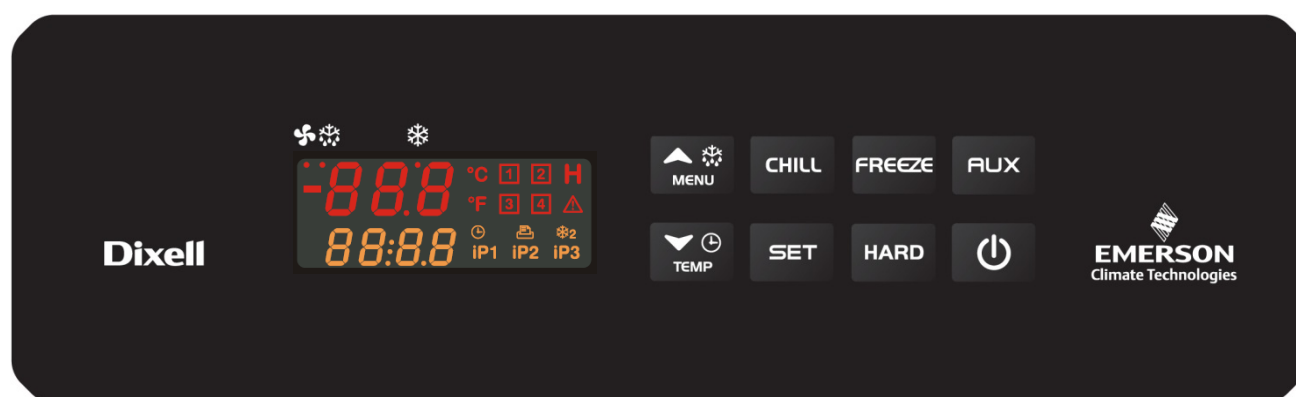# XB590L: new blast chiller controller with customizable user interface

Dixell introduces its new controller for blast chilling and food freezing and conservation, respecting food safety standards.
XB590L stands out thanks to the high level of customization of blast chilling cycles and of user interface.

With the introduction of the new XB590L, Dixell expands its range of products dedicated to blast chiller. This controller was designed to manage blast chilling, freezing and conservation of food in the best possible way. The personalization of cycles and interface gives the user the possibility to fully customize the product on both performance and design levels.
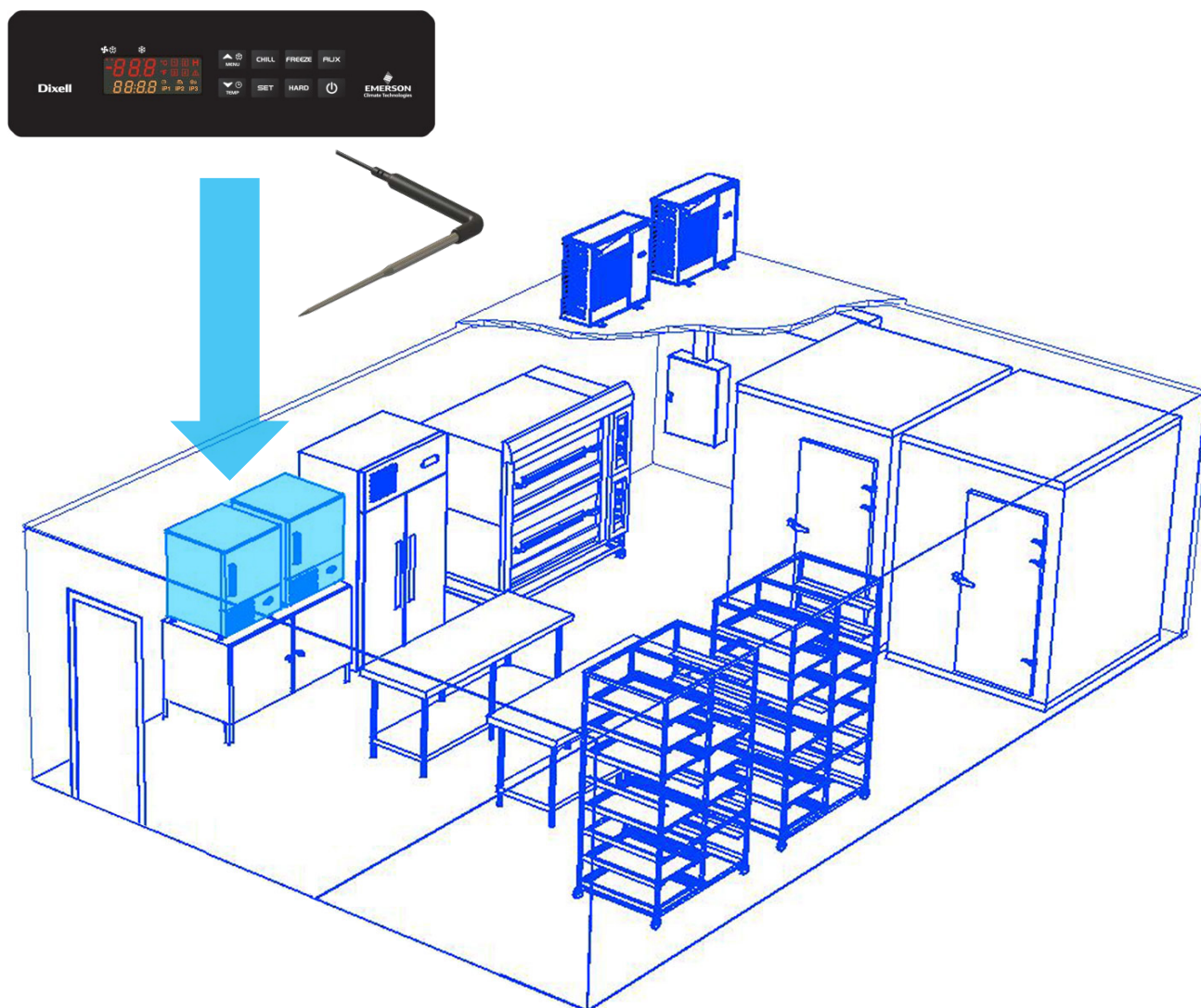
It is possible to choose Soft or Hard blast chilling and quick-freezing and the transition to the conservation phase is automatic. Every cycle can be launched with temperature or time control.

