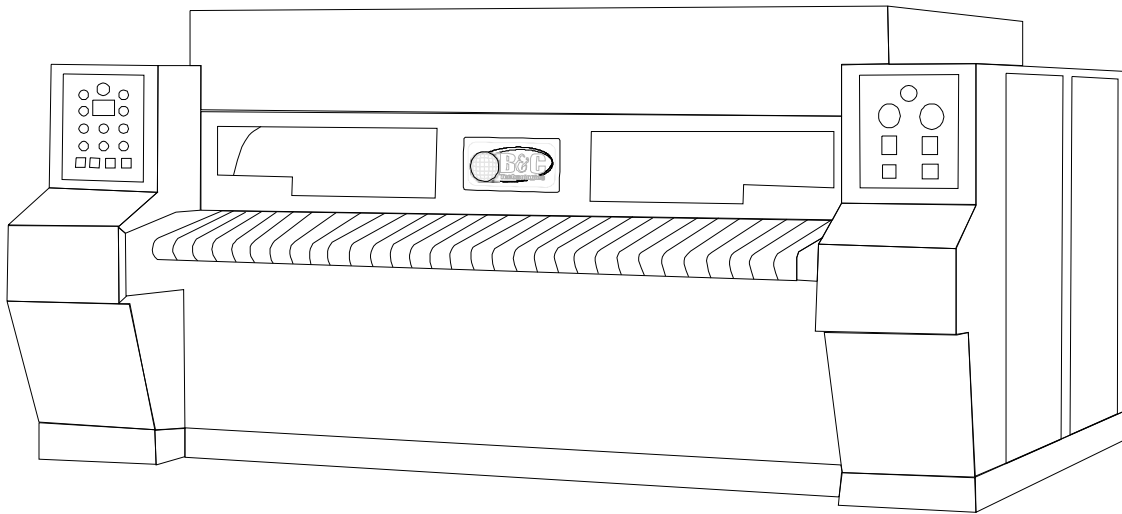


Ironer

IM Installation and Operation Manual



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Key Symbols

Anyone operating or servicing this machine must follow the safety rules in this manual. Particular attention must be paid to the DANGER, and WARNING, and CAUTION blocks which appear throughout the manual.



The lightening flash and arrowhead within the triangle is a warning sign alerting you of the presence of dangerous voltage.



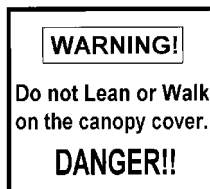
DANGER! For the hand, It can be caught in moving roller or Narrow spaces.



This warning symbol indicated the presence of hot surfaces that could cause serious burns. Stainless steel and steam lines can become extremely hot and should not be touched.



WARNING ! Access only for authorized maintenance staff.



WARNING ! Do not Lean or Walk on the canopy cover.
DANGER !!



WARNING ! Hot surface Don't open until Cool.



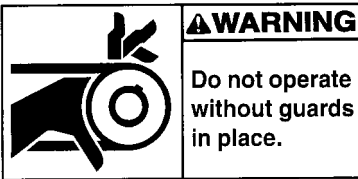
Certain slippery surface tread carefully.



Push hears for emergency stop.



DANGER! For the hand, It can be caught in moving roller or Narrow spaces.



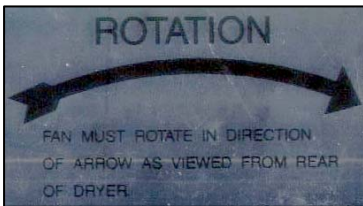
DANGER! For the hand, Belts and pulley in motion. Do Not operate with out Guard.



STOP – Read manual first.



DANGER! High voltage present.



Information, Alert to the correct direction of rotation.



STOP – Danger moving parts, Read manual.



DANGER! For the hand, Belts and pulley in motion. Do Not operate with out Guard.

SECTION 1

GENERAL INFORMATION

This manual contains installation, operation, maintenance, instructions. Trouble shooting and illustrated parts lists for the High-Performance Ironers:

TYPE 800 & 1200

IMPORTANT INFORMATION

Please read and understand this/ manual before attempting the installation or operation of the Ironer. Should you require any additional information that may not be included in this manual, please do not hesitate to call your nearest dealer or service department.

This manual contains valuable information for you; therefore keep it in an easily accessible and safe place.

SUBJECT TO CHANGES WITHOUT NOTIFICATION

SECTION 2

SCOPE OF DELIVERY

2.1 STANDARD EQUIPMENT

The ironer is delivered in ready-to-connect modules. The supply and return lines for all utilities such as heat, compressed air, power, exhaust, etc., have to be installed by the user. Each module is covered with a protective plastic wrapping. The cover panels are normally mounted to the ironer module.

2.2 TECHNICAL SPECIFICATIONS

General information on connection loads and energy consumption depend on the heating system, the kind of works, the working speed and the kind of padding used.

For specific information, please refer to the enclosed individual installation drawing.

SECTION 3

PRODUCT DESCRIPTION

3.1 DESIGN AND CONSTRUCTION

The heavy-duty ironers are manufactured in modules. The modules can be combined into ironers of one to four units with diameters of 800 mm (32 in.) or 1200 mm (47 in.).

Standard Widths: 3000 mm (118 in.)

Standard Widths: 3300 mm (130 in.)

3.2 MODULAR SYSTEM

The modular design allows an increase of modules (up to four) to fit the individual requirements of the particular installation.

3.3 HEATING SYSTEM

The ironers can be ordered for the following heating systems:

- high pressure steam
- Hot Oil

3.4 DRIVE SYSTEM

General

The heavy-duty ironer is driven by a variable speed gear drive or a variable electric drive for the multi-roll units. The power is directed to a slip-on gear box on each roller and infeed conveyor through a high-performance V-belt system.

The required infeed speed can be adjusted at the right control panel and can be monitored at the speedometer display.

Programmable speed selectors are available as an option. The selectors can only be modified by trained personnel.

3.5 HEATING CHESTS

Heating chests are constructed of heavy gauge boiler plates with stiffeners to take the required forces. The contact surfaces of the chests are ground and polished. The chests are free-adjustable and slide on rollers integrated in the main frame.

3.6 BRIDGING CHESTS

The heated bridging chests are specially designed to prevent a loss of heating efficiency between the modules and ensure a high finish quality due to the uninterrupted heating surface. By direct steam or Hot Oil passed being through the Bridging chest.

Steam-heated chests consist of a copper heating coil imbedded in the chest by means of thermo-cement. Thermal Oil heated chest are of a special welded design to optimize the heat transfer.

The surfaces of the bridging chests are ground and polished.

3.7 ROLLERS

The rollers basically consist of a perforated, large-diameter cylinder. Each roller Butterfly has its own vacuum fan that ensures the removal of condensation. Each vacuum fan can be individually adjusted through a butterfly flap located in the exhaust duct portion of the module. Through this individual adjustment, a constant temperature can be maintained at the padding.

Each roller is mounted on the left side to a swing bracket with a self-aligning bearing. The right side is mounted to a slip-on gear box integrated in a swing bracket. The bearings are lifetime-lubricated and do not require any maintenance.

All available padding can be supplied to meet customer specifications.

3.8 ROLLER PRECESSION

The speed difference between rollers is created by the variable pulley belts on the drive side of the slip-on gear boxes (similar to the gear box on the infeed belt). The precession between rollers should only be modified by trained personnel.

3.9 ROLLER LIFTING MECHANISM

Each roller can be individually raised and lowered through a pneumatic cylinder. The controls are located on the right hand control panel. After shutting off the power or in case of a power failure the rollers are lifted automatically. A safety device built into the cylinders prevents the rollers from dropping down in case of a failure in the compressed air system. This safety device prevents damage to the padding in case the roller remains in the chest.

The pressure between roller and chest is created by the pneumatic cylinders. A pneumatic control valve, located on the right side of the first module, controls this pressure which can be monitored at a manometer on the right control panel. As an option, an individual pressure control of each roller is available.

As an option, an air receiver may be supplied to raise the rollers in case of a lack of compressed air.

3.10 LINEN INFEED.

The infeed of linen occurs on the front side of the ironer through wear and temperature resistant flat belts. The belts are driven by a textured infeed roller. A finger guard, located at the end of the belts, stops the ironer and lifts the first roller immediately if activated.

3.11 UTILITIES CONNECTIONS (when looking at the front)

Electricity	: Type 800 Left hand side of machine. Type 1200 Right hand side of machine
Compressed Air	: Type 800 Right hand side of machine. Type 1200 Left hand side of machine.
Steam and Condensate	: Type 800 Right hand side of machine. Type 1200 Left hand side of machine.
Exhaust	: Type 800 Right hand side of machine. Type 1200 Left hand side of machine

3.12 CONTROL PANELS

The left control panel includes emergency stop button, roller temperature, air pressure for each roller steam inlet temperature, steam pressure

The right control panel includes speedometer, speed selector "LIFT and LOWER" switch for each roller, switch for "ON" and "START", push button "DRIVE ON", pilot

light for main power, pilot light for overload, pilot light for control, push button for control, jog button (reverse), drive start push button, emergency stop and selector switch.

3.13 ELECTRICAL COMPONENTS

The electrical panel is located at the right side for model 1200 and Left side for model 800 of the first module in an enclosure with a door that can only be open by a special key. All electrical components on the panel are mounted on clip-on brackets for easy repair and maintenance. The serial plate is located on the left side in the enclosure.

3.14 SAFETY FEATURES

The infeed side is protected by a transparent, heat-resistant finger guard that, if activated, will instantly stop the drive motor and raise the first roller.

Two emergency push buttons are located at either end of the ironer and should only be used in emergencies. If activated, these emergency buttons will shut off the ironer and raise all the rollers.

All mechanical and electrical components are covered by sheet metal panels or located behind enclosures. Panels and service doors can only be opened with special keys.

3.15 OPTIONS

Canopies

Canopies can be provided so that heat losses are reduced to a minimum. The canopies are of aluminum profiles.

SECTION 4

INSTALLATION

4.1 GENERAL INFORMATION

Notice Signs

You will find notice signs throughout this manual to emphasize important and critical situations. These notice signs will help installing and operating the equipment properly, thus avoiding possible hazards and damage to the equipment. Please follow the instructions mentioned carefully to obtain safe and efficient operating equipment.

Required Personnel and Information

The installation of the ironer is usually done by the manufacturer's technicians or a qualified independent technician.

NOTE: Do not attempt to install the ironer unless you are trained and authorized to do so.

The following manual and drawings should be on site before any installation work starts:

1. Installation drawing
2. Connection diagram
3. Electrical diagram
4. Operating manual and spare parts list

4.2 MOVING AND SET UP

Unpacking the Ironer

The ironer is shipped in different packages with an outer plastic wrapping to protect all visible parts from shipping damage.

Remove all plastic wrapping and any other packing material that may interfere with the installation.

Receiving Inspection

When receiving the ironer an inspection should be carried out and the carrier should be notified if there are any damages or signs of possible damages. The carrier must then note the damages on the delivery documents for insurance purposes. Should damages be discovered later, the carrier should also be notified immediately and a damage assessor should estimate the damages.

If any parts listed on the packing list are missing in the shipment, a claim should be filed with the carrier.

NOTE: Do not install ironer if there are any electrical or structural damages.

Moving the Ironer to Location

a) General

The modules can be moved by using a fork lift or a crane with an appropriate sling system. The weight of the modules can be found in the technical data of the ironer.

The minimum required entrance dimensions are:

- Type 800 : 1800 mm wide x 1800 mm high.
- Type 1200 : 2200 mm wide x 1800 mm high.

