HANSA
oil burner

Operating instructions

HS 30Z

Productivity area: 210,0 - 370,0 kW

Design number 5G 530/00

CE

012604

Operating instructions for HS 30 (Z) oil burner

Our burners are quality products. With an expert assembly, adjustment and maintenance, the burner will work reliably and economically for many years.

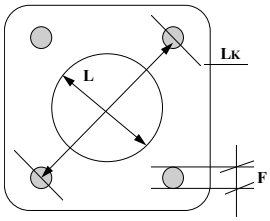
Before assembling the burner, the following steps have to be carried out:

Check whether the heat generator is impermeable on its smoke gas side. Especially older boiler sometimes have to be sealed with a boiler sealing compound. In case the heat generator has already been used, it should be cleaned thoroughly. Fireclay units have to be fitted in professionally. The oil pipes must be absolutely impermeable and are to be laid professionally. Older heating oil filters have to be cleaned or otherwise the filter pad changed.

Assembly:

Attach the fixing flange and the seal by means of the delivered M8 screws to the boiler. The sliding flange has to be fitted so that the assembler can read the word "OBEN" easily. Put the burner into the clamp flange and adjust it according to the firebox depth. After loosening the 5 patent stopper screws hang the burner in assembly position and withdraw the hold-up disc. Now the adequate nozzle (see table) is screwed in and the hold-up disc with its electrode is attached again. Take care to, maintain the exact distance between the nozzle - hold-up disc and the electrode. After assembling the oil pipes and the electric connection, the burner is operational.

Picture 1: **flange seal**
LK = 115 – 205mm
L = 115 mm
F = 8,5 mm



Picture 1:

Electric connection of boiler and burner

The electric connection between burner and boiler is carried out by means of a 7-pole Euro-plug. The boiler is equipped with a corresponding 7-pole plug which is put into the connecting socket on the burner. The completion of the electric installations has to meet the legal prescriptions and regulations for heating systems

Connection of the oil pipes

Take the enclosed oil pipes out, connect them with the oil pump and the oil filter taking into account the correct flow direction and tighten them in order to avoid the pump from drawing air in.

Synchronisation of burner, boiler and chimney

Do pay attention to an exact synchronisation of burner, boiler and chimney in order to guarantee an economical operation. A professional assessment for the dimensioning of the chimney and the additional air installations can be given by chimney sweepers or radiator constructors. You should also take care that possibly infiltrated air should not be drawn in as e.g. by the boiler doors or wrongly assembled flanges. This infiltrated air can distort the result of a C02 measurement. An attempt to obtain better C02 values could lead to a reduction of air quantity in the burner. Thus, an optimal adjustment of the burner is far more difficult to carry out and energy consumption is increased. Moreover if there is infiltrated air, the flame receives too much cold air impeding an economic heat utilisation and increasing the temperature of the combustion gas. In order to avoid this, we recommend the incorporation of a draw regulator. This draw regulator does not only provide steady draft conditions, but also avoids the chimney creosoting, especially in the case of older installations.

Combustion air thermometer

To obtain a continuous combustion air temperature we recommend the incorporation of a combustion air thermometer or the acquisition of a thermometer available at specialised dealers. The most adequate point for the measurement is the chimney sweeper's control bore in the combustion gas pipe. An increase of the combustion air temperature over 30°C, indicates coating of the inside of the boiler, provoking an uneconomical operation of the heating installation. It is therefore advisable to carry out a control of the burner adjustment and if necessary to clean the boiler.

Setting in operation

After the professional assembly of the oil burner, the pre-ventilation and pre-ignition start. After opening the magnetic valve the flame ignites. The flame watcher (photo-resistance) controls the program and stops it in case of faults. When the burner switches off, the economy valve closes, preventing the fire room from cooling down. The air quantity can be modified by means of the air adjustment screw or by displacing the penstock with the hold-up disc. The required adjustment can be taken from the mark on the burner. The best values (C02 up to 12,5 %) are achieved when the hold-up disc is put into the most restricted position (the least external air) for each performance. The air adjustment screw is then adjusted to reach a soot image of 0-1. All the works are carried out with a key (Inbus SW 4)

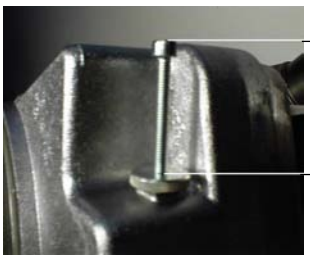
Counter of operating hours

We recommend the installation of a counter of operating hours in order to control the oil consumption.

