

Manifold Catalog

The Drive & Control Company



Rexroth Manifolds

RA 09 907/07.04

The Drive & Control Company



**Rexroth is also a manufacturer
of customized manifolds.**

**We design, machine, assemble,
and test to your application.**

**Engineered to your application,
supplied from your single source
specialist.**

**Manifold System Solutions from
The Drive & Control Company.**

For more details

**Call 1-800-REXROTH
(739-7684)**

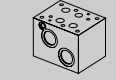
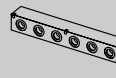
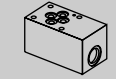
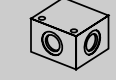
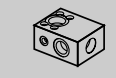
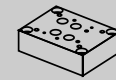
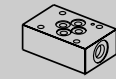
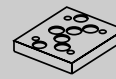
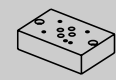
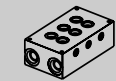
**or visit us on the web at
www.boschrexroth-us.com**

Specifications, descriptions, and dimensional data are subject to correction or change without notice or incurring obligation.

These drawings are for reference only. Please consult the appropriate standard when dimensions are critical. Some holes are added per industry convention. Dimensions may vary on our products. It should not be assumed that each hole shown is found on a given product.

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Section 1

Bar Manifolds

RA 09 907/07.04

The Drive & Control Company

Bar Manifold Features

- Sizes 6 to 22
- Aluminum and ductile iron
- Side or bottom ported
- SAE, NPT, and BSPP porting, flanged ports for larger sizes
- Includes mounting kit
- Other accessories available

Note: Bar manifolds may be purchased as complete assemblies upon request

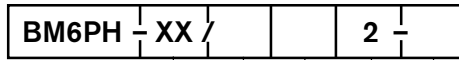


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Bar Manifold

D03 (Size 6) Parallel Circuit High Flow



Revision

= XX

Number of Station

= 01-10

Material

Aluminum 6061-T6, 3000 psi

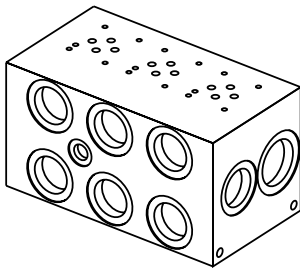
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Ductile Iron¹ 65-45-12, 5000 psi

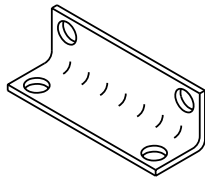
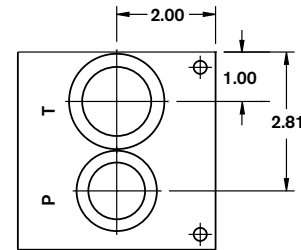
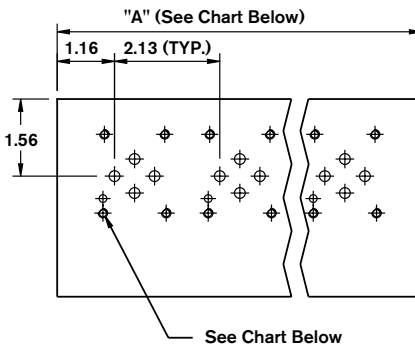
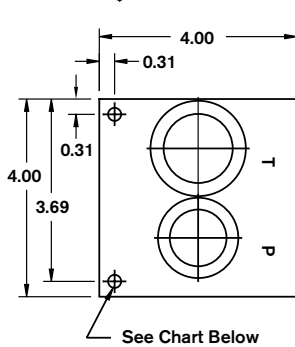
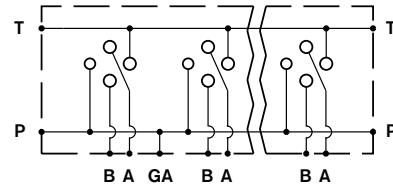
= D

12 =
01 =
2 =

Ports
SAE Threaded Ports
BSPP Threaded Ports
Valve Spacing 2.13"

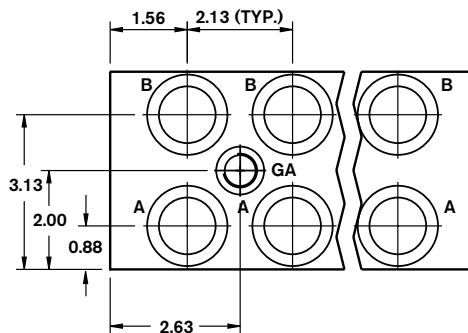


Parallel Circuit



Mounting kit included, see Page 29 for details.

Additional mounting accessories available on Page 30.



T Port	A, B, & P Ports	GA Port	Manifold (Mtg.)	Valve (Mtg.)	
...12	1-5/16-12 SAE-16	1-1/16-12 SAE-12	9/16-18 SAE-6	5/16-18 x 0.45 DP.	10-24 x 0.50 DP.
...01	1" BSPP	3/4" BSPP	1/4" BSPP	M8 x 0.45 DP.	M5 x 0.50 DP.

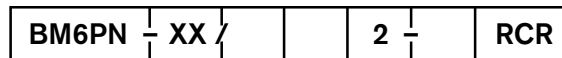
Number of Stations	01 ²	02	03	04	05	06	07	08	09 - 10
Dim. "A"	3.13	5.25	7.38	9.50	11.63	13.75	15.88	18.00	Consult Factory
Approx. Weight AL (lbs)	5	8	12	15	18	22	25	28	
Approx. Weight DI (lbs)	13	18	31	40	48	57	66	75	

1) Blackening 2) Gauge port not included

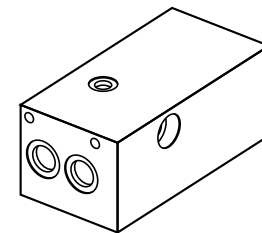
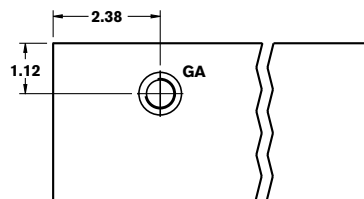
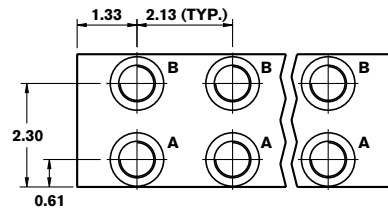
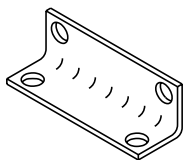
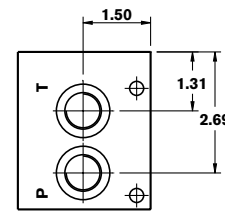
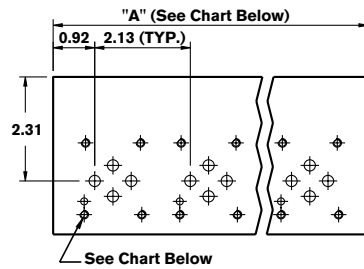
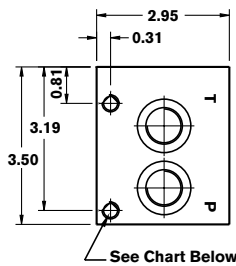
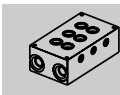
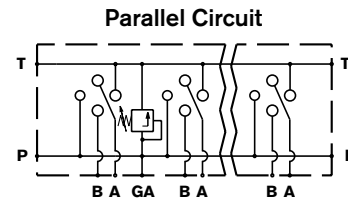
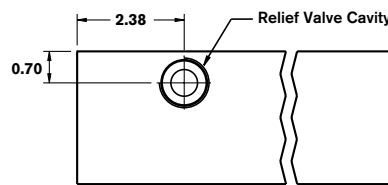
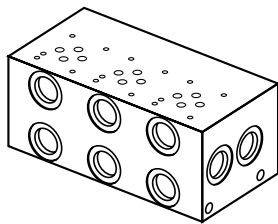
All dimensions in inches

Bar Manifold

D03 (Size 6) Parallel Circuit Normal Flow with DBDS Cavity



Revision	= XX	RCR =	Relief Cavity Rexroth DBDS6
Number of Station	= 01-08	12 =	SAE Threaded Ports
Material		01 =	BSPB Threaded Ports
Aluminum 6061-T6, 3000 psi	= A		
Ductile Iron ¹ 65-45-12, 5000 psi	= D		
Valve Spacing 2.13"	= 2		



Mounting kit included, see Page 29 for details.

Additional mounting accessories available on Page 30.

	P & T Port	A & B Ports	GA Port	Manifold (Mtg.)	Valve (Mtg.)
...12	7/8-14 SAE-10	3/4-16 SAE-8	9/16-18 SAE-6	5/16-18 x 0.60 DP.	10-24 x 0.45 DP.
...01	1/2" BSPB	3/8" BSPB	1/4" BSPB	M8 x 0.60 DP.	M5 x 0.45 DP.

Number of Stations	01	02	03	04	05	06	07	08
Dim. "A"	3.95	4.88	7.00	9.12	11.25	13.38	15.50	17.63
Approx. Weight AL (lbs)	4	5	7	9	11	14	16	18
Approx. Weight DI (lbs)	11	13	19	24	30	36	42	48

1) Blackening

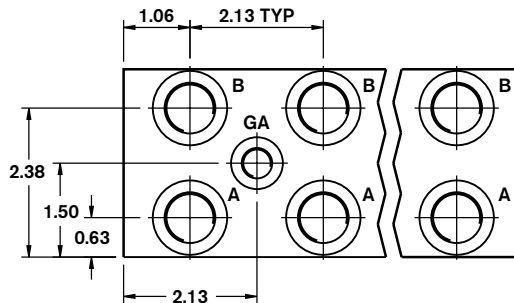
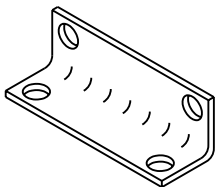
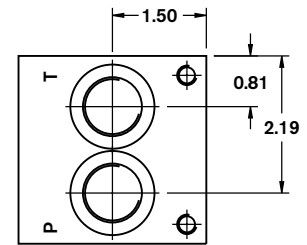
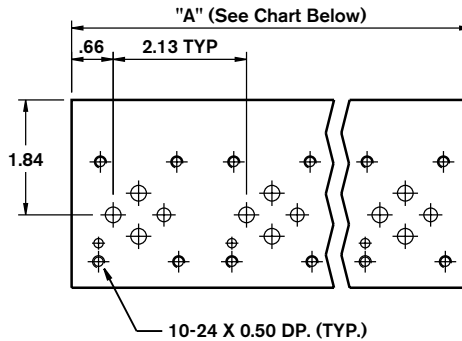
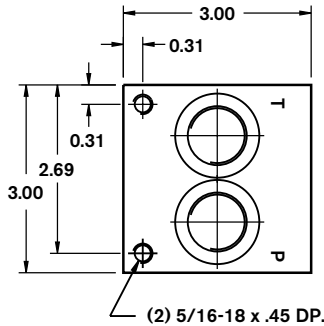
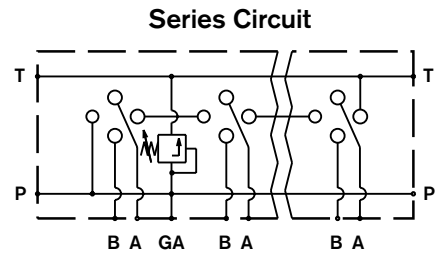
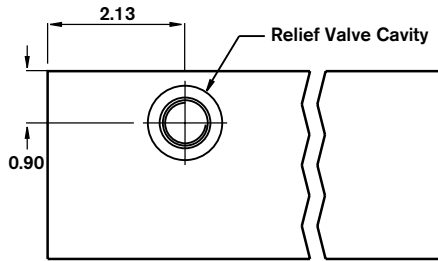
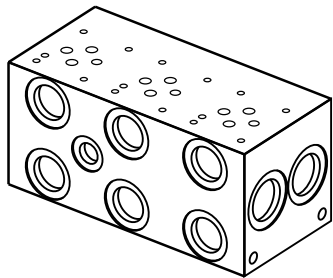
All dimensions in inches

Bar Manifold D03 (Size 6) Series Circuit Normal Flow



Revision	= XX
Number of Station	= 02-08
Material	= A = D
Valve Spacing 2.13"	= 2

Omit =	No Options
RCl =	Relief Cavity Industry Common 10-2
RCS =	Relief Cavity Sun T-10A (P in nose)
	SAE Threaded Ports
	P&T: 7/8-14 SAE-10
	A&B: 3/4-16 SAE-8
	GA: 9/16-18 SAE-6



Mounting kit included, see Page 29 for details.

Additional mounting accessories available on Page 30.

Number of Stations	02	03	04	05	06	07	08
Dim. "A"	4.25	6.38	8.50	10.63	12.75	14.88	17.00
Approx. Weight AL (lbs)	4	6	8	9	11	13	15
Approx. Weight DI (lbs)	10	15	20	25	30	35	40

1) Blackening

All dimensions in inches

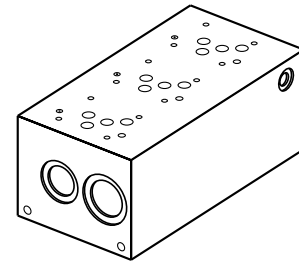
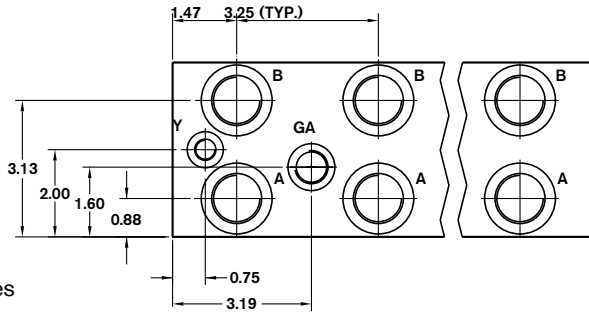
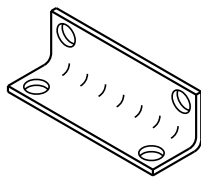
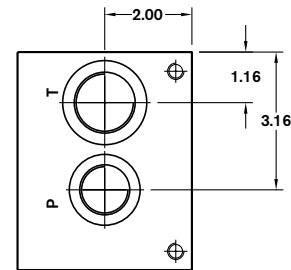
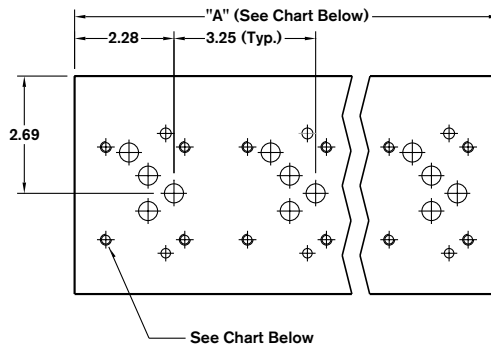
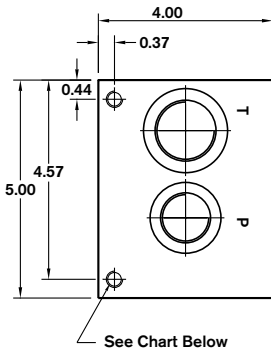
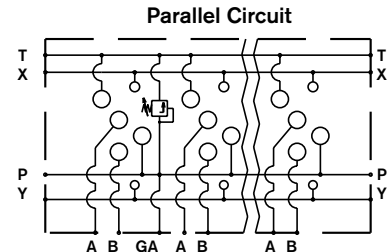
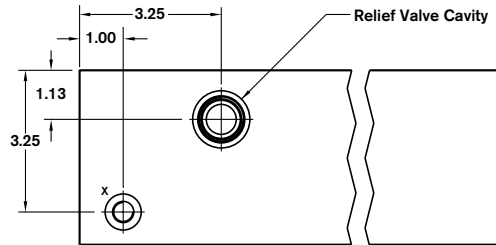
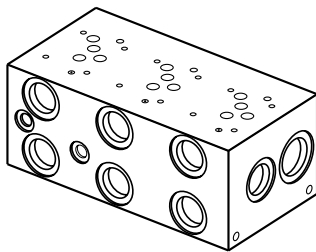
Bar Manifold

D05 (Size 10) Parallel Circuit High Flow

BM10PH	XX		3	
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Revision	= XX
Number of Station	= 01-12
Material	
Aluminum 6061-T6, 3000 psi	= A
Ductile Iron ¹ 65-45-12, 5000 psi	= D
Valve Spacing 3.25"	= 3

Omit =	No options
RCI =	Relief Cavity Industry Common 10-2
RCS =	Relief Cavity Sun T-3A (P in nose)
Ports	
12 =	SAE Threaded Ports
01 =	BSPP Threaded Ports



Mounting kit included, see Page 29 for details.

Additional mounting accessories available on Page 30.

T Port	P, A & B Ports	GA, X & Y Ports	Manifold (Mtg.)	Valve (Mtg.)
...12	1-5/16-12 SAE-16	1-1/16-12 SAE-12	3/8-16 x 0.55 DP.	1/4-20 x 0.60 DP.
...01	1" BSPP	3/4" BSPP	M10 x 0.60 DP.	M6 x 0.60 DP.

Number of Stations	01 ²	02	03	04	05	06	07	08 - 12
Dim. "A"	3.25 ³	6.50	9.75	13.00	16.25	19.50	22.75	Consult Factory
Approx. Weight AL (lbs)	6	13	19	25	32	38	45	
Approx. Weight DI (lbs)	17	34	51	68	85	101	118	

1) Blackening

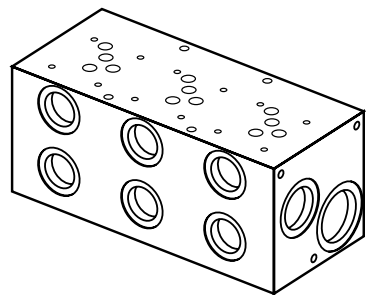
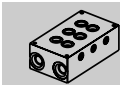
2) Gauge port not included 3) Dim. "A" with relief cavity is 4.50"

All dimensions in inches

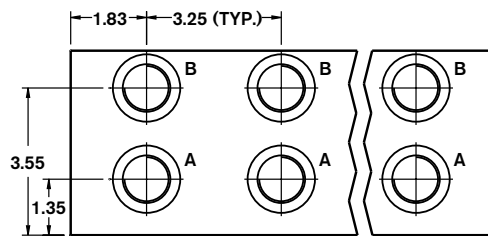
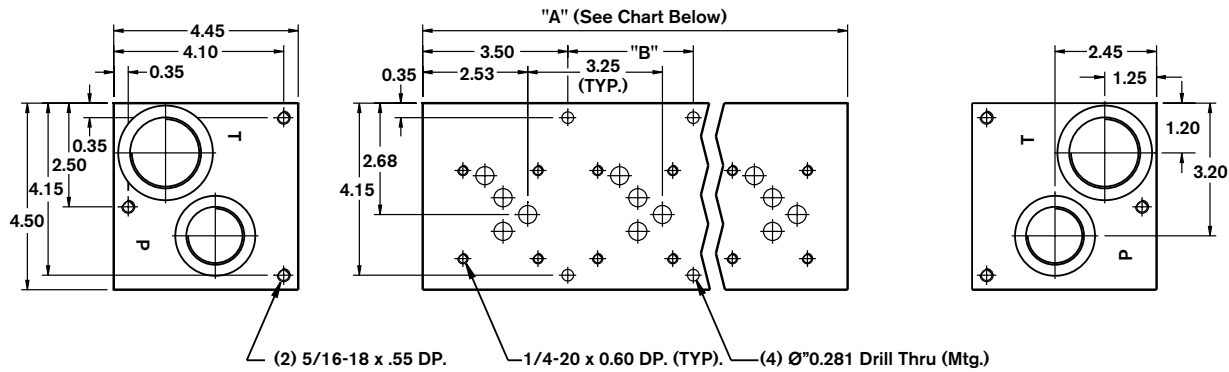
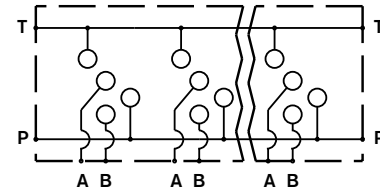
Bar Manifold D05 (Size 10) Parallel Circuit Ultra High Flow

BM10PU - XX / D 3 -

Revision	= XX	= D	= 3	12 =
Number of Station	= 02-06			
Material				SAE Threaded Ports
Ductile Iron ¹ 65-45-12				T: 1 5/8-12 SAE-20
5000 psi / 34.5 MPa				P: 1 5/16-12 SAE-16
Valve Spacing 3.25"				A&B: 1 1/16-12 SAE-12



Parallel Circuit



Mounting kit not included.

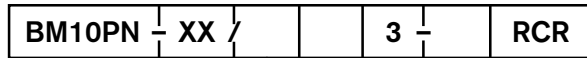
Number of Stations	02	03	04	05	06
Dim. "A"	7.00	10.25	13.50	16.75	20.00
Dim. "B"	—	3.25	6.50	9.75	13.00
Approx. Weight DI (lbs)	36	53	70	87	104

1) Blackening

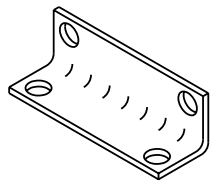
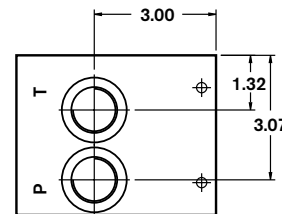
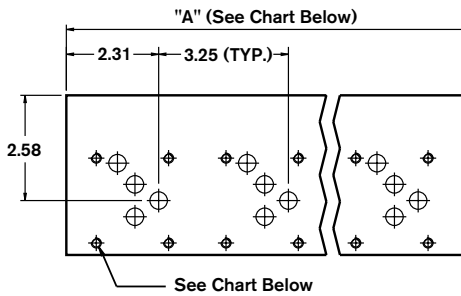
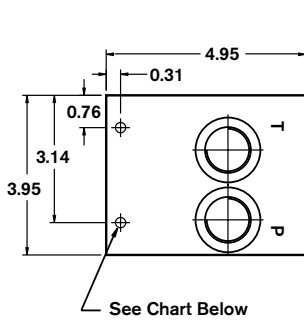
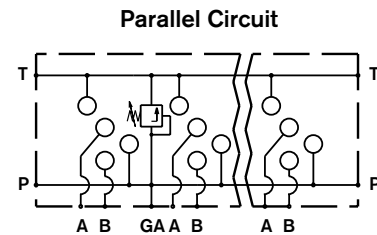
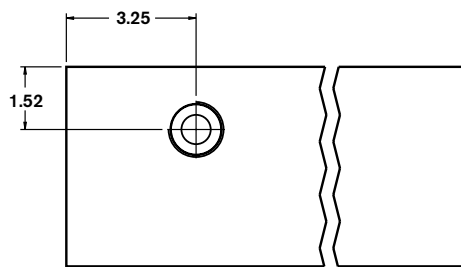
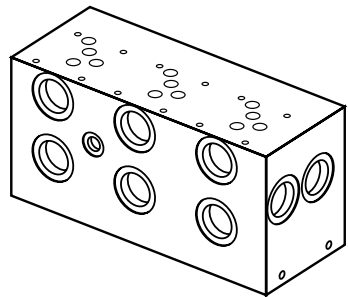
All dimensions in inches

Bar Manifold

D05 (Size 10) Parallel Circuit Normal Flow with DBDS Cavity

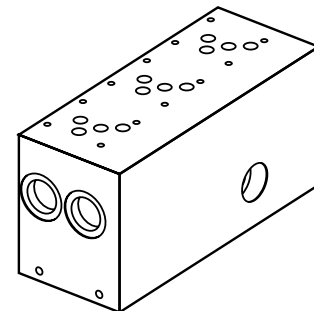
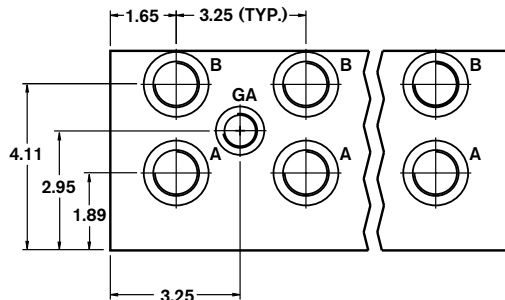


Revision	= XX	RCR =	Relief Cavity Rexroth DBDS10
Number of Station	= 01-07	12 =	SAE Threaded Ports
Material		01 =	BSPP Threaded Ports
Aluminum 6061-T6, 3000 psi	= A		
Ductile Iron ¹ 65-45-12, 5000 psi	= D		
Valve Spacing 3.25"	= 3		



Mounting kit included, see Page 29 for details.

Additional mounting accessories available on Page 30.



	P & T Port	A & B Ports	GA Ports	Manifold (Mtg.)	Valve (Mtg.)
...12	1-1/16-12 SAE-12	1-1/16-12 SAE-12	9/16-18 SAE-6	5/16-18 x 0.65 DP.	1/4-20 x 0.60 DP.
...01	3/4" BSPP	3/4" BSPP	1/4" BSPP	M8 x 0.65 DP.	M6 x 0.60 DP.

Number of Stations	01	02	03	04	05	06	07
Dim. "A"	5.00	6.88	10.13	13.38	16.63	19.88	23.13
Approx. Weight AL (lbs)	10	13	20	24	32	39	45
Approx. Weight DI (lbs)	26	35	52	64	86	102	120

1) Blackening

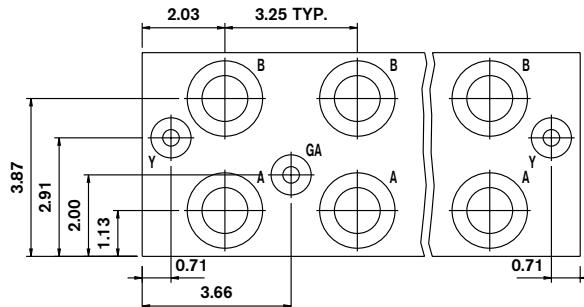
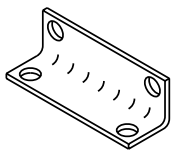
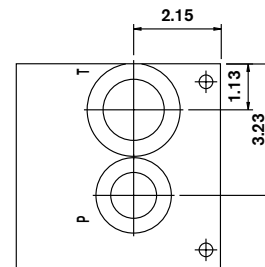
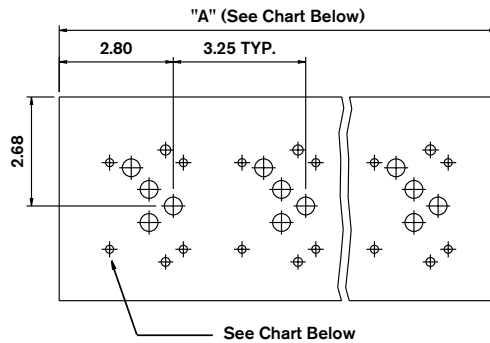
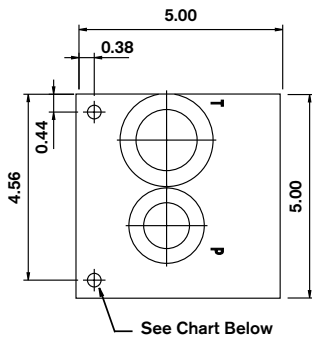
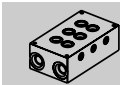
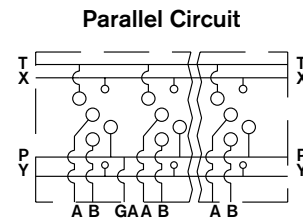
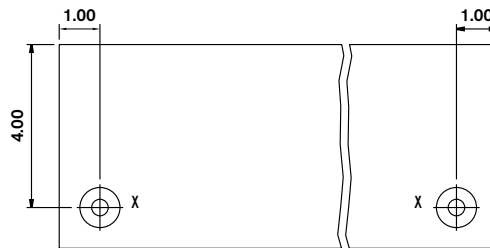
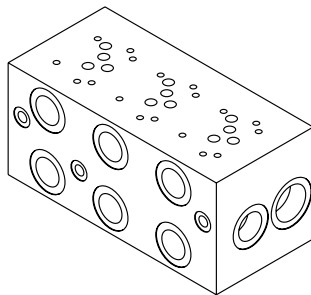
All dimensions in inches

Bar Manifold

D05 (Size 10) Parallel Circuit Extra High Flow with X & Y Ports

BM10PX - XX / 3 -

Revision	= XX	12 =	SAE Threaded Ports
Number of Station	= 01-06	01 =	BSPP Threaded Ports
Material			
Aluminum 6061-T6, 3000 psi	= A		
Ductile Iron ¹ 65-45-12, 5000 psi	= D		
Valve Spacing 3.25"	= 3		



Mounting kit included, see Page 29 for details.

Additional mounting accessories available on Page 30.

	T Port	P + A & B Ports	GA, X & Y Ports	Manifold (Mtg.)	Valve (Mtg.)
...12	1-5/8-12 SAE-20	1-5/16-12 SAE-16	9/16-18 SAE-6	3/8-16 x 0.60 DP.	1/4-20 x 0.60 DP.
...01	1-1/4" BSPP	1" BSPP	1/4" BSPP	M10 x 0.60 DP.	M6 x 0.60 DP.

Number of Stations	01 ²	02	03	04	05	06
Dim. "A"	4.25	7.50	10.75	14.00	17.25	20.50
Approx. Weight AL (lbs)	10	18	26	34	42	50
Approx. Weight DI (lbs)	27	48	69	91	112	133

1) Blackened 2) Gauge port not included

All dimensions in inches

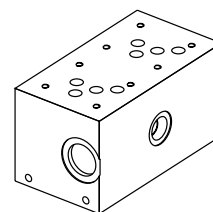
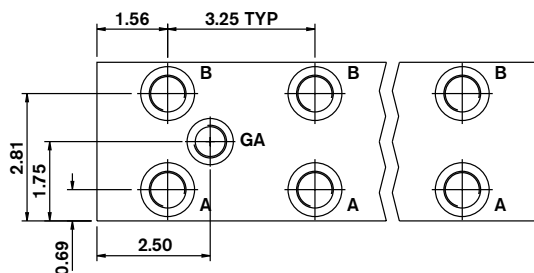
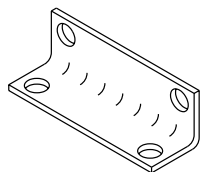
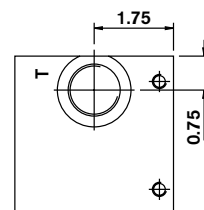
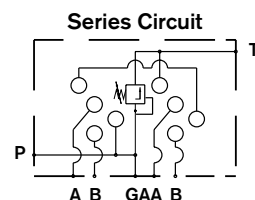
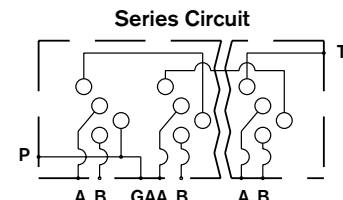
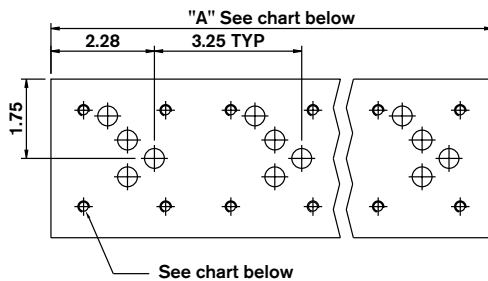
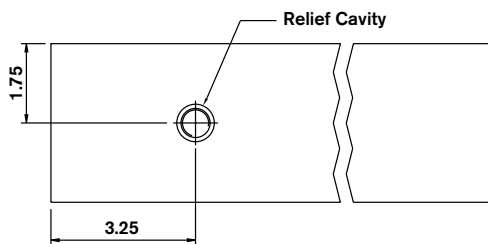
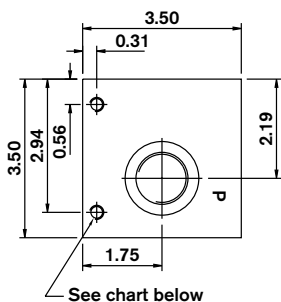
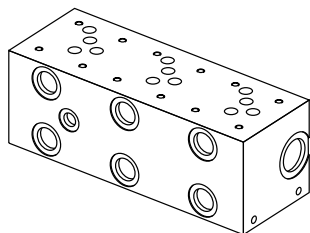
Bar Manifold

D05 (Size 10) Series Circuit Normal Flow



Revision	= XX
Number of Station	= 02-04
Material	= A = D
Valve Spacing 3.25"	= 3

Omit =	No Options
RCI =	Relief Cavity Industry Common 10-2
RCS =	Relief Cavity Sun T-3A (P in nose)
12 =	SAE Threaded Ports



Mounting kit included, see Page 29 for details.

Additional mounting accessories available on Page 30.

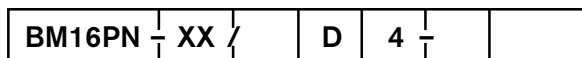
	P & T Ports	A & B Ports	GA Ports	Manifold (Mtg.)	Valve (Mtg.)
...12	1-1/16-12 SAE-12	3/4-16 SAE-8	9/16-18 SAE-6	5/16-18 x 0.50 DP.	1/4-20 x 0.60 DP.

Number of Stations	02	03	04
Dim. "A"	6.50	9.75	13.00
Approx. Weight AL (lbs)	8	12	16
Approx. Weight DI (lbs)	20	31	41

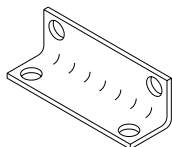
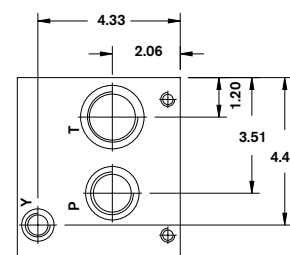
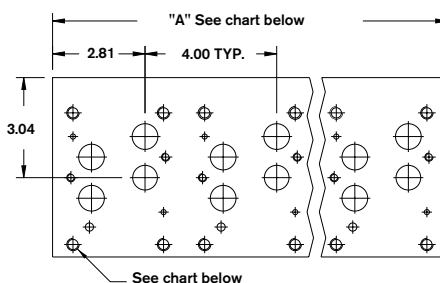
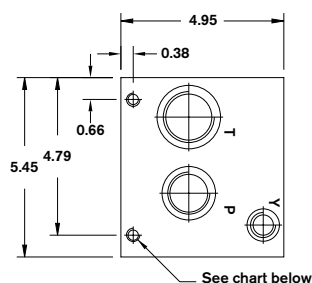
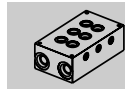
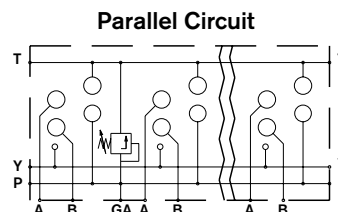
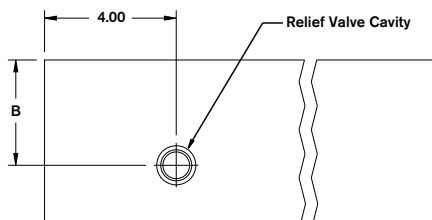
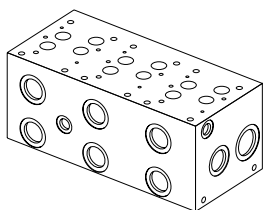
1) Blackening

All dimensions in inches

Bar Manifold D07 (Size 16) Parallel Circuit Normal Flow

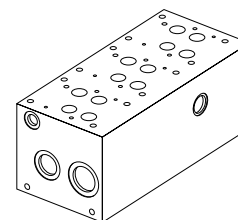
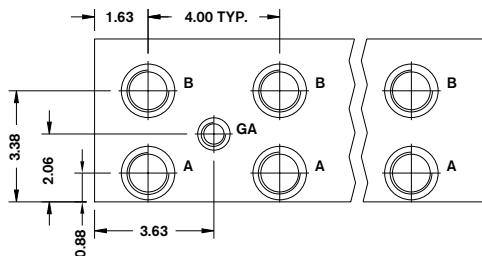


Revisions	= XX	Omit =	No Options
Number of Station	= 01-06	RCI =	Relief Cavity Industry Common10-2
Material		RCS =	Relief Cavity Sun T-3A (P in nose)
Aluminum 6061-T6 (300 psi)	= A	12 =	SAE Threaded Ports
Ductile Iron ¹ 65-45-12, 5000 psi	= D	05 =	NPT Threaded Ports
Valve Spacing 4.0"	= 4	01 =	BSPB Threaded Ports



Mounting kit included, see Page 29 for details.

