



INSTRUCTION MANUAL

HP 60 / HP 61 / BP 60

PAINT HEATER

**aluminium and stainless steel
versions**

Manual : 0501 573.166.112

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Modif. § 10 (Thermometer) + Drawings (pages : 5 and 6)

ADDITIONAL DOCUMENTATIONS

SPARE PARTS :	HP 60 / HP 61 / BP 60 heater	Doc. 573.156.050
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HEATER
aluminium and stainless steel versions

SUMMARY

1. EC DECLARATION OF CONFORMITY	2
2. GENERAL SAFETY INSTRUCTIONS	2
3. HOT SPRAYING PRINCIPLE	4
4. DESCRIPTION	5
5. FEATURES	5
6. DIMENSIONS	6
7. INSTALLATION	6
8. OPERATING	7
9. TROUBLESHOOTING CHART	8
10. DISMANTLING	8

Dear Customer,

You are the owner of our new paint heater and we would like to take this opportunity to thank you.

To make sure your investment will provide full satisfaction, special care has been taken by KREMLIN during all designing and manufacturing processes. To obtain the best result, safe and efficient operation of your equipment, we advise you to read and make yourself familiar with this instruction and service manual. Indeed, the non-compliance with instructions and precautions stated in this manual could reduce the equipment working-life, result in operating trouble and create unsafe conditions.

1. EC DECLARATION OF CONFORMITY

The manufacturer : **KREMLIN REXSON** with assets of 6 720 000 Euros

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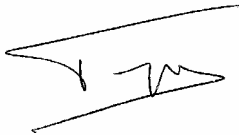
Herewith declares that : Paint heater, is in conformity with the provisions of :

EC - Machinery Directive (Directive 98/37/EC) and with national implementing legislation

EC - Low voltage Directive (Directives 73-23/EEC and 93-68/EEC)

Harmonized European Standards : EN 60 335-1 and EN 60 335-2-15

Established in Stains, on March 1 st 2003,



Daniel TRAGUS
President

2. GENERAL SAFETY INSTRUCTIONS



The HP 60 / HP 61 / BP 60 paint heater shall be installed outside the explosive area. It shall be in a safe area (non explosive area according to the ATEX directive - refer to § 7).

In an explosive area, install only an explosion-proof heater, model AD 60 / AD 61.

WARNING : Any misuse of the equipment or accessories can damage them, result in serious body injury, fire or explosion hazard and reduce the equipment working life. Read, understand and comply with the safety instructions hereafter.

The personnel involved in operating and servicing this equipment must be aware of all safety requirements stated in this manual. The workshop supervisor must be certain that the personnel has perfectly understood the safety instructions and comply with them.

Read all instruction manuals as well as the tags of the equipments before operating the equipment.

Refer to local safety instructions and comply with them.

■ INSTALLATION REQUIREMENTS

⇒ Ground the equipment.

Use the equipment only in a **well-ventilated** area to prevent from serious body injuries, fire and explosion hazards. Do not smoke in the spray area.

Never stock paints and solvents in the spray area. Always close the pots and the tins.

Always keep the spray area clean and free from debris (solvent, rags,...).

Read paint and solvent manufacturer's technical instructions.

Spraying of some materials may result in hazardous working conditions. To protect the operator, respirator mask, hand cream and glasses are required (Refer to chapter "Safety equipment" of KREMLIN selection guide).

■ EQUIPMENT REQUIREMENTS

The operating pressure of these equipments are particularly high. Consequently, some precautions must be taken in order to prevent from accidents and from unsafe working conditions :

⇒ Never exceed the components maximum working pressure of the equipment.

HOSES

Do not use hoses with a maximum burst-proof pressure less than four times the maximum service pressure of the pump (see data sheet).

Be certain hoses are not crimped, leaking and not unrolled.

Be certain hoses are in good conditions and showing no evidence of damage.

⇒ Use only air hose with static conductor to connect the pump with the spray gun.

All fittings must be tight and in good condition.

