



AccuRay[®]

PROCESS CONTROL SYSTEMS

for sheet material
industries

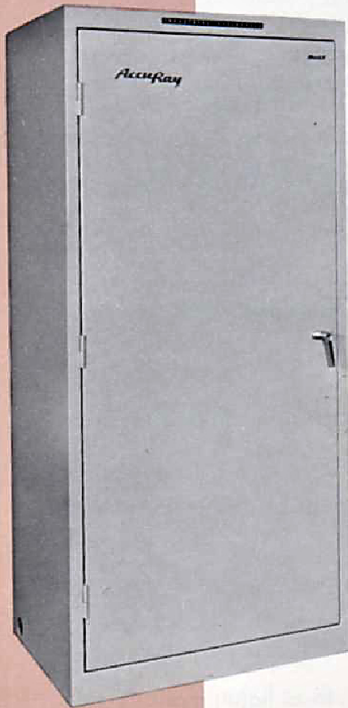
control of calenders, extruders, rolling
mills, paper machines, converters,
coaters, and inspection operations.

Industrial
Nucleonics
CORPORATION / *AccuRay*

650 Ackerman Rd. • Columbus 2, Ohio

AccuRay

Systems Series "E"... Mark V



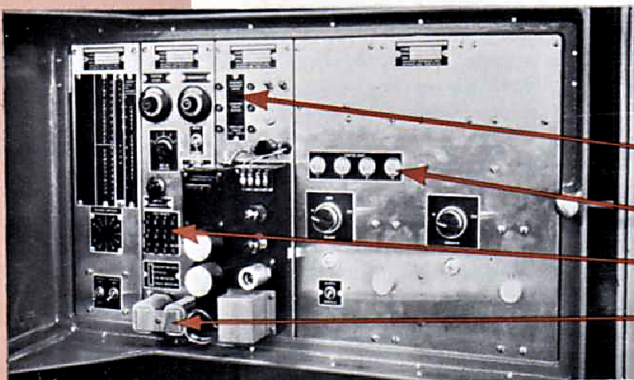
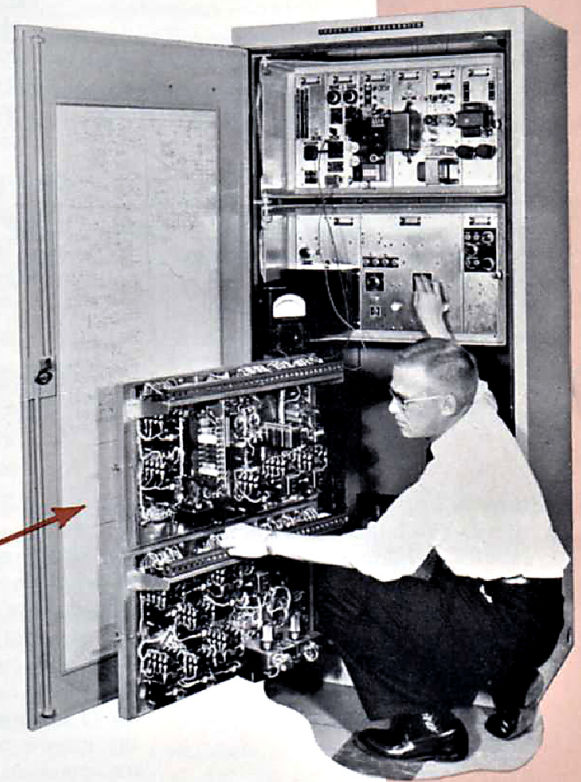
Series "E" . . . Mark V combines the most advanced industrial electronic design features into a system keyed to the needs of manufacturers of high quality, cost or volume products. To such processors these systems mean extreme precision, maximum operating time, and flexibility. To the maintenance man, these systems mean infrequent emergency calls, ready access to all components and rapid clearing of troubles. To management, Series "E" . . . Mark V Systems assure the greatest return per dollar of capital expenditure.

EQUIPMENT CABINETS

Separate cabinets are provided to house all electronic equipment and controls not specifically required in the operating area. This permits location of the electronic equipment in the most desirable environment and saves floor space in an area where space is usually a major consideration. Within the cabinets, separate functional panels are mounted on rugged cast frames which swing out to allow easy access to every component of the system.

