

24H EXEMPTION KIT

Accessory kit for continuous operation without supervision for 24h, according to Legislative Decree 15 February 2016 n° 26 (implementation of PED directive 2014/68 / UE).

Kit composition:

- Electrical panel arranged with a timer that, at the end of 24 hours, proceeds to: generator stand-by, burner stop and start of the guided procedure for checking the safety devices, in compliance with EN12953-6.
- Nr. 2 low water level safety probes, with self-diagnosis and manual reset on the control panel, CE certified, category IV
- On request: instead of the manual water drain / sludge discharge valve, ball valve equipped with a quick opening electro-pneumatic actuator (1) can be supplied.
As an alternative to the ball valve, a started flow valve, with electro-pneumatic actuator and manual lever-type actuator can be supplied.

(1) Manual opening of this valve is only possible with the use of a tool



In case of completion with 24/72 h exemption kit:
functions directly integrated in the electrical panel board

72H EXEMPTION KIT

Accessory kit for continuous operation without supervision for 72h, according to Legislative Decree 15 February 2016 n° 26 (implementation of PED directive 2014/68 / UE).

- Electrical panel arranged with timer and display for checking the remaining time, which, at the end of 72h, proceeds to: generator stand-by, burner stop and start of the guided procedure for checking the safety devices, in compliance with EN12953-6
- Nr. 2 low water level safety probes, with self-diagnosis and manual reset on the control panel, CE certified, category IV
- Nr. 1 high water level safety probe, with self-diagnosis and manual reset on the control panel, CE certified, category IV
- Nr. 1 boiler water salinity control unit by means of a water electrical conductivity control probe, consisting of:
 - System for automatic and permanent monitoring of the conductivity of boiler water (1).
 - Conductivity probe
 - Flanged connection pipe
 - Shut-off valve
 - Pneumatic valve for surface purging, operated on high salinity / conductivity values
 - Gaskets
 - Counter flange
 - Electric kit with selectors and basic electronic regulator.
- Nr. 1 automatic drain unit with timed cycles, with dirt separator function, consisting of:
 - Corner shut-off valve
 - Quick opening pneumatic valve instead of the manual water drain / sludge discharge valve: ball valve equipped with quick opening electro-pneumatic actuator 2). As an alternative to the ball valve, a flow started valve with electro-pneumatic actuator and manual lever-type actuator.
 - Gaskets and counterflange
 - Electric kit

(1) The devices for controlling the hardness and conductivity of the feed water are excluded from the supply, as well as devices for monitoring any pollutants present in the condensate returns.

(2) Manual opening of this valve is only possible with the use of a tool.



KIT COMPOSITION

KIT TDS (BAHR'UNO)**Salinity control group**

Kit Composition

Boiler water salinity control group through sensor for electrical water conductivity, made of:

- Conductivity sensor
- Flanged connecting pipe
- Gate valve
- Surface drain valve pneumatically actuated on high salinity/conductivity values
- Gaskets
- Counterflange
- Electrical kit with selectors and basic electronic regulator

**KIT TDS (BAHR'12 / BAHR'12 3G / TRYPASS')****Salinity control group**

Kit Composition

Boiler water salinity control group through sensor for electrical water conductivity, made of:

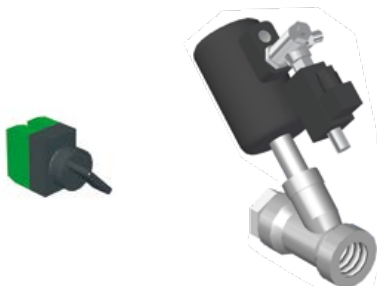
- Conductivity sensor
- Flanged connecting pipe
- Gate valve
- Surface drain valve pneumatically actuated on high salinity/conductivity values
- Gaskets
- Counterflange
- Electrical kit with selectors and basic electronic regulator

