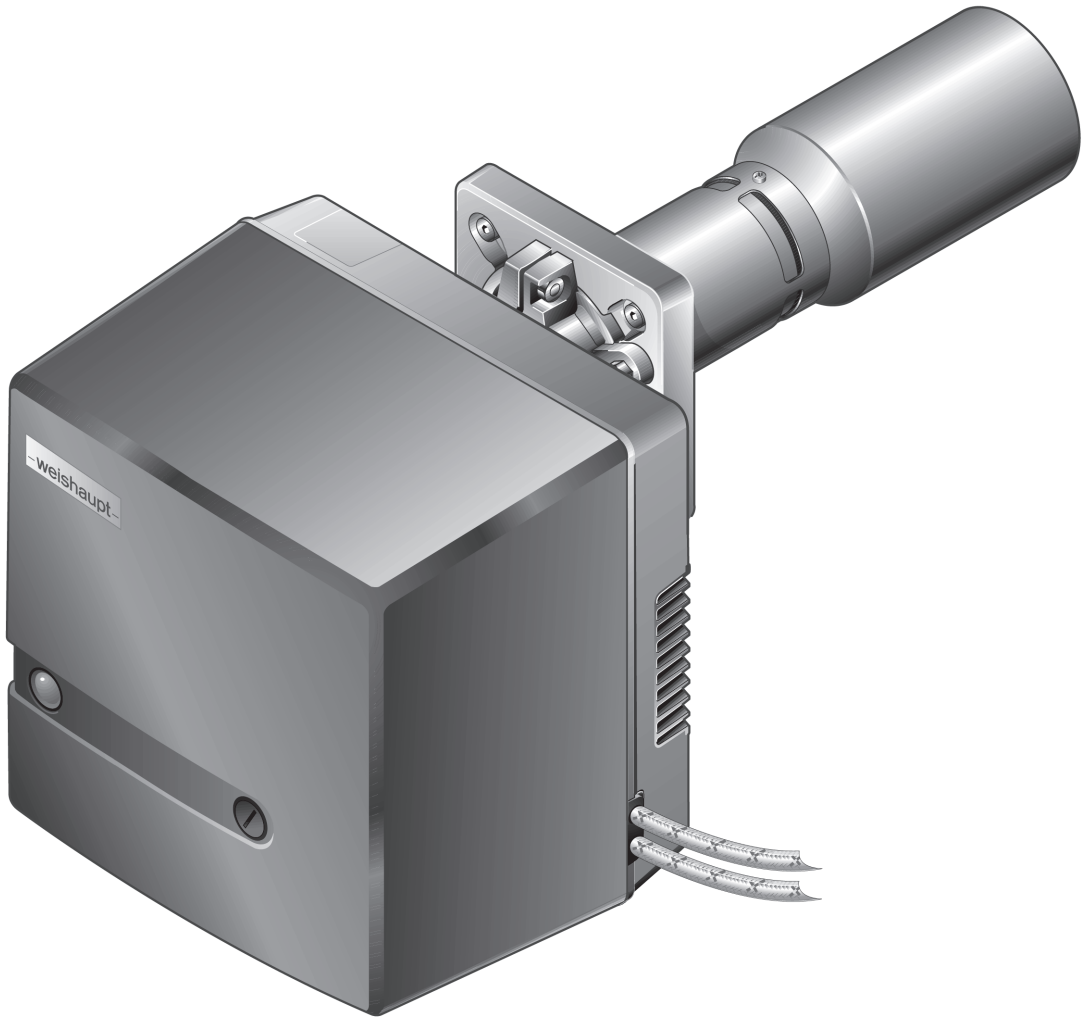
–weishaupt–

manual

Installation and operating instruction



Oil burner WL5-PB-H purflam®

83242002 ▪ 1/2026-07

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1 User instructions

This manual forms part of the equipment and must be kept on site.

Translation of original operating instructions



Carefully read the manual prior to working on the unit.

1.1 Target group

The manual is intended for the operator and qualified personnel. It should be observed by all personnel working with the unit.

Work on the unit must only be carried out by personnel who have had the relevant training and instruction.

Persons with limited physical, sensory or mental capabilities may only work on the unit if they are supervised or have been trained by an authorised person.

Children must not play with the unit.

1.2 Symbols in the manual

 **DANGER**	Danger with high risk. Non observance can lead to serious injury or death.
 **WARNING**	Danger with medium risk. Non observance can lead to serious injury or death.
 **CAUTION**	Danger with low risk. Non observance can cause injury to personnel.
 **NOTICE**	Non observance can cause damage to the equipment and environmental damage.
	Important information
▶	Requires direct action
✓	Result after an action
▪	Itemisation
…	Range of values or ellipsis
02	Replacement character for digits, e. g. language key for Print No.
`Display text`	Font for text that appears in the display

1.3 Guarantee and Liability

Guarantee and liability claims for personal and equipment damage are excluded, if they can be attributed to one or more of the following causes:

- non approved application
- non-observance of the manual
- operation with faulty safety equipment
- continual operation despite a fault
- improper installation, commissioning, operation and service
- repairs, which have been carried out incorrectly
- the use of non-original Weishaupt parts
- force majeure
- unauthorised modifications made to the unit
- the installation of additional components, which have not been tested with the unit
- the installation of combustion chamber inserts, which impede full flame formation
- unsuitable fuels
- defects in the inlet lines

2 Safety

2.1 Designated application

The burner is suitable for operation on heat exchangers to EN 303 and combustion chambers to EN 267.

If the burner is not used on combustion chambers to EN 303 and EN 267, a safety assessment of combustion and flame stability during individual process conditions, as well as the shutdown limits of the combustion plant has to be carried out and documented.

The Technical data must be adhered to [ch. 3.4].

The combustion air must be free from aggressive compounds (e. g. Halogens).
If the combustion air is contaminated, increased cleaning and servicing will be required. In this case ducted air intake is recommended.

The burner should preferably be operated indoors.
If the burner is not operated indoors, weather protection is required to protect from rain and direct sunlight. The ambient conditions must be adhered to [ch. 3.4.3].

Improper use could:
- endanger the health and safety of the user or third parties
- cause damage to the unit or other material assets

2.2 Safety symbols on the device

Symbol	Description	Position
	Warning of electrical voltage	Burner housing
	Dangerous electric voltage	Ignition unit

2.3 Safety measures

Safety relevant fault conditions must be eliminated immediately.

Components, which show increased wear and tear or whose design lifespan is or will be exceeded prior to the next service should be replaced as a precaution.

The design lifespan of the components is listed in the service plan [ch. 9.2].

2.3.1 Personal protective equipment (PPE)

Use the necessary personal protective equipment for all work.

Personal protective equipment protects the user when working on the device.

Safety shoes must be worn during all work carried out on the device.

Further necessary PPE is shown in the respective section by a mandatory symbol.

Symbol	Description	Information
	Use hand protection	▶ Wear suitable protective gloves.

2.3.2 Normal operation

- All labels on the unit must be kept in a legible condition and replace if necessary.
- Stipulated service work should be carried out at regular intervals.
- Only operate the unit with its cover closed.
- Ensure combustion air supply is unimpeded.

2.3.3 Electrical work

When working on live components please ensure you:
- observe the accident prevention instructions (e. g. DGUV Regulation 3) and adhere to local directives
- use tools in accordance with EN IEC 60900

The device contains components, which could be damaged by electrostatic discharge (ESD).
When working on circuit boards and contacts:
- do not touch circuit boards or contacts
- if necessary, take ESD protective measures

2.4 Alterations to the construction of the equipment

All conversions require written approval from Max Weishaupt SE.

- No additional components may be fitted, which have not been tested for use with the equipment.
- Do not use combustion chamber inserts, which hinder flame burnout.
- Use only original Weishaupt replacement parts.

2.5 Noise emission

The noise emissions are determined by the acoustic behaviour of all components fitted to the combustion system.

Prolonged exposure to high noise levels can lead to loss of hearing. Provide operating personnel with protective equipment.

Noise emissions can further be reduced with a sound attenuator.

2.6 Disposal

Dispose of all materials and components in a safe and environmentally friendly way at an authorised location. Observe local regulations.

3 Product description

3.1 Type key

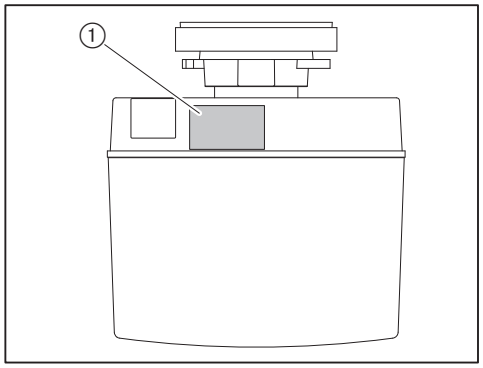
Example: WL5-PB-H 1.19

Type	
W	Series: Compact burner
L	Fuel: Oil EL
5	Size
P	Series: purflam® (blue flame burner)
B	Construction stage

Version	
H	Nozzle assembly heating
1.	Size of mixing head
19	Size of air nozzles

3.2 Type and serial number

The type and serial number on the type plate clearly identify the product. They are required by Weishaupt's customer service department.



① Name plate

Mod.: _____	**Ser. Nr.:** _____

3.3 Function

3.3.1 Air supply

Fan with variable speed drive

The fan supplies the air from the air inlet via the intake connection to the mixing head. The fan speed is set using a potentiometer. This matches the air quantity to the mixing pressure required for combustion.

Air damper with nozzle solenoid (optional)

When the fan starts, the nozzle solenoid opens the air damper. At burner shutdown the air damper closes automatically. This reduces heat loss in the heat exchanger.

Air pressure switch

The air pressure switch monitors the fan pressure. If the fan pressure is insufficient, the combustion manager initiates a lockout.

An additional air pressure switch is not required for ducted air intake.

3.3.2 Oil supply

Oil pump

The pump draws the oil through the supply line and carries it under pressure to the oil nozzle. The pressure regulating valve keeps the oil pressure constant.

A solenoid valve opens and closes the oil supply to the nozzle. The pressure regulating valve and solenoid valve are integrated into the pump.

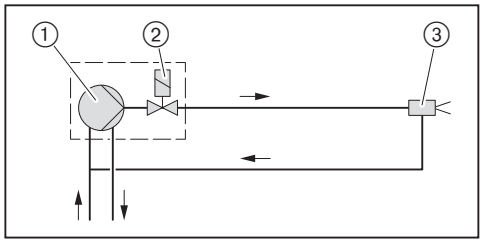
Nozzle head with nozzle shut off

The nozzle shut off is integrated in the nozzle head. It prevents oil leaks after shutdown.

Heat exchanger

The heat exchanger in the nozzle assembly heats the oil. At an oil temperature of approx. 45 °C the temperature switch releases the burner start.

Sequence diagram



① Oil pump on burner
② Solenoid valve on the oil pump
③ Nozzle head with nozzle shut-off and nozzle

3.3.3 Electrical components

Combustion Manager

The combustion manager W-FM is the control unit of the burner.

It controls the sequence of operation and monitors the flame.

Pump motor

The pump motor drives the oil pump.

Ignition unit

The electronic ignition unit creates a spark at the electrode, which ignites the fuel/ air mixture.

Flame sensor

The combustion manager monitors the flame signal via the flame sensor.

If the flame signal becomes too weak, the combustion manager carries out a controlled shutdown.

3.3.4 Program sequence

Oil preheating

At heat demand and after the initialisation time (T_I) has elapsed, the heat exchanger heats the oil in the nozzle assembly (T_H).

The temperature switch closes at a temperature of approx. 45 °C.

Pre-purge

The pump motor and the fan start. The fan runs at 95 % of the operating speed (T_Z). The burner is now in the pre-purge (T_V) and pre-ignition phase (T_{VZ}).

Ignition

The air pressure switch is activated during the pre-purge phase (T_V).

Ignition starts.

Fuel release

Following the pre-purge time (T_V) the solenoid valve (K11) opens and releases the fuel.

Safety time

With fuel release, safety time (T_S) and post-ignition time (T_{NZ}) starts.

The flame signal must be present within the safety time (T_S).

Ignition is switched of once the post-ignition phase (T_{NZ}) has elapsed.

Operation

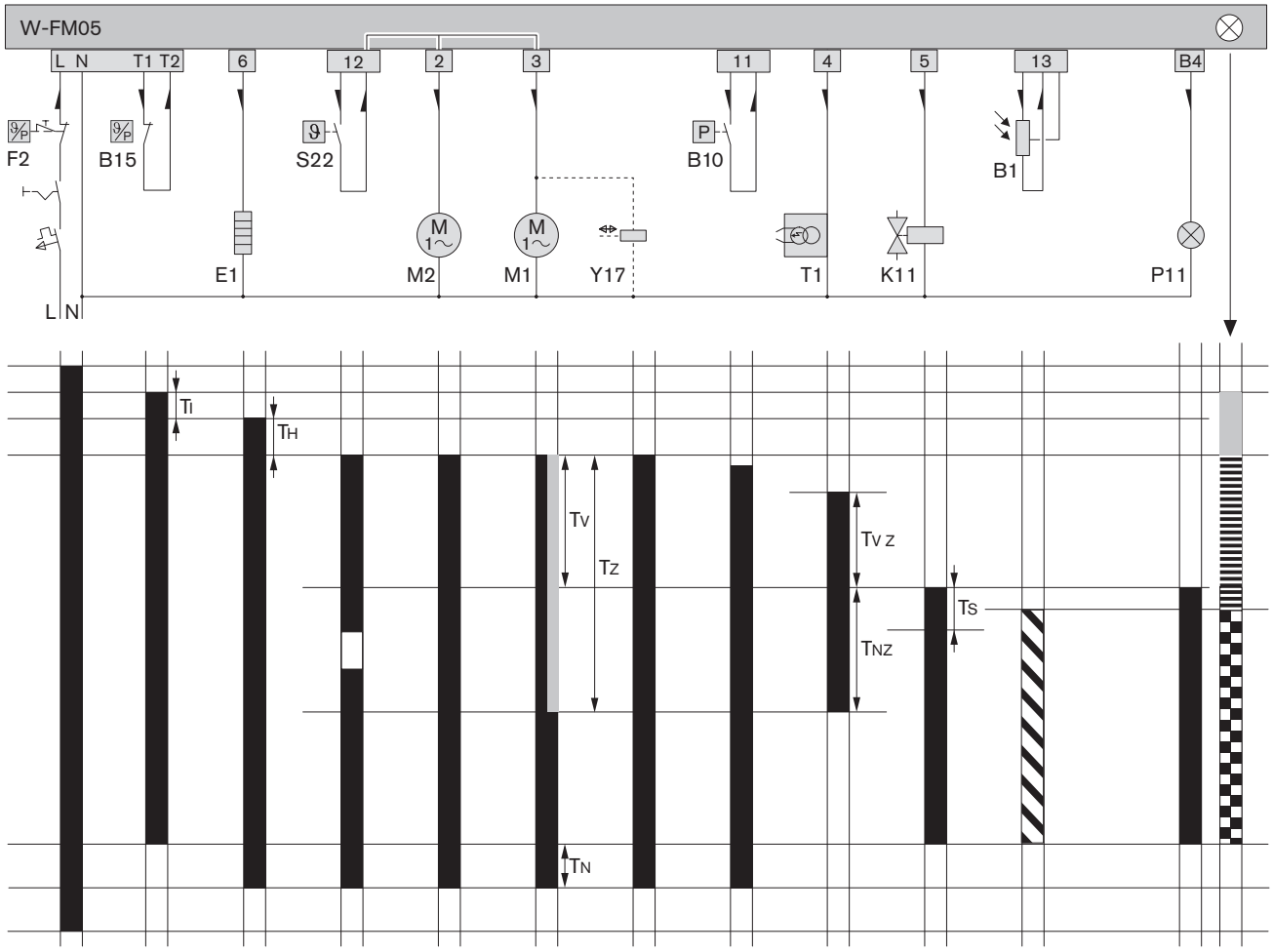
The combustion manager monitors the flame signal via the flame sensor.

Post-purge

If there is no longer a heat demand, the solenoid valve (K11) closes and stops the fuel supply.

Post-purge time (T_N) begins.

Following the post-purge phase (T_N) the fan switches off.



B1	Flame sensor	T_H	Heating time heat exchanger
B10	Air pressure switch	T_I	Initialisation time: 1 s
B15	Temperature or pressure regulator	T_N	Post-purge time: 4.5 s
E1	Heat exchanger	T_{NZ}	Post-ignition time: 15 s
F2	Temperature or pressure limiter	T_S	Safety time: 4.6 s
K11	Solenoid valve	T_V	Pre-purge time: 16 s
M1	Fan	T_{VZ}	Pre-ignition time: approx. 15 s
M2	Pump motor	T_Z	During this time the motor operates at 95 % operating speed.
P11	Control lamp operation (optional)		Voltage is applied
S22	Temperature switch		Flame signal present
T1	Ignition unit		Current path
Y17	Air damper actuation (optional)		START (orange)
			Ignition phase (flashing orange)
			Burner operation (green)

3.4 Technical data

3.4.1 Approval data

DIN CERTCO	5G936
Basic standards	EN 267:2020 Additional standards, see EU Declaration of Conformity.

3.4.2 Electrical data

Mains voltage / Mains frequency	230 V/50 Hz
Consumption at start	max 138 W
Consumption during operation	max 88 W
Power consumption	max 0.6 A
Internal unit fuse	T6.3H, IEC 127-2/5
External fuse	B6 A

3.4.3 Ambient conditions

Temperature in operation	–10(1 … +40 °C
Temperature during transport/storage	–20 … +70 °C
relative humidity	max 80 %, no dew point
Installation elevation	max 2000 m(2

(1 With the relevant suitable fuel oil and layout of oil supply.
(2 Consultation with Weishaupt is required for higher installation elevation.

3.4.4 Permissible fuels

- Fuel oil EL to DIN 51603-1
- Fuel oil EL to ÖNORM-C1109 (Austria)
- Fuel oil EL to SN 181 160-2 (Switzerland)
- Green Fuels, see supplementary manual (Print No. 835910xx)

3.4.5 Emissions

Flue gas

In accordance with EN 267, the burner meets the requirements of emission class 3.

The NO_x values are influenced by:
- combustion chamber dimensions
- flue gas system
- Fuel
- combustion air (temperature and humidity)
- medium temperature
- Excess air

Combustion chamber dimensions, see Weishaupt Partner Portal (Documents and Applications → Online Applications → NO_x calculation for burner).