PUMP

⇒ Ground the equipment (use the connection on the pump).

Do not use any product or solvent incompatible with the pump components.

Use the appropriate solvent for the material being sprayed to increase the equipment working life.

GUN

Never wipe the end of the tip with the fingers.

Never point the spray gun at anyone or at any part of the body.

Always depressurize air and hoses before carrying out any servicing on the gun.

HEATER

⇒ Do not install the HP60 / HP61 / BP 60 paint heater in an explosive area. It shall be in a safe area (non explosive area).

⇒ Ground the equipment (use the connection on the paint heater body).

Check the voltage indicated on the equipment before plugging it in.

Do not use any product or solvent incompatible with the paint heater components.

Use the appropriate solvent for the material being sprayed to increase the equipment working-life.

The equipment is designed for heating the paint. Let the systems cool before any servicing on the installation.



The heater is fitted with a DANGER label : hot parts or surfaces.



Disconnect the paint heater and let it cool before using flushing solvent or an other cleaning solvent.

MAINTENANCE REQUIREMENTS

⚠ **Never modify these equipments.**

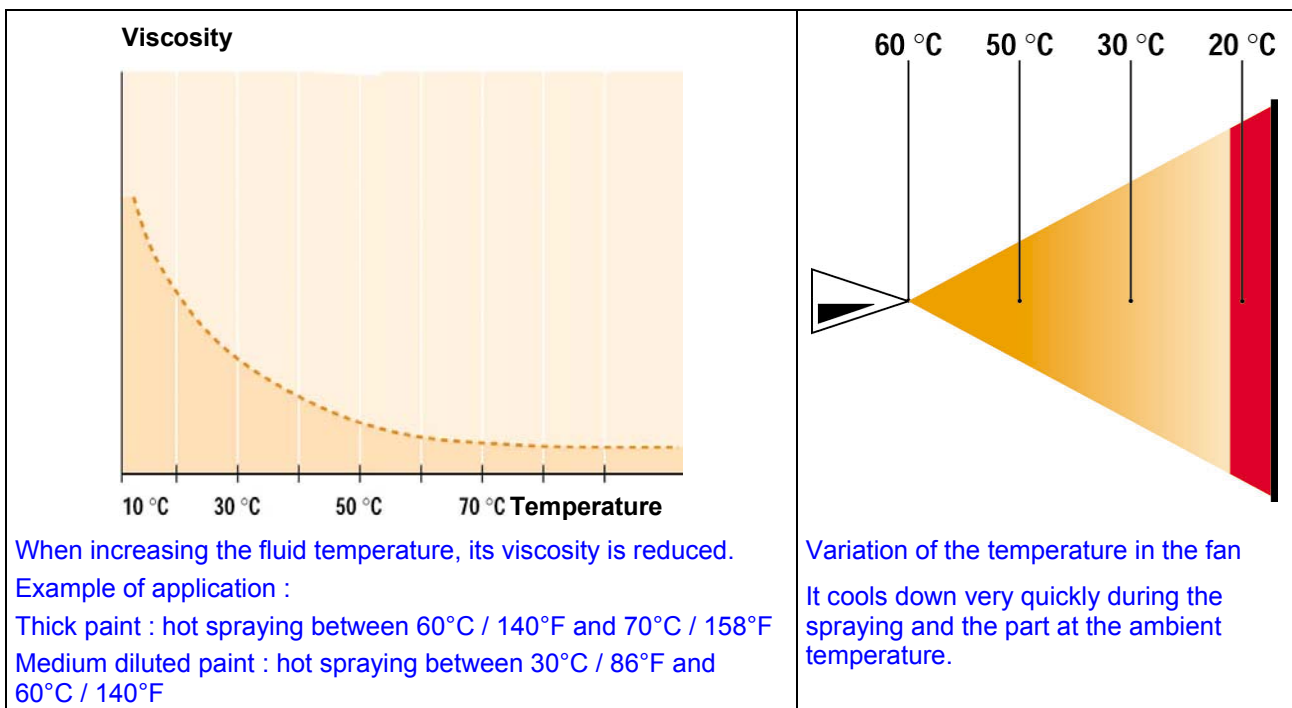
Check them daily, keep them in a good conditions and replace the worn parts **only with KREMLIN parts.**

Before cleaning or removing components of the equipment, it is compulsory :

- to shut off the paint heater,
- to stop the pump by shutting off the compressed air supply,
- to open the pump drain valve or to press the gun trigger to depressurize the systems.

