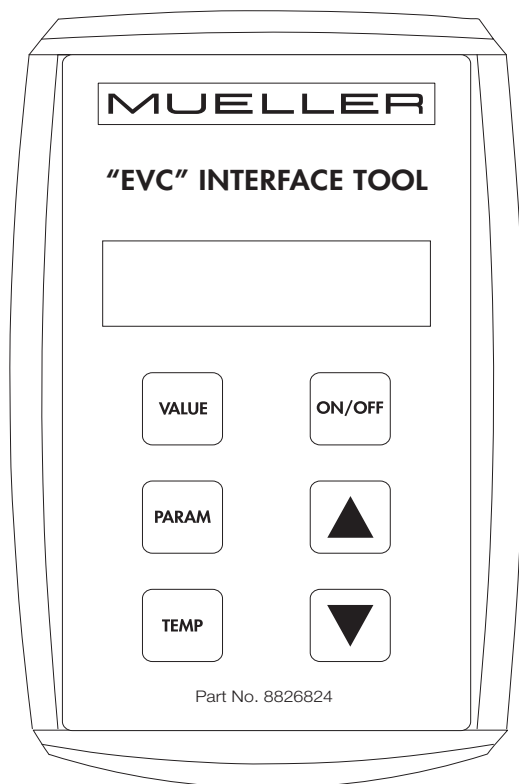


"EVC" INTERFACE TOOL

OPERATION MANUAL



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Original English Version

MUELLER
THE MILK COOLING SYSTEMS SPECIALISTS™

“EVC” INTERFACE TOOL OPERATION MANUAL

Table of Contents

Section 1.0 - Introduction

1.1	General Specifications	.1
1.2	Technical Support	.1
1.3	“EVC” Interface Tool Components	.2
	Figure 1—“EVC” Interface Tool Components	.2

Section 2.0 - Operating Procedures

2.1	Monitoring Cable	.3
2.2	Value Function	.4
2.3	Parameters Function	.5
2.4	Temperature Function	.6
2.5	Digital Pressure-Temperature Chart	.7
2.6	English to Metric Conversion	.8

SECTION 1.0 - INTRODUCTION

1.1 General Specifications

The Mueller® “EVC” interface tool is custom designed to assist in the diagnosis of system problems when used in combination with the Mueller electronic valve control. Custom features of the interface tool include:

- Direct monitoring of “EVC” operation.
- Dual probe digital thermometer.
- Metric and English scale.
- Pressure temperature charts for R-22 and R-507.
- Easy to read two-line digital display with back light.
- Impact resistant rubber cover.

1.2 Technical Support

This manual provides basic operating information to ensure optimum performance of the “EVC” interface tool. Please contact your local Mueller sales and service representative if you require additional technical assistance pertaining to operating procedures.

