



primus

SALES GUIDE

Chest heated ironers

GET AHEAD IN LAUNDRY 

CONTENT

- I. Basic Acknowledge of the chest heated ironers
- II. Introduction of ALS chest heated ironers
- III. Alliance chest heated ironer overview
 - I. Single roll ironers ALC370-800
 - II. Single roll deeper chest ironer ACL80K
 - III. Two roll ironers ACL800 and AL80K

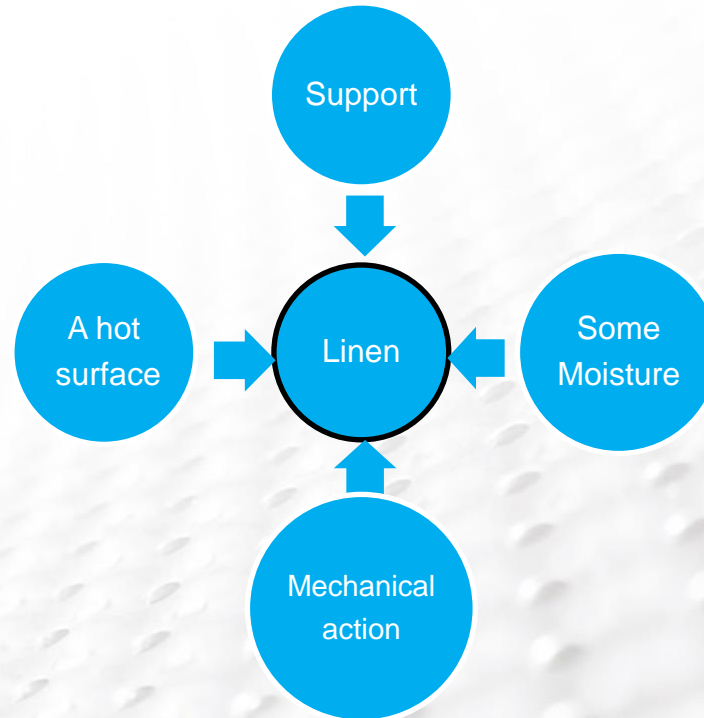
I. BASIC ACKNOWLEDGE OF THE CHEST HEATED IRONERS

I. How does an ironer work?

II. How does a chest heated ironer work?

HOW DOES AN IRONER WORK?

The ironing process requires five elements



HOW DOES AN IRONER WORK?

The five elements you do at home



You put washed clothing on an ironing board, press hot ironer on wet clothing, move and press. The water in clothing evaporates and the clothes dry and flatten and glaze

Linen – washer clothing

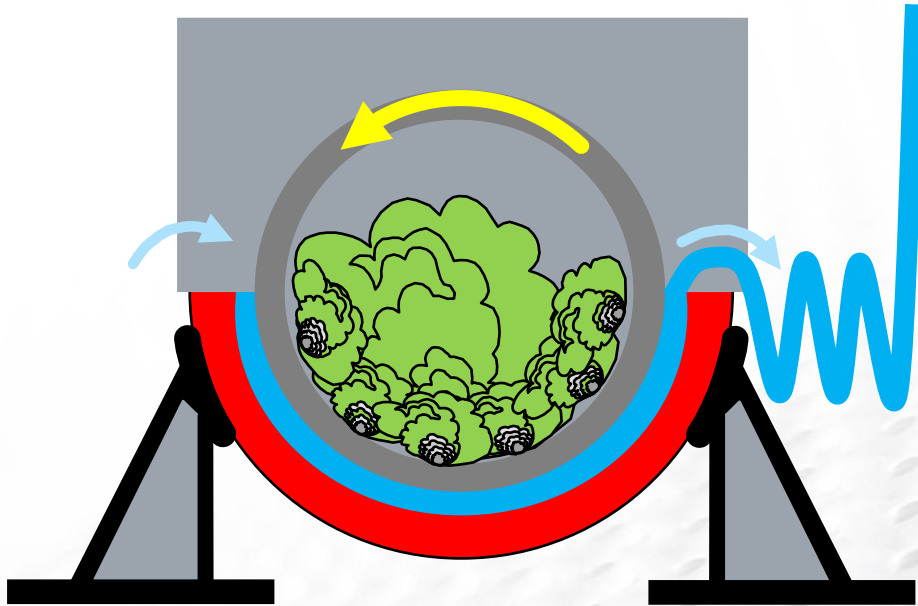
Support – Ironing board

Hot surface – ironer

Some moisture – Water evaporation from wet clothing or steam injected from ironer

Mechanical Action – You move and press the ironer onto the clothing

HOW DOES A CHEST HEATED IRONER WORK?



The **hot** surface is a chest
A **cylinder** rotates inside the **hot** surface

The **wet linen** enters the chest through the front of the machine then slides along the **chest**, driven by the **cylinder**

The remaining moisture evaporates and generates **steam** that relaxes the fibers and comes out at the rear; dried and ironed

II. INTRODUCTION OF ALS CHEST IRONERS

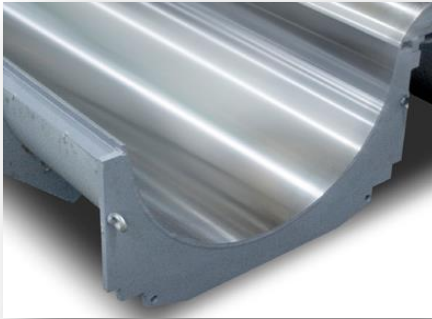
- Types of the chest
 - Fixed chest
 - Alliance flexible chest
- How the chest is being pressed
- How the chest is being heated
 - Gas heated
 - Electric heated
 - Steam heated
 - Heat distribution in the chest
 - Trend of sales steam and gas
 - What's the success of gas?
- Roll structure
- High ventilation chest
- Special deeper chest with ventilation

TYPES OF CHESTS

For chest heated ironers, there are two types of chest

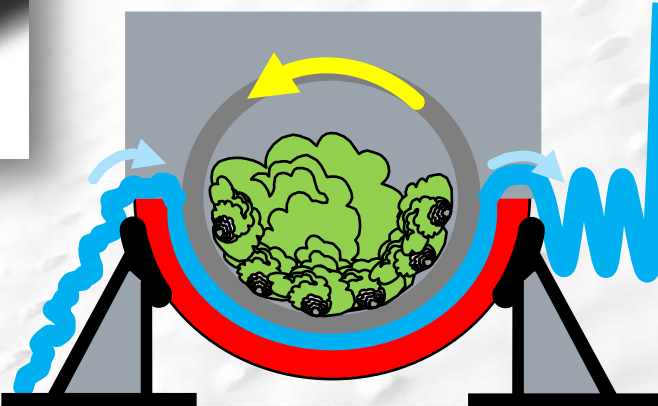
Fixed Chest

The chest is a hard piece

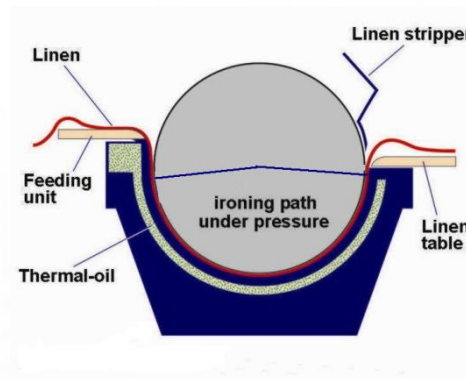
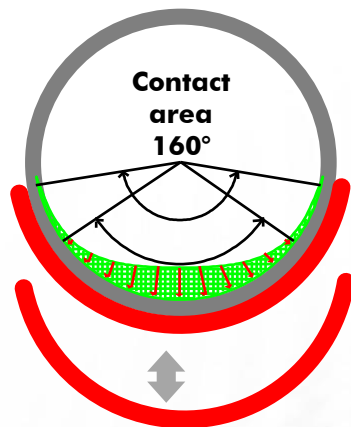


Flexible Chest

The chest is thin and can be bent upwards



FIXED CHEST

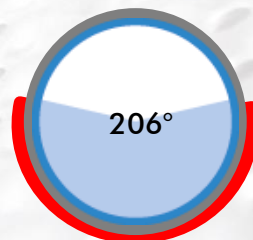
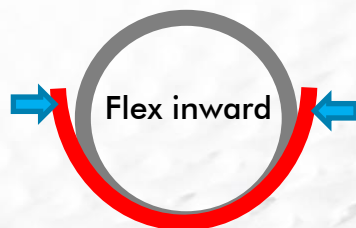


When ironing, the chest moves up to roll or the roll moves down to the chest.
 The contact angle has to be 180° less so that the roll can sit into chest
 Two hard pieces may contact uneven
 Chest is thicker and it takes a long time to heat up or to cool down
 The heat is slowly lost during the working of the ironer

ALLIANCE FLEXIBLE CHEST

In Alliance Laundry Systems, we supply the flexible chest type of ironers

- When ironing, the chest pushes towards the roll by hydraulics pistons
- 100% contact over the surface of the chest
- 180° - 206° contact angle of the roll
- 5-10% more surface = higher production
- Pressure is always uniform/equal over entire width and length of the roll
 - ✓ better result of ironing
 - ✓ better efficiency
 - ✓ no deposit/residue at entrance or exit



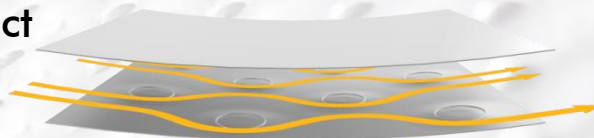
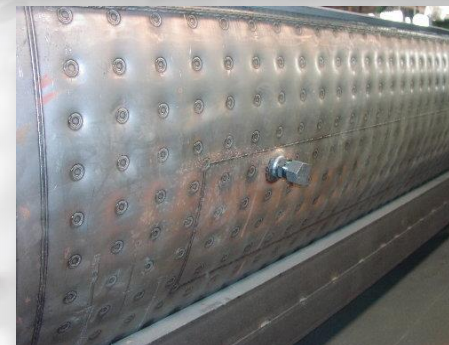
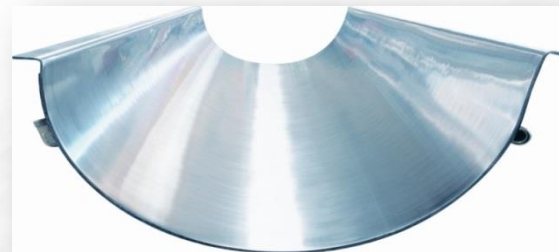
ALLIANCE FLEXIBLE CHEST

Patented super flexible chest for gas and electric heating

- ✓ 5mm flat sheet + 1.5mm flat sheet
- ✓ Laser welded together and bended.
- ✓ Expanded with 30bar water
- ✓ 185-206 ° roll contact

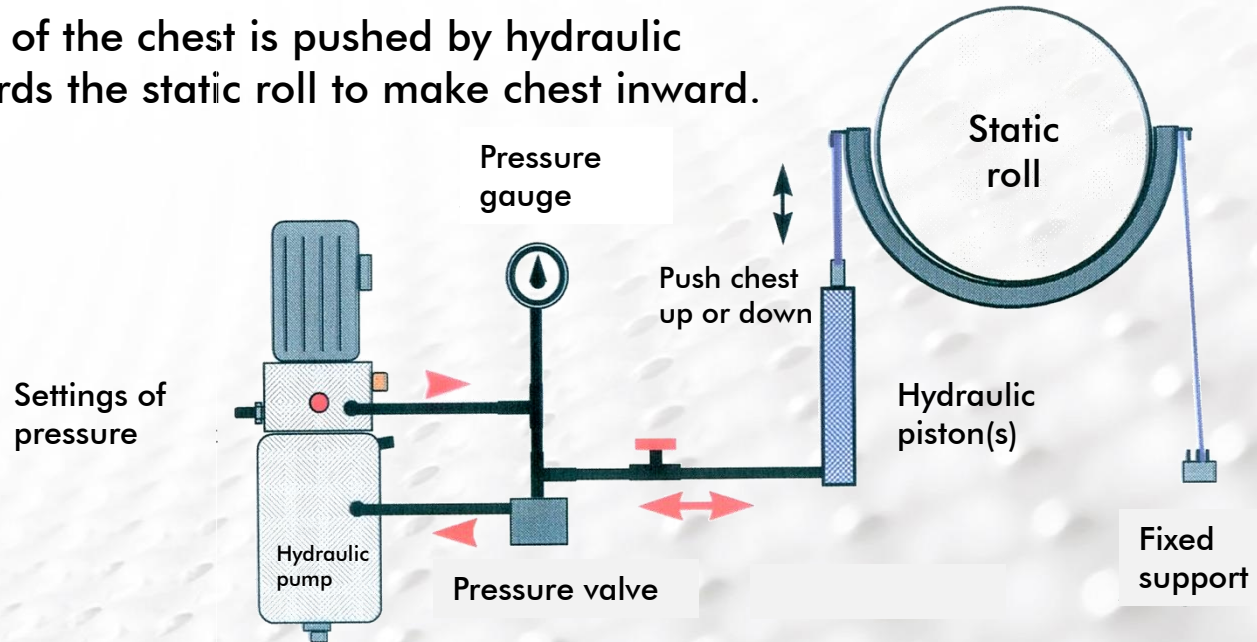
Flexible chest for steam heating

- ✓ Steel 10mm and 4mm
- ✓ Bended
- ✓ Robot welded
- ✓ Expanded 50bar water
- ✓ 175-180° roll contact



