

Chocolate Storage Tank

Instruction Manual

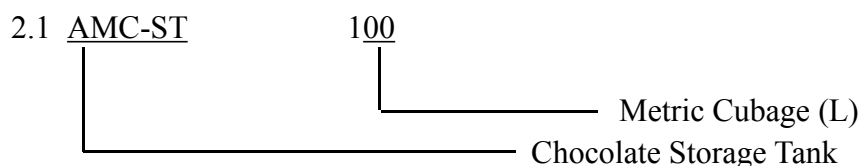
AMC-ST100

AMC SYSTEM TECHNOLOGY USA,INC.

AMC: Sweetening Your Life

1. *Product Type and Technical Parameters*

2. **Product Type**



2.2 **Main Technical Parameters for 100L**

No.	Denomination	Unit	Technical Parameter
1	Motor power	KW	0.37
2	Agitator Rotational Speed	r/min	24
3	Agitator Rotational Direction		Clockwise (Viewed from above)
4	Electric Heating Power	KW	3
5	Water Temperature	°C	55 (Warm-up temperature of chocolate mass)
6	Capacity	L	100
7	Dimensions	mm	Φ 700 × 1250
8	Machine Weight	Kg	150

Main Parameter for ALL style:

Model	Capacity (L)	Motor Power (kw)	Electric Heating Power(kw)	Dimension(m)	Net Weight (kg)	Rotation Rate (r/min)	Package size(mm)	Package Weight (kg)
AMC-STT00	100	0.37	3	(Φ)700*1250	150	24	900*900*1450	250
AMC-ST200	200	1.1	4	(Φ)800*1250	180		1000*1000*1450	280
AMC-ST300	300	1.1	4	(Φ)900*1250	200		1100*1100*1450	300
AMC-ST500	500	1.5	4	(Φ)1000*1380	600		1200*1200*1580	700
AMC-ST1000	1000	2.2	4	(Φ)1220*1850	1000		1420*1420*2050	1150
AMC-ST2000	2000	3	6	(Φ)1400*2500	1500		1600*1600*2700	1650
AMC-ST3000	3000	5.5	6	(Φ)1700*2500	2000		1900*1900*2700	2150

AMC-ST5000	5000	7.5	6	(Φ)2000*2710	3000		2200*220 0*2910	3150
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2. Structural Characteristics and Operational Principles

2.1 Main Structure

Chocolate storage tank is basically comprised of inner cylinder, outer cylinder, agitator, dynamic driver, electric heater, temperature controller with numeric display and other supporting parts.

2.2 Structural Characteristics

- 2.2.1 A diathermanous interlayer exists between inner and outer cylinders. On the upper cylinder body is set an overflow pipe; any attempt of turning off this tube is strictly not allowed. The intake pipe is located on the lower part of cylinder. Inside the interlayer, water is used as heat carrier; electricity is used to heat up; temperature controller with numeric display will adjust automatically the temperature as is set previously, so that the chocolate paste in the container can be kept at a fixed temperature.
- 2.2.2 A framed agitator with double vanes is installed in the middle of the cylinder body and may be used to stir materials to promote the heat exchange speed and finally to achieve the goal of evenly mixing and evenly heating.
- 2.2.3 The in-line installation structure is adopted to connect agitator axis with decelerator in order to make installation, dismantlement and cleaning easier.
- 2.2.4 The butterfly valve made of stainless steel acts as discharge valve and is installed on the lowest part of the cylinder body to ensure the discharge of materials from the container.
- 2.2.5 The inner cylinder, the cover board (including bearing of decelerator) and the agitator of the product are all made of stainless steel so they can resist corrosion and ensure hygiene of processed food.

2.3 Operational Principles

Lead the finely grinded chocolate paste into the container through the cover board on one side of the upper cover (opened before work starts) of cylinder body or through a chocolate pump. Pipe cold water into the interlayer of cylinder body by using the intake pipe on the lower part of cylinder. The cold water in the interlayer will then be heated by electric heater and the temperature controller with numeric display will adjust automatically the temperature as is set previously so that the water temperature in the interlayer can be kept invariable and finally the chocolate in the container can be kept at the fixed temperature. Meantime, the agitator, driven by the motor and the decelerator, rotate around the axis of cylinder to stir the chocolate paste. Since the blade is 45° tilted, the chocolate paste in the cylinder is turned over in the radial direction and the direction of axis, and can thus have a relatively higher heat exchange speed and better homogeneity of mixture. Once the chocolate paste is well stirred, the discharge valve should be opened to let the chocolate paste out from the discharge hole.

3. *Applications and Functions*

3.1 Applications

Chocolate storage tank is the absolutely necessary equipment in the chocolate production, and is mainly used in the thermal and storage of finely grinded chocolate paste to satisfy the technical requirement and continuous chocolate production.

3.2 Functions

Apart from the functions of cooling, heating and thermal, the product has other functions like degassing, deodorization, dehydration and preventing chocolate from fat separation.