For single roller ironers the minimum required entrance dimensions are:

- Type 800 : 2100 mm wide x 1800 mm high.
- Type 1200 : 2500 mm wide x 1800 mm high.

b) Using a Fork Lift

NOTE: The fork lift used must have the required capacity and be fitted with appropriate forks

The modules can be picked up at the I-Beams at the front side. If using a lift truck, then one side of the ironer is to be lifted and skid rollers are to be used for the opposite side.

Lift the ironer and move it slowly to its destination. The passage of the load should be clear of any obstruction on the floor or overhead, such as power lines, ceiling beams and others.

c) Using a Crane

The transport brackets must be in position before attempting to move the modules with a crane.

NOTE: The crane used must have the required capacity and be fitted with appropriate slings and a spreader frame.

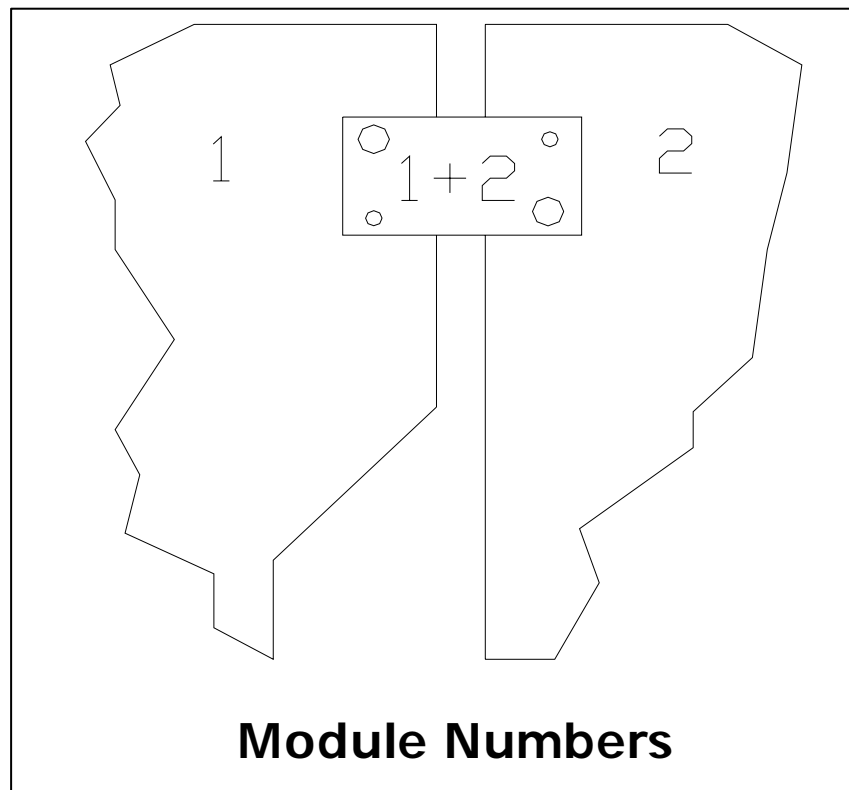
The modules are to be moved in a horizontal position only. After the modules are in position, remove the transport brackets before mounting the modules together.

Positioning and Leveling the Ironer

The ironer should be positioned as per installation drawing. The minimum required side distance to walls or other obstructions or equipment is 500 mm (20 in.).

The modules are assembled starting with the infeed module (no.1) in ascending order. If required, the modules can also be assembled in descending order starting with the unloading side.

NOTE: The module number can be found at the top of the side frame beside the connecting bracket (see drawing).



Assembling the Ironer

NOTE: The following assembly instructions must be strictly followed to avoid injuries and damages.

1. After the modules are set in location, bolt the lower I-Beams together using the hex bolts (M20 x 50). Do not tighten the bolts yet.
2. Bolt the upper connecting brackets between the modules using the hex bolts (MB x 35). Do not tighten the bolts yet.
3. Level the modules by using the supplied sheet metal shims. The shims are to be used only under I-Beam at the chest support. The modules are to be leveled horizontally in two directions and must be parallel to each other.
4. The holes for the roll pins (8 x 25) are drilled while the ironer is preassembled at the factory. Now tighten all bolts using the following torque values:
(M8 = 22 Nm)
(M20 = 420 Nm)
5. Install the drive motor assembly at the rear right-hand side of the ironer. Align the drive pulleys with the driven pulleys using a steel straight-edge. Anchor the drive unit to the floor. It is not necessary to bolt the ironer to the floor. Install the V-Belts between the drive pulleys and the driven pulleys.
6. Assemble the bridging chests.

NOTE: Steam-heated bridging chests can be assembled without using lifting gear. Oil and hot water heated chests are heavy and require adequate lifting gear. These chests are fitted with lifting brackets for assembly.

Do not use the top side covers of the ironer to deposit tools.

***ACCESS LADDER (OPTIONAL)**

Install the access ladder to the rear mounting position. Ensure the assembly bolts are tight to prevent any accidents! Only authorized technicians are permitted access to the top of the machine

***SAFETY RAILINGS (OPTIONAL)**

Install the safety railing to the machine ensure installation is secure before technicians again access to the machine top.

4.3 UTILITIES REQUIRED FOR INSTALLATION

NOTE: Installer must comply with local codes, ordinances, specifications and/or other governing rules in relation to the installation of the ironer.

The following utilities are to be supplied on site by the customer. For utility specifications see the spec sheets provided.

1. An electric supply with the proper voltage and circuit breaker size as per installation drawing. The connection point is located at the bottom of the electrical enclosure.
2. A 3/8" compressed air connection, with shut-off valve and strainer, is to be provided. The connection point at the ironer is located behind the electrical enclosure on the right hand side of the ironer. The required working pressure is 4.5 to 10 bar (65 to 145 psi).
3. A 10" diameter exhaust duct is to be provided. To avoid air flow restrictions, bends in the exhaust ducts should be kept to a minimum. Reductions in diameter and/or unnecessarily long ducts should also be avoided.
4. A 2" steam line, with a shut-off valve and strainer, is to be provided. The connection point at the ironer is located at the left rear end. The required steam pressure is 13 bar (185 psi) a minimum 6.5 bar (95 psi) u.
5. A 1 1/4" condensate return line with a shut-off valve is to be provided. The connection point at the ironer is located at the left rear end.

Connecting the Ironer

a) Electrical Connection

The supplied wiring diagram and the name plate, located on the left side in the control cabinet, include the data required to connect the ironer to the main power.

NOTE: Do not connect the ironer unless you are trained and authorized to do so. Check the voltage and the breaker size before connecting the power lines.



(50 Hz.)

Model	3000x1	3000x2	3000x3x	3300x1	3300x2	3300x3
IM 800	6 sq.mm.	10 sq.mm.	16 sq.mm.	6 sq.mm.	10 sq.mm.	16 sq.mm.
IM 1200	10 sq.mm.	16 sq.mm.	16 sq.mm.	10 sq.mm.	16 sq.mm.	16 sq.mm.

(60 Hz.)

Model	3000x1	3000x2	3000x3x	3300x1	3300x2	3300x3
IM 800	10 sq.mm.	16 sq.mm.	25 sq.mm.	10 sq.mm.	16 sq.mm.	25 sq.mm.
IM 1200	16 sq.mm.	25 sq.mm.	25 sq.mm.	16 sq.mm.	25 sq.mm.	35 sq.mm.

1. Connect the three phase power lines to the terminals *RIS/T* at the main circuit breaker located in the electrical enclosure. A fused three phase disconnect box must be installed close to the ironer.
2. Connect the power plug for the main motor drive and motor blower located in the side panel enclosure. Illustrator.



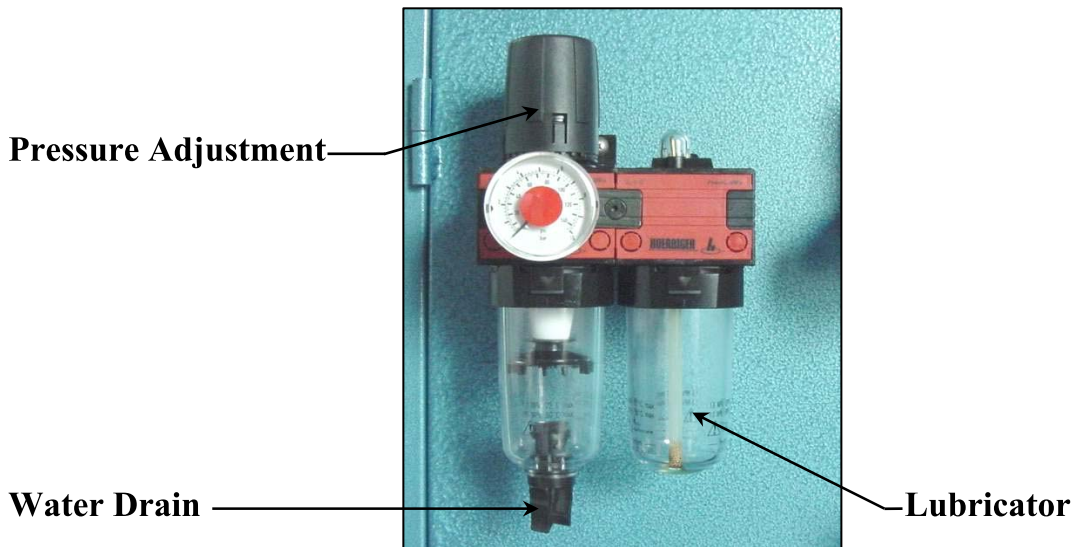
Left side view



Right side view

3. Install a ground wire (16 mm²) to the bus bar and test its effectiveness.
 4. Check the rotating direction of the rollers and the feeding belt, correct if necessary by rotating the incoming phases.
- b) Compressed Air Connection
1. Connect the compressed air line to the ironer connection located on the right hand side of the infeed module.
 2. Connect the air lines for the lifting cylinders as numbered.
 3. Adjust the air pressure regulator located at the air control unit to 4.5- 10 bar (65- 145 psi).

NOTE : Do not operate ironer with air pressure below 4.5 bar (65 psi).



Air Control Unit

c) Steam Connection

1. Connect the 2" steam line to the steam intake flange at the rear left side of the ironer. Insert flange gasket between flanges before tightening fasteners.
2. Connect the 1 1/4" condensate return line to the condensate flange at the rear left side of the ironer. Insert flange gasket between flanges before tightening fasteners.
3. Connect the steam and condensate lines of the bridging chests to the main steam and condensate lines. Insert flange gaskets between flanges before tightening fasteners.
4. Connect the temperature probes in the appropriate threaded holes at the condensate pipes of the chests. Use sealing tape such as Teflon tape to seal the threads.

4.4 EXHAUST CONNECTION

1. Connect the exhaust ducts between the units with the 5"-long, 10"-diameter hose included in the kit. Place two 10"-diameter hose clamps over the rubber bands. Tighten the hose clamps.
2. Connect the exhaust duct to the exhaust connection on the ironer. Due to condensate build-up in the exhaust duct, it is advisable to install the exhaust duct with a slight slope towards the ironer.

Cleaning Chests, Bridges, and Guide Plate

The chests, bridges, and guide plate are coated with a protective coating to prevent damages to the working surfaces during transportation. This coating must be removed carefully according to the instructions on the decal located on the ironer.

NOTE: Do not Heat-up or operate ironer unless all coating has been removed from chests, bridges and guide plate to avoid linen wrinkling

4.5 PADDING THE ROLLERS

General

The nominal diameters of the chests are 800 mm. and 1200 mm. respectively. The unpadded rollers have a diameter of 772 mm. and 1172 mm. respectively. Therefore, the gap between chest and roller is 14 mm. approximately.

The rollers are padded at the factory or, if required, on site through a contractor.

Procedure

Because of the various padding procedures, a definite method cannot be suggested, an expert should decide on the procedure.

