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COMMISSION DELEGATED REGULATION (EU) 2019/2016

Technical Documentation

professional chest freezers

model: ZS-350

More information at: www.byfal.pl

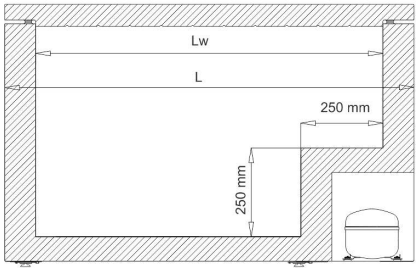
Information card

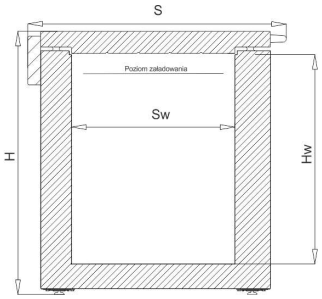
Chest freezer for professional use for storing and freezing products.

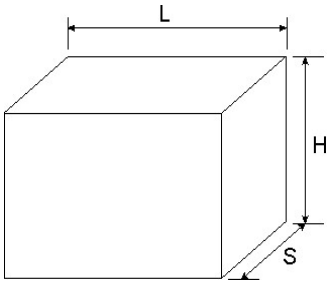
Model identifier	*ZS-350*			*Energy efficiency class (UE)2019/2016* 	
Design type	*freestanding*				
Climate class	*Temperate - N*				
Winter setting	*None*				
Duration of the guarantee [month]	*24*				
Minimum ambient temperature (°C) for which the refrigerating appliance is suitable	*16*	*Maximum ambient temperature (°C) for which the refrigerating appliance is suitable*			*32*
Annual energy consumption (kWh/a)	*285,92*	*Compartment type*			*3-star*
EEI	*120,7*	*Airborne acoustical noise emissions (dB(A) re 1pW)*			*39*
Energy efficiency class	*F*	*Airborne acoustical noise emission class*			*C*
Freezing capacity (kg/24h)	*16*	*Defrosting type*			*Manual defrost*
Recommended temperature setting for optimised food storage (°C)	*-18*	*Compartment Volume (dm3 or l)*	*314*	*Light*	*None*

Dimensions

L Width	Lw	S Depth	Sw	H Height	Hw	Packing LxSxH	Net weight	Gross weight
1285	1099	770	473	870	660	1,36 x 0,80 x 0,93	53	65







Additional information and instructions can be found on our website: www.byfal.pl

Specification

The freezer is built in the shape of a horizontal cabinet. Freezer walls are insulated with polyurethane foam. Outer coat is made of galvanized sheet metal covered with PVC which makes it resistant to corrosion and scratches. Side interior walls of the freezer are made of 99% pure aluminum sheet and the bottom is made of steel sheet covered with a coating that is approved for contact with food. An evaporator is placed under the aluminum sheet. On the front wall under the outer coat there is a condenser. The freezer has a hinged lid. In addition, the refrigeration system includes a compressor and expansion valve in the form of a capillary tube and a filter. An electronic controller is used to control the compressor operation. This allows you to change the setting of the desired cooling temperature and additionally displays the current temperature of the cooling chamber.

		Value
Power suply	V/Hz	230 / 50
Current nom./max.	A	0,31 / 5
Installed power	W	74
Baskets	pcs	1
Adjustable feet	pcs	4
Refrigerant	IP	R290
Refrigerant dose	g	45
Defrosting		Manual

General product specifications **(EU)2019/2016 zał. VI pkt 1.b.**

Parameter	*Value*	*Parameter*	*Value*
Annual energy consumption (kWh/r)	285,92	Auxiliary energy (kWh/r)	0
Standard annual energy consumption (kWh/r)	236,91	EEI (%)	120,7
Temperature rise time (h)	12	Combi parameter C	1,00
Door heat loss factor D	1,00	Load factor L	0,9
Anti-condensation heater type	BRAK		
Daily energy consumption at 16 °C (kWh/24h)	0,58	Daily energy consumption at 32 °C (kWh/24h)	0,83
Compartment type	3-star		

