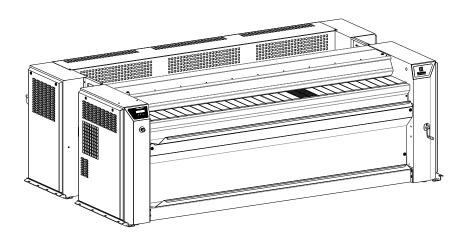
# Installation manual Ironers

IC6 48xx R-LF FR-LF



Original language







# Contents

# Contents

1	Gene	ral instructions :	
	1.1	Environmental information	
	1.2	Ergonomics certification	
	1.3	Disposal information	7
		1.3.1 Disposal of appliance at end of life	
		1.3.2 Disposal of packing	
	1.4	Preliminary instructions	
		1.4.1 Precautions for use	
		1.4.2 Symbols	
		1.4.4 Emergency stop	
	1.5	Data plate explanation.	
	1.6	Note about the A.C. power	
	1.7	Locking and tagging procedure	
	1.8	Working place lighting	
2	Hand	lingling	
	2.1	Unpacking	
	2.2	Lifting with a fork-lift truck	
	2.3	Lifting with handlings straps	.20
	2.4	Moving along the ground	.20
3	Instal	ation :	
	3.1	Feeding boxes installation for Model IC6 48xx R-LF	
		3.1.1 Replace feeding box:	
	3.2	Installation	.22
		3.2.1 How to remove the pallet :	
		3.2.2 Levelling the machine :	
	2.2	3.2.3 Machine with optional suction feeding table	.3
	3.3	Remove of the transport locks fitted	
		3.3.2 Transport locks littled inside the casing of the feeder for Model ICO 46xx FR-LF	. J2
	3.4	Electrical connection	. J2
	0.4	3.4.1 Connection diagrams for the control circuit power supply (T2)	.38
		3.4.2 Operating inspection.	.38
	3.5	Connection of the ironer evacuation system :	
		3.5.1 Fresh air inlet	.41
		3.5.2 Evacuation duct	.42
		3.5.3 Specifications:	.42
		3.5.4 Exhaust pipes pressure control:	.43
		3.5.5 Evacuation system if several dryers are connected to a common evacuation duct (except	
	0.0	gas heating machines):	.44
	3.6	Steam and condensate connections :	.4:
		3.6.1 Steam connection DN 20 (3/4" BSP) :	40. 14
		3.6.3 D.E.S.P. approval	،40 1
	3.7	Gas connection:	
	0.7	3.7.1 Gas supply DN 20 (3/4" BSP) :	
		3.7.2 Determinate the gas type :	
		3.7.3 Gas valve setting	
		3.7.4 Injectors setting	
	3.8	Check before use	
		3.8.1 Positioning roller rotation check	
4	Appe	ndices	
	4.1	Packaging-Weight	. 52
		4.1.1 Model: IC6 48xx R-LF Rear Exit and Length Folding:	. 52
	4.0	4.1.2 Model: IC6 48xx FR-LF Feeder Rear Exit and Length Folding:	
	4.2	Technical characteristics	
		4.2.1 Model: IC6 48xx R-LF Rear Exit and Length Folding	
	12	4.2.2 Model: IC6 48xx FR-LF Feeder Rear Exit and Length Folding	
	4.3 4.4	Supplies Sound level	. US
	4.4	Electric power supply:	
	т.О	4.5.1 TABLE 1 (in accordance with EN standard 60204–1)	
			_

# **Contents**

4.5.2 TABLE 2 correction factors for different ambient temperatures :	61
4.5.3 TABLE 3 correction factors for different cable insulating materials :	61
4.5.4 TABLE 4 B2, C and E correction factors for cable grouping:	61
4.5.5 Calculation	62
4.5.6 Electrical Standard characteristics for IC6 48xx:	62
Gas setting characteristics IC6 48xx R-LF and FR-LF:	
4.6.1 Legend of symbols used :	
4.6.2 Testing pressure :	
4.6.3 Setting gas adjustment:	
4.6.4 Adjustment and checking of the outlet pressure	68
4.6.5 Tables of Correspondences:	70
Explanation of washing symbols	
4.7.1 Washing	
4.7.2 Bleaching	
4.7.3 Drying	
4.7.4 Ironing	
4.7.5 Dry or water cleaning	
Conversion of measurement units	

The manufacturer reserves the right to make changes to design and component specifications.

#### 1 General instructions:



#### Caution



All the illustrations in this manual do not necessarily represent your machine, but the action shown is always compatible with your product!

#### 1.1 Environmental information

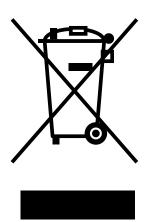
Concerned by providing the end user with useful and necessary environmental information, we wish to precise:

- Data about energetic consumptions, wastes (atmospheric and liquid) and sound level are indicated in the paragraph «Technical characteristics».
- Foreseeing its recycling, this machine is fully dismantable.
- · This machine is free from any asbestos.
- · In conformity with French regulations.
- In the other countries, we recommend that you comply with the legislation in force in the country where the machine is installed.
- In France, all owners of packing waste producing a weekly volume below 1100 litres can forward these to the local
  collection and treatment department. If exceeding this volume, the owners of packing waste will ensure their valuation by reuse, recycling or, any other action aiming at producing reusable materials or energy... or provide them
  contractually to a certified intermediate authorised to transport, trade or broke waste.

Therefore, this forbid:

- land filling raw waste;
- open air burning or incineration without energy collection.
- Packaging of our machines are according with the french legislation related to environment requirements.

For additional information, do not hesitate to consult with our environmental department.



#### Scrapping of machine

When the machine is no longer to be used, it must be submitted to a recycling facility for destruction. The majority of the components in the machine can be reused, but it also contains other materials that must be taken care of in the correct way.

Therefore, never mix the machine or its parts with domestic waste as this may lead to health hazards or damage to the environment.

#### 1.2 Ergonomics certification

The human body is designed for movement and activity but physical stress injuries as a result of static and repetitive movements or unfavorable working postures may occur.

The ergonomic features of our product, the ones which may influence your physical and cognitive interaction with it, have been assessed and certified.

A product which exhibits ergonomic features, in fact, shall fulfil specific ergonomic requirements, belonging to three different areas: Polytechnic, Biomedical and Psychosocial (usability and satisfaction).

For each of these areas, specific tests with real users have been performed. The product was therefore compliant with the ergonomic acceptability criteria requested by the standards applied.

The product that you use is specifically studied and tested in order to minimise any physical problems associated to the interactions with the product.

We would like to point out some operating procedures we suggest to adopt:

- Handle the linen in a balanced way, trying not to arch your back during the loading/unloading.
- Take in/out the laundry in small quantities.
- In order to avoid the entanglement of laundry including large dishes, add more rotation time in each direction.
- If possible, flex your legs and don't bend forward your back during the placement of the linen in the lower box and during the achievement of any lower maintenance actions or items.
- If possible, push the tray cart and pull it in order to reduce the distances.
- Keep the viewing distance in order to understand properly the information displayed in the interface or to view you interest in the ironer, reducing as much as possible the time spent with the eyes up (neck extensions).

In case several machines are managed by the same operator the repetitive movements will increase and as a consequence of this the related biomechanical risk will increase exponentially.

Follow the below recommendations to avoid, as much as possible, operators acquiring bodily injury.

- Make sure there are suitable trolleys or baskets for loading, unloading and transportation.
- We advise you to use a mobile bottom trolley with a maximum height of 850mm.
- Organize job rotation in the working place in the case several machines are managed by the same operator.

## 1.3 Disposal information

#### 1.3.1 Disposal of appliance at end of life

Before disposing of the machine, make sure to carefully check its physical condition, and in particular any parts of the structure that can give or break during scrapping.

The machine's parts must be disposed of in a differentiated way, according to their different characteristics (e.g. metals, oils, greases, plastic, rubber, etc.).

Different regulations are in force in the various countries, therefore comply with the provisions of the laws and competent bodies in the country where scrapping takes place.

In general, the appliance must be taken to a specialised collection/scrapping centre.

Dismantle the appliance, grouping the components according to their chemical characteristics, remembering that the compressor contains lubricant oil and refrigerant fluid which can be recycled, and that the refrigerator and heat pump components are special waste assimilable with urban waste.



The symbol on the product indicates that this product should not be treated as domestic waste, but must be correctly disposed of in order to prevent any negative consequences for the environment and human health. For further information on the recycling of this product, contact the local dealer or agent, the Customer Care service or the local body responsible for waste disposal.

#### Note!

When scrapping the machine, any marking, this manual and other documents concerning the appliance must be destroyed.

#### 1.3.2 Disposal of packing

The packing must be disposed of in compliance with the current regulations in the country where the appliance is used. All the packing materials are environmentally friendly.

They can be safely kept, recycled or burned in an appropriate waste incineration plant. Recyclable plastic parts are marked as following examples.



Polyethylene:

- Outer wrapping
- Instructions bag



Polypropylene:

Straps



Polystyrene foam:

· Corner protectors

#### 1.4 Preliminary instructions

Before any use, it is compulsory to read the instruction handbook.

Users must have learnt how the machine operates.

In order to prevent any risk of fire or explosion, flammable products should never be used to clean the machine.

This machine should be installed in conformance to the health and safety regulations, and only used in a sufficiently aerated area. Check the instructions before installing or using the machine.



#### Caution



The mechanical and electrical installation of the machine should only be done by qualified personnel.





Do not use the machine unless it is plugged into a correctly earthed power socket complying with standards in force.



#### Caution



This device must not be installed in places accessible to the public.



## Warning



Make sure the machine is disconnected from the mains before repairing or servicing.



## **Important**



Any repairing or maintenance operation should be carried out by a specialist.



## **Important**



The machine is delivered with a wall instructions paper to be clearly fixed near the machine.



# **Important**



After the installation, Send back the commissioning form ,signed document, to Electrolux to validate the warranty of the product.



#### Caution



Disconnect all sources of energy and let the ironing cylinder cool down before any intervention on the machine. The high temperature of the ironing cylinder may cause serious burns; avoid touching the hot surfaces.



## Danger



Never iron if the finger protection does not function.



# **Important**



The machines comply with the European Directive EMC (ElectroMagnetic Compatibility). They have been tested in laboratory and approved as such. It is so prohibited to add wires or non shielded electric cables in the cabinets, strands or cables'troughs.



# **Important**



It is specially advised not to install the machine on a synthetic floor covering. The frictional electricity may hinder the good working of the machine

Under no circumstances should a gas-heating machine be installed in a building which includes a drycleaning machine.

This is particularly important for your safety and that of others. The consequence is an immediate cancellation of the warranty.



# **Important**



When using the machine in automatic folding mode, you could catch your fingers when the sheet removal actuator ascends/descends with the anti-static device and in folding arm movements.

Do not operate on the machine without powering down beforehand.



## Caution



For your own safety, it is prohibited and dangerous to solder the ironing cylinder. If a leak occurs, never try to repair it yourself. Ask our technical departments for advice.





The machine can work without the protective casing when the electric supply is not cut off. Interlock the main isolating switch with a padlock.

Close the steam inlet valves.

If you detect gas smells, turn off the gas, open the windows, do not activate any switch and warn the maintenance service.

The warranty might be cancelled if these instructions are not complied with.

#### 1.4.1 Precautions for use

- · The machine should not be used by children.
- This ironer must be used exclusively for textiles appropriate for machine ironing, which have been previously and exclusively washed in water.
- This machine is for professional use and must be used exclusively by qualified personnel.
- · Blankets should not be ironed.
- Do not iron linen coated with solvent, paint, wax, grease or any easily inflammable products.
- In case of gas heated machine, do not assemble the machine on premises containing a dry cleaning machines or other similar machines.

#### 1.4.2 **Symbols**



An exclamation mark inside an equilateral triangle offers the user important advice about usage, servicing, and hazardous conditions



Caution, presence of dangerous current.

A flash lightning with an arrow at its end inside an equilateral triangle, warns the user about the presence of uninsulated "dangerous current" sufficient in intensity to cause electrocution.



Caution, hot surface.

This symbols warns the user of the presence of high temperatures which could cause severe burns. Some surfaces can reach close to 200°C (392°F).



Read the instructions before using the machine.



Warning, do not operate with casing removed. This symbol warns the user that there are mechanisms inside the machine which can be dangerous. The protective housing must be in place during use.

## 1.4.3 Personal protection equipment

Given below is a summary table of the Personal Protection Equipment (PPE) to be used during the various phases of the machine's service life.

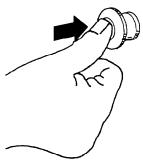
Phase	Protection garments	Safety footwear	Gloves	Glasses	Ear protectors	Mask	Safety helmet
		To be a second of the second o		600			
Transport		Х	0				
Handling		Х	0				
Unpacking		Х	0				
Installation		Х	0				
Normal use	X	X	X	X			
Adjustments	0	X					
Routine cleaning	0	x	x	0			
Extraordinary cleaning	0	х	x	0			
Maintenance	0	Х	0				
Dismantling	0	Х	0				
Scrapping	0	Х	0				

**Legend**: **X**: PPE required; **O**: PPE available or to be used if necessary.

**Normal use**: Safety footwear must be defined for a use on a wet floor. And use glasses and gloves to manipulate chemical products.