Reversing

To facilitate the removal of old padding, a reversing of the rollers is as follows possible:

- Lift rollers by selecting switches on right panel.
- Switch off main power switch.
- Open control cabinet and set selector switch to "Reversing". Close control cabinet.
- Switch on main power switch, the indicator light "Reversing" shows that a reversing is possible.
- Move selector switch "Start" to the "Drive On" position, roller will run in reverse as switch is maintained in this position.

NOTE: When in reverse and in order to protect the padding, the lifting mechanism is inter-locked to the drive system to maintain the rollers raised independently from the position of the "Lifting" and "Lowering" switch.

I.e. a reverse operation is only possible with raised rollers and selector switch in "Drive On" position.

Roller Cloth Padding

1. Lift rollers by selecting switches on right panel.
2. Lay padding on infeed table and make sure it has straight edges. Padding should have 75 mm over width on each side.
3. Manually push padding as far as possible into the chest, keeping both sides parallel to the ironer frame.
4. Lower first roller into chest. Start drive motor. Adjust slowest speed and let padding be dragged by roller. Make sure padding is rolled in even and straight. The cloth should overlap the roller twice.
5. The cloth for the second roller should be placed over the first roller (remove drive belt from gearbox of first roller) and proceed as above.
6. Repeat procedure for remaining rollers.

CAUTION: Do not overpaid the rollers.

7. The overlapping sides of the cloth are to be tucked into the gap between the roller and the cloth holder after 6 hours of operation.

Padding the rollers must be done very carefully as it is critical to the efficiency of the ironer.

After the padding has settled, the roller conforms to the shape of the chest. The optimal operating condition will be reached after about 150 operating hours.

CAUTION: Do not operate padded rollers in the lowered position without cloth sheet to avoid damaging the padding and working surface.

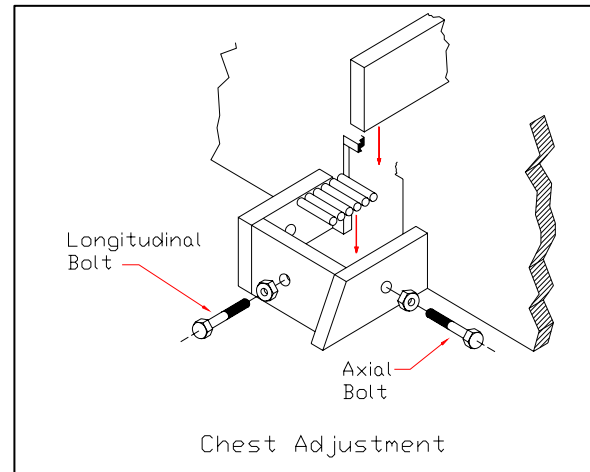
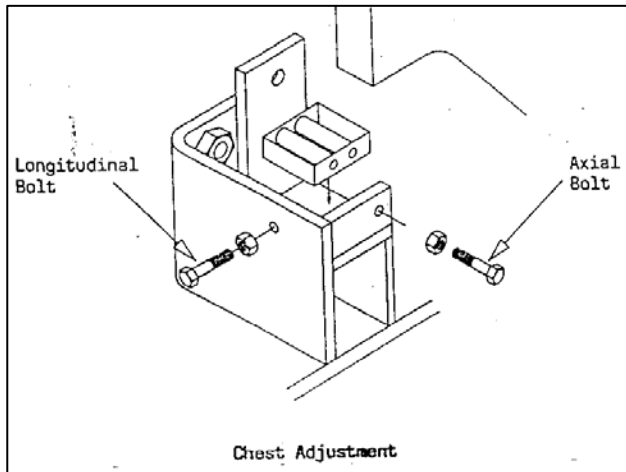
4.6 ADJUSTING THE CHESTS

General

The chests are supported by a pair of rollers at each corner. The chests are locked in position during transport with two bolts at each corner; these bolts are used also to adjust the chests.

Chests for Laminar Padding

In case the padding is installed by the manufacturer, the chests are adjusted in the factory. An adjustment on site is not required.



Chests for Non-laminar Padding

1. Loosen transport bolts in longitudinal (front-to-back) direction only. The chests can now move freely in one direction. Do not loosen the transport bolts in axial, direction
2. After the ironer has been heated up for 6 hours, tighten the longitudinal bolts so that a gap of about 2mm (.08") is left, tighten the lock nuts.

Usually, the adjustment of the chests is done by the padding installer. Unless linen transport problems occur, a readjustment is not necessary.

In the event that linen runs sideways or wrinkles, the rollers have to be adjusted accordingly (see trouble shooting section).

Adjusting the V-belt System

a) General

The transmission of power between the drive pulleys and the slip-on gear boxes for the rollers and the infeed conveyor occurs by means of a high-performance V-belt system.

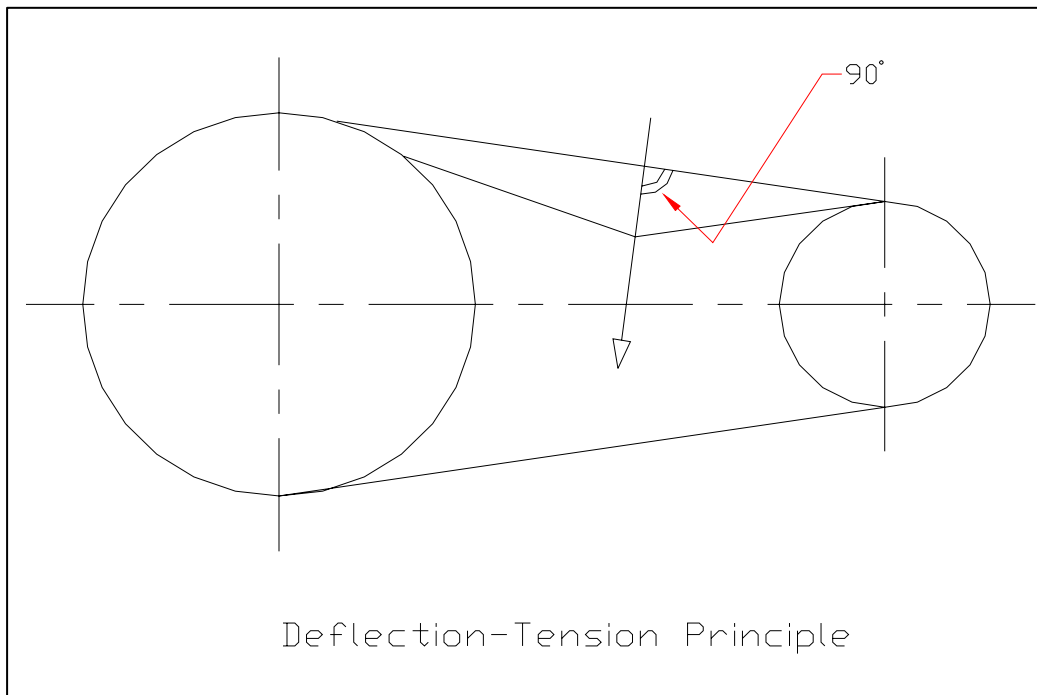
The proper adjustment of this V-belt system is an important aspect of avoiding abnormal wear of the belts and to guarantee optimal. Power transmission. Excessive tension of the belts will cause premature wear of the belts and bearings (caused by high radial forces). Insufficient tension will cause premature wear of the belts and a slip between the rollers which will again cause the disruption of the precession between the rollers.

The tension of the belts can be adjusted by means of moving the drive motor frame and/or adjusting the tension pulleys. After the initial set-up, the belts are to be checked after 100 operating hours.

A method was developed to adjust the belt tension accurately. This method is described in the following section.

b) The Deflection-Tension Test

The deflection force -as a function of the torque -must always be measured perpendicular to the belt strand. The deflection is equal to 1 mm. per 100 mm. (i.e.- 1/8" per 1 foot) strand length.



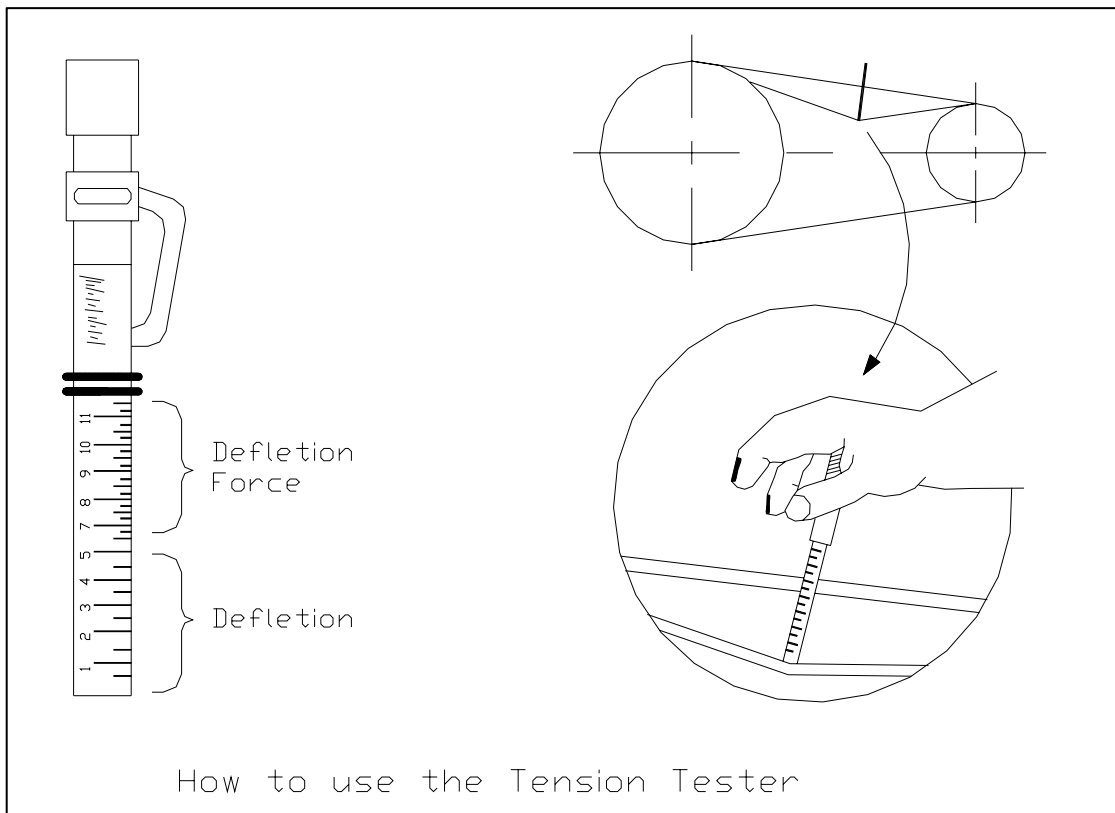
c) Tension Tester

The deflection force and the deflection can be easily checked with a tension tester that is available from our service department. The tension tester consists of a calibrated spring that measures on one side the deflection and on the other side the deflection force. The measured values are indicated on a scale with the help of two little rubber O-rings

d) Using the Tension Tester

1. Slide the lower O-ring on the deflection scale to the required value, according to the tables. Set the upper O-ring to the "0" line of the deflection force scale.
2. Set the tension tester vertically to the strand in its center. Apply force to the top of the tester so that the adjusted deflection value is reached. A steel straight edge should be helpful to read the scale.

3. The upper O-ring has now moved downwards and shows the deflection force. Read the value at the upper edge of the O-ring. Compare this value with the values in the tables.