Determination of the correct nozzle size

The nozzle values are approximate and have to be adjusted corresponding to the combustion gas temperature. You should use conic nozzles with a spray angle of 45° or 60°. The position of the pressing slide depends on the boiler resistance. If the boiler resistance is high, the slide can be opened more; if the resistance is low, it has to be closed more.

Type	Performance kW	Position L (in mm) Picture 3	Measurement X X	Nozzle size US/gall.	Pump pressure bar (1st step)	Pump pressure bar (2nd step)	Distance nozzle-hold-up disc in mm
HS 30Z	210 - 258	11	5	4,50	10	15	16 - 18
HS 30Z	234 - 287	20	5	5,00	10	15	16 - 18
HS 30Z	257 - 315	23	5	5,50	10	15	16 - 18
HS 30Z	281 - 370	75	1	6,00	10	15	16 - 18



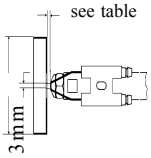
PICTURE 3

oil pump

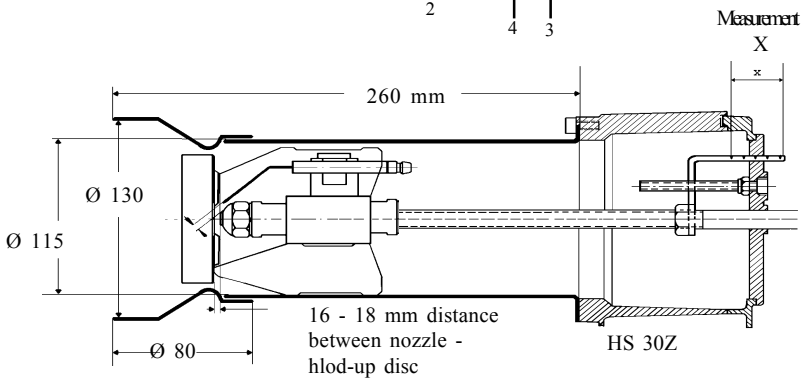
Explanation of symbols
1= pressure adjustment step 1
2= pressure adjustment step 2
3= aspiration pipe
4= return line
5= pressure outlet
6= pressure measure connect.
7= aspiration measure connect.

Hold-up discs

HS 30
13-slots,
core hole
32,0 mm
Ø 111,0 n



PICTURE 4



Description of the HANSA Power Plus Electronic

The HANSA Power Plus Electronic works with pre-established programs which control the engine's number of revolutions in different constellations. According to the program which you adjust with the selection switch, you establish the number of revolutions for the 1 st and 2nd step in the electronic system.

Special functions

If there is a lack of air e.g. in program 3, or if the burner pulsates, establish the next higher number of revolutions with the program selection switch (see table of numbers of revolution)!

Operation with 7-pole Euro plugs

The model RS30Z incorporates inside the Wieland plug facing the burner, a tip plug (Tip-Tronic) which has the following functions: During e.g. the Is' step of the burner, you are able to switch manually to the 2nd Step, before the time has lapsed. This is very important for the chimney sweeper, who only can carry out his measurement when the burner is in complete charge.

Defect electronic system

In case of a defect in the electronic system, you can set the burner in operation with two manipulations. For this you have to: 1. Interrupt the supply voltage. 2. Take off the electronic 3. Connect the live conduct (external conduct, so called phase) from the engine (4) to terminal 1. 4. Connect the neutral conduct (zero conduct) from the engine (5) to terminal 2. 5. Cover the base if possible, or otherwise fit the burner cap again onto the burner in order to protect it from voltage. Do not reinstall the electronic onto the burner

Reset the supply voltage. Now the burner works on the 1 st step on emergency operation.

