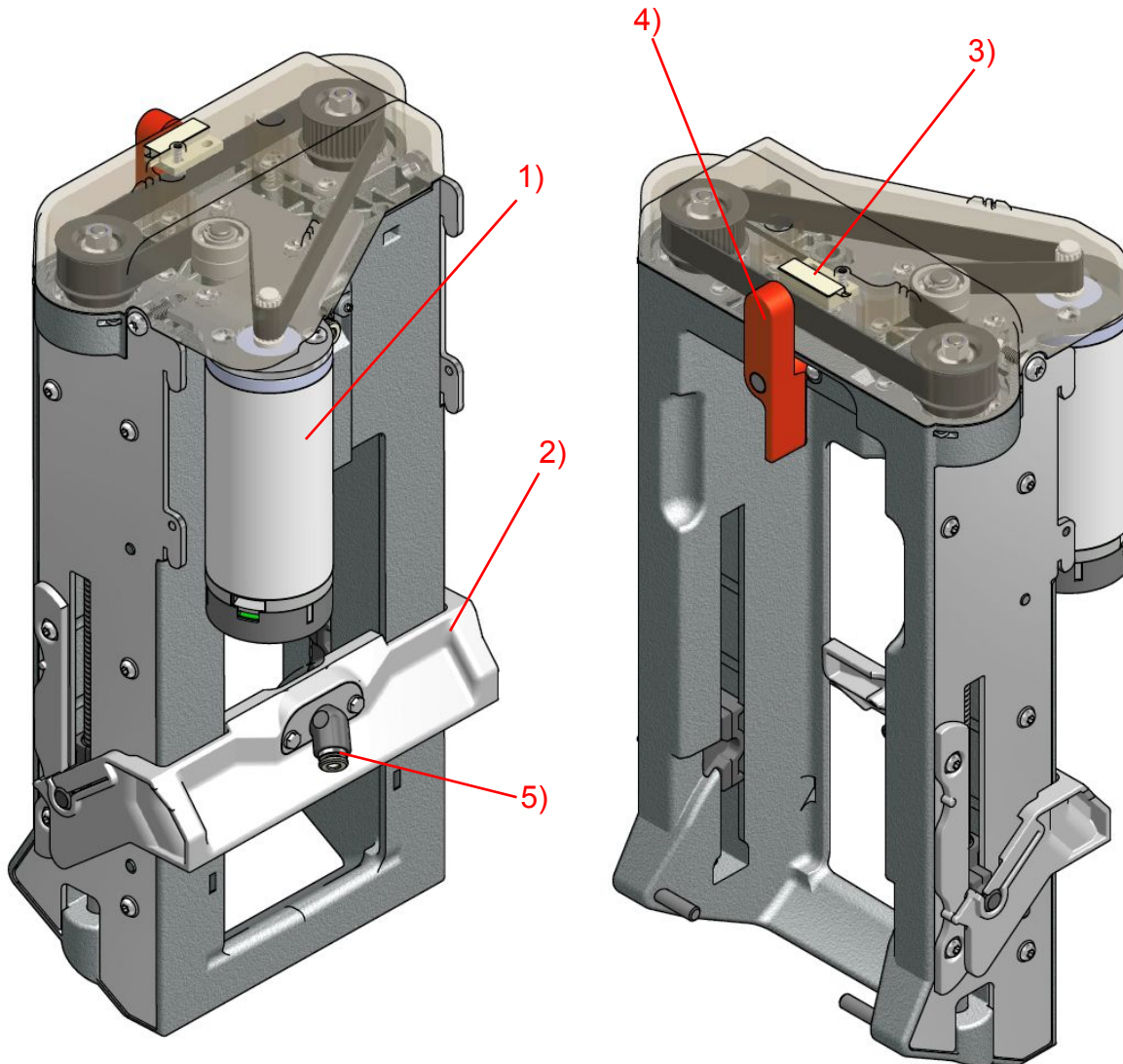


Water flow



Technical construction

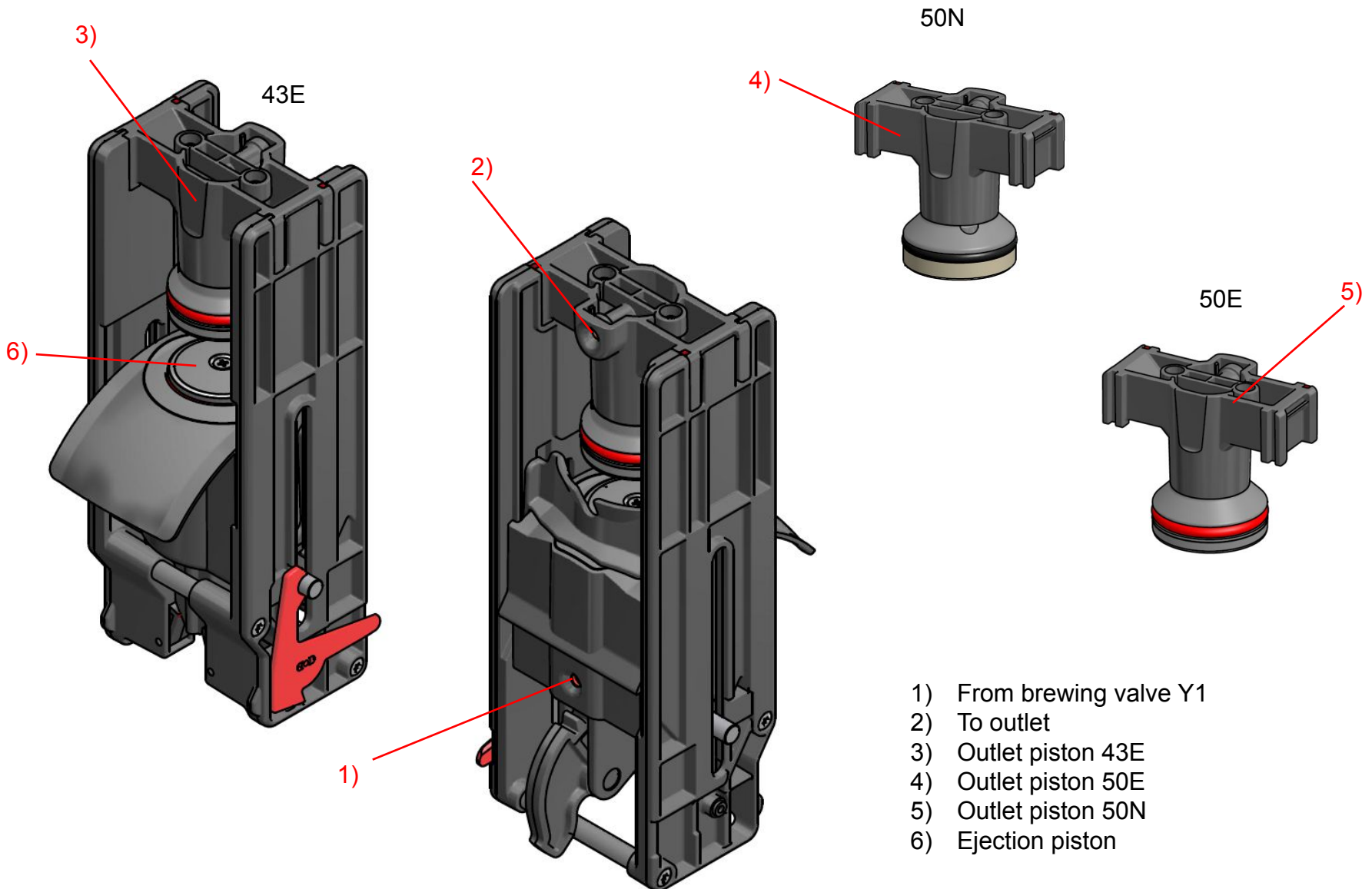
Brewing unit – drive frame



- 1) DC-Motor with encoder
- 2) Bar
- 3) Reed sensor
- 4) Locking lever for brewing module
- 5) Inlet from brewing valve Y1

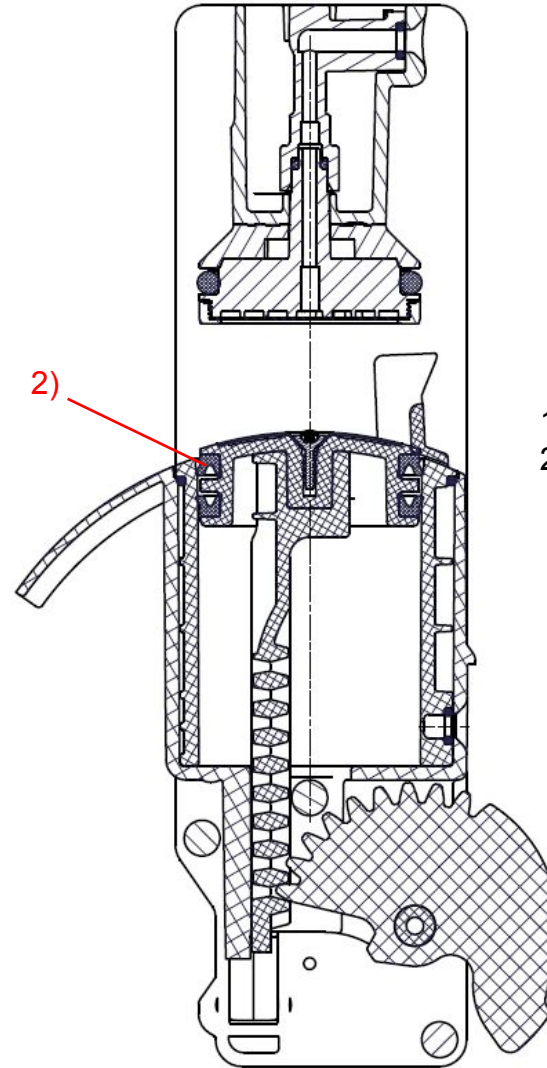
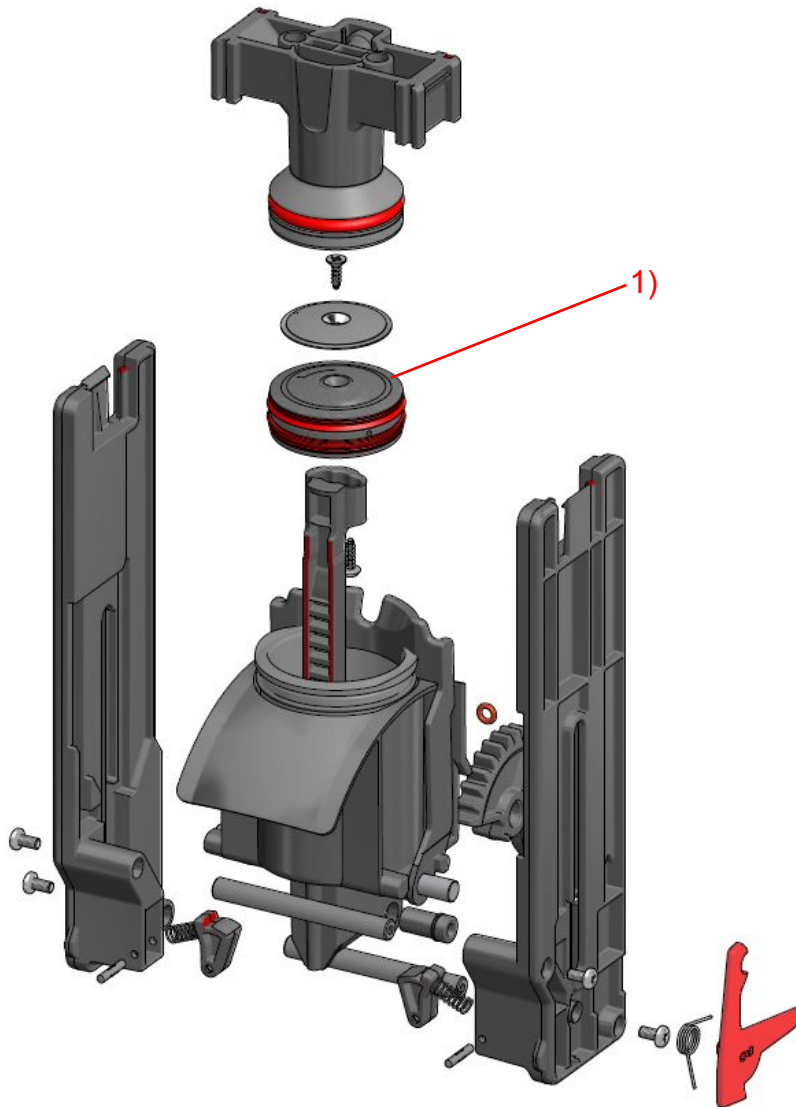
Technical construction

Brewing unit – brewing module 43E / 50E / 50N



Technical construction

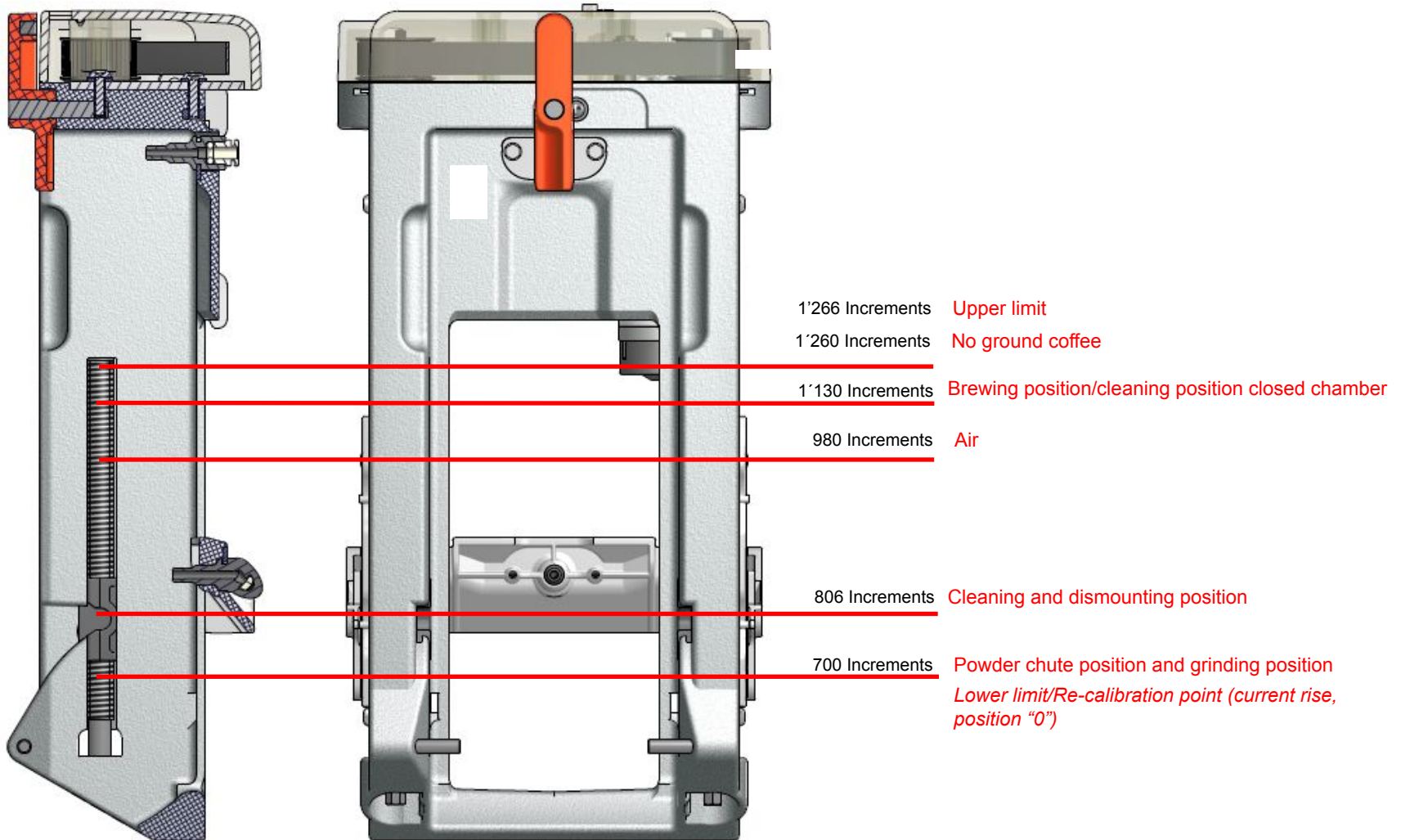
Brewing unit – brewing module 43E / 50E / 50N



