

# V250 SERIES

## DIRECTIONAL CONTROL VALVES



## TAKE CONTROL OF YOUR HYDRAULICS

Take control with Muncie Power Products' V250 directional control valve. The V250 is constructed with high-grade iron castings and nickel-plated or hard chrome spools for use in high-pressure applications and can be configured with many different spool, control and positioner options. The V250 is designed for flow rates up to 75 GPM (280 LPM), and offers superior performance in a compact package. Muncie Power Products takes pride in supplying the highest quality products along with outstanding service and support.



### KEY FEATURES

- High-grade iron castings allow for high-pressure capabilities for the most extreme applications
- Hard chrome and nickel-plated spools resist wear allowing for long life under high pressure conditions
- Tight tolerances and precision machining keep internal spool leakages low
- Internal oil core design allows for higher flow rates and low pressure drops
- High pressure carry over (power beyond) and closed center options available
- Load-checks are standard on all work sections
- Work port relief valves, anti-cavitation valves, combination relief/anti-cavitation valves and pilot-operated relief valves are available for your individual work section protection needs
- Inlet relief valve is standard
- Spools designed for parallel operation
- Versatile design can be configured with different spool, control, positioner, and accessory options
- Work sections are pre-assembled and 100% tested prior to shipping

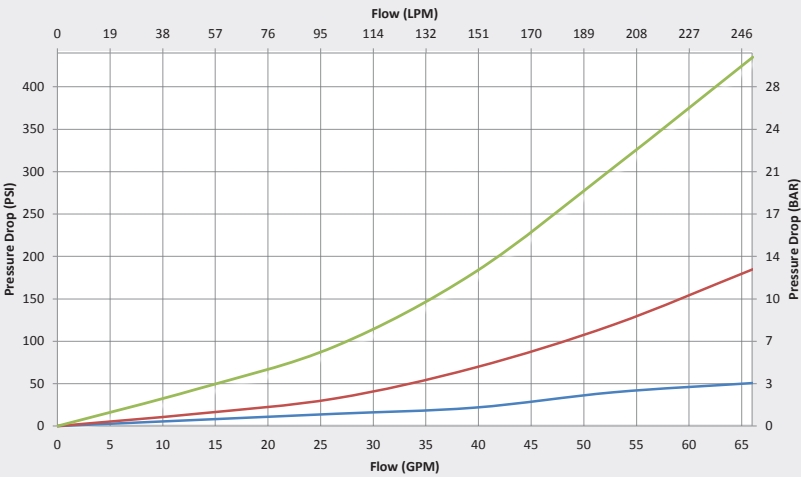
*Additional options available, lead times may apply.*

### TECH SPECS

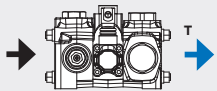
DESIGN TYPE	SECTIONAL
Maximum Work Sections	12
Circuit Types	Open Center Parallel, or Tandem
Flow Capacity	Nominal: 67 GPM (250 LPM) Maximum: 75 GPM (280 LPM)
Maximum Pressure	4,000 PSI (275 BAR)
Maximum Back Pressure	290 PSI (20 BAR)
Recommended Filtration	20/18/15 (ISO 4406:1999)
Oil Viscosity Range	60 to 1360 SUS (10 to 300 cSt)
Oil Temperature Range	-20 to 180°F (-29 to 82°C)
Recommended Oil Temperature	85 to 140°F (30 to 60°C)
Approximate Weights (Standard Options)	Inlet: 17.6 lbs (8kg) Outlet: 17.6 lbs (8kg) Work Section: 19.8 lbs (9kg)

# PRESSURE DROP CURVES

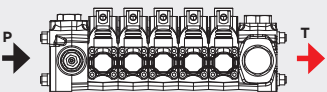
## Open Center, Pressure to Tank (P-T)