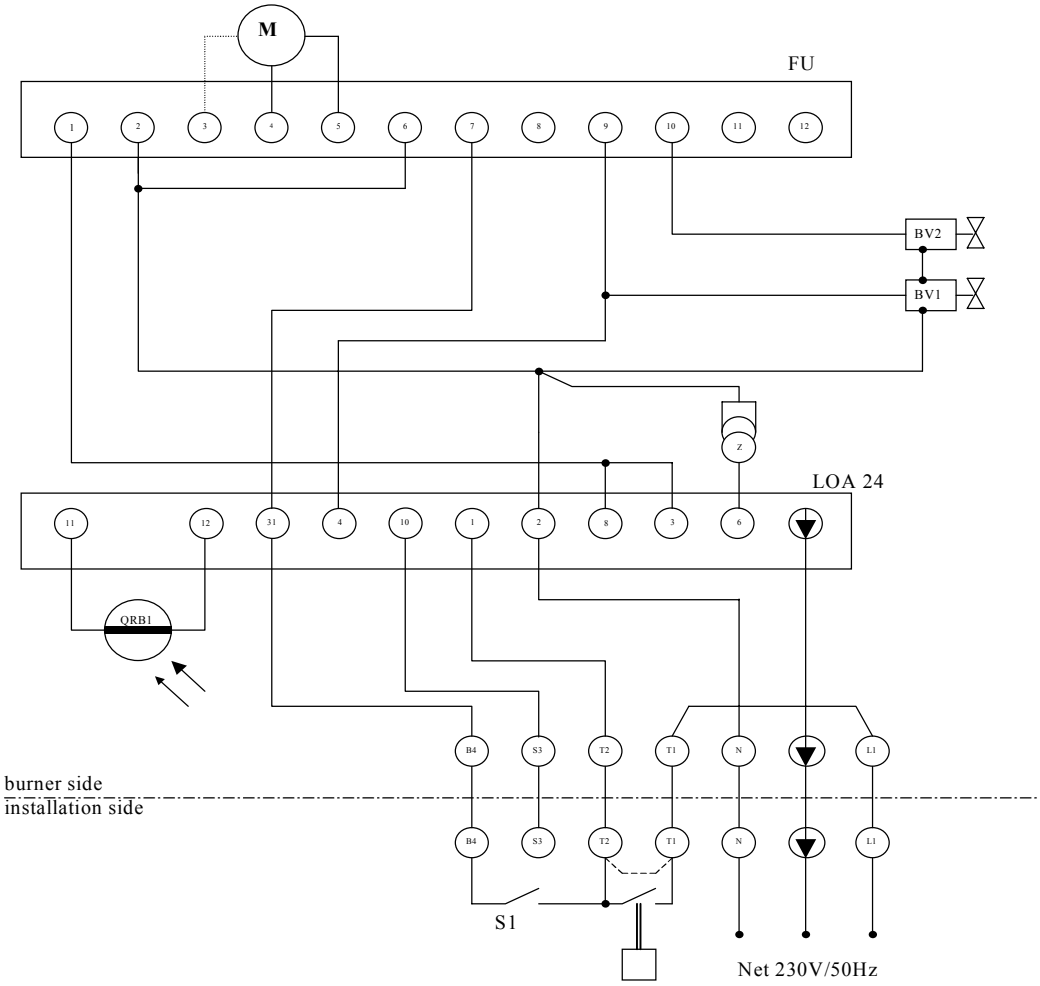
Local EVU- and VDE-prescriptions have to be taken into account.

AL =	alarm installation	QRB 1 =	photo resistance	S1 = Tip-Tronic
S3 =	interference connection	Ll =	phase 230 V	
M =	burner engine	B4 =	counter of operating hours	
Z =	ignition transformer	TI+T2 =	boiler thermostat	
BV1=	magnetic valve step one	N =	earth wire	
BV2 =	magnetic valve step two	() =	earthing connection	

Table of number of revolutions

Prog	Stufe I	Stufe II
	[1/min]	[1/min]
1	2450	2960
2	2450	2950
3	2450	2950
4	2650	2950
5	2250	3300
6	2450	3300
7	2650	3300
8	2650	3300
9	2950	3300

Performance during operation:
HS 30 Z approx. 360 W



Guarantee: The types HS 18.1/2 (Z) are trade mark fabricates with first class additional parts. They have to be professionally installed and assembled. The guarantee is valid for a term of 12 months after the setting in operation, with a maximum of 15 months after the dispatch date. In case of non compliance with the aforementioned conditions, faulty handling or wrong connection, the guarantee expires.

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