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POLICON



Engineering & Manufa

SPECIAL DESIGNED EQUIPMENT FOR YOUR ICE CREAM FACTORY

STRENGTH AND SUCCESS -TOGETHER WITH POLICON JSCo

Policon JSCo - designs and manufactures of equipment for food industry.

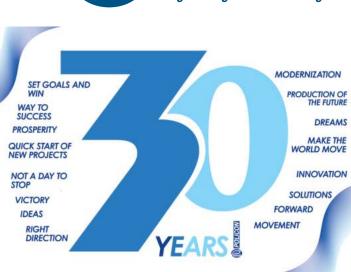
Over the course of 30 years, we have developed into a unique full-cycle engineering company. Our engineers and specialists can turn any idea into steel from a simple part to a multifunctional automated production line.

Our technical solutions are distinguished by reliability, high quality and duration of operation, modern element base.

OUR SERVICES:

• Complex projects for automation and mechanization of production, exclusion of manual labor from the technological process.

• Implementation of innovations, design and manufacture of non-standard equipment, tooling, transport systems for lean production, stacking and movement of the product.



• Manufacturing of analogues of foreign equipment, adapted for the production of the customer.

- Modernization and mechanization of sections, workshops and factories.
- Warranty and service.
- Training of the customer's personnel to work on the supplied and commissioned equipment.



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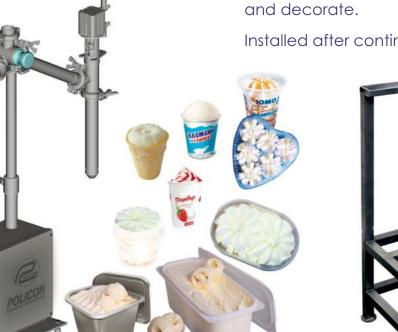




Production of ice cream with alternate dosing at two positions with the ability to enter viscous fillers

Installed after continuous freezers.









NOZZLES for SPIDER fillers

All attachments are quick-detachable and using unifed connections to any production line (GRAM, TEKNOICE, TETRA PAK, VOJTA, etc.).

Material: high-quality food-grade stainless steel.



This product can be manufactured according to the technical specifications of the customer, taking into account its predetermined parameters and features.





LILLIPUTIAN 1500 extruding line



The LILLIPUTION 1500 is designed for the production of extrusion ice cream.



• Manual feeding and removal of plates.





• An UP-AND-DOWN line with conveyor plate with holes for the product (ice cream) can be used as a freezing chamber.

• Many kinds of extruders.



• Possibility of completing with extruders of various configurations.



RIO multi line





Designed to produce 1-, 2- and 3-color ice cream in individual containers (wafer cups and cones, family tubes, etc.) with the possibility of decoration.

FEATURES:

- quick changeover for different tube format;
- high accuracy and the possibility of dose correction;
- 100% filling of tubes;
- Maximum productivity 8 000 pcs / hour.

INSTALLATION OF OPTIONS IS POSSIBLE:



1) Cups loading station.
$\widehat{2}$ One of three servo-driven dosing station
3) Vibration unit for dry ingredients.
④ Dusting station.
$\overline{5}$ Topping station.
6 Sealing stations for plastic film unrolled from the reel.
7) Transfer robot with outfeed conveyor.

















TECHNICAL SPECIFICATIONS

	2-line 3-line 4-line		
Dosing method	temporal		
Volume of dose, ml	From 50		
Dosing error, max,%	2		
Air pressure, Mpa	0,4 - 0,6		
Productivity, max, pieces / hour	8 000		
Electric power, V / Hz	24 or 220/50 220/50 380/50		
Service, operators	1 2 2		
Conveyor drive	onveyor drive pneumatic		

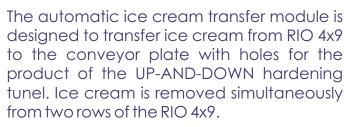
This product can be manufactured according to the technical specifications of the customer, taking into account its predetermined parameters and features.





























Filling ice cream in plastic containers, family tubes, cups. Full automatic CAROUSEL line.















Designed for the production **of Briquet ice cream**: - size: 150x75x40; - weight: 180-200 g in foil. and **a Briquet on waffeles**: - weight: 80 g.

- weight. ou g.

