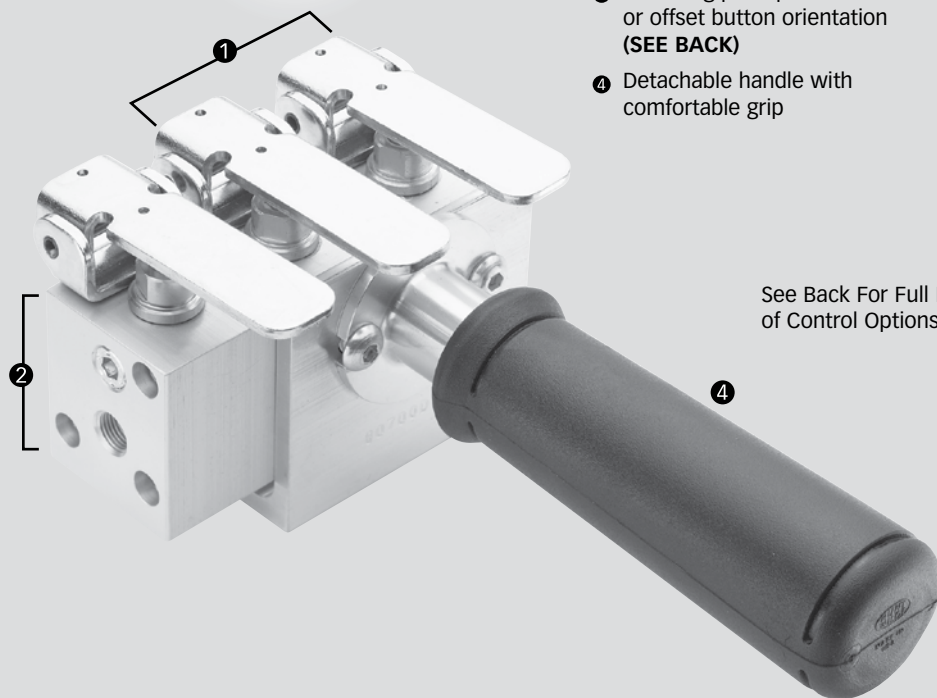
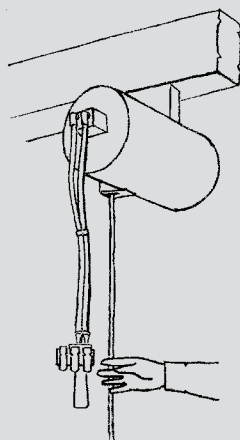




Humphrey's custom pendant control system enables addition of more than two buttons. This eliminates the need to mount a remote function button elsewhere on the equipment.



- ❶ Dual valve station
- ❷ Single valve station
- ❸ Mounting plate permits inline or offset button orientation (SEE BACK)
- ❹ Detachable handle with comfortable grip

See Back For Full Range of Control Options

Pendant Control System

Designed for Maximum Configuration Flexibility with Custom Valve Assembly



MATERIALS HANDLING
SIC:3535

THE CUSTOMER'S PRODUCT

- A manufacturer of hoists, balancer units and multi-axis control arm assemblies utilized a pendant control to perform two main functions (up/down, clamp/unclamp, etc.).
- If they needed to provide additional functions, they had to mount the extra control valves on the unit itself.

THE REQUIREMENTS

- Design a pendant control system that allows multiple functions to be performed with a single handle.
- System must be flexible to permit customization for different equipment.
- Pendant control should be ergonomically designed.
- Buttons must give operator feathering control for precise operation.

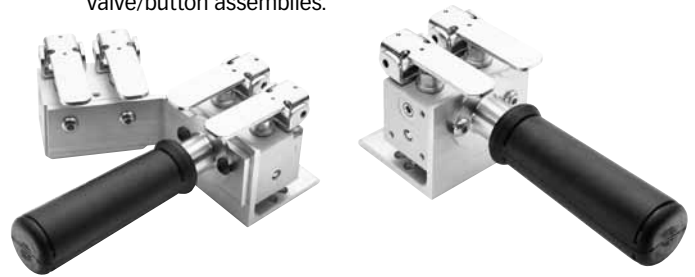
THE HUMPHREY ENGINEERED SOLUTION

- Humphrey used their successful P3148D pendant control valve as the basis for a modular system that would scale to virtually any control requirement.
- The modular pendant control system consists of both single and dual function valve assemblies, mounting brackets, a separate one-piece handle and control button guards.
- The manufacturer can provide a wide range of control options simply by mounting additional single or dual valve button assemblies, and configuring them to their customer's specifications.
- Flexible design offers a range of options.
- Custom lever and guard options possible.

