INSTRUCTION MANUAL MAXIMA.1 DRYING/IRONING MACHINES

TABLE OF CONTENTS

- 1. Principle of operation
 - 1.1 Description
 - 1.2 Construction
 - 1.3 Operation
 - 1.4 Safety
 - 1.4.1 safety for the user
 - 1.4.2 safety fot the heating
 - 1.4.3 safety for the heating gas system
 - 1.5 Heating
- 2. Installation instructions
 - 2.1 technical characteristics
 - 2.2 installation
 - 2.2.1 Handling and unpacking
 - 2.2.2 Installation requirements of room
 - 2.2.3 Connections
 - 2.2.4 Assembly and installation procedure
 - 2.2.5 first start up
 - 2.3 adaptation for an other type of gas
 - 2.3.1 modification procedure
 - 2.3.2 air adjusting and gas flow

3. Operating instructions

- 3.1 Daily use
- 3.2 Procedure in the event of breakdown or faulty operation
- 3.3 In the event of a long stoppage (over a week)

4 Periodic servicing

- 4.1 Daily
- 4.2 Weekly
- 4.3 Every 200 hours
- 4.4 Every 2000 hours
- 4.5 Every two years
- 5. Maintenance instructions
 - 5.1 Changing the drawing belts
 - 5.2 Changing the ironing belts
 - 5.3 Changing the carrying rollers
 - 5.4 Changing the lateral rollers
- 6. electrical diagram and spares parts list