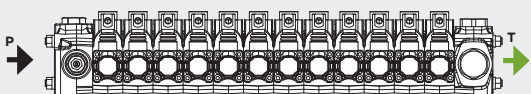
P-T, 1 Work Section



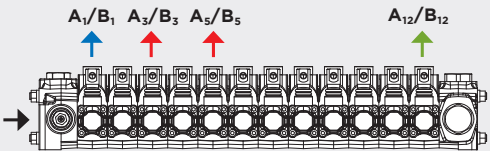
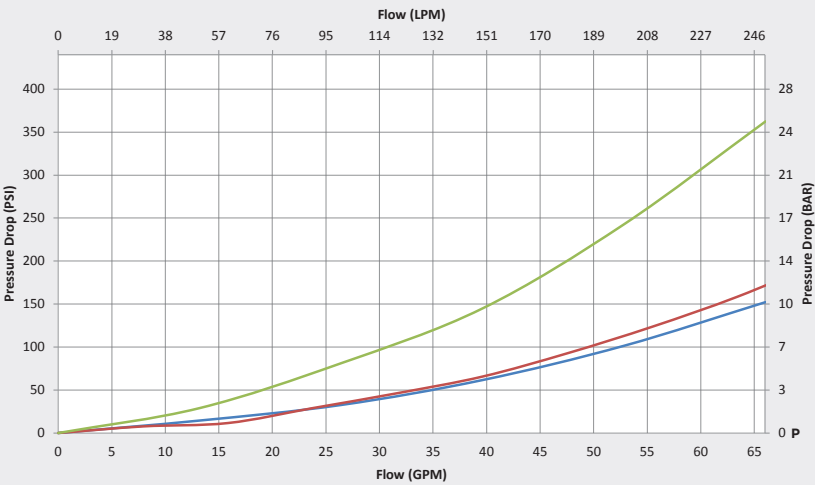
P-T, 5 Work Sections



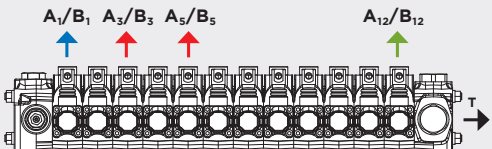
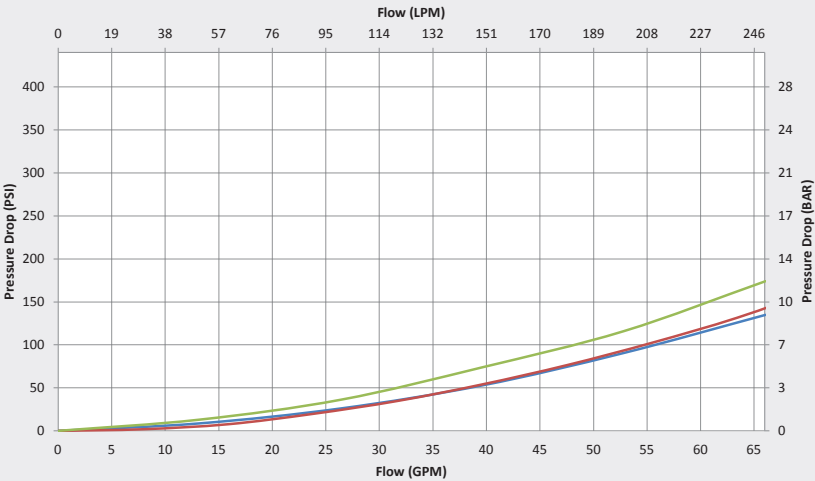
P-T, 12 Work Sections



