LIGHT OIL BURNER PUMP

Series GBW/KBW

ITALPUMP
OIL BURNER PUMPS

CHARACTERISTICS

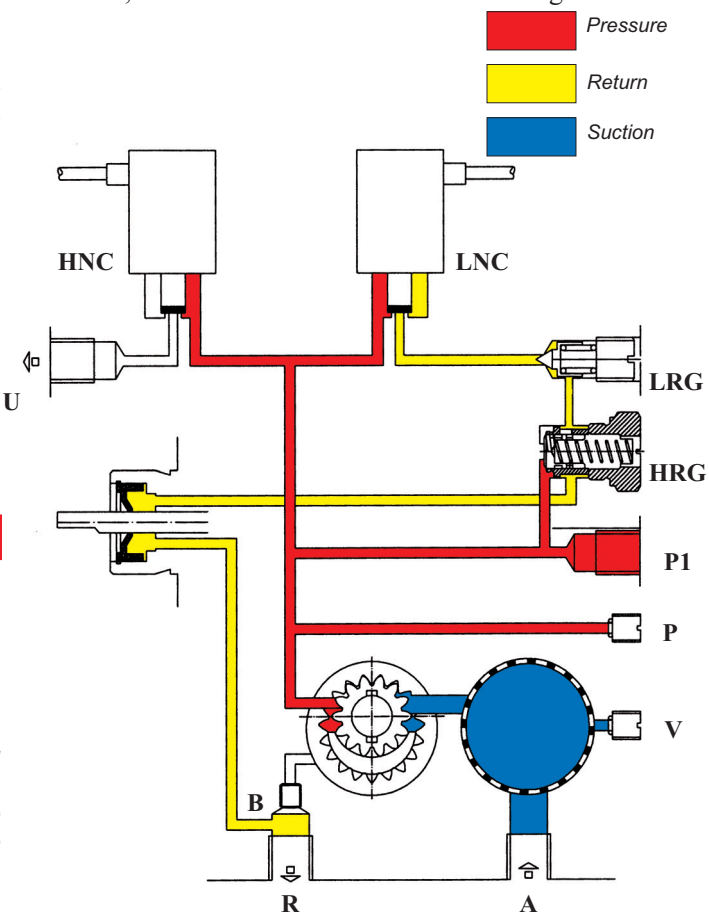
Applications:

- Light oil(GBW) and kerosene(KBW).
- One pipe or two pipe system.
- Solenoid valves with function at 2 stages of pressure.
- Self-priming.
- Solenoid valve with cut-off function.
- Capacity from 25 l/h to 83 l/h.

FUNCTION

The suction vacuum generated by the gears sucks up the fuel through the suction line "A"; it crosses the filter and it is sent, at the pressure set by the high pressure adjustment screw "HRG" to low and high pressure solenoid valve "LNC" and "HNC". Part of the oil returns into the tank at the pressure value set by high pressure adjustment screw "HRG" or by the low pressure adjustment screw "LRG", when solenoid valve "LNC" is energized. When high pressure solenoid valve "HNC" is energized, the oil flows towards the nozzle at a reduced pressure, because simultaneously also low pressure solenoid valve is excited "LNC". Afterwards the solenoid valve "LNC" is de-energized, it is obtained the maximum pressure to the nozzle, operating on the pressure adjustment screw "HRG".

In two pipe systems the exceeding oil flows into the tank through the return line; in one pipe system it goes back to the suction line of the gears, after removing the by-pass screw and closed the return connection with a specific plug "R". When the burner stops, instantly the solenoid valves "LNC" and "HNC" are de-energized and as consequence the flow is cut and the oil is forwarded to the recycle pipe.



CONVERSION 2 PIPES - 1 PIPE SYSTEM

For the conversion proceed as follow:

- Remove the by-pass screw, located inside the return port "R".
- Lock the return port with a steel plug G 1/4 and washer.

ATTENTION:

In two-pipe system oil pump is self-priming, the bleeding is obtained through the return line.

In one-pipe system the return line is closed by plug, the bleeding must be obtained through the nozzle or opening the pressure gauge port "P", to accelerate the way out of the air.

