Equipment Information

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1 Description and key features

1.1 Description

The Cryovac® VPP 3002A is a Vertical Form-Fill Seal machine, especially designed for the packing of pumpable foods and liquids. It offers great speed with flexibility when packing hot or cold products, with or without particulate up to 38 mm in diameter.

The 3002A is designed to operate with Cryovac's full range of oxygen barrier films®. The film is automatically formed into a tube which is continuously filled. With our unique squeeze roller technology we accurately control the weight providing a pack with no headspace, the tube is then heat sealed and separated into a finished pouch.

The machine can operate with five different film widths (230, 350, 420, 510 or 630 mm), achieved by interchangeable tooling, and can pack from 0.2 to 10 liters of product. Using 630 mm width film, 5 liters of product can be packaged at approximately 25 packages/min, depending on product viscosity, product fill temperature and film type. With a smaller package format, the 3002A can run up to approximately 32 packages/min. The 3002A can produce packages for various applications as well as pouches with fitment.

The 3002A incorporates two important features; a sealing technology that allows faster sealing/cooling/cutting of finished pouches, and a servomotor drive which provides accurate and fast film feed. This combination gives improved seal integrity and an increased product output.

The 3002A is equipped with advanced electronic controls and microprocessor controlled for speed and accuracy. The 3002A's processor has a 30 channel memory for storing different packaging and/or product and a touch screen interface for user-friendly operator control and trouble shooting.

Construction is simple and robust. All critical parts are manufactured in 304 stainless steel and anodized aluminium, resistant to the corrosive environment often found in food production and packaging rooms. Designed with ergonomics, safety and hygiene in mind it is easy to use and clean, simple to maintain and meets all relevant European legislation for safety and hygiene.

1.2 Key features

- Unique minimum head space with our squeeze roller technology
- Wide range of pack sizes, from 0.2 to 10 liters
- Quick and easy film roll and product changeover
- Up to 32 packages/min with both clear and printed film
  (depending on product viscosity, product fill temperature and film type)
- 30 channel touch screen memory
- Servomotor film drive
- Cold and hot fill - up to 96°C
- Possibility to insert a fitment for dispensing, for 420, 510 and 630 mm toolings
- Hygienic design makes cleaning easy and effective
- Good access for maintenance
- Robust high quality build standard using food approved materials throughout
- Utilizes well proven and reliable mechanical systems

2 Layout

Important: The ceiling height must be at least 4480 mm
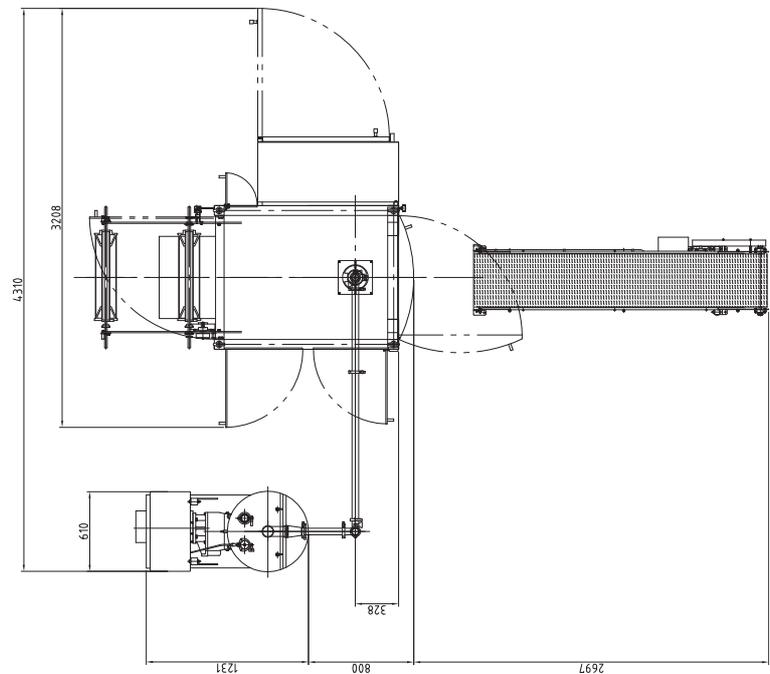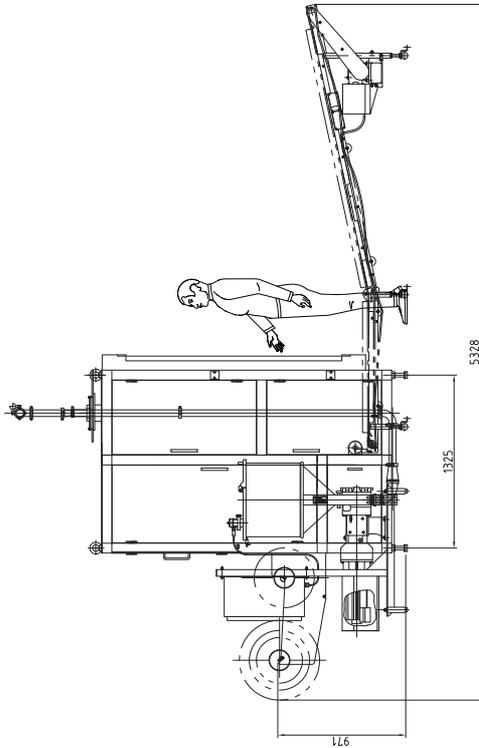
Fig. 2-1, 3002A Standard machine