**KIT BLOW DOWN (BAHR'UNO)****Boiler bottom automatic drain group**

Kit Composition

Automatic drain group, controlled by timer cycles with desliming function, made of:

- 90° gate valve
- Fast opening pneumatic valve
- Gaskets and Counterflange
- Electrical kit

**KIT BLOW DOWN****(BAHR'12 / BAHR'12 3G / TRYPASS')****Boiler bottom automatic drain group**

Kit Composition

Automatic drain group, controlled by timer cycles with desliming function, made of:

- 90° gate valve
- Fast opening pneumatic valve
- Gaskets and Counterflange
- Electrical kit



KIT COMPOSITION

KIT 2^a PUMP (BAHR'UNO)**Kit second boiler water feeding pump**

Kit Composition

- A 2nd three phase 400V / 50 Hz motor pump
- Basement with vibration-damping feet
- Check valve
- Gate valve
- Fitting pipe

**KIT 2nd PUMP (BAHR'12 / BAH'R'12 3G / TRYPASS')****Kit second boiler water feeding pump**

Composizione Kit

- A 2nd three phase 400V / 50 Hz motor pump
- Basement with vibration-damping feet
- Check valve
- Gate valve
- Fitting pipe
- Gaskets
- Counterflange for feeding water connection



KIT COMPOSITION

KIT EC for BAHR'UNO

**Economiser kit inside the smoke chamber,
for gas and/or diesel fuel**

Efficiency increase: up to +4%

Kit composition

- Smoke chamber adjustment
- Exchange coil with carbon steel finned tubes (stainless steel on request)
- Transformation pipes
- Thermometer
- Valves, etc.

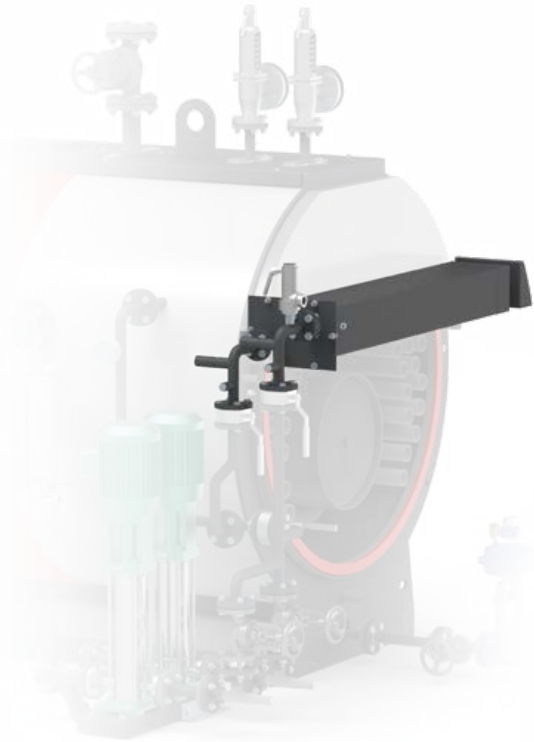
KIT EC for BAHR'12 / BAHR'12 3G

**Economiser kit inside the smoke chamber,
for gas and/or diesel fuel**

Efficiency increase: up to +5%

Kit composition

- Smoke chamber adjustment
- Exchange coil with steel finned tubes carbon (stainless steel on request)
- Transformation pipes
- Thermometer
- Valves, etc.



The use of internal economizer kits leads to an increase in overall length dimensions due to the increase in depth of the smoke chamber.