LIST OF DRAWINGS

Drawing n° and issue level Title

MAX-002-96Plan viewMAX-C-003Ironing diagramMAX-C-004End view of ironingMAX-009-96SeparatorsMAX-018SensorMAX-001E-96Electric heatingMAX-001G-96Gas heatingMAX-019-96Steam heatingMAX-020-96installation diagram type 1500MAX-021-96installation diagram type 2500MAX-022-96installation diagram type 3200MAX-007-96Handling diagramMAX-005-96Dimensions of the roomMAX-014-96BandsMAX-014-96BandsMAX-011Greasing pointsMAX-012-96Ventilation systemMAX-011Greasing pointsMAX-011Clearing the drawing beltsMAX-012-96Carrying rollersMAX-013Lateral rollers (2 piece)MAX-014-96Carrying rollersMAX-012-96Carrying rollersMAX-012-96Carrying rollersMAX-012-96Carrying rollersMAX-012-96Carrying rollersMAX-012-96Carrying rollersMAX-012-96Carrying rollersMAX-012-96Carrying rollersMAX-013Lateral rollers (2 piece)MAX001electric diagram all heatingMAX003power electric diagramMAX005control panelMAX005electrical box (electric heating)	MAX-001-96	Elevation
MAX-C-004End view of ironingMAX-009-96SeparatorsMAX-C-018SensorMAX-001E-96Electric heatingMAX-001G-96Gas heatingMAX-01V-96Steam heatingMAX-020-96installation diagram type 1500MAX-021-96installation diagram type 2500MAX-022-96installation diagram type 3200MAX-007-96Handling diagramMAX-005-96Dimensions of the roomMAX-005-96Dimensions of the steamMAX-014-96BandsMAX-C-010Cleaning the sensorMAX-C-011Greasing pointsMAX-C-017Adjustment of the drawing beltsMAX-012-96Carrying rollersMAX-012-96Carrying rollersMAX-013Lateral rollers (2 piece)MAX-013power electric diagram all heatingMAX003power electric diagramMAX005control panelMAX006electrical box (electric heating)	MAX-002-96	Plan view
MAX-C-004End view of ironingMAX-009-96SeparatorsMAX-C-018SensorMAX-001E-96Electric heatingMAX-001G-96Gas heatingMAX-01V-96Steam heatingMAX-020-96installation diagram type 1500MAX-021-96installation diagram type 2500MAX-022-96installation diagram type 3200MAX-007-96Handling diagramMAX-005-96Dimensions of the roomMAX-005-96Dimensions of the steamMAX-014-96BandsMAX-C-010Cleaning the sensorMAX-C-011Greasing pointsMAX-C-017Adjustment of the drawing beltsMAX-012-96Carrying rollersMAX-012-96Carrying rollersMAX-013Lateral rollers (2 piece)MAX-013power electric diagram all heatingMAX003power electric diagramMAX005control panelMAX006electrical box (electric heating)	MAX-C-003	Ironing diagram
MAX-009-96SeparatorsMAX-C-018SensorMAX-001E-96Electric heatingMAX-001G-96Gas heatingMAX-01V-96Steam heatingMAX-019-96installation diagram type 1500MAX-020-96installation diagram type 1900MAX-021-96installation diagram type 2500MAX-072-96installation diagram type 3200MAX-005-96Dimensions of the roomMAX-005-96Dimensions of the roomMAX-014-96BandsMAX-C-015Transport bracketMAX-C-010Cleaning the sensorMAX-C-011Greasing pointsMAX-012-96Ventilation systemMAX-C-017Adjustment of the drawing beltsMAX-012-96Carrying rollersMAX-012-96Carrying rollersMAX-013Lateral rollers (2 piece)MAX001electric diagram all heatingMAX003power electric diagramMAX005control panelMAX006electrical box (electric heating)	MAX-C-004	
MAX-C-018SensorMAX-001E-96Electric heatingMAX-001G-96Gas heatingMAX-01V-96Steam heatingMAX-019-96installation diagram type 1500MAX-020-96installation diagram type 1900MAX-021-96installation diagram type 2500MAX-007-96Handling diagramMAX-005-96Dimensions of the roomMAX-005-96Dimensions of the roomMAX-014-96BandsMAX-C-015Transport bracketMAX-014-96BandsMAX-C-010Cleaning the sensorMAX-C-011Greasing pointsMAX-016-96Ventilation systemMAX-012-96Carrying rollersMAX-012-96Carrying rollersMAX-013Lateral rollers (2 piece)MAX001electric diagram all heatingMAX003power electric diagramMAX005control panelMAX006electrical box (electric heating)	MAX-009-96	0
MAX-001E-96Electric heatingMAX-001G-96Gas heatingMAX-001V-96Steam heatingMAX-019-96installation diagram type 1500MAX-029-96installation diagram type 1900MAX-021-96installation diagram type 2500MAX-022-96installation diagram type 3200MAX-007-96Handling diagramMAX-005-96Dimensions of the roomMAX-005-96Evacuation of the steamMAX-014-96BandsMAX-C-015Transport bracketMAX-C-010Cleaning the sensorMAX-C-011Greasing pointsMAX-016-96Ventilation systemMAX-012-96Carrying rollersMAX-012-96Carrying rollersMAX-013Lateral rollers (2 piece)MAX001electric diagram all heatingMAX003power electric diagramMAX005control panelMAX006electrical box (electric heating)	MAX-C-018	•
MAX-001G-96Gas heatingMAX-001V-96Steam heatingMAX-019-96installation diagram type 1500MAX-020-96installation diagram type 2500MAX-021-96installation diagram type 3200MAX-022-96installation diagram type 3200MAX-007-96Handling diagramMAX-005-96Dimensions of the roomMAX-006-96Evacuation of the steamMAX-014-96BandsMAX-C-010Cleaning the sensorMAX-C-011Greasing pointsMAX-016-96Ventilation systemMAX-012-96Carrying rollersMAX-012-96Carrying rollersMAX001electric diagram all heatingMAX003power electric diagramMAX005control panelMAX006electrical box (electric heating)		
MAX-001V-96Steam heatingMAX-019-96installation diagram type 1500MAX-020-96installation diagram type 1900MAX-021-96installation diagram type 2500MAX-022-96installation diagram type 3200MAX-007-96Handling diagramMAX-005-96Dimensions of the roomMAX-006-96Evacuation of the steamMAX-014-96BandsMAX-C-010Cleaning the sensorMAX-C-011Greasing pointsMAX-016-96Ventilation systemMAX-C-017Adjustment of the drawing beltsMAX-012-96Carrying rollersMAX001electric diagram all heatingMAX003power electric diagramMAX005control panelMAX006electrical box (electric heating)	MAX-001G-96	
MAX-019-96installation diagram type 1500MAX-020-96installation diagram type 1900MAX-021-96installation diagram type 2500MAX-022-96installation diagram type 3200MAX-007-96Handling diagramMAX-005-96Dimensions of the roomMAX-006-96Evacuation of the steamMAX-014-96BandsMAX-C-015Transport bracketMAX-C-010Cleaning the sensorMAX-C-011Greasing pointsMAX-016-96Ventilation systemMAX-012-96Carrying rollersMAX-012-96Carrying rollersMAX001electric diagram all heatingMAX003power electric diagramMAX005control panelMAX006electrical box (electric heating)	MAX-001V-96	0
MAX-020-96installation diagram type 1900MAX-021-96installation diagram type 2500MAX-022-96installation diagram type 3200MAX-007-96Handling diagramMAX-005-96Dimensions of the roomMAX-006-96Evacuation of the steamMAX-C-015Transport bracketMAX-014-96BandsMAX-C-008Setting the press/ironing beltsMAX-016-96Ventilation systemMAX-012-96Carrying rollersMAX-012-96Lateral rollers (2 piece)MAX001electric diagram all heatingMAX003power electric diagramMAX005control panelMAX006electrical box (electric heating)	MAX-019-96	•
MAX-021-96installation diagram type 2500MAX-022-96installation diagram type 3200MAX-007-96Handling diagramMAX-005-96Dimensions of the roomMAX-006-96Evacuation of the steamMAX-C-015Transport bracketMAX-014-96BandsMAX-C-010Cleaning the sensorMAX-C-008Setting the press/ironing beltsMAX-C-011Greasing pointsMAX-016-96Ventilation systemMAX-012-96Carrying rollersMAX-013Lateral rollers (2 piece)MAX001electric diagram all heatingMAX003power electric diagramMAX005control panelMAX006electrical box (electric heating)		• •
MAX-022-96installation diagram type 3200MAX-007-96Handling diagramMAX-005-96Dimensions of the roomMAX-006-96Evacuation of the steamMAX-C-015Transport bracketMAX-014-96BandsMAX-C-010Cleaning the sensorMAX-C-008Setting the press/ironing beltsMAX-016-96Ventilation systemMAX-012-96Carrying rollersMAX-013Lateral rollers (2 piece)MAX001electric diagram all heatingMAX005control panelMAX006electrical box (electric heating)	MAX-021-96	
MAX-007-96Handling diagramMAX-005-96Dimensions of the roomMAX-006-96Evacuation of the steamMAX-C-015Transport bracketMAX-014-96BandsMAX-C-010Cleaning the sensorMAX-C-008Setting the press/ironing beltsMAX-C-011Greasing pointsMAX-016-96Ventilation systemMAX-012-96Carrying rollersMAX-013Lateral rollers (2 piece)MAX001electric diagram all heatingMAX003power electric diagramMAX005control panelMAX006electrical box (electric heating)	MAX-022-96	
MAX-005-96Dimensions of the roomMAX-006-96Evacuation of the steamMAX-C-015Transport bracketMAX-014-96BandsMAX-C-010Cleaning the sensorMAX-C-008Setting the press/ironing beltsMAX-C-011Greasing pointsMAX-016-96Ventilation systemMAX-C-017Adjustment of the drawing beltsMAX-012-96Carrying rollersMAX-013Lateral rollers (2 piece)MAX001electric diagram all heatingMAX003power electric diagramMAX005control panelMAX006electrical box (electric heating)	MAX-007-96	o ,1
MAX-C-015Transport bracketMAX-014-96BandsMAX-C-010Cleaning the sensorMAX-C-008Setting the press/ironing beltsMAX-C-011Greasing pointsMAX-016-96Ventilation systemMAX-C-017Adjustment of the drawing beltsMAX-012-96Carrying rollersMAX-013Lateral rollers (2 piece)MAX001electric diagram all heatingMAX003power electric diagramMAX006electrical box (electric heating)	MAX-005-96	0 0
MAX-014-96BandsMAX-C-010Cleaning the sensorMAX-C-008Setting the press/ironing beltsMAX-C-011Greasing pointsMAX-016-96Ventilation systemMAX-C-017Adjustment of the drawing beltsMAX-012-96Carrying rollersMAX-013Lateral rollers (2 piece)MAX001electric diagram all heatingMAX003power electric diagramMAX006electrical box (electric heating)	MAX-006-96	Evacuation of the steam
MAX-014-96BandsMAX-C-010Cleaning the sensorMAX-C-008Setting the press/ironing beltsMAX-C-011Greasing pointsMAX-016-96Ventilation systemMAX-C-017Adjustment of the drawing beltsMAX-012-96Carrying rollersMAX-C-013Lateral rollers (2 piece)MAX001electric diagram all heatingMAX003power electric diagramMAX005control panelMAX006electrical box (electric heating)	MAX-C-015	Transport bracket
MAX-C-008Setting the press/ironing beltsMAX-C-011Greasing pointsMAX-016-96Ventilation systemMAX-C-017Adjustment of the drawing beltsMAX-012-96Carrying rollersMAX-C-013Lateral rollers (2 piece)MAX001electric diagram all heatingMAX003power electric diagramMAX005control panelMAX006electrical box (electric heating)	MAX-014-96	•
MAX-C-011Greasing pointsMAX-016-96Ventilation systemMAX-C-017Adjustment of the drawing beltsMAX-012-96Carrying rollersMAX-C-013Lateral rollers (2 piece)MAX001electric diagram all heatingMAX003power electric diagramMAX005control panelMAX006electrical box (electric heating)	MAX-C-010	Cleaning the sensor
MAX-C-011Greasing pointsMAX-016-96Ventilation systemMAX-C-017Adjustment of the drawing beltsMAX-012-96Carrying rollersMAX-C-013Lateral rollers (2 piece)MAX001electric diagram all heatingMAX003power electric diagramMAX005control panelMAX006electrical box (electric heating)	MAX-C-008	Setting the press/ironing belts
MAX-C-017Adjustment of the drawing beltsMAX-012-96Carrying rollersMAX-C-013Lateral rollers (2 piece)MAX001electric diagram all heatingMAX003power electric diagramMAX005control panelMAX006electrical box (electric heating)	MAX-C-011	
MAX-012-96Carrying rollersMAX-C-013Lateral rollers (2 piece)MAX001electric diagram all heatingMAX003power electric diagramMAX005control panelMAX006electrical box (electric heating)	MAX-016-96	Ventilation system
MAX-012-96Carrying rollersMAX-C-013Lateral rollers (2 piece)MAX001electric diagram all heatingMAX003power electric diagramMAX005control panelMAX006electrical box (electric heating)	MAX-C-017	Adjustment of the drawing belts
MAX001electric diagram all heatingMAX003power electric diagramMAX005control panelMAX006electrical box (electric heating)	MAX-012-96	
MAX003power electric diagramMAX005control panelMAX006electrical box (electric heating)	MAX-C-013	Lateral rollers (2 piece)
MAX005 control panel MAX006 electrical box (electric heating)	MAX001	electric diagram all heating
MAX006 electrical box (electric heating)	MAX003	power electric diagram
	MAX005	control panel
	MAX006	electrical box (electric heating)
MAX007 electrical box (gas and steam heating)	MAX007	electrical box (gas and steam heating)
MAXTEX1 textile spare parts list	MAXTEX1	textile spare parts list
MAXMEC mechanical spare parts list	MAXMEC	mechanical spare parts list
MAXCINE cinematic spare parts list	MAXCINE	cinematic spare parts list
MAXCHAUF1 steam and electric spare parts list	MAXCHAUF1	steam and electric spare parts list
MAXCHAUF2 gas spare parts list	MAXCHAUF2	gas spare parts list

