VACU-BREAK® SAFETY SWITCHES

DESCRIPTION

I-T-E Safety Switches are available for Heavy-Duty and General-Duty applications in NEMA 1 indoor, NEMA 3R raintight and NEMA 12 industrial-use enclosures. All I-T-E Safety Switches feature Vacu-Break arc control, Clampmatic® action and No-Fail switching. Here is a brief description of these features:

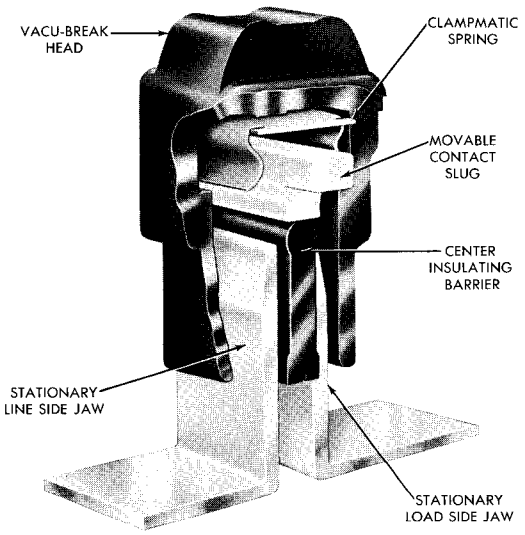

Fig. 1

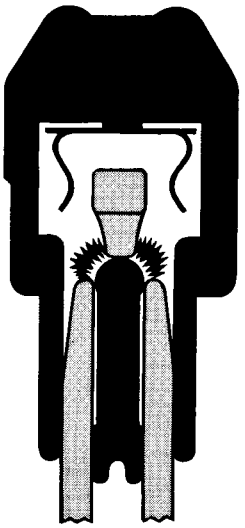

Fig. 2

VACU-BREAK ARC CONTROL

The positive way to discourage destructive arcing in switches is to utilize enclosed arc chambers. This principle underlies the superior performance of I-T-E Vacu-Break Safety Switches where all switching contacts are located in enclosed arc chambers that tend to smother arcs before they can expand and cause damage. The cutaway view in Fig. 1 illustrates the enclosed arc chamber in the Vacu-Break head.

Highly important, also, to effective arc interruption is the double-break action which is essentially the creation of two separate arcs in series at switching contact points rather than a single, heavier arc.

Fig. 2 shows how this double-break action sharply reduces the "break distance"—distance the movable contact slug must travel before the arc is extinguished. The arc is forced into a circular path—line to slug, and slug to load—and cannot sustain itself as long as it could if the disconnect utilized a single-break switching design direct from line to load.

In the Vacu-Break head a magnetic field is present around the series arcs at both switching contacts. The fields are in opposition, so the magnetic forces tend to curve the arcs outward. This has two arc-killing effects: (1) it increases the distance between the line and load contacts by forcing the arc to follow a longer, circular path, and (2) it forces the arc into the heat-absorbing Vacu-Break head material, cooling it more quickly by heat transfer. Therefore, arcs are shorter-lived and contact life is increased.

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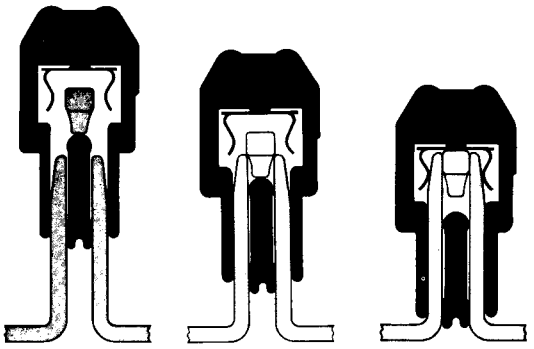
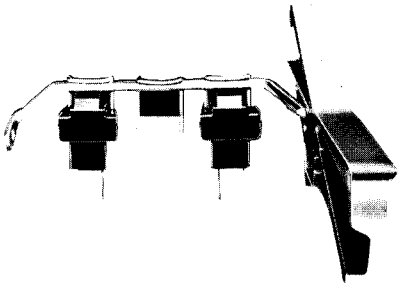


Fig. 1 Fig. 2 Fig. 3

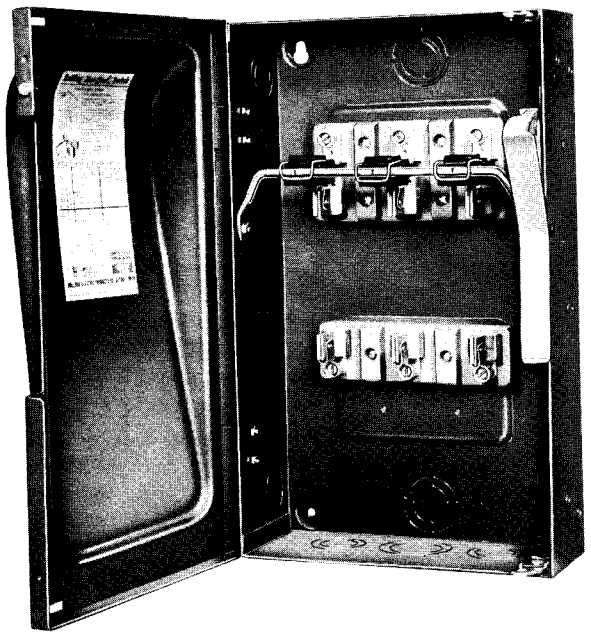
CLAMPMATIC® ACTION

The three drawings at the left show how constant contact is maintained in "ON" position and how a guided break is made when switching to "OFF". As the Vacu-Break head is moved from "OFF" (fig. 1) a movable contact is guided into position between the stationary line and load jaws. The movable contact aligns automatically and makes contact before the head reaches full "ON", (fig. 2). As the head continues to full "ON" the steel spring spreads over the outside edges of the line and load terminal jaws, clamping the movable contact firmly in position (fig. 3). The Clampmatic spring and the stationary contact jaws have beveled edges, allowing the spring to guide itself easily into position over the jaws.



NO-FAIL SWITCHING

This photograph shows how the switch handle is directly connected to the Vacu-Break heads without linkage. Moving the handle, literally yanks each head with the movable contact out of the line and load terminals when switching to "OFF" position.



ALL I-T-E SAFETY SWITCHES ALSO FEATURE:

- Quick-Make, Quick-Break Operation
- Dual Horsepower Rated
- Wire Grips Suitable For Copper Or Aluminum Conductors (100A and Up)
- Front-Operated For Close Ganging (Through 200A)
- Spring-Reinforced, Silver-Finished Copper Fuse Clips
- Silver-Surfaced Current-Carrying Parts
- No Hinged Joints
- Multiple Padlocking Provisions On Handle
- Padlockable Cover Latch
- Ample Rear Wiring Gutter (400A and Up)

PLUS (Heavy-Duty Only)

- Dual Cover Interlock
- Dead-Front Shields Available