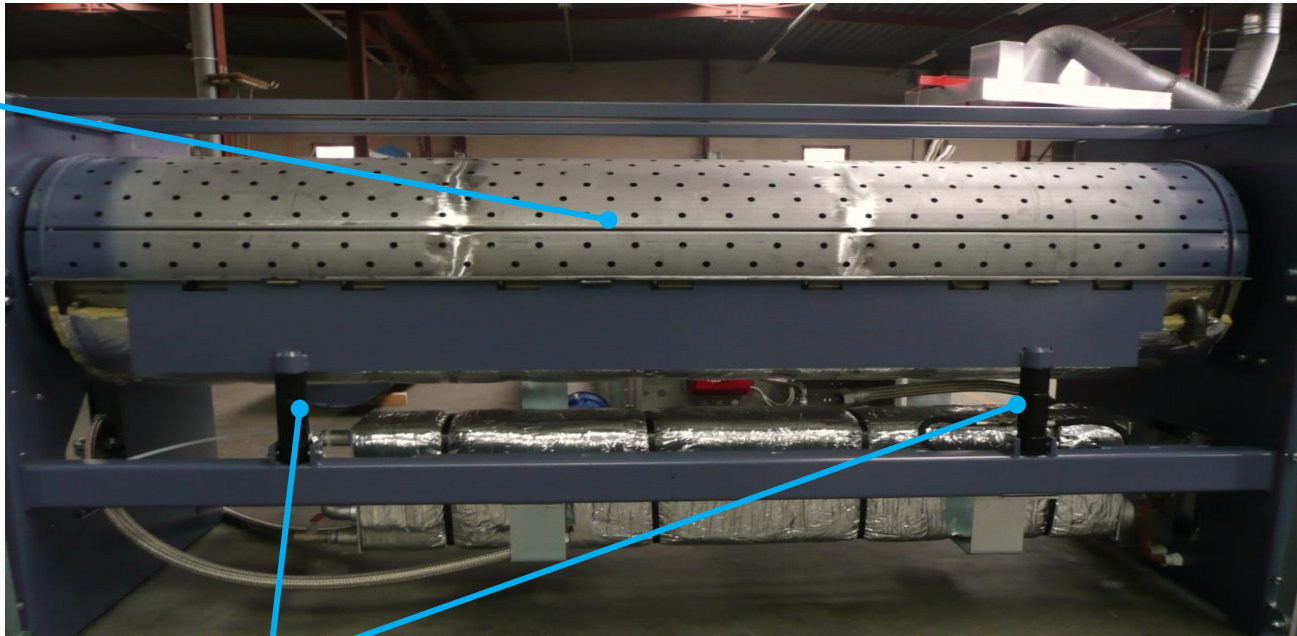
HOW THE CHEST IS BEING PRESSED

- Static roll
- One side of the chest is fixed
- Another side of the chest is pushed by hydraulic pistons towards the static roll to make chest inward.



HOW THE CHEST IS BEING PRESSED

Static roll



Pistons push chest upwards to the roll

HOW THE CHEST IS BEING HEATED

Chest can be heated by:

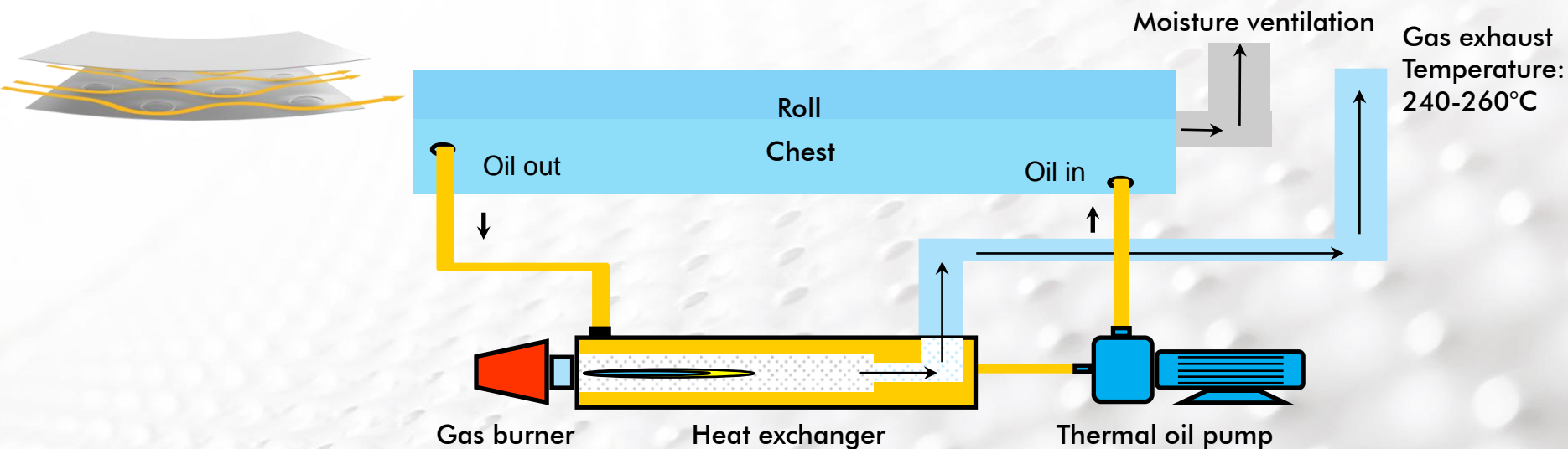
- Gas
- Electric
- Steam

GAS HEATED CHEST STRUCTURE

Chest is full of the flowing thermal oil that is heated in heat exchanger

Gas heats up the thermal oil in the heat exchanger

The oil is circulated by an oil pump to keep the temperature in the chest

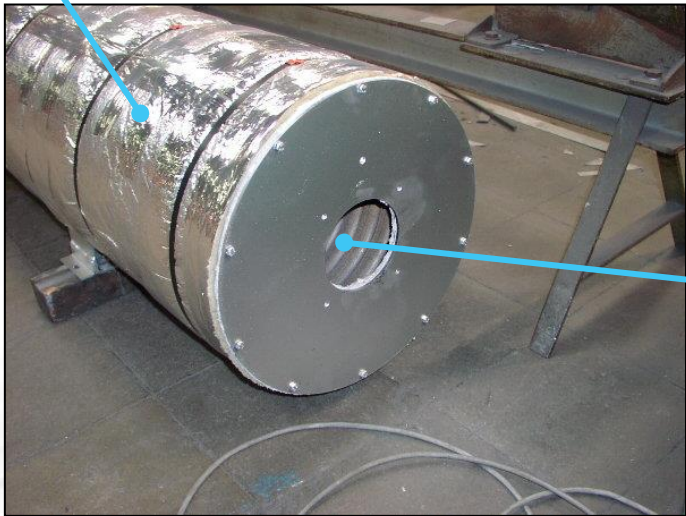


GAS HEATED HEAT EXCHANGER

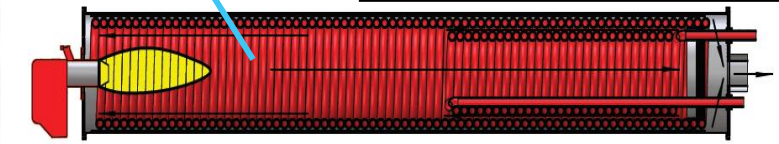
Heat exchanger
located under chest



Isolation



Oil coil inside the
heat exchanger



GAS HEATED IRONER: SIDE VIEWS

Roll drive motor & gear box to drive roll turning

Hydraulic pump to press chest toward roll

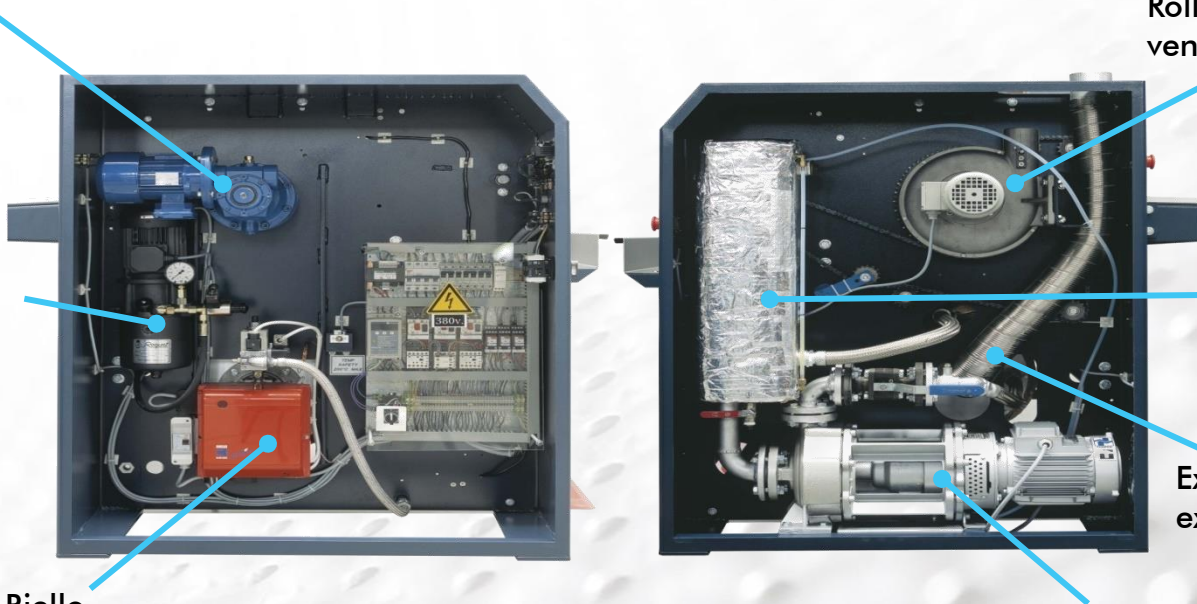
Gas burner Riello

Roll ventilation fan to ventilate humidity

Thermal oil expansion container

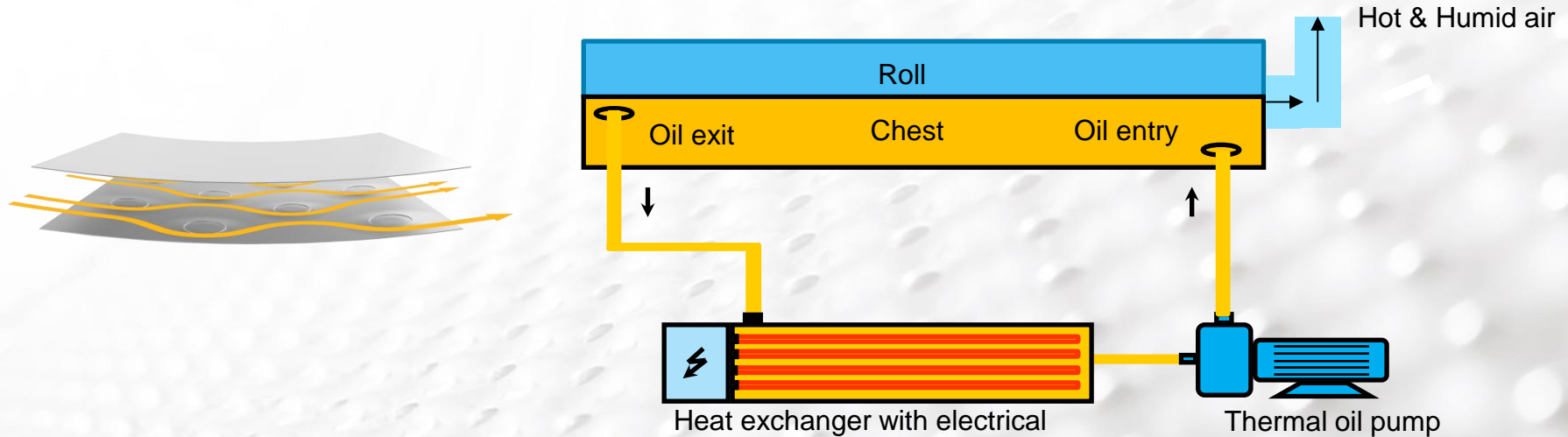
Exhaust of heat exchanger

Thermal oil circulation pump



ELECTRIC HEATED CHEST STRUCTURE

Chest is full of the flowing thermal oil that is heated in heat exchanger
 Electric elements heat up the thermal oil in the heat exchanger
 The oil is circulated by an oil pump to keep temperature in chest