## 1.4.4 Emergency stop

The emergency stop must be unblocked, if not the machine will not work (to unblock, turn the red button to the right). If the machine for some reason has to be stopped, abnormal or dangerous running, press the emergency sop button.



Release the emergency stop, by turning it clockwise only after checking what motivated this stop.



## 1.5 Data plate explanation

In this chapter, you will find the explanation of the different data input on the data plate of your product.

- Commercial name: Usual name of your product (i.e. IC64819).
- Type : Type of your product (you have the same on the Declaration of Conformity CE if delivered with CE certification).
- · Model: Model of your product (can be different of commercial name).
- Serial Number: serial number of your product which indicate the week of the production of your product (the first 4 digit indicate the year and the week of production) and the plant where it has been produced (finish by 17)
- Product N°: Product number of your product.
- Date: The date of the end of manufacture of your product
- · Some technical data depending of the heating of your product : see list below :
- Some technical data depending of the voltage ordered. the voltage looks like that 380–415V 3 50–60Hz under this, you find the protection request for your product (i.e 16 A)
- Different logos are available on your data plate.
   They represent the different certification obtained for your product CE, EAC
  - ETL intertek for USA and Canada countries
- QR code : when you scan it, you will be able to obtain the full documentation for your product (Complete installation and user manuals)
- Standardized protection index of your product: IP24D

## **Electrical heating:**

- P.Max: maximum power installed of your product
- Power of the motorization in kW and its isolation class (F).
- · Heating power in W.



#### Gas heating:

#### Left side

- · P.Max: maximum power installed of your product
- · Power of the motorization in kW and its isolation class (F).
- · Heating power in W.
- Gas approval number depending on your machine except ETL product (begin by1312/......)

#### Right side

- Qn (Hi): heating power of your product
- · Installed gas type, its pressure, its injector diameter and its consumption.
- Gas type for approval
- 3 Other gas type compatible with their pressure, their injectors diameter





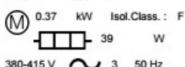
Commercial name: IC64819

Type: IC648..... Model: IC64819

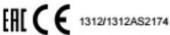


Serial N°: 0472005017 Product N°: 9882030011 Capacity: - kg

P.Max: 1000 W



For safety reasons use only original spare parts.





Qn(Hi) 39 kW Natural Gas, G20 20 mBar, Ø 3.3 mm.

Mn/Vn 4.13 m3/h Type FR.II2Esi3+

LPG, G30 30 mbar Ø 1.85 mm.

LPG, G31 37 mbar Ø 1.85 mm. Natural Gas, G25 25 mbar Ø 3.3 mm.

IP24D Date: 16/11/2020

Made in France by Electrolux Laundry Systems France 10430 Rosières-près-Troyes - FRANCE 32101642E

#### Steam heating:

#### Left side

- · P.Max: maximum power installed of your product
- · Power of the motorization in kW and its isolation class (F).
- · Heating power in W.

#### Right side

• P.Maxi. (kPa) maximum pressure

For additional information, do not hesitate to consult with our quality department.





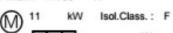
Commercial name: WPB4700H

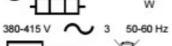
Type: WPB4700H Model: WPB4700H

Serial Nº: 0472005117

Product Nº: 98646370021000F

Capacity: 70 kg P.Max: 11700 W





For safety reasons use only original spare parts.



IP24D

Date: 16/11/2020

P. maxi. 600 kPa

Made in France by Electrolux Laundry Systems France 10430 Rosières-près-Troyes - FRANCE

32101642E



## 1.6 Note about the A.C. power

According to the EN 60204-1:1997 standard, the machine is provided for A.C. supplies corresponding to the extracted characteristics below :

4.3.2 A.C. supplies

#### Voltage:

Steady state voltage: from 0.9 to 1.1 of nominal voltage.

#### Frequency:

from 0.99 to 1.01 of nominal frequency continuously.

from 0.98 to 1.02 short time.

#### Harmonics:

Harmonic distortion not to exceed 10 % of the total r.m.s. voltage between live conductors for the sum of the second through to the fifth harmonic. An additional 2 % of the total r.m.s. voltage between live conductors for the sum of the sixth through to the 30th harmonic is permissible.

#### Voltage unbalance:

Neither the voltage of the negative sequence component nor the voltage of the zero sequence component in three-phase supplies shall exceed 2 % of the positive sequence component.

#### Voltage interruption:

Supply interrupted or at zero voltage for not more than 3 ms at any random time in the supply cycle. There shall be more than 1 second between successive interruptions.

#### Voltage dips:

Voltage dips shall not exceed 20 % of the peak voltage of the supply for more than one cycle. There shall be more than 1 second between successive dips.

# 1.7 Locking and tagging procedure

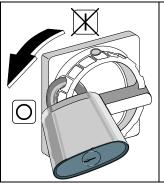
A red insert at the beginning of this instruction handbook schematically shows the locking and tagging procedure described below. If you wish, you can detach this insert and display it close to the machine to remind maintenance personnel of the safety instructions.

1

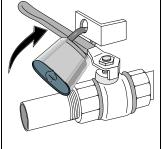


Always respect items 2, 3 and 4 carefully before doing any repair or maintenance work on the machine.

2

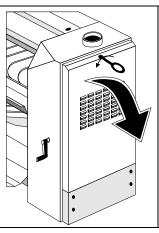


Put the main switch to Off and lock the handle with a padlock in one of the three holes provided for this purpose.



Close the stop valves for the other supplies (steam, gas, thermal fluid, compressed air) to stop and lock their handle with a padlock.

3

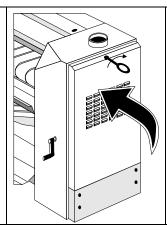


Open the fixed protectors (casings, doors) with the key provided or a special

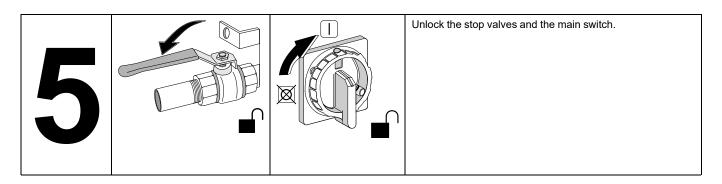


Do the maintenance.

4



Close and carefully lock the fixed protectors.



## 1.8 Working place lighting

The lighting should be designed so as to avoid eye strain for the operator; it should be uniform without any glare, and should be sufficient to detect any hazards.

The average lighting value on the working place recommended by the clothing industry for inspecting linen is **500 lux**. Whenever possible, the working place should be illuminated by daylight.

# 2 Handling



## **Important**



It is obligatory that all these operations are undertaken by handling specialists.

The machine is delivered with two pallets: one for ironer and one for folding and rear exit machine with its table.

#### 2.1 Unpacking

You should have found an instruction handbook and keys to open the machine casings, in the machine.

Depending on its destination, the ironer is delivered bare or may be placed on a transport pallet and/or packed with plastic film.

In some cases, it may be delivered in a crate, or in maritime packing (wood box).

Take off the plastic film or remove the wood with a spanner.



## Caution



Check that no damage has been caused during transport.

## 2.2 Lifting with a fork-lift truck

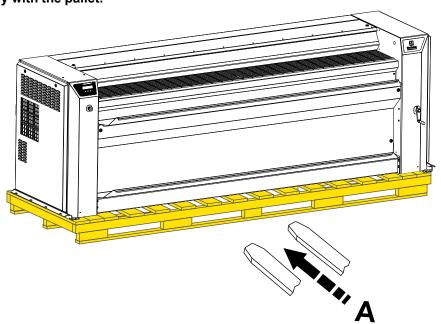


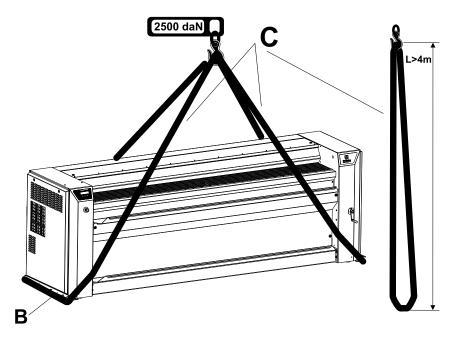
# Warning



You should never handle the machine in its longitudinal side (any other than shown on the drawing below) with a fork-lift truck. Important risk of parts deterioration for those fixed under the machine.

This can be carried out from the front or back, and at the centre of the machine using forks with minimum length of 1.50 m (59") and **only with the pallet.** 





# 2.3 Lifting with handlings straps

Lifting in that case can only be done with handling straps (C: minimum capacity 2500 daN / L: minimum length 4m) which bear weight of the machine.



## Caution



Make sure to place the straps correctly to avoid any bending of parts of the machine.



## Caution



In order to avoid any bending of casings, you should never climb and stand on top of the machine.



## 2.4 Moving along the ground

The machine frame is made up of two parallel spars, making ground moving possible by means of rollers, grinding tracks or a trolley.

The two handling angles (B) can be used to lift the machine using hydraulic jacks or poles, so that rollers can be slipped under the girders.

## 3 Installation:

## 3.1 Feeding boxes installation for Model IC6 48xx R-LF



## **Important**



Before putting the machine into service, it is compulsory to replace the feeding boxes in their functioning place.

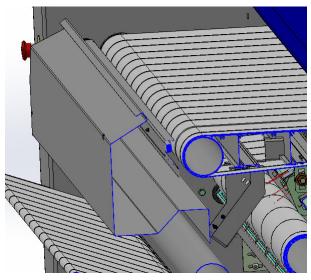


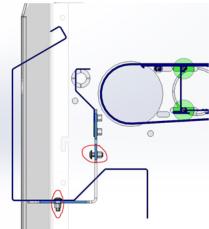
## Caution



To do so, it is recommended to handle the part for two people for very long machines (IC64825 or IC64832)

## 3.1.1 Replace feeding box:





- 1. Unscrew the 4 screws of the engagement tank
- 2. Remove the pan, being careful of collisions with the pan supports and other parts. It is recommended to handle the part to 2 people.
- 3. Rotate the tray and put it in position
- 4. Tighten the 4 screws of the tank by replacing the Loctite 243 or equivalent thread locker.

#### 3.2 Installation

The ironer must be transported to its final position in the laundry before the pallet is removed.

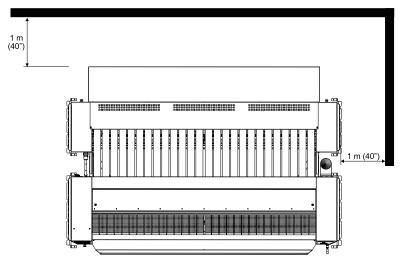
The installation must be done by competent technicians in accordance with local codes and regulations. When there are not local codes and regulations, the installation **must be comply** with European standards applicable.

The machine must be installed on a perfectly even surface, strong and horizontal, capable resisting to the efforts shown in the technical characteristics.

Degrease carefully the ground and the soles of the machine.

If there is a carpet, it is recommended that it should be removed from the part of the floor on which the machine is to be supported.

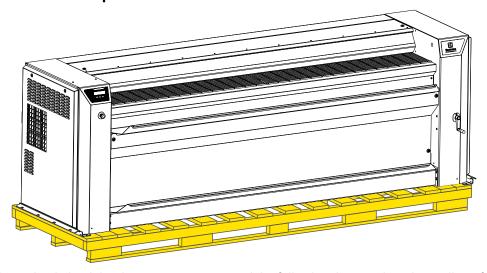
- Control the horizontal level using a water level placed on the machine's sole.
- Leave a minimum space of **5 mm** between the floor and the cases, The ironer must be on its four adjustable feet.
- Place the ironer so that it is easy for the user and the service technician to do their work.
- Leave at least 1 meter (40") (according to the recommendation in standard EN 60204) between the machine, a
  wall or any other machine at the sides.



However, note that if you can, it is recommended that you should leave sufficient space for maintenance of the heating box to avoid having to move the machine ( minimum length A on the left side).

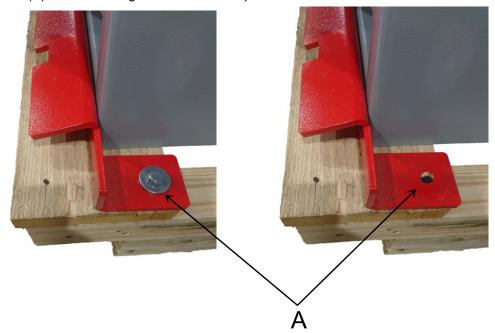
Ironers are provided with four leveling screws to facilitate leveling (one on each corner of the sole plate). To avoid damaging the floor surface, place 10 cm (4") square metal shims, or shims made of another appropriate material, under the ironer stands.