3. HOT SPRAYING PRINCIPLE

The heater is mounted on paint spray installations between the pump fluid outlet and the gun fluid inlet. A heated system improves finish quality (reduction of fluid viscosity) by increasing fluid temperature.



4. DESCRIPTION

The HP 60 / HP 61 / BP 60 heater is mounted on paint spray installations between the pump fluid outlet and the gun fluid inlet. A heated system improves finish quality (reduction of fluid viscosity) by increasing fluid temperature.

There are an aluminium version and a stainless steel version. In each version, there are different models according to the voltage, the power.

It is recommended for AIRMIX[®] or AIRLESS[®] conventional spraying.

The heater has an excellent energy efficiency. The access to the heater components and servicing are easy.

The circuits are designed to prevent paint heater from overheating.

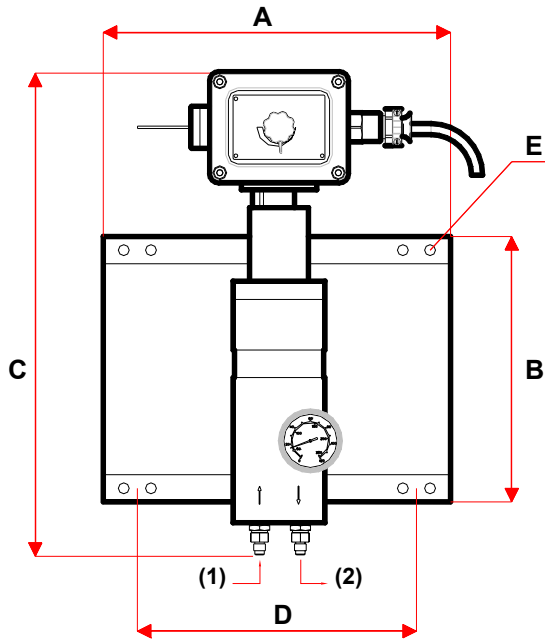
A thermal fuse, fitting the heater, will instantly melt if the temperature becomes excessive following a fault in the thermostat, for example. You can easily change the fuse.

5. FEATURES

Heater	Type	Single-phase voltage (V)	Power (W)	Cable length without plug	Inlet fitting	Outlet fitting
aluminium version	HP 60	230	1500	10 m / 32 ft	M 1/2 JIC / # 5 JIC	M 1/2 JIC / # 5 JIC
	BP 60	230	1500	10 m / 32 ft	M 18 x 125	M 18 x 125
	HP 61	115	1500	5 m / 16 ft	M 1/2 JIC / # 5 JIC	M 1/2 JIC / # 5 JIC
	HP 60	230	3000	10 m / 32 ft	M 1/2 JIC / # 5 JIC	M 1/2 JIC / # 5 JIC
stainless steel version	HP 60	230	1500	10 m / 32 ft	M 1/2 JIC / # 5 JIC	M 1/2 JIC / # 5 JIC
	BP 60	230	1500	10 m / 32 ft	M 18 x 125	M 18 x 125
	HP 61	115	1500	5 m / 16 ft	M 1/2 JIC / # 5 JIC	M 1/2 JIC / # 5 JIC
	HP 60	400	1250	5 m / 16 ft	M 1/2 JIC / # 5 JIC	M 1/2 JIC / # 5 JIC

