

INSTRUCTIONS

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ValuTrol INDUSTRIAL DRIVE SYSTEM FULL WAVE REGENERATIVE

INSTALLATION — OPERATION — MAINTENANCE



(MC-5369-5)

These instructions do not purport to cover all details or variations in equipment nor to provide for every possible contingency to be met in connection with installation, operation or maintenance. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purposes, the matter should be referred to General Electric Company.



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INTRODUCTION

This Instruction Book contains helpful suggestions for placing the Valutrol drive equipment in service. It contains general information about drive operation and maintenance.

The operator and maintenance man should have access to a copy of this instruction book.

Additional instructions are included in the supplementary instruction publications and diagrams included in the instruction folder with the equipment.

RECEIVING, HANDLING AND STORAGE

RECEIVING

The equipment should be placed under adequate cover immediately upon receipt as packing cases are not suitable for out-door or unprotected storage. Each shipment should be carefully examined upon arrival and checked with the packing list. Any shortage or damage should be reported promptly to the carrier. If required, assistance may be requested from General Electric Company Speed Variator Products Operation, Erie, Pa. When seeking assistance please use requisition number and model number to identify the equipment. Telephone 814-455-3219

HANDLING

Wall mounted power units can be transported by lift trucks with the forks completely under the base using care that the unit does not tip.

STORAGE

If the equipment is not to be installed immediately, it should be stored in a clean, dry location at ambient temperatures from -20°C (-4°F) to $+55^{\circ}\text{C}$ (131 F). The surrounding air must be free of chemical and electrically conductive or corrosive contaminants.

Precautions should be taken to prevent condensation from forming within the equipment enclosure. If the storage environment exceeds a 15°C (27°F) drop in temperature at 50% humidity over a 4 hour period, a space heater should be installed inside each enclosure to prevent condensation. (A 100 watt lamp can sometimes serve as a substitute source of heat). Higher humidities with smaller temperature changes will also cause condensation.

Condensation occurs when air containing some moisture is cooled below its dew point. The dew point represents saturation of the air, and is the temperature at which the moisture starts to condense into water. It is not a fixed temperature but rather is related to the initial temperature of the air and its relative humidity at that temperature. The amount of moisture that can be held in the air is related to the air temperature. The following examples illustrate some of these relationships.

TABLE I

Relationship Between Air Temperature, Relative Humidity and Dew Point

AIR TEMP $^{\circ}\text{F}$	$^{\circ}\text{C}$	RELATIVE HUMIDITY %	WGT. OF MOISTURE IN 1 LB OF DRY AIR. GRAINS	DEW POINT	
				$^{\circ}\text{F}$	$^{\circ}\text{C}$
104	40	100	345	104	40
104	40	80	270	97	36
104	40	40	130	75	24
104	40	10	32	37	3
50	10	100	54	50	10
50	10	80	42	43	6
50	10	40	21	25	4

In industrial drives, condensation is a possibility in applications where air temperature changes are large and rapid and/or the air is moist. For example, an outdoor crane operating in sunshine on a winter day, which then is shut down and parked in the shade will experience a rapid drop in temperature. This can result in condensation inside the equipment. Adding heat to keep the air temperature above its dew point can prevent condensation.

If storage temperatures below -20°C (-4°F) are likely to be present then auxiliary heat should be added in each enclosure to maintain temperature at or above -20°C . For assistance in heater size selection contact General Electric Company.

When a drive that has been in operation is shut down for either a short or extended period of time, it is recommended the environmental conditions be maintained the same as when in operation. Power, ventilation or heating and air-conditioning (if used) should be left on during the downtime to prevent large changes in temperature and possible moisture condensation.

SAFETY FOR PERSONNEL AND EQUIPMENT

The following paragraphs list some general safety reminders and safety recommendations to be followed when operating or installing this equipment.

WARNING

DENOTES OPERATING PROCEDURES AND PRACTICES THAT MAY RESULT IN PERSONAL INJURY OR LOSS OF LIFE IF NOT CORRECTLY FOLLOWED.

COLOR - BLACK OR WHITE LETTERING ON RED FIELD.

CAUTION

DENOTES OPERATING PROCEDURES AND PRACTICES THAT, IF NOT STRICTLY OBSERVED MAY RESULT IN DAMAGE TO, OR DESTRUCTION OF, THE EQUIPMENT.