The device does not need any particular setting; this allows the user to use all available cycles without difficulty from the very beginning.

All information on the cycle is easily visible on the double display with icons; in this way the user can instantly understand the process status. The device can be controlled in a complete and rapid way thanks to the eight keys keyboard. The front surface is easy to clean and guarantees an IP65 protection, therefore promoting the use of XB590L in every food service environment.

1 MAIN APPLICATIONS

Thanks to the completeness of cycles and to the high customizable interface the new XB590L can be mounted on any blast chiller model, from the simplest applications to the most complex.
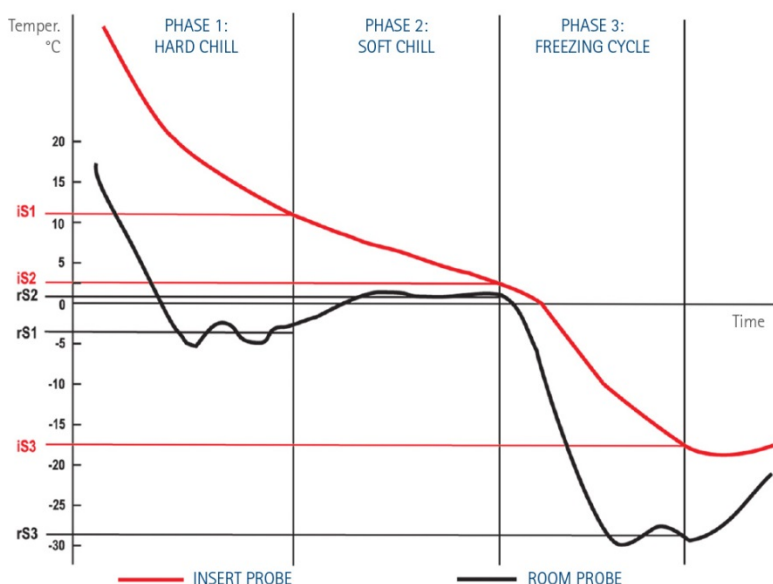
2   MAIN FEATURES

XB590L controller was designed to manage product blast chilling in the best possible way but also to supply the user with an easy, intuitive and complete device with many available functions.

2.1   DEFAULT BLAST CHILLING CYCLE AND FREEZING PROCESS

It is possible to choose Soft or Hard blast chilling (+3°C) and quick-freezing (-18°C). At the end of the cycle, the controller automatically switches to the preservation mode (+2°C for blast chilling, -20°C for quick-freezing). Every cycle can be split in up to 3 different phases in order to manage the blast chilling in the best possible way and to always guarantee the best result.