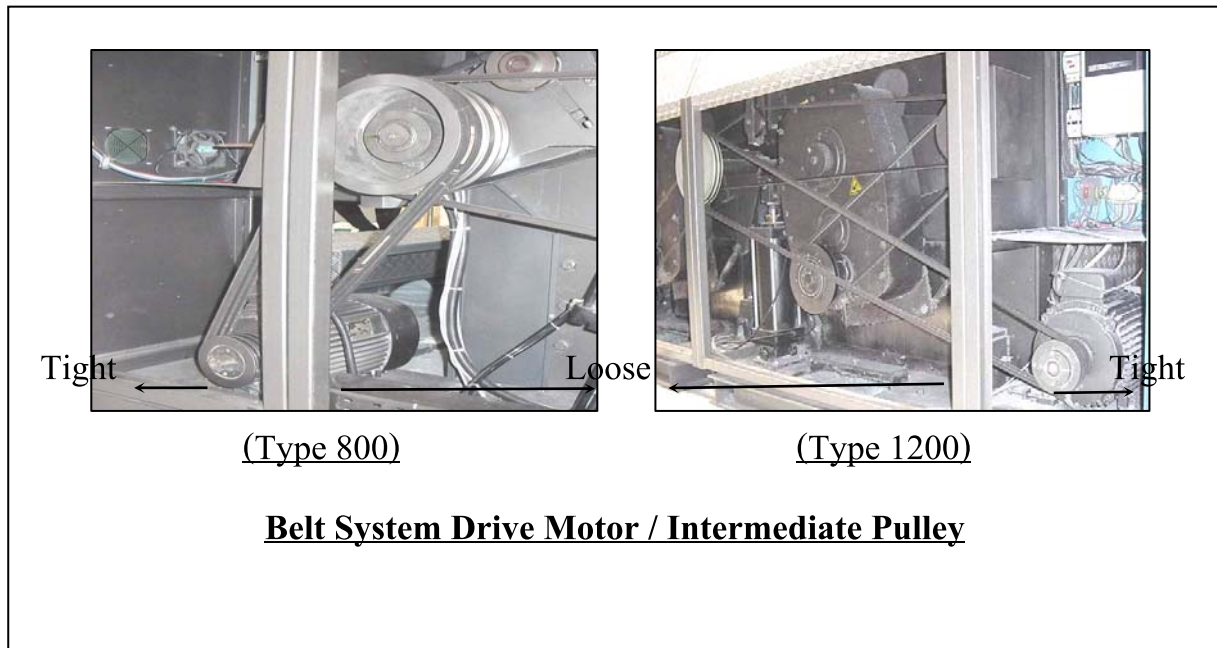


NOTE: Do not attempt to work on the belt system if you are not trained and authorized to do so
Turn off main power switch before working on the ironer.

e) Belt Tension Drive Motor -Intermediate Pulley

To adjust the belt tension proceed as follows

1. Switch off main power switch.
2. Remove last side cover on right hand side of ironer.
3. Loosen bolts at drive motor frame, tension to required value using the tensioning bolts.
4. Retighten all fasteners.
5. Replace cover and restart operation.



Ironer Size	Working Width mm. inch.		B Belt Size Lw = 1900 mm.			
			Deflection/Belt mm. inch.		Deflection Force/Belt N lb.	
1x800	4000	157	7	9/32	16-24	306-5.4
2x800	4000	157	7	9/32	24-36	5.4-8.1
3x800	3500	138	7	9/32	17-25	3.8-5.6
3x800	3700	145	7	9/32	21-31	4.7-6.9
3x800	4000	157	7	9/32	21-31	4.7-6.9
1x1200	4000	157	7	9/32	24-36	5.4-8.1
2x1200	4000	157	7	9/32	17-25	3.8-5.6
3x1200	2700	106	7	9/32	21-31	4.7-6.9
3x1200	3000	118	7	9/32	35-37	7.8-8.3

Note: Signs in the Working Width column are as follows:

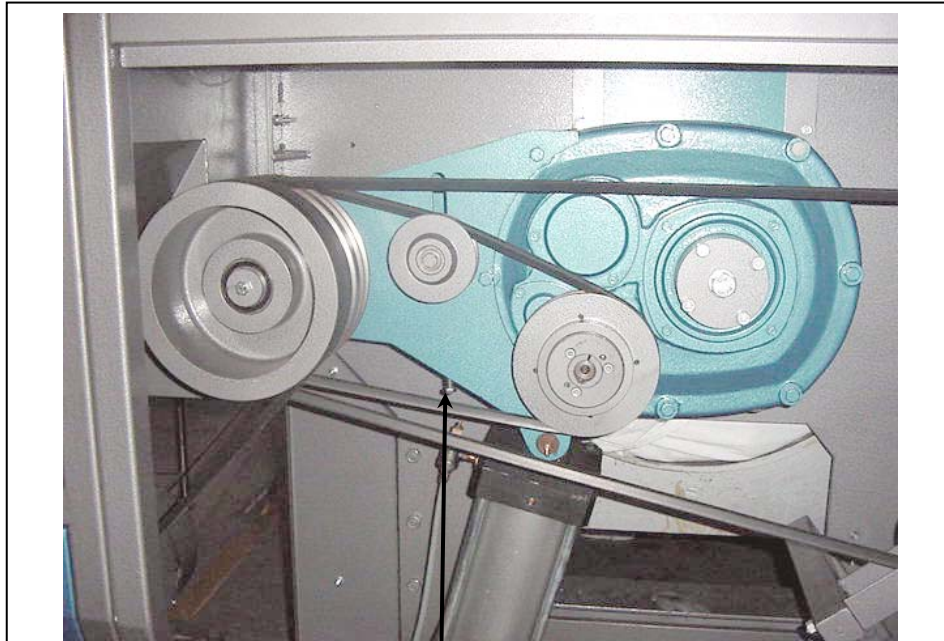
"-" means up to and including.

"+" means from this size on.

f) Belt Tension Intermediate Pulley -Variable Pulley

To adjust the belt tensions proceed as follows:

1. Switch off main power switch.
2. Remove side covers on right hand side of ironer.
3. Loosen bolt of idler located swing arm and tighten with the tensioning bolt.
4. Retighten all fasteners.
5. Replace covers and restart operation.



Adjusting Bolt

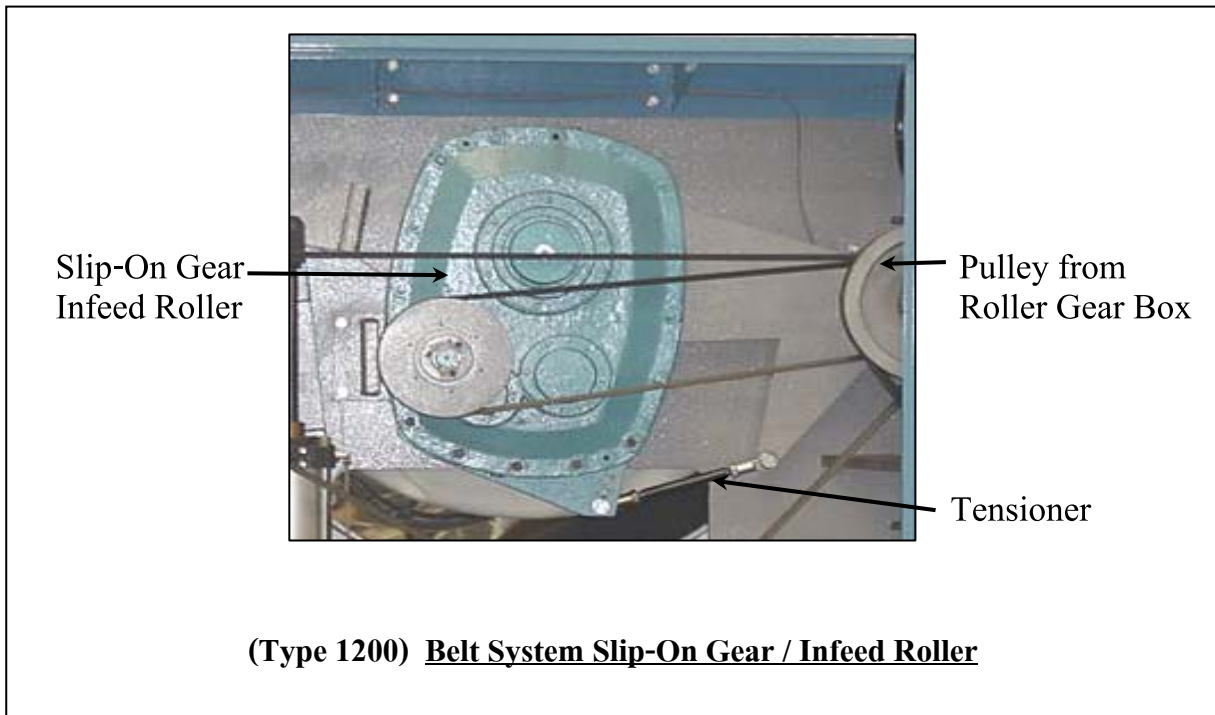
(Type 800) Belt System Intermediate Pulley / Variable Pulley

Ironer Size	Working Width		Belt Size mm.	Deflection/Belt		Deflection Force/Belt	
	mm.	in.		mm.	in.	N	lb.
800	-2700	106	1500	5	5/16	12-16	2.7-3.6
800	+3000	118	1500	5	5/16	16-24	3.6-5.4
1200	-2700	106	1500	5	5/16	16-24	3.6-5.4
1200	+3000	118	1500	5	5/16	24-36	5.4-8.1

g) Belt Tension Slip-On Gear -Infeed Roller

To adjust the belt tension proceeds as follows:

1. Shut off main power switch.
2. Remove the first side cover on the right hand side.
3. The tensioner of the slip-on gear for the infeed roller is now accessible.
4. Loosen the nuts of the torque bar and adjust to required tension.
5. Retighten torque bar.
6. Replace first cover and restart operation.



Ironer Size	Belt Size mm.	Deflection		Deflection Force/Belt	
		mm.	in.	N.	lb.
800	3350	15	19/32	4-5	.9-1.1
1200	4120	17	11/16	4-5	.9-1.1

h) Belt Tension Module to Module

To adjust the belt tension proceeds as follows:

1. Switch off main power switch.
2. Remove side covers on right hand side of ironer.
3. Loosen nuts of tensioner idler located on a turnbuckle.
4. Adjust tension in belts as required.
5. Retighten all fasteners.
6. Replace covers and restart operation.

Note: New belts should be adjusted to maximum deflection forces.

