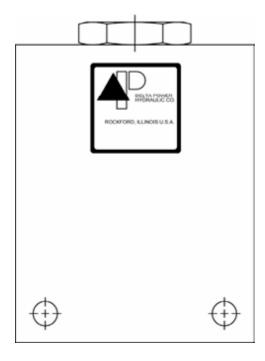
# SINGLE, P.O. CHECK VALVES (PRE-ENGINEERED BLOCKS)



### **HYDRAULIC INTEGRATED CIRCUITS**



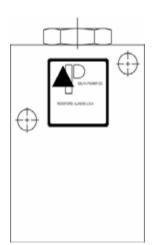
### SERIES SINGLE PILOT OPERATED CHECK VALVE

	GPM	PSI	LPM	BAR	CAVITY	MODEL	PAGE
	5	3000	19	207	5/8-18	MS-POC	HS4
c · · · · · · · · · · · ·	10	3500	38	241	3/4-16	PS-POC	HS6
○ PILOT	15	3500	57	241	7/8-14	DS-POC	HS8
	40	3500	151	241	1 5/16-12	SS-POC	HS10

### **TYPICAL SCHEMATIC**

Typical application for this valve is load holding when pump is off.

### MS-POC SINGLE PILOT OPERATED CHECK VALVE



### **DESCRIPTION**

7 size, 5/8-18 thread, "Mini" series, pilot operated check valve.

### **OPERATION**

The MS-POC allows flow to pass from (V) to (C) and blocks flow from (C) to (V). When pilot pressure is applied to pilot port the valve allows flow from (C) to (V). The valve has a 6.7:1 pilot ratio, so at least .149 of the load pressure is required at the (PILOT) port to open the flow passage to allow flow from ports (C). The check is spring-biased at 50 PSI (3.4 bar) to assure holding in static or no-load conditions.

### **FEATURES**

- · Hardened internal parts for long life.
- Anodized aluminum body for corrosion protection.

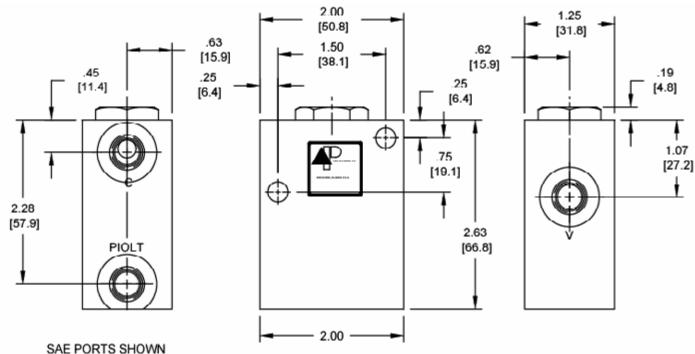
### **HYDRAULIC SYMBOL**



VALVE SPECIFICATIONS	
Nominal Flow	5 GPM (19 LPM)
Rated Operating Pressure	3000 PSI (207 bar)
Typical Internal Leakage (150 SSU)	0-5 drops/min
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	30 micron nominal
Pilot Ratio	6.7:1
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Weight	.7 lbs (.31 kg)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Torque Requirements	15 ft-lbs (20.3 Nm)
Cartridge Crack Pressure	50 PSI (3.4 bar)

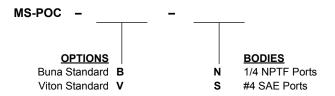
# Typical Application For This Valve Is Load Holding When Pump Is Off.





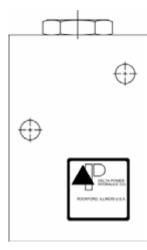
MTG. HOLES ARE .28 DIA.
O-RINGS ARE STANDARD ON PISTON ASSEMBLY
CHECK VALVE USED IS A MA-CVA

### **ORDERING INFORMATION**





### PS-POC SINGLE PILOT OPERATED CHECK VALVE



### **DESCRIPTION**

8 size, 3/4-16 thread, "Power" series, pilot operated check valve.

### **OPERATION**

The PS-POC allows flow to pass from (V) to (C) and blocks flow from (C) to (V). When pilot pressure is applied to pilot port the valve allows flow from (C) to (V). The valve has a 4:1 pilot ratio, so at least .250 of the load pressure is required at the (PILOT) port to open the flow passage to allow flow from ports (C). The check is spring-biased at 50 PSI (3.4 bar) to assure holding in static or no-load conditions.

### **FEATURES**

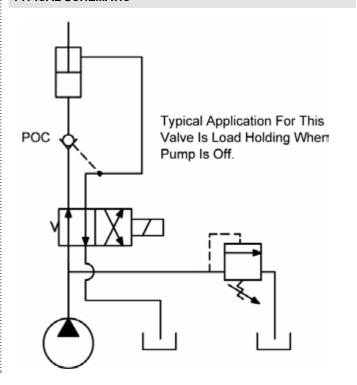
- · Hardened internal parts for long life.
- Anodized aluminum body for corrosion protection.

### **HYDRAULIC SYMBOL**

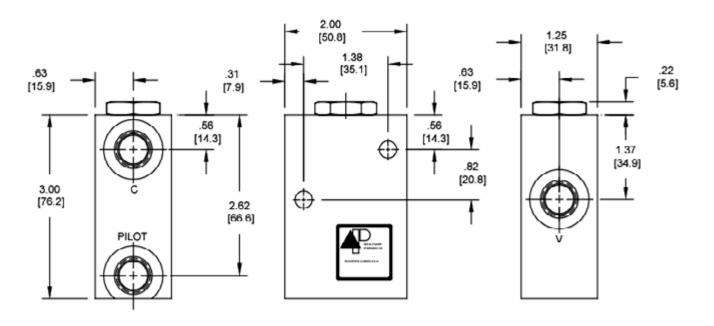


VALVE SPECIFICATIONS	
Nominal Flow	10 GPM (38 LPM)
Rated Operating Pressure	3500 PSI (241 bar)
Typical Internal Leakage (150 SSU)	0-5 drops/min
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	30 micron nominal
Pilot Ratio	4:1
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Weight	1.0 lbs (.45 kg)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Torque Requirements	25 ft-lbs (34 Nm)
Cartridge Crack Pressure	50 PSI (3.4 bar)

### **TYPICAL SCHEMATIC**

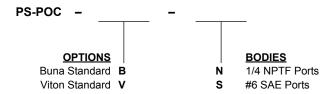






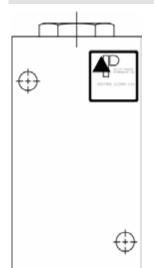
SAE PORTS SHOWN MTG. HOLES ARE .28 DIA. O-RINGS ARE STANDARD ON PISTON ASSEMBLY CHECK VALVE USED IS A PB-CVC

### **ORDERING INFORMATION**





### **DS-POC** SINGLE PILOT OPERATED CHECK VALVE



### **DESCRIPTION**

10 size, 7/8-14 thread, "Delta" series, pilot operated check valve.

### **OPERATION**

The DS-POC allows flow to pass from (V) to (C) and blocks flow from (C) to (V). When pilot pressure is applied to pilot port the valve allows flow from (C) to (V). The valve has a 4:1 pilot ratio, so at least .250 of the load pressure is required at the (PILOT) port to open the flow passage to allow flow from ports (C). The check is spring-biased at 90 PSI (6.2 bar) to assure holding in static or no-load conditions.

### **FEATURES**

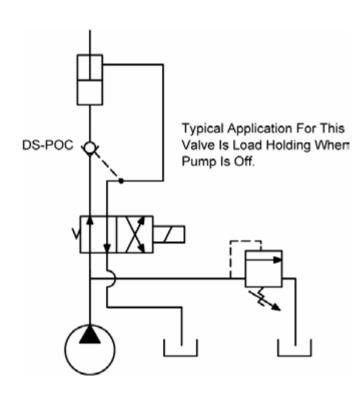
- Hardened internal parts for long life.
- Anodized aluminum body for corrosion protection.

### **HYDRAULIC SYMBOL**

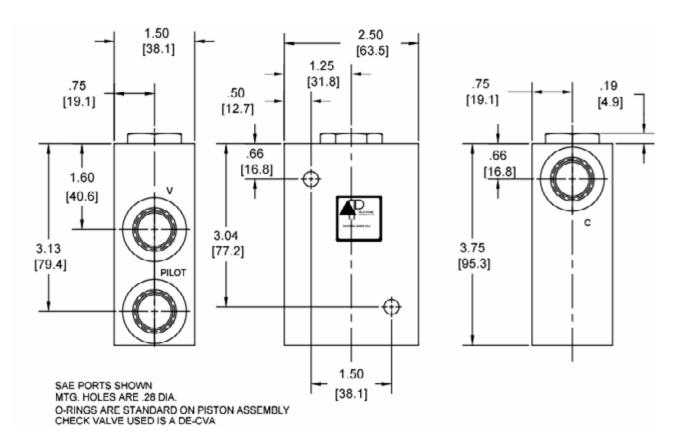


VALVE SPECIFICATIONS	
Nominal Flow	15 GPM (57 LPM)
Rated Operating Pressure	3500 PSI (241 bar)
Typical Internal Leakage (150 SSU)	0-5 drops/min
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	30 micron nominal
Pilot Ratio	4:1
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Weight	1.1 lbs (.50 kg)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Torque Requirements	30 ft-lbs (40.6 Nm)
Cartridge Crack Pressure	90 PSI (6.2 bar)

### **TYPICAL SCHEMATIC**





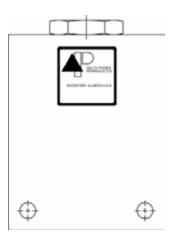


### **ORDERING INFORMATION**





### SS-POC SINGLE PILOT OPERATED CHECK VALVE



### **DESCRIPTION**

16 size, 1 5/16-12 thread, "Super" series, pilot operated check valve.

### **OPERATION**

The SS-POC allows flow to pass from (V) to (C) and blocks flow from (C) to (V). When pilot pressure is applied to pilot port the valve allows flow from (C) to (V). The valve has a 3.7:1 pilot ratio, so at least .270 of the load pressure is required at the (PILOT) port to open the flow passage to allow flow from ports (C). The check is spring-biased at 50 PSI (3.4 bar) to assure holding in static or no-load conditions.

### **FEATURES**

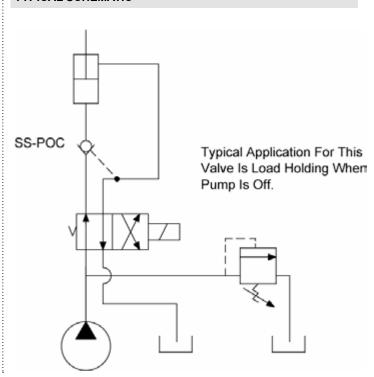
- · Hardened internal parts for long life.
- Anodized aluminum body for corrosion protection.

### **HYDRAULIC SYMBOL**

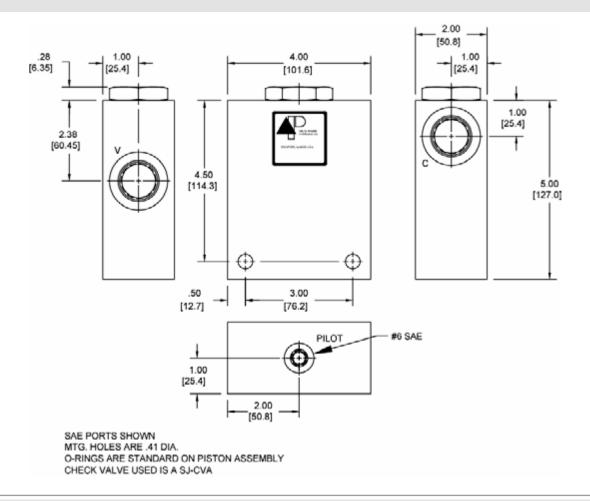


VALVE SPECIFICATIONS	
Nominal Flow	40 GPM (151 LPM)
Rated Operating Pressure	3500 PSI (241 bar)
Typical Internal Leakage (150 SSU)	0-5 drops/min
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	30 micron nominal
Pilot Ratio	3.7:1
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Weight	4.3 lbs (2.0 kg)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Torque Requirements	90 ft-lbs (122 Nm)
Cartridge Crack Pressure	50 PSI (3.4 bar)

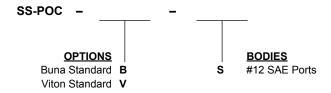
### **TYPICAL SCHEMATIC**





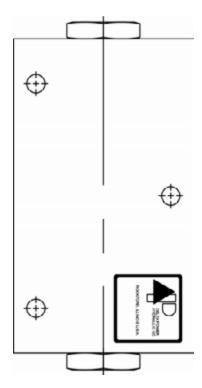


### **ORDERING INFORMATION**





# DOUBLE, P.O. CHECK VALVES (PRE-ENGINEERED BLOCKS)



### **HYDRAULIC INTEGRATED CIRCUITS**



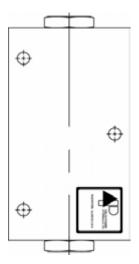
### SERIES DOUBLE PILOT OPERATED CHECK VALVE

	GPM	PSI	LPM	BAR	CAVITY	MODEL	PAGE
C1C2	5	3500	19	241	5/8-18	MD-POC	HD4
	10	3500	38	241	3/4-16	PD-POC	HD6
	15	3500	57	241	7/8-14	DD-POC	HD8
	40	3500	151	241	5/46-12	SD-POC	HD10
	15	4000	57	276	7/8-14	DD-POT	HD12

### **TYPICAL SCHEMATIC**

Typical application for this valve is load holding when pump is off.