Sound levels

Dyad noise emission values

	WL5-PB-H 1.19	**WL5-PB-H 1.21**	**WL5-PB-H 1.22**	**WL5-PB-H 1.23**	**WL5-PB-H 1.24**
Measured sound power level L_{WA} (re 1 pW)	57 dB(A)(1	57 dB(A)(1	58 dB(A)(1	58 dB(A)(1	59 dB(A)(1
Uncertainty value K_{WA}	4 dB(A)	4 dB(A)	4 dB(A)	4 dB(A)	4 dB(A)
Measured sound pressure level L_{pA} (re 20 µPa)	51 dB(A)(2	51 dB(A)(2	52 dB(A)(2	52 dB(A)(2	53 dB(A)(2
Uncertainty value K_{pA}	4 dB(A)	4 dB(A)	4 dB(A)	4 dB(A)	4 dB(A)

	WL5-PB-H 2.24	**WL5-PB-H 2.25**
Measured sound power level L_{WA} (re 1 pW)	59 dB(A)(1	59 dB(A)(1
Uncertainty value K_{WA}	4 dB(A)	4 dB(A)
Measured sound pressure level L_{pA} (re 20 µPa)	54 dB(A)(2	54 dB(A)(2
Uncertainty value K_{pA}	4 dB(A)	4 dB(A)

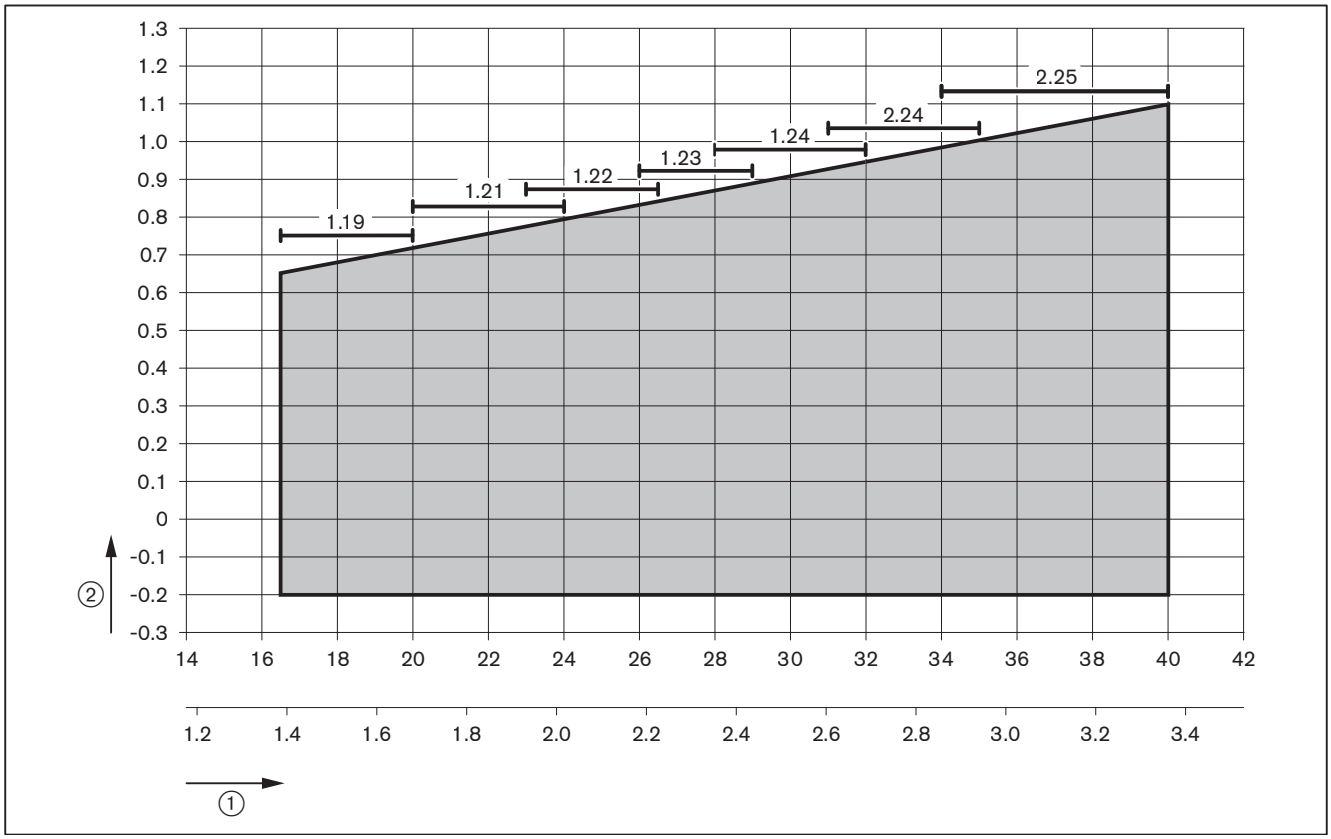
(1 Determined to ISO 9614-2.
(2 Determined at 1 metre distance from the front of the burner.
The measured noise levels plus uncertainty values form the upper limit value, which could occur when measuring.

3.4.6 Rating

Combustion heat rating

The ratings range depends on:
- Size of mixing head (1. or 2.)
- Diameter of air nozzle (19 … 25 mm)

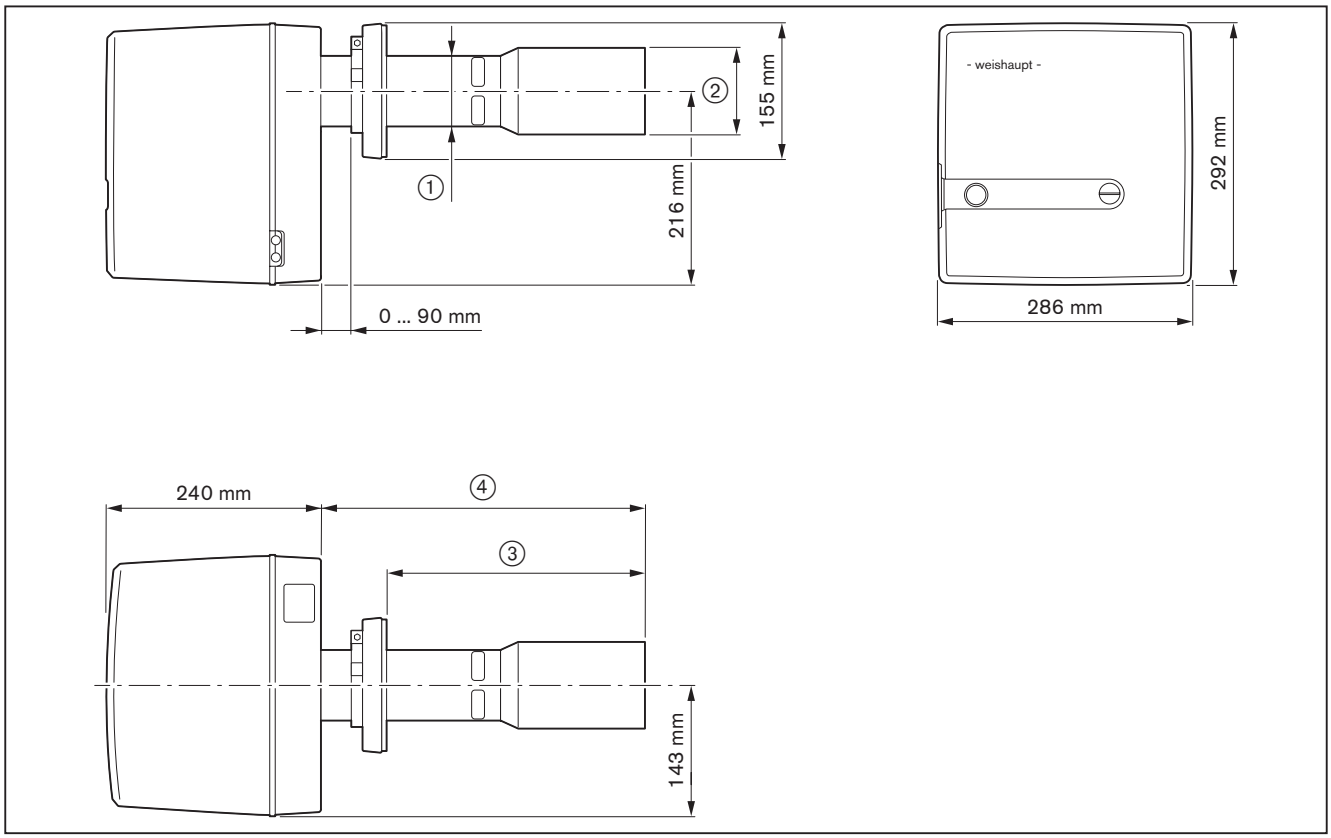
Mixing head	Combustion heat rating [kW]	Oil throughput [kg/h]
ME 1.19	16.5 … 20.0	1.4 … 1.7
ME 1.21	20.0 … 24.0	1.7 … 2.0
ME 1.22	23.0 … 26.5	1.9 … 2.2
ME 1.23	26.0 … 29.0	2.1 … 2.4
ME 1.24	28.0 … 32.0	2.3 … 2.7
ME 2.24	31.0 … 35.0	2.6 … 2.9
ME 2.25	34.0 … 40.0	2.9 … 3.4



① Combustion heat rating [kW] or [kg/h]
② Combustion chamber pressure [mbar]

3.4.7 Dimensions

Burner



	①	②	③	④
ME 1.19 … 1.24	80 mm	100 mm	200 … 290 mm	338 mm
ME 2.24/2.25	90 mm	105 mm	240 … 330 mm	378 mm

3.4.8 Weight

approx. 13 kg

4 Installation

4.1 Installation requirements

Burner type and capacity graph

Burner and heat exchanger must be matched.

► Check burner type and burner capacity.

Installation location

► Prior to installation ensure that:
- sufficient space is available for normal and service position [ch. 3.4.7]
- sufficient combustion air is available and, if necessary, a ducted air intake is installed

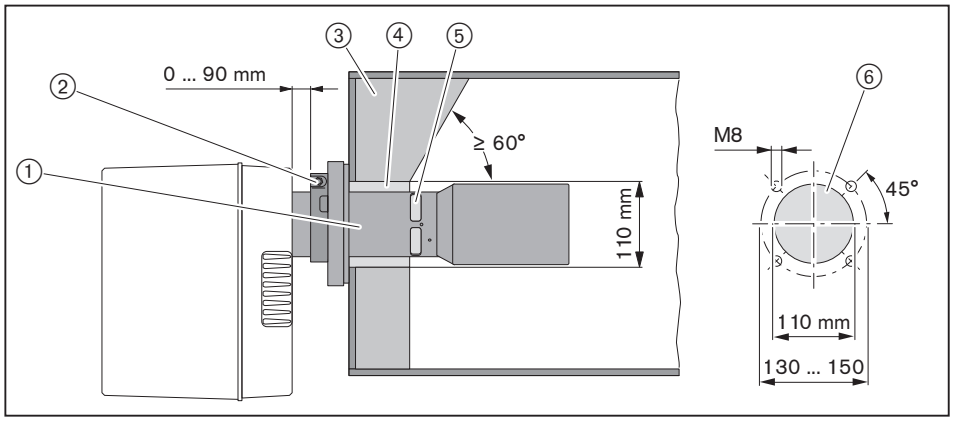
Prepare heat exchanger

The refractory ③ must not protrude beyond the recirculation aperture ⑤. It can, however, take a conical shape (min 60°).

The distance from flame tube front edge to the rear wall of the combustion chamber must be a minimum of 100 … 150 mm to ensure sufficient flame burn-out.

If necessary, undo locknut ② on the sliding flange to adjust the installation depth of the burner [ch. 4.3].

Following installation, the aperture ④ between adapter tube ① and refractory should be filled with flame-proof, resilient insulating material. Do not make solid.



① Adapter pipe
② Locknut on sliding flange
③ Refractory
④ Aperture
⑤ Recirculation aperture
⑥ Boiler plate recess

4.2 Check rating

The burner as supplied to the customer is set for a specific burner capacity, see table.

Mixing head	Burner capacity [kW](1	Nozzle size [gph](1	Pump pressure [bar]	Load range [kW]
ME 1.19	approx. 17.0	0.35	10 … **12**(1 … 15	16.5 … 18.0
	approx. 18.2	0.40	10 … **11**(1 … 15	18.0 … 20.0
ME 1.21	approx. 21.7	0.45	12 … **13**(1 … 15	20.0 … 24.0
ME 1.22	approx. 25.8	0.50	12 … **13**(1 … 15	23.0 … 26.5
ME 1.23	approx. 27.9	0.55	12 … **13**(1 … 15	26.0 … 29.0
ME 1.24	approx. 30.9	0.60	12 … **13**(1 … 15	28.0 … 32.0
ME 2.24	approx. 33.1	0.65	**13**(1 … 16	31.0 … 35.0
ME 2.25	approx. 37.0	0.65	13 … **16**(1	34.0 … 40.0

(1 Delivery status

Within the capacity range of the mixing head, the burner capacity can be changed via the nozzle size and the pump pressure.

If the capacity exceeds this capacity range, a different mixing head has to be fitted [ch. 9.5].

Recommended nozzles

Size	Make	Characteristics
ME 1.19	Danfoss	80°SR
ME 1.21 … ME 2.25	Fluidics	80°SF
	Danfoss	80°SR

Nozzle selection table

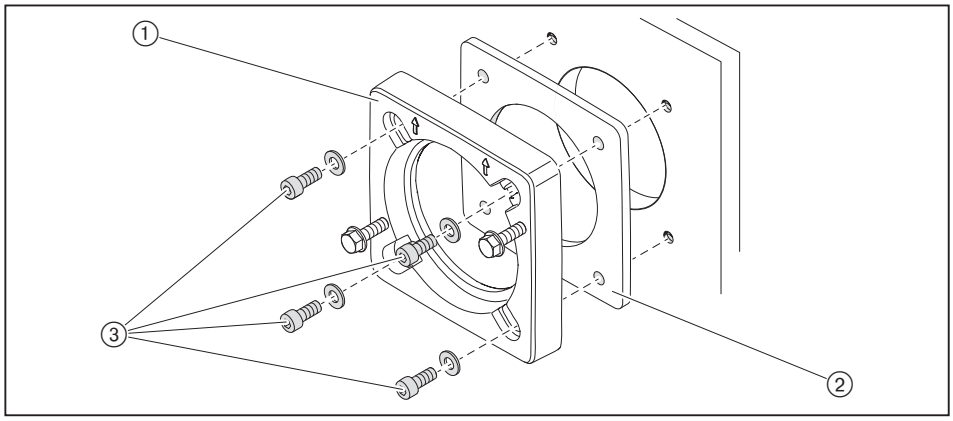
Different load values are possible due to tolerances.

Stage 1	Burner capacity [kW] at pump pressure						
Nozzle size [gph]	10 bar	11 bar	12 bar	13 bar	14 bar	15 bar	16bar
0.35	15.7	16.4	17.0	17.7	18.3	19.0	–
0.40	17.4	18.2	19.0	19.9	20.5	21.3	–
0.45	19.1	19.9	20.8	21.7	22.5	23.4	–
0.50	22.7	23.8	24.8	25.8	26.9	27.9	–
0.55	24.7	25.7	26.8	27.9	28.9	30.0	31.1
0.60	27.3	28.8	29.7	30.9	32.0	33.2	34.4
0.65	–	–	–	33.1	34.3	35.5	36.7
0.75	–	–	37.2	38.6	39.7	40.7	42.1

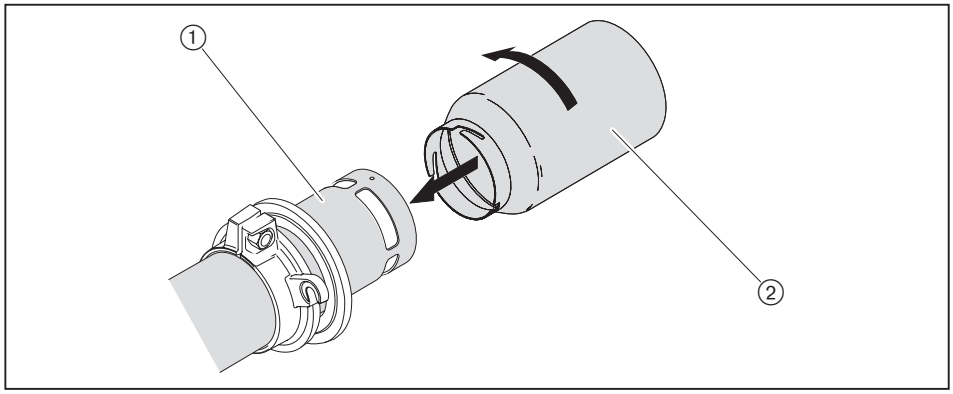
The capacity values were determined at a test bed, they do not correspond with the Weishaupt slide rule.

4.3 Burner installation

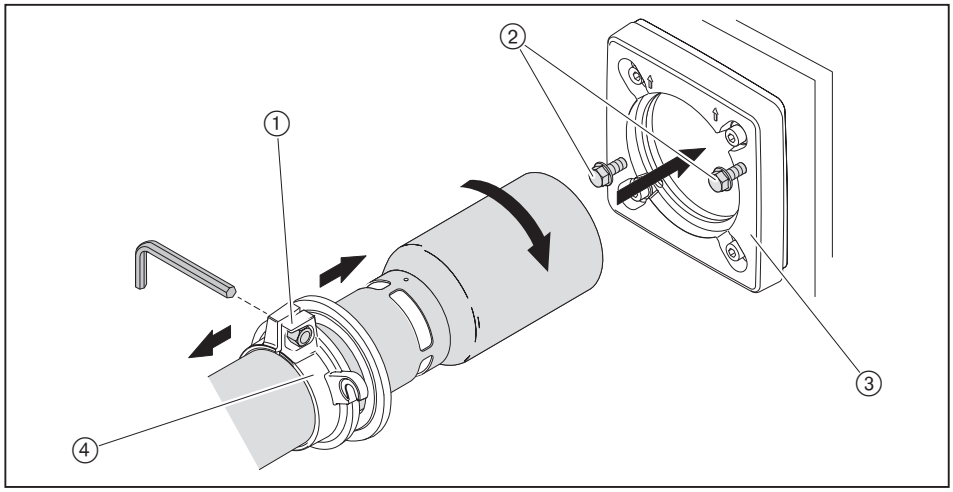
- ► Remove burner flange ① from burner housing.
- ► Fit flange gasket ② and burner flange ① to the heat exchanger using screws ③.
- ► The aperture between flame tube and refractory should be filled with flame-proof, resilient insulating material (do not make solid).