## Pressure to Work Ports (P-A<sub>X</sub>/B<sub>X</sub>)



## Work Ports to Tank (A<sub>X</sub>/B<sub>X</sub>-T)

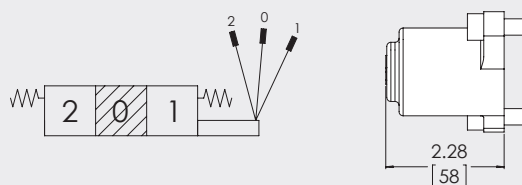




## BACK CAP OPTIONS

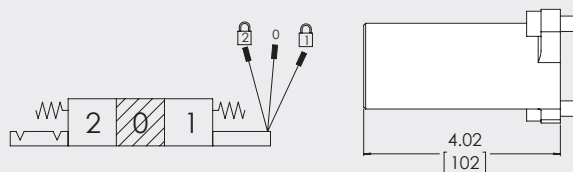
### V250-BC-01

STANDARD 3 POSITION, SPRING RETURN



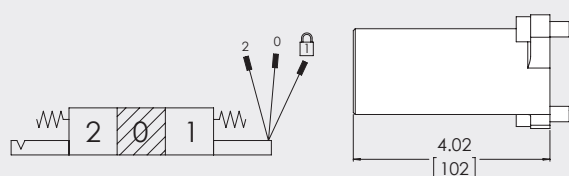
### V250-BC-08

3 POSITION DETENT (DETENT IN "A" AND "B" ONLY, SPRING RETURN TO NEUTRAL)



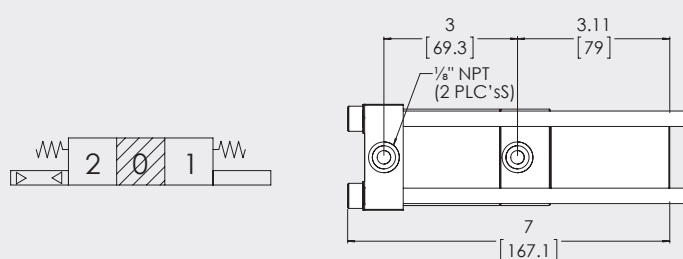
### V250-BC-06

DETENT SPOOL "IN", SPRING SPOOL "OUT"



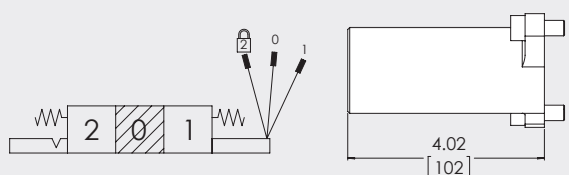
### V250-BC-33

PNEUMATIC SHIFT, ON/OFF OR PROPORTIONAL



### V250-BC-07

DETENT SPOOL "OUT", SPRING SPOOL "IN"

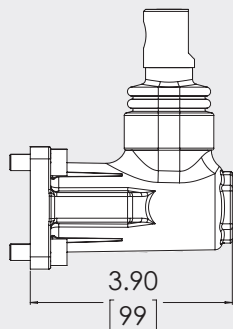


## CONTROL OPTIONS

### V250-CT-AA\*

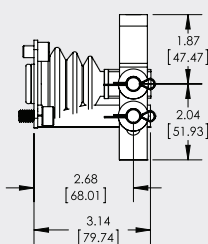
STANDARD LEVER CAP

\*(NOTE: HANDLE LEVER NOT INCLUDED)



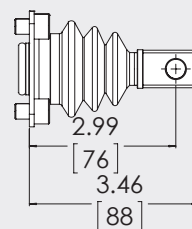
### V250-CT-AT

EXPOSED LEVER CAP INCLUDES  
VLVH-01A-210 HANDLE



### V250-CT-AJ

SPOOL EYE ONLY FOR DIRECT CONNECTION



### Cable Control Kit:

RVC-HK-121

P/N FOR STANDARD HANDLE: VLVH-01D-215

# INLET SECTIONS

## V250-A-GI-7SP-F-150

**V250 Valve Series** \_\_\_\_\_

**Section Type:** \_\_\_\_\_  
A = Inlet

**Port Size & Type:** \_\_\_\_\_  
GI = -16 SAE top and end

**Inlet Options:** \_\_\_\_\_  
7SP = Inlet with pilot operated relief valve (standard)  
8SX = Inlet without relief valve (plugged)