### MD-POC DOUBLE PILOT OPERATED CHECK VALVE



### **DESCRIPTION**

7 size, 5/8-18 thread, "Mini" series, double pilot operated check valve.

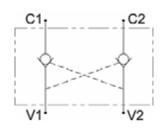
### **OPERATION**

The MD-POC allows flow to pass from (V1) to (C1) and (V2) to (C2). The valve blocks flow from (C1) to (V1) and from (C2) to (V2). Blocked flow is released when pilot pressure is applied to port opposite valve (V1) and/or port (V2) accordingly. The valve has a 6.7:1 pilot ratio, so at least .141 of the load pressure at port (C1) or (C2) is required at the pilot lines ports (V2) or (V1) respectively to open the flow passage to allow flow from ports (C1) or (C2) respectively. The check is spring-biased at 50 PSI (3.4 bar) to assure holding in static or no-load conditions.

### **FEATURES**

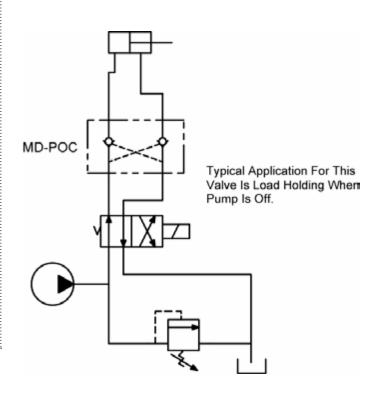
- Hardened internal parts for long life.
- Anodized aluminum body for corrosion protection.

### **HYDRAULIC SYMBOL**



VALVE SPECIFICATIONS	
Nominal Flow	5 GPM (19 LPM)
Rated Operating Pressure	3500 PSI (241 bar)
Typical Internal Leakage (150 SSU)	0-5 drops/min
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	30 micron nominal
Pilot Ratio	6.7:1
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Weight	.92 lbs (.42 kg)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Torque Requirements	15 ft-lbs (20.3 Nm)
Cartridge Crack Pressure	50 PSI (3.4 bar)

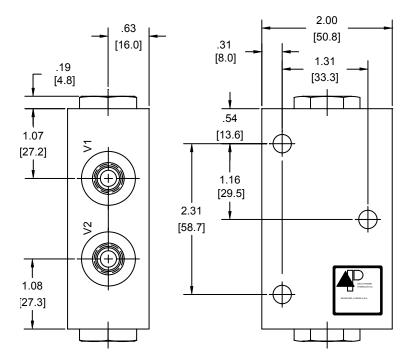
### TYPICAL SCHEMATIC

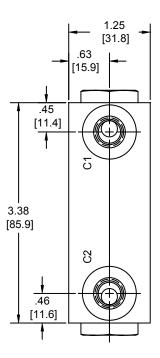


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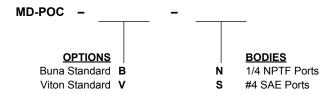


SAE PORTS SHOWN MTG. HOLES ARE .28 DIA.

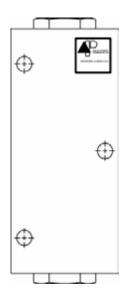
NOTE: DIMENSIONS IN BRACKETS ARE MILLIMETERS O-RINGS ARE STANDARD ON PISTON ASSEMBLY

CHECK VALVE USED IS A MA-CVA

### **ORDERING INFORMATION**



### PD-POC DOUBLE PILOT OPERATED CHECK VALVE



### **DESCRIPTION**

8 size, 3/4-16 thread, "Power" series, double pilot operated check valve.

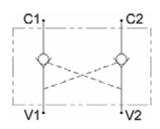
### **OPERATION**

The PD-POC allows flow to pass from (V1) to (C1) and (V2) to (C2). The valve blocks flow from (C1) to (V1) and from (C2) to (V2). Blocked flow is released when pilot pressure is applied to port opposite valve (V1) and/or port (V2) accordingly. The valve has a 4:1 pilot ratio, so at least .250 of the load pressure at port (C1) or (C2) is required at the pilot lines ports (V2) or (V1) respectively to open the flow passage to allow flow from ports (C1) or (C2) respectively. The check is spring-biased at 50 PSI (3.4 bar) to assure holding in static or no-load conditions.

### **FEATURES**

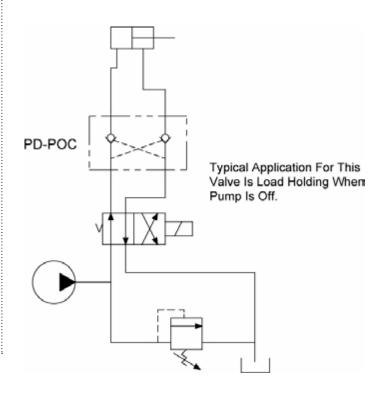
- Hardened internal parts for long life.
- · Anodized aluminum body for corrosion protection.

### **HYDRAULIC SYMBOL**



VALVE SPECIFICATIONS	
Nominal Flow	10 GPM (38 LPM)
Rated Operating Pressure	3500 PSI (241 bar)
Typical Internal Leakage (150 SSU)	0-5 drops/min
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	30 micron nominal
Pilot Ratio	4:1
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Weight	1.2 lbs (.54 kg)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Torque Requirements	25 ft-lbs (34 Nm)
Cartridge Crack Pressure	50 PSI (3.4 bar)

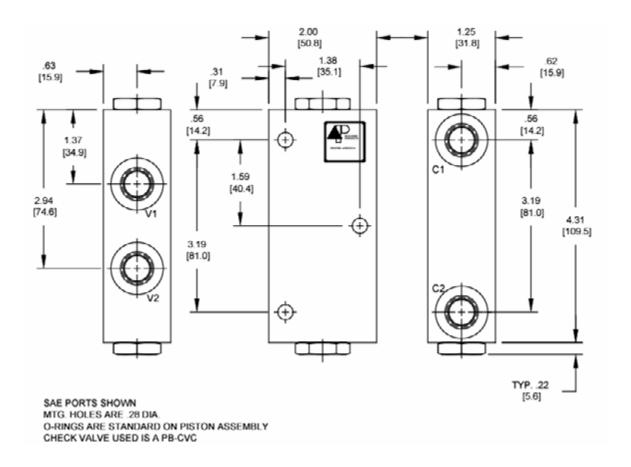
### **TYPICAL SCHEMATIC**



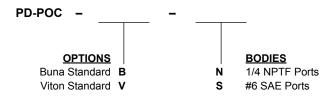
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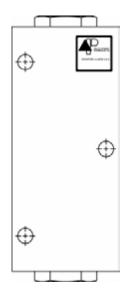


### **ORDERING INFORMATION**





### **DD-POC** DOUBLE PILOT OPERATED CHECK VALVE



### **DESCRIPTION**

10 size, 7/8-14 thread, "Delta" series, double pilot operated check valve.

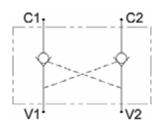
### **OPERATION**

The DD-POC allows flow to pass from (V1) to (C1) and (V2) to (C2). The valve blocks flow from (C1) to (V1) and from (C2) to (V2). Blocked flow is released when pilot pressure is applied to port opposite valve (V1) and/or port (V2) accordingly. The valve has a 4:1 pilot ratio, so at least .250 of the load pressure at port (C1) or (C2) is required at the pilot lines ports (V2) or (V1) respectively to open the flow passage to allow flow from ports (C1) or (C2) respectively. The check is spring-biased at 90 PSI (6.2 bar) to assure holding in static or no-load conditions.

### **FEATURES**

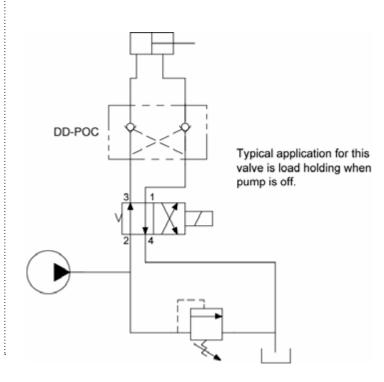
- Hardened internal parts for long life.
- Anodized aluminum body for corrosion protection.

### **HYDRAULIC SYMBOL**



VALVE SPECIFICATIONS	
Nominal Flow	15 GPM (57 LPM)
Rated Operating Pressure	3500 PSI (241 bar)
Typical Internal Leakage (150 SSU)	0-5 drops/min
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	30 micron nominal
Pilot Ratio	4:1
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Weight	1.5 lbs (.68 kg)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Torque Requirements	30 ft-lbs (40.6 Nm)
Cartridge Crack Pressure	90 PSI (6.2 bar)

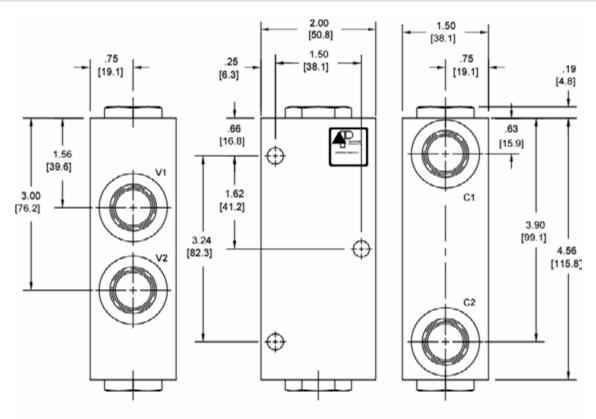
### **TYPICAL SCHEMATIC**



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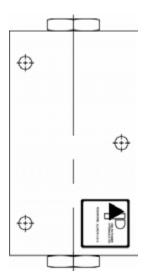
SAE PORTS SHOWN MTG. HOLES ARE .28 DIA. O-RINGS ARE STANDARD ON PISTON ASSEMBLY CHECK VALVE USED IS A DE-CVA

### **ORDERING INFORMATION**





### SD-POC DOUBLE PILOT OPERATED CHECK VALVE



### **DESCRIPTION**

16 size, 1 5/16-12 thread, "Super" series, double pilot operated check valve.

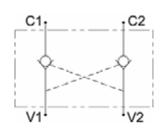
### **OPERATION**

The SD-POC allows flow to pass from (V1) to (C1) and (V2) to (C2). The valve blocks flow from (C1) to (V1) and from (C2) to (V2). Blocked flow is released when pilot pressure is applied to port opposite valve (V1) and/or port (V2) accordingly. The valve has a 3.7:1 pilot ratio, so at least .267 of the load pressure at port (C1) or (C2) is required at the pilot lines ports (V2) or (V1) respectively to open the flow passage to allow flow from ports (C1) or (C2) respectively. The check is spring-biased at 50 PSI (3.4 bar) to assure holding in static or no-load conditions.

### **FEATURES**

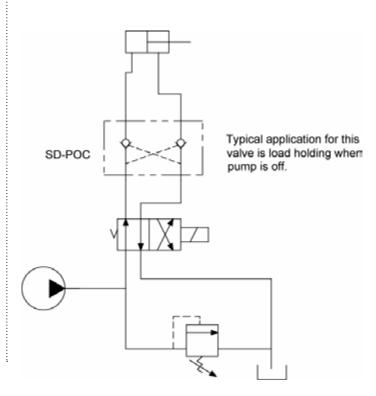
- Hardened internal parts for long life.
- Anodized aluminum body for corrosion protection.