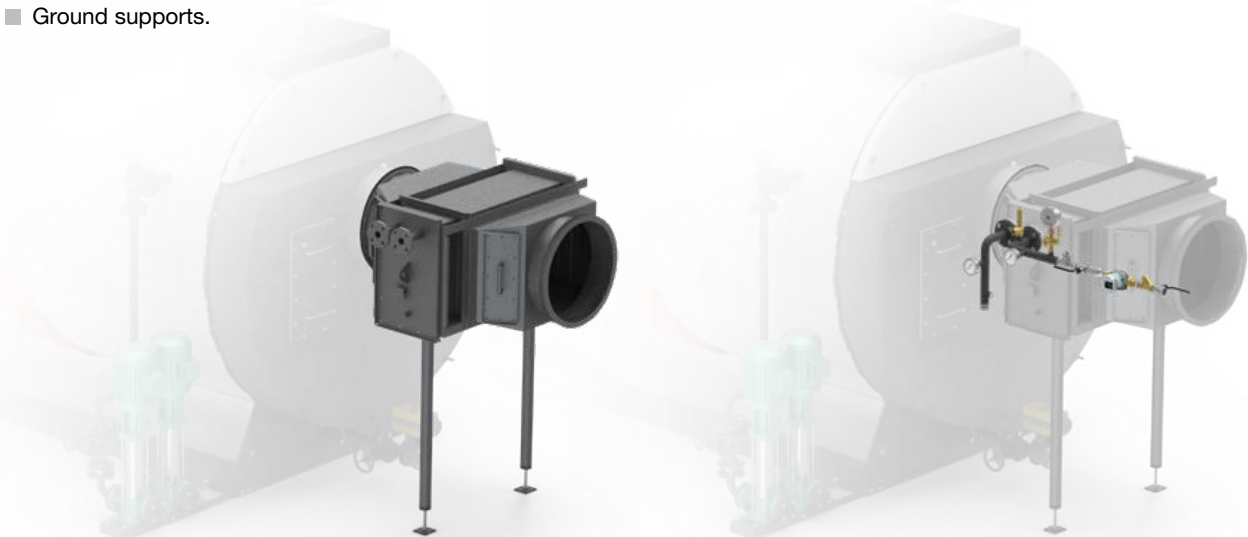
Economizer kit for preheating the circuit external to the boiler

Kit composition

- Economiser with exchange coil in carbon steel or AISI 304 stainless steel for preheating the circuit external to boiler, in external configuration (or integrated in smoke chamber, on request)
- Smoke chamber/chimney connections
- Ground supports.

On request circuit accessories:

- pump
- thermometers
- pressure gauge
- valves, etc.



KIT COMPOSITION

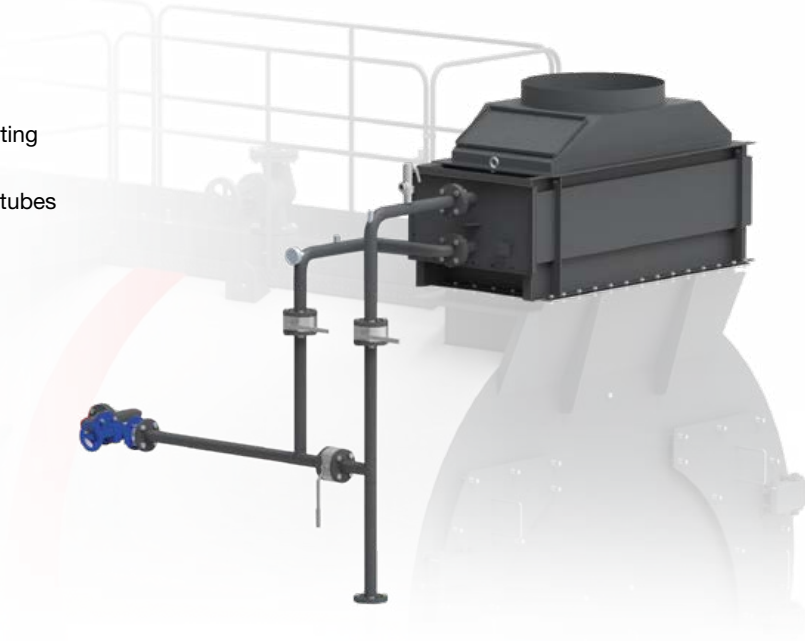
KIT EC for TRYPASS'

