

HANSA

- ◆ *Efficient Oil- and Energy use!*
- ◆ *Long Life!*



HB 21/40/50/70

Oilburner

Output: 10-70 kW

Contents

	page
1. Norms and Regulations	
1.1 Norms and Guidelines	3
1.2 Flue gas system and effective heat requirement	3
1.3 Selection of nozzles	3
2. General instructions	
2.1 The flame makes up the difference	4
2.2 Saving of energy	4
2.3 Tendering	5
3. Installation	
3.1 Dimensions of bore of boiler's door	6
3.2 Recirculation	6
3.3 Tips for mounting	6
3.4 Check of installation	6
3.5 Burner operation	6
3.6 Special areas of operation	6
4. Commissioning	
4.1 Commissioning and setting	7
4.2 Adjustment of pump pressure	7
4.3 Modifying the burner output	7
4.4 Blowers pressing	7
4.5 Air intake nozzle adjustment	8
4.6 Air intake nozzle	8
4.7 Circulation of air	8
5. Maintenance	
5.1 Maintenance	10
5.2 Flame surveillance	10
6. Troubleshooting	
6.1 Troubleshooting	11-12
7. Technical documentation	
7.1 Technical data and electrical connection	13
7.2 Definition of oil pipe	13
7.3.1 Output diagram for HB 21/40.1/40.2 1-step	13
7.3.2 Output diagram for HB 21/40.1/40.2 2-step	13
7.4.1 Output diagram HB 50 1-step	14
7.4.2 Output diagram HB 70 2-step	14
7.5 Wiring diagram (LOA14) + (LMO14)	15
7.6 Wiring diagram (LOA24 + LMO24)	16
7.8 Error code for LMO 24 / LMO 14	17
7.9 Measuring fields	17
7.10.1 Exploded view	18
7.10.2 Legend	19
7.11 Warranty	
7.12 Oil tank and pipes	19
7.13 Spare parts	19
7.14 Dimensions	20
8. Manufacturer certification	
8.1 Manufacturers - Declaration	21
8.2 Declaration of conformity	21



Security Advice

Please read this manual carefully before installation.

Damages resulting from disregard of this manual will not be covered by liability and guarantee obligations!

Improperly executed work might cause bodily harms or material damage!

Working on the heating system!

- Installation, putting into operation, maintenance and servicing of the burner has to be carried out by an authorized heating systems' enterprise.

Working on the boiler!

- Switch off emergency-stop of heating and safeguard against power up again

- Shut off oil supply line and safeguard against unintentional opening!

Safety first!!!

HB 21/40.1/40.2/50/70

10 - 70 kW

1. Norms and Regulations

1.1 Norms and Guidelines

The following norms and guidelines are to be observed during installation and commissioning.

HEIZAnIV

Heating systems regulation

FeuVo

Regulation for firing equipment by federal states

1. BImSchV

First regulation for execution of Federal Immission Control Act

VDI 2035

Guidelines for the prevention of damage by corrosion and deposits in hot water heating systems

VDE

Regulations and special requirements of energy supply companies

EN 303, part 1 und part 2

Boiler with forced air burner

EN 60335, part 1

Safety of electrical devices in the household and for similar purposes

DIN 4705

Calculation of chimney dimensions

DIN 4751

Hot water heating systems
- Safety-related requirements

DIN 4755

Oil firing plant – construction, realization, safety-related requirements

DIN EN 267

Atomising oil burner – Terms and definitions, requirements, construction and testing

DIN 51603, Teil 1

Fuel oil extra light

DIN 57116

Electr. equipment of heating systems

Please observe regional valid federal state building regulations.

1.2 Flue gas system and effective heat requirement

Boiler, burner and flue gas system (chimney) constitute an operational unit. Low exhaust gas temperature must be taken into account when reducing the output.

Having exhaust gas temperatures below 160°C requires a dimensioning of the plant to prevent damage by condensate.

To achieve consistent combustion values and a reduction of possible humidity the integration of a draught limiter is recommended (Supplementary air installation).

This should be installed in the chimney if possible to prevent possible noise in the flue tube.

1.3 Selection of nozzles

Please observe, that a real environmentally friendly combustion is only to be achieved by using nozzles carefully matching the burner. For the HB burner all approved nozzles are listed on page 13. All specifications on page 13 have been established at maximum gauge pressure.

2.1 The flame makes up the difference

Due to many years of experience in the development of blueburners, we could develop a product which does not just fulfill the high requirements of today's heating technology but surpass them by far.

In the phase of development we were looking for entire new ways of construction. Using a new body in conjunction with a heavy duty blower, enabling a pressure of 9-16 mbar behind the nozzle, we succeeded to develop a perfectly functioning oil gasification system.. This system provides for an absolute blue flame combustion and silent operation which is a further step towards environmental friendliness.

● Exhaust-gas-temperature

The exhaust gas temperature will be measured by a thermometer available at specialised dealers.

There is a metering point for the chimney sweeper to use for a performance test. If, after putting into operation, the exhaust temperature rises for more than 30°C, you might proceed on the assumption that there is a deposit in the combustion chamber, which will eventually lead to uneconomical operation.

Cleaning and inspection of the boiler should be carried out at your earliest convenience.

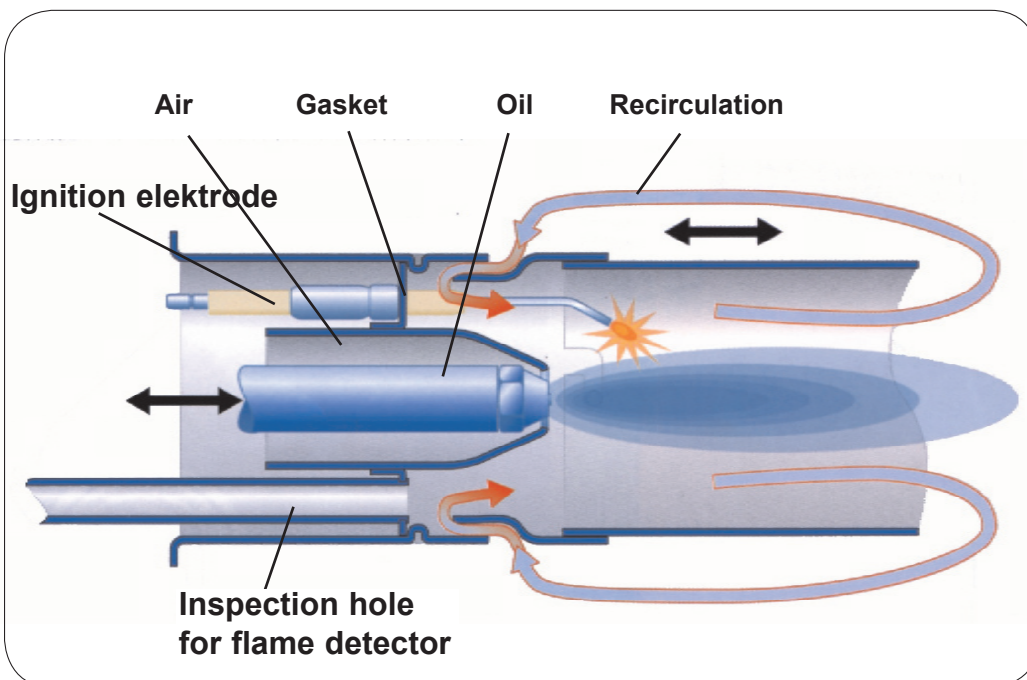
● Operational hours counter

Oil consumption can be read from this counter and compared with last year's consumption to get an approx. control of efficiency.

Comparing measurements have to take into account the actual outer temperature of the year concerned.