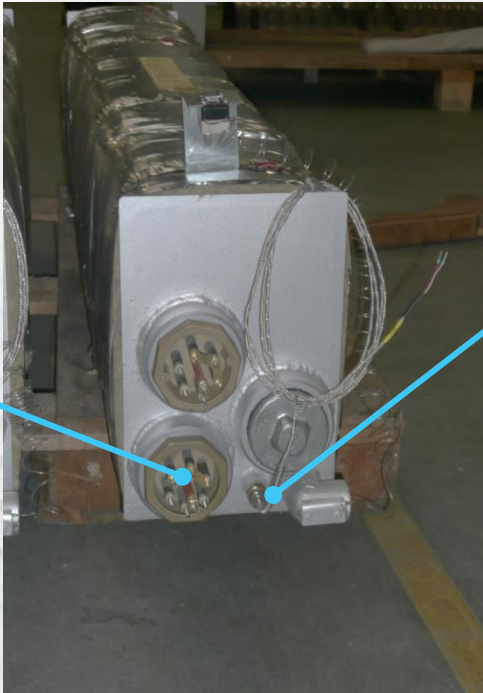


ELECTRIC HEATED HEAT EXCHANGER

Heat exchanger



Heating element



Temperature sensor

ELECTRIC HEATED IRONER: SIDE VIEWS

Roll drive
motor
and gear box

Hydraulic pump to
press chest

Heating element
to heat up thermal oil

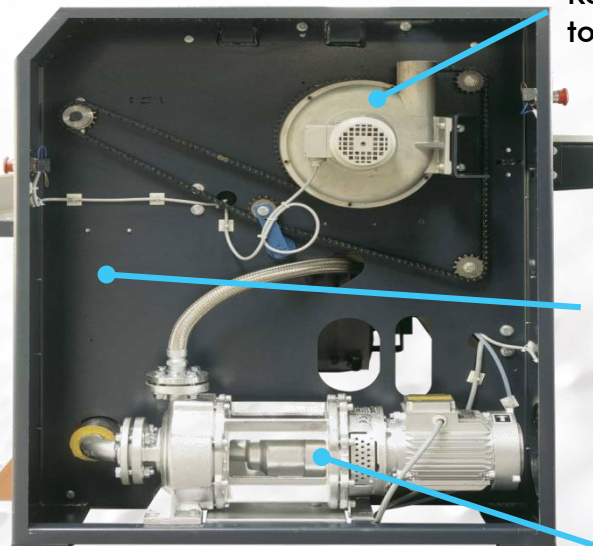
Temperature sensor



Roll ventilation fan
to exhaust humidity

NO oil expansion vat
on 370 & 500
(60liters in
exchanger)

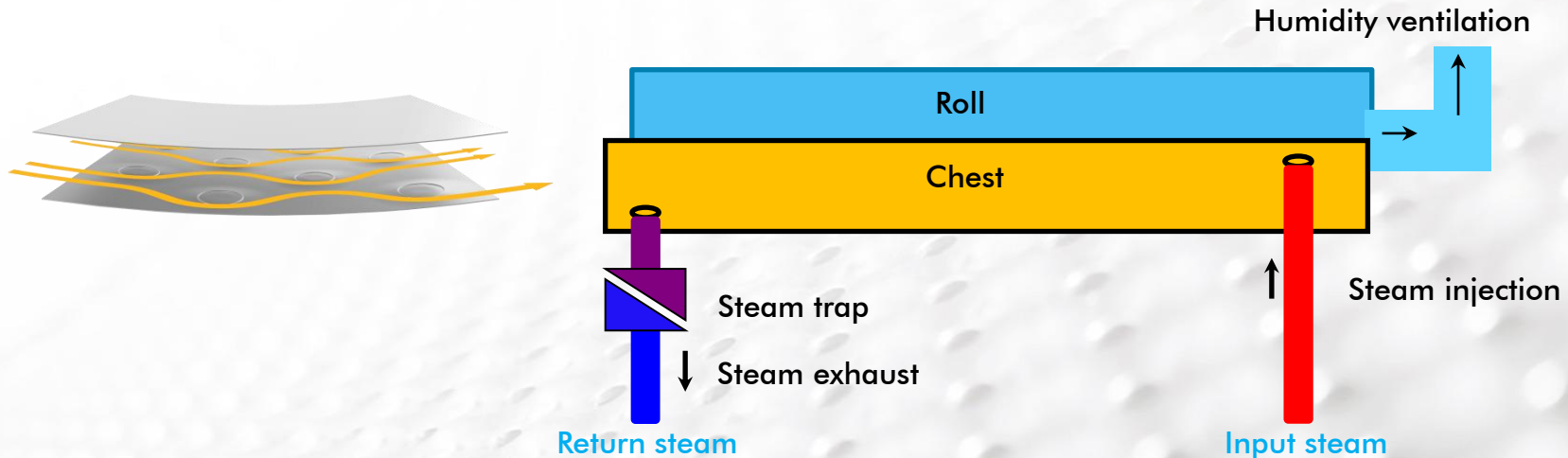
Thermal oil
circulation pump



STEAM HEATED CHEST STRUCTURE

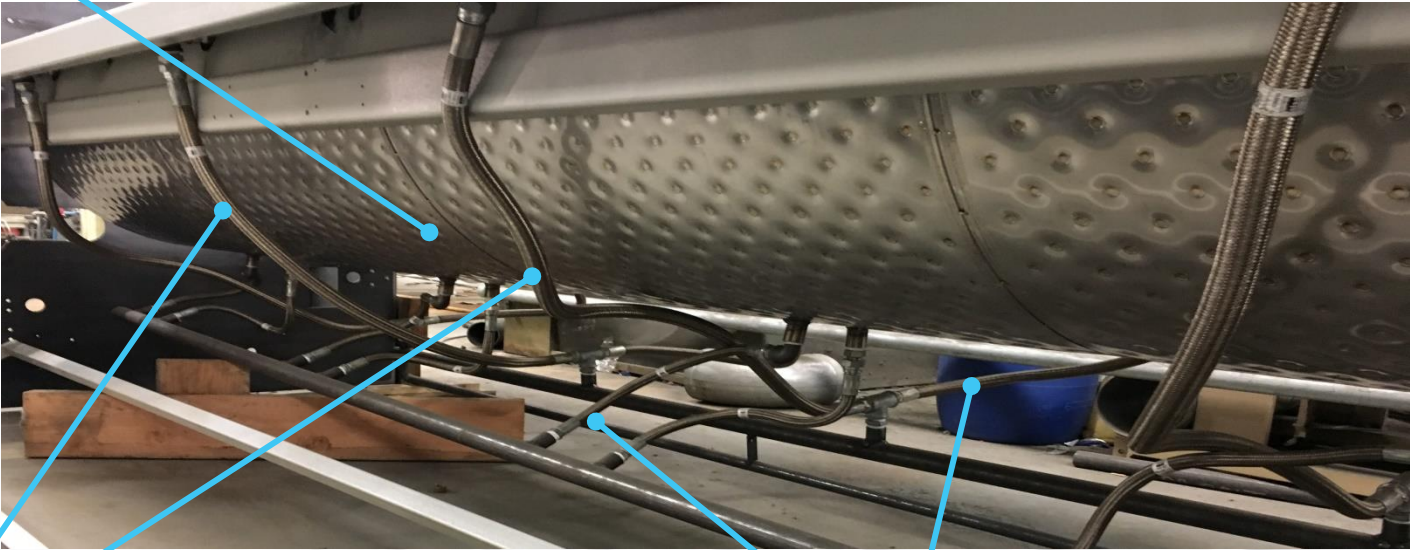
Chest is full of steam that is supplied by steam boiler

Your external steam supply is needed for steam heated ironers



STEAM HEATED

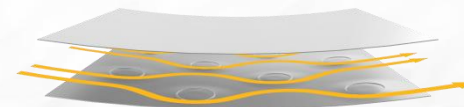
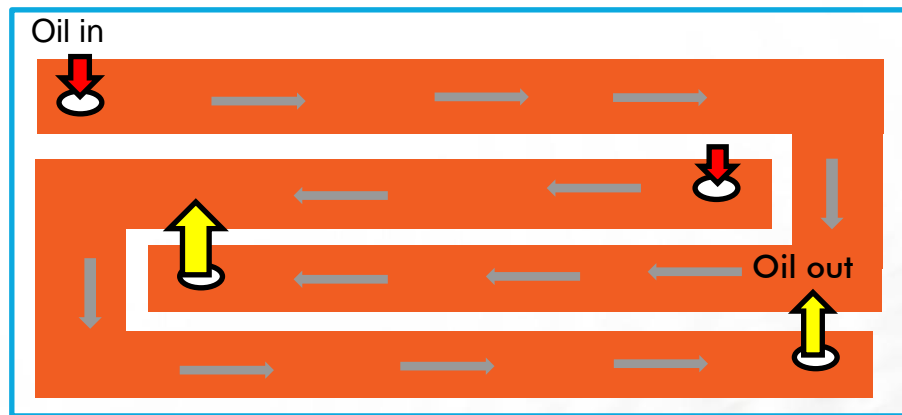
Chest



Steam in

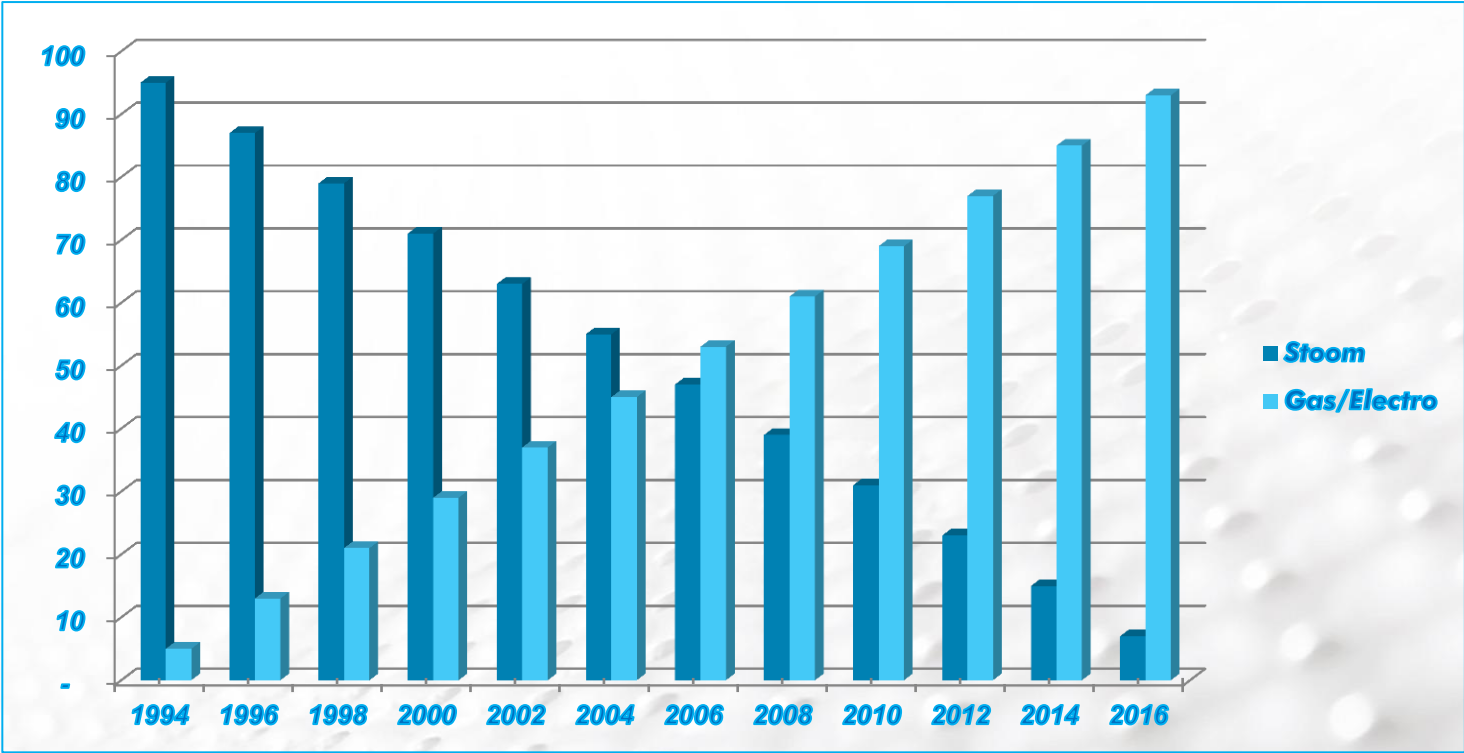
Steam out

HEAT DISTRIBUTION IN THE CHEST



- Oil flow through the entire chest driven by circulation pump.
- Perfect distribution of heat over entire chest
- No stop of overheating on chest
- No need to feed linen at different feeding entrance
- Steam heated chest with steam in and out by steam pressure

TREND OF SALES STEAM AND GAS



Data from Laco

WHAT'S THE SUCCESS OF GAS?

Very high efficiency

High production by constant temperature

- ✓ ALC800 gas > ALC 800mm steam

Better energy transfer :

- ✓ Thin Superflex chest (steel)
- ✓ High flow of thermal oil

30% more energy efficient vs steam

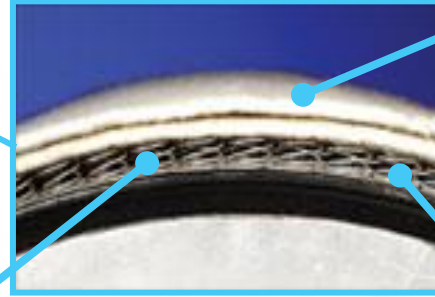
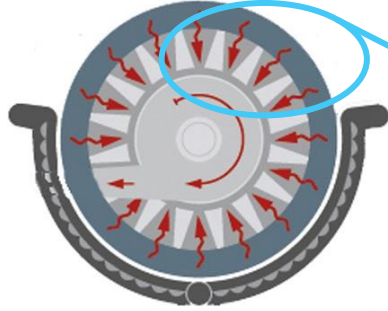
- ✓ No energy loss by pipes (up to 20% depending on installation)
- ✓ Perfect gas setting of burner. Burning rate conversion calory >95%)

WHAT'S THE SUCCESS OF GAS?