Possibility of producing **one-**, **two-** of **three-color** ice cream. The possibility of introdoucing **ingredients** (nuts, dried fruits, prunes, etc.) or chocolate chips.

EQUIPMENT OF THE MACHINE:

- (1) Carrier frame.
- 2 Packing paper forming unit.
- (3) Packing paper feed unit.
- ④ One- or two line conveyor.
- (5) Upper wafer feed unit.
- ⁽⁶⁾ Dispenser with the ability to enter ingredients.
- (7) Cabinet with PLC.
- (8) HMI operator panel.
- Transfer robot for ice cream from ESKIMOS to UP-AND-DOWN line.

The UP-AND-DOWN line with a universal plate can be used as a hardening tunel.





DREAM 1000 packshots line



Filling one-color ice cream with or without ingredients in packshots weighing up to 1 000 grams.

This product can be manufactured according to the technical specifications of the customer, taking into account its predetermined parameters and features.



ROBOTIC CAPTURE, TRANSFER AND STACKING OF ICE CREAM





The transfer unit is designed to automatically capture, transfer and stack the product to conveyors of hardening tunel.









SPRAY NOZZLES FOR CHOCOLATE





Spray nozzles for chocolate with adjustable dose of and spray angle. The spray pattern can be adjusted from full cone to flat spray.



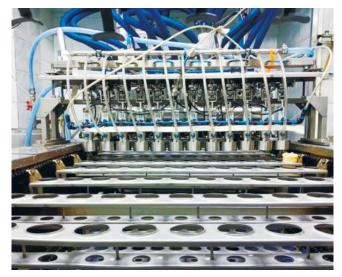
The design provides opportunities for solving the most difficult tasks in the spraying of viscous liquids (chocolate, syrup).













Air pressure in the pneumatic system, MPa, no more	0,7
Outer diameter of tubes for	10
chocolate, mm	10

HAVANA wafer tube filler

Station is designed for filling wafer tubes with ice cream.

FEATURES:

Automatic loading of tubes by rotary drum from the hopper.







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This product can be manufactured according to the technical specifications of the customer, taking into account its predetermined parameters and features.

We designed a HAVANA according to the sampled of wafer tubes.

TECHNICAL SPECIFICATIONS			
Dosing method	temporary		
Dosing	from 2 sides at the same time		
Operating mode	automatic / semi-automatic		
Productivity, pcs / hour	to 4 000		
Electric power supply, V / Hz	24 or 220/50		
Compressed air pressure, Mpa	0,4 - 0,6		
Installation location	on the table		
Length, width, height (without flow distributor and hopper)	571/470/700		
Length, width, height (with flow distributor and hopper)	930/470/1300		
Weight, kg, no more	70		

SERPANTINE line





The extrusion line is designed for the production of various types of ice cream: cone and stick products, wafer cups, sandwiches.

Extrusion method - vertical or horizontal.



EXTRUSION LINE SET:

- (1) Hardening tunel. 2 Air cooler.
- ③ Conveyor.
- (4) Extrusion unit.
- 5 Dosinf station.
- 6 Cutting unit.
- ⑦ Stick-picker for ice cream.
- 8 Capture node.
- I Glazing unit.
- 🛈 Transfer unit.

The line is flexible and able to implement almost any production task. The transition of the line to different family tubes and product format occurs in the shortest possible time due to the avilability of modular equipment.

Model	LS	LM	LL
Productivity, min, pcs/hour	2 500	4 000	6 000
Productivity, max, pcs/hour	4 000	6 500	9 000







CONTINUOUS FREEZERS

Continuous Freezers are designed for the production of ice cream with overrun from 30 to 120%.

Productivity depends on a standard size and varies from 50 to 1200 l/hour.

Freezers are made in the USA, Turkey, Taiwan.

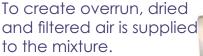
FEATURES:

• Frame, body and parts in contact with the product are made of AISI 316 stainless steel.

• The freezing cylinder has a hard, mirror polished finish and provides highly efficient heat exchange between the mixture and the refrigerant.

• Freon cooling system, autonomous with built-in compressor and necessary components.

• Mix and ice cream pumps of gear type with variable capacity.



