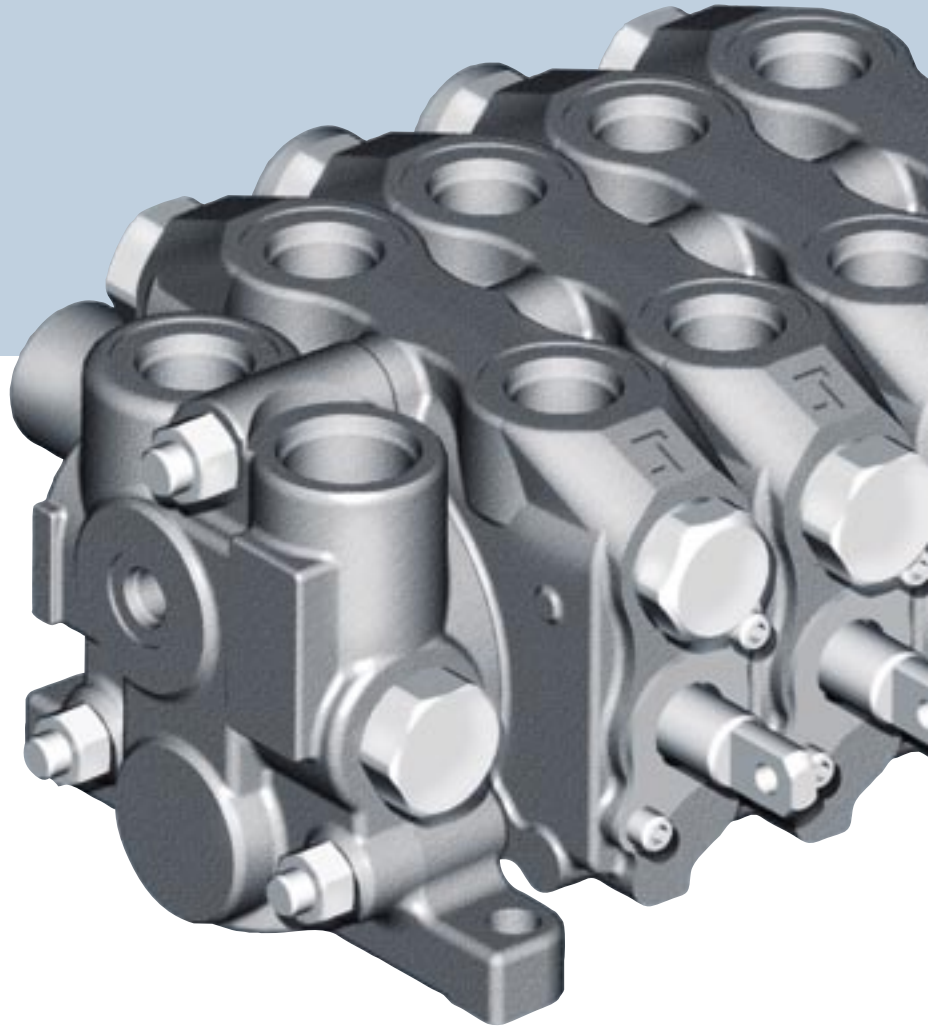


SOLUTIONS

CONTROL

# HYDRAULIC CRANES



HYDRAULIC CRANES

**HUSCO**  
**INTERNATIONAL**  
*control focused - technology driven*



## Valves designed to enable crane performance to reach new levels.

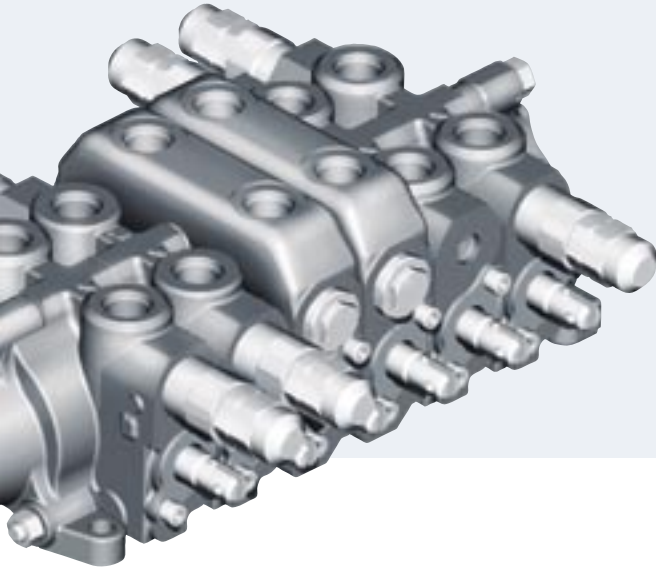
For over 50 years, HUSCO International has been designing and producing some of the most important custom hydraulic and electrohydraulic products in the construction industry. Today you'll find HUSCO products on a variety of premier off-highway equipment all over the world.