Additional mounting accessories available on Page 30.

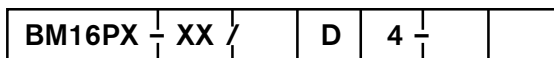


	T Port	P + A & B Ports	GA, X & Y Ports	Manifold (Mtg.)	Valve (Mtg.)
...12	1-5/16-12 SAE-16	1-1/16-12 SAE-12	9/16-18 SAE-6	3/8-16 x 0.75 DP.	3/8-16 x 0.70 DP. 1/4-20 x 0.75 DP.
...05	1" NPT	3/4" NPT	1/4" NPT	3/8-16 x 0.75 DP.	3/8-16 x 0.70 DP. 1/4-20 x 0.75 DP.
...01	1" BSPB	3/4" BSPB	1/4" BSPB	M10 x 0.75 DP.	M10 x 0.70 DP. M6 x 0.75 DP.

Number of Stations	01 ²	02	03	04	05	06
Dim. "A"	4.03 ³	8.00	12.00	16.00	20.00	24.00
Dim. "B" RCI	3.20	3.20	3.20	3.20	3.20	3.20
Dim. "B" RCS	3.25	3.25	3.25	3.25	3.25	3.25
Approx. Weight AL (lbs)	11/14 ³	21	32	43	53	64
Approx. Weight DI (lbs)	28/38 ³	56	84	112	140	168

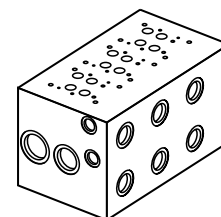
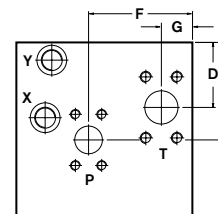
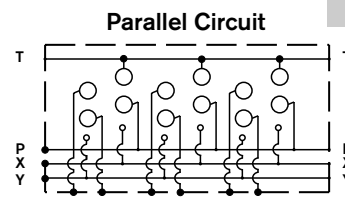
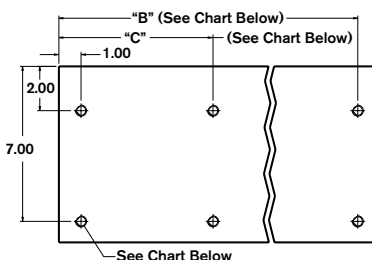
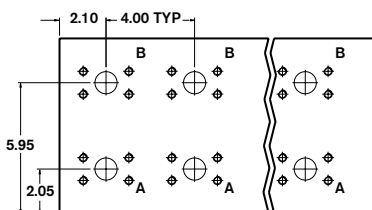
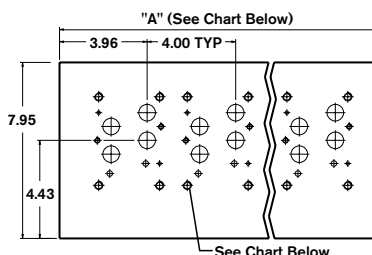
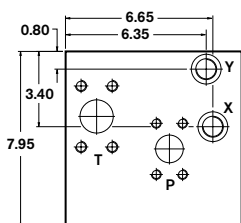
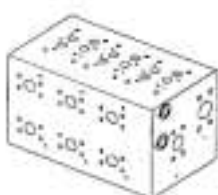
1) Blackening 2) Gauge port not included 3) Dim. "A" with relief cavity is 5.50" All dimensions in inches

Bar Manifold D07 (Size 16) Parallel Circuit Extra High Flow



Revision	= XX
Number of Station	= 02-06
Material	= D
Valve Spacing 4.0"	= 4

L = H =	Pressure Rating
	Low 3000 psi (Code 61) High 6000 psi (Code 62) Available only on SAE Flanged Ports
01 = 07 = 12 =	Ports
	BSPP Threaded Ports
	SAE Flanged SAE Threaded Ports



Mounting kit not included.

Model Code	Manifold (Mtg.)	Valve (Mtg.)
BM16...07L	1/2-13 x 0.90 DP.	3/8-16 x 0.70 DP.
BM16...07H		1/4-20 x 0.75 DP.
BM16...12		
BM16...01	M12 x 0.90 DP.	M10 x 0.70 DP. M6 x 0.70 DP.

Model Code	P Port	T Port	A & B Ports	X & Y Ports	D	E	F	G
BM16...07L	1-1/4" 3000 PSI (Code 61) SAE Flange	1-1/2" 3000 PSI (Code 61) SAE Flange	1" 3000 PSI (Code 61) SAE Flange	SAE-10	2.94	4.40	4.30	1.40
BM16...07H	1-1/4" 6000 PSI (Code 62) SAE Flange	1-1/2" 6000 PSI (Code 62) SAE Flange	1" 6000 PSI (Code 62) SAE Flange	SAE-10	2.94	4.40	4.30	1.40
BM16...01	1-1/4" BSPP	1-1/2" BSPP	1" BSPP	1/2" BSPP	4.30	4.30	4.35	1.52
BM16...12	SAE-20	SAE-24	SAE-16	SAE-10	4.30	4.30	4.35	1.52

Number of Stations	02	03	04	05	06
Dim. "A"	10.00	14.00	18.00	22.00	26.00
Dim. "B"	9.00	13.00	17.00	21.00	25.00
Dim. "C"	-	-	-	11.00	13.00
Approx. Weight DI (lbs)	164	230	295	361	427

1) Blackening

2) Third Pair of Mounting Holes

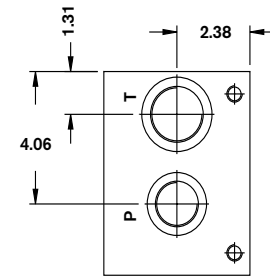
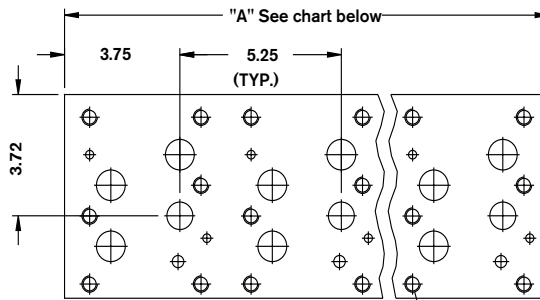
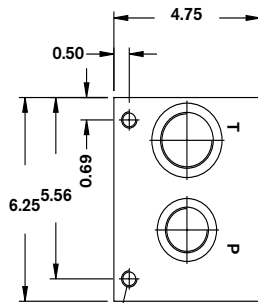
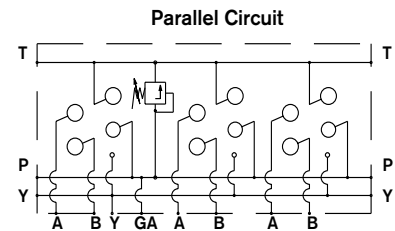
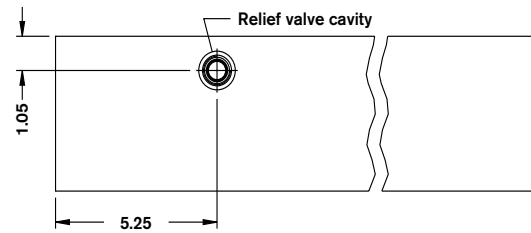
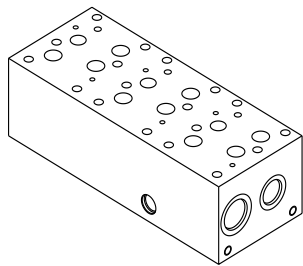
All dimensions in inches

Bar Manifold

D08 (Size 22/25) Parallel Circuit Normal Flow

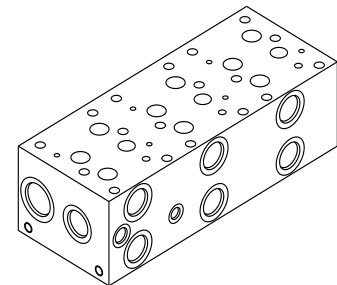
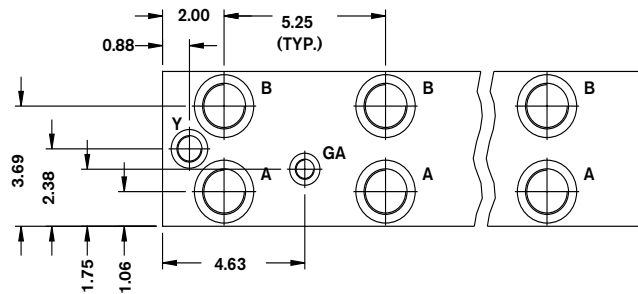
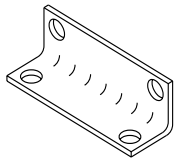
BM22PN - XX / 5 -

Revision	= XX					Omit =	No Options
Number of Station	= 01-07					RCI =	Relief Cavity Industry Common 10-2
Material						RCS =	Relief Cavity Sun T-3A (P in nose)
Aluminum 6061-T6, 3000 psi					= A		
Ductile Iron ¹ 65-45-12, 5000 psi					= D		
Valve Spacing 5.25"					= 5	12 =	Ports SAE Threaded Ports



(4) 1/2-13 X .80 DP. (MTG.)

1/2-13 X 1.00 DP. (TYP.)



Mounting kit included, see Page 29 for details.

Additional mounting accessories available on Page 30.

T Port	P, A & B Port	Y Port	GA Ports
...12	1-5/8-12 SAE-20	3/4-16 SAE-8	9/16-18 SAE-6

Number of Stations	01 ²	01 ³	02	03	04	05	06	07
Dim. "A"	5.25	7.00	10.50	15.75	21.00	26.25	31.50	36.75
Approx. Weight AL (lbs)	15	20	30	46	61	76	92	107
Approx. Weight DI (lbs)	41	54	81	121	162	203	243	283

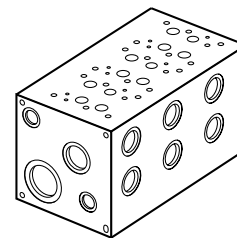
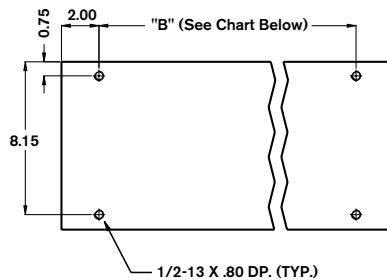
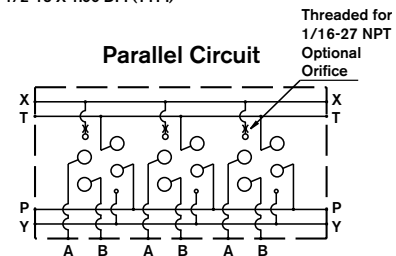
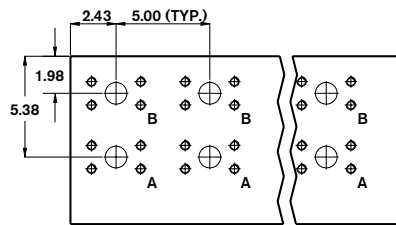
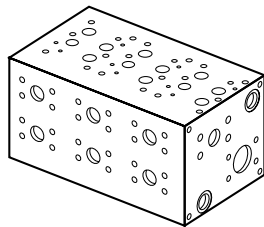
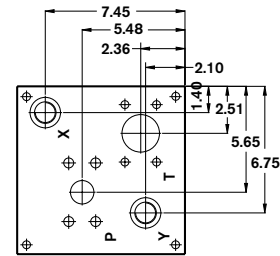
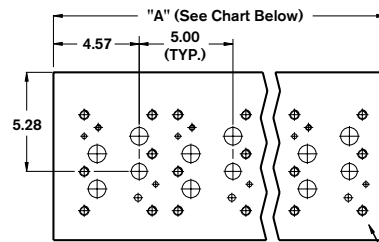
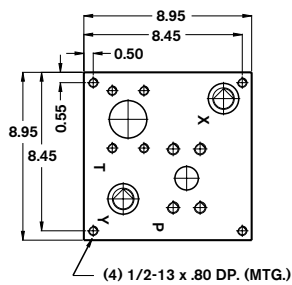
1) Blackening 2) Gauge port not included 3) with relief All dimensions in inches

Bar Manifold D08 (Size 22/25) Parallel Circuit Extra High Flow

BM22PX - XX / 5 -

Revision	= XX
Number of Station	= 01-06
Material	= A
Aluminum 6061-T6, 3000 psi	
Ductile Iron ¹ 65-45-12, 5000 psi	= D
Valve Spacing 5.0"	= 5

Pressure Rating	
L =	Low 3000 psi (Code 61)
H =	High 6000 psi (Code 62)
	Available only on SAE Flanged Ports
Ports	
07 =	SAE Flanged
12 =	SAE Threaded Ports



Mounting kit not included.

Model Code	P Port	T Port	A & B Ports	X & Y Ports
BM22...07L	1-1/2" SAE 3000 psi	2" SAE 3000 psi	1-1/4" SAE 3000 psi	SAE-12 (1-1/16-12)
BM22...07H	1-1/2" SAE 6000 psi	2" SAE 3000 psi	1-1/4" SAE 6000 psi	SAE-12 (1-1/16-12)
BM22...12	SAE-24 (1-7/8-12)	SAE-32 (2-1/2-12)	SAE-20 (1-5/8-12)	SAE-12 (1-1/16-12)

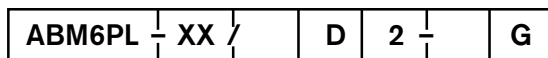
Number of Stations	01	02	03	04	05	06
Dim. "A"	6.5	11.5	16.5	21.5	26.5	31.5
Dim. "B"	2.5	7.5	12.5	17.5	22.5	27.5
Approx. Weight DI (lbs)	136	240	344	448	552	656
Approx. Weight AL (lbs)	51	90	129	168	208	247

1) Blackening

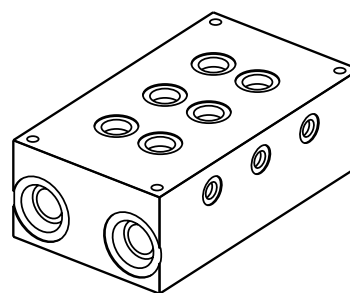
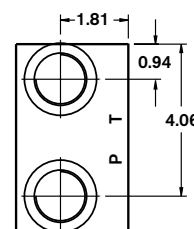
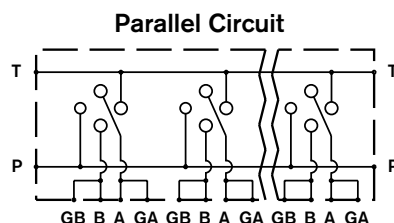
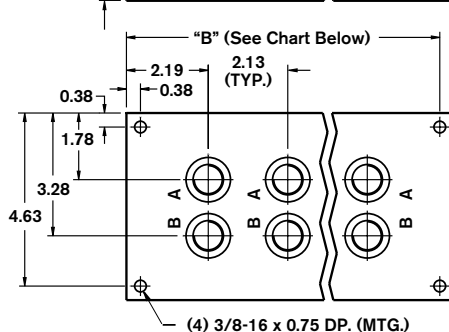
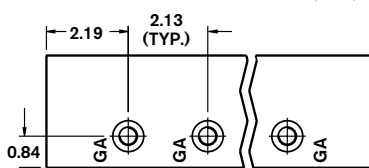
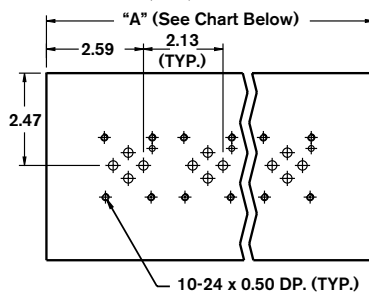
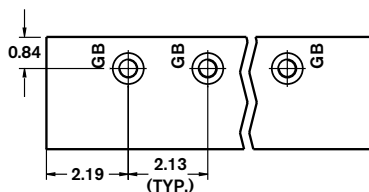
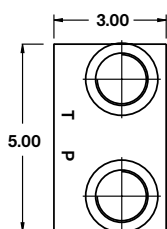
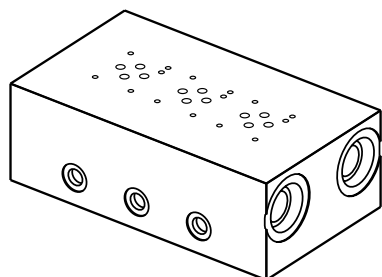
All dimensions in inches

Bar Manifold

D03 (Size 6) Parallel Circuit Low Flow



Revision	= XX					G =	Gauge Ports for A and B
Number of Station	= 01-08					12 =	SAE Threaded Ports
Material		= D					P & T: 1 5/16-12 SAE-16
							A & B: 3/4-16 SAE-8
Valve Spacing 2.125"				= 2			GA: 7/16-20 SAE-4



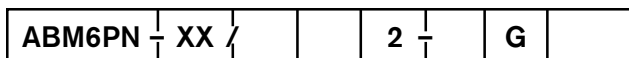
Mounting kit not included.

Number of Stations	01	02	03	04	05	06	07	08
Dim. "A"	4.50	6.50	8.75	10.75	13.00	15.00	17.25	19.25
Dim. "B"	4.125	6.125	8.375	10.375	12.625	14.625	16.875	18.875
Approx. Weight DI (lbs)	18	25	34	42	51	59	67	75

1) Blackening

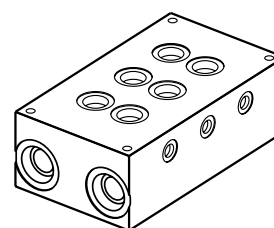
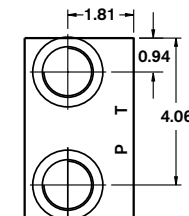
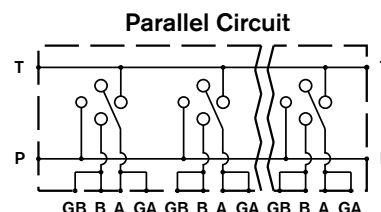
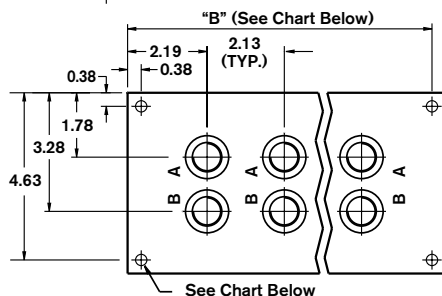
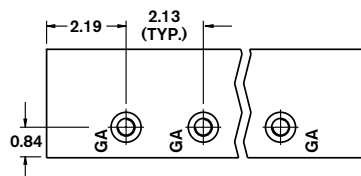
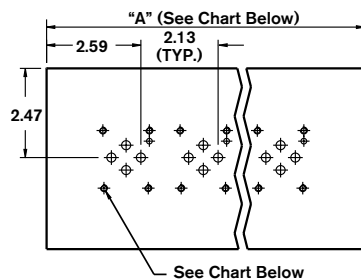
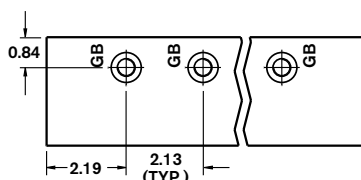
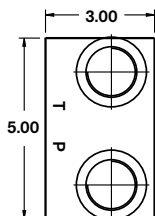
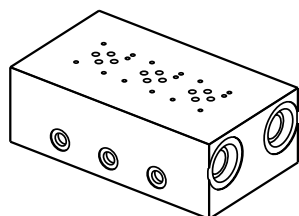
All dimensions in inches

Bar Manifold D03 (Size 6) Parallel Circuit Normal Flow



Revision	= XX
Number of Station	= 01-08
Material	= A = D
Valve Spacing 2.125"	= 2

Omit =	UNC Mounting Taps
M =	Metric Mounting Taps
	BSPB Ports only
G =	Gauge Ports for A and B
12 =	SAE Threaded Ports
01 =	BSPB Threaded Ports



Mounting kit not included.

	P & T Ports	A & B Ports	GA & GB Ports	Manifold (Mtg.)	Valve (Mtg.)
...12G	1-5/16-12 SAE-16	7/8-14 SAE-10	7/16-20 SAE-4	3/8-16 x 0.75 DP.	10-24 x 0.50 DP.
...01GM	1" BSPB	1/2" BSPB	1/4" BSPB	M10 x 0.75 DP.	M5 x 0.50 DP.

Number of Stations	01	02	03	04	05	06	07	08
Dim. "A"	4.50	6.50	8.75	10.75	13.00	15.00	17.25	19.25
Dim. "B"	4.125	6.125	8.375	10.375	12.625	14.625	16.875	18.875
Approx. Weight DI (lbs)	18	25	34	42	51	59	67	75
Approx. Weidht AL (lbs)	7	9	13	16	19	22	25	28

1) Blackening

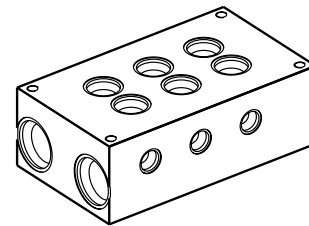
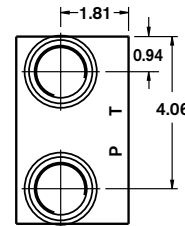
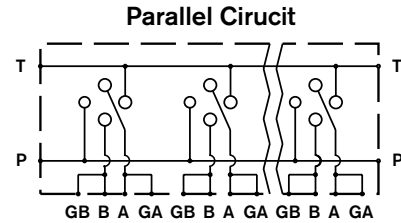
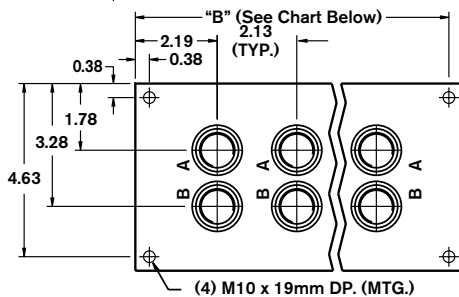
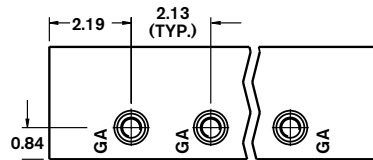
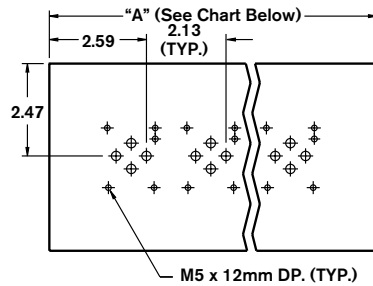
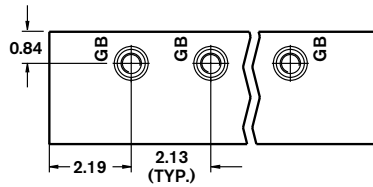
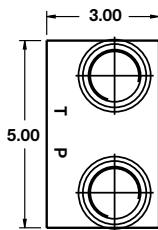
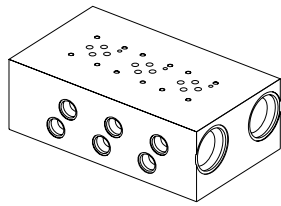
All dimensions in inches

Bar Manifold

D03 (Size 6) Parallel Circuit High Flow with ISO 6149-1

ABM6PH	- XX /	D	2	- 50	G	M
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Revision	= XX	= D	= 2	50 =	G =	M =	Metric Mounting Taps ISO 6149-1 Ports only
Number of Station	= 01-08						
Material	Ductile Iron ¹ 65-45-12, 5000 psi						
Valve Spacing 2.125"							
							Gauge Ports for A and B ISO 6149-1 P & T: M33 x 2 A & B: M22 x 1.5 GA: M12 x 1.5



Mounting kit not included.

Number of Stations	01	02	03	04	05	06	07	08
Dim. "A"	4.50	6.50	8.75	10.75	13.00	15.00	17.25	19.25
Dim. "B"	4.125	6.125	8.375	10.375	12.625	14.625	16.875	18.875
Approx. Weight DI (lbs)	18	25	34	42	51	59	67	75

Ports conform to ISO 6149-1: 1993, Connections for Fluid Power and General Use – Ports and Stud Ends with ISO 261 Threads and O-Ring Sealing – Part 1: Ports with O-Ring Seal in Truncated Housing

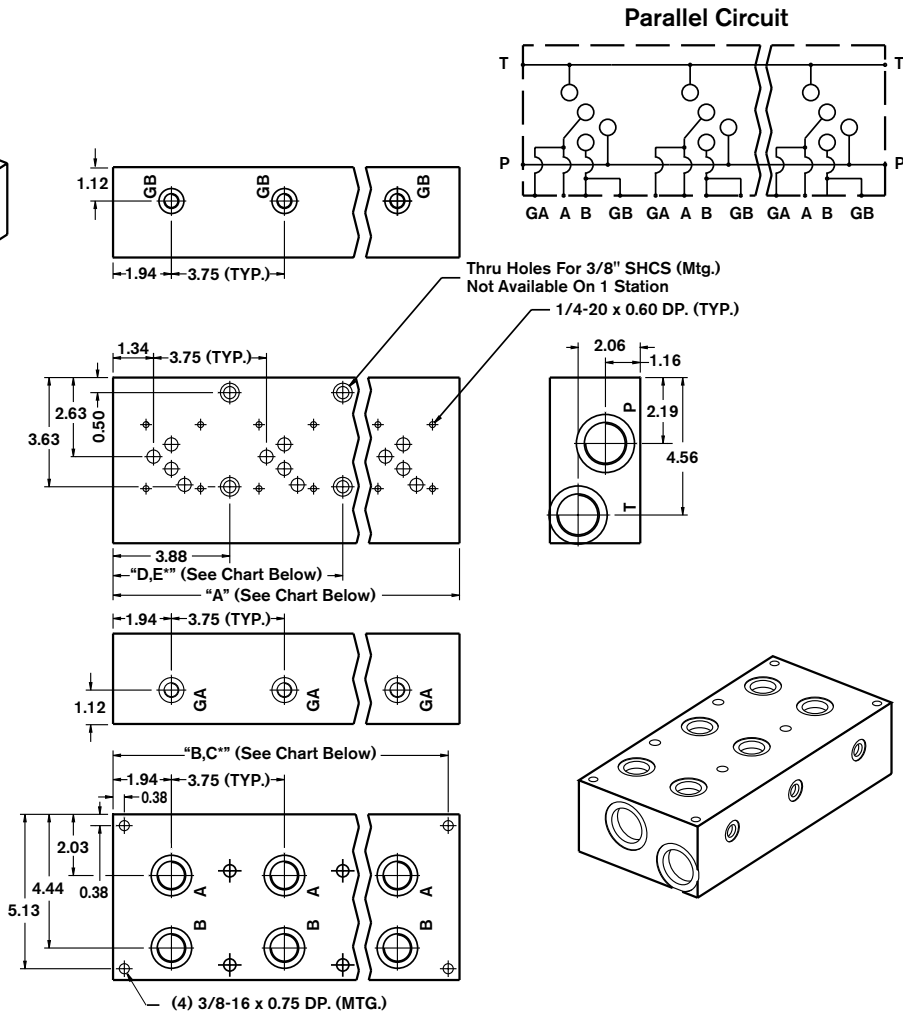
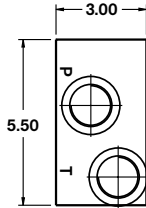
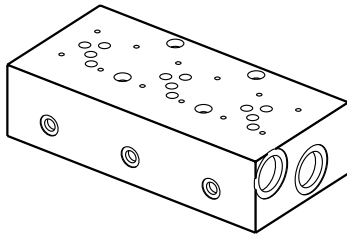
1) Blackening

All dimensions in inches

Bar Manifold D05 (Size 10) Parallel Circuit Low Flow

ABM10PL - XX / D 3 - 12 G

Revision	= XX	G =	Gauge Ports for A and B
Number of Station	= 01-08	12 =	SAE Threaded Ports
Material	= D		P & T: 1 5/16-12 SAE-16
Ductile Iron ¹ 65-45-12, 5000 psi			A & B: 7/8-14 SAE-10
Valve Spacing 3.75"	= 3		GA: 7/16-20 SAE-4



Mounting kit not included.

Number of Stations	01	02	03	04	05	06	07	08
Dim. "A"	4.00	7.75	11.50	15.25	19.00	22.75	26.50	30.25
Dim. "B"	3.625	7.375	11.125	14.875	18.625	22.375	26.125	29.875
Dim. "C" ²	-	-	-	-	-	11.125	14.875	14.875
Dim. "D"	-	-	7.625	11.375	15.125	18.875	22.625	26.375
Dim. "E" ²	-	-	-	-	-	11.563	11.375	15.312
Approx. Weight DI (lbs)	17	33	49	65	82	98	114	130

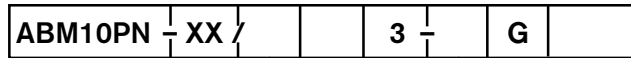
1) Blackening

2) Third Pair of Mounting Holes

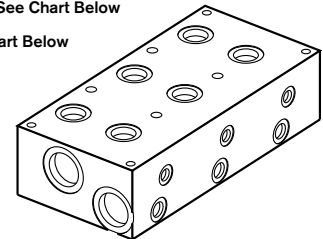
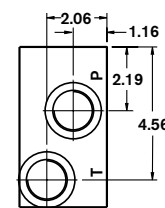
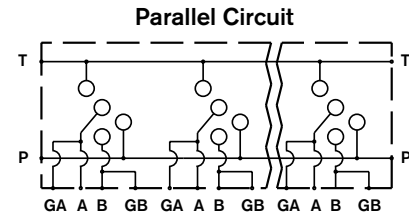
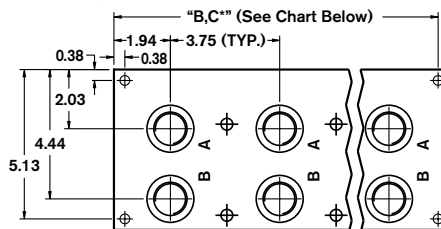
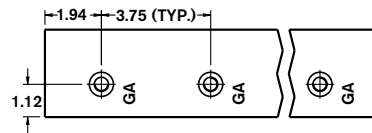
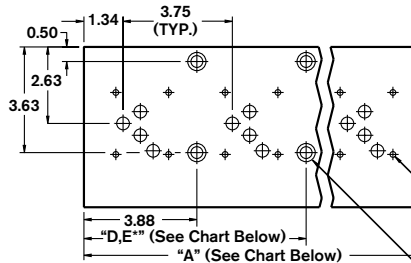
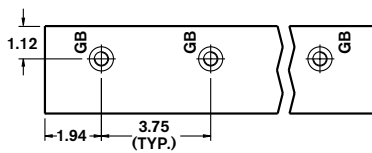
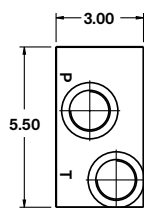
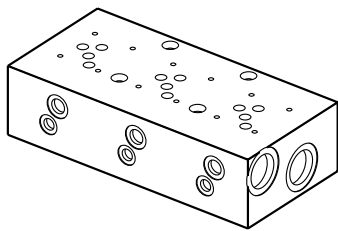
All dimensions in inches

Bar Manifold

D05 (Size 10) Parallel Circuit Normal Flow



Revision	= XX					Omit =	UNC Mounting Taps
Number of Station	= 01-08					M =	Metric Mounting Taps
Material						G =	BSPB Ports only
Aluminum 6061-T6, 3000 psi				= A			Gauge Ports for A and B
Ductile Iron ¹ 65-45-12, 5000 psi				= D		12 =	SAE Threaded Ports
Valve Spacing 3.75"			= 3			01 =	BSPB Threaded Ports



Mounting kit not included.

	P & T Ports	A & B Ports	GA & GB Ports	Manifold (Mtg.)	Valve (Mtg.)	Thru (Mtg.)
...12G	1-5/16-12 SAE-16	1-1/16-12 SAE-12	7/16-20 SAE-4	3/8-16 x 0.75 DP.	1/4-20 x 0.60 DP.	3/8" SHCS
...01GM	1" BSPB	3/4" BSPB	1/4" BSPB	M10 x 0.60 DP.	M6 x 0.60 DP.	M10" SHCS

Number of Stations	01	02	03	04	05	06	07	08
Dim. "A"	4.00	7.75	11.50	15.25	19.00	22.75	26.50	30.25
Dim. "B"	3.625	7.375	11.125	14.875	18.625	22.375	26.125	29.875
Dim. "C" ²	-	-	-	-	-	11.125	14.875	14.875
Dim. "D"	-	-	7.625	11.375	15.125	18.875	22.625	26.375
Dim. "E" ²	-	-	-	-	-	11.563	11.375	15.312
Approx. Weight DI (lbs)	17	33	49	65	82	98	114	130
Approx. Weight AL (lbs)	6	12	18	24	31	37	43	49

1) Blackening

2) Third Pair of Mounting Holes

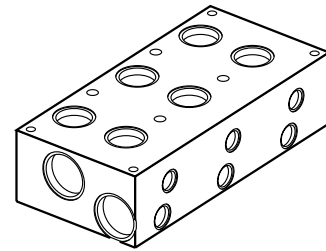
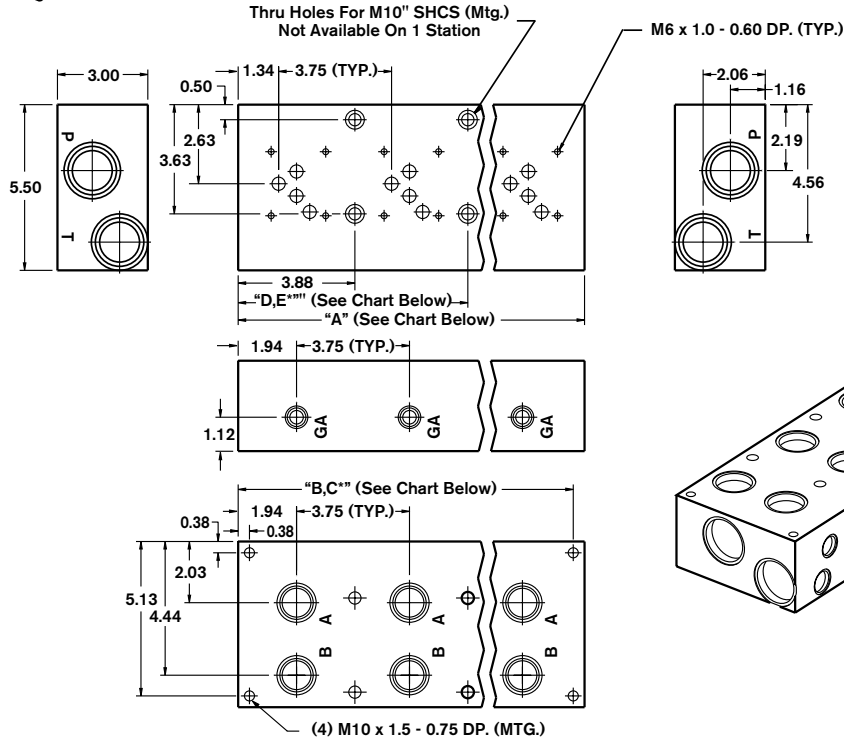
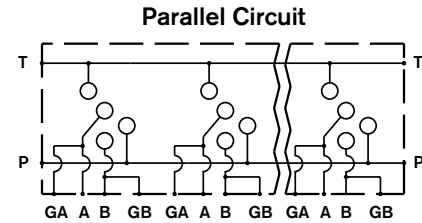
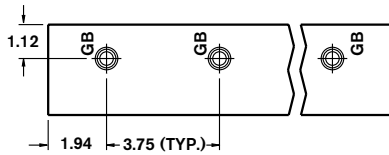
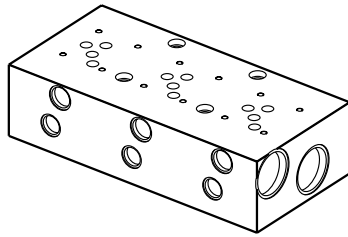
All dimensions in inches

Bar Manifold

D05 (Size 10) Parallel Circuit High Flow with ISO 6149-1 Ports

ABM10PH	XX /	D	3	50	G	M
---------	------	---	---	----	---	---

Revision	= XX	M =	Metric Mounting Bolts
Number of Station	= 01-08	G =	Gauge Ports for A and B
Material	= D	50 =	ISO 6149-1
Valve Spacing 3.75"	= 3		P & T: M33 x 2
			A & B: M27 x 2
			GA: M12 x 1.5



Mounting kit not included.