● Smoke shutoff damper

Smoke gas shutoff damper will be used sometimes to prevent too great a cooling down while down time. When absolutely airtight it might happen that, because of the interrupted air flow, boiler and chimney generate condensate. By a shutoff damper or an auxiliary ventilation facility however you can guarantee a satisfying aeration of the chimney and prevent too much a cooling down of the boiler.



Principle of recirculation

2.2 Saving of Energy

Acquisition of this burner already means a great step concerning saving costs in gas and electricity (only 40 Watt of power input!)

In addition, according to DIN 4755, control and maintenance of heating system by an expert is recommended at regular intervals.

Control of exhaust gas temperature and running time of burner also provides valuable evidence on quality of combustion and gas consumption.

2.3 Tendering

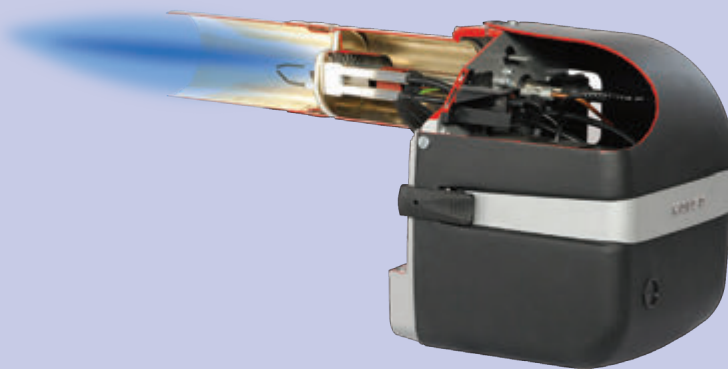
One step regulation with preheating and pre-aeration, admitted for intermitting operation on cast iron and steel boilers.

Components of burner:

- Spiral casing (Aluminium)
- Burner tube (high temperatur resistant steel)
- Curbed noise combustion system with thermodynamic mixture preparation
- Electric motor with operating capacitor
- Oil pump with integrated magnetic valve
- Oil automatic firing device for intermittent operation according to DIN EN 230.
- Flame surveillance
- Ignition transformer
- Ignition electrodes
- Nozzle holder
- Oil preheater with thermostat and dropstop
- Cover
- Connectors
- Oil pipes with cap nut
- Flange
- Burner gasket and connecting screws.

The burner is tried and tested. Quality of combustion is ensured by commisionning certificate.

HB-Burner



The burner will be put into the boiler in quite a simple way

3. Installation

HB 21/40.1/40.2/50/70

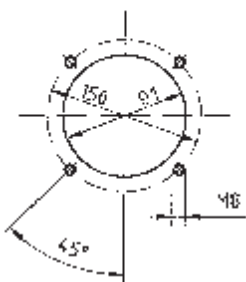
3.1 Dimensions

The following dimensions have to be observed while mounting the burner to the boiler

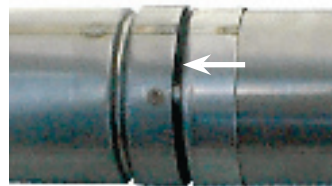
- Pitch circle:
 $\varnothing 150 \text{ mm} \pm 1,5 \text{ mm}$

- Bore of boiler's door:
min $\varnothing 91 \text{ mm}$

- Kesseltürbohrung min. 91mm -



Adjustment of flange



This recirculation hole must be kept free

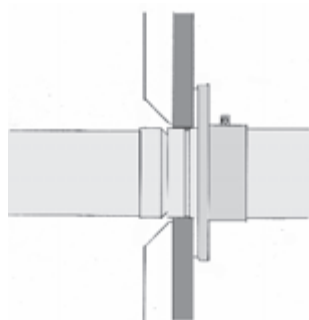


This hanging must not be damaged



3.2 Recirculation

Recirculation slots must not at all be covered by door liner while mounting. If necessary make a conoidal cut out.



Conoidal cut out cover of boiler's door



3.3 Tips for mounting

During installation of oil tubes and connecting cable take care that connection is strain relieved and that burner can be easily put into service position.

Oil supply system must be de-aerated via manometer connection of pump.

Eliminate leakages of oil supply system. Otherwise malfunctions of combustion might occur.

When replacing the burner also replace the oil filter!

**In no case confuse phase and Mp!
Take care of proper connection of protective earth connector!**

3.4 Check of installation

Proper installation by a specialty firm means:

1. Professional laying of oil tubes and filter, checkup leak tightness Replenish oil.
2. Observance of relevant rules and regulations of Water Resources Act (WHG) relating to laying of oil pipes as well as anti syphon effect..
3. Electrical connection have to be laid according to DIN VDE- und EVU-guidelines. Use flexible cable for burner connection.
4. Oil temperature must be at a minimum of +5 Grad C for oil storage and oil pipes.
5. Beware of suction of cold air.

3.5 Burner operation

The Blueburner HB is very well suited for installation in commercial boilers (intermittent operation) for heating of living space and water for domestic use. Our development and inspection conditions are perfectly adjusted to these operational conditions.



3.6 Special areas of operation

Special requirements and operating conditions are to be observed for the following fields of operation::

- Dark beamer
- Baking oven
- Kiln
- Annealing furnace
- Industrial application

For these fields of operation we expressly reserve approval!

With higher furnace or temperature load we recommend you to seeking accord with HANSA



Only pure air must be used with burner!

This is to safeguard by appropriate means, particularly in rooms with contaminated air by halogen-hydrocarbons (print shops, hairdressers, dry cleaners and laboratories). Please contact us!



Not much dust should accrue during the burner's operation!



High humidity and frost is to be avoided!



Good aeration is important!




Non observance of these guidelines means loss of warranty!

4.1 Commissioning and setting

To maintain durable high burner efficiency and safe running a qualified expert has to adjust the settings.

The oil-preheater is switched on and after reaching the required temperature the burner is starting.

Ignition and oil release are carried out automatically via oil firing device.

 **Some pumps are indicating oil pressure only if magnetic valve has opened!**

In case there is no oil delivered at first time suction of oil this procedure has to be aborted after 3 minutes at most for not to damage the pump. The operating condition has been reached when oil filter is filled up with oil.

Oil pressure has to be readjusted to boiler and chimney conditions internal to the plant (vgl. Abb.).

Drought should not exceed 0,1 mbar.

Combustion values are to be checked under hot running conditions, to start with the control of CO2 value.

This value determines how much the oil flow rate has to be changed at a fixed preset amount of air.


CO2 < 13,5 %,:
Oil pressure can be heightened

CO2 > 13,5%:
Oil pressure can be reduced

After adjustment to a CO2-value of 13-14% you have to check CO value.


Getting a result of measurement of more than 40 mg/kW of CO value means that CO2 value is no longer correct because a distortion has occurred by air-inleakage on boiler or boiler tube connexion. Seal the boiler and repeat your measurements. Poor combustion might also be caused by insufficient performance of spraying of the nozzle. Possibly also the oil pressure is too high.

Important: In boiler plants CO-values can be influenced by combustion residue.

 **Boiler must be sealed and boiler tube connexion must be there to measure CO2-value correctly, because air -inleakage is distorting the results of measurement!**

4.2 Adjustment of pump pressure

Adjustment is done at the pressure regulation plug. Turn right: Pressure rise; turn left: Pressure reduction.