## 3.2.1 How to remove the pallet :



When the pallet is putting in its right place, you can remove it by following these points depending of your enable tools :

Remove the fixation (A) of red handling brackets from the pallet on each side of the machine.



## 3.2.1.1 Remove the pallet with a two-wheel forklift load :

Once the machine is placed on the ground with the pallet, it is advisable to use a two-wheel forklift load as below to facilitate the removal of the pallet and any movement of the machine.



If this type of tool is unavailable, follow the procedure in the next chapter to remove the pallet from the machine.

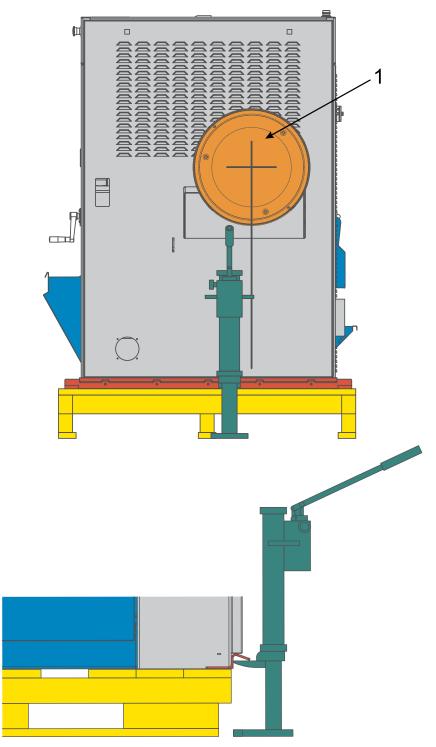
## 3.2.1.2 Remove the pallet without a two-wheel forklift load :

#### **Equipment:**

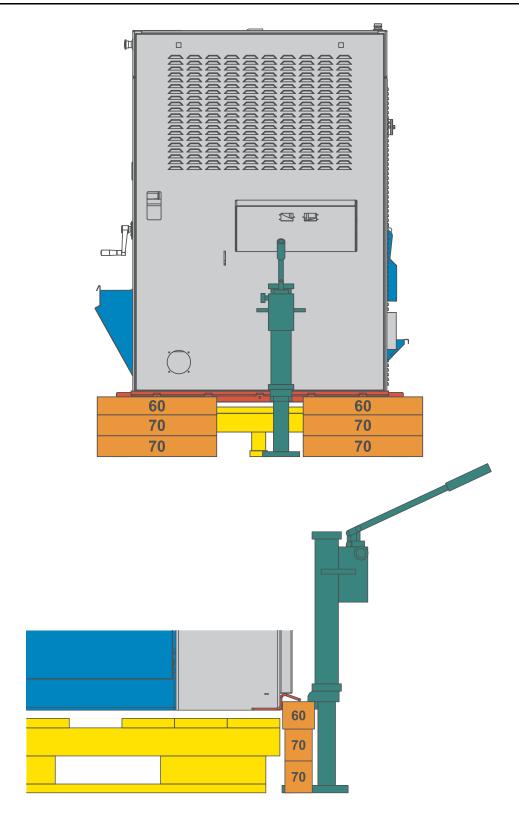
- 01 x hydraulic cylinder
- 24 x piece of wood (400x70x60)
- 08 piece of wood (400x150x25)
- 1 side new support / 1 side old support
- 1 new pallet that does not exceed the machine.

#### STEP 1:

- Check that all the nails of the pallet are well in the wood so as not to come up against the wooden wedges when removing the pallet.
- Lift the right of the machine (facing the machine) with the hydraulic cylinder. Attention to the location of the hydraulic cylinder, put it a little on the left of the axis of the cylinder (1) to remain stable and not lean.



- Wedge with 3 pieces of wood (400x70x60)
   2 on thickness 70 mm and 1 on the thickness 60mm.
   2 (400x70x60) + 1 (400x70x60) = 2x70mm + 60 mm = 200 mm
- Lower the right side of the machine on the wedges



## STEP 2:

• Repeat STEP 1 on the left side of the machine.

## STEP 3:

• Remove the pallet. The same size as the machine, the pallet has to pass between the wedges without any problem.



## Warning



Remove the pallet in a straight line so as not to come into contact with the wedges holding the machine in suspension.

#### STEP 4:

• For safety, wedge under the 2 box spar ( Front / Rear) as close as possible to the casing with same thickness of wedging as on the side of the machine :

3 pieces of wood (400x70x60)

2 on the thickness 70 mm and 1 on the thickness 60 mm..

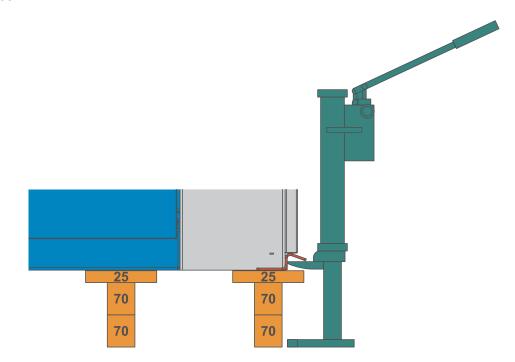
.65,sfx)="graphics:graphic66C240AE6BECCE3669BE1F18C2F4577A"

#### STEP 5:

• Lift the machine and remove from the right side the wedge (400x70x**60**) 60 mm thick and replace it with a wedge (400x150x**25**) 25 mm thick.

Right side : 1 (400x150x25) + 2 (400x70x60) = 25 mm + 2x70 mm = 165 mm. Left side : 2 (400x70x60) + 1 (400x70x60) = 2x70 mm + 60 mm = 200 mm.

A delta of 35 mm is obtained between the two sides of the machine.



#### STEP 6:

Lift the machine and remove from the left side the wedge (400x70x60) 60 mm thick Right side: 1 (400x150x25) + 2 (400x70x60) = 25 mm + 2x70 mm = 165 mm.
 Left side: 2 (400x70x60) = 2x70 mm = 140 mm.
 A delta of 25 mm is obtained between the two sides of the machine.

#### **STEP 7:**

Lift the machine and remove from the right side the wedge (400x70x60) 70 mm thick Right side: 1 (400x150x25) + 1 (400x70x60) = 25 mm + 70 mm = 95 mm.
 Left side: 2 (400x70x60) = 2x70 mm = 140 mm.
 A delta of 45 mm is obtained between the two sides of the machine.

#### STEP 8:

Lift the machine and remove from the left side the wedge (400x70x60) 70 mm thick Right side: 1 (400x150x25) + 1 (400x70x60) = 25 mm + 70 mm = 95 mm.
 Left side: 1 (400x70x60) = 70 mm.
 A delta of 25 mm is obtained between the two sides of the machine.

#### STEP 9:

• Lift the machine and remove from the right side the wedge (400x70x60) 70 mm thick

Right side : 1 (400x150x25) = 25 mm. Left side : 1 (400x70x60) = 70 mm.

A delta of 45 mm is obtained between the two sides of the machine.

## **STEP 10:**

• Lift the machine and remove from the left side the wedge (400x70x60) 70 mm thick

Right side: 1 (400x150x**25**) = 25 mm. Left side: machine on the ground.

A delta of 25 mm is obtained between the two sides of the machine.

#### **STEP 11:**

• Lift the machine and remove from the right side the wedge (400x150x**25**) 25 mm thick The machine is on the ground.

Note: with older transport brackets this works too and there is no need to disassemble them. The new ones go lower than the cranckcase and it is imperative to dismount them to put the machine on the ground.

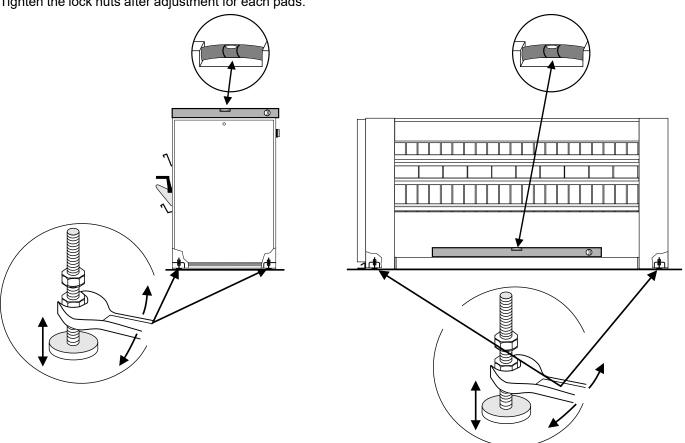
#### 3.2.2 Levelling the machine:

Adjust the nuts with a spanner and adjust the dryer ironer so that it is horizontal and that its four stands are perfectly vertical.

Check with a spirit level placed on the sole plate for the longitudinal direction and the machine top cover for the transverse direction (see below)

The maximum stand height adjustment is 80 mm (3")

Tighten the lock nuts after adjustment for each pads.

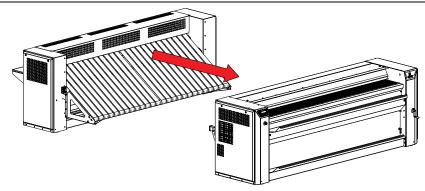




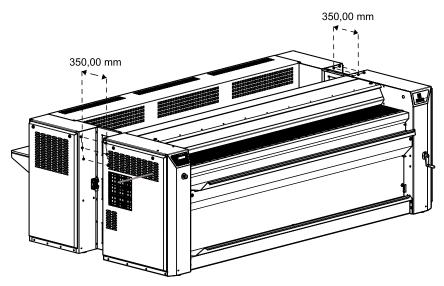
## Caution



Leave a minimum space of 5 mm between the floor and the cases, The ironer must be on its four adjustable feet.

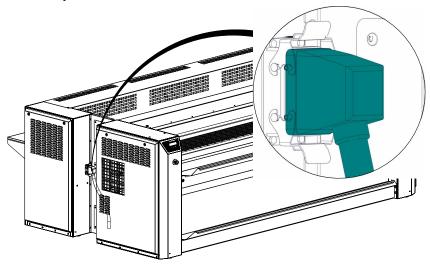


Fit a connecting cover between the dryer and the folder to ensure the placement of the folding module. (about 350mm)



Do the same with the folding module. Level, align the module with the dryer and after adjustment, lock the locknuts. Fit the second connecting case to stiffen the assembly of the 2 modules. Now, Attach the rear exit table to the back of the machine.

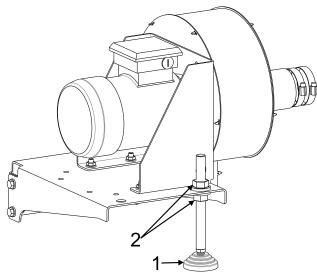
Connect now the folder to the dryer.



## 3.2.3 Machine with optional suction feeding table

The machine can be equipped with a suction engagement table to allow better guidance of the sheet at the engagement

. It operates with 2 fans located under the dryer, attached to the front or the rear spar (depending of your model). Use a wrench to adjust the nuts (2) and adjust the feet (1) of the suction fan brackets located under the dryer. After adjustment, lock the locknuts.



## 3.3 Remove of the transport locks fitted.



# **Important**



Before putting the machine into service, it is compulsory to remove the different transport locks fitted. The machine should be in its right place before removing these transport locks.

## 3.3.1 Transport locks fitted inside the casing of the feeder for Model IC6 48xx FR-LF:

To do so, remove the fixing screws of the red transportation bridles.

Keep the transport locks fitted with their screws and bolts to be able to assemble them again in case you would need to lift the machine.





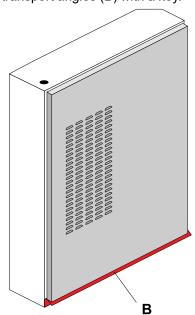
# **Important**



Never handling the machine without the transportation bridles.

## 3.3.2 Transport angles:

Screw off the screws to remove the 2 red transport angles (B) with a key.





Caution



Do not remove this screws.

Keep this angles to eventually lift the machine.

Block the screws which maintained this angles.

#### 3.4 Electrical connection





Prior to use, the machine should be plugged into a correctly earthed power socket complying with the standard in force



# **Important**



The mechanical and electrical installation of the machine should only be done by qualified personnel.



## **Important**



Make sure that both the power voltage is correct and the power supply of your installation is sufficient before connecting the machine.

Use only a cable to supply the machine.



#### Caution



The main switch is located on the rear side of the machine, identified by this sticker.





The use of power electronics (variator or filter for example) may lead to unexperted release of breakers with 30mA differential current device.

To avoid these untimely activations, you ought to use differential protecting systems with residual current only, having a high level of immunity as regards leakage transient current.

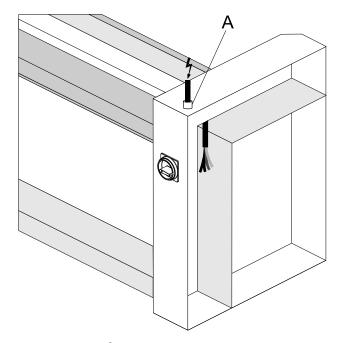
This type of breaker should thus be avoided, or a value of 300mA maximum should be observed according to standard NFC 15100.