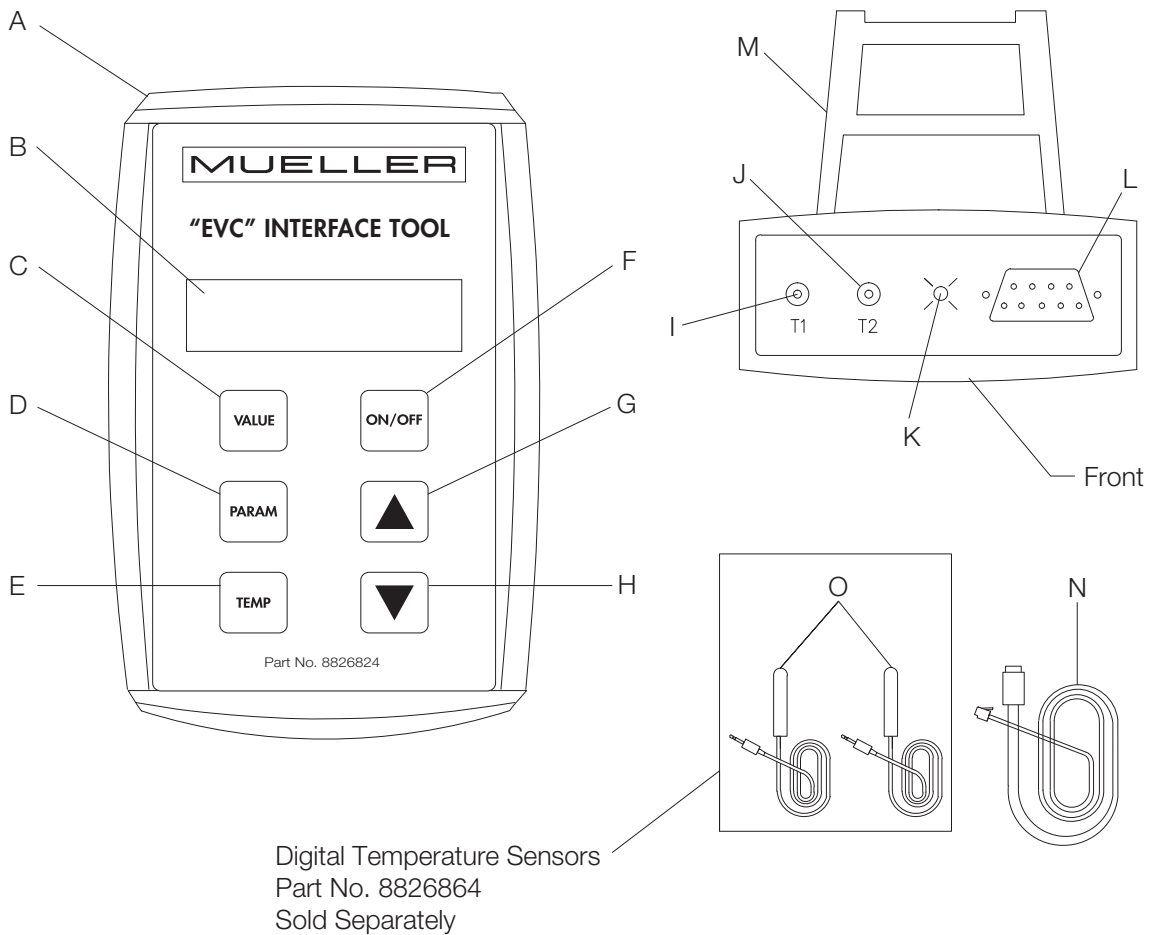
Manufacture’s support is available by contacting:

Paul Mueller Company
Dairy Farm Equipment Service Department
1600 West Phelps Street
Springfield, Missouri 65802
Telephone: (417) 575-9000 • 1-800-MUELLER (683-5537)

1.3 "EVC" Interface Tool Components

- A. Impact resistant rubber cover
- B. Two-line digital display
- C. Value key
- D. Parameters key
- E. Temperature key
- F. On/Off button
- G. Selection key
- H. Selection key
- I. T1 temperature input
- J. T2 temperature input
- K. LED indicator light
- L. Monitoring cable port
- M. Kickstand
- N. Monitoring cable
- O. (Optional) Digital temperature sensor, 60" leads with 3.5mm stereo jack

Figure 1 - "EVC" Interface Tool Components



SECTION 2.0 - OPERATING PROCEDURES

2.1 Monitoring Cable

1. Plug the monitoring cable into the port located on top of the “EVC” interface tool (see Figure 2).
2. While the “EVC” board is de-energized, plug the monitoring cable into the board (see Figure 3).
3. Turn the interface tool on by pressing the ON/OFF button.
4. The screen will display (see Figure 4):

EVC Diag. Tool
Version 1.02



IMPORTANT: Plugging the monitoring cable into the “EVC” board while energized could cause the board to reset.

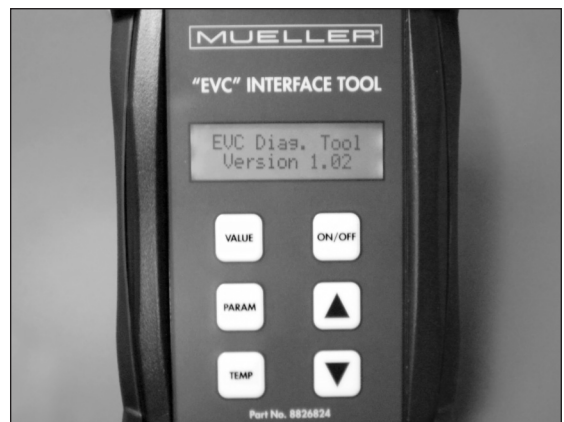
Figure 2 - Port Location



Figure 3 - Monitoring Cable



Figure 4 - Start-up Display



2.2 Value Function

The “EVC” interface tool defaults to the value function and will automatically display the high side pressure after approximately 3 seconds. The screen will display:

Pressure
- - - psig / kPa g

Use the ▼ key to monitor system operation in real time.

▼ Error Code (and one of the following):

No Error
Temp Error
Pressure Error
Config Error
Open Fan Fuse

▼ Control System
Active or Not Active

▼ Fan Drive
- - - %

▼ Valve Position
- - - Steps

▼ Temp Error
- - - . - °F / °C

This reading represents the differential between actual condenser subcooling and condenser subcooling setpoint.