Economizer kit external to the smoke chamber

Efficiency increase: up to +5.5%

Kit composition

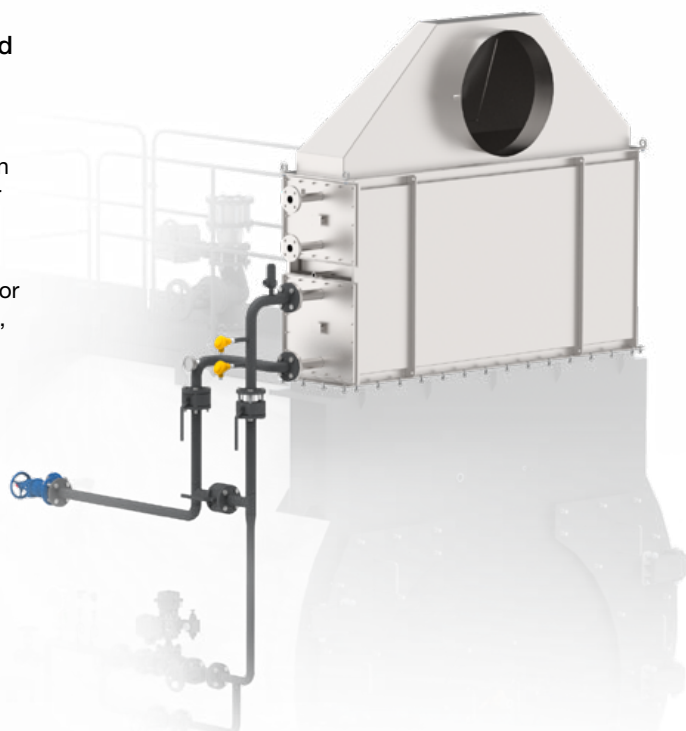
- Smoke chamber adjustment for supporting economizer
- Exchange coil with carbon steel finned tubes (stainless steel on request)
- Transformation pipes
- Thermometer
- Valves, etc.

**Double economizer kit (first and second stage) for TRYPASS'**

Overall boiler efficiency w/economizer 1st & 2nd stage: up to 98%

Kit composition

- "1st stage" economizer with exchange coil in carbon steel or AISI 304 stainless steel for preheating boiler feed water
- "2nd stage" economiser/condenser with exchange coil in AISI 316 stainless steel for preheating water for external users (tanks, etc.), even at low temperature, and condensate separator between 1st and 2nd economizer
- Transformation pipes
- Thermometers
- Valves, etc.



KIT COMPOSITION

**MODULATION KIT FOR FEEDING WATER
with electric valve**

Kit Composition

- Level capacitive sensor
- Electric valve for flow rate water adjustment
- Connection piping
- Electrical kit

**MODULATION KIT FOR FEEDING WATER
with pneumatic valve**

Kit Composition

- Level capacitive sensor
- Pneumatic valve for flow rate water adjustment
- Connection piping
- Electrical kit

**MODULATION KIT FOR FEEDING WATER
with inverter for feeding pump**

Kit Composition

- Level capacity probe
- Inverter and its housing
- Electrical kit



KIT COMPOSITION

KIT SAMPLE COOLER (BAHR'12 / BAHR'12 3G / TRYPASS')

Water samples cooling group

Kit Composition

Cooling unit, for water samples withdrawn from the boiler, consisting of:

- Stainless steel cooler
- Sample inlet valve
- Cooling water inlet valve
- Connection piping



KIT DRY RUN PROTECTION (BAHR'12 / TRYPASS')

Protection against dry operation of the water feeding pump

Kit Composition for one pump

- Nr. 1 Pressure switch and fitting
- Electric kit for specific electrical panel installed on the boiler

Kit composition for two pumps

- Nr. 2 Pressure switches and fittings
- Electric kit for specific electrical panel installed on the boiler