PRINCIPLE OF OPERATION

1.1 Description

- The machine as compact as possible, as the stripped machine (without tubs) is designed to pass through a standard width door (0.80 m) without a problem.
- No special installation is required, only an electrical power supply, a power supply to heat the machine (electrical, gas, steam, heating fluid) and an evacuation flue are required.
- Easy to use : the linen is inserted and collected at the front.
- Linen drawn by NOMEX-POLYESTER straps
- The linen is ironed with special "Nomex " fibre belts (Du Pont de Nemours patent).
- The machine's capacity may be increased thanks to the various options available :
 - Folding module for longitudinal folding
 - Drawing module with crease removal devices which permit a single person to insert large items of linen without problem.

<u>Note</u> : these modules are very quickly installed on site, no factory return to worry about and no more machines monopolised.

- Fitting/removal of the loading and discharge tubs by hooking on/lifting off.

1.2 Construction :

- Welded frame made of profiled sections and 4 mm thick sheet steel, all protected against corrosion by a highly resistant lacquer.
- Bodywork composed of 2 tanks, made of 4 mm thick lacquered sheet steel.
- Tanks closed by means of interlocking panels.
- Housings made of sheet steel and galvanised steel of 1.5 mm in thickness.
- Drying/ironing cylinder of 500 mm diameter polished steel to provide a soft contact with the linen.

The cylinder is chromed (in option) so as to protect it against environmental conditions (sea spray, very humid places, etc.).

1.3 Operating principle :

The linen is placed flat on the drawing table at the front of the machine and is automatically drawn into the drying/ironing cylinder by means of the nomex-polyester drawing belts.

The linen then passes under the molleton-covered press roller for an initial hot press, thanks to a constant pressure which adjusts itself by means of a system of compensation springs to suit the thickness of the linen.

The drying/ironing is performed using "Nomex " quality belts and the heated cylinder.

The tension of the belts may be adjusted by means of the planetary gear wheel, which is mounted on blocks with guide rails and deflection springs.