The temperature of the mixture at the inlet is $+4^{\circ}C \div +6^{\circ}C$, the temperature of the ice cream at the outlet of the freezer is $-4^{\circ}C \div -5^{\circ}C$ and depends on the fat content and the amount of solids in the mixture.



EXTERNAL CONNECTIONS:

- compressed air, 6 bar, up to 1.2 m³/h;
- water, 3 bar;

- electricity up to 23 kW/h (depending on the productivity of the freezer).







Model	FR50	FR150	FR300	FR600	FR1200
Productivity, max, l/h	50	150	300	600	1200
Refrigerant R404A					





UP-AND-DOWN line

Designed for production one- and two-color ice cream in:

- round wafer cup;
- flat wafer cup;
- sugar cone (from 100 to 185 mm);
- plastic or paper cup.





The control system is based on PLC and HMI operator panel.





Possibility of completing UP-AND-DOWN line with conveyor plate with holes for the product (ice cream) for freezing briquettes, packshots, family tubes, etc.

ADVANTAGES:

Capturing, transferring and placing ice cream in the packaging machine can be carried out automatically without human intervention.

Productivity - up to 25 cycles/min.



UP-AND-DOWN line in typical configuration:

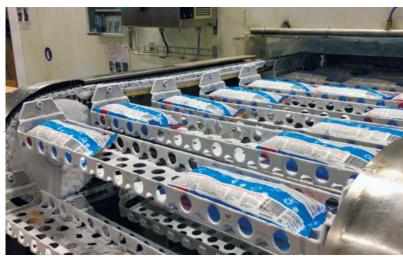
1) Hardening tunel.
 Conveyor with plates.
③ Automatic container installation unit.
④ The chocolate injection unit.
5 Servo-driven dosing station.
6 Syrup topping station.
⑦ Dry topping station.
8 Lid closing station.
Robotited transfer system.



The movement of the conveyor is intermittent, provided by a step drive of the cycloid type.









GULLIVER line

Automatic type of stick ice cream generator provides high productivity flexibility and efficiency for contimous production of sticky products such as fruit ice (juice) and smoothie ice cream.







MAIN STAGES OF PRODUCTION:

- (1) Dosing into ice cream molds.
- -
- (2) Clogging sticks.
- \sim
- ⁽³⁾ Freezing products in a cold brine bath.
- (4) Thaw the thin outer layer of the product with a warm water spray for demoulding.
- (5) Removing the frozen product from the mold.



The semi-automatic eskimogenerator provides flexibility and efficiency for the continuous production of stick ice cream, fruit ice (juice) and smoothie ice cream.









GULLIVER LINE IN SEMI-AUTOMATIC TYPE CONFIGURATION:

- 1) Conveyor with stepper drive and cooling tanks.
- 2 Heating capacity.
- (3) Mix dosing station.
- (4) Stick station.
- (5) Refrigeneration unit.
- 6 HMI operator panel.



GULLIVER LINE IN AUTOMATIC TYPE FOR 2 AND 3 COLOR TWISTED STICK ICE CREAM:

1) Dosing of ice cream mixture in molds.





Sticks.

- ③ Freeze and extract to a second step where a fine filler adds juice to create a curled outer pattern on the ice cream.
- (4) Extraction and transfer to multi-row packaging.



LAKOMKA extruding station for ice cream in whipped chocolate





The ability to install equipment on any technological line of Gram, TEKNOICE, Tetra Pak, Vojta, etc.



SET OF EQUIPMENT:

- (1) Dynamic distributor of ice cream.
- Dynamic distributor of whipped chocolate.
- ③ Extruder with displacement drive (one, two, three, four or five-linear).
- (4) Cutting device ((String)).
- \bigcirc Control cabinet based on PLC.
- 6 HMI operator panel.





Length, mm	94 - 104
Diameter, mm	up 45
Productivity, pcs / hour	up 12 000

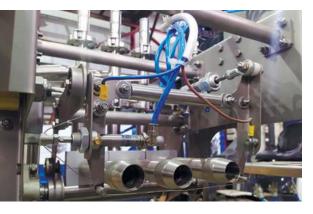








Set of equipment can be designed and manufactured to specific customer requirements (N - linearity of the extruder, the possibility of forming inside the ice cream rod of liquid fillers, sprinkling the surface of the roll, the stick ice cream).