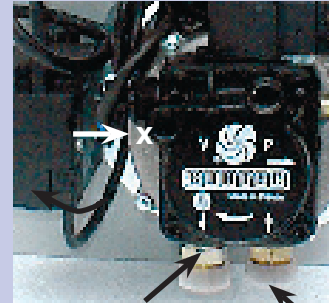
 **In no case you may turn the pressure regulation plug before deaeration pump.!**

4.3 Modifying the burner output

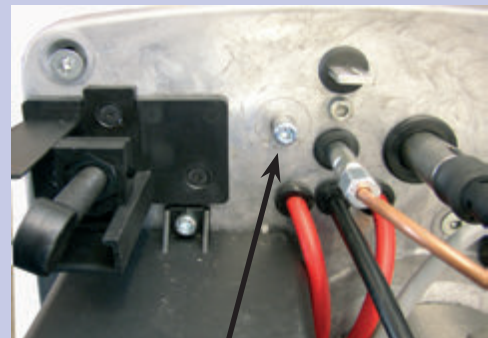
The burner has a preadjustment as shown in the diagram and can be modified by $\pm 8\%$.

4.4 Blower's pressing

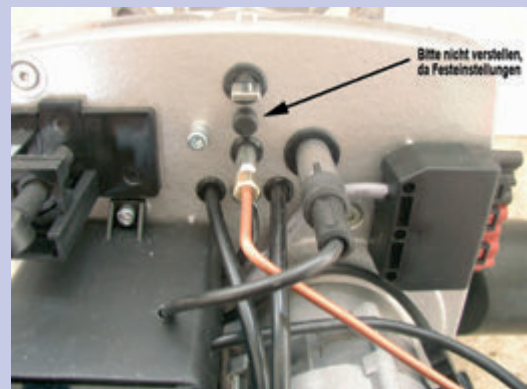
Blowers pressing must be measured for adjustment control. For that the plug has to be loosened.



Pump flow Pump return
Adjustment of pressure
X = Pressure regulation plug
V = Vacuum gauge connection
P = Pressure gauge connection



Test port for determining blowers pressing. Please switch off power when working on the burner!



Bitte nicht verstellen, da Festeinstellungen
Please do not operate adjusting screw on penstock!

4.5 Air intake nozzle adjustment

The amount of air is preset. Modifying the amount of air means that the adjustment-plug has to be loosened from the air intake nozzle. By moving the air intake nozzle (see table p.14) it is possible to increase or decrease fan pressure.

In case of an output reduction please pay attention to the oil pressure not being below 10 bar. (At burner start-up oil pressure is higher).

4.6 Air intake nozzle

The air intake nozzle is preset.

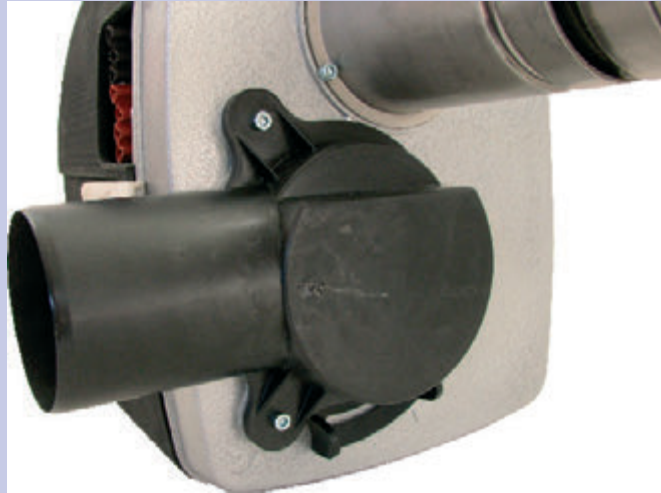
Should the burners output be considerably altered- e.g. by the size of the mixing system- you proceed as follows:

1. Remove burner from boiler,
2. Loosen fixation screw from air intake nozzle, readjust air intake nozzle. then tighten again fixation screw.
3. Mounting again burner to boiler.

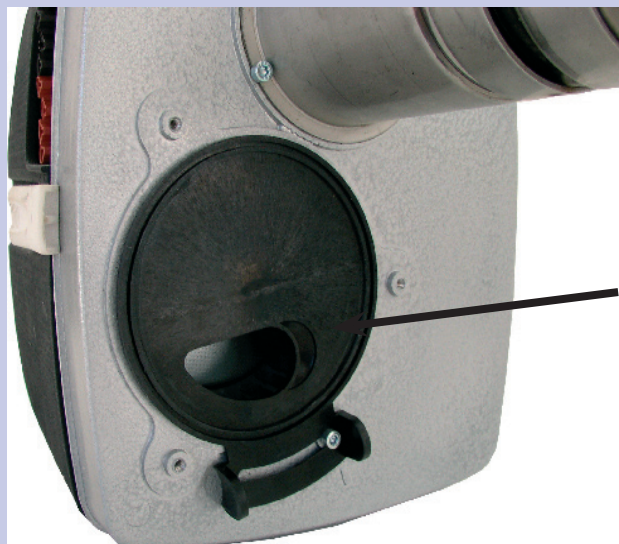
Tune tuning is done via damper.

4.7 Circulation of air

Openings for recirculation must be clear, see pic. p. 6.

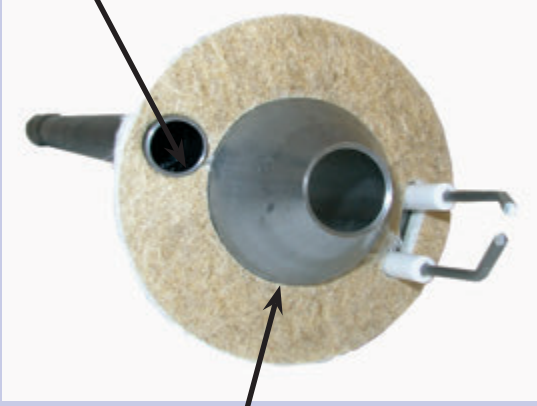


Air-intake silencer with cover and intake nozzle for air independent operation



Air intake nozzle

Sight opening for flame detector must be covered in no way .

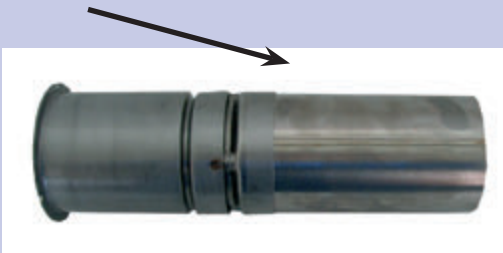


Sealing on air intake tube



Burner view from the right

Alloy-tube for HB 40 with bayonet coupling. Coupling has to be properly engaged, check while mounting.



Flame tube HB 21 with rigid recirculation



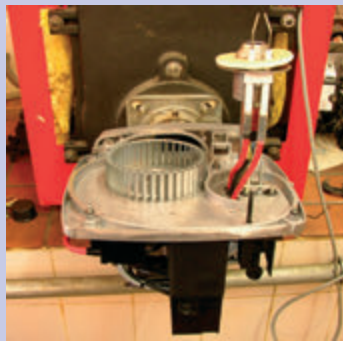
Burner in serviceposition for HB 21/40/50/70



Flame tube and alloy-tube for HB 40 with large recirculation



Attachment for servicing



Service position for maintenance work on mixing system



Replacing the DROP-STOP:
When replacing DROP-STOP, e.g. bei in case of soiling etc. use a M5-screw fine pitch thread to screw into DROP-STOP and pull it out afterwards.



Test port for flame surveillance



Air sleeve in detail

5.1 Maintenance

An annual inspection of the oil firing plant by an expert is recommended– if only for sheer keeping the legal prescriptions.

Clean up the burner: impeller, mixing system, ignition device and as the case may be replace nozzle and DROP-STOP, as well as gasket of mixing system. There after-check measurements again. When replacing the nozzle it is imperative to use only those nozzles mentioned in the table p. 13.