Once the linen is dry and has been ironed, it is naturally directed towards the discharge tub or the folding module, by means of chrysocolla spring blades (low friction and spring quality maintained even at + 250 °C). Stainless steel guide rails act as the extensions of these blades so as to optimise the manner in which the linen falls.

In this way, the linen comes out dry, ironed and perfectly pressed and faultlessly presented.

1.4 Safety :

1.4.1 safety for the user

- The safety of the user is ensured by means of a hinged plate situated just above the drawing table, which thus prevents the user's hands from entering into the machine.

Light pressure on this safety plate causes the machine to stop immediately.

This plate is the main emergency stop of the machine (which operates along the entire length).

- two emergency stops (on the left and the right hand side of the machine) are within immediate reach of the operator, thus allowing the machine to be stopped at any time.

1.4.2 safety of heating

The temperature regulator ensures the temperature regulation of the heat to the cylinder stay below the overheat limit of the belts.(maximum 187°c).

The safety thermostat (190°c) cuts the heating in case of failure of the temperature regulator.

1.4.3 safety of gas heating system

If there is a fault with the gas heating system, immediatly the gas inlet solénoid valve closes and the orange pilot into the control panel lights.

So, you can after 30 seconds, rearm the gas system by pushing the reset button " rearm gas ". If the fault persists, check the following points :

- the manual gas valve is open
- if you don't have ignition at the burner, check the glow bar or the electronic ignitor.
- If safety pressostat is open, check if the extraction is correct or if the fan turns in the correct direction.
- after ignition, if the flame stops , check if the glow bar is in the flame.

1.5 Heating :

There are three possible methods of adapting the machine to your environment :

- <u>Electrical heating</u>: by a series of shielded resistors mounted on a fully insulated tank.
- <u>Gas heating</u>: a float which runs all the entire length of the machine to ensure that the heating is consistent in all parts.

The single injector for this float is easy to change and may be used with all types of gas (natural, butane, propane).

It is lit by means of an electronic ignitor which has one glow bar (for igniting and for safety control) and which thus eliminates all manual operations and provides complete safety. The safety is further enhanced by the installation of 1 safety electro-valve at the gas pipe inlet of the machine

- <u>Steam heating</u>: by release of pressurised steam into a double cylinder connected by means of a rotating connector at each end.

2 installation instructions

2.1 technical characteristic :

information for the installation of dryer ironer type MAXIMA with gaz heating.

PAYS	CATEGORIES	GAZ	PRESSIONS(mbar)
Allemagne (DE)	I2ELL	G20	20
		G25	20
	I3P	G31	50
Autriche (AT)	I2H	G20	20
Danemark (DK)			
Finlande (FI) Italie (IT)			
Suède (SE)			
Suisse (CH)	II2H3P	G20	20
Espagne (ES)		G31	37
Irlande (IE)			
Portugal (PT)			
Royaume-Uni			
(GB)			
Grèce (GR)		<u></u>	20
SUISSE (CH) Espagne (ES)	II2H3P	G20 G31	20 50
Lopagne (LO)		651	50
Belgique (BE)	12E+	G20/G25	20/25
	I3P	G31	37
France (FR)	II2Esi3P	G20/G25	20/25
		G31	37 et 50
Luxembourg	II2E3P	G20	20
(LU)		G31	50
PAYS-BAS (NL)	II2L3P	G25	25
		G31	50

Nominal calorific gaz flow (Kw)

Maxima 1500	Maxima 1900	Maxima 2500	Maxima 3200
35	40	55	69

The identification plate is situated on the top of the electrical box.

2.2 installation :

<u>**CAUTION**</u> : the machine must only be installed, adjusted and commissioned by a team of technicians who have been company-approved.

Similarly, the customer is strongly recommended to be present, especially for the positioning of the machine and the initial trials.

The machine must be installed in accordance with the rule of each country and in a room well-ventilated.

The new air flow necessary for the combustion is :

TYPE	MAXIMA 1500	MAXIMA 1900	MAXIMA 2500	MAXIMA 3200
DEBIT (M3 /h)	70	80	110	138

2.2.1. HANDLING AND UNPACKING

Upon delivery, the machine should be in perfect working order, the packaging should be neither incomplete or damaged. Respect the markings on the packaging (e.g. fragile, this way up, keep dry, etc.). As the machine is quite heavy and large (see below), suitable handling and lifting equipment should be used to avoid risks.

The machine must be moved with a fork lift truck capable of handling it. The forks of the fork lift truck must be opened out as far as possible to avoid it tipping over.

The machine must be lifted centrally (centre of gravity aligned with the centre line).

Do not allow the machine to tip over or fall when unloading for example.

<u>Note</u>: in the case of slings being used (not planned for), the handling will be carried out entirely at the risk of the party performing the operation (risk of distorting the machine).

Туре		dimensions		dimensions	
	: stripped machine /	inland packing	/	sea packaging	
	: LxIxH(mm) /	LxIxH(mm)	/	LxIxH(mm)	/
	: weight (Kg) /	weight (Kg)	/	weight (Kg)	/
1500	: 2770x1070x1170 /	3040x1200x1450	/	3040x1200x1450	/
	: 675 /	725	/	1020	/
1900	: 3170x1070x1170 /	3440x1200x1450	1	3440x1200x1450	/
	: 825 /	925	/	1025	1
2500	: 3770x1070x1170 /	4040x1200x1450	/	4040x1200x1450	/
	: 1055 /	1200	/	1300	/
3200	: 4470x1070x1170 /	4740x1200x1450	/	4774x1200x1450	/
	: 1325 /	1475	/	1575	/

2.2.2 Installation requirements of room :

A door of 80 cm in width is required for the machine to pass, with the tubs removed beforehand (simply unhook).

The machine must be installed in a room that is well-ventilated (especially if gas heating is used) with correct levels of lighting and temperature, which remains between — 10 °C and + 40 °C (limit temperatures for the electronic frequency variator of the drive motor).