Number of Stations	01	02	03	04	05	06	07	08
Dim. "A"	4.00	7.75	11.50	15.25	19.00	22.75	26.50	30.25
Dim. "B"	3.625	7.375	11.125	14.875	18.625	22.375	26.125	29.875
Dim. "C" ²	-	-	-	-	-	11.125	14.875	14.875
Dim. "D"	-	-	7.625	11.375	15.125	18.875	22.625	26.375
Dim. "E" ²	-	-	-	-	-	11.563	11.375	15.312
Approx. Weight DI (lbs)	17	33	49	65	82	98	114	130

Ports conform to ISO 6149-1: 1993, Connections for Fluid Power and General Use – Ports and Stud Ends with ISO 261 Threads and O-Ring Sealing – Part 1: Ports with O-Ring Seal in Truncated Housing

1) Blackening 2) Third Pair of Mounting Holes

All dimensions in inches

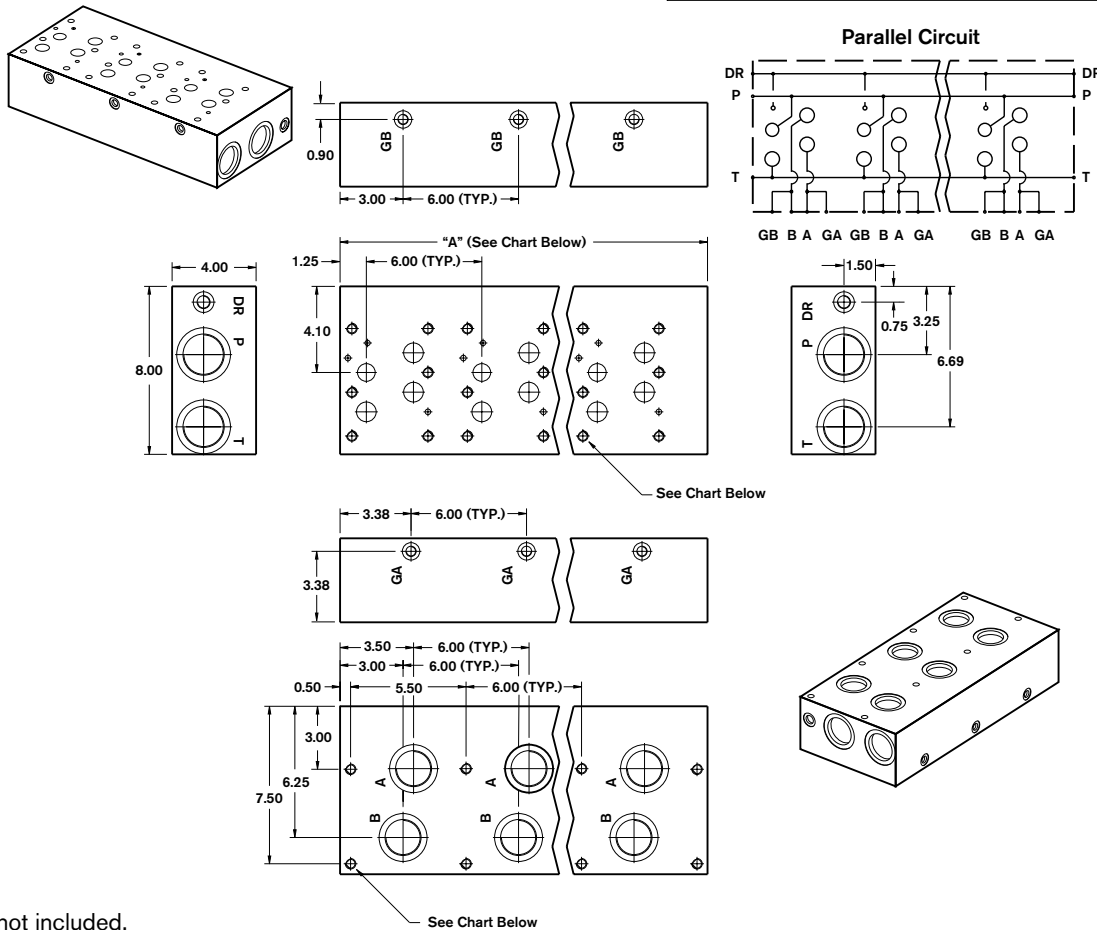
Bar Manifold

D08 (Size 22/25) Parallel Circuit Normal Flow



Revision = XX
Number of Station = 01-08
Material = D
 Ductile Iron¹ 65-45-12, 5000 psi
Valve Spacing 6.0" = 6

Omit = UNC Mounting Taps
 SAE Mounting
M = Metric Mounting Taps
 Metric and BSPP Ports only
G = Gauge Ports for A and B
12 = SAE Threaded Ports
05 = NPT Threaded Ports
01 = BSPP Threaded Ports
50 = Metric Threaded Ports



Mounting kit not included.

	P & T Ports	A & B Ports	GA & GB Ports	DR Ports	Manifold (Mtg.)	Valve (Mtg.)
...12G	1-7/8-12 SAE-24	1 5/8-12 SAE-20	7/16-20 SAE-4	9/16-18 SAE-6	1/2-13 x 0.80 DP.	1/2-13 x 1.00 DP.
...01GM	1-1/2" BSPP	1-1/4" BSPP	1/4" BSPP	1/4" BSPP	M12 x 0.80 DP.	M12 x 0.80 DP.
...05G	1-1/2" NPT	1-1/4" NPT	1/4" NPT	1/4" NPT	1/2-13 x 0.80 DP.	1/2-13 x 1.00 DP.
...50GM	M48	M42	M10	M10	M12 x 0.80 DP.	M12 x 0.80 DP.

Number of Stations	01	02	03	04	05	06	07	08
Dim. "A"	6.50	12.50	18.50	24.5	30.5	36.5	42.5	48.5
Approx. Weight DI (lbs)	54	104	153	203	253	303	353	403

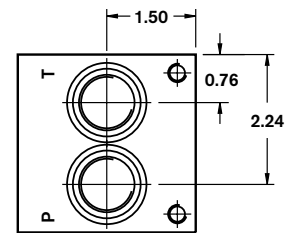
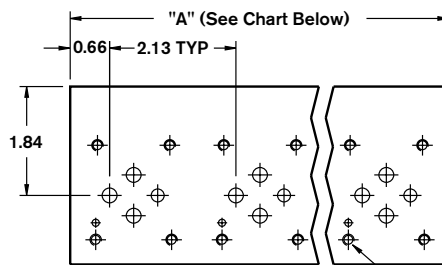
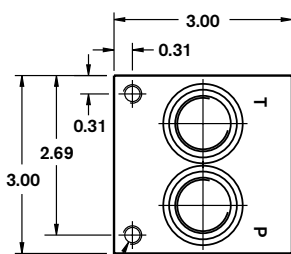
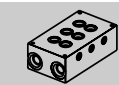
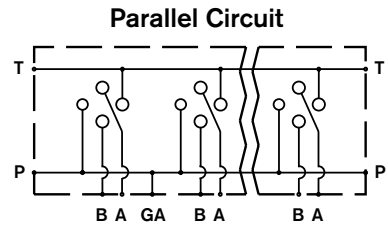
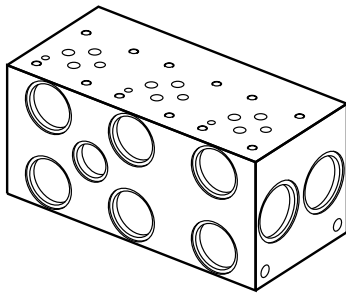
1) Blackening

All dimensions in inches

ISO Bar Manifold D03 (Size 6) Parallel Circuit Normal Flow

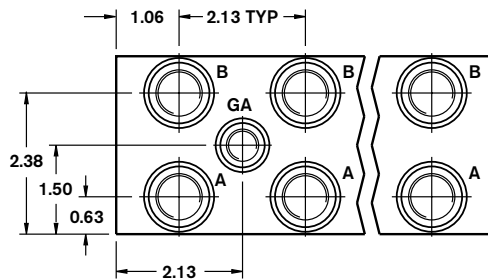
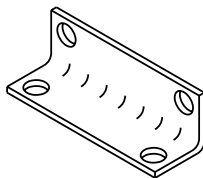
IBM6PN - XX / D 2 - 50 M

Revision	= XX	M =	Metric Mounting Taps
Number of Station	= 01-08	50 =	Metric Threaded Ports
Material	= D		P & T: M22 x 1.5
Ductile Iron ¹ 65-45-12, 5000 psi			A & B: M18 x 1.5
Valve Spacing 2.125"	= 2		GA: M12 x 1.5



(2) M8 x .45 DP.

M5 x 0.8 - 0.50 DP. (TYP.)



Mounting kit included, see Page 29 for details.

Additional mounting accessories available on Page 30.

Number of Stations	01 ²	02	03	04	05	06	07	08
Dim. "A"	2.13	4.25	6.38	8.50	10.63	12.75	14.88	17.00
Approx. Weight DI (lbs)	5	10	15	20	25	30	35	40

Ports conform to ISO 6149-1: 1993, Connections for Fluid Power and General Use – Ports and Stud Ends with ISO 261 Threads and O-Ring Sealing

1) Blackening 2) Gauge port not included

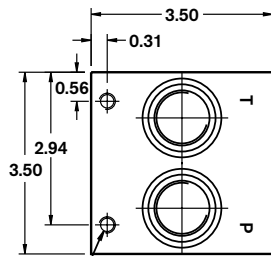
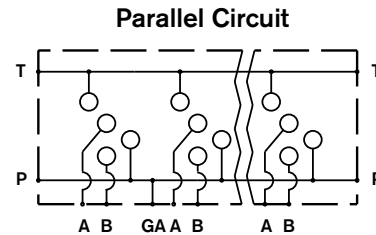
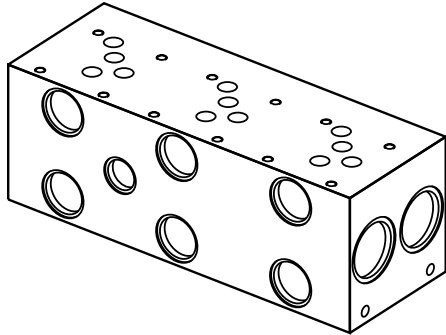
All dimensions in inches

ISO Bar Manifold

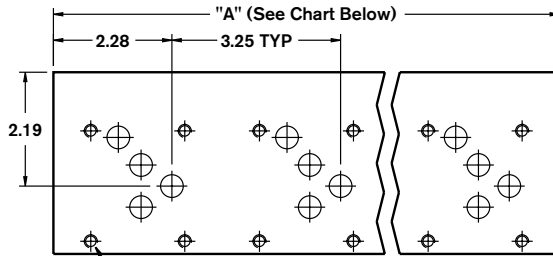
D05 (Size 10) Parallel Circuit Normal Flow

IBM10PN - XX / D 3 - 50 M

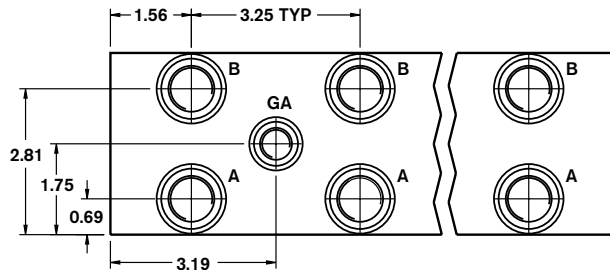
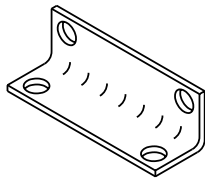
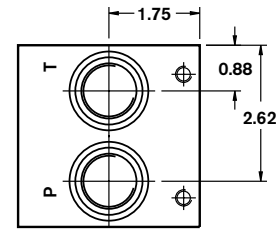
Revision	= XX	M =	Metric Mounting Taps
Number of Station	= 01-08	50 =	Metric Threaded Ports
Material	= D		P & T: M27 x 2
Ductile Iron ¹ 65-45-12, 5000 psi			A & B: M18 x 1.5
Valve Spacing 3.25"	= 3		GA: M12 x 1.5



(2) M8 x .60 DP.



M6 x 1.0 - 0.60 DP. (TYP.)



Mounting kit included, see Page 29 for details.

Additional mounting accessories available on Page 30.

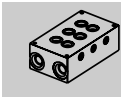
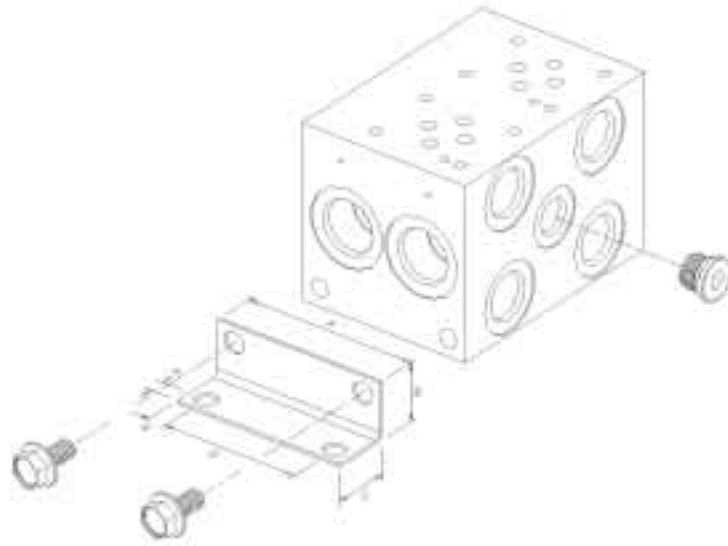
Number of Stations	01 ²	02	03	04	05	06	07	08
Dim. "A"	3.25	6.50	9.75	13.00	16.25	19.50	22.75	26.00
Approx. Weight DI (lbs)	10	21	31	41	52	62	72	83

Ports conform to ISO 6149-1: 1993, Connections for Fluid Power and General Use – Ports and Stud Ends with ISO 261 Threads and O-Ring Sealing

1) Blackening 2) Gauge port not included

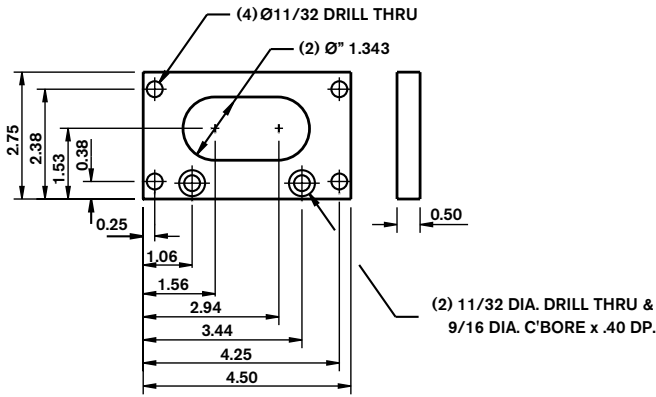
All dimensions in inches

Manifold Mounting Hardware Accessories (Included with BM assemblies)

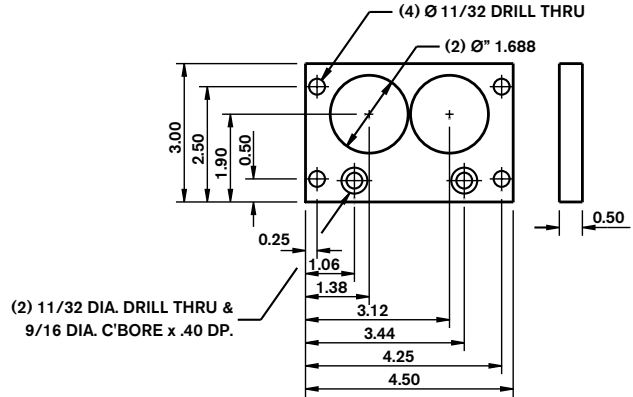


Size	Flow	Port Style	Mounting Kit	A	B	C	D	E	F	Gauge Port (1) Plug	Mtg. Screws (8) Hex HD Washer Bolt	Bracket
D03	Normal	...12 SAE ...05 NPT ...01 BSPP ...50 Metric	R978839831 R978917127 R978915774 R978902527	3.00	1.00	1.00	2.38	0.31	0.28	-6 SAE 1/4" NPT 1/4" BSPP M12 x 1.5	UNC 5/16-18 x 0.50 UNC 5/16-18 x 0.50 M8 x 12 M8 x 12	(2) Bracket, CS Yellow Chromate Plate
	High	...12 SAE ...01 BSPP	R978906094 R978910319	4.00	1.00	1.00	3.38	0.31	0.28	-6 SAE 1/4" BSPP	UNC 5/16-18 x 0.50 M8 x 12	
D05	Normal	...12 SAE ...05 NPT ...01 BSPP ...50 Metric	R978839832 R978917413 R978915775 R978902528	3.00	1.00	1.00	2.38	0.31	0.28	-6 SAE 1/4" NPT 1/4" BSPP M12 x 1.5	UNC 5/16-18 x 0.50 UNC 5/16-18 x 0.50 M8 x 12 M8 x 12	
	High	...12 SAE ...01 BSPP	R978906095 R978910315	5.00	1.38	1.38	4.13	0.44	0.28	-6 SAE 1/4" BSPP	UNC 3/8-16 x 0.75 M10 x 16	
D07	Normal	...12 SAE ...01 BSPP	R978915619 R978915620	5.00	1.38	1.38	4.13	0.44	0.28	-6 SAE 1/4" BSPP	UNC 3/8-16 x 0.75 M10 x 16	
	High	...12 SAE ...01 BSPP	R978915621 R978915622	6.00	1.63	1.63	4.88	0.56	0.56	-6 SAE 1/4" BSPP	UNC 3/8-16 x 0.75 M10 x 16	
D08	Normal	...12 SAE ...01 BSPP	R978915500 R978915623	6.00	1.63	1.63	4.88	0.56	0.56	-6 SAE 1/4" BSPP	UNC 1/2-13 x 0.75 M12 x 16	

**D03 (Size 6) Normal Flow
Mounting Flange Kit
Part No. R978839937**



**D05 (Size 10) Normal Flow
Mounting Flange Kit
Part No. R978839938**



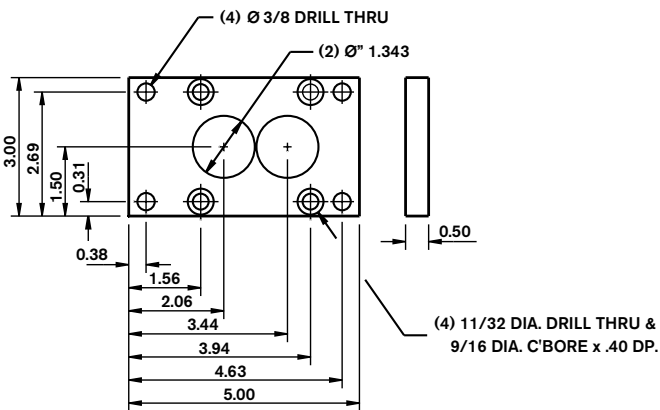
Mounting Flange Kit consists of

Item	Description	Part No.	Quantity
1	AL. Mounting Flange	R978813641	1
2	SHCS 5/16-18 x 1/2	R978801129	2
3	SHCS 5/16-18 x 1	R978800726	4

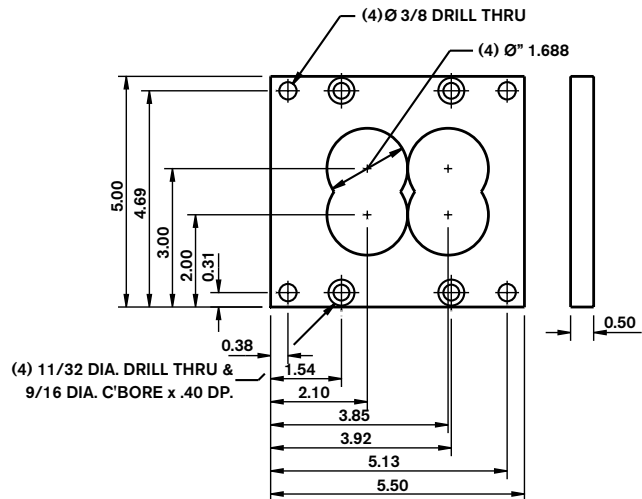
Mounting Flange Kit consists of

Item	Description	Part No.	Quantity
1	AL. Mounting Flange	R978813642	1
2	SHCS 5/16-18 x 12	R978801129	2
3	SHCS 5/16-18 x 1	R978800726	4

**D03 (Size 6) Normal Flow (RCR)
Mounting Flange Kit**



**D05 (Size 10) Normal Flow (RCR)
Mounting Flange Kit**



Mounting Flange Kit consists of

Item	Description	Part No.	Quantity
1	AL. Mounting Flange	R978812808	1
2	SHCS 5/16-18 x 5/8	R978801130	6

Mounting Flange Kit consists of

Item	Description	Part No.	Quantity
1	AL. Mounting Flange	R978812809	1
2	SHCS 5/16-18 x 5/8	R978801130	6

Section 2 Subplates

RA 09 907/07.04

The Drive & Control Company

Subplate Features

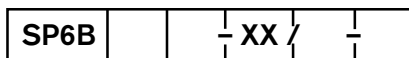
- Sizes 6 to 22
- Aluminum and ductile iron
- Side or bottom ported
- SAE, BSPP, or NPT porting
- Includes mounting kit for the subplate



Section 2 Index

Description	Page
Subplate D03 (Size 6) Bottom Ported	33
Subplate D05 (Size 10) Bottom Ported	34
Subplate D07 (Size 16) Bottom Ported	35
Subplate D08 (Size 22/25) Bottom Ported	36
Subplate D10 (Size 32) Bottom Ported	37
Subplate D03 (Size 6) Side Ported	38
Subplate D05 (Size 10) Side Ported	39
Subplate D07 (Size 16) Side Ported	40
Subplate D08 (Size 22) Side Ported	41

Subplates D03 (Size 6) Bottom-Ported



Flow
Normal
High
Extra High
High Pressure
Revision

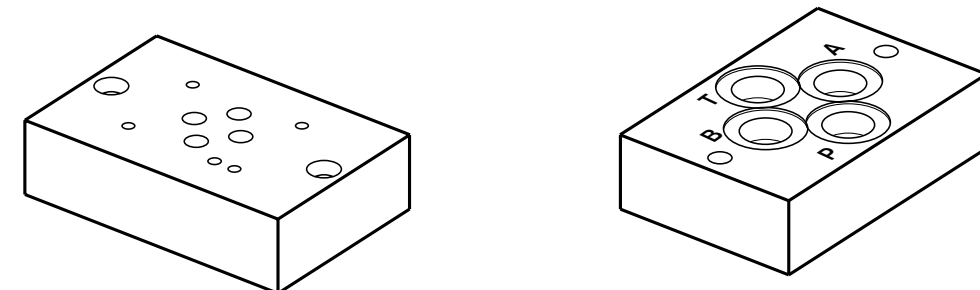
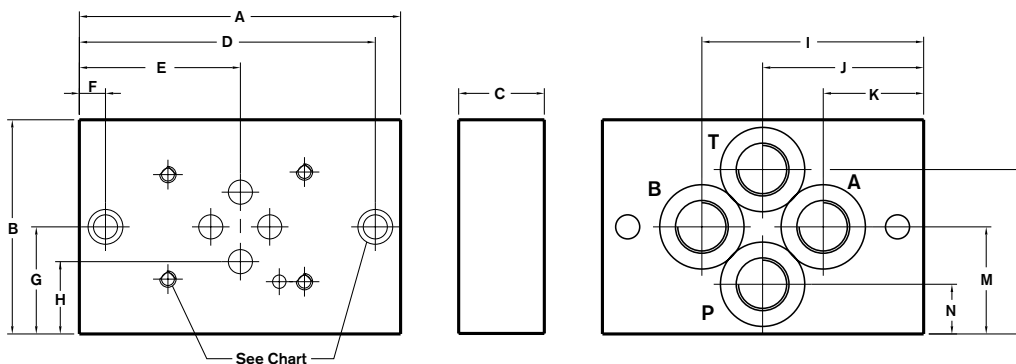
= N
= H
= X

= H
= XX

12 =
05 =
01 =

Ports
SAE Threaded Ports
NPT Threaded Ports
BSP Threaded Ports

Material
Aluminum 6061-T6, 3000 psi
Ductile Iron¹ 65-45-12, 5000 psi



Port type	Approx. Weight	
	Alum	Duct
SP6BN-1X/...	0.9	2.4
SP6BH-1X/...	1.4	3.7
SP6BX-1X/...	2.7	7.2
SP6BNH-1X/...	-	2.4

Port type	P,T & A,B Ports			Mounting Bolts			Valve Mtg.	
	12	05	01	12	05	01	05&12	01
SP6BN-1X/...	9/16-18 SAE-6	NPT 1/4"	G (BSP) 1/4"	1/4-20 x 0.75 LG SHCS	1/4-20 x 0.75 LG SHCS	M6-1.0 x (20) LG SHCS		
SP6BH-1X/...	3/4-16 SAE-8	NPT 3/8"	G (BSP) 3/8"	1/4-20 x 0.75 LG SHCS	1/4-20 x 0.75 LG SHCS	M6-1.0 x (20) LG SHCS	10-24 x 0.50 DP	M5-0.8 x (12.7) DP
SP6BX-1X/...	7/8-14 SAE-10	NPT 1/2"	G (BSP) 1/2"	1/4-20 x 0.75 LG SHCS	1/4-20 x 0.75 LG SHCS	M6-1.0 x (20) LG SHCS		
SP6BNH-1X/...	-	NPT 1/4"	-	-	1/4-20 x 0.75 LG	-	1/4-20 x 0.50 DP	-

Dimension	A	B	C	D	E	F	G	H	I	J	K	L	M	N
SP6BN...	3.75	2.50	1.00	3.46	1.88	0.31	1.25	1.66	2.59	1.88	1.17	1.92	1.25	0.58
SP6BH...	4.00	3.00	1.19	3.77	2.00	0.22	1.50	1.91	2.94	2.00	1.05	2.17	1.50	0.83
SP6BX...	5.00	4.00	1.38	4.67	2.50	0.34	2.00	2.41	3.58	2.50	1.42	3.14	2.00	0.86

Mounting hardware is supplied. Valve mounting hardware must be ordered separately.

1) Blackening

All dimensions in inches

Subplates

D05 (Size 10) Bottom-Ported

Flow

Low = L

Normal = N

High = H

Extra High = X

Revision = XX

SP10B | XX / |

Ports

12 = SAE Threaded Ports

05 = NPT Threaded Ports

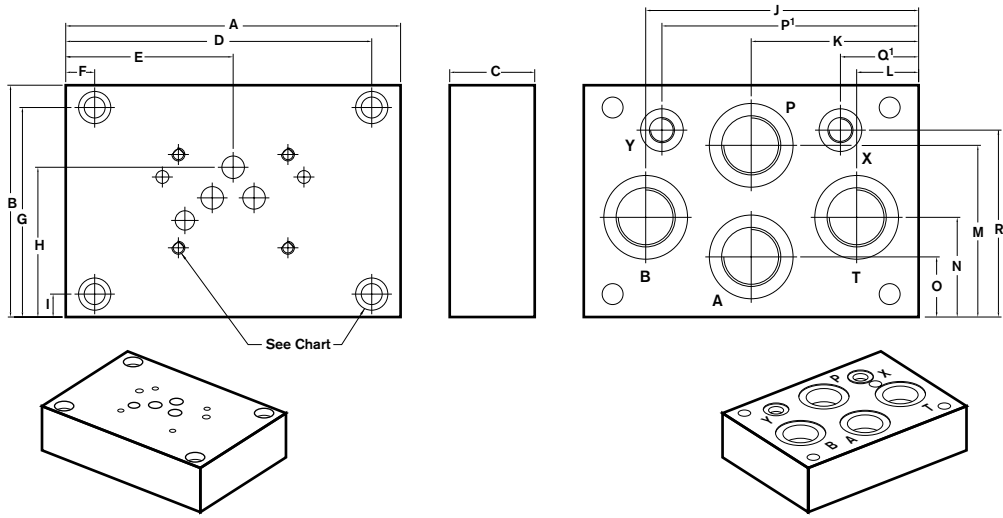
01 = BSPP Threaded Ports

Material

A = Aluminum 6061-T6, 3000 psi

D = Ductile Iron¹ 65-45-12, 5000 psi

S = Steel 1045 HR, 9000 psi



Model	Approx. Wt.		
	Alum.	Iron	Steel
SP10BL...	2.2	5.8	—
SP10BN...	2.5	6.6	—
SP10BH...	4.7	12.5	—
SP10BX...	4.7	12.5	—
SP10BNH...	—	—	6.4

Port type	P,T & A,B Ports			X & Y Ports			Mounting Bolts			Valve Mtg.	
	12	05	01	12	05	01	12	05	01	05 & 12	01
SP10BL...	9/16-18 SAE-6	NPT 3/8"	G (BSP) 3/8"	—	—	—	3/8-16 x 1.50 LG SHCS	3/8-16 x 1.50 LG SHCS	M10-1.5 x (40) LG SHCS	—	—
SP10BN...	3/4-16 SAE-8	NPT 1/2"	G (BSP) 1/2"	—	—	—	3/8-16 x 1.50 LG SHCS	3/8-16 x 1.50 LG SHCS	M10-1.5 x (40) LG SHCS	1/4-20	M6-1.0
SP10BH...	1-1/16-12 SAE-12	NPT 3/4"	G (BSP) 3/4"	7/16-20 SAE-4	NPT 1/4"	G (BSP) 1/4"	3/8-16 x 1.75 LG SHCS	3/8-16 x 1.75 LG SHCS	M10-1.5 x (45) LG SHCS	x	x
SP10BX...	1-5/16-12 SAE-16	NPT 1"	G (BSP) 1"	7/16-20 SAE-4	NPT 1/4"	G (BSP) 1/4"	3/8-16 x 1.75 LG SHCS	3/8-16 x 1.75 LG SHCS	M10-1.5 x (45) LG SHCS	0.60 DP	(15.2) DP
SP10BNH...	—	NPT 3/8"	—	—	—	—	—	3/8-16 x 1.75 LG SHCS	—	5/16-18 x .60 DP	—

Dimension	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P ²	Q ²	R ²
SP10BL-1X/...	4.00	4.50	1.25	3.56	1.99	0.43	4.05	2.89	0.43	3.13	1.99	0.85	3.12	2.04	0.96			
SP10BN-1X/...	4.50	4.50	1.25	3.81	2.24	0.68	4.05	2.89	0.43	3.38	2.24	1.10	3.12	2.04	0.96			
SP10BH-1X/...	6.50	4.50	1.65	5.94	3.25	0.56	4.07	2.91	0.45	5.30	3.25	1.20	3.33	1.94	1.17	4.98	1.52	3.63
SP10BX-1X/...	6.50	4.50	1.65	5.94	3.25	0.56	4.07	2.91	0.45	5.30	3.25	1.20	3.33	1.94	1.17	4.98	1.52	3.63

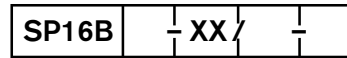
Mounting hardware is supplied. Valve mounting hardware must be ordered separately.