5.2 Flame surveillance

DIN EN 267: Check of flame detector. Use test port by means of an amperemeter or multimeter. Signal current should not exceed 5,5 μ A during pre-ventilation phase. Otherwise position of ignition electrodes has to be checked. In operation measurement signal must be in the range of > 90 μ A. Otherwise fault shut-down might occur. For faultless functioning the flame detector should be withdrawn and obfuscated so that the flame extinguishes. The automatic oil firing device repeats and changes into fault mode.

Error	Cause	Trouble shooting
Burner is functioning, but there is no generation of flame; it changed from actual operation into fault mode!!	Magnetic valve does not open	Check electrical connectons; if necessary replace magnetic valve
	Oil pipe blocked; Nozzle blocked; Oil tubes blocked	Check mentioned components on passability (filter etc.)
	Oil tank empty; Oil pump defective	Check oil pump and oil tank; if necessary replace or fill up
	Suction hose leaky	Check suction hoses and if necessary retightening fittings
	Suction hoses not vented	Deaerate suction hoses on manometer connection
	Mixing system dirty	Check mixing system and if necessary clean it up.
	Ignition electrode burnt off from one side	Replace ignition electrode
	Adjustment of ignition electrode to nozzle not correct	Make adjustments according to manual
Adjustment of burner not in order	Check burner settings and if necessary readjust them	
Burner is functioning, but does not adopt flame!!	Flame detector is dirty or defective	Clean up flame detector or if necessary replace it
	Elektrical connection from automatic firing device to flame detector is interrupted	Check electrical connections and if necessary renew them
	Automatic firing device is defective	Replace automatic firing device
Burner pulsates during operation!!	Combustion chamber resistance of boiler is too high	Increase pressure
After-injection or afterburning after burner shutoff being effected	Inadequate ventilation of oil pipes	Deaerate oil pipes
Deposit on top of ignition electrodes!!	Temperatures are too high	Eliminate source of leak air
	Nozzle possibly defective	Replace nozzle
Burner is not starting!!	Power failure	Restore power
	Regulation switched off	Switch on regulation (STB; KTR; Automatik)
	Burner in fault mode	Reset automatic firing device of burner

6. Troubleshooting

HB 21/40.1/40.2/50/70

Error	Cause	Troubleshooting
Burner is starting but no generation of flame (fault shut-down) and inspection glass of oil filter is just half empty or empty	Closing plug not removed when putting into operation for the first time ever	Remove closing plug
	Oil pipe has not been filled up before initial operation. It could last for several minutes before oil is drawn.	Fill up oil pipe at initial operation IMPORTANT: Never run oil pump for longer than three minutes without oil
	No fuel oil in the tank	Fill up tank
	Oil pump not working	Check electrical connection if necessary replace oil pump
	Coupling between motor and oil pump defective	Replace coupling
	Oil pipe is bent	Check oil pipe and if necessary replace it
	Existing outer valve to fueling facility is closed	Check of possibly existing outer valve
Magnetic valve does not open up	Check electrical connections if necessary replace solenoid coil	
Burner is starting, but there is no ignition. Oil inspection glass is filled up with oil. There is a fault shut-down.	Ignition transformer or ignition cables defective or not connected	Check of primary connecting cable of ignition transformer and if necessary replace it
	Ignition electrode burnt off from one side	Replace ignition electrode
	False adjustment of ignition electrode	Readjust ignition electrode
	Flame detector detects extraneous light	Eliminate incidence of extraneous light, if necessary replace flame detector
Automatic firing device is defective	Replace automatic firing device	

7.1 Technical data and electrical connection

Power supply	:230V/50Hz
Max. total input power	:185 W (HB21/40) 360 W (HB50/70)
Motor capacity	:90 W (HB21/40) 180W (HB50/70)
Weight	:12-13 kg
Fuel oil EL	:according to DIN 51 603, part 1
Model No. (BUWAL)	:
Product-ID-number	:CE-0035BS107

7.2 Definition of oil pipe

H (m)		3	2	1	0	-1	-2	-3
L (m)	Ø 6	29	25	21	17	13	9	5
	Ø 8	91	79	66	53	41	28	15

H= Vertical difference between intake area (foot valve) and burner pump

L= Suction length (2-pipe-installation for pipes Ø 6 und Ø 8 - reference values (incl. bents, filters etc.)

Tip: For one strand installations we do recommend installation of an automatic de-aerating filter e.g. Tiger-Loop.

7.3.1 Output diagram HB 21/40.1/40.2 1-step

	HB 21				HB 40.1		HB 40.2	
Output	10kW	16kW	17kW	21kW	20kW	27kW	28kW	40kW
Nozzle	0.30 75°S	0.30 75°S	0.40 80°S	0.40 80°S	0.40 80°S	0.50 80°S	0.65 80°S	0.65 80°S
Type of nozzle	Steinen	Steinen	Steinen	Steinen	Steinen	Steinen	Steinen	Steinen
Oil pressure	7 bar	16 bar	13 bar	14 bar	14 bar	16 bar	10 bar	20 bar
Air intake tube	D=18mm	D=18mm	D=18mm	D=18mm	D=25mm	D=25mm	D=25mm	D=25mm
F. T.-flangeneck mm	90x2x193	90x2x193	90x2x193	90x2x193	90x2x203	90x2x203	90x2x203	90x2x203
Flame tube mm	86x1x166,7	86x1x166,7	86x1x166,7	86x1x166,7	120x1x199	120x1x199	120x1x199	120x1x199
Air intake nozzle	0	2	2	7	1	4	4	7
Air flap	0	2	3	5	1	3	3	5
Blowers pressing	3,0 mbar	6,5 mbar	7,0 mbar	12 mbar	3,0 mbar	6,0 mbar	6,0 mbar	9,6 mbar

7.3.2 Output diagram HB 21/40 2-step

	HB 21		HB 40.1	
	1. Stufe	2. Stufe	1. Stufe	2. Stufe
Output	10mkW	21 kW	21 kW	36 kW
Nozzle	0.30 75°S		0.60 80°S	
Type of nozzle	Steinen	Steinen	Steinen	Steinen
Oil pressure	7 bar	25 bar	7 bar	24 bar
Air intake tube	D=18 mm	D=18 mm	D=25 mm	D=25 mm
Flame tube flangeneck mm	90x2x193	90x2x193	90x2x203	90x2x203
Flame tube mm	86x1x166,7	86x1x166,7	120x1x199	120x1x199
Air intake nozzle	2	2	7	7
Actuator	120°	160°	120°	160°

