

TECNORD



HYDRAULIC INTEGRATED
CIRCUITS (HIC)



Manufacturers of hydraulic cartridge valves
and electro-hydraulic systems

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



SERIES SINGLE PILOT OPERATED CHECK VALVE HS3

W7 / 2017

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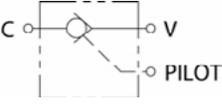


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SERIES SINGLE PILOT OPERATED CHECK VALVE

	GPM	PSI	LPM	BAR	CAVITY	MODEL	PAGE
	5	3000	19	207	5/8-18	MS-POC	HS4
	10	3500	38	241	3/4-16	PS-POC	HS6
	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.

W7 / 2017

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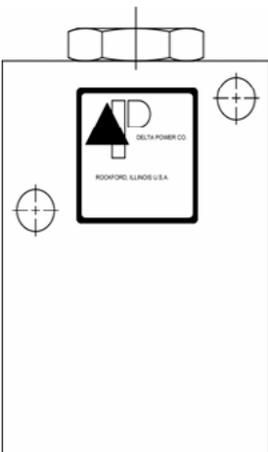


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MS-POC SINGLE PILOT OPERATED CHECK VALVE



DESCRIPTION

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

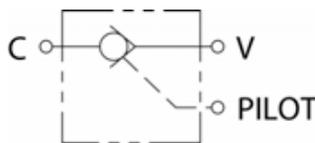
OPERATION

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.

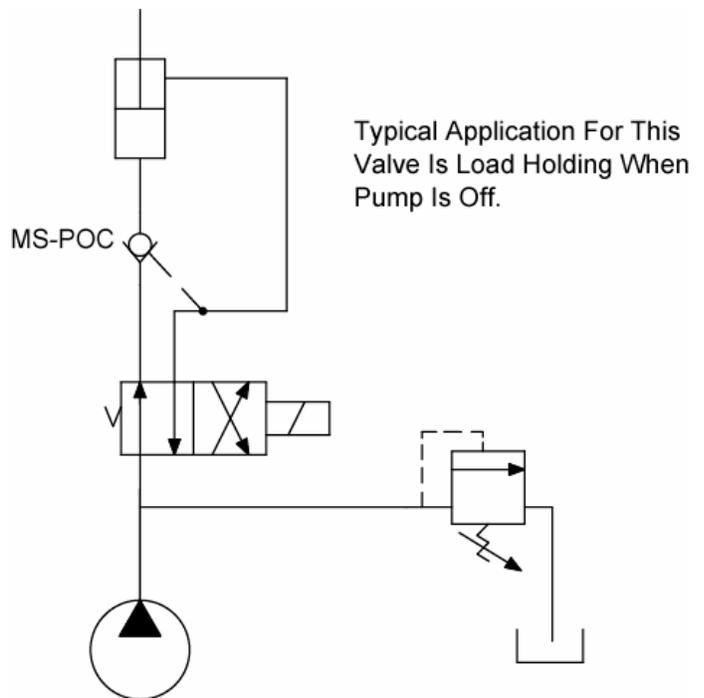
HYDRAULIC SYMBOL



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 SCHEMATIC



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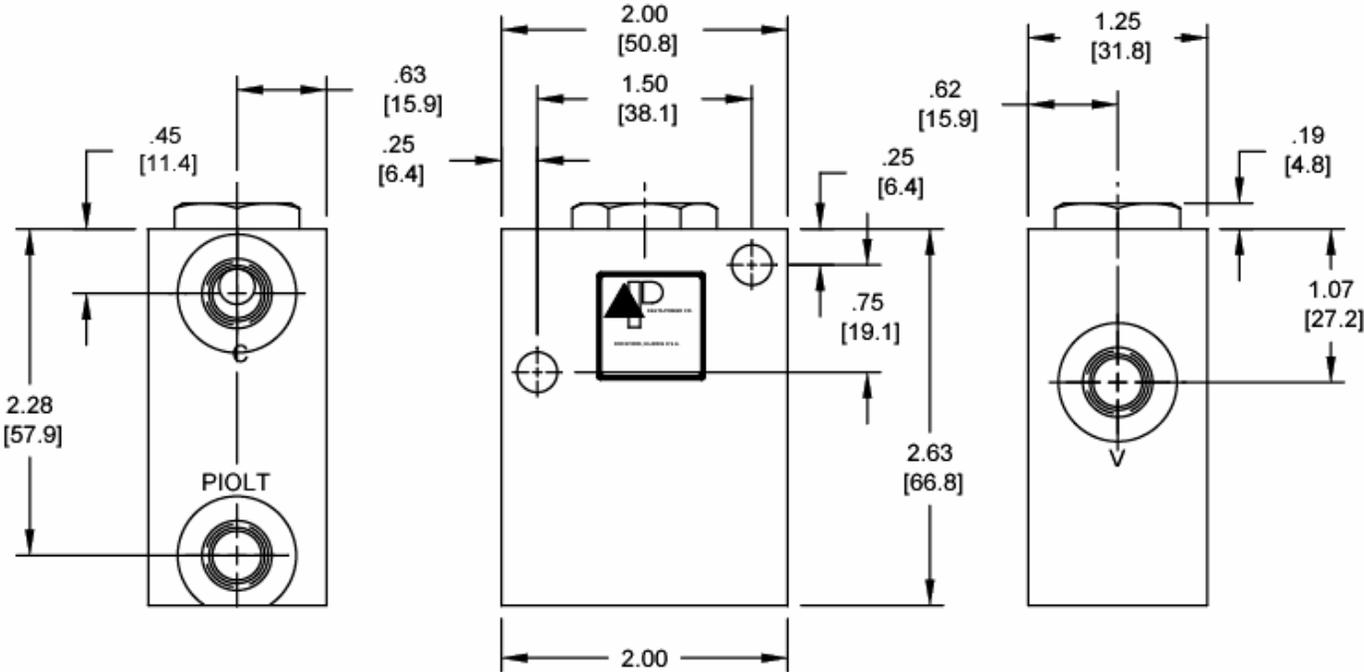


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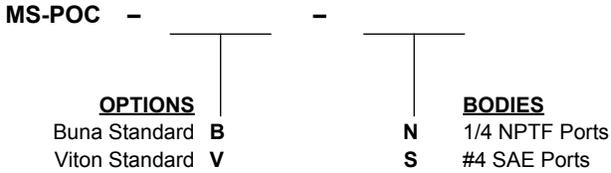
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DIMENSIONS



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

ORDERING INFORMATION



W7 / 2017

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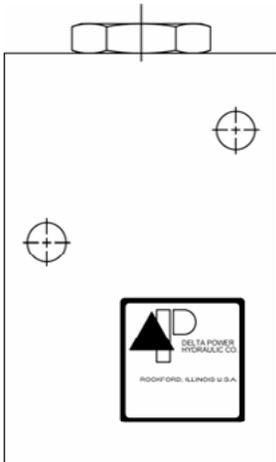


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PS-POC SINGLE PILOT OPERATED CHECK VALVE



DESCRIPTION

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

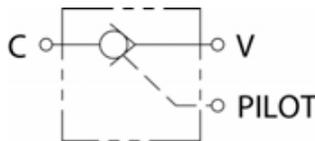
OPERATION

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.

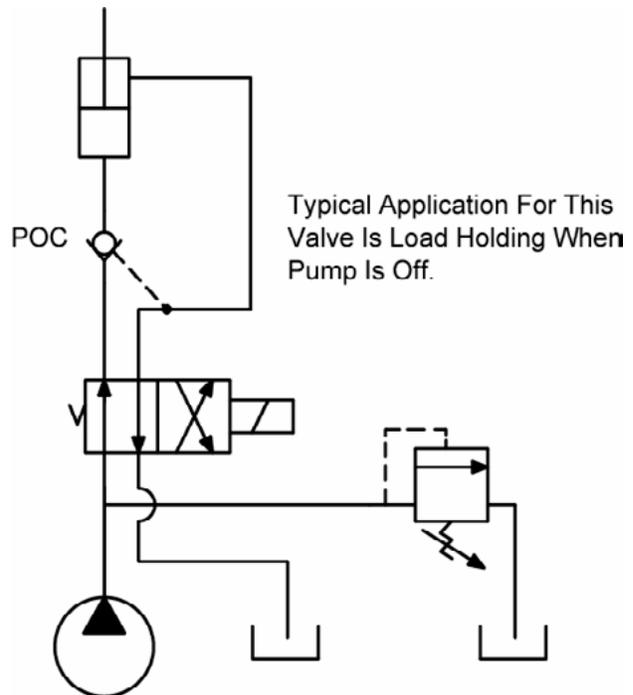
HYDRAULIC SYMBOL



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



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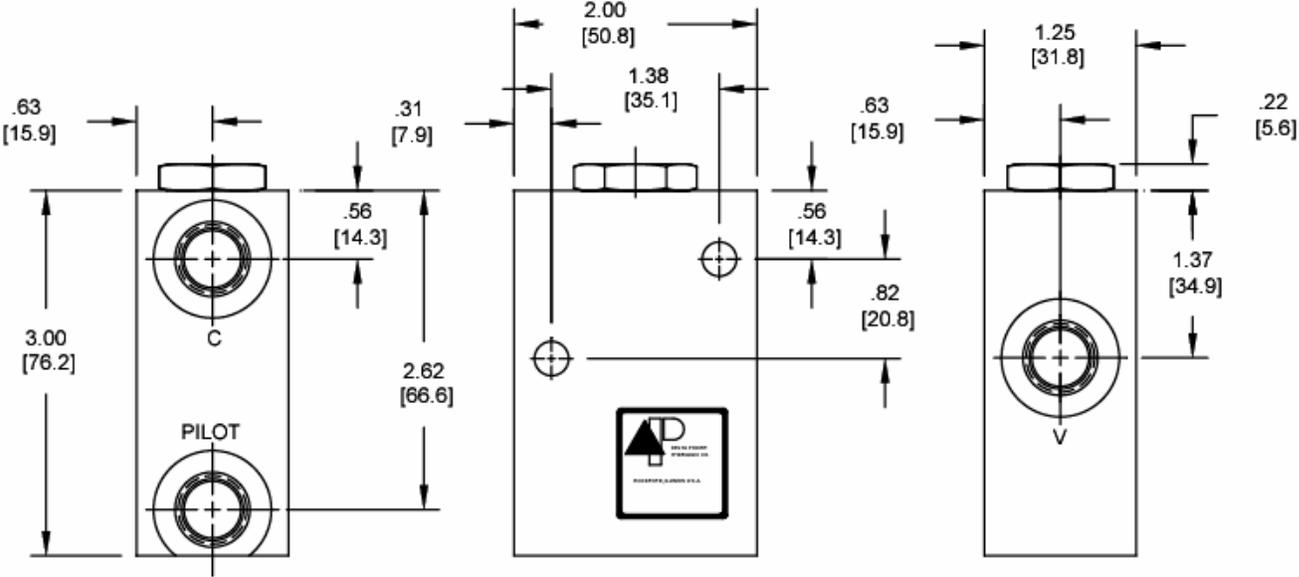


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DIMENSIONS



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

ORDERING INFORMATION



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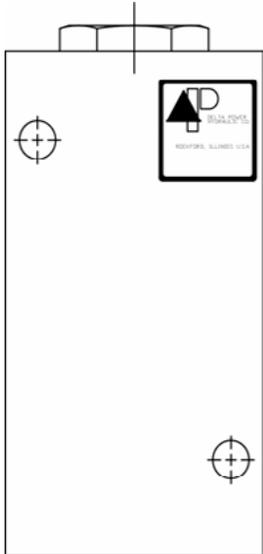


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DS-POC SINGLE PILOT OPERATED CHECK VALVE



DESCRIPTION

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

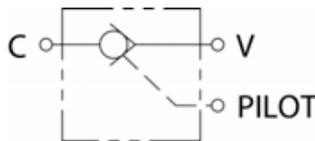
OPERATION

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.

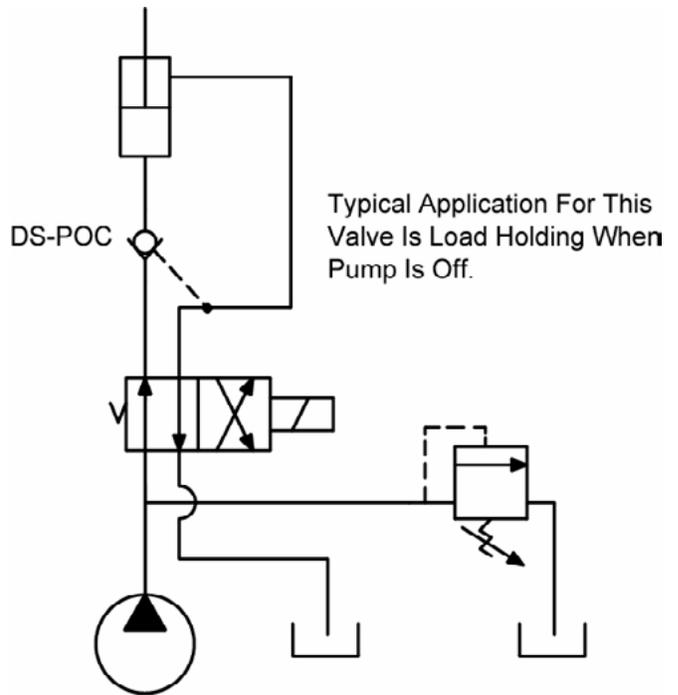
HYDRAULIC SYMBOL



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



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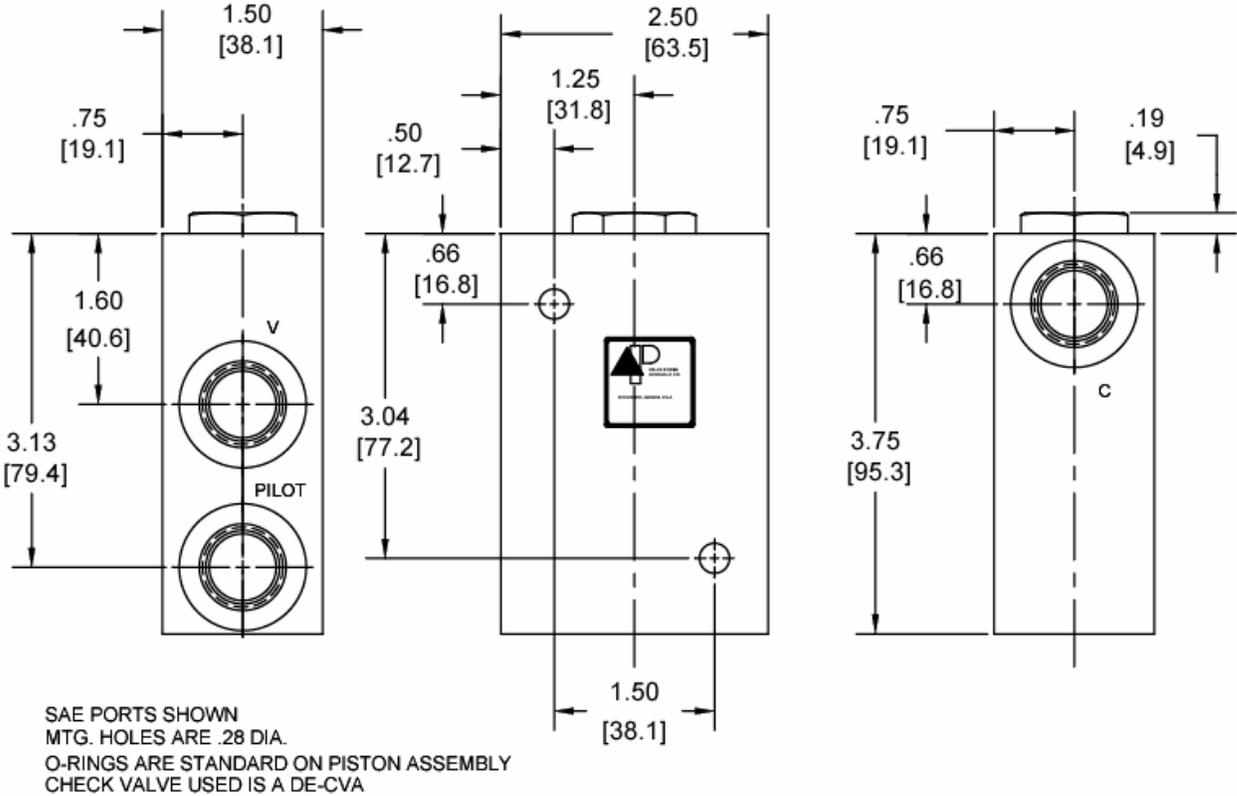


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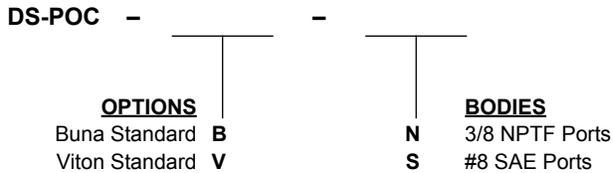


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DIMENSIONS



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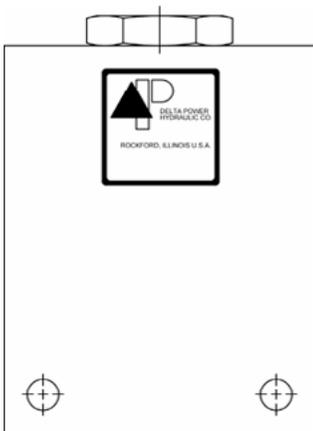


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SS-POC SINGLE PILOT OPERATED CHECK VALVE



DESCRIPTION

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

OPERATION

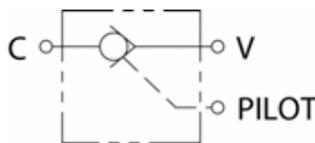
The SS-POC allows flow to pass from (V) to (C) and blocks flow from (C) to (V). When pilot pressure is applied to pilot port the valve allows flow from (C) to (V). The valve has a 3.7:1 pilot ratio, so at least .270 of the load pressure is required at the (PILOT) port to open the flow passage to allow 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.

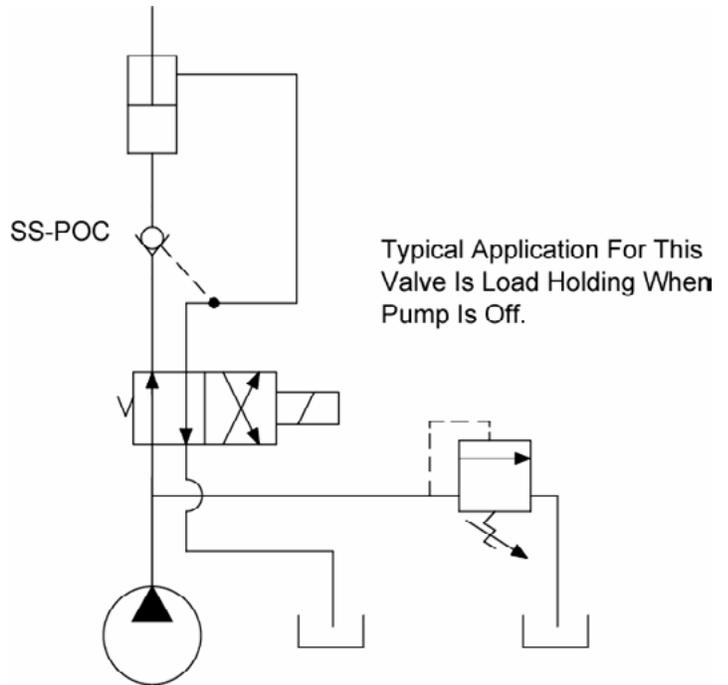
HYDRAULIC SYMBOL



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



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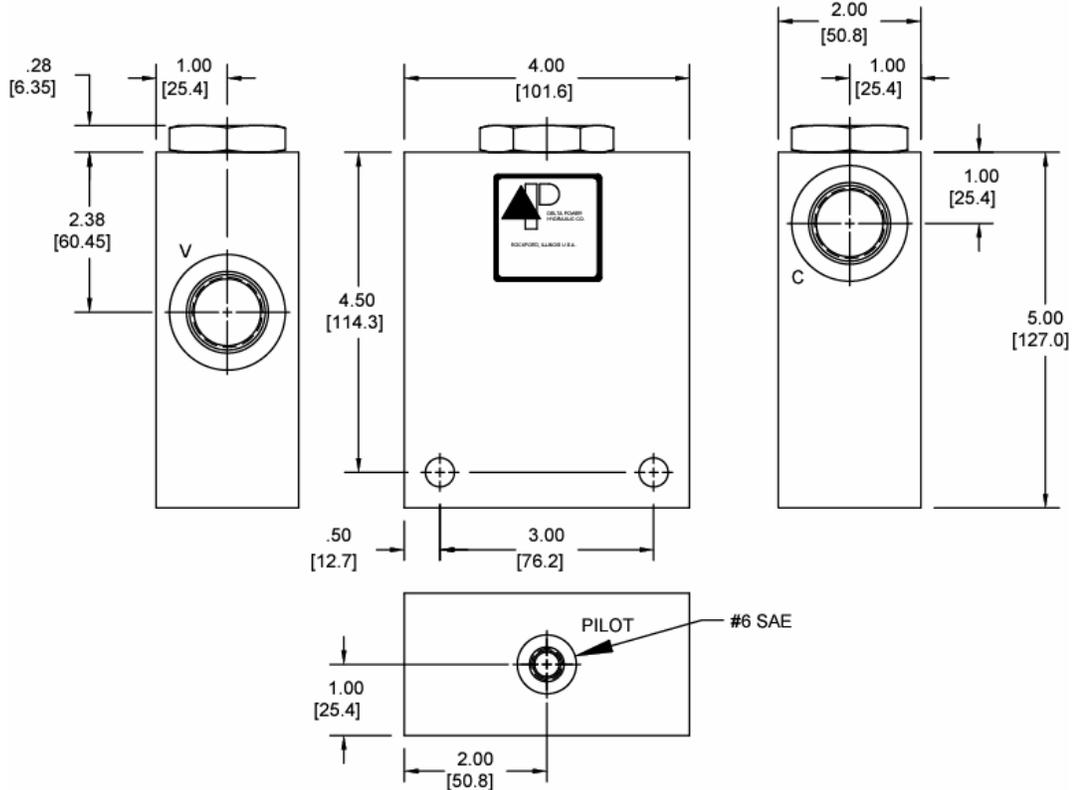


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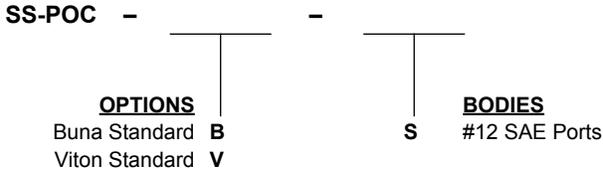
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DIMENSIONS



SAE PORTS SHOWN
 MTG. HOLES ARE .41 DIA.
 O-RINGS ARE STANDARD ON PISTON ASSEMBLY
 CHECK VALVE USED IS A SJ-CVA

ORDERING INFORMATION



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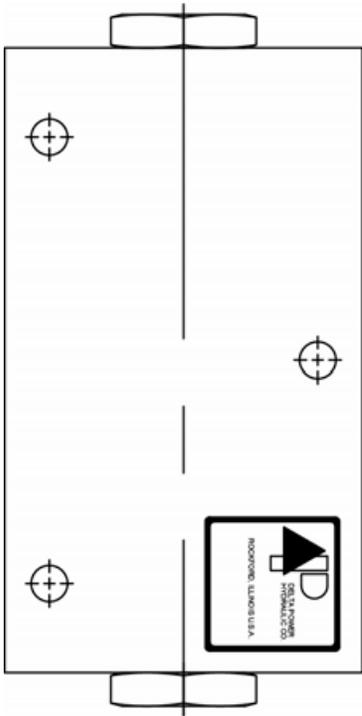


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DOUBLE, P.O. CHECK VALVES (PRE-ENGINEERED BLOCKS)



SERIES DOUBLE PILOT OPERATED CHECK VALVE HS3

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SERIES DOUBLE PILOT OPERATED CHECK VALVE

	GPM	PSI	LPM	BAR	CAVITY	MODEL	PAGE
	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.

W7 / 2017

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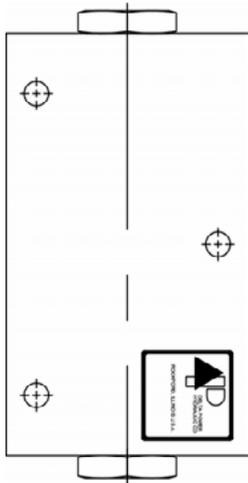


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MD-POC DOUBLE PILOT OPERATED CHECK VALVE



DESCRIPTION

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

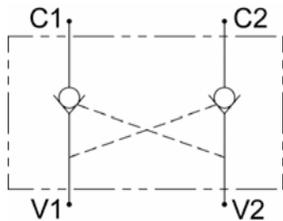
OPERATION

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.