- ► Fix flame tube ② to adapter pipe ① using the bayonet principle.



- ► Fit burner to burner flange ③.
- ► Fix sliding flange ④ using the bayonet principle with the screws ②.
- ► If necessary, undo locknut ① on the sliding flange and adjust the installation depth by moving the burner [ch. 4.1].



5 Installation

5.1 Oil supply

The oil supply may only be installed by qualified personnel.

EN 12514-2, DIN 4755, Tyrol, work sheet DWA-A 791 (TRwS 791) and observe the local regulations.

Check conditions for oil pump

Suction resistance	max 0.4 bar(1
Flow pressure	max 2 bar(1
Flow temperature	max 60 °C(1

(1 Measured at the pump.

Check conditions for oil hoses

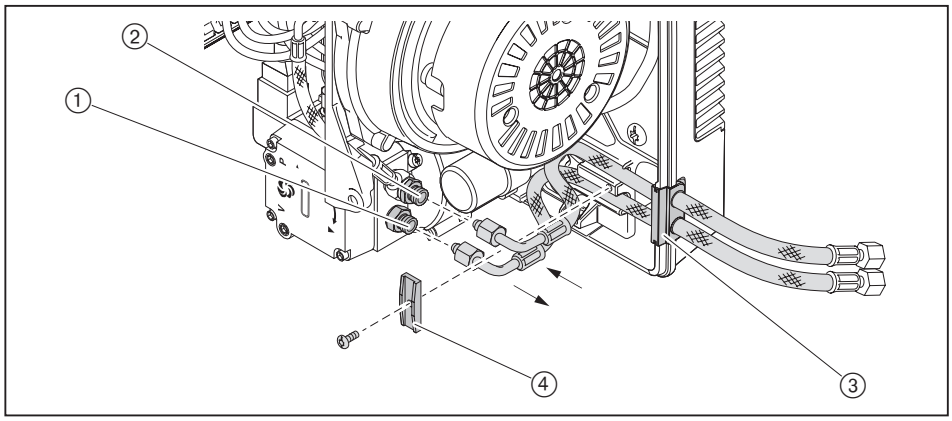
Length	1200 mm
Oil hose connection	G⅜
Nominal pressure	10 bar
Thermal load	max 100 °C

Connect oil supply

NOTICE

Damage to the oil pump due to incorrect connection
Mixing up supply and return can damage the oil pump.
► Ensure correct connection of oil hoses to the supply and return of the pump.

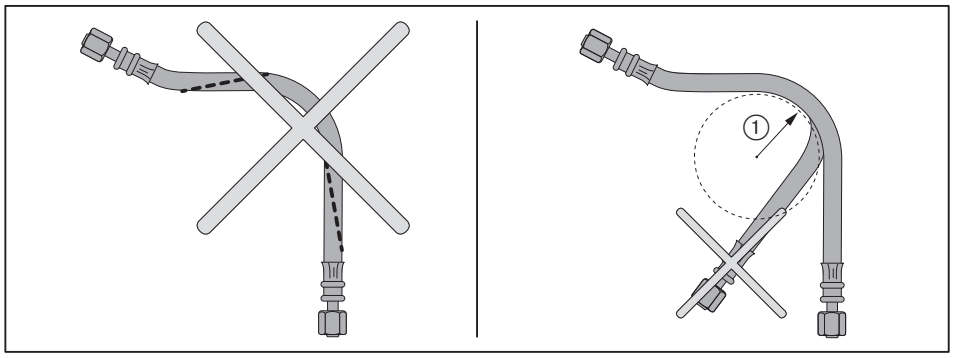
► Fit oil hoses with bracket ④ and grommet ③ to burner.



① Return
② Flow

► Connect oil supply and:
- do not twist oil hoses
- avoid mechanical tension
- consider length of hose required for the service position
- do not kink oil hoses (curve radius ① of 50 mm must be maintained)

If these conditions for connection can not be met:
► adapt oil supply on site.



Purge oil supply and ensure it is tight

NOTICE

Oil pump seized due to running dry
Pump could be damaged.
► Fill oil supply with oil and purge.

► Ensure oil supply is tight.

5.2 Electrical connection

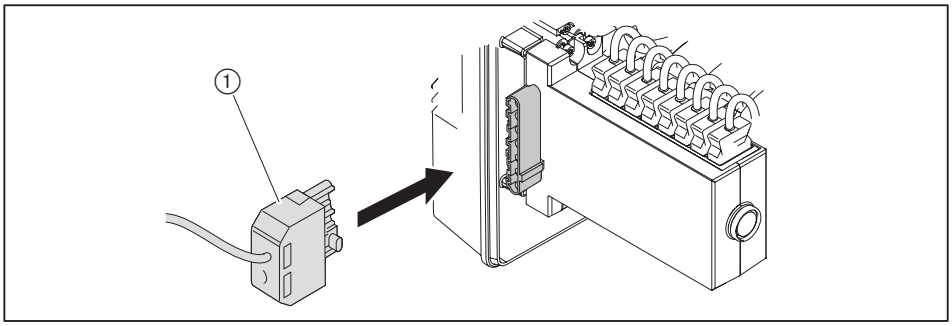
WARNING

Risk of electric shock
Working on the device when voltage is applied can lead to electric shock.
- ► Isolate the device from the power supply prior to starting any work.
- ► Safeguard against accidental restart.

The electrical connection must only be carried out by qualified electricians.
Observe local regulations.

Observe wiring diagram [ch. 11.2].

- ► Check polarity and wiring of 7 pole connection plug ①.
- ► Plug in connection plug ①.



With remote reset, install connection line separately, do not exceed maximum cable length of 10 metres.

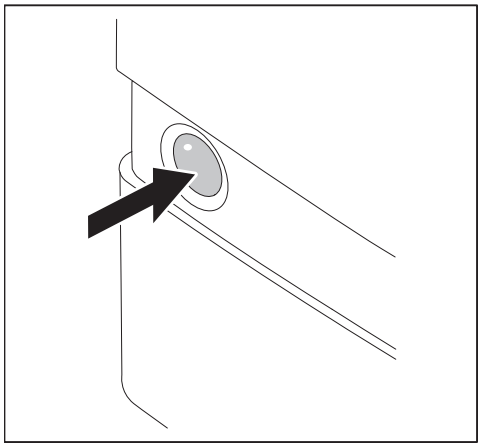
6 Operation

6.1 Operating panel

NOTICE

Damage to the combustion manager due to incorrect operation
Excessive pressure applied to the illuminated push button can damage the combustion manager.
► Only lightly press illuminated push button.

The illuminated push button on the combustion manager has the following functions:
- Display operating condition [ch. 6.2]
- Display fault codes [ch. 10.1.2]
- Reset burner lockout [ch. 10.1.2]



Re-starting the burner during burner operation:
► Press illuminated push button for 1 second.

6.2 Display

Illuminated push button	Operating condition
orange	Start phase
Flashing orange	Ignition and pre-purge phase
Green	Operation
red	Fault [ch. 10]

Additional flashing signals can be read off as fault code [ch. 10].

7 Commissioning

7.1 Prerequisite

Commissioning must only be carried out by qualified personnel.

Only correctly carried out commissioning ensures the operational safety.



Do not operate the burner outside of the capacity graph [ch. 3.4.6].

► Prior to commissioning ensure that:
- all assembly and installation work has been carried out correctly
- sufficient combustion air is available and, if necessary, a ducted air intake is installed
- the annulus between flame tube and heat exchanger is filled
- the heat exchanger is filled with medium
- the regulating, control and safety devices are functioning and set correctly
- the flue gas ducts are unimpeded
- a measuring point conforming to standards is available to measure the flue gas
- the heat exchanger and flue gas ducting up to the test point are sound, as extraneous air influences the test results
- the operating instructions of the heat exchanger are complied with
- a heat demand is available

Additional system-related tests could be necessary. Please observe the operating guidelines for the individual components.

On installations with process equipment, the conditions for safe operation and commissioning must be met, see worksheet 8-1 (Print No. 831880xx).

7.1.1 Connect measuring devices

Pressure measuring device and ammeter

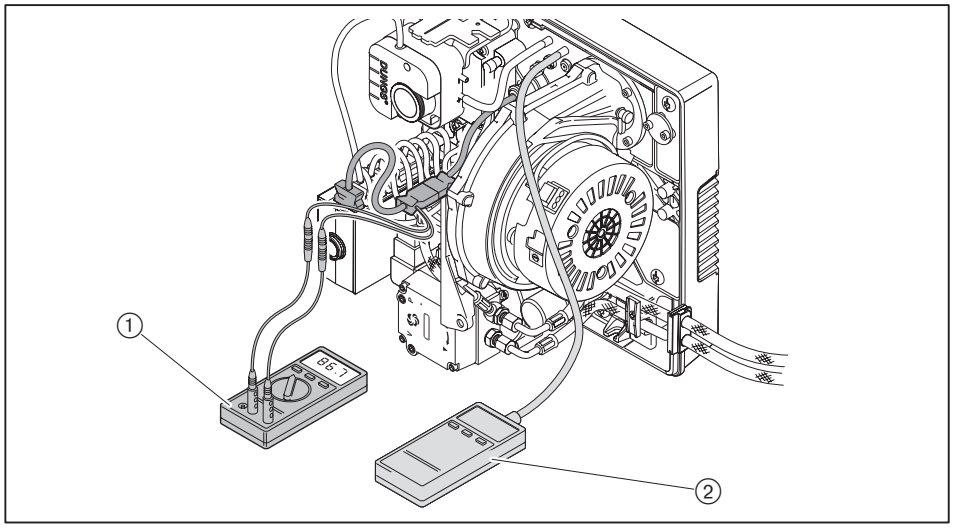
- Pressure measuring device for mixing pressure.
- Ammeter for flame signal.

► Connect pressure measuring device ②.

Test adapter No. 13 required (Order No. 240 050 12 052).
► Unplug plug No. 13.
► Plug in test adapter No. 13.
► Connect ammeter ①.

Flame signal

Extraneous light detection from	13 µA
Minimum flame signal	35 µA
Recommended flame signal	70 … 100 µA



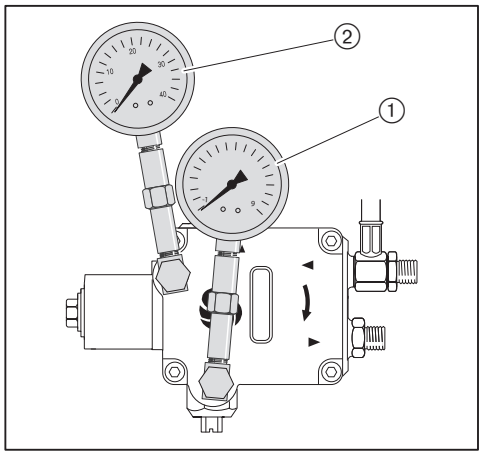
Oil pressure measuring devices on oil pump

- Vacuum gauge for suction resistance/flow pressure.
- Pressure gauge for pump pressure.

NOTICE

Oil leakage from oil pressure measuring devices due to constant load
Oil pressure measuring devices could be damaged and cause environmental pollution through leakage.
► Remove oil measuring devices once commissioning is complete.

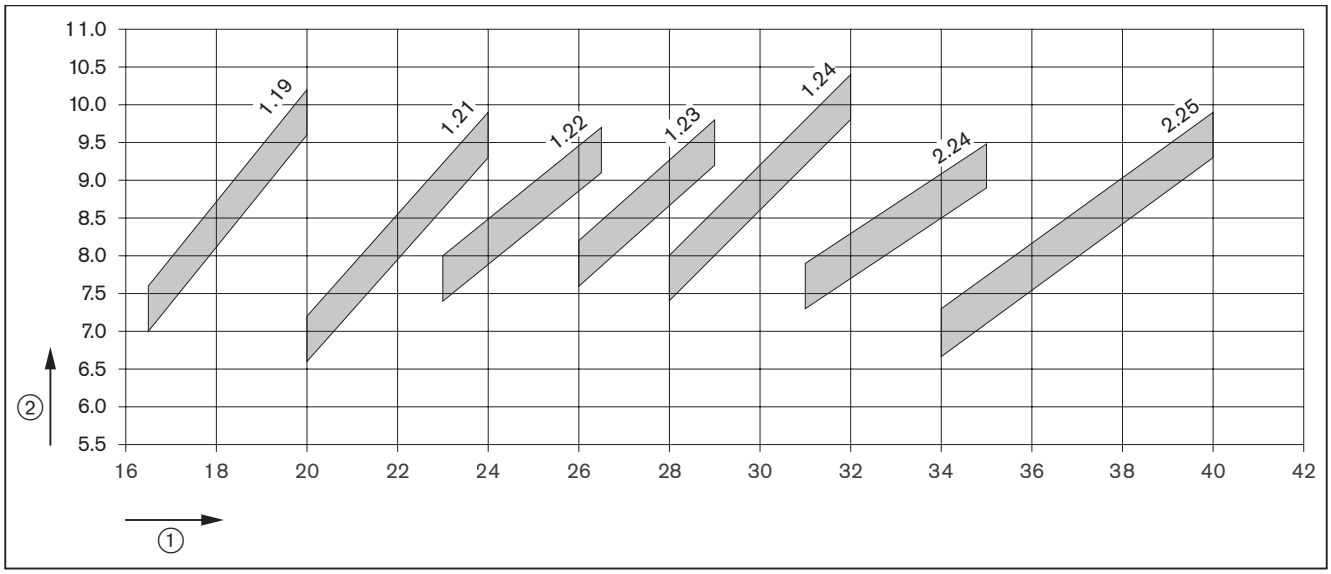
► Close fuel shut off devices.
► Remove closing plug on the pump.
► Connect vacuum gauge ① and pressure gauge ②.



7.1.2 Setting values

Determine mixing pressure

► Determine the mixing pressure required for the pre-set combustion heat rating from the diagram and note down.



① Combustion heat rating [kW]

② Mixing pressure [mbar]

Guide values, which may vary depending on combustion chamber resistance.

7.1.3 Preset air pressure switch

The presetting of the air pressure switch is only valid for the initial burner start. During commissioning, the pressure switch must be set correctly.

► Preset air pressure switch to approx. 5.5 mbar.

7.2 Adjusting the burner

WARNING

Risk of electric shock
Touching the ignition device can lead to electric shock.
► Do not touch ignition device during the ignition process.

► During commissioning check:
  ▪ Flame signal [ch. 7.1.1]
  ▪ Suction resistance or flow pressure of oil pump [ch. 5.1]
  ▪ Mixing pressure [ch. 7.1.2]

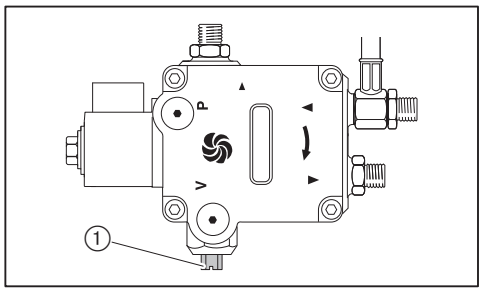
1. Start the burner

Heat demand from the boiler controller required.
► Open fuel shut off devices.
► Switch on voltage supply.
✓ Illuminated push button lights up red.
► Press illuminated push button for 1 second.
✓ Burner starts in accordance with the programme sequence [ch. 3.3.4].

2. Set pump pressure

The pump pressure must be set according to the nozzle selected.

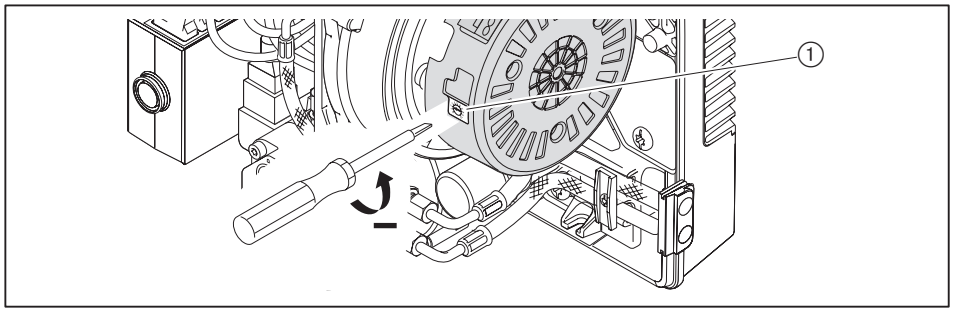
► Check pump pressure at pressure gauge.
► Set pressure using pressure regulating screw ①:
  ▪ increase pressure: clockwise rotation
  ▪ decrease pressure: anticlockwise rotation



► Check combustion values.

3. Determine combustion limit

- ► Read the position of the potentiometer ① on the scale and note it down.
- ► Determine combustion limit and slowly reduce O_2 content using the potentiometer ① (turn to the left) until the combustion limit determined is reached (CO content approx. 100 ppm or smoke number approx. 1).

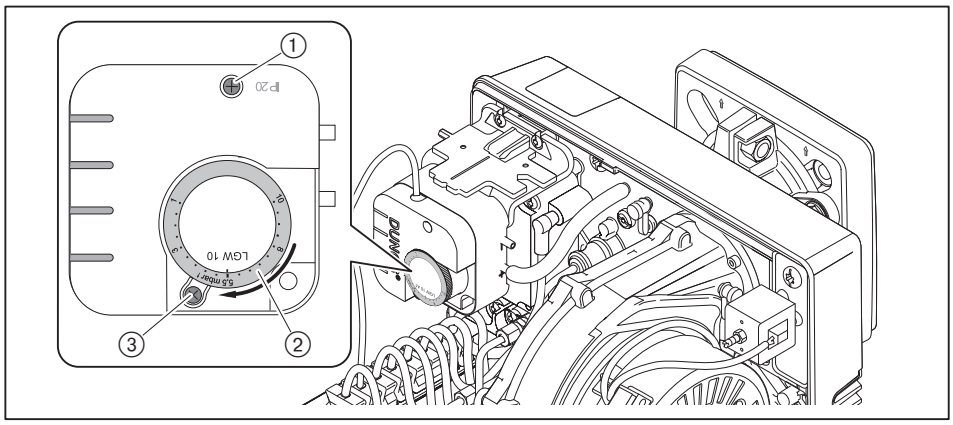


- ► Measure and document O_2 content.
- ► Read air number (λ) and note down.

4. Set air pressure switch

To ensure protection against accidental contact with the electrical connections, the cover must be secured with screw ①.

- ► Undo screw ③.
- ► Slowly turn setting cam ②, until the burner shuts down.
- ✓ The air pressure switch is now set.
- ✓ Shutdown limit of the air pressure switch corresponds to the combustion limit.
- ► Re-tighten screw ③.