Leading the way in the construction market, HUSCO engineers design customized, cost-effective solutions to maximize the efficiency and reliability of hydraulic cranes. We invest in tools and processes that ensure quality designs and reduced development time. And we install and test control solutions at HUSCO facilities.

With manufacturing facilities in North America, Europe and Asia, we're positioned to bring you any product you need, anywhere in the world.



Series	Type	Flow max lpm (gpm)	Pressure rating max bar (psi)	Actuation			Page
				Manual	Pilot	E-H	
<b>Valves</b>							
<b>5000</b>	Open-center	100 (25)	250 (3625)	X	X	X	2
<b>5000CC</b>	PC/LS-CompChek	100 (25)	250 (3625)	X	X	X	3
<b>5000-6000</b>	Open-center	150 (40)	250 (3625)	X	X	X	4
<b>6000</b>	Open-center	150 (40)	275 (4000)	X	X	X	5
<b>5000CC/6000CC</b>	PC/LS-CompChek	180 (48)	250 (3625)	X	X	X	6
<b>6000CC</b>	PC/LS-CompChek	180 (48)	250 (3625)	X	X	X	7
<b>5610</b>	PC/LS-CompChek	180 (48)	300 (4350)	X	X	X	8
<b>7000CC</b>	PC/LS-CompChek	270 (70)	250 (3625)	X	X	X	9
<b>Controllers</b>							
<b>Force Feedback</b>	Electrohydraulic	n/a	n/a	n/a	n/a	n/a	10
<b>HVD-808</b>	8-PWM Driver	n/a	n/a	n/a	n/a	n/a	11
<b>HEC-808</b>	8-PWM Controller	n/a	n/a	n/a	n/a	n/a	12
<b>E406</b>	Electrical Joystick	n/a	n/a	n/a	n/a	n/a	13
<b>PPC</b>	Pilot-Operated Controllers	n/a	n/a	n/a	n/a	n/a	14



## 5000 Open-Center Valve Series

### SPECIFICATIONS:

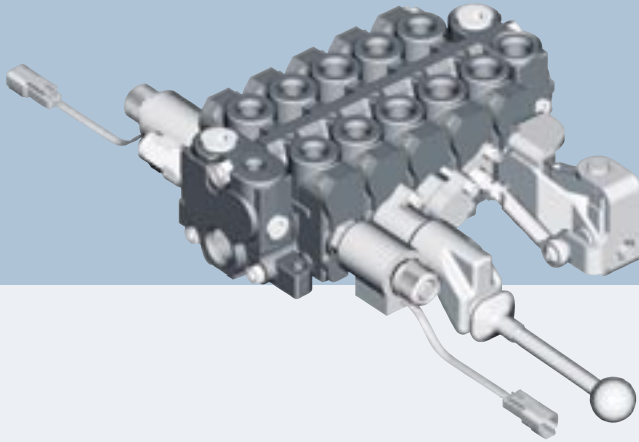
- Flow rate – 100 lpm (25 gpm)
- Max pressure – 250 bar (3,625 psi)
- Configuration – sectional and open-center
- Circuitry – parallel, tandem and series
- Actuation – manual, pilot and electrohydraulic (including Force Feedback)

### OPTIONS:

- Main relief valve and load checks
- Mid-inlet for multi-pump systems
- Work port relief with vented anti-void capability
- Regeneration circuitry
- Integrated low-leak checks
- Priority flow divider for steering
- Mechanical joystick
- Electronic spool locks
- Hall effect sensor to measure spool position
- Microswitches

### ADVANTAGES:

- Compact, cost-effective valve series
- Low spool efforts
- Customized precision metering
- Flexible circuitry in a common package
- Proven design
- Integrated features, such as priority steering, reduce external plumbing