1) Blackening

2) Note: X & Y ports not available on low or normal flow

All dimensions in inches

Subplates D07 (Size 16) Bottom-Ported



Flow
Normal
High

= N
= H

Revision

= XX

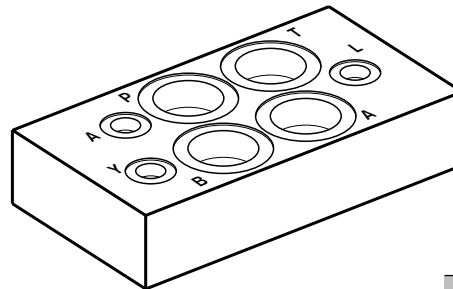
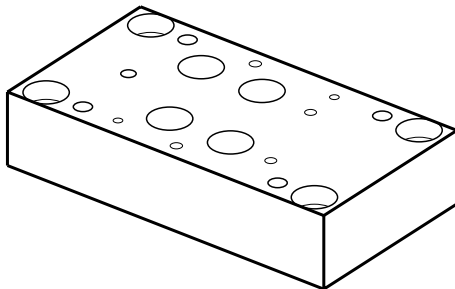
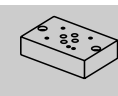
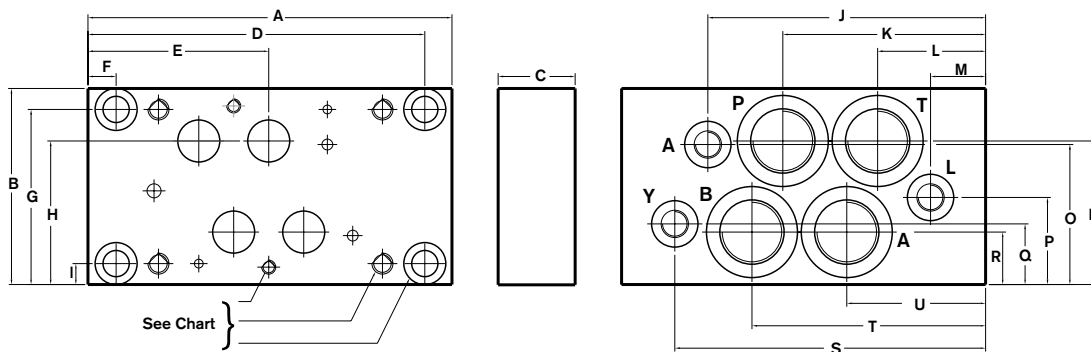
Material

Aluminum 6061-T6, 3000 psi
Ductile Iron¹ 65-45-12, 5000 psi

= A
= D

12 =
05 =
01 =

Ports
SAE Threaded Ports
NPT Threaded Ports
BSPB Threaded Ports



Model	Approx. Wt.	
	Alum.	Iron
SP16BN...	3.1	8.1
SP16BH...	7.3	19.3

Port type	P, T & A, B Ports			X & Y Ports			Mounting Bolts			Valve Mtg	
	12	05	01	12	05	01	12	05	01	05 & 12	01
SP16BN...	1-1/16-12 SAE-12	NPT 3/4"	G (BSP) 3/4"	7/16-20 SAE-4	NPT 1/4"	G (BSP) 1/4"	7/16-14 x 1.25 LG SHCS	7/16-14 x 1.25 LG SHCS	M12-1.75 x (30) LG SHCS	(4) 3/8-16 x 0.70 DP	(4) M10-1.5 x (17.7) DP
SP16BH...	1-5/16-12 SAE-16	NPT 1"	G (BSP) 1"	7/16-20 SAE-4	NPT 1/4"	G (BSP) 1/4"	3/8-16 x 2.00 LG SHCS	3/8-16 x 2.00 LG SHCS	M10-1.75 x (50) LG SHCS	(2) 1/4-20 x 0.70 DP	(2) M6-1.0 x (17.7) DP

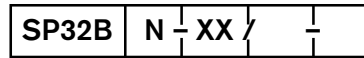
Dimension	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
SP16BN-1X/...	6.50	3.50	1.38	6.02	3.23	0.50	3.13	2.56	0.37	4.96	3.62	1.93	0.98	2.56	2.50	1.56	1.08	0.94	5.55	4.17	2.48
SP10BH-1X/...	7.00	4.50	2.36	6.64	3.49	0.34	4.13	3.05	0.35	5.86	3.95	1.78	0.70	3.28	2.99	1.77	1.73	1.17	6.25	4.58	2.41

Mounting hardware is supplied. Valve mounting hardware must be ordered separately.

1) Blackening

All dimensions in inches

Subplates D10 (Size 32) Bottom-Ported



Flow
Normal

= N

Revision

= XX

Material

Aluminum 6061-T6, 3000 psi

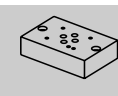
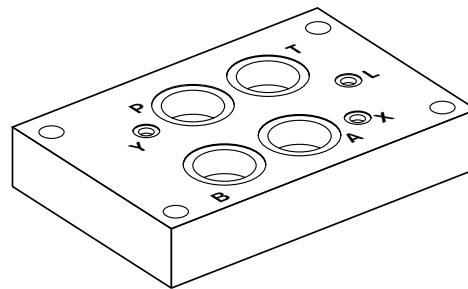
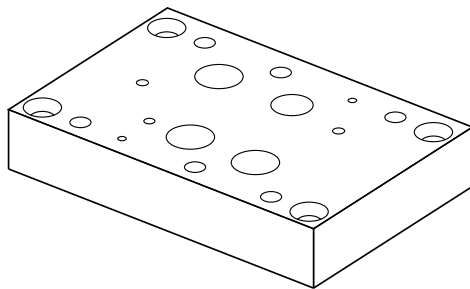
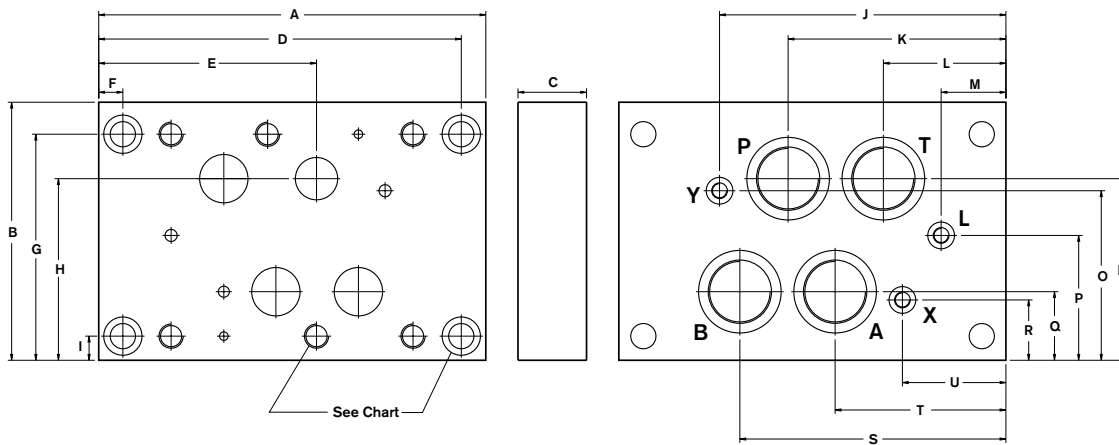
= A

Ductile Iron¹ 65-45-12, 5000 psi

= D

12 =
05 =
01 =

Ports
SAE Threaded Ports
NPT Threaded Ports
BSPB Threaded Ports



Model	Approx. Wt.	
	Alum.	Iron
SP32BN...	20	53

Port type	P,T & A,B Ports			X & Y Ports			Mounting Bolts			Valve Mtg	
	12	05	01	12	05	01	12	05	01	05&12	01
SP32BN...	1-7/8-12 SAE-24	NPT 1-1/2"	G (BSP) 1-1/2"	7/16-20 SAE-4	NPT 1/4"	G (BSP) 1/4"	3/4-10 x 2.50 LG SHCS	3/4-10 x 2.50 LG SHCS	M20-2.5 x (65) LG SHCS	3/4-10 x 1.20 DP	M20-2.5 x (30.4) DP

Dimension	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
SP32BN-1X/...	12.00	8.00	2.13	11.24	6.75	0.75	7.01	5.63	0.75	8.88	6.75	3.80	2.01	5.63	5.26	3.87	2.13	1.87	8.25	5.30	3.21

Mounting hardware is supplied. Valve mounting hardware must be ordered separately.

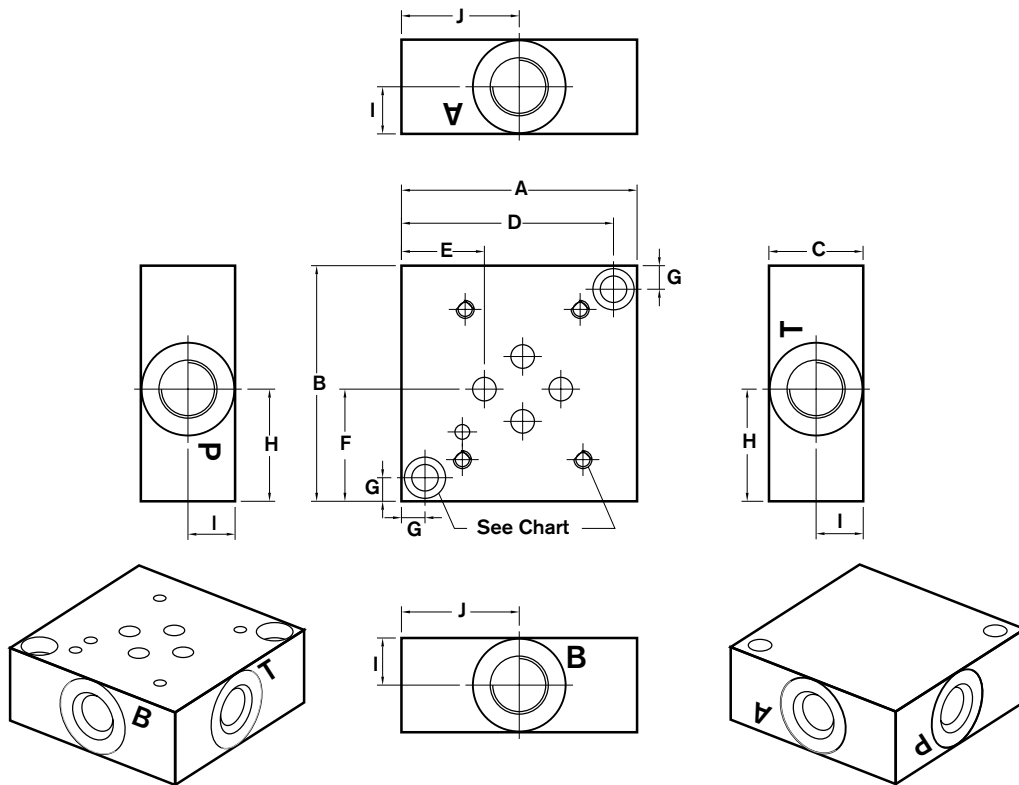
1) Blackening

All dimensions in inches

Subplates

D03 (Size 6) Side-Ported

		SP6S / XX /			
Flow					
Normal	= N			12 =	Ports
High	= H			05 =	SAE Threaded Ports
Extra High	= X			01 =	NPT Threaded Ports
Revision	= XX				BSPB Threaded Ports
				A =	Material
				D =	Aluminum 6061-T6, 3000 psi
					Ductile Iron ¹ 65-45-12, 5000 psi



Model	Approx. Wt.	
	Alum.	Iron
SP6SM-1X...	0.6	1.6
SP6SH-1X...	1.8	4.8
SP6SX-1X...	2.7	7.3

Port type	Ports			Mounting Bolts			Valve Mtg	
	12	05	01	12	05	01	05 & 12	01
SP6SN-1X/...	9/16-18 SAE-6	NPT 3/8"	G (BSP) 3/8"	1/4-20 x 1.00 LG SHCS	1/4-20 x 1.00 LG SHCS	M6-1.0 x (25) LG SHCS		
SP6SH-1X/...	3/4-16 SAE-8	NPT 1/2"	G (BSP) 1/2"	1/4-20 x 1.50 LG SHCS	1/4-20 x 1.50 LG SHCS	M6-1.0 x (40) LG SHCS	10-24 x 0.50 DP	M5-0.8 x (12.7) DP
SP6SX-1X/...	1-1/16-12 SAE-12	NPT 3/4"	G (BSP) 3/4"	3/8-16 x 1.75 LG SHCS	3/8-16 x 1.75 LG SHCS	M10-1.5 x (45) LG SHCS		

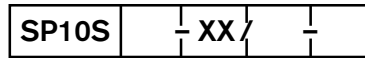
Dimension	A	B	C	D	E	F	G	H	I	J
SP6SN-1X/...	2.50	2.50	1.00	2.25	0.88	1.19	0.25	1.19	0.50	1.25
SP6SH-1X/...	3.50	3.50	1.50	3.25	1.37	1.69	0.25	1.69	0.75	1.75
SP6SX-1X/...	4.00	4.00	1.75	3.63	1.63	1.94	0.38	1.94	0.87	2.06

Mounting hardware is supplied.

1) Blackening

All dimensions in inches

Subplates D05 (Size 10) Side-Ported



Flow
Normal
High
Extra High

= N
= H
= X

Revision

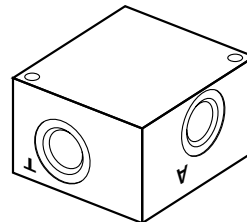
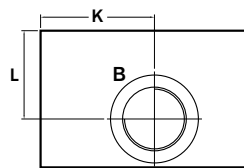
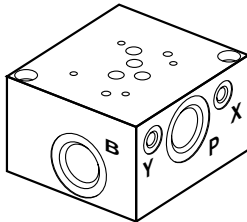
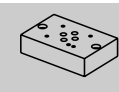
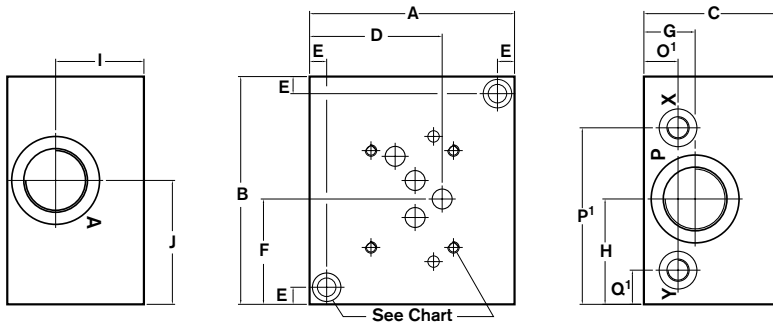
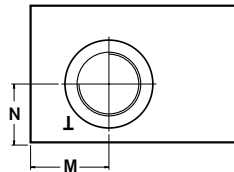
= XX

12 =
05 =
01 =

Ports
SAE Threaded Ports
NPT Threaded Ports
BSP Threaded Ports

A =
D =

Material
Aluminum 6061-T6, 3000 psi
Ductile Iron¹ 65-45-12, 5000 psi



Model	Approx. Wt.	
	Alum.	Iron
SP10SN...	1.5	4.1
SP10SH...	3.1	8.1
SP10SX...	6.6	17.6

Port type	Ports			X & Y Ports			Mounting Bolts			Valve Mtg		
	12	05	01	12	05	01	12	05	01	05 & 12	01	
SP10SN-1X/...	3/4-16 SAE-8	NPT 1/2"	G (BSP) 1/2"	7/16-20 SAE-4	NPT 1/4"	G (BSP) 1/4"	3/8-16 x 1.25 LG SHCS	3/8-16 x 1.25 LG SHCS	M10-1.5 x (35) LG SHCS	1/4-20	M6-1.0	
SP10SH-1X/...	1-1/16-12 SAE-12	NPT 3/4"	G (BSP) 3/4"	7/16-20 SAE-4	NPT 1/4"	G (BSP) 1/4"	3/8-16 x 1.75 LG SHCS	3/8-16 x 1.75 LG SHCS	M10-1.5 x (45) LG SHCS	x 0.60 DP	x (15.2) DP	
SP10SX-1X/...	1-5/16-12 SAE-16	NPT 1"	G (BSP) 1"	7/16-20 SAE-4	NPT 1/4"	G (BSP) 1/4"	3/8-16 x 3.00 LG SHCS	3/8-16 x 3.00 LG SHCS	M10-1.5 x (75) LG SHCS			

Dimension	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O ²	P ²	Q ²
SP10SN-1X/...	3.13	4.00	1.25	2.25	0.38	2.00	0.62	2.00	0.62	2.22	1.62	0.63	1.37	0.62			
SP10SH-1X/...	3.75	4.75	1.75	2.53	0.38	2.38	0.87	2.38	0.87	2.62	1.88	0.87	1.88	0.87	1.31	3.75	0.81
SP10SX-1X/...	4.50	5.00	3.00	2.91	0.38	2.31	1.13	2.31	1.94	2.72	2.50	1.94	1.72	1.28	0.75	3.88	0.75

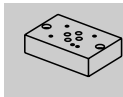
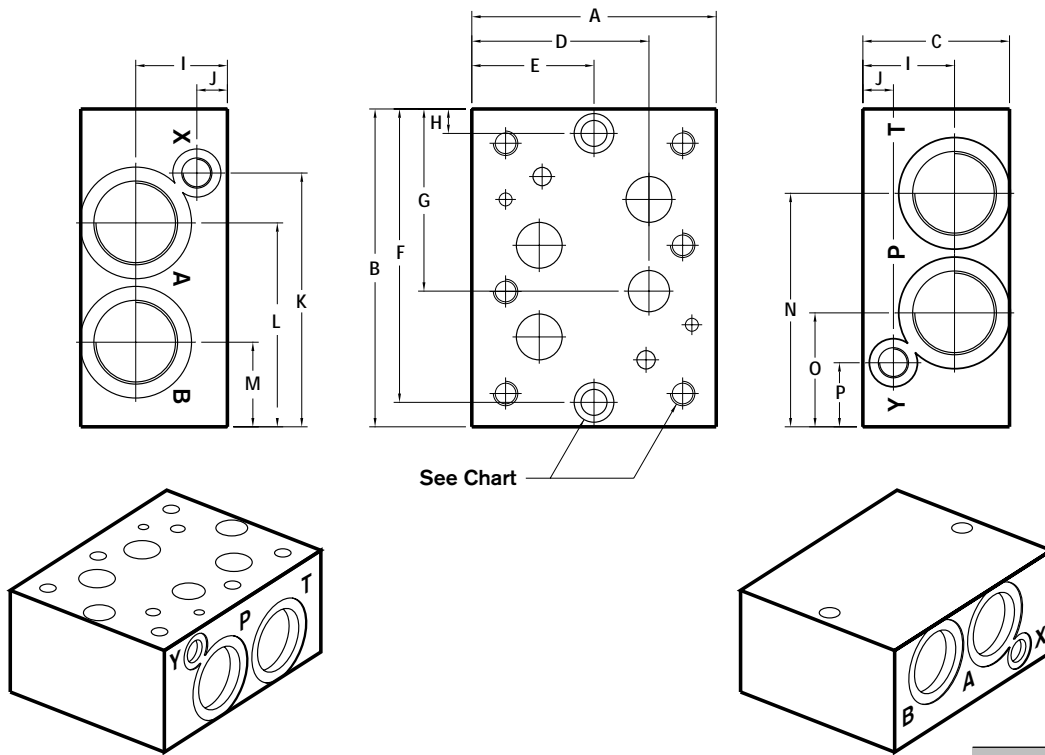
Mounting hardware is supplied.

1) Blackening 2) X and Y Ports not available on normal flow.

All dimensions in inches

Subplates D08 (Size 22) Side-Ported

	SP22S / XX /		
Flow Normal High	= N = H		
Revision	= XX		
Material Aluminum 6061-T6, 3000 psi Ductile Iron ¹ 65-45-12, 5000 psi	= A = D		
		12 = 05 = 01 =	Ports SAE Threaded Ports NPT Threaded Ports BSP Threaded Ports



Model	Approx. Wt.	
	Alum.	Iron
SP16SN...	5.4	14.3
SP16SH...	9.6	25.4

Port type	Ports			X & Y Ports			Mounting Bolts			Valve Mtg		
	12	05	01	12	05	01	12	05	01	05 & 12	01	
SP22SN...	1-5/16-12 SAE-16	NPT 1"	G (BSP) 1"	9/16-18 SAE-6	NPT 1/4"	G (BSP) 1/4"	1/2-13 x 1.75 LG SHCS	1/2-13 x 1.75 LG SHCS	M12-1.75 x (45) LG SHCS	1/2-13 x	M12-1.75	
SP22SH...	1-5/8-12 SAE-20	NPT 1-1/4"	G (BSP) 1-1/4"	9/16-18 SAE-6	NPT 1/4"	G (BSP) 1/4"	1/2-13 x 3.00 LG SHCS	1/2-13 x 3.00 LG SHCS	M12-1.75 x (80) LG SHCS	1.19 DP	x (30.2) DP	

Dimension	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
SP22SN-1X/...	4.50	6.13	2.00	3.37	2.25	5.63	3.53	0.50	1.00	1.00	4.94	3.60	1.60	4.54	2.54	1.19
SP22SH-1X/...	5.00	6.50	3.00	3.62	2.50	6.00	3.73	0.50	1.88	0.63	5.19	4.17	1.73	4.78	2.33	1.31

Mounting hardware is supplied.

1) Blackening

All dimensions in inches

Section 3 Coverplates

RA 09 907/07.04

The Drive & Control Company

Coverplate Features

- Sizes 6 to 22
- Aluminum and ductile iron
- Includes mounting kit

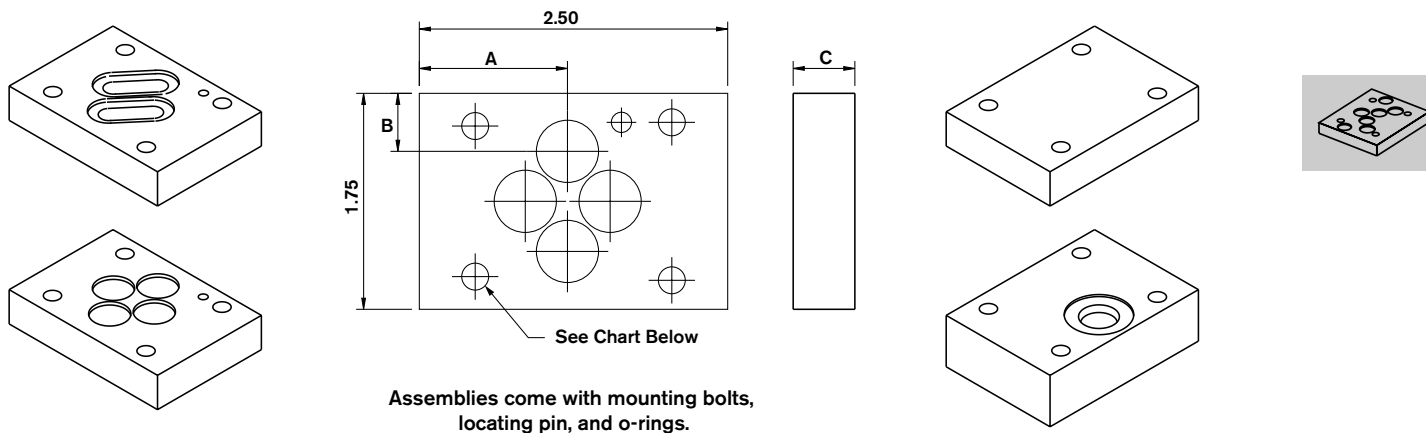


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Coverplate D03 (Size 6)	45
Coverplate D05 (Size 10)	46
Coverplate D07 (Size 16)	47
Coverplate D08 (Size 22)	48

Coverplate D03 (Size 6)

	CP6		N	H	XX		
Internal Connections							
Parallel P-A & T-B	= P						
Series	= S						
Crossover	= C						
Parallel Circuit (All Ports Blocked)	= N						
Additional Ports							
No Ports		= N					
Ductile Iron ¹ 65-45-12, 9137 psi				= H			
						01 =	
						12 =	
						A =	Mounting Bolts
						D =	Metric
						XX =	SAE
							Material
							Aluminum 6061-T6, 3000 psi
							Ductile Iron ¹ 65-45-12, 5000 psi
							Revision



Model	Approx. Weight lbs. Alum / Duct	Dimensions			Thru hole Ø	Mounting Bolts	O-Ring	Schematic
		A	B	C				
CP6NN...-12 CP6NN...-01 CP6NNH...	0.2 / 0.5 0 / 0.8	1.30 1.102	0.47 0.494	0.50 0.75	0.218 0.281	10-24 x .75 SHCS M5 x 20mm SHCS 1/4-20 x 1.25 SHCS	2-012	
CP6NP...-12 CP6NP...-01	0.3 / 0.8	1.30	0.47	0.75	0.218	10-24 x 1.0 SHCS M5 x 25mm SHCS	2-012	
CP6PN...-12 CP6PN...-01	0.2 / 0.5	1.25	0.47	0.50	0.218	10-24 x .75 SHCS M5 x 20mm SHCS	2-017	
CP6SN...-12 CP6SN...-01	0.3 / 0.8	1.30	0.47	0.75	0.218	10-24 x 1.0 SHCS M5 x 25mm SHCS	2-012	
CP6CN...-12 CP6CN...-01	0.2 / 0.5	1.25	0.47	0.50	0.218	10-24 x .75 SHCS M5 x 20mm SHCS	2-017	

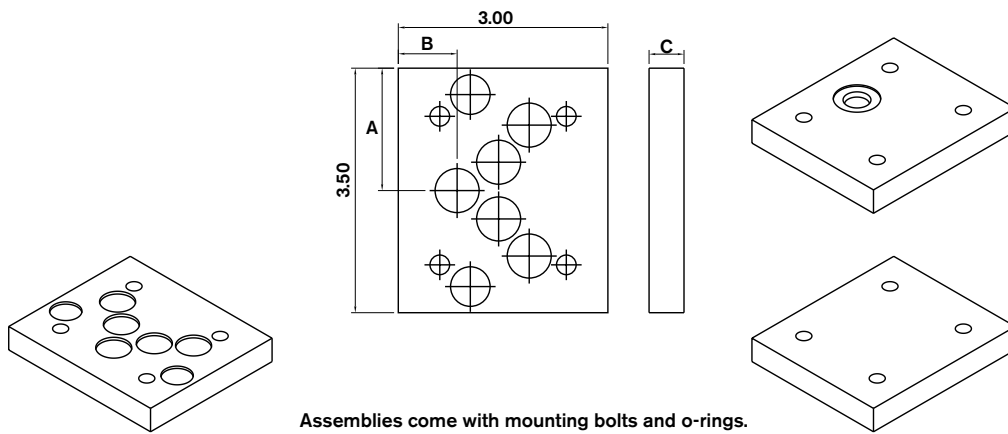
1) Blackening

All dimensions in inches

Coverplate D05 (Size 10)

Internal Connections Parallel P-A & T-B Series Crossover Parallel Circuit (All Ports Blocked)	CP10	XX	/P
Additional Ports No Ports	= P = S = C = N	= N	= XX
Revision			

Pilot Ports Mounting Bolts Metric SAE	P =
Material Aluminum 6061-T6, 3000 psi Ductile Iron ¹ 65-45-12, 5000 psi	01 = 12 =
	A = D =



Model	Approx. Weight lbs. Alum / Duct	Dimensions			Thru Hole Ø	Mounting Bolts	O-Ring	Schematic
		A	B	C				
CP10NN...-12-P	0.5 / 1.3	1.75	0.84	0.50	0.281	1/4-20 x 1.0 SHCS	12 x 2mm (P,T,A,B)	
CP10NN...-01-P				0.50		M6 x 25mm SHCS	2-013 (X,Y)	
CP10NP...-12-P	0.7 / 2.0	1.75	0.84	0.75	0.281	1/4-20 x 1.0 SHCS	12 x 2mm (P,T,A,B)	
CP10NP...-01-P				0.75		M6 x 25mm SHCS	2-013 (X,Y)	
CP10PN...-12-P	1.7 / 4.6	1.75	0.84	1.70	0.281	1/4-20 x 2.25 SHCS	12 x 2mm (P,T,A,B)	
CP10PN...-01-P				1.70		M6 x 55mm SHCS	2-013 (X,Y)	
CP10SN...-12-P	0.9 / 2.5	1.75	0.84	0.95	0.281	1/4-20 x 1.5 SHCS	12 x 2mm (P,T,A,B)	
CP10SN...-01-P				0.95		M6 x 35mm SHCS	2-013 (X,Y)	
CP10CN...-12-P	1.7 / 4.6	1.75	0.84	1.70	0.281	1/4-20 x 2.25 SHCS	12 x 2mm (P,T,A,B)	
CP10CN...-01-P				1.70		M6 x 55mm SHCS	2-013 (X,Y)	

1) Blackening

All dimensions in inches

Coverplate D07 (Size 16)

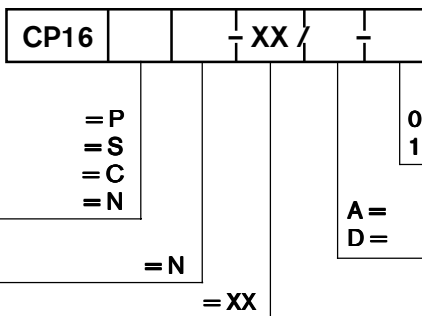
Internal Connections

- Parallel P-A & T-B
- Series
- Crossover
- Parallel Circuit (All ports blocked)

Additional Ports

- No Ports

Revision



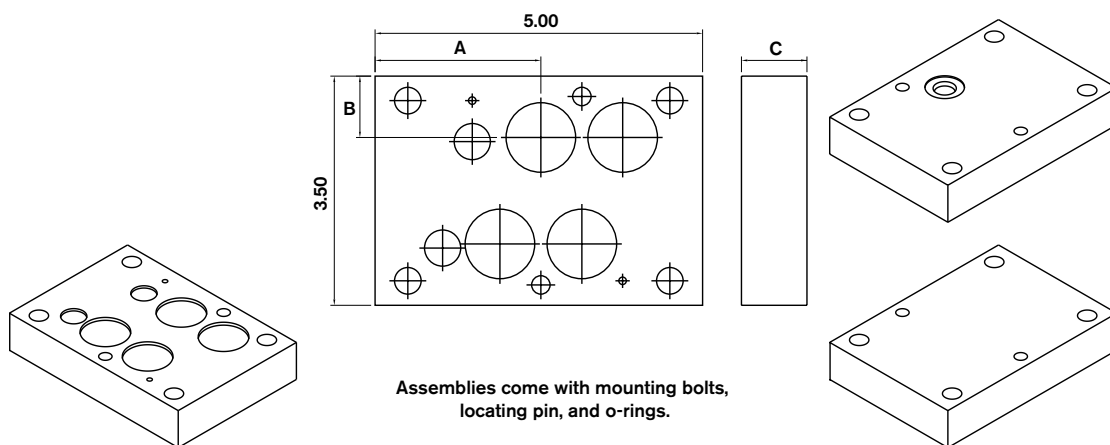
01 =
12 =

Mounting Bolts

- Metric
- SAE

Material

- Aluminum 6061-T6, 3000 psi
- Ductile Iron¹ 65-45-12, 5000 psi



Model	Approx. Weight lbs. Alum / Duct	Dimensions			Thru Hole Mounting	Mounting Bolts	O-Ring	Schematic
		A	B	C				
CP16NN...-12	1.6 / 4.3	2.53	0.94	0.95	(2x) 0.281	1/4-20 x 1.50 SHCS	22 x 2.5mm	
CP16NN...-01					(4x) 0.406	3/8-16 x 1.50 SHCS	10 x 2mm	
CP16NP...-12	1.6 / 4.3	2.53	0.94	0.95	(2x) 0.281	1/4-20 x 1.50 SHCS	22 x 2.5mm	
CP16NP...-01					(4x) 0.406	3/8-16 x 1.50 SHCS	10 x 2mm	
CP16PN...-12	3.7 / 10	2.53	0.94	2.20	(2x) 0.281	1/4-20 x 2.75 SHCS	22 x 2.5mm	
CP16PN...-01					(4x) 0.406	3/8-16 x 2.75 SHCS	10 x 2mm	
CP16SN...-12	2.4 / 6.5	2.53	0.94	1.45	(2x) 0.281	1/4-20 x 2.00 SHCS	22 x 2.5mm	
CP16SN...-01					(4x) 0.406	3/8-16 x 2.00 SHCS	10 x 2mm	
CP16CN...-12	2.9 / 7.7	2.53	0.94	1.70	(2x) 0.281	1/4-20 x 2.25 SHCS	22 x 2.5mm	
CP16CN...-01					(4x) 0.406	3/8-16 x 2.25 SHCS	10 x 2mm	

1) Blackening

All dimensions in inches

Section 4 Sandwich Plates

RA 09 907/07.04

The Drive & Control Company

Sandwich Plate Features

- Sizes 6 to 22
- Aluminum and ductile iron
- For full flow and test port tap-in
- No mounting kit, but set of o-rings included
- SAE, BSPP, or NPT porting

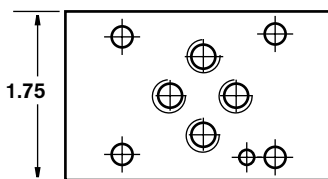
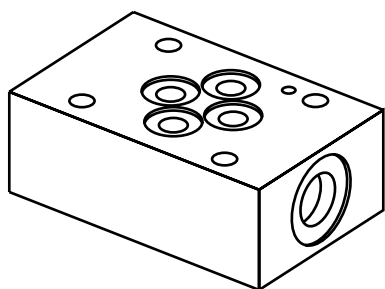


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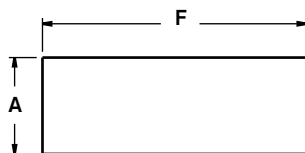
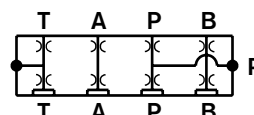
Description	Page
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Spacer Plate D05 (Size 10)	54
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Tapping Plate D08 (Size 22)	56

Tapping Plate D03 (Size 6)

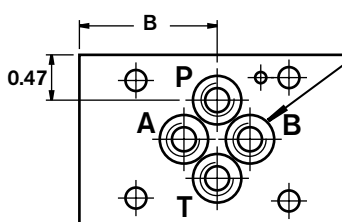
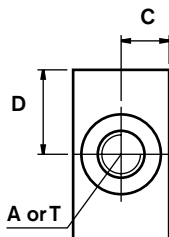
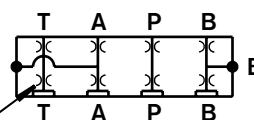
		TP6		XX	/			
Connections								
Gauge Port	P + T	= GPT					12 =	Port Style SAE BSPP
Gauge Port	A + B	= GAB					01 =	
Full Flow Port	P + T	= FPT						Material Aluminum 6061-T6, 3000 psi Ductile Iron ¹ 65-45-12, 5000 psi
Full Flow Port	A + B	= FAB						
Plug		= P						
Revision				= XX				



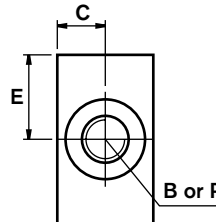
P + T Connection



A + B Connection



Threaded for 1/16-27 NPT



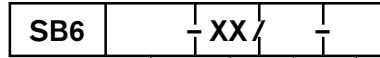
Dimension	A	B	C	D	E	F	A, B, P, T Ports
TP6GPT...12	1.00	1.44	0.50	0.88	0.88	2.75	7/16-20 -4
TP6GPT...01	1.00	1.38	0.50	0.97	0.78	2.75	1/4" BSPP
TP6GAB...12	1.00	1.44	0.50	0.88	0.88	2.75	7/16-20 -4
TP6GAB...01	1.00	1.44	0.50	0.88	0.88	2.75	1/4" BSPP
TP6FPT...12	1.50	1.38	0.75	0.75	1.02	3.00	9/16-18 -6
TP6FPT...01	1.50	1.50	0.75	0.97	0.78	3.00	3/8" BSPP
TP6FAB...12	1.50	1.41	0.75	0.88	0.88	3.00	9/16-18 -6
TP6FAB...01	1.50	1.44	0.75	0.88	0.88	3.00	3/8" BSPP

Includes (4) O-Rings, (1) Plug, and (1) Locating Pin.

1) Blackening

All dimensions in inches

Spacer Block D03 (Size 6)



Thickness, Dim. "A"

- = 3/4"
- = 1"
- = 1-1/4"
- = 1-1/2"
- = 1-3/4"
- = 2"
- = 2-1/4"
- = 2-1/2"
- = 2-3/4"
- = 3"

12 =

Port Style
SAE

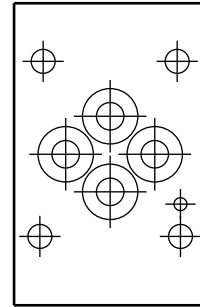
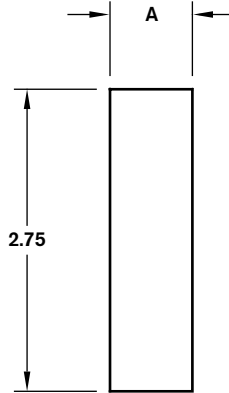
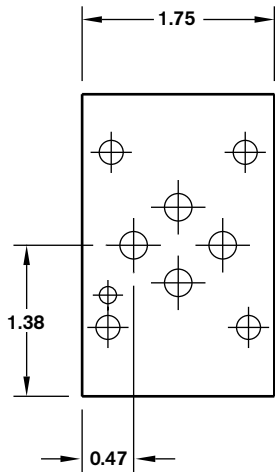
A =

D =

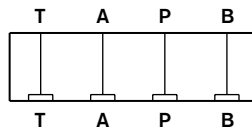
XX =

Material
Aluminum 6061-T6, 3000 psi
Ductile Iron¹ 65-45-12, 5000 psi

Revision



D03 (Valve)



D03 (Manifold)

Includes (4) O-rings and (1) Locating Pin.