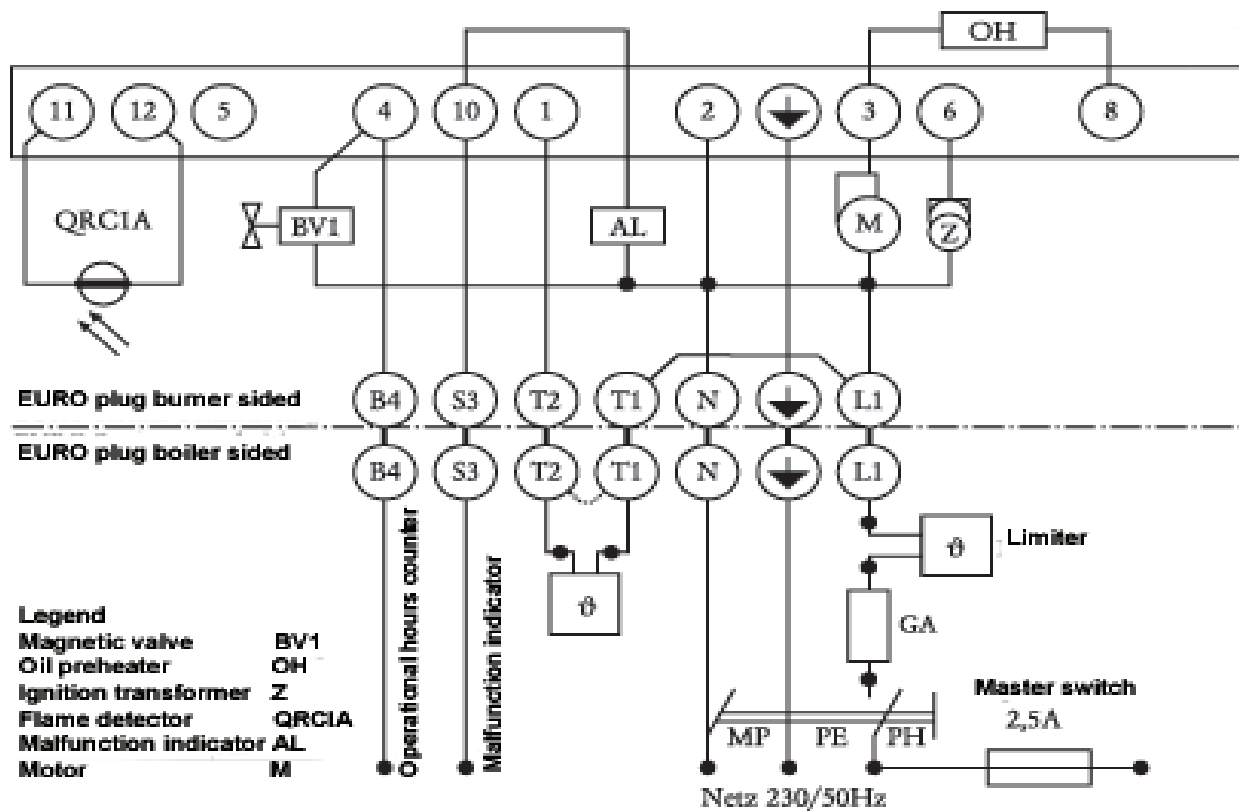
7.4.1 Output diagram HB 50/70 1-step

	HB 50		HB 70	
Output	37 kW	52 kW	49 kW	70 kW
Nozzle	0.75 80° S	1.00 80° S	1.00 80° S	1.25 80°
Type of nozzle	Steinen	Steinen	Steinen	Steinen
Oil pressure	14 bar	23 bar	13 bar	17 bar
Air intake tube	D=27 mm	D=27 mm	D=31 mm	D=31 mm
Flame tube flangeneck mm	100x1,5x199	100x1.5x199	100x1,5x202	100x1,5x202
Flame tube mm	120x1x190	120x1x199	150x1x199	150x1x199
Air intake nozzle	3	7	4	7
Air flap	1	5	3	5
Blowers pressure	8 mbar	11 mbar	8 mbar	11 mbar

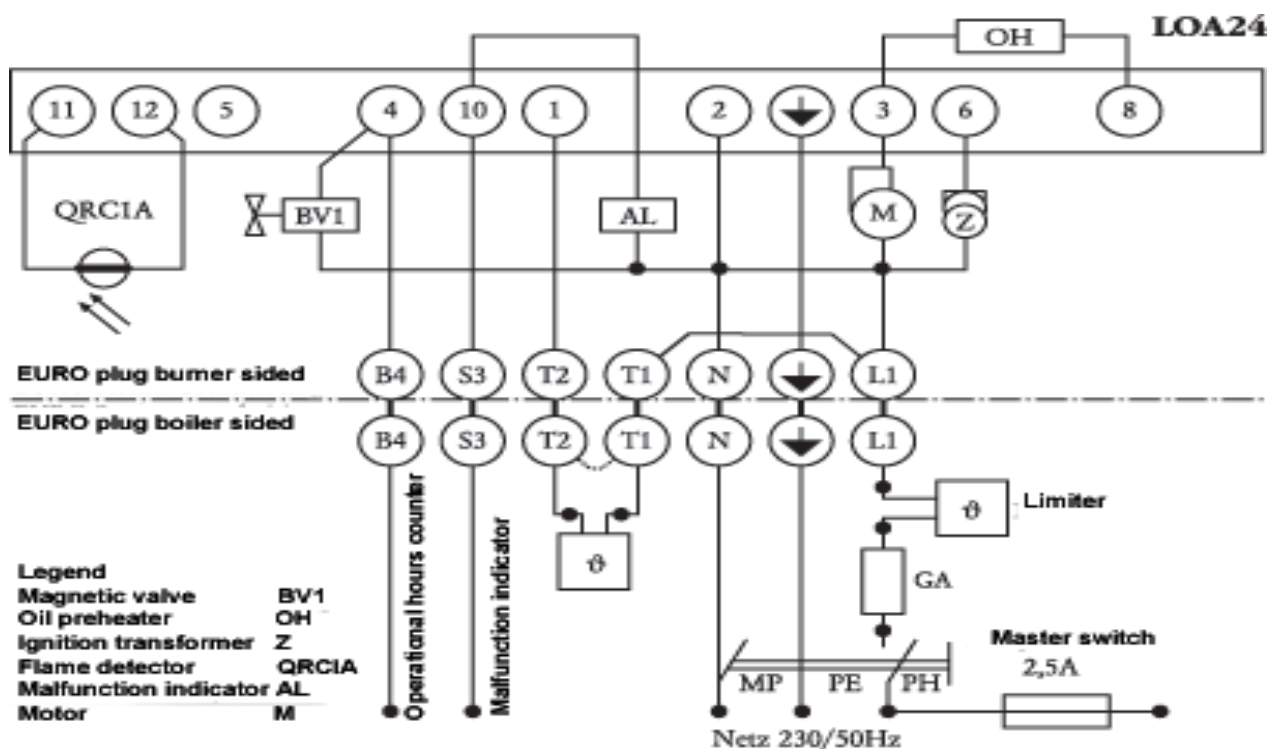
7.4.2 Output diagram HB 50/70 2-step

	HB 50		HB 70	
HB 50	1.-step	2.-step	1.-step	2.-step
Output	37 kW	52 kW	49 kW	70 kW
Nozzle	0.85 80° S	1.10 80° S	1.10 80° S	1.10 80° S
Type of nozzle	Steinen	Steinen	Steinen	Steinen
Oil pressure	12 bar	20 bar	13 bar	25 bar
Air intake tube	D=27 mm	D=27 mm	D=31 mm	D=31 mm
Flame tube flangeneck mm	100x1,5x199	100x1.5x202	100x1,5x202	100x1.5x202
Flame tube mm	120x1x199	120x1x199	150x1x199	150x1x199
Air intake nozzle	7	7	7	7
Actuator	125°	160°	125°	160°