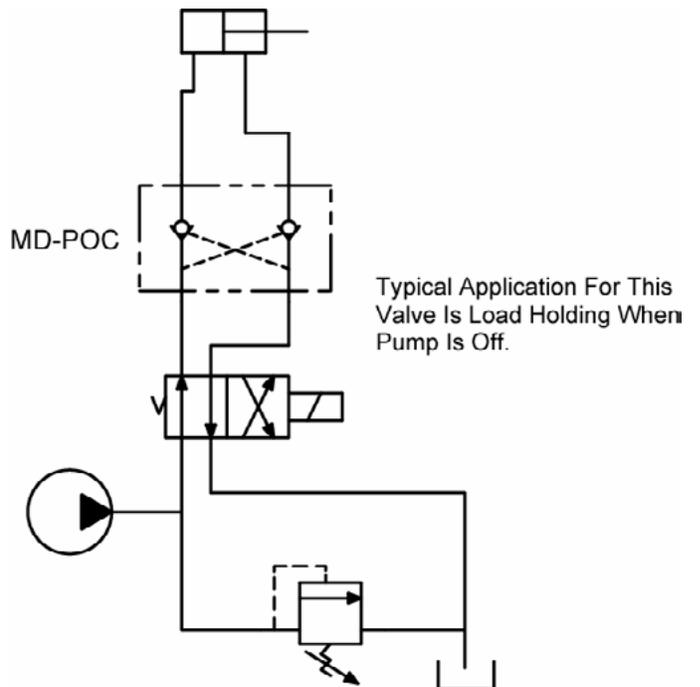
HYDRAULIC SYMBOL



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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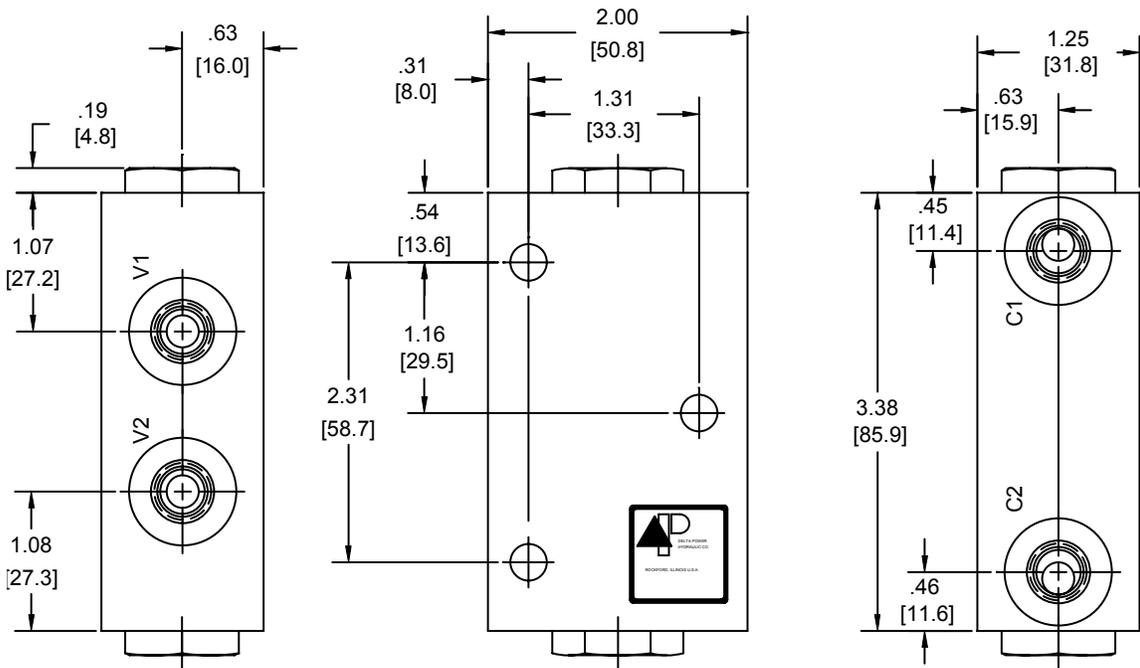


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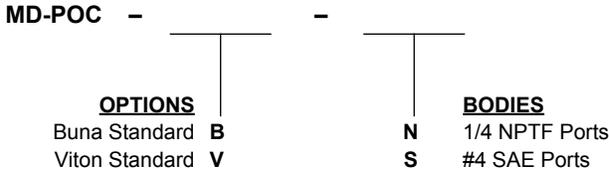
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DIMENSIONS



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



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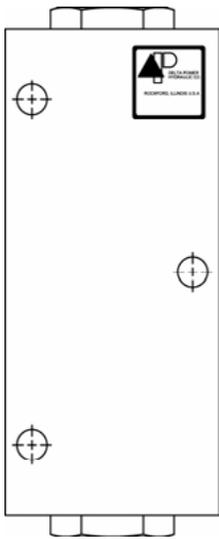


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PD-POC DOUBLE PILOT OPERATED CHECK VALVE



DESCRIPTION

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

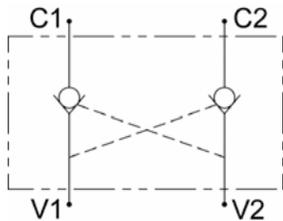
OPERATION

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.

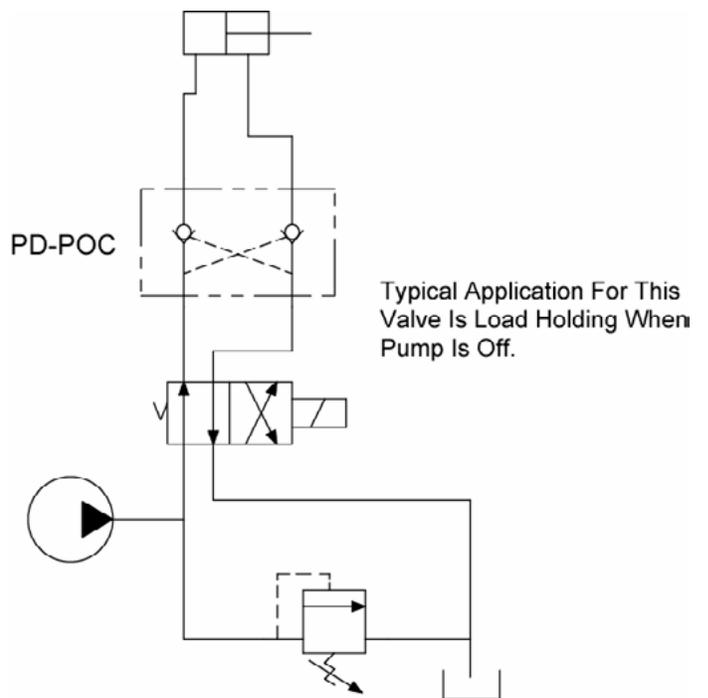
HYDRAULIC SYMBOL



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



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.

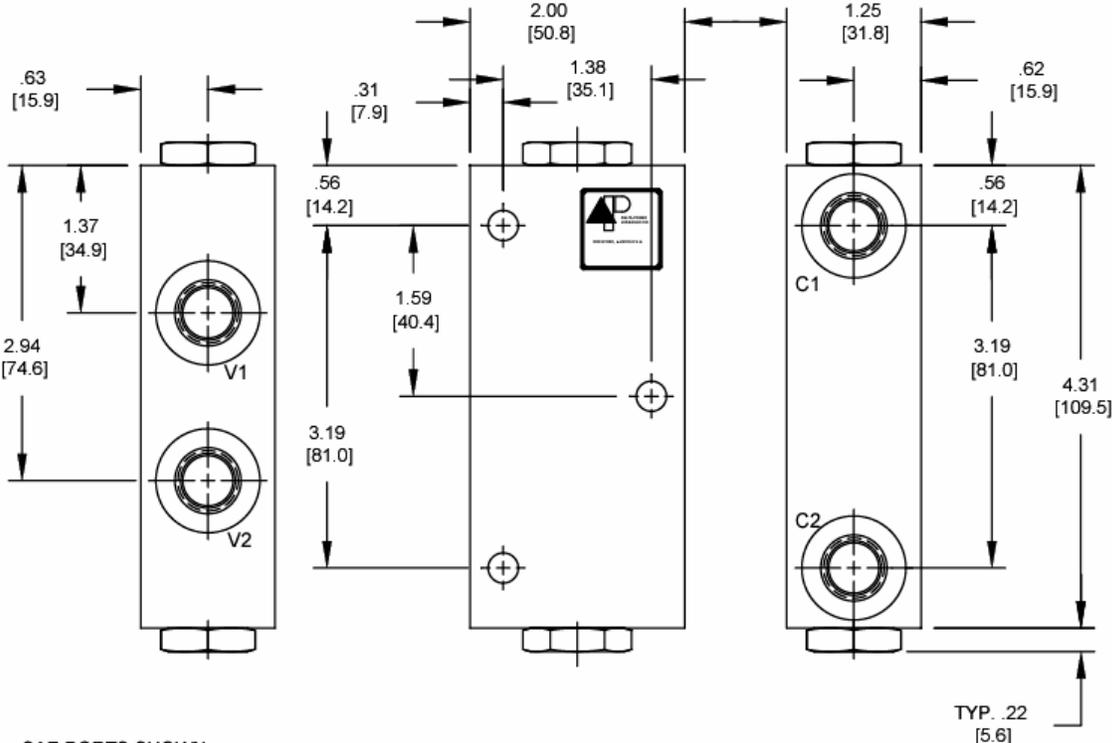


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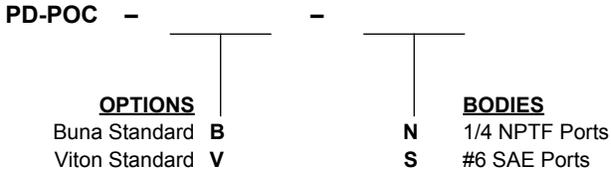
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DIMENSIONS



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

ORDERING INFORMATION



W7 / 2017

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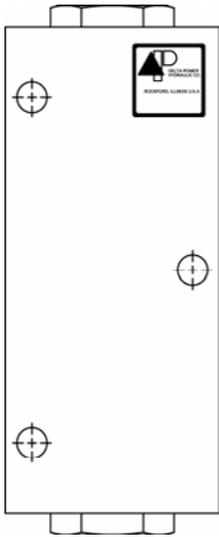


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DD-POC DOUBLE PILOT OPERATED CHECK VALVE



DESCRIPTION

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

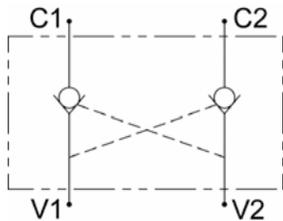
OPERATION

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.

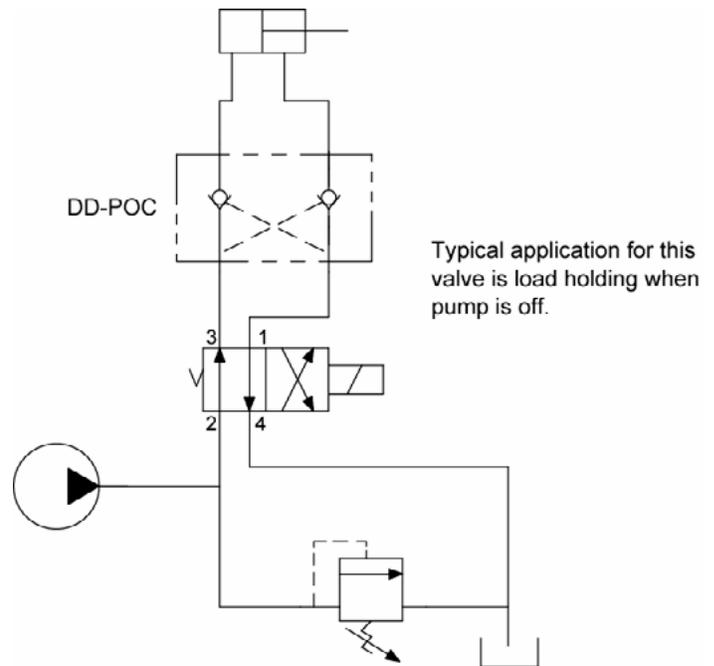
HYDRAULIC SYMBOL



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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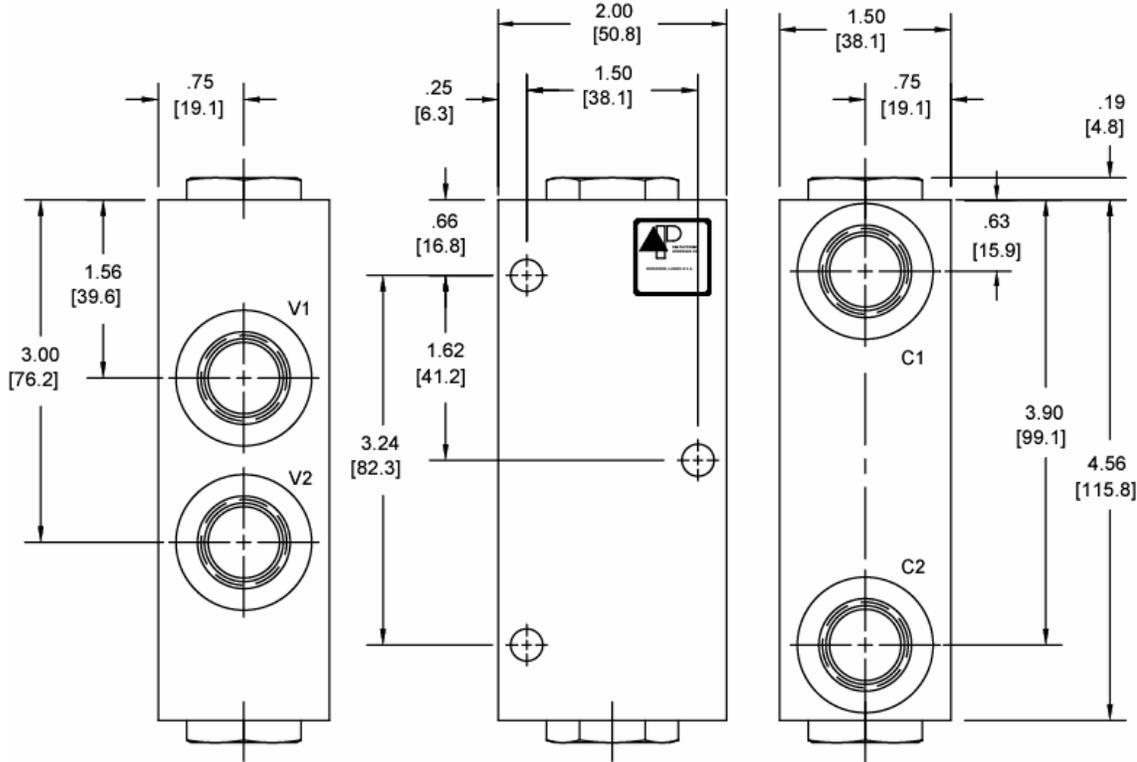


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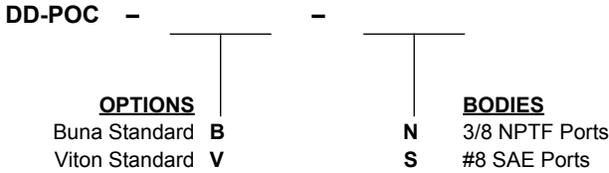
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DIMENSIONS



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

ORDERING INFORMATION



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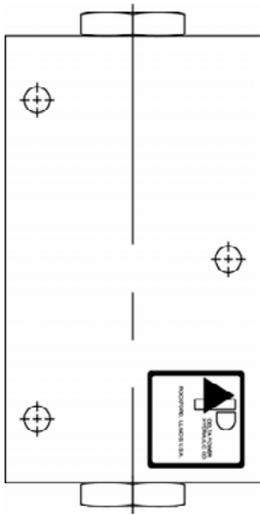


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SD-POC DOUBLE PILOT OPERATED CHECK VALVE



DESCRIPTION

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

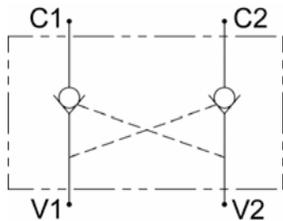
OPERATION

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.

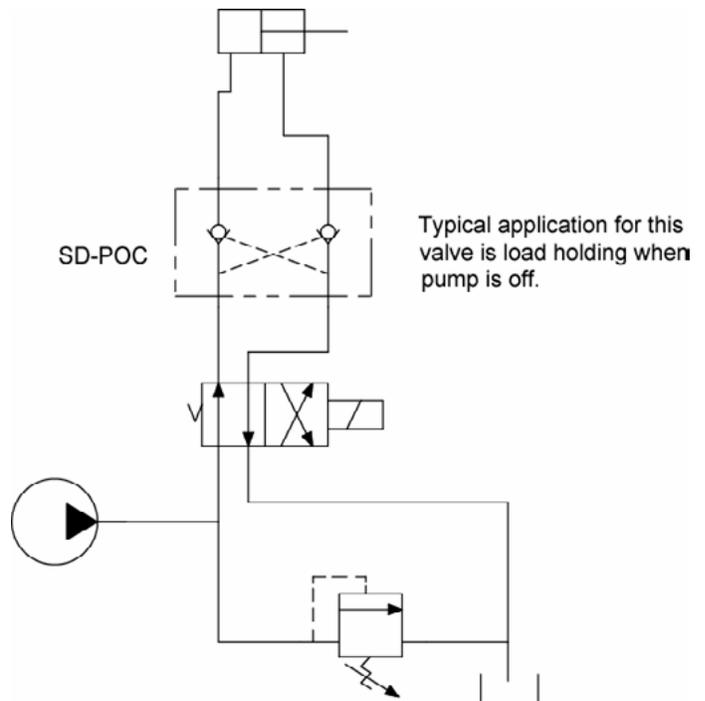
HYDRAULIC SYMBOL



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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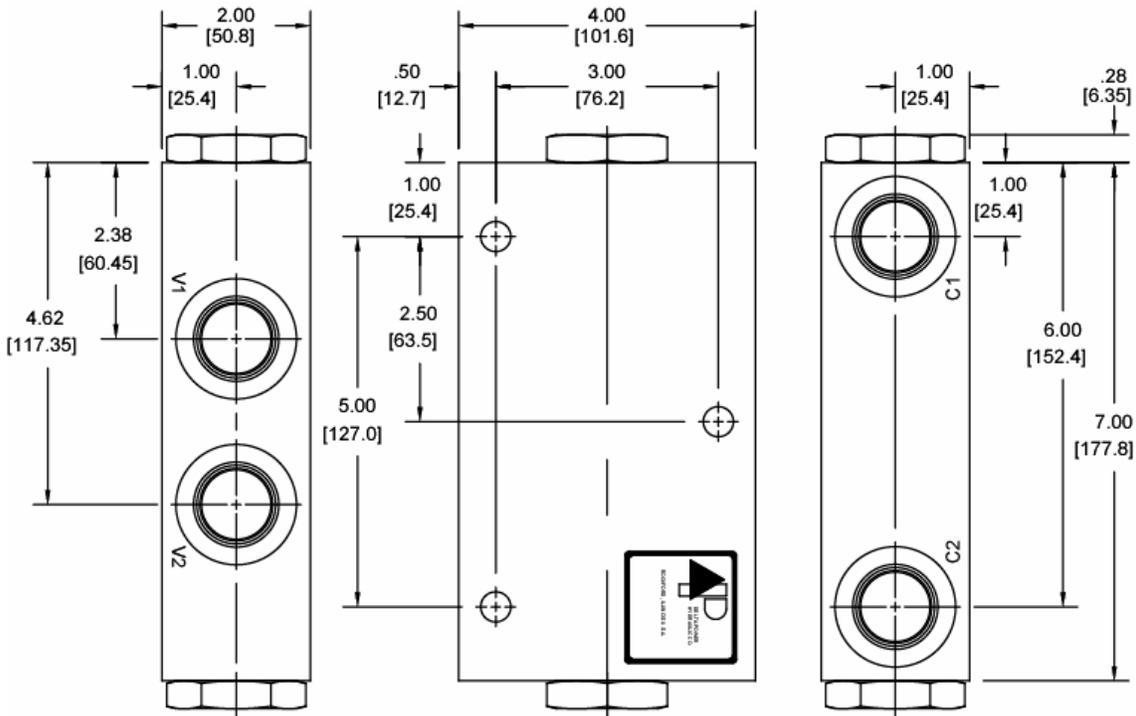


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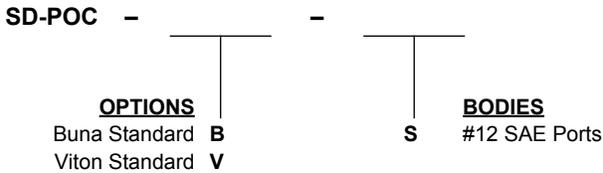
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DIMENSIONS



SAE PORTS SHOWN
 MTG. HOLES ARE .41 DIA.
 O-RINGS ARE STANDARD ON PISTON ASSEMBLY
 CHECK VALVE USED IS A SJ-CVA

ORDERING INFORMATION



W7 / 2017

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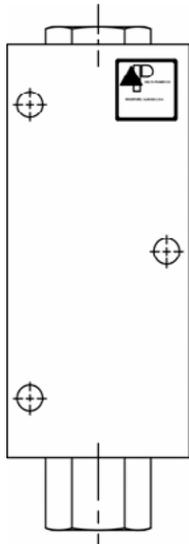


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DD-POT DOUBLE PILOT OPERATED CHECK VALVE W/THERMAL RELIEF VALVE



DESCRIPTION

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

OPERATION

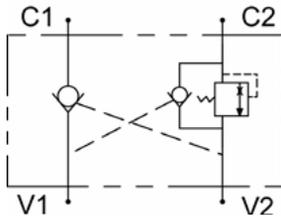
The DD-POT allows flow to pass from (V1) to (C1) and (V2) to (C2). The valve blocks flow from (C1) to (V1) and from (C2) to (V2). Blocked flow is released when pilot pressure is applied to port opposite valve (V1) and/or port (V2) accordingly. Also (C2) port is protected by thermal relief.

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.

