MICRO MATIC GROUP

MICRO MATIC

Micro Matic Power Pack Service & Specification Manual

Manufactured by BVL Controls Ltd.

Northeast Region
747 North Fenwick Street
Allentown, PA 18103
1 (800) 345-3020

Southeast Region
321 Marianne Street
Brooksville, FL 34601
1 (888) 233-7827

Central Region
213 North Third Street
Rockford, IL 61107
1 (800) 435-6950

Western Region
19761 Bahama Street
Northridge, CA 91324
1 (800) 367-8852

MICRO MATIC GROUP

MICRO MATIC

MICRO MATIC POWER PACK

Manufactured by BVL Controls Ltd.

AIR COOLED

PP4301 (CWA-3)	1/3 HP	FR22	115 Volts
PP4302 (CWA-2)	1/2 HP	FR22	115 Volts
PP4303 (CWA-34)	3/4 HP	FR22	208/230 Volts
K-PP-4301-EP (MM-033)	1/3 HP	R134a	115 Volts

WATER COOLED

PP4301-WC (CWW-3)	3/4 HP	FR22	115 Volts
PP4302-WC (CWW-2)	1/2 HP	FR22	115 Volts
PP4303-WC (CWW-34)	3/4 HP	FR22	208/230 Volts

MICRO MATIC GROUP

MICRO MATIC

PRODUCT WARRANTY

BVL warrants this product for one (1) full year including parts and labor when unit is returned to our factory (freight is not part of the warranty) or parts only when repair has to be done at another location. Parts will be charged to your account and will be credited upon receipt of the defective part.

In Canada: B.V.L. Controls Ltd.
940 Michelin
Laval, Quebec H7L 5C1

In U.S.A.: Restaurant Service of America
37 Shuman Avenue
Stoughton, MA 020272

MICRO MATIC GROUP

MICRO MATIC

DESCRIPTION

Cooling distance:

K-PP4301-EP	**UP TO 75'** of cooling line
PP4301 and PP4301-WC	**UP TO 125'** of cooling line
PP4302 and PP4302-WC	**UP TO 250'** of cooling line
PP4303 and PP4303-WC	**UP TO 350'** of cooling line

Current draw per unit:

	K-PP4301-EP	PP4301/ PP4301-WC	PP4302/ PP4302-WC	PP4303/ PP4303-WC
Voltage	115	115	115	208/230
Start up	9.5A	9.8A	10.6A	7.5A
Running	7.2A	7.1A	7.9A	5.3A
Refrigerant	R134a	R-22	R-22	R-22
Charge	10 oz.	16 oz.	21 oz.	36 oz.
Pressure	18 (low)	43 (low)	43 (low)	43 (low)
	150 (high)	220 (high)	220 (high)	220 (high)
Dimensions (inches)*	H: 13.0	H: 28.5	H: 28.5	H: 29.5
	W: 23.5	W: 16.75	W: 16.75	W: 18
	D: 22.0	D: 26.5	D: 26.5	D: 26.5
Weight	70 lbs.	106 lbs.	113 lbs.	134 lbs.

** Dimensions include pump and motor*

Tank capacity	4 gal.	12 gal.	12 gal.	12 gal.
Styrofoam Insulation	1"	1"	1"	1"

Model MM-033 ***Procon*** pump with capacity of 50 GPH gravity fed to insure longer pump life.

All other models: Gear pump with capacity of 100 GPH gravity fed to insure longer pump life.

MICRO MATIC GROUP

MICRO MATIC

OPERATION

PP4301, PP4302, PP4303, PP4301-WC, PP4302-WC and PP4303-WC

1. Connection:

   a) Connect one line from isolated trunk line to the pump outlet.

   b) Connect second circulation line to the inlet of the tub.

2. Filling unit with glycol

   a) Remove top deck from the unit.

   b) Fill the bath with ***Micro Matic Polar Flo*** glycol solution (***mixed 2 ½ parts water to 1 part glycol***) solution up to 2" from the return tubing.

   c) Replace top deck unit into the bath.

   d) Make sure all re-circulation lines are properly connected and turn the pump motor on by plugging into the top deck.

      Liquid level will drop until circulation line is full

   e) Remove orange refilling cap, fill with water up to return line (approximately 1" from the cover).

   f) Temperature will drop to 30°F on thermostat.

      Note: Temperature is set at 30°F from the factory.

To change temperature, press menu until the temperature is blinking. Set the desired temperature and press menu to set.

MICRO MATIC GROUP

MICRO MATIC

OPERATION

K-PP4301-EP

1. Connection:

   a) Connect one line from isolated trunk line to the pump outlet.

   b) Connect second circulation line to the inlet of the tub.

2. Filling unit with glycol

   a) Remove top cover from the unit.

   b) Fill the bath with ***Micro Matic Polar Flo*** glycol solution (***mixed 2 ½ parts water to 1 part glycol***) solution up to overflow outlet..

   c) Make sure all re-circulation lines are properly connected and turn the pump motor on.

