

# CARTRAC<sup>®</sup>-MD

SPINNING TUBE CONVEYOR

MEDIUM-DUTY SYSTEM  
2,500-POUND CAPACITY

In its more than 30 years of service, **CARTRAC-MD** has been utilized in a vast array of material handling operations. These have ranged from the transport of molten glass, to major vehicle and appliance assembly and sub-assembly (as shown in Figure 1), to the gentle transport required for the manufacture of munitions.

## “Why **CARTRAC-MD**?”

Example . . . in the munitions industry the primary problem is the need to transport volatile explosives rapidly, but with an absolute minimum of shock. **CARTRAC-MD** solves this problem with its carriers own ability to control acceleration, deceleration and accurate positioning. This control is accomplished by on-board mechanical design of **CARTRAC-MD** carriers which eliminate the need for a power source (pneumatic or electrical) aboard the carrier.

Automated manufacturing and assembly operations demand the ability to consistently position product precisely to interface with automatic nut drivers, drilling/tapping equipment, heat staking, or label application equipment, as well as to facilitate robotic part placement, adhesive application and inspection. **CARTRAC-MD**'s ergonomic design provides a people-friendly and safe environment where automated operations and manual functions are interspersed.

In many manufacturing and assembly applications, it is advantageous to have an area available to accumulate a quantity of work in process. This is often for cooling or other curing type purposes. A buffer is also useful in the event of a temporary disruption of work at either the up stream or down stream operation. **CARTRAC-MD** carriers provide this capability with its zero pressure accumulation feature (illustrated



Figure 1: Here a refrigerator sub-assembly is automatically off loaded from **CARTRAC-MD** on to a powered roller conveyor.

in Figure 2). Carrier accumulation is accomplished through simple mechanical means. The first carrier in an accumulation zone is stopped by a standard queuing device (Item 1, Figure 2). Each succeeding carrier is decelerated and stopped using an accumulation mechanism attached to the front of each carrier (Item 2, Figure 2). Any number of carriers can accumulate in this fashion. The accumulated carriers are metered out of the accumulation zone by the queuing device, which is the only electrical control device required in a buffer accumulation zone.

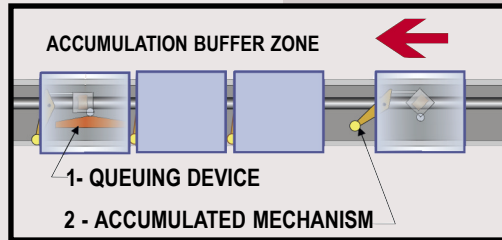


Figure 3: Product to be sterilized is conveyed into an irradiation chamber.



Figure 2 Illustrates the basics of an accumulation buffer zone.

**CARTRAC-MD** systems are particularly well suited for hostile environments such as irradiation chambers (Figure 3), foundries (Figure 4) and for explosives transport where manual operations are not possible or even safe. **CARTRAC-MD** carriers provide the ability to enter these areas and move about independently of other carriers and without external control (except for the spinning tube drive). A computer control system typically oversees and issues instructions to system devices such as queue stations, turntables and transfers, while the carrier motion is controlled by integral mechanical means.

**FEATURES:**

- High Speed Indexing
- Non-Synchronous Carrier Movement
- Smooth Acceleration / Deceleration
- Zero impact Accumulation
- Simplistic Design with Minimal Number of Moving Parts
- Wide Range of Load Capacities
- Modular Construction
- Accurate Stopping Repeatability

In addition, **CARTRAC-MD** systems are modular and can be configured in almost any shape to accommodate building features or process equipment. A variety of ancillary components are available, such as draw bridges which provide access to a closed loop system, cross-over devices for personnel, and automated load/unload mechanisms.

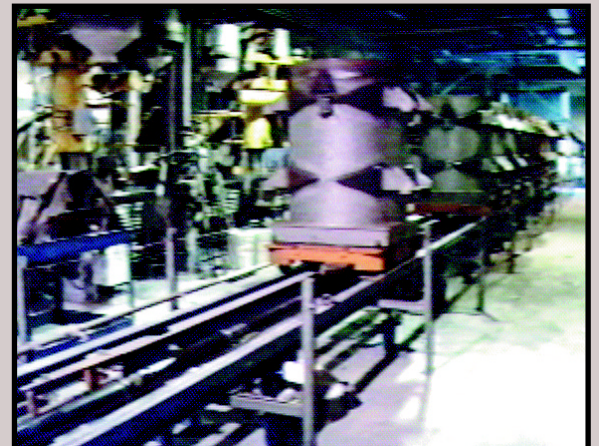


Figure 4: Carriers transporting 2,000 pound flasks in this lost foam foundry casting installation are mechanically slowed down for a specific length of track to provide time for the contents of the flask to cool before the next operation.

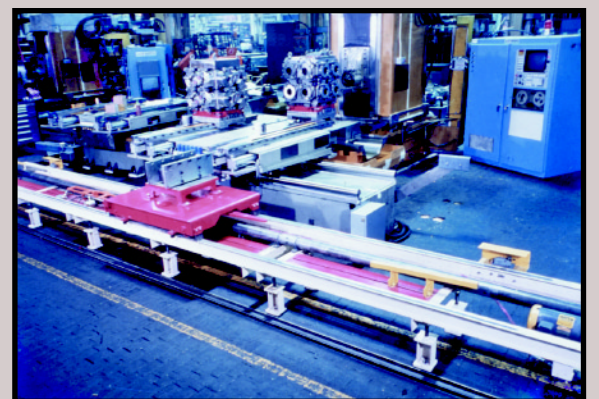


Figure 5: In the operation above a **CARTRAC-MD** carrier interfaces with a CNC machine.