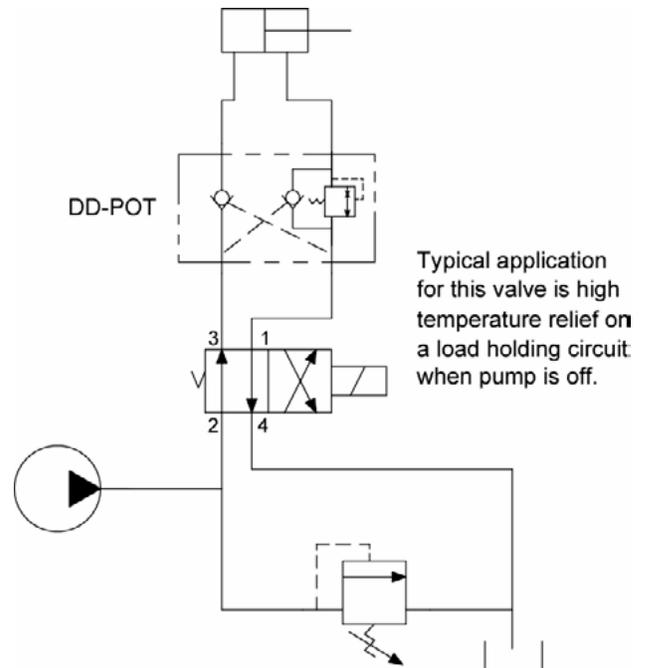
HYDRAULIC SYMBOL



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



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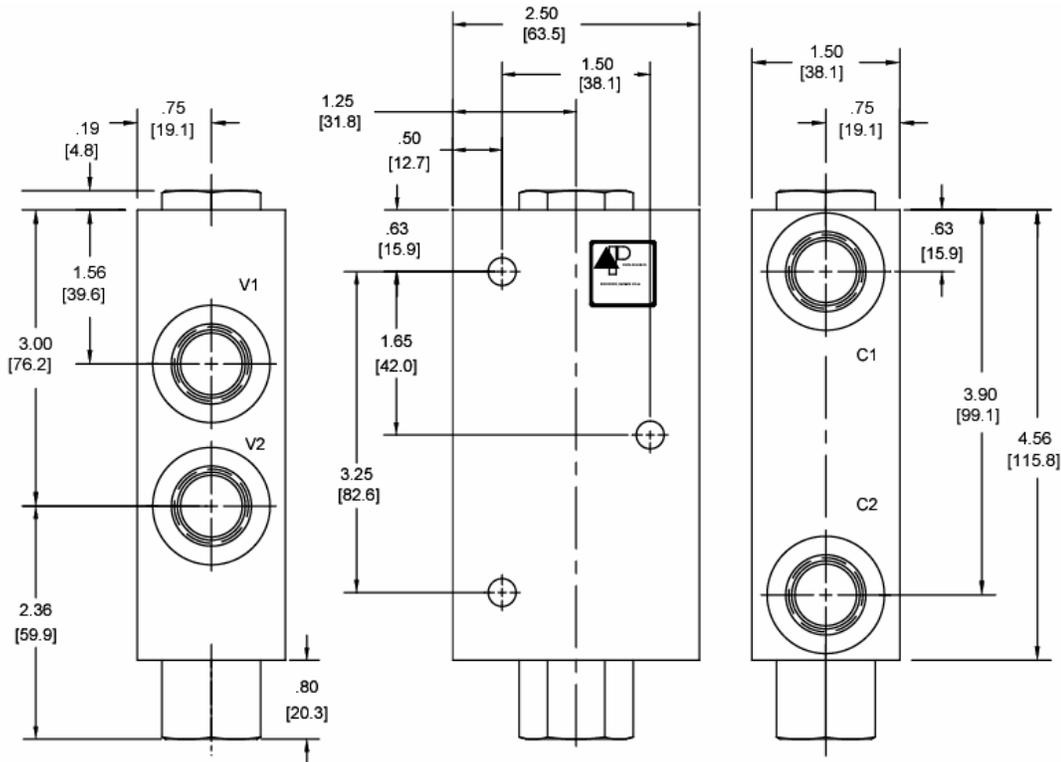


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DIMENSIONS



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

ORDERING INFORMATION



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MIZERS

Pre-Engineered Circuit, Option MODEL AHZ2
Load Holding Solenoid Operated, RV w/Adj. Press. Comp. Flow Control, RV w/Fixed 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 BHZ4
Lift, Check, & Dump. Startup Circuit, Lift, Check & Dump w/RV

PRE-ENGINEERED CIRCUIT, OPTION MODEL CHZ6
Dual RV, Dump, Flow Divider, Motor Speed Control, Selector, Hydrostatic (Anti-Cav)

PRE-ENGINEERED CIRCUIT, OPTION MODEL DHZ8
NC Poppet Valve, Single RV, Needle Flow Control, Flow Control w/Free Flow Check, NO Spool valve, Crossover RV

PRE-ENGINEERED CIRCUIT, OPTION MODEL EHZ10
Adj. Flow Control NC Poppet Dual Speed Circuit, Adj. Press. Comp. Flow Control NC 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 Dual Speed Circuit, Press. Comp Flow Control and Check, Adj. Flow Control NC Spool Valve Dual Speed Circuit

PRE-ENGINEERED CIRCUIT, OPTION MODEL FHZ12
Dual Sequence Valve Manifold

PRE-ENGINEERED CIRCUIT, OPTION MODEL GHZ14
Rectifier Circuit

PRE-ENGINEERED CIRCUIT, OPTION MODEL HHZ16
4w3p Open Center, 4w3p Closed Center

PRE-ENGINEERED CIRCUIT, OPTION MODEL IHZ18
3way valve, Manual Lift Check & Dump, NC Poppet Valve and RV, Lift Check & Dump, Pump Check & RV, Needle Flow Control & Check, NO Poppet & Check, NO Poppet & RV

PRE-ENGINEERED CIRCUIT, OPTION MODEL JHZ20
4w3p Tandem Center

PRE-ENGINEERED CIRCUIT, OPTION MODEL KHZ21
2 NC Poppet Valves, NO Poppet Valve & Needle Valve, 2 NC Poppet Valves, NC Poppet Valve & Adj.Press. Comp Flow Control

PRE-ENGINEERED CIRCUIT, OPTION MODEL LHZ22
Dual Counterbalance Circuit

PRE-ENGINEERED CIRCUIT, OPTION MODEL MHZ24
Single 4:1 PO Check Circuit

PRE-ENGINEERED CIRCUIT, OPTION MODEL N (BANJO BOLT)HZ26
Velocity Fuse, NC Poppet Valve, Adj. Press, Comp. Flow Control, Needle Valve, NO Spool Valve

PRE-ENGINEERED CIRCUIT, OPTION MODEL OHZ28
Single Counterbalance Circuit

PRE-ENGINEERED CIRCUIT, OPTION MODEL PHZ30
Lift Circuit w/Needle Valve & RV, Lift Circuit w/Press. Comp Flow Control & RV, Lift Circuit w/Bypass & Needle Valve, Lift Circuit w/Bypass & Press. Comp Flow Control

PRE-ENGINEERED CIRCUIT, OPTION MODEL QHZ32
Dual 3 way Valves

PRE-ENGINEERED CIRCUIT, OPTION MODEL RHZ34
Single RV Circuit

PRE-ENGINEERED CIRCUIT, OPTION MODEL SHZ36
Crossover Relief, Mower Breakaway, Unloading & RV



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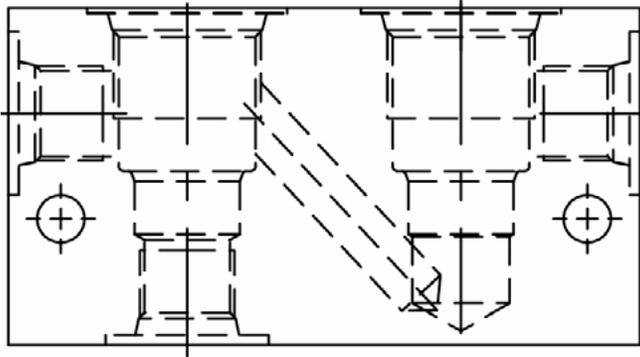
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PRE-ENGINEERED CIRCUIT, OPTION MODEL A*

BASE BODY - 20200001 = #6 SAE



BODY WEIGHT: .83 lbs (.37 kg)

DESCRIPTION

Pre-engineered circuit, option model A*.

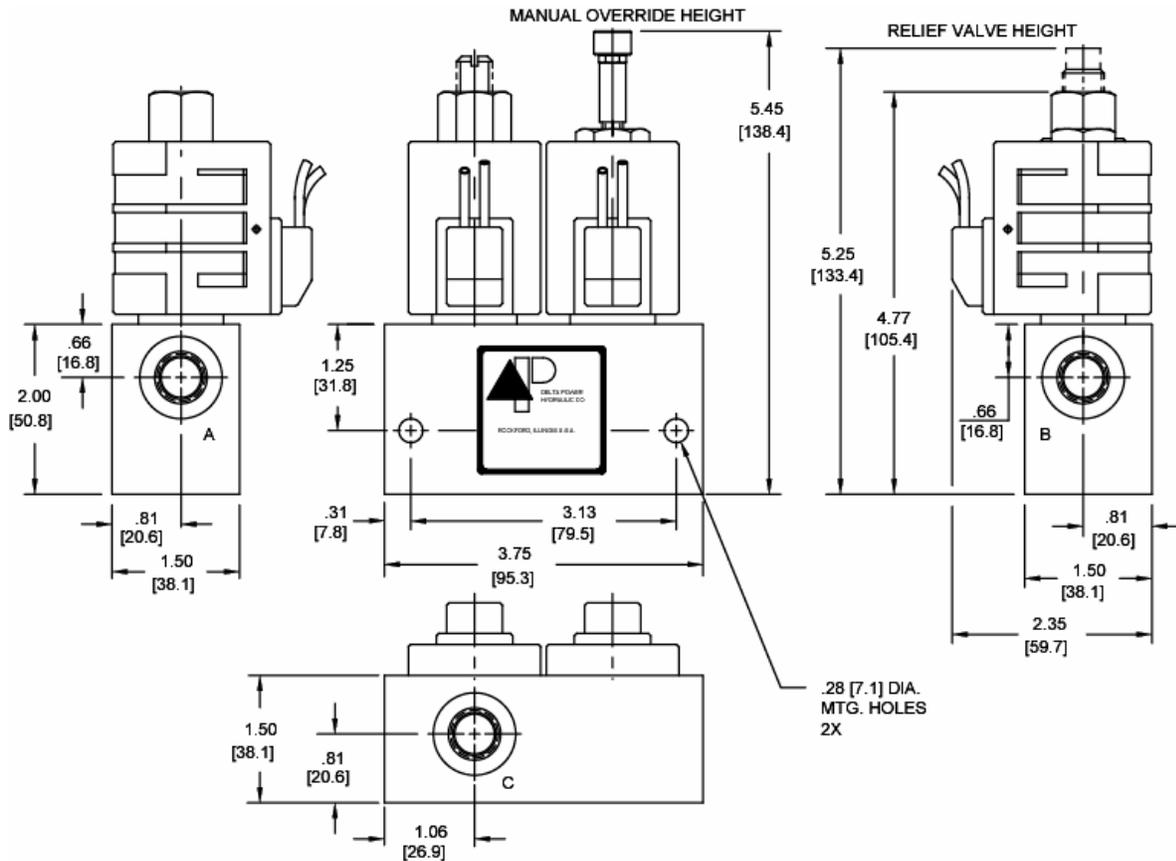
OPERATION

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



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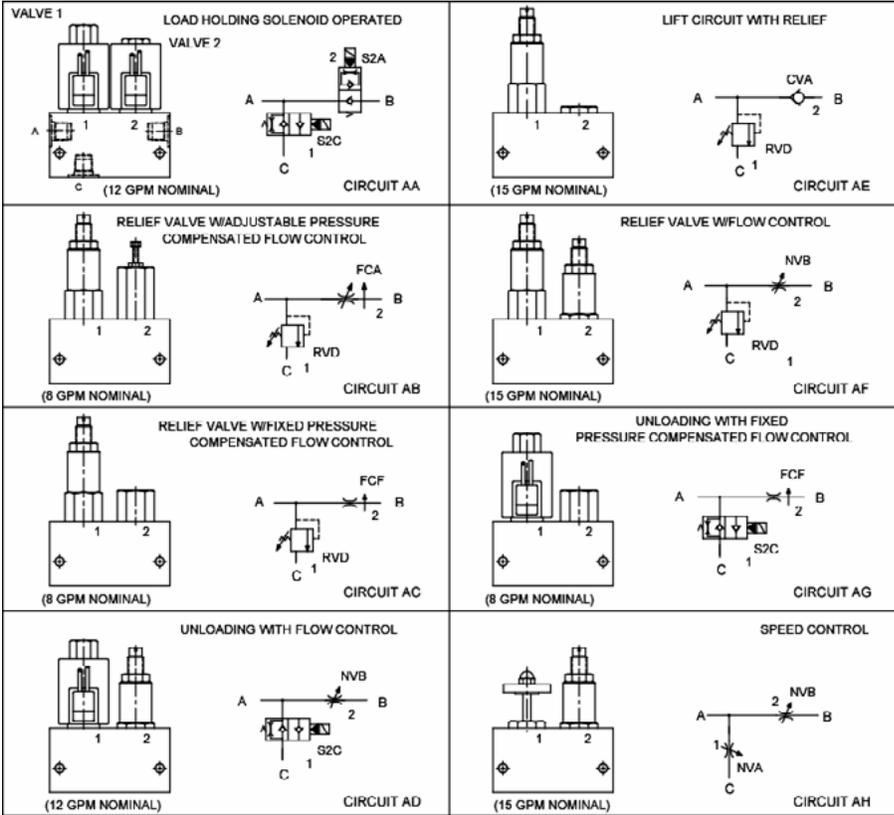


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OPTIONS CHART



ORDERING INFORMATION

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

CIRCUITS		OPTIONS		VOLTAGE		VALVE 2	
AA	Buna Standard	00		06	6 VDC	01	.5-1 GPM
AB	Viton Standard	V0		12	12 VDC	02	1-2 GPM
AC	Manual Override	OM		24	24 VDC	04	2-4 GPM
AD				36	36 VDC	08	4-8 GPM
AE				48	48 VDC	FLOW CONTROL	
AF				25	25 VAC	RELIEF VALVE	
AG				11	120 VAC	VALVE 1	
AH				22	220 VAC	01	.5-1 GPM
				44	440 VAC	02	1-2 GPM
						04	2-4 GPM
						08	4-8 GPM
						FLOW CONTROL	
						RELIEF VALVE	

"D" COIL TERMINATION (All DC Except as Noted)		IMMERSION PROOF "D" TYPE	
DL	Double Lead	IA	"I" Coil AMP Superseal - Integral
DT	Deutsch on Leads DT04-2P	ID	"I" Coil Deutsch - Integral DT04-2P
ML	Metri-Pack on Leads	IJ	"I" Coil AMP Jr. Timer - Integral
PL	Packard on Leads	IM	"I" Coil Metri-Pack - Integral
WL	Weatherpack on Leads		
SS	Single Spade		
DS	Double Spade		

FOR SPECIAL PRESET VALUES ON VALVES, CONSULT FACTORY	
FLOW	PRESSURE
01 .5-1 GPM	02 20-500 PSI
02 1-2 GPM	15 200-1500 PSI
04 2-4 GPM	30 1500-3000 PSI
08 4-8 GPM	40 2500-4000 PSI
FLOW CONTROL	RELIEF VALVE

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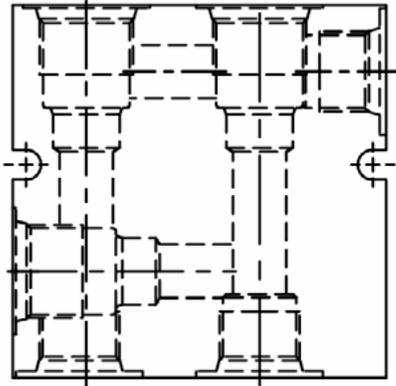
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PRE-ENGINEERED CIRCUIT, OPTION MODEL B*

BASE BODY - 20200002 = #8 SAE



BODY WEIGHT: 1.2 lbs (.54 kg)

DESCRIPTION

Pre-engineered circuit, option model B*.

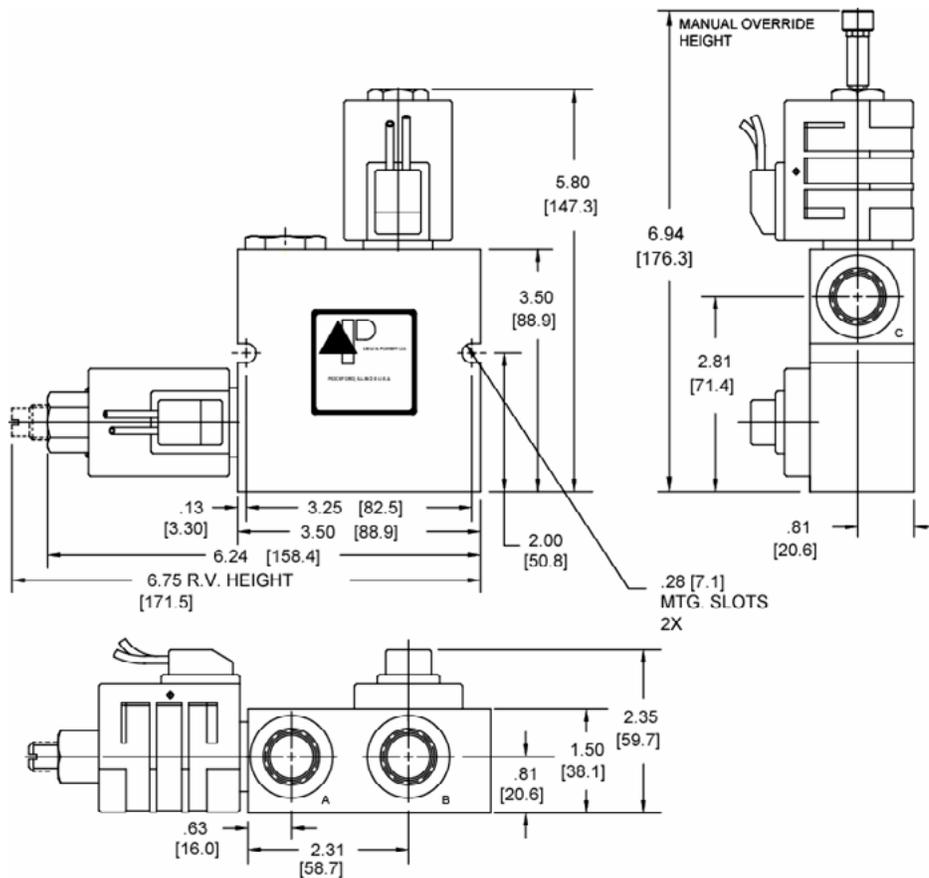
OPERATION

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



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.

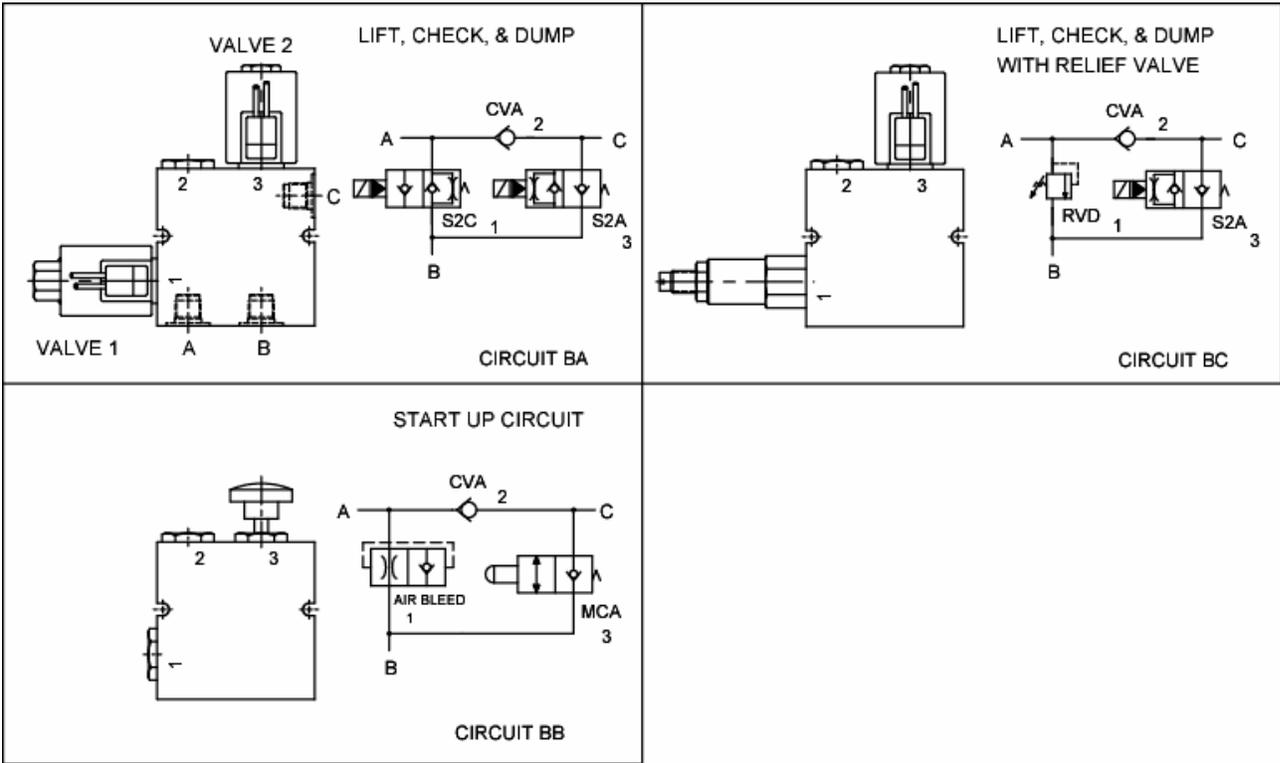


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OPTIONS CHART



ORDERING INFORMATION

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

CIRCUITS		OPTIONS		VOLTAGE		VALVE 2		
BA	Buna Standard	00	06	6 VDC	01	.5-1 GPM	02	20-500 PSI
BB	Viton Standard	V0	12	12 VDC	02	1-2 GPM	15	200-1500 PSI
BC	Manual Override	0M	24	24 VDC	04	2-4 GPM	30	1500-3000 PSI
			36	36 VDC	08	4-8 GPM	40	2500-4000 PSI
			48	48 VDC	FLOW CONTROL		RELIEF VALVE	
			25	25 VAC				
			11	120 VAC	VALVE 1			
			22	220 VAC	01	.5-1 GPM	02	20-500 PSI
			44	440 VAC	02	1-2 GPM	15	200-1500 PSI
					04	2-4 GPM	30	1500-3000 PSI
					08	4-8 GPM	40	2500-4000 PSI
					FLOW CONTROL		RELIEF VALVE	

"D" COIL TERMINATION (All DC Except as Noted)		IMMERSION PROOF "D" TYPE	
DL	Double Lead	IA	"I" Coil AMP Superseal - Integral
DT	Deutsch on Leads DT04-2P	ID	"I" Coil Deutsch - Integral DT04-2P
ML	Metri-Pack on Leads	IJ	"I" Coil AMP Jr. Timer - Integral
PL	Packard on Leads	IM	"I" Coil Metri-Pack - Integral
WL	Weatherpack on Leads		
SS	Single Spade		
DS	Double Spade		
HC	DIN 43650 (Hirschmann) - (AC&DC)		
CL	Conduit Lead - (AC Only)		
DI	Deutsch - Integral DT04-2P		

FOR SPECIAL PRESET VALUES ON VALVES, CONSULT FACTORY

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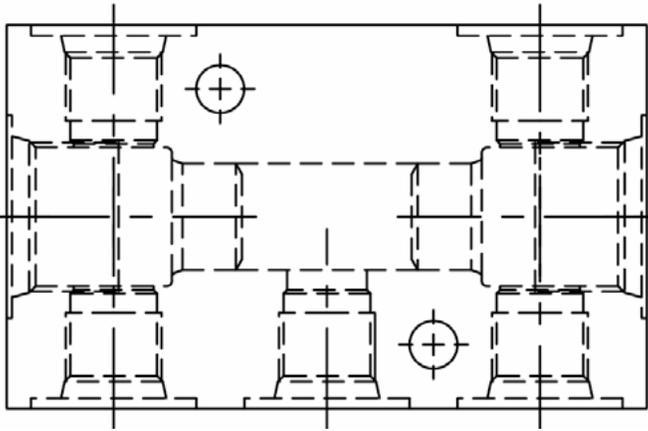
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PRE-ENGINEERED CIRCUIT, OPTION MODEL C*

BASE BODY - 20200003 = #6 SAE



BODY WEIGHT: .83 lbs (.37 kg)

DESCRIPTION

Pre-engineered circuit, option model C*.