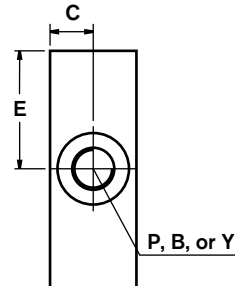
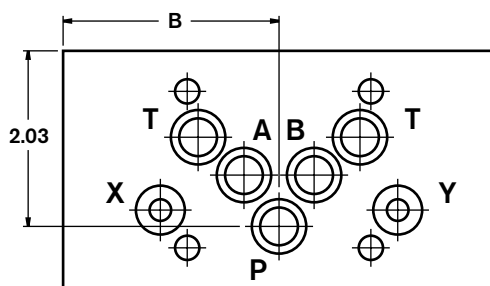
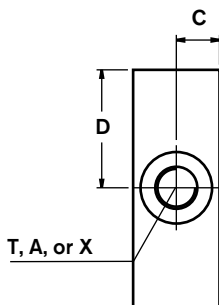
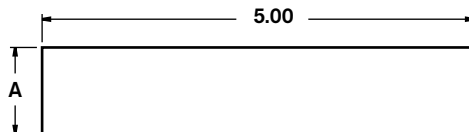
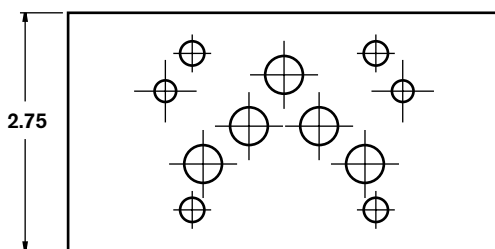
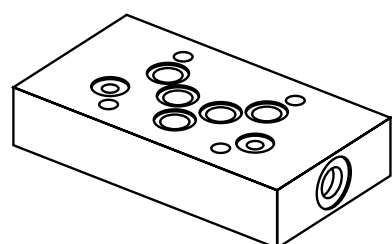
Mounting hardware is not included.

1) Blackening

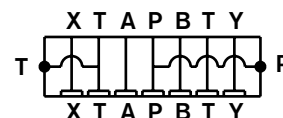
All dimensions in inches

Tapping Plate D05 (Size 10)

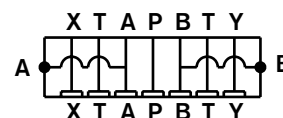
		TP10	XX	/		
Connections						
Gauge Port	P + T	= GPT			12 =	Port Style
Gauge Port	A + B	= GAB			01 =	SAE
Gauge Port	X + Y	= GXY				BSPP
Full Flow Port	P + T	= FPT**				Material
Full Flow Port	A + B	= FAB			A =	Aluminum 6061-T6, 3000 psi
					D =	Ductile Iron ¹ 65-45-12, 5000 psi
Revision			= XX			



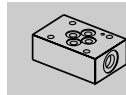
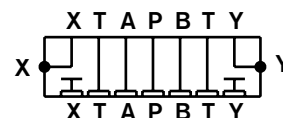
P + T Connection



A + B Connection



X + Y Connection



Dimension	A	B	C	D	E	A, B, P, T Ports
TP10GPT...12	1.00	2.50	0.50	1.00	1.20	7/16-20 -4
TP10GPT...01	1.00	2.50	0.50	1.00	1.20	1/4" BSPP
TP10GAB...12	1.00	2.50	0.50	1.37	1.37	7/16-20 -4
TP10GAB...01	1.00	2.50	0.50	1.37	1.37	1/4" BSPP
TP10GXY...12	1.00	2.50	0.50	1.85	1.85	7/16-20 -4
TP10GXY...01	1.00	2.50	0.50	1.85	1.85	1/4" BSPP
TP10FPT...12	2.00	2.75	1.00	1.00	1.20	7/8-14 -10
TP10FPT...01	2.00	2.75	1.00	1.00	1.20	1/2" BSPP
TP10FAB...12	2.00	2.50	1.00	1.37	1.37	7/8-14 -10
TP10FAB...01	2.00	2.50	1.00	1.37	1.37	1/2" BSPP

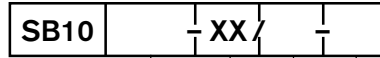
Includes (7) O-Rings and (1) Plug.

1) Blackening

**FPT option has a side tank port only

All dimensions in inches

Spacer Block D05 (Size 10)



Thickness, Dim. "A"

- = 1/2"
- = 3/4"
- = 1"
- = 1-1/4"
- = 1-1/2"
- = 1-3/4"
- = 2"
- = 2-1/4"
- = 2-1/2"
- = 2-3/4"
- = 3"

12 =

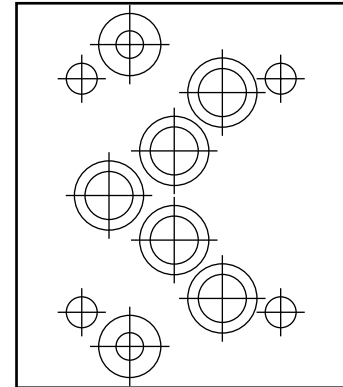
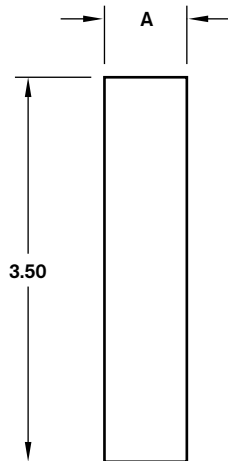
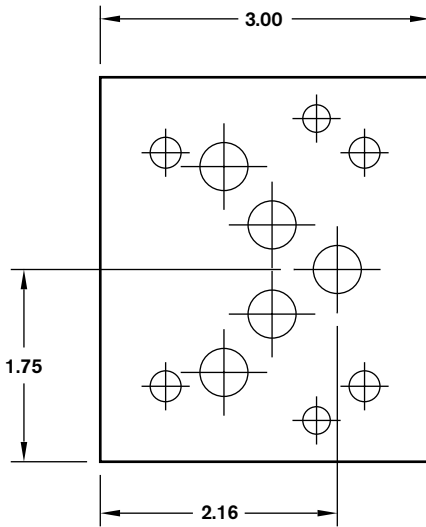
Port Style
SAE

Material

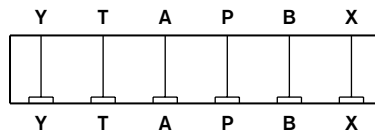
Aluminum 6061-T6, 3000 psi
Ductile Iron¹ 65-45-12, 5000 psi

XX =

Revision



D05 (valve)



D05 (manifold)

Includes (7) O-rings.

Mounting hardware is not included.

1) Blackening

All dimensions in inches

Tapping Plate D07 (Size 16)

Connections

Gauge Port	P + T
Gauge Port	A + B
Gauge Port	X + Y
Full Flow Port	P + T
Full Flow Port	A + B

Revision

TP16 - XX /

= GPT
= GAB
= GXY
= FPT
= FAB

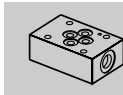
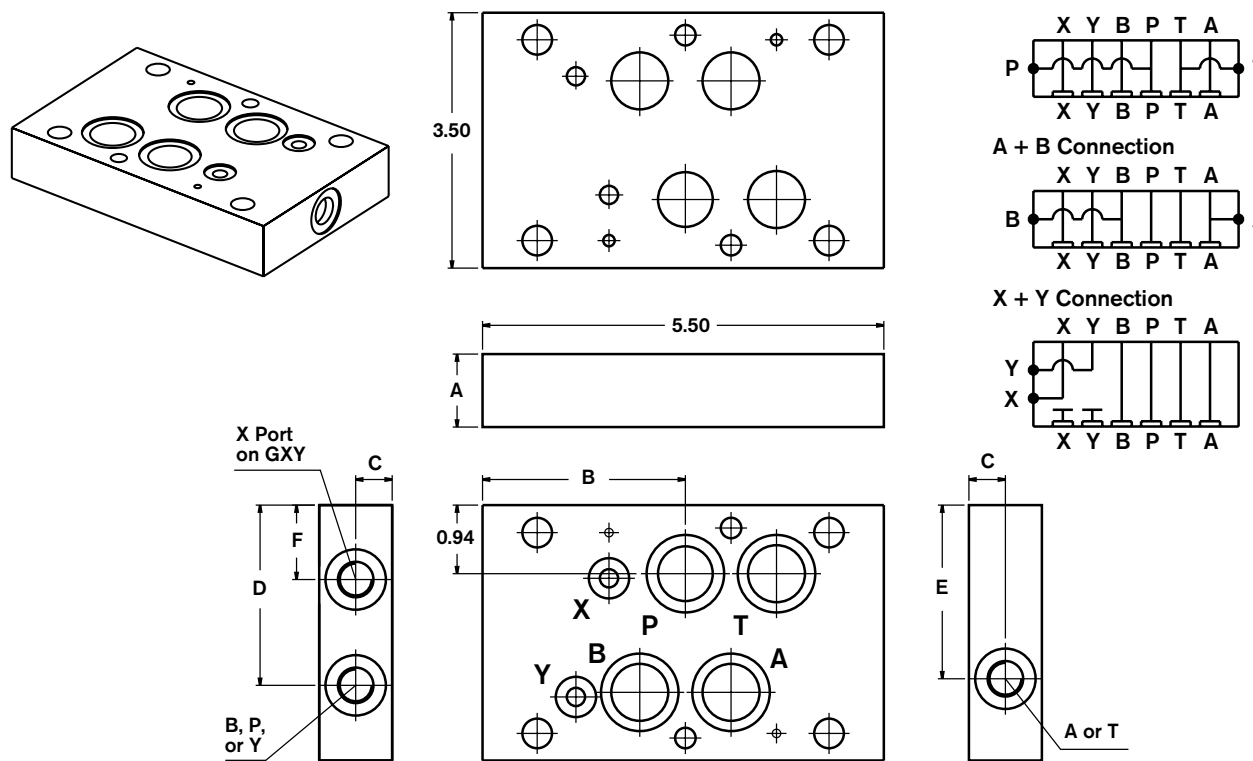
= XX

12 =
01 =

A =
D =

Port Style
SAE
BSPP

Material
Aluminum 6061-T6, 3000 psi
Ductile Iron 65-45-12, 5000 psi



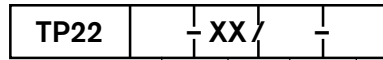
Dimension	A	B	C	D	E	F	A, B, P, T, X, Y Ports
TP16GPT...12	1.00	2.78	0.50	1.83	1.12	-	7/16-20 -4
TP16GPT...01	1.00	2.78	0.50	1.83	1.12	-	1/4" BSPP
TP16GAB...12	1.00	2.78	0.50	1.63	2.38	-	7/16-20 -4
TP16GAB...01	1.00	1.78	0.50	1.63	2.38	-	1/4" BSPP
TP16GXY...12	1.00	2.78	0.50	2.47	-	1.02	7/16-20 -4
TP16GXY...01	1.00	2.78	0.50	2.47	-	1.02	1/4" BSPP
TP16FPT...12	3.00	2.53	1.50	1.58	1.40	-	1-5/16-12 -16
TP16FPT...01	3.00	2.53	1.50	1.58	1.40	-	1" BSPP
TP16FAB...12	3.00	2.53	1.50	1.98	2.12	-	1-5/16-12 -16
TP16FAB...01	3.00	2.53	1.50	1.98	2.12	-	1" BSPP

Includes (6) O-Rings, (1) Plug, and Locating Pin.

1) Blackening

All dimensions in inches

Tapping Plate D08 (Size 22)



Connections

- Gauge Port P + T
- Gauge Port A + B
- Gauge Port X + Y
- Full Flow Port P + T
- Full Flow Port A + B

- = GPT
- = GAB
- = GXY
- = FPT
- = FAB

= XX

- 12 =
- 01 =

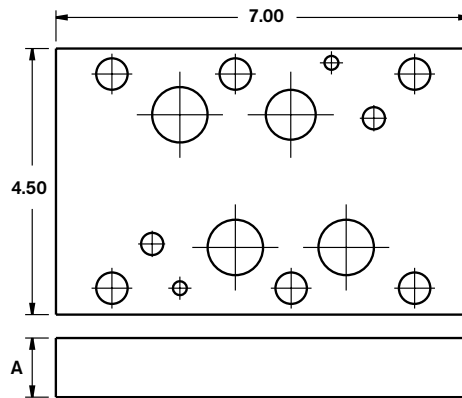
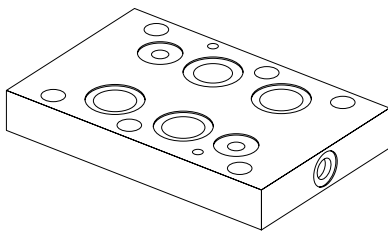
Port Style

- SAE
- BSPP

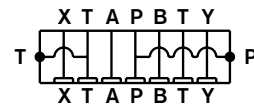
Material

- A = Aluminum 6061-T6, 3000 psi
- D = Ductile Iron¹ 65-45-12, 5000 psi

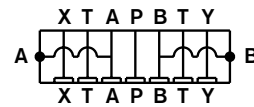
Revision



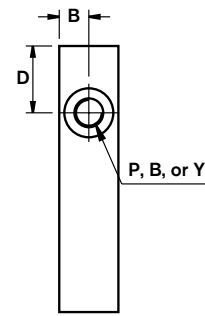
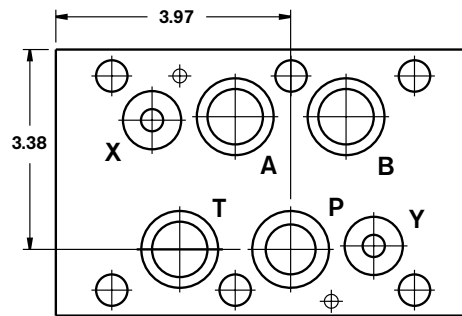
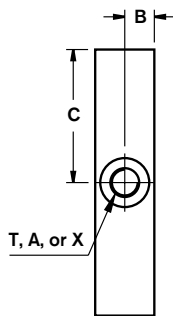
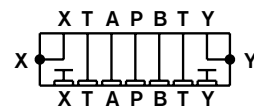
P + T Connection



A + B Connection



X + Y Connection



Dimension	A	B	C	D	A, B, P, T, X, Y Ports
TP22GPT...12	1.00	0.50	3.38	2.25	7/16-20 -4
TP22GPT...01	1.00	0.50	3.38	2.25	1/4" BSPP
TP22GAB...12	1.00	0.50	2.25	1.13	7/16-20 -4
TP22GAB...01	1.00	0.50	2.25	1.13	1/4" BSPP
TP22GXY...12	1.00	0.50	1.19	3.31	7/16-20 -4
TP22GXY...01	1.00	0.50	1.19	3.31	1/4" BSPP
TP22FPT...12	4.00	2.00	2.82	1.73	1-5/8-12 -20
TP22FPT...01	4.00	2.00	2.82	2.00	1-1/4" BSPP
TP22FAB...12	4.00	2.00	4.67	1.70	1-5/8-12 -20
TP22FAB...01	4.00	2.00	2.50	1.70	1-1/4" BSPP

Includes (6) O-Rings, (1) Plug, and (1) Locating Pin.

1) Blackening

All dimensions in inches

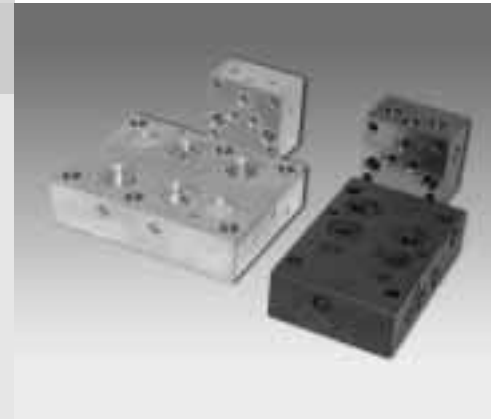
Section 5 Valve Adaptors

RA 09 907/07.04

The Drive & Control Company

Valve Adaptor Features

- Size adaption from sizes 6 through 32
- Includes some Rexroth style patterns and others
- Aluminum and ductile iron
- Includes mounting kit



Section 5 Index

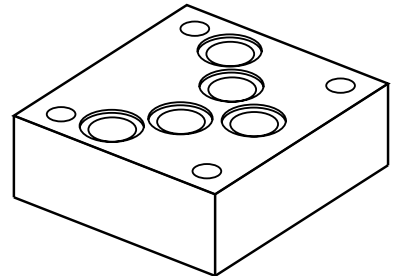
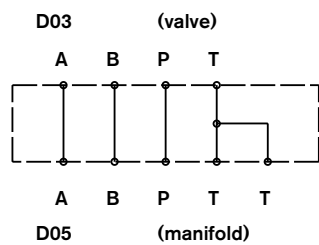
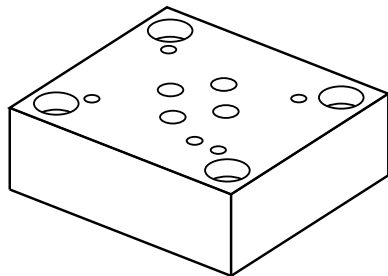
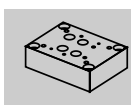
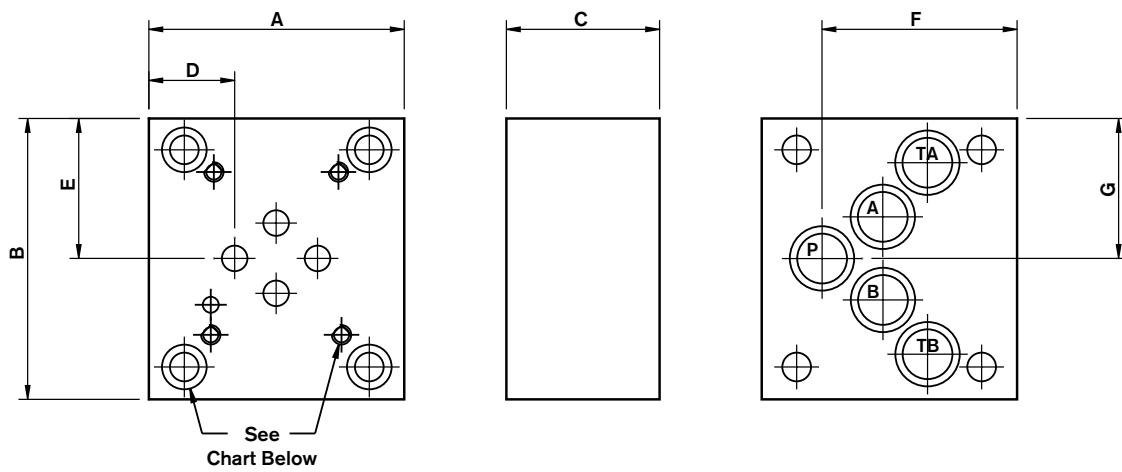
Description	Page
Valve Adaptor D03 (Size 6) to D05 (Size 10)	59
Valve Adaptor D03 (Size 6) to D07 (Size 16)	60
Valve Adaptor D05 (Size 10) to D07 (Size 16)	61
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Valve Adaptors D03 (Size 6) to D05 (Size 10)

AP6-10 - XX /

Revision = XX
Material = A
 Aluminum 6061-T6, 3000 psi
 Ductile Iron¹ 65-45-12, 5000 psi = D

Mounting Bolts
 12 = SAE
 01 = Metric



	Valve (Mtg.)	Adaptor (Mtg.)	O-Ring
12 = SAE	10-24 x 0.50 DP.	1/4-20 x 1.25	12 x 2
01 = Metric	M5-0.8 x (12.7) DP.	M6 x 30mm	12 x 2

Dimension	A	B	C	D	E	F	G
AP6-10-1X/	2.50	2.75	1.50	0.84	1.37	1.91	1.37

Mounting hardware and o-rings are supplied. Valve mounting bolts must be ordered separately.

1) Blackening

All dimensions in inches

Valve Adaptors

D03 (Size 6) to D07 (Size 16)

AP6-16 XX /

Revision

= XX

Material

Aluminum 6061-T6, 3000 psi

Ductile Iron¹ 65-45-12, 5000 psi

= A

= D

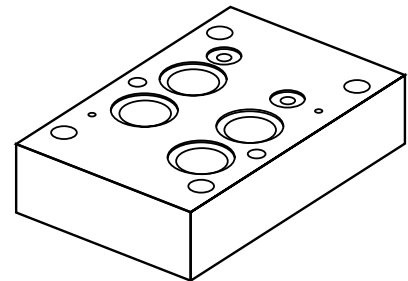
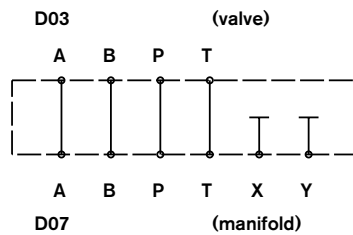
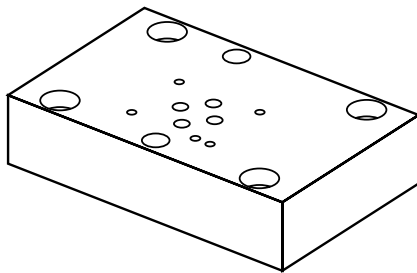
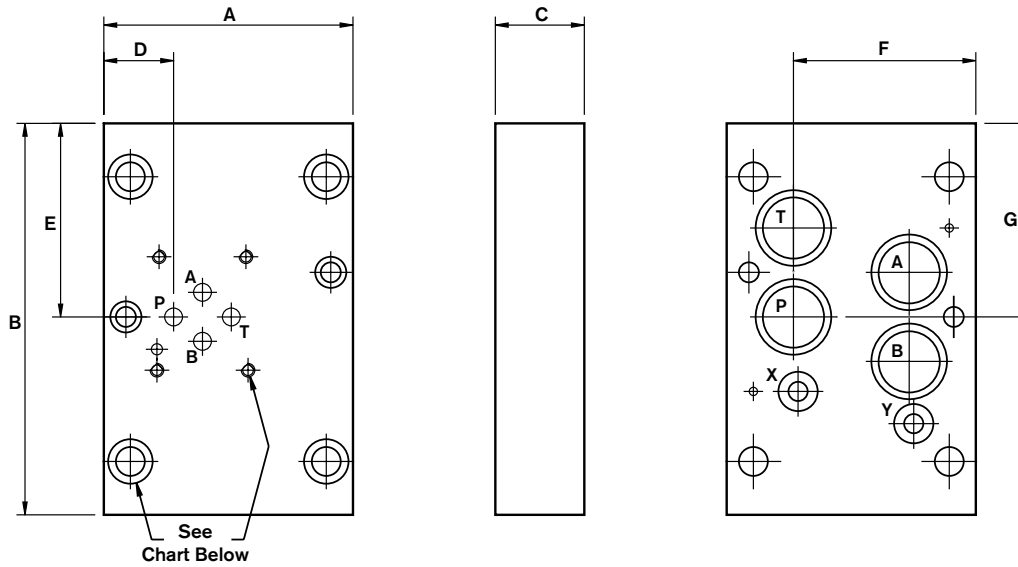
12 =

01 =

Mounting Bolts

SAE

Metric



	Valve (Mtg.)	Adaptor (Mtg.)	Adaptor (Mtg.)	O-Ring	O-Ring
12 = SAE	10-24 x 0.50 DP.	3/8-16 x 2.25	1/4-20 x 2.50	10 x 2	22 x 2.5
01 = Metric	M5-0.8 x (12.7) DP.	M10 x 30mm	M6 x 40mm	10 x 2	22 x 2.5

Dimension	A	B	C	D	E	F	G
AP6-16-1X/	3.50	5.50	2.5	0.98	2.6	2.56	2.72

Mounting hardware and o-rings are supplied. Valve mounting bolts must be ordered separately.

1) Blackening

All dimensions in inches

Valve Adaptors D05 (Size 10) to D07 (Size 16)

AP10-16 - XX / -

Revision

= XX

Material

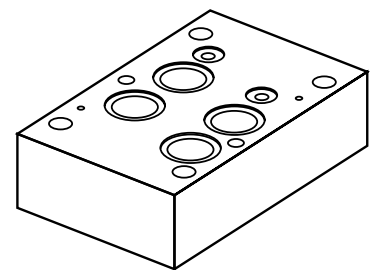
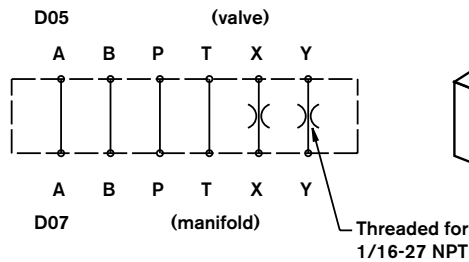
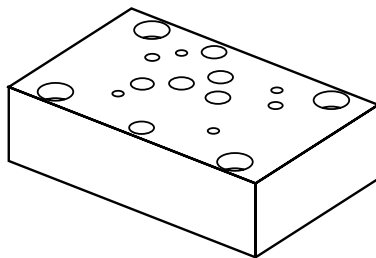
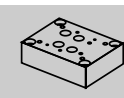
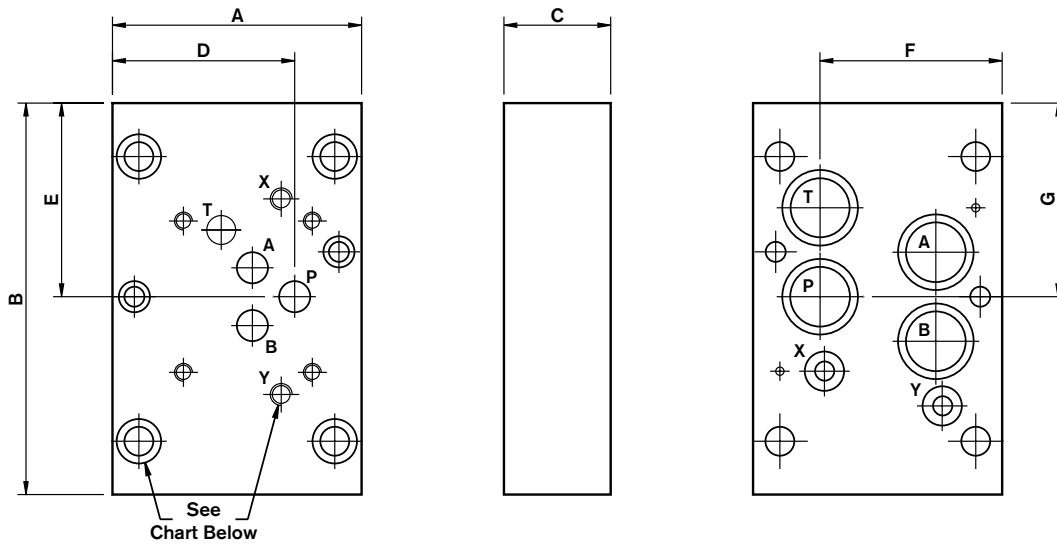
Aluminum 6061-T6, 3000 psi
Ductile Iron¹ 65-45-12, 5000 psi

= A
= D

12 =
01 =

Mounting Bolts

SAE
Metric



	Valve (Mtg.)	Adaptor (Mtg.)	Adaptor (Mtg.)	O-Ring	O-Ring
12 = SAE	10-24 x 0.60 DP.	3/8-16 x 2.25	1/4-20 x 2.50	10 x 2	22 x 2.5
01 = Metric	M6-1.0 x (15.2) DP.	M10 x 30mm	M6 x 40mm	10 x 2	22 x 2.5

Dimension	A	B	C	D	E	F	G
AP10-16-1X/	3.50	5.50	2.50	2.56	2.6	2.56	2.72

Mounting hardware and o-rings are supplied. Valve mounting bolts must be ordered separately.

1) Blackening

All dimensions in inches

Valve Adaptors

D03 (Size 6) to D08 (Size 22)

AP6-22 - XX / -

Revision

= XX

Material

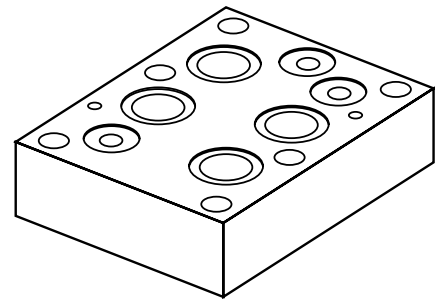
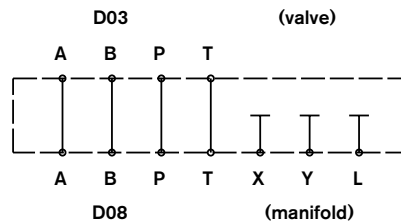
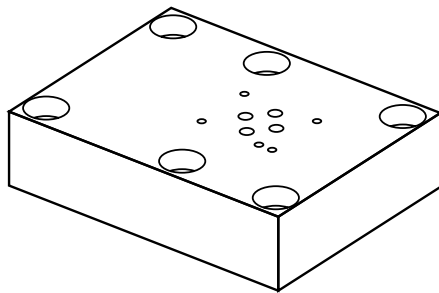
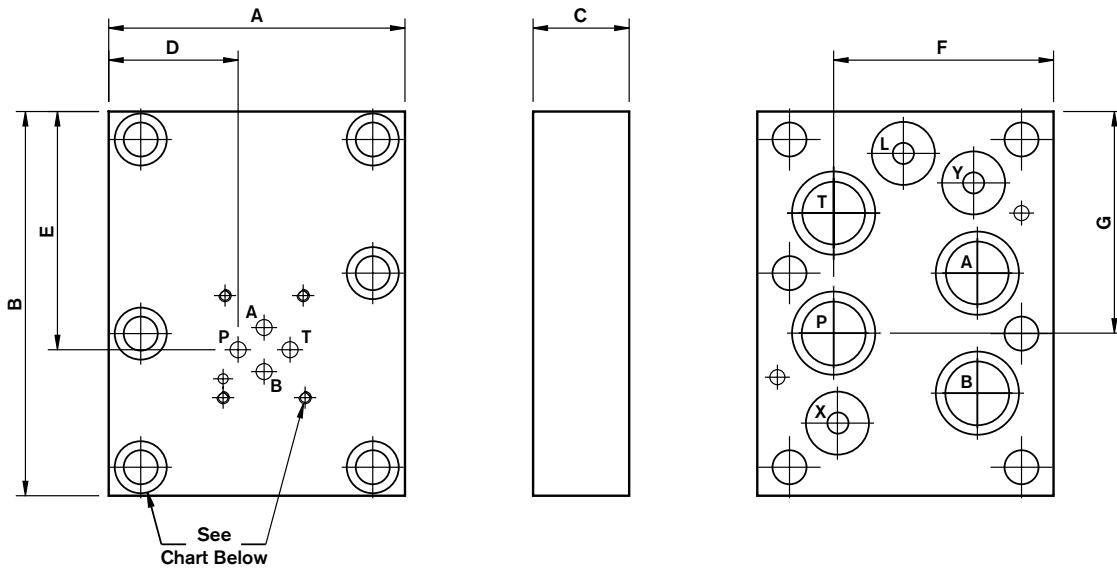
Aluminum 6061-T6, 3000 psi
 Ductile Iron¹ 65-45-12, 5000 psi

= A
 = D

12 =
 01 =

Mounting Bolts

SAE
 Metric



	Valve (Mtg.)	Adaptor (Mtg.)	O-Ring	O-Ring
12 = SAE	10-24 x 0.50 DP.	1/2-13 x 1.50	19 x 3	27 x 3
01 = Metric	M5-0.8 x (12.7) DP.	M12 x 40mm	19 x 3	27 x 3

Dimension	A	B	C	D	E	F	G
AP6-22-1X/	4.63	6.00	1.50	2.02	3.72	3.43	3.46

Mounting hardware and o-rings are supplied. Valve mounting bolts must be ordered separately.

1) Blackening

All dimensions in inches

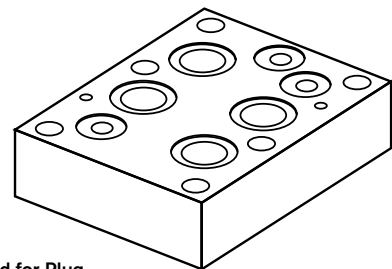
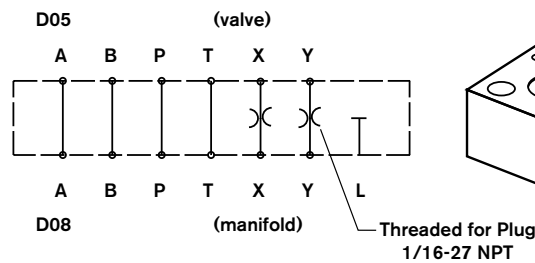
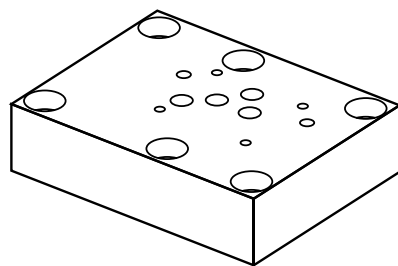
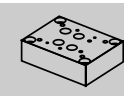
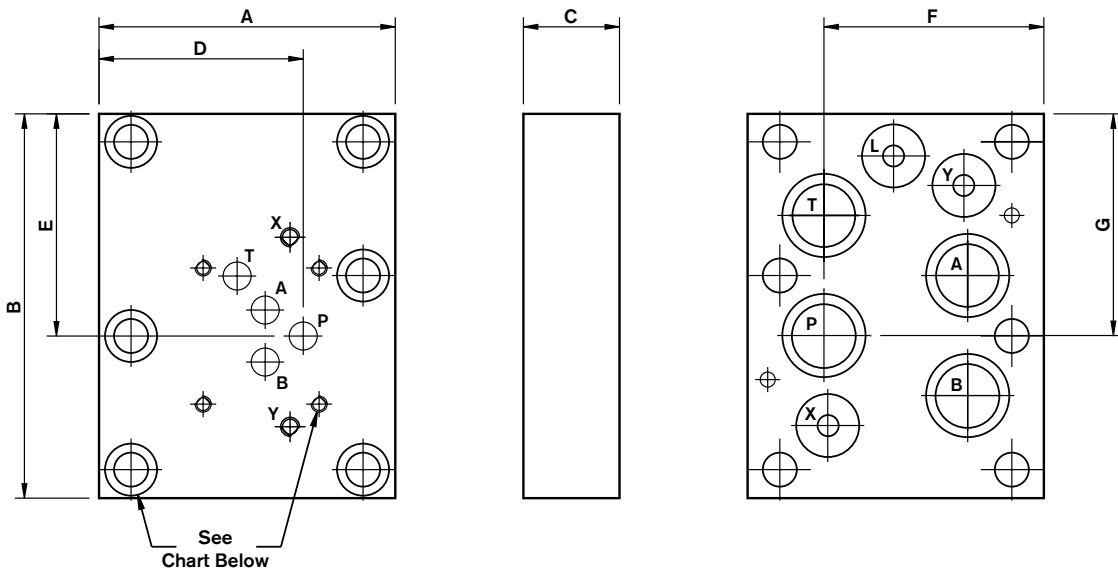
Valve Adaptors

D05 (Size 10) to D08 (Size 22)

AP10-22 - XX /

Revision = XX
Material = A
 Aluminum 6061-T6, 3000 psi
 Ductile Iron¹ 65-45-12, 5000 psi = D

Mounting Bolts
 12 = SAE
 01 = Metric



	Valve (Mtg.)	Adaptor (Mtg.)	O-Ring	O-Ring
12 = SAE	1/4-20 x 0.60 DP.	1/2-13 x 1.50	19 x 3	27 x 3
01 = Metric	M6-1.0 x (15.2) DP.	M12 x 40mm	19 x 3	27 x 3

Dimension	A	B	C	D	E	F	G
AP10-22-1X/	4.63	6.00	1.50	3.19	3.47	3.43	3.46

Mounting hardware and o-rings are supplied. Valve mounting bolts must be ordered separately.