- 1) Ejection piston
- 2) Lip seal

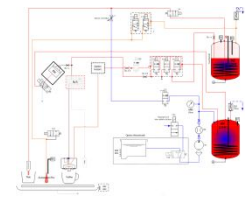
Technical construction

Fixed increment positions

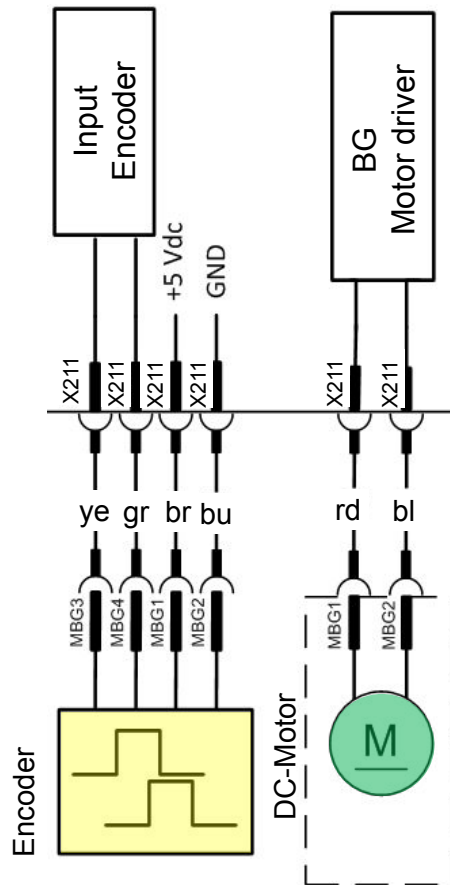


Technical construction

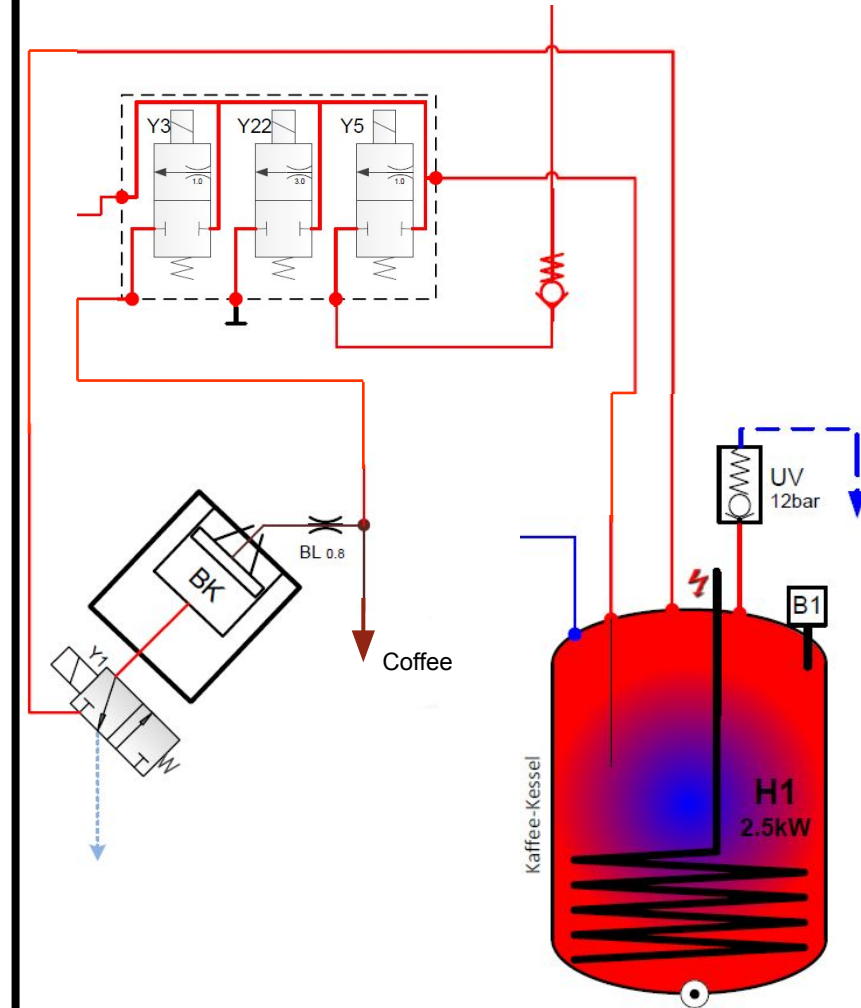
Brewing unit



Electrical



Water flow

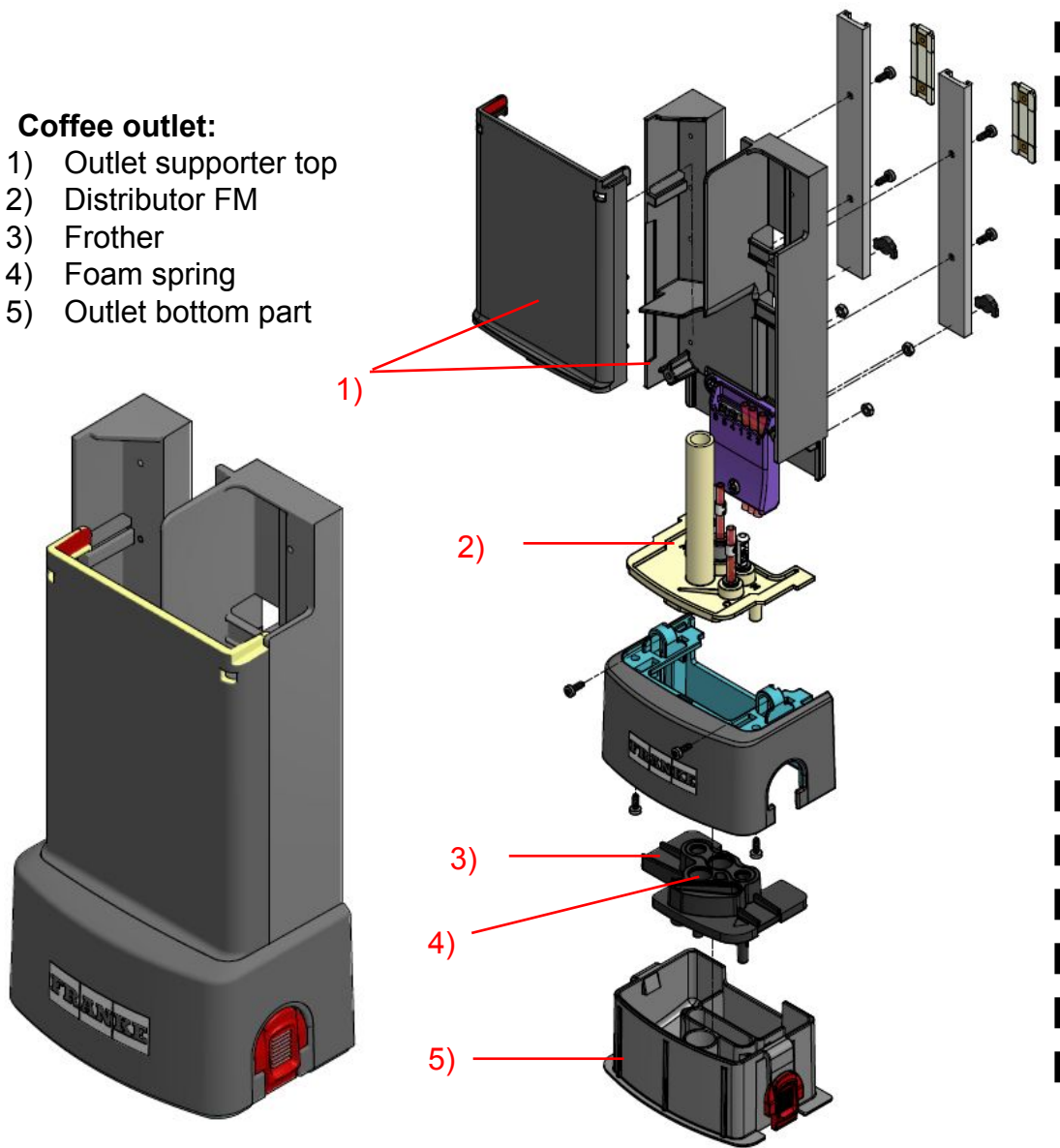


Technical construction

Coffee outlet TS / MS / FM

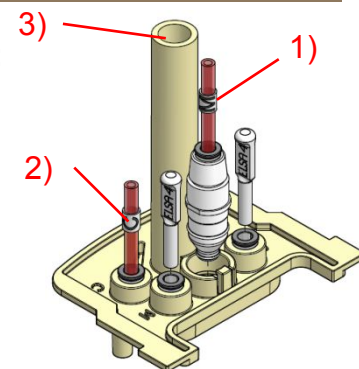
Coffee outlet:

- 1) Outlet supporter top
- 2) Distributor FM
- 3) Frother
- 4) Foam spring
- 5) Outlet bottom part



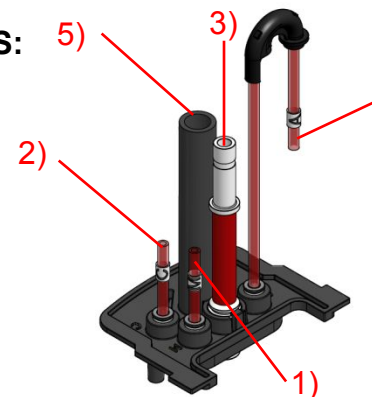
Distributor FM:

- 1) Milk
- 2) Coffee
- 3) Instant



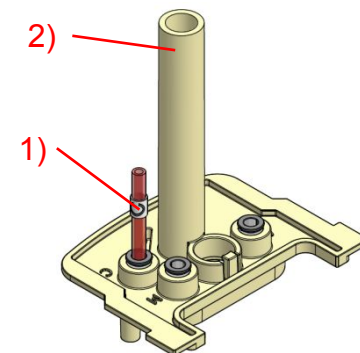
Distributor MS:

- 1) Milk
- 2) Coffee
- 3) Steam
- 4) Air
- 5) Instant



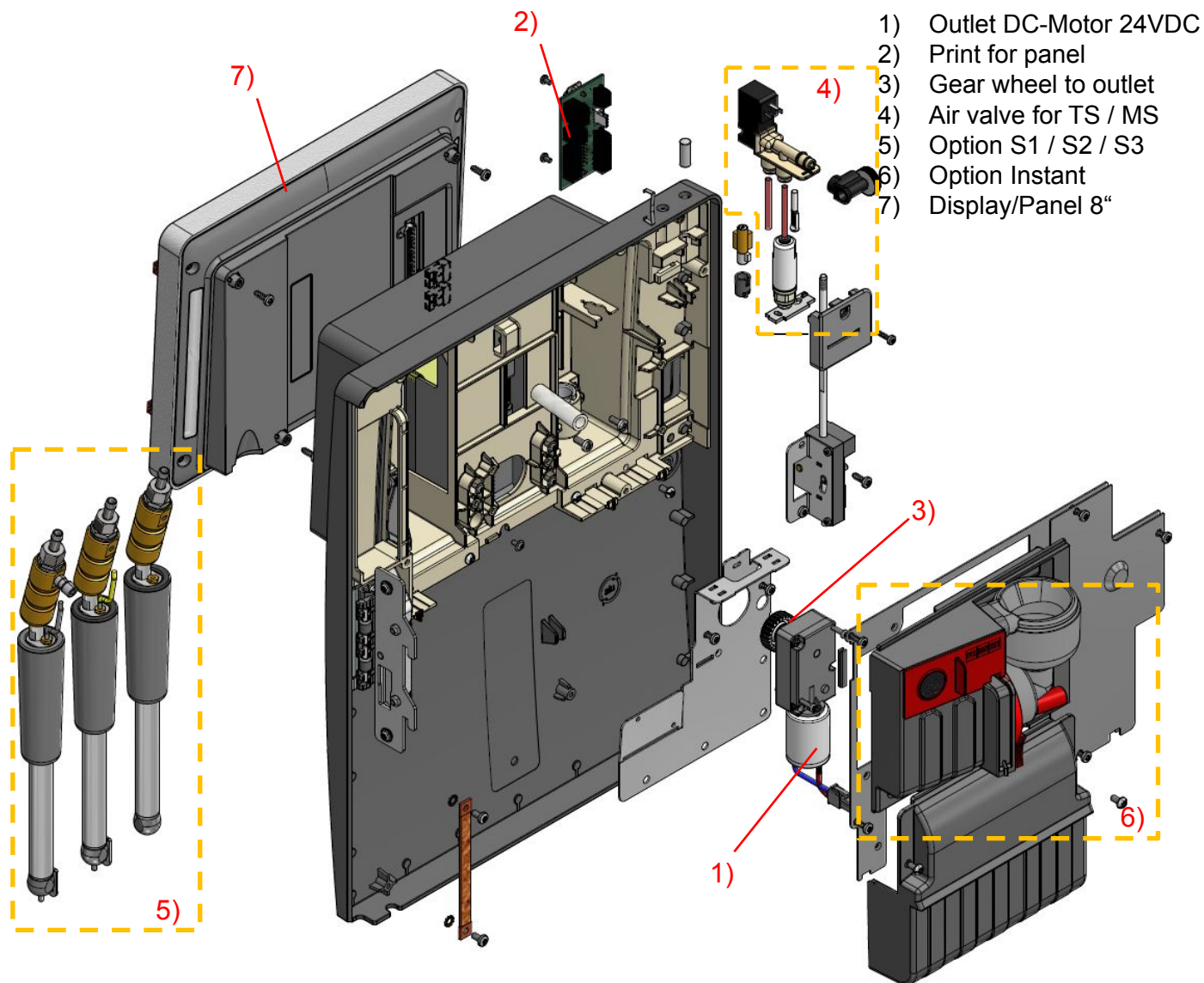
Distributor TS:

- 1) Coffee
- 2) Instant



Technical construction

Front door

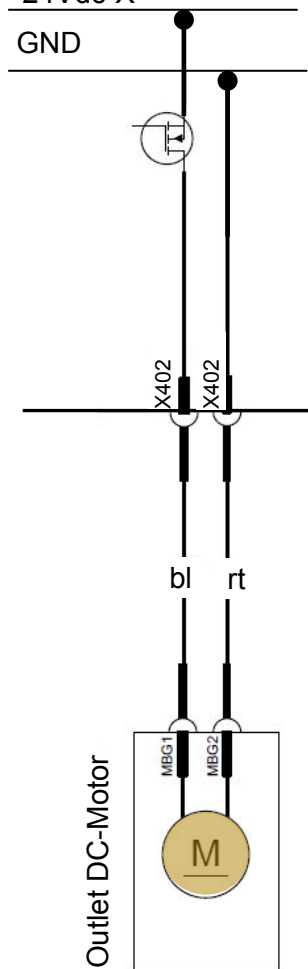


Electrical

+24Vdc

+24Vdc-X

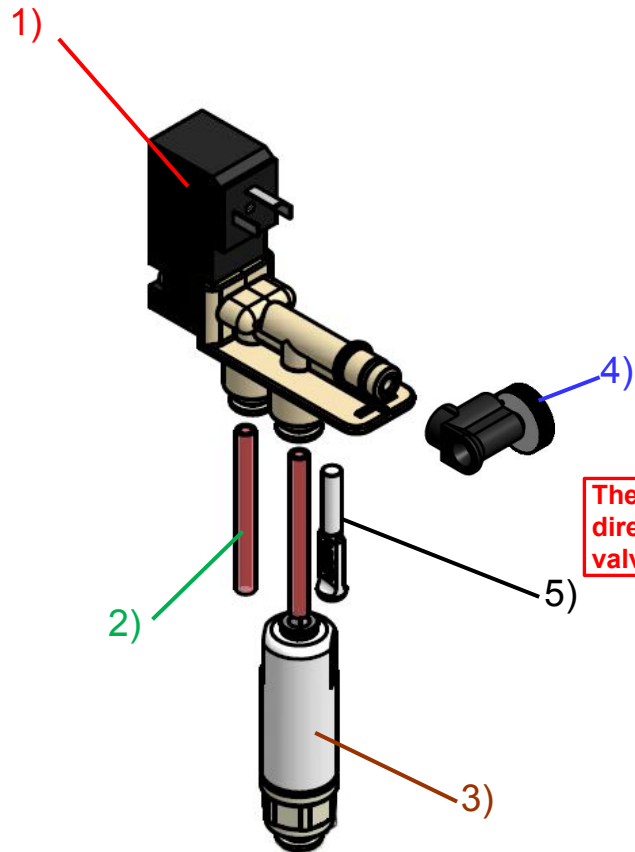
GND



Outlet DC-Motor

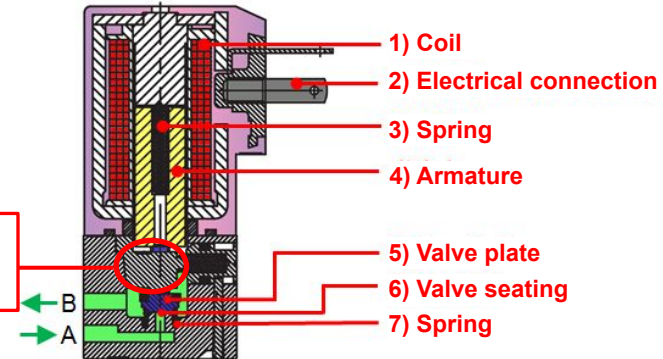
Technical construction

Air valve (front door)

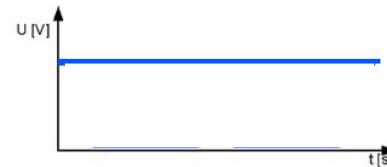


- 1) Air valve Y31 – for machine type MS
Air valve Y37 – for machine type TS (only when option S1, S2, S3)
- 2) Machine type MS -> Air to outlet
Machine type TS -> Air to S1, S2, S3
- 3) Rinsing line (from Y30, only machine type MS)
- 4) Air regulation
- 5) Machine type TS -> only with option S1, S2, S3

The armature is not directly linked to the valve plate.

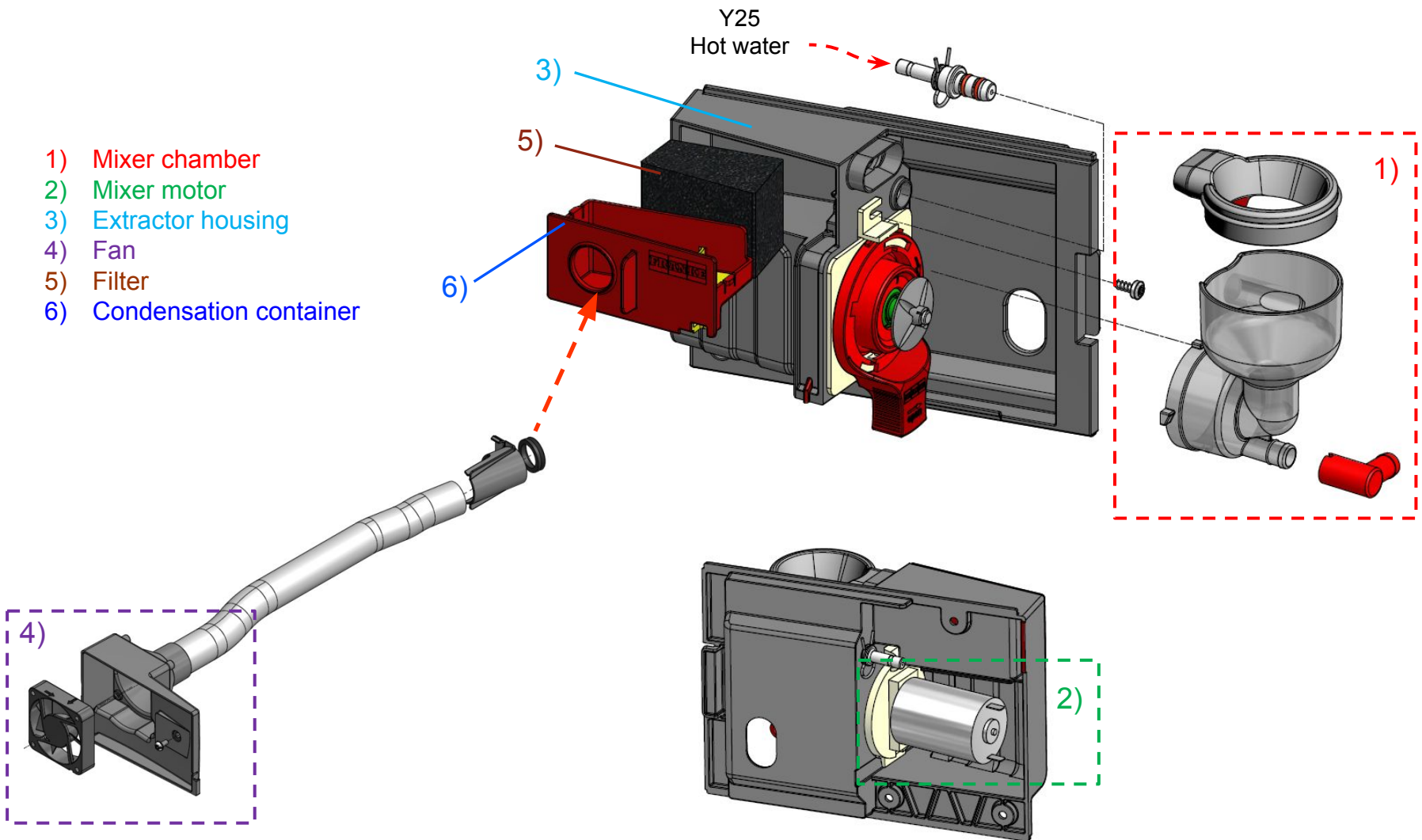


Only 100% controlled

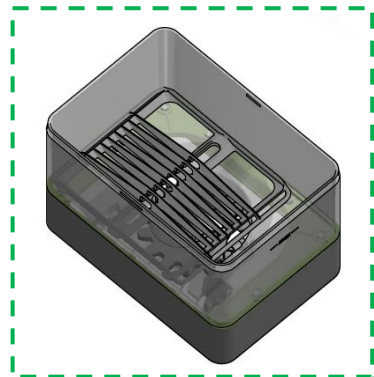


Technical construction

Instant mixer (Option)



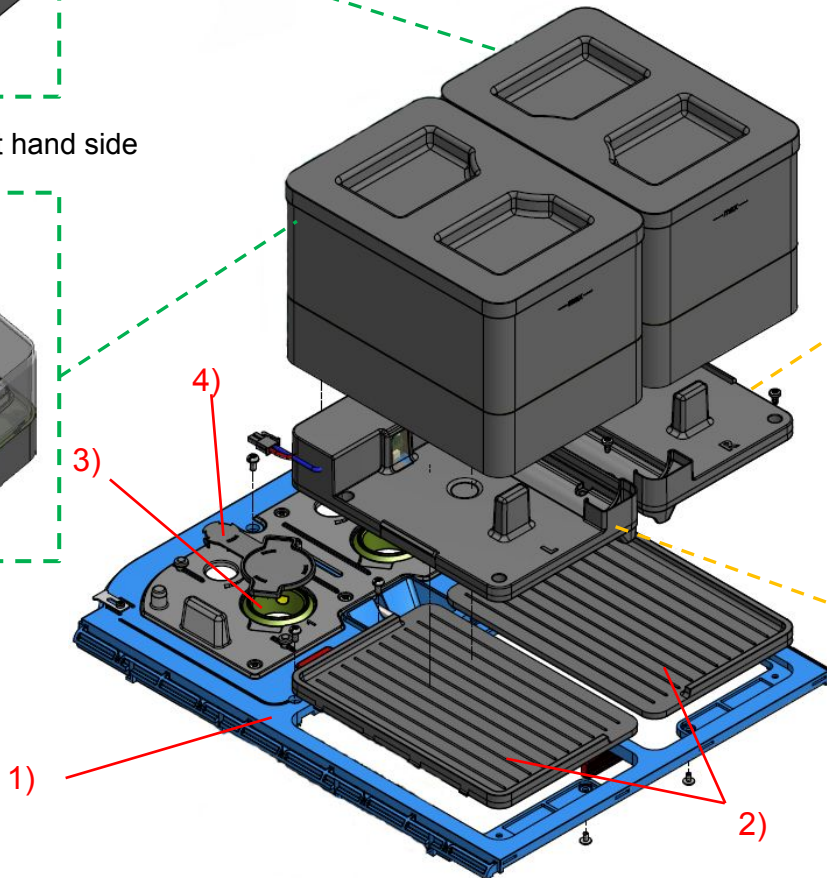
Technical construction Coverplate / Instant



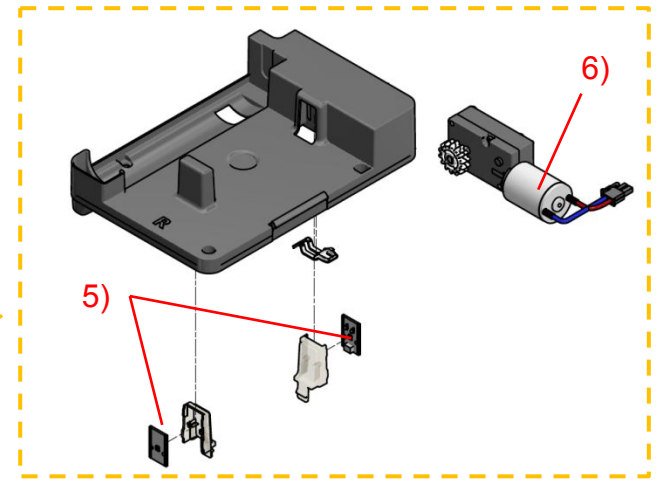
Instant container right hand side



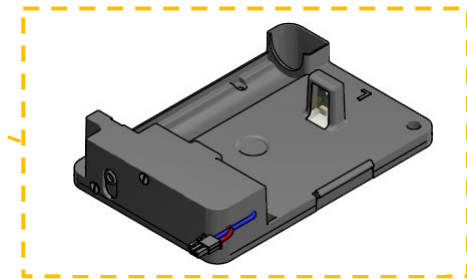
Instant container left hand side



- 1) Coverplate
- 2) Blind cover
- 3) Grinder insert with bean monitoring
- 4) Cover grinder
- 5) IR-Sensor/Print
- 6) Dosage motor