Mobile extruding station



ROBOT FOR AUTOMATIC PICKING, TRANSFER AND PLACEMENT IN WRAPPING MACHINE

The equipment is designed to automatically picking, transfer and stack the product from the conveyor of the processing line to the pocket conveyor of the wrapping machine.





The scope of the module for transfer automation is the technological lines for the production and packaging of ice cream or other products.

AS PART OF THE EQUIPMENT, A REJECTION UNIT (PUSHER) IS INSTALLED, DESIGNED:

• to prevent the defective product from entering the dosing zone;

• to remove the product from the conveyor of the processing line in the event of a stop of the wrapping machine.

TECHNICAL SPECIFICATIONS

Productivity, units / min	108 - 120
Work efficiency,%	98 - 99

ADVANTAGES OF THE ROBOT FOR PRODUCTION AUTOMATION:

- hygienic design of the grippers, ensuring the safety of products from damage;
- ability to work on an ellipse product;
- automatic and semi-automatic mode of operation;

• intelligent control system that provides optimal operation algorithm.



BULRUSH ice cream extruding station





EXTRUDING STATION CONFIGURATION:

- 1) One, two or three linely extruder.
- (2) Device for hammering stick (1, 2 and 3 pices).
- ③ Device for hammering sticks (3 pieces).
- (4) Cutting device «String».
- (5) Control cabinet based PLS with HMI operator panel.
- 6 Dynamic ice cream distributor.
- (7) Set of hoses for supplying a mixture of ice cream.





Length, mm	94-100
Diameter, mm	27-29
Productivity, pcs/hour, up	4500





POINT OF SALE. MOBILE ICE CREAM KIOSK





Stick ice cream «BULRUSH» can be used in mobile ice cream sales points, taking into account the implementation of the modern marketing trend - the individualization and personalization of the tastes of ice cream lovers.

The seller takes ice cream in individual packaging («naked») from the freezer, unpacks it and dips it into the taste of the chocolate that the chooses: white, milk of dark chocolate. Chocolate is icing quickly hardens on cold ice cream and becomes crispy. Your personalized ice cream flavor is ready!

Bon appetite!











CONVEYOR SYSTEM

Policon JSCo designs and manufactures various types of conveyors for:

• automated stacking of the finished product;

• safe transportation of finished products to the warehouse, regardless of the distance to the destination, the difference in levels, floors, the complexity of the trajectory.

FEATURES:

- flexible reconfigurable system;
- the ability to quickly move between workshops;
- different levels and configuration of conveyors;
- the ability to mount elements of automatic sorting, grouping and distribution of flows;
- maximum automation of packing, assembly, loading and unloading operations;
- exclusion of manual labor, intrashop transport from the technological process;
- non-standard solutions;
- adaptation for production in different industries;
- economic efficiency.

Equipment with a unified control system based on PLC and HMI operator panel allows you to set a single rhythm for the production process and regulate the speed of transportation.

The conveyor system can be manufactured according to the technical specifications of the customer, taking into account its predetermined parameters and features.

THE INTRODUCTION OF CONVEYOR SYSTEMS IS AN IMPORTANT ASPECT OF OPTIMIZING YOUR FACTORY!











DIGITAL MARKING SYSTEMS: VERIFICATION AND ACCOUNTING



Implementation of digital marking systems: verification and accounting for production lines of various capacities.



TECHNICAL SOLUTIONS FOR MARKING SYSTEMS:

- equipment for applying a digital marking code on the packaging material of products;
- equipment for scanning the applied code;
- integration into customer's highperformance lines;
- automatic verification and accounting.







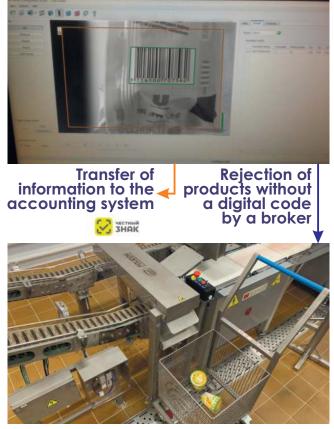


Product recognition by barcode, date, QR-code

Reading a digital Data Matrix code



Transfer and processing of information to the accounting system and server





INGREDIENT SPECIAL MACHINES



INGREDIENT FEEDER





The Ingredient feeder is designed for continuous feeding of ingredients (nuts, raisins, fresh fruit, chocolate and other liquid and solid fillings) in ice cream production lines.



