

Tetra Pak

Dairy & Beverage Systems AB

Technical Data TD 5841130544

General:

Model: TA Drink 10, SA 7000	Machine No: T5841130544	Customer: Sunjuice, UK	Order No: 1321023
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Main Process Equipment:

Heat exchanger	☒	Manufacture: TPPC	Type: MT-85	
Deaeration Module	☐	Manufacture:	Type:	
Homogeniser	☐	Manufacture:	Type:	Power:

Consumption Data:

Media:	Design Temp.:	Design Pressure:	Flow kg/h nominal			Design (*)
			Start-Up	Production:	CIP	
Potable Water: ☒	Ambient -2°C	300 kPa	7000		10000	12000
Cooling water: ☒		300 kPa		32000		32000
Chilled water: ☐						
Steam: ☒		300 kPa	100	600	500	700
Instrument air: ☒		600 kPa	50NI/min	50NI/min	50NI/min	50NI/min

Electrical Data:

Voltage: 380V	Frequency: 50Hz	Installed Power: 20 kW	Main fuse:
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Drawings:

Flow diagram: 1397-1100
Item List: IL 5841130544
Layout: 1397-1200

Products:

Product 1:

Type: Orange juice	Brix/conc: 12 °C	Particle/fibre size: 5 mm	Fibres %w/w: 15%	PH		
Processing parameters:						
Capacity: 7000	Inlet Temp.: 2 °C	Deaeration Temp:	Past./Ster. Temp: 75/98 °C	HW Flow 8000 l/h	Outlet Temp 2°C	Holding Time: 30 sec
Temperature:	Flow behaviour (n)	Consistency Index (k)				
Standard						

Product 2:

Type:	Brix/conc:	Particle/fibre size:	Fibres %w/w:	PH
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Smoothie	-	5 mm	15%	-
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Processing parameters:

Capacity: 4000 l/h	Inlet Temp.: 2 °C	Deaeration Temp:	Past./Ster. Temp: 75/98 °C	HW Flow 4600 l/h	Outlet Temp 4 °C	Holding Time: 30 sec
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Temperature:	Flow behaviour (n)	Consistency Index (k)	
No data			

Product 3:

Type: Mango Pine Passiob	Brix/conc: -	Particle/fibre size: 5 mm	Fibres %w/w: 15%	PH -
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Processing parameters:

Capacity: 4000 l/h	Inlet Temp.: 2 °C	Deaeration Temp:	Past./Ster. Temp: 75/98 °C	HW Flow 4600 l/h	Outlet Temp 3 °C	Holding Time: 30 sec
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Temperature:	Flow behaviour (n)	Consistency Index (k)	
Standard			

Additional information

(*)

The consumption figures for start up and CIP is calculated to give a reasonable time for heating up and cooling.

The values for production is the nominal values when the plant is in balance and cleaned.

The consumptions can during short periods be higher. If for instance a disturbance have to be controlled by the control system, there have to be an over capacity in the media system.

During heating up and cooling down when control valves is fully opened the consumptions will be higher than the nominal values given.

Due to the above the media system have to be dimensioned with a certain over capacity. The values in the design column shall be seen as typical values calculated with a safety margin of 50 to 100%.

Note: The safety margin has to be evaluated in each project.

Dairy & Beverage Systems AB

Production Configuration, PC 5841130544

Rev: A

[illegible]

Dairy & Beverage Systems AB

CONNECTION DATA, CD 5841130544

Rev:

Order No: **1321023**

Machine No: **T5841130544**

Project, country: **Sunjuice, UK**

Product/model: **TA Drink 10**

Issuer: *Dan Brink*

Department: *TPD&B*

Date: *15-jul-04*

Notes:

Label	Denomination	Type	Capacity / Consumption	Note
M2-1	#Connection	M3: 380V:	5,5 kW	
V100-1	#Connection	W: SMS51: 300kpa	12000 l/h	
V102-1	#Connection	Product inlet 1-2 Bar	7000 l/h	
V151-1	#Connection	IW: SMS76: 300kpa -2°C	32000 l/h	
V156-1	#Connection	IWR: SMS76: 13°C	32000 l/h	
M9-1	#Connection	M3: 380V:	2,2 kW	
CR1-1	#Connection	C: SMS38	800 kg/h	
V141-1	#Connection	S: Flange DN 65: 300kpa:	800 kg/h	
V143-1	#Connection	W: SMS25: 300kpa:		ONLY TO FILL UP SYSTEM
10-01	#Connection	E3: 380V:	20 kW	
PS10-1	#Connection	IA: 1/4": 600kpa	50NI/h	
M12-1	#Connection	M3: 380V 50 or 60Hz	0,55 kW	
M13-1	#Connection	M3: 380V 50 or 60Hz	0,55 kW	
M11-1	#Connection	M3: 380V:	11 kW	