	ALUMINIUM HEATER	STAINLESS STEEL HEATER
Thermostat version	Expansion of liquid and dry extract	
Thermal fuse	Cutting of 140°C / 284°F	Cutting of 121°C / 250°F
Thermometer	Graduation : from 0 to 100°C / from 32°F to 212°F	
Temperature range	15 - 90°C / 59 - 194°F	
Maximum operating pressure	250 bar / 3626 psi	
Weight :	12 kg / 26.5 lb	23 kg / 50.7 lb
Wetted parts in contact with the material	Aluminium body Chrome galvanized steel fittings	Stainless body Stainless steel fittings
Work ambient temperature	40°C / 104°F max	

6. DIMENSIONS



Heater on wall-mounted unit

Dimensions (mm / ")

A - 360 / 14.2

B - 305 / 12

C - 390 / 15.3

D - 252 / 10

E - \varnothing 10 / 3/8

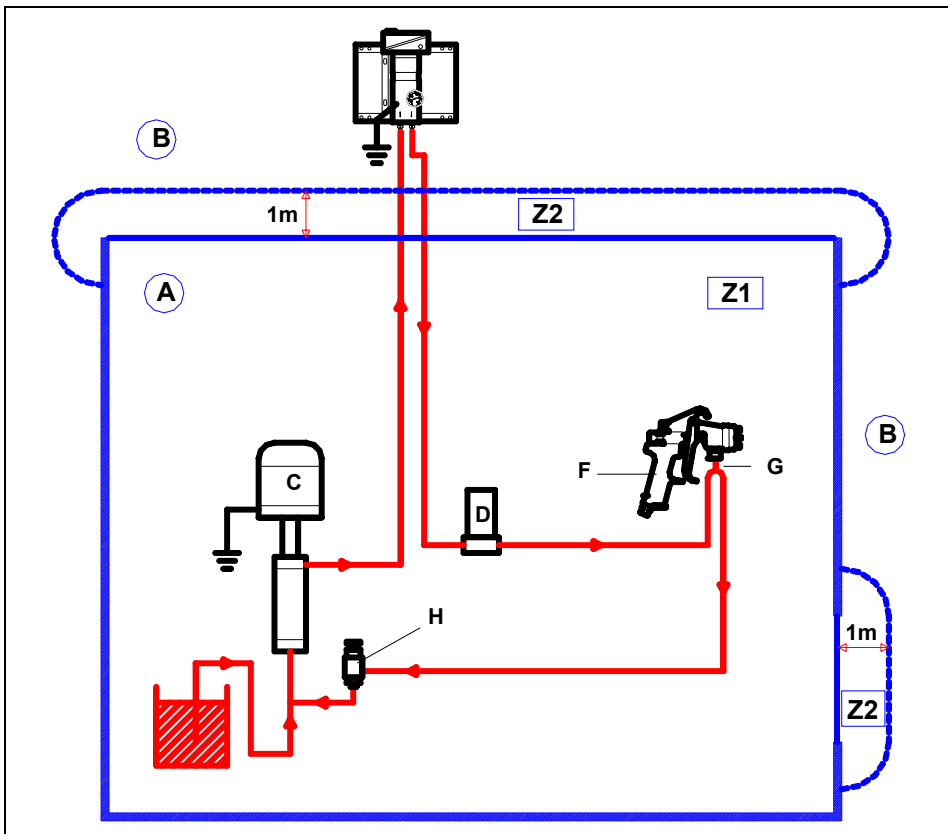
(1) - fluid inlet

(2) - fluid outlet

7. INSTALLATION



The HP 60 / HP 61 / BP 60 heaters shall be installed outside the explosive area.



Captions :

A - Explosive area
Area 1 (Z 1) or
area 2 (Z 2) :
spraybooth

B - Non explosive area

C - Pump

D - Filter

E - HP / BP heater

F - Spray booth

G - Y-fitting

H - Circulation valve or
non-return regulator

8. OPERATING



Install a plug and a cable end (2 terminals + earth).

Ground the pump and the paint heater.

Check the mains voltage and the one indicated on the heater (115V, 230V or 400V **single-phase**).