Adequate space must be left around the machine so that it may operate correctly :

- a minimum of 5 to 10 cm at the rear for ventilation.
- 60 to 80 cm on each side for servicing and maintenance.
- an adequate space must be also left at the front of the machine to permit the work to be carried out correctly and without danger.
- The machine must be levelled on a hard and stable floor, capable of withstanding the relatively heavy weight of the machine (700 to 1300 kg on 2 to 3.4 m[°]).

A floor resistance of at least 500 kg/m["] is required for the installation of such a machine.

2.2.3 Connections :

- <u>Electrical connection :</u>

For a machine with electrical heating, use a cable of section equal to or greater than 4x10 mm[°] or 5x10 mm[°], depending on the voltage 220 V triple phase or 380 V triple phase). For machines that have a different system of heating, a cable of section 4x2.5 mm[°] or 5x2.5 mm[°] (depending on the voltage) is the minimum requirement for safe connection of the machine.

Furthermore, the connection of the machine on site must conform to the standards in force and a differential circuit breaker (not supplied) suited to the power rating of the machine must be fitted close by.

Gas connection :

For machines which use this type of heating, the connection of the gas must be made with a manual valve to permit isolation of the machine.

This machine must be installated in accordance with the rule of each country.

The preceding pipework must be suitable for the type of gas used and conform to the standards in force.

A pressure regulator (not supplied) which suits the nature and flow rate of the gas used (see technical data sheet) must be fitted to the pipework near to the machine.

To check the pressure of gas, connect your gas pressure controler with the checking orifice of the gas valve when the burner is ignited. You must to compare with the pressure marqued into the identification plate.

- <u>Steam connection :</u>

In the case of steam heating being used, the connection is made at the rear of the machine.

The steam inlet is at the LH side in the form of a 26-34 (1 ") pipe.

The steam outlet is on the RH side in the form of a 20-27 (3/4 ") pipe.

A small connection to the drain is required by means of a flexible tube of around 10 mm diameter.

- Evacuation of steam :

Steam (and burnt gases from gas-heated machines) is evacuated by 2 quiet electroventilators (dynamically balanced) (flow rate of twice $600 \text{ m}^3/\text{h}$).

The two outlet pipes of 153 mm diameter at the machine are to be connected as directly as possible to two flues of 200 mm diameter minimum, or the absence of two, a single flue of 300 mm diameter minimum.

The flue used for the evacuation on the drying/ironing machine should on no account be used for the evacuation on other machines.

Note : On the 1500 electric, 1500 gas and 1900 electric type models, a single steam evacuation is used of 153 mm in diameter, which is directly connected to a flue of at least 200 mm in diameter.

2.2.4. ASSEMBLY AND INSTALLATION PROCEDURE

In order to be able to pass the machine through a door of 0.80 m, the tubs need to be removed, as follows :

- Remove the screw on the RH side of the loading tub (17 mm spanner).
- Unhook the tub.

Repeat this operation for the unloading tub.

<u>CAUTION</u> : Do not lose the handle which is situated underneath one of the tubs.

- Level the machine.
- Remove the top panel, loosen and remove the screws and U clamps which hold the cylinder in position.

<u>Note</u> : keep the screws and clamps in a safe place for servicing purposes.

- Keep the handle in an accessible place.

2.2.5 COMMISSIONING

- When the machine is commissioned, ensure that the machine is stable and level.
- Check that all of the connections and evacuations have been made correctly.
- Check that the machine has been earthed correctly.
- Check that the switches are in the O position and the variator set at minimum (button turned to the left).
- Turn the lockable isolator switch to the position 1.
- Press the start button (green button).
- Check the rotation and direction of rotation of the steam extraction ventilators.
- Check the rotation and direction of rotation of the drawing belts (rotation towards the inside of the machine).

<u>CAUTION</u> : take care not to touch or get too close to any moving parts.

- Refit all of the covers to the machine.
- Turn the heating switch to position 1.
- Check that the overall temperature rises.
- Adjust the regulator (or the steam inlet pressure) to suit the linen to be ironed.
- Carry out ironing tests, the linen should come out dry and perfectly pressed.

If this is not the case, increase the temperature or reduce the ironing speed.

<u>**CAUTION**</u> : as the cylinder is coated with paraffin when it leaves the factory, make the first test with used linen.

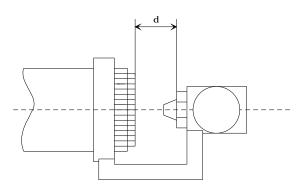
2.3 Adaptation for an other type of gas

2.3.1 modification procedures

This operation is needed to change the injector and to adjust the setting of the air intake Venturi.

- using a 5 mm allen key remove the fastening screw and swing open the electrical box on its hinge to access inside the right frame.
- With a 17 mm spanner, remove the injector and fit the new one.
- Adjust the air intake in relation to the type of machine and gas .

<u>Air adjusting</u> adjust the " d " dimension



2.3.2 air adjusting and gas flow

Type of gas	G20			G25			G25					
Supply Pressure (mbar)	20			20			25					
Type machine	1500	1900	2500	3200	1500	1900	2500	3200	1500	1900	2500	3200
Injector size	4.3	4.7	5.5	6.2	4.7	5.1	6.2	6.9	4.5	4.9	5.8	6.5
Air adjusting "d " (mm)	18	18	18	18	0	0	0	0	0	0	0	0
Gas float (m ³ /hour)	3.7	4.2	5.8	7.3	4.3	4.9	6.8	8.5	4.3	4.9	6.8	8.5
Calorific gas float (kw)	35	40	55	69	35	40	55	69	35	40	55	69
Type of gas	G31				G31							
Supply Pressure. (mbar)		3	7		50							
Type machine	1500	1900	2500	3200	1500	1900	2500	3200				
Injector size	2.9	3.2	3.7	4.1	2.7	3	3.4	3.8				
Air adjusting"d " (mm)	18	18	18	18	18	18	18	18				
Gas float (Kg/hour)	2.7	3.1	4.3	5.6	2.7	3.1	4.3	5.6				
Calorific gas float (kw)	35	40	55	69	35	40	55	69]			

-13-

- * G20 : natural gas type H (lacq)
- G25 : natural gas type L (Groningue)
 G31 : GPL

3 operating instructions

The machines type MAXIMA are only for professionnel user who are qualified .