CABINET DESIGN FEATURES

Complete system drawing following J.I.C. Standards

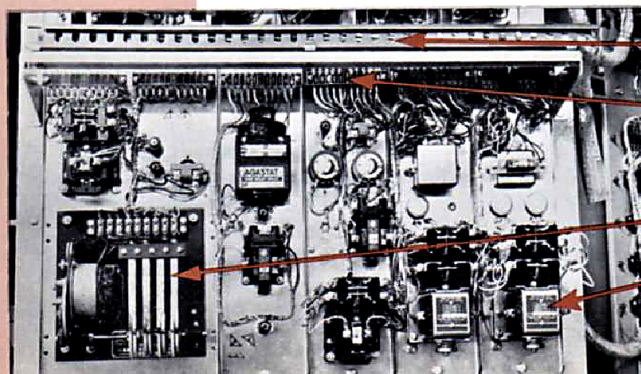


Etched metal tags identify components and functions

Trouble locating lights

Circuit test points

Sealed relays where circuit characteristics dictate



Cable trough carries cables to each panel

Taper pin terminal blocks for rapid panel removal. All terminals permanently identified

Heavy duty industrial timers

Heavy duty contactors in switching circuits

Operator Stations

Design of the Series "E" . . . Mark V System provides for locating, near the process, only that equipment essential to operating personnel. To meet the varying needs of many different processes, two basic types of operator stations are available — the pedestal or wall-mounted station and the floor-mounted station.



PEDESTAL OR WALL-MOUNTED STATION

This type operator station is designed to accommodate those manufacturers with acute floor space problems or where normal operating procedures require such equipment be mounted directly on the process machinery. This type station finds wide use in rolling mill applications and in plastics extrusion operations where space may be of major concern. It accommodates two modular sections for either recorders or operator controls.



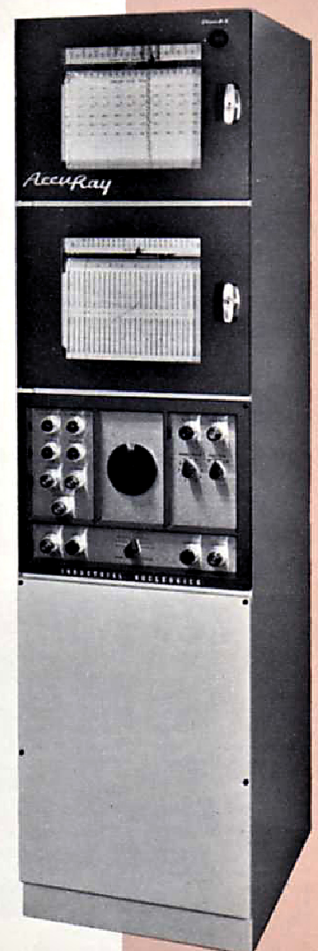
FLOOR-MOUNTED OPERATORS STATION

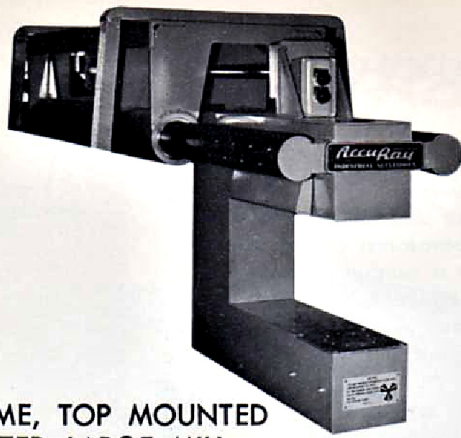
The floor-mounted station is the more versatile and more frequently used of the two types of operator stations. It requires no special support arrangements and can accommodate up to four modular sections of recorders or operating controls in any combination. The station shown to the right and left is typical of the type used in paper mills and extrusion operations where both an X-Y and Average recorder are associated with a single gauge system. It also finds wide use in multi-gauge calender and coater systems.