Important: The ceiling height must be at least 4480 mm

1778

4481

2946

1945

1231

800

610

329

2697

4310

3208

971

1325

5328

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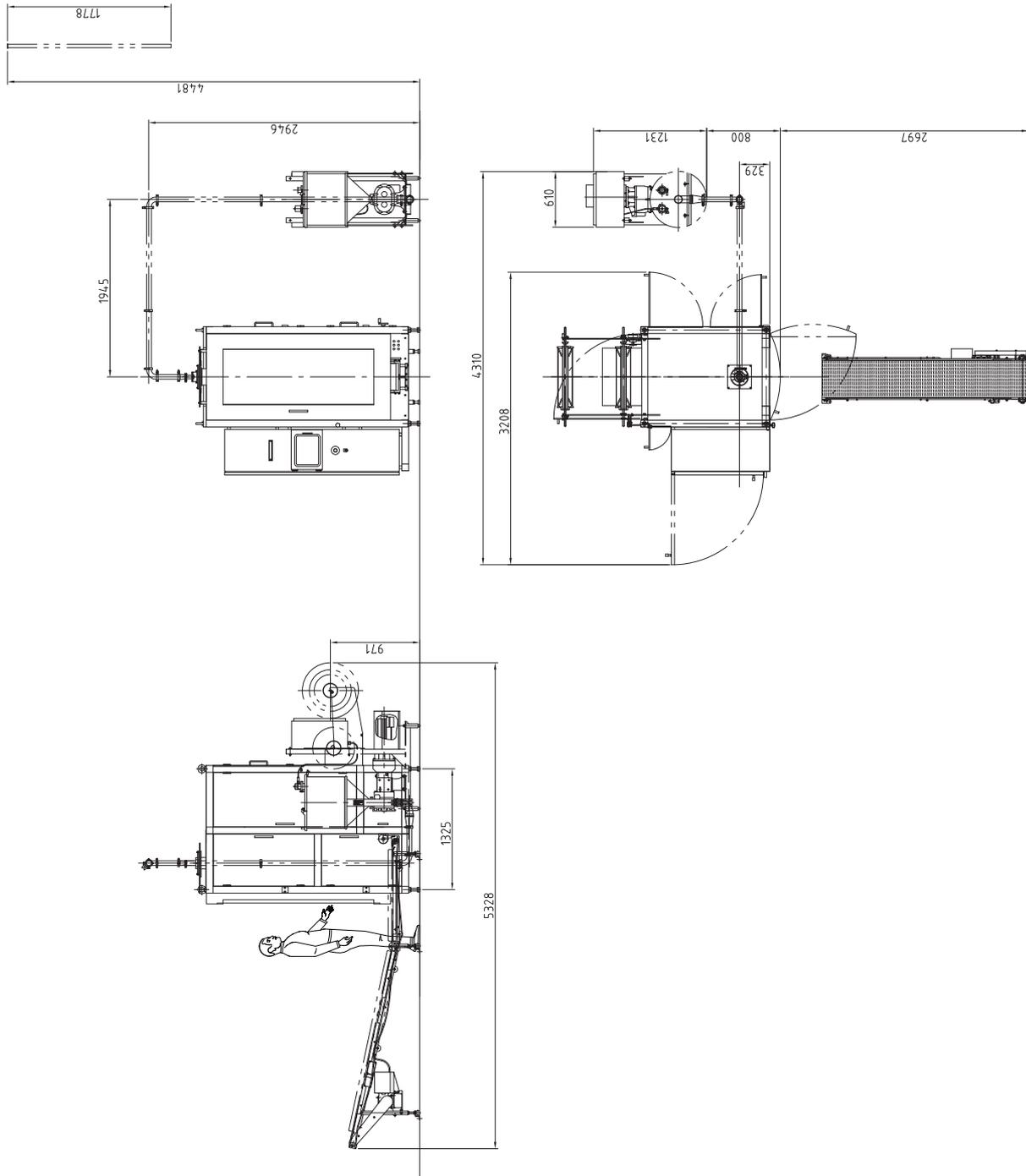
Fig. 2-2, 3002A-LC (complete left hand version of 3002A, mirror image of standard 3002A)