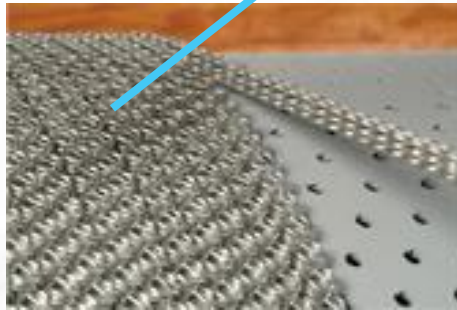
Practical arguments

- Easy installation and start-up
- Freely programmable temperature
- Working independent from steam-boiler: no start-up time in the morning.
Turning of machine = stop energy supply
- No steam corrosion
- No requirement of extra steam capacity when expanding capacity

ROLL STRUCTURE



2 layers polyester padding or optional M-Aramid.
Helps friction and pressure to move linen and also let humid pass through



Galvanized spring press padding wrap on roll to help even pressure onto chest, meanwhile lets humid pass through



Roll with holes where humid from linen can be vented from the hole

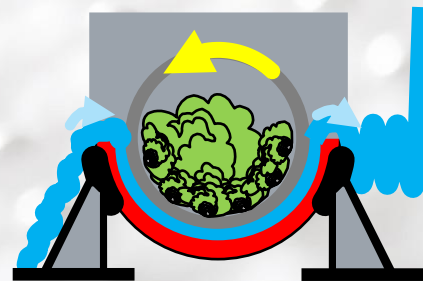
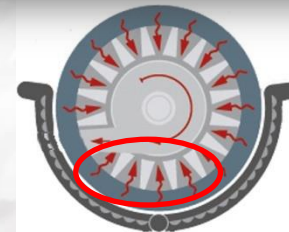
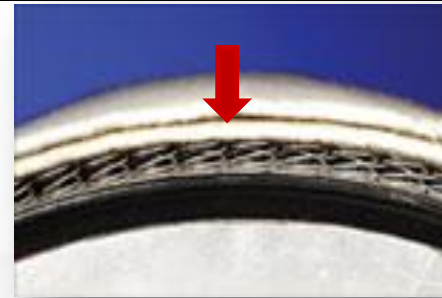
HIGH VENTILATION CHEST (NOT FOR STEAM HEATING)

Standard for deeper chest ACL80K

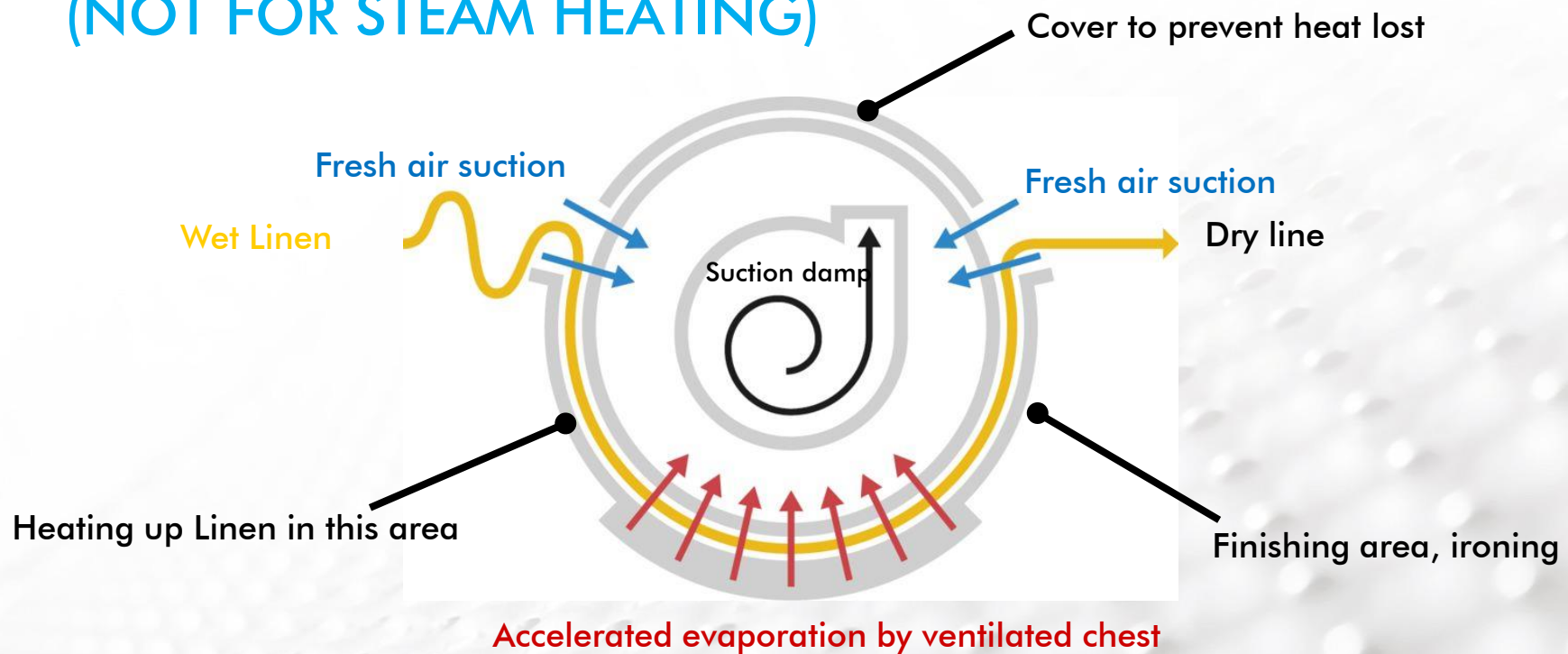
Optional for ACL370-800

Principle

- As one irons, the moisture in the linen is absorbed by the fabric paddings. If there is a saturation of moisture, continued ironing reduces the efficiency of the machine. In this case the evaporation and drying of the fabric padding can only take place when the moist padding leaves the ironing bed.
- To increase the efficiency of ironing and to accelerate the drying of the padding, there are small perforations at the bottom of the ironing bed so that drying can immediately start once the padding absorbs the moisture.
- The fresh air drawn in at the bottom is pre-heated, which prevents the linen to cool down.
- The top of the roller is covered to obtain more suction power at the bottom.
- This results in an efficiency improvement of 20% to 25%.

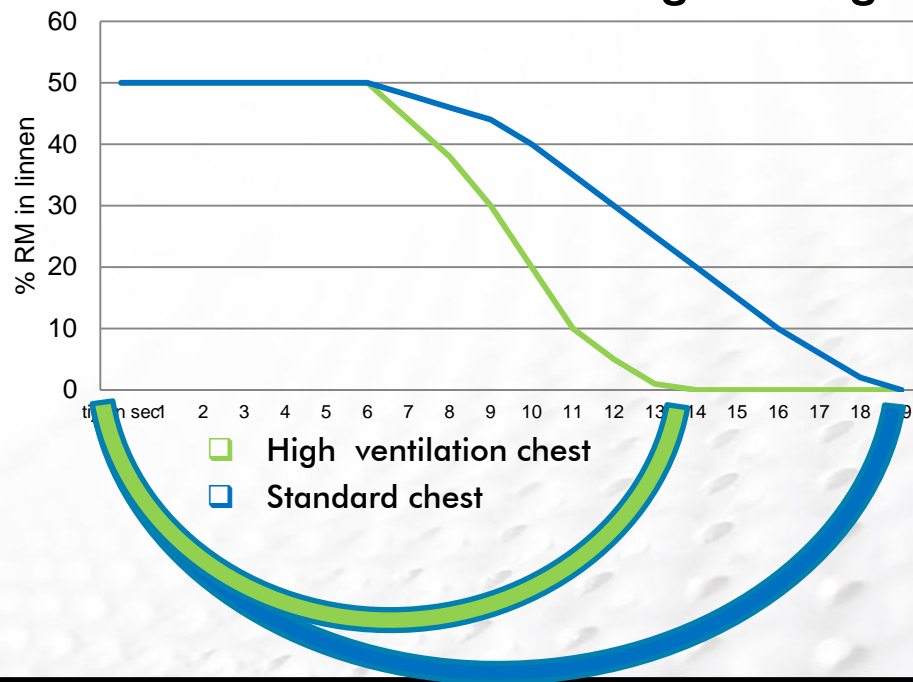


HIGH VENTILATION CHEST (NOT FOR STEAM HEATING)



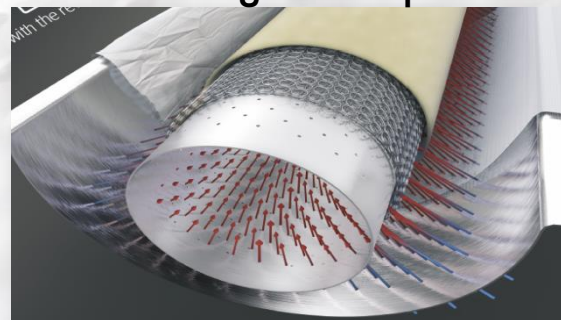
HIGH VENTILATION CHEST (NOT FOR STEAM HEATING)

Moisture Content during ironing



With high ventilation chest, you can

- ✓ dry the linen faster
- ✓ save energy
- ✓ have a higher output



SPECIAL DEEPER CHEST WITH VENTILATION*

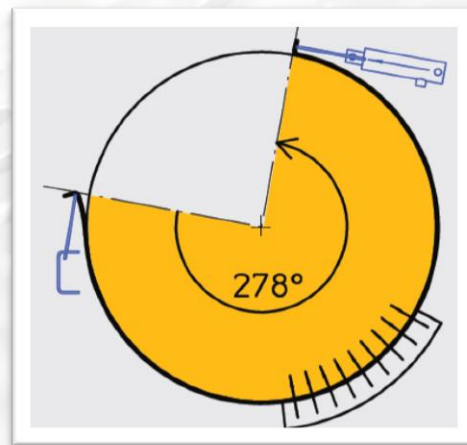
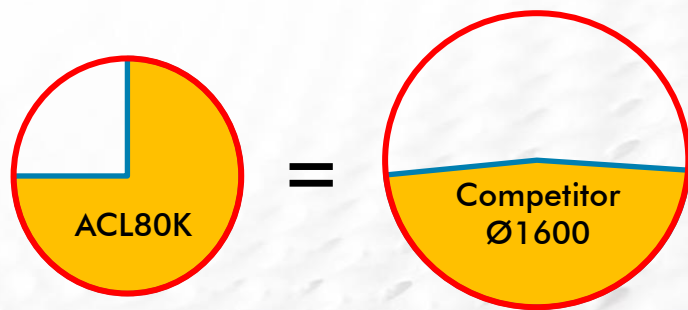
*GAS AND ELECTRIC ONLY

Flexible single piece chest with 278 ° ironing angle

- ✓ Larger ironing area than any competitors' machines
- ✓ Similar footprint as normal diameter 800mm ironers but much higher ironing capacity