   Liquid level will drop until circulation line is full

   d) Refill with water up to overflow outlet (approximately 1" from the top).

   e) Temperature will drop slowly to 30°F on outlet temperature gauge.

   Note: Temperature is set at 30°F from the factory.

   f) Temperature will drop slowly to 34°F on inlet temperature gauge.

   g) Temperature in return line (inlet gauge) should be no more than 3° or 4° more than outlet gauge, if installation was done properly and quality trunk line is used. If a trunk housing is inside a PVC chase where there is water present, it will cause large temperature differentials between the gauges.

   h) Replace top cover.

MICRO MATIC GROUP

MICRO MATIC

MAINTENANCE

Keep liquid level constant in glycol reservoir.

1. Check liquid monthly

   a) If level is low, fill with water.

   b) If ice build up, remove one gallon of water and replace with pure ***Micro Matic Polar Flo*** glycol.

2. Keep condensing unit free of foreign matter and clean every six (6) months.

MICRO MATIC GROUP

MICRO MATIC

TROUBLESHOOTING

Trouble	Cause	Solution
1. Excessive foam	A. Warm walk-in cooler	*A. Adjust cooler temperature to 34° to 36°F (use quality thermometer)*
	B. Check applied pressure to barrel	*B. Adjust setting on regulator for proper pressure*
	C. Check equipment	*C. Check the physical equipment from keg to faucet*
	D. Warm product lines	*D. Refer to 5*
2. Compressor does not start (no hum), but the fan motor runs.	A. Compressor relay or capacitor malfunction	*A. Replace compressor relay, relay or capacitor.*
	B. Inadequate voltage	*B. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage.*
	C. Compressor failure	*C. Replace compressor.*
3. Compressor starts and continues to run until freeze up and will not cut off.	A. Thermostat control failure	*A. Replace thermostat*
	B. Freon leak	*B. Repair leak and recharge*
4. Compressor does not run but hums.	A. Inadequate voltage	*A. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage*
	B. Starting relay malfunction	*B. Replace starting relay* *Be sure to use correct relay. Failure to use correct relay will cause compressor failure.*
	C. Compressor malfunction	*C. Replace compressor*

MICRO MATIC GROUP

MICRO MATIC

Trouble	Cause	Solution
5. Warm beer	A. Defective Pump (check motor also)	*A. Check return line in reservoir for liquid flow. Replace pump*
	B. Defective motor (check pump also)	*B. Replace motor*
	C. Refrigeration unit not running	*C. Refer to 2*
	D. Conduit lines located in overheated area	*D. Remove from any hot water pipes or kitchen area with stove or glass washer.*
	E. Conduit lines flooded in PVC chase.	*E. Remove lines from PVC, thoroughly dry PVC and repair or replace conduit as needed.*
	F. Uninsulated or poorly insulated lines	*F. All lines should be fully insulated from cooler into dispenser. Includes glycol lines from power pack into cooler.*
	G. Thermostat	*G. Adjust temperature to colder setting.*
	H. Condenser fan motor not working	*H. Replace condenser fan motor.*
	I. Freon leak	*I. Repair leak and recharge.*
	J. Dirty condenser	*J. Clean the condenser*
	K. Condensation inside conduit insulation (may be caused from cleaning lines)	*K. Check trunk housing in areas for drooping or low spots, split insulation approximately 5" and separate. Allow any water to drain, then air dry, the seal closed.*
	L. Warm walk in cooler	*L. Check temperature of walk-in cooler-liquid temperature, set cooler at 34° to 36°.*

MICRO MATIC GROUP

MICRO MATIC

Electronic Temperature Control with Display

Changing Temperature Units

Press the Up and Down buttons simultaneously to toggle between ° ***F*** and ° ***C***.

Note: The Keypad Lock jumper must be in the unlocked position (installed) before adjusting the control. If the keypad is locked, pressing buttons has no effect on the control.

Setting the Setpoint

before setting the setpoint, be sure the control is set to the temperature units you want to use, Celsius or Fahrenheit.

To view and adjust the setpoint, use the following method:

1. Press and hold the ***Menu*** button for about two (2) seconds until the display changes to flashing ***SP***.

   Note: If no entries are made for thirty (30) seconds, the control reverts to the temperature display.

2. Press the ***Menu*** button again. The current setpoint is displayed.

3. Press the ***Up*** or ***Down*** button to adjust the setpoint temperature.

4. Press the ***Menu*** button to save. The display then returns to the sensor temperature.

   Note: If the Menu button is not pressed after changing the setpoint, the control reverts to the setpoint value previously programmed into the A419.