1) Blackening

All dimensions in inches

Valve Adaptors

D07 (Size 16) to D08 (Size 22)

AP16-22 - XX /

Revision

= XX

Material

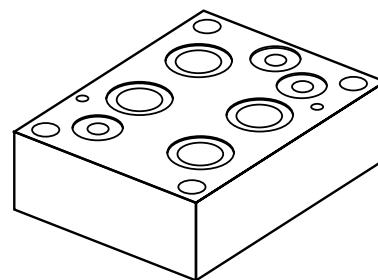
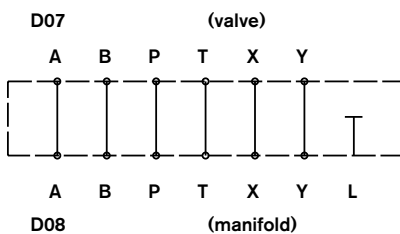
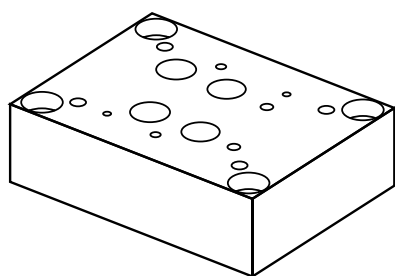
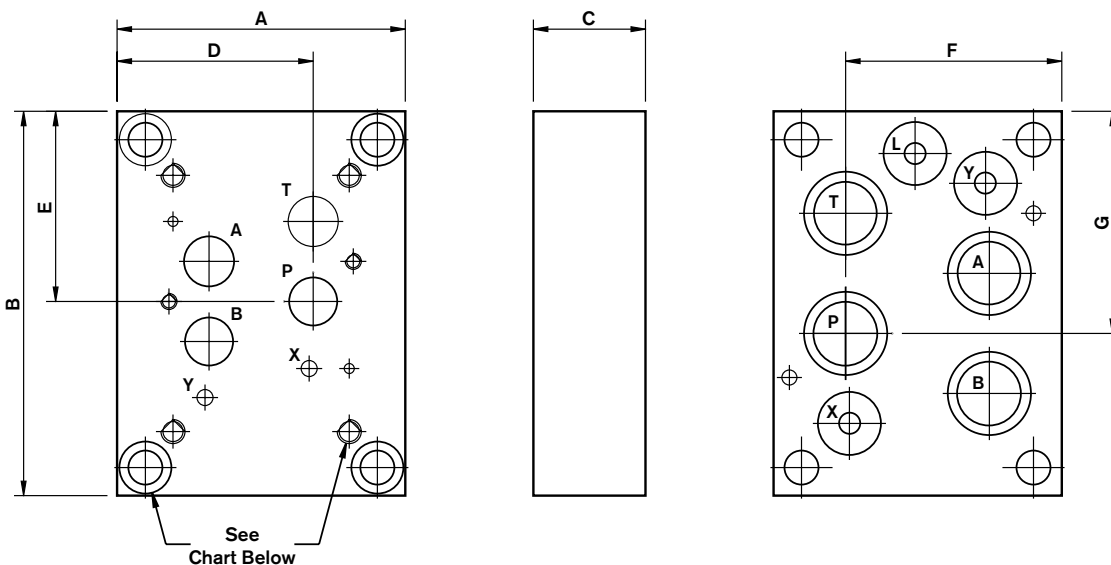
Aluminum 6061-T6, 3000 psi
 Ductile Iron¹ 65-45-12, 5000 psi

= A
 = D

Mounting Bolts

12 =
 01 =

SAE
 Metric



	Valve (Mtg.)	Adaptor (Mtg.)	O-Ring	O-Ring
12 = SAE	1/4-20 x 0.70 DP. 3/8-16 x 0.70 DP.	1/2-13 x 1.50	19 x 3	27 x 3
01 = Metric	M6-1.0 x (17.7) DP. M10-1.5 x (17.7) DP.	M12 x 40mm	19 x 3	27 x 3

Dimension	A	B	C	D	E	F	G
AP16-22-1X/	4.50	6.00	1.75	3.06	2.97	3.38	3.47

Mounting hardware and o-rings are supplied. Valve mounting bolts must be ordered separately.

1) Blackening

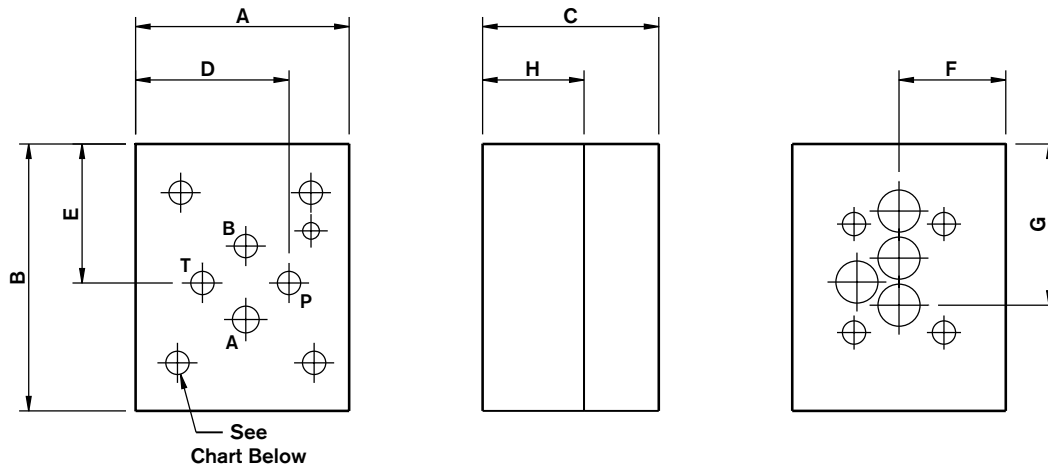
All dimensions in inches

Valve Adaptors D03 (Size 6) to WE5 (Size 5)

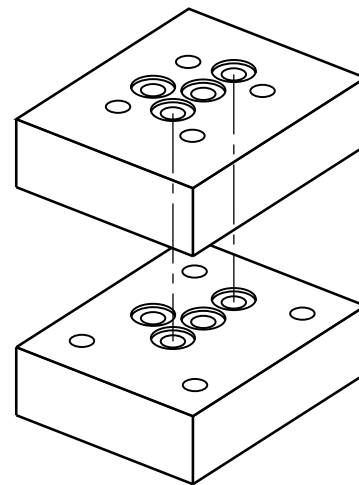
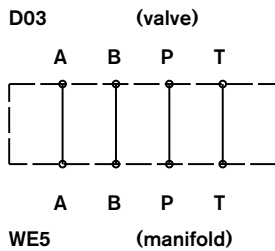
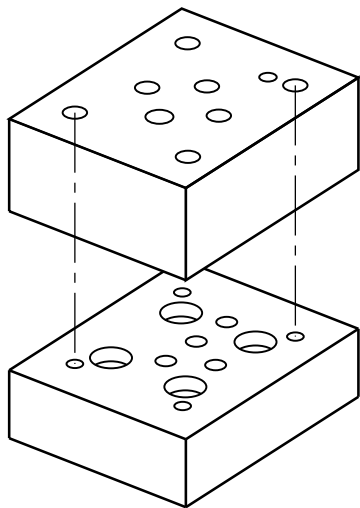
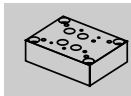
AP6-WE5 - XX / A - 12

Revision = XX
Material = A
Aluminum 6061-T6, 3000 psi

12 = Mounting Bolts SAE



See Chart Below



	Valve (Mtg.)	Adaptor (Mtg.)	O-Ring
12 = SAE	10-24 x 1.40 DP.	10-24 x 0.75	7 x 1.5

Dimension	A	B	C	D	E	F	G	H
AP6-WE5-1X/	2.00	2.50	1.65	1.41	1.30	1.00	1.51	0.95

Mounting hardware and o-rings are supplied. Valve mounting bolts must be ordered separately.

All dimensions in inches

Valve Adaptors SEW6 to SE6

AP6-SE6 - XX / - 12

Revision

= XX

Material

Ductile Iron¹ 65-45-12, 5000 psi

= D

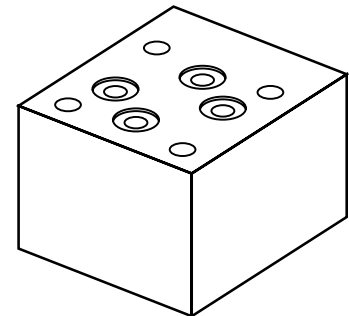
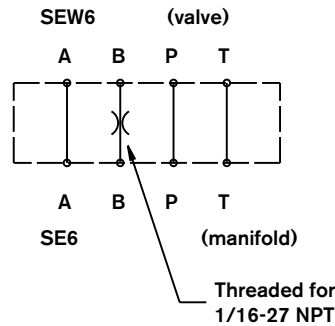
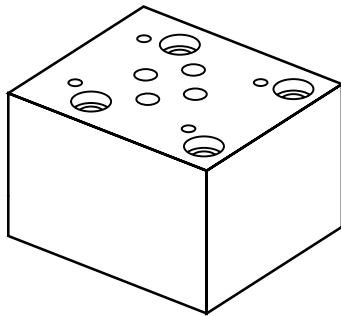
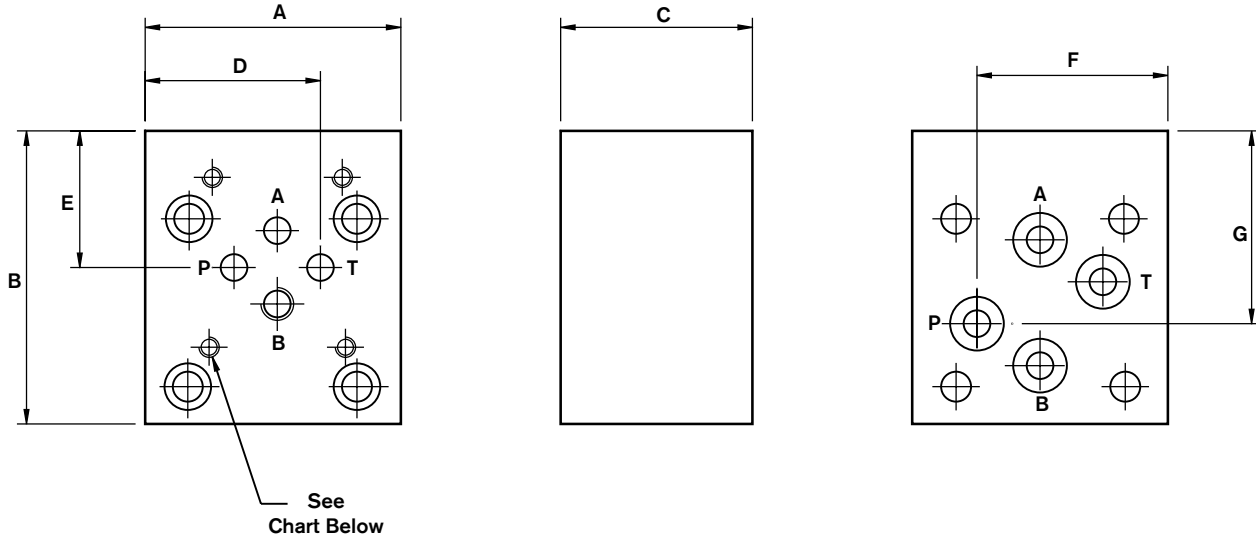
Ductile Iron 65-45-12, 9137 psi

= S

12 =

Mounting Bolts

SAE



	Valve (Mtg.)	Adaptor (Mtg.)	O-Ring
AP6-SE6-1X/...D	10-24 x 0.60 DP.	1/4-20 x 1.75	2-012
AP6-SE6-1X/...S	1/4-20 x 0.65 DP.	1/4-20 x 1.75	2-012

Dimension	A	B	C	D	E	F	G
AP6-SE6-1X/	2.40	2.75	1.80	1.65	1.28	1.79	1.81

Mounting hardware and o-rings are supplied. Valve mounting bolts must be ordered separately.

1) Blackening

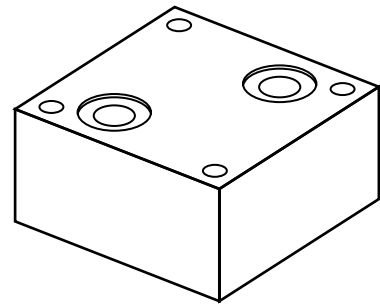
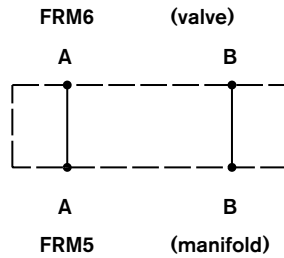
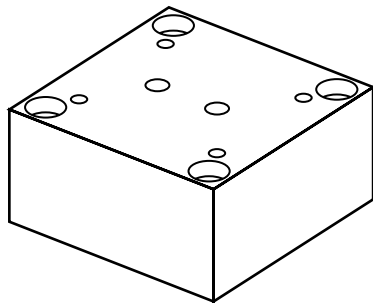
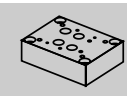
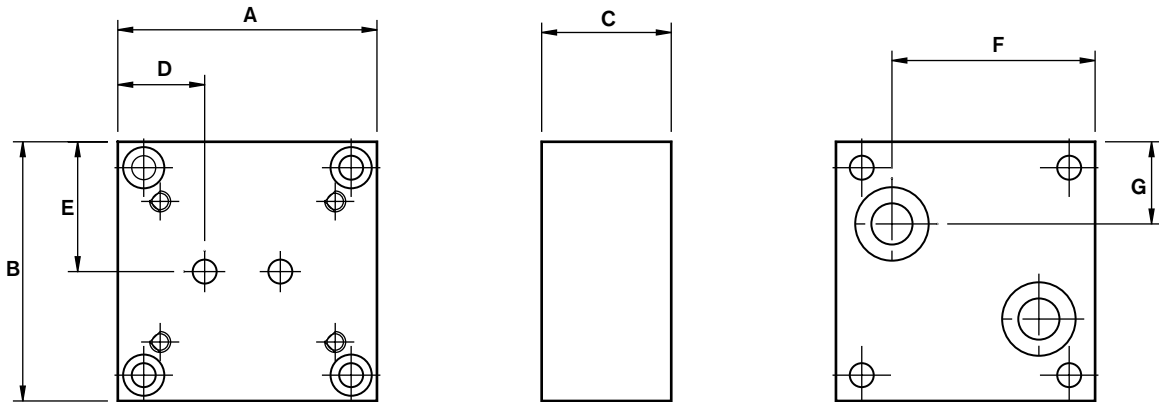
All dimensions in inches

Valve Adaptors FRM6 to FRM5

APFRM6-FRM5 - XX / - 12

Revision = XX
Material = A
 Aluminum 6061-T6, 3000 psi
 = D
 Ductile Iron¹ 65-45-12, 5000 psi

Mounting Bolts
 12 = SAE



	Valve (Mtg.)	Adaptor (Mtg.)	O-Ring
12 = SAE	10-24 x 0.45 DP.	10-24 x 1-1/4	12 x 2.5

Dimension	A	B	C	D	E	F	G
APFRM6-FRM5-1X/	2.36	2.36	1.18	0.79	1.18	1.85	0.75

Mounting hardware and o-rings are supplied. Valve mounting bolts must be ordered separately.

1) Blackening

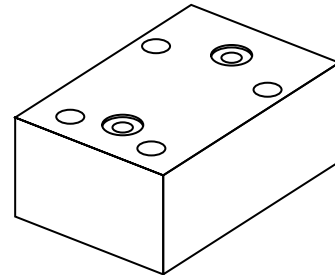
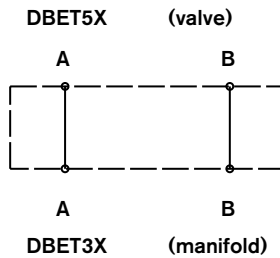
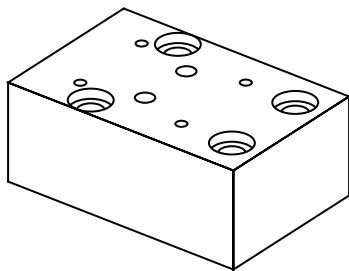
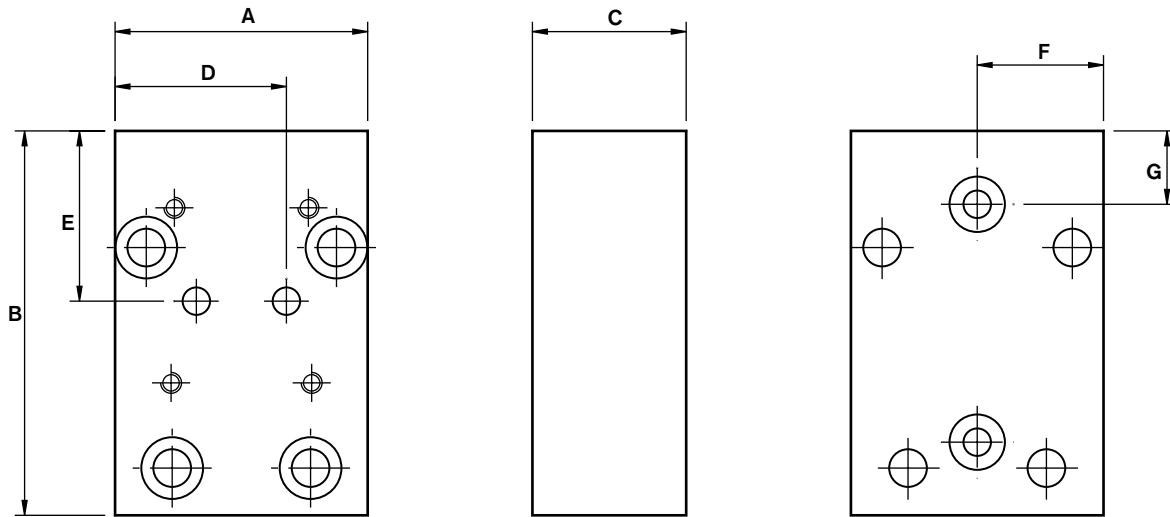
All dimensions in inches

Valve Adaptors DBET-5X to DBET-3X

APDBET5X-DBET3X - XX / - 12

Revision = XX
 Material = A
 Aluminum 6061-T6, 3000 psi
 Ductile Iron¹ 65-45-12, 5000 psi = D

12 = Mounting Bolts SAE



Valve (Mtg.)	Adaptor (Mtg.)	O-Ring
12 = SAE	10-24 x 0.40 DP.	5/16-18 x 1-1/4
		9.25 x 1.50

Dimension	A	B	C	D	E	F	G
APDBET5X-DBET3X-1X/	2.30	3.50	1.40	1.56	1.55	1.15	0.67

Mounting hardware and o-rings are supplied. Valve mounting bolts must be ordered separately.

1) Blackening

All dimensions in inches

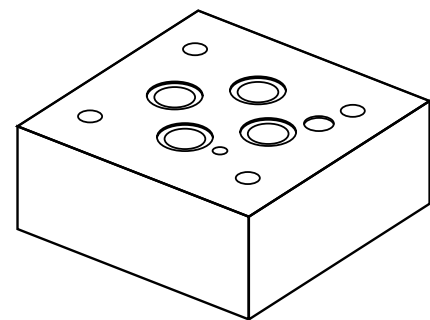
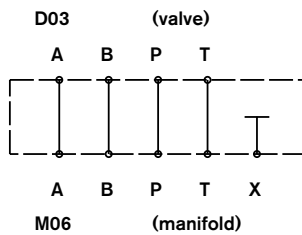
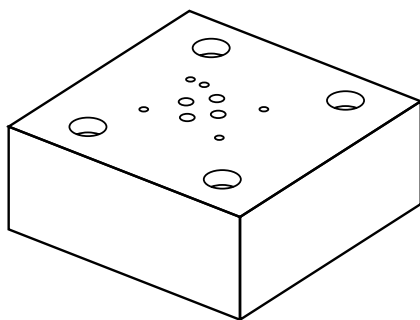
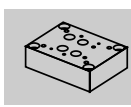
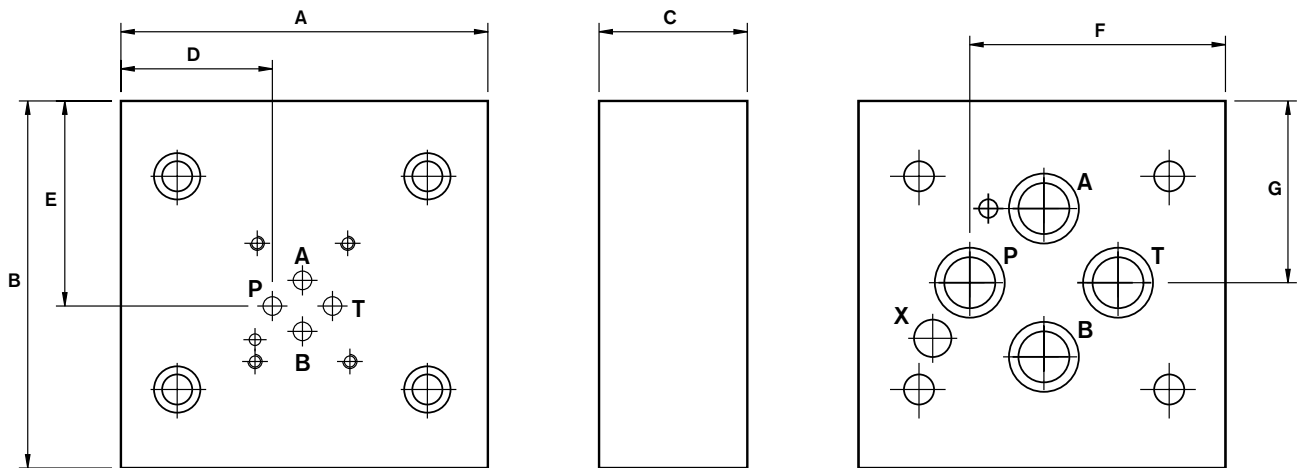
Valve Adaptors

D03 (Size 6) to ISO10372-06-05-0-92 (Moog M72 Servo Valve)

AP6-M72 - XX / - 12

Revision = XX
Material = A
 Aluminum 6061-T6, 3000 psi
 Ductile Iron¹ 65-45-12, 5000 psi = D

12 = **Mounting Bolts**
 SAE



	Valve (Mtg.)	Adaptor (Mtg.)	O-Ring
12 = SAE	10-24 x 0.50 DP.	3/8-16 x 2.50 LG	2-116

Dimension	A	B	C	D	E	F	G
AP6-M06-1X/	4.95	4.95	2.00	2.04	2.77	3.45	2.45

Mounting hardware and o-rings are supplied. Valve mounting bolts must be ordered separately.

1) Blackening

All dimensions in inches

Valve Adaptors

D05 (Size 10) to D06

AP10-D06 XX /

Revision

= XX

Material

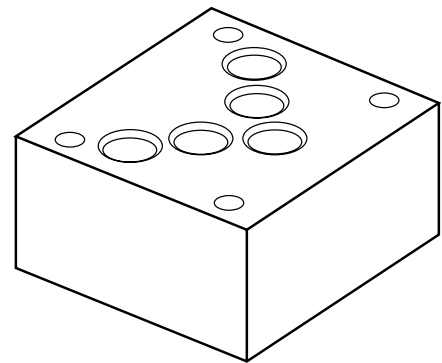
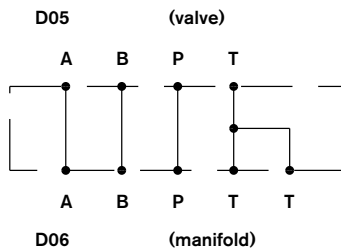
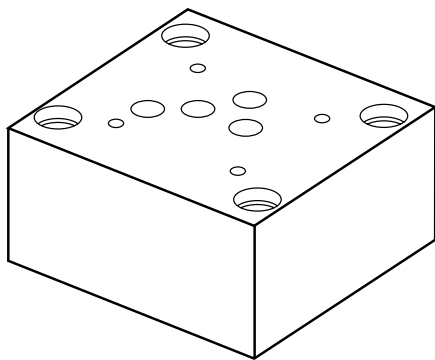
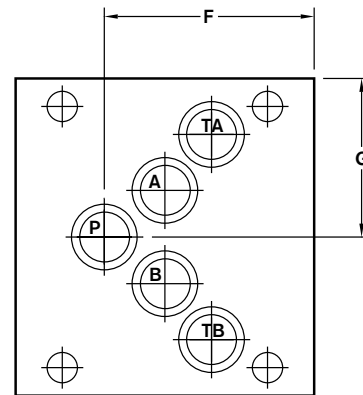
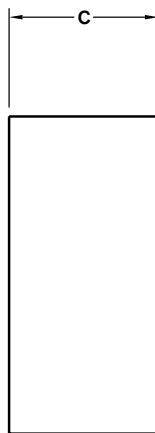
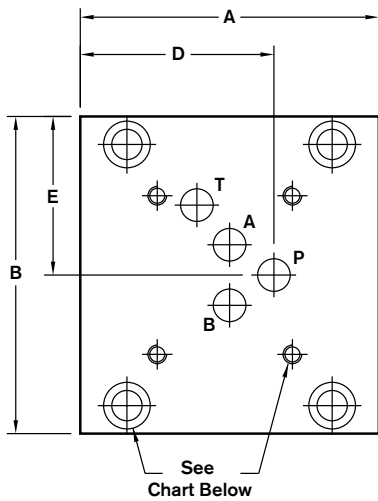
Aluminum 6061-T6, 3000 psi
 Ductile Iron¹ 65-45-12, 5000 psi

= A
 = D

Mounting Bolts

SAE
 Metric

12 =
 01 =



	Valve (Mtg.)	Adaptor (Mtg.)	O-Ring
12 = SAE	1/4-20 x 0.75 DP.	3/8-16 x 2	2-018
01 = Metric	M6 x (19 mm) DP.	M10 x 50 mm	2-018

Dimension	A	B	C	D	E	F	G
AP10-D06...	4.00	4.25	2.00	2.60	2.13	2.81	2.13

Mounting hardware and o-rings are supplied. Valve mounting bolts must be ordered separately.

1) Blackening

All dimensions in inches

Valve Adaptors D06 to D08 (Size 22)

APD06-22 - XX /

Revision

= XX

Material

Aluminum 6061-T6, 3000 psi

Ductile Iron¹ 65-45-12, 5000 psi

= A

= D

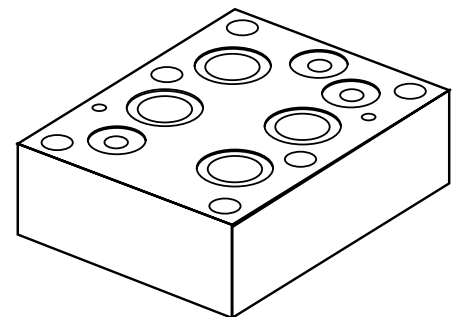
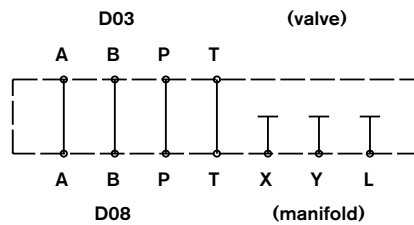
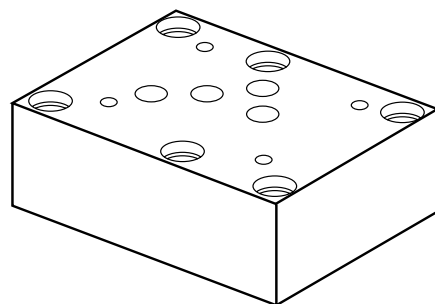
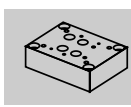
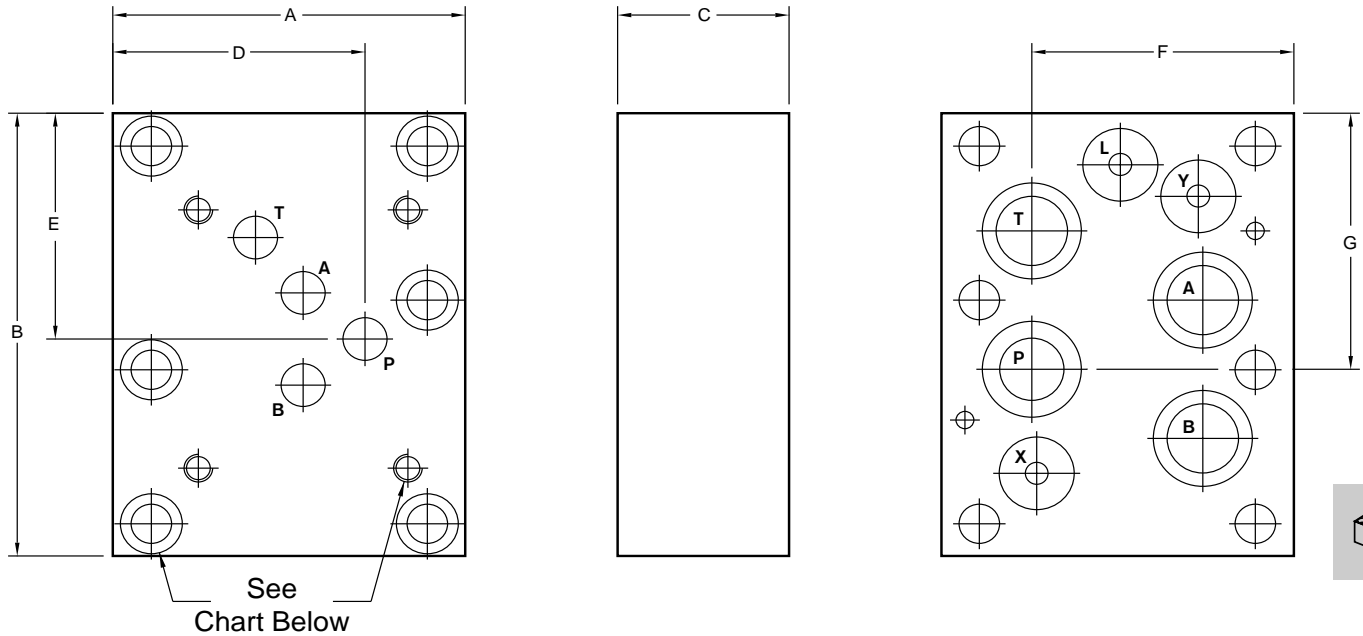
12 =

01 =

Mounting Bolts

SAE

Metric



	Valve (Mtg.)	Adaptor (Mtg.)	O-Ring	O-ring
12 = SAE	3/8-16 x 0.60 DP.	1/2-13 x 3"	19 x 3 mm	27 x 3 mm
01 = Metric	M10 x (15 mm) DP.	M12 x 80 mm	19 x 3 mm	27 x 3 mm

Dimension	A	B	C	D	E	F	G
AP10-D06...	4.00	4.25	2.00	2.60	2.13	2.81	2.13

Mounting hardware and o-rings are supplied. Valve mounting bolts must be ordered separately.

1) Blackening

All dimensions in inches

Valve Adaptors

D08 (Size 22) to D10 (Size 32)

AP22-32 - XX / -

Revision

= XX

Material

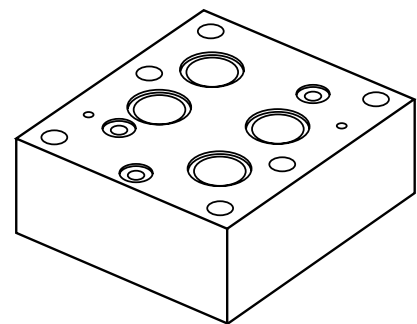
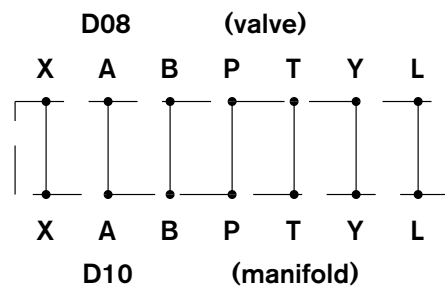
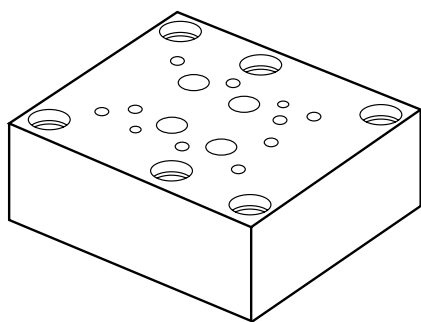
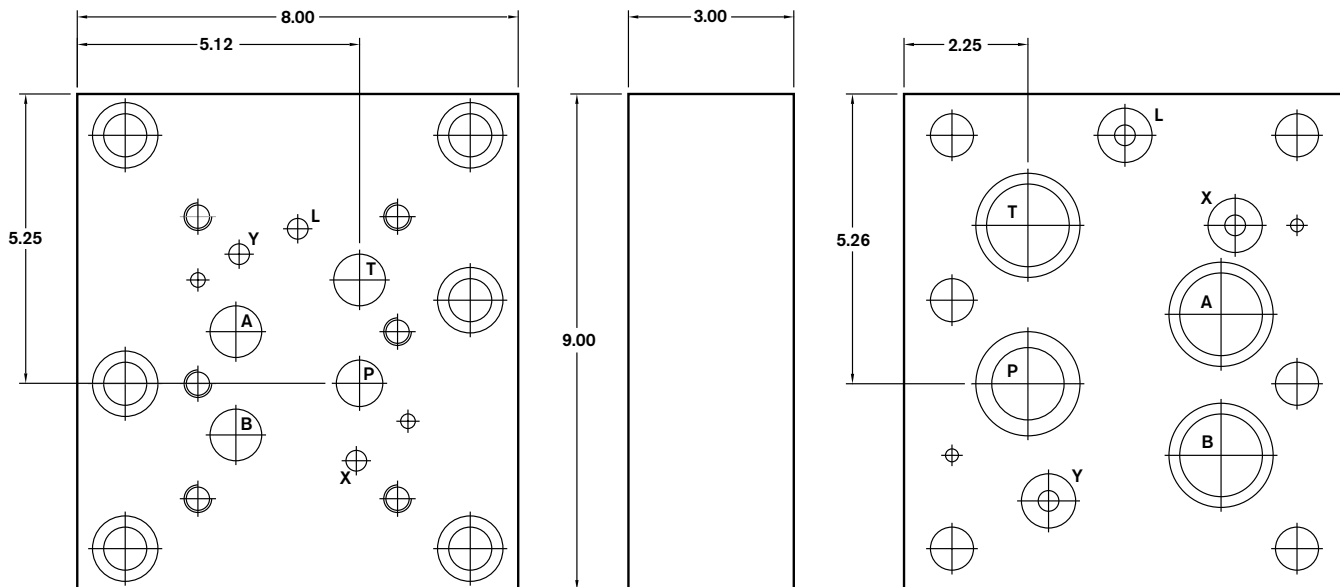
Aluminum 6061-T6, 3000 psi
 Ductile Iron¹ 65-45-12, 5000 psi

= A
 = D

Mounting Bolts

12 =
 01 =

SAE
 Metric



	Valve (Mtg.)	Adaptor (Mtg.)	O-Ring	O-Ring
12 = SAE	1/2-13 x 1.25 DP.	3/4-10 x 3	19 x 3mm	42 x 3mm
01 = Metric	M12 x 31.7mm DP.	M20 x 80mm	19 x 3mm	42 x 3mm

Mounting hardware and o-rings are supplied. Valve mounting bolts must be ordered separately.