## 5000CC CompChek® Valve Series

### SPECIFICATIONS:

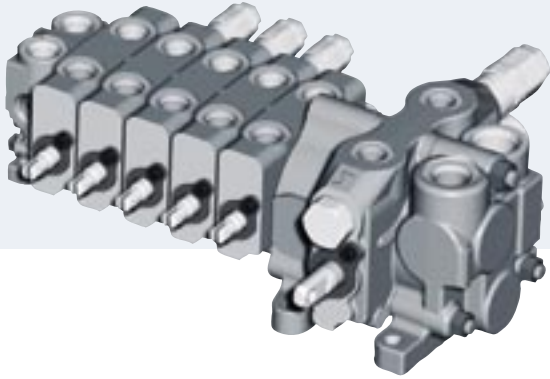
- Flow rate – 100 lpm (25 gpm)
- Max pressure – 250 bar (3,625 psi)
- Configuration – sectional, closed-center and load-sensing
- Circuitry – parallel
- Actuation – manual, pilot and electrohydraulic (including Force Feedback)

### OPTIONS:

- Unloading valve used with fixed displacement pumps
- Load sense relief
- Work port relief with anti-void capability
- Priority flow divider for steering
- Regeneration circuitry
- Mechanical joystick
- Integrated low-leak checks for stabilizers
- Ability to generate pilot supply
- Electronic spool locks
- Hall effect sensor to measure spool position

### ADVANTAGES:

- Function speeds are independent of work port load (pressure compensated)
- Excellent multi-function flow sharing even when demand exceeds pump capacity (post-compensation)
- Compatible with fixed or variable displacement pump systems
- Low spool efforts
- Customized precision metering
- Flexible circuitry in a common package
- Proven design



## 5000/6000 Open-Center Combination Valve

### SPECIFICATIONS:

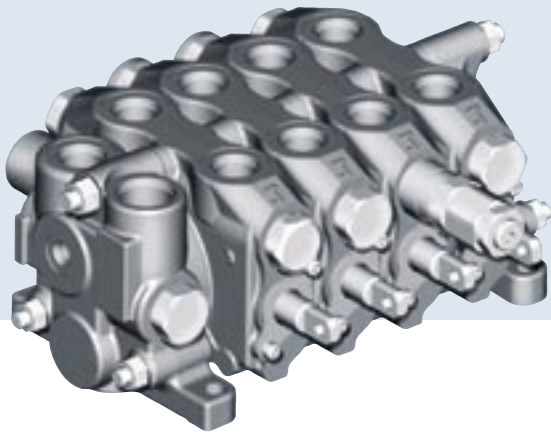
- Flow rate – 150 lpm (40 gpm) (high flow functions)
- Flow rate – 100 lpm (25 gpm) (low flow functions)
- Max pressure – 250 bar (3,625 psi)
- Configuration – sectional, open-center
- Actuation – manual, pilot and electrohydraulic (including Force Feedback)

### OPTIONS:

- Main relief valve and load checks
- Mid-inlet for multi-pump systems
- Work port relief with anti-void capability
- Priority flow divider for steering
- Regeneration circuitry
- Integrated low-leak checks for stabilizers
- Ability to generate pilot supply
- Hall effect sensor to measure spool position

### ADVANTAGES:

- Compact, cost-effective valve series
- Low spool efforts
- Customized precision metering
- Flexible circuitry in a common package
- Proven design
- Integrated features, such as priority steering, reduce external plumbing



## 6000 Open-Center Valve Series

### SPECIFICATIONS:

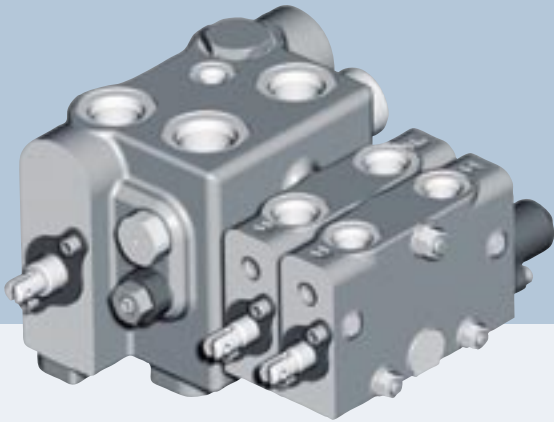
- Flow rate – 150 lpm (40 gpm)
- Max pressure – 275 bar (4,000 psi)
- Configuration – sectional and open-center
- Circuitry – parallel, tandem and series
- Actuation – manual, pilot, air and electrohydraulic