This machine must be installed in accordance with the rule of each country and in a room well ventilated.

An identification plate on the electrical box gives indications about :

- type of machine
- serial number
- alimentation and electric power
- pressure and steam flow with steam heating
- pressure, gas flow, power, type of gas with gas heating

In case of utilisation with an other gas not indicated on this plate, contact your technical service.

3.1 daily use

- Check that all of the switches are in the O position and the speed regulator is set to the minimum position.

- Turn the lockable isolator switch at the side of the machine to the position 1.
- Press the green start button
- Check the rotation of the belts.
- check the operation of the finger guard
- Turn the heating switch to 1.
- Adjust the temperature regulator to suit the humidity and type of linen to be ironed.

Proceed as follows: - Press the button P once only (the OUT LED will flash).

- Press the UP button to increase the temperature.
- Press the DOWN button to lower the temperature.
- Adjust to the desired temperature.

<u>Note</u>: the temperature is displayed constantly and will not exceed (within a couple of degrees) the programmed temperature.

Important : the working temperature varies depending on the fabric to be ironed but must never exceed 180 °C on a constant basis.

The purpose of the pre-set safety thermostat, situated inside of the machine, is to counter any possible defects that may occur in the regulation system, so it is therefore pointless to want to use a temperature that is too high. For steam machines, it is imperative that the steam inlet valve be opened very slowly or the rotating housings may be damaged.

- To start work, it is indispensable to wait until the machine cylinder reaches a temperature close to that of the temperature programmed.

- When ironing small items of linen, it is indispensable to work successively along the full ironing length in order to obtain consistent results and longer belt life of the ironing belts, which may wear quickly otherwise.

- In order to obtain perfect results when drying and pressing the linen, the operating speed must be adjusted to suit the nature and humidity of the linen to be ironed.

- To set the speed, simply adjust the potentiometer which is located under the control panel on the RH side of the machine.

- Turn to the left to reduce the speed and to the right to increase the speed.

Important: When the work is almost completed, switch off the machine around twenty minutes before finishing ironing to allow the cylinder to cool down progressively. Once the ironing has been completed, let the machine run empty for around 20 to 30 minutes to allow the machine to dry.

<u>Obligatory</u> : never stop the machine if the temperature displayed is equal to or greater than 180 °C (risk of damaging the belts).

As a final resort, insulate the cylinder ironing belts by inserting a thick, dry cloth (or a dry sheet folded in two) and leave it sticking out at the top and bottom.

Do not leave damp linen in the machine, as this will cause the cylinder to rust.

3.2 Procedure to follow in the event of a breakdown or faulty operation :

<u>- Electricity power cut : CAUTION</u> in the event of power cuts (stopping the machine when hot), the cylinder ironing belts <u>must be</u> insulated <u>immediately.</u>

To insulate them, insert a very damp thick cloth (only just wrung) into the machine by operating the machine with the handle provided for this purpose. insert the handle into the hole at the bottom of the RH panel of the machine.

- The temperature regulator no longer displays the temperature:

- If the displays reads "EEE", this means that the probe or wire is cut off; check the connections or replace if necessary.

- If the display reads "----", this means that the probe is short circuited; the probe wires need to be checked or the probe replaced.

To replace the probe, contact Danube International or your local approved dealer.

<u>- The temperature regulator displays an incorrect temperature</u>: or the temperature may not be modified: the regulator is no longer calibrated. In this case, contact Danube International or your local approved dealer.

Other breakdowns :

- If other faults or unusual noises should arise (rubbing, knocking, etc.), stop the operation of the machine and contact Danube International with a precise description of your problem.

3.3 In the event of prolonged stoppage (over a week) :

To stop the cylinder from corroding, especially in the case of prolonged stoppage, the cylinder must be coated with paraffin. Proceed as follows:

- Machine stopped, cylinder slightly hot.

- Remove the top panel.

- Rotate the cylinder at low speed.

- Coat the surface of the cylinder with the special spray available from Danube International) or rub a block of paraffin on the cylinder in successive passes, in order to coat all of the cylinder surface.

4 Periodic servicing

<u>Note</u> : all service work must be performed with the machine stopped, the cylinder cold and the lockable isolator switch in the O position.

4.1 Daily before starting up the machine (machine cold and cylinder stopped):

- Check the contact between the sensor and the cylinder, and visually check that there are no foreign bodies between the two.

To do this, press on the sensor with your hand.

- For steam heated machines, open the pressure very slowly and then drain the condensation from the circuit by opening the drain valve on the steam return pipe.

4.2 Weekly before starting up the machine:

- Clean the internal face of the sensor, by turning the sensor by a quarter of a turn and then remove any fibres and pieces of fluff trapped under the sensor by hand. Turn the sensor back to its initial position.

- Remove the top panel (fastened by 2 screws, use a 5 mm Allen key) and check for bands between the press roller and the band guide.

If there is a band missing, it must be replaced with a band of the same type (special high temperature band supplied by Danube International).

<u>Note</u> : the bands are deliberately slack, when replacing them, do not tension them as this will cause them to break prematurely.

4.3 Every 200 hours :

<u>Cleaning :</u>

- Check that the sensor is clean by turning it by a quarter of a turn and then return it back to the same position and ensure that it presses correctly against the cylinder.

- Clean the steam evacuation turbines, not forgetting the ventilation chamber and the evacuation passages (especially the elbows).

- Clean the ventilation grids of the ventilation and drive motors.

- Clean the cylinder as soon as a (usually white) layer of calcium or washing powder deposit appears.

- Clean the blades which separate the linen from the cylinder at the discharge tub.

On the steam heated machines:

- Check that the filter on the steam inlet pipe is clean.

- Check the condition of the rotating housings of the steam inlet and outlet: as the circuit is pressurised, there should be no leaks of either water or steam, however if a leak should appear, the defective housing must be replaced.