OPERATOR STATION DESIGN FEATURES

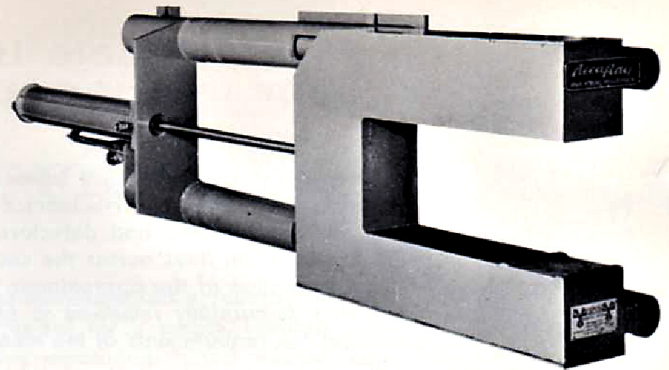
- Thoroughly gasketed construction
- Heavy duty oil-tight lamps and push-buttons
- Combination push-button lamps to conserve space
- Controls and indicators grouped by similar functions
- Swing-down control panel allows easy access for servicing
- Stainless steel panels with black enamel-filled engraved labelling
- Custom scales for all recorders
- Combination lamp pushbuttons use flat surface jewels to differentiate from indicator-only lamps





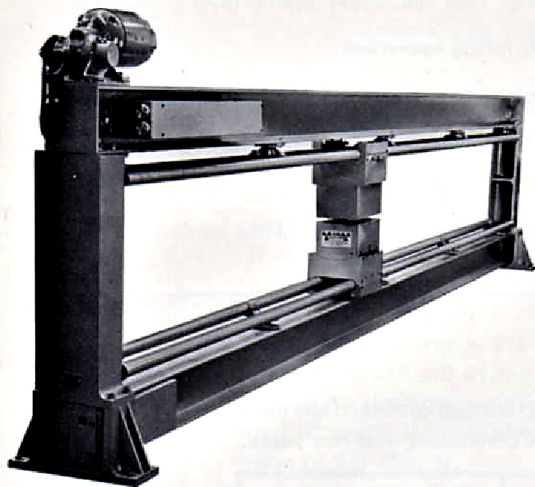
**"U" FRAME, TOP MOUNTED
RUGGEDIZED LARGE MILL**

Designed for use on large, high speed steel rolling mills, this "U" Frame constructed of $\frac{1}{2}$ " thick steel plate, is capable of withstanding the most severe industrial environment. Positioning power is provided by a heavy duty pneumatic cylinder. Available in both Top and Side Mounted construction with 6" and 12" air gaps.



**"U" FRAME, SIDE MOUNTED
RUGGEDIZED MEDIUM MILL**

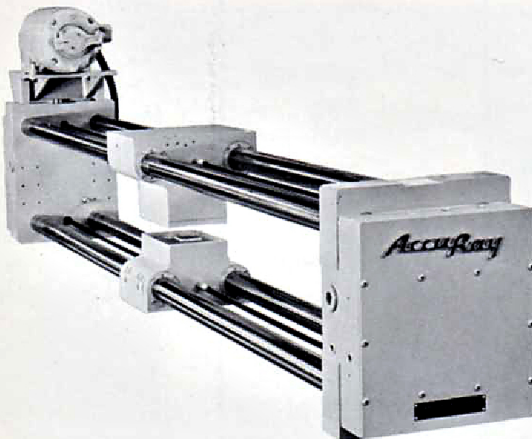
This "U" Frame is designed for rugged environmental conditions usually found on metals rolling mills processing relatively thin materials. Constructed of $\frac{3}{8}$ " thick steel plate, it is positioned by a heavy duty pneumatic cylinder. Available in Side Mounted construction only with 4" and 6" air gaps.



AccuRay MOUNTINGS

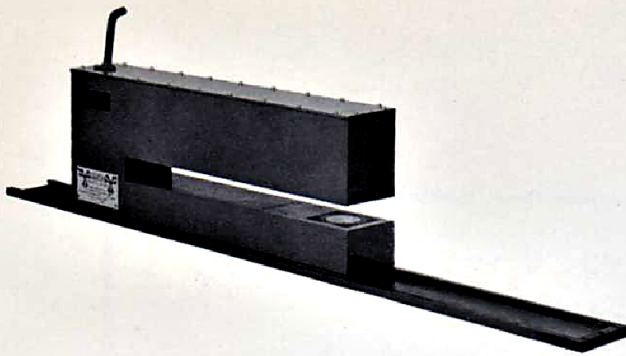
WIDE "O" FRAME

This unit is designed primarily for use on wide, high speed processes such as paper machines. Measuring heads are electrically driven across the sheet on precision ground steel tubes, supported at intervals by 8" wide flange I-beams. Outstanding design features include large 22" open area between upper and lower members to facilitate high speed threading, removable support on one end to aid threading, small off-sheet space required and ability to handle passline angles up to 25° from horizontal.