The graph shows a typical complete blast chilling and quick-freezing cycle.

2.2   CYCLES PERSONALIZATION

Every cycle can be personalized depending on the user needs; product or room temperature can be modified before and during the cycle execution in order to optimize and reduce working times.

2.3   HIGHLY CUSTOMIZABLE

The controller is available with standard polycarbonate. Upon request it is possible to personalize shape, color and dimensions depending on brand and application type. In this case, please contact our sales department for further information.

2.4   MULTIPOINT INSERT PROBE

The XB590L was designed to work with standard insert probe, but it can also work with the multipoint probes (3 points) for a more accurate product temperature measurement.

2.5   COMPRESSOR CRANKCASE HEATING DELAY

Depending on the blast chiller developer, the compressor crankcase heating delay can be activated. In order to prevent the migration of refrigerant and the mixing with the crankcase oil when the unit is off, when the device is powered on it is possible to activate a delay in order to guarantee the compressor crankcase heating.

2.6   FOOD HIGH QUALITY

The device is provided with an internal database where HACCP events are saved; these events are alarms HA (high temperature), PFA (power failure) and OCF (exceeding maximum cycle time). For each one of these alarms it is possible to save up to 15 events. The list is easily accessible from the front key. A flashing icon shows the presence of a new event that has not yet been analyzed by the user. All the alarms are recorded in FIFO mode.
XB590L is provided with a printer output (XB07PR) to report temperature and blast chilling cycle trends.

2.7   CONDENSER TEMPERATURE ALARM

It is possible to manage the high-temperature and low-temperature alarm of the condenser through the signal on the display or, for a higher safety, by enabling the blocking function of the compressor.

2.8   GUARANTEED PROTECTION AND HYGIENE

The flat surface is easy to clean and guarantees an IP65 front protection level for a high level of hygiene.

2.9   SIMPLIFIED PARAMETERS MANAGEMENT

Thanks to the software WIZMATE it is now possible to manage the parameters map of the XB590L from PC (other than from the device's keyboard) through the converter RS485-USB (XJ485USB). The programming of the device will be even faster and more intuitive.

2.10 REMOTE ACCESSIBILITY

Thanks to the RS485 output it is possible to connect the controller to a monitoring system (e.g., XWEB family). In this way all functioning data of the blast chiller will be accessible from remote.
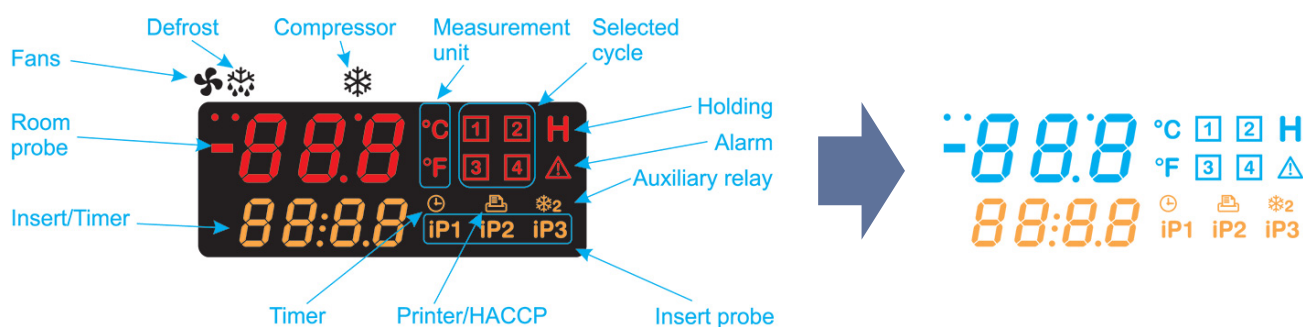
3 HARDWARE