For operation that will take place with power supply or/and machine power on, technicians who will operate must have approval to work Low-voltage (1000V Ac max or 1500V DC) and use suitable safety equipment and tools.

To be in accordance with the Low-voltage authorization if the machine have the option electrostatics bar, this one must be disconnect during technician operation, unless the technicians has a High-voltage authorization.

Pass The power supply cable of the machine through the stuffing box (A) on the top of the left casing.

In order to know all machines technical characteristics concerning electricity (connection, wiring,...) referees to chapter in appendices



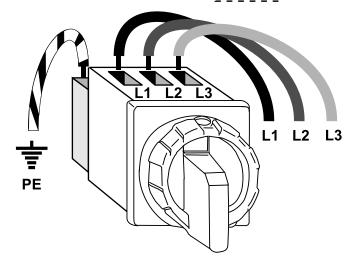
For each machine, install a fixed multipole circuit breaker ( or fuses protector) in the laundry main cabinet.

Connect the power supply cable on the machine main switch.

Connect the 3 phases on the main switch (see marks L1,L2,L3) and connect the earth wire on the earth terminal (PE) of this main switch.

NOTE: you must respect the fan rotation direction.

Check operation (see chapter operating inspection below)



Mains transformer connection diagrams according to the customer's various mains voltage (machines provided with a transformer only).

## 400 Volts supply

Measure the mains voltage at the primary with a voltmeter (V) between 0 and 400 volts of the transformer. If the voltage is equal to 400 volts, do not touch the transformer connection which should be as indicated in the margin.

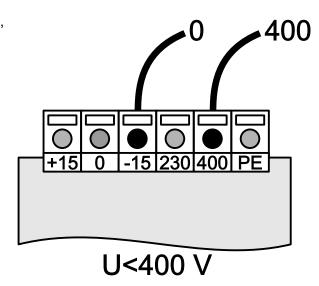
0 400 +15 0 -15 230 400 PE U=400 V

If the voltage is > 400 volts (example: 420/230 volts), connect threads to the transformer as indicated in the margin.

#### Note!

We recommend that you should adopt this solution even it the voltage is normally equal to 400 Volts, but may be subject to time variations; so that you do not apply an overvoltage to the electrical equipment in your machine. 0 400 +15 0 -15 230 400 PE U>400 V

If the voltage is far < 400 volts (example: 370/380 volts), connect threads to the transformer as indicated in the margin.





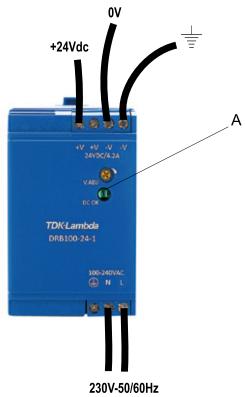
# **Important**



Once connected, make sure to check the correct order of phase connections. (see chapter operating inspection below)

### 3.4.1 Connection diagrams for the control circuit power supply (T2)

The tension of the control circuit delivered by the power supply must be 24 volts dc. The supply tension for your machine is normally 230/400 volts between phases, this tension can however be different. The potentiometer (A) allows to adjust the tension.



### 3.4.2 Operating inspection

Before putting the machine into service, carry out the working tests.

The operating inspection must be done by an approved and qualified technician.



### Caution



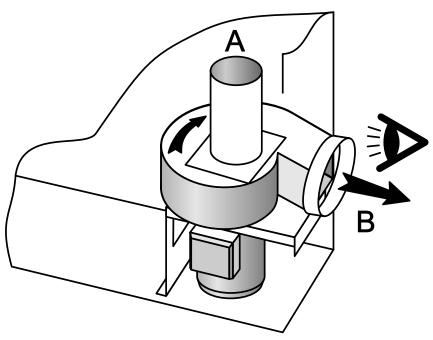
Check in the "MACHINE CONFIGURATION" sub-menu of the "ADVANCED SETTINGS" menu that the Mains frequency parameter is correctly set to the value that corresponds to the frequency of your electricity network (default setting is 50Hz)



# Warning



Always make sure that the fan is rotating in the right direction. The fan must rotate in the direction shown on the arrow glued inside the right compartment (see illustration below)



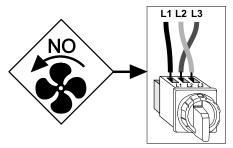
Before starting the machine, do not push the circuit breakers Q5 and Q701 in the electrical cabinet before checking the fan's rotation direction.

For few seconds, manually activate the breaker that drive the fan motor:

Check on the electrical drawing for the breaker name. Then visually check the rotation way of the turbine. A sticker indicate the correct rotation way. If the cheminey (B) is already connected, it is possible to check for the pipe (A).

On FFS ironer it is also necessary to check the correct way of belt into cross folding. To do so, it is possible to activate few seconds the breaker that drive the cross motor. The belt must move in the correct direction. Check on the electrical drawing for the breaker name. Then visually check the rotation way of the turbine.

If it is rotating in the wrong direction, invert two of the three phases on the power supply isolating switch to reverse the direction of the rotation of the fan.



Check again the direction of the rotation of the fan then replace the hose and its collar.





# Warning



The control geared unit for the ejection has a keyed transmission shaft and it is important that the direction of rotation is correct, otherwise there is a danger that certain mechanical parts might suffer damage. The verification of direction of rotation of the fan allows to eliminate this risk.

If the tests carried out on the various points mentioned above are satisfactory, the dryer ironer is ready for use.

### 3.5 Connection of the ironer evacuation system :

You should have found an instruction handbook and keys to open the machine casings, in the machine.

Depending on its destination, the ironer is delivered bare or may be placed on a transport pallet and/or packed with plastic film.

In some cases, it may be delivered in a crate, or in maritime packing (wood box).

Take off the plastic film or remove the wood with a spanner.



### Caution

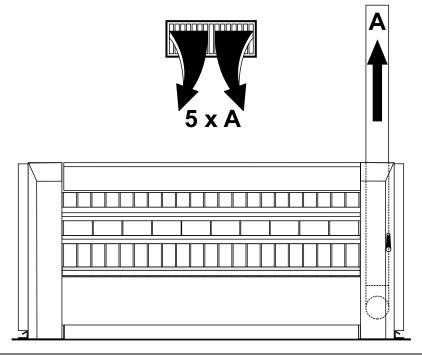


Check that no damage has been caused during transport.

#### 3.5.1 Fresh air inlet

To allow the dryer ironer to work at its best, it is important that the laundry air inlet passes through an opening from the outside.

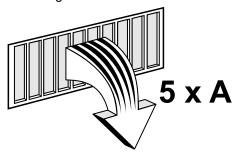
The fresh air arrival must be equivalent to the volume of evacuated air (please refer to the output of the fans at zero pressure in the technical characteristics)





In order to prevent drafts in the room, the best solution is to place the air inlet behind the machine. In the case of a machine with gas heating, it is essential that the rooms should be ventilated.

The free section of the air inlet must be 5 times greater than the section of the evacuation pipe.



Do not forget to allow for the fact that grills often occupy half the total area of the free air opening.

#### 3.5.2 Evacuation duct

It is recommended that a separate smooth-walled evacuation duct should be connected to each dryer, providing the least possible resistance to air.

Check that the shaft flow is at least twice the capacity of the ironer exhaust fan.



#### Danger



To prevent any risk of burnings, the vapours'evacuation duct of the flatwork ironers of the linen has to be insulated (to be done by the customer)



# Warning



It is essential that the diameter of the evacuation pipe should be selected as a function of each installation so that the pressure loss never exceed 200 Pa (0.029 Psi) (Value measured at ambient temperature with a manometer connected to the vertical air outlet (dia 6 or 8 mm), located minimum 1 m after the elbow of the machine exit).



### **Important**



These conditions are **ABSOLUTELY ESSENTIAL** for correct working of the ironer.

#### 3.5.3 Specifications:

#### 3.5.3.1 Electric, steam heating:

Fan maximum flow rate with no pressure: 880 Pa.

Average temperature of exhaust at the machine outlet:

electric heating : 65 °C (149 °F) Steam heating : 65 °C (149 °F)

#### 3.5.3.2 Gas heating:

Fan maximum flow rate with no pressure: 880 Pa.

Average temperature of exhaust at the machine outlet: 110 °C (212 °F)

For the gas heating, the required combustion fresh air supply should be not less than 2 M3/h (1.17cfm) per kW:

machine 4819 : 78 m3/h (46 cfm) machine 4825 : 104 m3/h (61 cfm) machine 4832 : 130 m3/h (77 cfm)



### **Important**



NOTE: If the flow is insufficient due to an excessive head loss, a safety pressure switch will automatically switch the heating off.

#### 3.5.3.3 Values of adjustment of safety pressure switch :

machine 4819 : 147 Pa (15 mmH2O) machine 4825 : 88 Pa (9 mmH2O) machine 4832 : 49 Pa (5 mmH2O)

### 3.5.4 Exhaust pipes pressure control:

In order to achieve proper operation, this exhaust pipes must always be kept as short as possible and must have as few bends as possible.

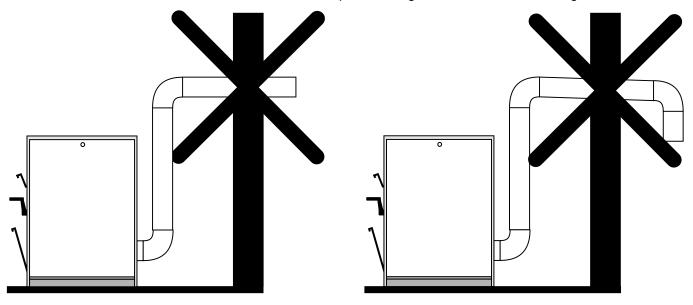
If an outlet channel joins a main channel, the angle of incidence must not exceed 45°.

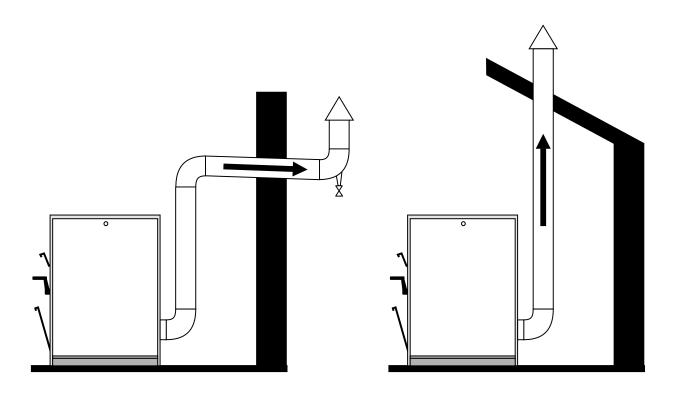
If the distance from the outlet channel is bigger than xx meters, a series fans must be installed further down the outlet channel or the section of the pipe must be increased.

example 2x0 mm instead of 150 mm.

Insulate both the outlet pipes for user safety.

The duct must lead to the outside and must be fitted with protection against the weather and foreign bodies.



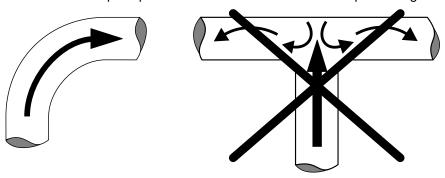


# 3.5.5 Evacuation system if several dryers are connected to a common evacuation duct (except gas heating machines):

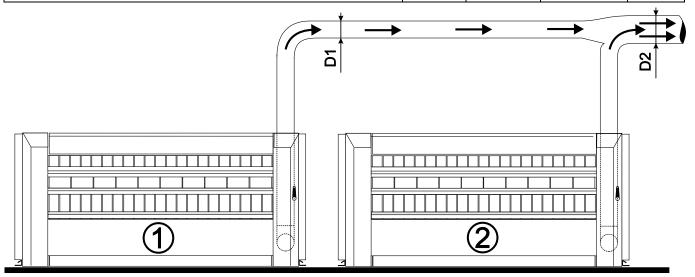
If several ironers are installed with a common evacuation duct, the cross section of the evacuation duct must increase as a function of the number of installed machines so that each of them operates at the same value of air resistance..

Use elbows (and not Tees) to allow the air to pass forwards.

The simplified figure below shows the principle on which the evacuation duct shape is designed.



Number of ironers	D1	D2	D3	D4
Outlet diameter of the exhaust pipe in mm	150	225	315	450
Ventilation aperture required section in dm²	2	4	8	16



The indicated evacuation diameter is the dryer outlet diameter.

Cross-sections of ducts between dryers and the outside of the building must be designed taking account of the flow and the allowable head loss on each machine and the routing of ducts (elbows and lengths).