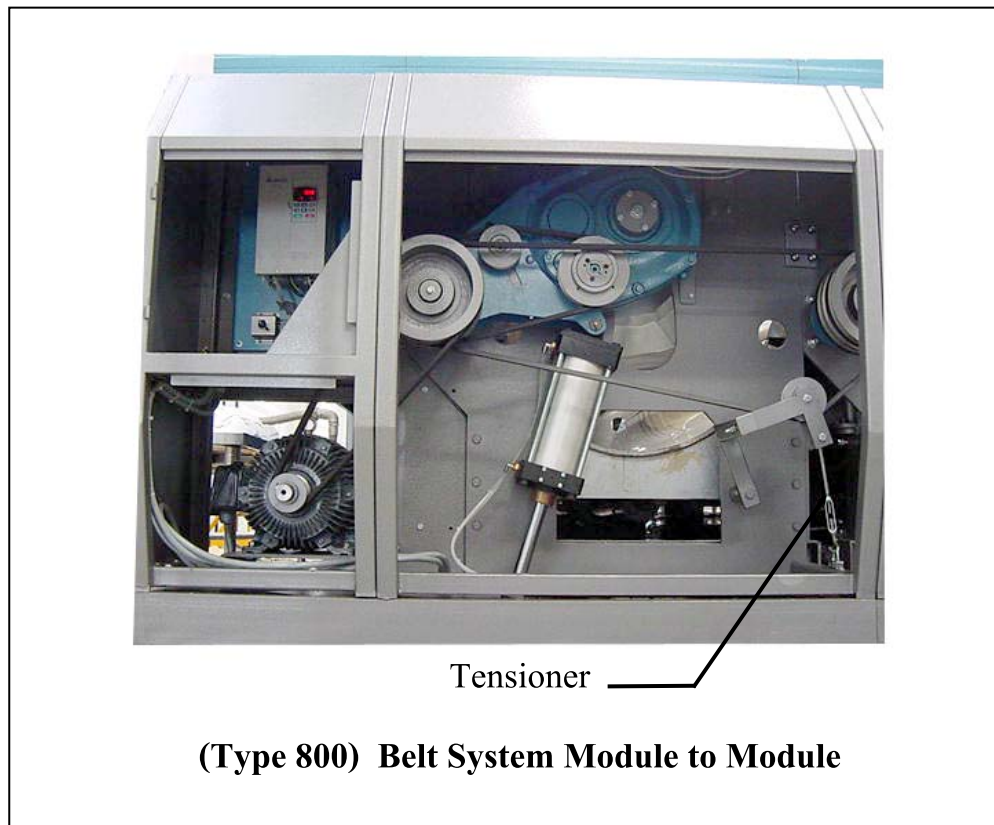


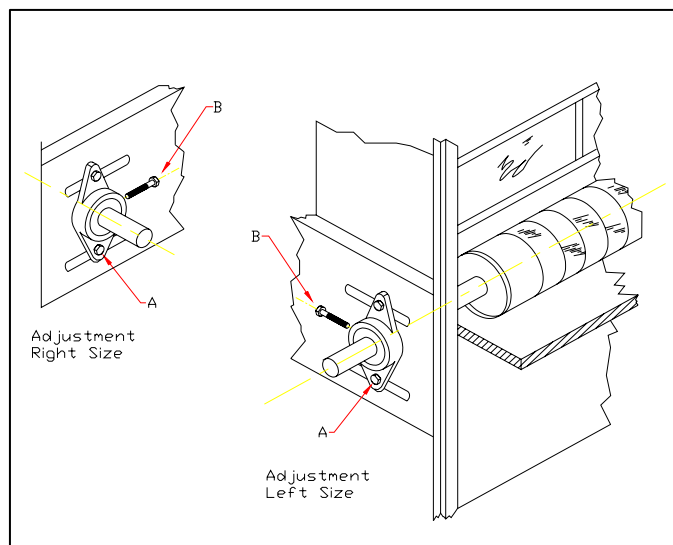
Table for tension module to module:

Ironer Size	Working Width mm. in.	Belt Qty. x Size mm.	Modules Number	Deflect. mm. in.	Deflection Force / Belt N lb.
2x800	-4000 157	2xLw 3150	1. to 2.	13 1/2	12-18 3.6-5.4
3x800	-4000 157	2xLw 3150	1. to 2.	13 1/2	9-13 2.0-2.9
		2xLw 3150	2. to 3.		16-22 3.6-4.9
2x1200	-4000 157	2xLw4000	1. to 2.	16 5/8	13-19 2.9-4.2
3x1200	-4000 157	2xLw4000	1. to 2.	16 5/8	15-20 3.3-4.5
		2xLw4000	2. to 3.		26-39 5.8-8.7

NOTE: The module number is counted from the infeed size.

i) Infeed Belts Tension

1. Switch off main power switch.
2. Remove side covers on both right and left sides of the first module. Now, the adjustment bracket is visible.



Tensioning the Infeed Belts

3. Loosen fasteners "A" on bearing brackets on both right and left sides.
4. Loosen set screw "B".
5. Adjust tension, as required, by turning set screw "B" in the required direction.
 - Turning in : belts tighter
 - Turning out : belts looser
6. Retighten all fasteners, replace side covers and restart operation.

The tension is correct if one can stop the belt by pushing it downwards approx. 10 mm (1/2") between the roller and feeding table.

Roller Precession

a) General

To reach the maximum performance of the ironer, it is imperative that the linen is slightly pulled from one roller to the next. The ironer is designed to have each roller, in ascending order, running slightly faster than the previous one.

The precession in the speed of each roller is attained through the adjustable V-belt pulleys. Each pulley is preset at the factory and should only be readjusted as required.

b) Adjustment Reasons

After adjusting the infeed roller speed or if in spite of proper belt tension and homogeneous roller padding the guide ribbons rip frequently or the linen wrinkles, then the precession of the roller speed must be checked.

Linen wrinkles : precession too low or nil.
 Guide ribbon rips : precession too high.

c) Precession Roller #1

The first roller must have a speed advance of 1.5 to 5% compared to the infeed roller.

The following table indicates the ratio between the first roller and the infeed roller:

Ironer Size	Precession Roller #1	Turns Roller #1	Turns Infeed Roller
800	1.5 - 5%	3	.5 - 19.0
1200	1.5 - 5%	3	29.5 - 28.5

Check : A movement of 200 mm (7.875") of the infeed belts should correspond to a circumferential distance of 203- 210 mm (8.0- 8.25").

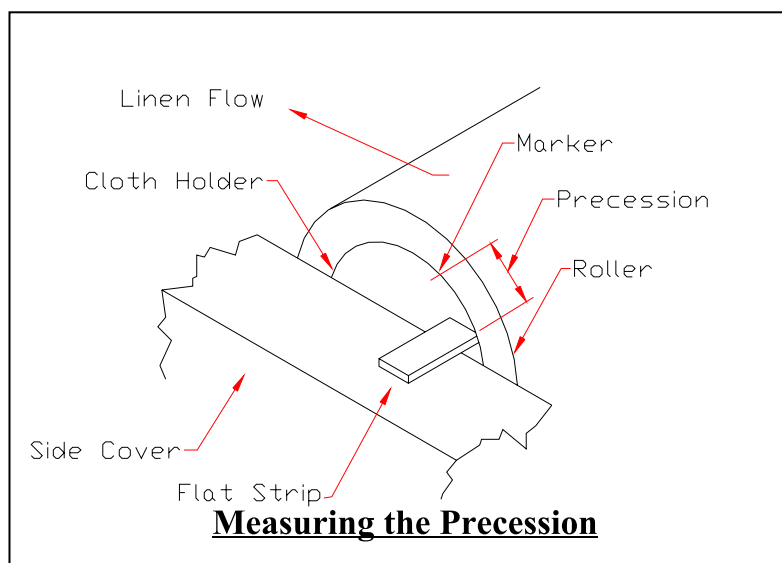
d) Precession between Rollers

Starting with roller #1, the successive rollers should have an equal precession according to the following table:

Ironer Size	Precession In 0/00 approx.	Turns of Proceeding Roller	4 Turns of the Succeeding Roller Plus Precession Length at Circumference of the Padding Sheet Bracket.	
			mm.	in
800	2 - 7	4	20 – 65	.78 – 2.56
1200	2 - 7	4	30 – 100	1.18 – 3.94

e) Checking the Precession between Rollers



1. Lift the rollers by actuating the selector switch.
2. To facilitate checking the precession, insert a 12" long flat bar at each side frame at the height of the padding sheet bracket.
3. Mark the position where the flat steel and the outer diameter of the cloth holder meet.
4. Switch on ironer and jog the first roller until it turns exactly 4 times (see marking on roller #1).
5. Check the precession on roller #2 by measuring the distance between the flat bar and the marking on the cloth holder. Should the marking be on the right, then the precession is negative and the linen will wrinkle.
6. The precession of roller #3 and #4 should be 2 to 3 times higher than the precession of roller #2 (i.e. a graduation of the precession amount according to the above table).



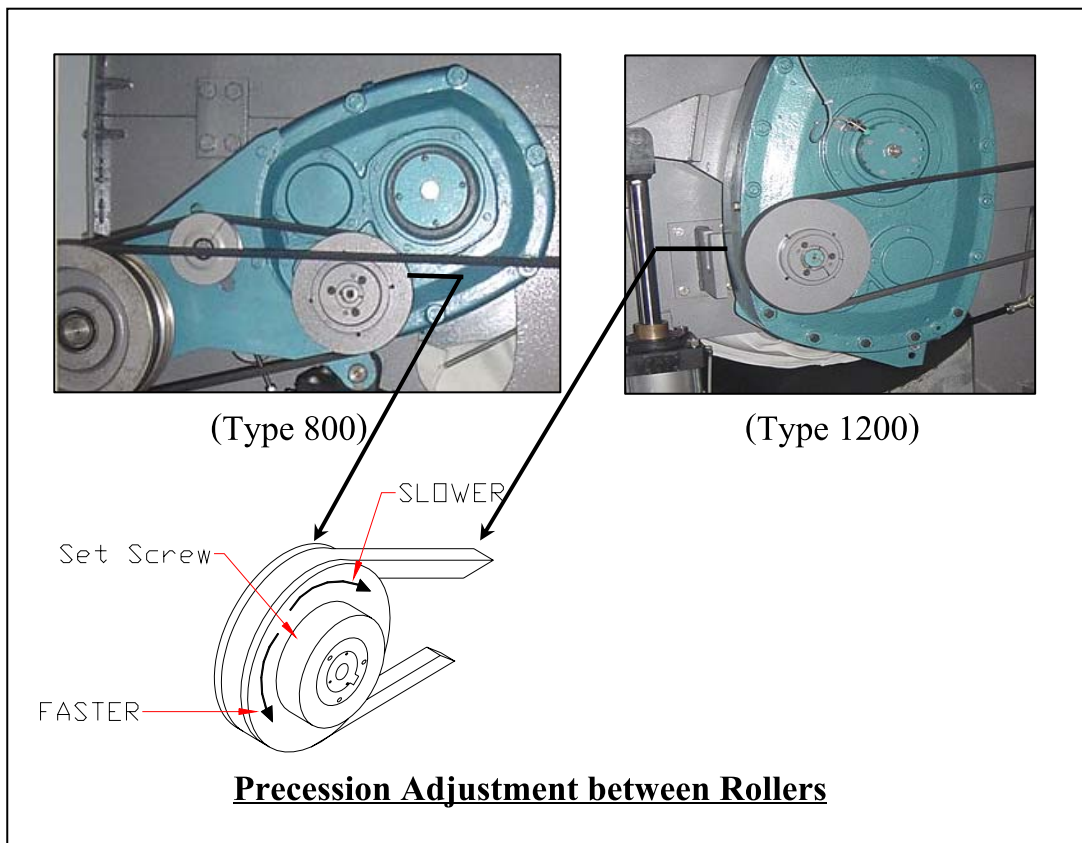
f) Adjusting the Precession

NOTE: Do not adjust precession unless you are trained and authorized to do so.
Failure to comply may cause damage to linen and/or equipment.

1. Switch off main power switch.
2. Remove side covers on the drive side.
3. Loosen nuts at tension idler between the intermediate pulley and the variable pulley.
4. Loosen set screws at the variable pulley outer flange.
5. Turn outer flange as required in 30' steps.

Ironer Size	Precession Steps	Rotation Direction		Distance of marker as per last paragraph.	
				mm	in.
800	30°	Roller	Roller	20	.78
1200		Faster	slower	30	1.18

6. Line up two threaded holes on outer flange of variable pulley with the grooves on the hub, insert set screws and tighten.
7. Tension the belts by means of the tension idler and tighten all fasteners.