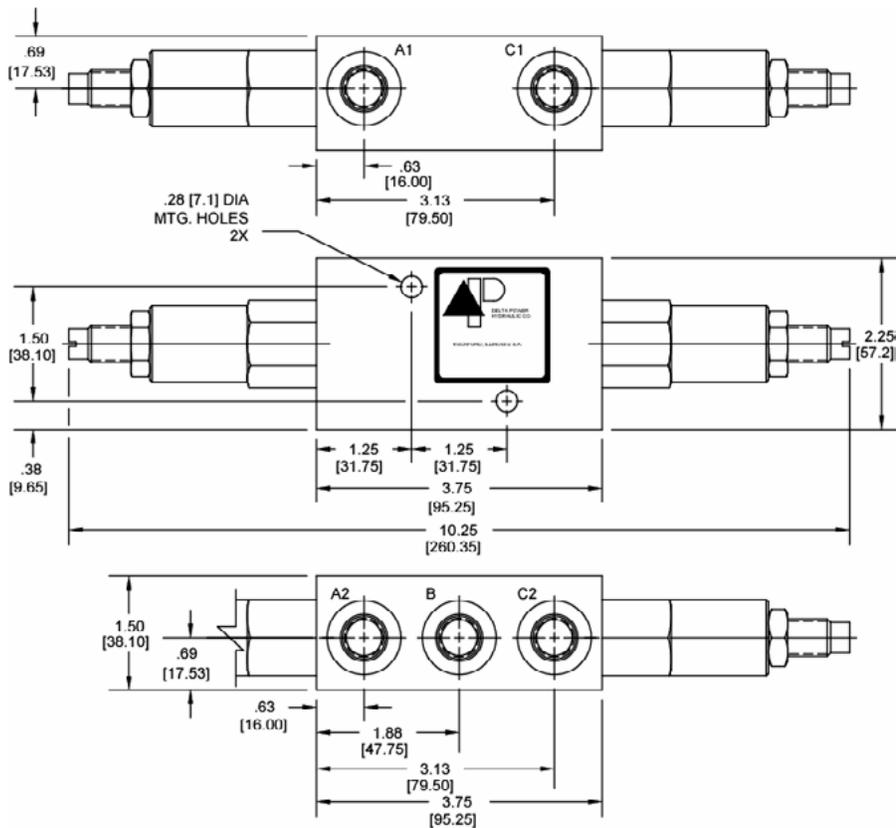
OPERATION

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



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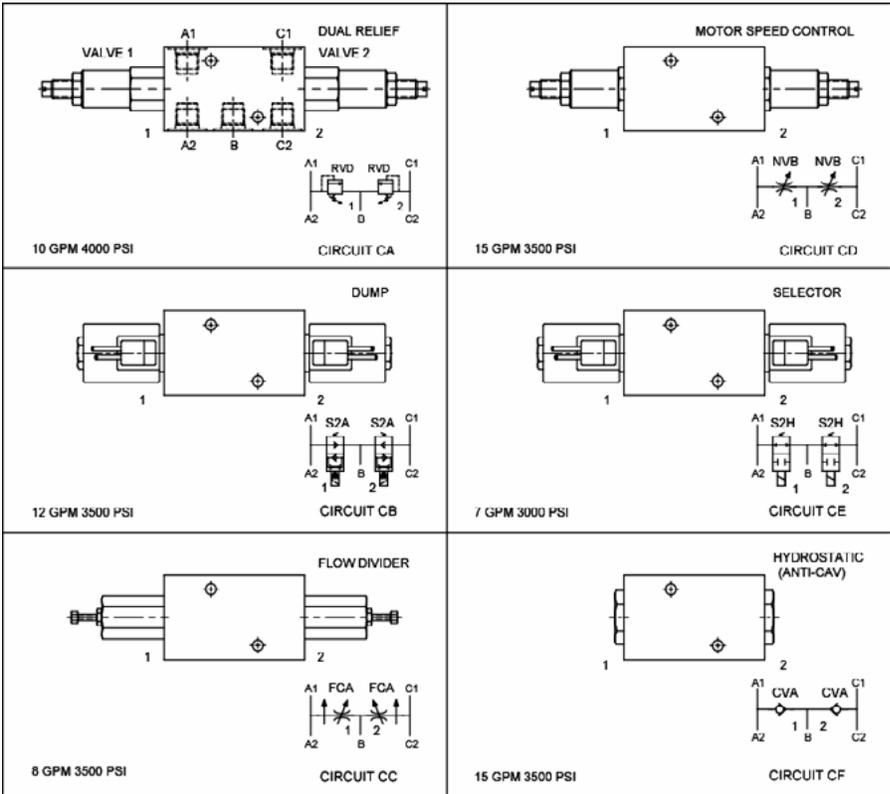


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OPTIONS CHART



ORDERING INFORMATION

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

CIRCUITS	CA	OPTIONS	Buna Standard	00	VOLTAGE	06	6 VDC	VALVE 2	FLOW	01	.5-1 GPM	PRESSURE	02	20-500 PSI
	CB		Viton Standard	V0		12	12 VDC		02	1-2 GPM	15		200-1500 PSI	
	CC	Manual Override	OM	24	24 VDC	04	2-4 GPM	30	1500-3000 PSI					
	CD			25	25 VAC	08	4-8 GPM	40	2500-4000 PSI					
	CE			36	36 VDC	FLOW CONTROL								
	CF			48	48 VDC	RELIEF VALVE								
				25	25 VAC	VALVE 1	FLOW	01	.5-1 GPM	PRESSURE	02	20-500 PSI		
				11	120 VAC		02	1-2 GPM	15		200-1500 PSI			
				22	220 VAC		04	2-4 GPM	30		1500-3000 PSI			
				44	440 VAC		08	4-8 GPM	40		2500-4000 PSI			
“D” COIL TERMINATION (All DC Except as Noted)														
DL	Double Lead	HC	DIN 43650 (Hirschmann) - (AC&DC)											
DT	Deutsch on Leads DT04-2P	CL	Conduit Lead - (AC Only)											
ML	Metri-Pack on Leads	DI	Deutsch - Integral DT04-2P											
PL	Packard on Leads	IMMERSION PROOF “D” TYPE												
WL	Weatherpack on Leads	IA	“I” Coil AMP Superseal - Integral											
SS	Single Spade	ID	“I” Coil Deutsch - Integral DT04-2P											
DS	Double Spade	IJ	“I” Coil AMP Jr. Timer - Integral											
		IM	“I” Coil Metri-Pack - Integral											

FOR SPECIAL PRESET VALUES ON VALVES, CONSULT FACTORY

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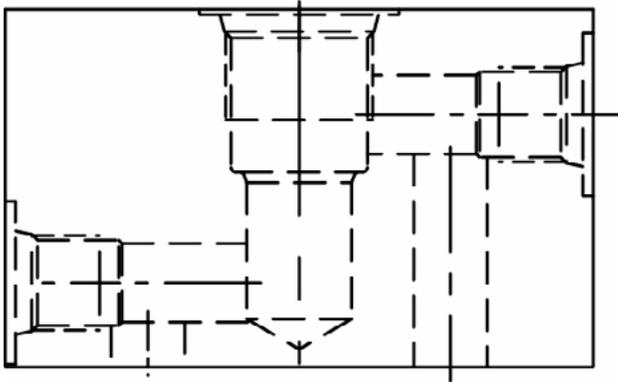
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PRE-ENGINEERED CIRCUIT, OPTION MODEL D*

BASE BODY - 20200004 = #6 SAE



BODY WEIGHT: .83 lbs (.37 kg)

DESCRIPTION

Pre-engineered circuit, option model D*.

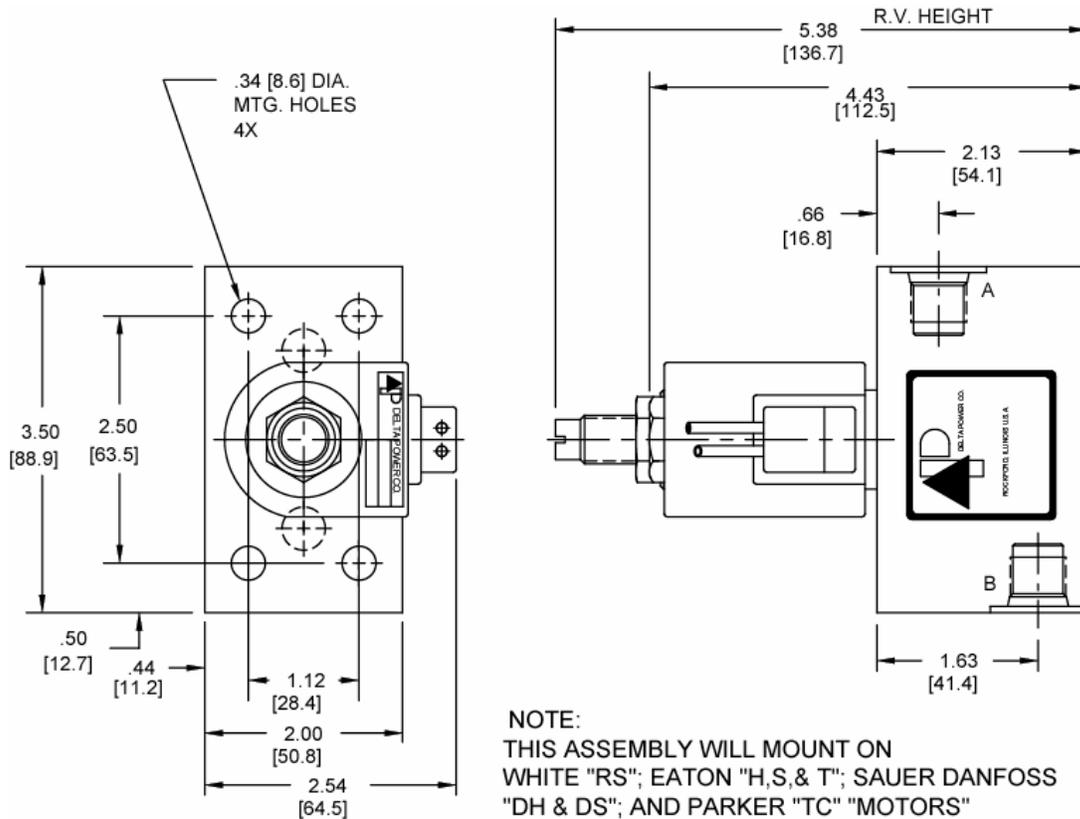
OPERATION

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



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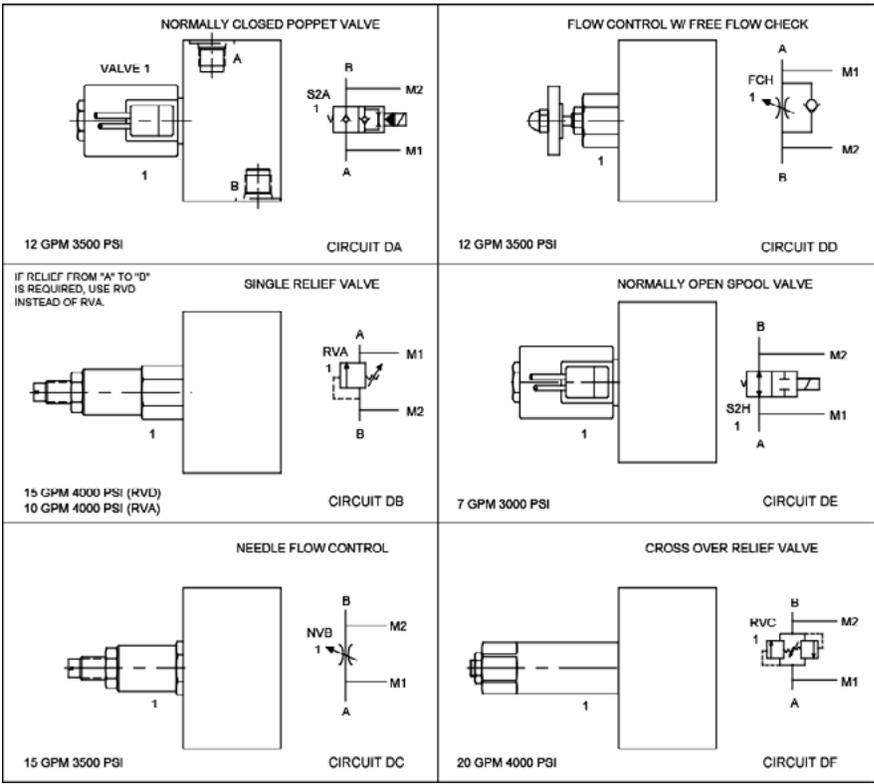


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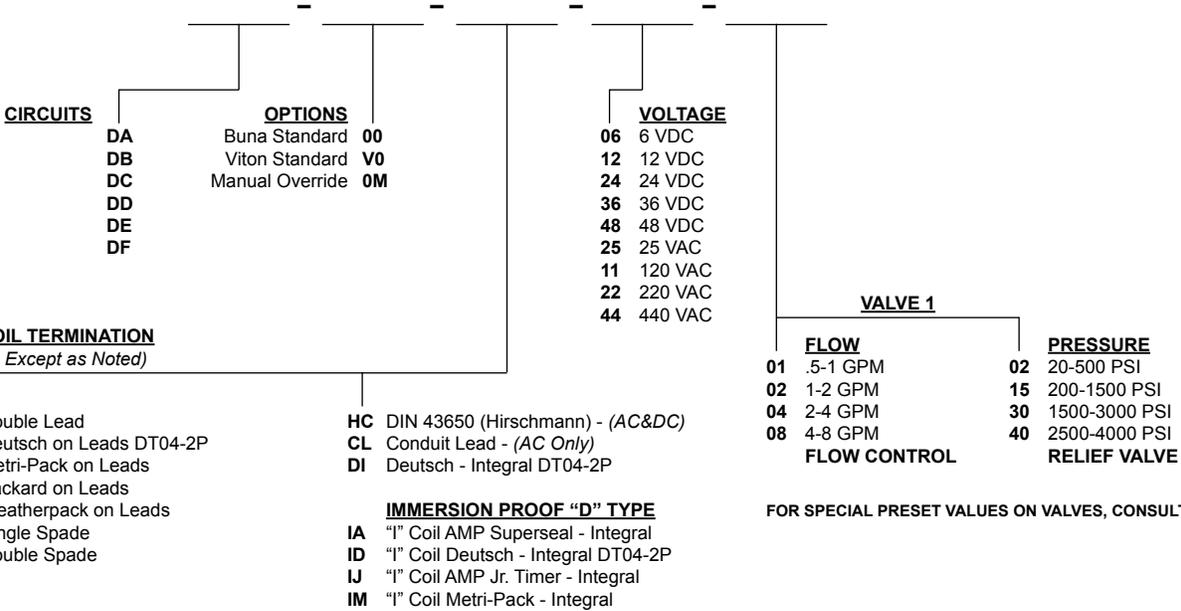
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OPTIONS CHART



ORDERING INFORMATION

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



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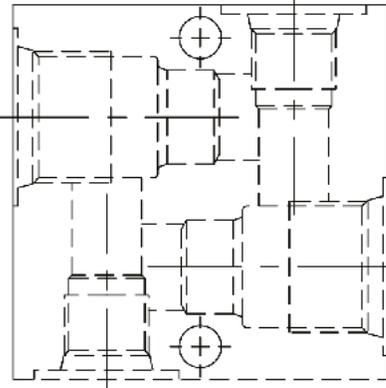
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PRE-ENGINEERED CIRCUIT, OPTION MODEL E*

BASE BODY - 20200005 = #6 SAE



BODY WEIGHT: .75 lbs (.34 kg)

DESCRIPTION

Pre-engineered circuit, option model E*.

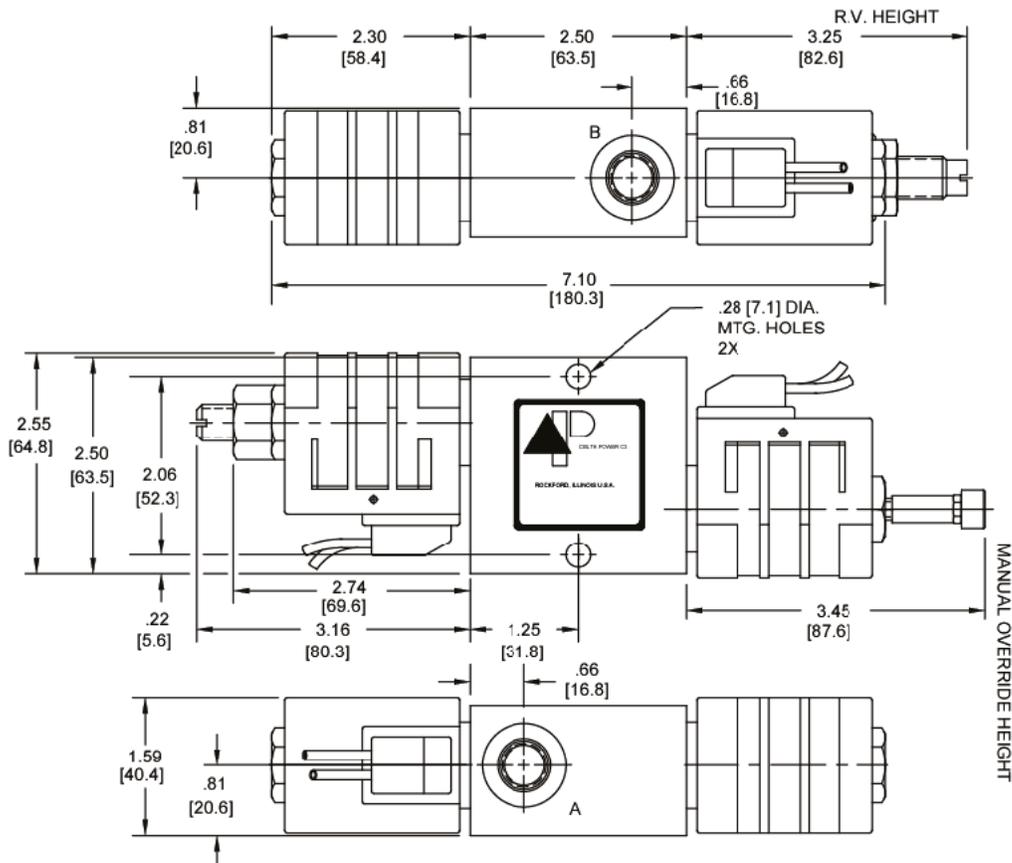
OPERATION

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



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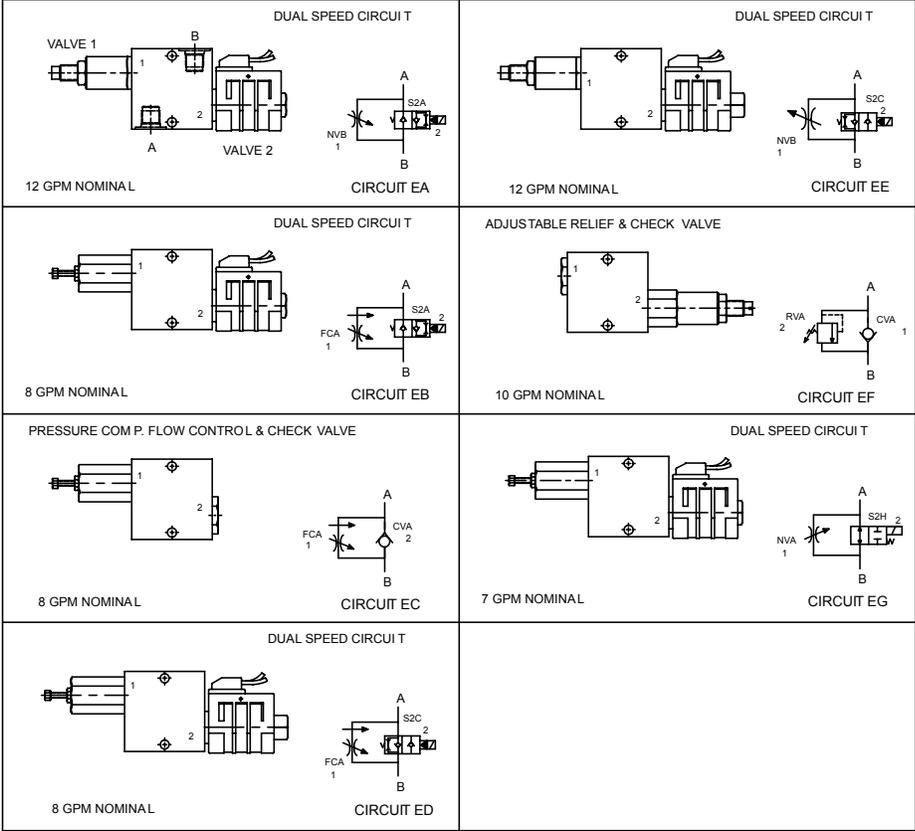


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OPTIONS CHART



ORDERING INFORMATION

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

<p>CIRCUITS</p> <p>EA EB EC ED EE EF EG</p>	<p>OPTIONS</p> <p>Buna Standard 00 Viton Standard V0 Manual Override 0M</p>	<p>VOLTAGE</p> <p>06 6 VDC 12 12 VDC 24 24 VDC 36 36 VDC 48 48 VDC 25 25 VAC 11 120 VAC 22 220 VAC 44 440 VAC</p>	<p>VALVE 2</p> <table border="0"> <tr> <td>FLOW</td> <td>PRESSURE</td> </tr> <tr> <td>01 .5-1 GPM</td> <td>02 20-500 PSI</td> </tr> <tr> <td>02 1-2 GPM</td> <td>15 200-1500 PSI</td> </tr> <tr> <td>04 2-4 GPM</td> <td>30 1500-3000 PSI</td> </tr> <tr> <td>08 4-8 GPM</td> <td>40 2500-4000 PSI</td> </tr> <tr> <td>FLOW CONTROL</td> <td>RELIEF VALVE</td> </tr> </table>	FLOW	PRESSURE	01 .5-1 GPM	02 20-500 PSI	02 1-2 GPM	15 200-1500 PSI	04 2-4 GPM	30 1500-3000 PSI	08 4-8 GPM	40 2500-4000 PSI	FLOW CONTROL	RELIEF VALVE													
FLOW	PRESSURE																											
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FLOW CONTROL	RELIEF VALVE																											
<p>“D” COIL TERMINATION (All DC Except as Noted)</p> <table border="0"> <tr> <td>DL Double Lead</td> <td>HC DIN 43650 (Hirschmann) - (AC&DC)</td> </tr> <tr> <td>DT Deutsch on Leads DT04-2P</td> <td>CL Conduit Lead - (AC Only)</td> </tr> <tr> <td>ML Metri-Pack on Leads</td> <td>DI Deutsch - Integral DT04-2P</td> </tr> <tr> <td>PL Packard on Leads</td> <td></td> </tr> <tr> <td>WL Weatherpack on Leads</td> <td></td> </tr> <tr> <td>SS Single Spade</td> <td></td> </tr> <tr> <td>DS Double Spade</td> <td></td> </tr> </table>		DL Double Lead	HC DIN 43650 (Hirschmann) - (AC&DC)	DT Deutsch on Leads DT04-2P	CL Conduit Lead - (AC Only)	ML Metri-Pack on Leads	DI Deutsch - Integral DT04-2P	PL Packard on Leads		WL Weatherpack on Leads		SS Single Spade		DS Double Spade		<p>VALVE 1</p> <table border="0"> <tr> <td>FLOW</td> <td>PRESSURE</td> </tr> <tr> <td>01 .5-1 GPM</td> <td>02 20-500 PSI</td> </tr> <tr> <td>02 1-2 GPM</td> <td>15 200-1500 PSI</td> </tr> <tr> <td>04 2-4 GPM</td> <td>30 1500-3000 PSI</td> </tr> <tr> <td>08 4-8 GPM</td> <td>40 2500-4000 PSI</td> </tr> <tr> <td>FLOW CONTROL</td> <td>RELIEF VALVE</td> </tr> </table>	FLOW	PRESSURE	01 .5-1 GPM	02 20-500 PSI	02 1-2 GPM	15 200-1500 PSI	04 2-4 GPM	30 1500-3000 PSI	08 4-8 GPM	40 2500-4000 PSI	FLOW CONTROL	RELIEF VALVE
DL Double Lead	HC DIN 43650 (Hirschmann) - (AC&DC)																											
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SS Single Spade																												
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FLOW	PRESSURE																											
01 .5-1 GPM	02 20-500 PSI																											
02 1-2 GPM	15 200-1500 PSI																											
04 2-4 GPM	30 1500-3000 PSI																											
08 4-8 GPM	40 2500-4000 PSI																											
FLOW CONTROL	RELIEF VALVE																											
<p>IMMERSION PROOF “D” TYPE</p> <p>IA “I” Coil AMP Superseal - Integral ID “I” Coil Deutsch - Integral DT04-2P IJ “I” Coil AMP Jr. Timer - Integral IM “I” Coil Metri-Pack - Integral</p>		<p>FOR SPECIAL PRESET VALUES ON VALVES, CONSULT FACTORY</p>																										

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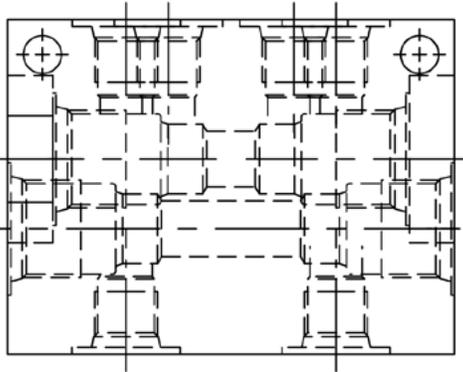
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PRE-ENGINEERED CIRCUIT, OPTION MODEL F*

BASE BODY - 20200006 = #6 SAE



BODY WEIGHT: 1.5 lbs (.68 kg)

DESCRIPTION

Pre-engineered circuit, option model F*.