5. Set excess air

- ► Set the position of potentiometer ① previously noted down.
- ► Start the burner.
- ► Check combustion values.

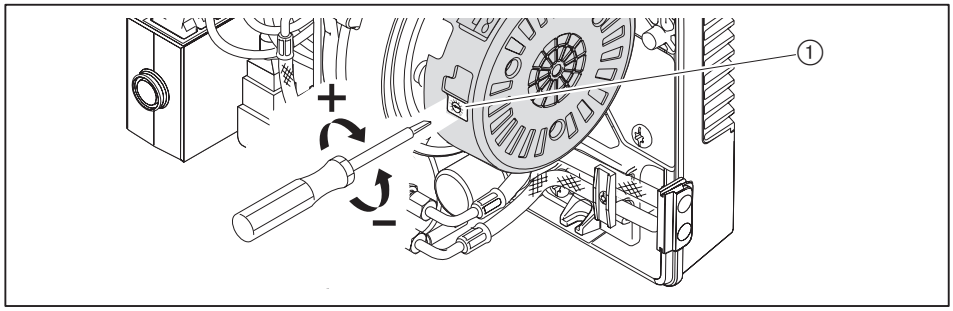
Increase air number (λ) previously noted down to ensure sufficient excess air:

- by 0.15 … 0.2 (equates to 15 … 20 % excess air),
- by more than 0.2 for more difficult conditions, such as:
  - dirty combustion air,
  - fluctuating intake temperature,
  - fluctuating chimney draught.

Example

$$\lambda + 0.15 = \lambda^*$$

- ► Set excess air (air number λ*) via potentiometer ① whilst observing the mixing pressure, do not exceed CO content of 50 ppm:
  - increase O_2 content = clockwise rotation,
  - decrease O_2 content = anticlockwise rotation.



- ► Check combustion values [ch. 7.4].

7.3 Concluding work

NOTICE

Oil leakage from oil pressure measuring devices due to constant load
Oil pressure measuring devices could be damaged and cause environmental pollution through leakage.
► Remove oil measuring devices once commissioning is complete.

► Check control and safety devices.
► Check tightness of oil carrying components.
► Enter type and serial number into the text box [ch. 3.2].
► Enter combustion values and settings in the commissioning record and/or test sheet.
► Mount cover on burner.
► Inform the operator about the use of the equipment.
► Hand the installation and operating manual to the operator and inform him that this should be kept with the appliance.
► Point out to operator that the installation should be serviced annually.

7.4 Check combustion

Check flue gas temperature

► Check flue gas temperature.
► Ensure that the flue gas temperature complies with the data provided by the boiler manufacturer.
► If necessary adjust flue gas temperature, e. g.:
  ▪ Increase burner capacity to avoid condensation in the flue gas ducts, except on condensing units
  ▪ Reduce burner capacity to improve efficiency
  ▪ adjust heat exchanger to the data provided by the manufacturer

Determine flue gas losses

► Measure combustion air temperature (t_L) near the air damper(s).
► Measure oxygen content (O_2) and flue gas temperature (t_A) at the same time at one point.
► Determine flue gas losses using the following formula:

$$q_A = (t_A - t_L) \cdot \left(\frac{A_2}{21 - O_2} + B\right)$$

q_A Flue gas losses [%]
t_A Flue gas temperature [°C]
t_L Combustion air temperature [°C]
O_2 Volumetric content of oxygen in dry flue gas [%]

Fuel factors	Fuel oil
A2	0.68
B	0.007

8 Shutdown

In the event of operational failure:
- ▶ Switch off burner.
- ▶ Close fuel shut off devices.

9 Servicing

9.1 Notes on servicing



WARNING

Risk of electric shock
Working on the device when voltage is applied can lead to electric shock.
► Isolate the device from the power supply prior to starting any work.
► Safeguard against accidental restart.



WARNING

Risk of electric shock
Touching the ignition device can lead to electric shock.
► Do not touch ignition device during the ignition process.



CAUTION

Danger of getting burned on hot components
Hot components can lead to burns.
► Do not touch the components.
► Allow components to cool.



CAUTION

Risk of injury from sharp edges
Sharp edges on components can cause injury.
► Wear protective gloves.
► Watch out for sharp edges.



NOTICE

Damage caused by objects in the burner housing
It is possible for objects to fall into the burner housing.
If these objects are not removed, they could damage the burner.
► Following servicing, ensure that there are no objects left in the burner housing.

Servicing must only be carried out by qualified personnel. The combustion plant should be serviced annually. Depending on site conditions more frequent checks may be required.

Components, which show increased wear and tear or whose design lifespan is or will be exceeded prior to the next service should be replaced as a precaution.

The design lifespan of the components is listed in the service plan [ch. 9.2].



Weishaupt recommends a service contract be entered into to ensure that the necessary inspections and maintenance work are carried out.

The following components must only be replaced and must not be repaired:
- Combustion Manager
- Flame sensor
- Actuator
- Oil solenoid valve
- Pressure switch
- Oil nozzle

Prior to every servicing

- ► Inform the operator about the extent of service work to be carried out.
- ► Switch off mains switch of installation and safeguard against accidental reactivation.
- ► Close fuel shut-off devices and secure against being switched on again unexpectedly.
- ► Remove cover.
- ► Unplug boiler control connection plug from combustion manager.

Following servicing

- ► Check tightness of oil carrying components.
- ► Check function of:
  - Ignition
  - Flame monitoring
  - oil pump (pump pressure and suction resistance)
  - Control and safety devices
- ► Check combustion values, if necessary re-adjust the burner.
- ► Enter combustion values and settings in the commissioning record.
- ► Refit cover.

9.2 Service plan

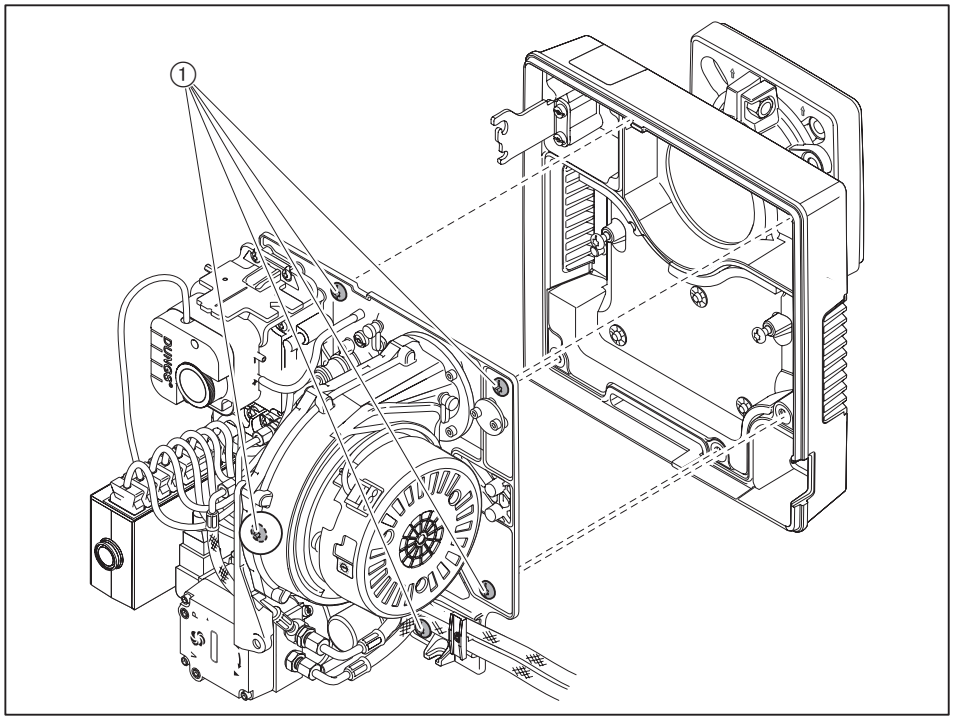
Components	Criteria / design lifespan[1]	Service procedure
Oil nozzle	Soiling / wear	▶ Replace [ch. 9.4] Recommendation: at least every 2 years
Nozzle shut off	Soundness	▶ Replace [ch. 9.6] Recommendation: at least every 2 years
Ignition electrode	Soiling	▶ Clean
	Damage / wear	▶ Replace Recommendation: at least every 2 years
Ignition cable	Damage	▶ Replace
Flame tube / mixing head	Soiling	▶ Clean
	Damage	▶ Replace [ch. 9.4] [ch. 9.10]
Oil hose	Damage / oil escaping	▶ Replace [ch. 9.13] Recommendation: every 5 years
Oil solenoid valve	Soundness 250 000 burner starts or 10 years[2]	▶ Replace oil pump [ch. 9.13]
Oil pump filter	Soiling	▶ Clean [ch. 9.15]
Air duct	Soiling	▶ Clean
Air damper	Soiling	▶ Clean
Combustion Manager	250 000 burner starts or 10 years[2]	▶ Replace
Flame sensor	Soiling	▶ Clean
	Damage 250 000 burner starts or 10 years[2]	▶ Replace
Air pressure switch	Switch point	▶ Check.
	250 000 burner starts or 10 years[2]	▶ Replace

[1] The specified design lifespan applies for typical use in heating, hot-water and steam systems as well as for thermal process systems to EN ISO 13577-2.
[2] If a criterion is reached, carry out maintenance measures.

9.3 Service position

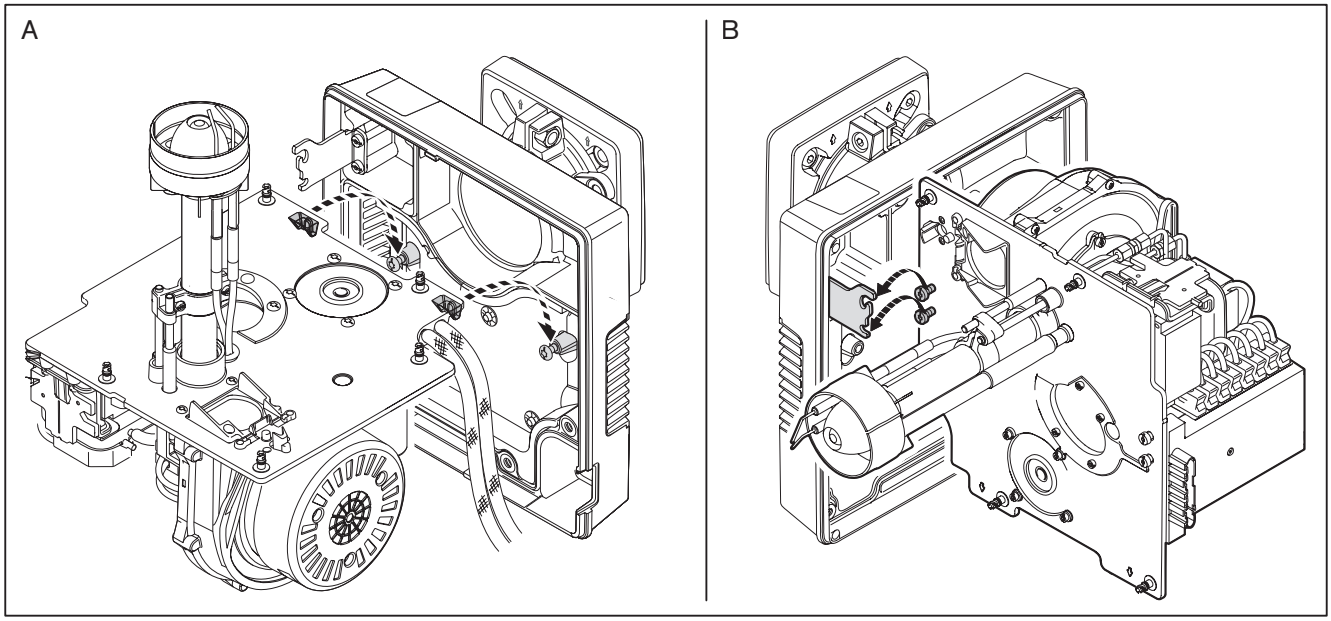
Observe notes on servicing [ch. 9.1].

► Open quick release fastener ①.



Service position A and B

► Place burner into service position required.

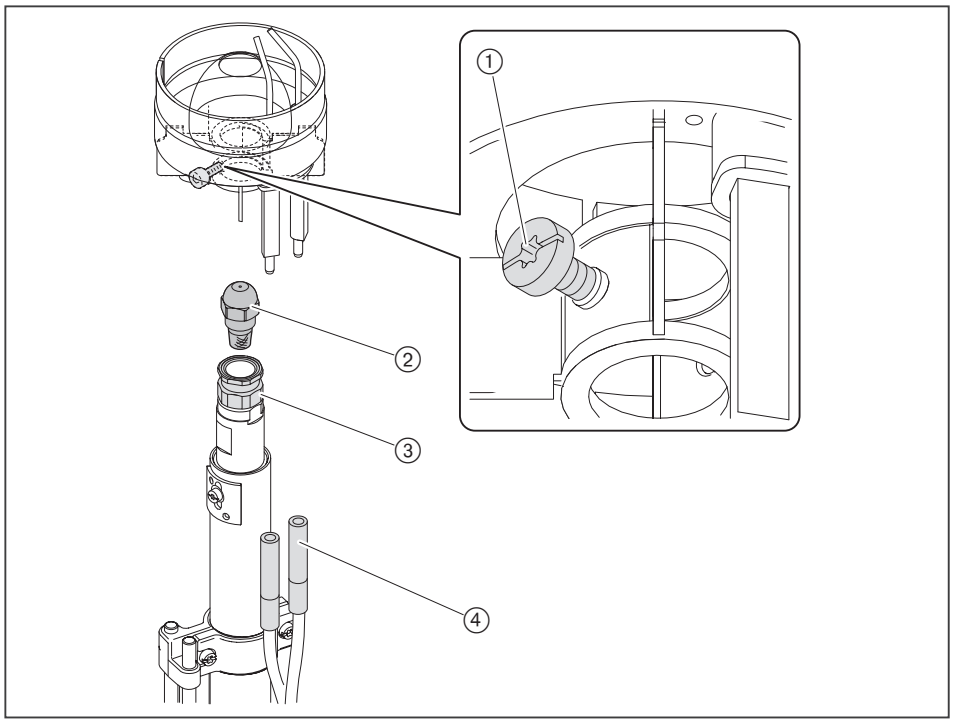


9.4 Replace nozzle

Observe notes on servicing [ch. 9.1].

Do not clean nozzles, always fit new nozzles.

- ► Place burner into service position A [ch. 9.3].
- ► Unplug ignition cable ④.
- ► Undo screws ① and remove mixing head.
- ► Counter-hold on the nozzle body ③ using a spanner and remove nozzle ②.
- ► Fit new nozzle ensuring it is seated tightly.
- ► Fit mixing head up to stop and secure.
- ► Set nozzle distance [ch. 9.10]
- ► Set ignition electrodes [ch. 9.7]



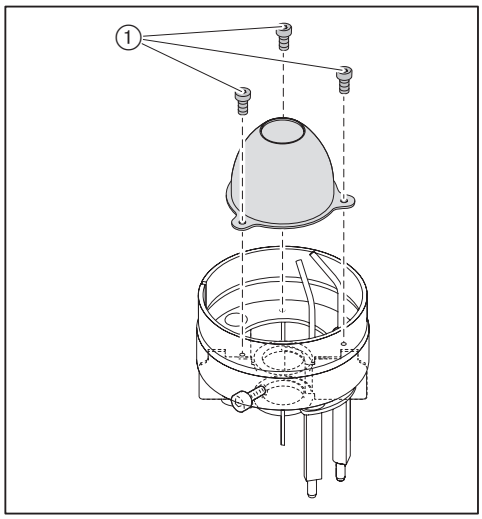
9.5 Removing and refitting air nozzle

9.5.1 Mixing head 1.19 … 1.24

Observe notes on servicing [ch. 9.1].

Removing

- ► Place burner into service position A [ch. 9.3].
- ► Remove screws ① and remove air nozzle.



Refitting

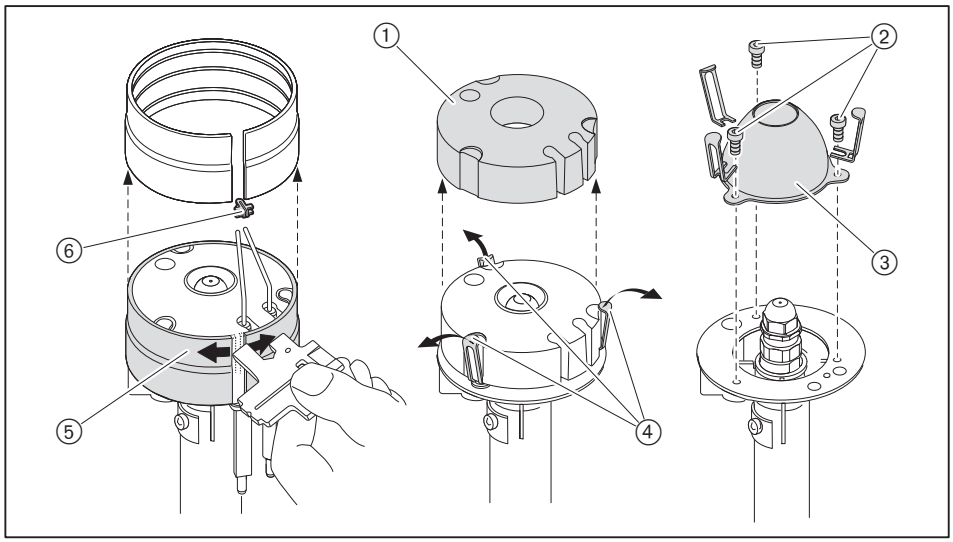
- ► Refit air nozzle in reverse order.
- ► Set mixing head [ch. 9.10]
- ► Set ignition electrodes [ch. 9.7]

9.5.2 Mixing head 2.24 … 2.25

Observe notes on servicing [ch. 9.1].

Removing

- ► Place burner into service position A [ch. 9.3].
- ► Press apart metering ring ⑤ using the setting gauge and remove.
- ► Remove clip ⑥ for metering ring.
- ► Remove ignition electrodes [ch. 9.8].
- ► Lightly open retaining clips ④.
- ► Remove HTI refractory ①.
- ► Remove screws ② and remove air nozzle ③ with retaining clips.