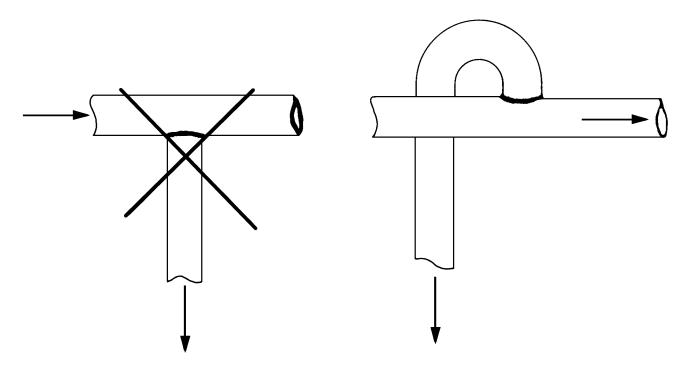
Please call us if you are in any doubt about the layout of your exhaust device if you are modifying an existing installation.

#### 3.6 Steam and condensate connections:

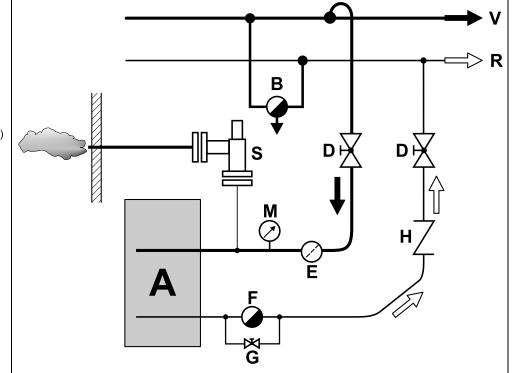
There is always a risk that a certain amount of water will be carried in steam.

Water is carried in the lower parts of the supply tubes, and steam in the upper parts.

Make a swan neck branch-T on the main tube to prevent this water damaging the machine heating system. This will ensure that only steam is retrieved without any condensed water.



- A = Ironer
- **B** = Line trap (supplied by the customer)
- C = Return of condensates
- **D** = The valve is lockable in the closed position ( supplied by the customer)
- **E** = Filter (supplied by the customer)
- **F** = Steam trap (supplied by the customer)
- **G** = By-pass (needle valve) ( supplied by the customer)
- **H** = Non-return valve (supplied by the customer)
- **M** = Pressure gauge ( supplied by the customer)
- **N** = Thermal insulation for the pipework (supplied by the customer)
- **S** = Safety valve (supplied by the customer)
- V = Steam inlet



#### 3.6.1 Steam connection DN 20 (3/4" BSP) :

The customer must install a line purge, a manually closing valve with handwheel lockable in off position (do not use a 1/4 turn valve) and a filter on the supply side of the ironer.

The customer must install a safety valve if the boiler used operates at a pressure over the acceptable vapour of **1000 kPa maxi (10 bar).** 



#### Caution



The connection of a safety valve is compulsory in order to conform to the pressurised equipment directive (DESP)

The valve must be CE certified in category IV.

Its size must vary according to the characteristics of the boiler, to the volume of the pipes upstream of the valve and the volume of the appliance to be protected.



### Caution



The drainage connector of the safety valve must absolutely be connected to the outside of the building and out of reach human interference (on the roof for example).

### 3.6.2 Condensate connection DN 10 (3/8" BSP) :

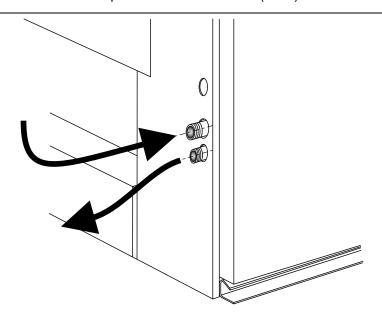
The customer must install a steam trap with float closed and incondensibles drainage device (example: SARCO ref. FT10C — G3/4" PN 25 or GESTRA ref. UNA15 h — G3/4" PN 25), a by-pass, a non-return valve and a manual closing valve lockable in off position.



#### Caution



After around 10 meters, the pressure loss in the condensate return pipes is too great. It is therefore necessary to calculate its diameter according to the length of the pipes from the bleeders up to the receiver tank, compared to the admissible pressure = 300 kPa maxi (3 bar).



### 3.6.3 D.E.S.P. approval

This technical form for pressure concerns an assembly constituted of :

- a cylinder classified in category of risk IV according to article 4 and Annex II of Directive 2014/68 / UE,
- pipings (DN20) responding to the article 4 point 3 of Directive 2014/68 /UE.

#### Manufacturer:

Electrolux Professional Laundry System France SNC

52, Rue Pasteur

BP6

10430 Rosières-Près-Troyes

#### Technical data of the cylinder:

Maximum service pressure	1000 kPa (10 bar)
Running temperature mini/maxi :	15 °C / 184°C
Volume of the equipment under pressure :	see following table
Pressure of test :	1500 kPa (15 bar) at 20°C
Pressure releasing of the device security	1000 kPa (10 bar)
Anticipated usage :	Steam heating

Flatwork ironer	4819	4821	4825	4828	4832
Volume of the equi- pement under pres- sure (in dm3)	300	335	398	431	497

# 3.7 Gas connection:



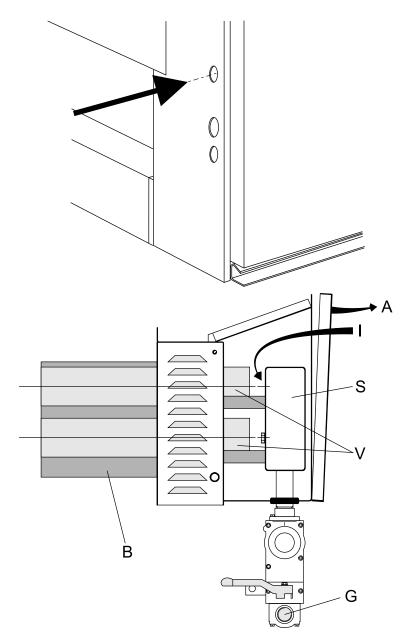
# Caution



The installation, connection and gas arrival adjustments for the machine must be done by qualified personnel only.

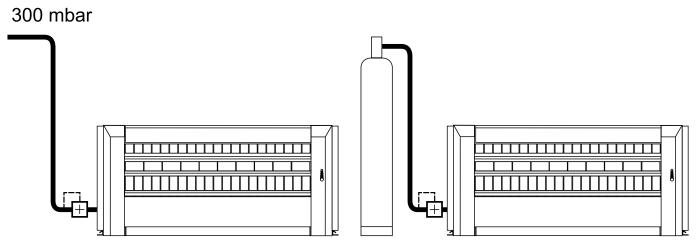
# 3.7.1 Gas supply DN 20 (3/4" BSP):

The customer must install a filter and a manual stop valve on the supply side of the machine if natural gas is used. For butane or propane, the customer must install a filter, a manual closing valve and a pressure reducer. Connect the installation at the back of the machine.

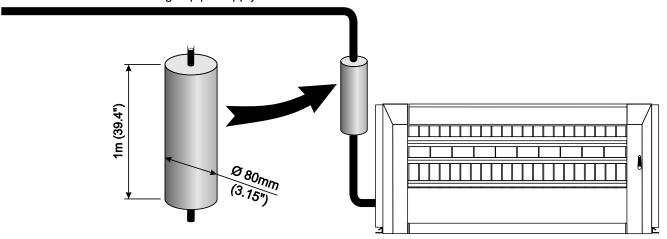


- A : Air filter
- B: Gas burner
- G : Gas inlet
- I: Injectors
- S : Service tank
- · V: Venturis

If the machine is connected to gas mains of 300 mbar or directly behind a gas bottle, it is compulsory that a pressure reducing valve be added as close as possible to the machine.



If the gas inlet pressure (P1) is identical to the nominal pressure of the machine (P2), it is possible to insert a reservoir as close as possible to the machine in order to protect against any falls in pressure when the machine starts up. And increase the diameter of gas pipe supply to allow the flow rate.



### 3.7.2 Determinate the gas type:

Check with the customer the gas type that will be used to supply the machine. According this gas type the machine must be set to corresponding to the gas type. For different gas that can be use with this ironer refer to appendices chapter "Gas settings characteristics"

The gas pressure will be determinate by the gas type supply to the machine. According this pressure and gas type the gas valve and injectors must be set in accordance to machine size.

Check appendices chapter "Gas settings characteristics" for complete information.

#### 3.7.3 Gas valve setting

Machine was tested at the factory in natural gas.

If you are running natural gas check the valve is still in natural gas setting.

In case of other gas type the gas valve must be set.

Refers to appendices "Gas settings characteristics" for gas valve setting.

#### 3.7.4 Injectors setting

Machine was tested at the factory in natural gas.

If you are running natural gas check the injectors are still in natural gas setting.

In case of other gas type the injectors must be set.

Refers to appendices "Gas settings characteristics" for injectors setting.

#### 3.8 Check before use

### 3.8.1 Positioning roller rotation check

The rollers located between the drive disk and the cylinder in the right hand unit must not rotate continuously while the machine is operating.

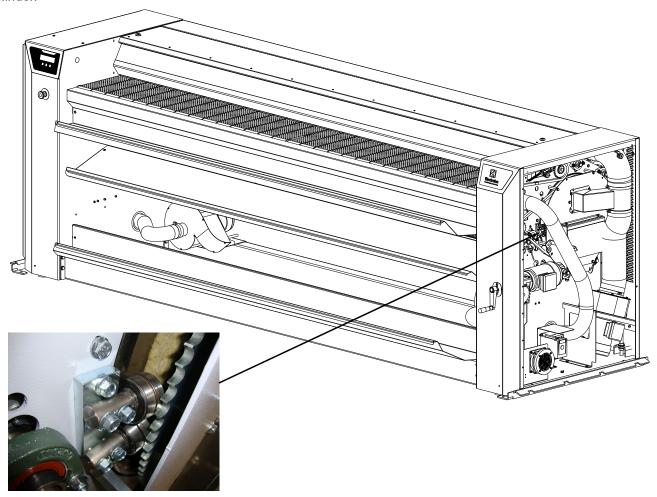


# Caution



This check must be carried out when you install the machine **and once a month**.

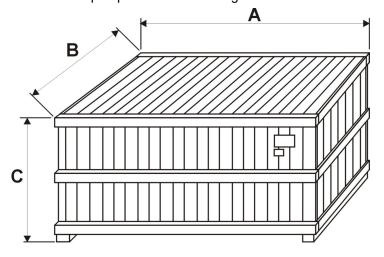
If the rollers rotate permanently, you must call the technician to adjust the plate to avoid mechanical wear on the cylinder.



# 4 Appendices

# 4.1 Packaging-Weight

The ironing machine is secured to a transport pallet and the folding machine is secured to a second pallet.



1: Identification plate

2 : Adjustment label (for gas machine only)

# 4.1.1 Model: IC6 48xx R-LF Rear Exit and Length Folding:

Ironing width	Units	4821	4825	4832
	mm	2120	2540	3170
Packaging dimensions Ironer (pallet or crate)				
Length (A)	mm	2930	3350	3980
Width (B)	mm	1200	1200	1200
Height (C) pallet	mm	1480	1480	1480
Height (C) crate	mm	1600	1600	1600
Packaging dimensions Folding and rear exit machine (	pallet or crate)			
Length (A)	mm	2930	3350	3980
Width (B)	mm	1720	1720	1720
Height (C) pallet	mm	1480	1480	1480
Height (C) crate	mm	1600	1600	1600
Weight in kg ( Ironer + crate)				
Weight gas heating	kg	xxx	XXX	1185
Weight electric heating	kg	xxx	xxx	1185
Weight steam heating	kg	xxx	xxx	1230
Weight in kg (Folding machine + crate)				
Weight all heating	kg	500	520	560

# 4.1.2 Model: IC6 48xx FR-LF Feeder Rear Exit and Length Folding:

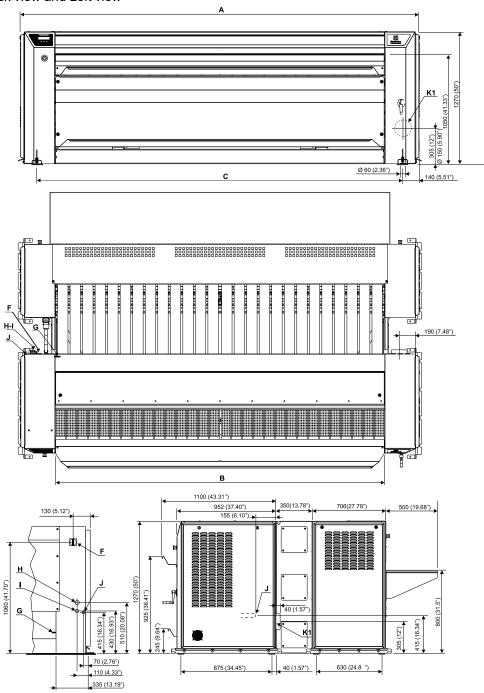
Ironing width	Units	4821	4825	4832
	mm	2120	2540	3170
Packaging dimensions Ironer (pallet or crate)				
Length (A)	mm	2930	3350	3980
Width (B)	mm	1350	1350	1350
Height (C) pallet	mm	1670	1670	1670
Height (C) crate	mm	1780	1780	1780
Packaging dimensions Folding and rear exit machine (	pallet or crate)			
Length (A)	mm	2930	3350	3980
Width (B)	mm	1720	1720	1720
Height (C) pallet	mm	1480	1480	1480
Height (C) crate	mm	1600	1600	1600
Weight in kg (ironer + crate)				
Weight gas heating	kg	xxx	XXX	1390
Weight electric heating	kg	xxx	XXX	1390
Weight steam heating	kg	xxx	XXX	1410
Weight in kg (Folding machine + crate)				
Weight all heating	kg	500	520	560