High capacity perforated ventilation

ACL80K can achieve equal ironing capacity compared to larger diameter ironers



III. ALLIANCE CHEST HEATED IRONER OVERVIEW

III. ALLIANCE CHEST HEATED IRONER OVERVIEW

Single Roll Ironers

Normal chest



ACL370



ACL500



ACL600



ACL800

Deeper chest



ACL80K

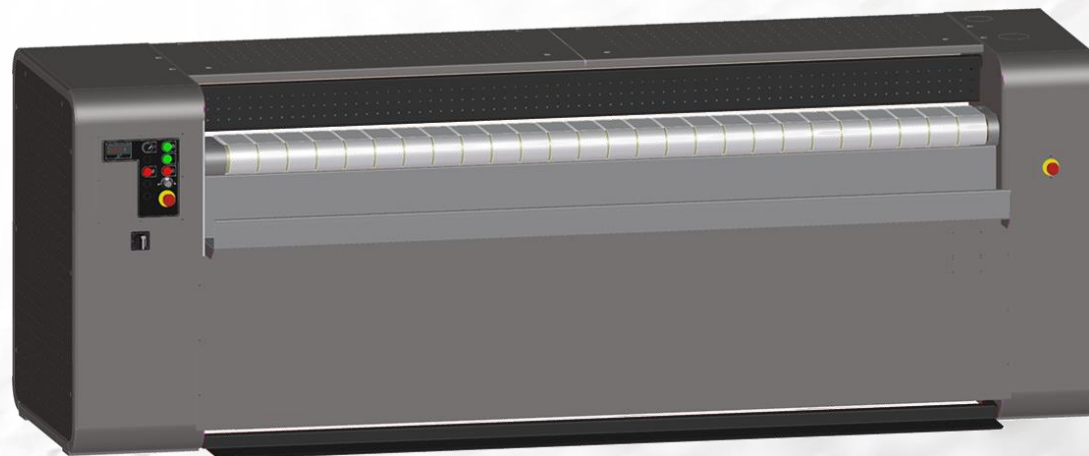
Two Roll Ironer



ACL800

ACL80K

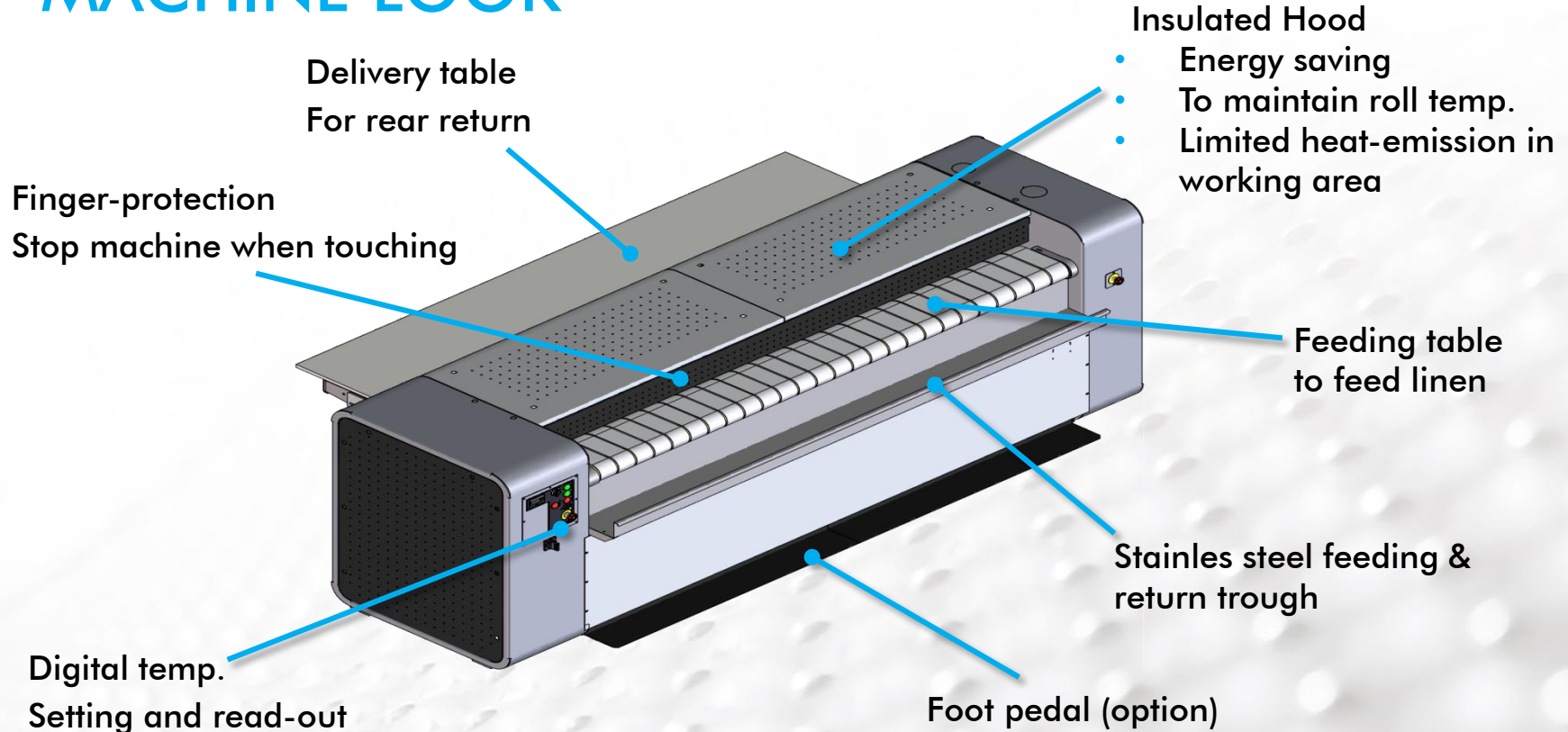
I. SINGLE ROLL IRONERS ACL370-ACL800



OVERVIEW OF SPECIFICATIONS

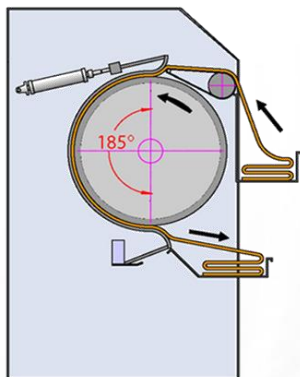
Model		ACL370	ACL500	ACL600	ACL800
Roll Diameter	mm	370	500	600	800
Working Length	mm	1750, 2000 , 2200, 2500, 3000	1750, 2000, 2200 2500, 3000, 3300	1750, 2000, 2200 2500, 3000, 3300	1750, 2000, 2200 2500, 3000, 3300
Heating		E/G	E/G/S	E/G/S	E/G/S
Delivery		<ul style="list-style-type: none"> • Front • Rear • Front and Rear 	<ul style="list-style-type: none"> • Front • Rear • Front and Rear 	<ul style="list-style-type: none"> • Front • Rear • Front and Rear 	<ul style="list-style-type: none"> • Front • Rear • Front and Rear
Ironing Speed	m/min	1-6.5	1.5-5.5	1-6.5	1-6.5
Ironing capacity	kg /hr	48, 54, 60, 67, 81	E/G : 65, 75, 82, 95, 115, 125 S: 58, 67, 74, 85, 103, 112	E/G: 100, 109, 126, 140, 160, 175 S: 90, 98, 113, 126, 144, 157	E/G: 152, 164, 186, 200, 230, 250 S: 136, 147, 167, 180, 207, 225
moisture retention 50 % - 10 bar					

MACHINE LOOK

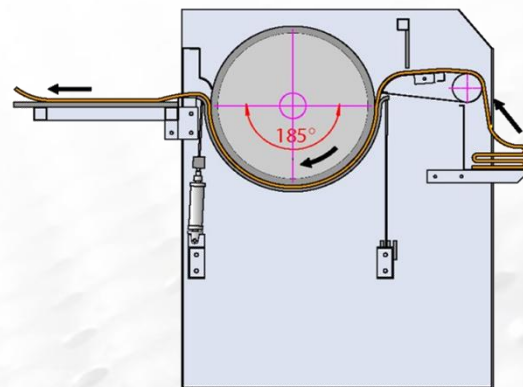


LINEN RETURN ROUTE

One roll ironer can give front or rear return



Front return only
Rear return not possible
for ACL370 and ACL500 only



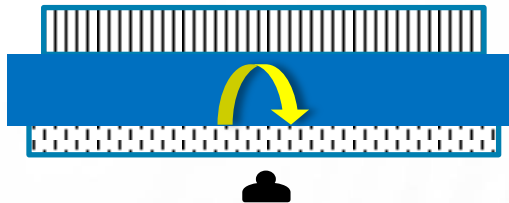
Rear return
Front return can be added

Delivery	ACL370	ACL500	ACL600	ACL800
Front	✓	✓	X	X
Rear	✓	✓	✓	✓
Front & Rear	Option	Option	Option	Option

LINEN RETURN ROUTE

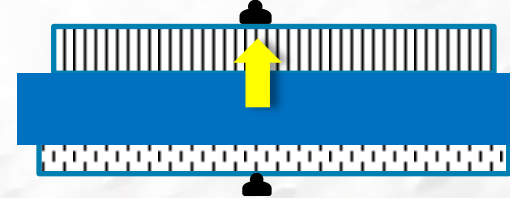
Front return

- 1 operator possible
- Can't connect folder

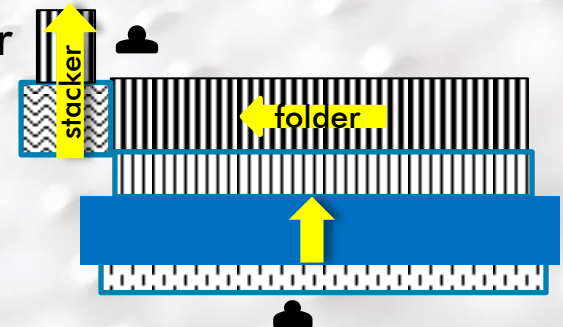


Rear return

- Needs at least 2 operators



- Possible to contact folder and stacker



HEATING

- **GAS & ELECTRIC HEATING**

- ✓ HEATING THROUGH THERMAL OIL FLOW

FLOWING AT HIGH VOLUME/MINUTE THROUGH CHAMBER IN CHEST:

30M³/HOUR FOR ACL800

7M³/HOUR FOR ACL370, ACL500 & ACL600

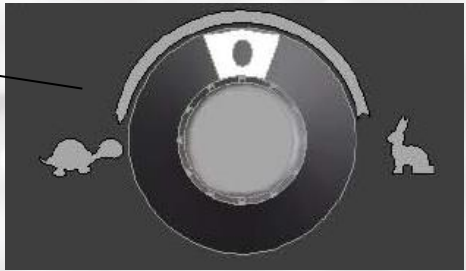
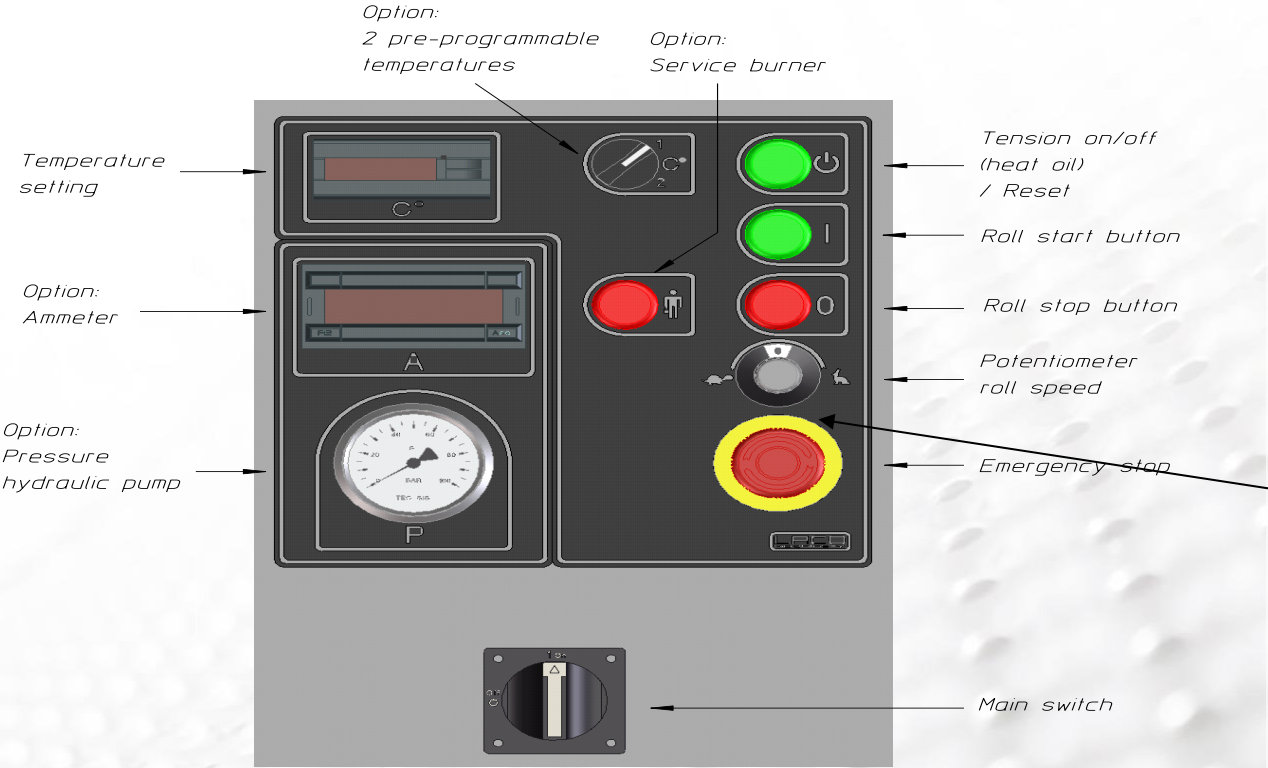
- ✓ SMALL VOLUME IN CHAMBER = HIGH ROTATION 1 TO 3L
- ✓ LIFE SPAN 3000-4000 HOURS, READILY AVAILABLE OIL

- **STEAM HEATING**

ACL370	ACL500	ACL600	ACL800
GAS	GAS	GAS	GAS
Electric	Electric	Electric	Electric
	Steam	Steam	Steam

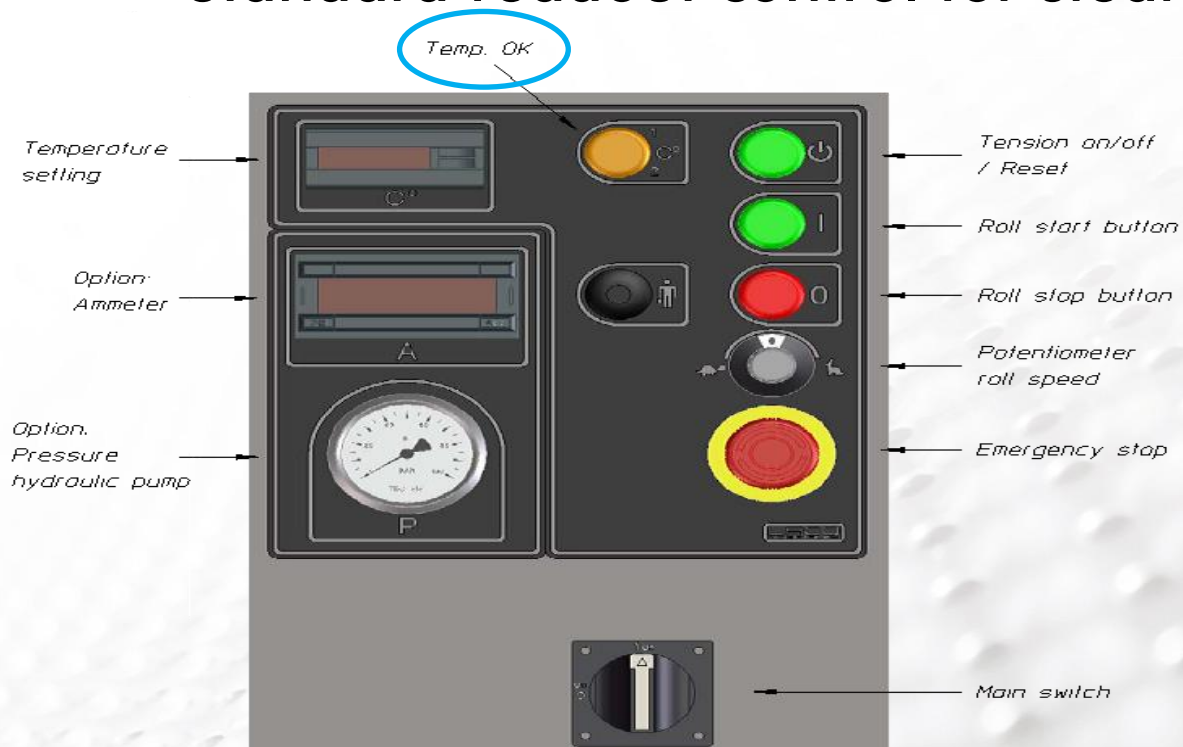
CONTROL

Standard readout control



CONTROL

Standard readout control for steam



OPTIONS: PLC, 7.5" TOUCH SCREEN

- Per program (50 programs)
 - ✓ speed
 - ✓ temperature
 - ✓ speed regulation +/- % speed / C° temp
- Auxiliary functions:
 - ✓ service & maintenance
 - ✓ fault logging
 - ✓ diagnostics
 - ✓ modulating burner for gas