**Relief Valve Setting:**  
150 = 2,175 PSI (Standard)

**Relief Valve Adjustment Range:**  
F = 725 - 4,000 PSI (50 - 275 BAR)

# INLET RELIEF VALVES

## V250-AB-F-150-P

**V250 Valve Series** \_\_\_\_\_

**Section Type:** \_\_\_\_\_  
AB = Use with inlet and mid-section only

**Relief Valve Type:**  
P = Pilot Operated (Standard)

**Relief Valve Setting:**  
150 = 2,175 PSI (Standard)

**Relief Valve Adjustment Range:**  
F = 725 - 3,625 PSI (50 - 250 BAR)

# MID-SECTION

## V250-B-GT-E51-X-XXX

**V250 Valve Series** \_\_\_\_\_

**Section Type:** \_\_\_\_\_  
B = Mid-section

**Port Size & Type:** \_\_\_\_\_  
GT = -20 SAE

**Relief Valve Setting:**  
See setting options in "Inlet Sections"

**Relief Valve Adjustment Range:**  
See RV adjustment range in "Inlet Sections"

**Mid-section Type:**  
E51 = Split flow mid-outlet  
E53 = Combined flow mid-inlet with Relief Valve

# OUTLETS

## V250-C-GT-3DX-XXX

**V250 Valve Series** \_\_\_\_\_

**Section Type:** \_\_\_\_\_  
C = Outlet

**Port Size & Type:** \_\_\_\_\_  
GT = -20 SAE top and end

**Additional Outlet Options:**  
XXX = No options

**Outlet Type:**  
3DX = Standard outlet  
6DX = Outlet with power beyond

# WORK SECTIONS

## V250-AB-AA-01 GI-02-X

**V250 Valve Series:**

**Spool Type:**

- AB = 3P3W, Single acting cylinder, pressure out B port
- AC = 3P4W, double acting cylinder
- AJ = 3P4W, bi-rotational motor

**Control Type:**

- AA = Handle control actuator (handle not included)\*
- AJ = Spool eye only for direct connection
- AT = Exposed Lever Cap
- BG = Low Pressure Hydraulic Control

**Back-cap Positioners & Controls:**

- 00 = No positioner, use with BG control type
- 01 = 3 position, spring return
- 06 = Detent spool IN, spring spool OUT
- 07 = Detent spool OUT, spring spool IN
- 08 = 3 position detent
- 33 = Pneumatic positioning (on/off or proportional)\*\*

**\* Handle kit to be ordered separately**

Standard handle kit P/N: VLVH-01D-215  
Length: 8.25" (215mm)

**\*\* Option "33"** recommended control type is "AA" other options are "AJ" or "AE"

**Special Features:**

X = No option (standard)

**Work Port Options:**

02 = Machined w/steel plugs (standard)

**RV or RV + AC Set @ 1,000 PSI (70 BAR)**  
**adjustable from 870-1,450 PSI (60-100 BAR)**

- 03 = RV on A port, set at 1,000 PSI (70 BAR)
- 04 = RV on B port, set at 1,000 PSI (70 BAR)
- 05 = RV on A & B port, set at 1,000 PSI (70 BAR)
- 08 = RV+AC on A & B port, set at 1,000 PSI (70 BAR)

**RV or RV + AC Set @ 1,800 PSI (125 BAR)**  
**adjustable from 1,465-2,320 PSI (101-160 BAR)**

- 14 = RV on A port, set at 1,800 PSI (125 BAR)
- 15 = RV on B port, set at 1,800 PSI (125 BAR)
- 16 = RV on A & B port, set at 1,800 PSI (125 BAR)
- 19 = RV + AC on A & B port, set at 1,800 PSI (125 BAR)

**Anti-Cavitation Valves**

- 11 = Anti-cav on A port
- 12 = Anti-cav on B port
- 13 = Anti-cav on A & B port

Note: Additional port accessory valve options available on request, lead times may apply)

**Port Type**

GI = -16SAE

**CABLE CONTROL KIT PART NUMBER: RVC-HK-121**

# STUD KITS

## V250-T-01

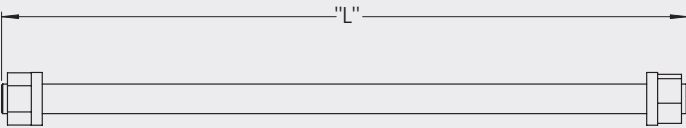
**V250 Valve Series**

**T = Tie Rod**

**Number of Work Sections**

01-07 (1-7 Work Sections)  
(08-12, 8-12 Work Sections,  
Call for availability)