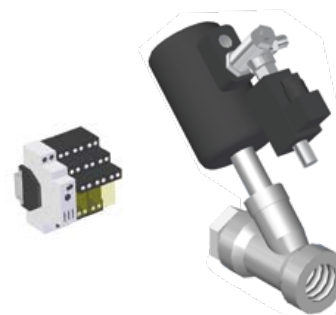
ANTI-FLOODING KIT

(BAHR'UNO / BAHR'12 / BAHR'12 3G / TRYPASS')

Anti-flooding protection during cooling down / pressure drop

Kit Composition

- Corner shut-off valve with mechanical actuator
- Electric kit for specific electrical panel installed on the boiler



KIT COMPOSITION

Modulating electric valve kit on steam socket (application in combination with electrical panel type IML)

Allows for greater pressure retention reached by the generator during prolonged stops, optimizing the overall efficiency of the system.

Being equipped with a modulating electric actuator allows a gradual entry of the steam at the restarting of the system, avoiding pressure and thermal shocks on the system.

Management by the PLC present in the IML electric panel of boiler, with provision for double set-point ("exercise"/ "maintenance-weekend").

Kit composition

- Electric valve on the steam outlet with proportional opening, cast iron body and stainless steel interior
- Modulating electric actuator with positioner
- Wiring harnesses
- Predisposition for management from electrical panel

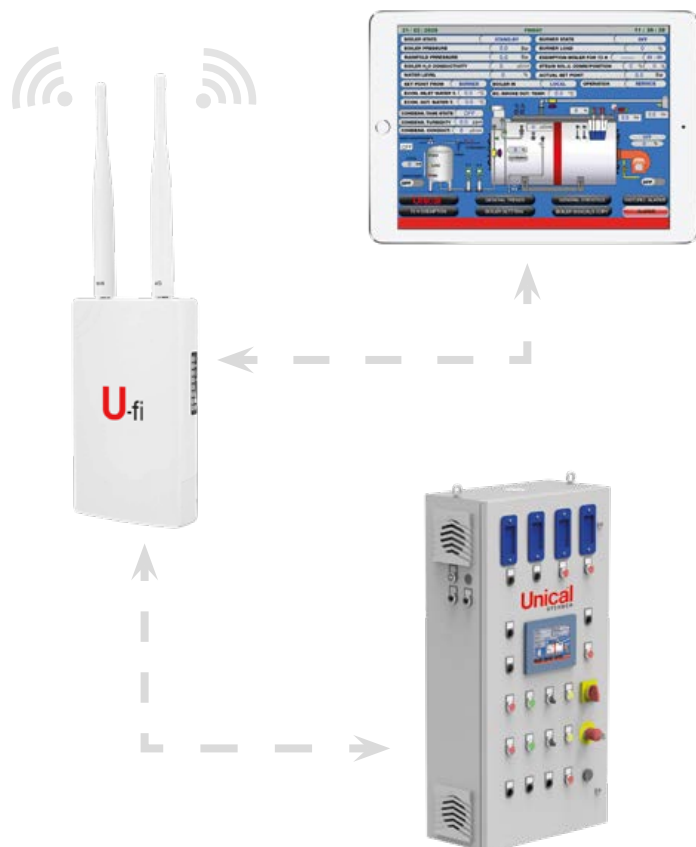
**U-fi kit (in combination with IML electrical panel)**

For connection of the thermal group to internet without laying network cables and without insert the system in the corporate network.

Kit composition

- electric box
- modem router set up and configured for connection to the boiler(s)
- power supply (230 V – 1 Ph)
- switch with 4 connections to boilers via cable ethernet (expandable on request)

The only task by the customer: to provide a sim card with data traffic that has good coverage in the installation area.

**EasyAccess 2.0 system (in combination with IML electrical panels)**

Allows viewing on a remote device (smartphone, tablet, pc) the user interface of the IML electrical panel of the boiler, thus being able to control the generator as if you were at the plant thermal, with the possibility of setup from remote the basic parameters (safety functions not possible from remote).