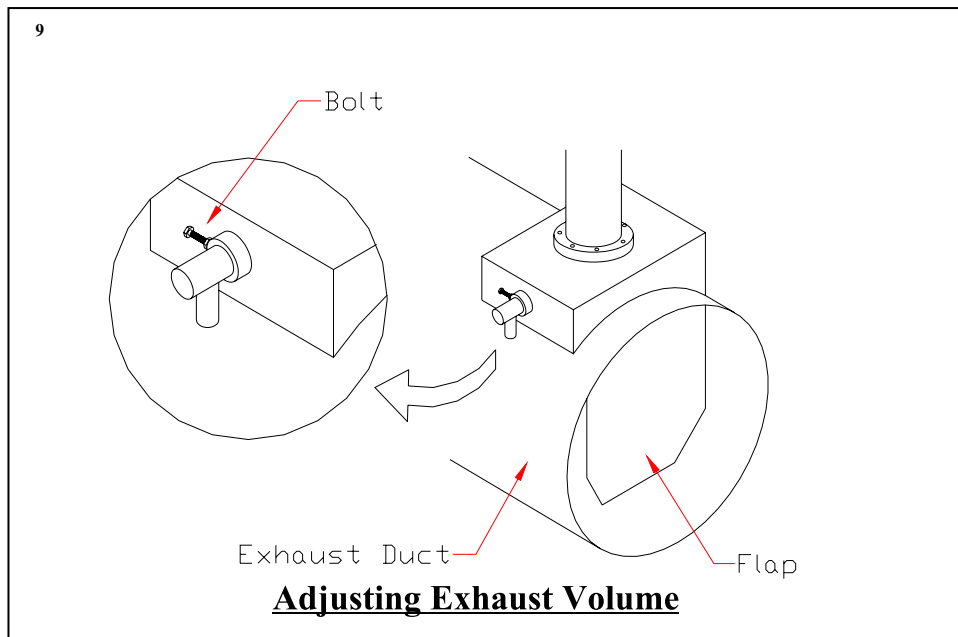


4.8 EXHAUST VOLUME CONTROL-OPTIONAL ROLLER PRESSURE

Adjusting the Exhaust Volume

Each exhaust fan can be individually adjusted by a butterfly flap located in the exhaust duct. This is required because the exhaust fans are well dimensioned to extract the relatively high moisture of the first module. Therefore, the air volume for the subsequent rollers has to be adjusted individually as follows:

1. Remove left side covers.
2. Loosen fasteners at the butterfly flap (see drawing).
3. Turning the lever clockwise will reduce the exhaust volume, lever in vertical position = max. Exhaust volume.
4. A vacuum instrument, available from our service department, held at the circumference of the lifted running rollers, provides an accurate exhaust volume measurement.



The following values are recommended:

	Exhaust Volume	
	Liters/cm ² /min	(cu.ft/in ² /min)
Roller #1	0.25-0.3	(.057-.068)
Roller #2	0.2	(.045)
Roller #3	0.2	(.045)
Roller #4	0.15	(.034)

Adjusting the Roller Pressure

The roller pressure is adjustable by modifying the pressure of the compressed air acting on the pneumatic lifting and lowering cylinders.

NOTE: Do not operate ironer with air pressure below 4.5 bar (65 psi).

To adjust roller pressure:

1. Turn switch "DRIVE ON" to the "I" position.
2. Depress switch "READY". (Required only if manometer on right is of digital type.)
3. Open first cover panel on drive side, the air regulator above the electrical cabinet is now accessible.
4. Adjust the required pressure at the appropriate pressure regulator and watch the manometer on the right control panel.

The following table shows the recommended pressures:

Ironer Width mm.	Ironer size			
	800		1200	
	Working pressure			
	Bar	psi	bar	psi
1750	2.8 – 3.3	40 - 48	2.8 – 3.3	40 - 48
2000	3.5 – 4.0	51 - 58	2.8 – 3.3	40 - 48
2500	4.9 – 5.4	71 - 78	2.8 – 3.3	40 - 48
2700	5.5 – 6.0	80 - 87	2.8 – 3.3	40 - 48
3000	6.0 – 6.5	87 - 94	2.8 – 3.3	40 - 48

SECTION 5

OPERATING INSTRUCTIONS

5.1. START-UP OPERATION

General

NOTE: It is required in some states that the ironer is inspected by an accredited inspector before initial operation.

The chests are tested and stamped by their manufacturer; a plate is visible on each chest at the right hand side. A plate is also visible on the left hand side of the bridging chests (look over the frame).

Personnel Training

It is not required to have technical personnel to operate the Ironer; however, training is required to familiarize operating personnel with the particularities of the equipment. Manufacturer's personnel will introduce the ironer to the operators and perform the initial training.

Maintenance personnel are also to be trained on the maintenance and repair of the ironer. Manufacturer's personnel may also train maintenance personnel upon request.

Customer's management is responsible for training the operators and maintenance people. They are also responsible to ensure that only trained personnel operate the ironer and trained technicians maintain and repair the ironer. Should any sanctioned modification be made to the ironer in respect to the operation, then the operating personnel must be retrained.

Safety Precautions

NOTE: Do not operate ironer unless you are trained and authorized to do so. Operate only if you are properly dressed. Do not operate ironer without side covers. Do not use finger guard to stop ironers, it is intended for protection only.

Use red emergency switches to stop ironer only in emergency situations.

The ironer has several built-in safety features that are aimed at providing a high level of protection to the operator, and maintenance personnel.

NOTE: Do not use safety features for purposes other than intended.

a) Emergency Push Buttons

The ironer is fitted with two mushroom-shaped, red push buttons. These push buttons are located on the right side of the ironer, one at each end.

If one of these push buttons has been activated, the drive motor stops, all rollers lift up, and the vacuum fans turn off.

After the push buttons are reset, the vacuum motors restart and the rollers are lowered automatically in sequence starting with the first roller.

The operation is restarted by turning the control switch to the start position on the right, the drive motor starts.

b) Finger Guard

At the infeed table a clear plastic finger guard is installed. This guard is connected to a switch and offers protection for fingers and hands during the infeed operation.

This guard must be tested before every start-up operation. To do so, push the guard towards the roller, the ironer stops immediately and the first roller is lifted, the vacuum blower, however, remains in operation.

The operation is restarted by turning the control switch to the start position on the right, the drive motor starts and the first roller is lowered.

NOTE: Do not operate ironer without finger guard.

c) Main Power Switch

This switch is located at the door of the electrical cabinet at the right hand side of the ironer. It is fitted with a handle and has two positions (“0” and “I”).

If this switch is turned to position “0” during operation or in the event of a power cut, then all rollers lift up and-all ironer functions are shut-off. In this case, the ironer operation has to be restarted as described in section (38).

d) Lift Brakes

A locking mechanism is installed in the pneumatic cylinders that lift the rollers. This mechanism provides a safety feature for the lifted rollers to prevent an unwanted drop of the rollers in case of a compressed air failure.

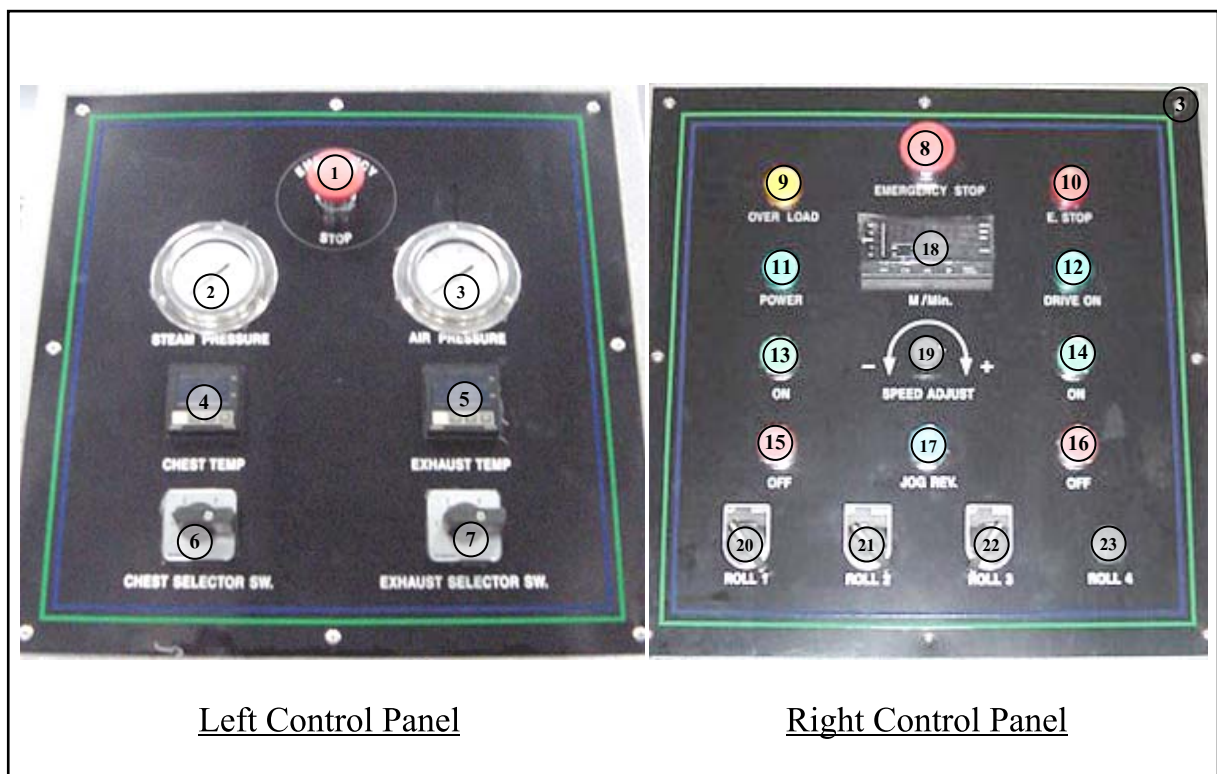
e) Cover Panels

All sides of the ironer are covered by sheet metal covers to provide protection from reaching into mechanical and electrical parts.

NOTE: Do not operate ironer with any panel missing.

f) Control Elements

The ironer is fitted with control and operating elements. on both .right and left hand panels. The following drawing indicates the location of the control elements on the right panel.



Item	Qty.	Description
1	1	Emergency stop
2	1	Pressure gauge for steam inlet
3	1	Pressure gauge for air roll
4	1	Temperature control for chest temp
5	1	Temperature control for exhaust temp
6	1	Chest Selector switch

Item	Qty.	Description
7	1	Exhaust Selector switch
8	1	Emergency stop
9	1	Pilot light for over load
10	1	Pilot light for Emergency stop
11	1	Pilot light for power on
12	1	Pilot light for drive on
13	1	Push button for control on
14	1	Push button for control on
15	1	Push button for control off
16	1	Push button for control off
17	1	Push button for jog reverse
18	1	Frequency rate meter
19	1	Speed adjust
20	1	Selector switch lifting & Lowering roll 1
21	1	Selector switch lifting & Lowering roll 2
22	1	Selector switch lifting & Lowering roll 3



Left Control Panel



Right Control Panel

HOT OIL

Item	Qty.	Description
1	1	Emergency stop
2	1	Pilot light for over load
3	1	Pilot light for Emergency stop
4	1	Pilot light for power on
5	1	Pilot light for drive on
6	1	Push button for control on
7	1	Push button for control on
8	1	Push button for control off
9	1	Push button for control off
10	1	Push button for jog reverse
11	1	Frequency rate meter
12	1	Speed adjust
13	1	Selector switch lifting & Lowering roll 1
14	1	Emergency stop
15	1	Pressure gauge for roller pressure
16	1	Pressure gauge for gas pressure
17	1	Pilot light for burner alarm
18	1	Temperature control
19	1	Pilot light for heating
20	1	Selector switch for burner
21	1	Pilot light for power on
22	1	Pilot light for gas

Running-in the Ironer

The ironer must be run in for about 150 hours before the padding has settled and the working surfaces of the chests are perfectly even.

