
Figure 11

MODEL T PROBE
FOR PRESSURES
TO 450 PSI
(TEFLON® INSULATED)

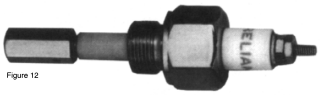


Figure 12

MODEL V PROBE
FOR PRESSURES
TO 1000 PSI
(TEFLON® INSULATED)


Figure 13

MODEL ZG PROBE
FOR PRESSURES
TO 1800 PSI
(ZIRCONIUM OXIDE
INSULATED)

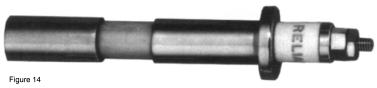


Figure 14

MODEL FG PROBE
FOR PRESSURES
TO 3000 PSI
(ZIRCONIUM OXIDE
INSULATED)

Patented Probes:
U.S. 4,507,521
S.A. 83/664
U.K. 2,127,976
Canada 1,200,283
Plus Others World-Wide

A. Maintenance

Clark-Reliance probes require very little maintenance. We suggest weekly blow downs of the water columns to prevent the build-up of contamination on the probes. A bypass switch can be installed on fuel cutout circuits. This switch will prevent a false trip during blow-down. The blow-down procedure is conducted thoroughly by closing the water valve and opening the drain valve slightly for about 20 seconds. (Refer to Clark-Reliance Form E156-B, "Recommended Blow-Down Practices for Water Columns, Electrolevs, and Water Gages)

If blowing-down of the column does not clean the probes sufficiently, use a stainless steel wire brush or fine emery cloth to clean the stainless steel rod portion of the probe. To clean the insulator, use a soft cloth and a mild detergent.

If probes are removed at any time for replacement or inspection, the sealing gasket must be replaced. Probe replacement kits are furnished with two spare gaskets. The gasket part numbers are as follows:

Probe Type	Gasket part Number
T	WCM-13
V	X175500 (Formerly E10-10)
ZG or ZB	E10-10S
FG or FB	E10-10S

Replacing the probes:

1. Before removing and replacing any probes, make sure that the column is isolated from any pressure and the drain valve is open.
2. After the column has cooled, remove probe to be inspected or replaced.
3. When replacing the probes, coat the threads lightly and uniformly with a high temperature anti-seize type lubricant such as 'Never-Seize', 'MolyCote G' or 'Fel-Pro C'
4. Torque the probes as follows:
   - Type T, V, ZG, or ZB to 40 Ft-Lb. (54 Newton-Meters)
   - Type FG or FB Probes to 90 Ft-Lb. (122 Newton-Meters)

Hot torquing is suggested for all probes. However, the column *must* be isolated from service with the drain valve open *before* re-torquing the probes.The hot torquing procedure will extend probe sealing gasket life and should be performed as follows:

1. Partially open *steam* valve to warm up the column with the drain valve slightly open.
2. Close steam (and water) valves to isolate the column.
3. Open the drain valve completely.
4. Re-torque as instructed above.
5. Return to service by closing the drain valve and opening the steam and water valves.

B. Interwiring

The wires attached to the probes must be of high temperature type in order to withstand the heat. Clark-Reliance suggests the following types of wire:

Maximum Application Pressure (PSI)	Wire Specification
1000	18 Ga. Stranded conductors, Teflon insulation rated at 300 VAC and 200ºC (Belden #83029, Alpha #5857, or equal)
1001 to 3000	18 Ga. Stranded conductors, Teflon treated glass braided insulation rated at 300 VAC and 400ºC, Nickel coated copper conductor U.L #5182 (Radix #MGT-4502 or equal)

The high temperature wires attached to the probes can be routed to a local junction box or directly to the control unit. If a junction box is used, a low cost 18 Ga. Multi-conductor cable may be used to carry the signal to the control unit. We suggest Belden #8467 or equal.

Note: When installing the high temperature wire to the probe, use an open end wrench to prevent the Probe assembly from turning while tightening the wire terminal nut. Use a ¼" wrench for both the compression nut and the terminal nuts on T and V type probes. ZG, ZB, FG, and FB type probes require a ½" wrench for the compression nut and a 3/8" wrench for the terminal nut.

C. Troubleshooting

Troubleshooting is only necessary in the event that a control relay fails to energize or de-energize. In the event that the relay fails to *de-energize* during blow-down, the cause is a failed (short circuited) probe. The probe should be replaced.

In the event that a relay fails to *energize*, the following steps should be taken:

1. Verify probe wiring to the appropriate probes from each relay.
2. Verify water level in the column.
3. Exchange relays to verify function. If the problem moves with the relay, then replace the relay.

Any additional questions should be directed to your local Clark-Reliance Representative, or to the Factory.
Phone: (440) 572-1500 Fax: (440) 238-8828

"Always use only genuine Clark-Reliance replacement parts!"

Clark·Reliance®

Notice to Plant Operators

The use of non-Original Equipment Manufacturer parts (such as glass, gaskets, probes, modules, etc.) will void the Agency Approval (FM, UL, CSA, CRN, ABS, etc.), pressure/temperature rating, and warranty of this equipment. Clark-Reliance requires the use of OEM parts for all repairs on this product in order to maintain plant and personnel safety, and reliable operation.

"PARTS-PLUS"

Critical spare parts for overnight delivery, direct from the manufacturer.

clark-reliance.com/parts


Steel Valve Repair Kit

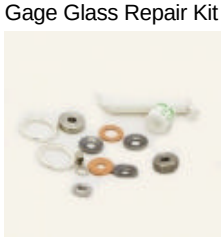

Replacement Probes


Gage Glass Repair Kit


Simpliport Module


Simpliport Packing Nut


Replacement Relays


Probe Repair Kit


Replacement EA100 Ass'y


Replacement Micro-switch


Bronze Valve Repair Kit


Valve Packing


Replacement Floats

16633 Foltz Parkway Strongsville, OH 44149 USA
Phone (440) 572-1500 Fax (440) 238-8828
sales@clark-reliance.com www.clark-reliance.com