### OPTIONS:

- Main relief valve and load checks
- Work port relief with anti-void capability
- Priority flow divider for steering
- Regeneration circuitry
- Integrated low-leak checks for stabilizers
- Ability to generate pilot supply
- Electronic spool locks

### ADVANTAGES:

- Compact, cost-effective valve series
- Low spool efforts
- Customized precision metering
- Flexible circuitry in a common package
- Proven design
- Integrated features, such as priority steering, reduce external plumbing



## 5000CC/6000CC CompChek® Combination Valve Series

### SPECIFICATIONS:

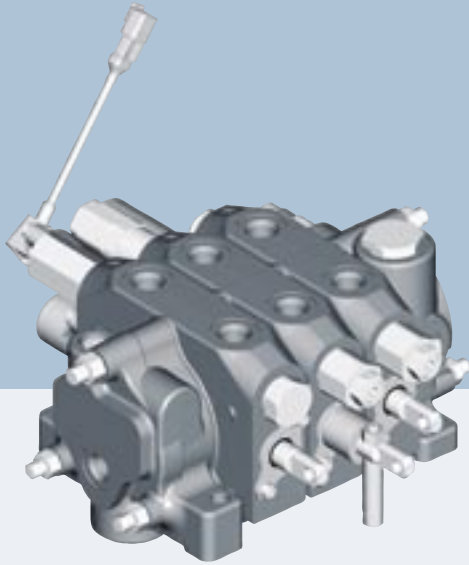
- Flow rate – 180 lpm (48 gpm) (lift function)
- Flow rate – 100 lpm (25 gpm) (all other flow functions)
- Max pressure – 250 bar (3,625 psi)
- Configuration – sectional, closed-center and load sensing
- Circuitry – parallel
- Actuation – manual, pilot and electrohydraulic (including Force Feedback)

### OPTIONS:

- Unloading valve used with fixed displacement pumps
- Mid-inlet for multi-pump systems
- Load sense relief
- Work port reliefs with anti-void capability
- Priority flow divider for steering
- Detent float and regeneration circuitry
- Integrated low-leak checks for stabilizers
- Ability to generate pilot supply
- Electronic spool locks

### ADVANTAGES:

- Function speeds are independent of work port load (pressure compensated)
- Excellent multi-function flow sharing even when demand exceed the pump capacity (post-compensation)
- Compatible with fixed or variable displacement pump systems
- Low spool efforts
- Customized precision metering
- Flexible circuitry in a common package
- Proven design
- Integrated features, such as low-leak checks, reduce external plumbing



## 6000CC CompChek® Valve Series

### SPECIFICATIONS:

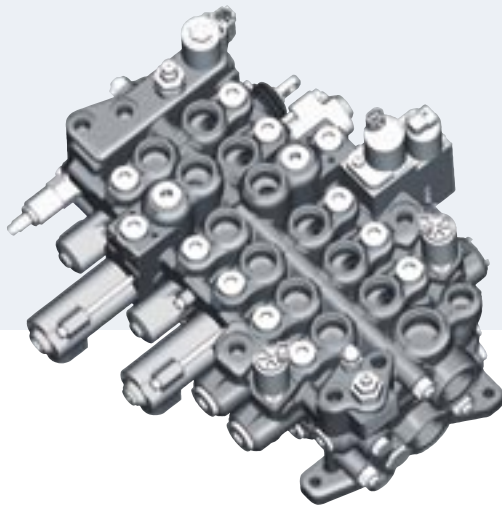
- Flow rate – 180 lpm (48 gpm)
- Max pressure – 250 bar (3,625 psi)
- Configuration – sectional, closed-center and load-sensing
- Circuitry – parallel
- Actuation – manual, pilot and electrohydraulic

### OPTIONS:

- Unloading valve used with fixed displacement pumps
- Load sense relief
- Work port relief with anti-void capability
- Regeneration circuitry
- Integrated low-leak checks for stabilizers
- Ability to generate pilot supply

### ADVANTAGES:

- Function speeds are independent of work port load (pressure compensated)
- Excellent multi-function flow sharing even when demand exceeds pump capacity (post-compensation)
- Compatible with fixed or variable displacement pump systems
- Low spool efforts
- Customized precision metering
- Flexible circuitry in a common package
- Proven design