To avoid stalling the drive motor from overloading, the ironer should be run at a maximum of 2/3 of the top speed during the running-in period. (Watch the ammeter!)

Optimal Operation Conditions

Optimal operation of the heavy duty ironer can only be achieved under the following conditions:

- Perfectly clean chests, bridging chests and unloading treys.
- Homogeneous padding.
- Properly tensioned V-belt drive.
- Accurately adjusted speed of the infeed belts.
- Accurately adjusted precession between the rollers.
- Properly installed utilities and return lines.
- Properly adjusted roller pressure.
- Even and regular waxing of the chests.

Condensate Traps

The ironer is equipped with condensate traps at each module. These have to be checked and cleaned after 20 and 40 hours of the running-in period; for procedure see maintenance part.

5.2 OPERATING THE IRONER

Procedure

1. Switch on main power switch to.
2. Move selector switches for lifting and lowering the rollers to the lift position.
3. Switch selector control switch to "I" position, control light "Ready" signals that suction is "ON", digital instruments "ON".
4. Starting the ironer with cold chests :
Open the steam valve in the infeed line slightly to warm up the chests and the bridges. After the condensate line has warmed up, the steam valve can then be opened fully. Monitor the chest temperature at the display on the left panel. Heating time approximately 15 minutes. See respective section for ironers fitted with automatic pre-heating system. See supplemental instructions for ironers heated with thermal oil and secondary loop.
5. Turn selector switch to the lower position, the rollers move downwards.

CAUTION: To protect the ironing surfaces and the padding, it is important to avoid lowering the rollers before the ironing surfaces are clear from foreign objects.

NOTE: To prevent the air pressure from dropping beyond the cylinder minimum release pressure, a sequencing device with limit switches at the cylinders (except last roller) allows to lower the rollers only individually starting with the first one.

6. Turn control switch to the "Start" position, the control light "Drive ON" indicates that the drive motor is running.
7. Adjust the required speed at the speed adjuster. Monitor the speed at the speedometer.
8. Starting cold:
Set slow speed and run rollers in chests for 15 min. to warm up the padding.
9. After checking the temperature, operation can be started.

Ironing Speed

The ironing speed depends on the quality and moisture retention of the linen.

Actual figures cannot be recommended as these are experimental values and must be worked out individually.

Cleaning and Waxing of the Chests

The chests must be cleaned and waxed evenly before any ironing operation can take place. Special cleaning and waxing rags can be obtained through the service department.

Cleaning and waxing the chests should only be done at low speed setting. Just waxing the chests is not sufficient for trouble-free operation.

In the event that waxing rags are not available, spread some wax chips evenly on one half of a white sheet, fold this sheet and run it through the chests. Repeat this operation until the whole working surfaces of the chests are evenly waxed. After the waxing procedure, start by ironing dark pieces of linen only.

NOTE: Excessive waxing of the chests will cause a restriction of the exhaust flow due to build-up of wax on the ironing sheet.

Linen Infeed

The linen sheets should be fed on the infeed belts straight and without lumps. Note that linen that is not fed straight into the ironer cannot be properly folded by a folding machine that may be installed behind the ironer.

A spreader-feeder may be used if high infeed speeds are required.

The complete ironing width should be used to attain good efficiency. In some cases, small pieces may be fed by several operators simultaneously.

In the event that folders are installed behind the ironer, markings should be put on the infeed belts.

Ribbon Tension

The ribbons are used to transport the linen through the ironer. Ribbon tensioners are installed at the outlet side (or optionally at the infeed side). The tension is created by a weight sliding in a vertical guide.

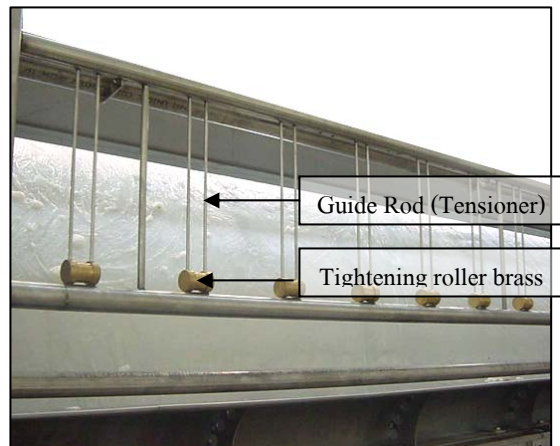
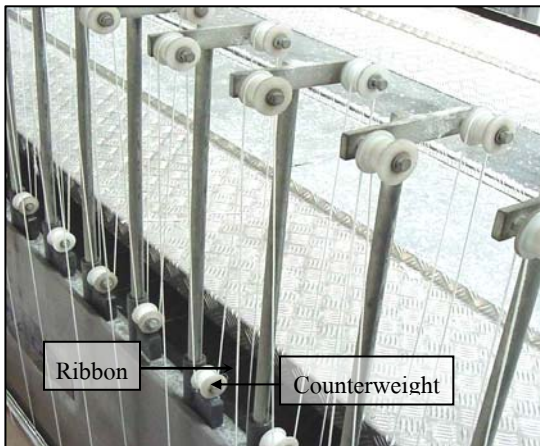
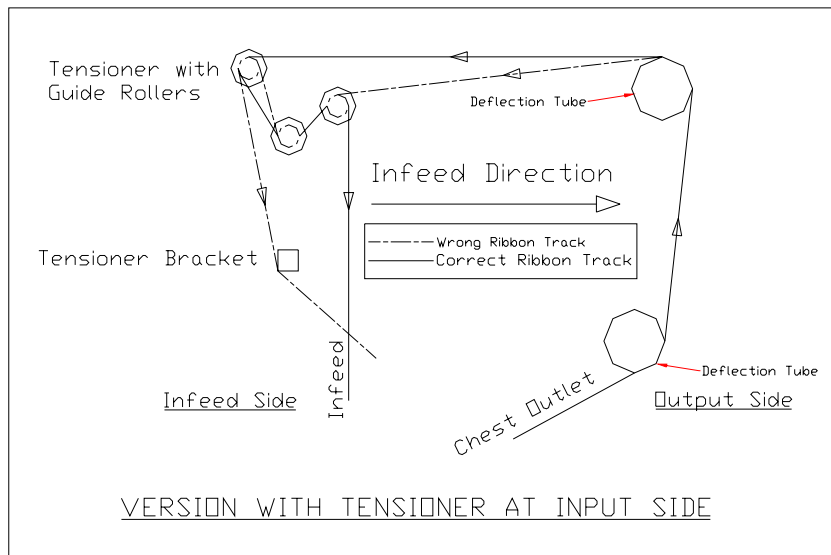
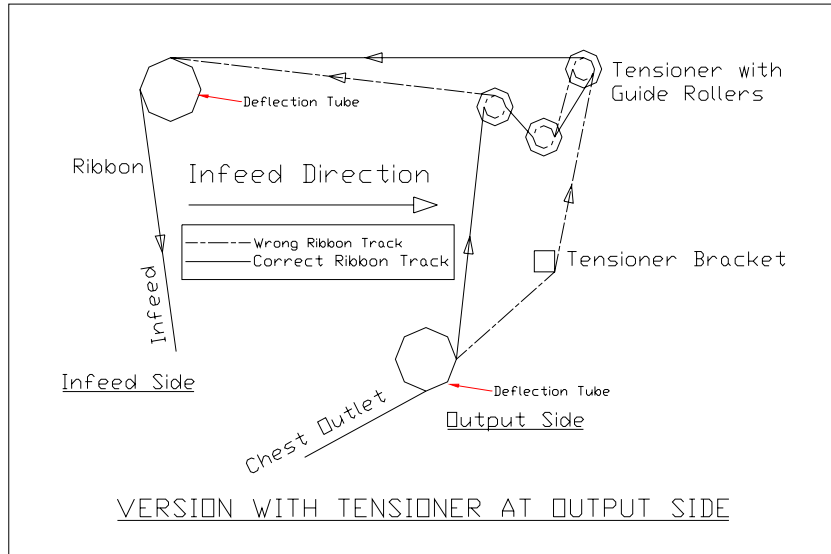
Ripped ribbons should be replaced. To do that, attach new ribbon to the old one and pull it through the ironer; finally attach both ends together.

a) Ribbon Position

The ribbons should not run always at the same track position as it can affect the life time of the padding. A permanent track position of the ribbons may also cause a build up of chemical residues beside the guide lanes on bridges and chests.

The ribbon tensioner can be moved on a square bar located between the side frames (optionally at the loading or unloading side) the tensioner is secured by a ratchet knob.

NOTE: Ribbons are to be installed on the tension and deflection system according to the drawings on the following page.



Shifting The Ribbon Tensioner

b) Shifting the Tensioner

To shift the tensioner and adapt it to the requirements proceed as follows:

- Run the lowered rollers in the chests.
- Unlock the ratchet by pulling the knob.
- Now move the tensioner slowly in steps of 20 mm until the required position is reached.
- Release the ratchet and secure the tensioner.

Ammeter

The ammeter will indicate the degree of loading capacity that affects the ironer during operation.

If the rated current of the ironer is exceeded during operation (not during the starting phase of the motor, see section Running-in the Ironer), then the following must be checked:

- Chests must be properly waxed.
- Working surfaces must be clean from dirt and chemicals.
- Padding must be properly installed.
- Drive motor / gear box may be faulty.

Position of Roller Relative to Chest

Should the linen run one-sided or wrinkle, then it is advisable to check the concentricity of the rollers in relation to the chests as follows:

1. Remove side covers at the exhaust side.
2. Loosen Allen bolts at the tension element located at the end of the swing arm.
3. Loosen the bushing by means of the release bolts.
4. Allow roller to settle itself.
5. Retighten Allen bolts crosswise with 41 Nm torque.
6. Replace all covers.

5.3 END OF OPERATION

General

1. Clean up and wax working surfaces of chests.
2. Shut off main steam valve at the incoming line.
3. Adjust a slow speed at the speed selector and let the ironer run for about 15 mins.
4. Switch all “Lifting & Lowering” switches to the “Lift” position.

5. Switch control selector switch to “0”. Now the drive motor and the vacuum blowers will stop.
6. Shut off compressed air supply at the supply line.
7. Switch main power switch, located at the right hand side of the ironer, to the “0” position.

Breaks Shut-Off

1. Adjust a slow speed at the speed selector and let the ironer run with lowered rollers for the duration of the break.
2. For longer lasting breaks, lift all roller from the chests. If the ironer is fitted with a separate vacuum switch, turn this one to the “0” position.
3. Depress the “Drive OFF” switch.

Emergency Shut-Off

See section emergency push button (page 32)

SECTION 6

MAINTENANCE

NOTE: If the ironer is equipped with a key selector switch for service purposes (16), it is located on the right control panel and features a warning lamp (10) that indicates the service position.

The service selector switch overrides the finger guard. Use service switch for maintenance purposes only. The key for the service switch should be kept by authorized maintenance personnel only

For trouble-free and uninterrupted operation, the ironer be maintained according to the following schedule:

6.1 DAILY MAINTENANCE

Cleaning the Ironer

After each shift, the ironer should be generally cleaned and the chests waxed as follows:

1. Run cleaning rags through the ironer at low speed.
2. Run waxing rags through the ironer until all the working surfaces of the chests are evenly waxed.
3. In the event that waxing rags are not available, spread some wax chips evenly on one half of a white sheet, fold this sheet and run it through the chests. Repeat this operation until the whole working surfaces of the chests are evenly waxed.

After the waxing procedure, start by ironing dark pieces of linen only.

Cleaning and waxing the chests should only be done at low speed setting. Just waxing the chests is not sufficient.