Target temperature (°C)	*Thermodynamic parameter r_c*	*Nc*	*Mc*	*Defrost factor A_c*	*Built-in factor B_c*
-18	2,1	138	0,15	1	1

Additional information

The product complies with the following harmonised standards:

PN-EN PN-EN 60335-1:2012/A14:2020-05
PN-EN 60335-2-24:2010
PN-EN 55014-1:2017-16
PN-EN IEC 61000-3-2:2019-04
PN-EN 61000-3-3:2013-10
PN-EN 61000-4-2:2011
PN-EN 61000-4-4:2013-05
PN-EN 61000-4-5:2014-10
PN-EN 61000-4-6:2014-04
PN-EN IEC 61000-4-11:2020-11

Model identifier

Freezer ZS-350/X

/X – method of controlling a device
/1 – electro-mechanical thermostat
/2 – electronic controller with temperature display
/3 – as above + relay for controlling e.g. lighting + Super Frost function

So when ordering ZS-350/2 model we get: freezer ZS-350 with electronic controller as in the example photo on page 1 of this information sheet.

Special precautions

- Pleas read manual carefully before unpacking and installing. To ensure safety, the instructions must be strictly followed.
- The appliance may be connected to the mains by an authorized person after reading the manual. The connection can by done only to a grounded socked to avoid electric shock.
- It is forbidden to make holes in the housing of the device. It may cause release of flammable refrigerant.
- Air vents in the housing of the appliance must not be obstructed.
- The freezer should be placed in such a way that the plug is accessible.
- You can not obstruct the front wall of the freezer or stick on it thick insulating stickers.
- Make sure that the appliance is not standing on the power supply cable.
- Install the appliance in a dry room with the area of not less than $4m^2$, above the ground level. Avoid locations near a source of heat or in direct sunlight. The temperature in the room must not be lower than 16^oC.
- Installation and maintenance of the appliance may not be done by persons (including children) with reduced physical, sensory or mental capabilities.
- Do not store glass containers with liquids, electrical appliances or other objects with sharp edges inside the freezer.
- In the case of freezer failure or damage the power cable insulation, repairs may by made only by a person authorized to repair this type of appliance.
- **Attention! Danger of explosion or fire.**

  The installation contains flammable gas. Perforation of the internal or external walls of the housing can cause escape of the flammable refrigerant .

If such a case occurs, the freezer lid should not be closed. Do not use near open flames or sparking devices. Disconnect the appliance from the mains power supply, remove it outside and only there you can take out the products.

Energy efficiency class:

Determination of the energy efficiency class
in accordance with the Commission Delegated Regulation (UE) 2019/2016
of 11 march 2019r.

Storage conditions and target temperature per compartment type.

Group	Compartment type	Storage conditions		Tc
		T min	T max	
Name	Name	°C	°C	°C
Frozen compartments	3-star	nd.	-18	-18

Determination of the EEI:

$\mathbf{E_{daily}}$ = 0,5 x (E_{16} + E_{32})= 0,5 x (0,58 + 0,83) = 0,705

AE = 365 x E_{daily}/L + E_{AUX}= 365 x 0,705 / 0,9 = 285,92

SAE = C x D x A_C x B_C x [V_C/V] x (N_C + V x r_C x M_C) = 1 x 1 x 1 x 1 x [314 / 314] x (138 + 314 x 2,1 x 0,15) = 236,91

EEI = AE/SAE = 285,92 / 236,91 = 1,207 x 100 = 120,7%

E_{16} and E_{16} - Determined in a laboratory test in accordance with PN-EN-62552-3_2021-01E

Energy efficiency classes	Energy efficiency index
A	EEI< 41
B	41 <EEI<= 51
C	51 <EEI<= 64
D	64 <EEI<= 80
E	80 <EEI<= 100
F	100 <EEI<= 125
G	EEI> 125