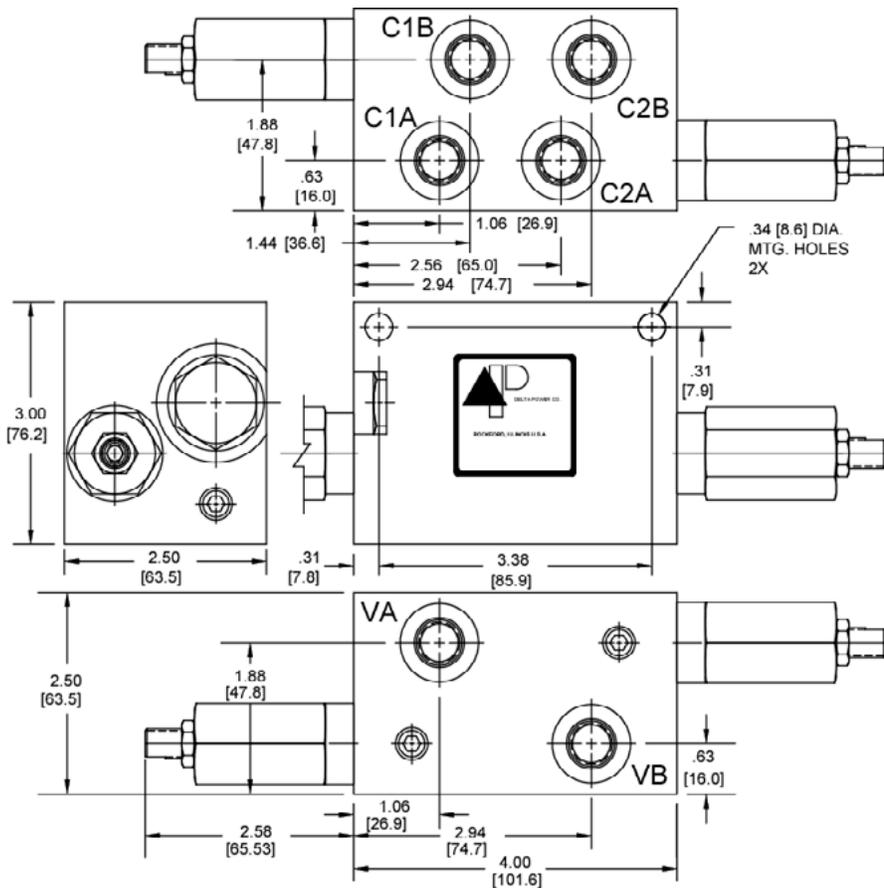
OPERATION

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



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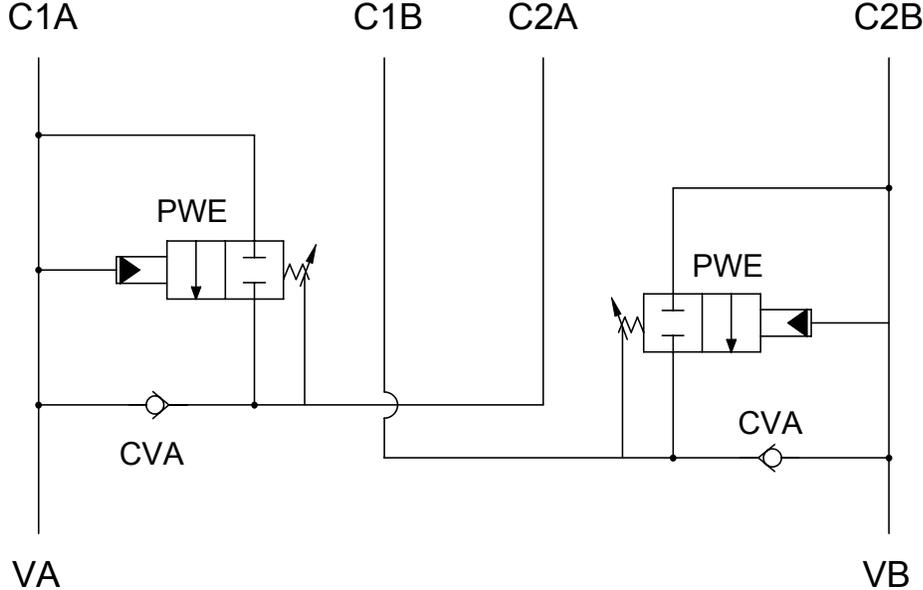


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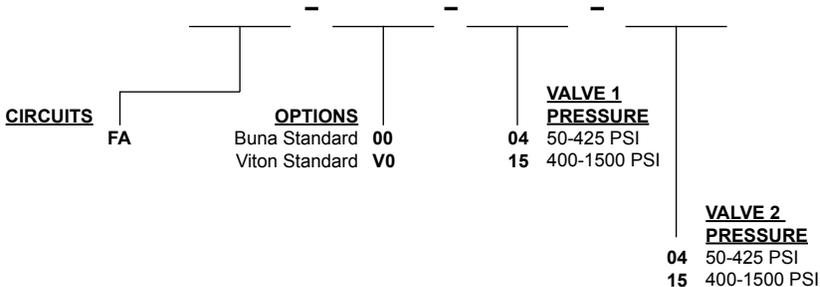
TYPICAL SCHEMATIC



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

CIRCUIT FA

ORDERING INFORMATION



FOR SPECIAL PRESET VALUES ON VALVES, CONSULT FACTORY

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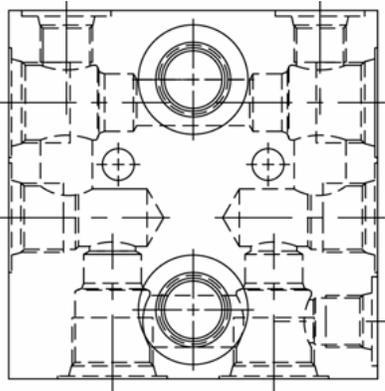
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PRE-ENGINEERED CIRCUIT, OPTION MODEL G*

BASE BODY - 20200007 = #8 SAE



BODY WEIGHT: 1.36 lbs (.62 kg)

DESCRIPTION

Pre-engineered circuit, option model G*.

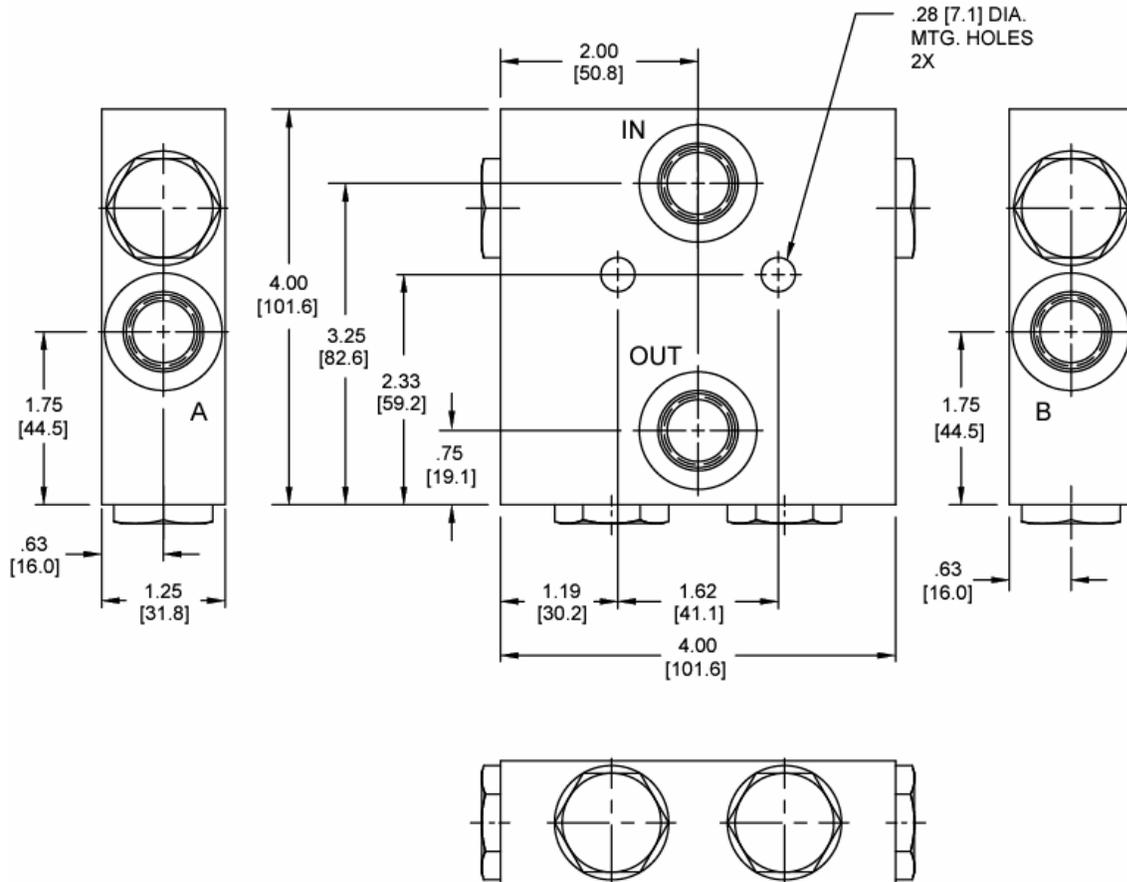
OPERATION

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



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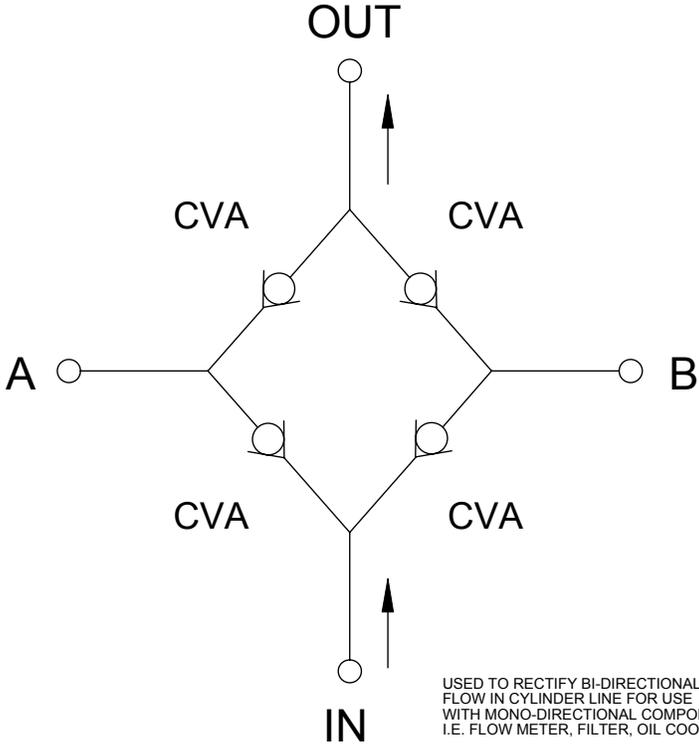


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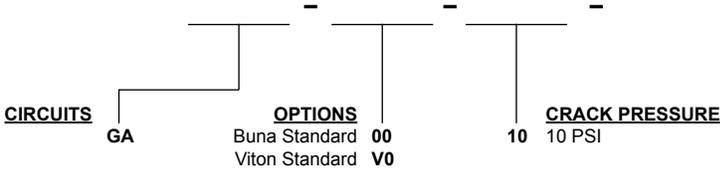
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TYPICAL SCHEMATIC



CIRCUIT GA RECTIFIER CIRCUIT

ORDERING INFORMATION



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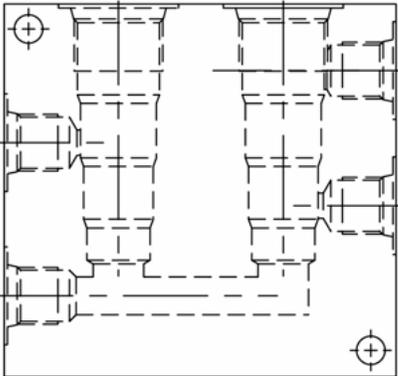
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PRE-ENGINEERED CIRCUIT, OPTION MODEL H*

BASE BODY - 20200008 = #6 SAE



BODY WEIGHT: 1.50 lbs (.68 kg)

DESCRIPTION

Pre-engineered circuit, option model H*.

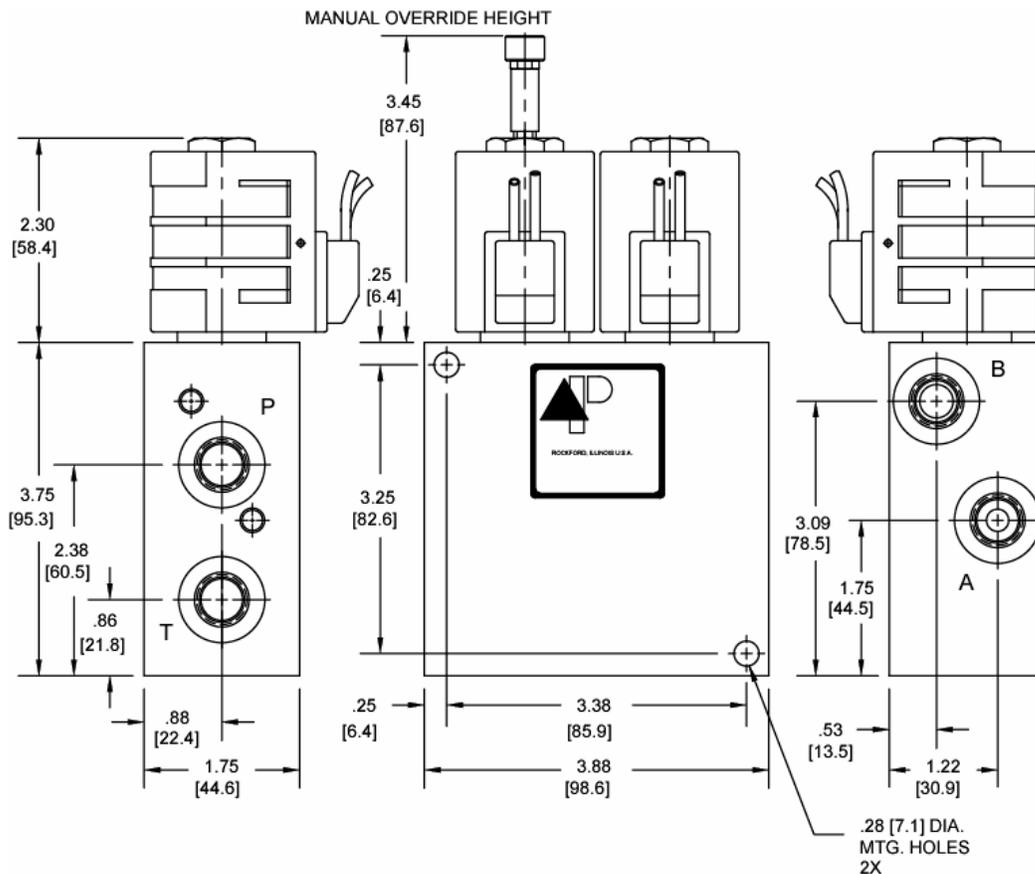
OPERATION

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



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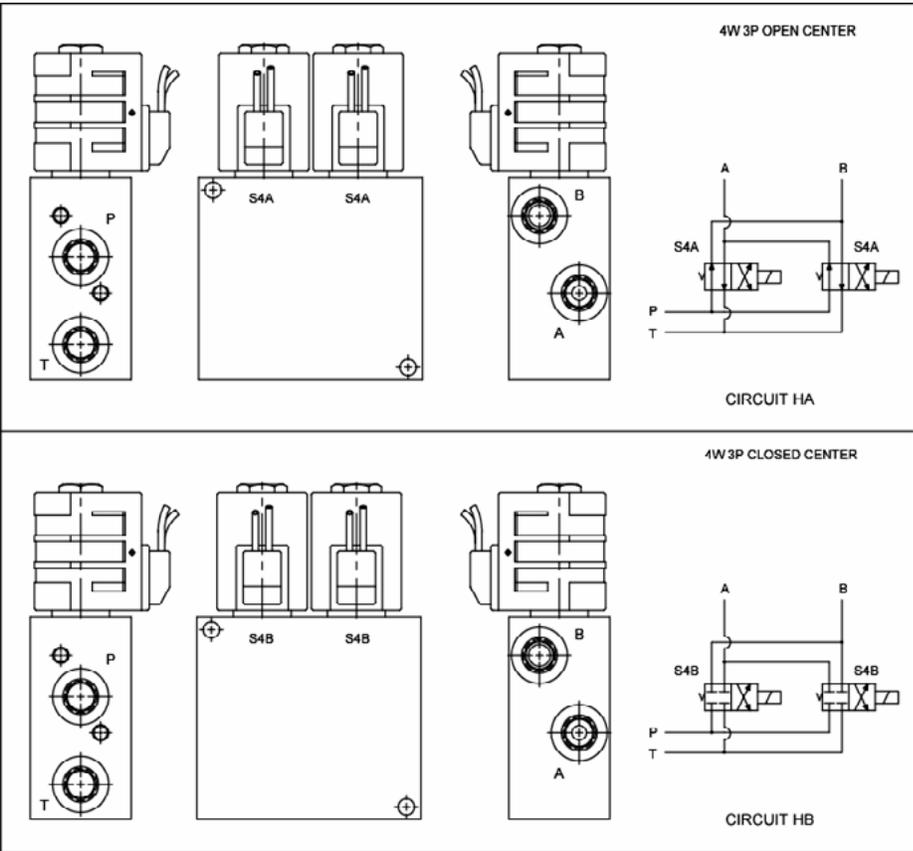


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OPTIONS CHART



ORDERING INFORMATION

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

CIRCUITS	OPTIONS	VOLTAGE
HA	Buna Standard 00	06 6 VDC
HB	Viton Standard V0	12 12 VDC
	Manual Override OM	24 24 VDC
		36 36 VDC
		48 48 VDC
		25 25 VAC
		11 120 VAC
		22 220 VAC
		44 440 VAC

"D" COIL TERMINATION
(All DC Except as Noted)

- DL Double Lead
- DT Deutsch on Leads DT04-2P
- ML Metri-Pack on Leads
- PL Packard on Leads
- WL Weatherpack on Leads

- SS Single Spade
- DS Double Spade
- HC DIN 43650 (Hirschmann) - (AC&DC)
- CL Conduit Lead - (AC Only)
- DI Deutsch - Integral DT04-2P

IMMERSION PROOF "D" TYPE

- IA "I" Coil AMP Superseal - Integral
- ID "I" Coil Deutsch - Integral DT04-2P
- IJ "I" Coil AMP Jr. Timer - Integral
- IM "I" Coil Metri-Pack - Integral

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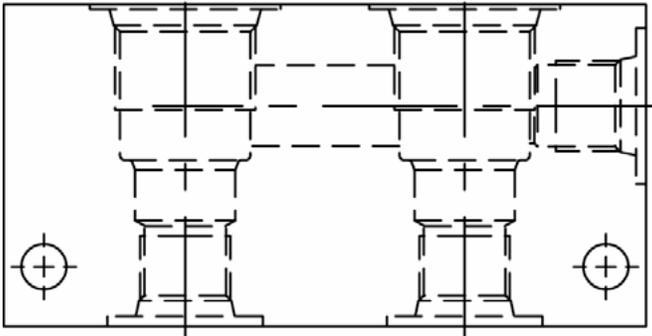
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PRE-ENGINEERED CIRCUIT, OPTION MODEL I*

BASE BODY - 20200009 = #6 SAE



BODY WEIGHT: .83 lbs (.37 kg)

DESCRIPTION

Pre-engineered circuit, option model I*.

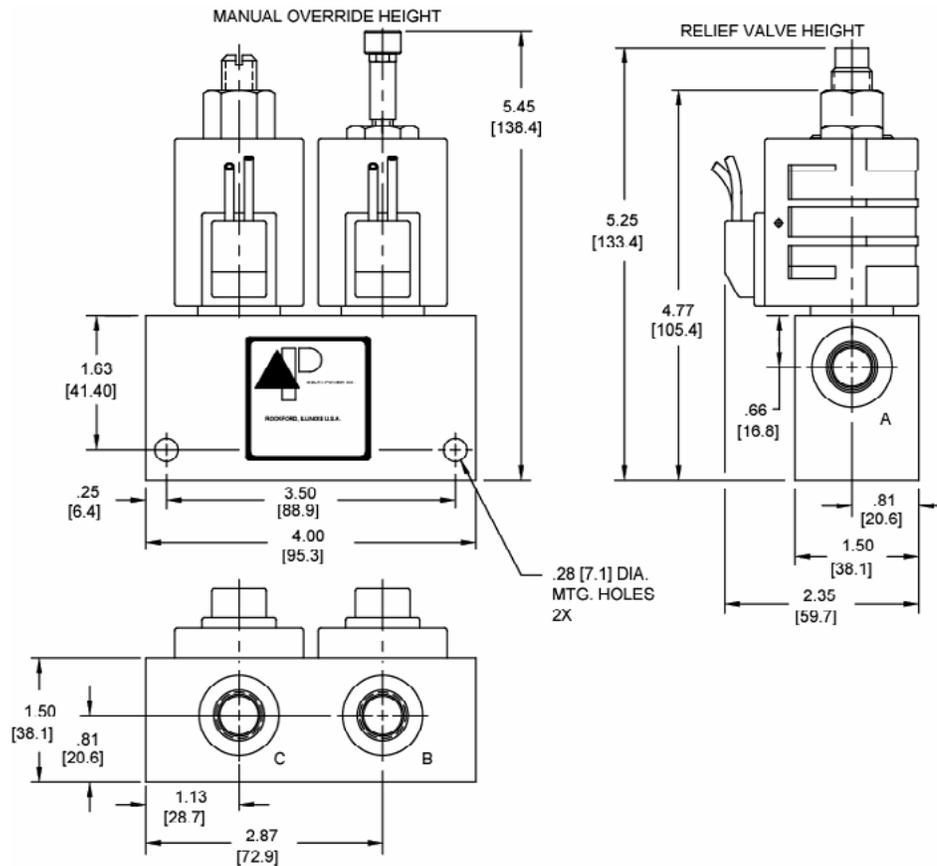
OPERATION

See model options for specific operation (back).

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
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.

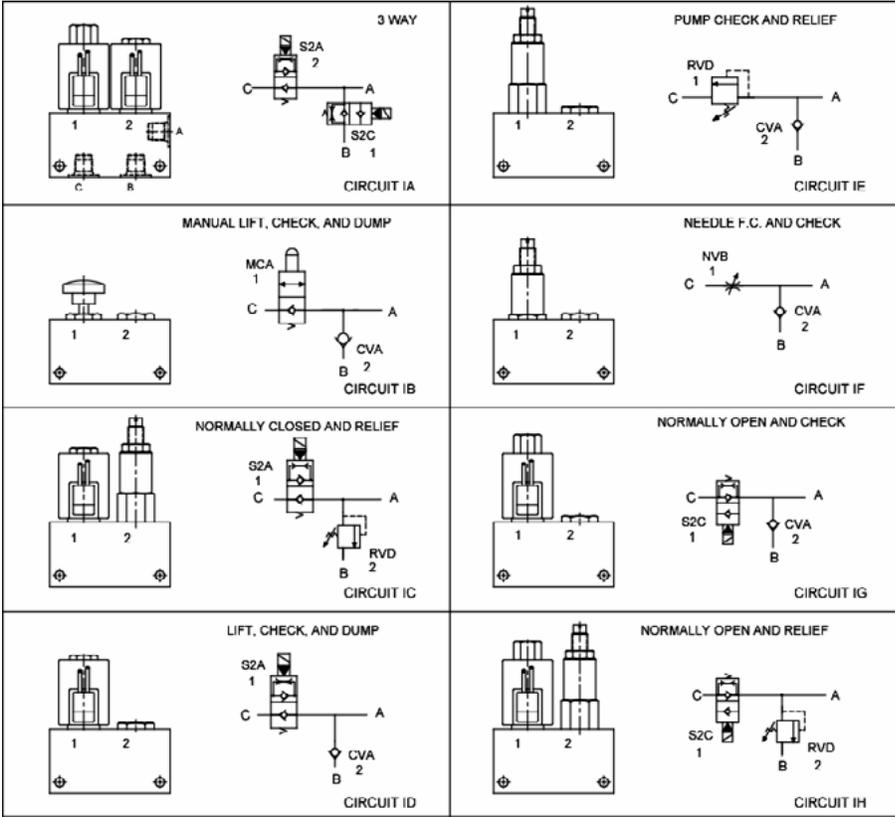


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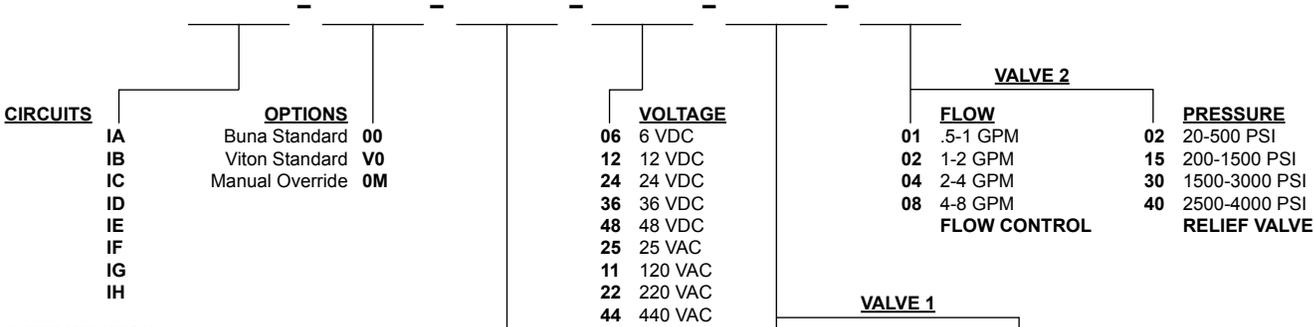
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OPTIONS CHART



ORDERING INFORMATION

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



"D" COIL TERMINATION
(All DC Except as Noted)

- DL Double Lead
 - DT Deutsch on Leads DT04-2P
 - ML Metri-Pack on Leads
 - PL Packard on Leads
 - WL Weatherpack on Leads
 - SS Single Spade
 - DS Double Spade
 - HC DIN 43650 (Hirschmann) - (AC&DC)
 - CL Conduit Lead - (AC Only)
 - DI Deutsch - Integral DT04-2P
- IMMERSION PROOF "D" TYPE**
- IA "I" Coil AMP Superseal - Integral
 - ID "I" Coil Deutsch - Integral DT04-2P
 - IJ "I" Coil AMP Jr. Timer - Integral
 - IM "I" Coil Metri-Pack - Integral

FOR SPECIAL PRESET VALUES ON VALVES, CONSULT FACTORY

W7 / 2017

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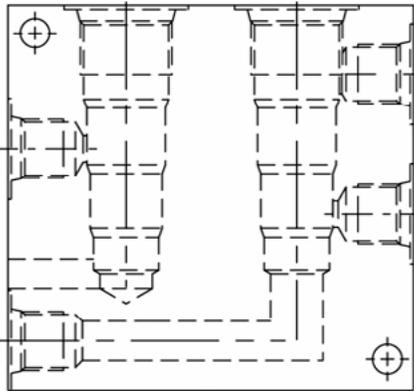
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PRE-ENGINEERED CIRCUIT, OPTION MODEL J*

BASE BODY - 20200010 = #6 SAE



BODY WEIGHT: 1.50 lbs (.68 kg)

DESCRIPTION

Pre-engineered circuit, option model J*.