1) Blackening

All dimensions in inches

Section 6 Pump Manifolds

RA 09 907/07.04

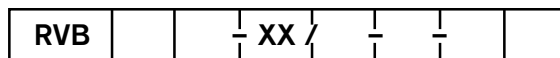
The Drive & Control Company



Section 6 Index

Description	Page
Pump Relief Block	75
Pump Unloading Block	78
Pump Manifold with Unloading Control	80
Pump Manifold Pressure Relief Block with Unloading	82

Pump Manifolds Pressure Relief Block



Flange Size

- = 3/4
- = 1
- = 1-1/4
- = 1-1/2'

Pressure Range

- Standard Pressure Line (Code 61)
- High Pressure Line (Code 62)
(Available in ductile iron only)

- = N
- = H

Revision

= XX

Material

- Aluminum 6061-T6, 3000 psi
- Ductile Iron² 65-45-12, 5000 psi

- = A
- = D

See page 76 for dimensional information.

- 1) 1-1/2 Flange is only available in H (Code 62) version
- 2) Blackening

- M =
- V =

Sealing Material

- Buna
- Viton

Threaded Port Style

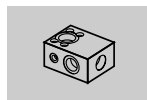
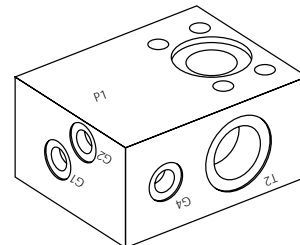
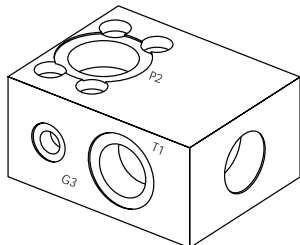
- BSPP Threaded Ports
- SAE Flanged
- SAE O-Ring

Port Size

- 01 =
- 07 =
- 12 =

- 12 =
 - 16 =
 - 20 =
 - 3/4 =
 - 1 =
 - 1-1/4 =
 - Omit =
- for Port Size see chart on Page 2
- For SAE Flanged port—
identical to pressure port size

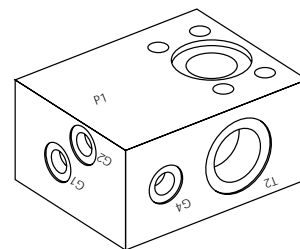
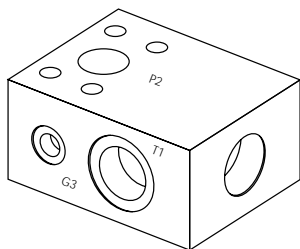
SAE & BSPP Model



Assemblies include mounting bolts, O-rings, and plugs for G ports and T2

Pressure relief valve must be ordered separately.

Flanged Model



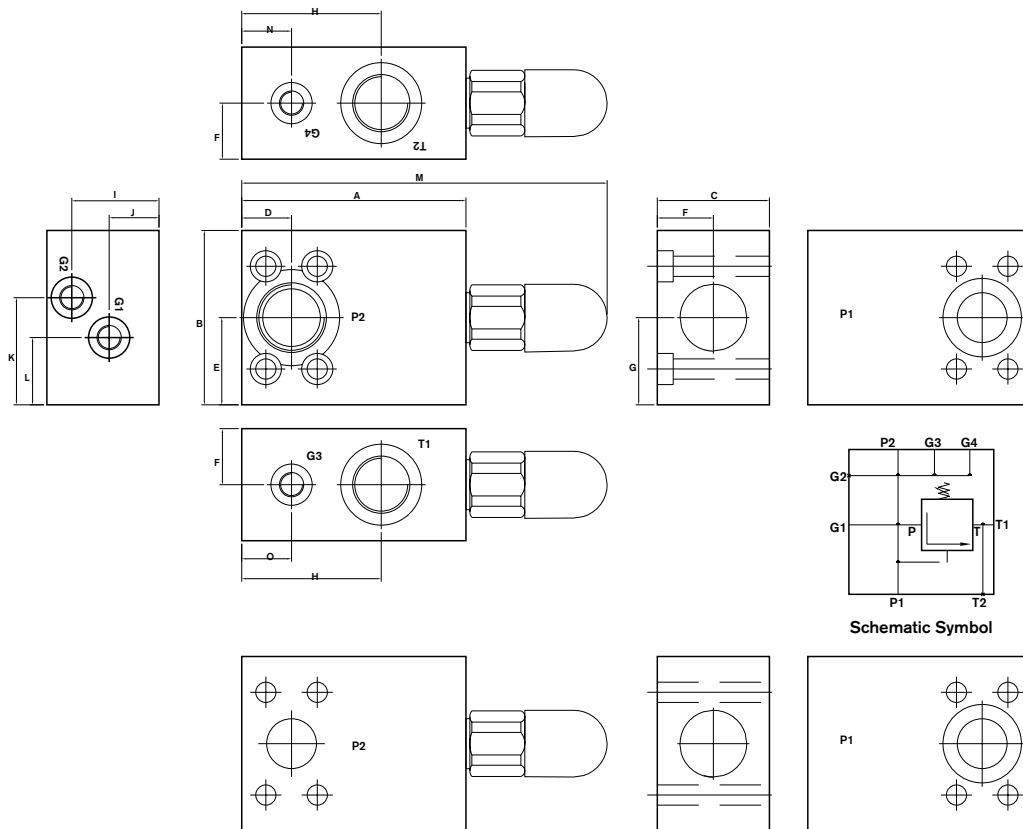
Assemblies include O-rings and plugs for G ports and T2

Pressure relief valve must be ordered separately.

All dimensions in inches

Pump Manifolds

Pressure Relief Block



Dimension	A	B	C	D	E	F	G	H	I	J	K	L	M ³	N ¹	O ¹	Relief Valve ²	T1,T2	G1,G2,G3',G4'	P2
RVB3/4N...12	4.50	3.00	2.25	0.88	1.50	1.13	1.50	2.80	1.75	1.00	1.80	1.20	7.18	-	-	DBDS10	SAE-8	SAE-4	SAE-12
RVB3/4N...01	4.50	3.00	2.25	0.88	1.50	1.13	1.50	2.80	1.75	1.00	1.80	1.20	7.18	-	-	DBDS10	1/2" BSPP	1/4" BSPP	3/4" BSPP
RVB3/4N...07	4.50	3.00	2.25	0.88	1.50	1.13	1.50	2.80	1.75	1.00	1.80	1.20	7.18	-	-	DBDS10	SAE-8	SAE-4	-
RVB1N...12	4.50	3.50	2.25	1.00	1.75	1.13	1.75	2.80	1.75	1.00	2.15	1.35	7.18	1.00	1.00	DBDS10	SAE-12	SAE-4	SAE-16
RVB1N...01	4.50	4.00	2.25	1.00	2.00	1.13	2.0	2.80	1.75	1.00	2.40	1.60	7.18	1.00	1.00	DBDS10	3/4" BSPP	1/4" BSPP	1" BSPP
RVB1N...07	4.50	3.50	2.25	1.00	1.75	1.13	1.75	2.80	1.75	1.00	2.15	1.35	7.18	1.00	1.00	DBDS10	SAE-12	SAE-4	-
RVB1-1/4N...12	5.00	3.50	2.25	1.25	1.75	1.13	1.75	3.30	1.75	1.00	2.15	1.35	7.68	-	-	DBDS10	SAE-12	SAE-4	SAE-20
RVB1-1/4N...01	5.00	4.00	2.50	1.25	2.00	1.25	2.00	3.30	1.75	1.00	2.40	1.60	7.68	-	-	DBDS10	3/4" BSPP	1/4" BSPP	1-1/4" BSPP
RVB1-1/4N...07	5.00	3.50	2.25	1.25	1.75	1.13	1.75	3.30	1.75	1.00	2.15	1.35	7.68	-	-	DBDS10	SAE-12	SAE-4	-
RVB3/4H...12	4.50	3.00	2.25	0.88	1.50	1.13	1.50	2.80	1.75	1.00	1.80	1.20	7.18	-	-	DBDS10	SAE-8	SAE-4	-
RVB3/4H...01	4.50	3.50	2.25	0.88	1.75	1.13	1.75	2.80	1.75	1.00	2.15	1.45	7.18	-	-	DBDS10	1/2" BSPP	1/4" BSPP	3/4" BSPP
RVB3/4H...07	4.50	3.00	2.25	0.88	1.50	1.13	1.50	2.80	1.75	1.00	1.80	1.20	7.18	-	-	DBDS10	SAE-8	SAE-4	-
RVB1H...12	4.50	3.00	2.25	1.00	1.75	1.13	1.75	2.80	1.75	1.00	2.15	1.35	7.18	1.00	1.00	DBDS10	SAE-12	SAE-4	SAE-16
RVB1H...01	4.50	3.00	4.25	1.00	1.75	2.13	1.75	2.13	1.75	1.00	2.15	2.53	1.73	1.00	1.00	DBDS10	3/4" BSPP	1/4" BSPP	1" BSPP
RVB1H...07	4.50	3.00	3.50	1.00	1.75	1.75	1.75	1.75	1.75	1.00	2.15	2.15	1.35	1.00	1.00	DBDS10	SAE-12	SAE-4	-
RVB1-1/4H...12	6.00	3.75	2.25	1.38	1.88	1.13	1.88	3.70	1.75	1.00	2.40	1.35	8.56	-	-	DBDS20	SAE-12	SAE-4	SAE-20
RVB1-1/4H...01	6.00	3.75	2.25	1.38	1.88	1.13	1.88	3.70	1.75	1.00	2.40	1.35	8.56	-	-	DBDS20	3/4" BSPP	1/4" BSPP	1-1/4" BSPP
RVB1-1/4H...07	6.00	3.75	2.25	1.38	1.88	1.13	1.88	3.70	1.75	1.00	2.40	1.35	8.56	-	-	DBDS20	SAE-12	SAE-4	-
RVB1-1/2H...07	7.00	5.00	2.75	1.38	2.50	1.38	2.50	4.64	2.00	1.25	2.90	2.10	10.27	-	-	DBDS30	SAE-24	SAE-4	-

1) Ports G3 and G4 available only on RVB1... for use with AA10VSO71 Series 31

2) Pressure Relief Valve must be ordered separately

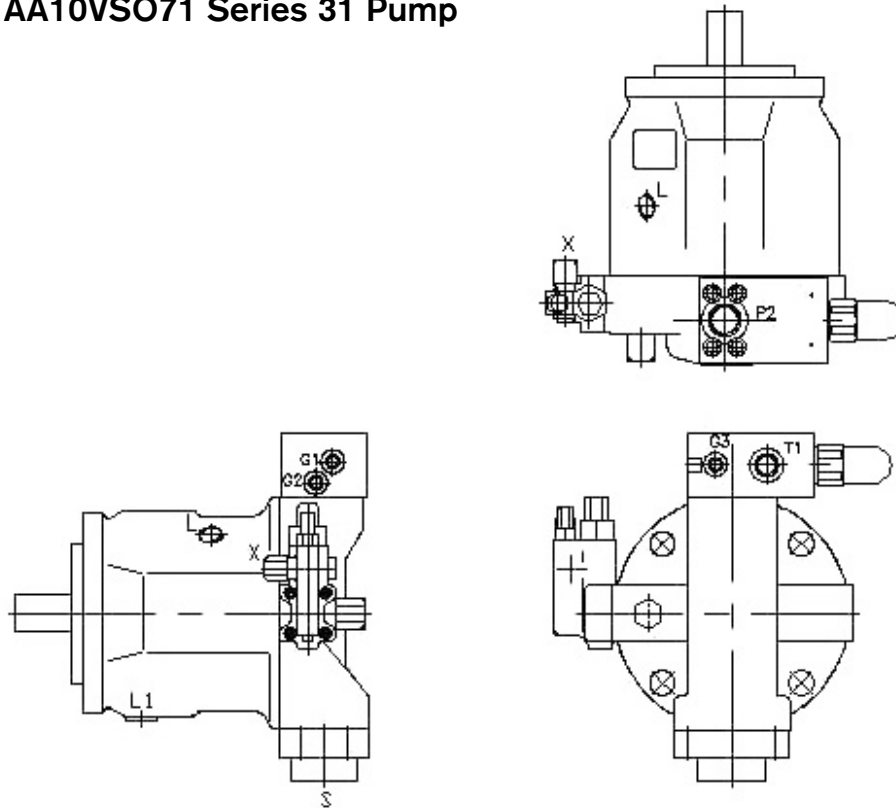
3) Dimension "M" shown for S Type adjustment

4) 1-1/2 Flange is only available in H (Code 62) version

All dimensions in inches

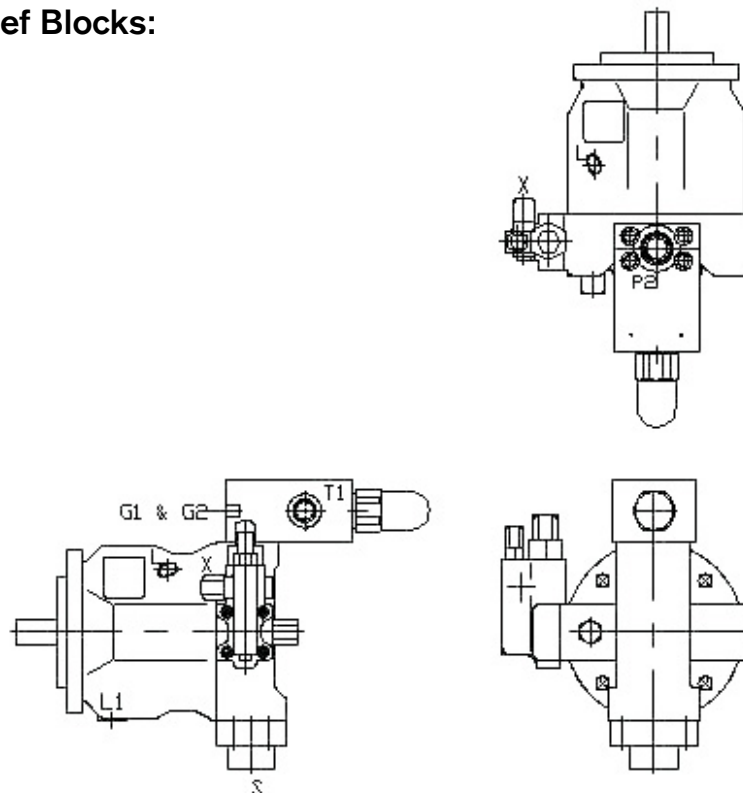
Pump Manifolds Pressure Relief Block

Orientation for AA10VS071 Series 31 Pump RVB1...

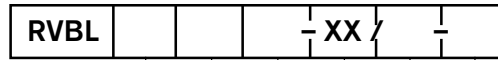


Orientation for Relief Blocks:

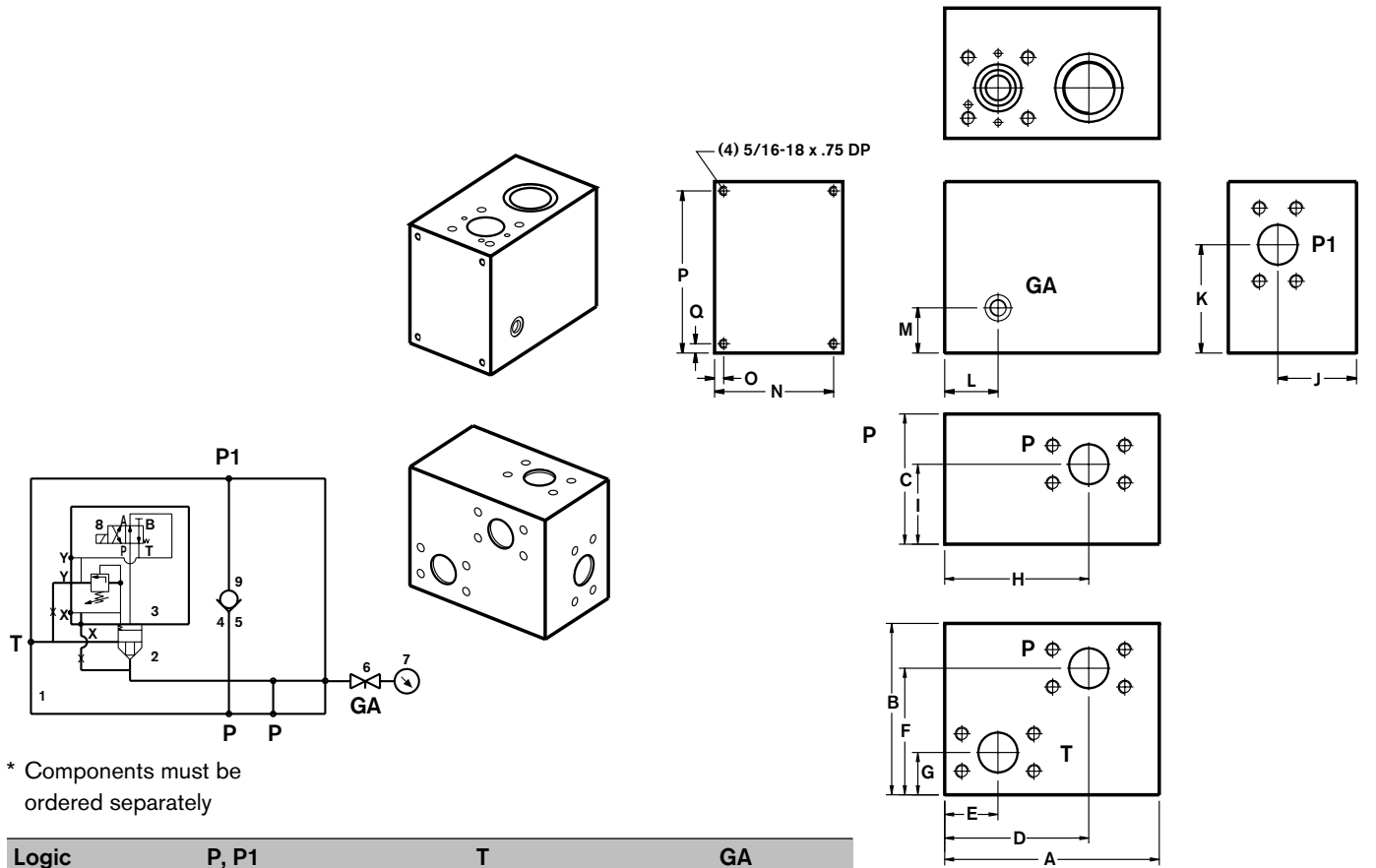
- RVB3/4...
- RVB1...
- RVB1-1/4...
- RVB1-1/2...



Pump Manifolds Unloading



Flange Size	= 1-1/2 = 2																			Port Style SAE Flanged
Pressure Range																				Material Ductile Iron ¹ 64-45-12, 5000 psi
Pressure Range																				
Standard Pressure Line (Code 61)																				
High Pressure Line (Code 62)																				
Logic Size																				
Revision																				



* Components must be ordered separately

Logic	P, P1	T	GA
Size 25	1-1/2" SAE 3000 PSI (Code 61 Flange)	1-1/2" SAE 3000 PSI (Code 61 Flange)	SAE-6 (9/16-18UNF)
Size 25	1-1/2" SAE 6000 PSI (Code 62 Flange)	1-1/2" SAE 3000 PSI (Code 61 Flange)	SAE-6 (9/16-18UNF)
Size 32	2" SAE 3000 PSI (Code 61 Flange)	2" SAE 3000 PSI (Code 61 Flange)	SAE-6 (9/16-18UNF)
Size 32	2" SAE 6000 PSI (Code 62 Flange)	2" SAE 3000 PSI (Code 61 Flange)	SAE-6 (9/16-18UNF)

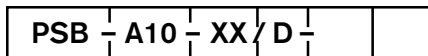
Logic	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
Size 25	8.20	6.45	4.90	5.50	2.04	4.75	1.59	5.50	3.01	3.01	4.08	2.04	1.70	4.55	0.35	6.10	0.35	12.75	14.00
Size 32	9.90	6.95	5.40	6.65	2.43	5.25	1.89	6.65	3.11	3.11	4.15	2.43	1.70	5.05	0.35	6.60	0.35	13.25	14.50

1) Blackening

All dimensions in inches

Pump Manifold

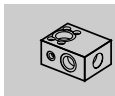
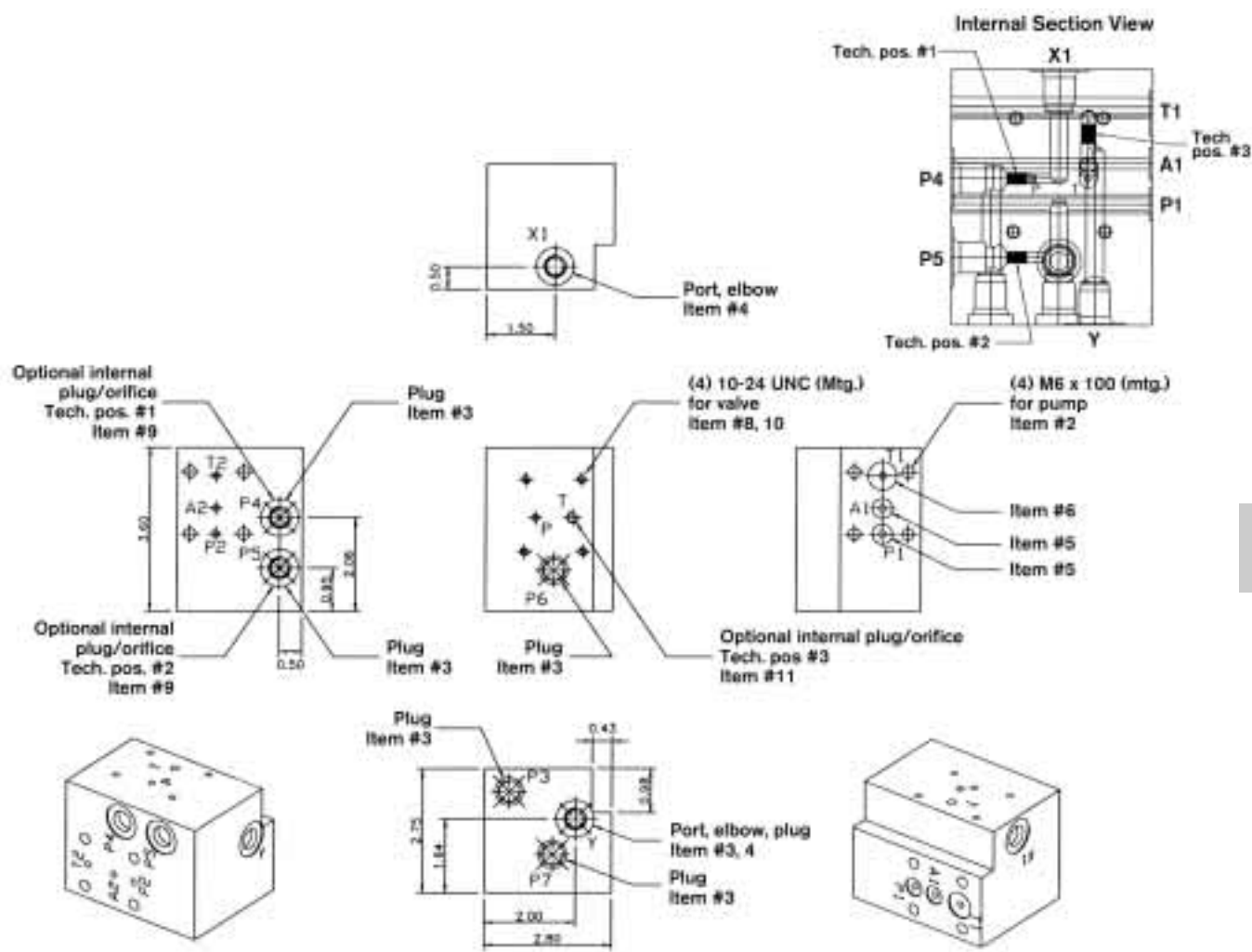
Size 18 through 100, AA10VSO with Unloading Control



Pump = A10
Revision = XX
Material = D
 Ductile Iron¹ 65-45-12, 5000 psi

DR-R =
 DR-L =
 DFR-R =
 DFR-L =
 12 = Threaded Ports SAE

1) Blackening



Item	Part No.	Quantity	Description
1	US00 811978	1	Manifold Block
2	RR00 003038	4	M6x100 SHCS D912-8.8 A3C
3	US00 800151	6	4HP50N-S Plug HOLHEX/SH
4	US00 800087	2	STR THRD EL90 4-4S SAE 37 PUA20
5	US00 800180	2	O-RG Sz 2-011 NBR 70SH WAS 0044
6	US00 800496	1	O-RG Sz 2-014 NBR 70SH WAS 0090

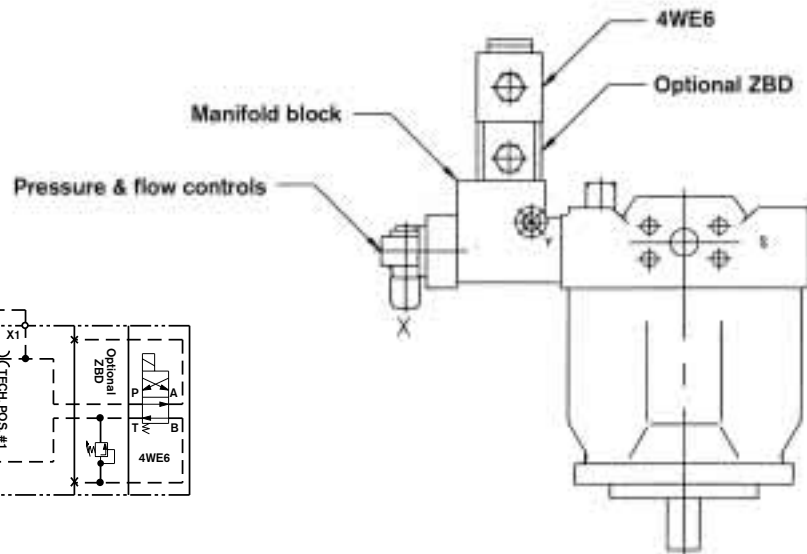
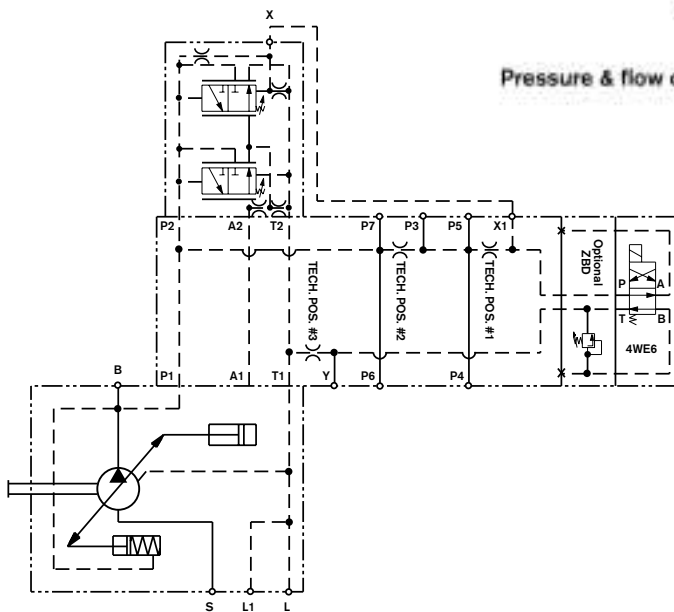
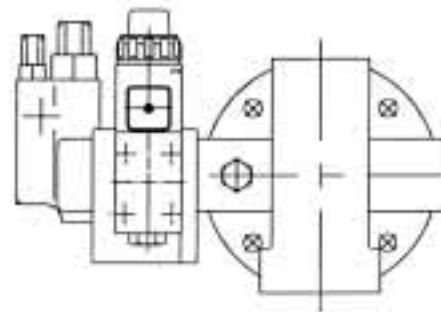
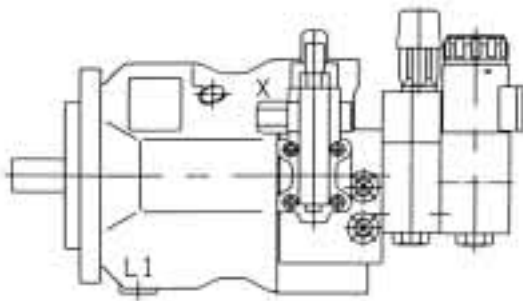
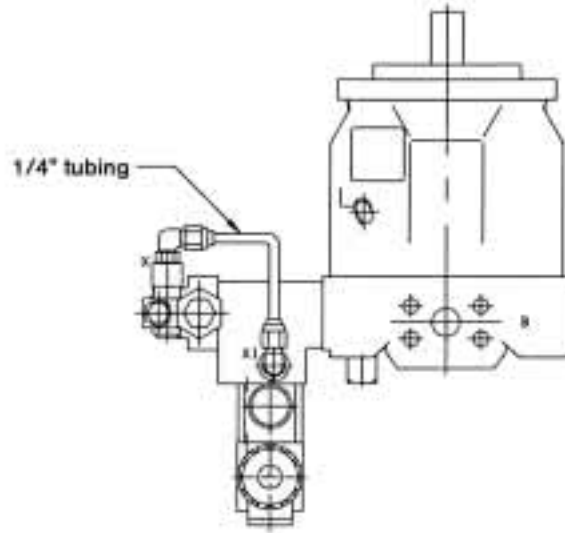
Item	Part No.	Quantity	Description
7	RR00 008838	2	Setscrew M4X06-5.8 D427
8	US00 800693	4	SHCS 10-24X2 ASTM A574
9	RR00 0005527	1	Jet 1.0 M4X7 MS RN115.38
10	US00 802879	4	SHCS 10-24X1 1/4 ASTM A574
11	US00 802658	1	Socket Setscrew 1/4-20 UNC

All dimensions in inches

Pump Manifold

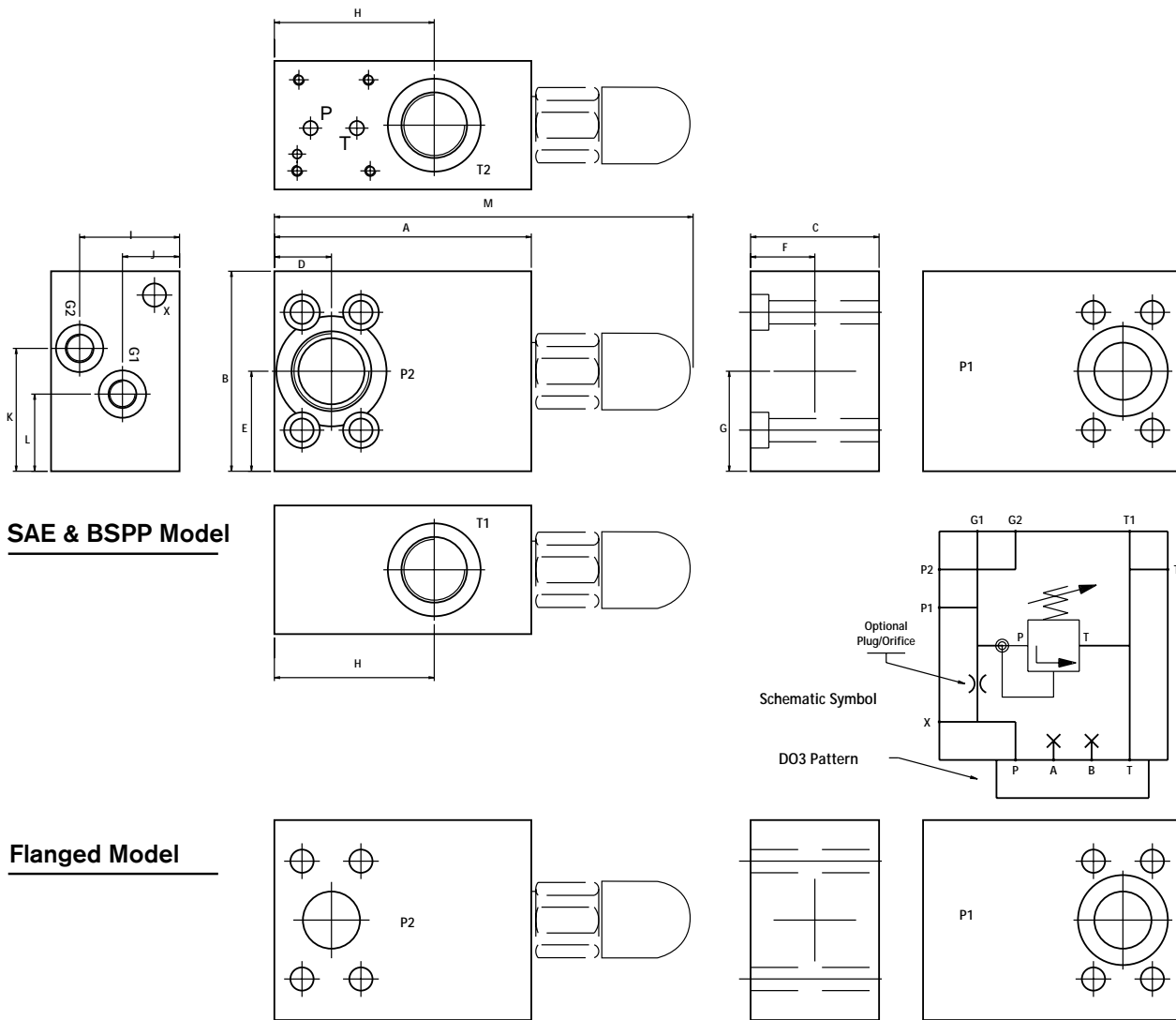
Size 18 through 100, AA10VSO with Unloading Control

For information on variable displacement pumps please refer to Rexroth Pump and Motor Catalog



All dimensions in inches

Pump Manifold Pressure Relief Block with Unloading



See page 83 for dimensional information.