### **HYDRAULIC SYMBOL**



VALVE SPECIFICATIONS	
Nominal Flow	40 GPM (151 LPM)
Rated Operating Pressure	3500 PSI (241 bar)
Typical Internal Leakage (150 SSU)	0-5 drops/min
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	30 micron nominal
Pilot Ratio	3.7:1
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Weight	6.0 lbs (2.7 kg)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Torque Requirements	90 ft-lbs (122 Nm)
Cartridge Crack Pressure	50 PSI (3.4 bar)

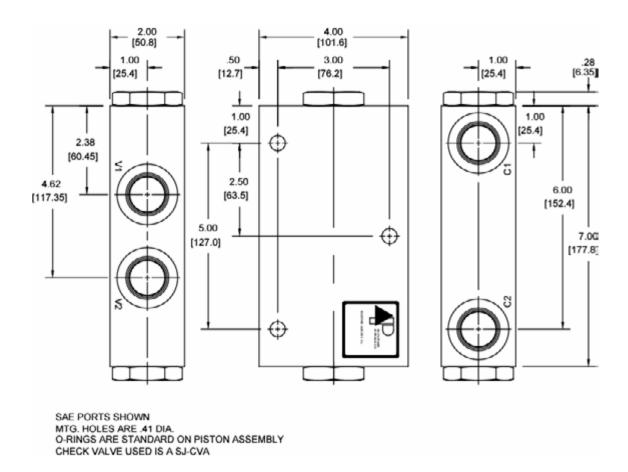
### TYPICAL SCHEMATIC



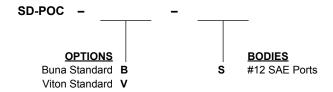
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### **ORDERING INFORMATION**





### DD-POT DOUBLE PILOT OPERATED CHECK VALVE W/THERMAL RELIEF VALVE



### **DESCRIPTION**

10 size, 7/8-14 thread, "Delta" series, double pilot operated check valve with thermal relief valve.

### **OPERATION**

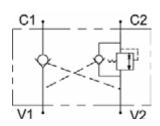
The DD-POT allows flow to pass from (V1) to (C1) and (V2) to (C2). The valve blocks flow from (C1) to (V1) and from (C2) to (V2). Blocked flow is released when pilot pressure is applied to port opposite valve (V1) and/or port (V2) accordingly. Also (C2) port is protected by thermal relief.

The valve has a 4:1 pilot ratio, so at least .250 of the load pressure at port (C1) or (C2) is required at the pilot lines ports (V2) or (V1) respectively to open the flow passage to allow flow from ports (C1) or (C2) respectively. The check is spring-biased at 90 PSI (6.2 bar) to assure holding in static or no-load conditions.

### **FEATURES**

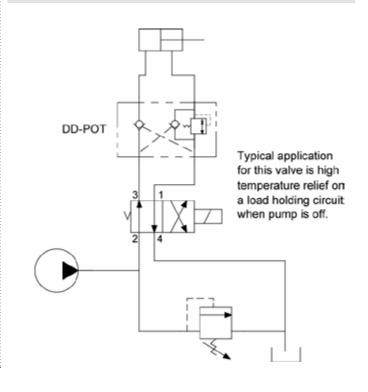
- Hardened internal parts for long life.
- Anodized aluminum body for corrosion protection.

### **HYDRAULIC SYMBOL**

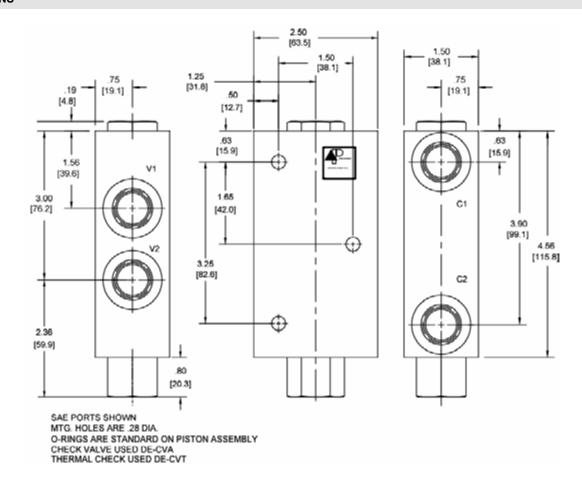


VALVE SPECIFICATIONS	
Nominal Flow	15 GPM (57 LPM)
Rated Operating Pressure	4000 PSI (276 bar)
Typical Internal Leakage (150 SSU)	0-5 drops/min
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	30 micron nominal
Pilot Ratio	4:1
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Weight	1.4 lbs (63 kg)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Torque Requirements	30 ft-lbs (40.6 Nm)
Cartridge Crack Pressure	90 PSI (6.2 bar)

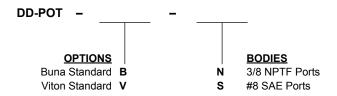
### **TYPICAL SCHEMATIC**







### **ORDERING INFORMATION**





### **MIZERS**

Pre-Engineered Circuit, Option MODEL AHZ2	PRE-ENGINEERED CIRCUIT, OPTION MODEL LHZ22
Load Holding Solenoid Operated, RV w/Adj. Press. Comp. Flow Control, RV w/Fixed	Dual Counterbalance Circuit
Press. Comp. Flow Control, Unloading w/flow control, Lift Circuit w/RV, RV w/Flow	
Control, Unloading w/ Fixed Press. Comp. Flow Control Speed Control	PRE-ENGINEERED CIRCUIT, OPTION MODEL MHZ24
DDE ENGINEEDED GIDGUIT ODTION MODEL D	Single 4:1 PO Check Circuit
PRE-ENGINEERED CIRCUIT, OPTION MODEL BHZ4	
Lift, Check, & Dump. Startup Circuit, Lift, Check & Dump w/RV	PRE-ENGINEERED CIRCUIT,
PRE-ENGINEERED CIRCUIT, OPTION MODEL CHZ6	OPTION MODEL N (BANJO BOLT)HZ26
	Velocity Fuse, NC Poppet Valve, Adj, Press, Comp. Flow Control, Needle Valve, NC
Dual RV, Dump, Flow Divider, Motor Speed Control, Selector, Hydrostatic (Anti-Cav)	Spool Valve
PRE-ENGINEERED CIRCUIT, OPTION MODEL DHZ8	PRE-ENGINEERED CIRCUIT, OPTION MODEL OHZ28
NC Poppet Valve, Single RV, Needle Flow Control, Flow Control w/Free Flow Check,	Single Counterbalance Circuit
NO Spool valve, Crossover RV	
	PRE-ENGINEERED CIRCUIT, OPTION MODEL PHZ30
PRE-ENGINEERED CIRCUIT, OPTION MODEL EHZ10	Lift Circuit w/Needle Valve & RV, Lift Circuit w/Press. Comp Flow Control & RV, Lift
Adj. Flow Control NC Poppet Dual Speed Circuit, Adj. Press. Comp. Flow Control NC	Circuit w/Bypass & Needle Valve, Lift Circuit w/Bypass & Press. Comp Flow Contro
Poppet Dual Speed Circuit, Press. Comp. Flow Control & Check Valve, Adj. Press.	
Comp. Flow Control NO Poppet Dual Speed Circuit, Adj. Flow Control NO Poppet	PRE-ENGINEERED CIRCUIT, OPTION MODEL QHZ32
Dual Speed Circuit, Press. Comp Flow Control and Check, Adj. Flow Control NC	Dual 3 way Valves
Spool Valve Dual Speed Circuit	•
	PRE-ENGINEERED CIRCUIT, OPTION MODEL RHZ34
PRE-ENGINEERED CIRCUIT, OPTION MODEL FHZ12	Single RV Circuit
Dual Sequence Valve Manifold	
	PRE-ENGINEERED CIRCUIT, OPTION MODEL SHZ36
PRE-ENGINEERED CIRCUIT, OPTION MODEL GHZ14	Crossover Relief, Mower Breakaway, Unloading & RV
Rectifier Circuit	orocovor Honor, monor Broakaway, ornoading a 144
PRE-ENGINEERED CIRCUIT, OPTION MODEL HHZ16	
4w3p Open Center, 4w3p Closed Center	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
PRE-ENGINEERED CIRCUIT, OPTION MODEL IHZ18	<b>₹ ₹ □</b>
3way valve, Manual Lift Check & Dump, NC Poppet Valve and RV, Lift Check &	110
Dump, Pump Check & RV, Needle Flow Control & Check, NO Poppet & Check, NO	
Poppet & RV	6
1 Opportuits	



WARNING: the specifications/application data shown in our catalogs and data sheets are intended only as a general guide for the product described (herein). Any specific application should not be undertaken without independent study, evaluation, and testing for suitability.



Poppet Valve & Adj. Press. Comp Flow Control

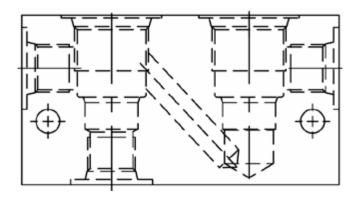
4w3p Tandem Center

PRE-ENGINEERED CIRCUIT, OPTION MODEL J ......HZ20

PRE-ENGINEERED CIRCUIT, OPTION MODEL K .....HZ21 2 NC Poppet Valves, NO Poppet Valve & Needle Valve, 2 NC Poppet Valves, NC

### PRE-ENGINEERED CIRCUIT, OPTION MODEL A\*

### BASE BODY - 20200001 = #6 SAE



BODY WEIGHT: .83 lbs (.37 kg)

### **DESCRIPTION**

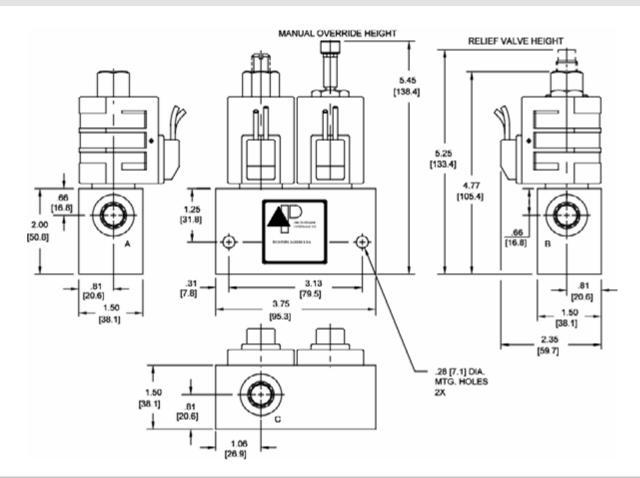
Pre-engineered circuit, option model A\*.

### **OPERATION**

See options chart for specific operation.

VALVE SPECIFICATIONS	
Nominal Flow	See Options Chart for Flow Range
Rated Operating Pressure	See Options Chart for Pres. Range
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	30 micron nominal
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Size	Delta Series 7/8-14 Thread
Cartridge Torque Requirements	30 ft-lbs (40.6 Nm)
Coil Torque Nut Requirements	4-6 ft-lbs (5.4-8.1 Nm)

### **DIMENSIONS**



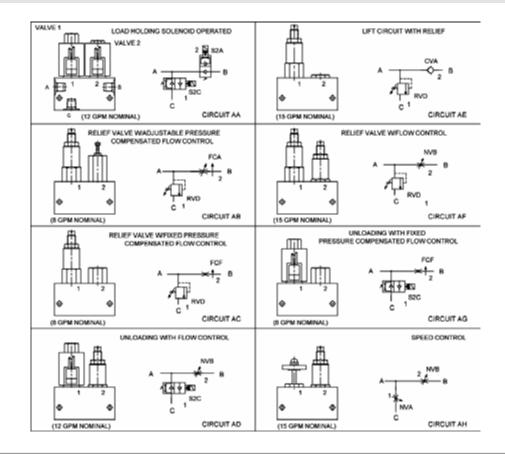
WARNING: the specifications/application data shown in our catalogs and data sheets are intended only as a general guide for the product described (herein). Any specific application should not be undertaken without independent study, evaluation, and testing for suitability.