Tetra Pak

Tetra Pak Processing Components AB

Our ref. 46393
Your ref. T5841130544

Tetra Spiraflo® MT

Technical Specification Case 1 Straw & banana

Recommended CIP flow:	9700 kg/h
CIP pressure drop:	890 kPa

Summary of pressure drop
505 kPa

Sec tion	Flow kg/h	Tube side Shell side	Temp.prog. °C	Press.drop kPa	Tube type Number of tubes	Material
1	4200	Smoothie Straw & banana	51 → 75	55	MT 85/12x16C-6	AISI 316
	4600	Water	69 ← 89	10	4	
2	4200	Smoothie Straw & banana	2 → 51	145	MT 85/12x16C-6	AISI 316
	4600	Water	27 ← 69	20	8	
3	4200	Smoothie Straw & banana	75 → 43	90	MT 85/12x16C-6	AISI 316
	4600	Water	54 ← 27	20	6	
4	4200	Smoothie Straw & banana	43 → 11	125	MT 85/12x16C-6	AISI 316
	16000	Propylene Glycol	6 ← -2	210	6	
5	4200	Smoothie Straw & banana	11 → 4	105	MT 85/12x16C-6	AISI 316
	16000	Propylene Glycol	0 ← -2	145	4	

Technical Specification Case 2 Pineapple Mango Pass

Recommended CIP flow:	9700 kg/h
CIP pressure drop:	890 kPa

Summary of pressure drop
765 kPa

Sec tion	Flow kg/h	Tube side Shell side	Temp.prog. °C	Press.drop kPa	Tube type Number of tubes	Material
1	4200	Mango Pine Passion	53 → 75	70	MT 85/12x16C-6	AISI 316
	4600	Water	68 ← 86	10	4	
2	4200	Mango Pine Passion	2 → 53	200	MT 85/12x16C-6	AISI 316
	4600	Water	26 ← 68	20	8	
3	4200	Mango Pine Passion	75 → 43	115	MT 85/12x16C-6	AISI 316
	4600	Water	52 ← 26	20	6	
4	4200	Mango Pine Passion	43 → 10	195	MT 85/12x16C-6	AISI 316
	16000	Propylene Glycol	6 ← -2	210	6	
5	4200	Mango Pine Passion	11 → 3	190	MT 85/12x16C-6	AISI 316
	16000	Propylene Glycol	0 ← -2	145	4	

