

MACHINE SPECIFICATION

TOTE BIN DUMPER PASTE LIMITED TBD-Paste LTD



Machine name	TBD-Paste LTD	Manufacturer	Fluidor Equipment B.V.
Publication date	06-05-2024	Address	Ramgatseweg 25, 4941VN Raamsdonksveer, The Netherlands
Version	0.1	Telephone	+31(0)162 581 450

DESCRIPTION

The Fluidor Tote Bin Dumper Paste Limited is designed for automatic emptying of tote bins and drums with aseptically packed viscous products like Cold Break and most Hot Break Tomato paste.

The bins or drums are transported into the roller conveyor section of the bin/drum holder. The bin/drum is clamped and lifted by pneumatic cylinders. At the highest tilting point the aseptic bag falls out of the bin/drum and spreads out on a conveyor of tubular rollers. The conveyor transports the closed aseptic bag through the washing tunnel provided with a set of spray-nozzles to clean all sides of the bag with high pressure. Above the product hopper the aseptic bag is automatically grabbed by the bag squeezer. A pneumatic cylinder pulls the bag squeezer over the driven knives that cut the bag open at the bottom side and the tomato paste flows into the product hopper. The aseptic bag is emptied completely by the bag squeezer, reducing the loss to a bare minimum (<0,1%). The empty bags are collected in a waste container at the outlet side of the machine (not in scope of supply). At the bottom of the hopper a driven screw conveyor pushes the product into the external twin screw product pump for the next process step. After productions and short manual pre-cleaning the C.I.P. covers can be closed and the C.I.P. cleaning with integrated set of nozzles can be started.

Due to variation in quality (hardness) of the poly liner filler caps, which cannot be influenced by Fluidor and can differ per (bag)supplier, there is a possibility that filler caps from certain bags can break during squeezing, which may lead to pieces of plastic ending up in the product. Fluidor offers a solution for this with transfer caps.

DESIGN SPECIFICATION

- According actual CE-regulations
- Developed and build according quality system ISO 9001
- Clean design according actual EN1672-2 and HACCP-regulations
- Food contact materials according EC 1935/2004 and FDA
- Good Manufacturing Practice Regulation (EC) 2023/2006
- Components according Fluidor standard components list
- Machine prepared for integration into existing C.I.P.-system (CIP covers included)
- Machine control by HMI
- Control cabinet IP55 / NEMA 12 (VX25.....,various sizes, AISI 304)
- Module for remote internet access
- Construction + upper hopper AISI304
- Hygienic stainless steel hopper with integrated level detection
- Product contact materials (hopper + piping parts) AISI 316
- Operator platform along right hand side of the machine
- Washing section for external washing of aseptic bags
- Electric driven squeezer, consisting of one rubber covered roller and one knurled stainless steel roller
By squeezing the aseptic bag the remainder in the bag is less than 0,1 %
- Frequency controlled twin screw product pump with seal flush and pressure relief valve set on 12 bar
- Pressure transmitter behind the pump
- Height roller conveyor system 1155 mm
- CIP supply can optionally be supplied with a mix-proof valve.
- Machine is designed to be used 12 hours a day 5 days a week and 52weeks a year with proper maintenance and an expected service life of 20 years



REQUIREMENTS

- Layout (dimensional, utility & requirements drawing) available upon request
- Earthquake area extra fixation needed (Anchors option)
- Machine is designed for indoor use in a medium hygiene wet area

TECHNICAL DATA

	EU	USA
· Total weight empty	: 7150 kg	15750 lbs
· Total weight Full	: 9550 kg	21050 lbs
· Product / CIP temp	: -20, +90 C° max 60 minutes	-4, 194 °F max 60 minutes
· Ambient temperature	: 5 - 25 °C	41 - 77 °F
· Relative humidity	: 30 - 70%	
· Noise level	: < 85 dB(A)	
· IP value (control cabinets + drives)	: IP55	
· Product hopper volume	: 2400 L	635 gal
· Pump particle size max	: 32/48 mm	1.26 /1.88 inch
· Adjustable machine support legs	: 80 -160 mm	3.15 - 6.3 inch
· Dimensions h*w*d:	: 2970*4980*7910 mm	117*196*311 inch
· Installed power	: 25 kW	35 HP

CAPACITY

- Depending on bin / drum infeed & product: 20 tote bins or 20 drums per hour
- Pump capacity 8 - 20 m³ product per hour (35 - 88 gpm)
- Pump capacity 40 m³ CIP liquid per hour (176 gpm)
- Pump pressure max. 12 bar (174 psi)

PRODUCT INFORMATION

- Product type : Pure and tomato paste
- Product viscosity min : Dynamic viscosity 5000 cP
- Product viscosity max : Dynamic viscosity 25.000 cP or > Bostwick 4 cm / 20 °C, 30 sec