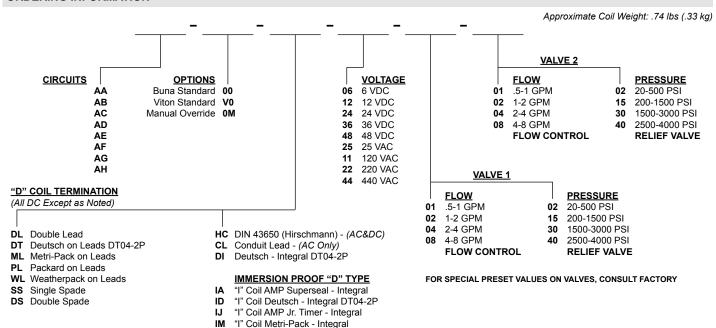
mail: delta@delta-power.com • www.delta-power.com

4484 Boeing Drive Rockford, IL 61109 • USA • Phone +1 (815) 397-6628 • Fax +1 (815) 397-2526

### **OPTIONS CHART**



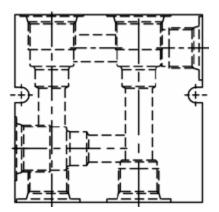
### **ORDERING INFORMATION**





### PRE-ENGINEERED CIRCUIT, OPTION MODEL B\*

### BASE BODY - 20200002 = #8 SAE



BODY WEIGHT: 1.2 lbs (.54 kg)

### **DESCRIPTION**

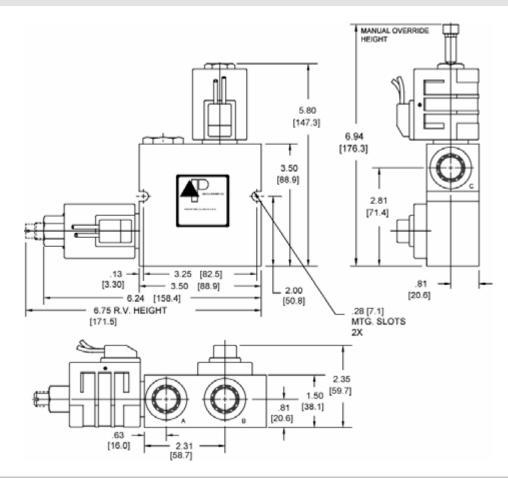
Pre-engineered circuit, option model B\*.

### **OPERATION**

See options chart for specific operation.

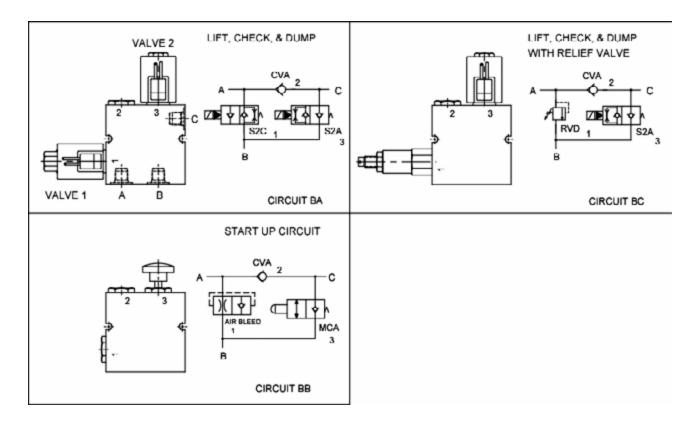
VALVE SPECIFICATIONS	
Nominal Flow	12 GPM (48 LPM)
Rated Operating Pressure	3500 PSI (241 bar)
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	30 micron nominal
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Size	Delta Series 7/8-14 Thread
Cartridge Torque Requirements	30 ft-lbs (40.6 Nm)
Coil Torque Nut Requirements	4-6 ft-lbs (5.4-8.1 Nm)

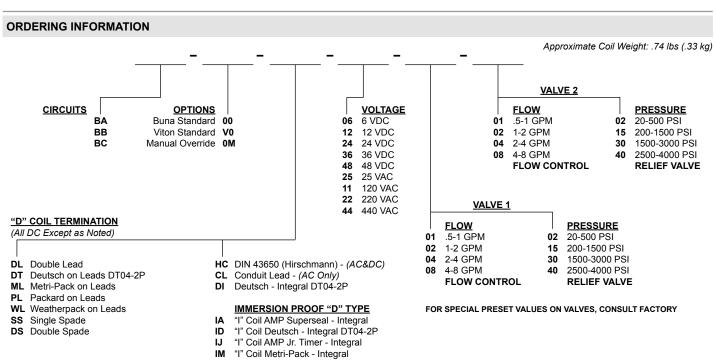
### **DIMENSIONS**





### **OPTIONS CHART**

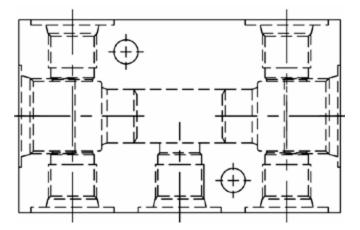






### PRE-ENGINEERED CIRCUIT, OPTION MODEL C\*

### BASE BODY - 20200003 = #6 SAE



BODY WEIGHT: .83 lbs (.37 kg)

### **DESCRIPTION**

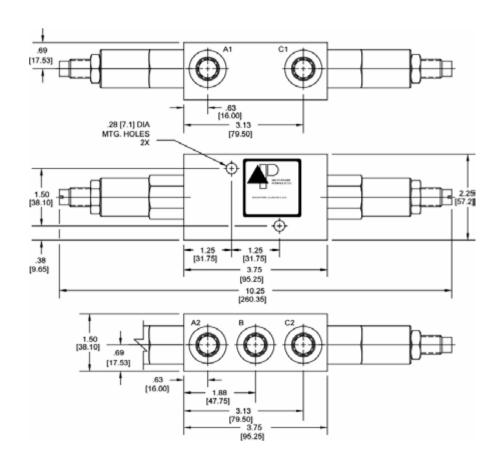
Pre-engineered circuit, option model C\*.

### **OPERATION**

See options chart for specific operation.

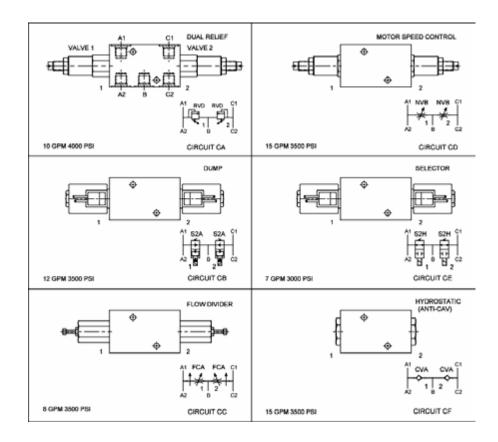
VALVE SPECIFICATIONS	
Nominal Flow	See Options Chart for Flow Range
Rated Operating Pressure	See Options Chart for Pres. Range
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	30 micron nominal
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Size	Delta Series 7/8-14 Thread
Cartridge Torque Requirements	30 ft-lbs (40.6 Nm)
Coil Torque Nut Requirements	4-6 ft-lbs (5.4-8.1 Nm)

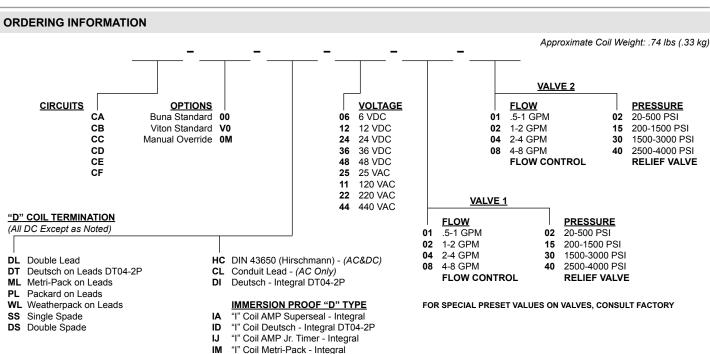
### **DIMENSIONS**





### **OPTIONS CHART**

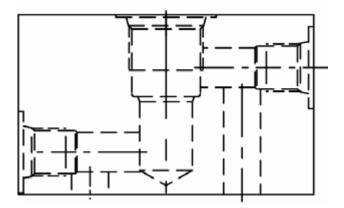






### PRE-ENGINEERED CIRCUIT, OPTION MODEL D\*

### BASE BODY - 20200004 = #6 SAE



BODY WEIGHT: .83 lbs (.37 kg)

### **DESCRIPTION**

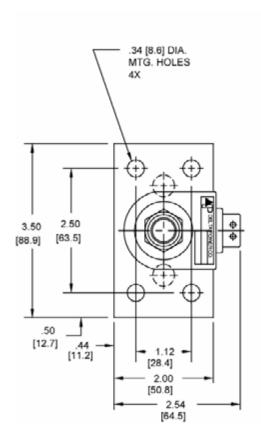
Pre-engineered circuit, option model D\*.

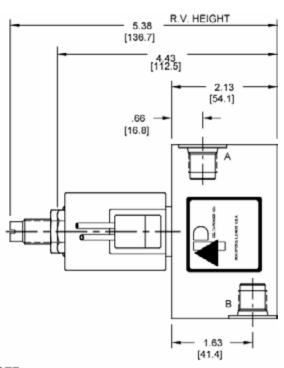
### **OPERATION**

See options chart for specific operation.

VALVE SPECIFICATIONS	
Nominal Flow	See Options Chart for Flow Range
Rated Operating Pressure	See Options Chart for Pres. Range
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	30 micron nominal
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Size	Delta Series 7/8-14 Thread
Cartridge Torque Requirements	30 ft-lbs (40.6 Nm)
Coil Torque Nut Requirements	4-6 ft-lbs (5.4-8.1 Nm)

### **DIMENSIONS**





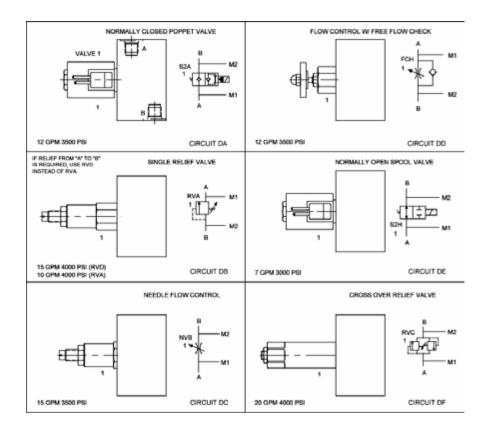
NOTE:

THIS ASSEMBLY WILL MOUNT ON

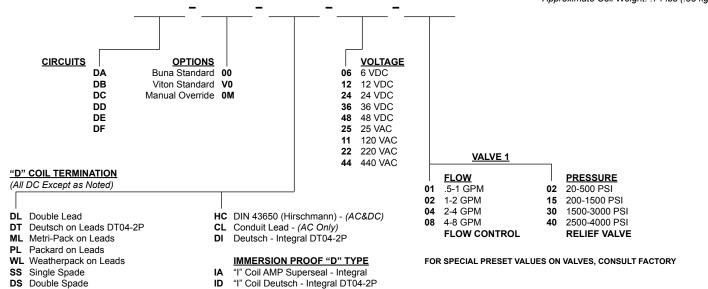
WHITE "RS"; EATON "H,S,& T"; SAUER DANFOSS "DH & DS"; AND PARKER "TC" "MOTORS"



### **OPTIONS CHART**



# ORDERING INFORMATION Approximate Coil Weight: .74 lbs (.33 kg)



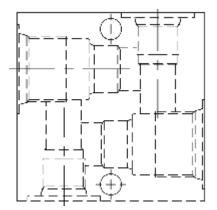
WARNING: the specifications/application data shown in our catalogs and data sheets are intended only as a general guide for the product described (herein). Any specific application should not be undertaken without independent study, evaluation, and testing for suitability.

"I" Coil AMP Jr. Timer - Integral "I" Coil Metri-Pack - Integral



### PRE-ENGINEERED CIRCUIT, OPTION MODEL E\*

### BASE BODY - 20200005 = #6 SAE



BODY WEIGHT: .75 lbs (.34 kg)

### **DESCRIPTION**

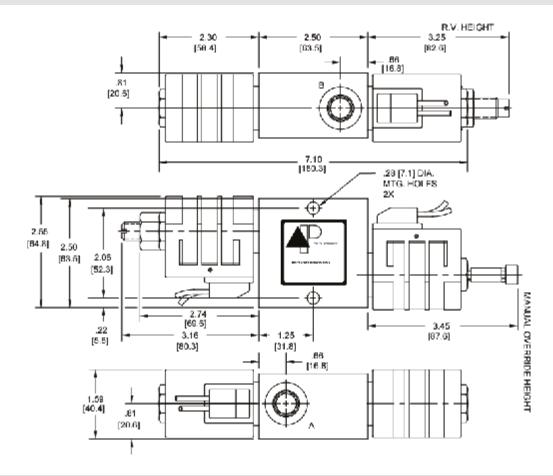
Pre-engineered circuit, option model E\*.

### **OPERATION**

See options chart for specific operation.