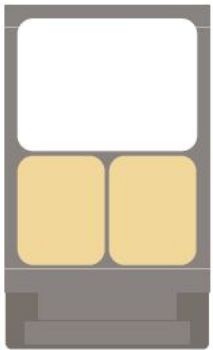
Powder dosing unit right hand side



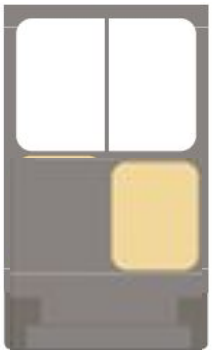
Powder dosing unit left hand side

Technical construction

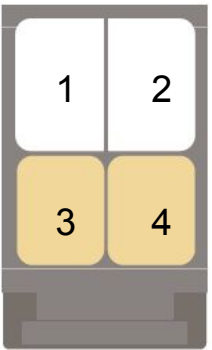
Coverplate / layout of containers



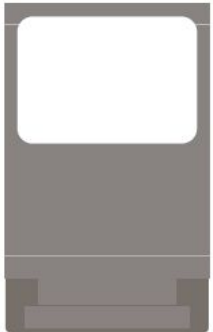
1M / 2P



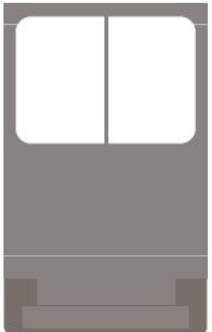
2M / 1P



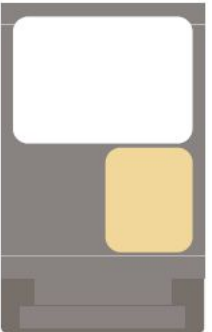
2M / 2P



1M



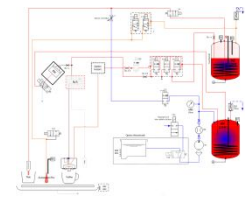
2M



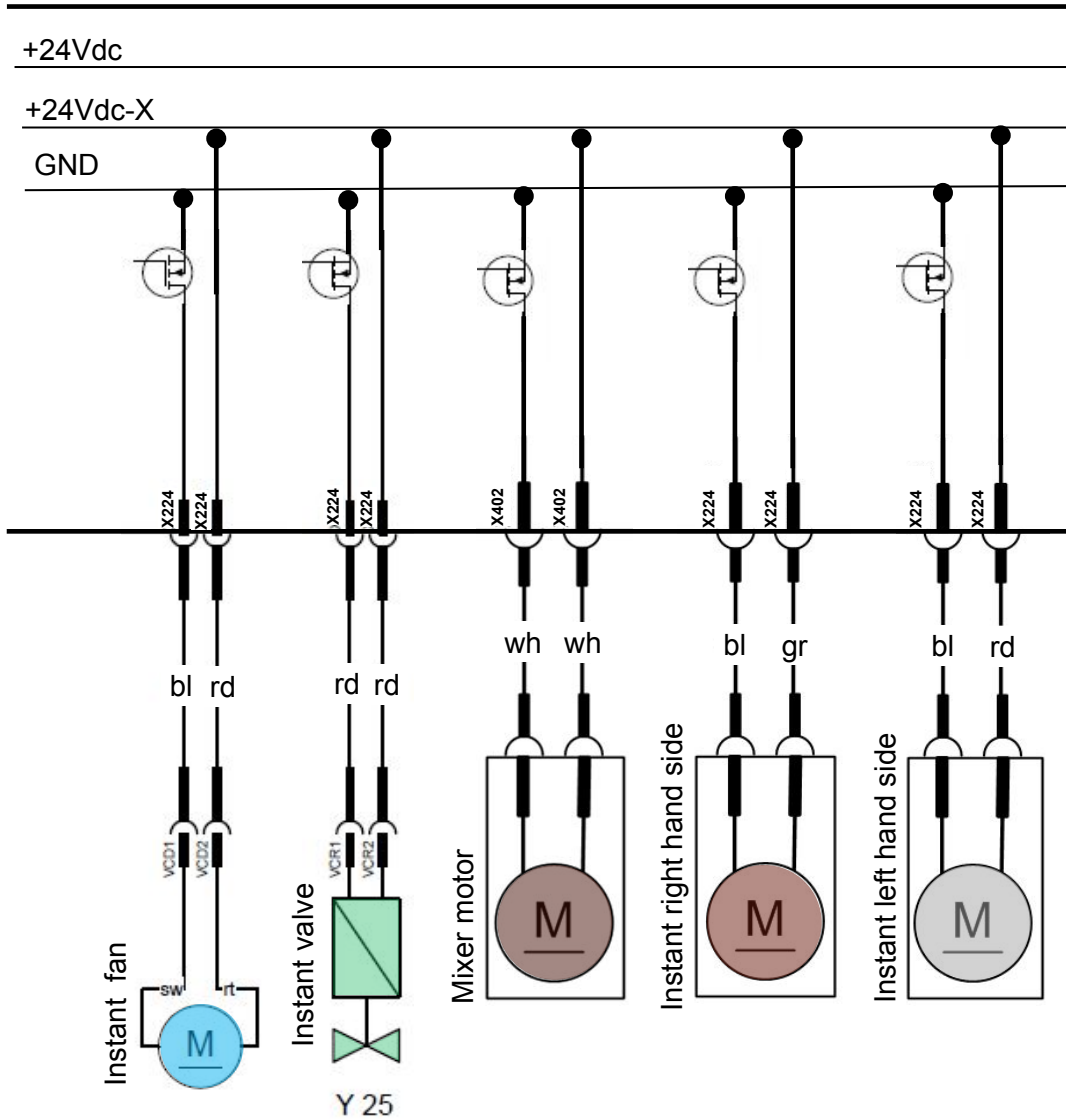
1M / 1P

Technical construction

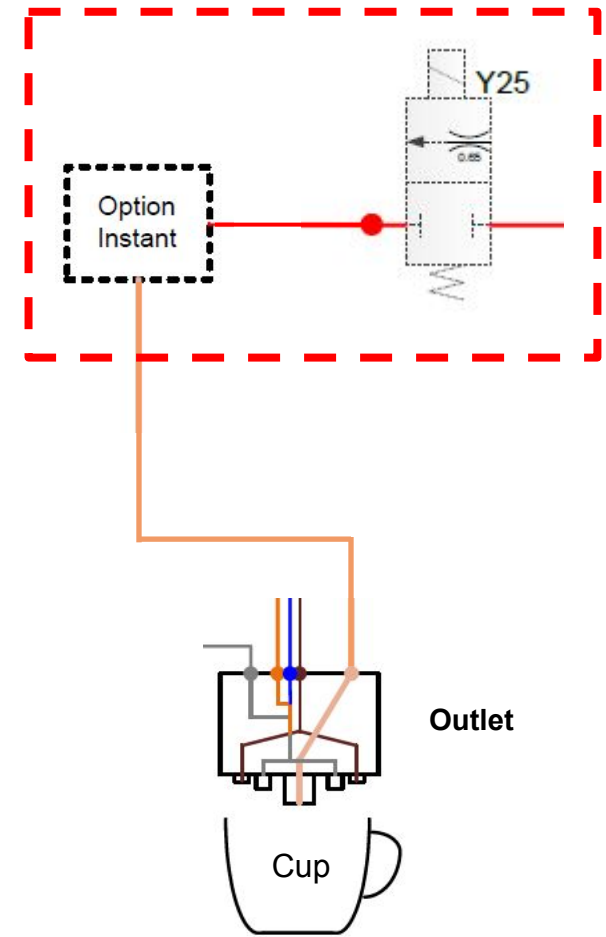
Instant



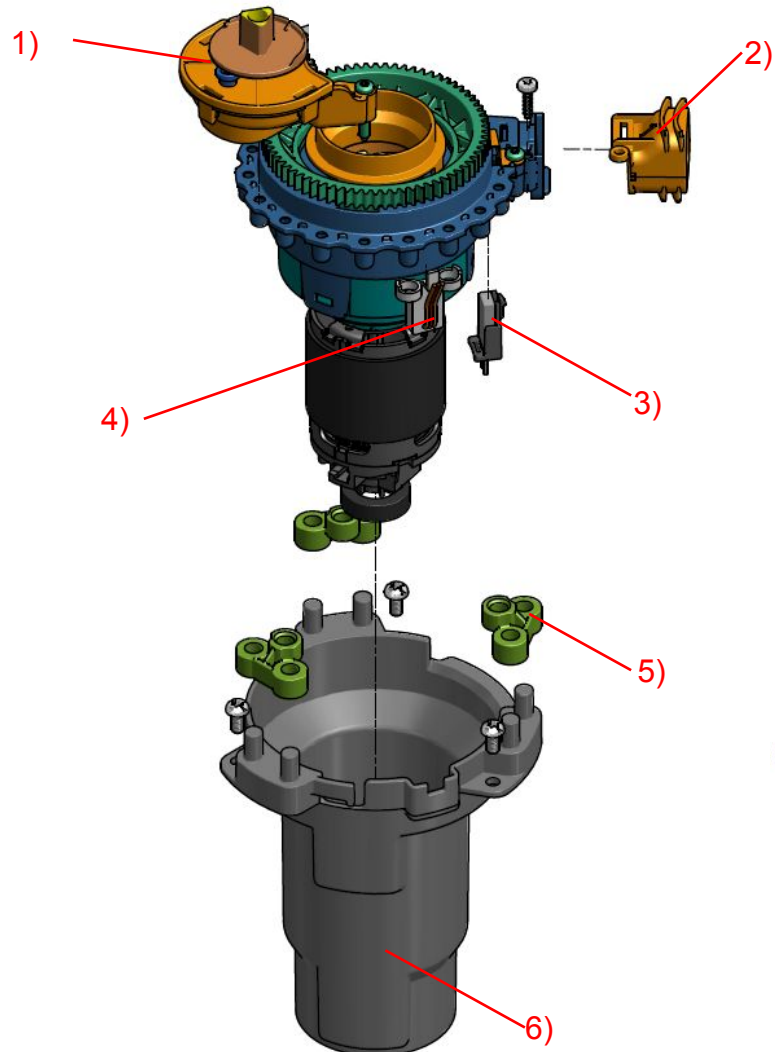
Electrical



Water flow



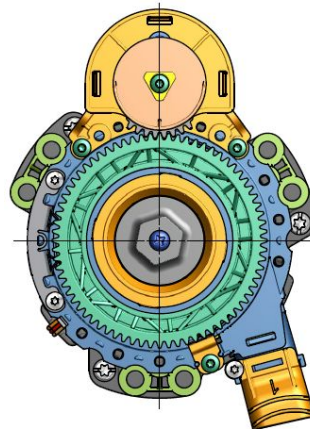
Technical construction Grinder (Pura)



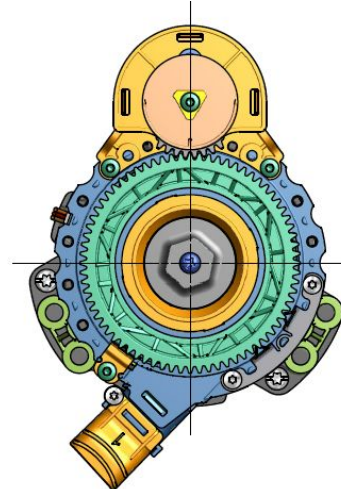
Specification of grinder:

- Ceramic burrs \varnothing 54
- 1) Grind adjustment
- 2) Powder shaft
- 3) Current temperature limiter
- 4) Sensor r.p.m. counter
- 5) Grinder absorption
- 6) Holder for grinder

Grinder left



Grinder right



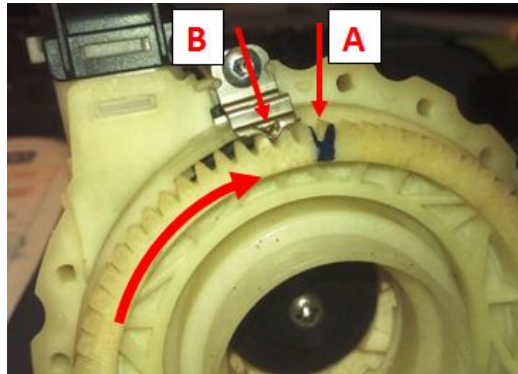
Technical construction

Grinder / Adjustment

Both grinders have a finer factory setting (2 notches down) upon installation in the coffee machine. This results in a range of settings that is finer by 2 notches => the medium setting is therefore 2 notches finer than before.

□ See also SI 15-127:

When replacing the grinder, it must be configured 2 notches finer (in a clockwise direction) prior to installation in the A600 machine :

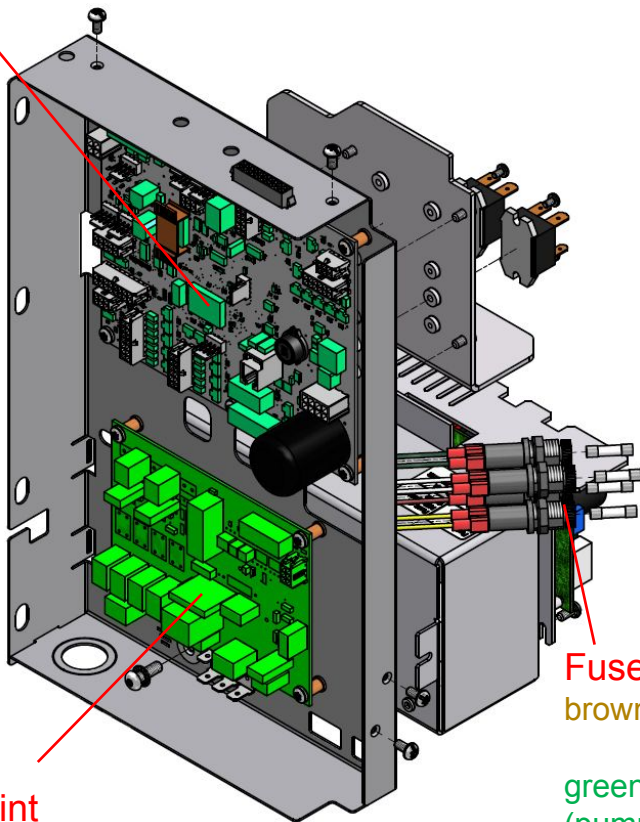


- A) Standard position for use with the Pura coffee machine
- B) New position for use with the A600 coffee machine

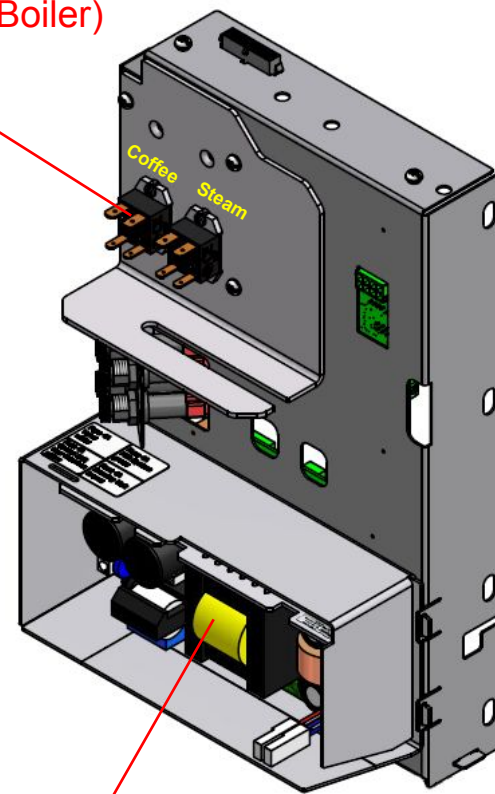
Technical construction

Electronics / electrical box

Process print PP



Semiconductor relays (Boiler)



Fuses 4A SSB:
brown = Brewing unit

green = MS internal
(pump, valve Y38)

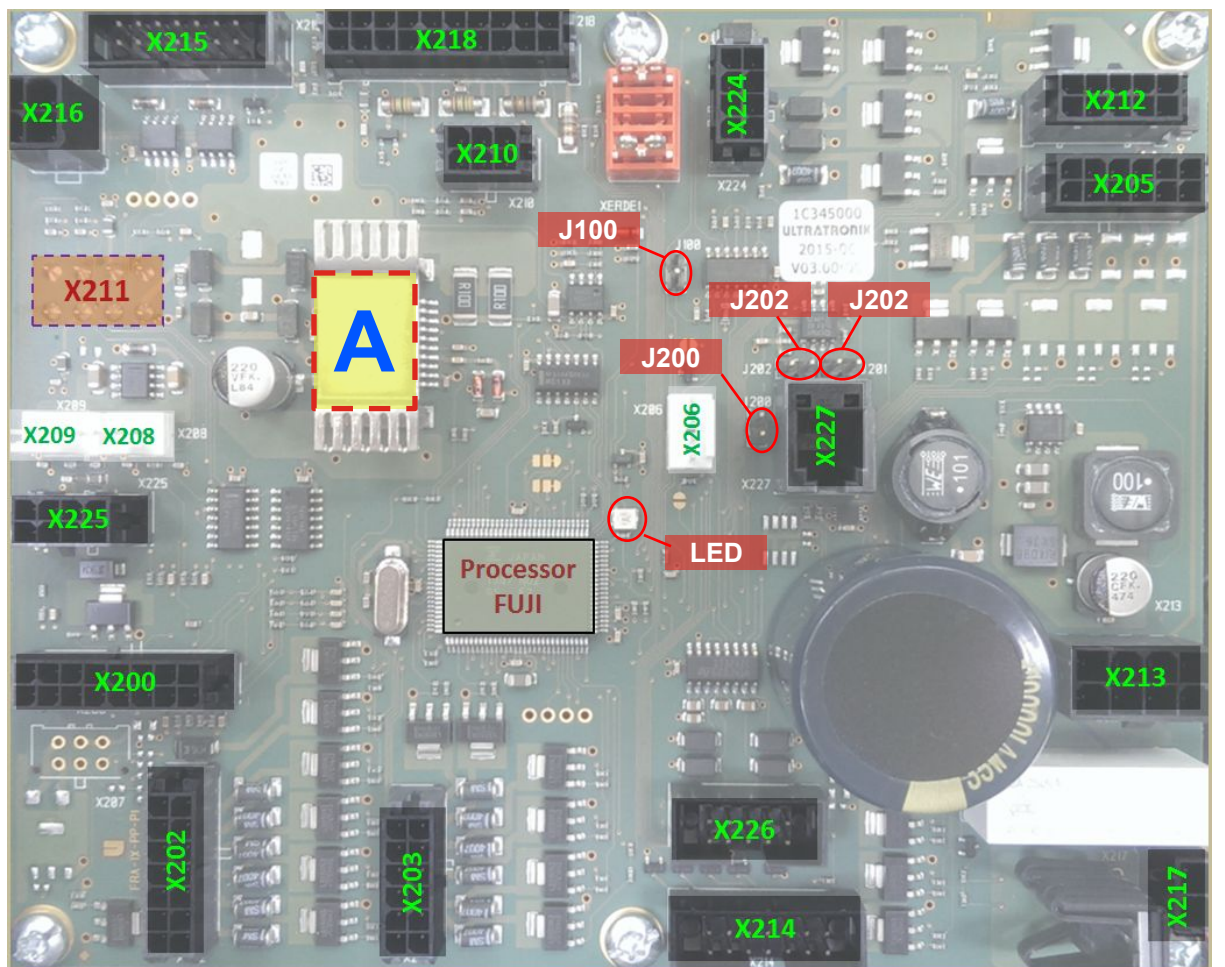
white = valves coffeemachine

yellow = controls, panel, outlet
motor, all sensors etc.