4. *Operations and Usage*

4.1 Operations

- 4.1.1 Pipe cold water into the interlayer of cylinder body through the intake hole on the lower part of cylinder until water flows out from overflow pipe.
- 4.1.2 Start electric heating. Set temperature on the temperature controller.
- 4.1.3 When temperature reaches at set value, open the cover board on one side of the upper cylinder body and pour or pump in the chocolate paste.
- 4.1.4 Ensure that chocolate paste is liquid. Then start agitator.

4.2 Usage

- 4.2.1 The agitator can only be turned on when the chocolate paste is all put into the cylinder. Note that the agitator should rotate in the clockwise direction (viewed from above).
- 4.2.2 The electric heater can only be turned on when the interlayer of cylinder is all filled with water. Heating without any water in is strictly not allowed.
- 4.2.3 When the stored chocolate inside cylinder is frozen, the electric heater should be turned on first. The agitator can not be turned on until the temperature of water in the interlayer reaches 55°C and the heated chocolate is liquidized. Before all chocolate is liquidized, the electromotor should not be turned on so that the agitator or the electromotor itself can be prevented from being damaged.
- 4.2.4 In the process of normal work, the temperature of water in the interlayer can be adjusted to make sure the chocolate paste in the middle of cylinder body is kept between 35°C and 40°C
- 4.2.5 The dustproof cover must be well closed in order to prevent foreign matter from dropping into cylinder and damaging blade.
- 4.2.6 The base where the equipment is put should be flat and level.

5. Maintenance

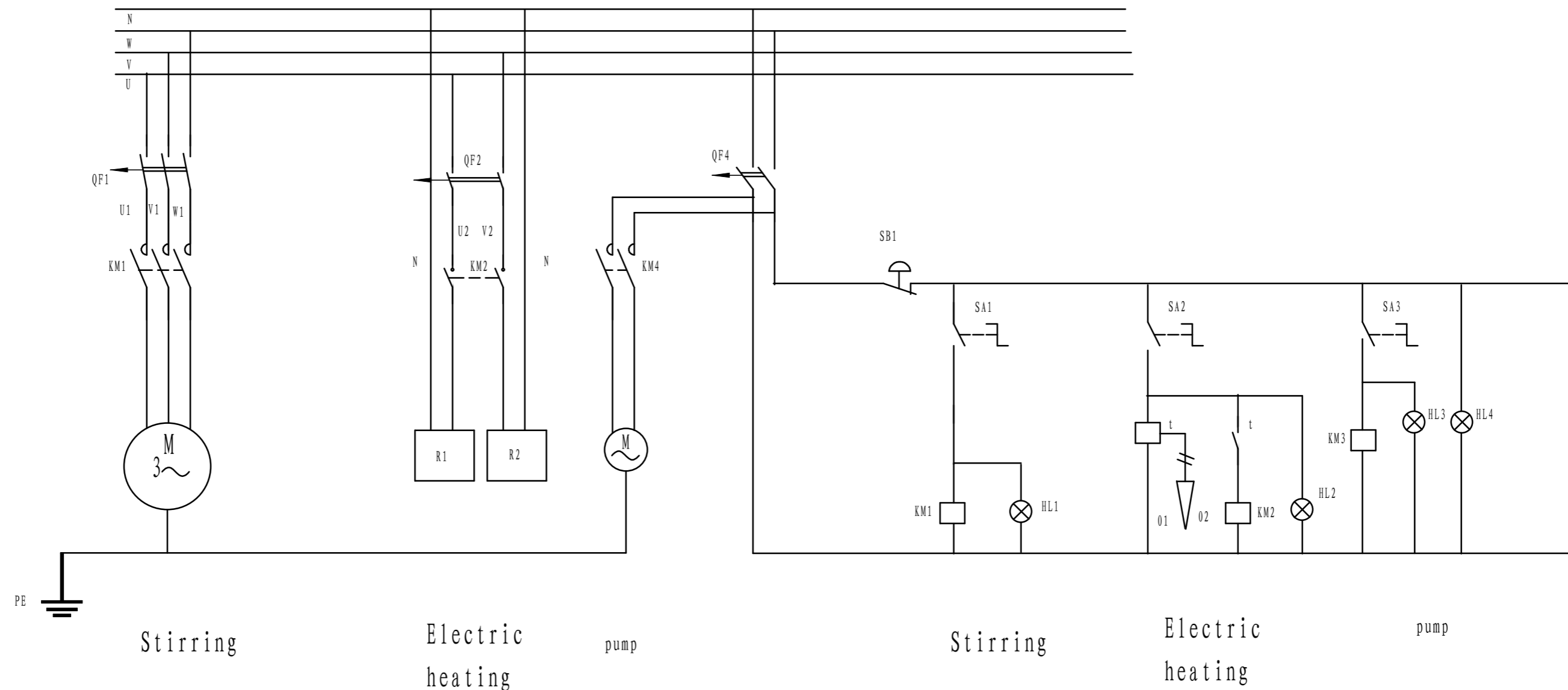
- 5.1 A proper amount of lubrication oil should be added into the gear case of the decelerator when in use. The oil should then be renewed every 6 months. Please

choose gear oil (SY1103-77).