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Tetra Pak

Tetra Pak Processing Components AB

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Your ref. T5841130544

Tetra Spiraflo® MT

Technical Specification Case 3 Orange Juice

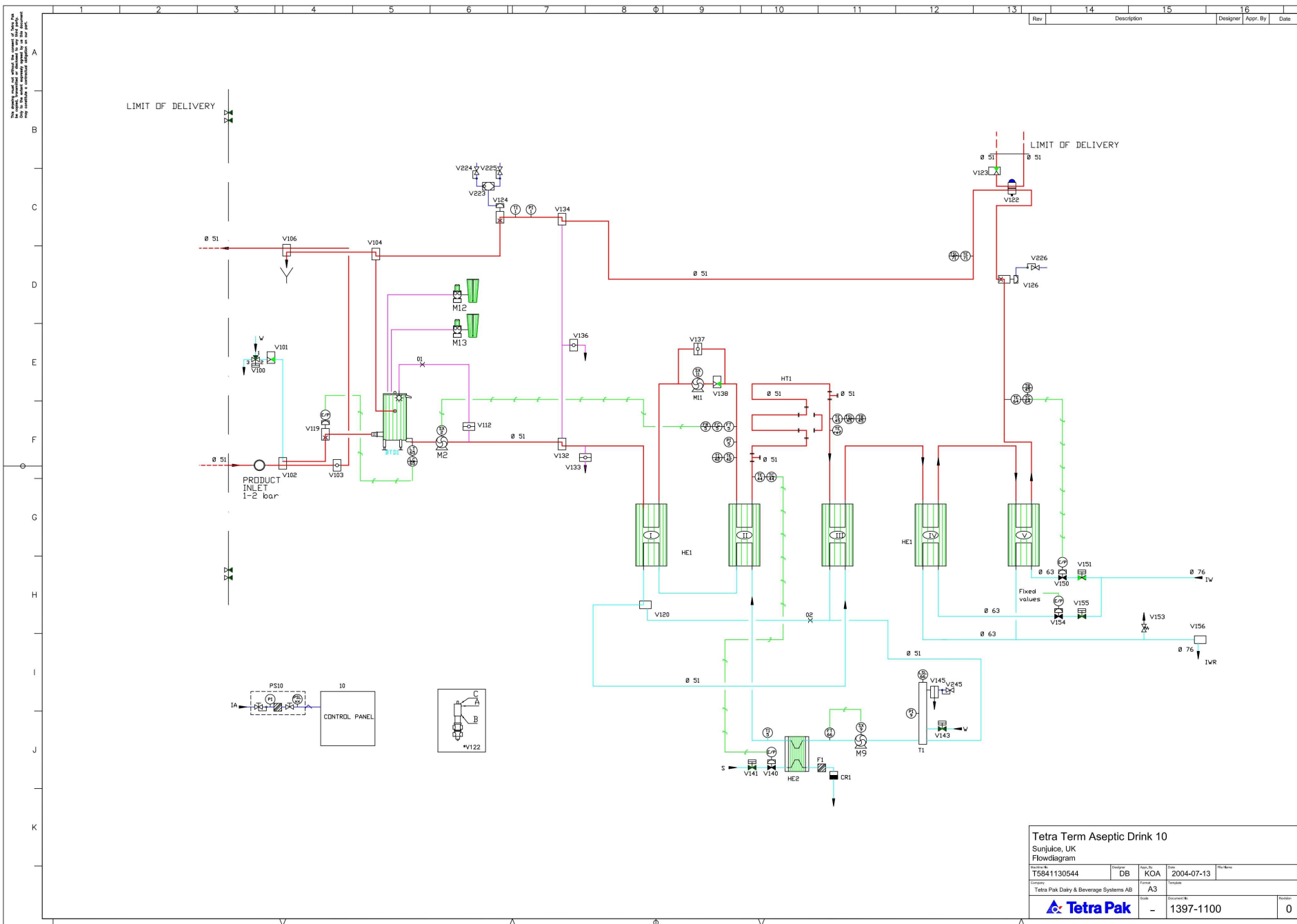
Recommended CIP flow:	9700 kg/h
CIP pressure drop:	890 kPa

Summary of pressure drop
545 kPa

Sec tion	Flow kg/h	Tube side Shell side	Temp.prog. °C	Press.drop kPa	Tube type Number of tubes	Material
1	7000	Orange Juice 12 °Bx	63 → 75	85	MT 85/12x16C-6	AISI 316
	8000	Water	66 ← 77	30	4	
2	7000	Orange Juice 12 °Bx	2 → 63	180	MT 85/12x16C-6	AISI 316
	8000	Water	16 ← 66	55	8	
3	7000	Orange Juice 12 °Bx	75 → 24	140	MT 85/12x16C-6	AISI 316
	8000	Water	61 ← 19	45	6	
4	7000	Orange Juice 12 °Bx	24 → 2	145	MT 85/12x16C-6	AISI 316
	10000	Propylene Glycol	13 ← -2	90	6	
5			→ ←		MT 85/12x16C-6 4	AISI 316

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Tetra Term Aseptic Drink 10				
Sunjuice, UK				
Flowdiagram				
Project No.	Designer	Appr. By	Date	Rev.
T5841130544	DB	KOA	2004-07-13	
Company		Title		Version
Tetra Pak Dairy & Beverage Systems AB		A3		
Scale		Document No.		Revision
-		1397-1100		0



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FLOW DIAGRAM SYMBOLS

Rev	Description	Designer	Appr. By	Date
3	atmospheric pressure added	MBN	MBN	040428

PIPING SYMBOLS

- PROCESS MEDIA, RED
- CLEANING MEDIA, MAGENTA
- SERVICE MEDIA, CYAN
- ELECTRICAL CONTROL, GREEN
- AIR CONTROL, BLUE
- LIQUID CONTROL, ORANGE
- FLEXIBLE HOSE
- PIPE WITH HEATING OR COOLING JACKET
- PIPE WITH HEATING OR COOLING COIL
- CAP ON PIPE END
- UNION
- INSULATED PIPE
- LIMIT OF DELIVERY
- ORIFICE