Switch-mode power supply

Technical construction

Electronics / Process PCB



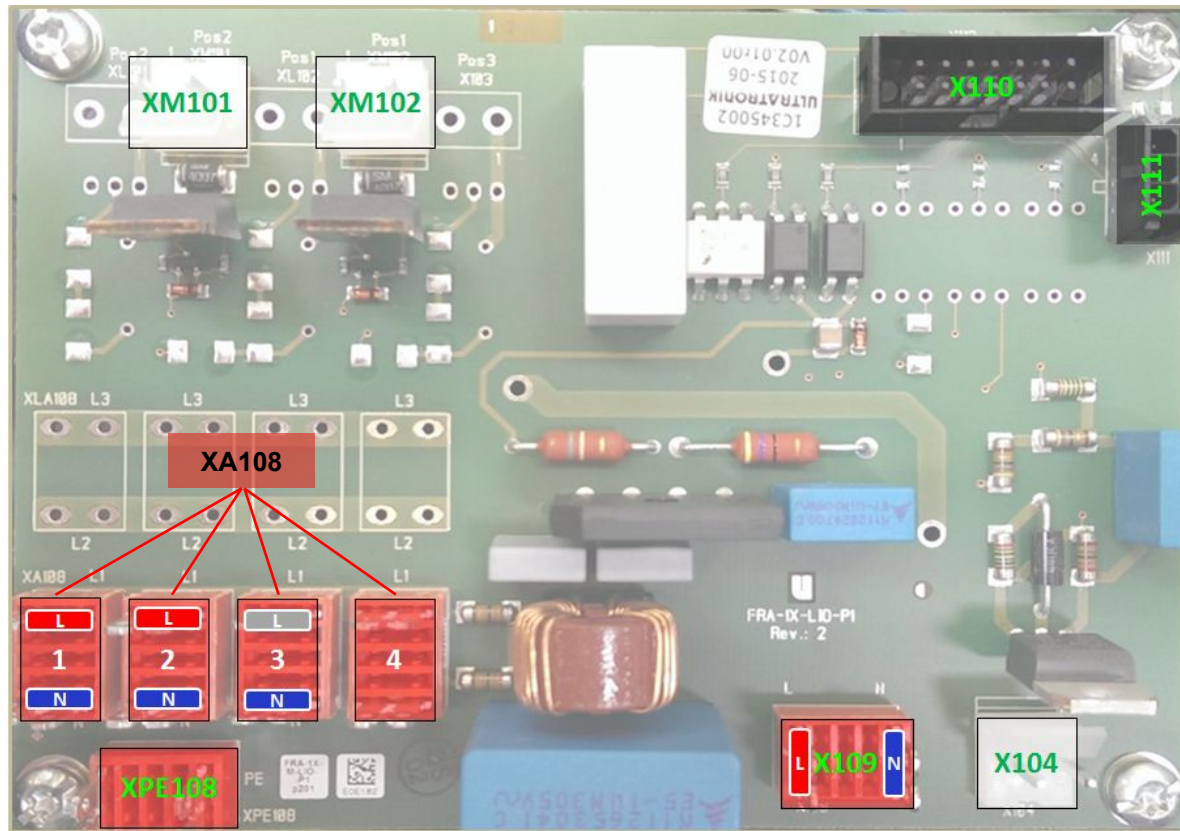
A - Driver brewing unit
LED - Statusanzeige Print

J200 - empty
J200 - empty
J201 - empty
J202 - empty

- X200** - NTC coffee and HW/S, flowmeter
Level probe HW/S
- X202** - Valve Y34 water tank (red)
Valve Y33 main water (white)
Valve Y3 coffee bypass (grey)
Valve Y4 tea hot (blue)
Valve Y1 brewing valve (brown)
Valve Y17 tea bypass cold (green)
Valve Y5 HW/S supply (yellow)
- X203** - Valve Y30 rinsing cold (red)
Valve Y6 steam AS1 (brown)
Valve Y18 steam AS2 (black)
Valve Y21 Cappu steam 2 (white)
Valve Y20 Cappu steam 1 (violet)
Valve Y22 rinsing warm (pink)
- X205** - Flavour pump 1/2/3
- X206** - empty
- X208** - Water level monitoring tank
- X209** - Water level monitoring drip tray
- X210** - Increment grinder Pos. 1+2
- X211** - Connection brewing unit (on rear side)
motor, increments, brewing unit presence
- X212** - connection internal MS
valve Y38, pump, IN-line sensor
- X213** - Fuses 4A T F201, F202, F203 F204
- X214** - Communication L I/O Print
- X215** - Communication UI (CPU)
- X216** - 24Vdc to UI (CPU)
- X217** - 24Vdc from switch-mode power supply
- X218** - IR monitoring
Presence control position 1, 2, 3, 4
- X224** - Instant fan, dosage motor, valve Y25
- X225** - Control front door, tank external, fan base
- X226** - RS232 CS-accounting
- X227** - CAN Ext.

Technical construction

Electronics / Power I/O Print



XM101 - Power supply grinder 2 (Pos.2)

XM102 - Power supply grinder 1 (Pos.1)

X104 - Water pump

X109 - Power supply to main switch (200-240Vac)

X110 - Communication process print PP

X111 - Control semiconductor relays 24Vdc(Boiler)

XA108 - Power supply 230Vac

1 – Power input (Netzkabel)

2 – Coffee boiler (L over sc relays)

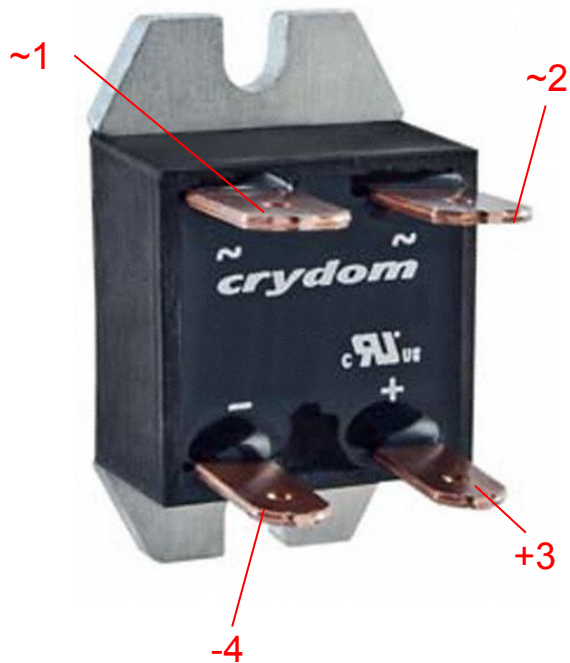
3 – HW/S boiler (L over sc relays)

4 – empty

XPE108 - GND

Technical construction

Electronics / semiconductor relays (coffee and HW/S boiler)



Design and functionality

The semiconductor relay consists of two antiparallel connected thyristors, which are controlled by an optical coupler (electrical isolation between control and power circuit).

Technical data

Control circuit:

Control voltage: 21-27 Vdc

Power circuit:

Switching capacity: 24-280 Vac/20 A

Anschlüsse:

Connection	Description
Control circuit/Steuerspannung	
+3	+24Vdc
-4	GND
Power circuit	
~1	230Vac (input from L I/O Print)
~2	230Vac (output to boiler)

Technical construction

Electronics / switch-mode power supply



X1 - Power supply from power switch (200-240Vac)

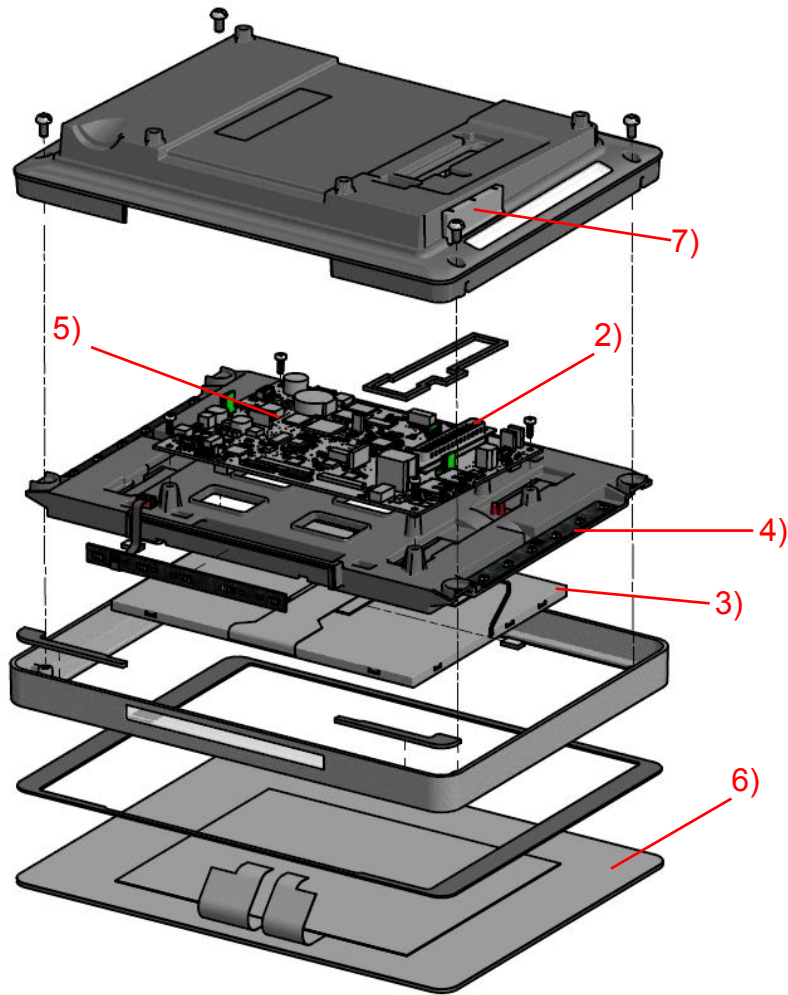
X3 - empty

X4 - Power supply to process print PP 24Vdc

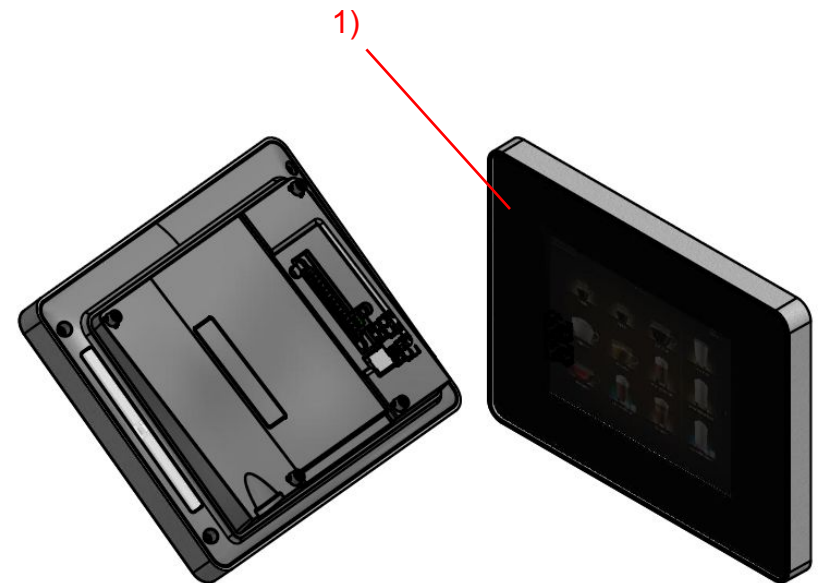
F1- Fuse 4A T

Technical construction

Operator panel / vetro touch 8 inch



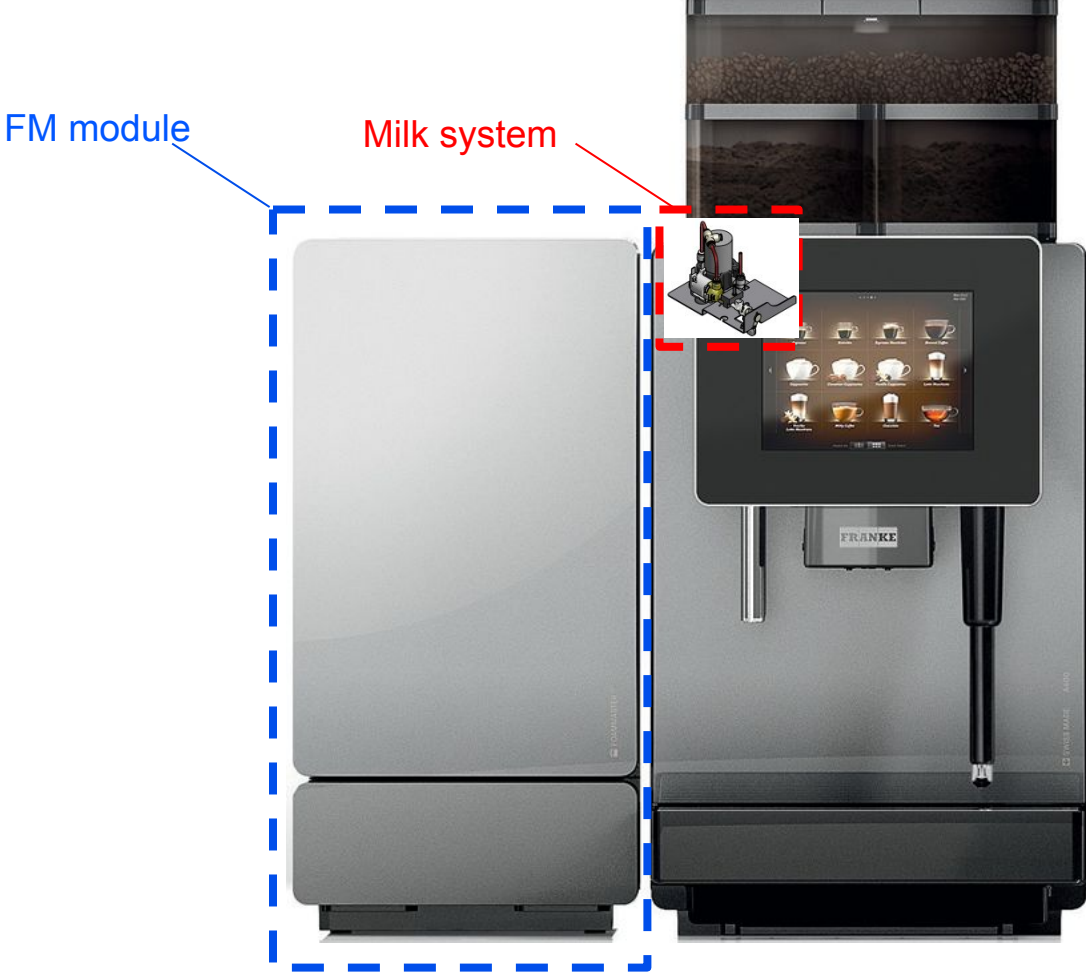
- 1) Panel complete
- 2) connection panel
- 3) Panel
- 4) Edge lighting
- 5) UI print panel
- 6) Touchscreen
- 7) USB-stick cover



When changing the panel, it is essential that the machine is de-energized first.

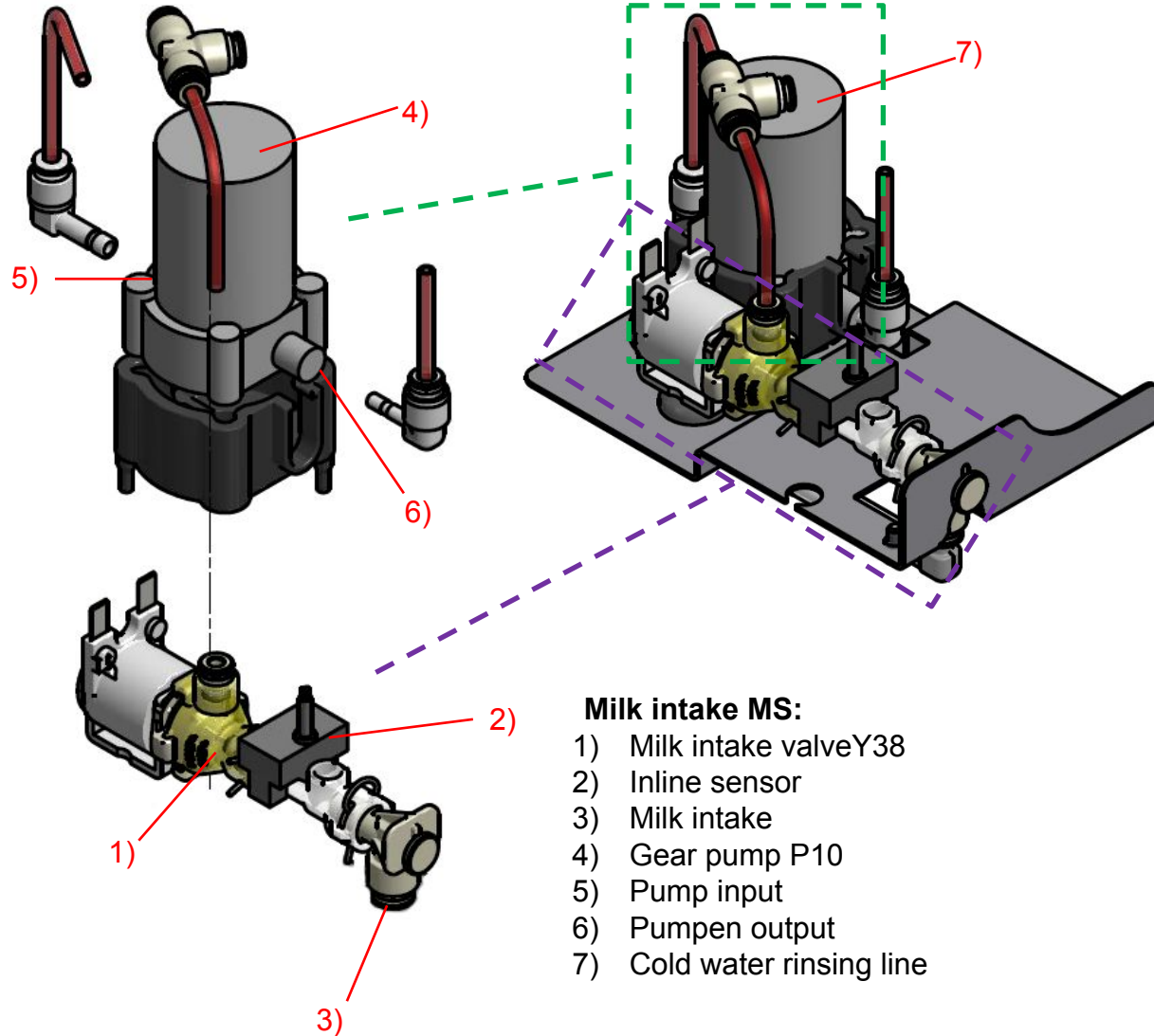
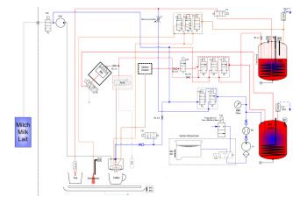
Technical construction

Milk system and Foam Master* Module

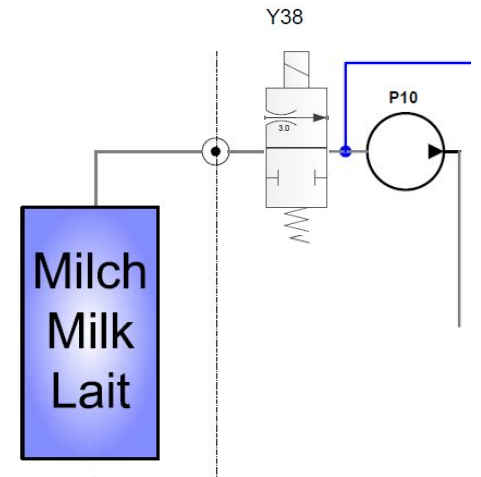


*Lizenziert von Thermoplan/Licensed by Thermoplan

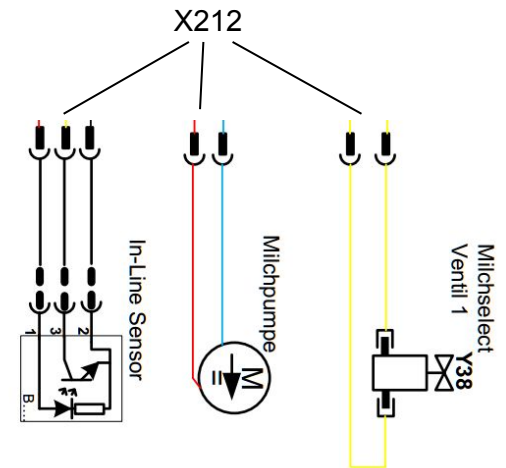
Technical construction Milk system MS



Water flow

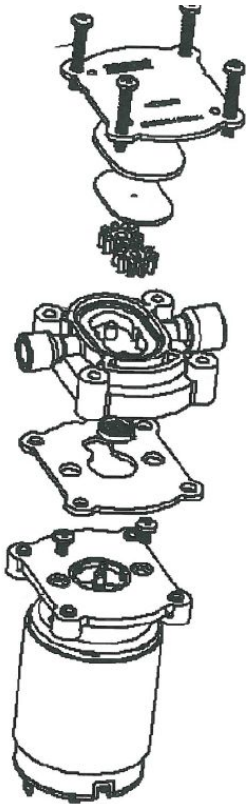


Electrical



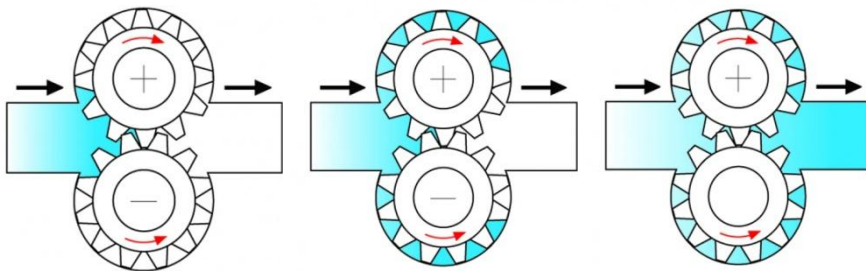
Technical construction

Milk system MS / gear pump

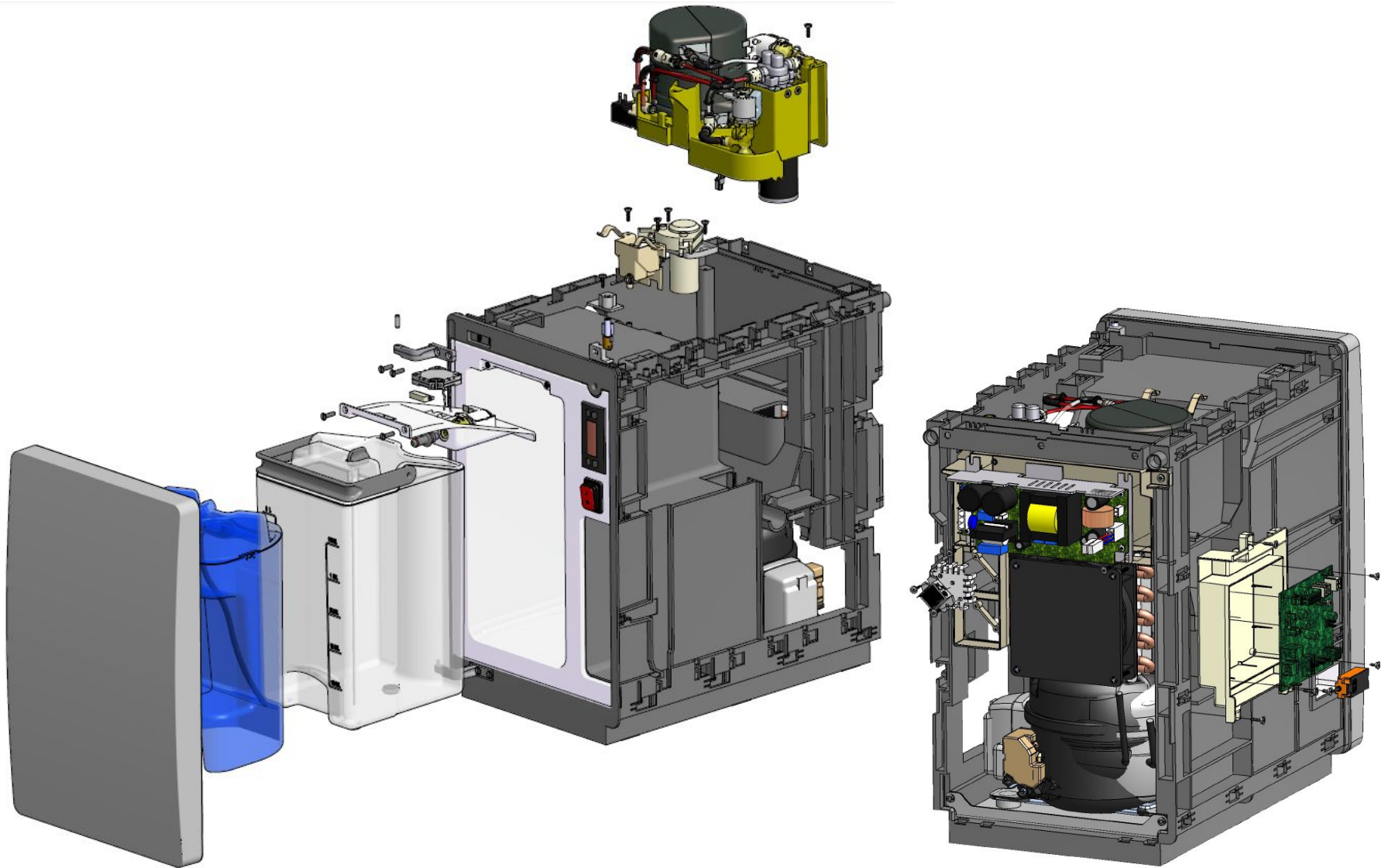


Construction and functionality

The gear pump is a rotary pump consisting of two toothed gears rotating in opposite directions, which engage on the intake side of the pump. Both an intake connection (I) and a pressure line connection (P) are located on the pump head. The drive gear is linked to the drive motor via the magnetic coupling and drives the other toothed gear. Milk is drawn into the open space between the shoulders of the gears and the housing and transported to the pressure side. After the milk reaches the pressure side, the teeth on both gears fill the open spaces. This results in the pulsation-free conveying of the milk. The pump motor electronics are supplied with 24 VDC. Using a 24VDC PWM (**p**ulse **w**idth **m**odulation) is controlled infinitely variable speed control.