GBW TECHNICAL DATA

HYDRAULIC DATA

Factory settings	10 bar
Low pressure range	5 - 10 bar
High pressure range	10 - 20 bar
Viscosity range	2 - 12 cSt
Oil temperature	0 - 60°C
Inlet pressure	1,5 bar max
Return pressure	1,5 bar max
Suction height	0,45 bar max
Speed	2800 - 3480 rpm
Starting torque	0,10 Nm
Capacity	see graphs
Power consuption	see graphs

GENERAL DATA

Mounting	Hub ø 32 mm according to EN 225	
Connections	Nozzle outlet	G 1/8
	Pressure gauge port	G 1/8
	Vacuum gauge port	G 1/8
	Suction	G 1/4
	Return	G 1/4
Nozzle outlet	Left and Right	
Filter	Open aria	9 cm^2
	Mesh	200 µm
Weight		1,3 kg

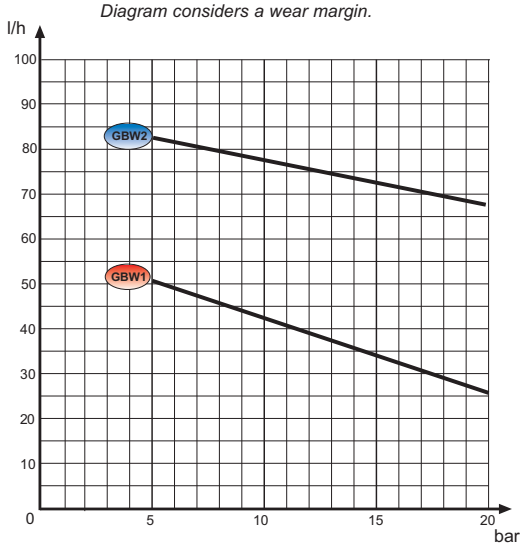
SOLENOID VALVE DATA

Pressure max	20 bar
Voltages	220-240V, 110V, 24V; 50/60Hz
Absorption	9 W
Ambient temperature	0-70°C

PRESSURE - CAPACITY DIAGRAM

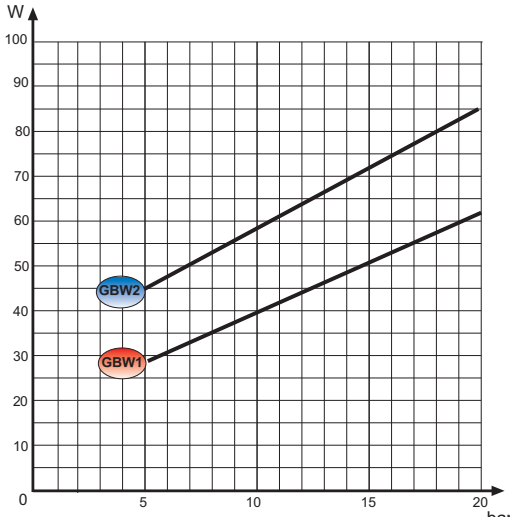
Viscosity 5cSt ***Speed 2800 rpm***

Diagram considers a wear margin.

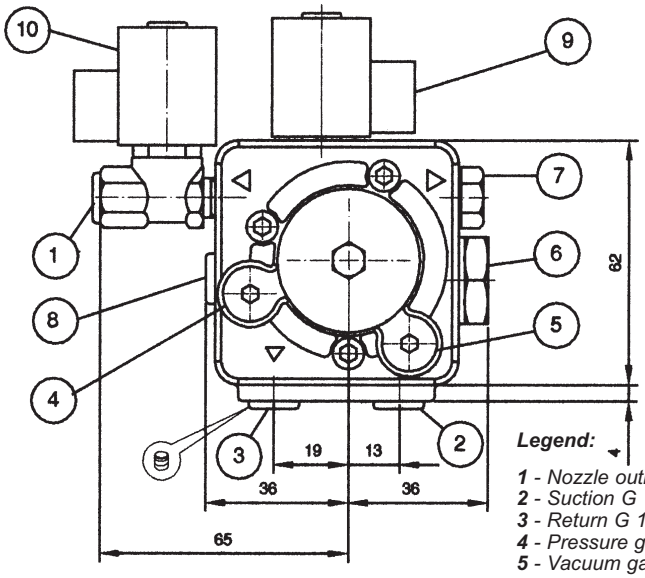


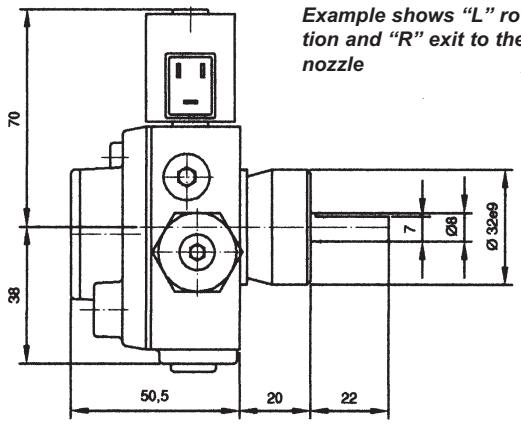
POWER CONSUPTION - PRESSURE DIAGRAM

Viscosity 5cSt ***Speed 2800 rpm***



DIMENSIONS OF THE PUMP





Example shows "L" rotation and "R" exit to the nozzle

Legend:

1 *- Nozzle outlet G 1/8*
2 *- Suction G 1/4*
3 *- Return G 1/4*
4 *- Pressure gauge port G 1/8*
5 *- Vacuum gauge port G 1/8*
6 *- High pressure adjustment screw*
7 *- Low pressure adjustment screw*
8 *- Auxiliary delivery port G 1/8*
9 *- Solenoid valve low pressure N.C.*
10 *- Solenoid valve high pressure N.C.*

KBW TECHNICAL DATA

HYDRAULIC DATA

Factory settings	7 bar
Low pressure range	4 - 9 bar
High pressure range	9 - 14 bar
Viscosity range	1 - 12 cSt
Oil temperature	0 - 30°C
Inlet pressure	1,5 bar max
Return pressure	1,5 bar max
Suction height	0,45 bar max
Speed	2800 - 3480 rpm
Starting torque	0,10 Nm
Capacity	see graphs
Power consuption	see graphs

GENERAL DATA

Mounting	Hub ø 32 mm according to EN 225	
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SOLENOID VALVE DATA

Pressure max	20 bar
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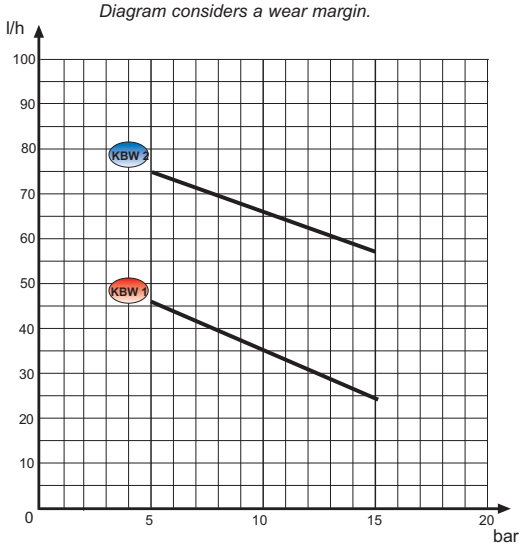
Ambient temperature	0-70°C

PRESSURE - CAPACITY DIAGRAM

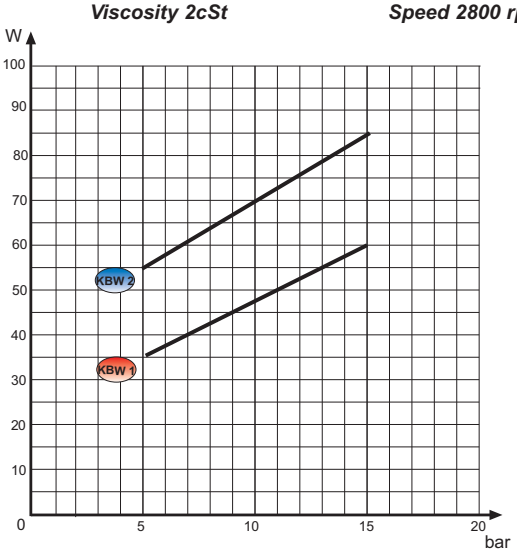
Viscosity 2cSt ***Speed 2800 rpm***

Diagram considers a wear margin.

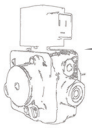


POWER CONSUPTION - PRESSURE DIAGRAM

Viscosity 2cSt ***Speed 2800 rpm***



IDENTIFICATION OF THE PUMP



GB W 1 L L M 9XX B

GB = *light oil*
KB = *kerosene*

Solenoid valve
■ = *without solenoid valve*
E = *one solenoid valve*
W = *two solenoid valves*