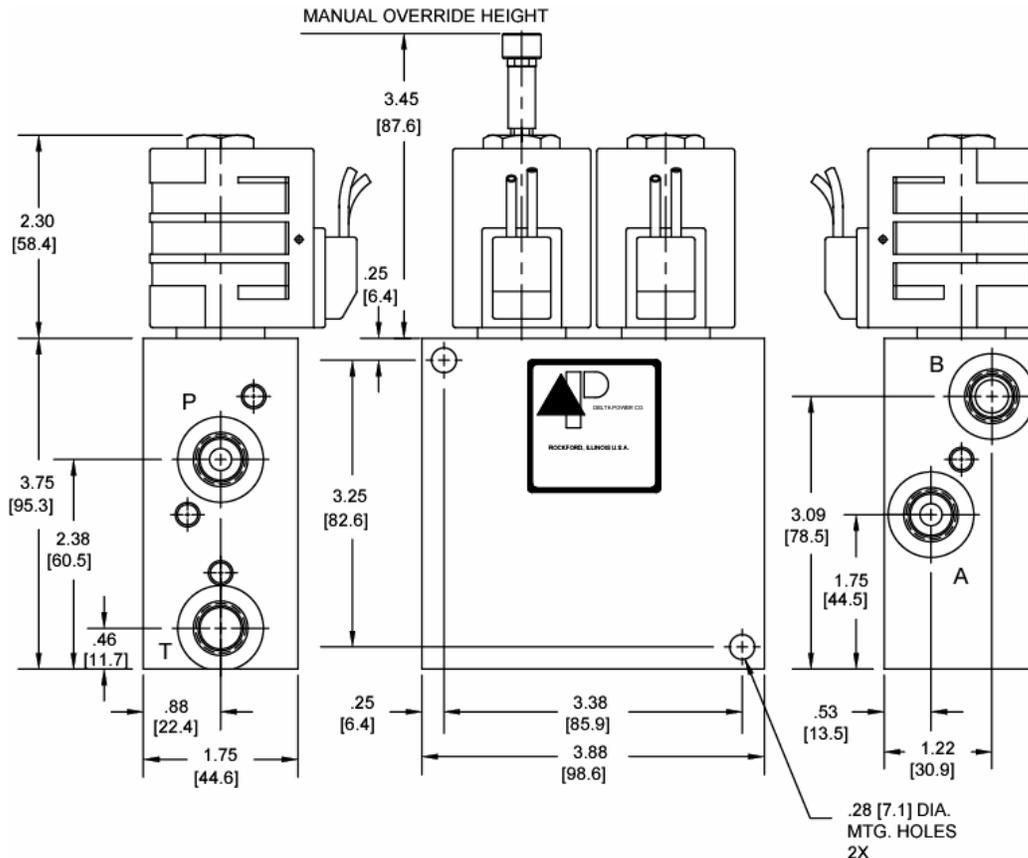
OPERATION

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



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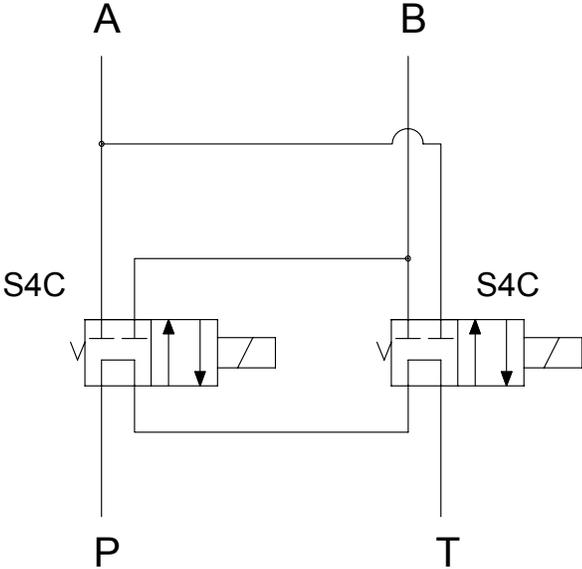
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TYPICAL SCHEMATIC

4W 3P TANDEM CENTER



CIRCUIT JA

ORDERING INFORMATION

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

CIRCUITS	OPTIONS	VOLTAGE
JA	Buna Standard 00 Viton Standard V0 Manual Override 0M	06 6 VDC 12 12 VDC 24 24 VDC 36 36 VDC 48 48 VDC 25 25 VAC 11 120 VAC 22 220 VAC 44 440 VAC

"D" COIL TERMINATION
(All DC Except as Noted)

- DL** Double Lead
- DT** Deutsch on Leads DT04-2P
- ML** Metri-Pack on Leads
- PL** Packard on Leads
- WL** Weatherpack on Leads

- SS** Single Spade
- DS** Double Spade
- HC** DIN 43650 (Hirschmann) - (AC&DC)
- CL** Conduit Lead - (AC Only)
- DI** Deutsch - Integral DT04-2P

IMMERSION PROOF "D" TYPE

- IA** "I" Coil AMP Superseal - Integral
- ID** "I" Coil Deutsch - Integral DT04-2P
- IJ** "I" Coil AMP Jr. Timer - Integral
- IM** "I" Coil Metri-Pack - Integral

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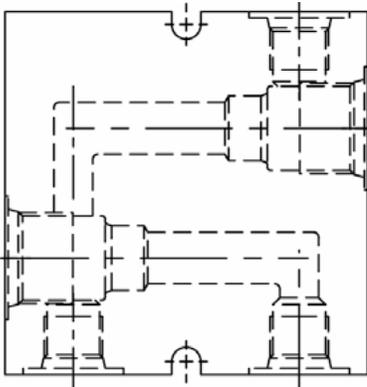
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PRE-ENGINEERED CIRCUIT, OPTION MODEL K*

BASE BODY - 20200011 = #6 SAE



BODY WEIGHT: 1.50 lbs (.68 kg)

DESCRIPTION

Pre-engineered circuit, option model K*.

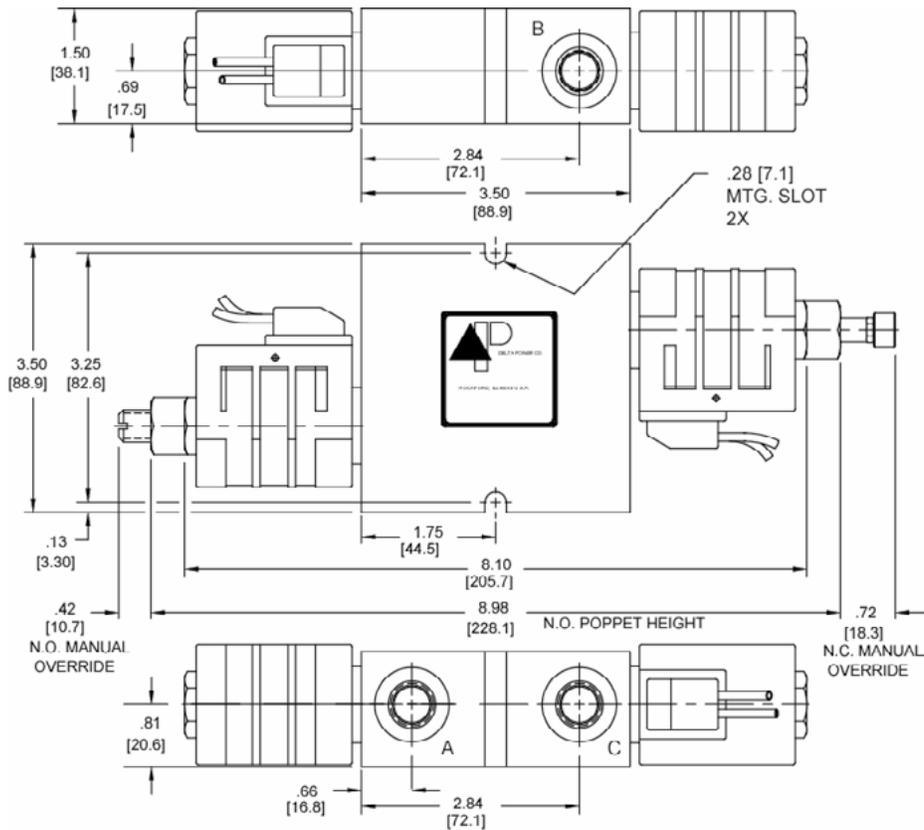
OPERATION

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



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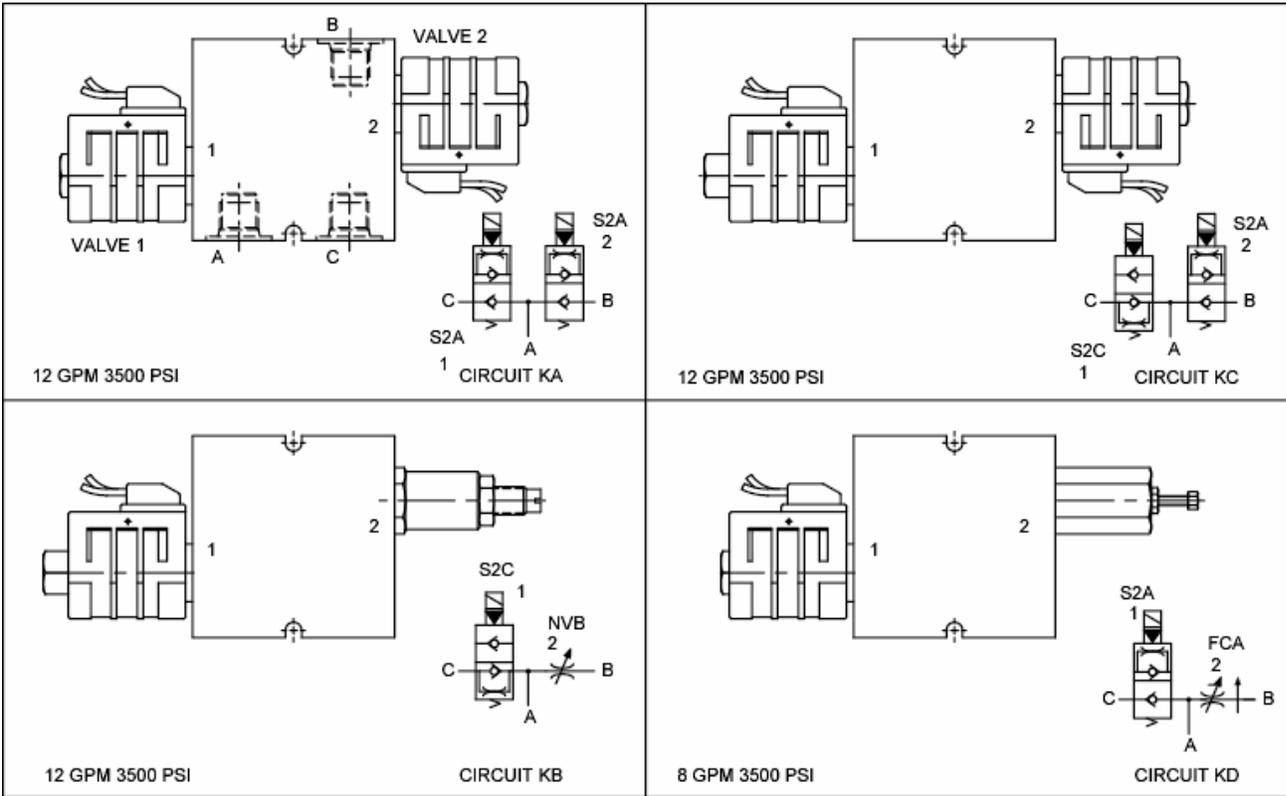


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OPTIONS CHART



ORDERING INFORMATION

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

CIRCUITS	KA KB KC KD KE	OPTIONS	Buna Standard 00 Viton Standard V0 Manual Override 0M	VOLTAGE	06 6 VDC 12 12 VDC 24 24 VDC 36 36 VDC 48 48 VDC 25 25 VAC 11 120 VAC 22 220 VAC 44 440 VAC	VALVE 2	
						FLOW	PRESSURE
						VALVE 1	
						FLOW	PRESSURE
						01 .5-1 GPM	02 20-500 PSI
						02 1-2 GPM	15 200-1500 PSI
						04 2-4 GPM	30 1500-3000 PSI
						08 4-8 GPM	40 2500-4000 PSI
						FLOW CONTROL	RELIEF VALVE

"D" COIL TERMINATION
(All DC Except as Noted)

- | | |
|-----------------------------|-------------------------------------|
| DL Double Lead | HC DIN 43650 (Hirschmann) - (AC&DC) |
| DT Deutsch on Leads DT04-2P | CL Conduit Lead - (AC Only) |
| ML Metri-Pack on Leads | DI Deutsch - Integral DT04-2P |
| PL Packard on Leads | |
| WL Weatherpack on Leads | |
| SS Single Spade | |
| DS Double Spade | |
- IMMERSION PROOF "D" TYPE**
- | |
|----------------------------------------|
| IA "I" Coil AMP Superseal - Integral |
| ID "I" Coil Deutsch - Integral DT04-2P |
| IJ "I" Coil AMP Jr. Timer - Integral |
| IM "I" Coil Metri-Pack - Integral |

FOR SPECIAL PRESET VALUES ON VALVES, CONSULT FACTORY

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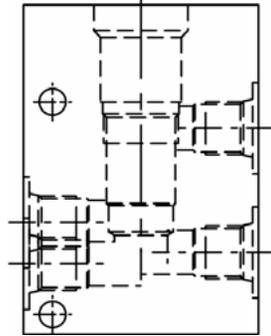
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PRE-ENGINEERED CIRCUIT, OPTION MODEL L*

BASE BODY - 20200012 = #6 SAE



BODY WEIGHT: 1.80 lbs (.82 kg)

DESCRIPTION

Pre-engineered circuit, option model L*.

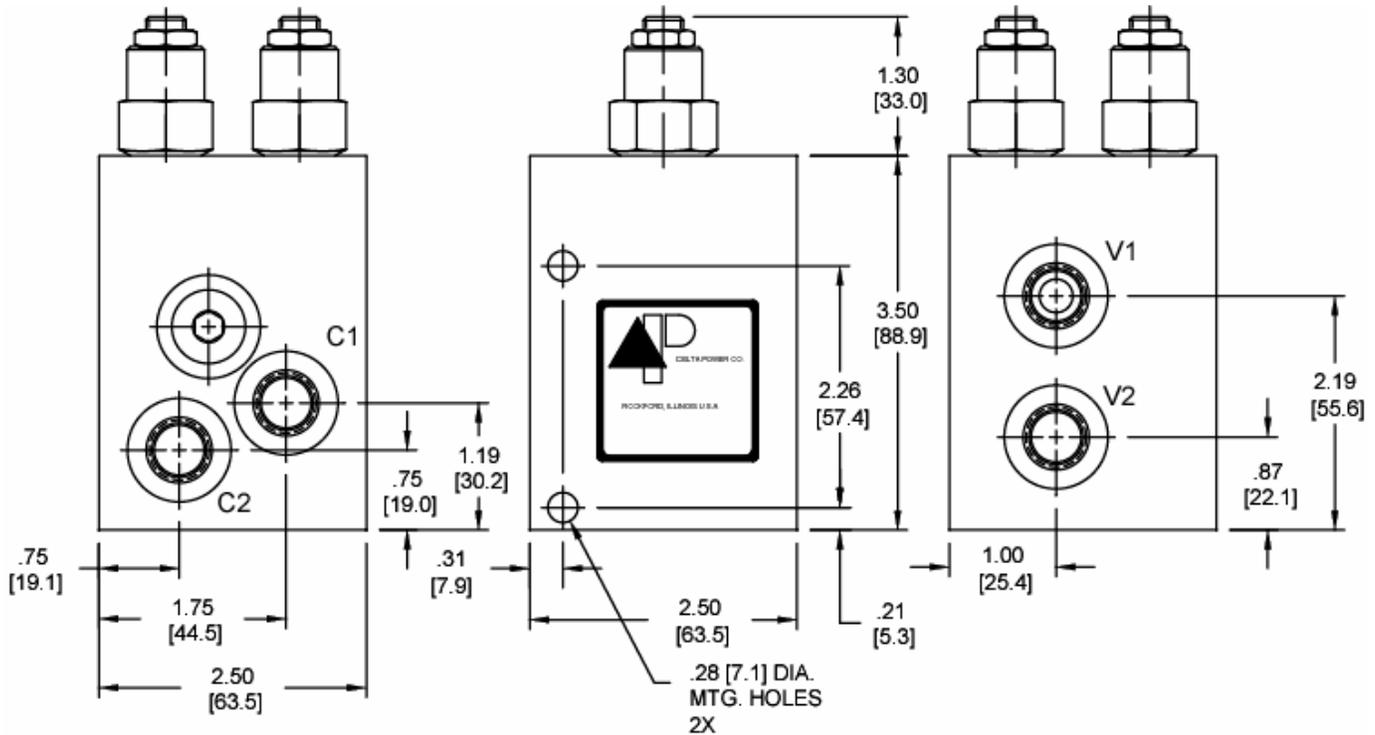
OPERATION

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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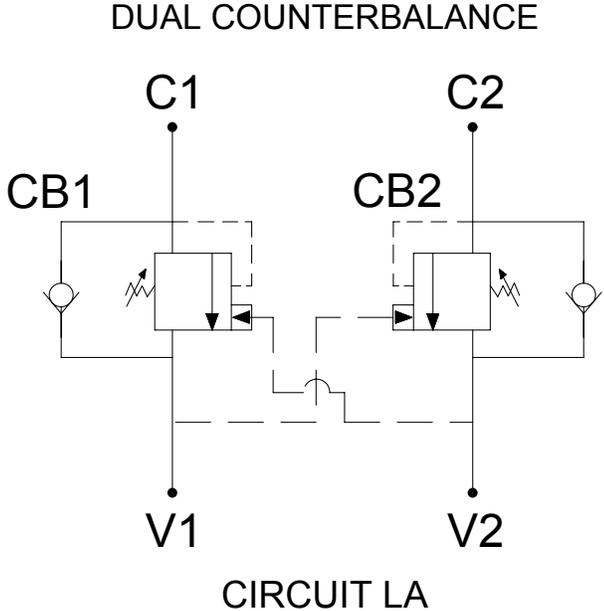


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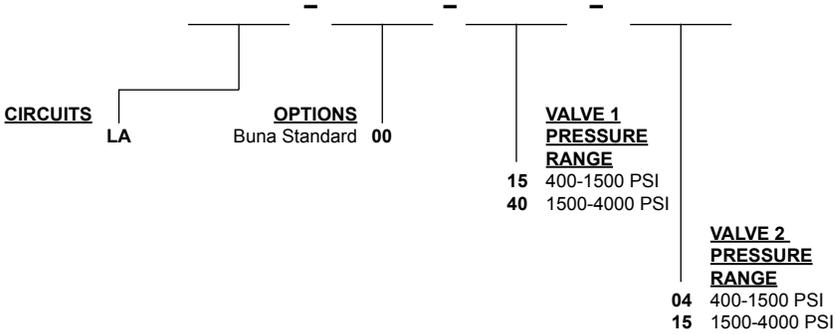
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TYPICAL SCHEMATIC



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

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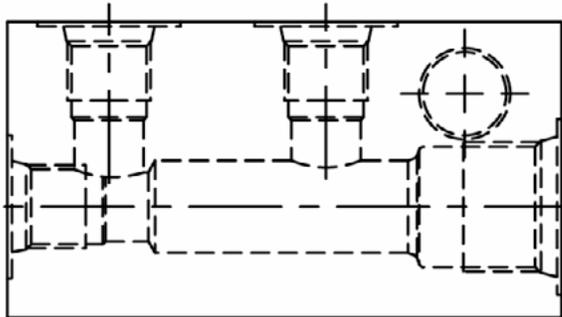
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PRE-ENGINEERED CIRCUIT, OPTION MODEL M*

BASE BODY - 20200013 = #6 SAE



BODY WEIGHT: 1.09 lbs (.49 kg)

DESCRIPTION

Pre-engineered circuit, option model M*.

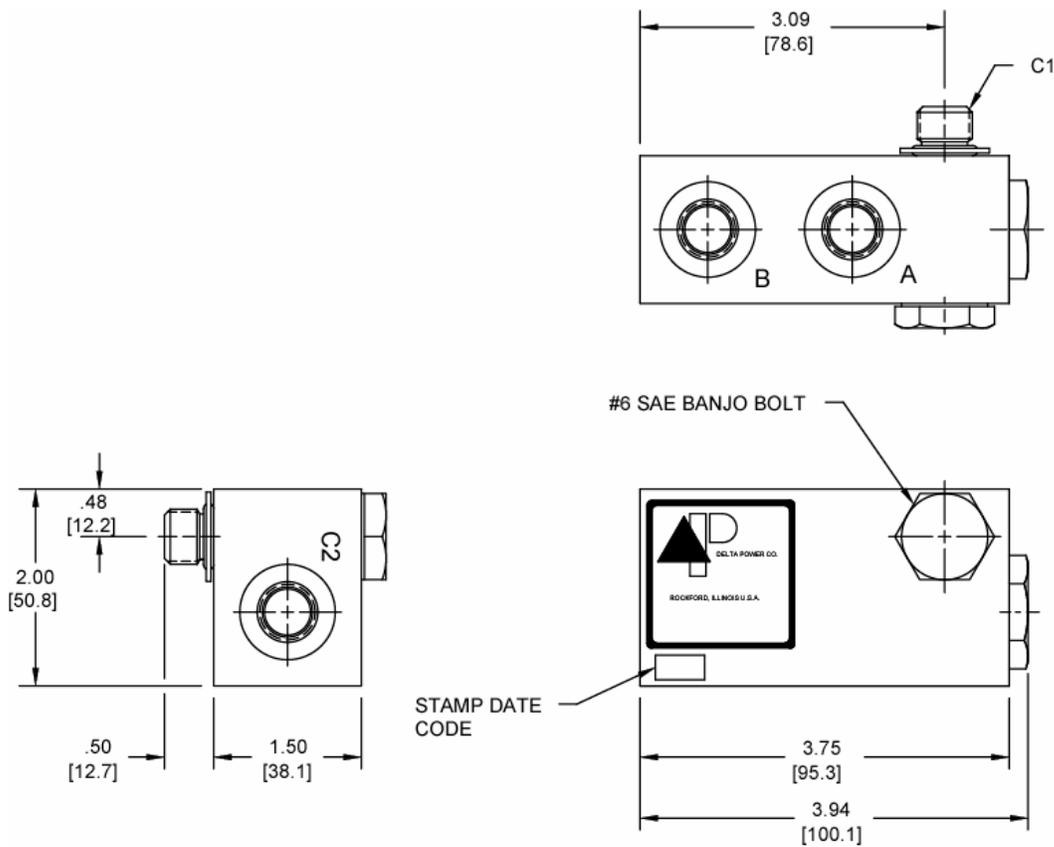
OPERATION

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



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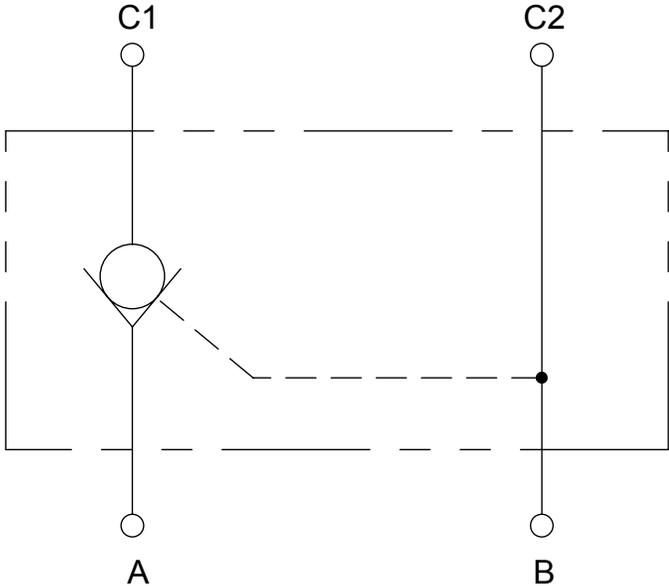
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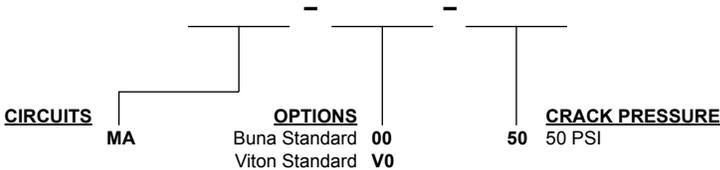
TYPICAL SCHEMATIC

P.O. CHECK CIRCUIT
4:1 RATIO



CIRCUIT MA

ORDERING INFORMATION



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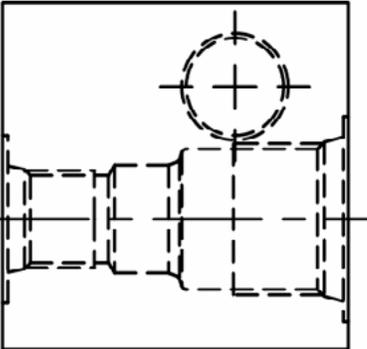
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PRE-ENGINEERED CIRCUIT, OPTION MODEL N*

BASE BODY - 20200014 = #6 SAE



BODY WEIGHT: 1.09 lbs (.49 kg)

DESCRIPTION

Pre-engineered circuit, option model N*.