Important: The ceiling height must be at least 4480 mm
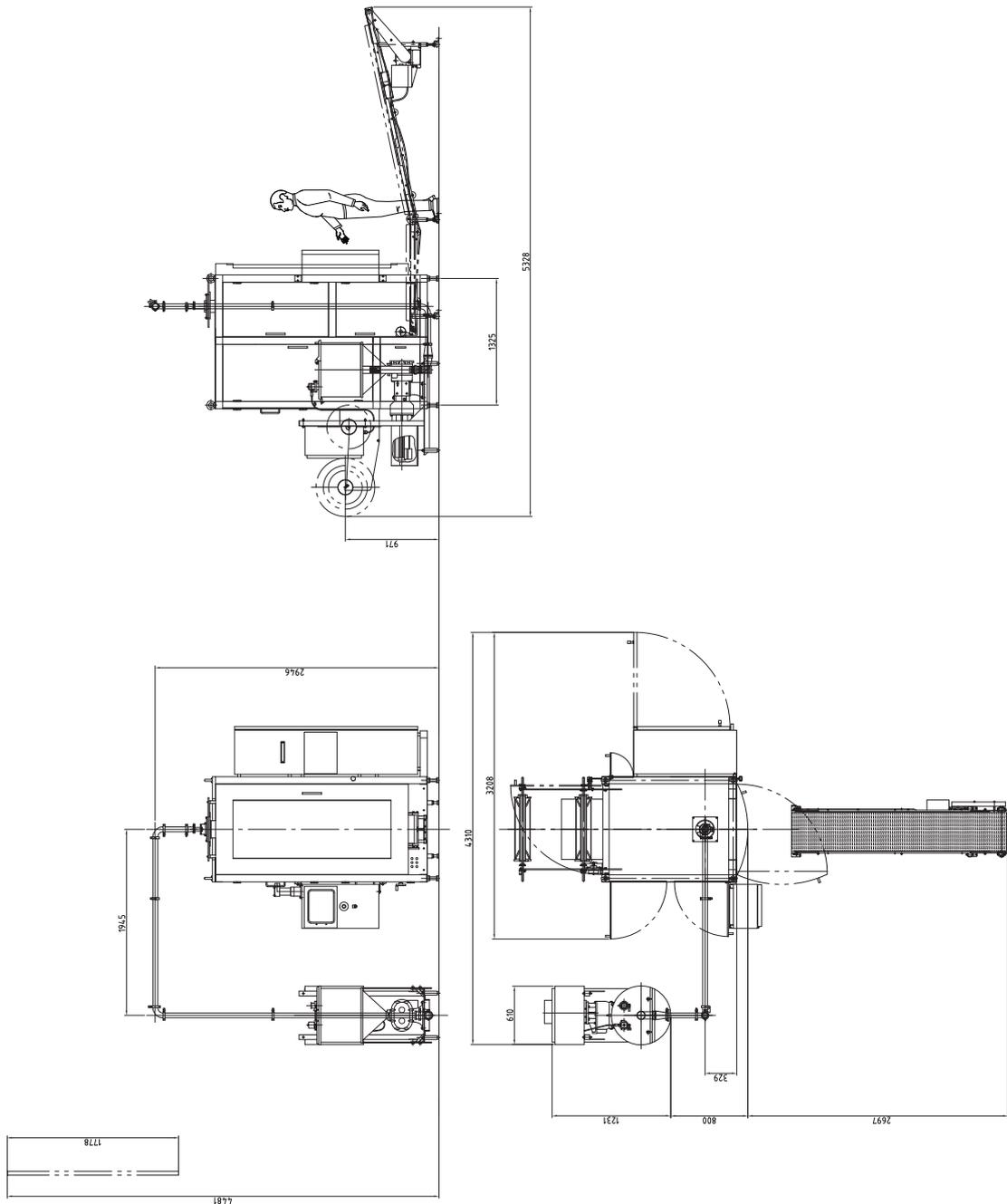
Fig. 2-3, 3002A-LO (with left hand operator panel)

3 Nominal technical data

3.1 Machine dimensions

Length, width & height   See machine layout

3.2 Weight

3002A   1210 kg approx.
Pump   350 kg approx.
Exit conveyor   110 kg approx.