OPTIONS: PLC, 7.5" TOUCH SCREEN



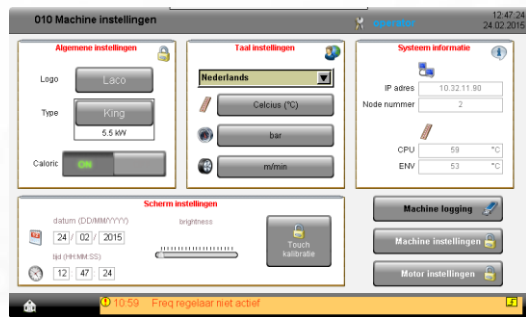
Home page



Program selection



Program making

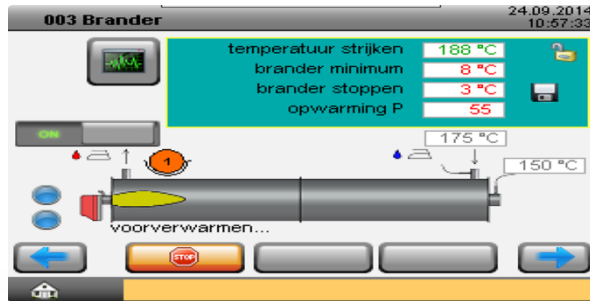


Machine configuration

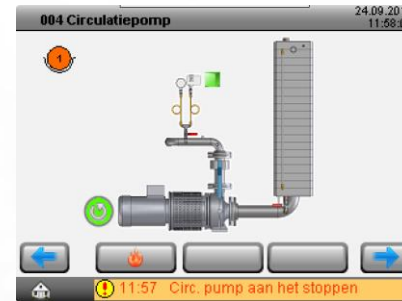


Manual speed setting

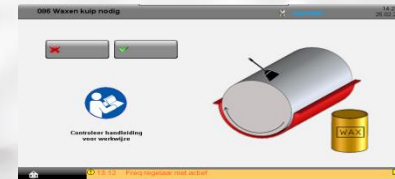
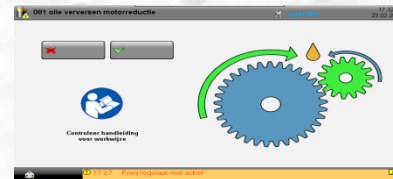
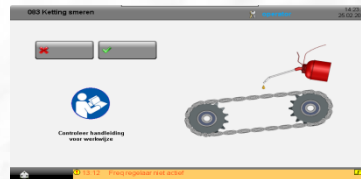
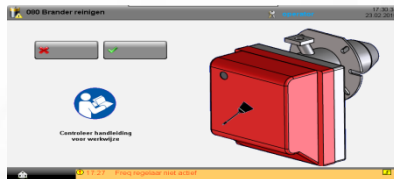
OPTIONS: PLC, 7.5" TOUCH SCREEN



Temperature monitoring



Oil circulation monitoring



Preventive maintenance planning

SPEED REGULATION OF PLC

- Automatic speed regulation per program
- Control of system temperature at 6 points.
e.g. Chest probe = 3x per second oil renewal (very accurate)
- Programming of slow down % / $x^{\circ}\text{C } \Delta$
e.g.

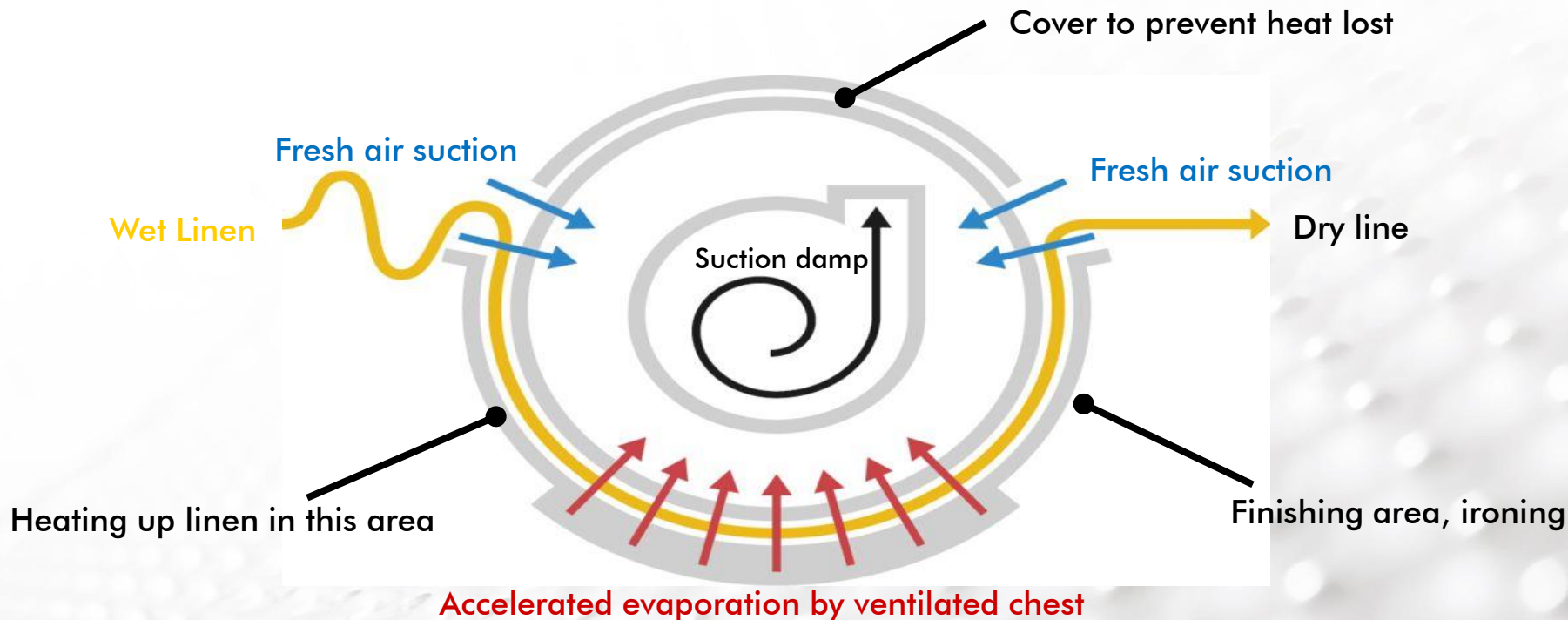
P1 : Single sheet	-1 $^{\circ}\text{C}$ = 2% drop in speed
P2 : Duvet covers	-1 $^{\circ}\text{C}$ = 5% drop in speed

Advantages

- improves efficiency of machine (less reject)
- improves capacity (stable temp.)
- no mistakes in speed setting (operator)
- very accurate temperature setting by fast reaction time with modulating burner or electric heating elements

OPTIONS: HIGH VENTILATION CHEST

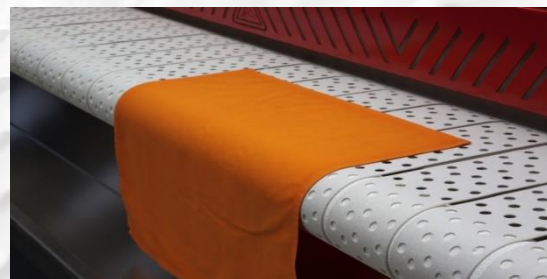
(NOT FOR STEAM HEATING, NOT FOR ACL370-500 FRONT RETURN)



OPTIONS:

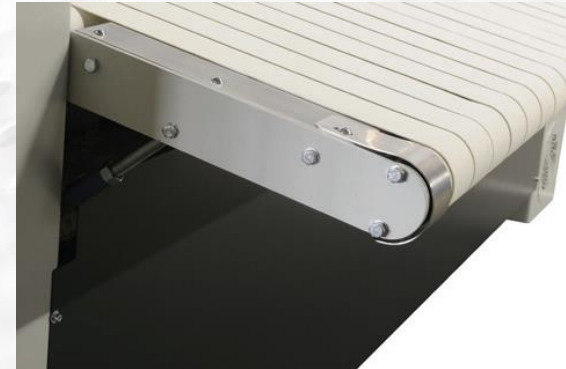
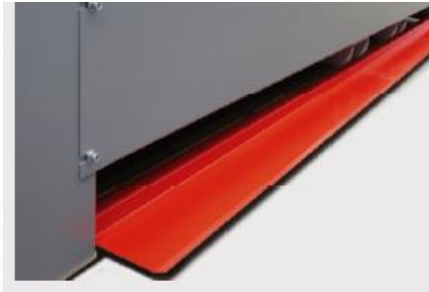
FEEDING BANDS WITH PERFORATION AND SUCTION FOR ACL600-800

- Feeding bands with perforation and suction.
- Easy feeding of small pieces.
- Higher productivity



OPTIONS

- M-ARAMID Padding
lifespan ⇔ Polyester up to 100% longer
- Long feeding table 500mm for faster feeding of small pieces
- Foot pedal for stop/start ironer



OPTIONS

- **High Speed**
 - ✓ ACL500 = 12m/min
 - ✓ ACL600 = 14 m/min
 - ✓ ACL800 = 18 m/min
- **Ultra high speed**
 - ACL800 = 25m/min
- **Plug folder for emergency stop**
- **Plug feeder for emergency stop**

II. SINGLE ROLL DEEPER CHEST IRONER ACL80K



OVERVIEW OF SPECIFICATIONS

Model		ACL80K			
Roll Diameter	mm	800			
Working Length	mm	2500	3000	3300	3500
Heating		E/G			
Delivery		Rear			
Ironing Speed	m/min	9 36			
Ironing capacity moisture retention 50 % - 10 bar	kg /hr	308	370	405	430

MACHINE LOOK

PLC, 7.5" touch screen

Hood

Finger guard

Feeding conveyor 50cm long

Back view

Delivery belts



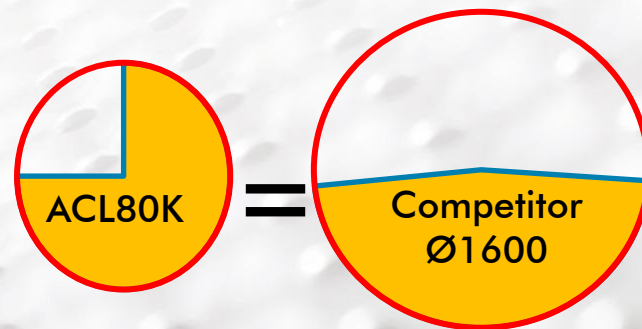
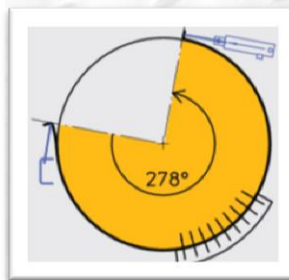
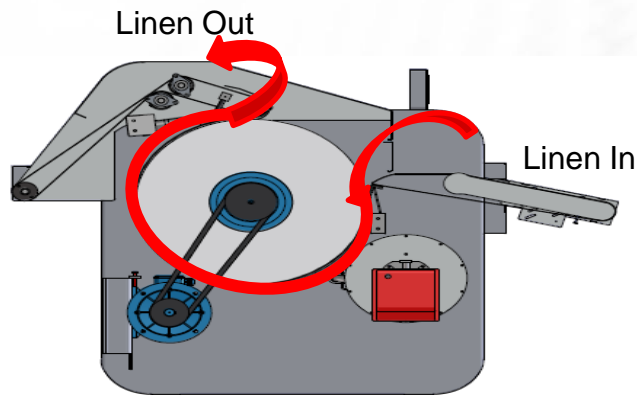
SPECIAL DEEPER CHEST WITH VENTILATION