3.1 TECHNICAL FEATURES

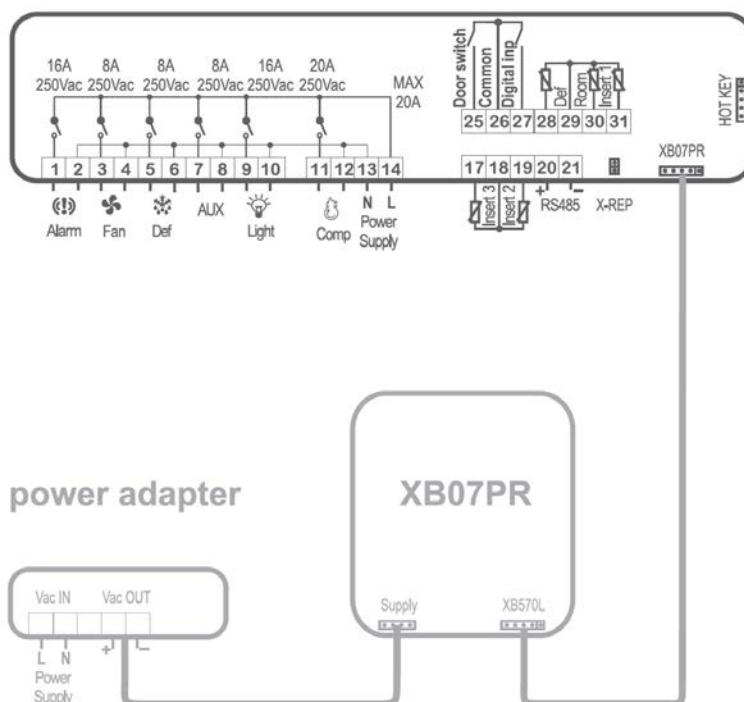|	
Housing:	Self extinguishing ABS
Format:	185x38mm, depth 76mm with front polycarbonate
Mounting:	Back panel with n°2 screws Ø3x2mm (distance between holes of 165mm)
Front protection level:	IP65 (with polycarbonate)
Protection level:	IP20
Connections:	Screw terminal block for conductors ≤2,5mm^2 Male faston 6,3mm
Power source:	24, 110, 230Vac, 50-60Hz
Power absorption:	7VA max
Analog inputs:	5 probes NTC o PTC
Digital inputs:	Door and configurable, voltage-free contacts
Relay outputs:	Compressor (SPST 20(8)A, 250Vac) Defrost (SPST 8(3)A, 250Vac) Fan (SPST 8(3)A, 250Vac) Light (SPST 16(6)A, 250Vac) Aux (SPST 8(3)A, 250Vac) Alarm (SPST 16(6)A, 250vac)
Serial outputs (optional):	RS232 for printer Dixell XB07PR RS485 for connection to monitoring system (ModBUS-RTU)
Data maintainance:	On non-volatile storage (EEPROM)
Type of action:	1B
Software class:	A
Operating temperature:	from 0÷60°C
Storage temperature:	from -25÷60°C
Relative humidity:	from 20÷85% (not condensing)
Sensors measurement field:	NTC, from -40÷110°C PTC, from -50÷150°C
Resolution:	0,1°C or 1°F
Precision at 25°C:	±0,5°C ± 1 digit
Certification:	CE, UL
Other:	Connection for Hot Key 128K/Prog Tool Kit Remote display output (optional) Buzzer Internal clock (RTC)