### 4.2 Technical characteristics

# 4.2.1 Model: IC6 48xx R-LF Rear Exit and Length Folding

First level : Front View Second level : Top view

Third level: Back view and Left view



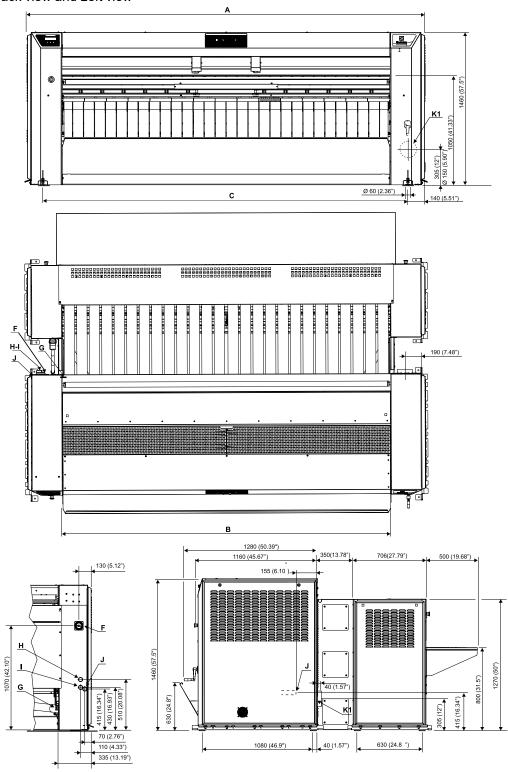
Chara	cteristics / type machine	Units	4821	4825	4832
Α	Overall width	mm	2785	3205	3835
В	Ironer width	mm	2120	2540	3170
С	Width between feet	mm	2420	2840	3470
	Cylinder diameter Gas / Electric heating	mm	479	479	479
	Cylinder diameter Steam heating	mm	457	457	457
	Effective working width	mm	2120	2540	3170
	Machine Floor area	m²	6.98	8.03	9.62
	Ironer net weight Gas heating / Dubixium cylinder	kg	810	875	1015
	Ironer net weight Electric heating / Dubixium cylinder	kg	810	875	1015
	Ironer net weight Steam heating	kg	845	905	1035
	Ironing speed mini	m/min	1.5	1.5	1.5
	Ironing speed maxi	m/min	9	9	9
	Heating surface Gas / Electric heating	m²	2.4	2.9	3.6
	Heating surface Steam heating	m²	2.3	2.7	3.4
Conne	ections				
F	Main switch to connect electric main cable				
G	Inlet for electric main cable				
Н	Steam inlet	mm(")	20 (3/4")	20 (3/4")	20 (3/4")
	Maximum supply pressure	kPa	1000	1000	1000
I	Condensate return	mm(")	10 (3/8")	10 (3/8")	10 (3/8")
J	Gas Inlet	mm(")	20 (3/4")	20 (3/4")	20 (3/4")
K	Drain of vapour or burnt gas	Ø mm	150	150	150
	Exhaust air max. with no pressure at 15°C Gas heating	m3 /h	830	950	1010
	Exhaust air max. with no pressure at 15°C Electrical & Steam heating	m3 /h	740	880	960
	Total pressure with no flow	Pa	880	880	880
	Admissible pressure drop on evacuation	Pa	200	200	200
Consu	mptions				
Gas he	eating / Dubixium cylinder				
	Installed electric power	kW	1.62	1.62	1.62
	Installed electric power with vacuum table	kW	2.36	2.36	2.36
	Installed heating power	kW	44	52	65
	Maximum electrical consumption	kWh	1.5	1.5	1.5
	Max. water evaporation capacity With 50 % residual moisture content and 100 % cylinder utilization (according to ISO 93.98 standard).	kg/h	37	46	59
Electri	c heating / Dubixium cylinder				
	Installed electric power	kW	37.8	44.6	55.2
	Installed electric power with vacuum table	kW	38.6	45.4	56
	Installed heating power	kW	37.3	43.9	54.6
	Maximum electrical consumption	kWh	36.45	43.2	53.55
	Max. water evaporation capacity With 50 % residual moisture content and 100 % cylinder utilization (according to ISO 93.98 standard).	kg/h	40	48	59
Steam	heating				
••	Installed electric power	kW	1.62	1.62	

	Installed electric power with vacuum table	kW	2.36	2.36	2.36	
	Maximum electrical consumption	kWh	1.5	1.5	1.5	
	Maximum steam consumption at 900 kPa	kg/h	92	110	141	
	Inner volume steam cylinder	dm3	335	398	497	
	Max. water evaporation capacity With 50 % residual moisture content and 100 % cylinder utilization (according to ISO 93.98 standard).	kg/h	63	75	93	
Heat loss (3% of installed heating power)						

# 4.2.2 Model: IC6 48xx FR-LF Feeder Rear Exit and Length Folding

First level : Front View Second level : Top view

Third level: Back view and Left view



Cylinder of Cylinder of Cylinder of Cylinder of Cylinder of Effective of Machine Research from the Ironer net Ironer net Ironer net Ironer net Ironer net Ironer net Ironing sport Ironi		mm mm mm mm mm	2785 2120 2420 479 457	3205 2540 2840	3835 3170
C Width beth Cylinder of Effective w Machine R Ironer net Ironer net Ironer net Ironing sp Ironing	tween feet diameter Gas / Electric heating diameter Steam heating working width Floor area	mm mm mm	2420 479		
Cylinder of Cylinder of Cylinder of Cylinder of Effective of Machine Filter Ironer net Ironing sport Ironing Iro	diameter Gas / Electric heating diameter Steam heating working width Floor area	mm mm	479	2840	~ · - ~
Cylinder of Effective will Machine in Ironer net Ironer	diameter Steam heating working width Floor area	mm			3470
Effective v Machine R Ironer net Ironer net Ironer net Ironer net Folding m Ironing sp Ironing sp Heating si Maximum I Condensa J Gas Inlet K Drain of vi Exhaust a Steam he Total pres Admissibl Consumptions Gas heating / Dubixi Installed e Installed e Installed f Maximum Max. wate moisture o cording to Electric heating / Du	working width Floor area		457	479	479
Machine for Ironer net Ironer net Ironer net Ironer net Ironer net Folding mander Ironing spate Ironing Ir	Floor area	mm	701	457	457
Ironer net Ironer net Ironer net Ironer net Folding m Ironing sp Ironing sp Ironing sp Heating si Heating si Heating si Heating si Heating si Heating si Inlet for el H Steam inlet Maximum I Condensa J Gas Inlet K Drain of vi Exhaust at heating Exhaust at Steam heating Total pres Admissibl Consumptions Gas heating / Dubixi Installed et Installed et Installed for Maximum Max. wate moisture of cording to Electric heating / Du			2120	2540	3170
Ironer net Ironer net Ironer net Ironer net Folding m Ironing sp Ironing sp Ironing sp Heating st Heating st Heating st Inlet for el H Steam inlet Maximum I Condensa J Gas Inlet K Drain of vi Exhaust at heating Exhaust at Steam heating Exhaust at Steam heating Installed et Installed et Installed to Inst	t weight Gas heating / Dubixium cylinder	m²	6.98	8.03	9.62
Ironer net Folding m Ironing sp Ironing sp Ironing sp Heating si Heating si Heating si Heating si Heating si Heating si Inlet for el H Steam inlet Maximum I Condensa J Gas Inlet K Drain of vi Exhaust at heating Exhaust at Steam heating Total pres Admissibl Consumptions Gas heating / Dubixi Installed et Installed et Installed to	J - J:	kg	1240	1280	1390
Folding m Ironing sp Ironing sp Ironing sp Heating si Heating si Heating si Heating si Gonnections  F Main swite G Inlet for el H Steam inlet Maximum I Condensa J Gas Inlet K Drain of vi Exhaust at heating Exhaust at Steam heating Total pres Admissibl Consumptions Gas heating / Dubixi Installed et Installed et Installed et Installed to Maximum Max. wate moisture of cording to  Electric heating / Du  Electric heating / Du  Ironing sp Iro	t weight Electric heating / Dubixium cylinder	kg	1240	1280	1390
Ironing sp	t weight Steam heating	kg	1260	1300	1410
Ironing sp Heating si Heating si Heating si Heating si Connections  F Main swite G Inlet for el H Steam inlet Maximum I Condensa J Gas Inlet K Drain of vi Exhaust at heating Exhaust as Steam heating Total pres Admissibl Consumptions Gas heating / Dubixi Installed eating Installed eating Installed for Maximum Max. water moisture of cording to Electric heating / Du Electric heating / Du  Electric heating / Du  Electric heating / Du  Electric heating / Du  Electric heating / Du  Electric heating / Du  Electric heating / Du  Electric heating / Du  Electric heating / Du  Electric heating / Du  Electric heating / Du  Electric heating / Du	nachine net weight	kg	500	520	560
Heating si Holder of le Heating si Haximum Heating Heating si Heat	peed mini	m/min	1.5	1.5	1.5
Heating si  Connections  F Main swite  G Inlet for el  H Steam inlet	peed maxi	m/min	9	9	9
F Main swite G Inlet for el H Steam inlet     Maximum I Condensa J Gas Inlet K Drain of v.     Exhaust a heating     Exhaust a Steam heating     Consumptions Gas heating / Dubixi     Installed each installed by Maximum     Max. wate moisture of cording to	surface Gas / Electric heating	m²	2.4	2.9	3.6
F Main swite G Inlet for el H Steam inlet	surface Steam heating	m²	2.3	2.7	3.4
G Inlet for el H Steam inlet					_
H Steam inle Maximum I Condensa J Gas Inlet K Drain of v. Exhaust a heating Exhaust a Steam he. Total pres Admissibl Consumptions Gas heating / Dubixi Installed e Installed f Maximum Max. wate moisture of cording to	ch to connect electric main cable				
Maximum  I Condensa  J Gas Inlet  K Drain of v.  Exhaust a heating  Exhaust a Steam he.  Total pres  Admissibl  Consumptions  Gas heating / Dubixi  Installed et Installed et Installed et Maximum  Max. wate moisture of cording to  Electric heating / Du	lectric main cable				
J Gas Inlet K Drain of v. Exhaust a heating Exhaust a Steam he. Total pres Admissibl Consumptions Gas heating / Dubixi Installed e Installed b Maximum Max. wate moisture of cording to	et	mm(")	20 (3/4")	20 (3/4")	20 (3/4")
J Gas Inlet K Drain of v. Exhaust a heating Exhaust a Steam he Total pres Admissibl Consumptions Gas heating / Dubixi Installed et Installed for Maximum Max. wate moisture of cording to	n supply pressure	kPa	1000	1000	1000
K Drain of view Exhaust a heating Exhaust a Steam heating Exhaust a Steam heating Admissible Consumptions  Gas heating / Dubixi Installed each Installed Feating Maximum Max. water moisture of cording to Electric heating / Du	ate return	mm(")	10 (3/8")	10 (3/8")	10 (3/8")
Exhaust a heating  Exhaust a Steam he Total pres  Admissibl  Consumptions  Gas heating / Dubixi  Installed et Installed he Maximum  Max. wate moisture of cording to		mm(")	20 (3/4")	20 (3/4")	20 (3/4")
heating Exhaust a Steam he Total pres Admissibl Consumptions Gas heating / Dubixi Installed e Installed f Maximum Max. wate moisture o cording to	apour or burnt gas	$\varnothing$ mm	150	150	150
Steam he. Total pres Admissibl  Consumptions  Gas heating / Dubixi Installed e Installed h Maximum Max. wate moisture o cording to	air max. with no pressure at 15°C Gas	m3 /h	830	950	1010
Admissibl  Consumptions  Gas heating / Dubixi  Installed e Installed h Maximum  Max. wate moisture o cording to	air max. with no pressure at 15°C Electrical & eating	m3 /h	740	880	960
Consumptions  Gas heating / Dubixi  Installed of Installed he  Installed he  Maximum  Max. wate moisture of cording to	ssure with no flow	Pa	880	880	880
Gas heating / Dubixi Installed e Installed f Installed h Maximum Max. wate moisture o cording to	le pressure drop on evacuation	Pa	200	200	200
Installed e Installed e Installed h Maximum Max. wate moisture o cording to					
Installed of Installed he Installed he Installed he Maximum Max. water moisture of cording to Electric heating / Du	ium cylinder				
Installed h Maximum Max. wate moisture o cording to Electric heating / Du	electric power	kW	1.62	1.62	1.62
Maximum  Max. wate  moisture o  cording to  Electric heating / Du	electric power with vacuum table	kW	2.36	2.36	2.36
Max. wate moisture o cording to Electric heating / Du	heating power	kW	44	52	65
moisture of cording to	n electrical consumption	kWh	1.5	1.5	1.5
Electric heating / Du	er evaporation capacity With 50 % residual content and 100 % cylinder utilization (ac- b ISO 93.98 standard).	kg/h	37	46	59
-	·				
Installed e	electric power	kW	37.8	44.6	55.2
	electric power with vacuum table	kW	38.6	45.4	56
	heating power	kW	37.3	43.4	54.6
				43.9	
Max. wate	n electrical consumption er evaporation capacity With 50 % residual content and 100 % cylinder utilization (ac-	kWh kg/h	36.45 40	48	53.55 59