3.3 Utilities

3.3.1 Compressed air

Air type   ISO8573-1:2001 Class 5.4.4
                     ISO8573-1:2001 Class 3.4.2
                     (when using oils containing esters)
                     ISO8573-1:2001 Class 3.3.2
                     (when equipment is used below 5°C)
Pressure   0.6 MPa (6 bar)
Consumption   42 Nm³/h
Connection fitting   G ½" external thread

3.3.2 Electrical

Voltage   230 V / (400 V *) -5% / +10%
No. of phases   3 phases + earth
Frequency   50 / 60 Hz
Installed power   13.5 kW
Current protection   60 A Type C

* Transformer required
Capacity   19 KVA
Current protection   25 A

3.4   Working characteristics

3.4.1   Product dimensions

Length	100 - 800 mm
	(100 - 540 mm single stroke)
	(541 - 800 mm double stroke)
Width	102, 162, 197, 242, 302 mm
Height	Variable
Volume	0.2 - 10 liters

3.4.2   Seal bars

End seal bar	5 ribs
Length	330 mm
Width	5 ribs, 3 mm distance each
Center seal bar	
Length	580 mm
Width	Twin, 5 mm distance each, 4 mm sealing width

3.4.3   Film details

Width	230, 350, 420, 510, 630 mm
Core diameter	6 inches
Film type(s)	FS range, clear and printed
Film roll diameter (max.)	610 mm
Film roll weight (max.)	150 kg

3.4.4   Functional details

Product fill temperature	Up to 96°C
Heating time	15 minutes
Working speed	Up to 32 packages/min
	(depending on product and pack size)
Noise level	74 dB (A) max. at operator's working position
No. of operators	1 operator to monitor only

4 Configuration

4.1 Standard system

- Standard machine (3002A)
- One set of tooling: 230, 350, 420, 510 or 630 mm. Each set of tooling includes one straight fill tube, spreader fingers attached, film guides and sized film core spacer (tooling needs to be ordered separately).
- One standard 5 rib or easy-open 5 rib seal bar (to be ordered separately)
- Printed film registration capability
- Servomotor controlled film drive with adjustable speed up to 930 mm/sec
- PLC controlled machine functions with LCD operator touch screen (language to be specified at time of order)
- Universal spare parts kit
- Declaration of CE conformity
- Manual (language to be specified at time of order)

4.2 Versions

- 3002A-LC (complete left hand version of 3002A, mirror image of standard 3002A)
- 3002A-LO (with left hand operator panel)

4.3 Additional machine options

- Additional tooling set (230, 350, 420, 510 or 630 mm) - standard or fitment ready. Each set of tooling includes one straight fill tube, spreader fingers attached, film guides and sized film core spacer (to be ordered separately).
- Additional end seal bar - 5 rib standard for all tooling sizes or 5 rib easy open for 420, 510 or 630 mm tooling sizes. The easy-open end seal produces a vertical tear notch that is perpendicular to the five end seal ribs. The notch is located approximately 50 mm from the centerline of the pouch on both the top and bottom end seals.
- Additional fill tubes - straight discharge fill tube for all tooling sizes.
- Package discharge inverter accessory - adds an inverter located inside the 3002A main electrical enclosure for adjusting the speed of the exit conveyor. The speed adjustments will be adjustable from parameters located on the touch panel.
- Product temperature divert accessory - to divert fluids at improper temperature through Customer supplied pipe work. Includes temperature controller and divert valve.
- Curved roller bed conveyor - is an option to allow the 3002A machine to make pouches in excess of 490 mm in length with a maximum pack volume of 7.5 liters.
- Fitment ready kit - includes the seal mechanism and controlling to attach the fitment to the pouch interior.
- Optional pump rotors - for regular clearance (up to 96°C) when damage to particulate is of concern.
- Caster kit to pump - will permit rolling of pumping system. Contains two swivel casters and two rigid casters.
- Film splicing kit - used to join film webs together during roll changes.