CLEANING

- Cleaning depends on the product and company guidelines, the values below are guide values
- CIP cleaning after each production batch or before each production run after 12 hours of downtime
- Manual cleaning +- 40 min

CIP Time (sec)

CIP Step	Caustic	Caustic + Acid	Temperature (°C)	Concentration (%)
Pre Rinse	1200	1200	45	fresh water
Caustic (Organic soils)	1500	1500	75	0,5 - 2 % (Caustic soda)
Intermediate Rinse		600	20	fresh water
Acid (Inorganic soils)		600	65	0,5 - 1% (Acid)
Final Rinse	600	600	20	fresh water
Total CIP time (min)	55	75		

BIN AND DRUM SPECIFICATION

	EU	USA
· Dimensions drums:	Width: Ø480 to Ø630 mm Height: 810 to 1000 mm	19.0" to 24.8" inches 31.8" to 39.4" inches
· Max weight drum:	300 kg	775 Lbs
· Dimensions bin:	Length: 1465 mm Width: 1200 mm Height:1200 mm	57,7" inches 49,2" inches 49,2" inches
· Max weight bin :	1650 kg	3640 Lbs

MACHINE EXECUTIONS

- One standard execution

POWER SUPPLY / CONTROLES

- 3 Phase 400V 50Hz 50A+ neutral + earth, Siemens controls
- 3 Phase 480V 60Hz 40A + earth, Allen-Bradley controls, UL prepared

COMMUNICATION

- PROFINET connections pre- installed at Siemens controls
- Ethernet/IP connections pre- installed at Allen Bradley controls

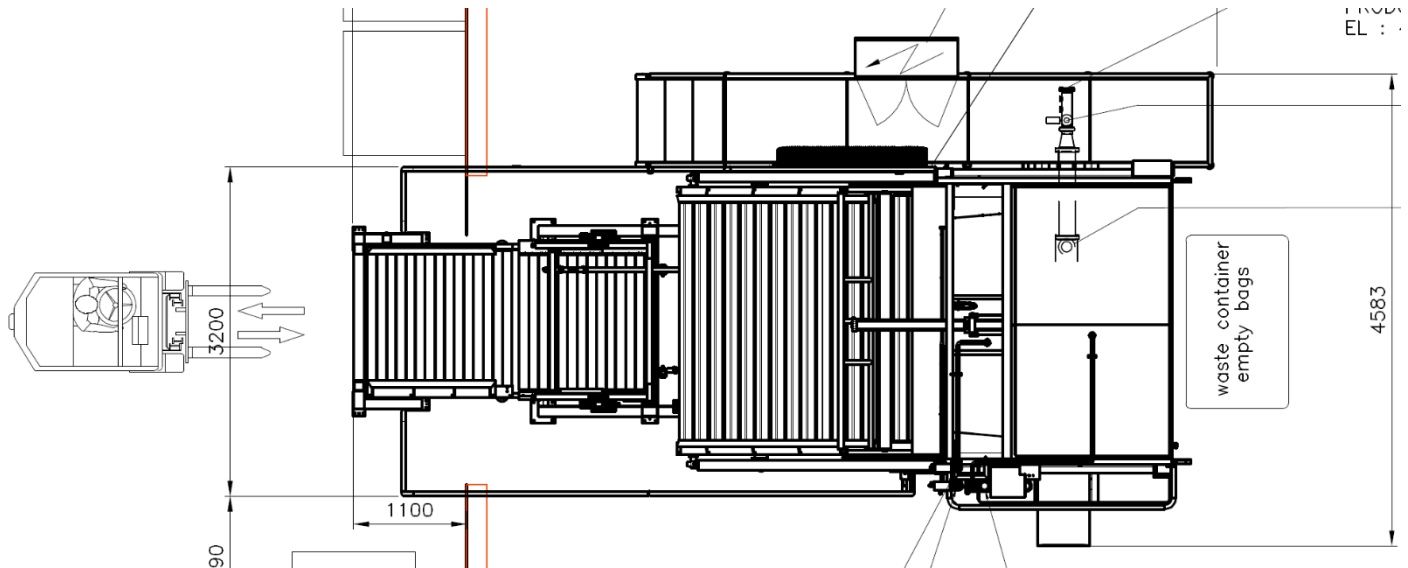
OPTIONS

- Magnetic trap in front of the pump
- Standing enclosure cabinets, IP66 / NEMA 4x (VX25, basic cabinet 800x2000x600, AISI 304)
- External pump cooling for low product flow rate from 0 to 20 m³/h (standard range is from 8 to 20 m³/h)

PROCESS OPTIONS

The TBD-Paste LTD can be combined with the following Fluidor conveyor systems: BIN opening station, BIN weighing system, BIN conveyor load/unload, BIN shuttle, BIN sliding door etc.

PROJECT LAYOUT EXAMPLE



ANNEXED DOCUMENTS

- Machine Lay-out
- Machine P&ID
- Fluidor standard components

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