Refitting

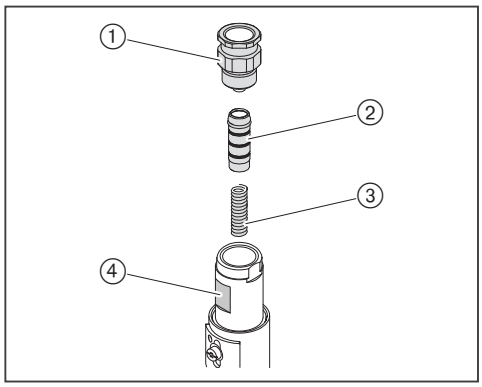
- ► Refit air nozzle in reverse order.
- ► Set mixing head [ch. 9.10]
- ► Set ignition electrodes [ch. 9.7]

9.6 Removing and refitting nozzle shut off

Observe notes on servicing [ch. 9.1].

Removing

- ► Remove nozzle [ch. 9.4].
- ► Counter-hold the nozzle assembly ④ using a spanner and remove nozzle holder ①.
- ► Remove valve piston ② and compression spring ③ using a suitable tool (e. g. pliers), do not damage valve piston and O ring.



Refitting

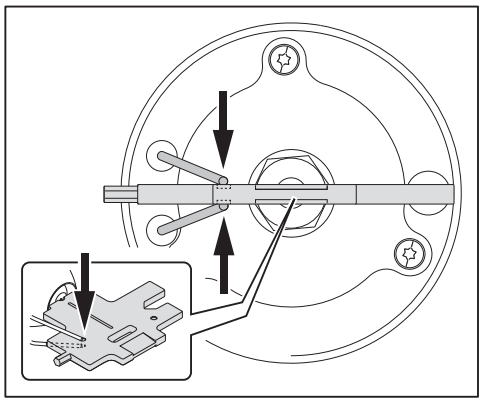
Do not refit damaged valve pistons, and replace as necessary.

- ► Refit nozzle shut off in reverse order.
- ► Check nozzle distance [ch. 9.10].
- ► Set ignition electrodes [ch. 9.7]

9.7 Set ignition electrodes

Observe notes on servicing [ch. 9.1].

- ► Place burner into service position B [ch. 9.3].
- ► Set ignition electrodes with the help of the setting gauge.

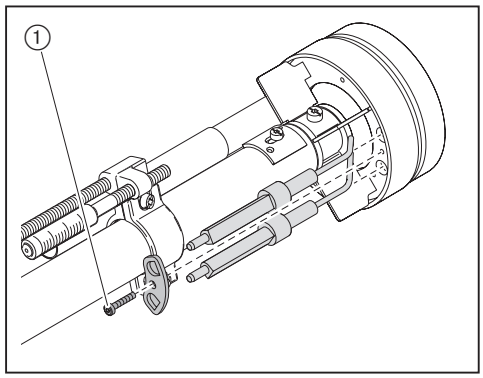


9.8 Removing and refitting ignition electrodes

Observe notes on servicing [ch. 9.1].

Removing

- ► Place burner into service position B [ch. 9.3].
- ► Unplug ignition cable.
- ► Remove screws ① and remove ignition electrodes from mixing head.



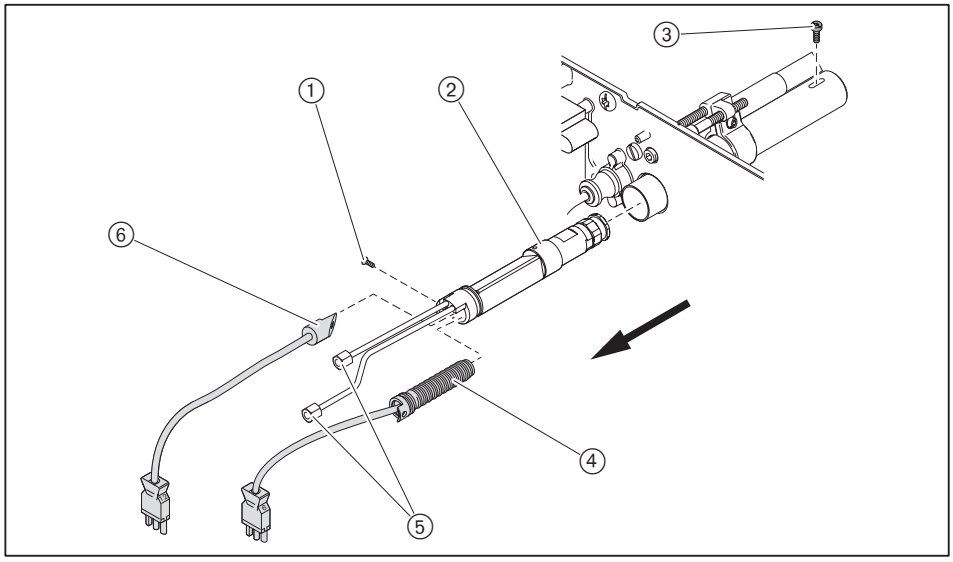
Refitting

- ► Refit ignition electrodes in reverse order.
- ► Set ignition electrodes.

9.9 Removing heat exchanger and temperature switch

Observe notes on servicing [ch. 9.1].

- ► Place burner into service position B [ch. 9.3].
- ► Remove nozzle [ch. 9.4].
- ► Unplug plug number 6 and 12.
- ► Undo oil lines ⑤.
- ► Remove screw ③ and remove nozzle assembly ②.
- ► Remove screw ① and temperature switch ⑥.
- ► Remove heat exchanger ④ using a suitable tool (e. g. pliers).



9.10 Set mixing head

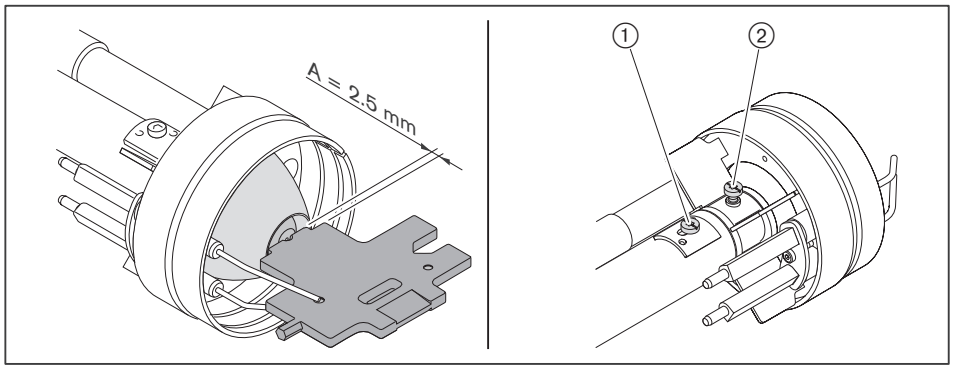
Observe notes on servicing [ch. 9.1].

Set nozzle distance

- ► Place burner into service position B [ch. 9.3].
- ► Insert setting gauge and check dimension A (2.5 mm).

If the value measured deviates from dimension A:

- ► Undo screw ① on the guide tube and screw ② on the mixing head.
- ► Adjust nozzle body until dimension A is reached and ensure that the mixing head is flush with the guide tube.
- ► Tighten screw ① and screw ②.



9.11 Set recirculation aperture

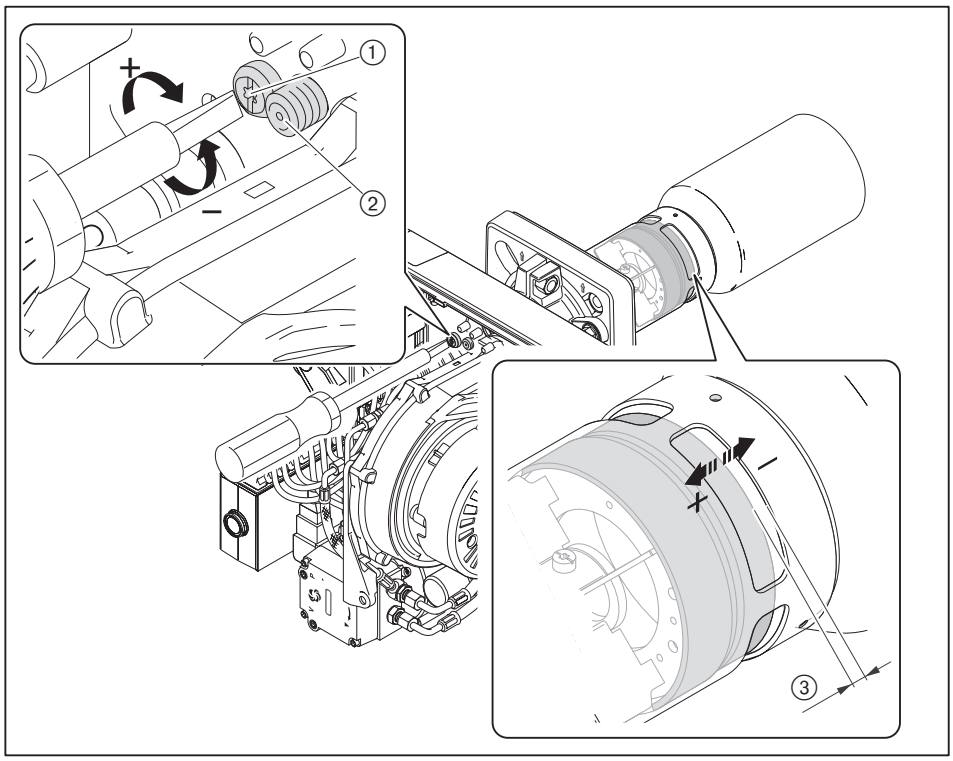
Observe notes on servicing [ch. 9.1].

- ▶ Turn setting screw ① until the scale on the indicating bolt ② is equal to the table value.

The indicating bolt has been factory preset to show the clearance of the recirculation aperture ③ in mm.

If the indicating bolt has been moved (e. g. during transport):

- ▶ Remove plug from indicating bolt ②.
- ▶ Turn indicating bolt until it matches the current recirculation aperture.
- ▶ Re-fit stopper.

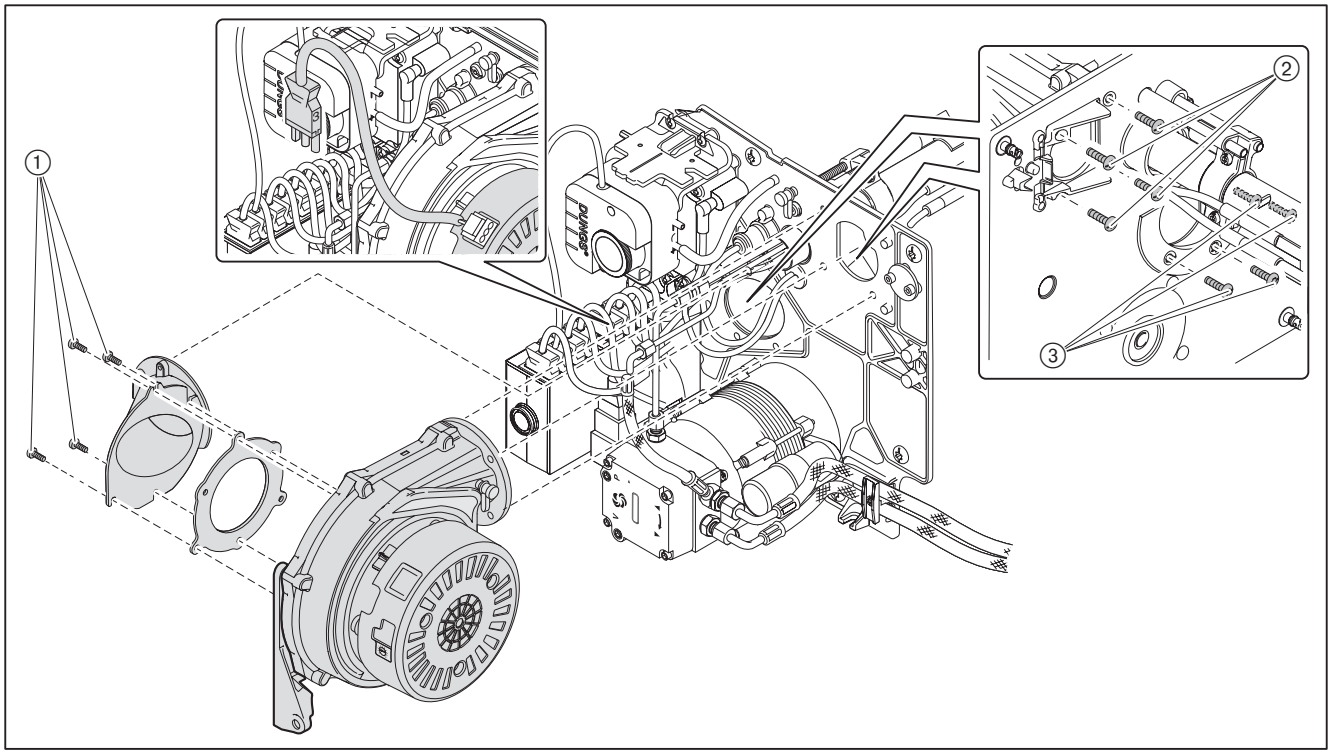


Mixing head	Recirculation aperture [mm]
ME 1.19	1.5
ME 1.21	4.0
ME 1.22	4.0
ME 1.23	5.0
ME 1.24	5.0
ME 2.24	2.0
ME 2.25	2.0

9.12 Removing the fan

Observe notes on servicing [ch. 9.1].

- ▶ Place burner into service position B [ch. 9.3].
- ▶ Unplug plug No. 3.
- ▶ Remove screws ② from fan and screws ③ from intake connection.
- ▶ Remove fan.
- ▶ Remove screws ①, remove intake connection and gasket.



9.13 Removing and refitting oil pump

Observe notes on servicing [ch. 9.1].

Removing

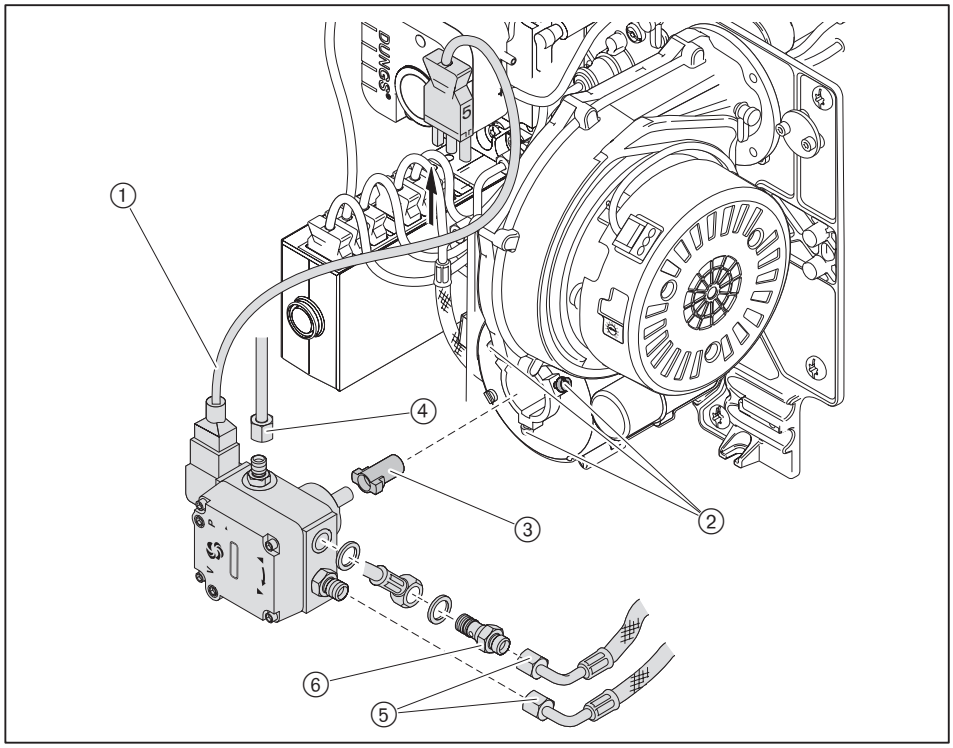
- ► Place burner into service position B [ch. 9.3].
- ► Close fuel shut off devices.
- ► Unplug plug ①.
- ► Remove oil hoses ⑤ and screwed unions ⑥.
- ► Remove oil line ④.
- ► Undo screws ② and remove oil pump.

Refitting

- ► Install oil pump in reverse order and:
  - ensure correct alignment of coupling ③
  - ensure that the oil hoses are correctly connected to the supply and return lines

NOTICE

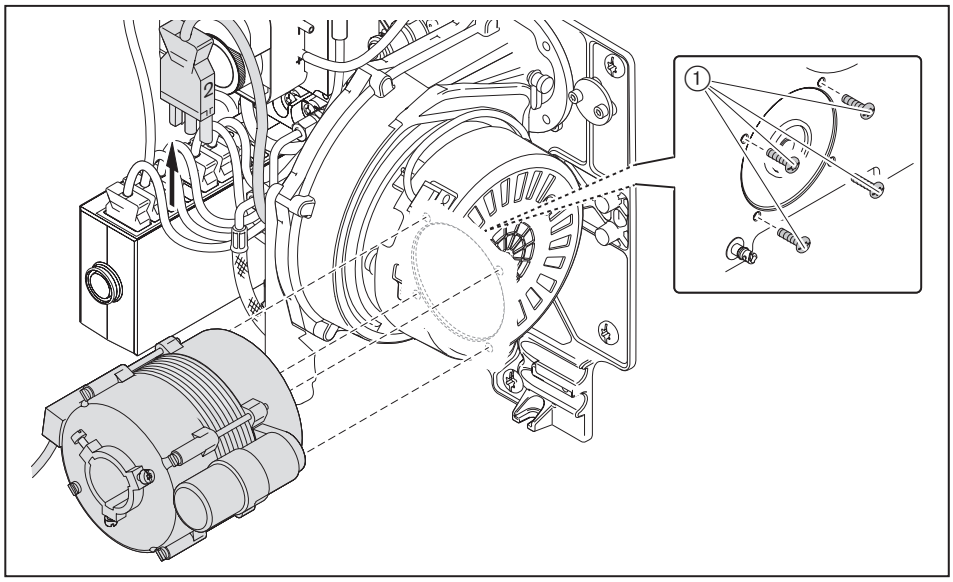
Damage to the oil pump due to incorrect connection
Mixing up supply and return can damage the oil pump.
- ► Ensure correct connection of oil hoses to the supply and return of the pump.



9.14 Remove pump motor

Observe notes on servicing [ch. 9.1].

- ► Remove the oil pump [ch. 9.13].
- ► Unplug plug No. 2.
- ► Remove screws ① and remove motor.

