![Sealed Air CRYOVAC Food Packaging Systems logo]

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Equipment Information

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1 Description and key features

1.1 Description

The Cryovac® 2070C is a Vertical Form-Fill Seal machine that can be utilised to package solids and a pumpable liquid in a two part fill mode, but can also be used to package a wide variety of products in a one part fill mode. Typical products are soups, processed fruits in syrup, olives, pickles, mushrooms in brine, meatballs in sauce, poultry cut ups, etc. It offers great speed with flexibility when packing hot or cold products.

The complete system consists of a 2070C machine, one pumping unit and one unit to feed the solids portion of the product. Cryovac does not supply the unit to feed the solids, but works side by side with the supplier in order to guarantee the correct design and performance.

The 2070C 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. Through a scale volumetric filler or bucket conveyor particulate product is added to the pack. Pumpable liquids are then introduced via a variety of pumping systems. The 2070C's unique pressure pad and squeeze roller system produces hermetically sealed finished packs with the minimum of headspace. The 2070C can be equipped with a gas flush system to fill the residual headspace with a modified atmosphere mix, the tube is then heat sealed and separated into a finished pouch.

The machine can operate with four different film widths (350 mm, 420 mm, 510 mm or 630 mm), achieved by interchangeable tooling and can pack from 0.7 to 7.5 liters of product. Using 510 mm width film, 4 liters of product can be packaged at approximately 8 products/min and depending on pack size and product viscosity the 2070C is capable of packaging up to 24 products/min.

This machine incorporates a servomotor drive which provides accurate and fast film feed.

Microprocessor controlled for speed and accuracy, the 2070C's processor has a 20 channel memory for storing different packaging and/or product and a touch screen interface for operator control and trouble shooting.

Construction is simple and robust. All critical parts are manufactured in 304 stainless steel and anodised 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.
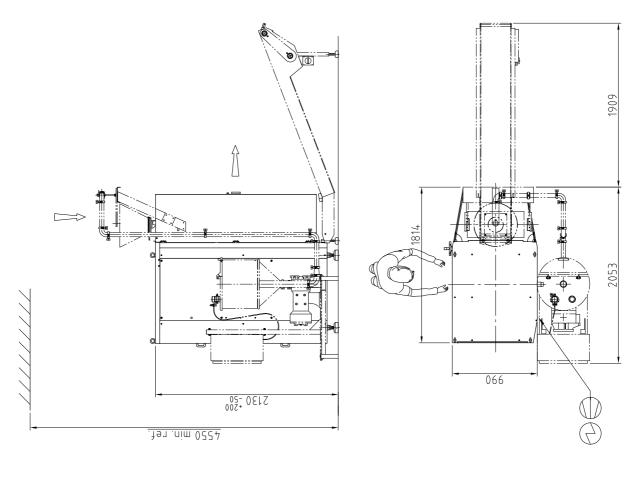
1.2   Key features

- Two-phase filling solids and liquids
- Unique minimum head space with our volume plates and squeeze roller technology
- Wide range of pack sizes, from 0.7 to 7.5 liters in one and two part fill
- Quick and easy film roll and product changeover
- Up to 24 products/min (depending on product and pack size)
- 20 channel touch screen memory
- Cold and hot fill - up to 96°C
- Hygienic design makes cleaning easy and effective
- Good access for maintenance
- Robust high quality build standard using food approved materials throughout
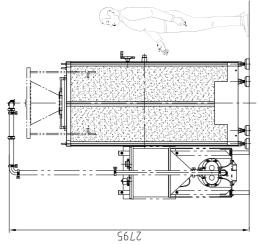- Utilizes well proven and reliable mechanical systems

2　　　　Layout

Fig. 2-1, Layout

3 Nominal technical data

3.1 Machine dimensions

Length, width & height	See machine layout

3.2 Weight

2070C	830 kg approx.
Pumping system	350 kg approx.
Standard exit conveyor	120 kg approx.

3.3 Utilities

3.3.1 Compressed air

Air type	ISO8573-1:2001 Class 3
Pressure	6 bar
Supply pipe diameter	25 mm
Consumption	60 Nm^3/h (990 l/min)
Connection fitting	25 mm / 1"

3.3.2 Electrical - 2070C

Voltage	380 - 415 V
No. of phases	3 phase, neutral and earth
Frequency	50 Hz
Energy consumption per hour (average)	0.3 kWh
Installed power	9 kW
Current protection	32 A

3.3.3 Electrical - pumping system (to be ordered separately - power supply from 2070C)

Voltage	380 - 415 V
No. of phases	3 phases + earth
Frequency	50 Hz
Installed power	4 kW
Current protection	25 A
Average consumption	4 kWh