▼ Subcool Temp
- - - . - °F / °C

▼ Saturation Temp
- - - . - °F / °C

▼ Refrig Temp
- - - . - °F / °C

To return to the value function while in another mode, press the VALUE key.

2.3 Parameters Function

The “EVC” interface tool allows the service technician to view the “EVC” board’s factory programmed operating parameters. To access the parameters function, turn the interface tool on by pressing the ON/OFF key. The screen will display:

EVC Diag. Tool
Version 1.02

Once **Pressure** is displayed on the screen, press the PARAM key. The screen will display:

Firmware Version 2.21 / 2.24

Use the ▼ key to view each setting.

▼ Max Fan Drive 95%	▼ Min Fan Drive 35%	▼ D Gain 5 or 2*	▼ I Gain 20 or 15*
▼ Max Fan Pressure 240 psig (1655 kPa g) v2.21/2.24 250 psig (1724 kPa g) v2.24 only*		▼ P Gain 400, 350, or 300*	
▼ Min Fan Pressure 170 psig (1172 kPa g) v2.21/2.24 200 psig (1379 kPa g) v2.24 only*		▼ Target Temp 15.0°F (8.3°C)	
▼ Valve Step Rate 200 S / sec		▼ System Config 1, 2, or 3* v2.21/2.24 17, 18, or 19* v2.24 only*	
▼ Tot Valve Steps 1600 Steps		▼ Anti-Short Cycle Enabled or Disabled*	
▼ Valve 3 1600 Steps		▼ Dig Comp Ctrl Pressure or Temperature*	
▼ Valve 2 250 or 180 Steps*		▼ Compressor Type Digital or Standard*	
▼ Valve 1 500 or 300 Steps*		▼ Operating Mode Subcool	
▼ Time 2 10 sec	▼ Time 1 5 sec	▼ Refrigerant R-507 or R-22*	

***NOTE:** Settings will vary depending on bit-switch configuration. This data is used when contacting the Mueller Dairy Farm Equipment Service Department for system diagnostics. (See “EVC” condensing unit manual for bit-switch configurations.)

2.4 Temperature Function

The “EVC” interface tool is equipped with a dual probe digital thermometer. To utilize this function:

1. Turn the interface tool off by pressing the ON/OFF button.
2. Plug one or both temperature probes into the ports located on top of the interface tool (see Figure 2).
3. Turn the interface tool on by pressing the ON/OFF button. The screen will display (see Figure 4):

EVC Diag. Tool
Version 1.02

4. Once **Pressure** is displayed on the screen (with the monitoring cable plugged in) or **“EVC” Not Responding** (without the monitoring cable) press the TEMP key. The screen will display (see Figures 5 and 6):

T1 = - - - . - °F / °C
T2 = - - - . - °F / °C



IMPORTANT: Installing or removing the temperature probe plugs while the “EVC” interface tool is on will cause an error.

Figure 5 - Pressure Display

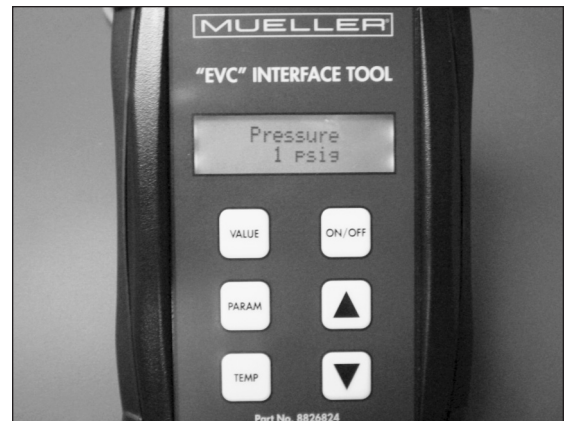
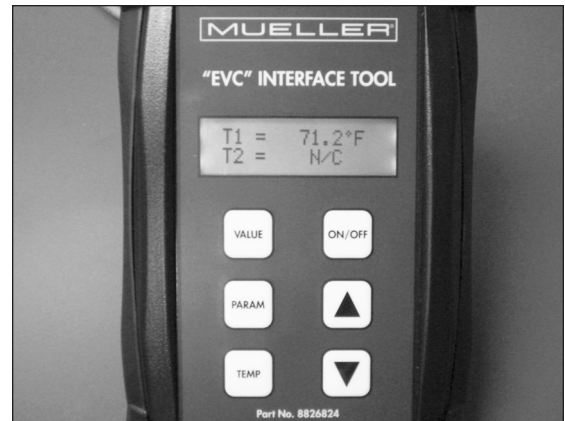