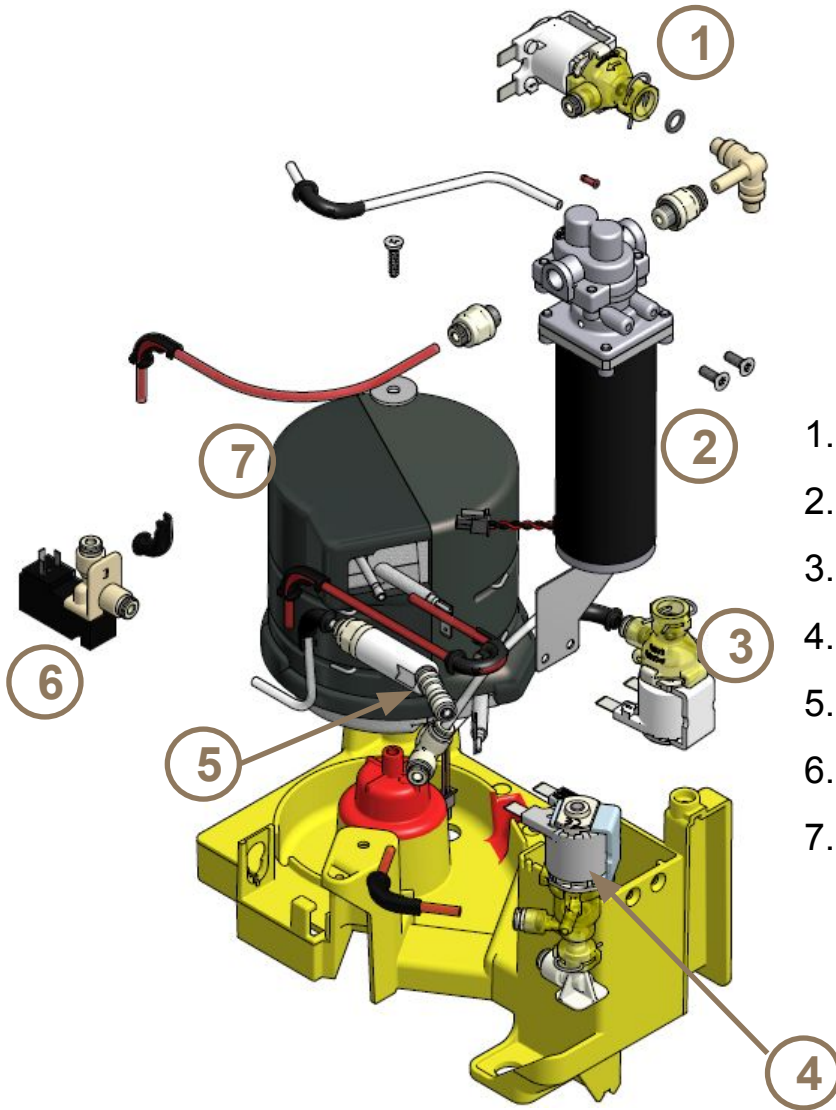
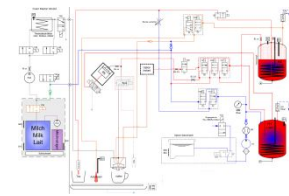
Technical construction FM* Module



*Lizenziert von Thermoplan/Licensed by Thermoplan

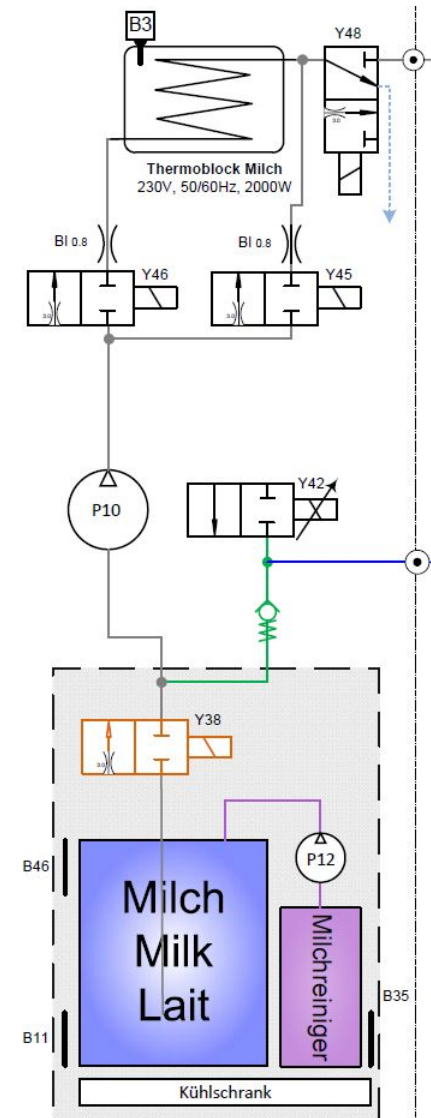
Technical construction

Slide in module FM*



1. Milk valve Y46 (warm)
2. Gear pump (P10)
3. Milk valve Y45 (cold)
4. Drainage valve Y48
5. Check valve (air line)
6. Air pulse valve Y42
7. Thermoblock (2000Watt)

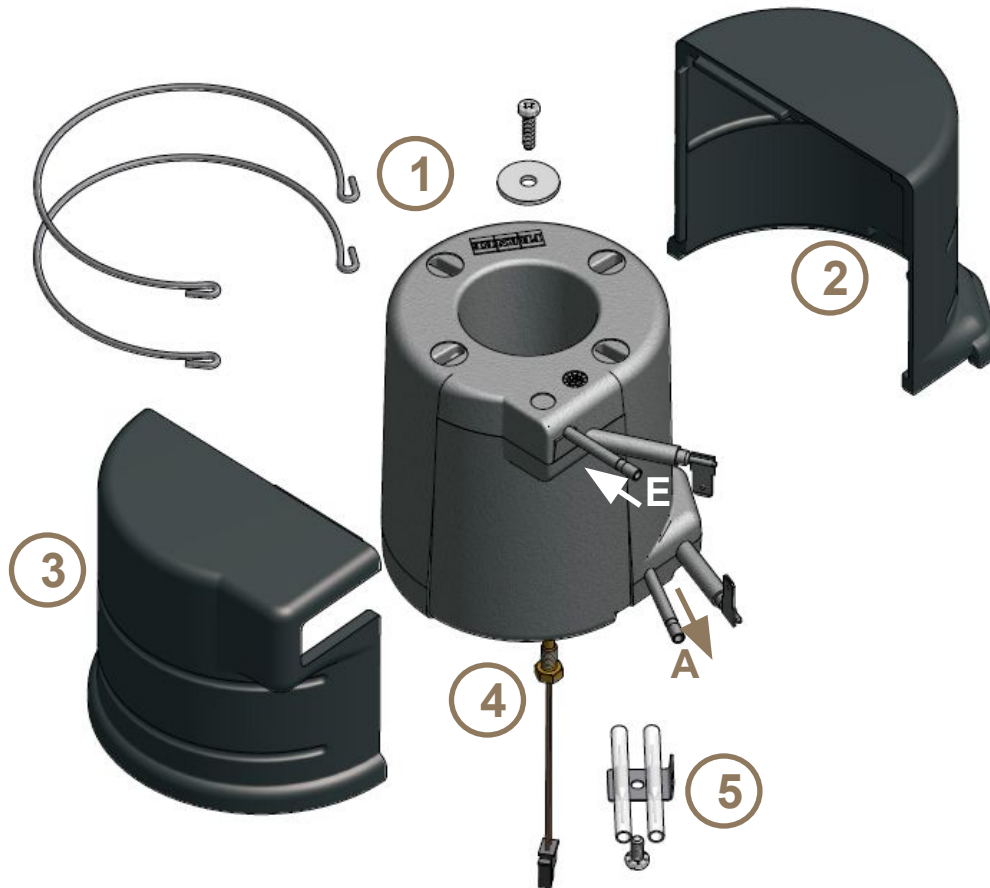
Water flow



*Lizenziert von Thermoplan/Licensed by Thermoplan

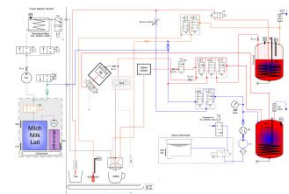
Technical construction

Slide in module FM* / Thermoblock

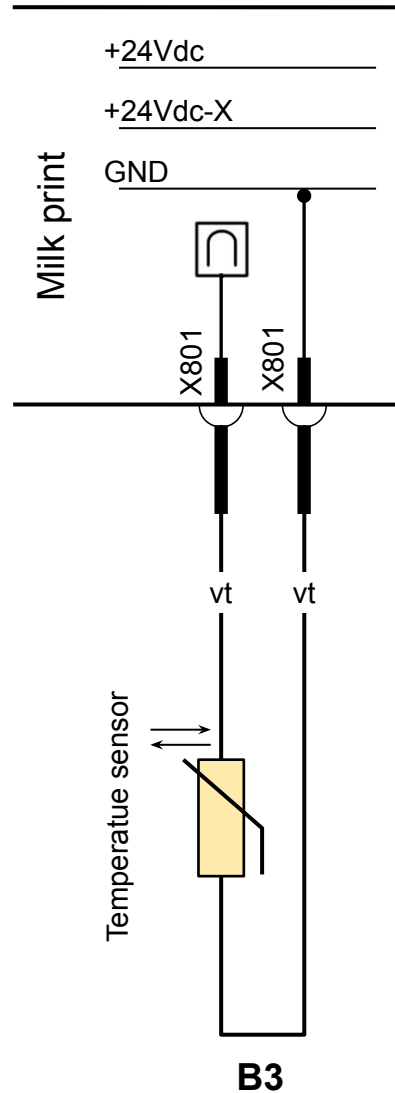
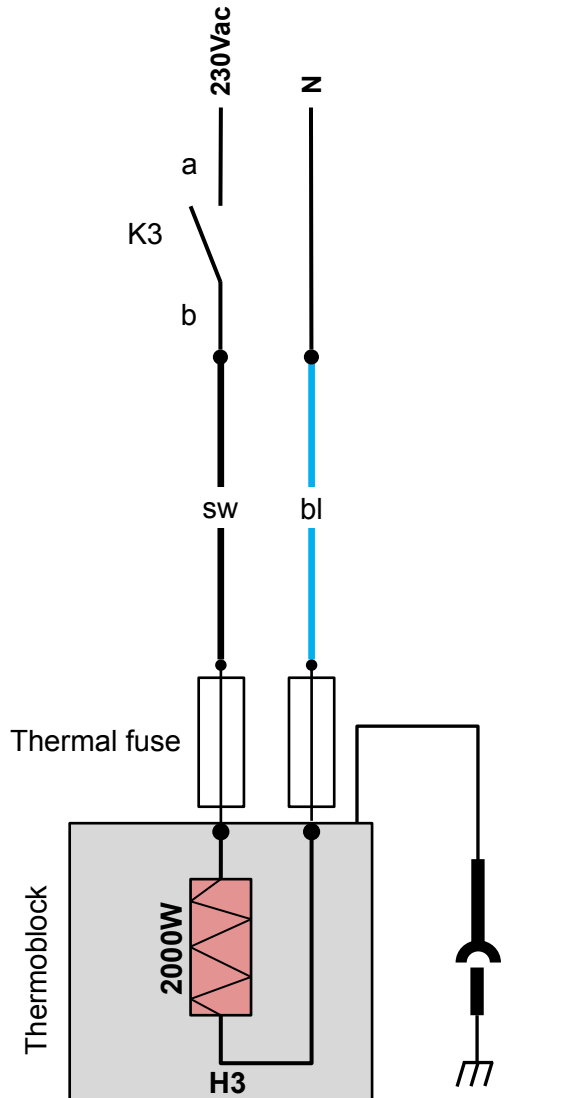


1. Thermoblock (2000Watt)
2. Isolation Thermoblock R
3. Isolation Thermoblock L
4. NTC temperature sensor
5. Thermal fuse / safety fuse (152°C)

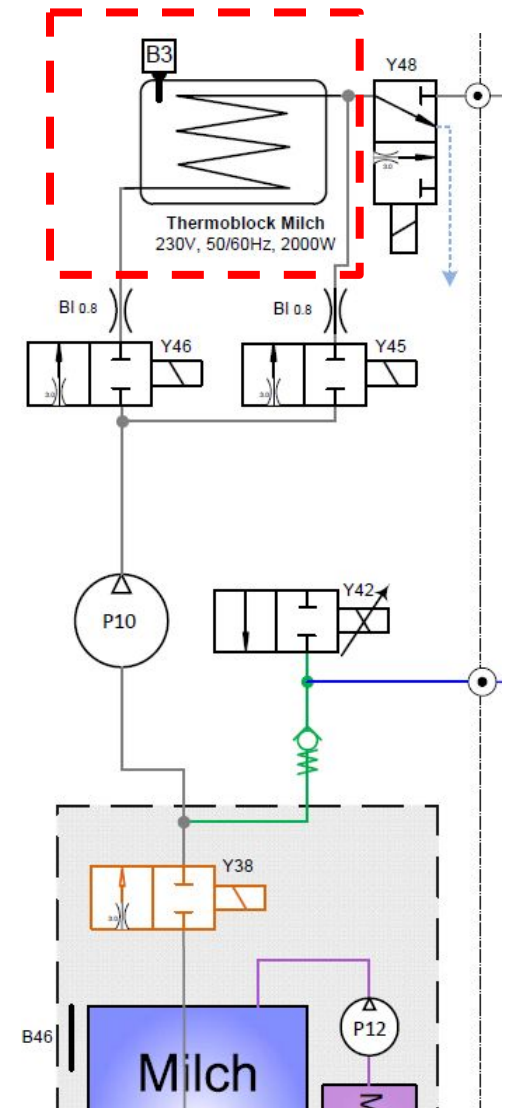
Technical construction Thermoblock (only FM*)



Electrical



Water flow

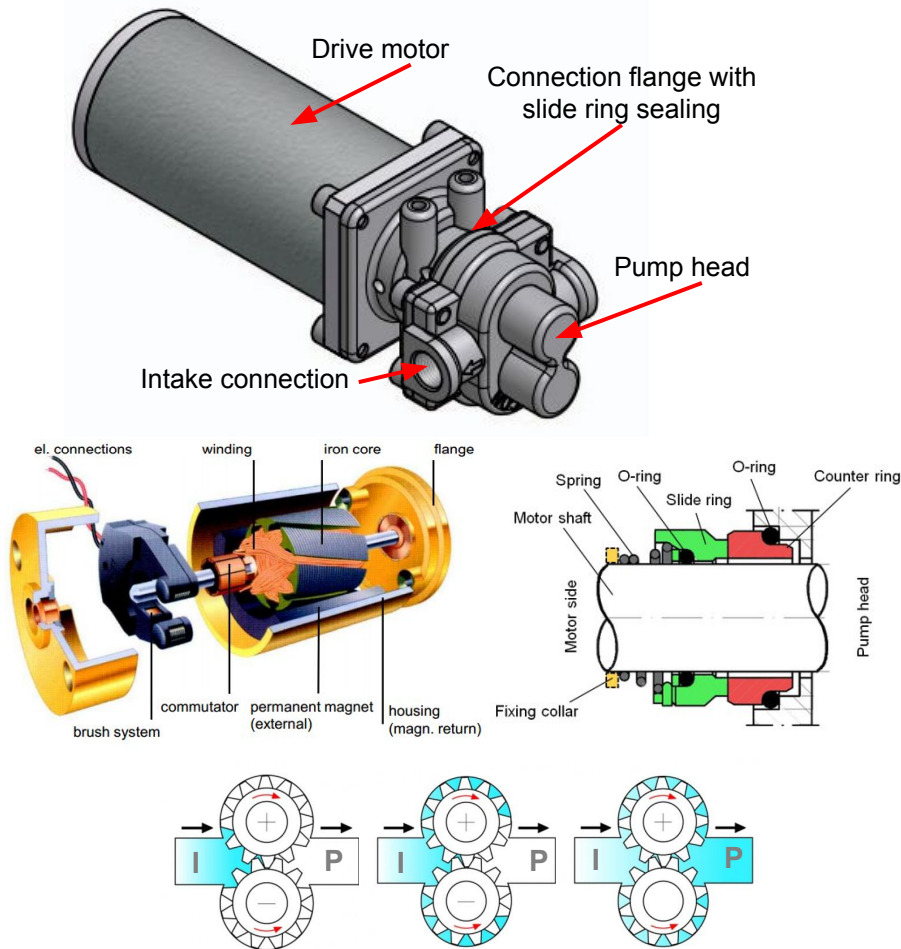


*Lizenziert von Thermoplan/Licensed by Thermoplan

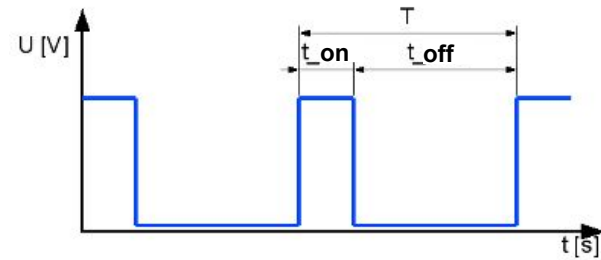
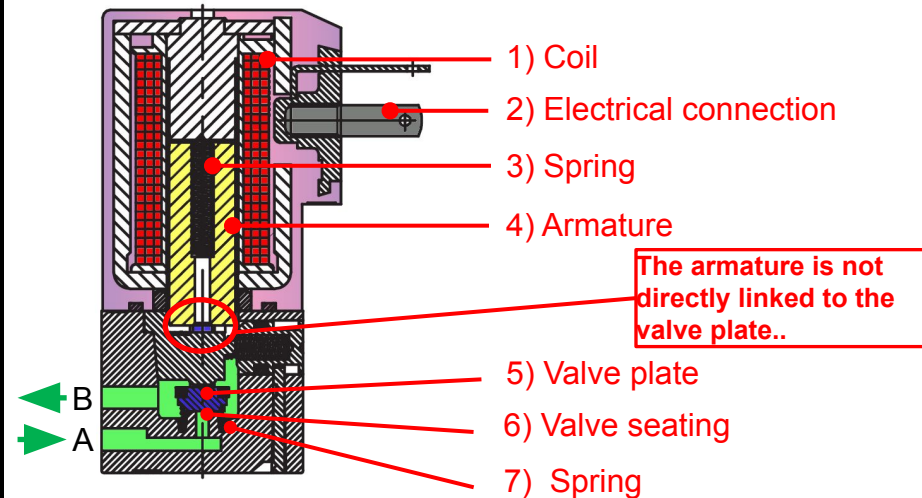
Technical construction