Installed electric power	kW	1.62	1.62	1.62
Installed electric power with vacuum table	kW	2.36	2.36	2.36
Maximum electrical consumption	kWh	1.5	1.5	1.5
Maximum steam consumption at 900 kPa	kg/h	92	110	141
Inner volume steam cylinder	dm3	335	398	497
Max. water evaporation capacity With 50 % residual moisture content and 100 % cylinder utilization (according to ISO 93.98 standard).	kg/h	63	75	93
Heat loss (20), of installed heating newer)				

Heat loss (3% of installed heating power)

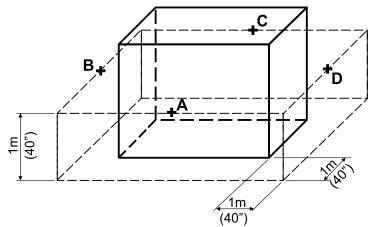
### 4.3 Supplies

You can take the box placed inside of the casing.

- 1. Accessories delivered with each machine
  - 1 Installation handbook.
  - 1 Operating handbook.
  - 2 Electrical schematics.
  - 1 Commissioning form to be completed to validate the warranty.
  - 1 Maintenance poster to put on the wall near the machine.
  - · 3 keys for casings
  - 2 screws to maintain the cylinder in high position to do the maintenance of bearing support cylinder.
  - 2 locking system for flap linen collector ( see chapter remove of the transport locks fitted (part 3))
- 2. Accessories delivered with each gas heating machine
  - 1 draught accelerator to extract the exhaust of burn gas, to be connected at the chimney (in 3 parts)

#### 4.4 Sound level

Airborne noise emitted by the machine (values established as from measurements made on the machine at points A, B, C, D).



Weighted acoustic pressure level (A) in dB(A)	Ironing width	2.1 m	2.5 m	3.2 m
	Point A	65	65	65
Flatwork ironer (basic)  Flatwork ironer folder (LF)	Point B	64	64	64
	Point C	69	69	69
	Point D	68	68	68
	Point A	65	65	65
	Point B	64	64	64
	Point C	69	69	69
	Point D	68	68	68

	Point A	73	73	73
Fooder flatuary ironer folder /FLF)	Point B	73	73	73
Feeder flatwork ironer folder (FLF)	Point C	72	72	72
	Point D	72	72	72
Flatwork ironer with rear load removal (R)	Point A	65	65	65
	Point B	64	64	64
	Point C	69	69	69
	Point D	68	68	68
	Point A	68	68	68
Flatwork ironer folder with rear load removal (R-LF)	Point B	65	65	65
	Point C	65	65	65
	Point D	67	67	67



### **Important**



This ironing machine should only be used for previously washed and pre-dried, machine-ironable textiles.



# **Important**



In this normal case of use, it is not necessary to connect the exhaust duct to the open air.

In the opposite case, the exhaust duct must be connected to the open air, by the shortest way, and with as few bents as possible.

Incline the flexi-hose downwards, as compared to the machine.

Protect the end of the exhaust duct from the bad weather.

Do not connect the exhaust duct to a gas, coal, fuel oil furnaces chimney. Separate it also from any other ducting (tumble dryer, finishing cabinet).

### 4.5 Electric power supply:

The feeder cable sections mentioned in our literature are given only as a guide .

To obtain a value perfectly suited to your own application and which takes account of the different correction factors in respect of your plant, refer to the tables below.

### 4.5.1 TABLE 1 (in accordance with EN standard 60204–1)

Values given for:

Cable with copper conductors.

Cable with PVC insulation (for other insulants see TABLE 3).

Ambient temperature 40°C max. (for others see TABLE 2)

Three-phase cable under load without including starting currents.

BT / C / E cable layout.

#### **MAXIMUM ADMISSIBLE CURRENT**

Cable section	Seated in Cable Duct	Wall Fixing	Cable Tray
	or Cable Trough		
	B2	С	E
3 x 1.5 mm <sup>2</sup>	12.2 A	15.2 A	16.1 A
3 x 2.5 mm <sup>2</sup>	16.5 A	21 A	22 A
3 X 4 mm <sup>2</sup>	23 A	28 A	30 A
3 x 6 mm <sup>2</sup>	29 A	36 A	37 A
3 x 10 mm <sup>2</sup>	40 A	50 A	52 A
3 x 16 mm <sup>2</sup>	53 A	66 A	70 A
3 x 25 mm <sup>2</sup>	67 A	84 A	88 A
3x 35 mm <sup>2</sup>	83 A	104 A	114 A
3 x 50 mm <sup>2</sup>	-	123 A	123 A
3 x 70 mm <sup>2</sup>	-	155 A	155 A

# 4.5.2 TABLE 2 correction factors for different ambient temperatures :

Ambient temperature	Correction factor
30 ° C (86° F)	1.15
35 ° C (95° F)	1.08
40 ° C (104° F)	1
45 ° C (113° F)	0.91
50 ° C (122° F)	0.82
55 ° C (131° F)	0.71
60 ° C (140° F)	0.58

### 4.5.3 TABLE 3 correction factors for different cable insulating materials :

Insulating material	Maximum working temperature range	Correction factor
PVC	70 ° C (158° F)	1
Natural or Synthetic Rubber	60° C (140° F)	0.92
Silicone Rubber	120° C (248° F)	1.60

### 4.5.4 TABLE 4 B2, C and E correction factors for cable grouping:

	B2	С	E
Number of cables	Seated in Cable Duct	Wall fixing or Cable Trough	Cable Tray
1	1.00	1.00	1.00
2	0.80	0.85	0.87
4	0.65	0.75	0.78
6	0.57	0.72	0.75
9	0.50	0.70	0.73

#### 4.5.5 Calculation

The total current included for using Table 1 should be the maximum rated current for the machine divided by the product of the different correction factors. Other correction factors may also be applied; consult cable manufacturers.

Calculation: example

The machine has a rated current of 60 A

The ambient temperature is 45°C; Table 2 gives a correction factor of 0.91.

Rubber cable insulant: Table 3 gives a correction factor of 0.92.

The cable is fixed directly to the wall (Column C), with 2 cables side by side. The Table 4 gives a correction factor of 0.85.

Total current : \_\_\_\_\_**60A** \_\_=**84A** ......0.91x0.92x0.85.....

Taking Column C in Table 1 (wall fixing), we obtain a minimum cable section of: 3x 25 mm²

#### 4.5.6 Electrical Standard characteristics for IC6 48xx:

Machine Type	Heating	Supply Voltage	Installed Power	Rated Intensity	Connection Cable Section	Main Circuit Breaker or Fuse
4821	Steam / Gas	380/415V 3+E 50– 60Hz	1.75 kW	5 A	4 X 2.5 mm²	3 x 16 A
4821	Electric	380/415V 3+E 50– 60Hz	38.2 kW	45 A	4 x 10 mm²	3 x 63 A
4825	Steam / Gas	380/415V 3+E 50– 60Hz	1.75 kW	5 A	4 X 2.5 mm²	3 x 16 A
4825	Electric	380/415V 3+E 50– 60Hz	44.5 kW	58 A	4 x 16 mm²	3 x 80 A
4832	Steam / Gas	380/415V 3+E 50– 60Hz	1.75 kW	5 A	4 X 2.5 mm²	3 x 16 A
4832	Electric	380/415V 3+E 50– 60Hz	55.3 kW	80 A	4 x 25 mm²	3 x 100 A

# 4.6 Gas setting characteristics IC6 48xx R-LF and FR-LF:



# **Caution**



The installation, connection and gas arrival adjustments for the machine must be done by qualified personnel only.

## 4.6.1 Legend of symbols used:

- · I: Machine working with only one gas family
- · II: Machine working with two gas families
- 1: 1st family: caol gas or town gas (for information: not used here)
- 2 : 2nd family : Natural gas
- 3 : 3rd family : liquefied petroleum gas (LPG)
- H: Natural gas with high calorific value (type G20)
- L : Natural gas with low calorific value (type G25)
- E: Natural gas with high and low calorific value (type G20)
- LL : Natural gas with low calorific value (type G25)
- Esi: Natural gas with high and low calorific value with adjustment (type G20)
- B : Butane gas (type G30)
- P : Propane gas (type G31)
- B/P: Butane and propane gas (type G30 and G31)
- 3+: Butane/Propane gas with couple of pressure 30/37 (type G30 and G31)

AT : Austria	FR : France	MT : Malta
BE : Belgium	GB : Great Britain	NL : Netherlands
BG : Bulgaria	GR : Greece	NO : Norway
CH : Switzerland	HU : Hungary	PL : Poland
CY : Cyprus	HR : Croatia	PT : Portugal
CZ : Czech Republic	IE : Irland	RO : Romania
DE : Germany	IS : Iceland	SE : Sweden
DK : Denmark	IT: Italy	SI : Slovenia
EE : Estonia	LT: Lithuania	SK : Slovakia
Es : Spain	LU : Luxemburg	TR : Turkey
FI : Finland	LV : Latvia	

Qn (Hi): Nominal heat emission express in relation to the net calorific value.

Mn: Nominal mass (for butane/propane gas).

Vn : Nominal volume (for natural gas)

	Country	Category	Gas	Pres- sure
				(mb- ar)
For safety F	AT	II2H3B/P	G20	20
reasons use		1121100/1	G31	50
only original spare parts.	DE — LU	II2E3B/P	G20	20
TYPE:		112200/1	G31	50
SERIAL N°:	BE	I2E(R)B;I3+	G20/ G25	20/25
PROD. N° :   Qn (Hi) : kW   G mbar   CAPACITY : I ;, kg   Mn/vn : /_			G31	37
CAPACITY : I ;, kg   Mn\( \sqrt{n}\( \sqrt{n} \sqrt{n} \) : /_	BG — DK — EE — FI – HR — HU — SE — F	RO II2H3B/P	G20	20
P. MAX. : W Type : M kW ISOL. CLAS : G20	—TR	IIZI IJD/F	G31	37
G25 - mbar G30 - mbar	FR	II2Esi3P	G20/ G25	20/25
VHz   G31mbar   n :			G31	37/50
_A	CH — CY — CZ — ES — GB — GR — IE —	IT II2H3+	G20	20
P. max. : kPa	— LT — PL — PT — SI — SK	112113+	G31	37
(€ IP 24 D Date: _/_/_	CH — ES — LV	II2H3P	G20	20
		112113F	G31	50
10430 Rosières-près-Troyes FRANCE	NL	II2L3P	G25	25
32101642 Made in FRANCE			G31	50
	NO	I3B/P	G31	50
	DE — MT	I3P	G31	50

# 4.6.2 Testing pressure:

According to the EN 437 standard, the values of the testing pressures mentioned in our various documents are values for static pressures taken at the gas inlet connection of the machine; heating of the machine being on.

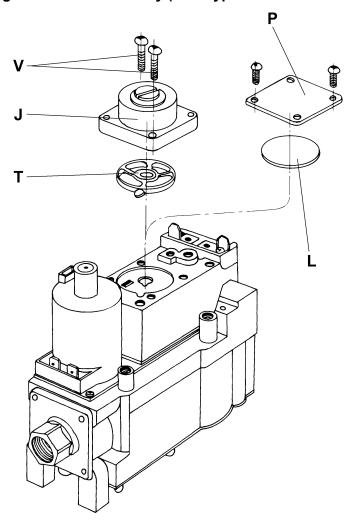
### 4.6.3 Setting gas adjustment:

The machine is adjusted at the plant to be suitable for the kind of gas specified on the order. If you have to supply your machine with gas in a family different from the gas for which your machine was adjusted, proceed as follows: Check that the diameter of the injectors is adequate for the kind of gas of your installation (see Table of injectors below). The machine is delivered with extra injectors in a plastic envelope.