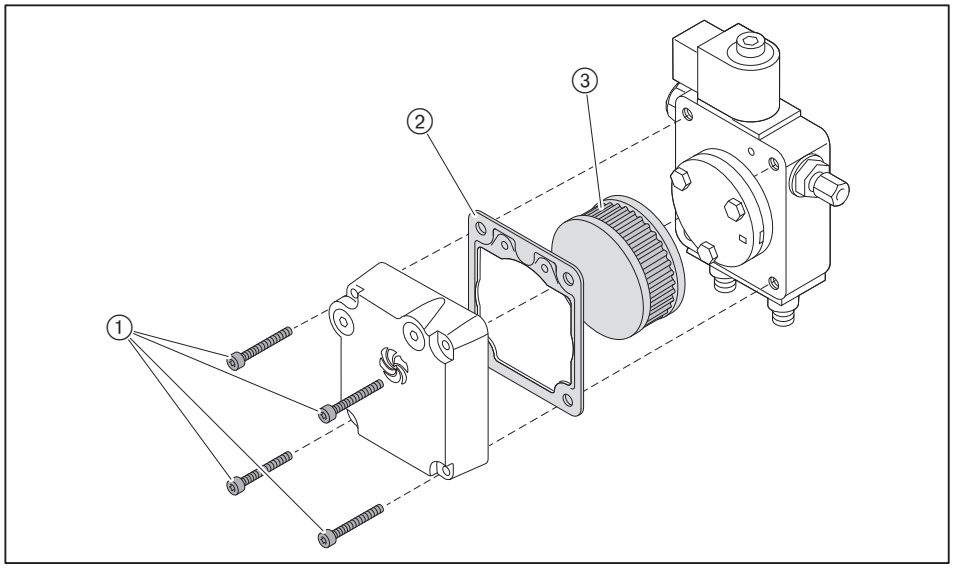


9.15 Removing and refitting oil pump filter

Observe notes on servicing [ch. 9.1].

Removing

- ► Close fuel shut off devices.
- ► Remove bolts ①.
- ► Remove pump cover.
- ► Replace filter ③ and gaskets ②.



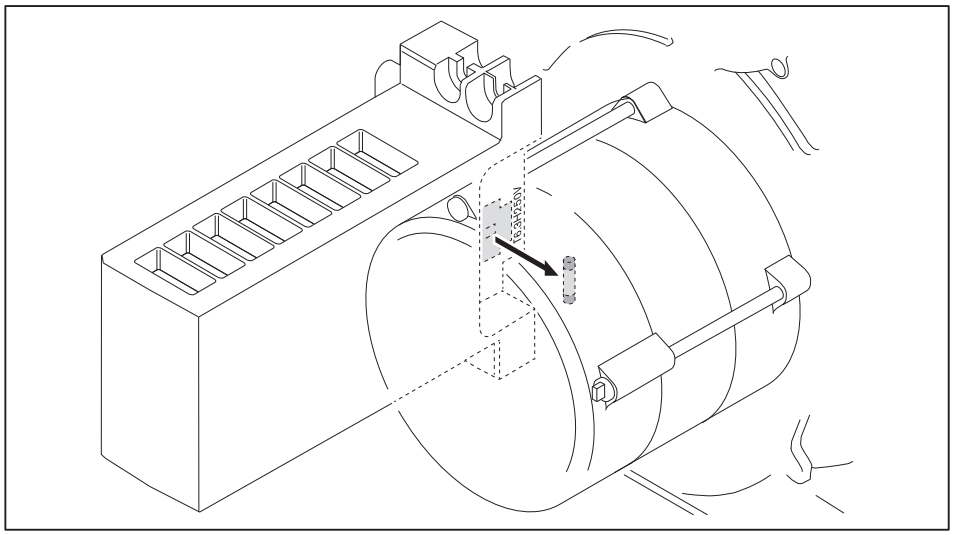
Refitting

- ► Refit filter in reverse order ensuring sealing surfaces are clean.

9.16 Replacing the fuse

Observe notes on servicing [ch. 9.1].

- ► Remove all plugs from the combustion manager.
- ► Remove screws from the combustion manager.
- ► Remove combustion manager.
- ► Replace fuse (T6.3H, IEC 127-2/5).



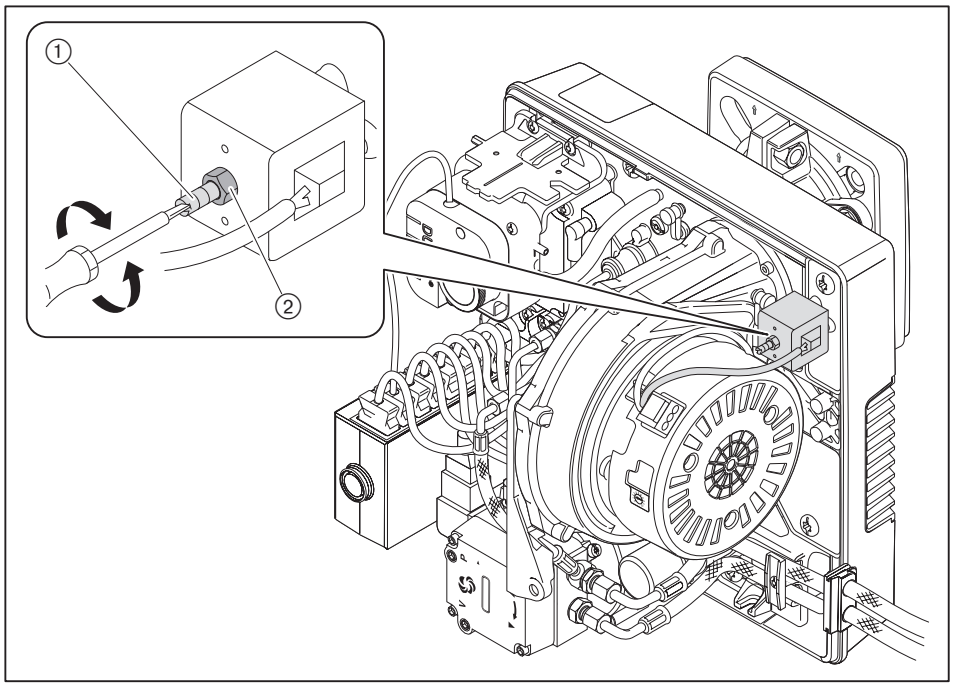
9.17 Optimise start behaviour (optional)

Observe notes on servicing [ch. 9.1].

It is possible to optimise the start behaviour by increasing the fan speed.

Burner with air damper fitted.

► Increase fan speed via potentiometer until 10 is reached on the scale.
✓ Maximum fan speed has been set.
► Undo locknut ② on nozzle solenoid (left hand thread).
► Set excess air using setting screw ①:
- increase O_2 content = clockwise rotation,
- decrease O_2 content = anticlockwise rotation.

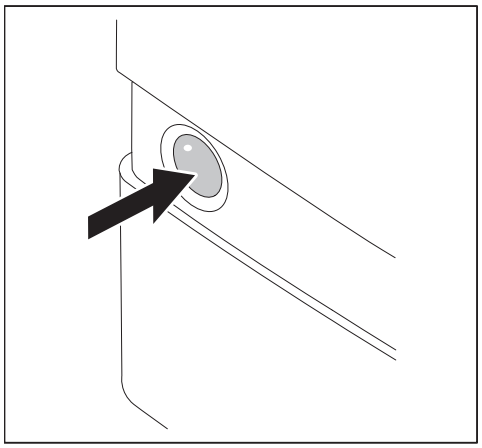


10 Troubleshooting

10.1 Procedures for fault conditions

The combustion manager recognises irregularities of the burner and indicates these with the illuminated push button.

The following conditions can occur:
- illuminated push button off [ch. 10.1.1]
- illuminated push button red [ch. 10.1.2]
- illuminated push button flashes [ch. 10.1.3]



More diagnostic options via the BCI interface, with:
- The display and operating unit (service package operating unit W-FM05/10)
- Interface module OCI410 with software ACS410
- Data protocol converter OCI460 (building management system)

10.1.1 Illuminated push button off

The following faults may be corrected by the operator:

Fault	Cause	Rectification
Burner not operating	External fuse has tripped(1	▶ Check fuse.
	Heating switch is set to Off	▶ Switch on heating switch.
	Temperature limiter or pressure limiter on heat exchanger has triggered(1	▶ Reset temperature limiter or pressure limiter on heat exchanger.
	Low water safety interlock on heat exchanger has triggered(1	▶ Top up water. ▶ Reset low water safety interlock on heat exchanger.
	Temperature regulator or pressure regulator on heat exchanger has been set incorrectly	▶ Adjust temperature regulator or pressure regulator on heat exchanger.
	Boiler or heating circuit control is not functioning or has not been set correctly	▶ Check function and setting of boiler or heating circuit control.

(1 Notify your heating contractor or Weishaupt Customer Service if the problem occurs repeatedly.

10.1.2 Illuminated push button red

A burner fault has occurred. The burner is in lockout. Prior to resetting, the error code can be called up and used to control the cause of the fault.

Read error codes

Only 5 seconds after a fault occurred can it be analysed and read.

- ► Press illuminated push button for 5 seconds.
- ✓ Illuminated push button briefly lights up orange.
- ✓ Illuminated push button flashes red.
- ► Count the flashing signals between the flashing pauses and note down.
- ► Rectify cause of fault, see table.

Reset



WARNING

Danger resulting from incorrect fault repair
Incorrect fault repair can cause damage to the equipment and injure personnel.
- ► Do not carry out more than 2 lockout resets successively.
- ► Faults must be rectified by qualified personnel.

- ► Press illuminated push button for 1 second.
- ✓ Red signal extinguishes.
- ✓ Burner has been reset.

Error codes with lockout

Faults must only be rectified by qualified personnel:

Fault codes	Fault	Cause	Rectification
Flashing 2 times No flame, end of safety time	Oil pump supplies no oil	Oil supply leaking	▸ Check oil supply
		Anti siphon valve does not open	▸ Check valve, if necessary replace
		Shut off device closed	▸ Open shut off device
		Pre-filter strainer soiled	▸ Replace pre-filter strainer
		Oil pump defective	▸ Replace oil pump [ch. 9.13]
	No oil throughput at the nozzle	Oil nozzle blocked	▸ Replace nozzle
	No ignition	Ignition electrode dirty or wet	▸ Clean ignition electrode
		Ignition electrode spark gap too big or short circuited	▸ Set ignition electrode [ch. 9.7]
		Ceramic insulator defective	▸ Replace ignition electrodes
		Ignition cable defective	▸ Replace ignition cable
		Ignition unit defective	▸ Replace ignition unit
	Solenoid valve does not open	Coil defective	▸ Replace coil
	Combustion manager does not detect a flame signal	Flame sensor soiled	▸ Clean flame sensor
		Flame sensor defective	▸ Replace flame sensor
		Illumination insufficient	▸ Check burner setting
			▸ Check correct position of illumination tube.
	Pump motor does not run	Oil pump seized	▸ Replace oil pump [ch. 9.13]
		Capacitor defective	▸ Replace capacitor
		Pump motor defective	▸ Replace pump motor
	No flame formation despite ignition and oil supply	Nozzle distance incorrect	▸ Check nozzle distance, adjust if necessary [ch. 9.10]
		Recirculation aperture too big	▸ Reduce recirculation aperture [ch. 9.11].
		Mixing pressure too high	▸ Check mixing pressure [ch. 7.1.2]
Flashing 3 times Air pressure switch fault	Air pressure switch does not react	Air pressure switch set incorrectly	▸ Set air pressure switch
		Air pressure switch defective	▸ Check air pressure switch, if necessary replace
	Setpoint speed of fan is not achieved	Fan defective	▸ Check fan, if necessary replace [ch. 9.12]

10 Troubleshooting

Faults must only be rectified by qualified personnel:

Fault codes	Fault	Cause	Rectification
Flashing 4 times Flame simulation/ extraneous light	Flame signal prior to or after operation	Extraneous light source present	Extraneous light detection > 12 µA. ▶ Find and eliminate extraneous light source
		Flame sensor defective	▶ Check flame sensor, if necessary replace
	Flame formation during pre-purge	Solenoid valve leaking	▶ Replace oil pump [ch. 9.13]
Flashing 7 times Flame failure during operation	Flame has failed	Oil supply leaking	▶ Check oil supply
		Suction resistance in front of pump too high	
		Oil nozzle soiled	▶ Replace oil nozzle
	Flame signal insufficient	Burner setting incorrect	▶ Check burner setting ▶ Check flame signal [ch. 7.1.1]
		Flame sensor soiled	▶ Clean flame sensor
		Flame sensor defective	▶ Check flame sensor, if necessary replace
Flashing 8 times Release contact fault	Temperature switch does not close	Actuator defective	▶ Check actuator, replace if necessary
		Temperature switch defective	▶ Check temperature switch and heat exchanger, if necessary replace [ch. 9.9]
Flashing 10 times Combustion manager fault	Burner does not start	Heat exchanger defective	▶ Reset burner [ch. 10.1.2]
		Combustion manager defective	▶ Reset burner [ch. 10.1.2], if fault reoccurs replace combustion manager
Flashing 15 times	Manual shutdown	Manual lockout ABE	▶ Reset burner

10.1.3 Illuminated push button flashes

An irregularity is present. The burner does not go to lockout. Once the fault has been rectified, the error code ceases.

Error codes without lockout

Faults must only be rectified by qualified personnel:

Fault codes	Cause	Rectification
flashing green/red	Extraneous light prior to heat demand	▶ Find and eliminate extraneous light source
Flashing red/orange with pause	Excess voltage	▶ Check voltage supply
Flashing orange/red	Low voltage	▶ Check voltage supply
	Internal unit fuse (F7) faulty	▶ Replace fuse [ch. 9.16]
	Combustion manager fault	▶ Replace combustion manager
Flashing green	Flame sensor soiled	▶ Clean flame sensor
	Flame sensor defective	▶ Replace flame sensor
	Burner operation with weak flame signal (< 45 µA)	▶ Adjust burner whilst observing the recommended flame signal [ch. 7.1.1]
Glimmering red	OCI mode activated (not used)	▶ Press illuminated push button for more than 5 seconds ✓ Combustion manager changes to operating mode

10.2 Operating problems

Faults must only be rectified by qualified personnel:

Observation	Cause	Rectification
Oil pump makes severe mechanical noise	Oil pump sucks air	▸ Ensure oil supply is tight
	Suction resistance in oil line too high	▸ Clean filter ▸ Check oil supply
Oil nozzle atomisation uneven	Nozzle blocked/soiled	▸ Replace nozzle [ch. 9.4]
	Nozzle worn	
Flame tube/air nozzle has heavy soot deposit	Oil nozzle defective	▸ Replace nozzle [ch. 9.4]
	Mixing head set incorrectly	▸ Set mixing head [ch. 9.10]
	Incorrect combustion air quantity	▸ Adjust burner
	Boiler room ventilated insufficient	▸ Ensure sufficient boiler room ventilation
	Wrong oil nozzle	▸ Check nozzle type
	Recirculation aperture too small	▸ Increase recirculation aperture [ch. 9.11]
Combustion pulsating and/or burner booming	Mixing head set incorrectly	▸ Set mixing head [ch. 9.10]
	Incorrect combustion air quantity	▸ Adjust burner
	Wrong oil nozzle	▸ Check nozzle type
CO content too high	Nozzle distance too big	▸ Check nozzle distance, adjust if necessary [ch. 9.10]
	Fan speed too low	▸ Increase fan speed
Stability problems	Nozzle distance incorrect	▸ Check nozzle distance, adjust if necessary [ch. 9.10]
	Recirculation aperture too big	▸ Reduce recirculation aperture [ch. 9.11].
	Fan speed too high	▸ Reduce fan speed
Burner pulsating at START	Combustion chamber resistance too high (e. g. condensing boiler)	▸ Check installation ▸ If necessary optimise start behaviour [ch. 9.17]
Flue gas noise emission too high	Unsuitable or no flue gas sound absorber installed	▸ Check or fit flue gas sound absorber

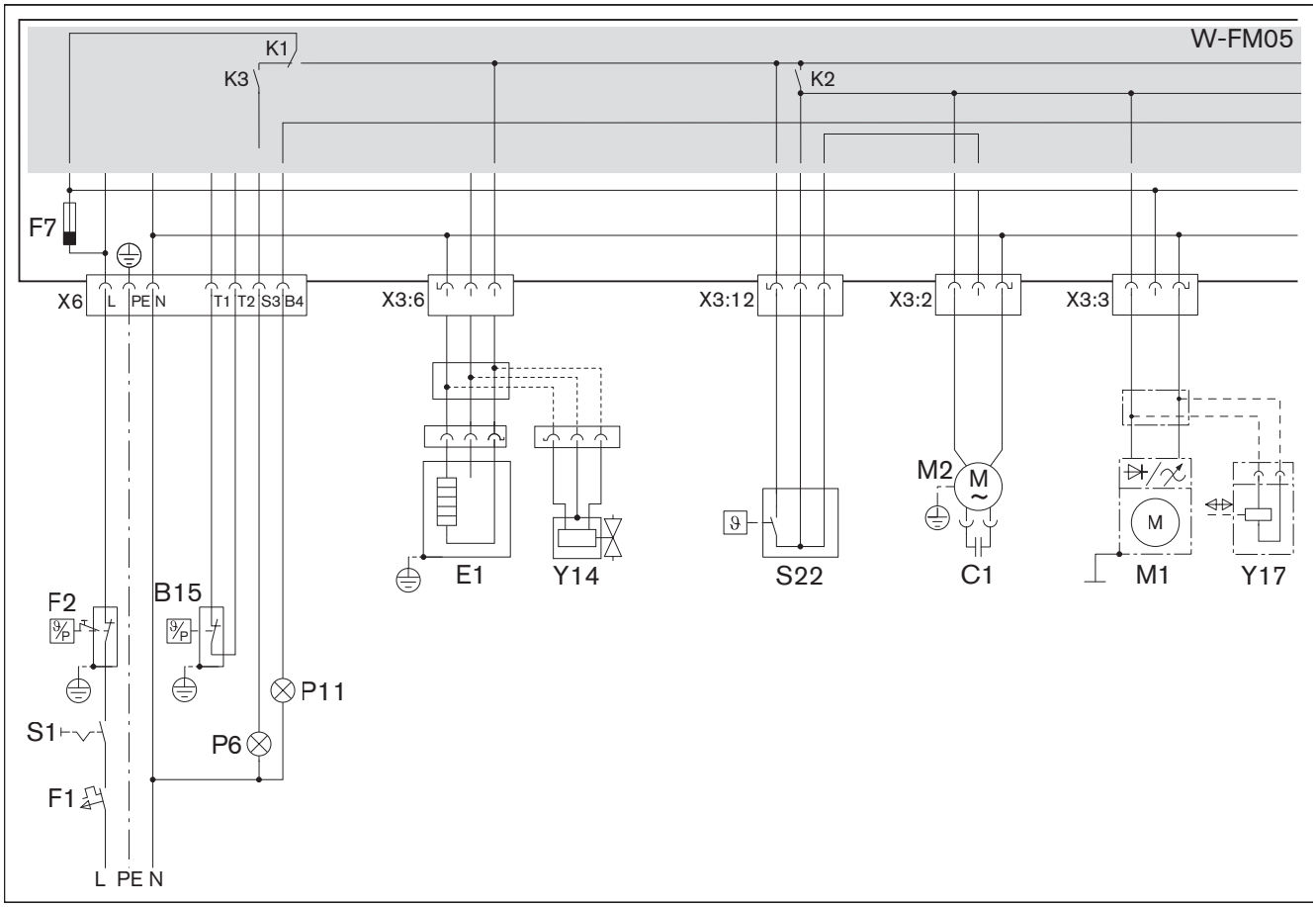
11 Technical documentation

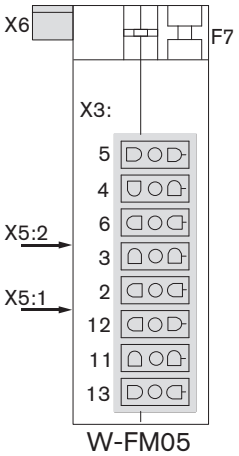
11.1 Conversion table unit of pressure

Bar	Pascal			
	Pa	hPa	kPa	MPa
0.1 mbar	10	0.1	0.01	0.00001
1 mbar	100	1	0.1	0.0001
10 mbar	1 000	10	1	0.001
100 mbar	10 000	100	10	0.01
1 bar	100 000	1 000	100	0.1
10 bar	1 000 000	10 000	1 000	1