Slide in module FM* / gear pump & air pulse valve

Gear pump



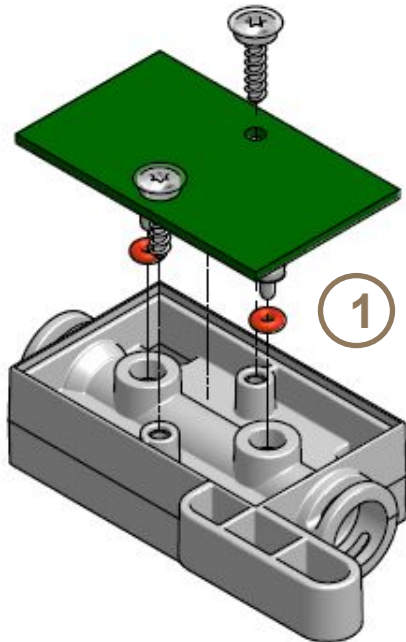
Air pulse valve



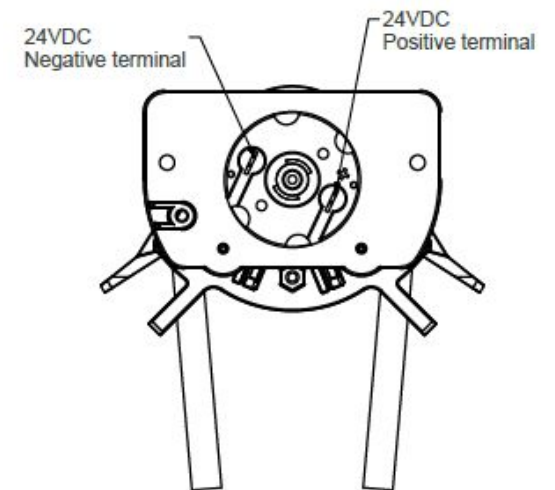
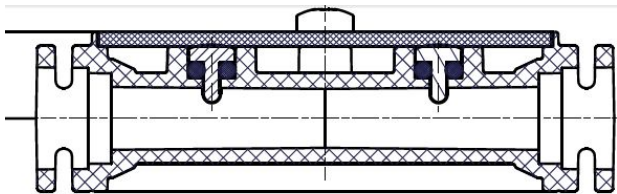
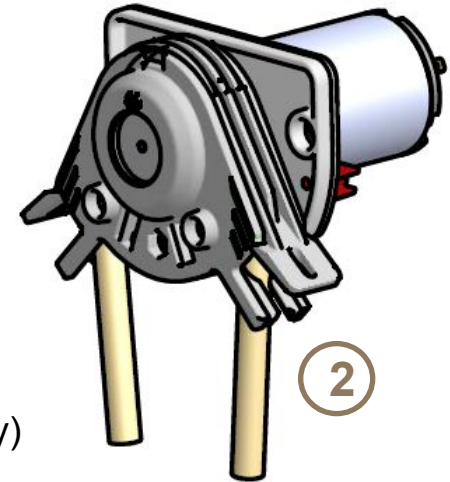
*Lizenziert von Thermoplan/Licensed by Thermoplan

Technical construction

Cleaning agent detection and peristaltic pump FM* Modul

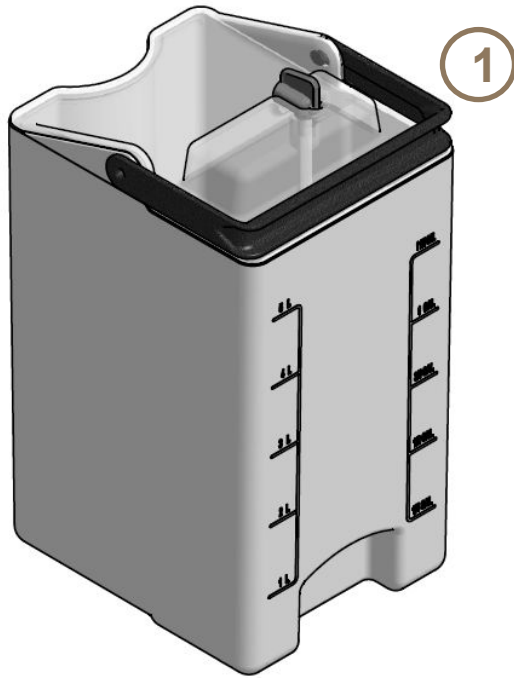


1. Cleaning agent detection (Conductivity)
2. Peristaltic pump (Fluid o Tech)

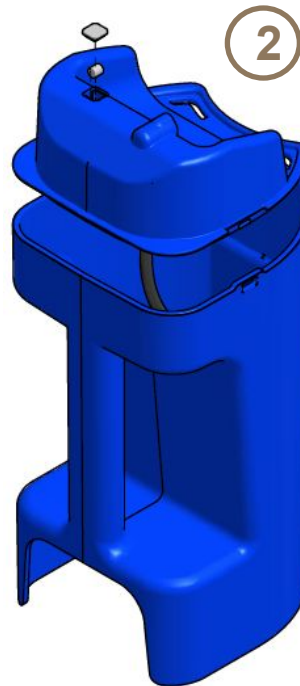


Technical construction

Container SU / FM* Modul



1. Milk container cpl. (5 Liter)
2. Cleaning container cpl.



Technical construction

Easy Compact



Access parameter:

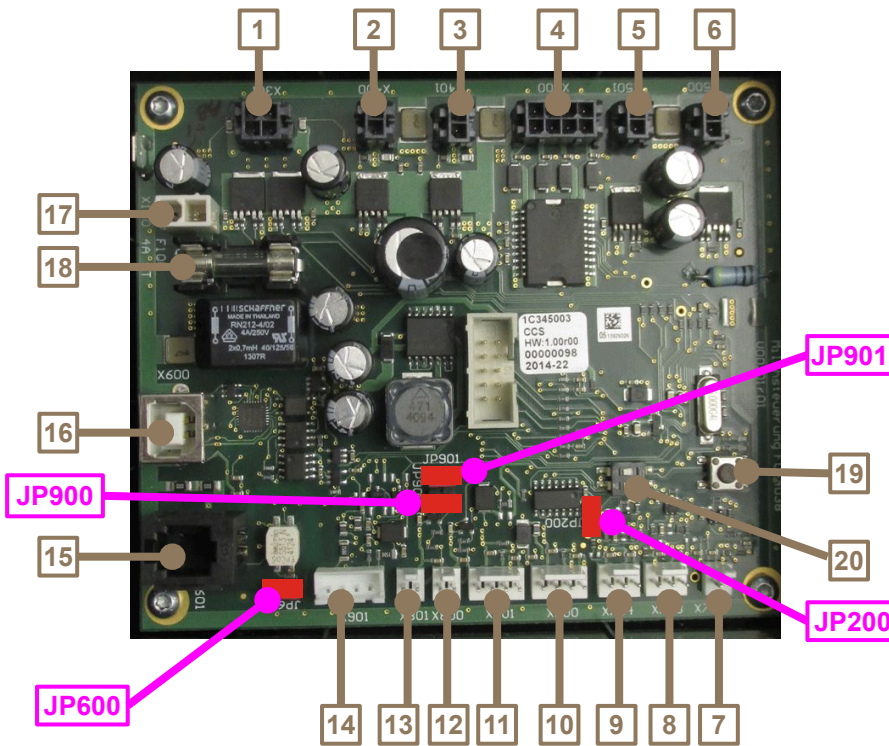
1. Keep pressing "Set" button till "PS" is appearing
2. Select parameter with ◀ ▶ buttons & enter with "Set" button
3. Change value with ◀ ▶ buttons & confirm with "Set" button
4. Keep pressing "Set" button to save parameters & leaving the menu

Par.	Beschreibung	Typ	Min.	Max.	M.E.	Def.	FM Modult
St	Sollwert	S	r1	r2	°C/°F	4	3,5
PS	Passwort	F	0	99	-	22	0/22
r2	Fühlermessstabilität	C	1	15	-	4	4
r4	Wahl des anzuzeigenden Fühlers	F	1	2	-	1	1
r5	Wahl von °C/°F	C	0	1	-	0	0
r6	Deaktivierung des Kommas	C	0	1	-	0	0
rC1	Off set Fühler 1	F	-50,0	50,0	°C/°F	0	2,0
rC2	Off set Fühler 2	F	-50,0	50,0	°C/°F	0	0,0
rd	Regelhysterese	F	0	19,0	°C/°F	2	0,1
r1	Mindestsollwert	C	-50,0	r2	°C/°F	-50	-50
r2	Höchstsollwert	C	r1	99	°C/°F	90	90
r3	Wahl des Direct-/Reverse-Modus	C	0	2	-	0	1
c0	Verdichter- und Lüfterstartverzögerung beim Einschalten	C	0	100	min	0	0
c1	Mindestzeit zwischen Starts desselben Verdichters	C	0	100	min	0	0
c2	Mindestausschaltzeit des Verdichters	C	0	100	min	0	0
c3	Mindesteinschaltzeit des Verdichters	C	0	100	min	0	0
c4	Einschaltzeit des Verdichters mit Duty setting	C	0	100	min	0	0
cc	Dauer des Dauerbetriebs	C	0	15	h	4	0
c6	Ausschluss des Temperaturalarms nach Dauerbetrieb	C	0	15	h	2	2
d0	Abtautyp	C	0	4	-	0	2
d1	Intervall zwischen den Abtaugungen	F	0	199	h/min (dC)	8	8
dt	Temperatursollwert für Abtauende	F	-50	130	°C/°F	4,0	40
dP	Maximale Abtaudauer	F	1	199	min/s (dC)	30	30
d4	Abtaugung beim Einschalten des Gerätes	C	0	1	-	0	0
d5	Abtauverzögerung beim Einschalten oder durch Aktivierung über digitalen Eingang	C	0	199	min	0	0
d6	Anzeigestopp der Regelungstemperatur während Abtaugung	C	0	1	-	1	1
dd	Abtropfzeit	F	0	15	min	2	2
d8	Alarmanusschlusse nach Abtaugung	F	0	15	h/min (dC)	1	1
d9	Abtaupriorität vor Verdichterschutz	C	0	1	-	0	0
d/	Messwert des Abtaufühlers	F	-	-	°C/°F	-	-60
dC	Zeitbasis	C	0	1	-	0	0
A0	Temperaturhysterese für Alarme und Lüfter	C	-20	+20	°C/°F	2	2,0
AL	Absolute Temperatur/Abweichung für Alarm für niedrige Temperatur	F	-50	+99	°C/°F	0	0,0
AH	Absolute Temperatur/Abweichung für Alarm für hohe Temperatur	F	-50	+99	°C/°F	0	0,0
Ad	Temperaturalarmverzögerung	C	0	199	min	0	0
A6	Aktivierung des Alarms "Ed" (Abtauende wegen Timeout)	C	0	1	-	0	0
H0	Serielle Adresse	C	0	207	-	1	1
H1	Konfiguration des AUX-Ausganges	C	0	2	-	0	0
H2	Aktivierung der Tasten	C	0	2	-	1	1
H5	Identifikationscode (Leseparameter)	F	1	+199	-	0	-1
EY	Parameter-Set-Schnellwahl	C	0	4	-	0	0

Parameter type	Description
Typ C	Only changeable with password (PW: 22)
Typ F	Changeable without password
Typ S	Keep pressing "Set" button till set point appears

Technical construction

FM* module print

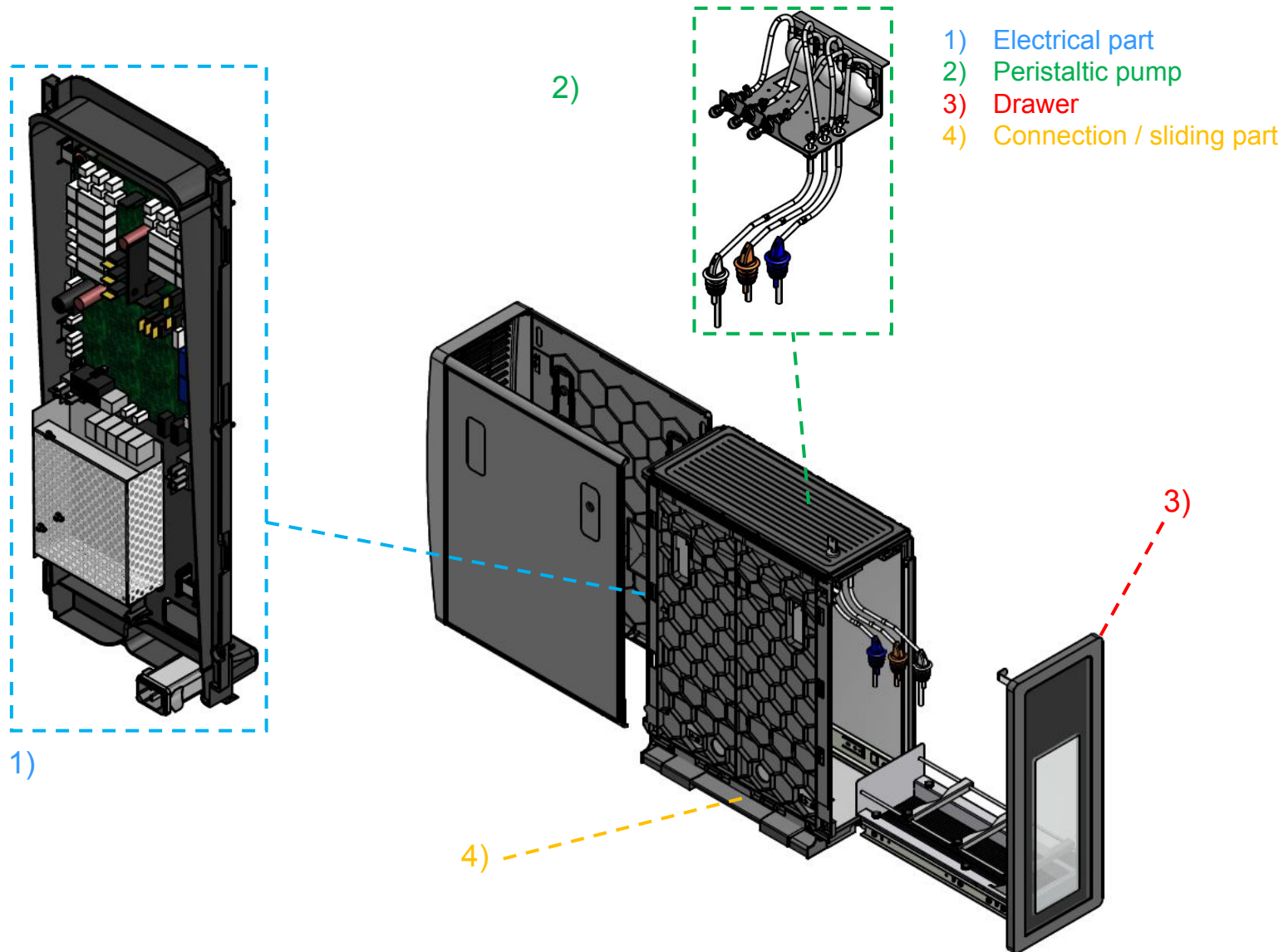


- JP600 - CAN terminator
- JP200 - *empty*
- JP900 - FM Heater enable
- JP901 - *empty (Capsule Heater enable)*

- 1) Semiconductor relays
- 2) Cleaning pompe
- 3) Gear pompe
- 4) Valve Milk warm Y46
Valve Milk cold Y45
Valve Milk drainage Y48
- 5) Valve milk select Y38
- 6) Air pulse valve Y42
- 7) Reed contact cleaning container
- 8) *empty*
- 9) Sensor milk level
- 10) *empty*
- 11) Sensor cleaning agent
- 12) *empty*
- 13) NTC milk temperature
- 14) *empty*
- 15) CAN connection to PCB
- 16) USB (software upload)
- 17) Supply 24 Volt
- 18) Safety fuse 4A (FST)
- 19) Reset button
- 20) Dip switch:

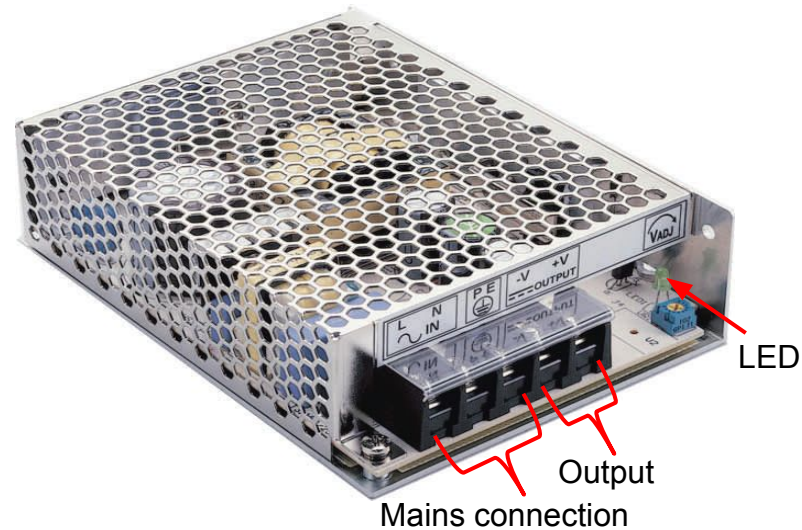
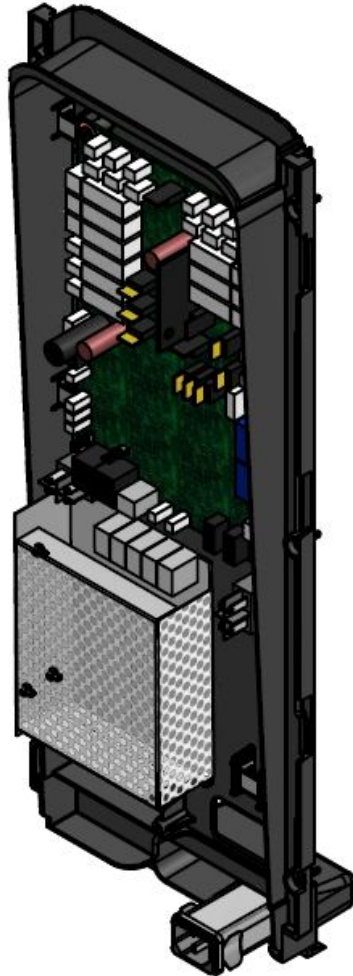
Nr.1	Nr.2	CAN Code ID
off	off	70
off	on	71
on	off	72
on	on	73

Technical construction Flavour Station (Option)



Technical construction

Flavour Station / electrical part



Function

The switching power supply is supplied with mains voltage via the flavour station power switch and delivers 24 VDC to the flavour station PCB.

In contrast to the power supply on the Foam Master system power supply is completely separate from that of the coffee machine. This requires that the flavour station always be switched on, during operation as well as cleaning.