Printers

- Hot stamp code dater -. capacity of up to 4 lines with a maximum of 7 characters per line. It contains 4 sets of numbers (0-9) and 2 sets of letters (A-Z), using 25 mm (1") wide printing tape.
- Smartdate 5 Thermal Transfer Printer 53 mm x 75 mm (2.1" x 2.95") - adds a Markem Smartdate 5 intermittent thermal transfer printer system. Prints up to a 53 mm x 75 mm (2.1" x 2.95") single color image at 300 dpi. Includes print head, ribbon cassette, touch screen, user interface, cables, air regulator, user's manual, and mounting bracket.
- Smartdate 5/128 Thermal Transfer Printer 127 mm x 75 mm (5" x 2.95") - adds a Markem Smartdate 5 intermittent thermal transfer printer system. Prints up to a 127 mm x 75 mm (5" x 2.95") single color image at 300 dpi. Includes print head, ribbon cassette, touch screen user interface, cables, air regulator, user's manual, and mounting bracket.
- Video Jet Dataflex 53MM Printer - includes printer, brackets, touch screen and other required components to install a 53 mm Video Jet printer. Creates up to a 75 mm x 53 mm (3" x 2") single color image at 300 dpi. Labels may include print, graphics, bar codes, and real time information.
- Video Jet Dataflex 107MM Printer - Includes printer, brackets, touch screen and other required components to install a 107 mm Video Jet printer. Creates up to a 107 mm x 75 mm (4.2" x 3") single color image at 300 dpi. Labels may include print, graphics, bar codes, and real time information.

Printer accessories

- Code Date Foil - to Hot Stamp Code Dater.
- Markem Software (Colos Create Professional) - for programming labels on Markem printers.
- Video Jet Software (Carlisoft) - programming software with USB Dongle required for creating labels for Video Jet printers.

Machine leg extensions

- Optional C-Channel Leg Extension - includes four 200 mm long C-Channel legs which bolts to the bottom of the 3002A square tubing frame. Also includes, four adjustable threaded feet which provide an additional 120 mm of adjustment. The feet thread into the bottom of the C-Channel legs.
- Standard Optional Leg Extensions - Can be used to further elevate the machine off the floor. The extensions are composed of 50 mm (2") round tubing. One end is externally threaded and is inserted into the standard foot location on the machine. The 50 mm (2") round tubing continues for various lengths. On the opposite end the extension is internally threaded. The standard foot (160 mm in length) is then inserted into the leg extension.
Note: The standard foot (160 mm in length) is included with the standard machine.

Package discharge conveyor

- Package Discharge Conveyor Standard - is a motorized inclined conveyor to remove finished packages from the 3002A machine. The conveyor is powered and controlled by the 3002A. It has an entrance height of 305 mm, exit height of 760 mm, and a belt width of 415 mm. The total length of the product conveyor is 3375 mm.
- Short Angled Discharge Conveyor Assembly - used when filling hot products. It prevents the end seal from folding / sticking, while falling on to the conveyor. 760 mm in length, 406 mm wide belt and motorized conveyor with pivoting leg for an angled pouch discharge. Conveyor is mounted to the standard drop

gate crank; which provides a small range of adjustable height up and down. Leg divots for angled discharge, with adjustable length (threaded feet). End Conveyor extends just past the door of the 3002A machine. Includes power quick disconnect. Note: Maximum pouch volume is 4 liters. A pneumatic actuated drop gate assembly (included in standard machine) and curved roller bed conveyor can not be used together with a Short - Angled Conveyor Discharge Assembly.

Package discharge accessory

- Package Conveyor Leg Extensions - can be used to further elevate the package discharge conveyor. The incline section is equipped with two 460 mm (18") bolts. Therefore, no extensions are included for this portion of the conveyor. The straight section of the conveyor is supported by four adjustable feet. The conveyor leg extensions replace the four 100 mm (4") long bolts that are currently used on the horizontal section of the conveyor.
- Exit Conveyor Caster Kit - will permit rolling of package discharge conveyor. Contains six swivel casters with brake. Casters are 75 mm (3") in diameter and overall height is 127 mm (5") tall (from floor to top of cater mount).

Pumping system

- The pumping system is supplied as a unit with positive displacement Waukesha pump with pump stand and panel, Sterling Electric inverter duty rated motor, inverter (and speed control are integrated on the 3002A), conductive probe level control, 100 liter holding hopper and sectioned 2 inch sanitary piping from pump to 3002A.
  – The rectangular inlet flange can be used when damage of particulate is of concern.
  – Available as U2 or U1 model. The U2 model is C.I.P. (clean in place) capable, the U1 model is a strippable pump.
  – The CIP pump (U2) does not provide a total CIP system.
  – Single lobe pump rotors and a caster kit can be selected in section options.

4.4 Additional machine accessories

Fitment feed system that delivers the fitments to the inside of the film tube and seals them into the desired position.

4.5 System configuration

3002A + corresponding toolings + pumping system + exit conveyor + fitment system

The configuration depends on the Customer's needs and will be defined with the specification and data sheet separately.