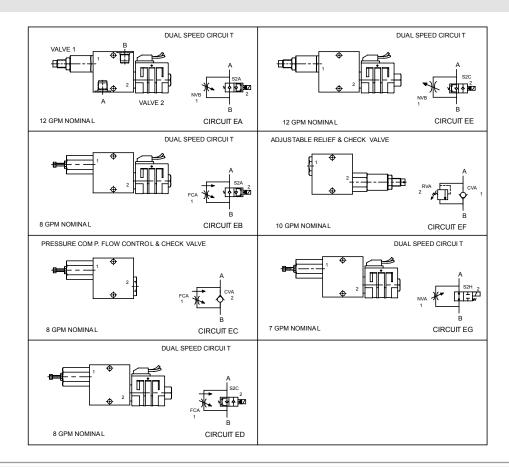
VALVE SPECIFICATIONS	
Nominal Flow	See Options Chart for Flow Range
Rated Operating Pressure	3500 PSI (241 bar)
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	30 micron nominal
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Size	Delta Series 7/8-14 Thread
Cartridge Torque Requirements	30 ft-lbs (40.6 Nm)
Coil Torque Nut Requirements	4-6 ft-lbs (5.4-8.1 Nm)

### **DIMENSIONS**

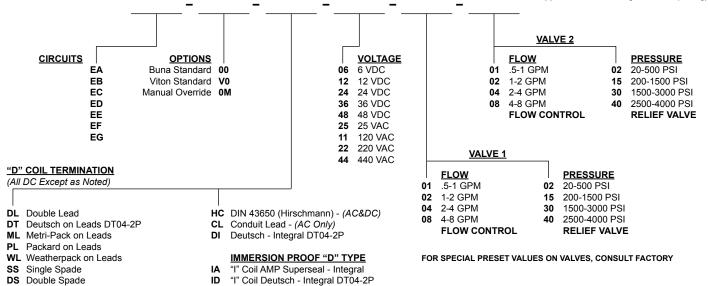




### **OPTIONS CHART**



# ORDERING INFORMATION Approximate Coil Weight: .74 lbs (.33 kg)



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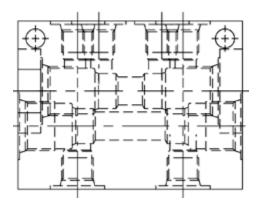
"I" Coil AMP Jr. Timer - Integral "I" Coil Metri-Pack - Integral





### PRE-ENGINEERED CIRCUIT, OPTION MODEL F\*

### BASE BODY - 20200006 = #6 SAE



BODY WEIGHT: 1.5 lbs (.68 kg)

### **DESCRIPTION**

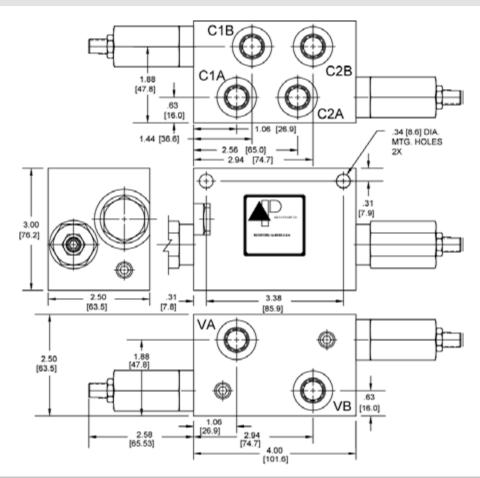
Pre-engineered circuit, option model F\*.

### **OPERATION**

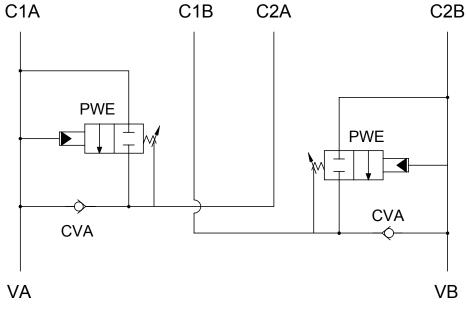
See options chart for specific operation.

VALVE SPECIFICATIONS	
Nominal Flow	9 GPM (34 LPM)
Rated Operating Pressure	50-1500 PSI (4-103 bar)
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	30 micron nominal
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Size	Delta Series 7/8-14 Thread
Cartridge Torque Requirements	30 ft-lbs (40.6 Nm)

### **DIMENSIONS**



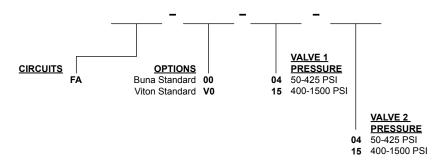




**DUAL SEQUENCE VALVE MANIFOLD** AUTOMATICALLY CONTROLS THE SEQUENCING OF TWO CYLINDERS.

**CIRCUIT FA** 

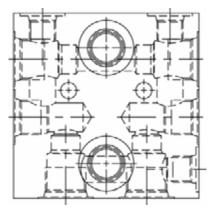
#### **ORDERING INFORMATION**



FOR SPECIAL PRESET VALUES ON VALVES, CONSULT FACTORY

## PRE-ENGINEERED CIRCUIT, OPTION MODEL G\*

#### BASE BODY - 20200007 = #8 SAE



BODY WEIGHT: 1.36 lbs (.62 kg)

## **DESCRIPTION**

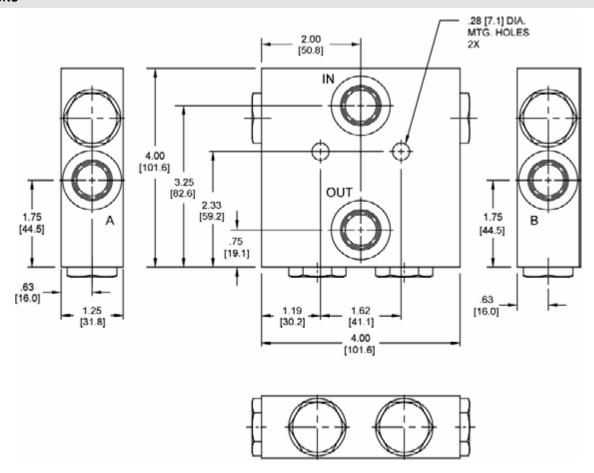
Pre-engineered circuit, option model G\*.

#### **OPERATION**

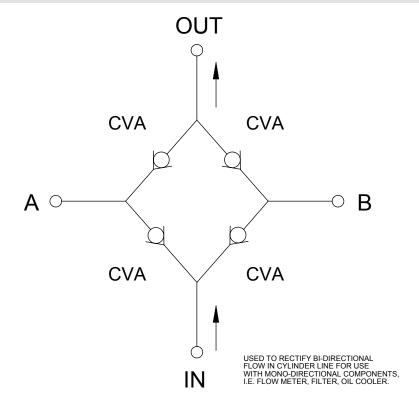
See options chart for specific operation.

VALVE SPECIFICATIONS	
Nominal Flow	15 GPM (57 LPM)
Rated Operating Pressure	3500 PSI (241 bar)
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	30 micron nominal
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Size	Delta Series 7/8-14 Thread
Cartridge Torque Requirements	30 ft-lbs (40.6 Nm)

## **DIMENSIONS**

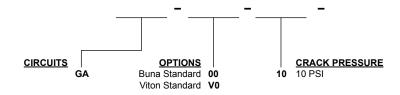






CIRCUIT GA RECTIFIER CIRCUIT

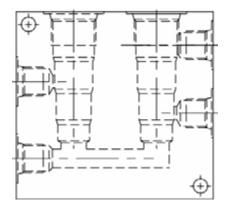
#### **ORDERING INFORMATION**





## PRE-ENGINEERED CIRCUIT, OPTION MODEL H\*

#### BASE BODY - 20200008 = #6 SAE



BODY WEIGHT: 1.50 lbs (.68 kg)

# **DESCRIPTION**

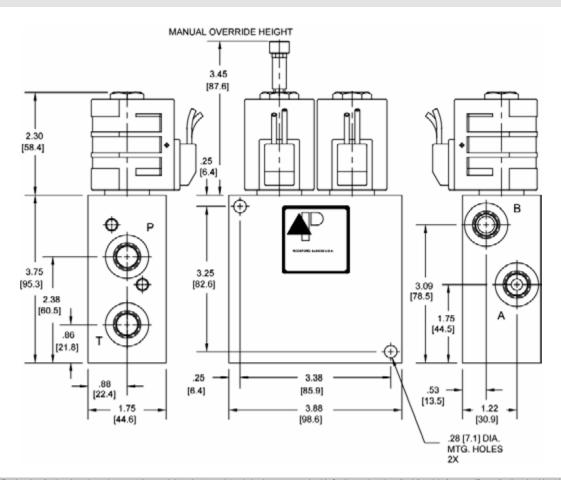
Pre-engineered circuit, option model H\*.

#### **OPERATION**

See options chart for specific operation.

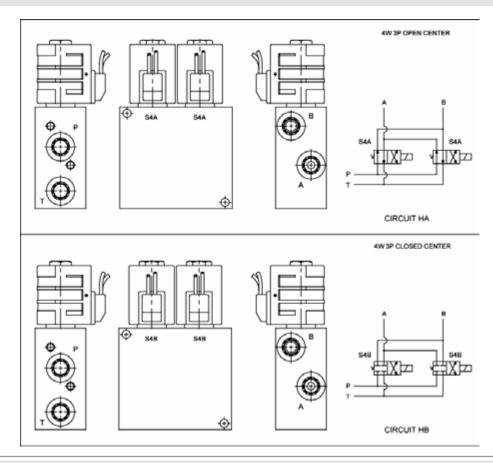
VALVE SPECIFICATIONS	
Nominal Flow	8 GPM (30 LPM)
Rated Operating Pressure	3000 PSI (207 bar)
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	30 micron nominal
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Size	Delta Series 7/8-14 Thread
Cartridge Torque Requirements	30 ft-lbs (40.6 Nm)
Coil Torque Nut Requirements	4-6 ft-lbs (5.4-8.1 Nm)

## **DIMENSIONS**



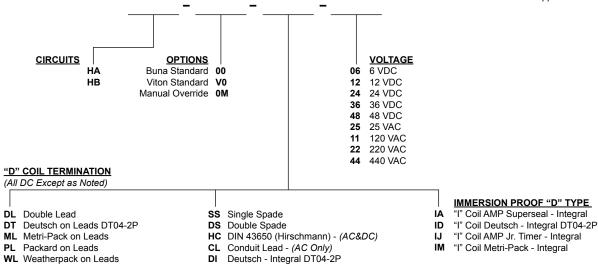


#### **OPTIONS CHART**



#### **ORDERING INFORMATION**

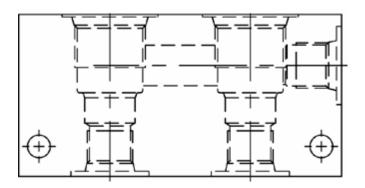
Approximate Coil Weight: .74 lbs (.33 kg)





## PRE-ENGINEERED CIRCUIT, OPTION MODEL I\*

#### BASE BODY - 20200009 = #6 SAE



BODY WEIGHT: .83 lbs (.37 kg)

# **DESCRIPTION**

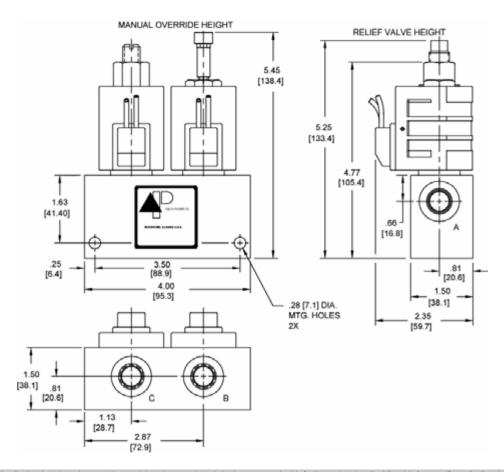
Pre-engineered circuit, option model I\*.

#### **OPERATION**

See model options for specific operation (back).