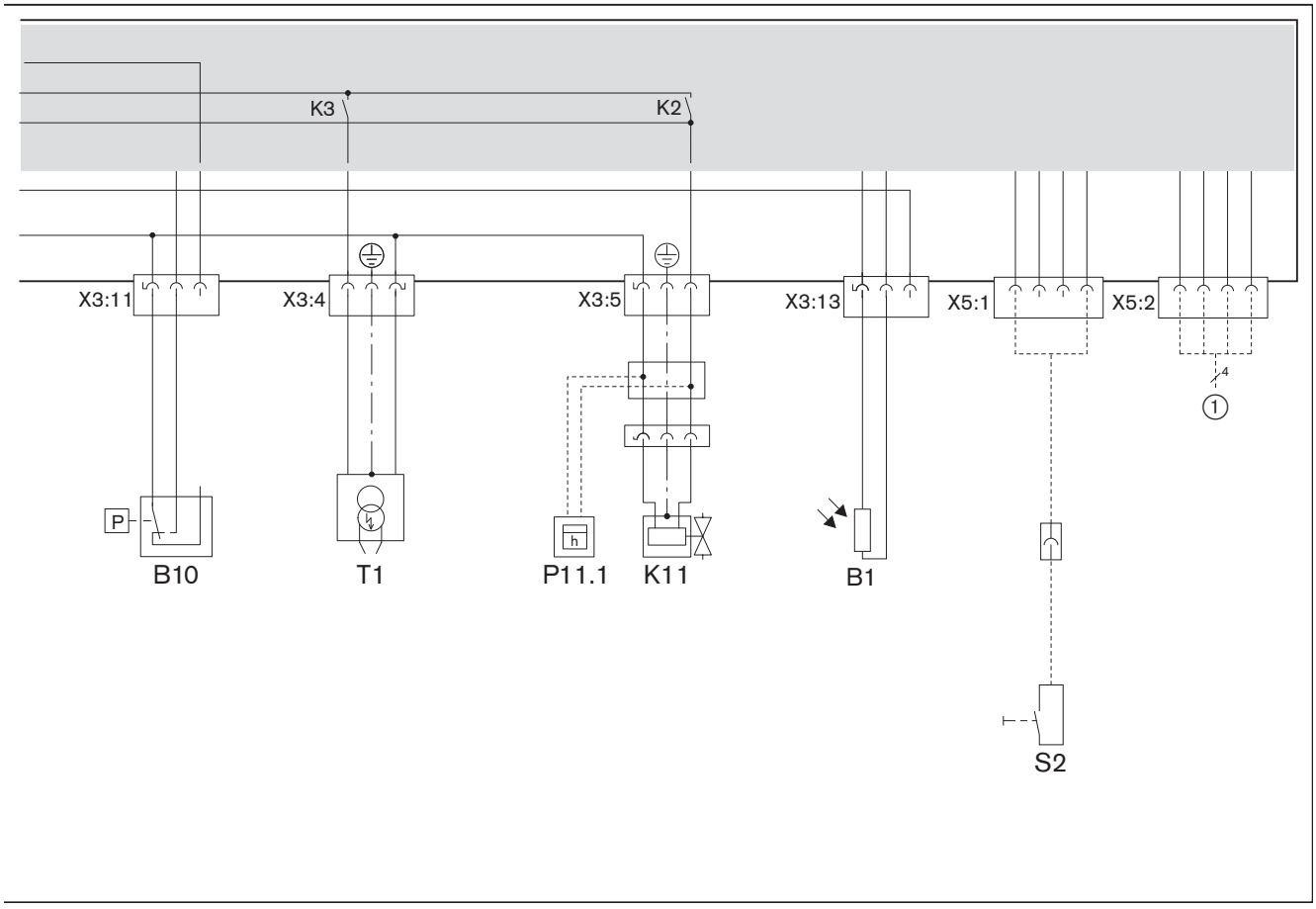
11.2 Wiring diagram

For special version observe wiring diagram supplied.





B15	Temperature or pressure regulator
C1	Motor capacitor
E1	Heat exchanger
F2	Temperature or pressure limiter
F7	Internal unit fuse (T6.3H, IEC 127-2/5)
F1	External fuse
K11	Solenoid valve
M1	Fan
M2	Pump motor
P6	Control lamp operation (optional)
P11	Control lamp lockout (optional)
S1	Operating switch
S22	Temperature switch
Y14	Safety valve (optional)
Y17	Air damper actuation (optional)



B1	Flame sensor
B10	Air pressure switch
P11.1	Hours counter (optional)
T1	Ignition unit
K11	Solenoid valve
S2	Remote reset (optional)
①	Bus interface BCI (optional): ▪ The display and operating unit (service package operating unit W-FM05/10) ▪ Interface module OCI410 with software ACS410 ▪ Data protocol converter OCI460 (building management system)

12 Project planning

12.1 Oil supply

EN 12514-2, DIN 4755, Tyrol, work sheet DWA-A 791 (TRwS 791) and observe the local regulations.

General information relating to the oil supply

- Do not use cathode protection system with steel tanks.
- With oil temperatures < 5 °C the separation of paraffin can cause oil lines, oil filters and nozzles to become blocked. Avoid placing oil tanks and pipelines in areas subject to frost.
- The oil supply should be installed in such a way that the oil hoses can be connected free of tension.
- Fit oil filter in front of pump, maximum mesh aperture 70 µm.

Suction resistance and supply pressure



NOTICE

Pump damage due to excessive suction resistance
A suction resistance greater than 0.4 bar can damage the pump.
► Reduce suction resistance – or – install oil supply pump or suction unit, whilst observing the maximum supply pressure at the oil filter.

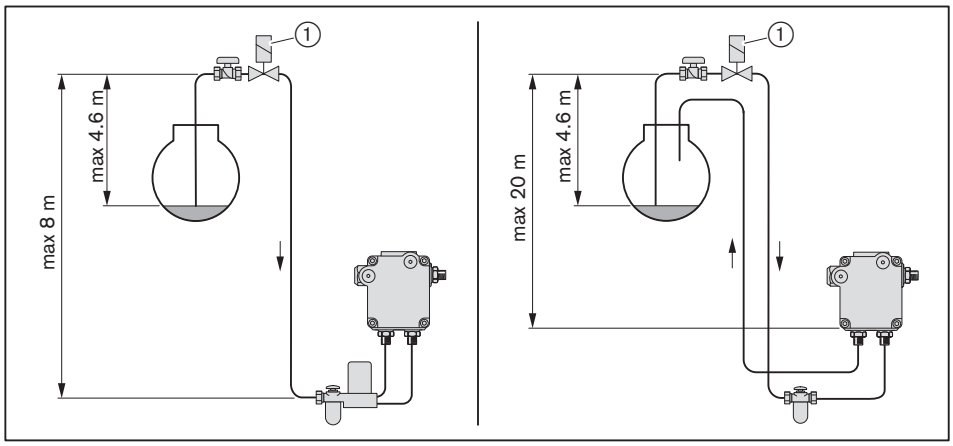
The suction resistance depends on:
- suction line length and diameter
- pressure loss of oil filter and other components
- lowest oil level in the oil storage tank (max 3.5 m below the oil pump)

If an oil feeder pump is installed:
- max 1.5 bar flow pressure at oil filter
- max 0.7 bar flow pressure upstream of automatic de-aerator

Elevated oil level

- If the suction line is leaking the tank can be siphoned dry. An electric anti siphon valve ① can prevent this.
- Observe manufacturers instructions regarding pressure loss caused by anti siphon valve.
- The anti siphon valve must close with a delay and show a pressure relief towards the oil storage tank.

Maintain height differences:
- max 4.6 m between oil level and anti siphon valve
- on single pipe system max 8 m between anti siphon valve and automatic de-aerator
- on two pipe system max 20 m between anti siphon valve and oil pump

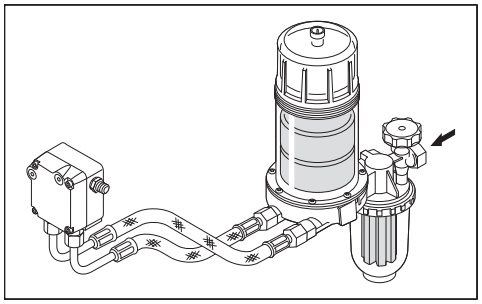


Single pipe oil supply

NOTICE

Damage to the oil pump due to incorrect connection
Mixing up supply and return can damage the oil pump.
► Ensure correct connection of oil hoses to the supply and return of the pump.

On single pipe systems, an automatic de-aerator must be fitted in front of the oil pump.



Two pipe system

In a two pipe system the oil pump is vented automatically.

Ring main operation

Weishaupt recommends the use of a ring main when operating several burners.

12.2 Continuous running fan or post-purge



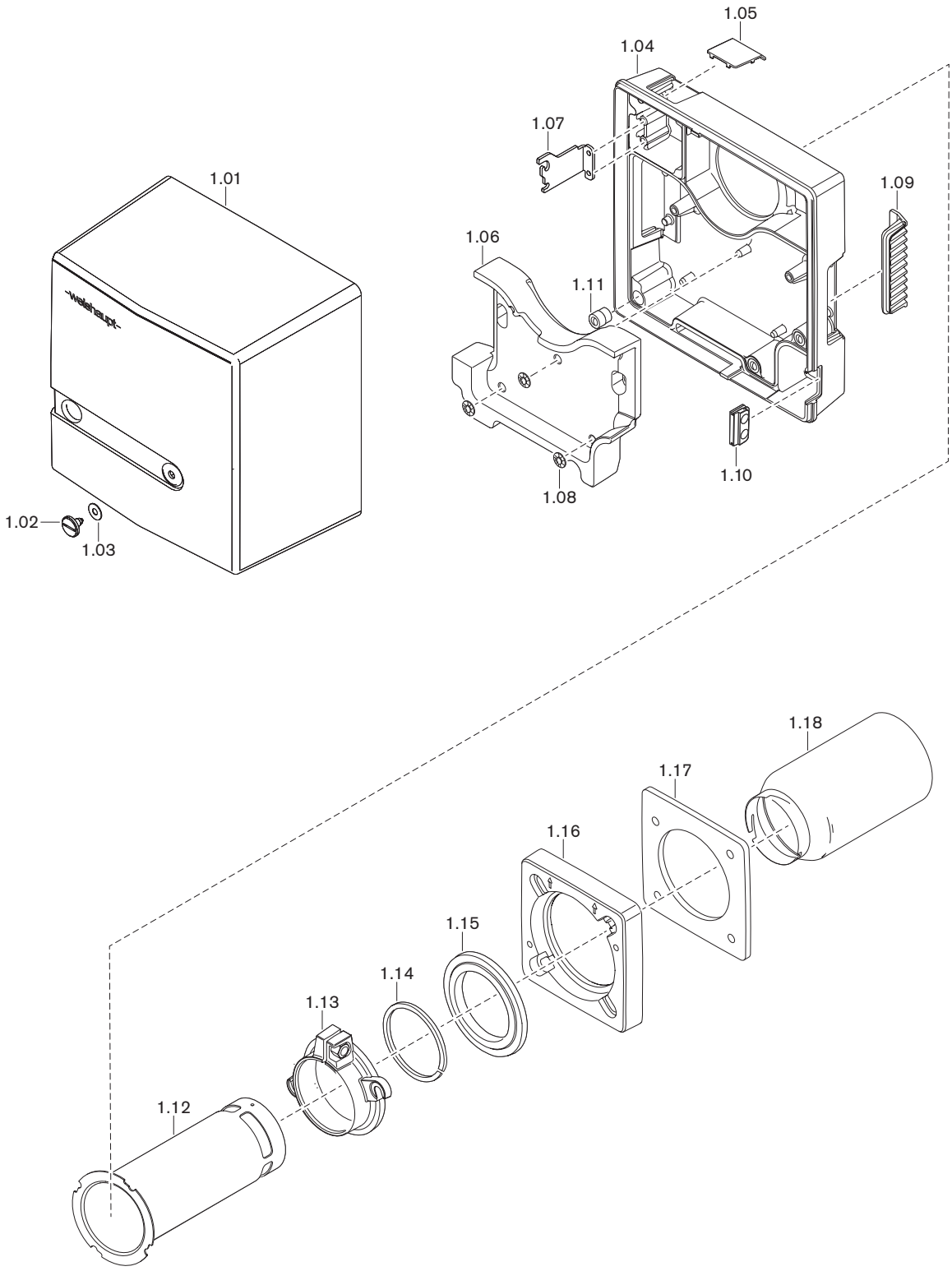
WARNING

Fire hazard due to failure of the combustion air fan
Failure of the combustion air fan (e.g. due to a power failure or defective motor) during operation with continuous running fan or increased post-purge may result in back radiation or hot flue gases flowing back into the burner housing. This could cause a fire.

If fail-safe continuous ventilation or post-purge is required, take appropriate measures, such as:

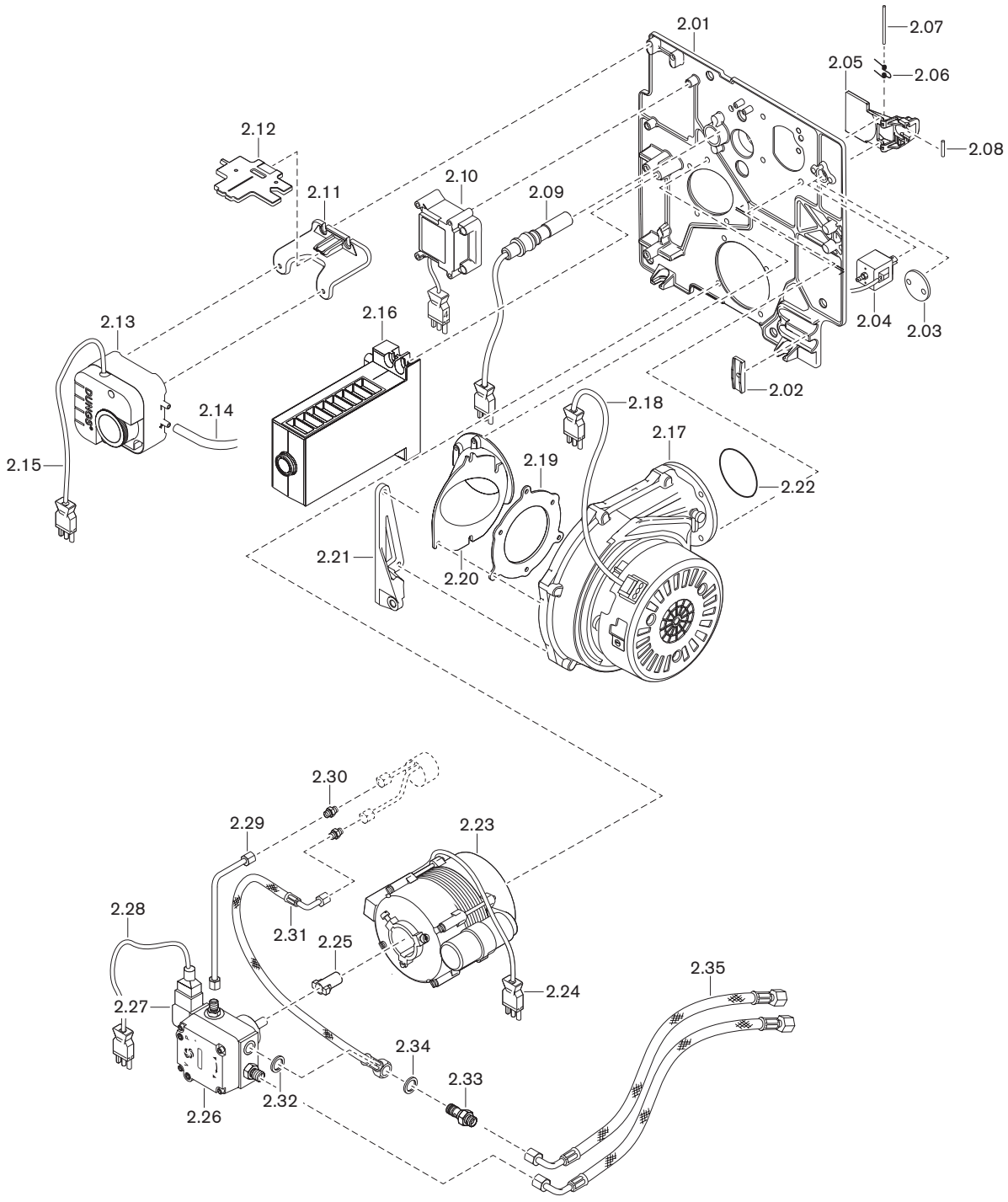
- ► installing compressed air flushing on site with:
  - sufficiently large compressed air tank
  - normally open compressed air valve