- Caution, risk of burns: take care not to touch or get too close to the steam pipes.

Greasing :

- High temperature grease must be used for the planetary gear bearings (for all of the machine models) and the cylinder bearings (only for the steam heated machines).

- The drive gears and chains must also be greased, not forgetting the drive chain of the press roller on the left hand side of the machine.

<u>Settings :</u>

- Check that the drawing belts are correctly tensioned; they should be slightly tensioned and turn without slipping around the planetary drive.

To re-tension these belts, loosen the screws on the ends of the drawing table then slide the table.

- Check the tension of the ironing belts, as normally after being used the first few times, they tend to stretch a little.

To re-tension them, use the two tensioners which are located on either side of the machine, remove the side panels and then adjust the tensioners so that the ironing belts are sufficiently in contact with the cylinder to drive it correctly without jerking, even when there is linen loaded.

<u>CAUTION</u> : both of the tensioners should be tensioned equally. To check that this adjustment is made symmetrically, measure the distance between the bracket and the belt tensioning nut: each side should be the same.

Take care not to over-tension the belts, as this may cause them to wear prematurely.

- Check the pressure of the press roller: it should not compress the cylinder but be on top of it in order to ensure the good quality of the ironing, as its role is to fold the linen.

<u>CAUTION</u>: set the 2 tensioning springs to the same tension. To check the symmetry of this adjustment, measure the distance between the bracket and the hole where the spring hooks into the screwed rod: each side should be the same.

- Check the tension of the drive chain (RH side of the machine), the chain should not sag as it may come off.

To re-tension the chain, move the adjustable gear wheel in its slot.

4.4 Every 2000 hours :

- on the gas heated machine, check the burnt gas exhaust pipe and clean if necessary. - one the other machine, clean the exhaust pipe.

4.4 Every two years :

- change the battery of the automatic box if the machine is equipped with feeder or folder.

5. MAINTENANCE INSTRUCTIONS

Before carrying out any work, the machine must be stopped, the cylinder cold and the lockable isolator switch in the O position.

<u>Note</u> : Apart from the planetary drive gear, all of the planetary spindles (including the cylinder spindle for steam heated machines) are locked in the bearings on the RH side of the machine, but on the LH side, the locking screws are <u>deliberately</u> missing to allow the planetary gears to be opened out.

Steam heated machines:

When carrying out maintenance operations, check that the steam return pipe located in the cylinder is situated in the correct position, which is to say vertically.

In order to check its position, proceed as follows:

- Remove the RH panel of the machine.

- Remove the cylinder inspection panel which is located underneath the casing of the steam housing.

- Check the position of the pipe.
- Refit the inspection panel and its seal.
- Refit the side panel.

5.1 Replacing the drawing belts :

- Remove the two drawing table retention screws.
- Loosen the planetary gear spindle on the LH bearing side (2 lock screws).
- Unwind about half a turn of adhesive strip.
- Drive out the pin retaining the spindle (mark the direction in which this spindle is fitted).
- Remove the spindle by pushing it to the left.
- Pull back the drawing table.
- Remove the worn drawing belts and replace with new belts.
- Repeat this procedure in reverse order to re-assemble the machine.
- Do not forget to glue the adhesive strip back in position with neoprene glue.

- Check the distance between the end of the drawing table and the cylinder, which should be a minimum of between 5 and 6 mm.

<u>Note</u> : the belts should be changed as a set, not individually.

5.2 Replacing the ironing belts :

- Remove the side panels.
- Loosen off the tensioning blocks as far as possible.
- Bring the staple of ironing belt round to the front planetary gear.
- Connect the old belt to the new one.

<u>Take care to fit the right way up</u> : the Nomex side (darker in colour) which has the rebate must be placed against the cylinder.

- Turn the machine very slowly.
- Stop when the staple is reached.
- Remove the old belt.
- Staple the two ends of the new belt together, passing the spindle between the staples.
- Repeat the operation for the other belts if necessary.
- If necessary, tension the belts.

Note : the belts should be changed as a set; not individually.

5.3 Replacing the carrying rollers (except for steam heated machines)

- Remove the top panel.
- Remove the side panels.
- Fit the transport brackets (supplied with machine).
- Tighten the bracket attachment screws so that the cylinder is lifted slightly.
- Unscrew the roller support bar locking screws on the RH blocks (2 lock screws).
- Unscrew the carrying roller locking screws on the roller support bar (2 lock screws).
- Remove the bar and the rollers.
- Refit the bar with new rollers.
- Lock the rollers in position on the bar (see dimension to be respected).
- Lock the bar on the RH blocks.
- Refit the panels.

5.4 Replacing the lateral rollers: (except for steam heated machines)

- Remove the side panels.
- Remove the roller attachment screw.
- Remove the spacer of the worn roller.
- Fit a new roller onto the spacer.
- Put the new roller into position.

6. ELECTRICAL DIAGRAM AND SPARES PARTS LIST

APPENDIX 1

MAXIMA LONGITUDINAL FOLDING MODULE

1 PRINCIPLE OF OPERATION

1.1 Description

- The longitudinal folding module is very compact and is only 200 mm wider than a Maxima drying - ironing machine with its tubes.

- This folding module does not require any additional connections to be made, the only electrical connection needed is to the drying-ironing machine.

- The folding module is easy to use and operated by means of a single START/STOP button.

- The reciprocating movement of the folding carriage is automatically synchronised with the ironing speed selected on the drying - ironing machine.

- For linen which cannot be folded (small items of linen), a sliding plate directs the linen directly into the discharge tub.

1.2 Construction :

- Sharing the same quality and robust design as the drying-ironing machine, the longitudinal folding module is made of 3 mm thick sheet steel, coated with a corrosion resistant lacquer.

- Bodywork made of 1.5 mm thick sheet steel.

- Nomex guide belts.

- The two folding rollers are covered with a special adhesive strip which means that the linen is guided and will not slip.