3.2 DISPLAY

The 14 icons dual display supplies the user with instantaneous information about the cycle's and the process' status.
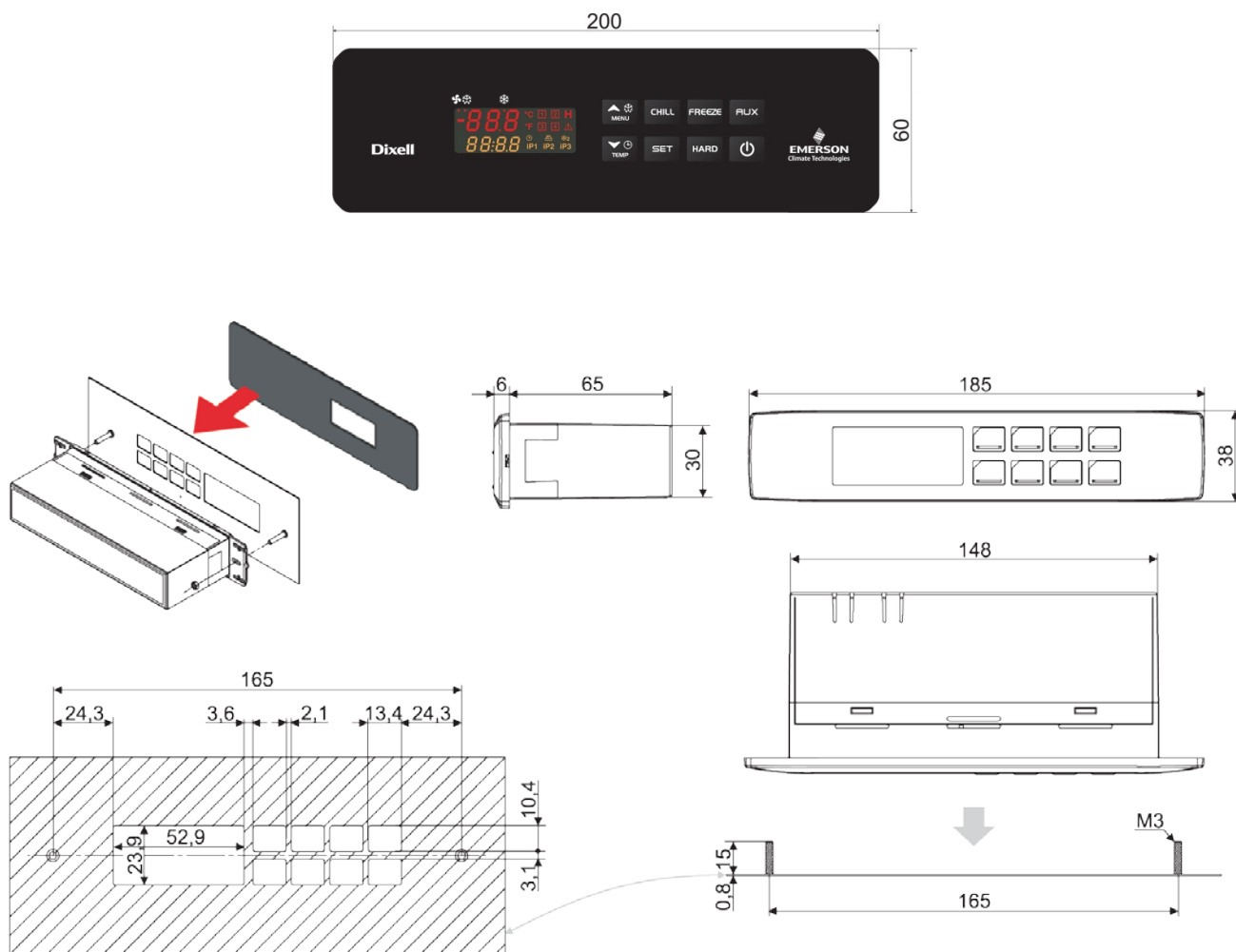The display is available in red/yellow or blue/yellow versions.

3.3 WIRING DIAGRAM

3.4   DIMENSIONS AND CUT-OUT

4 ACCESSORIES

		RG-L	Front panel rubber gasket, IP65 mounting
		PG-L	Plastic multipurpose protection for L format, IP65
		PM-WL	Patented fixing system (Design Patent: UAMI n. 001851916-0001) for a simple and easy to mount solution suitable for any metallic flat surface; it is composed of one adhesive bracket and counter plastic bracket
	XB07PR		Compact thermal printer that provides a hard copy print out of the cycles - Paper width 58mm - EASYLOCK fixing system - Operating voltage range: 3.5÷8V - Dimensions: 85.5x85x55mm
	XJ485USB-KIT		USB-RS485 converter for PC connections

	HOT KEY 128	Programming key
	X-REP	Remote dispaly (IP65, 31x64mm)
	WIZMATE PROG-TOOL KIT	Programming kit for an easy and fast update of parameters

5   PROBES

	SCP10PS NPC10PS SCP10IS NPC10IS SCP10IA NPC10IA	Standard insert probes, PTC/NTC 1 point
	NRC10PR	Multipoint insert probe 90°, NTC 3 points

Dixell

EMERSON Climate Technologies

6 HOW to ORDER

XB590L – A B C D E R

A		B		C		D		E	
Power Supply		**Inputs – Display color**		**Output type**		**Measurement unit**		**RS232 – RS485**	
2	24Vac	**P**	PTC – Red	**0**	No output	**C**	°C	**0**	No – Yes
4	110Vac	**N**	NTC – Red	**1**	X-REP	**F**	°F	**1**	Yes – Yes
5	230Vac	**Q**	PTC – Blue					**2**	No – No
		R	NTC – Blue					**3**	Yes – No

In case of interface personalization, please contact our Sales Department for further information.

7 PRICES

Please contact our sales department for prices.

8 AVAILABILITY and ORDERS

XB590L is available with standard delivery times.

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