Figure 6 - Temperature Display



2.5 Digital Pressure-Temperature Chart

The “EVC” interface tool is equipped with a digital pressure-temperature conversion chart. This feature allows the service technician to convert refrigerant pressure to saturation temperature with the push of a button. To utilize this feature:

1. Turn the interface tool on by pressing the ON/OFF button. The screen will display (see Figure 4):

EVC Diag. Tool
Version 1.02

2. Once **Pressure** is displayed on the screen (with the monitoring cable plugged in) or **“EVC” Not Responding** (without the monitoring cable), press the TEMP key. The screen will display (see Figures 5 and 6):

T1 = - - - . - °F / °C
T2 = - - - . - °F / °C

3. Press the ▼ or ▲ key. The screen will display (see Figure 7):

Refrigerant
R-507 or R-22

4. Using the ▼ or ▲ key select either R-507 or R-22. Once the chosen refrigerant is displayed on the screen, press the TEMP key. The screen will display:

- - - psig / kPa g
Sat Tmp - - - . - °F / °C

5. Press the ▼ or ▲ key to increase or decrease the psig/kPa G value. The interface tool will automatically convert that value to saturation temperature. The example below is for R-22 (see Figures 8 and 9):

50 psig
Sat Tmp 26.0°F

445 kPa a
Sat Tmp -3.4°C

Figure 7 - Refrigerant Display

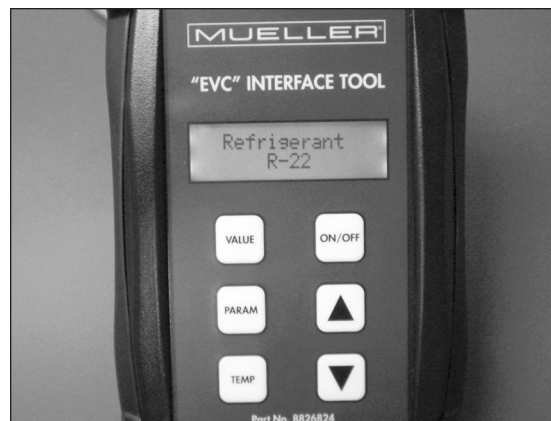


Figure 8 - Pressure-Temperature Display

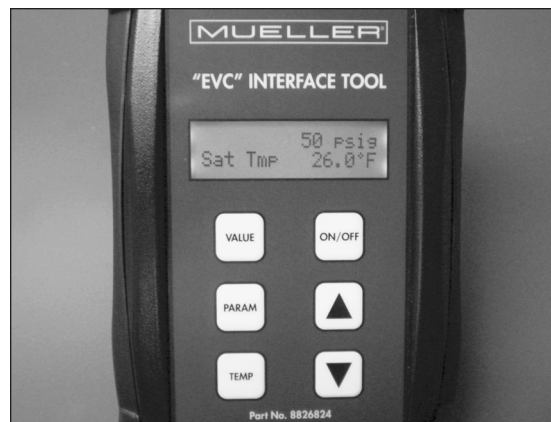
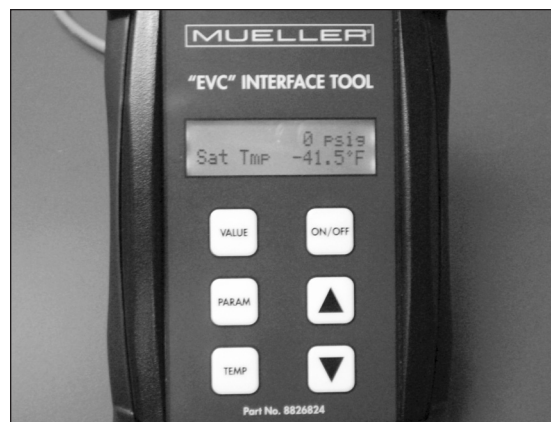


Figure 9 - Pressure-Temperature Display



2.6 English to Metric Conversion

The “EVC” interface tool can display pressure and temperature in English units or metric units.

1. To convert to metric units, Turn the interface tool on by pressing the ON/OFF button. The screen will display (see Figure 4):

```
EVC Diag. Tool  
Version 1.02
```

2. Press the ▼ ▲ keys simultaneously. The screen will briefly display:

```
Now Using  
Metric Units
```

To convert back to English units, repeat steps 1 and 2.

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