## 5610 Valve Series

### SPECIFICATIONS:

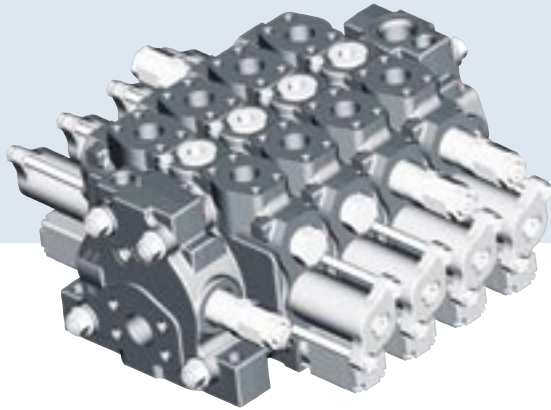
- Flow rate – 180 lpm (45 gpm)
- Max pressure –300 bar (4,350 psi)
- Configuration – sectional, closed-center and load sensing
- Circuitry – parallel
- Actuation – manual, pilot and electrohydraulic (including Force Feedback)

### OPTIONS:

- Unloading valve used with fixed displacement pumps
- Load sense relief
- Work port relief with anti-void capability
- Priority flow divider for steering
- Detent float and regen circuitry
- Manual flow control
- Ability to generate pilot supply

### ADVANTAGES:

- Function speeds are independent of work port load (pressure compensated)
- Excellent multi-function flow sharing even when demand exceeds pump capacity (post-compensation)
- Compatible with fixed or variable displacement pump systems
- Integrated E-H capability reduces leak points and increases performance
- Low heat generation
- Low spool efforts
- Customized precision metering
- Integrated features, such as load-checks, reduce external plumbing



## 7000CC CompChek® Valve Series

### SPECIFICATIONS:

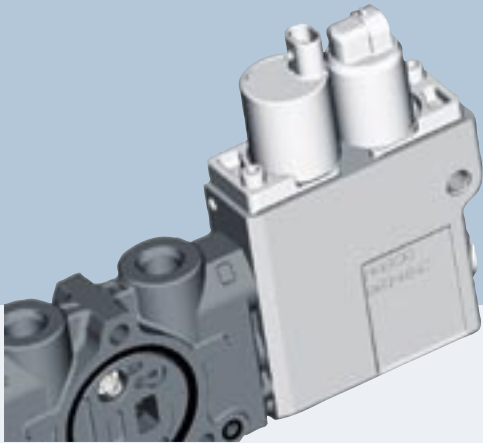
- Flow rate – 270 lpm (70 gpm)
- Max pressure – 250 bar (3,625 psi)
- Configuration – sectional, closed-center and load-sensing
- Circuitry – parallel
- Actuation – manual, pilot and electrohydraulic

### OPTIONS:

- Unloading valve used with a fixed displacement pump
- Load sense relief valve
- Work port relief with anti-void capability
- Regeneration spool circuitry
- SAE 4-bolt flange ports
- Individual pilot pressure cut-off solenoids
- Low-leak check valve
- Pressure reducing valve for pilot supply

### ADVANTAGES:

- Function speeds are independent of work port load (pressure compensated)
- Excellent multi-function flow sharing even when demand exceeds pump capacity (post-compensation)
- Compatible with fixed or variable displacement pump systems
- Low spool efforts
- Customized precision metering
- Cost-effective, high-flow valve series
- Integrated features, such as pilot supply, reduce external plumbing

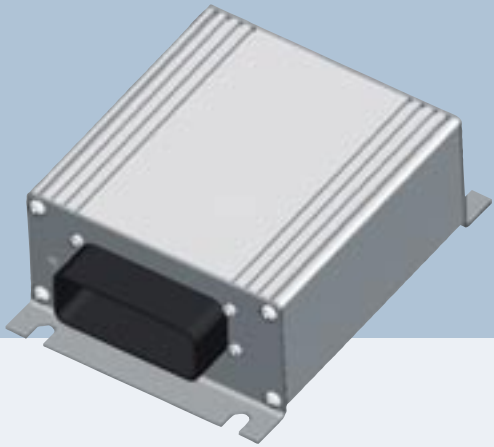


## Force Feedback Electronic Valve Actuation

Force Feedback is an electrohydraulic actuation for hydraulic control valves. This technology incorporates closed-loop mechanical spool positioning which provides high performance in a cost-effective package. Force Feedback can be used on HUSCO open-center or closed-center valve series.