5.2 Check regularly the components of electric heater. Cleaning work should be done in time when water incrustation or coke is found on the surface of heating pipe, so as to prevent the usage life from being shortened due to less efficient heat dissipation.

5.3 For axletree lubrication, please choose Anticorrosive Lubrication Grease CG2.

5.4 Boiling water or water containing soda can not be used when cleaning cylinder body. Use edible oil to clean the cylinder.



						The drawing of the storage tank	AMC SYSTEM TECHNOLOGY USA,INC.		
									Ratio
					Mark				1:2
							TBWG100、1000		

TEMPERATURE CONTROLLER

INSTRUCTION MANUAL

Thank you for purchasing this our AMC product, This manual primarily describes precautions required in installing and wiring the temperature controller. Before operating the product, read this manual thoroughly to acquire sufficient knowledge of the product, Keep this manual close at hand and use for reference during operation.

PRODUCT CHARACTERISTIC

Accuracy: $\pm 1.0\% \pm 1$ digit Temperature effect: $0.5\% / ^\circ\text{C}$

Control method: PID or ON/OFF

Output method: Relay type: Resistive load 5A240V AC

Drive SSR type: volt>15V Current>15Ma

Drive triac type: V0>3V T0>40us

Current type: 0~10mA or 4~20mA

Power supply: AC220V $\pm 10\%$ 50/60HZ Power consumption: 4VA max.

Operating temperature: 0 to 50 $^\circ\text{C}$ Storage temperature: -25 to 65 $^\circ\text{C}$

Operating ambient humidity: 35 to 85% RH (non-Condensing)

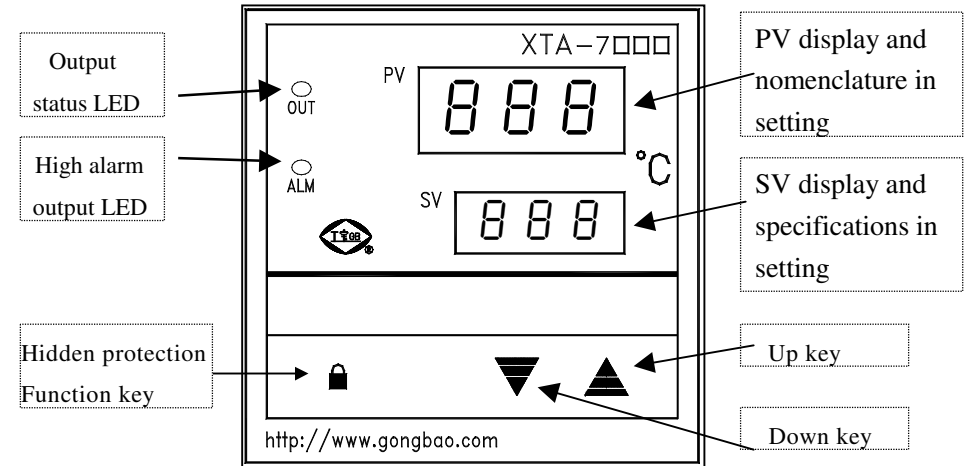
Dimensions and panel cutout

	XT-7000	XTS-7000	XTA-7000	XTD-7000	XTE-7000	XTF-7000	XTG-7000
DIMENSIONS	160x80	80x160	96x96	72x72	48x96	96x48	48x48
CUTOUT	152x76	76x152	96x96	66x66	45x92	92x45	45x45

Display symbol in windows and function

Symbol	Setting function	Setting range	Factory-set condition
5 [input shift value	-20~20 $^\circ\text{C}$	0 $^\circ\text{C}$ or 0.0 $^\circ\text{C}$
AH	alarm temperature	whole span	higher limit
[[Switching differential I	2-20 $^\circ\text{C}$	0.2 $^\circ\text{C}$ or 2 $^\circ\text{C}$
5 u	control temperature II	whole span	higher limit
[c	Switching differential II	2-20 $^\circ\text{C}$	0.2 $^\circ\text{C}$ or 2 $^\circ\text{C}$
P	proportion band	0-40%	5%
I	integral time	0-999 seconds	210 seconds
d	derivative time	0-999 seconds	30 seconds
L [protection switch	on/off	on

Nomenclature and setting method



control temperature setting: up key increases selected digit values; down key decreases selected digit values.

Note: LL underflow range Self-diagnostic

HH overflow range Self-diagnostic

CONNECTIONS

Set data lock function: press "Hidden protection Function key" about 3 seconds, if "PV" windows is display "L [", press "Down key" or "Up key", SV windows is display "on/off", set change enable/disable.

Setting specific point display: press "Hidden protection Function key" if "PV" windows is display "5 [", press "Down key" or "Up key", SV windows is display the needed for specific point measurement.

Note: the '0' display on the "PV" Display windows widow indicates stare itinerant value.

Control temperature setting: "up key" increases selected digit values; down key decreases selected digit values.

If "PV" windows is display "[c" or "P", "I", "d", same "5 [" press "Down key" or "Up key".