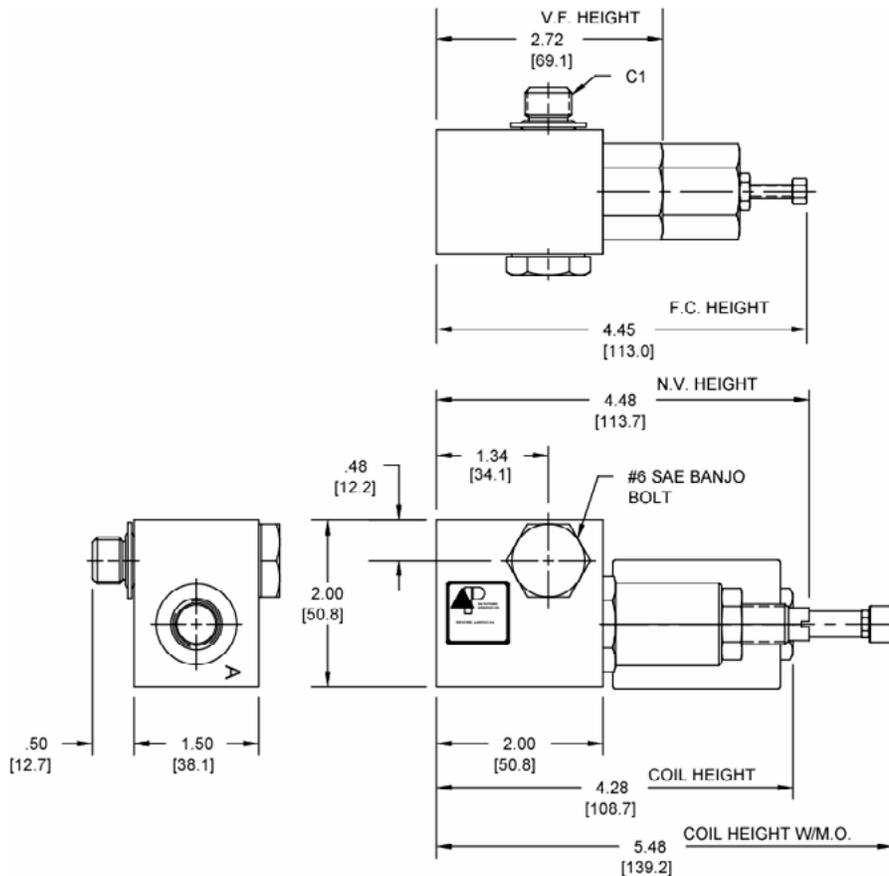
OPERATION

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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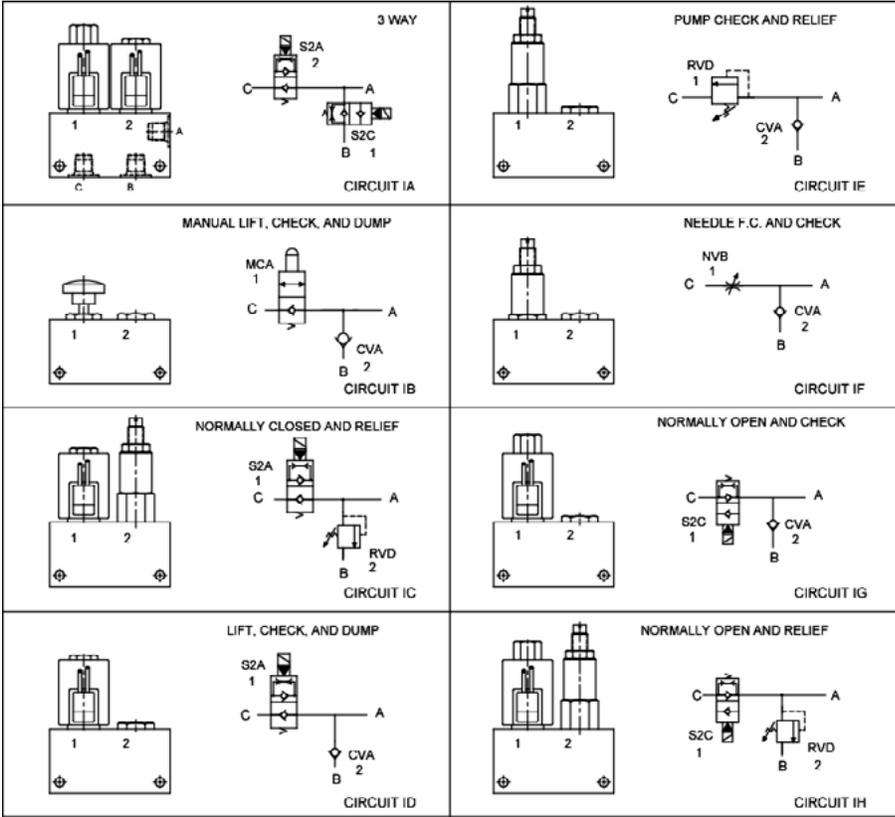


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OPTIONS CHART



ORDERING INFORMATION

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

CIRCUITS	OPTIONS	VOLTAGE	VALVE 1 FLOW	PRESSURE
NA	Buna Standard	06 6 VDC	01 1 GPM	02 20-500 PSI
NB	Viton Standard	12 12 VDC	02 2 GPM	15 200-1500 PSI
NC	Manual Override	24 24 VDC	03 3 GPM	30 1500-3000 PSI
ND		36 36 VDC	04 4 GPM	40 2500-4000 PSI
NE		48 48 VDC	05 5 GPM	RELIEF VALVE
		25 25 VAC	06 6 GPM	
		11 120 VAC	07 7 GPM	
		22 220 VAC	08 8 GPM	
		44 440 VAC	09 9 GPM	
			10 10 GPM	
			FLOW CONTROL	
			FOR SPECIAL PRESET VALUES ON VALVES, CONSULT FACTORY	
"D" COIL TERMINATION (All DC Except as Noted)			IMMERSION PROOF "D" TYPE	
DL Double Lead	SS Single Spade		IA "I" Coil AMP Superseal - Integral	
DT Deutsch on Leads DT04-2P	DS Double Spade		ID "I" Coil Deutsch - Integral DT04-2P	
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			

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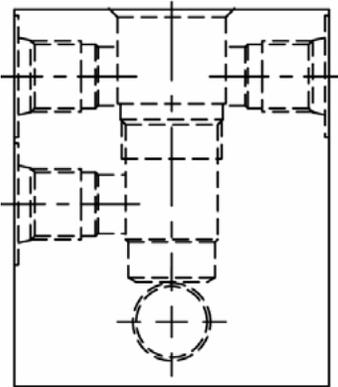
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PRE-ENGINEERED CIRCUIT, OPTION MODEL O*

BASE BODY - 20200015 = #6 SAE



BODY WEIGHT: 1.09 lbs (.49 kg)

DESCRIPTION

Pre-engineered circuit, option model O*.

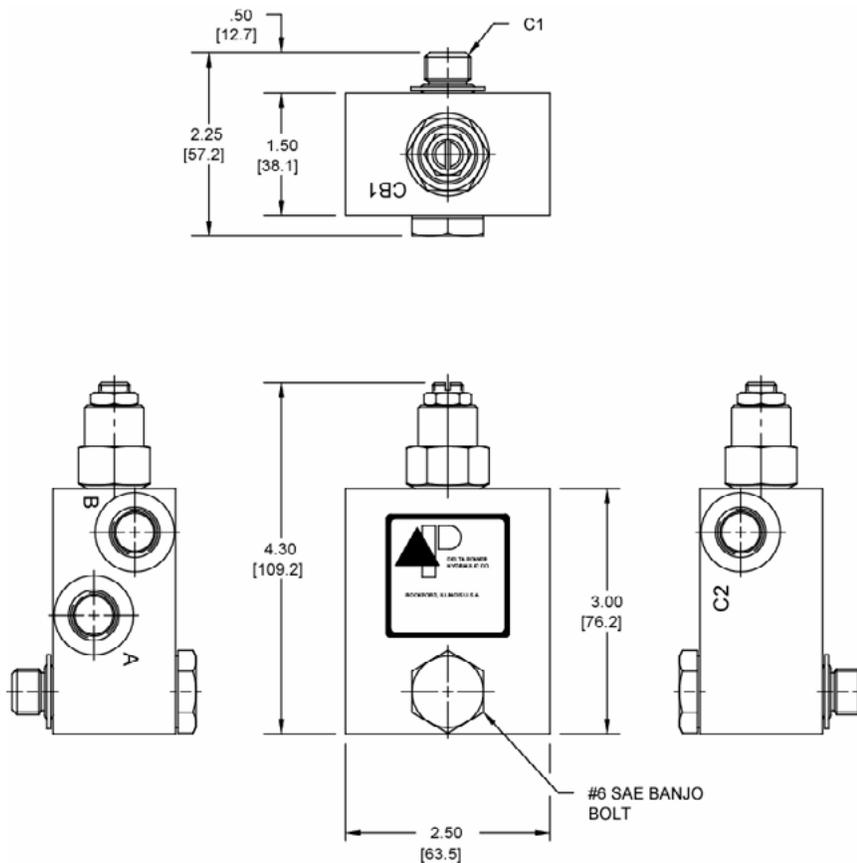
OPERATION

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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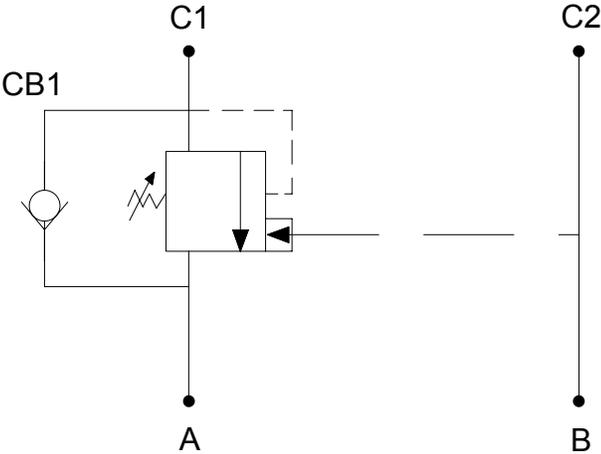
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TYPICAL SCHEMATIC

COUNTERBALANCE



CIRCUIT OA

ORDERING INFORMATION

CIRCUITS	OPTIONS	PRESSURE RANGE
OA	Buna Standard 00 Viton Standard V0	15 400-1500 PSI 40 1500-4000 PSI

FOR SPECIAL PRESET VALUES ON VALVES, CONSULT FACTORY

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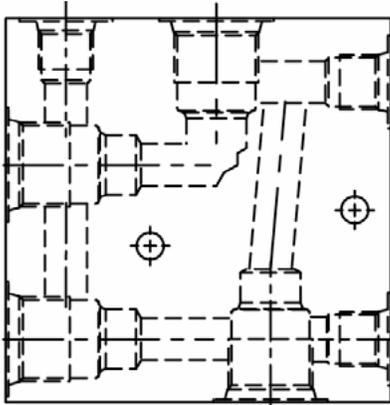
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PRE-ENGINEERED CIRCUIT, OPTION MODEL P*

BASE BODY - 20200017 = #6 SAE



BODY WEIGHT: 1.5 lbs (.68 kg)

DESCRIPTION

Pre-engineered circuit, option model P*.

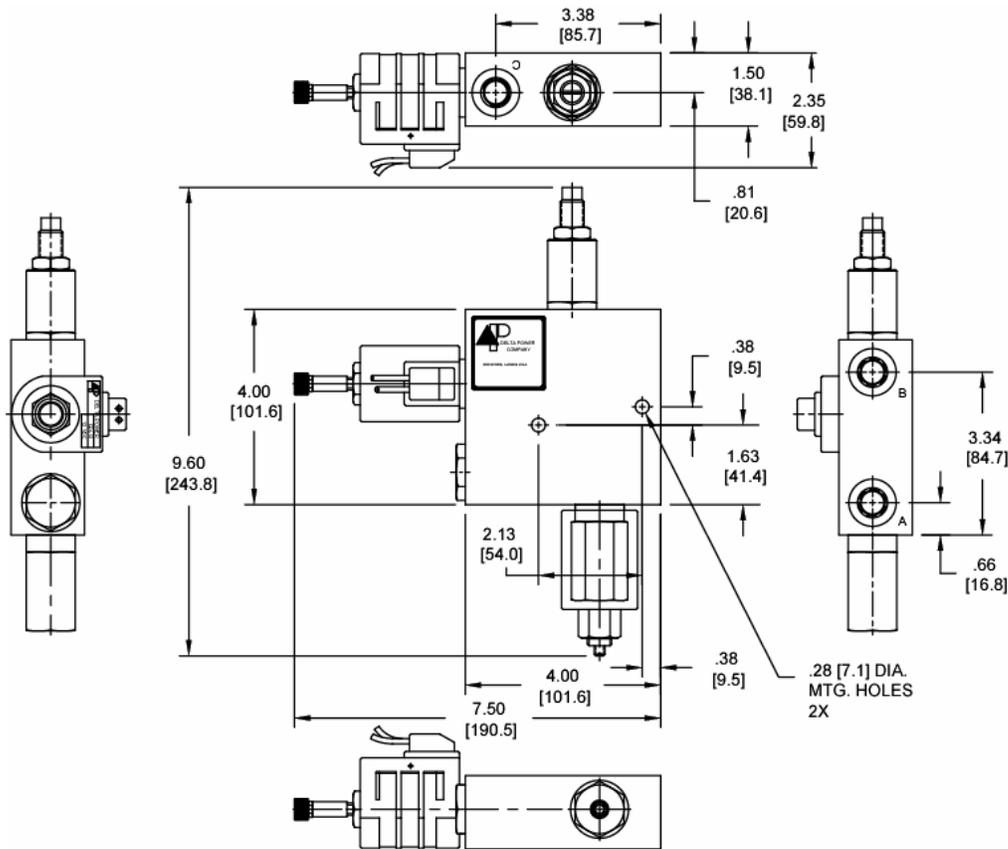
OPERATION

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



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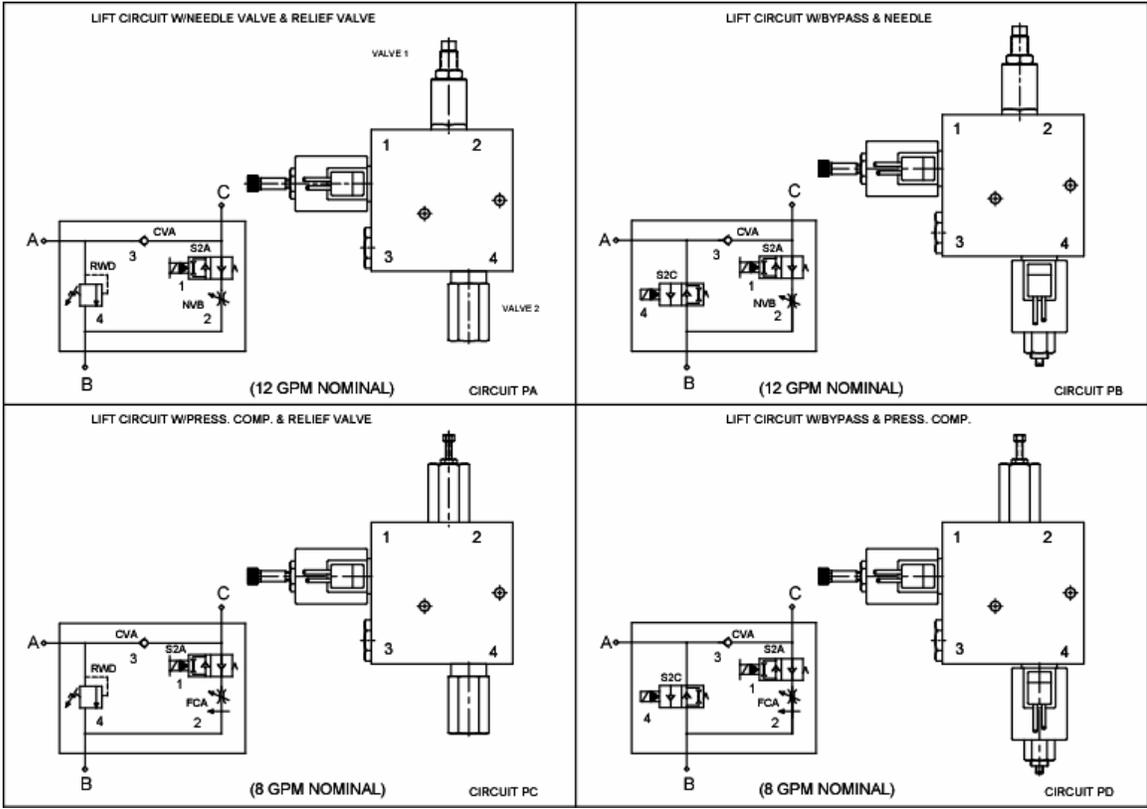


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OPTIONS CHART



ORDERING INFORMATION

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

CIRCUITS	PA	OPTIONS	Buna Standard	00	VOLTAGE	06	6 VDC	VALVE 2	FLOW	01	.5-1 GPM	PRESSURE	02	20-500 PSI
	PB		Viton Standard	V0		12	12 VDC		02	1-2 GPM	15		200-1500 PSI	
	PC	Manual Override	0M	24	24 VDC	04	2-4 GPM	30	1500-3000 PSI					
	PD			36	36 VDC	08	4-8 GPM	40	2500-4000 PSI					
				48	48 VDC	FLOW CONTROL			RELIEF VALVE					
				25	25 VAC									
				11	120 VAC	VALVE 1	FLOW	07	100-700 PSI					
				22	220 VAC		01	.5-1 GPM	30	100-3000 PSI				
				44	440 VAC	02	1-2 GPM	40	3000-4000 PSI					
						FLOW CONTROL			RELIEF VALVE					

"D" COIL TERMINATION
(All DC Except as Noted)

- DL Double Lead
- DT Deutsch on Leads DT04-2P
- ML Metri-Pack on Leads
- PL Packard on Leads
- WL Weatherpack on Leads
- SS Single Spade
- DS Double Spade
- HC DIN 43650 (Hirschmann) - (AC&DC)
- CL Conduit Lead - (AC Only)
- DI Deutsch - Integral DT04-2P

IMMERSION PROOF "D" TYPE

- IA "I" Coil AMP Superseal - Integral
- ID "I" Coil Deutsch - Integral DT04-2P
- IJ "I" Coil AMP Jr. Timer - Integral
- IM "I" Coil Metri-Pack - Integral

FOR SPECIAL PRESET VALUES ON VALVES, CONSULT FACTORY

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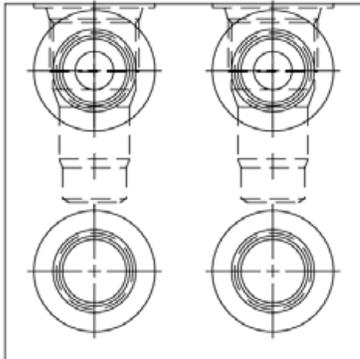
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PRE-ENGINEERED CIRCUIT, OPTION MODEL Q*

BASE BODY - 20200018 = #8 SAE



BODY WEIGHT: 1.50 lbs (.68 kg)

DESCRIPTION

Pre-engineered circuit, option model Q*.

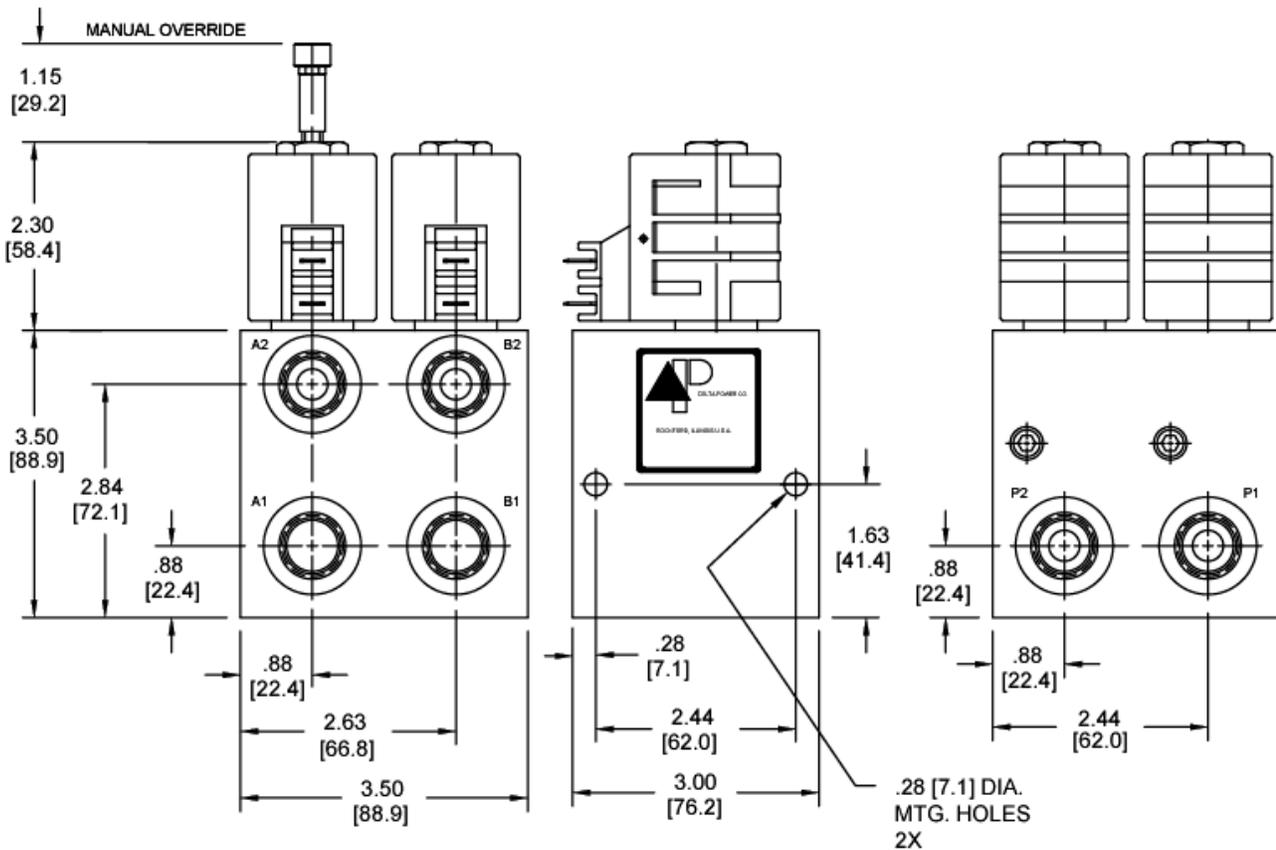
OPERATION

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



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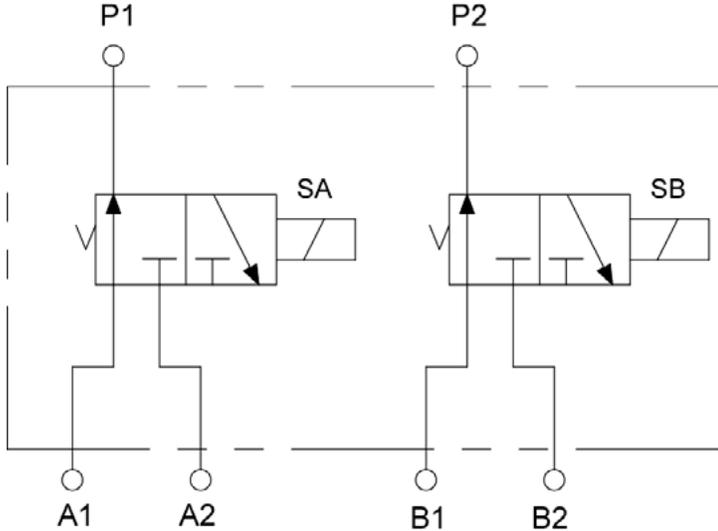


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TYPICAL SCHEMATIC



CIRCUIT QA

ORDERING INFORMATION

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

CIRCUITS	OPTIONS	VOLTAGE
QA	Buna Standard 00 Viton Standard V0 Manual Override 0M	06 6 VDC 12 12 VDC 24 24 VDC 36 36 VDC 48 48 VDC 25 25 VAC 11 120 VAC 22 220 VAC 44 440 VAC

"D" COIL TERMINATION
(All DC Except as Noted)

- DL Double Lead
- DT Deutsch on Leads DT04-2P
- ML Metri-Pack on Leads
- PL Packard on Leads
- WL Weatherpack on Leads

- SS Single Spade
- DS Double Spade
- HC DIN 43650 (Hirschmann) - (AC&DC)
- CL Conduit Lead - (AC Only)
- DI Deutsch - Integral DT04-2P

IMMERSION PROOF "D" TYPE

- IA "I" Coil AMP Superseal - Integral
- ID "I" Coil Deutsch - Integral DT04-2P
- IJ "I" Coil AMP Jr. Timer - Integral
- IM "I" Coil Metri-Pack - Integral

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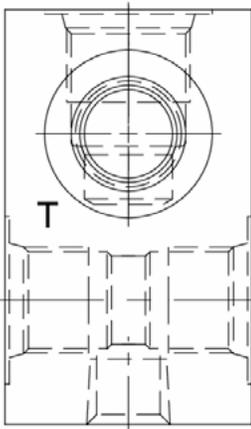
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PRE-ENGINEERED CIRCUIT, OPTION MODEL R*

BASE BODY - 20200019 = #8 SAE



BODY WEIGHT: .66 lbs (.30 kg)

DESCRIPTION

Pre-engineered circuit, option model R*.