#### 4.6.3.1 Changing to a gas in the same family (Type H or L):

Adjust the gas outlet pressure (see correspondence in the tables below)

#### 4.6.3.2 Changing to a gas in a different family (from type H or L to butane or propane)



Change the 3 injectors with joints (see correspondence in the tables)

Unscrew the fixing screws (V) and remove the adjusting head (J) as well as its cork (T), keep these parts in case a change would be necessary.

Replace it by the cork (L) and the plate (P).

Screw the 2 screws and block.

#### 4.6.3.3 Changing to a gas in a different family (from butane or propane to type H or L)

Change the 3 injectors with joints (see correspondence in the tables)

Unscrew the fixing screws (V) and remove the plate (P) as weel as its cork (L), keep these parts in case a change would be necessary.

Replace it by the cork (T) and the adjustment head (J).

Screw the 2 screws (V) and block.



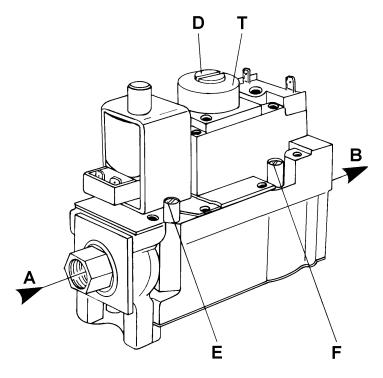
# **Important**



Adjustments should be made by qualified personnel only.

# 4.6.4 Adjustment and checking of the outlet pressure

The gas outlet pressure of the solenoid valve is adjusted at the factory. If you have to make another adjustment, proceed as follows:



- A : Inlet B : Outlet
- **D** : Outlet pressure regulator

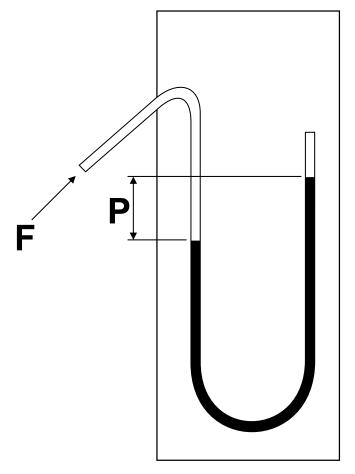
Adjustment screw plug

- E: Inlet pressure tapping
- **F**: Outlet pressure tapping
- **T**: Head regulation

- 1 : Close the gas inlet and remove the binding screw from the pressure tapping (F) and connect the manometer tube.
- 2: The electricity supply must be energized otherwise gas will not be supplied to the burner.
- $\bf 3$  : Open and check the gas inlet main burner using the manometer on the pressure tapping  $({\bf F})$
- 4 : Remove pressure regulator cap (D)
- 5 : Using a screwdriver , slowly turn the adjustment screw until the required pressure (P) is indicated on manometer ( see tables on following pages).

Turn the adjustment screw clockwise to increase and counter-clockwise to decrease gas pressure.

 $\bf 6$  : Reset the pressure regulator cap, close off the gas inlet, remove the manometer tube and put the binding screw back in (F).



#### 4.6.5 **Tables of Correspondences:**

TABLE OF CORRESPONDENCES: IRONER 4821 R-LF and FR-LF							
Type of Gas	Working supply pressure in mbar	Hi	Diameter of injectors in mm	Pressure at injectors in mm H2O	Heat emission Qn in kW (Hi)	Consumption Mn in kg/h	Consumption Vn in M3/h
G20	20	34.02 MJ/M3	3.40	102	44	-	4.65
G25	25	29.25 MJ/M3	3.40	143	44	-	5.41
G30 G31	28–30 37	45.65 MJ/kg 46.34 MJ/kg	1.95 1.95		44 44	3.46 3.41	-
G31	50	46.34 MJ/kg	1.80	-	44	3.41	-
	G20 G25 G30 G31	Type of Gas         supply pressure in mbar           G20         20           G25         25           G30         28–30           G31         37	Type of Gas         Working supply pressure in mbar         Hi           G20         20         34.02 MJ/M3           G25         25         29.25 MJ/M3           G30         28–30         45.65 MJ/kg           G31         37         46.34 MJ/kg	Type of Gas         Working supply pressure in mbar         Hi         Diameter of injectors in mm           G20         20         34.02 MJ/M3         3.40           G25         25         29.25 MJ/M3         3.40           G30         28–30         45.65 MJ/kg         1.95           G31         37         46.34 MJ/kg         1.95	Type of Gas         Working supply pressure in mbar         Hi         Diameter of injectors in mm         Pressure at injectors in mm H2O           G20         20         34.02 MJ/M3         3.40         102           G25         25         29.25 MJ/M3         3.40         143           G30         28–30         45.65 MJ/kg         1.95         .           G31         37         46.34 MJ/kg         1.95         .	Type of Gas         Working supply pressure in mbar         Hi         Diameter of injectors in mm         Pressure at injectors in mm H2O         Heat emission Qn in kW (Hi)           G20         20         34.02 MJ/M3         3.40         102         44           G25         25         29.25 MJ/M3         3.40         143         44           G30         28–30         45.65 MJ/kg         1.95         .         44           G31         37         46.34 MJ/kg         1.95         .         44	Type of Gas         Working supply pressure in mbar         Hi         Diameter of injectors in mm         Pressure at injectors in mm H2O         Heat emission Qn in kW (Hi)         Consumption Mn in kg/h           G20         20         34.02 MJ/M3         3.40         102         44         -           G25         25         29.25 MJ/M3         3.40         143         44         -           G30         28–30         45.65 MJ/kg         1.95         .         44         3.46           G31         37         46.34 MJ/kg         1.95         .         44         3.41

For Belgium, no work is allowed between G20 and G25

TABLE OF CORRESPONDENCES: IRONER 4825 R-LF and FR-LF								
Category Index	Type of Gas	Working supply pressure in mbar	Hi	Diameter of injectors in mm	Pressure at injectors in mm H2O	Heat emission Qn in kW (Hi)	Consumption Mn in kg/h	Consumption Vn in M3/h
*2E, 2H , 2ESI	G20	20	34.02 MJ/M3	3.70	100	52	-	5.50
2L, 2ESI	G25	25	29.25 MJ/M3	3.70	135	52	-	6.40
3+	G30 G31	28–30 37	45.65 MJ/kg 46.34 MJ/kg	2.10 2.10		52 52	4.10 4.04	-
3 P	G31	50	46.34 MJ/kg	2.00	-	52	4.04	-

<sup>\*</sup> For Belgium, no work is allowed between G20 and G25

	TABLE OF CORRESPONDENCES: IRONER 4832 R-LF and FR-LF							
Catego- ry Index	Type of Gas	Working supply pressure in mbar	Hi	Diameter of injectors in mm	Pressure at injectors in mm H2O	Heat emission Qn in kW (Hi)	Consumption Mn in kg/h	Consumption Vn in M3/h
*2E, 2H , 2ESI	G20	20	34.02 MJ/M3	4.00	114	65	-	6.87
2L, 2ESI	G25	25	29.25 MJ/M3	4.00	160	65	-	7.99
3+	G30 G31	28–30 37	45.65 MJ/kg 46.34 MJ/kg	2.30 2.30		65 65	5.12 5.05	-
3 P	G31	50	46.34 MJ/kg	2.10	-	65	5.05	-

<sup>\*</sup> For Belgium, no work is allowed between G20 and G25



### **Important**



G20 (H) = natural gas , Lacq Type (20 mbar)

G25 (L) = natural gas , Groningue Type (20 or 25 mbar) G30 (H) = Butane gas (28/30, 50 mbar)

G31 = Propane gas (28/30, 37, 50 mbar)



# **Important**



Tightness test after installation

The gas leak test is performed as follows:

- 1/ Paint pipe joints, pilot gas tubing connections and inspect outlets with soap and water solution; do not use an aggressive soap.
- 2/ Put the machine into service. Bubbles indicate a gas leak.
- 3/ Eliminate this leak.



# Caution



#### Check-out

Before leaving, put the appliance into operation and allow to run a complete cycle. Watch to ensure that all burner system components function correctly.

# 4.7 Explanation of washing symbols

(ISO 3758:2005 standard)

To overcome language barriers, the following are symbols used internationally to give you guidance and recommendations when washing different textiles.

# 4.7.1 Washing

The tub symbolizes washing.

Symbols	Max. washing tem- perature in °C	Mechanical action
95	95	normal
95	95	mild
70	70	normal
60	60	normal
60	60	mild
50	50	normal
50	50	mild
40	40	normal
40	40	mild
40	40	very mild
30	30	normal
30	30	mild
30	30	very mild
	40	wash by hand
M	-	do not wash

# 4.7.2 Bleaching

The triangle symbolizes bleaching.

Symbols	Explanation			
$\triangle$	Bleaching allowed (chlorine or oxygen).			
$\triangle$	Bleaching allowed (only oxygen).			
	Do not bleach.			

# **4.7.3** Drying

The circle in a square symbolizes tumble drying.

Symbols	Explanation			
$\odot$	Can be put in a tumble dryer. Normal temperature.			
$\odot$	Can be put in a tumble dryer. Lower temperature.			
X	Do not put in a tumble dryer.			

# 4.7.4 Ironing

The iron symbolizes the domestic ironing and pressing process.

Symbols	Explanation		
	Max. temperature 200 °C.		
	Max. temperature 150 °C.		
$\overline{\cdot}$	Max. temperature 110 °C. The steam can cause irreversible damages.		
X	Do not iron.		

# 4.7.5 Dry or water cleaning

The circle symbolizes dry or water cleaning.

Symbols	Explanation			
<b>P</b>	Normal dry cleaning with perchloroethyl, solvent of hydrocarb.			
<u>(P)</u>	Mild dry cleaning with perchloroethyl, solvent of hydrocarb.			
(F)	Normal dry cleaning with solvent of hydrocarbon.			
<u>(E)</u>	Mild dry cleaning with solvent of hydrocarbon.			
X	Do not dry clean.			
W	Normal water cleaning.			
$\underline{\underline{\mathbf{w}}}$	Mild water cleaning.			
<u>w</u>	Very mild water cleaning.			

# 4.8 Conversion of measurement units

This following is a list of correspondences of the main frequency used units, to avoid the need to use measurement unit conversion table.

bar	1 bar = 100 000 Pa 1 bar = 1.019 7 kg/cm <sup>2</sup> 1 bar = 750.06 mm Hg 1 bar = 10 197 mm H2O	British thermal unit	1 Btu = 1 055.06 J 1 Btu = 0.2521 kcal
calorie	1 bar = 14.504 psi 1 cal = 4.185 5 J 1 cal = 10–6 th 1 kcal = 3.967 Btu 1 cal/h = 0.001 163 W	Continental horse power	1 ch = 0.735 5 kW 1 ch = 0.987 0 HP
cubic foot	1 kcal/h = 1.163 W 1 cu ft = 28 316 8 dm³ 1 cu ft = 1 728 cu in	cubic inch	1 cu in = 16.387 1 dm³
foot	1 ft = 304.8 mm 1 ft = 12 in	gallon (U.K.)	1 gal = 4.545 96 dm³ or l 1 gal = 277.41 cu in
gallon (U.S.A.)	1 gal = 3.785 33 dm³ or l 1 gal = 231 cu in	horse power	1 HP = 0.745 7 kW 1 HP = 1.013 9 ch
inch	1 in = 25.4 mm	joule	1 J = 0.000 277 8 Wh 1 J = 0.238 92 cal
kilogramme	1 kg = 2.205 62 lb	kg/cm²	1 kg/cm² = 98 066.5 Pa 1 kg/cm² = 0.980 665 bar 1 kg/cm² = 10 000 mm H2O 1 kg/cm² = 735.557 6 mm Hg
pound	1 lb = 453.592 37 g	meter	1 m = 1.093 61 yd 1 m = 3.280 83 ft 1 m = 39.37 in
cubic meter	1 m³ = 1 000 dm³ 1 m³ = 35.214 7 cu ft 1 dm³ = 61.024 cu in 1 dm³ = 0.035 3 cu ft	pascal	1 Pa = 1 N/m <sup>2</sup> 1 Pa = 0.007 500 6 mm Hg 1 Pa = 0.101 97 mm H2O 1 Pa = 0.010 197 g/cm <sup>2</sup> 1 Pa = 0.000 145 psi 1 MPa = 10 bar
psi	1 psi = 0.068947 6 bar	thermie	1 th = 1 000 kcal 1 th = 10+6 cal 1 th = 4.185 5 x 10+6 J 1 th = 1.162 6 kWh 1 th = 3 967 Btu
watt	1 W = 1 J/s 1 W = 0.860 11 kcal/h	watt-hour	1 Wh = 3 600 J 1 kWh = 860 kcal
yard	1 yd = 0.914 4 m 1 yd = 3 ft 1 yd = 36 in	temperature degrees	0 °K =273.16 °C 0 °C = 273.16 °K t °C = 5/9 (t °F-32) t °F = 1.8 t °C + 32



Electrolux Professional AB 341 80 Ljungby, Sweden www.electroluxprofessional.com