3.3.4 Electrical - standard exit conveyor (to be ordered separately - power supply from 2070C)

	Voltage	415 V
	No. of phases	3
	Frequency	50 Hz
	Installed power	0.2 kW
	Current protection	0.6 A

3.3.5 Gas flushing

	Flow	6 l/min
	Pressure	6 bar
	Connection	Hose fitting ¼"

3.4 Working characteristics

3.4.1 Product dimensions

Length	250 to 560 mm
Width	162, 197, 242, 302 mm
Height	Variable
Volume	0.7 to 7.5 liters

3.4.2 Seal bars

End seal bar	3 or 5 ribs
Length	330 mm
Width	5 ribs 12 mm
Center seal bar	
Length	490 mm
Width	Twin, 3.5 mm rib

3.4.3 Film details

Width	350, 420, 510, 630 mm
Core diameter	6 inches
Film type(s)	FS range
Max. film roll diameter	406 mm
Max. film roll weight	45 kg

3.4.4   Functional details

Product fill temperature	Up to 96°C
Heating time	15 minutes
Working speed	Up to 24 products/min - depending on product and pack size
No. of operators	1 operator to monitor only

4   Configuration

4.1   Standard system

- Standard machine
- Declaration of CE conformity
- One set of tooling: 350, 420, 510 or 630 mm. Each set of tooling includes one fill tube and film core spacer (tooling needs to be ordered separately).
- One multi-ribbed end seal assembly and corresponding spare parts kit (to be ordered separately)
- One set of 170 mm volume plates for air removal with corresponding spreader fingers (to be ordered separately)
- One extra spare fuse kit
- Printed film registration capability
- Standard straight or easy-open end seal knife
- Servomotor controlled film drive with 3 different film feeds
- PLC controlled machine functions with LCD operator touch screen
- Manual (language to be specified at time of order)

4.2   Additional machine options

- Code dater (4 lines x 7 characters/line). Includes letters (A-Z) and numbers (0-9).
- Solids hopper. Not required for 'fluids only' operation.
- Liquid distribution ring kit. Prevents product sticking on the inside of the infeed hopper.
- Product temperature divert accessory. Is used to divert product which is not at the correct temperature through customer supplied piping. Includes temperature controller and divert valve.
- Gas flush kit to inject gas into the package during the filling operation. Includes gas injection tubes support, solenoid operated gas valve with mounting bracket, required fittings and plastic tubing to connect to a ¼" NPT, electric conduits and related components.
- Ball type check valve. Is used to keep liquid from flowing back into the pump.
- Impact roller assembly. Is used to absorb the impact of heavy products to protect the squeeze rollers.
- TBG Spreader Fingers. Are used for applications involving bone-in products. This option is only available for 510 mm and 630 mm tooling sizes.
- Elevated tooling modification to create a larger distance between the squeeze rollers and the sealing area
- Splash guard for machine with elevated tooling
- Splash guard for standard machine with centrifugal pump
- Film splicing kit. Is used to join film webs together during roll changes.

- Support leg extension can be used to further elevate the machine off the floor. The extensions are composed of 4" square tubing and a length of 30 mm threaded rod that replaces the included feet. Extension heights include the base height and additional height of 30 mm locking nuts.
- Liquid Fill Tube assembly. Includes the liquid fill tube and valve assembly, air cylinder actuator and fill tube mount.
- Additional tooling set (350 mm, 420 mm, 510 mm and 630 mm) with fill tube and film core spacer (to be ordered separately).
- Additional end seal bars with corresponding spare parts kit
- Extra sets of volume plates
- Additional spreader fingers

4.3 Additional machine accessories

- Integrated pumping system. With centrifugal pump unit or positive displacement pump. Each pumping system is supplied with frame, conductive level control, sanitary piping from pump to machine, and 100 liters holding hopper. The Link to Pump must be chosen if a product pump is required. The pumping system must be ordered separately.
- If a two part fill is required, it is necessary to indicate which type of solids feed system has been selected:
  - Overhead scale (*)
  - Bucket conveyor (*)
  - Combination of overhead scale plus bucket conveyor
    (*) Manufacturers and models to be specified with customer
- Scale / portioner interface (mandatory when solid infeed systems are selected)
- Product detect accessory which will detect an unfilled bucket. This accessory is only compatible if a Smalley Bucket Conveyor is requested.
- Air knife kit - assists with the removal of product from buckets. Includes air purification and delivery system. This accessory is only compatible if a Smalley Bucket Conveyor is requested.
- Standard exit conveyor to remove finished packages from the machine (to be ordered separately).

4.4 Recommended line assembly

2070C + corresponding toolings + pumping system + Smalley Bucket Conveyor + exit conveyor (TB35S).