Capacity	***1***	***2***
Light oil	*45 l/h*	*76 l/h*
Kerosene	*35 l/h*	*66 l/h*

B = *biodiesel*

Pump's identification code
901 ***911***
902 ***912...***

Installation
■ = *two pipe system*
M = *one pipe system*

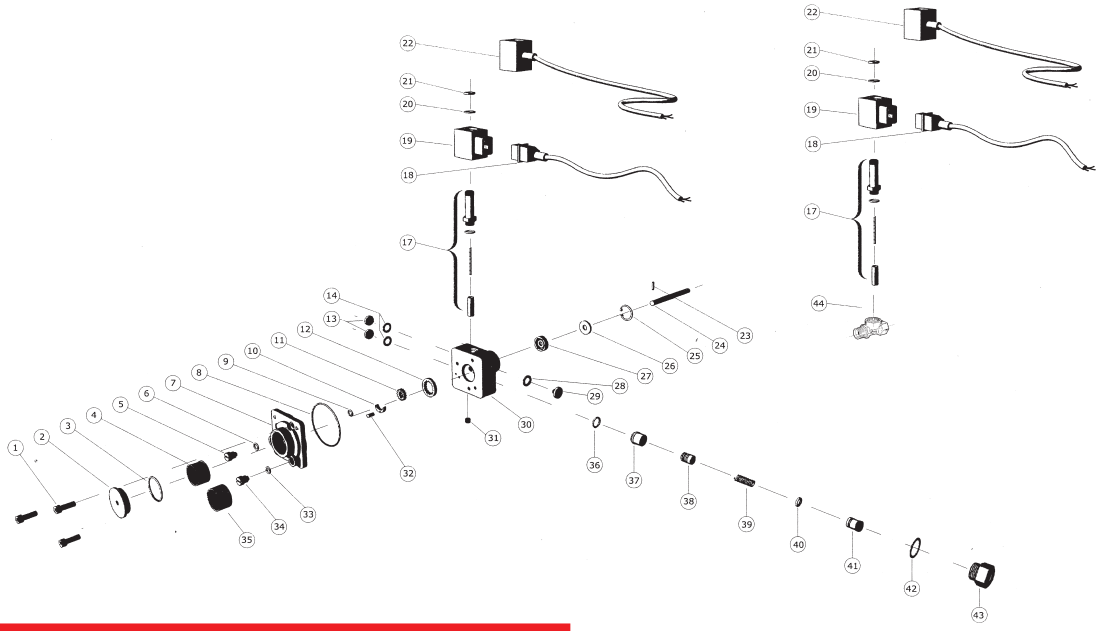
Delivery to the nozzle
L = *left exit*
R = *right exit*
seen from shaft end

Rotation
L = *anticlockwise rotation*
R = *clockwise rotation*
seen from shaft end
left and right delivery

⇄ **XX** **YY**

rotation *month* *year*
manufacturing

COMPONENTS OF THE PUMP



INSTALLATION OF THE PUMP

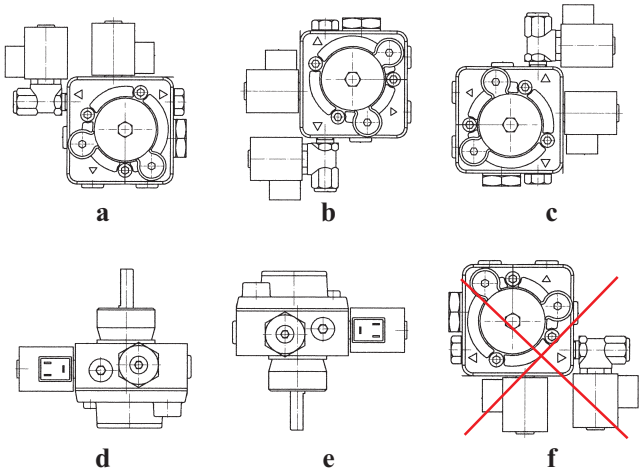
•The pump can be installed in the indicated positions: it is suggested position **a**.

It has to be absolutely avoid the position **f**.

• Make sure that the characteristics of the pump are compatible with those of the motor or of the boiler.

• Control the rotation of pump-motor.

The coupling pump-motor must be realized using 3 head screws without; otherwise you can have significant reductions of pump life.



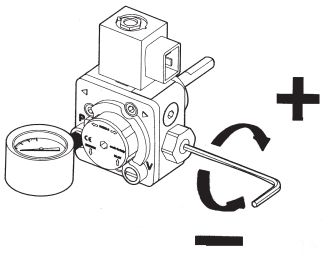
REGULATION OF THE PUMP PRESSURE

• Apply the manometer on the pressure gauge port (P).

• Rotate with the allen key of 4 mm changing the pressure which has to be:

Pressure max: 20 bar (light oil) - 14 bar (kerosene)

Pressure min: 5 bar (light oil) - 4 bar (kerosene)

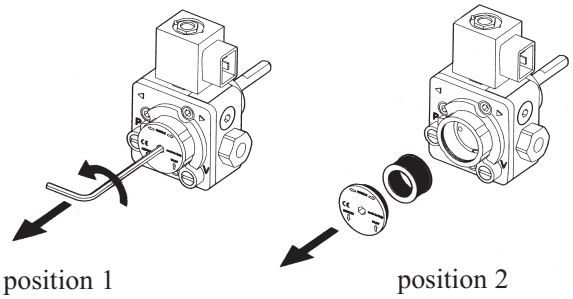


CLEANING OF THE FILTER

• Remove the cover as indicated in the position 1.

• Extract the filter and clean it with the clen oil fuel. (position 2).

ATTENTION: This operations have to be made periodically by the technical personnel.



position 1 position 2

The repairs which require the substitution of pieces, must be realized by the manufacturer.