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- 1 One or two hoppers for feeding different ingredients.
- (2) Wide range of drive speed control.
- 3 Possibility to complete the pump for entering fractions up to 20 mm in size.
- (4) The possibility of using only a vertical agitator when injection chocolate from a special pumping station.



The ability to smoothly(5) changethe supply of ingredients.

TECHNICAL SPECIFICATIONS

This product can be manufactured according to the technical specifications of the customer, taking into account its predetermined parameters and features.

Model	F600	F1200	F2000
Ice cream production, max I / h	600	1 200	2 000
Supply voltage, V, Hz, no more	380/50		
Total installed power, kW	1,8	2,0	2,4
Number of operators	1 operator		

The ingredient feeder is installed between a continuous freezer and a filling machine that dispenses ice cream into cups, cones, tubs, etc.

FEATURES:

- Accurate dosing of the filler.
- Changing the degree of fruit saturation.
- Evenly distribution of filler.
- High reliability and long-term operation.
- HMI operator panel.
- Production of ice cream with chocolate chips using conventional popsicle stick ice cream.
- Injection of 5 to 20% of the ingredient.











PADDLE-TYPE MIXING PUMP OF INGREDIENTS FEEDER:

- Easy to disassemble and maintain.
- 6 equal portions of filler are supplied from six cavities in one rotation of the rotor.
- The adjustable rotor speed ensures reliable synchronization of the work of the ingredient feeder with the freezer.

JAMKA filler station

Input of jam and similar ingredients on filling station. Compatible with pencil fillers devices. The station provides to work with all types of filling stations.

- High accuracy of dosing with the possibility of smooth correction of the dose simultaneously in all streams.
- The possibility of dosing a choice of 2 to 8 streams of filler.
- Decorating portions.

FEATURES:

- The use of a timer allows you to adjust the location of the filler in the ice cream and dose the topping.
- The design includes a mixer that provides homogeneity of the product.
- Quick-dissolving and easy-to-clean product lines.

TECHNICAL SPECIFICATIONS

The method of dispensing	volumetric
Volume of the reserve tank, I	70
Electric power, V / Hz	380/50
Adjustable dose volume, ml per serving	420
Productivity, max: cycles / hour	1 500
Productivity, max: number of doses / cycle	2, 4, 6, 8
Installed capacity of electric motors, kW	0,25
Weight, kg	80
Number of operators	1 operator



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This product can be manufactured according to the technical specifications of the customer, taking into account its predetermined parameters and features.

JAM PENCIL FILLER

Pencil filler can be used as a stand - alone device, or installed on filling machines such as «CAROUSEL», «RIO» or analogues.

FEATURES:

- High accuracy of dosing with the possibility of smooth correction of the dose.
- Dosing while the needle is moving up.
- Feeding jam by gravity or pump (depending on the filling machine).

Air pressure, Mpa	0,4 - 0,6
Needle stroke, max, mm	100
Weight, kg, no more	18



GOLF chocolate and ice cream mixer









Mixer ice cream and chocolate is designed for mixing ice cream with liquid chocolate.

FEATURES:

- High accuracy and possibility of dose correction.
- Supply of chocolate by the customer's pump.
- Possibility to change the speed of rotation of the agitator.



TECHNICAL SPECIFICATIONS

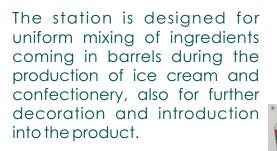
Length/Width/Height	352/310/976
Motor power, kW	0,37
Speed of rotation of an output shaft	40 - 100
of a reducer, rpm	
Weight, kg, not more than	18
Electric power, V / Hz	220/380/50

This product can be manufactured according to the technical specifications of the customer, taking into account its predetermined parameters and features.



















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The container with the product is transported on a Euro-pallet to the mixing station and back.