Install an hose upstream and an other one downstream of the heater (Choose the hose according to the **pressure** supplied by the pump and to the **regulating temperature**).

When you install a Y-fitting at gun level and a non-return regulator or a regulation valve on the fluid return, you make the fluid circulate.

Nota : choose a circulation valve if the temperature exceeds 50°C / 117°F; choose a non-return regulator for lower temperatures.

■ **START UP**

Switch on the pump. Make the fluid circulate into the circuit at low pressure.

Plug in the heater intake. The light that comes on indicates the switching on the equipment.

Program the temperature turning the knob located on the upper part of the heater (from 1 to 10 : ambient temperature → 90°C / 194°F). The temperature will be read on the thermometer located at the heater body.

Wait a few minutes for the stabilization of the temperature.

Adjust the pump pressure and the return circuit pressure : the circulation must not be too important.

Adjust the fluid temperature.

Caution : Do not overheat the paints. Comply with the features of the materials.

■ **SHUTDOWN**

Short duration shutdown :

Keep the fluid circulating and reduce the pressures.

Long duration shutdown :

Turn the heater knob to the minimum temperature.

Stop the pump and unplug the heater.

When the heater is **cool**, change the fluid with the appropriate cleaning solvent.

Pressurize once more the pump. Trigger the gun until solvent goes out clean.

Shut off the pressure and leave the installation fill with solvent.

That operation is important because the mixers that become clogged up can be cleaned and create a pressure-drop in the installation.

9. TROUBLESHOOTING CHART

DEFECT	CAUSE	SOLUTION
The light goes out	Electric supply	Check the voltage indicated on the heater and the mains voltage. Check or change the thermal fuse. Check or change the thermostat.
Fluid at the heater outlet too cool	Heating time too short	Wait the fluid temperature ascent time.
	Bad adjustment of the temperature	Turn the adjustment knob to raise the temperature.
	Mixers clogged up	Remove the heater and change the mixers.
Fluid at the heater outlet too hot	Fluid flow into the circuit too important	Decrease the pump flow or install two heaters.
	Bad adjustment of the temperature	Turn the adjustment knob to decrease the temperature.
When working, pressure decrease at the gun	Faulty thermostat	Check or change the thermostat.
	Mixers clogged up	Dismount the heater and change the mixers.

10. DISMANTLING



Before dismantling a component of the heater, unplug the heater and depressurize the fluid circuit.

■ THERMAL FUSE REPLACEMENT (33)



Open the junction box.

The thermal fuse is connected into a connecting block.

Remove the fuse (33), replace it with a new fuse.

Place the lower part of the fuse in the middle of the connecting block.

■ **THERMOSTAT ASSEMBLY (2) OR HEATING RESISTANCE REPLACEMENT (7)**
(REFER TO DOC. 573.156.050)

The thermostat assembly is made up a box placed into the junction box and a sensing element placed into the heater body.

The heating resistance is plunged into the heater body and its connection is in the box.

Open the junction box (30) and remove the screws (31) to disassemble the junction box from the heater body.

Remove the junction box (30).

Remove the seal (4), the screws (23), the flange (5). ⇒ *Remove the thermostat sensing element.*

Take off the seal (20) and the spacer (19). ⇒ *Remove the heating resistance.*

Unplug these elements of the junction box and plug the new parts.

➔ **The electric drawing of the heater is available on the "Spare parts" document (refer to Doc. 573.156.050 - page 4)**

■ **REPLACEMENT OF THE MIXERS (24)**

Disassemble the upper part of the heater with the body.

Unscrew the inlet (11) and the fluid outlet (10) fittings.

Unscrew the plugs (25) located at each side of the heater body.

Remove the 8 mixers. Replace them with new ones.

Remount the parts in the reverse order of the disassembly sequence.

■ **REPLACEMENT OF THE THERMOMETER (15)**

Unscrew the screw (14) and take off the thermometer.

Mount a new thermometer and tighten the screw (14) to fix it into the body.