13 Spares


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Pos.	Description	Order No.
1.01	Cover complete	245 050 01 092
1.02	Screw M8 x 15	142 013 01 157
1.03	Washer 7 + 0.2 x 18 x 0.6	430 016
1.04	Burner housing	245 050 01 012
1.05	View port glass	245 050 01 187
1.06	Lining	245 050 01 147
1.07	Bracket for service position	245 050 01 217
1.08	Spring nut	412 506
1.09	Cover burner housing	
	– without air inlet	245 050 01 127
	– with air inlet	245 050 01 137
1.10	Grommet	241 050 01 177
1.11	Press fitting for quick release fastener	499 310
1.12	Adapter pipe	
	– D80 (ME 1.xx)	245 050 14 427
	– D90 (ME 2.xx)	245 050 14 437
1.13	Sliding flange	
	– D80 (ME 1.xx)	245 050 01 247
	– D90 (ME 2.xx)	245 050 01 267
	– Screw M8 x 25 DIN 6921	409 269
	– Screw ISO 4762 M8 x 25- 8.8	402 500
	– Hexagonal nut ISO 4032 -8	411 401
1.14	Gasket sliding flange	
	– D80	245 050 01 157
	– D90	245 050 01 167
1.15	Adapter ring	
	– D80	245 050 01 257
	– D90	245 050 01 277
1.16	Burner flange	245 050 01 237
1.17	Flange gasket	245 050 01 287
1.18	Flame tube H6	
	– MB 800 (ME 1.xx)	240 050 14 057
	– MB 900 (ME 2.xx)	240 050 14 077

13 Spares

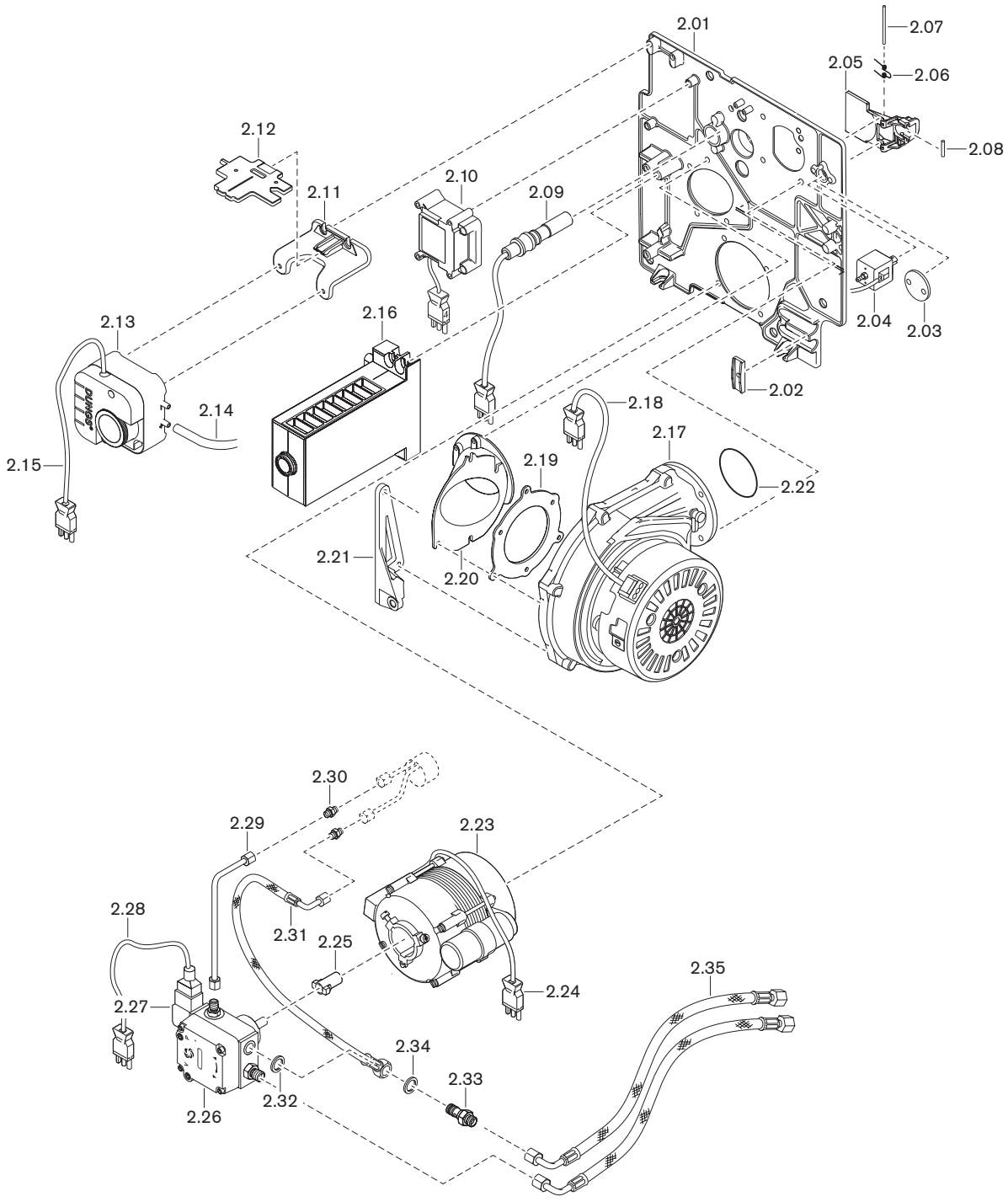

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13 Spares

Pos.	Description	Order No.
2.01	Housing cover	245 050 01 032
	with quick release fastener cpl.	
	– Circlip for quick release fastener	499 311
	– Pin for quick release fastener	499 312
2.02	Bracket for oil hoses	241 400 01 367
2.03	Cover housing cover	245 050 02 057
2.04	Solenoid for air damper with plug cable	245 050 12 092
2.05	Air damper	245 050 02 017
2.06	Spring for air damper	245 050 02 047
2.07	Shaft for air damper	245 050 02 067
2.08	Cylindrical taper pin 3.0m 6x18mm DIN 7-A1	423 484
2.09	Flame sensor QRC1A	
	– Standard and fuel GF-P*	600 588
2.10	Ignition unit type W-ZG01 230V 50VA	603 228
2.11	Bracket for air pressure switch	245 050 24 037
2.12	Setting gauge WL5 purflam	245 050 00 027
2.13	Air pressure switch	691 447
2.14	Hose 4.0 x 1.75 120 mm	241 050 24 017
2.15	Plug cable No.11 air pressure switch	245 050 12 042
2.16	Combustion manager W-FM05	
	– 113 230V PB (TN = 2 s)	600 391
	– 114 230V PB for WTU (TN = 25 s)	600 474
2.17	Radial fan complete	240 050 08 052
2.18	Plug cable No. 3 EC housing	245 050 12 022
2.19	Gasket intake connection/fan	245 050 01 107
2.20	Intake connection	245 050 01 047
2.21	Mounting bracket for cover	245 050 01 227
2.22	O ring 50 x 2.5 NBR70 ISO 3601	445 526
2.23	Motor ECK02/H-2P 230V 50Hz 75W	652 098
	- Capacitor 4.0 µF 420V, AC, DB	713 473
2.24	Plug cable No. 2 pump motor	245 050 12 082
2.25	Plug coupling	652 135

* Green Fuels, see supplementary manual (Print No. 835910xx)

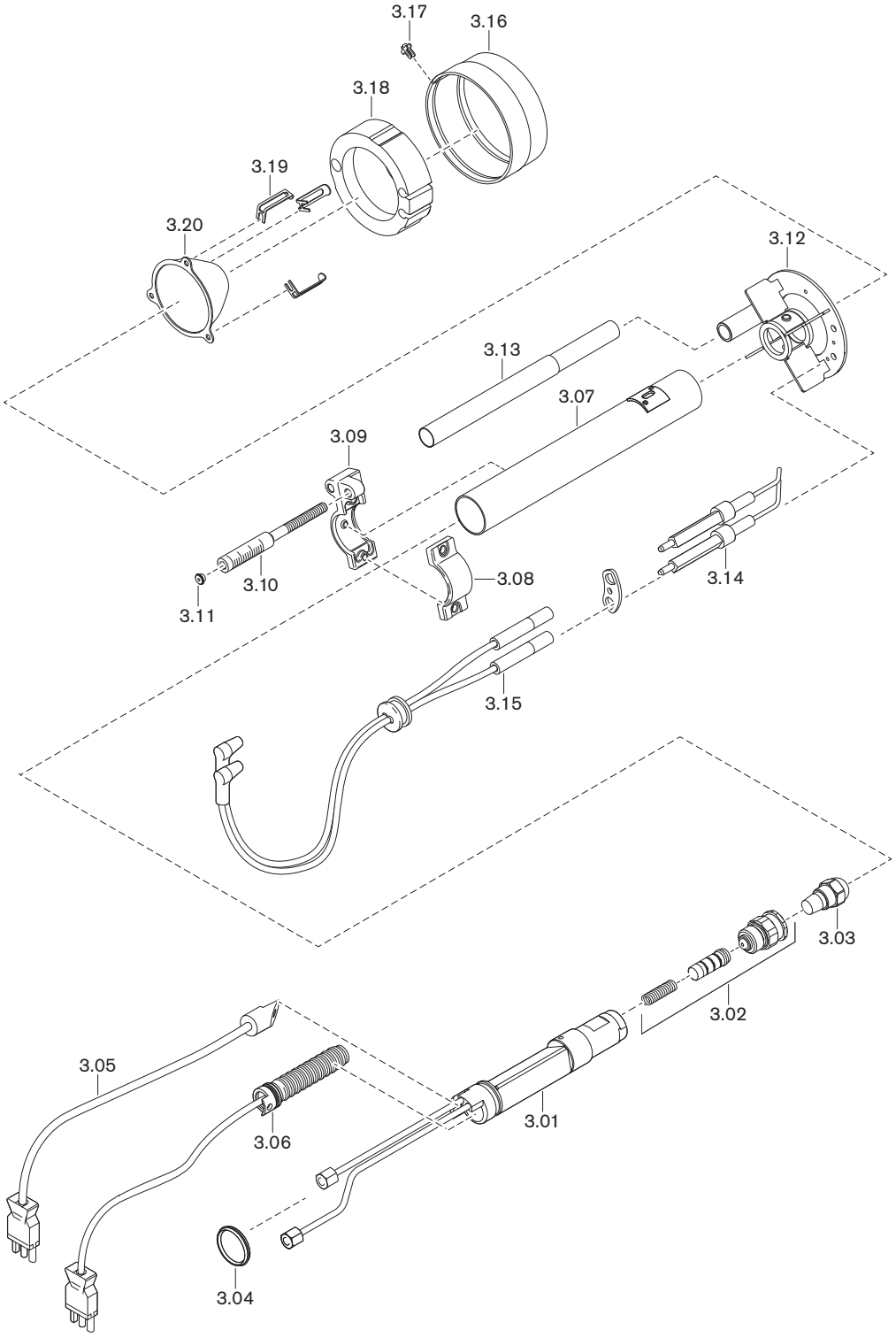
13 Spares


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Pos.	Description	Order No.
2.26	Pump ALEV 30C	601 857
	– Filter set with seal	601 107
2.27	Solenoid coil T80 Suntec 220-240V 50-60Hz	604 495
2.28	Plug cable No. 5 solenoid valve	245 050 12 032
2.29	Oil line flow	245 050 06 018
2.30	Screwed union 24-SX-LL04-ST	452 020
2.31	Pressure hose DN 4 x 284	
	– Standard	491 247
	– Fuel GF-B30*	491 134
2.32	Sealing ring A10 x 14 x 4.0 DIN 7603 Cu	440 037
2.33	Swivel screw R1/8 M10 x 1	241 110 06 057
2.34	Sealing ring A10 x 14 x 1.5 DIN 7603 Cu	440 034
2.35	Oil hose DN 4, 1200 mm	
	– Standard	491 126
	– diffusion resistant / fuel GF-B30*	491 131

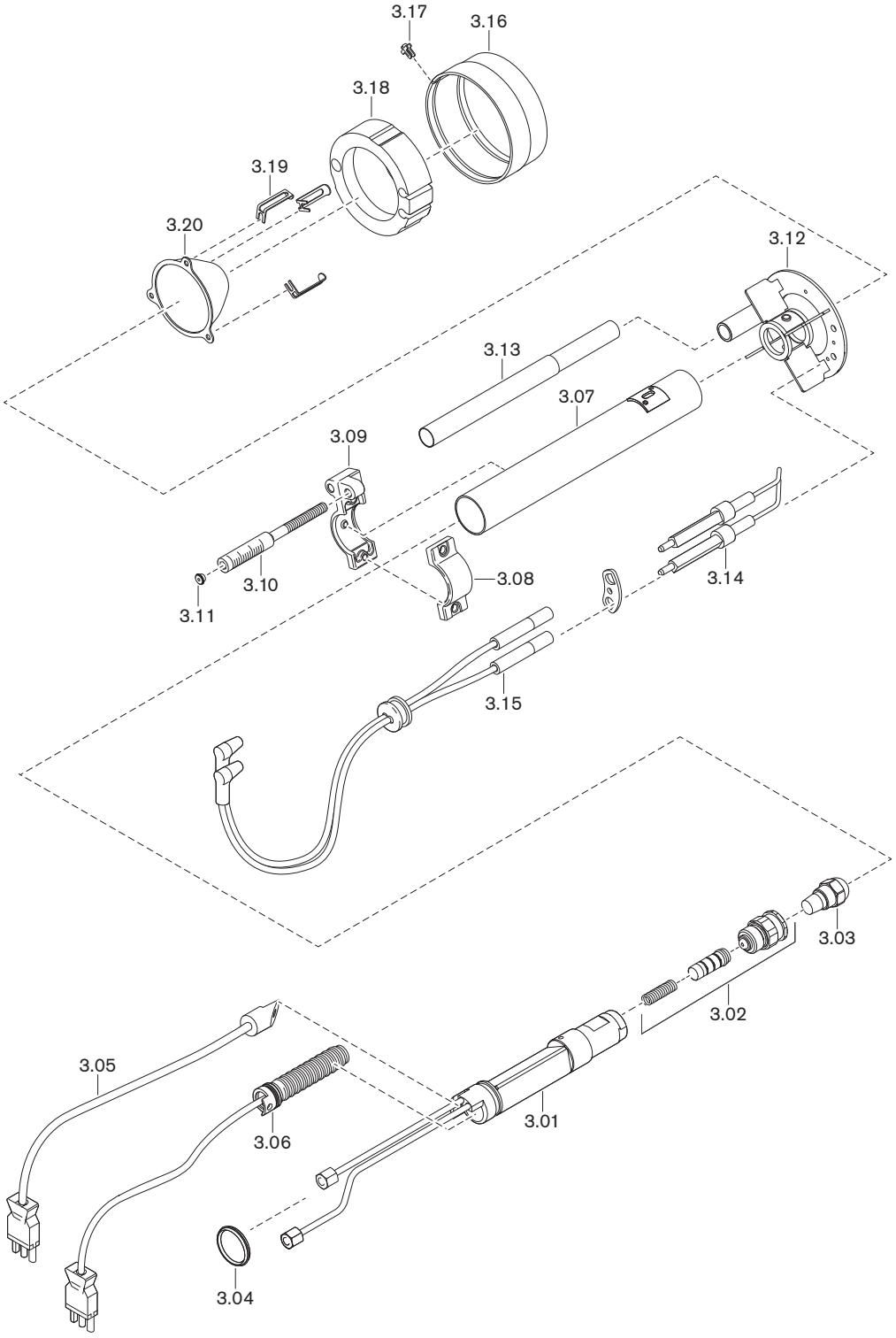
* Green Fuels, see supplementary manual (Print No. 835910xx)

13 Spares


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Pos.	Description	Order No.
3.01	Nozzle body with oil line	245 050 10 162
	– Ring 21.1 x 25.4 x 3.8	245 050 10 117
3.02	Nozzle shut off set	240 050 10 012
3.03	Nozzle	
	– 0.35 gph 80°SF Fluidics	602 747
	– 0.40 gph 80°SF Fluidics	602 748
	– 0.45 gph 80°SF Fluidics	602 749
	– 0.50 gph 80°SF Fluidics	602 750
	– 0.55 gph 80°SF Fluidics	602 751
	– 0.60 gph 80°SF Fluidics	602 752
	– 0.65 gph 80°SF Fluidics	602 753
	– 0.75 gph 80°SF Fluidics	602 754
	– 0.35 gph 80°SR Danfoss	602 136
	– 0.40 gph 80°SR Danfoss	602 130
	– 0.45 gph 80°SR Danfoss	602 131
	– 0.50 gph 80°SR Danfoss	602 132
	– 0.55 gph 80°SR Danfoss	602 133
	– 0.60 gph 80°SR Danfoss	602 134
	– 0.65 gph 80°SR Danfoss	602 135
	– 0.75 gph 80°SR Danfoss	602 137
3.04	Ring 21.1 x 25.4 x 3.8	245 050 10 117
3.05	Temperature switch	245 050 10 192
3.06	Heat exchanger	245 050 10 072
3.07	Guide tube	245 050 10 172
3.08	Adjusting lever top part	241 110 10 077
3.09	Adjusting lever bottom part	241 110 10 067
3.10	Indicating bolt M6 x 90	241 110 10 097
3.11	Plug 5.25	241 110 10 087
3.12	Centering screw	
	– D80 (ME 1.xx)	245 050 14 102
	– D90 (ME 2.xx)	245 050 14 302
3.13	Illuminating tube end piece	245 050 12 057
3.14	Ignition electrode set	
	– MB 800 (ME 1.xx)	245 050 14 447
	– MB 900 (ME 2.xx)	245 050 14 457
3.15	Ignition cable 380 mm	245 050 11 032
3.16	Metering ring	
	– MB 800 (ME 1.xx)	245 050 14 017
	– MB 900 (ME 2.xx)	245 050 14 207
3.17	Clip for metering ring	245 050 14 397
3.18	HTI refractory for air nozzle 2.24	245 050 14 407
3.19	Clip for insulation	245 050 14 417

13 Spares


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13 Spares

Pos.	Description	Order No.
3.20	Air nozzle	
	– D19 MB 819 (ME 1.19)	245 050 14 022
	– D21 MB 821 (ME 1.21)	245 050 14 032
	– D22 MB 822 (ME 1.22)	245 050 14 042
	– D23 MB 823 (ME 1.23)	245 050 14 052
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