Technical data

Input voltage range: 85 - 264 VAC / 120 - 375 VDC

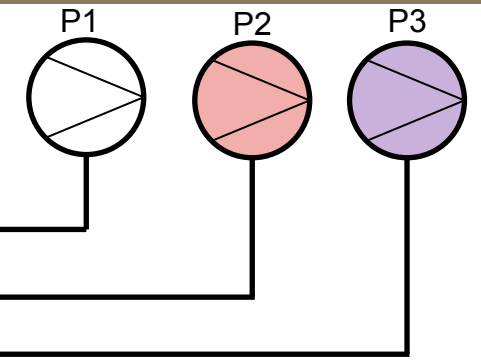
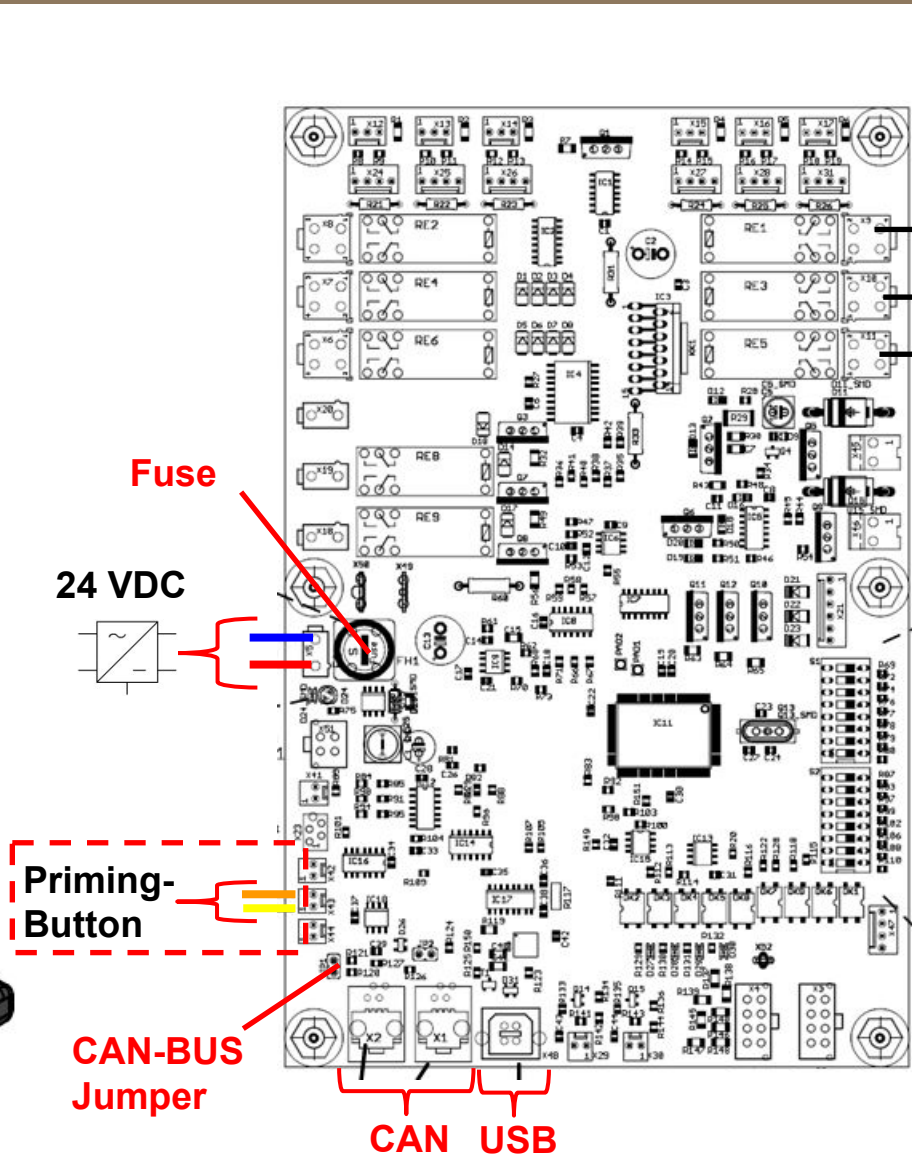
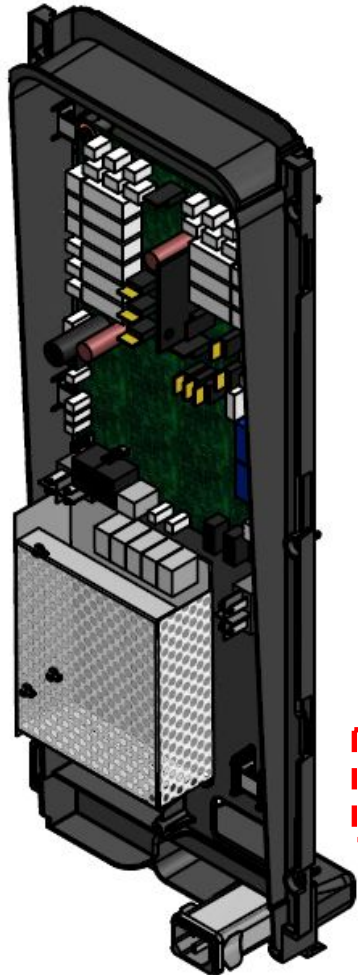
Output voltage: 24 VDC

Max. output current: 3.2 A

The output is short-circuit proofed.

When the switching power supply is receiving mains voltage, the green LED lights up.

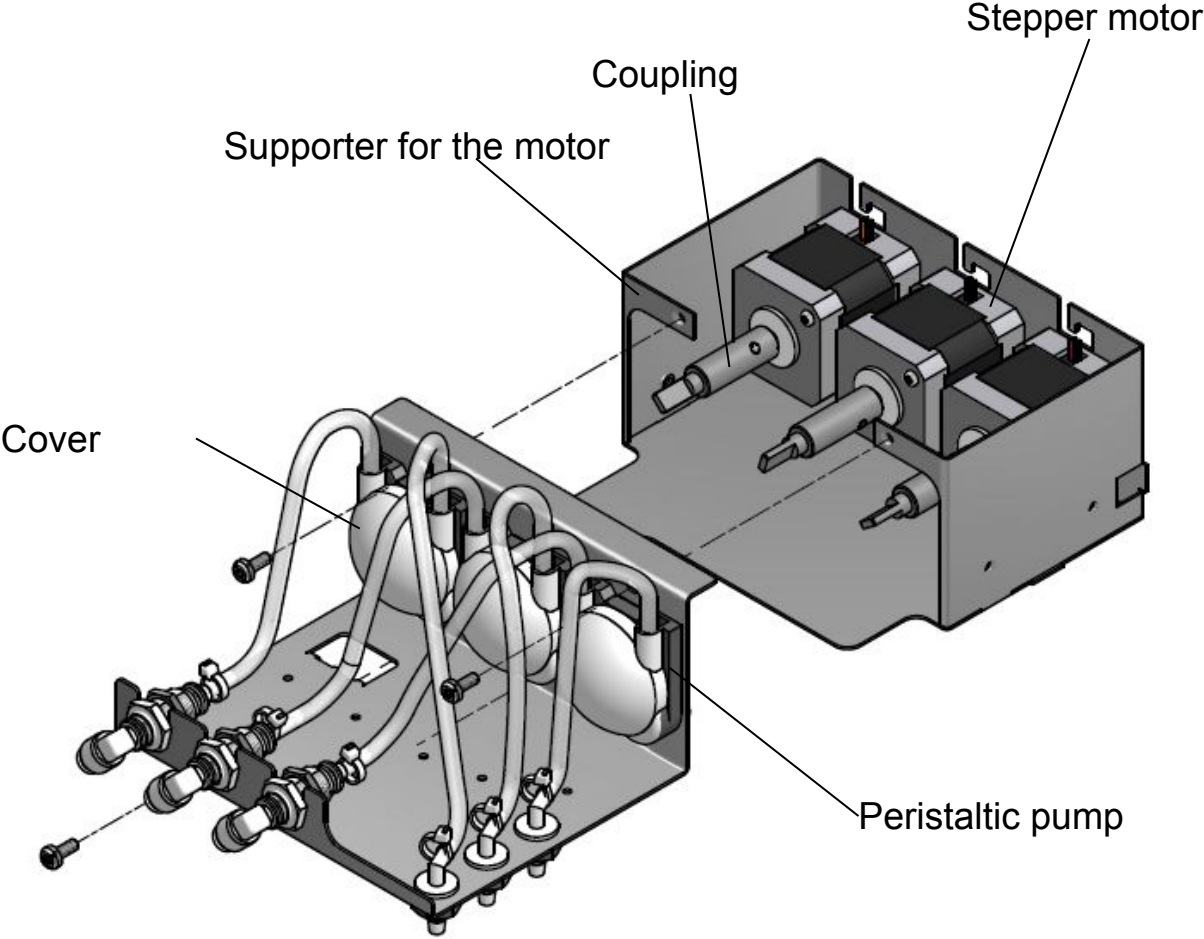
Technical construction Flavour Station / electrical part



Switch Settings for FCS4038
(underline)

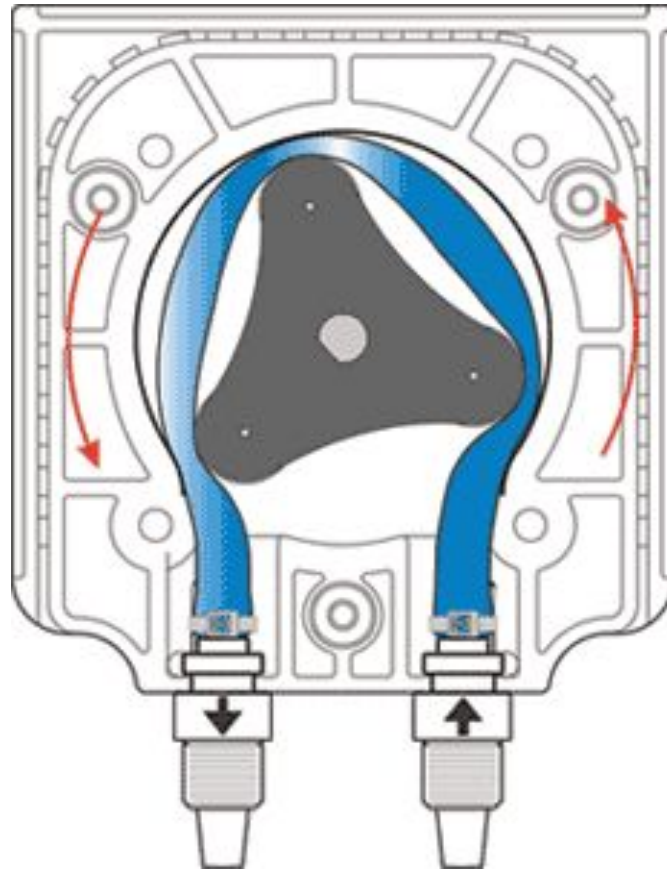
ON		OFF
54	CAN Bus	<u>53</u>
6	Pumps	<u>3</u>
0	Chocco	<u>1</u>
0	Chocco	<u>1</u>
0	Chocco	<u>1</u>
0	Chocco	<u>1</u>
0	Pump return	<u>1</u>
1	Pump return	<u>0</u>
<hr/>		
0	Revolution	<u>1</u>
1	Revolution	<u>0</u>
0	1	
0	1	
0	1	
0	1	
0	1	
0	1	

Technical construction
Flavour Station / mechanical part



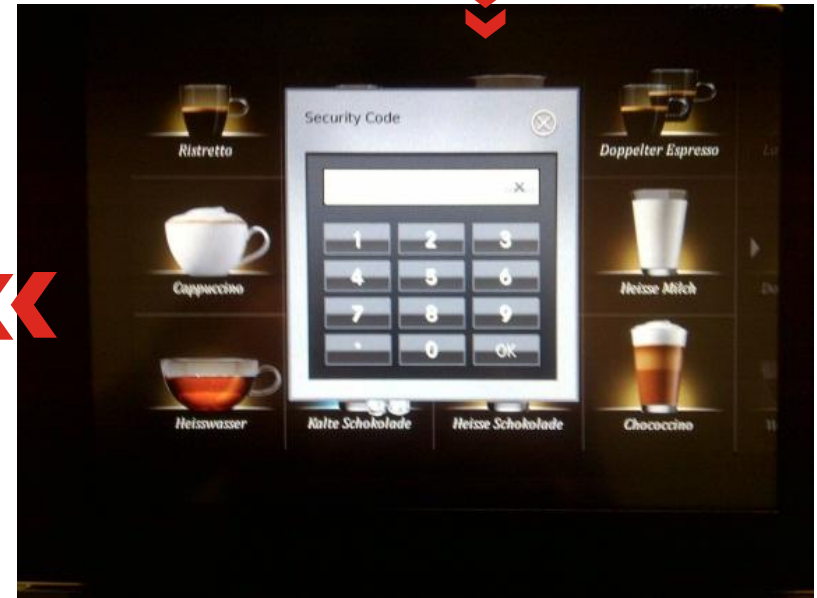
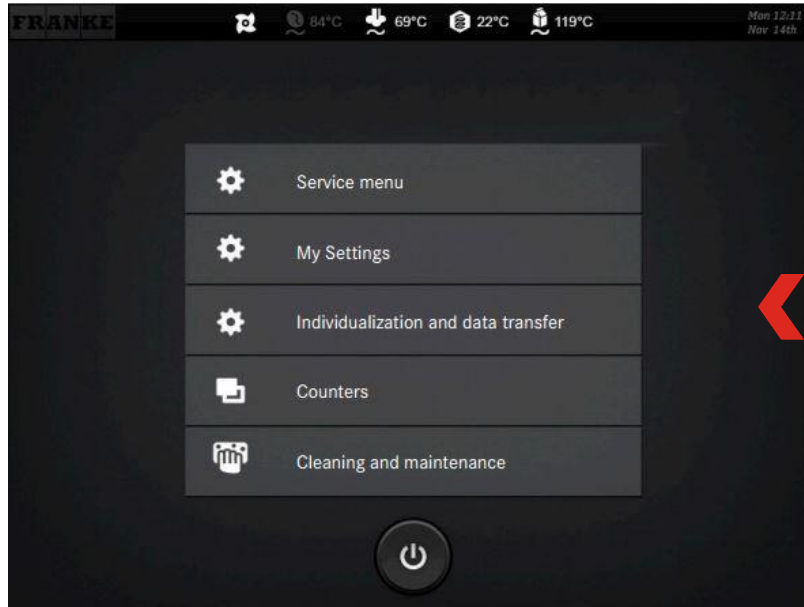
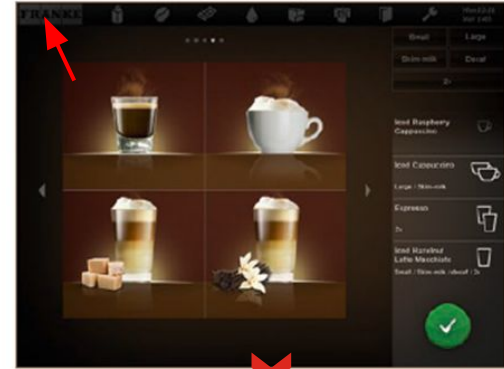
Technical construction

Flavour Station / Function of the pump

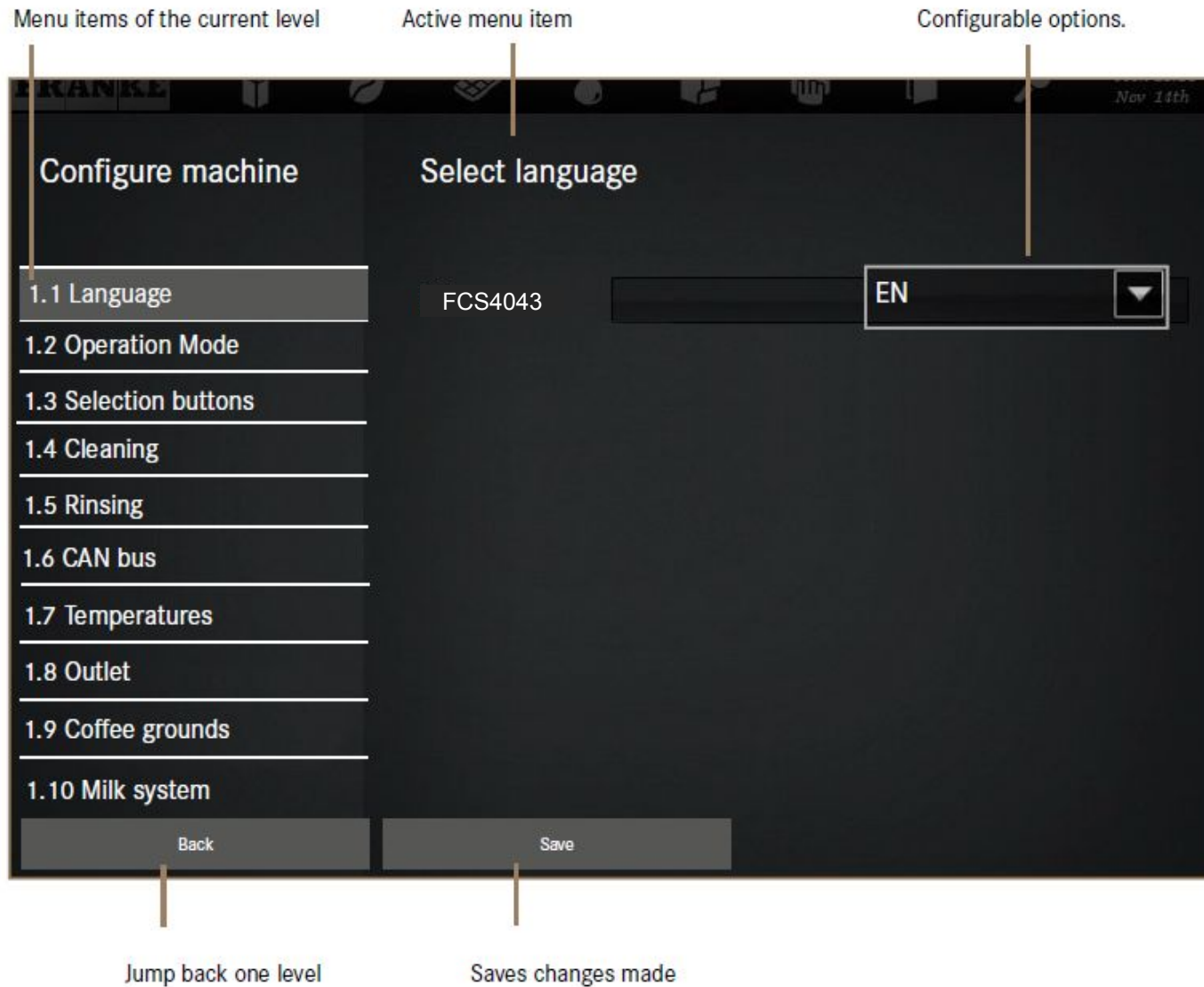


Operating

Switch over to the Maintenance level by tipping on the Franke logo in the upper left-hand corner of the monitor and then entering the PIN code. Select the Service Menu. The PIN code for the maintenance level is comprised of: (Day + Month) * Year * (Hour + Minute). Use the date and time information on the operator panel (upper right corner). Example: 28.09.2012; 11:36
PIN code: **37*2012*47**
If a user is currently still logged on, tip twice on the Franke logo. You can then authenticate yourself with a new user right.



Operating Operator panel construction



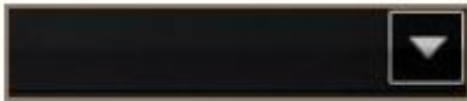
Operating Input methods



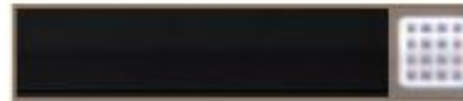
Tip on the switch to switch over to Yes/No or On/Off.
The visible value is activated.



Drag on the scale in order to set parameters. The framed
value is activated.



Tip on arrow to display selection and to select option.



Tip on keyboard to enter text or numbers.

Programming Service Menu

Service Menu



Menu item	Task
0 Commissioning	Configuring and calibrating the coffee machine
1 Configure machine	Setting the behavior of the coffee machine
2 Set drinks	Configuring drinks, creating new ones or clearing ones from the product portfolio
3 Date and time	Configure date, time and timers
4 Counters	Displaying and resetting counter readings
5 Test functions	Checking individual components and processes, e.g. during troubleshooting.
6 Access rights	Assigning access rights and/or PIN codes for the various configuration menus
7 Decommissioning	Emptying the system with the help of software
8 Updating the software	Updating the software

Programming Commissioning

0 Commissioning



Menu item	Description
0.1 Machine	Enter machine data (taken from type plate)
0.2 Configuration	Configure the coffee machine. Enter equipment requirements. The other menus are limited on the basis of this configuration
0.3 Set pressure	Set pump pressure
0.4 Set coffee	Calibrate water quantity, set grind coarseness and calibrate grinders
0.5 Set milk	Calibrate cleaning water for the milk system and set foam qualities for each milk type
0.6 Set powder	Calibrate water quantity and powder quantity per powder dosing unit
0.7 Set flavour	Calibrate syrup quantity
0.8 Cup sizes	Set cup sizes and scaling factors
0.9 Maintenance	Leave maintenance interval and service number
0.10 System information	All software versions at a glance

FRANKE Mon 12:11
Nov 14th

Commissioning

Machine

Machine data

- Machine: FCS4026
- Panel: Vetro Touch
- Version: 0 1 **2** 3 4 5 6
- Machine no.: 00001234567
- Install no.: 00001234567

Heating management

- Network connection diagram: 3LNPE
- Power grid connection: 16 A

Boiler/Thermoblock

- Number: 2
- Steam: Yes

Back Save

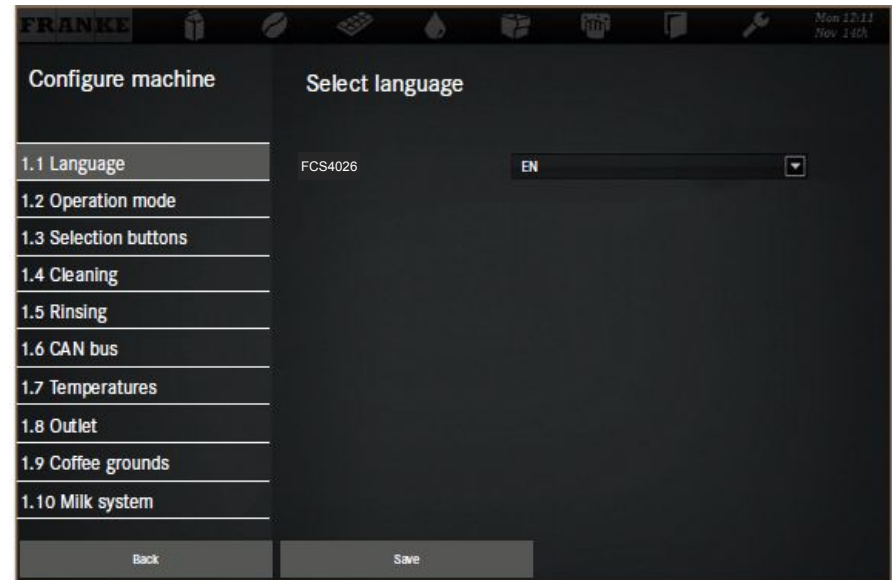
Programming

Configure machine

1 Configure machine



Menu item	Description
1.1 Language	Select desired language from list
1.2 Operation mode	Define desired operation mode for the coffee machine
1.3 Selection buttons	8 selection buttons can be assigned various functions in accordance with customer preference
1.4 Cleaning	Set cleaning parameters
1.5 Rinsing	Set rinsing behavior
1.6 CAN bus	Define CAN IDs for coffee machine and add-on units
1.7 Temperatures	Set temperatures for coffee and hot water/steam and temperature level
1.8 Outlet	Set the outlet height and the outlet delay
1.9 Coffee grounds	Set coffee ground chute option, quantity of cakes in the grounds container and press-out time
1.10 Milk system	Configure monitoring of milk system
1.11 Flavour	Activate Flavour Station and define syrup types
1.12 Accounting	Set accounting parameters
1.13 Sensors	Set cup monitoring
1.14 Edge lighting	Set the behavior of the edge lighting
1.15 Decaf	Permit utilization of decaffeinated coffee