THE SOLUTION

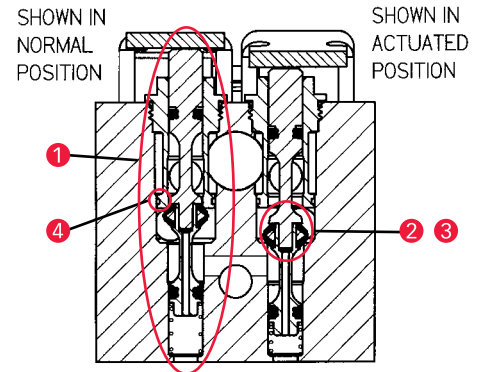
Working on an engineer-to-engineer basis with the customer, the Humphrey Engineered Solutions team explored their requirements and developed prototypes for evaluation. Based on the customer's evaluation, the Engineered Solutions team developed a combination of single and dual valve stations, plus two different types of mounting brackets. This gave the customer the complete freedom to design a pendant control providing all the necessary functions – without having to mount any control valves on the unit itself.

Humphrey D0027E Pendant Control Valve forms the basis for a complete system of solutions, offering a standardized look and uniform action regardless of the number or configuration of the valve/button assemblies.

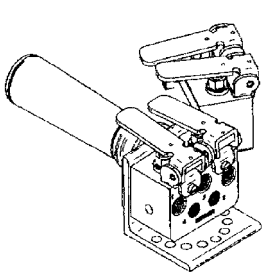


THE PROCESS

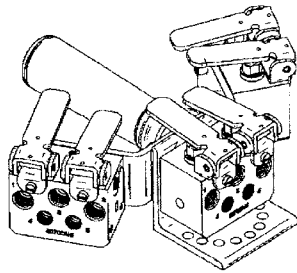
The Engineered Solutions approach is designed to facilitate the vital engineer-to-engineer dialogue that enables Humphrey to fully understand a customer's requirements. To this end, a Humphrey engineer was assigned to the project and was responsible for providing designs and then prototypes. This allowed the customer's engineering staff to concentrate on their core competencies. The prototypes were tested at the customer's facility to confirm that all requirements had been met. Then the prototypes were forwarded to their customers for evaluation. As a result, the new pendant design, with all its enhancements, was accepted.



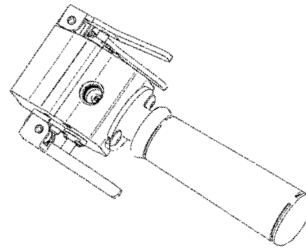
- ① Custom, high-flow insert valves with low actuation force.
- ② Low leak rate to maintain position of suspended object without dropping.
- ③ Field-proven poppet design eliminates sliding seals – no lubrication required.
- ④ Throttle control permits “feathering” (gradual increase in flow) for more precise control.



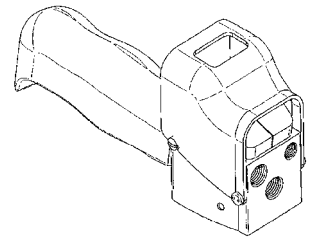
An offset configuration puts the most important controls inline with the user's thumb. The detachable handle permits configuration for left-hand operation.



A six-function array provides complete user control over three functions – three-axis positioning, two-axis positioning with control over the actuator operation, or single axis positioning with multiple actuator control functions.



A variation of the three-function pendant puts one lever underneath the handle. This creates a “trigger,” allowing the user to simultaneously work the top control and the bottom control.



To protect the control levers from being accidentally engaged, Humphrey can supply a custom guard – from a simple wire bale, to a full housing. The full housing is designed to provide ready access, even when the user is wearing gloves. Depending on customer requirements, the guard can be fabricated from metal, with cutouts to provide visual orientation, or in a clear plastic.

Humphrey