7.5 Wiring diagram LOA 14

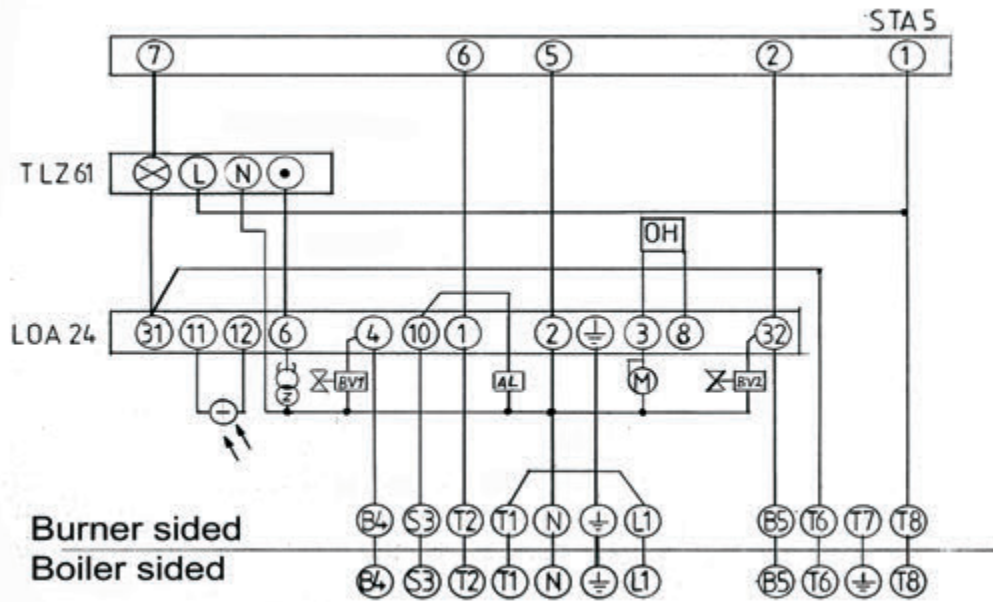


Wiring diagram LMO14

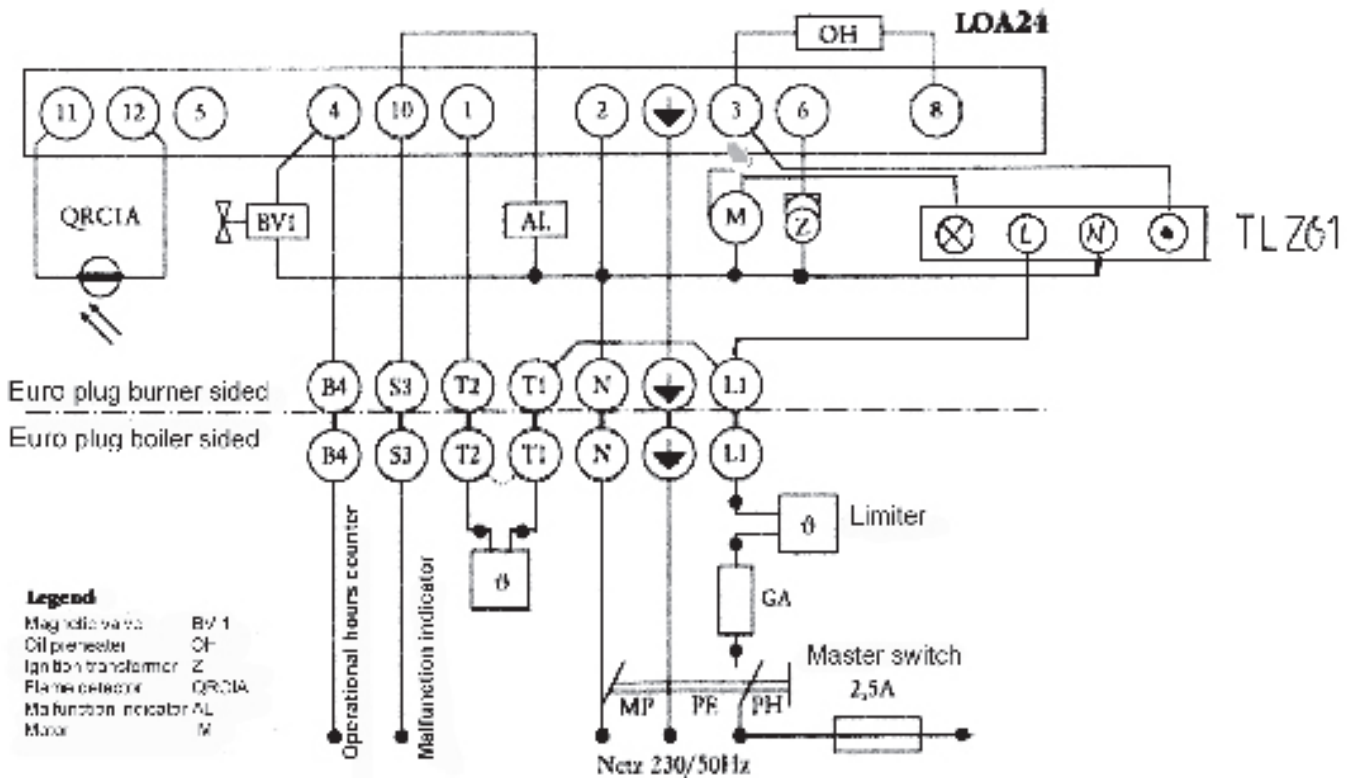


Local EVU- and VDE-regulations are to be observed !

7.6 Wiring diagram HB 2-step LOA 24 / LMO 24



Wiring diagram HB 1-step with relay LOA 14 / LMO 14



7.8 Error code LMO 24/LMO 14

Flash signal code		
2x signal	no flame generation towards the end of <TSA>	- defective or dirty combustible valves - defective or dirty flame detector - poor adjustment of burner - defective ignition device
3x signal	free	
4x signal	Extraneous light at burner's start	
5x signal	free	
6x signal	free	
7x signal	flame loss during operation too often	- defective or dirty combustible valves - defective or dirty flame detector - poor adjustment of burner
8x signal	time monitoring oil preheater	
9x signal	free	
10x signal	wiring error or internal error, output contacts	

During diagnosis of error control outlets are dead-voltage

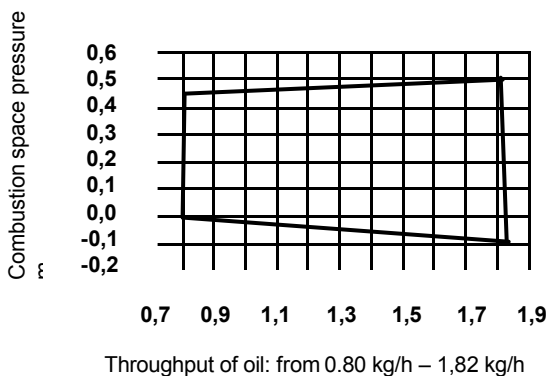
- burner remains switched off
- exception, error-signal <AL> clip 10

resetting of burner is carried out only after lock-out release

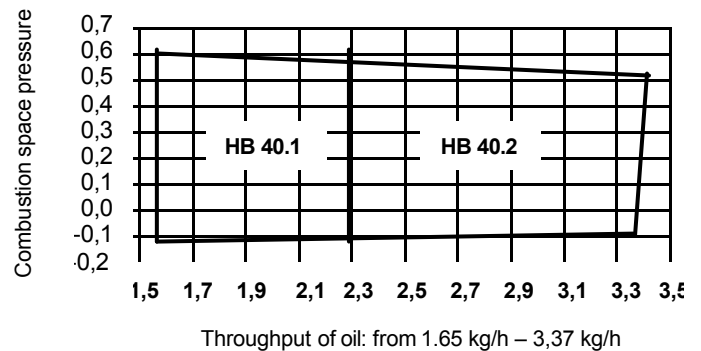
- After each fault shutdown an immediate lock-out release is possible Dafür Entriegelungstaster min. 0,5s, max. jedoch 3s gedrückt halten!