12 GPM (45 LPM)
3500 PSI (241 bar)
36 to 3000 SSU (3 to 647 cSt)
30 micron nominal
-40° to 250°F (-40° to 120°C)
General Purpose Hydraulic Fluid
Delta Series 7/8-14 Thread
30 ft-lbs (40.6 Nm)
4-6 ft-lbs (5.4-8.1 Nm)

## **DIMENSIONS**

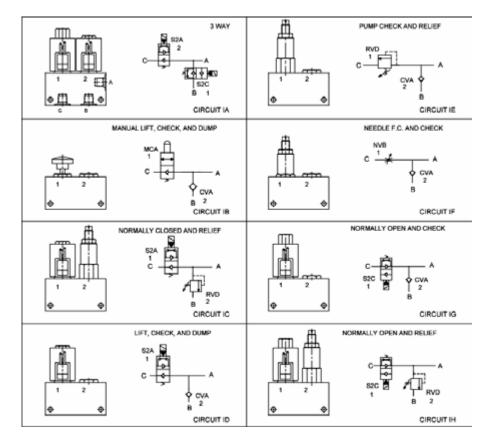


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W 7 / 2017

#### **OPTIONS CHART**

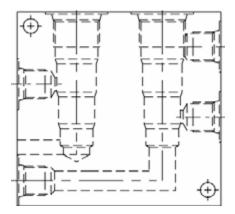


#### **ORDERING INFORMATION** Approximate Coil Weight: .74 lbs (.33 kg) VALVE 2 **CIRCUITS OPTIONS VOLTAGE FLOW PRESSURE** Buna Standard 06 6 VDC 01 .5-1 GPM 20-500 PSI ΙB Viton Standard V0 12 12 VDC 02 1-2 GPM 200-1500 PSI 15 IC Manual Override 0M 24 VDC 2-4 GPM 1500-3000 PSI 24 04 30 ID 36 36 VDC 4-8 GPM 2500-4000 PSI 08 40 FLOW CONTROL ΙE 48 48 VDC **RELIEF VALVE** IF 25 25 VAC IG 11 120 VAC ΙH 22 220 VAC VALVE 1 440 VAC 44 "D" COIL TERMINATION **PRESSURE FLOW** (All DC Except as Noted) .5-1 GPM 20-500 PSI 02 1-2 GPM 15 200-1500 PSI 2-4 GPM 1500-3000 PSI 04 30 **DL** Double Lead HC DIN 43650 (Hirschmann) - (AC&DC) 2500-4000 PSI 08 4-8 GPM 40 DT Deutsch on Leads DT04-2P Conduit Lead - (AC Only) **FLOW CONTROL RELIEF VALVE** ML Metri-Pack on Leads Deutsch - Integral DT04-2P PL Packard on Leads WL Weatherpack on Leads IMMERSION PROOF "D" TYPE FOR SPECIAL PRESET VALUES ON VALVES, CONSULT FACTORY SS Single Spade "I" Coil AMP Superseal - Integral DS Double Spade ID "I" Coil Deutsch - Integral DT04-2P "I" Coil AMP Jr. Timer - Integral "I" Coil Metri-Pack - Integral



## PRE-ENGINEERED CIRCUIT, OPTION MODEL J\*

#### BASE BODY - 20200010 = #6 SAE



BODY WEIGHT: 1.50 lbs (.68 kg)

# **DESCRIPTION**

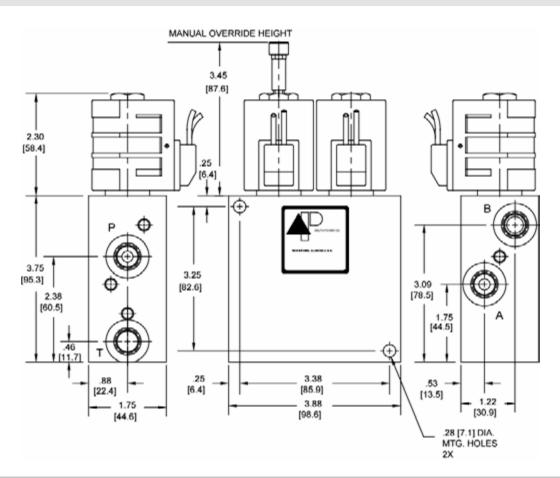
Pre-engineered circuit, option model J\*.

#### **OPERATION**

See typical schematic for specific operation.

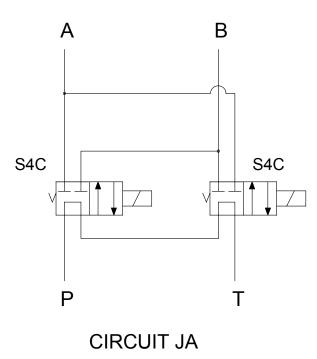
VALVE SPECIFICATIONS	
Nominal Flow	8 GPM (30 LPM)
Rated Operating Pressure	3000 PSI (207 bar)
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	30 micron nominal
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Size	Delta Series 7/8-14 Thread
Cartridge Torque Requirements	30 ft-lbs (40.6 Nm)
Coil Torque Nut Requirements	4-6 ft-lbs (5.4-8.1 Nm)

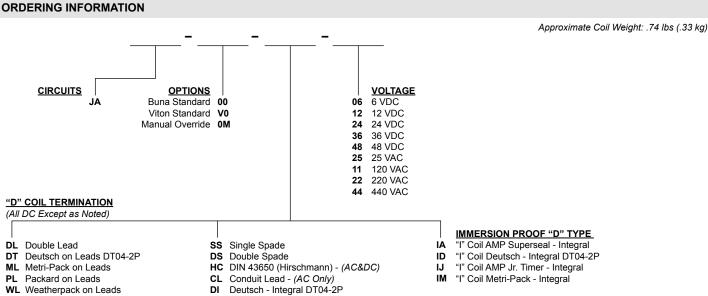
## **DIMENSIONS**





## **4W 3P TANDEM CENTER**



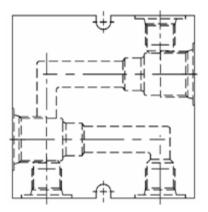






## PRE-ENGINEERED CIRCUIT, OPTION MODEL K\*

#### BASE BODY - 20200011 = #6 SAE



BODY WEIGHT: 1.50 lbs (.68 kg)

# **DESCRIPTION**

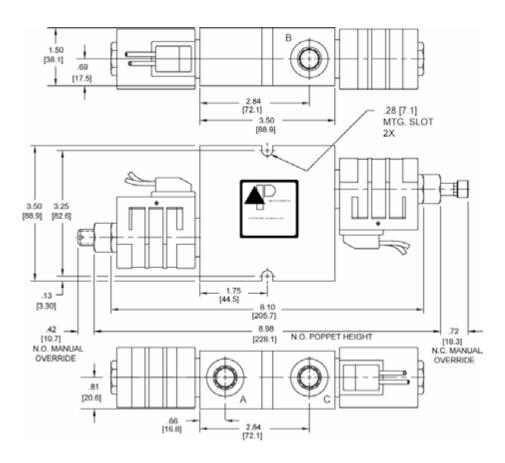
Pre-engineered circuit, option model K\*.

#### **OPERATION**

See options chart for specific operation.

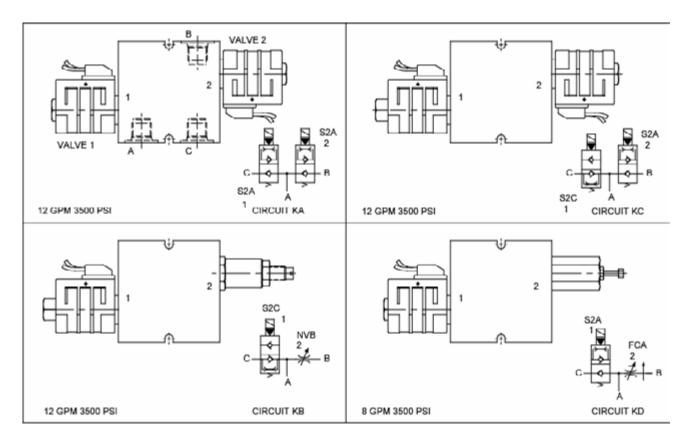
VALVE SPECIFICATIONS	
Nominal Flow	See Options Chart for Flow Range
Rated Operating Pressure	See Options Chart for Pres. Range
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	30 micron nominal
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Size	Delta Series 7/8-14 Thread
Cartridge Torque Requirements	30 ft-lbs (40.6 Nm)
Coil Torque Nut Requirements	4-6 ft-lbs (5.4-8.1 Nm)

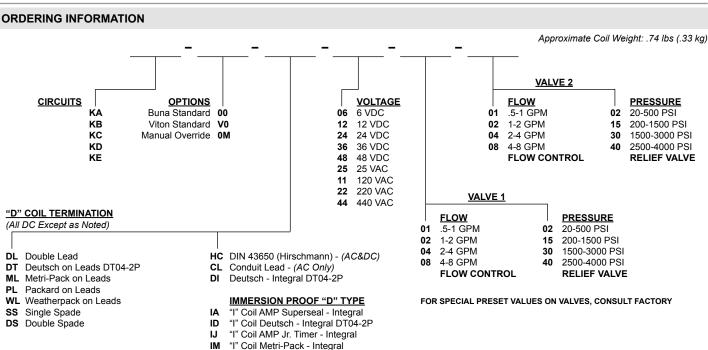
## **DIMENSIONS**





#### **OPTIONS CHART**

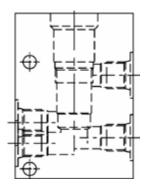






## PRE-ENGINEERED CIRCUIT, OPTION MODEL L\*

#### BASE BODY - 20200012 = #6 SAE



BODY WEIGHT: 1.80 lbs (.82 kg)

# **DESCRIPTION**

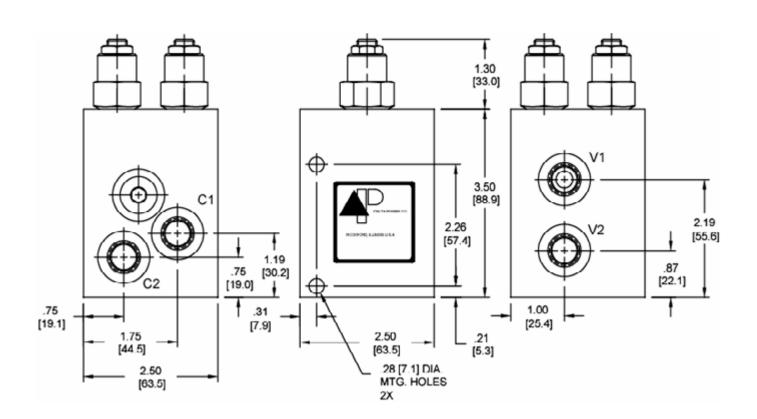
Pre-engineered circuit, option model L\*.

#### **OPERATION**

See typical schematic for specific operation.

VALVE SPECIFICATIONS	
Nominal Flow	15 GPM (60 LPM)
Rated Operating Pressure	See Options Chart for Pres. Range
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	30 micron nominal
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Size	Special Series M20X1.5-H6
	Thread
Cartridge Torque Requirements	30 ft-lbs (40.6 Nm)

## **DIMENSIONS**

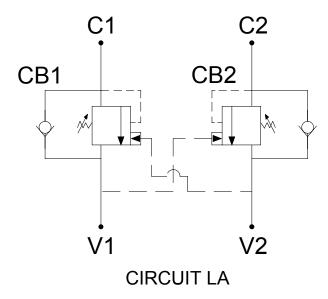


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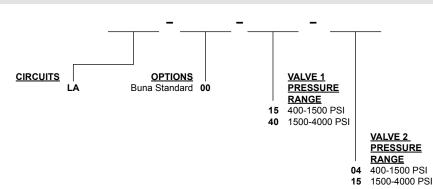
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# **DUAL COUNTERBALANCE**



#### **ORDERING INFORMATION**

Approximate Coil Weight: .74 lbs (.33 kg)



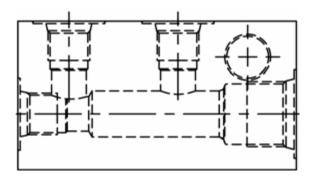
Note: Aluminum Bodies are NOT durability rated for 4000 PSI (276 bar). Consult factory for body options.

FOR SPECIAL PRESET VALUES ON VALVES, CONSULT FACTORY



## PRE-ENGINEERED CIRCUIT, OPTION MODEL M\*

#### BASE BODY - 20200013 = #6 SAE



BODY WEIGHT: 1.09 lbs (.49 kg)

# **DESCRIPTION**

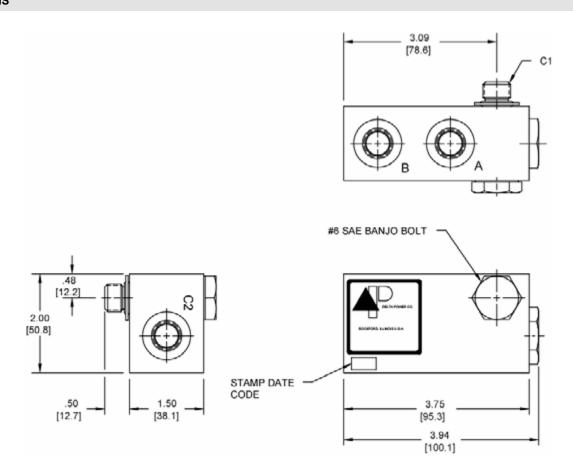
Pre-engineered circuit, option model M\*.

#### **OPERATION**

See typical schematic for specific operation.

