

Re.: Ammonia Refrigeration Plant for Polen Project
Our Order No. 10-0054-89

Dear Sirs,

We thank you for your order and are pleased to confirm that we have booked the order for delivery in accordance with the following specification:-

The plant has been arranged on the basis of the following data:

Freezing Storage	dimension	: 720 m ² x 8 m
Room Temperature		: -28°C
Products per Day		: 32 tonnes strawberries 10°C
Packing Room	dimension	: 125 m ² x 4.3 m
Room Temperature		: -5°C
Freezing Tunnel		: 443 KW at -37°C
Expansion Possibility, Tunnel		: 443 KW
Expansion Possibility, Storage		: 99 KW

The plant will be built as an automatic ammonia pump plant. Freezing storage and packing room will be defrosted by hot gas. Installation of components and piping according to drawing no. 30.002 of 04.11.89

SPECIFICATION

Operating voltage: 3 x 380 Volt A.C., 50 c/s
Control voltage : 1 x 220 Volt A.C., 50 c/s

Freezing Storage -28°C

3 - GRAM FINNED EVAPORATOR

manufactured from steel pipes with pressed-on steel fins. The evaporator unit is hot-dip galvanized after manufacture and provided with casing of galvanized sheet. The evaporator is arranged for pump operation. The evaporator is inclusive of drip tray and equipped with fans.

Type	: LFA-210 C/D
Surface	: 210 m ²
Finned pitch	: 8.5/17 mm
Defrosting	: hot gas
Drip tray	: insulated with coil
Fan motor	: 1.1 kW
Number of fans	: 2
Fan speed	: 1,400 rpm
Installation	: ceiling mounted

3 - SUSPENSION FOR EVAPORATOR

consisting of stainless treaded bars with nuts.

3 SET OF STOP VALVES AND AUTOMATIC VALVES

for connection of evaporator with compressor plant.

3 - ROOM THERMOSTAT

Packing Room -5°C

1 - GRAM FINNED EVAPORATOR

manufactured from steel pipes with pressed-on steel fins. The evaporator unit is hot-dip galvanized after manufacture and provided with casing of galvanized sheet. The evaporator is arranged for pump operation. The evaporator is inclusive of drip tray and equipped with fans.

Type	: LFA-90 C/D
Surface	: 90 m ²
Finned pitch	: 8.5/17 mm
Defrosting	: hot gas
Drip tray	: insulated with coil
Fan motor	: 0.55 kW
Number of fans	: 2
Fan speed	: 1,400 rpm
Installation	: ceiling mounted

TECHNICAL SPECIFICATION

FLOFREEZE BELT MODEL	26 ADF
External dimensions LxWxH	8100x5250x4500 mm
Required No of lorries	3 x 40 ft
Base product	Strawberries
Capacity (approx)	2800 kg/h
Infeed temperature	+20°C
Outfeed temperature	-18°C
Refrigeration duty (for variations in line capacity we recommend 5-10% higher refr. plant capacity).	360.000 kcal/h
Refrigerant	Ammonia pump circulation
Evaporation temperature	-37°C (at our evaporator)
Circulation ratio	4-6 times evaporation
Evaporation volume	1040 dm ³
Normal power consumption	75 kW
Max power requirement	93 kVA
Voltage and frequency	3x380V, 50 Hz
<u>Air defrost system (ADF)</u>	
Required air pressure	7 kp/cm ²
Air consumption	17 dm ³ /s
Temp. of compressed air	+ 30 °C
Required dewpoint	-30°C or below (dried air)
Defrost intervals	8-16 hrs depending on product and running conditions
ADF-buffer tank	300 l
Power consumption	11 kW
<u>Water defrost</u>	
Hot gas and/or water	+15°C
Water consumption	1350 l/min
Pressure	3 kp/cm ²
Water consumption for cleaning of belts only	175 l/min

Note: The specified product is horticultural produce and it's physical property may therefore vary with respect to ripeness, water content, freezing time etc. The capacity figures stated should therefore be regarded as guidelines only.

FLoFREEZE Belt ADS

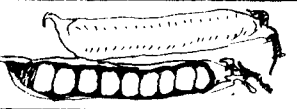



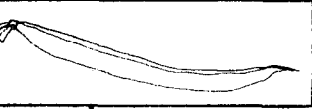









Product List

Product capacity on peas:

24 ADS = 3,000 kg/h
26 ADS = 4,500 kg/h
 28 ADS = 6,000 kg/h
 210 ADS = 7,500 kg/h



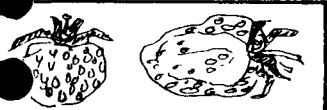




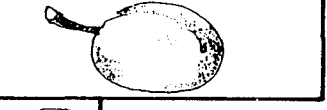







Base Data:

Product infeed temp.: +20°C (+68°F)
 Product outfeed temp.: -18°C (0°F)
 Evaporation temp.: -37°C (-35°F)

Vegetables	Water content %	Relative capacity %	Note
 <u>Peas</u>	74		
 Sweet Green Peas		100	
 Alaska Peas		100	
 Black-Eyed Field Peas		100	
 <u>Green Beans</u>	89		
 , cut, 13-30 mm, 1/2" - 1 1/4"		85	
 , sliced, 4 mm, 5/32"		75	
 Princess Beans, whole		75	
 <u>Beans</u>	67		
 Fordhook Lima Beans		85	
 Baby Lima Beans		90	
 Broad Beans		80	
 <u>Corn</u>	74		
 Sweet Corn, cut		95	
On the cob 40 x 150 mm, 1 1/2" x 6"		30	

FLoFREEZE Belt ADS

Product List

Fruit and Berries, cont.		Water content %	Relative capacity %	Note
	<u>Raspberries</u>	84		
 15 mm, 5/8"			55	2475 1, 2, 3,
	<u>Strawberries</u>	90		
 average diam. 30 mm in a range from 25 mm to 35 mm			5500 x 70 //	3150 x 20 ~ 1, 2 6000 kg
	<u>Plums</u>	86		
 whole, 35 mm, 1 3/8"			60	
 halved, 20 mm, 3/4"			70	
	<u>Apricots</u>	89		
 40 mm, 1 1/2"			45	
	<u>Apples</u>	84		
 diced, 13 mm, 1/2"			70	1, 4
 wedges, 13 mm, 1/2"			70	1, 4
 wedges, 10 mm, 3/8"			75	1, 4
	<u>Pineapples</u>	85		
 segments, 10 x 20 mm, 3/8" x 3/4" 3/8" x 3/4"			60	

Manual

0035-2-004-B
















4/7

Apr. 1983

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FLoFREEZE Belt ADS

Product List

Fruit and Berries		Water content %	Relative capacity %	Note
	<u>Blueberries</u>	83		
	13 mm, 1/2", 12% sugar content		70	
	13 mm, 1/2", 6% sugar content		80	
	10 mm, 3/8", 12% sugar content		85	
	10 mm, 3/8", 6% sugar content		90	
	<u>Red Currants</u>	88		
	with stalk		75	3375
	<u>Black Currants</u>	88		
	with stalk		75	
	<u>Lingonberries</u>	83	100	
	<u>Grapes</u>	82		
	20 mm, 3/4"		70	
	<u>Gooseberries</u>	89	70	3150
	<u>Cherries</u>	83		
	pitted or unpitted, 15 mm, 5/8"		70	3150

Manual	
0035-1-005-E	1/4
June 1988	*

FLoFREEZE Belt ADF

Dimensions

SI-Units