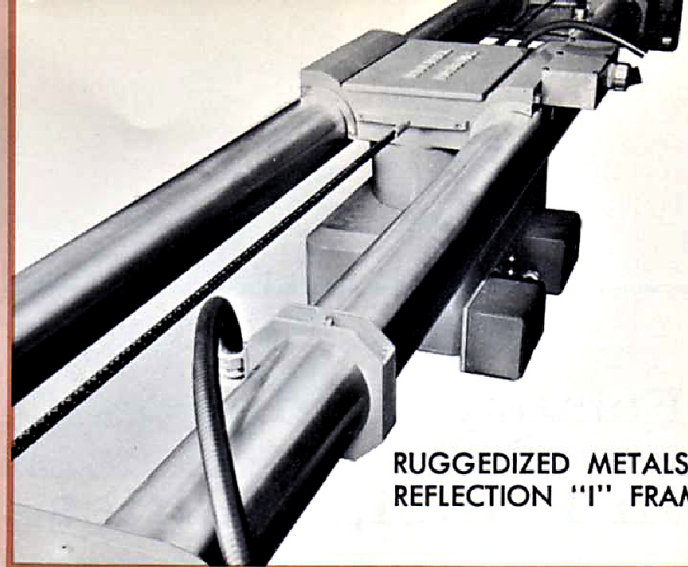
MINIATURE "O" FRAME

The Miniature "O" Frame is designed to conserve space and for use on relatively slow speed processes such as extrusion, coating and certain calendering operations. Measuring heads are electrically driven across the sheet on chrome plated precision ground steel tubes. "O" Frame design requires minimum off-machine space. Unit may be mounted to accommodate any passline angle from horizontal to vertical.



**"U" FRAME, BASE MOUNTED
RUGGEDIZED SMALL MILL**

The Small Mill "U" Frame is designed for use in a variety of applications including small rolling mills and numerous other processes where space is limited and manual positioning is indicated. Constructed of $\frac{3}{8}$ " thick steel plate and designed for positioning by hand, it is available in a variety of air gaps from $\frac{1}{2}$ " to 3".



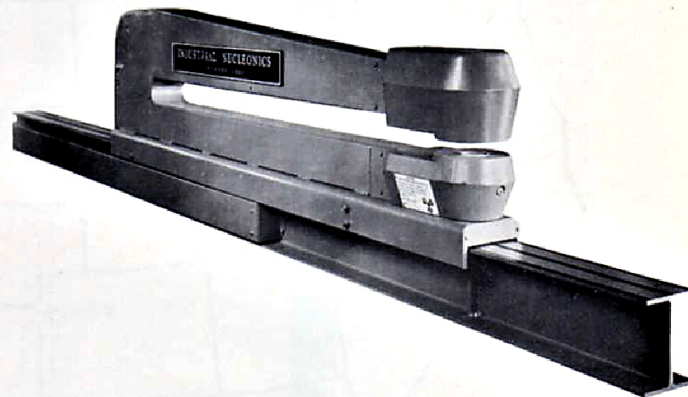
**RUGGEDIZED METALS
REFLECTION "I" FRAME**

The unit pictured above constitutes one-half of a pair of "I" Frames which operate together for measurement of coating weight on top and bottom of galvanized and aluminized strip. The measuring head is designed for scanning the strip continuously in synchronism with its counterpart mounted under the strip. A variable speed electric motor drives both units.

designed specifically for each industry

"U" FRAME, BASE MOUNTED — CAST HEAD

Probably the most versatile of all source-detector structures is the Base Mounted, Cast Head "U" Frame. The "U" Frame traverses on an 8" wide flange I-beam and can be either electrically or hand traversed. Available in throat depths up to 140", it has been used for practically every type application, excluding heavy duty steel rolling mills.



"U" FRAME, TOP MOUNTED — CAST HEAD

Another versatile unit is the Top Mounted, Cast Head "U" Frame. Its rigid construction makes it particularly adaptable for use on per machines trimming up to 170" wide. The I-beam traversing rails may be mounted high enough above the sheet to allow the work area to be completely clear when the "U" frame is electrically retracted off-sheet.