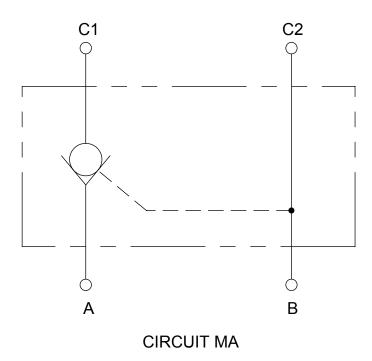
VALVE SPECIFICATIONS	
Nominal Flow	12 GPM (45 LPM)
Rated Operating Pressure	3500 PSI (241 bar)
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	30 micron nominal
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Operating Fluid Media	General Purpose Hydraulic Fluid
Ratio	4:1
Cartridge Size	M20 X 1.5
Cartridge Torque Requirements	30 ft-lbs (40.6 Nm)

## **DIMENSIONS**

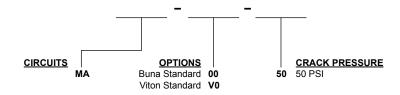




# P.O. CHECK CIRCUIT 4:1 RATIO



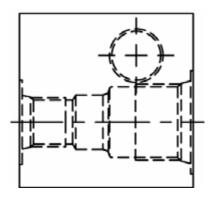
#### **ORDERING INFORMATION**





## PRE-ENGINEERED CIRCUIT, OPTION MODEL N\*

#### BASE BODY - 20200014 = #6 SAE



BODY WEIGHT: 1.09 lbs (.49 kg)

# **DESCRIPTION**

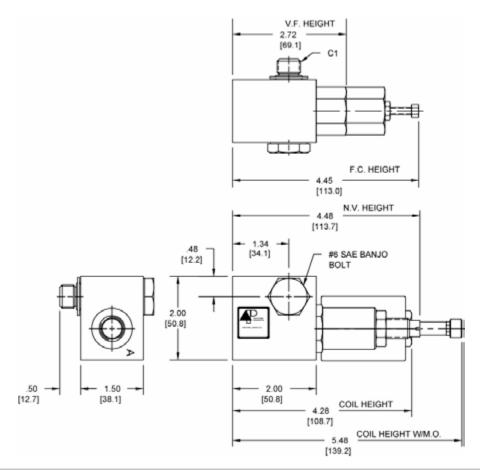
Pre-engineered circuit, option model N\*.

#### **OPERATION**

See options chart for specific operation.

VALVE SPECIFICATIONS	
Nominal Flow	See Options Chart for Flow Range
Rated Operating Pressure	See Options Chart for Pres. Range
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	30 micron nominal
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Size	Delta Series 7/8-14 Thread
Cartridge Torque Requirements	30 ft-lbs (40.6 Nm)
Coil Torque Nut Requirements	4-6 ft-lbs (5.4-8.1 Nm)

## **DIMENSIONS**

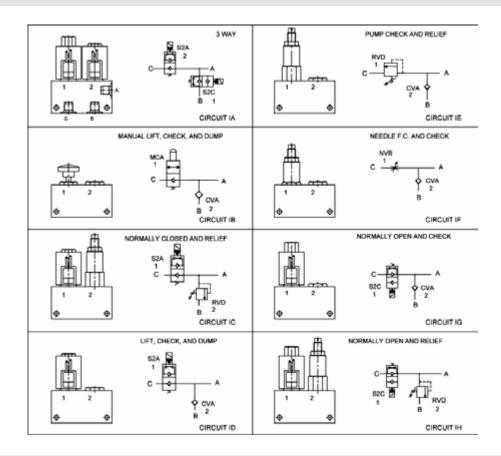


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#### **OPTIONS CHART**



#### **ORDERING INFORMATION**

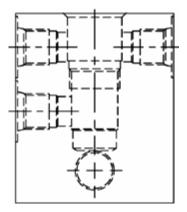
Approximate Coil Weight: .74 lbs (.33 kg) VALVE 1 **CIRCUITS OPTIONS VOLTAGE FLOW PRESSURE** Buna Standard 06 6 VDC 01 1 GPM 02 20-500 PSI NB Viton Standard V0 12 12 VDC 02 2 GPM 15 200-1500 PSI NC Manual Override 0M 24 VDC **03** 3 GPM 30 1500-3000 PSI 24 **04** 4 GPM 2500-4000 PSI ND 36 36 VDC 40 **05** 5 GPM **RELIEF VALVE** NE 48 48 VDC 25 25 VAC 06 6 GPM 11 120 VAC 07 7 GPM 22 220 VAC 80 8 GPM 9 GPM 44 440 VAC 09 10 GPM 10 FLOW CONTROL FOR SPECIAL PRESET VALUES ON VALVES, CONSULT FACTORY "D" COIL TERMINATION (All DC Except as Noted) **IMMERSION PROOF "D" TYPE** SS Single Spade "I" Coil AMP Superseal - Integral **DL** Double Lead "I" Coil Deutsch - Integral DT04-2P DT Deutsch on Leads DT04-2P **DS** Double Spade ID ML Metri-Pack on Leads HC DIN 43650 (Hirschmann) - (AC&DC) IJ "I" Coil AMP Jr. Timer - Integral PL Packard on Leads CL Conduit Lead - (AC Only) IM "I" Coil Metri-Pack - Integral WL Weatherpack on Leads Deutsch - Integral DT04-2P





## PRE-ENGINEERED CIRCUIT, OPTION MODEL O\*

#### BASE BODY - 20200015 = #6 SAE



BODY WEIGHT: 1.09 lbs (.49 kg)

# **DESCRIPTION**

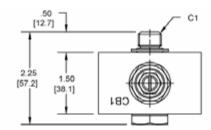
Pre-engineered circuit, option model O\*.

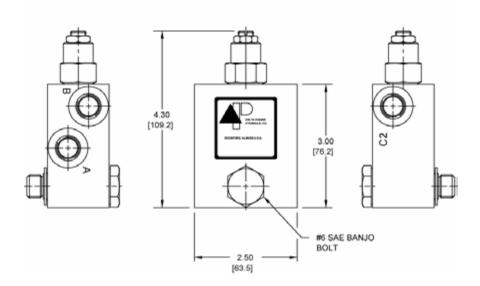
## **OPERATION**

See options chart for specific operation.

VALVE SPECIFICATIONS	
Nominal Flow	15 GPM (57 LPM)
Rated Operating Pressure	3500 PSI (241 bar)
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	30 micron nominal
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Size	M20 X 1.5
Cartridge Torque Requirements	30 ft-lbs (40.6 Nm)

## **DIMENSIONS**



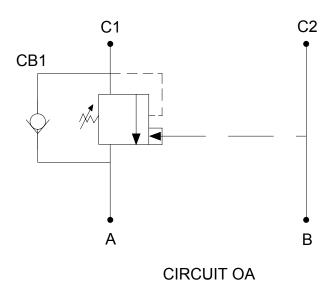


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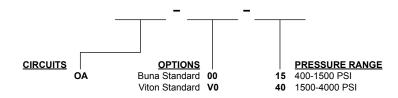


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# **COUNTERBALANCE**



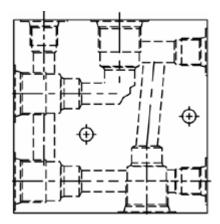
#### **ORDERING INFORMATION**



FOR SPECIAL PRESET VALUES ON VALVES, CONSULT FACTORY

## PRE-ENGINEERED CIRCUIT, OPTION MODEL P\*

#### BASE BODY - 20200017 = #6 SAE



BODY WEIGHT: 1.5 lbs (.68 kg)

# **DESCRIPTION**

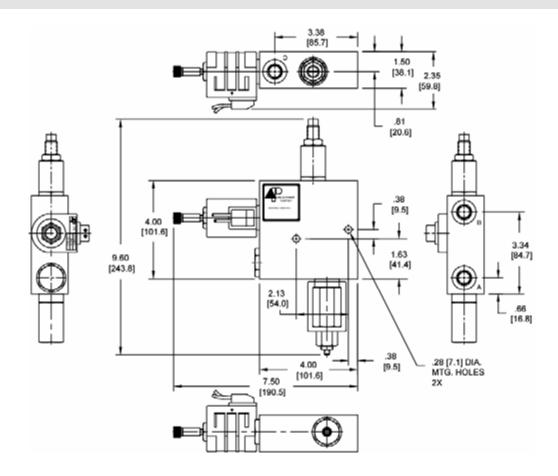
Pre-engineered circuit, option model P\*.

#### **OPERATION**

See options chart for specific operation (back).

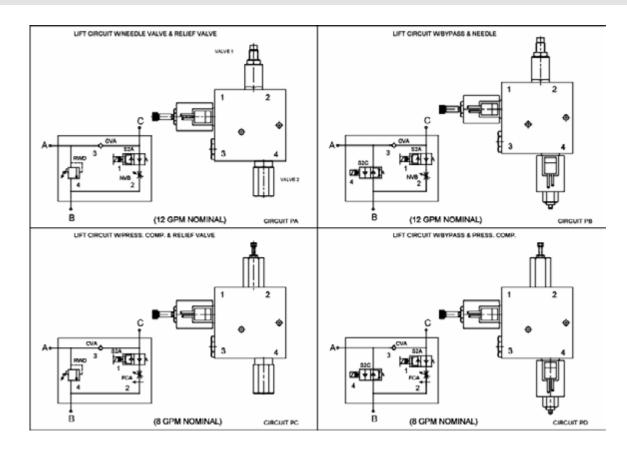
VALVE SPECIFICATIONS	
Nominal Flow	See Options Chart for Flow Range
Rated Operating Pressure	See Options Chart for Pres. Range
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	30 micron nominal
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Size	Delta Series 7/8-14 Thread
Cartridge Torque Requirements	30 ft-lbs (40.6 Nm)
Coil Torque Nut Requirements	4-6 ft-lbs (5.4-8.1 Nm)

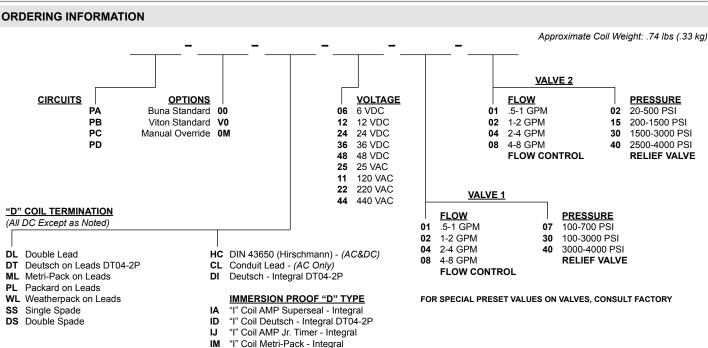
## **DIMENSIONS**





#### **OPTIONS CHART**

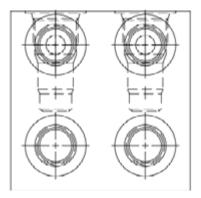






## PRE-ENGINEERED CIRCUIT, OPTION MODEL Q\*

#### BASE BODY - 20200018 = #8 SAE



BODY WEIGHT: 1.50 lbs (.68 kg)

# **DESCRIPTION**

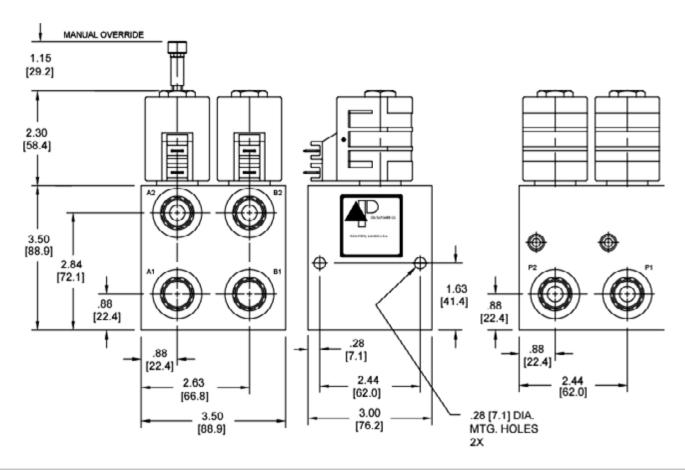
Pre-engineered circuit, option model Q\*.

#### **OPERATION**

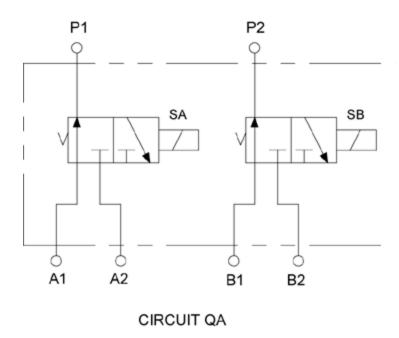
See options chart for specific operation.