DENOMINATION

- A AIR
- IA INSTRUMENT AIR
- SA SANITARY AIR
- C CONDENSATE
- D DRAIN
- S STEAM
- W WATER
- CW COOLING WATER
- HW HOT WATER
- IW ICE WATER
- SW SOFTENED WATER
- TW TOWER WATER
- GW GLYCOL WATER
- G GAS
- R RETURN
- C CIRCULATION
- CIP PR CLEANING PRESSURE LINE
- CIP R CLEANING RETURN LINE

INSTRUMENTS

- COMMON INSTRUMENT LOCALLY MOUNTED
- COMMON INSTRUMENT PANEL MOUNTED OR SOFTWARE FUNCTION
- DUMMY

FIRST LETTER

Measured or initiation variable

- DENSITY
- FLOWRATE (L/H), MASSFLOW (KG/H) OR VOLUME (L)
- POSITION
- LEVEL
- PRESSURE/VACUUM
- PRESSURE DIFFERENCE
- QUALITY*
- TEMPERATURE
- WEIGHT
- FREQUENCY/SPEED

SECOND LETTER

Display of output function

- CONTROLLING
- SENSING ELEMENT
- INDICATING
- RECORDING
- SWITCHING
- TRANSMITTING
- CONVERTING

THIRD LETTER

Qualifying letter

- HIGH
- MEDIUM
- LOW

*TYPE OF QUALITY

- Brix
- pH
- COND
- TURB

HYGIENIC VALVES

- ASEPTIC VALVE GENERAL SYMBOL
- MANUAL PLUG COCK 2-WAY
- MANUAL PLUG COCK 3-WAY
- MANUAL SANITARY CONTROL VALVE
- FLOW CONTROL VALVE
- SANITARY MODULATING VALVE
- SANITARY NON-RETURN VALVE
- SANITARY MANUAL VALVE
- SANITARY AUTOMATIC VALVE
- SANITARY MANUAL BUTTERFLY VALVE
- SANITARY AUTOMATIC BUTTERFLY VALVE NORMALLY CLOSED, NC
- SANITARY AUTOMATIC BUTTERFLY VALVE NORMALLY OPEN, NO
- SANITARY MIXPROOF VALVE CLEANING OF SPINDLE AND CHAMBER
- SANITARY MIXPROOF VALVE
- SANITARY MIXPROOF VALVE TANK OUTLET
- ASEPTIC SAMPLING VALVE
- SANITARY SAMPLING VALVE
- AIR BLOW VALVE

NON-HYGIENIC VALVES

- NORMALLY OPEN VALVE WAY
- NORMALLY CLOSED VALVE WAY
- MANUAL SHUT-OFF VALVE
- MANUAL CHANGE-OVER VALVE
- MANUAL CONTROL VALVE
- AIR RELEASE VALVE
- VACUUM RELEASE VALVE
- PRESSURE RELEASE VALVE
- CONSTANT FLOW/PRESSURE VALVE
- NON-RETURN VALVE
- AUTOMATIC SHUT-OFF VALVE
- AUTOMATIC CHANGE-OVER VALVE
- AUTOMATIC MODULATING VALVE 2-WAY
- AUTOMATIC MODULATING VALVE 3-WAY
- SOLENOID VALVE

ACTUATOR FUNCTIONS

- HAND ACTUATOR
- MODULATING ACTUATOR
- ON/OFF ACTUATOR
- SOLENOID ACTUATOR
- ELECTRIC MOTOR
- SPRING
- FLOAT
- TOP UNIT
- FEEDBACK UNIT

PUMPS

- CENTRIFUGAL PUMP
- POSITIVE PUMP
- VACUUM PUMP
- LIQUID RING PUMP
- SCREW PUMP

COMPONENTS

- STEAM TRAP
- FILTER, STRAINER
- SIGHT GLASS
- AGITATOR
- CLEANING DEVICE
- EJECTOR/INJECTOR
- DRAIN/FUNNEL Atmospheric pressure
- EXPANSION VESSEL

- SILENCER

- PLATE HEAT EXCHANGER

- TUBULAR HEAT EXCHANGER

- STATIC MIXER

PSD Flow Diagram Symbols

Machine No.	Designer MBN	Appr. By	Date 2004-04-28	File Name
Company Tetra Pak Dairy & Beverage Systems AB	Format A1	Template		
	Scale 1:1	Document No. 1217604 -01	Revision 1	