7.9 Measuring fields HB 21 / 40.1 / 40.2

Measuring field fuel oil EL
Type HB 21 (10-21kW)

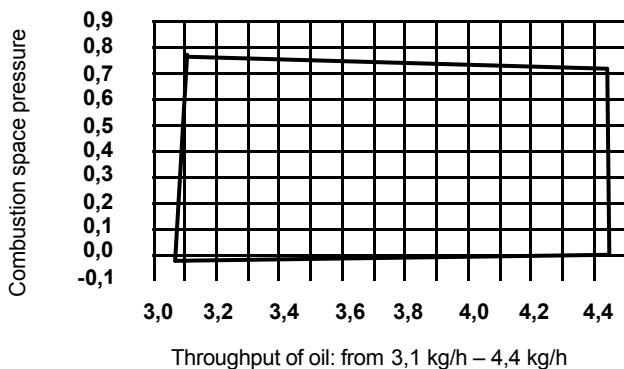


Measuring field fuel oil EL
Type HB 40.1 (21-27 kW)
HB 40.2 (27-40 kW)

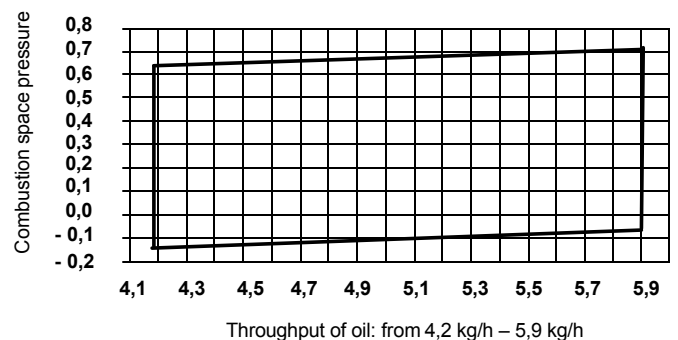


Measuring fields HB 50 / HB 70

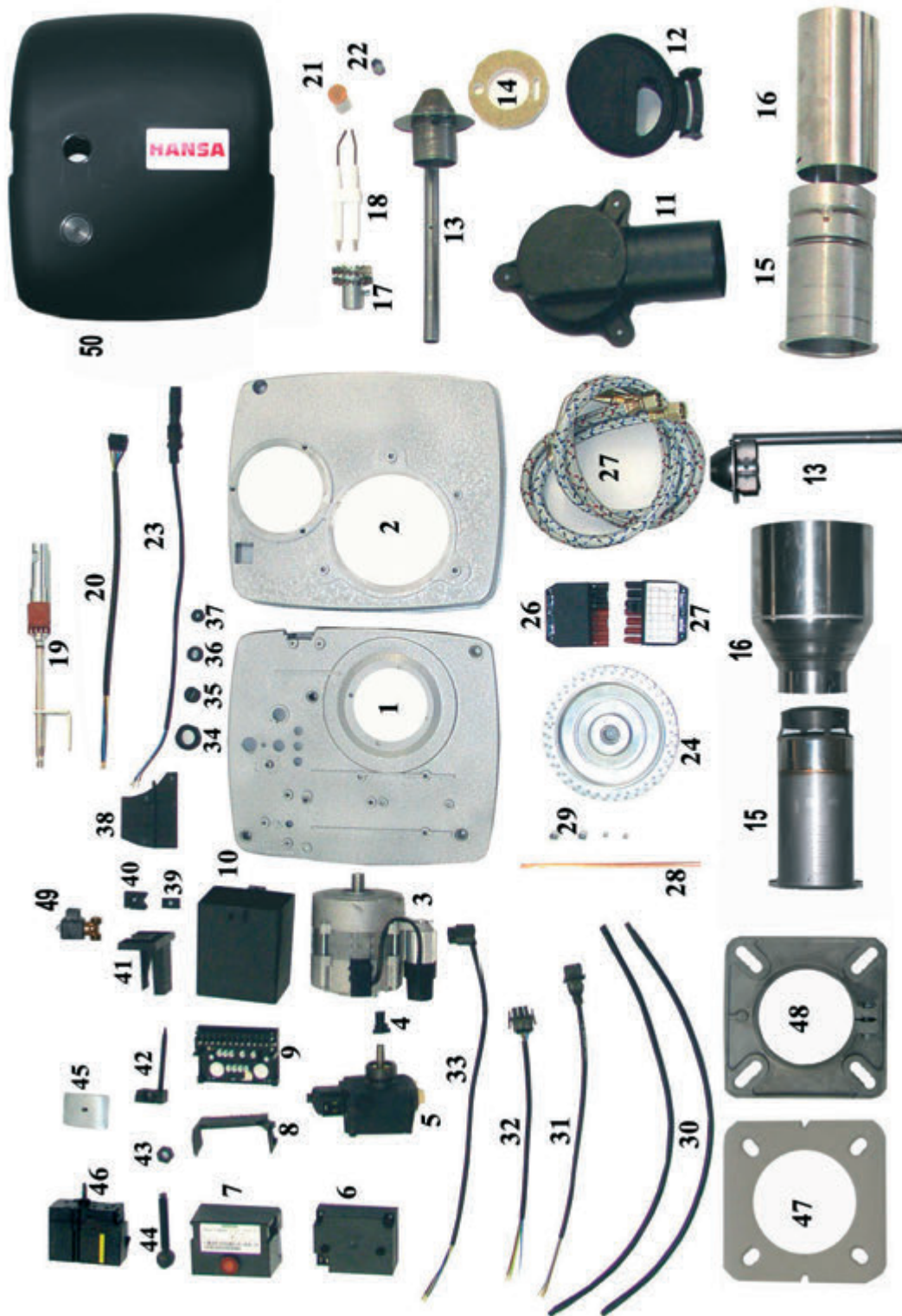
Measuring field fuel oil EL-
Type HB 50 (35-50 kW)



Measuring field fuel oil EL
Type HB 70 (50-70 kW)



7.10.1 Exploded view and legend



7.10.2 Legend

Pos	Item	Article-No.:	Pos	Item	Artikel-Nr.:
1	Upper case section	1160	29	Screw nut BON 05 M4LL	1511
2	Lower case section HB 21/40	1103	30	High voltage wiring	1065
	Lower case section HB 50/70	1103G	31	Cable connector 3-pole, square	3400
3	Motor EB 95C 28 90W HB 21/40	3431	32	Connector cable 3-pole	3429
4	Coupling two-dimensional without. plate	1048	33	Primary cable ignition transformer	3308
5	One-step oil pump ALE 35 C 9329-6	3939	34	Gasket sight opening	4139
	Two-step oil pump ATE 2 55D 93534	3938	35	Gasket chart display	300815
6	Ignition transformer Danfoss EBI	3309	36	Gasket penstock	4153
	Ignition transformer COFI TRK2-35	3519D	37	Cable feedthrough high voltage wiring	3346
7	Automatic oil firing device LMO 14	3168	38	Air clap	300805
8	Socket LOA PG fastener AGK66	3071	39	Gasket - Air clap regulation	300814
9	Device socket AGK 11	3070	40	Fastener - Air clap regulation small	300812
10	Socket-Control	300813	41	Fastener - Air clap regulation	300811
	Socket control small 2-step	300816	42	Air clap regulation	300810
11	Air intake box	300803	43	Hexagonal screw nut 934 M10x1 left	3372
12	Air intake nozzle HB 21/40	300804	44	Adjusting screw - Air flap	300809
	Air intake nozzle large HB 50/70	300817	45	Air clap actuator	2990
13	Air sleeve D18	2171	46	Actuator	2990
	Air sleeve D24	2149	47	Flange gasket HB21/40.1/40.2	1072
14	Gasket for air sleeve	4103	48	burner flange HB21/40.1/40.2	1102K
15	Flame tube flangeneck 193,3 HB 21	2180	47	Flange gasket HB 50/70	1227
	Flame tube flangeneck 203,3 HB 40	2189	48	Burner flange HB 50/70	1214
16	Flame tube 86x1x166,7 HB 21	1110	49	Rapa cut-off valve 2-step	3631
	Flame tube 120x1x199 HB 40	2167	50	Cover	300806
17	Turbolator centre HB 21/40	1092	3	Motor EB 95C 52/2 180W HB 50/70	3438
18	Double ignition electrode	4176	7	Automatic oil firing device LMO 24	3172
19	Oil preheater FPHB-LE	3652	13	Air sleeve 27 HB 50	2190
20	Cable for FPHB	4131	13	Air sleeve 31 HB 70	2191
21	Oil nozzle 0.30 75°S	5463		At extra charge 2-step	3164
	Oil nozzle 0.60 80°S	5404	15	Flame tube flangeneck HB 50	2145
22	Anti-twist protection	1093	15	Flame tube flangeneck HB 70	2146
23	Flame detector QRC 1A1	3094	16	Flame tube HB 50	2147
24	Fan wheel 133x42 HB 21/40	1242	16	Flame tube HB 70	2148
	Fan wheel 133x62 HB 50/70	1262			
25	Euro-plug 7-pole boiler side	4123			
26	Euro-plug 7-pole burner side	4124			
27	Oil tube	4175			
28	Copper tube 186 mm	1020			

7.11 Warranty

This oil burner works perfectly if professionally installed and putting into operation and if fuel oil EL according to DIN 51 603, part 1 was used.