TECHNICAL SPECIFICATIONS

Mixer drive power, kW, mm	4
Mixer speed range, rpm	15 - 60
Mixer blade diameter, mm	520
Mixer lifting height, mm, no more	970
Working volume of the tank, I, no more	185
Power supply parameters, V/Hz	380/50
Length/width/height of the mixer, mm	1383/1088/2253
Weight, kg	650
Service	1 operator

This product can be manufactured according to the technical specifications of the customer, taking into account its



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TEMPERING TANK FOR CHOCOLATE WITH MIXER

The tempering tank is designed for tempering and automatically maintaining the set temperature of the chocolate. The tank is a cylindrical welded structure mounted on a frame and closed with two lids.

The tank has the system for automatically maintaining the set temperature. A mixer shaft with horizontal plates is installed inside the tank.



PRINCIPLE OF OPERATION: The tank heating system is switched on. The tank is heated to operating parametes, then the chocolate is pumped in and the mixer drive is turned on. The desired temperature is set on the remote control, which is subsequently maintained automatically. Before loading the chocolate.

The control cabinet is mounted on the side surface of the heating system body.



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The heating system consists of:

- Heating tank.
- Expansion tank.
- Outlet pipeline.
- Inlet pipeline.
- Piping to the pump.
- Frame.

Mobile tempering tank

TECHNICAL SPECIFICATIONS

Working capacity of the tank, I	100	250	800
Working temperature range, °C	2880		
Agitator drive power, kW	0,75	1,1	2,2
Total power of the block of electric heaters, kW	4	6	18
Weight, kg, no more	100	350	545

This product can be manufactured according to the technical specifications of the customer, taking into account its predetermined parameters and features.

DYNAMIC ICE CREAM DISTRIBUTOR

Dynamic ice cream flow distributor is designed to divide the ice cream input stream into several streams.

A feature of dynamic distribution is the mixer. The mixer is designed to prevent the formation of stagnant zones of random sizes in the area of the outlet pipes. This contributes to the leveling of the outlet connections.

















TECHNICAL SPECIFICATIONS

Rotation speed control	frequency
Electric motor power, kW	0,25
Power supply, V / Hz	220/50
Number of outlets	28

This product can be manufactured according to the technical specifications of the customer, taking into account its predetermined parameters and features.



ICE CREAM GRIPPERS







Pneumatic grippers is designed for the ice cream transfer lines and is designed to pick up, hold and move the ice cream in the wrapping machine.

Material - stainless steel, silicone, plastic.





This product can be manufactured according to the technical specifications of the customer, taking into account its predetermined parameters and features.

ROTATION STATION FOR ICE CREAM BUCKETS



- Product dosing with simultaneous synchronous rotation of two buckets in the same direction.
- Anti-slip rotation.
- Strong, durable material.
- Replaceable units for different sizes of buckets.









EXTRUDERS FOR VARIOUS SHAPES AND COMPLEXITY













CIP FOR FREEZERS AND SPECIAL TECHNOLOGICAL MACHINES





FEATURES:

- Mobile, compact.
- Material high quality stainless steel.
- Possibility of using alkaline and acidic solutions.

At the request of the customer, the equipment is supplemented with a temperature maintenance device.

Designed for local cleaning of freezers and machines (tanks for fillers, ingredient feeders, dispensers, extruders).

CIP uses only the required amount of solution for one wash.







RECEPTION OF MILK. MILK METER WITH FILTERING



Pumping raw milk from dairies with measurement of its quantity.



APPOINTMENT:

- measuring the amount and temperature of milk;
- mechanical cleaning;
- air separation and cooling.

THE SET OF EQUIPMENT INCLUDES:

 Vacuum pump system.
 Meter for measuring the amount of milk in the flow.
 Centrifugal pump.
 Mechanical cleaning filter.
 Plate cooler.

TECHNICAL SPECIFICATIONS

	5 000
Productivity, I / h	v, l / h 10 000 15 000
	20 000



























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Ser la construction de la constr	CALENDAR OF THE MOST DELICIOU	JS HOLIDAYS	2
and the second s	Strawberry ice cream day	15 January	1
5	International popsicle day	24 January	1
at	World milk day	1 June	5
	Chocolate ice cream day	7 June	5
	World ice cream day	10 June	3
5.A.)	World chocolate day	11 July	0
-	International cake day	20 July	1
	Vanilla Ice Cream Day	23 July	-
TY I	Coffee ice cream day	6 September	
Y	World candy day	18 October	N.
B		CUMA -	1

Attention!

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The appearance of the equipment and all technical characteristics may change in accordance with technical improvements.



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