Flexible single piece chest with 278 ° ironing angle

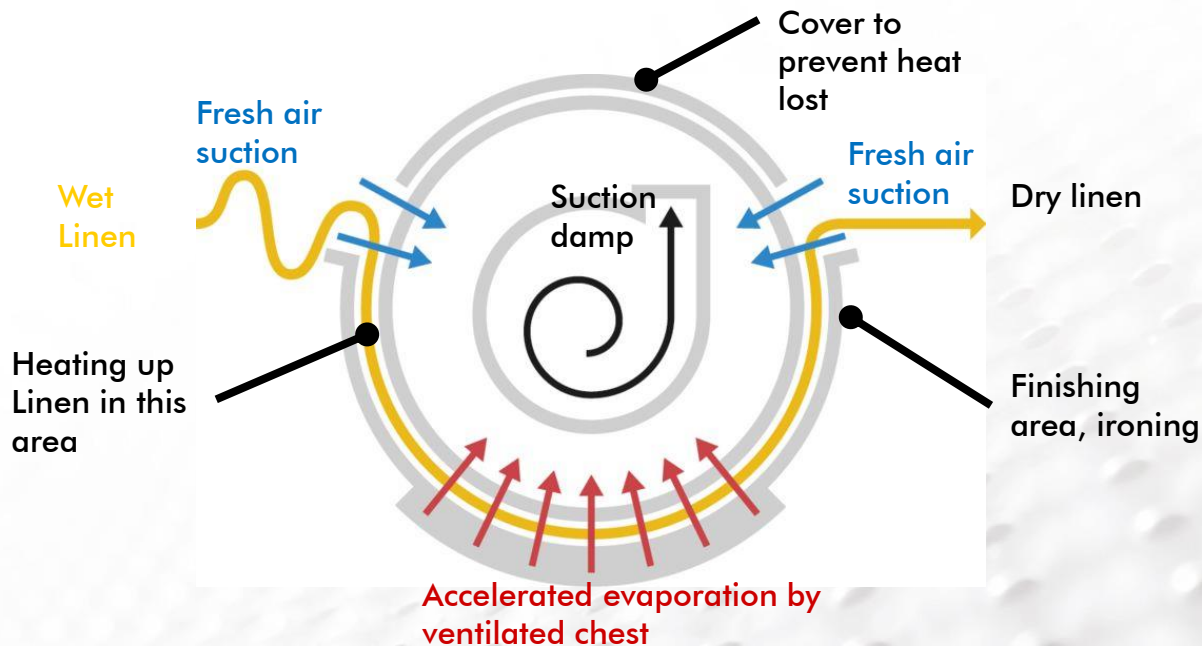
- ✓ Larger ironing area than any competitors' machines
- ✓ Similar footprint as normal diameter 800mm ironers but much higher ironing capacity

High capacity perforated ventilation

ACL80K can achieve equal ironing capacity compared to larger diameter ironers.



VENTILATION CHEST, STANDARD FOR ACL80K



Deeper chest plus ventilation makes ACL 80K 20% - 25% higher efficiency than any other ironer at same diameter

PADDING AND SCRAP

2 layers M-Aramid padding 800gr/m²
Longer lifespan

Spring press springs

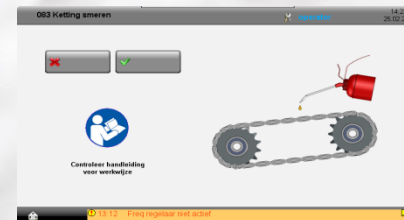


Scrap (no tape mark on linen)

Scrap surveillance
To detect any line roll up

7.5" TOUCH SCREEN CONTROL

- PLC 7,5 " Color touchscreen
 - ✓ Possible to make 49 programs
 - ✓ Read out data (temperature, speed, problems) on USB stick
 - ✓ Maintenance notifications
 - ✓ Trouble notifications
 - ✓ Test program
- Ultra High speed 5-25m/min

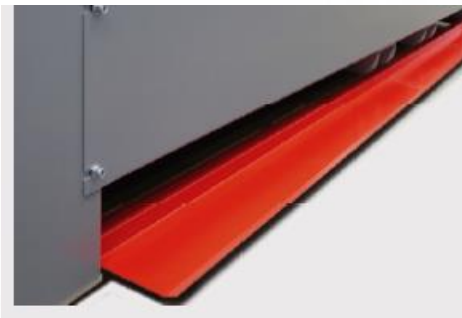


VOLTAGE

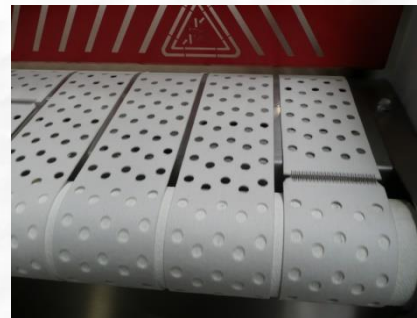
- 380-420V/50 Hz/3 + N + PE
- CE approval
- Other voltage optional

OPTIONS

- a) Foot pedal control to easy stop/start machines
- b) Plug for feeder and folder for emergency stop ironing line at feeder or folder
- c) Perforated vacuum feeding bands for easy input to the feeder is not installed.



Foot pedal



Vacuum feeding bands

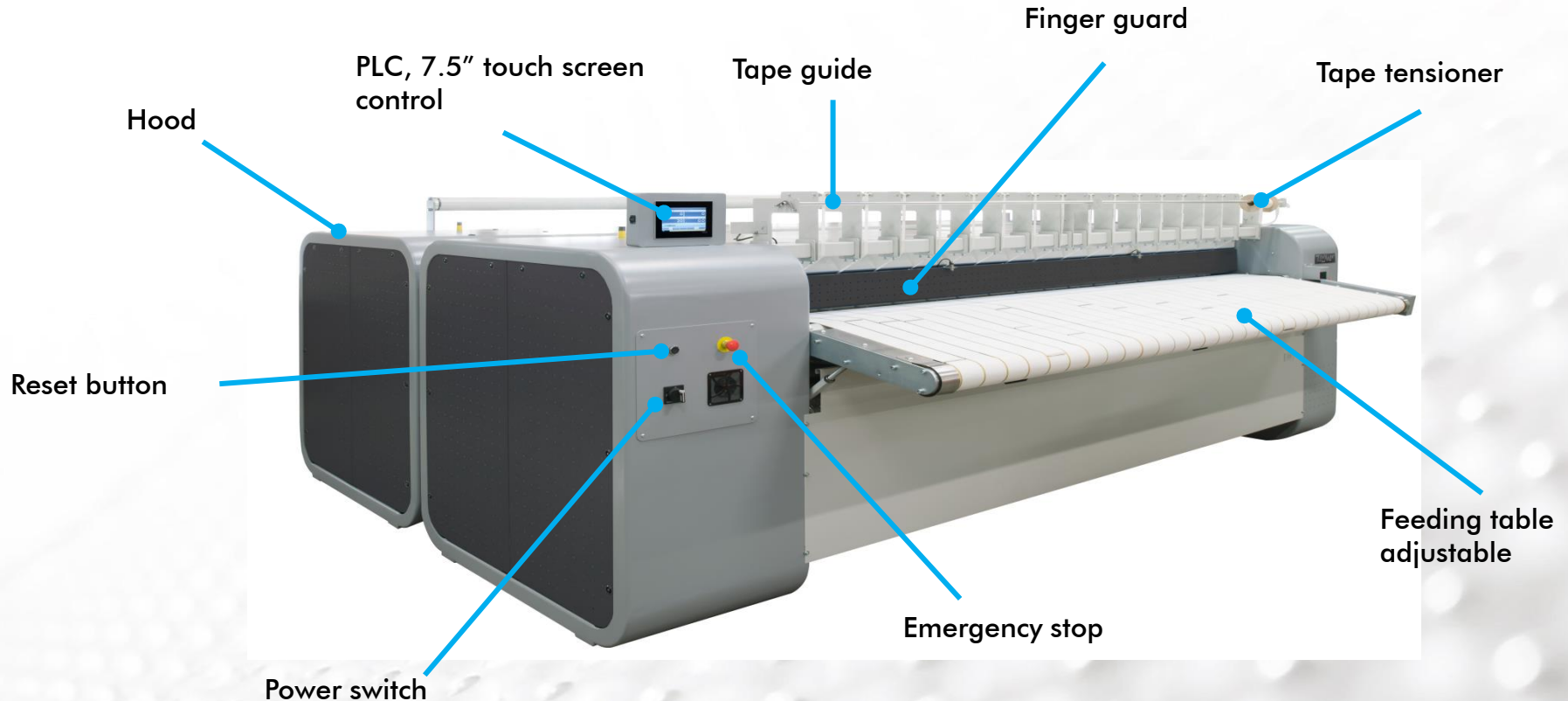
III. TWO ROLL IRONER ACL800 AND AL80K



OVERVIEW OF SPECIFICATIONS

Model		ACL 800	ACL80K
Roll Diameter	mm	800	800
Roll number		2 rolls	2 rolls (2 nd 278° roll)
Working Length	mm	2500, 3000, 3300, 3500	2500, 3000, 3300,3500
Heating		E/G/S	E/G
Ironing speed	m/min	Standard:5-20, Optional high speed 9-36	
Ironing capacity (E/G) moisture retention 50 % - 10 bar	kg /hr	Standard chest 430, 490, 530, 565 Ventilation chest 875, 1055, 1165, 1240	Standard chest 555, 660, 720, 765 Ventilation chest 1095,1305,1425,1510
Ironing capacity (S) moisture retention 50 % - 10 bar	kg /hr	Standard chest 440, 510, 570, 610 Ventilation chest 810, 945, 1045, 1120	NA

