

MACHINE SPECIFICATION

DRUM DUMPER DPRCS



Machine name	DPRCS	Manufacturer	Fluidor Equipment B.V.
Publication date	20-02-2024	Address	Ramgatseweg 25, 4941VN Raamsdonksveer, The Netherlands
Version	0.1	Telephone	+31(0)162 581 450

DESCRIPTION

The Drum Dumper Crusher (DPRCS) is designed for an efficient emptying of 200 litre open top drums containing liquid products like soft frozen fruit juices, fruit juice concentrates (up to 70° brix) and honey with a maximum viscosity of 20.000 cP. The drums are placed on the roller conveyor section where lid will be removed and liner(s) will be opened. The drum is lifted and tipped pneumatically, the product falls into the collecting hopper and is stopped by a grid. The bag will empty itself partly. The operator brings the bottom part of the bag into the squeezer and the remaining product is pressed out. The product flows into the hopper where the vertical chopper takes care of an efficient chopping of soft frozen product, finally the product is discharged by a screw conveyor and twin screw pump. After production the CIP covers can be placed and the DPRCS can be integrated into the customers CIP process. A complete set of nozzles clean the inside of the hopper section according to the set cleaning program.

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 + product parts AISI304
- Piping parts AISI 316
- Electric driven slow turning vertical chopper, suitable for liquids containing soft ice or honey crystals .
- Double wall heating jacket and chopper arm, suitable for water up to 90° and pressure up to 3 bar. Provided with an overpressure relief valve, not suitable for steam.
- Hygienic stainless steel hopper with dumping grid and integrated level detection
- Operator platform along left or right hand side of the machine
- Pneumatic loading an tilting device with additional clamp for conical drums and pneumatic stainless steel AISI 304 lifting cylinders
- Electric driven bag squeezer with finger protection, hygienic design, consisting out of knurled AISI 316 lower roller and natural rubber upper roller, assembled in 2 AISI316-side plates with lifetime lubricated closed bearings, IP66 electric drive without cooling fan
- Product loss < 0,1%, with foot operated reverse drive for safe operation
- 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 700 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	: 4000 kg	8818 lbs
· Total weight Full	: 6200 kg	13670 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	: 2200 L	581 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:	: 3500*2400*6000 mm	137*94*236 inch
· Installed power	: 35 kW	47 HP

CAPACITY

- Depending on drum infeed & product: up to 60 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 : Soft frozen fruit juices, fruit juice concentrates (up to 70° brix) and honey
- Product viscosity max : Dynamic viscosity 20.000 cP

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 +- 20 min

CIP Time (sec)

CIP Step	Caustic	Caustic + Acid	Temperature (°C)	Concentration (%)
Pre Rinse	600	600	45	fresh water
Caustic (Organic soils)	1200	1200	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)	40	60		

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

MACHINE EXECUTIONS

- DPRCS right
- DPRCS left
- Stairs at front
- Stairs at side
- Stairs at rear
- Control cabinet at side
- Control cabinet at rear

POWER SUPPLY / CONTROLES

- 3 Phase 400V 50Hz 100 A+ neutral + earth, Siemens controls
- 3 Phase 480V 60Hz 80 A + earth, Allen-Bradley controls, UL prepared

COMMUNICATION

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

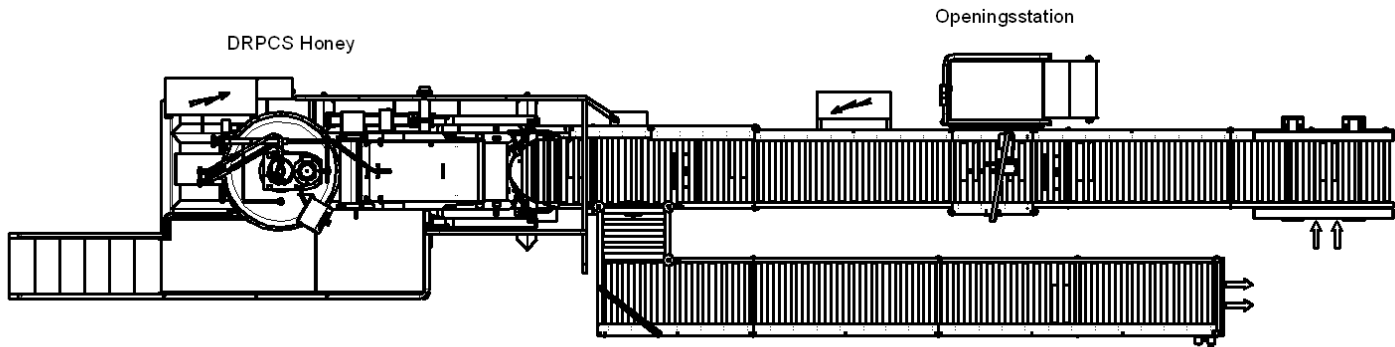
OPTIONS

- Product parts in AISI 316
- Water flow meter
- 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

PROCESS OPTIONS

The DPRCS can be combined with the following Fluidor conveyor systems: Drum opening station, Drum weighing system, Drum conveyor load/unload, forklift protection, Drum sliding door, Drum washer full or empty drums, Drum crusher, Drum lid wash station etc.

PROJECT LAYOUT EXAMPLE



ANNEXED DOCUMENTS

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

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