1.3 Operation :

As soon as it is switched on, the folding module positions itself in the stand-by position next to the ironing belts, just under the separators of the drying - ironing machine. A sheet coming out of the machine is guided towards the folding rollers, which then take it.

After a defined time in front of the detector cell, the carriage starts its reciprocating movement with a slight pause when it reaches the end of its travel in each direction, in order to give the sheet the time to fall into place, forming a loop and thus ensuring that the folds are made correctly ... with no errors.

The carriage of the folding module thus moves back and forth until the sheet has been completely folded.

The detector cell is then no longer required and so the carriage returns to its initial position, ready to take another sheet.

For small items of linen which cannot be folded, simply slide the removable plate which is mounted on rails under the ironing belts.

Once small items of linen have been ironed, they will arrive on this plate and simply slide into the discharge tub, thus avoiding the folding rollers completely.

1.4 Safety :

- In addition to the safety features of the drying - ironing machine, the longitudinal folding module has two emergency stops on either side, which allow it to be stopped immediately.

- A safety switch is built-in to the plate for the small items of linen, and stops the folding module and prevents it from being restarted when the plate is in the "small items" position.

2. ASSEMBLY DRAWING

2.1 Installation requirements of room

A room which is large enough to accommodate a Maxima drying-ironing machine is also large enough to accommodate a Maxima drying-ironing machine fitted with a longitudinal folding module - the only additional requirement is a little more space in front of the machine to allow the user to work in complete safety.

3. INSTALLATION INSTRUCTIONS

<u>CAUTION</u>: the module must only be installed, adjusted and commissioned by a team of technicians of their retailers who have been company-approved.

The very precise settings of the folding module must be made on site to suit the quality of your linen to optimise the folding.

Similarly, the customer is strongly recommended to be present, especially for the positioning of the machine and the initial trials.

4. HANDLING AND UNPACKING

Upon delivery, the machine should be in perfect working order, the packaging should be neither incomplete or damaged. Respect the markings on the packaging (e.g. fragile, this way up, keep dry, etc.). As the machine is quite heavy and large (see below), suitable handling and lifting equipment should be used to avoid risks.

The machine must be moved with a fork lift truck capable of handling it. The forks of the fork lift truck must be opened out as far as possible to avoid it tipping over.

The machine must be lifted centrally (centre of gravity aligned with the centre line).

Do not allow the machine to tip over or fall when unloading for example.

Note : in the case of slings being used (not planned for), the handling will be carried out entirely at the risk of the party performing the operation (risk of distorting the machine).

Туре	Stripped machine	Dimensions	Dimensions
	L x W x H (mm)	Inland packing	sea packaging
	weight (Kg)	L x W x H (mm)	L x W x H (mm)
		Weight (kg)	Weight (kg)
1500	2600 x 1300 x 1170	2850 x 1450 x 1450	2850 x 1450 x 1450
	850	900	1195
1900	3000 x 1300 x 1170	3250 x 1450 x 1450	3850 x 1450 x 1450
	1025	1125	1225
2500	3600 x 1300 x 1170	3850 x 1450 x 1450	3850 x 1450 x 1450
	1280	1425	1525
3200	4300 x 1300 x 1170	4550 x 1450 x 1450	4550 x 1450 x 1450
	1575	1725	1825

5.COMMISSIONING

- Check that all of the switches are in the O position (including the switch for reversing the direction of the folding rollers, located on the right of the drying - ironing machine).

- Check that the ironing speed selector is set to minimum (position 1).
- Turn the lockable isolator switch of the drying ironing machine to the 1 position.
- Start the folding module by turning the folding START/STOP switch to the 1 position.

- Check that the folding rollers are turning in the correct direction (viewed from above, the rollers should be turning towards each other).

- Carry out some ironing - folding tests - the sheet should be folded correctly, without any incorrect folds.

Note :

Depending on the quality and type of linen, it is often necessary to adjust the folding machine on site in order to optimise the quality of the folding.

<u>CAUTION</u>: as this adjustment is very delicate (a number of parameters need to be synchronised), it must only be made by our compagny or an authorised dealer.

6. OPERATING INSTRUCTIONS

6.1 Daily use of the folding machine :

With the drying - ironing machine ready to use (hot):

- Check that the removable plate is in the folding position (the plate should be hooked at the rear, just in front of the operator).

- Turn the folding module start switch to the 1 position.

- Insert the sheet into the drying - ironing machine - it will come out into the discharge tube after automatically passing through the folding module.

Note : The folding speed is automatically synchronised with the ironing speed, which is adjusted with the 5 position selector located on the control panel.

You can't use the folder with the speed 1.

<u>CAUTION</u> : in the case of linen becoming jammed (sheet wrapping around the folding rollers), turn the forward/reverse switch to the reverse position.

The folding rollers will operate in the opposite direction and the sheet will unwind and be freed.

Turn the forward/reverse switch back to the forward position and turn the folding switch to the stop position then tro the start position. The rollers turn now in correct direction.

6.2 Periodic servicing :

Note : all service work must be performed with the machine stopped with the lockable isolator switch in the O position.

6.2.1 Daily before starting up the machine:

- Check that the detector cell and its reflector are clean (located in the housing under the transversal bar in front of the operator).

6.2.2 Monthly : before starting up the machine:

Cleaning :

- Check that the detector cell and its reflector are clean.
- Clean and refit the ventilation grid of the motors.
- Check that the sliding belts are clean and in good condition.

<u>Greasing :</u>

- Grease gears of the reciprocating carriage (on the right and left of the folding module).
- Grease the drive gears of the folding rollers of the folding machine).

Settings:

- Check the fixation of all motor and check if the movements are free.

6.3. Procedure to follow in the event of a breakdown or faulty operation :

In normal use, if the dryer will not start :

- Check that the folding start switch is in the 1 position.

- Check that the detector cell and its reflector are clean.
- Check that the removable plate is correctly in contact with the safety switch below it.

If nothing can be done to start up the machine again, contact our compagny. If other breakdowns or unusual noises appear, stop work and contact Danube International immediately, with precise details of the anomaly.