### ADVANTAGES:

- Improved Performance
  - Closed-loop spool positioning
  - Reduced hysteresis
  - Improved valve resolution
  - Dynamic valve response
  - Precision fine metering
- Cost-Effective
  - No additional electronics for closed-loop spool control
  - Requires only 1 PWM signal and one on/off signal per section
  - Does not require a spool position transducer (LVDT)
- Flexible
  - Compatible with majority of HUSCO's valve range
  - Can be used on open-center or closed-center valves
  - Manual overrides can be added without performance reduction
- Durable
  - Proven technology
  - High servo force to position spool
  - Less sensitive to contamination and silting
  - Less spool leakage than traditional E-H



## HVD-808

### Hydraulic Valve Driver

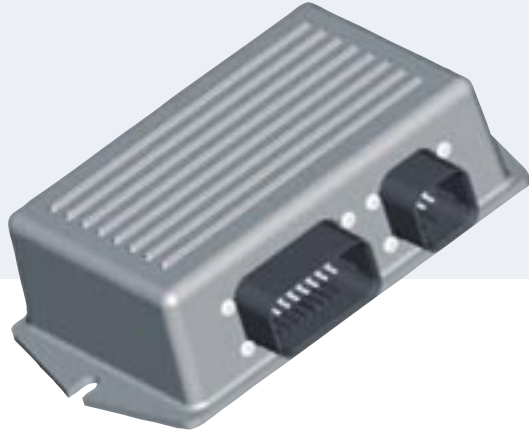
The Hydraulic Valve Driver is a cost-effective, rugged, electronic driver with the capability of driving up to 8 coils. This compact driver can be used in a variety of agricultural, construction, forestry and material handling applications.

#### SPECIFICATIONS:

- IP67 rated
- Rugged aluminum housing
- 8-18 VDC operating voltage
- 6 analog inputs (8-bit resolution)
- 8 current controlled PWM signals with current feedback
- Integrated 5 VDC supply to drive external sensors

#### ADVANTAGES:

- Compact, cost-effective valve series
- Robust, IP67 rated design
- Current feedback will maintain consistency regardless of coil temperature



## HEC-808

### Hydraulic Electronic Controller

#### SPECIFICATIONS:

- CAN 2.0B capable
- 8 bit processor
- IP67 rated
- Rugged aluminum housing
- 8-18VDC operating voltage
- 4 analog inputs (8-bit resolution)
- 3 digital inputs
- 8 current controlled PWM signals with current feedback
- Integrated 5 VDC supply to drive external sensors

#### ADVANTAGES:

- Flexible – CAN capable
- Can be used in combination with CAN joystick to control valve
- Compact, cost-effective valve series
- Robust, IP67 rated design
- Current feedback will maintain consistency regardless of coil temperature
- Designed to optimize valve performance



## E406 Electronic Joystick

### SPECIFICATIONS:

- 2- and 3-axis versions
- CAN 2.0B output according to J1939 standards
- Optional handle configurations
- 73mm below panel
- Operation voltage – 10 VDC to 36 VDC
- 8 software configuration analog/digital inputs/outputs
- 12 inch flying leads (Deutsch is default connector)

### ADVANTAGES

- Robust/ Durable
  - Long life – greater than 5 million cycles
  - Hall effect sensor for long life
  - All steel upper mechanism
  - High temperature range (-40C to 85C)
  - IP67 rated electronics
- Safety Features
  - Redundant sensing (two sensors per axis)
  - EMC protect
    - ESD > 25kV
    - RFI > 100 V/m
- Performance
  - Smooth proportional control
  - Electromagnetic and mechanical detents
  - 8 configuration analog/digital inputs/outputs to drive lights or read a switch



## PPC

### Pilot-Operated Controller Series

- Single-axis pilot-operated controllers
- Dual-axis pilot-operated controllers
- Three-axis pilot operated controllers
- Pilot-operated foot pedals
- 150 bar (2,175 psi) inlet pressure
- 35 bar (0-500 psi) outlet pressure

#### OPTIONS

- 4 mechanical detent positions
- 4 electromagnetic detent positions
- 4 feel detent positions
- Ability to link a dual-axis and single-axis

#### ADVANTAGES

- Low lever efforts
- Compact, cost-effective series
- Compatible with a variety of grips including the HUSCO Integrated Handle Driver
- Unique detent technology
- Designed to optimize valve performance
- Customized pressure curves

# HYDRAULIC CRANES



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