

## H-ICS-BMCT Bulk Material Control Trainer

### Purpose

The Hampden **Model H-ICS-BMCT** Bulk Material Control Trainer is designed to provide instruction and practice on the measurement and control of dry bulk material handling. The trainer consists of a panel mounted on a mobile A-Frame. The panel contains a single process loop along with the necessary measurement, indicating and recording, and control instrumentation.

### Description

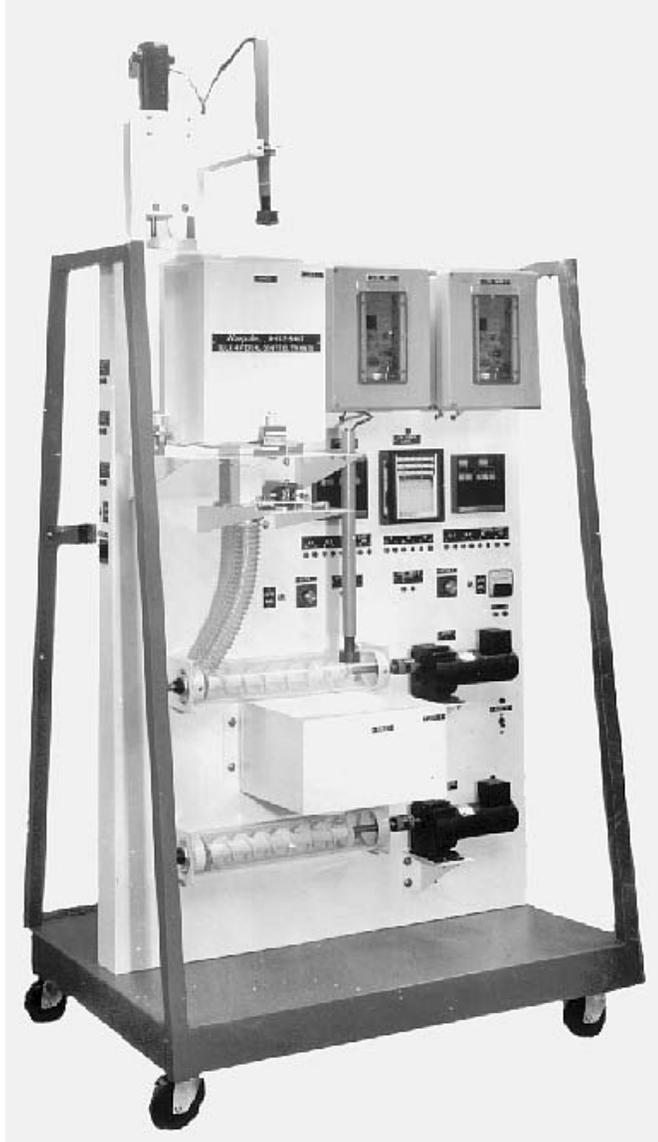
#### The Process

The process loop consists of a bulk storage silo, material handling conveyor, bunker and feed conveyor. Provisions have been included for returning the bulk material back into the bulk storage silo. The bulk storage silo has been fitted with a weight transmitter and an ultrasonic level transmitter. The conveyors are controlled with variable speed motors and the bunker also is equipped with an ultrasonic level transmitter.

The bulk material included with this trainer consists of various sized particles that can be mixed to provide different densities.

#### The Instrumentation

The material feed rate is sensed by an ultrasonic level transmitter and weight sensor and transmitted to a 3-pen recorder and a micro-processor based controller. The controller controls as a proportional plus integral item. The controller has adjustable high alarm, low alarm, set point proportional band, integral rate, alarm on deviation, automatic/manual control, remote or local set point entry, and variable measurement units. Bunker level is sensed by an ultrasonic level meter and transmitted to the controller to control level. The controller controls feeder conveyor feed rate based on material weight and volume. The controller responds to set point changes and density changes.



**H-ICS-BMCT** (Left side exposed)  
Dimensions: 84"H x 48"W x 34"D  
Shipping weight: 700 lbs

All Hampden units are available for operation at any voltage or frequency

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# Instrumentation and Control Systems

Educational Training Equipment for the 21st Century

## Educational Features

This trainer is designed to provide instruction and practice on the measurement and control of dry bulk material handling. The training system uses a dry material as the process medium to simulate coal handling. Materials with different densities are provided for use in the system.

## Simulated Faults

The unit is supplied with 6 switchable faults to simulate malfunctions with component operation. This enables the instructor to evaluate the student's troubleshooting skills.

## Computer Compatibility

The Hampden **H-ICS-BMCT** is equipped with an USB port so the process may be supervised by a host computer as a part of a distributed control scheme.

A computer control program and interface is available from Hampden, **Model H-ICS-X**. Together with the interfacing hardware supplied, this system allows for the operator to control the process from a PC system.

## Input Voltage

This unit operates on 120V AC - 1Ø - 60 Hz.



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