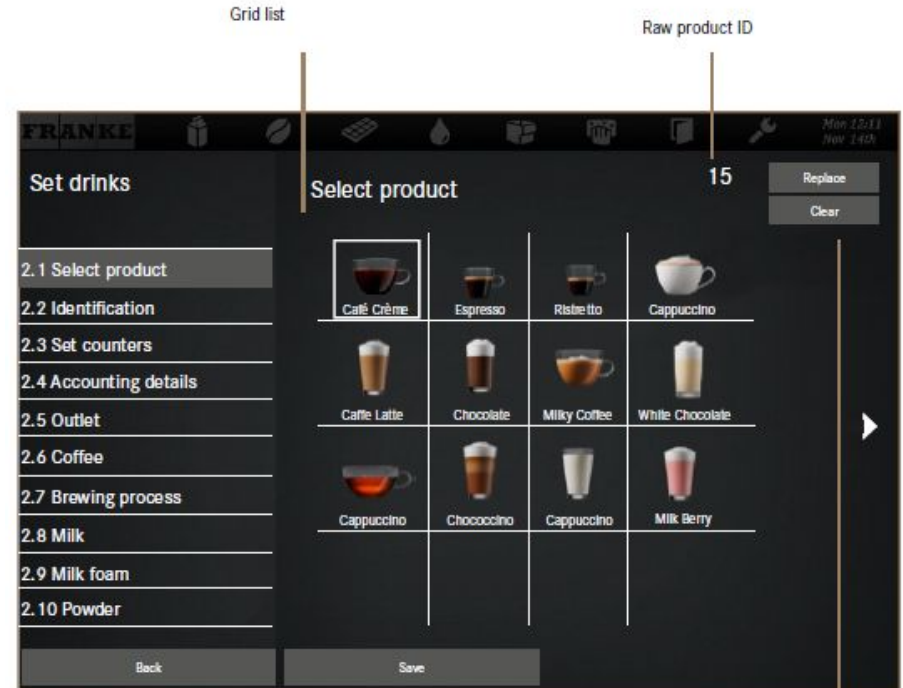


Programming Set Drinks

2. Set Drinks



Menu item	Description
2.1 Select product	Select drink or create new one
2.2 Identification	Name drink and activate advertising image
2.3 Set counters	Set counters
2.4 Accounting details	Set accounting details for the drink
2.5 Outlet	Configuring outlet height for the selected drink
2.6 Coffee	Configuring parameters for coffee
2.7 Brewing process	Configuring brewing process
2.8 Milk	Set milk
2.9 Milk foam	Setting milk foam
2.10 Powder	Set powder
2.11 Flavour	Set flavour
2.12 Water Quantity Tea	Configuring water quantity for tea
2.13 Steam/Autosteam	Configuring Autosteam options
2.14 External resource	Integrate external resources
2.15 Product sequence	Define drink production sequence
2.16 Cup size	Scale product



- Replace – replace available product.
- Create new (appears when an empty box has been selected) – defines a new drink on the basis of a raw product.
- Clear – delete available product.

Programming Date and Time

3 Date and Time



Menu item	Description
3.1 On/Off machine	Configuring automatic on and off switching of coffee machine
3.2 Date and Time	Set date, time and change between Daylight Savings Time and Standard Time
3.3 Timer 1 - 4	Setting timers 1 - 4



Programming Test functions

5 Test functions



Menu item	Description
5.2 Brewing unit	Brewing unit test functions
5.3 Outlet	Outlet test functions
5.4 Flowmeter Coffee	Flowmeter coffee test functions
5.5 Milk system/pump	Milk system/pump test functions
5.6 Heaters	Heaters test functions
5.9 Outputs separately	Test functions of all outputs
5.10 Inputs separately	Test functions of all inputs



Programming Access rights

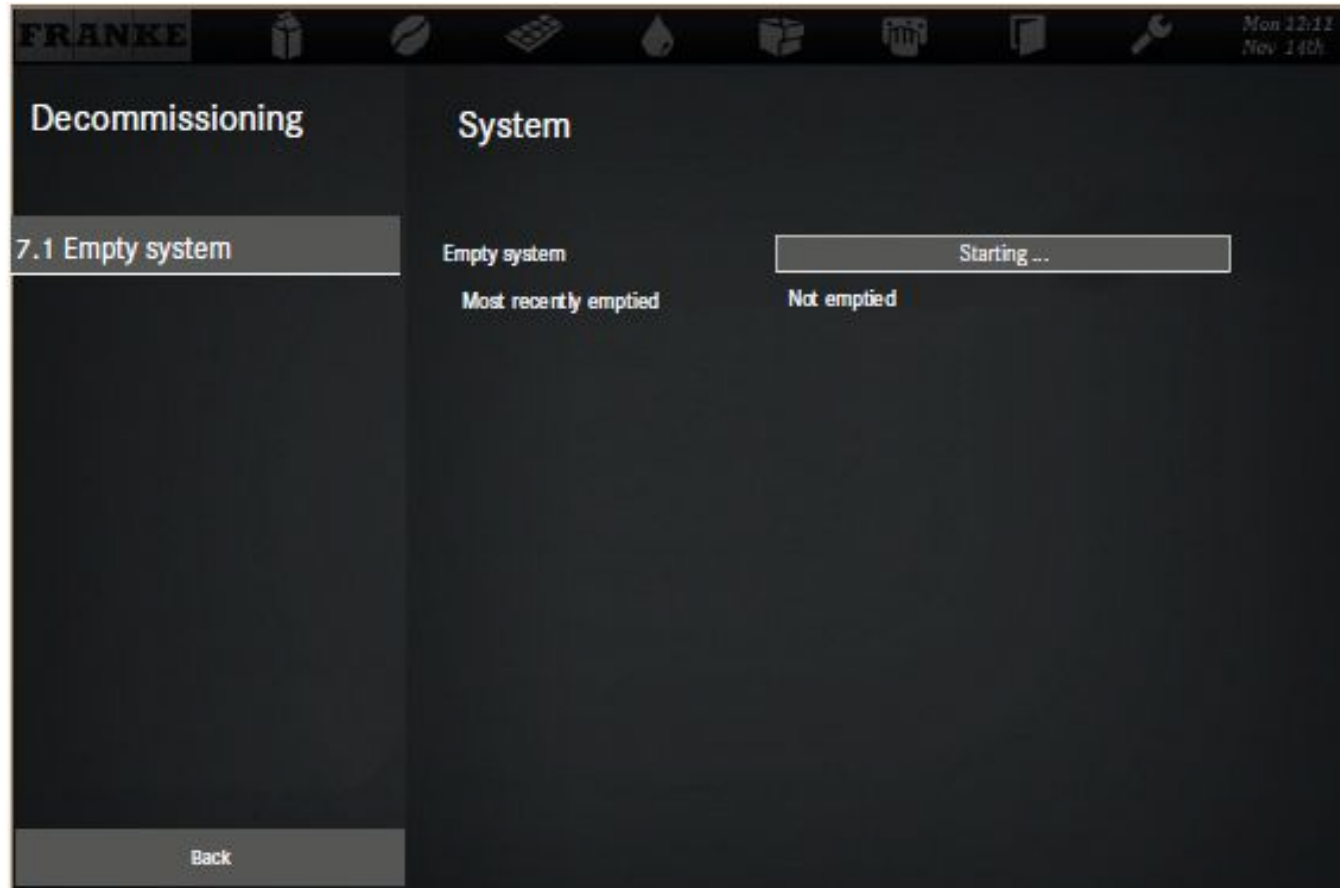
6 Access rights



Menu item	Description
6.2 Settings	Define PIN code for My Settings
6.3 Settings (B)	Define PIN code for My Settings (B)
6.4 Settings (C)	Define PIN code for My Settings (C)
6.5 Maintenance	Define PIN code for the Maintenance Menu
6.6 Key (secured) Products	Define PIN code for key (secured) products
6.7 On/Off Machine	Define PIN code for switching the coffee machine On and Off

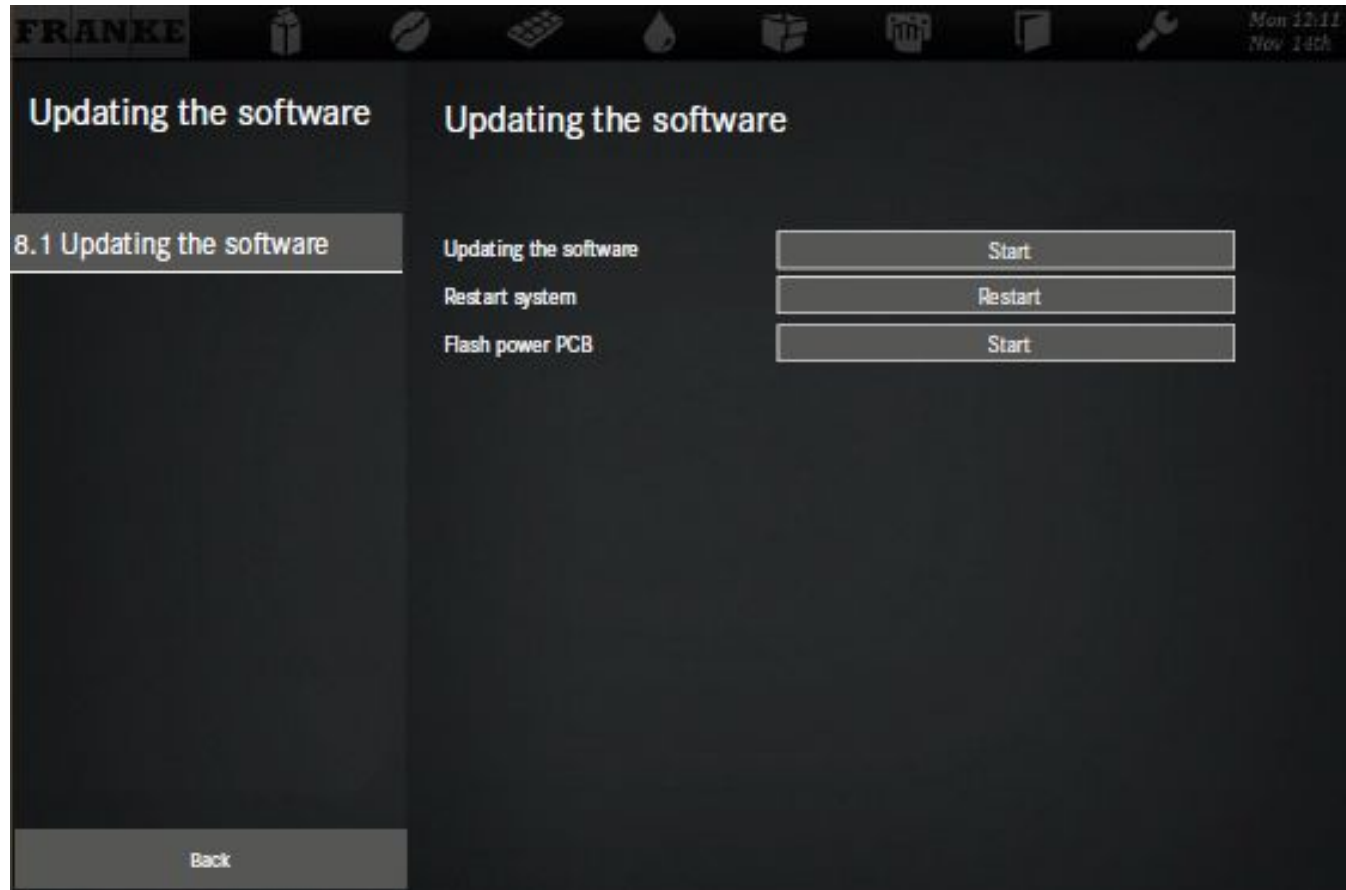
Menu item	PIN code Default values
6.2 Settings	1111
6.3 Settings (B)	2222
6.4 Settings (C)	3333
6.5 Maintenance	7777
6.6 Key (secured) Products	8888
6.7 On/Off Machine	9999

Programming Decommissioning



Programming

Updating the software

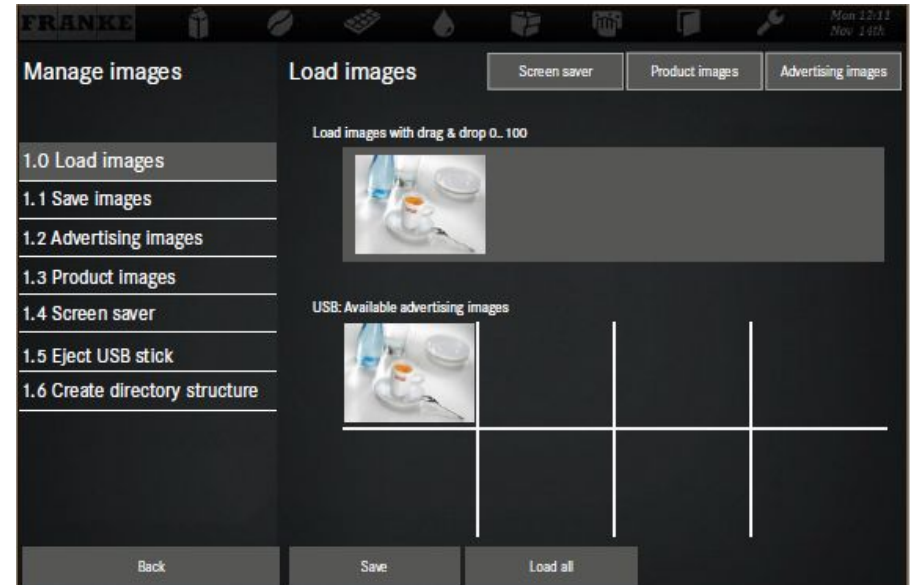


Programming Individualization and data transfer

Individualization and data transfer



Menu item	Description
1 Manage images	Load, save and manage images
2 Modify depiction	Define depiction in the operation modes, screen savers, etc. and activate drinks
3 Backing up/loading data	Back up settings and data on USB stick and load on machine
4 Import FPC	Import the Franke Product Catalogue
5 Eject USB stick	Eject the connected USB stick



	Screen saver	Product images	Advertising images
Image size (Width x Height)	800 x 600 px	430 x 274 px	800 x 600 px
Data format	PNG with 24 bit	PNG with 24-bit and 8-bit alpha channel as required	PNG with 24 bit
Orientation	-	Centered on vertical axis	-
Memory folder on USB stick	Drive:\QML-Files\rc\custom\screensavers	Drive:\QML-Files\rc\custom\drinks	Drive:\QML-Files\rc\custom\images

Programming Modify depiction

2 Modify depiction



Menu item	Description
2.0 Activate Drinks	Activate and deactivate the programmed drinks
2.1 Image Carousel	Select images for the Image Carousel, remove images from the Image Carousel, activate and deactivate the Image Carousel
2.2 Screen saver	Select Franke images for the screen saver, remove Franke images from the screen saver
2.3 My Screen Saver	Select own images for the screen saver, remove own images from the screen saver
2.4 Menu Cards	Select images for the menu cards, remove images from the menu cards, activate and deactivate menu cards
2.5 Advertising images	Add and remove Franke advertising images that are displayed during drink dispensing
2.6 My Advertising Images	Add and remove your own advertising images that are displayed during drink dispensing
2.7 Sort Quick Select	Adjust the alignment of the drinks on the monitor
2.8 Sort Cash Register	Adjust the alignment of the drinks on the monitor
2.9 My Product Images	Assign images to the products



Programming

Backing up/loading

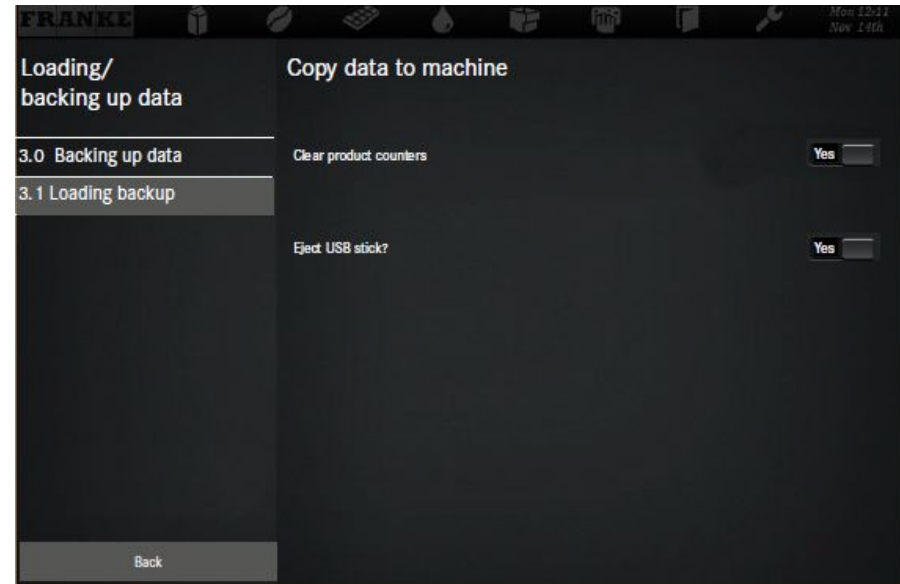
3 Backing up/loading data



Menu item	Description
3.0 Backing up data	Exporting data and settings
3.1 Loading backup	Load saved settings and data on machine



All setting in the menu «0 Commissioning» is **NOT** included in the confugation back up.

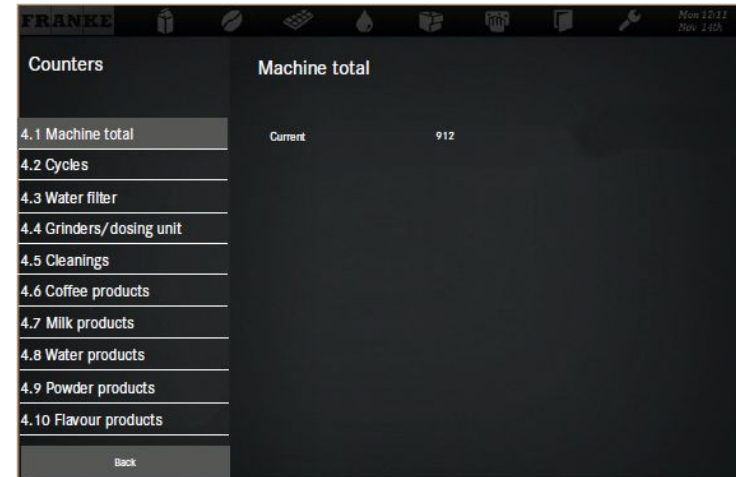
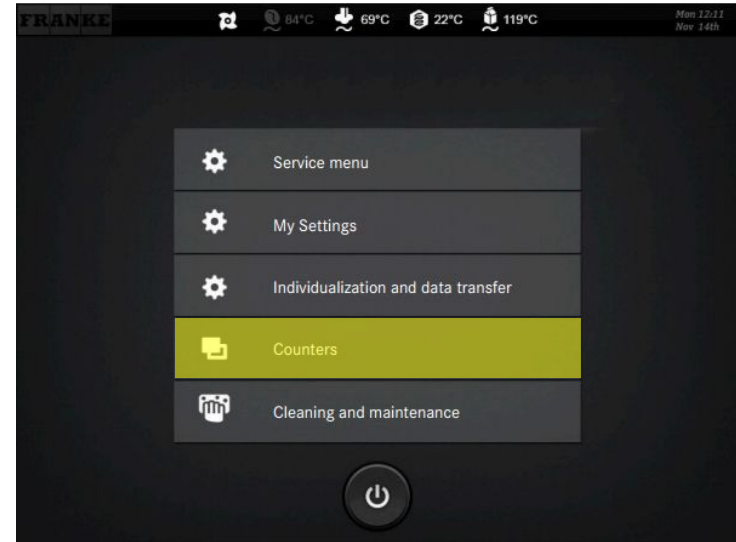


Programming Counters

4 Counters



Menu item	Description
4.1 Machine total	Counter for products with coffee and milk (excluding purely milk and powder products and products with syrup)
4.2 Cycles	Cycles counter
4.3 Water filter	Counter for the service life of the water filter
4.4 Grinders/dosing units	Counters for grinders and powder dosing units
4.5 Cleanings	Counter for cleanings performed
4.6 Coffee products	Counter for all products with a coffee split
4.7 Milk products	Counter for all products with a milk split
4.8 Water products	Counter for all cold and hot water products
4.9 Powder products	Counter for all products with a powder split, independent of the powder type
4.10 Flavour products	Counter for all products with a flavour split, regardless of the number of flavour types.
4.12 All products	Counters for for every product set
4.13 Maintenance	Counter for maintenance
4.13 Events	Counter for milestone events (commissioning, replacement of components, updates)



- Accessibility components
- Commissioning
- Product adjustment
- Trouble shooting
- Cleaning

Questions?

QUESTIONS?



THANK YOU FOR
YOUR ATTENTION

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