General Check

1. Check the chests for damages and any left over chemicals.
2. Disconnect main power switch.
3. Remove side covers on both sides.
4. Remove lint from inside the ironer, if necessary.
5. Check compressed air service unit for sediments and lubricating oil.
6. Check tension of drive belt system.
7. Check finger guard, it should move freely without resistance.

8. Replace side covers.
9. Check ribbons for damages and proper tension.
10. Check infeed belts for proper tension.
11. Switch on main power switch.
12. Check all safety features for proper operation.

6.2 WEEKLY MAINTENANCE

Cleaning the Ironer

At the end of the week, the ironer should be checked and maintained as follows:

1. Clean and wax ironer as described in the daily maintenance.
2. Remove dirt and chemical residues from chests.

NOTE: Using. High pressure hoses and steam cleaners for cleaning purposes may cause damages and will void warranty.

General Check

1. Disconnect main power switch.
2. Remove covers on both sides, under the infeed belt and at the unloading side.
3. Remove lint and dust from inside and underneath the ironer.

NOTE: Lint build up is a fire hazard.

4. Check tension of drive belt system.
5. Check infeed belts for proper tension.

Cleaning the Motors

1. Clean air intake grids of electric motors to avoid overheating.

Cleaning Air Filters

1. Clean air filters at both bottom and top of the electrical compartment to ensure a proper cooling air circulation.

Servicing the Air Regulator

The air regulator is located behind the first side cover on the right hand side.

1. Remove air filter insert and clean in detergent.
2. Wash with warm water and dry with air.

NOTE: Drain the water sediment container regularly, especially if the working environment is humid. Water will be dragged back into the air flow if its level exceeds the split cap.

Adjusting the Air Regulator

To adjust the air regulator, proceed as described in section (Electrical Connection).

Checking the Lubricator

The lubricator is set to inject oil in the air flow as follows:

Oiler capacity = 1- 10 drops/cu.meter
(3- 30 drops/100 cu.ft)

Dry environment = 3 drops/cu.meter
(9 drops/100 cu.ft)

Humid environment = 6 drops/cu.meter
(18 drops/100 cu.ft)

Basic check: 1 drop of oil is required to lift and lower 3 rollers 4 times.

Recommended Lubricator Oils

* ARAL	TT
* BP	HLP-40
* ESSO	Spinesso 34
* Mobil Oil	Velocite No.6
* Texaco	Capella Oil AA Waxfree
* Shell	Tellus 15

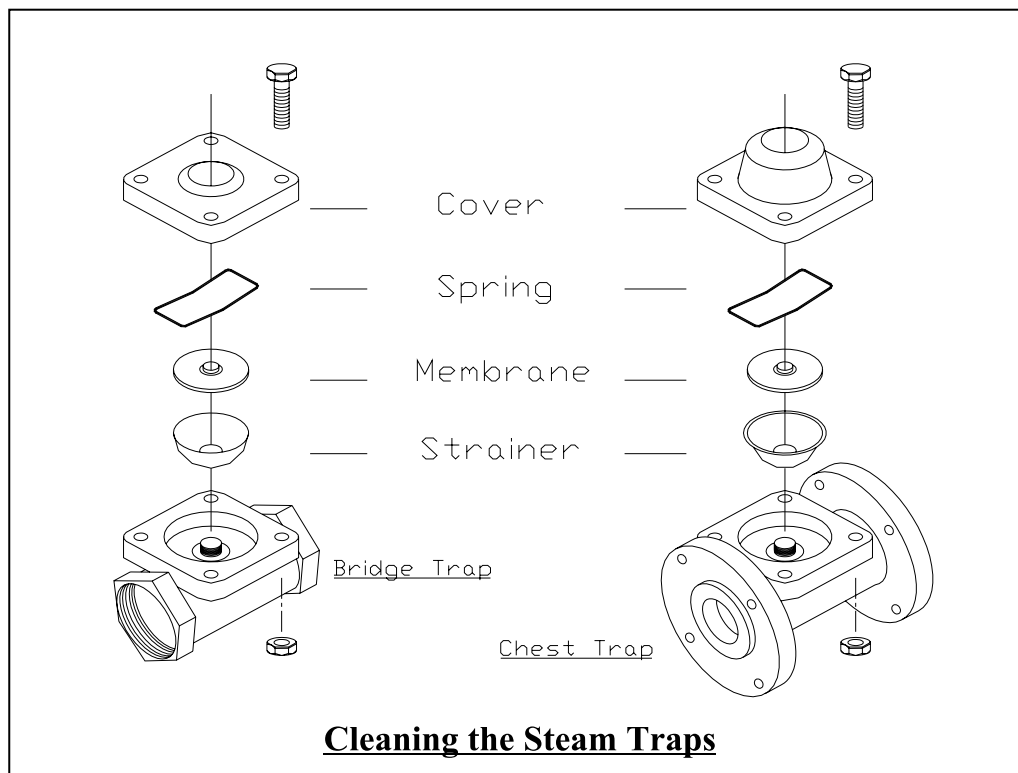
6.3 MONTHLY MAINTENANCE

Perform maintenance as described in daily and weekly maintenance (sections Daily Maintenance, Weekly Maintenance), thereafter:

Cleaning the Steam Trap

Each chest and bridging chest is equipped with a condensate return trap located in the condensate lines. The traps are equipped with a strainer and a control membrane; these are located under the bolted cover (see drawing).

Before cleaning the trap filters, the main steam valve has to be shut off and the ironer must be cold. It is easier to perform this operation before the ironer is started in the morning.



1. Shut off main power switch.
2. Remove side covers on the left hand side.
3. Remove top cover of condensate trap.
4. Remove control membrane (membrane pops in and out).
5. Remove and clean filter screen.
6. Replace membrane if required.

NOTE: After a period of time, wear in the membrane may cause a disruption in the function of the trap.

7. Reassemble steam trap.
8. After operation is resumed, check for leaks.

Bearings and Bushings

All bearings in the ironer are lifetime lubricated and, therefore, maintenance free.

Checking the Infeed Belts

The infeed belts should not show any slip on the infeed roller. Check for damaged belts and replace immediately.

Tensioning the In feed Belts

See Section (Belt Tension Module to Module).

Replacing the Infeed Belts

1. Lift all rollers.
2. Switch off main power switch.
3. Remove both covers of the infeed roller.
4. Remove both right and left control panels and carefully bolt them onto the outside using the same screws, as pictured in section (Infeed Roller).
5. Remove bottom cover in the right enclosure.
6. Remove finger guard.
7. Loosen lock ring on the outer bearing.
8. Loosen the nuts on the threaded tensioner at the infeed gear box, and release the tension of the V-belt.
9. Dismount roller ends and move towards frame.
10. Loosen bolts of infeed table and lift table, together with infeed roller, from the ironer.
11. Replace infeed belts.
12. Reassemble in reverse order.

Checking the Padding

Check the padding surface on all rollers and, if necessary, replace padding as described in section (Padding The Rollers).

Adjusting the V-Belt System

To adjust the V-belt system, proceed as described in section (Adjusting the V-Belt System).

6.4 SPECIFIC MAINTENANCE

Slip-On Gear Box at Feed Roll Gear Box.

Change oil after the first 500 hours of operation and, thereafter, every 2000 hours.

The recommended oils for this gear box are,
- Damax No.140

To change oil proceeds as follows:

1. Switch off main power switch.
2. Remove right control panel and carefully bolt it onto the outside using the same screws as pictured in section (Infeed Roller).

3. Remove bottom cover in the right enclosure.
4. Drain oil from gear box while it is still warm.
5. Loosen filler cap and flush gear box with flushing oil.
6. Tighten drain plug (use new gasket).
7. Fill in .4 liters (.1 gal.) of recommended oil.
8. Tighten filler cap and reinstall all parts in reverse order.

Slip-On Gear Box at Rollers

Change oil after the first 500 hours of operation and, thereafter, every 2000 hours.

The recommended oils for this gear box are,
- Damax No.140

To change oil proceeds as follows:

1. Switch off main power switch.
 2. Remove right side covers.
 3. Drain oil from gear box while it is still warm.
 4. Loosen filler cap and flush gear box with flushing oil.
 5. Tighten drain plug (use new gasket).
 6. Fill in recommended oil as follows:
Type 800 : 7.0 liters
Type 1200 : 16.0 liters
Type 800 with top chests : 4.1 liters
- Tighten filler cap and reinstall all parts in reverse order.

SECTION 7

TROUBLE SHOOTING

Problem	Cause	Remedy
Drive motor failure	Motor is mechanically overloaded or overheated.	Check for free rotation. Check gear box. Check overload relays. Check drives belt tension. Check cooling fan.
Tasc drive will not start.	Limit switch faulty Brake locked due to lack of air.	Check switch or replace. Check air pressure, must be at least 4,5 bar.
Vacuum motor failure.	Motor is mechanically overloaded or overheated.	Check for free rotation. Check overload relays. Check bypass valve. Check temperature probe.
Circulation pump Pump failure.	Motor is mechanically overloaded or overheated.	Check for free rotation. Check overload relays. Check bypass valve. Check temperature probe.
Pre-heating failure.	Bypass valve not shifting to main steam.	Check bypass valve. Check temperature probe. Check switch and relay.
Linen wrinkles.	Precession between rollers too small.	Adjust precession. Clean check of chemicals.
Linen runs at an angle.	Dirt or chemicals in the chests. Rollers misaligned.	Clean checks and re wax. Adjust rollers.
Linen humid.	Ironing speed too high. Steam pressure and/or temperature too low. Padding clogged.	Reduce ironing speed. Adjust steam pressure and/or temperature. Replace padding.
Linen smells burned.	Ironing speed too low. Steam pressure and/or temperature too high.	Adjust ironing speed. Adjust steam pressure and/or temperature.
Guide ribbon rips.	Precession too high.	Adjust precession.
Ironer will not start.	Power failure. Main power switch off. Emergency buttons activated.	Restore power. Reset power switch. Reset emergency switches.

Problem	Cause	Remedy
Ironer will not run.	Finger guard activated. Limit switch misaligned.	Check cause. Check limit switch.
Rollers will not lift.	Air pressure failure. Selector switch faulty.	Check and adjust air pressure. Check selector switch.
Roller #1 will not descend.	Finger guard activated. Locking mechanism faulty.	Check cause. Check and replace, if required.
Rollers will not descend.	Air pressure failure. Selector switch faulty.	Check and adjust air pressure. Check selector switch.
Ammeter reading too high.	Drive train overloaded. V-belt too tight. Roller pressure too high. Drive motor faulty.	Check drive gear box. Adjust tension. Adjust pressure. Checks drive motor.
Linen turns over at leading edge.	Detergent or starch residues at the chest leading edge.	Check leading edge and clean if required.
Water spots on padding.	Exhaust volume inadequate. Linen too wet.	Adjust exhaust volume. Reduce ironer speed.
Ironer not hot enough, steam pressure and temperature too low.	Steam valve not fully opened. Condensate traps dirty or faulty.	Check steam valve. Check condensate traps replace if required.
Buttons on garments are breaking.	Roller pressure too high. Padding too hard.	Reduce roller pressure.
Impossible to lower one or more rollers.	Limit switch at lifting cylinders faulty or misaligned.	Adjust or replace limit switch.
Polyester not straight	Polyester not straight	Chest adjustment

: Case to problem please call back Accurate Technologies Co., Ltd.

SECTION 8

PARTS LIST

ORDERING SPARE PARTS

In case spare parts are needed, please include the following information with your order:

1. Model and serial number of the equipment (located on the name plate).
2. Part number, part name, and quantity required. Use this manual to facilitate ordering.
3. When ordering electrical motors, please include complete name plate data, motor manufacturer, and wiring diagram number.

Our service and spare parts department consists of specially trained personnel to assist you with your needs. Please do not hesitate to call if we can be of any assistance to you.