Function Ranges and Settings

Function		Range	Factory Setting
SP	Setpoint	-30 to 212° F (-34 to 100° C)	30
dIF	Differential	1 to 30° (F or C)	5
ASd	Anti-short Cycle Delay	0 to 12 minutes	1
OFS	Temperature Offset	0 to 50° (F or C)	0
SF	Sensor Failure Operation	0 = output off 1 = output on	1

Note: ***Operation at Extremes****: If the combination of setpoint plus or minus the differential falls outside the temperature range (-30° F to 212° F [-34° C to 100° C]), the A419 operates as follows:*

Cooling/Cut-in*: If the control is operating in Cooling/Cut-in mode and setpoint minus differential is less than -30° F, the control switches on at setpoint and off when the temperature drops below -30° F (-34° C).*

Heating/Cut-in*: If the control is operating in Heating/Cut-in mode and setpoint plus differential is greater than 212° F (100° C), the control switches on at setpoint and off when the temperature exceeds 212° F (100° C).*

Cooling/Cut-out*: If the control is operating in Cooling/Cut-out mode and setpoint plus differential is greater than 212° F (100° C), the control switches on when the temperature exceeds 212° F (100° C) and off at setpoint.*

Heating/Cut-out*: If the control is operating in Heating/Cut-out mode and setpoint minus differential is less than -30° F (-34° C), the control switches on when the temperature drops below -30° F (-34° C) and off at setpoint.*

Setting Other Functions

To set the Differential (dIF), Anti-Short Cycle Delay (ASd), Temperature Offset (OFS), or Sensor Failure (SF) operation, use the following method:

Order of the Functions

1. Press and hold the ***Menu*** button until the display changes to flashing ***SP***. This will take about two (2) seconds.

   NOTE: If no entries are made for thirty (30) seconds while programming is in progress, the control reverts to the temperature display.

2. Press the ***Up*** or ***Down*** button repeatedly until the desired function is displayed.

3. Press the ***Menu*** button to display the function's current value.

4. Press the ***Up*** or ***Down*** button until the desired value is displayed.

5. Press the *Menu* button to save the new value. The display then returns to the sensor temperature.

*NOTE: If you do not press the **Menu** button after setting the new value, the control reverts to the previously programmed value for that function.*

Checkout

Before applying power, make sure installation and wiring connections are according to job specifications. After necessary adjustments and electrical connections have been made, put the system in operation and observe the control for at least three (3) complete cycles before leaving the installation.

Troubleshooting

If the control system does not function properly, verify that the unit is wired, configured and set properly. If the problem persists, use the following procedures to determine the cause of the problem:

1. Check for proper supply voltage to the A419 control.

WARNING: **Risk of Electrical Shock.**
High voltage may be present at electrical terminals and other exposed internal metal surfaces. Avoid contact with all metal surfaces on control when cover is removed.

a) Remove the cover by loosening the four captive cover screws.

b) Use a reliable AC voltmeter to check the voltage between the COM and 120V or 240V terminals on line voltage models and the two 24V terminals on low-voltage models.

c) The voltage must be between 20 and 30 VAC for 24 volt applications, 102 and 132 VAC for 120 volt applications, 177 and 264 VAC for 208/240 volt applications.

If the voltage reading is within the required range, proceed to Step 2.

If the voltage reading is not within the required range, check the power source and input power wires for problems

			Application		Refrigeration Unit											
BVL P/N	Micro Matic P/N	Description	Max Distance to Towers	Max Lift	Compressor HP	Compressor BTU's (approx)	Refrigerant	Volts	Gylcol Bath Capacity	Glycol Included	Pump	Gallons Per Hour (GPH)	Pump Motor HP	Unit Dimensions	Weight
ECO33	PP4301-PL	Pro Line	50'	16'	1/3	2000	R134A	110	4	Yes	Vertical	75	NA	15"H x 19 1/2"W x 19 1/2"D(includes pump)	75
MM-033	PP4301-EP	Economy	75'	32'	1/3	2300	R134A	110	4	Yes	Pressure	48	1/3	13" H x 23 1/2"W x 22"D(includes pump)	106
CWA-3	PP4301	Premium	125'	32'	1/3	2800	R22	110	12	No	Gear	80	1/3	28 1/2" H x 17" W x 27" D	130
CWW-3	PP4301-WC	Premium	150'	32'	1/3	2900	R22	110	12		Gear	80	1/3		
CWA-2	PP4302	Premium	250'	32'	1/2	3800	R22	110	12	No	Gear	80	1/3	28 1/2"H x 17"W x 27"D	150
CWW-2	PP4302-WC	Premium	275'	32'	1/2	5500	R22	110	12		Gear	80	1/3		
CWA-34	PP4303	Premium	350'	32'	3/4	6100	R22	220	12	No	Gear	80	1/3	31"H x 17"W x 27" D	180
CWW-34	PP4303-WC	Premium	375'	32'	3/4	7800	R22	220	12		Gear	80	1/3		