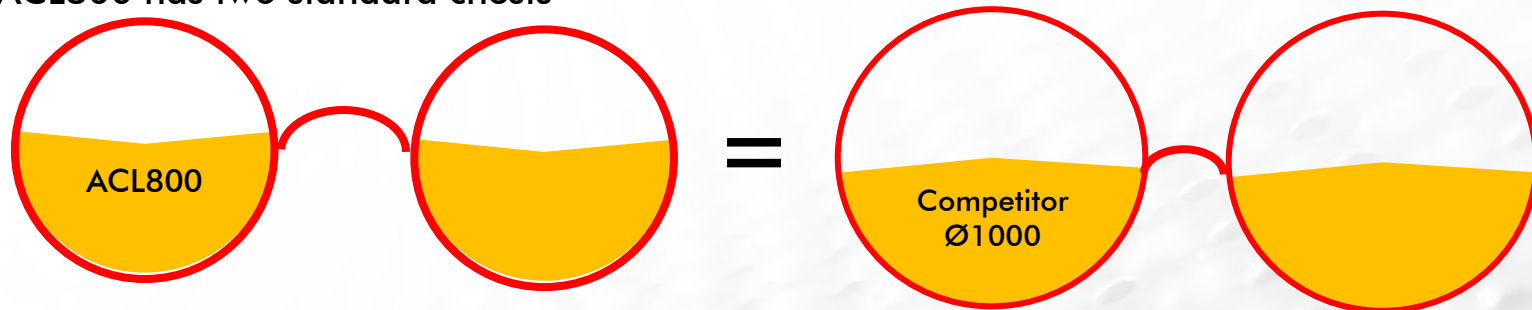
MACHINE LOOK



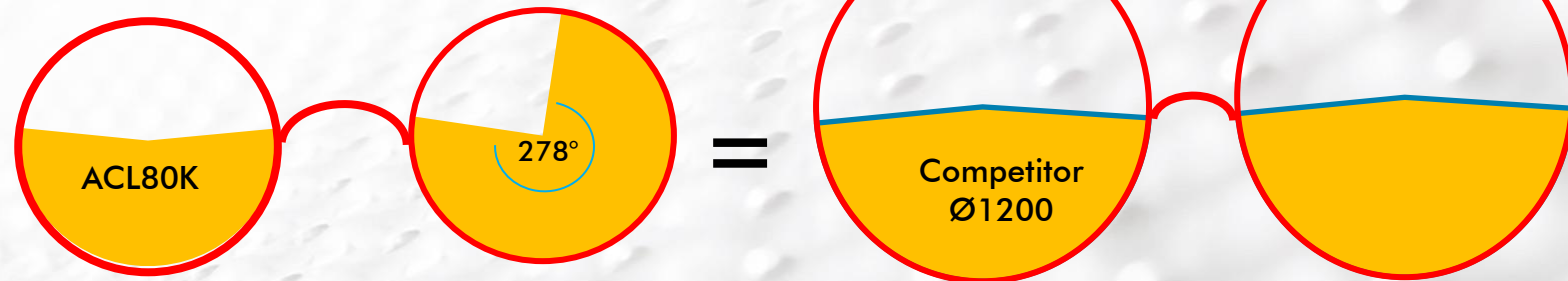
TWO ROLLS CHEST

We offer higher output with same roll diameter = higher efficiency

ACL800 has two standard chests

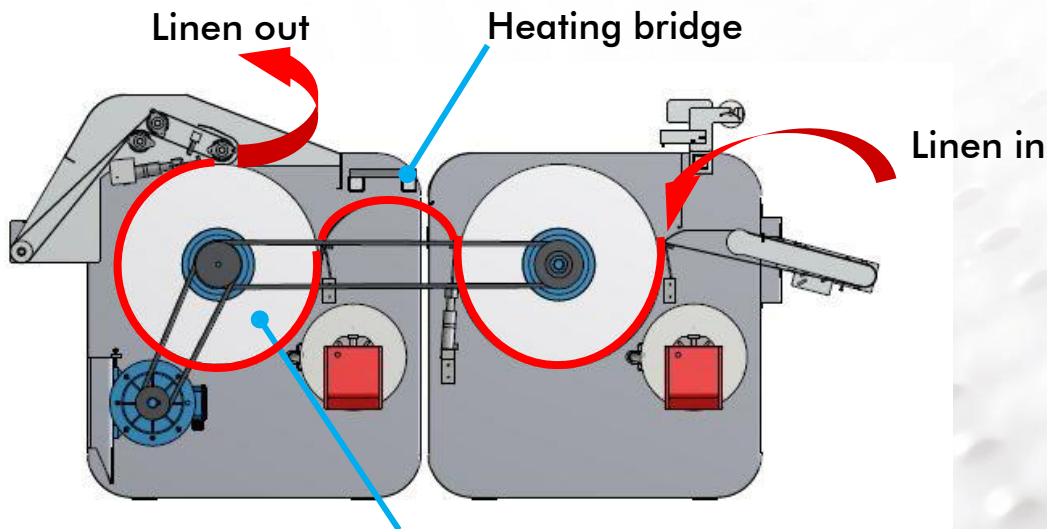


ACL80K has one standard chest and second roll with deeper ventilated chest



ACL80K STRUCTURE

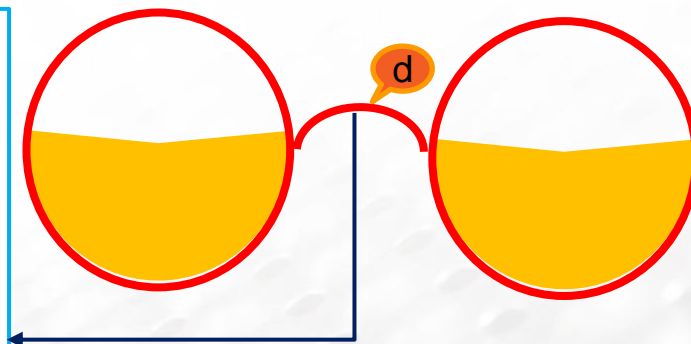
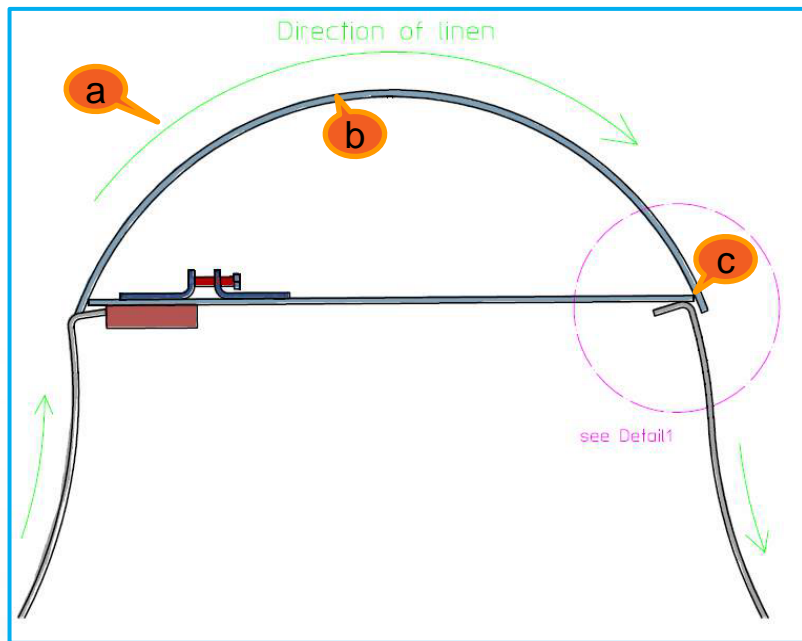
STANDARD 1ST CHEST AND 2ND DEEPER CHEST



With 2nd roll with deeper and ventilated chest

ACL80K has higher output than any other competitor at same roll diameter

HEATING BRIDGE



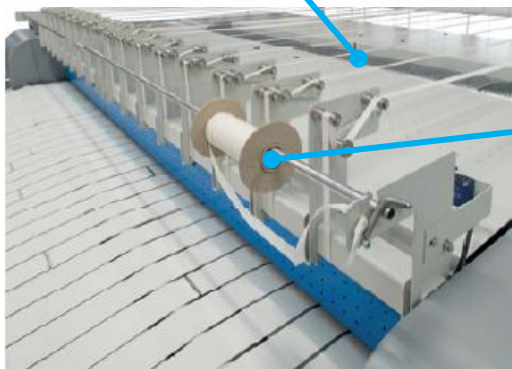
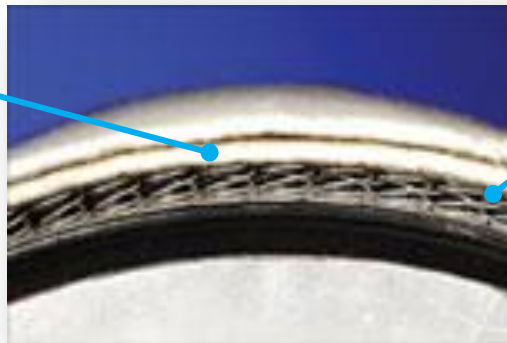
- a. Heated bridge between rolls, avoids linen cooling or rolling
- b. Thermal oil circulated by the pump for second roll
- c. Automatic positioning on the edge of the chest
- d. 80 cm length of the bridge allows evaporation during linen crossing over

PADDING AND TAPE

2 layers Polyester padding 800gr/m²

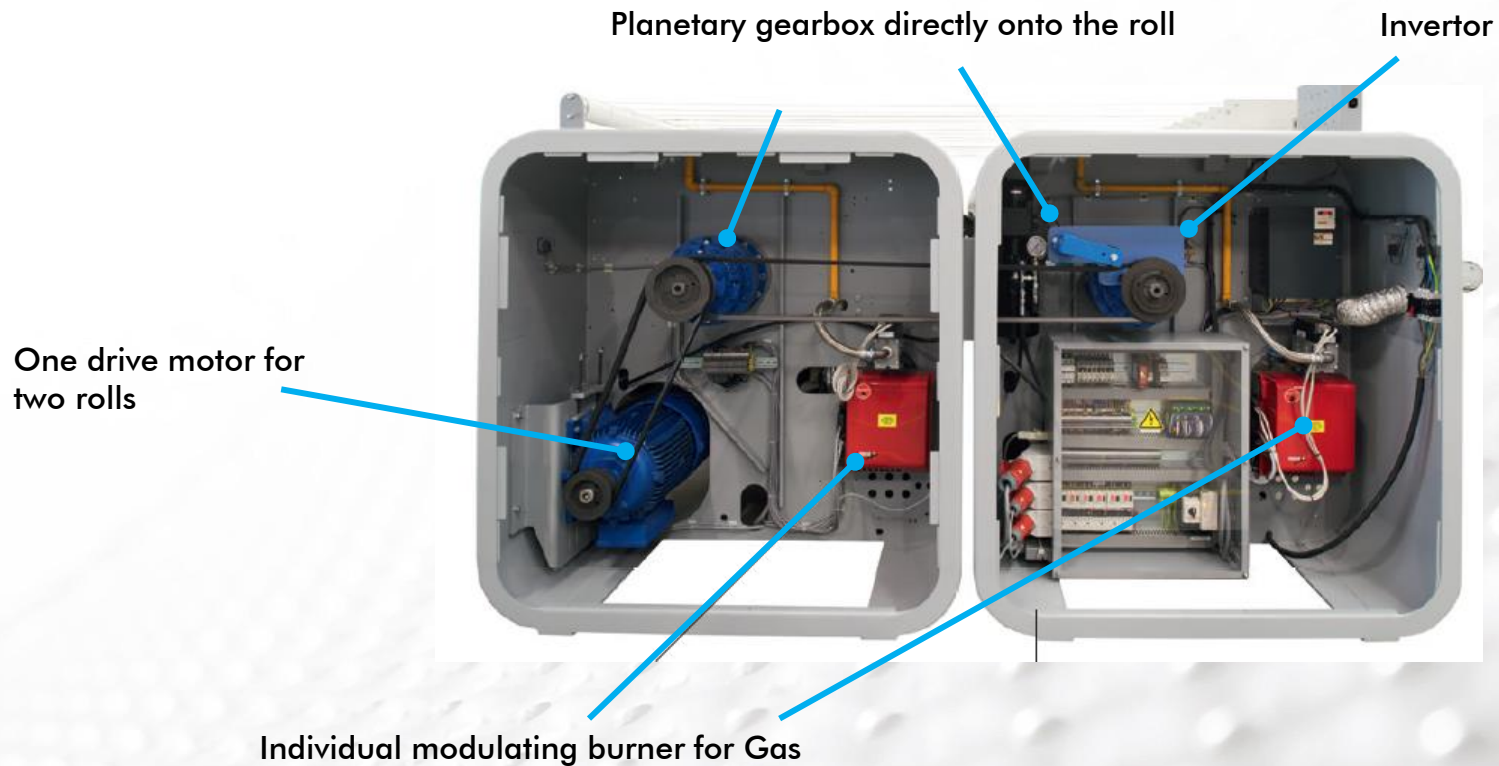
Press springs

Tapes to guide the linen



Linen guide tape with tensioner in machine front →
easy for service

STRUCTURE



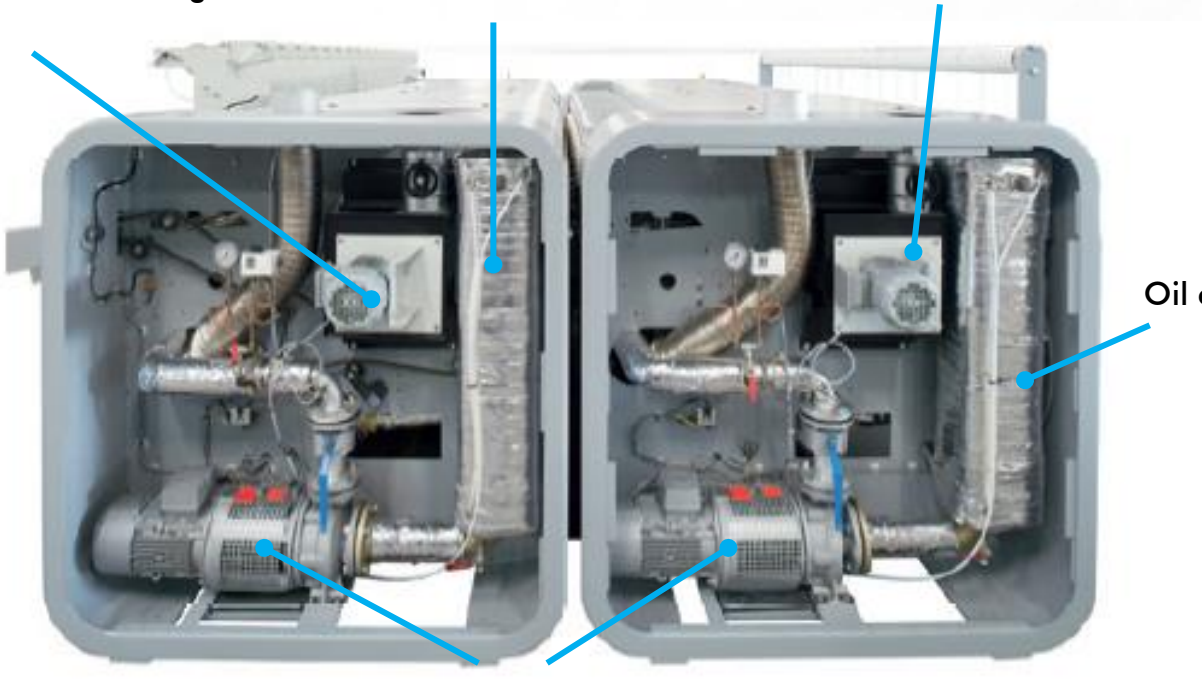
STRUCTURE

Adjustable suction through the roll

Oil expansion vat

Adjustable suction through the roll

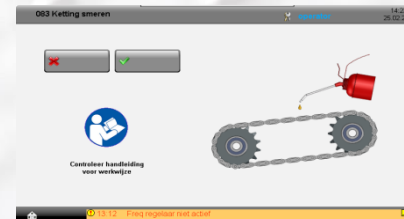
Oil expansion vat



Individual oil circulation pump for each roll

7.5" TOUCH SCREEN CONTROL

- PLC 7,5 " Color touchscreen
 - ✓ Possible to make 49 programs
 - ✓ Read out data (temperature, speed, troubled) on USB stick
 - ✓ Maintenance notifications
 - ✓ Trouble notifications
 - ✓ Test program
- Ultra High speed 5-25m/min



VOLTAGE

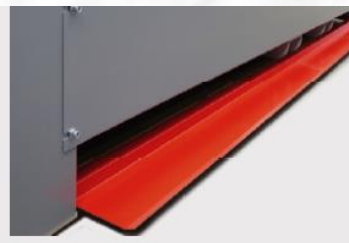
- 380-420V/50 Hz/3 + N + PE
- CE approval
- Other voltage optional

OPTIONS

1. M-ARAMID padding 800gr/m²
2. Foot pedal control to easy stop/start machines
3. High Speed 9-36m/min
4. Plug for feeder and folder for emergency stop ironing line at feeder or folder
5. Delivery table 700mm for ironer without folder
6. Perforated Vacuum feeding bands for easy feeding feeder is not installed.
7. Other voltage or approval



M-ARAMID padding



Foot pedal



Vacuum feeding bands