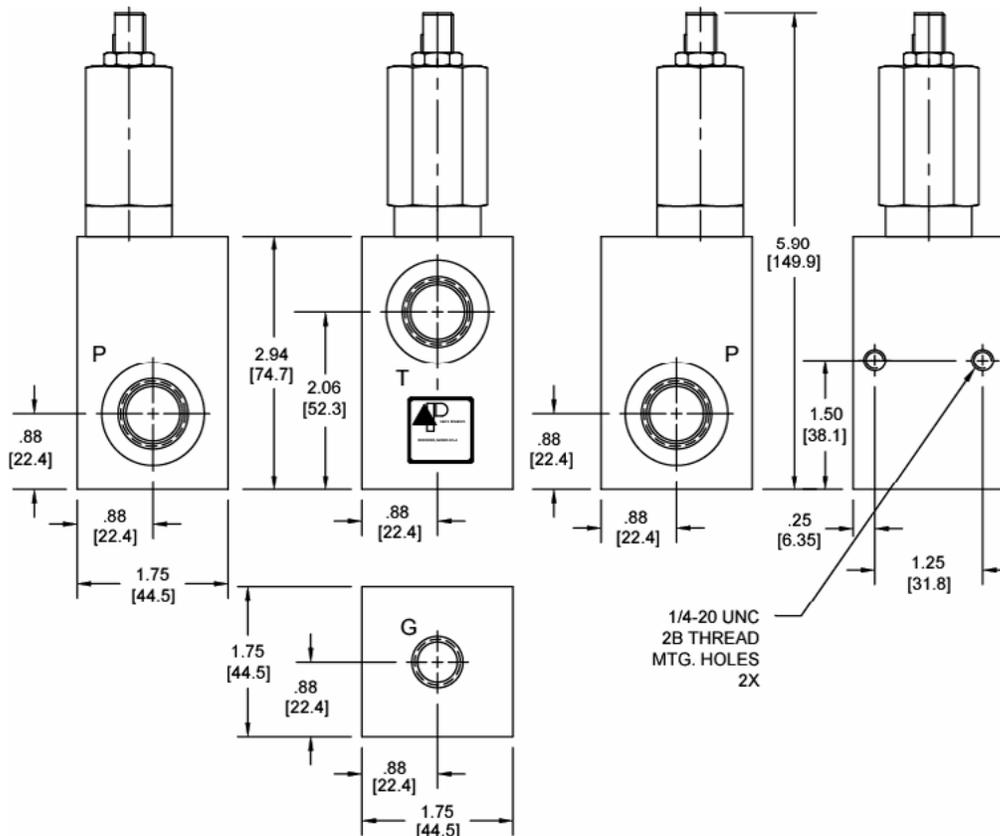
OPERATION

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



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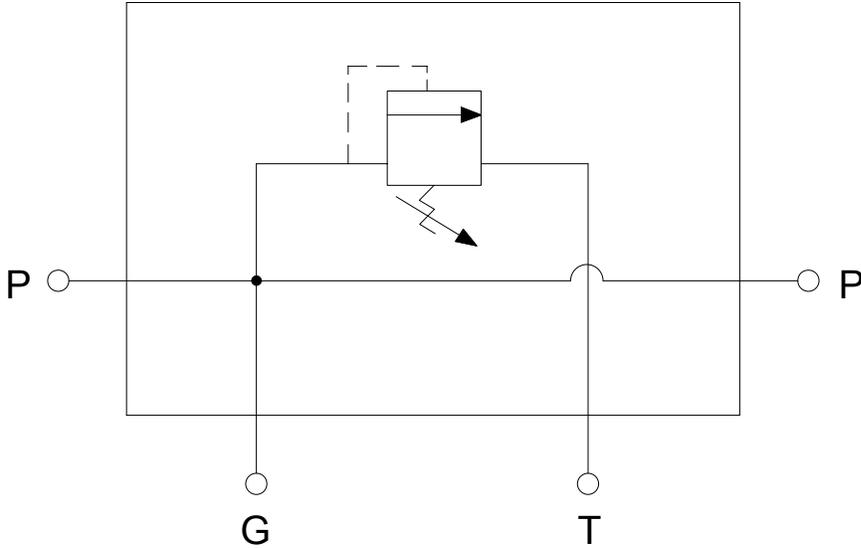


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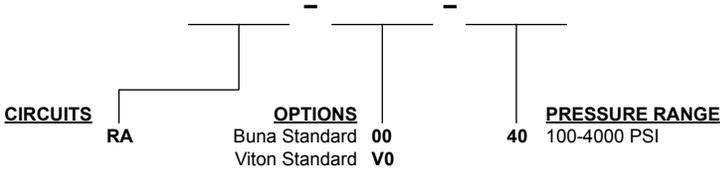
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TYPICAL SCHEMATIC



CIRCUIT RA

ORDERING INFORMATION



FOR SPECIAL PRESET VALUES ON VALVES, CONSULT FACTORY

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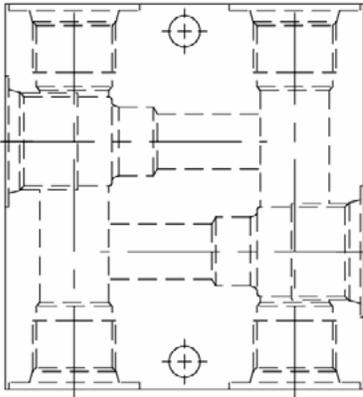
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PRE-ENGINEERED CIRCUIT, OPTION MODEL S*

BASE BODY - 20200020 = #8 SAE



BODY WEIGHT: 1.2 lbs (.54 kg)

DESCRIPTION

Pre-engineered circuit, option model S*.

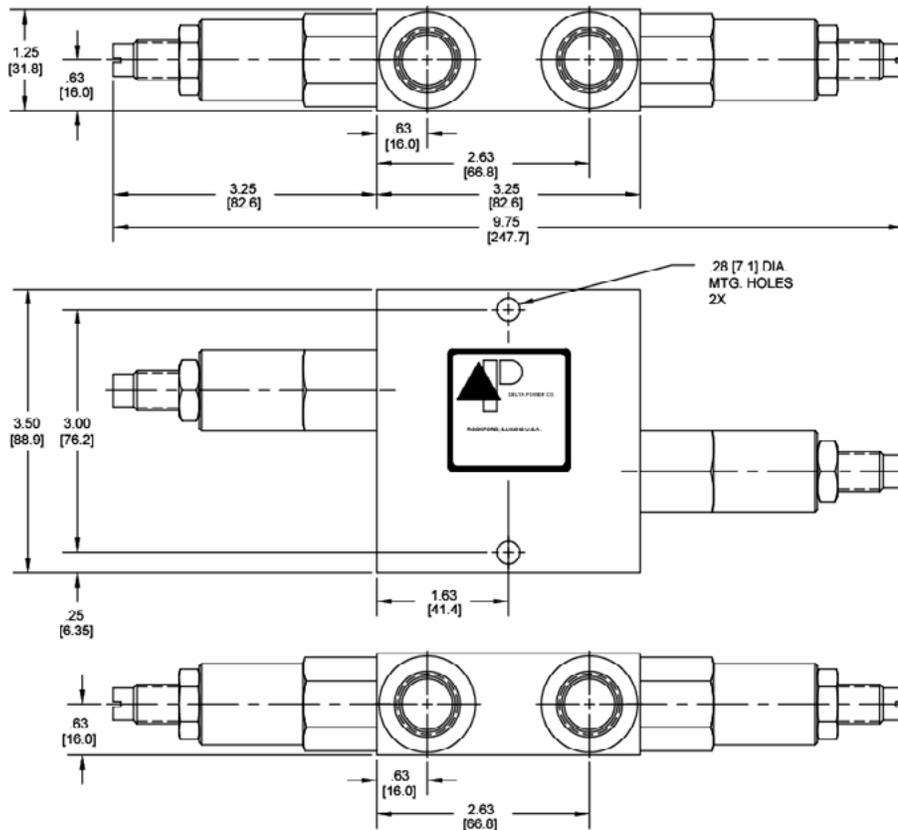
OPERATION

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



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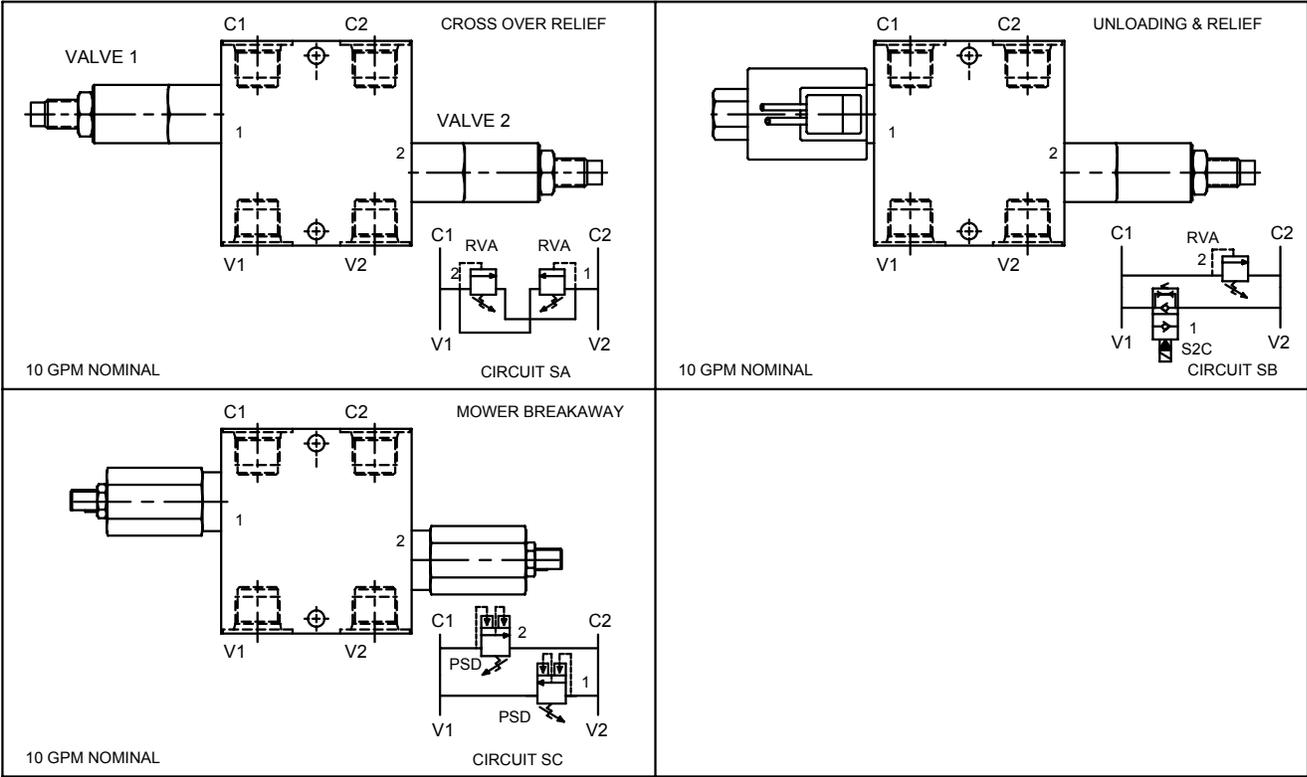


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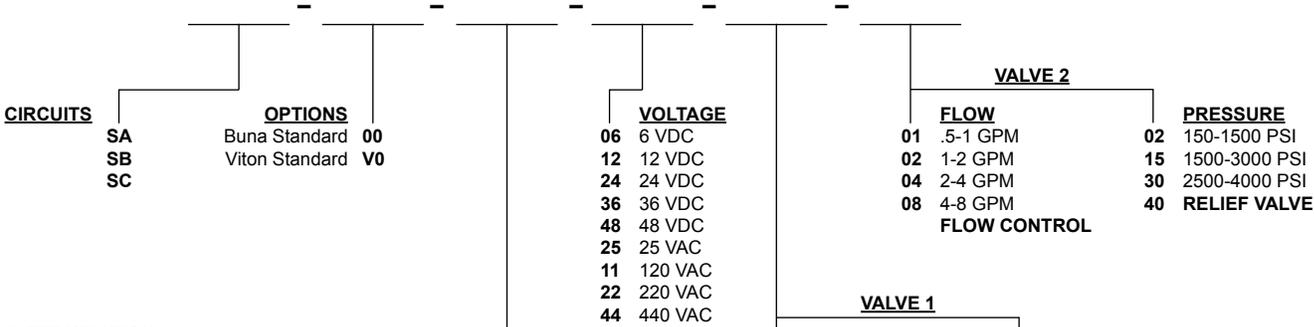
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OPTIONS CHART



ORDERING INFORMATION

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



“D” COIL TERMINATION
(All DC Except as Noted)

- DL Double Lead
- DT Deutsch on Leads DT04-2P
- ML Metri-Pack on Leads
- PL Packard on Leads
- WL Weatherpack on Leads
- SS Single Spade
- DS Double Spade
- HC DIN 43650 (Hirschmann) - (AC&DC)
- CL Conduit Lead - (AC Only)
- DI Deutsch - Integral DT04-2P

IMMERSION PROOF “D” TYPE

- IA “I” Coil AMP Superseal - Integral
- ID “I” Coil Deutsch - Integral DT04-2P
- IJ “I” Coil AMP Jr. Timer - Integral
- IM “I” Coil Metri-Pack - Integral

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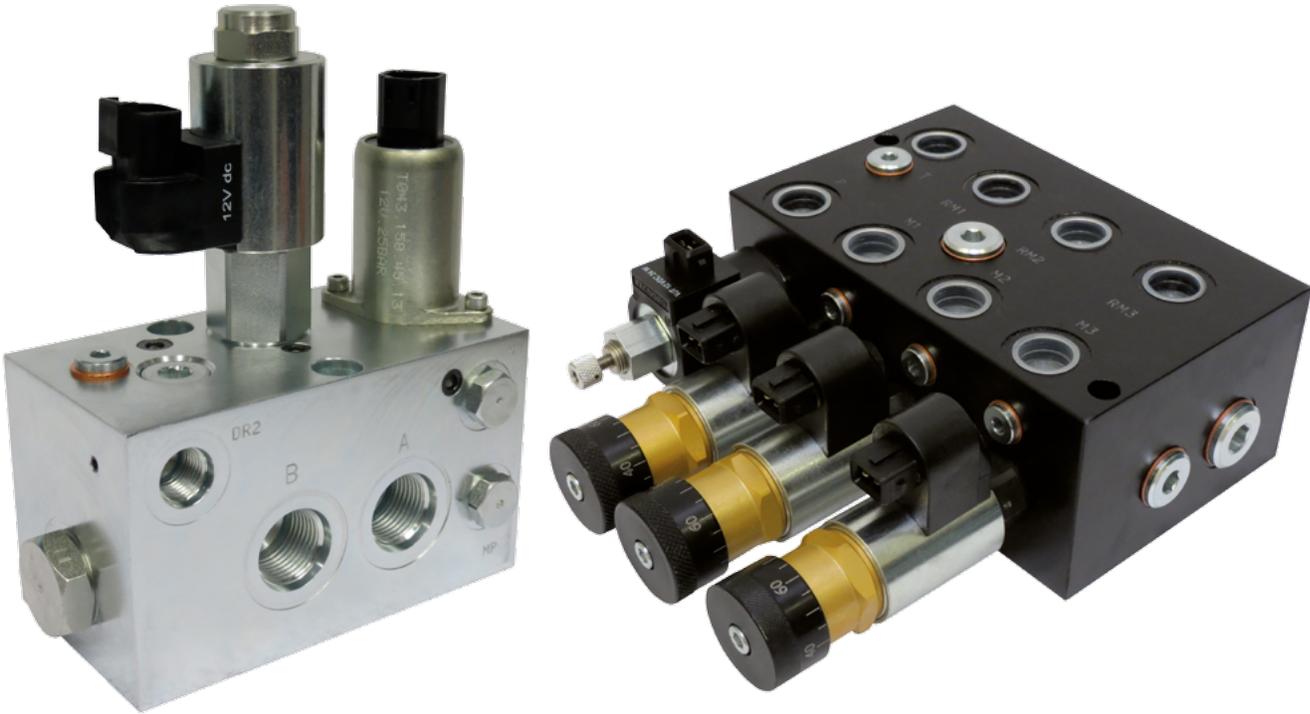


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PRE-ENGINEERED



FAN DRIVE HIC HP4

SPREADER VALVES HP6

PROPORTIONAL REMOTE CONTROL HIC HP8

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FAN DRIVE HIC	GPM	PSI	LPM	BAR	MODEL	PAGE
	2.5 to 10	3650	10 to 40	250	HFD-A	HP4
	5 to 20	3650	20 to 80	250	HFD-B	HP6

TYPICAL SCHEMATIC

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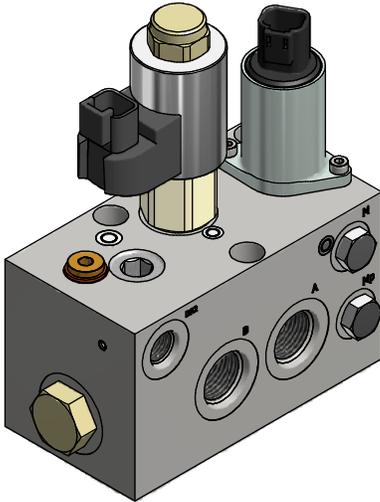


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HFD SERIES PROPORTIONAL REVERSING FAN DRIVE HIC



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.

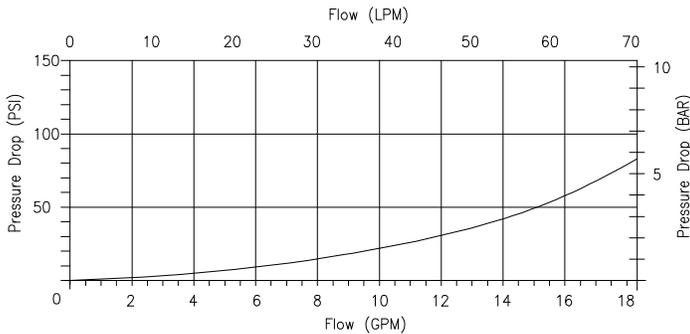
FEATURES

- 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 Tecnom/Delta Power for details).

PERFORMANCE CURVES

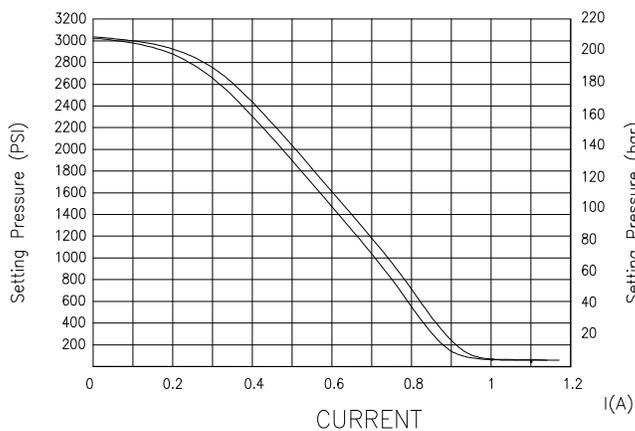
PRESSURE DROP P->A->B->T

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

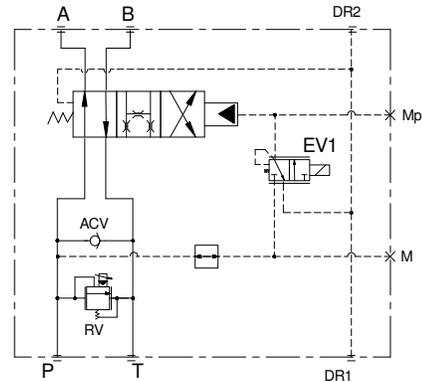


PRESSURE vs CURRENT (RV)

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)

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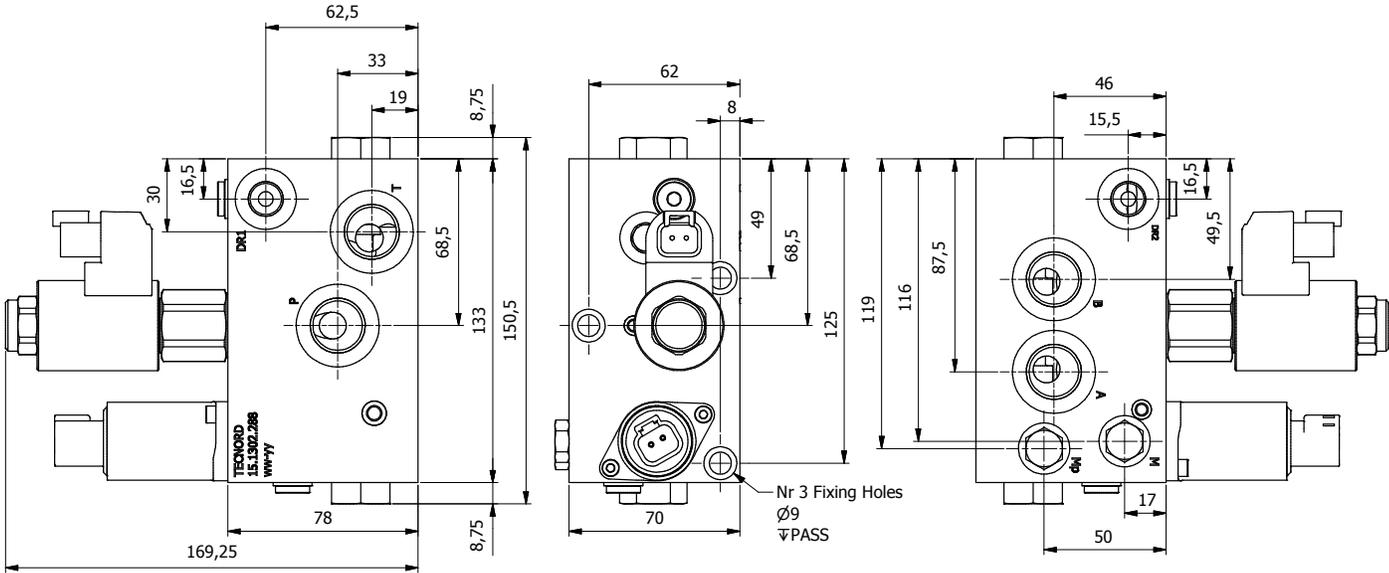


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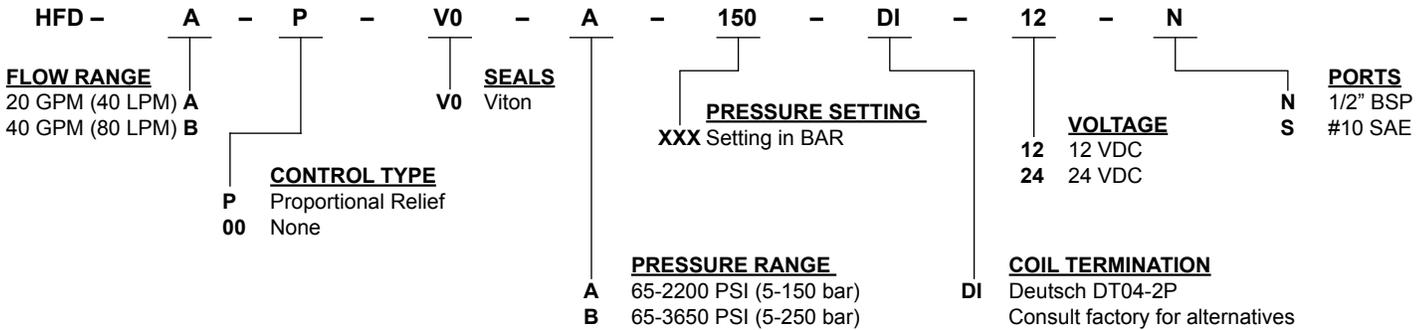


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DIMENSIONS



ORDERING INFORMATION

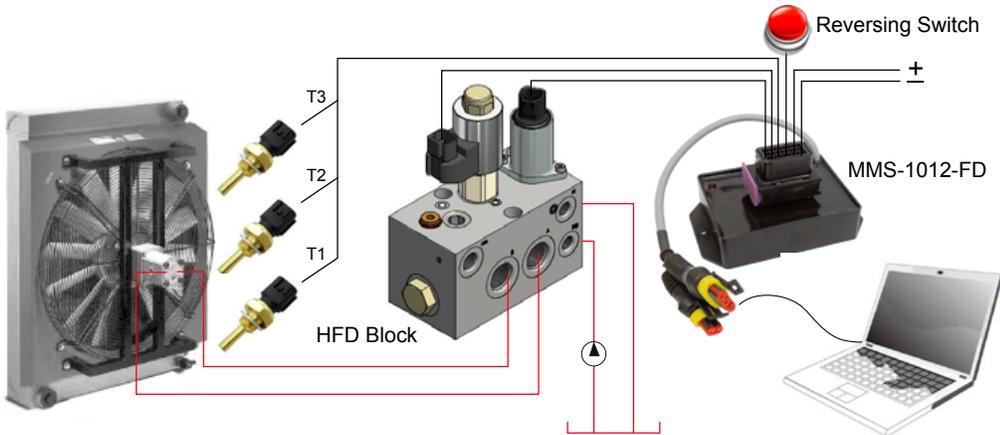


EHFD SYSTEM – ELECTRO HYDRAULIC FAN DRIVE SYSTEM

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



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