VALVE SPECIFICATIONS	
Nominal Flow	8 GPM (30 LPM)
Rated Operating Pressure	400-3500 PSI (28-241 bar)
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	30 micron nominal
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Size	Delta Series 7/8-14 Thread
Cartridge Torque Requirements	30 ft-lbs (40.6 Nm)
Coil Torque Nut Requirements	4-6 ft-lbs (5.4-8.1 Nm)

## **DIMENSIONS**





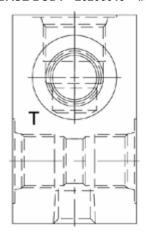


#### **ORDERING INFORMATION** Approximate Coil Weight: .74 lbs (.33 kg) **CIRCUITS OPTIONS VOLTAGE** Buna Standard 00 06 6 VDC Viton Standard V0 12 12 VDC Manual Override 0M 24 24 VDC **36** 36 VDC 48 VDC 48 25 25 VAC 11 120 VAC 22 220 VAC 440 VAC **"D" COIL TERMINATION** (All DC Except as Noted) **IMMERSION PROOF "D" TYPE** "I" Coil AMP Superseal - Integral **DL** Double Lead SS Single Spade DS Double Spade DT Deutsch on Leads DT04-2P "I" Coil Deutsch - Integral DT04-2P ID ML Metri-Pack on Leads HC DIN 43650 (Hirschmann) - (AC&DC) IJ "I" Coil AMP Jr. Timer - Integral PL Packard on Leads CL Conduit Lead - (AC Only) IM "I" Coil Metri-Pack - Integral WL Weatherpack on Leads DI Deutsch - Integral DT04-2P



## PRE-ENGINEERED CIRCUIT, OPTION MODEL R\*

#### BASE BODY - 20200019 = #8 SAE



BODY WEIGHT: .66 lbs (.30 kg)

# **DESCRIPTION**

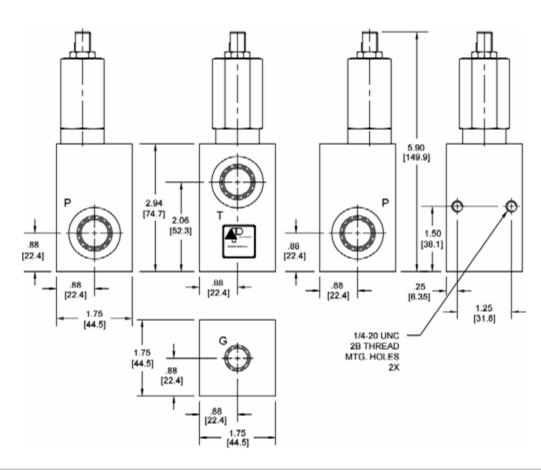
Pre-engineered circuit, option model R\*.

#### **OPERATION**

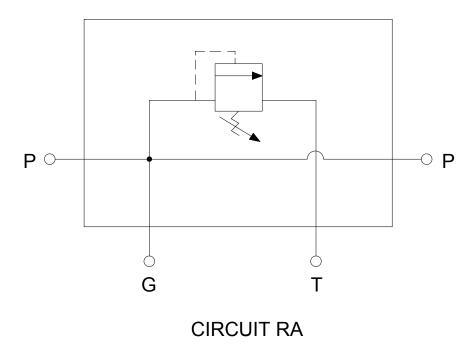
See typical schematic for specific operation.

VALVE SPECIFICATIONS	
Nominal Flow	15 GPM (57 LPM)
Rated Operating Pressure	4000 PSI (276 bar)
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	30 micron nominal
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Size	Delta Series 7/8-14 Thread
Cartridge Torque Requirements	30 ft-lbs (40.6 Nm)

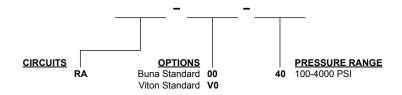
## **DIMENSIONS**







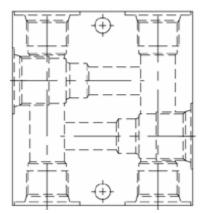
#### **ORDERING INFORMATION**



FOR SPECIAL PRESET VALUES ON VALVES, CONSULT FACTORY

## PRE-ENGINEERED CIRCUIT, OPTION MODEL S\*

#### BASE BODY - 20200020 = #8 SAE



BODY WEIGHT: 1.2 lbs (.54 kg)

# **DESCRIPTION**

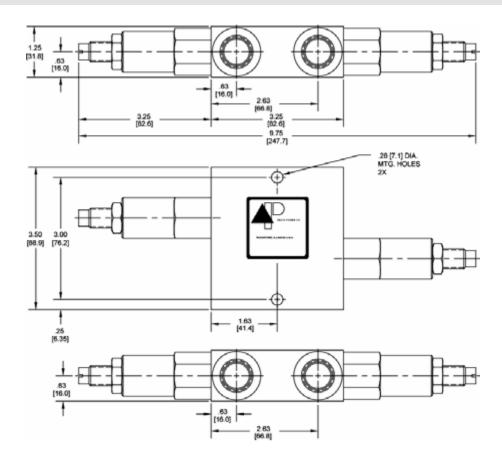
Pre-engineered circuit, option model S\*.

## **OPERATION**

See options chart for specific operation.

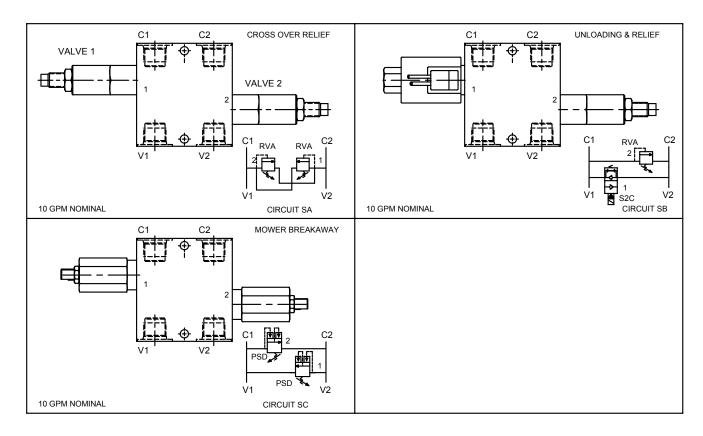
VALVE SPECIFICATIONS	
Nominal Flow	See Options Chart for Flow Range
Rated Operating Pressure	See Options Chart for Pres. Range
Viscosity Range	36 to 3000 SSU (3 to 647 cSt)
Filtration	30 micron nominal
Media Operating Temp. Range	-40° to 250°F (-40° to 120°C)
Operating Fluid Media	General Purpose Hydraulic Fluid
Cartridge Size	Delta Series 7/8-14 Thread
Cartridge Torque Requirements	30 ft-lbs (40.6 Nm)
Coil Torque Nut Requirements	6 ft-lbs (8.1 Nm)

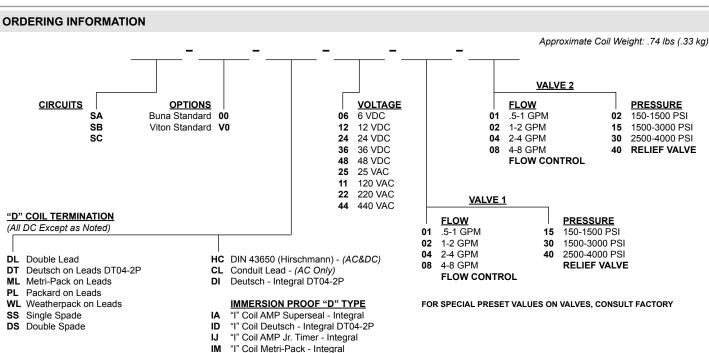
## **DIMENSIONS**





#### **OPTIONS CHART**







# **PRE-ENGINEERED**



FAN DRIVE HIC	HP4
SPREADER VALVES	HP6
DDODODTIONAL DEMOTE CONTROL HIC	ЦΠο

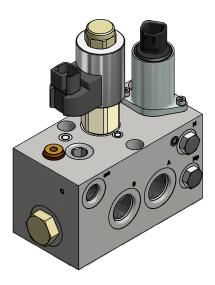
## **HYDRAULIC INTEGRATED CIRCUITS**



FAN DRIVE HIC	GPM	PSI	LPM	BAR	MODEL	PAGE
A B DR2	2.5 to 10	3650	10 to 40	250	HFD-A	HP4
M M	5 to 20	3650	20 to 80	250	HFD-B	HP6
ACV ACV						
NV NV						
P T DRI						



#### HFD SERIES PROPORTIONAL REVERSING FAN DRIVE HIC



#### DESCRIPTION

The HFD hydraulic block controls the cooling fan speed, modulating the supply pressure to the fan motor. By actuating the Pilot Operated Directional Valve, the oil flow to the motor is reversed, permitting the de-clogging of the cooling pack, increasing its efficiency and avoiding over-heating.

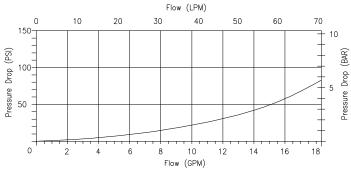
#### **FEATURES**

- · Best-in-Class Pressure Drop (considering the compact overall dimensions).
- Normally Closed Proportional Pressure Relief valve EE-PRB (RV) the supply pressure decreases by increasing the current; if the current goes to zero, the fan speed goes to max (fail safe).
- Reversing Pilot Valve IP-DAR43 (EV1) Controllable both On/Off and Proportional.
- Reversing Directional Valve special design for soft reversing without anti-shock valves to protect the motor from pressure peaks.
- · Anti-cavitation Check on the P-line (ACV).
- · External pilot option (from Port M).
- Version without Proportional Pressure Relief Valve available for application with Variable Displacement Pump (contact Tecnord/Delta Power for details).

#### PERFORMANCE CURVES

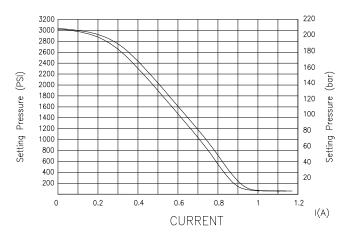
#### PRESSURE DROP P->A->B->T

Hydr.Oil 26cSt [121 SSU] @ 40°C [104°F]

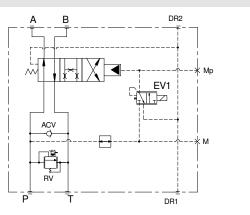


#### PRESSURE vs CURRENT (RV)

Hydr.Oil 26cSt [121 SSU] @ 40°C [104°F] - 12V Coil



#### **SCHEMATIC**



#### **VALVE SPECIFICATIONS**

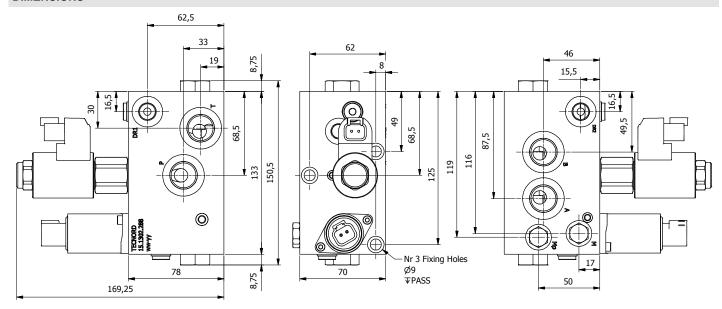
Nominal Flow	A version - 20 GPM (40 LPM)			
	B version - 40 GPM (80 LPM)			
Rating Operated Pressure	3650 PSI (250 bar)			
Minimum Pressure to pilot	A version - 5 bar			
	B version - 10 bar			
Coil Voltage	12V/24V			
PWM Dither	150Hz			
Coil Termination	Deutsch DT04-2P			
Fluid Temperature Range	5° to 220°F (-15° to +105°C)			
Viscosity Range	3-650 cSt			
Oil Filtration Degree	18/15 (ISO 4406)			
Weight	12 lbs (5.8 kg)			
	<u> </u>			

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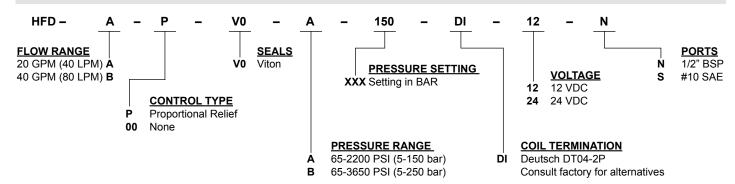


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#### **DIMENSIONS**



#### ORDERING INFORMATION



#### **EHFD SYSTEM - ELECTRO HYDRAULIC FAN DRIVE SYSTEM**

Combining the HFD hydraulic block and MMS-1012-FD Controller, Tecnord/ Delta Power can provide to OEMs a complete electro-hydraulic system to control the Fan Motor.

## **FEATURES**

- · Up to 3 Temperature Inputs
- Up to 2 Digital Inputs (Switches)
- · 2x PWM Output
- 3x ON/OFF Outputs
- · PC-programmable
- IP67