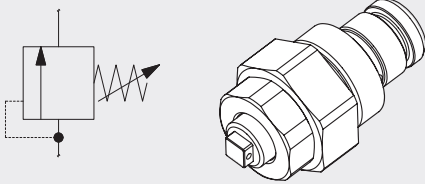
No. of Work Sections	1	2	3	4	5	6	7	8	9	10	11	12
"L" (in/mm)	9.13 / 232	11.34 / 288	13.54 / 344	15.75 / 400	17.95 / 456	20.16 / 512	22.36 / 568	24.57 / 624	26.77 / 680	28.98 / 736	31.18 / 792	33.39 / 848



Note: M12 thread, both ends (12mm diameter tie rod)

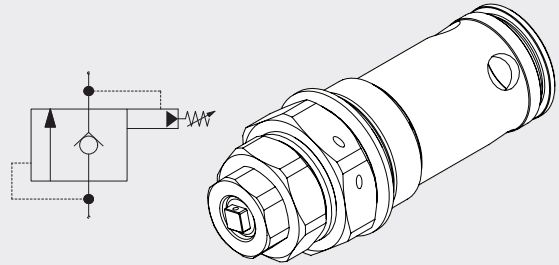
## WORK PORT OPTIONS

### W30 -RELIEF VALVE

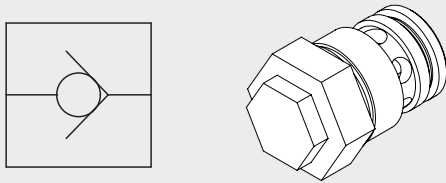


### W33 -R.V. + ANTI-CAV VALVE

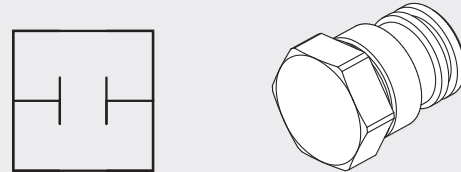
(Pilot Operated Anti-Cav)



### W04 -ANTI-CAV VALVE



### WCX -STEEL PLUG



## V250-W30-K-125

V250 Valve Series

Work Port Option:

W30 = Work Port RV

W33 = Work Port RV + Anti-Cav

W04 = Work Port Anti-Cav Only

WCX = Blanking Plug

Relief Valve Setting (in BAR):

Use "XXX" for anti-cav & plug options

Setting Range:

J = Adjustable from 870-1,450 PSI (60-100 BAR)

K = Adjustable from 1,465-2,320 PSI (101-160 BAR)

L = Adjustable from 2,335-3,625 PSI (161-250 BAR)

F = Adjustable from 725-4,000 PSI (50-275 BAR)

Only available for W33

X = No Setting (Use w/ W04 or WCX)

### Available Work Port Accessory Options:

V250-W30-J070

V250-W30-K125

V250-W30-L170

V250-W33-F135

V25-W33-F170

V250-WCX-XXX

## ORDER EXAMPLE

If you would like to order an assembled valve, you will need to order each item separately. The order in which parts are entered is how the valve will be built from left to right. On the right is an example of a 3 work section valve order:

PART NUMBER	QTY.	DESCRIPTION
V250-A-GI-7SX-F150	1	Inlet with relief valve
V250-AJ-AA-01-GI-02-X	2	Work section 1 & 2
V250-AC-AJ-01-GI-05-X	1	Work section 3
VLVH-01D-215	2	8.25" (215mm) handle kits for WS 1 & 2
V250-C-GT-3DX-XXX	1	Standard outlet
V250-T03	1	Stud kit for 3 section assembly



**Muncie®  
Power  
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*A Member of the Interpump Group*  
MP15-03 (Rev. 12-17)

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