We come up with a guarantee for 24 months after commissioning, however not longer than 27 months after date of sale and is limited to replacement of defective components.

For further particulars please refer to pass card.

Inappropriate use of fuel oil additives voids all warranty claims



7.12 Oil tank and pipes

When filling up the tank shut off burner and leave him off for about three hours so that particulate matter might be settling.

Leaky oil pipes and tanks which have been running dry might lead to deflagration by

air bubbling.

Never tolerate oil leakages! Fire hazard!

Soot free combustion might also be achieved without adding combustion ameliorants. We are raising no objections against use of fuel oil additives containing no ashes, like e.g. floating ameliorants.

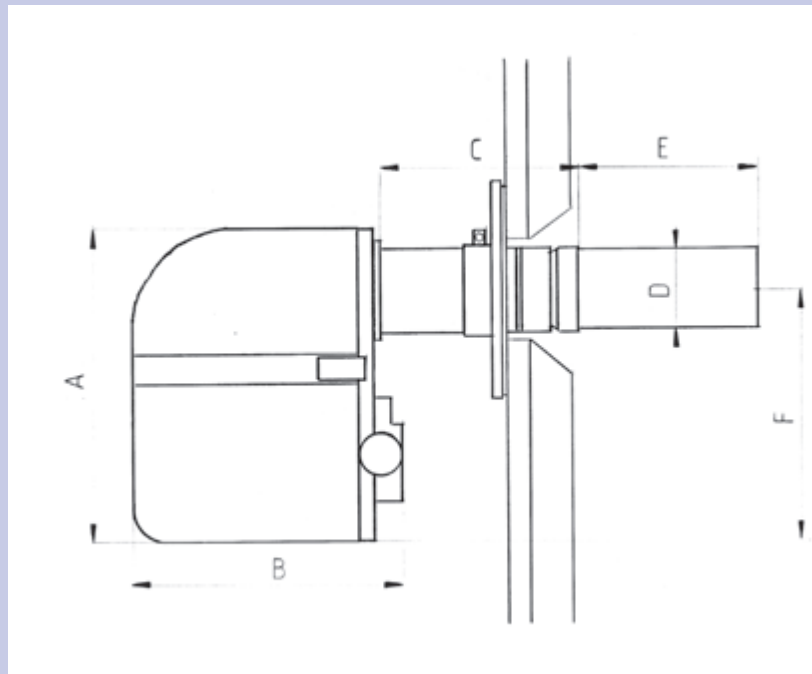


7.13 Spare parts

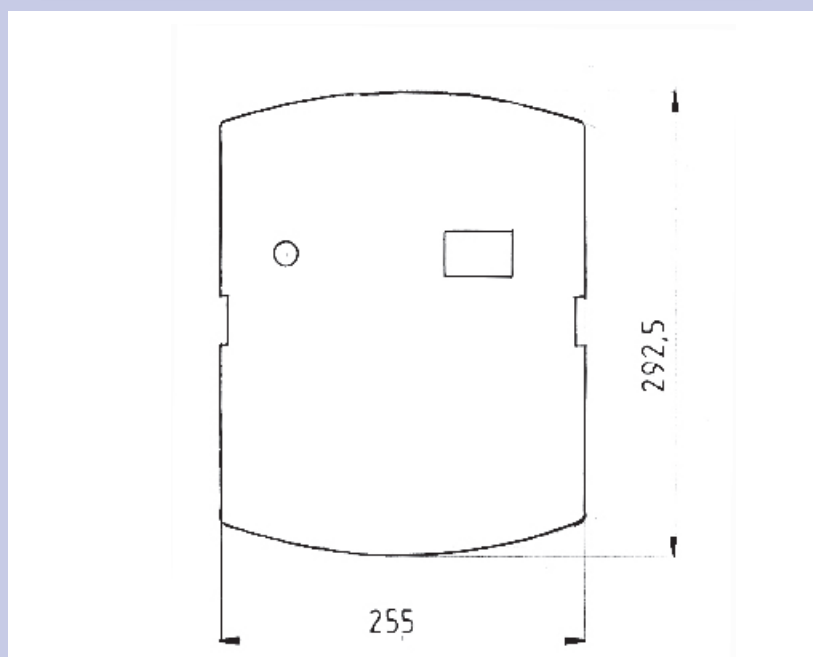
In case of replacement use only original HANSA spare parts: Some components like e.g. flame detector, oil pump and preheater are specially laid out, constructed and manufactured for HANSA..

For your order of spare parts, please always provide burner number!

7.14 Dimensions



	HB 21	HB 40.1	HB 40.2	HB 50	HB 70
A	292,5	292,5	292,5	292,5	292,5
B	280	280		300	300
C	193	203		199	202
D	90	120		120	150
E	166,7	199	199	199	199
F	230	230	230	230	230



8.1 Manufacturer's declaration**Manufacturer certification**

According to § 7 (2) 1. BimSchV.

The enterprise Hansa Öl- und Gasbrenner GmbH hereby confirms for the oil burners mentioned below :

Product	Oil burner
Trade name	HB 21/40/50/70
Type / Model number (BUWAL/VKF)	
Test standards	DIN EN 267
Test centre	TÜV - Rheinland
Quality management	DIN EN ISO 9001
Certification	Dekra-ITS
Product-ID-number	CE 0035BS107

These products are matching the requirements of the above mentioned norms and regulations and are corresponding with models examined by the aforementioned testing centre. This declaration, however, does not mean any formal guarantee of features.

Moreover these burners will **fall below the admitted nitrogen oxide proportion of max. 120 mg/kWh** permitted by the regulation in §7 (2) 1. BimSchV. .

The aforementioned oil burners are solely designated for installation in boilers likewise approved according relevant guidelines and norms.

The installer has to ensure, that all valid regulations for fully functioning and collaboration of oil burner and boiler are observed.

8.2 Declaration of conformity

The enterprise Hansa Öl- und Gasbrenner GmbH hereby confirms for the oil burners mentioned below :

Product	Oilburner
Trade name	HBV 21/40/50/70
Type	HBV 21/40/50/70

were tested in consideration of the following norms and guidelines:

Low Voltage Directive 73/23 EWG - 01.1973
EMV - Directive 89/337 EWG 05.1989

Machinery Directive 87/392 EWG - 05.1989
bearing reference to the oil burner norm DIN EN 267

Hansa Öl- und Gasbrenner GmbH



Jörg Hoffmann GF



Dirk Hoffmann TL

DIN EN ISO 9001







Hansa Öl- und Gasbrenner GmbH
Burgdamm 3 - D-27404 Rhade

Main office +49 - (0)4285-9307-0
Fax: +49 - (0)4285-1653
email: hansa-brenner@gmx.de
hansa-technik@web.de
Internet: www.hansa-brenner.de