Pump Manifold Pressure Relief Block with Unloading

Dimension	A	B	C	D	E	F	G	H	I	J	K	L	M ³	N ¹	O ¹	Relief Valve ²	T1,T2	G1,G2, G3',G4'	P2	
RVBU3/4N...12	4.50	4.00	3.00	0.88	1.50	1.13	1.50	2.80	1.75	1.00	1.80	1.20	7.18	-	-	DBDS10	SAE-8	SAE-4	SAE-12	
1/2" BSPP																	1/4" BSPP	3/4" BSPP		
SAE-8																	SAE-4	-		
RVBU1N...12	4.75	4.50	2.25	1.00	1.75	1.13	1.75	2.80	1.75	1.00	2.15	1.35	7.18	1.00	1.00	DBDS10	SAE-12	SAE-4	SAE-16	
5.00		2.00			2.00		2.40				1.60	2.15					1.35	3/4" BSPP	1/4" BSPP	1" BSPP
4.50		1.75			1.75		2.15				1.35	SAE-12					SAE-4	-		
RVBU1-1/4N...12	5.00	4.50	3.00	1.25	1.75	1.13	1.75	3.30	1.75	1.00	2.15	1.35	7.68	-	-	DBDS10	SAE-12	SAE-4	SAE-20	
RVBU1-1/4N...01		5.00	3.25		2.00	1.25	2.00				2.40	1.60					3/4" BSPP	1/4" BSPP	1-1/4" BSPP	
RVBU1-1/4N...07		4.50	3.00		1.75	1.13	1.75				2.15	1.35					SAE-12	SAE-4	-	
RVBU3/4H...12	4.50	4.00	2.25	0.88	1.50	1.13	1.50	2.80	1.75	1.00	1.80	1.20	7.18	-	-	DBDS10	SAE-8	SAE-4	-	
RVBU3/4H...01		4.50			1.75		1.75				2.15	1.45					1/2" BSPP	1/4" BSPP	3/4" BSPP	
RVBU3/4H...07		4.00			1.50		1.50				1.80	1.20					SAE-8	SAE-4	-	
RVBU1H...12	4.50	4.50	3.00	1.00	1.75	1.13	1.75	2.13	1.75	1.00	2.15	1.35	7.18	1.00	1.00	DBDS10	SAE-12	SAE-4	SAE-16	
RVBU1H...01		5.25			2.13		2.13				2.53	1.73					3/4" BSPP	1/4" BSPP	1" BSPP	
RVBU1H...07		4.5			1.75		1.75				2.15	1.35					SAE-12	SAE-4	-	
RVBU1-1/4H...12	6.00	4.75	2.25	1.38	1.88	1.13	1.88	3.70	1.75	1.00	2.40	1.35	8.56	-	-	DBDS20	SAE-12	SAE-4	SAE-20	
RVBU1-1/4H...01																	3/4" BSPP	1/4" BSPP	1-1/4" BSPP	
RVBU1-1/4H...07																	SAE-12	SAE-4	-	

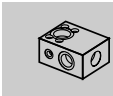
1) Ports G3 and G4 available only on RVB1... for use with AA10VSO71 Series 31

2) Pressure relief valve must be ordered separately

3) Dimension "M" shown for S type adjustment

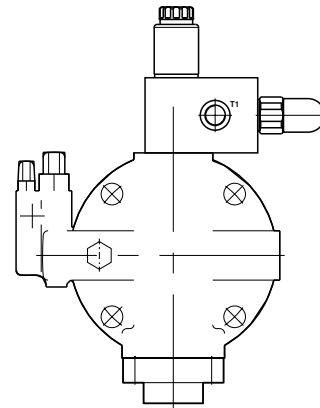
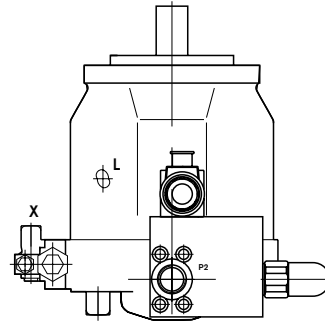
See page 82 (MS-06-0400, page 4 of 4) for mounting orientations.

All dimensions in inches

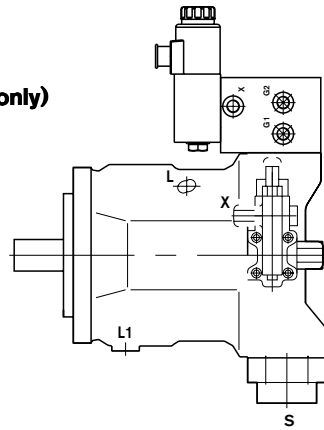


**Pump Manifold
Pressure Relief Block with Unloading**

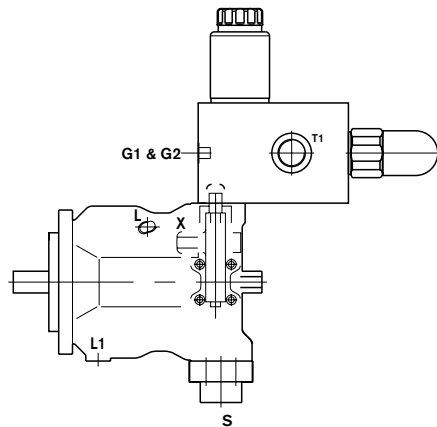
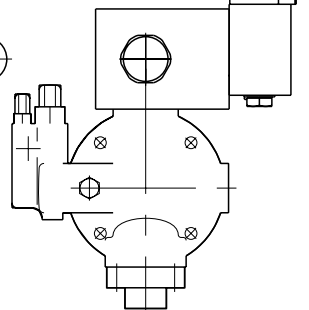
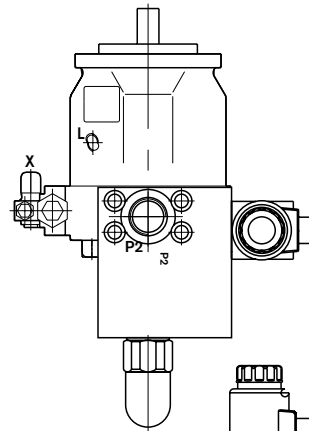
**Orientation for AA10VSO71 Series 31
Pump RVBU1...**



Directional Valve ("B" solenoid only)



**Orientation for relief blocks:
RVBU3/4...
RVBU1...
RVBU1-1/4...**



Section 7

Logic Manifolds

RA 09 907/07.04

The Drive & Control Company

Logic Manifold Features

- Sizes 16 to 63 available
- One design to provide various control functions by orifice/plug provisions
- Provided configuration per chosen model code

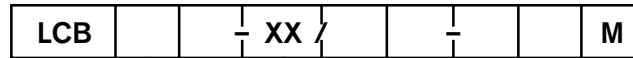


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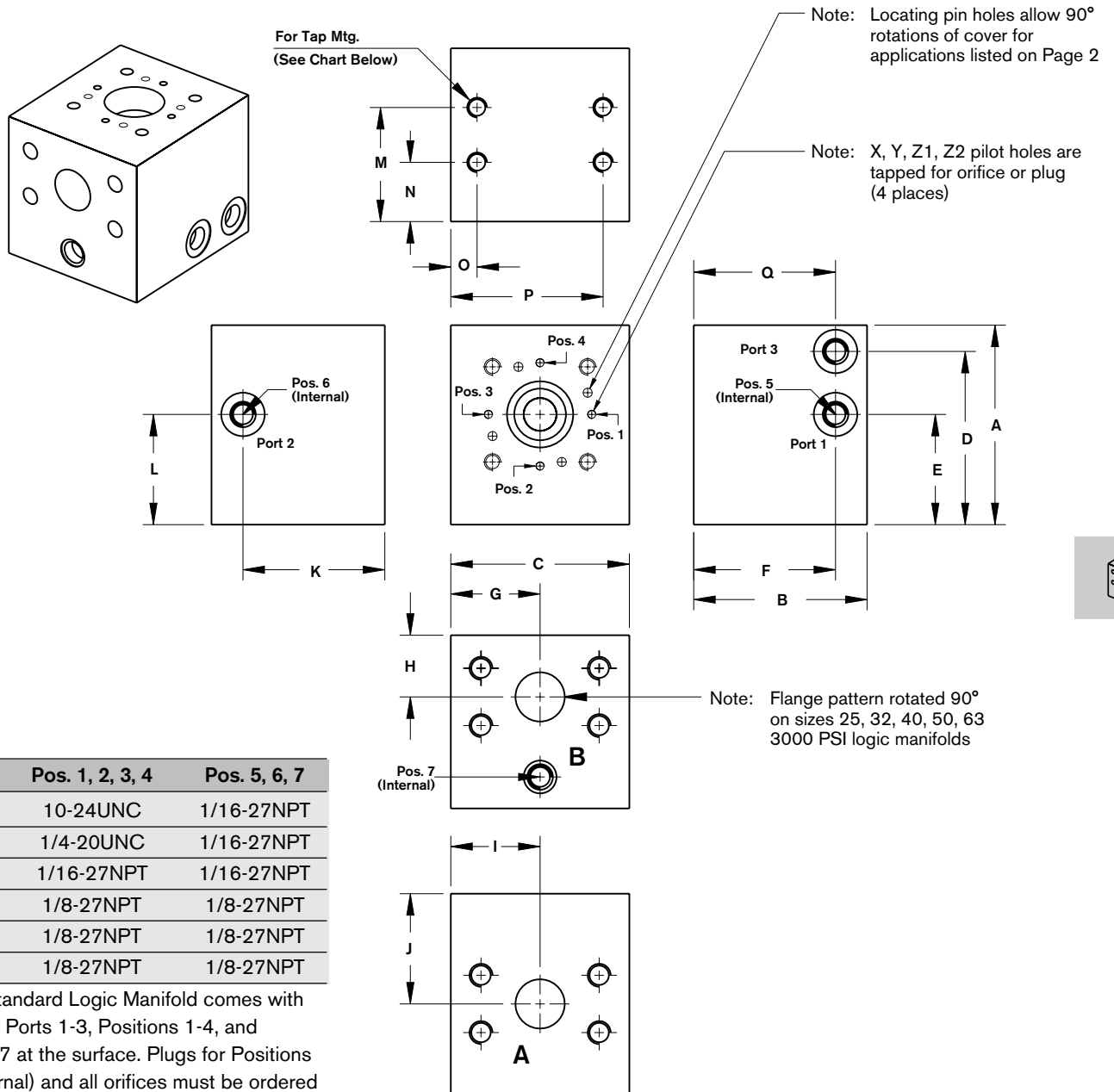
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Logic Control Block	87

Logic Manifolds

Logic Control Block



Nominal Size	= 16-63					M=	Metric
Pressure Range						Omit =	Standard
Normal (Code 61)		= N				A-Z =	See Page 3 for Configuration
High (Code 62)		= H				07 =	SAE Flange
Revision			= XX			1 =	Number of Cartridge per Block
Material				= D			
Ductile Iron ¹ 65-45-12, 5000 psi							



Size	Pos. 1, 2, 3, 4	Pos. 5, 6, 7
16	10-24UNC	1/16-27NPT
25	1/4-20UNC	1/16-27NPT
32	1/16-27NPT	1/16-27NPT
40	1/8-27NPT	1/8-27NPT
50	1/8-27NPT	1/8-27NPT
63	1/8-27NPT	1/8-27NPT

Note: Standard Logic Manifold comes with plugs for Ports 1-3, Positions 1-4, and Position 7 at the surface. Plugs for Positions 5-7 (internal) and all orifices must be ordered separately.

1)Blackening

Logic Manifolds

Logic Control Block

Size	PSI	Flg	Tap Mtg.	Port 1-2-3	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
16	N 5000	1"	3/8- 16x0.75	SAE-4	3.80	3.30	3.40	3.30	2.10	2.70	1.70	1.18	1.70	2.10	2.70	2.10	—	1.60	0.50	2.90	—
16	H 6000	1"	3/8- 16x0.75	SAE-4	3.80	3.30	3.40	3.30	2.10	2.70	1.70	1.18	1.70	2.10	2.70	2.10	—	1.60	0.50	2.90	—
25	N 4000	1.25"	3/8- 16x0.75	SAE-4	3.90	3.70	3.70	3.45	2.22	3.20	1.85	1.58	1.85	2.22	3.20	2.22	—	2.00	0.47	3.22	—
25	H 6000	1.25"	7/16- 14x0.80	SAE-4	4.50	4.20	3.80	3.95	2.70	3.50	1.90	1.55	1.90	2.70	3.50	2.70	—	2.00	0.50	3.30	—
32	N 3000	1.50"	1/2- 13x0.75	SAE-4	4.50	4.50	4.20	4.00	2.48	3.80	2.10	1.90	2.10	2.48	3.80	2.48	—	2.50	0.47	3.72	—
32	H 6000	1.50"	1/2- 13x0.75	SAE-4	5.40	4.80	4.50	4.90	3.30	3.80	2.25	1.90	2.25	3.30	3.80	3.30	—	2.50	0.50	4.00	4.15
40	N 3000	2.00"	5/8- 11x1.0	SAE-6	5.40	5.30	5.00	4.80	2.87	4.60	2.50	2.32	2.50	2.87	4.60	2.87	—	3.00	0.62	4.37	—
40	H 6000	2.00"	5/8- 11x0.95	SAE-6	6.40	6.30	5.40	5.75	3.80	5.00	2.70	2.35	2.70	3.80	5.00	3.80	—	3.40	0.50	4.60	5.50
50	N 2500	2.50"	3/8- 16x0.75*	SAE-6	6.20	6.20	5.70	5.50	3.23	4.80	2.85	2.58	2.85	3.23	5.40	3.23	5.75	3.00	0.53	5.15	—
50	H 2000	2.50"	3/8- 16x0.70*	SAE-6	6.80	6.90	7.00	6.25	4.00	5.50	3.50	2.60	3.50	4.00	5.50	4.00	6.00	3.00	0.60	0.60	4.50
63	N 2000	3.00"	7/16- 14x1.0	SAE-6	7.70	8.70	7.40	7.00	4.05	7.00	3.70	3.39	3.70	4.05	7.00	4.05	8.13	3.75	0.51	6.89	—
63	H 2000	3.00"	7/16- 14x0.70	SAE-6	9.10	8.30	8.50	8.35	5.40	7.00	4.25	3.50	4.25	5.40	7.00	5.40	7.50	3.50	0.50	7.70	6.50

*LCB50 logic cover mounting taps are machined for UNC covers only, consult factory if using covers with metric mounting.

Logic Manifolds

Logic Control Block

Configuration	X	Y	Z1	Z2	Pos. 1	Pos. 2	Pos. 3	Pos. 4	Pos. 5	Pos. 6	Pos. 7
Standard	—	—	—	—	X	X	X	X	O	O	O
A	Ext. Port 1	Ext. Port 2	—	—	O	X	O	X	X	X	X
B	Int. "A" Side	Ext. Port 2	—	—	O	X	O	X	O	X	X
C	Int. "B" Side	Ext. Port 3	—	—	X	O	X	O	X	X	X
D	Ext. Port 1	Int. "A" Side	—	—	O	X	O	X	X	O	X
E	Int. "B" Side	Int. "A" Side	—	—	X	O	X	O	X	X	O
F	Ext. Port 3	Int. "B" Side	—	—	X	O	X	O	X	X	X
G	Int. "A" Side	Int. "B" Side	—	—	X	O	X	O	X	X	O
H	Ext. Port 2	Ext. Port 1	Int. "A" Side	—	O	X	O	O	X	X	O
J	Ext. Port 1	Ext. Port 2	Int. "B" Side	—	O	O	O	X	X	X	X
K	Int. "A" Side	Ext. Port 1	Ext. Port 3	—	O	X	O	O	X	O	X
L	Int. "B" Side	Ext. Port 5	Ext. Port 2	—	X	O	O	O	X	X	X
M	Int. "A" Side	Ext. Port 2	Int. "B" Side	—	O	O	O	X	O	X	X
N	Int. "B" Side	Ext. Port 3	Int. "A" Side	—	X	O	O	O	X	O	X
O	Int. "B" Side	—	Int. "A" Side	Ext. Port 1	O	O	O	X	X	O	X
P	Int. "A" Side	—	Int. "B" Side	Ext. Port3	O	O	X	O	O	X	X
S	Int. "A" Side	Ext. Port 1	Ext. Port 3	Int. "B" Side	O	O	O	O	X	O	X
T	Int. "B" Side	Ext. Port 3	Ext. Port 2	Int. "A" Side	O	O	O	O	O	X	X
U	Int. "A" Side	Ext. Port 2	Int. "B" Side	Ext. Port 3	O	O	O	O	O	X	X
V	Int. "B" Side	Ext. Port 3	Int. "A" Side	Ext. Port 1	O	O	O	O	X	O	X
W	Int. "B" Side	—	—	—	X	O	X	X	X	X	X
X	Ext. Port 1	—	—	—	O	X	X	X	X	X	X
Y	Int. "B" Side	—	—	—	X	O	X	X	X	X	O

O = Open X = Plugged

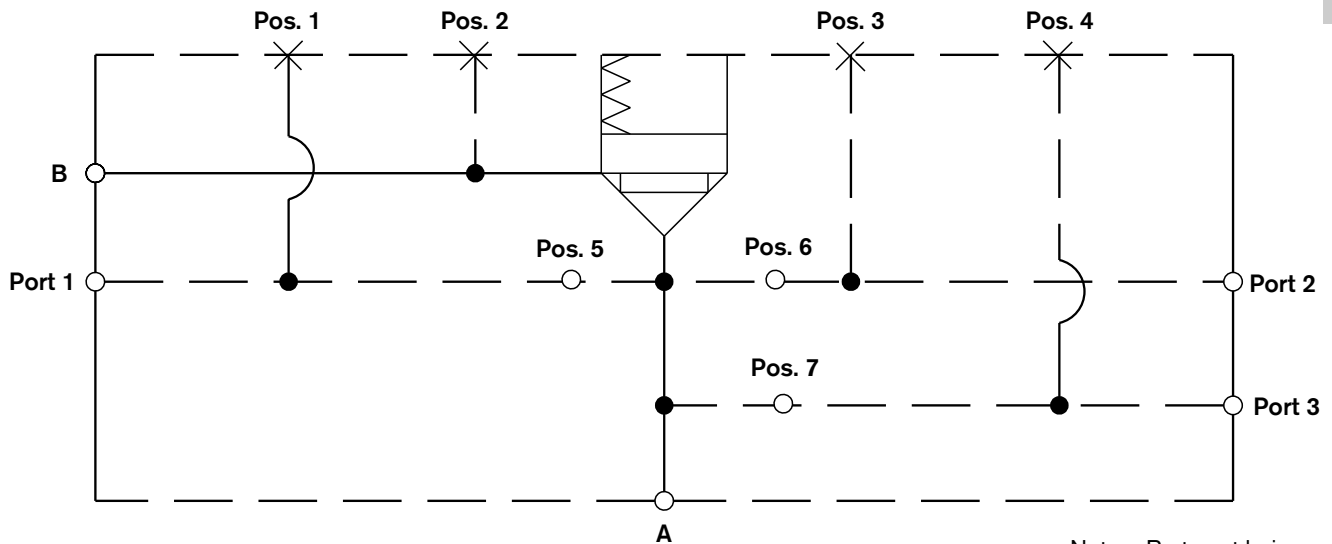
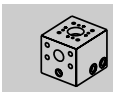


Illustration of "standard" plug configuration

Note: Ports not being used must be plugged

Section 8 Compact Bodies

RA 09 907/07.04

The Drive & Control Company

Compact Bodies Features

- Aluminum and ductile iron
- SAE, BSPP, or NPT porting



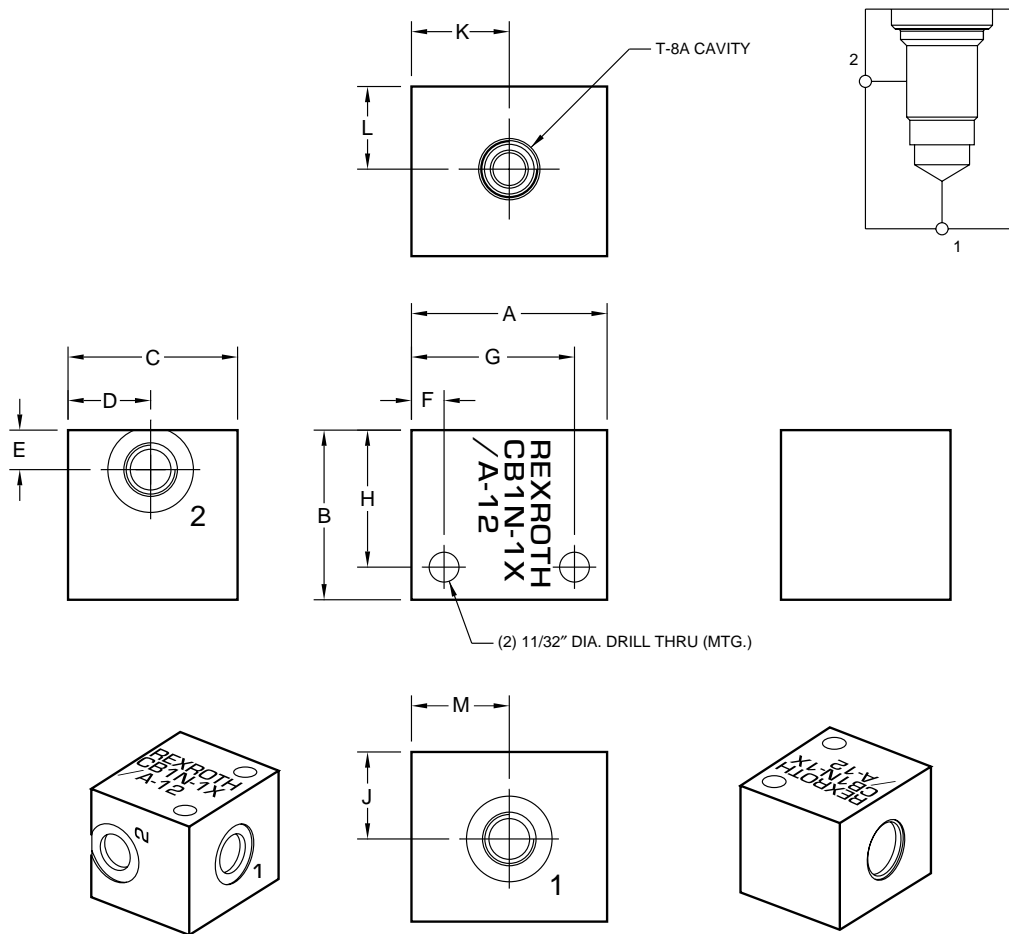
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T-13A Cavity	95
T-31A Cavity	96
T-162A Cavity	97

Compact Bodies T-8A Cavity

Flow					
Low	= L				
Normal	= N				
Revision		= XX			

				12 =	SAE Threaded Ports
				05 =	NPT Threaded Ports
				01 =	BSP Threaded Ports
					Material
				A =	Aluminum 6061-T6, 3000 psi
				D =	Ductile Iron ¹ 65-45-12, 5000 psi



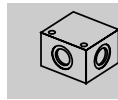
Port type	1 & 2 Ports			Aluminum	Ductile
	12	05	01		
CB1L-1X/...	7/16-20 SAE-4	—	—	0.8	2.2
CB1N-1X/...	9/16-18 SAE-6	NPT 1/4"	G (BSP) 1/4"	0.8	2.2

Dimension	A	B	C	D	E	F	G	H	J	K	L	M
CB1...	2.25	1.95	1.95	0.95	0.45	0.38	1.88	1.58	1.00	1.13	0.95	1.13

Mounting hardware is NOT supplied.

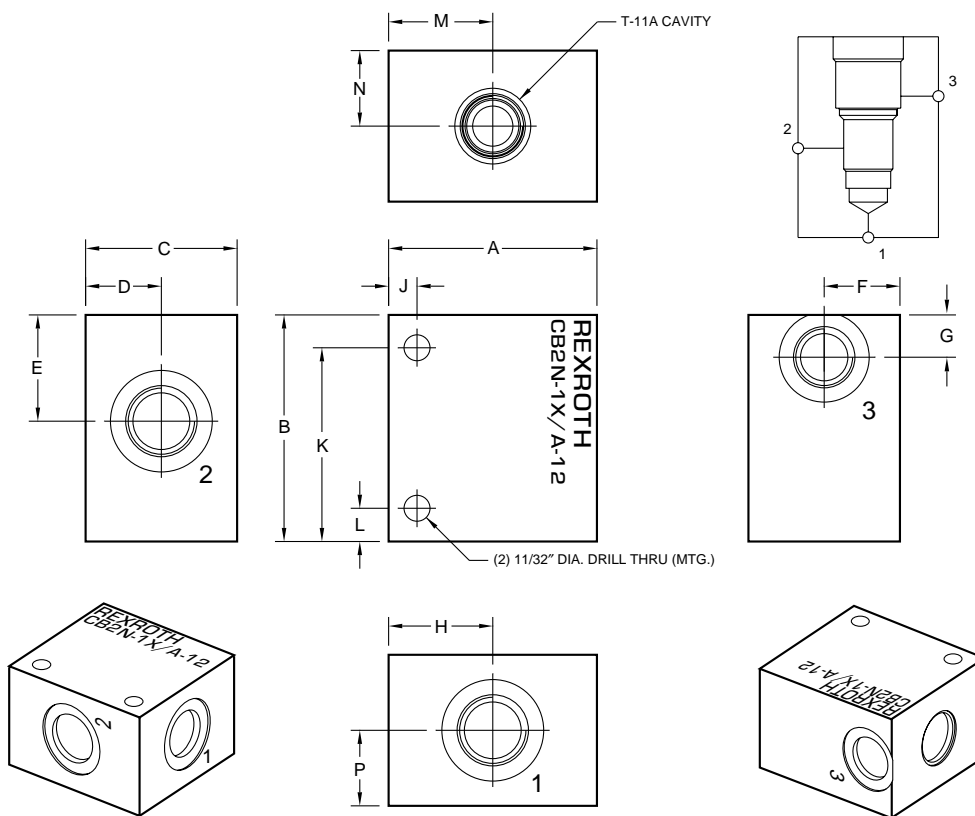
1) Blackening

All dimensions in inches



Compact Bodies T-11A Cavity

Flow	= L = N = H = X	= XX	12 = 05 = 01 =	Ports
Low				SAE Threaded Ports
Normal				NPT Threaded Ports
High				BSP Threaded Ports
Extra High				Material
Revision				Aluminum 6061-T6, 3000 psi Ductile Iron ¹ 65-45-12, 5000 psi



Port type	1 & 2 Ports			3 Port			Aluminum	Ductile
	12	05	01	12	05	01		
CB2L-1X/...	7/16-20 SAE-4	—	—	7/16-20 SAE-4	—	—	1.6	4.2
CB2N-1X/...	9/16-18 SAE-6	NPT 1/4"	G (BSP) 1/4"	9/16-18 SAE-6	NPT 1/4"	G (BSP) 1/4"	1.6	4.2
CB2H-1X/...	3/4-16 SAE-8	NPT 3/8"	G (BSP) 3/8"	3/4-16 SAE-8	NPT 3/8"	G (BSP) 3/8"	1.6	4.2
CB2X-1X/...	7/8-14 SAE-10	NPT 1/2"	G (BSP) 1/2"	3/4-16 SAE-8	NPT 1/2"	G (BSP) 1/2"	1.6	4.2

Dimension	A	B	C	D	E	F	G	H	J	K	L	M	N	P
CB2...	2.75	2.95	1.95	1.00	1.41	1.00	0.56	1.38	0.38	2.57	0.44	1.38	1.00	1.00

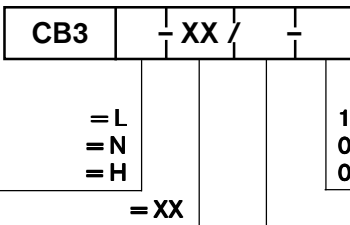
Mounting hardware is NOT supplied.

1) Blackening

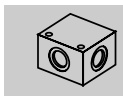
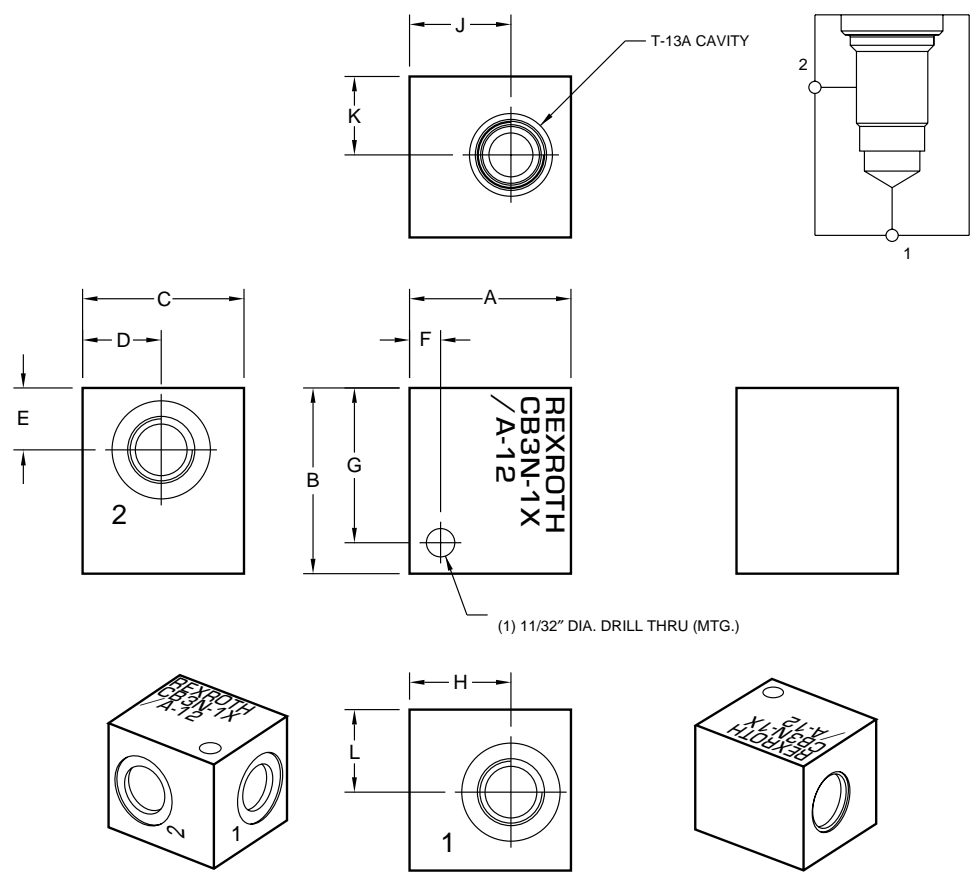
All dimensions in inches

Compact Bodies T-13A Cavity

Flow
Low
Normal
High
Revision



Ports
12 = SAE Threaded Ports
05 = NPT Threaded Ports
01 = BSP Threaded Ports
Material
A = Aluminum 6061-T6, 3000 psi
D = Ductile Iron¹ 65-45-12, 5000 psi



Port type	1 & 2 Ports			Aluminum	Ductile
	12	05	01		
CB3L-1X/...	7/16-20 SAE-4	—	—	0.8	2.2
CB3N-1X/...	9/16-18 SAE-6	NPT 1/4"	G (BSP) 1/4"	0.8	2.2
CB3H-1X/...	3/4-16 SAE-8	NPT 3/8"	G (BSP) 3/8"	0.8	2.2

Dimension	A	B	C	D	E	F	G	H	J	K	L
CB3...	1.95	2.25	1.95	0.95	0.75	0.38	1.88	1.23	1.23	0.95	1.00

Mounting hardware is NOT supplied.

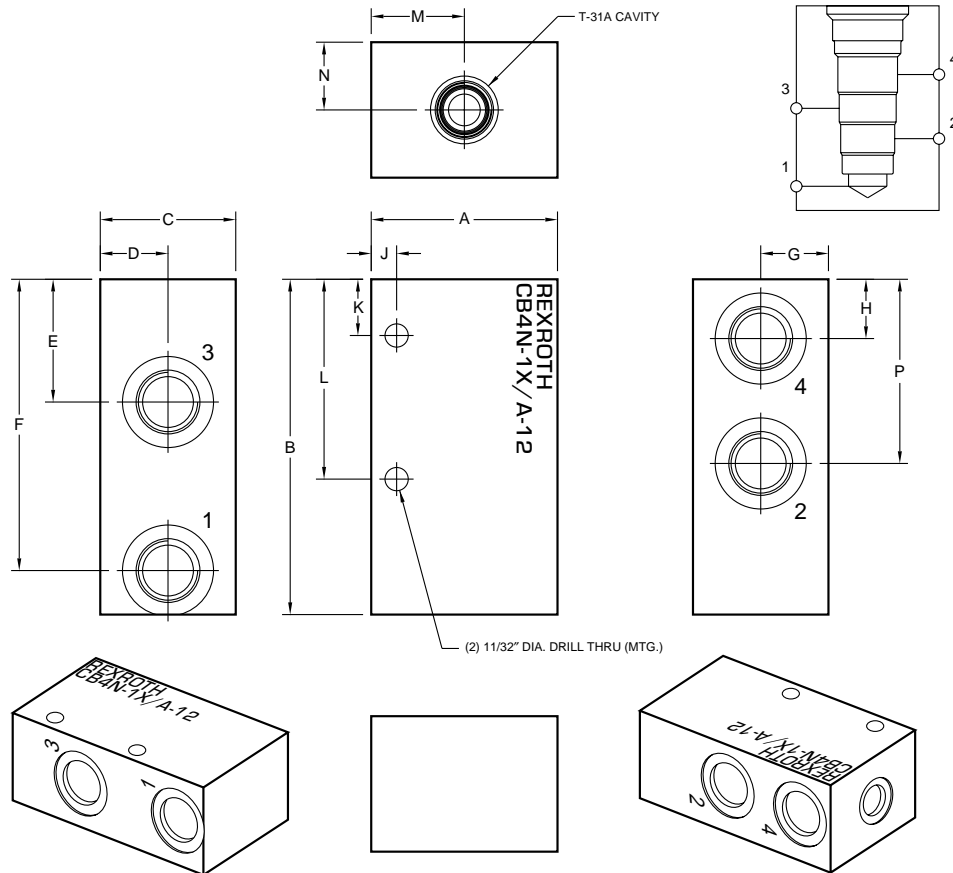
1) Blackening

All dimensions in inches

Compact Bodies T-31A Cavity

Flow	= N = H = X	12 = 05 = 01 =	Ports SAE Threaded Ports NPT Threaded Ports BSPP Threaded Ports
Normal			
High			
Extra High			
Revision	= XX		

A =	Aluminum 6061-T6, 3000 psi
D =	Ductile Iron ¹ 65-45-12, 5000 psi



Port type	1, 2, 3, 4 Ports			Aluminum	Ductile
	12	05	01		
CB4N-1X/...	9/16-18 SAE-6	NPT 1/4"	G (BSP) 1/4"	2.6	7.0
CB4H-1X/...	3/4-16 SAE-8	NPT 3/8"	G (BSP) 3/8"	2.6	7.0
CB4H-1X/...	7/8-14 SAE-10	NPT 1/2"	G (BSP) 1/2"	2.6	7.0

Dimension	A	B	C	D	E	F	G	H	J	K	L	M	N	P
CB4...	2.75	4.95	1.95	1.00	1.81	4.30	1.00	0.88	0.38	0.83	2.95	1.38	1.00	2.72

Mounting hardware is NOT supplied.

1) Blackening

All dimensions in inches

Section 9 Compact Sandwich

RA 09 907/07.04

The Drive & Control Company

Compact Sandwich Features

- Aluminum and ductile iron
- SAE, BSPP, or NPT porting

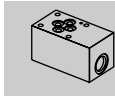
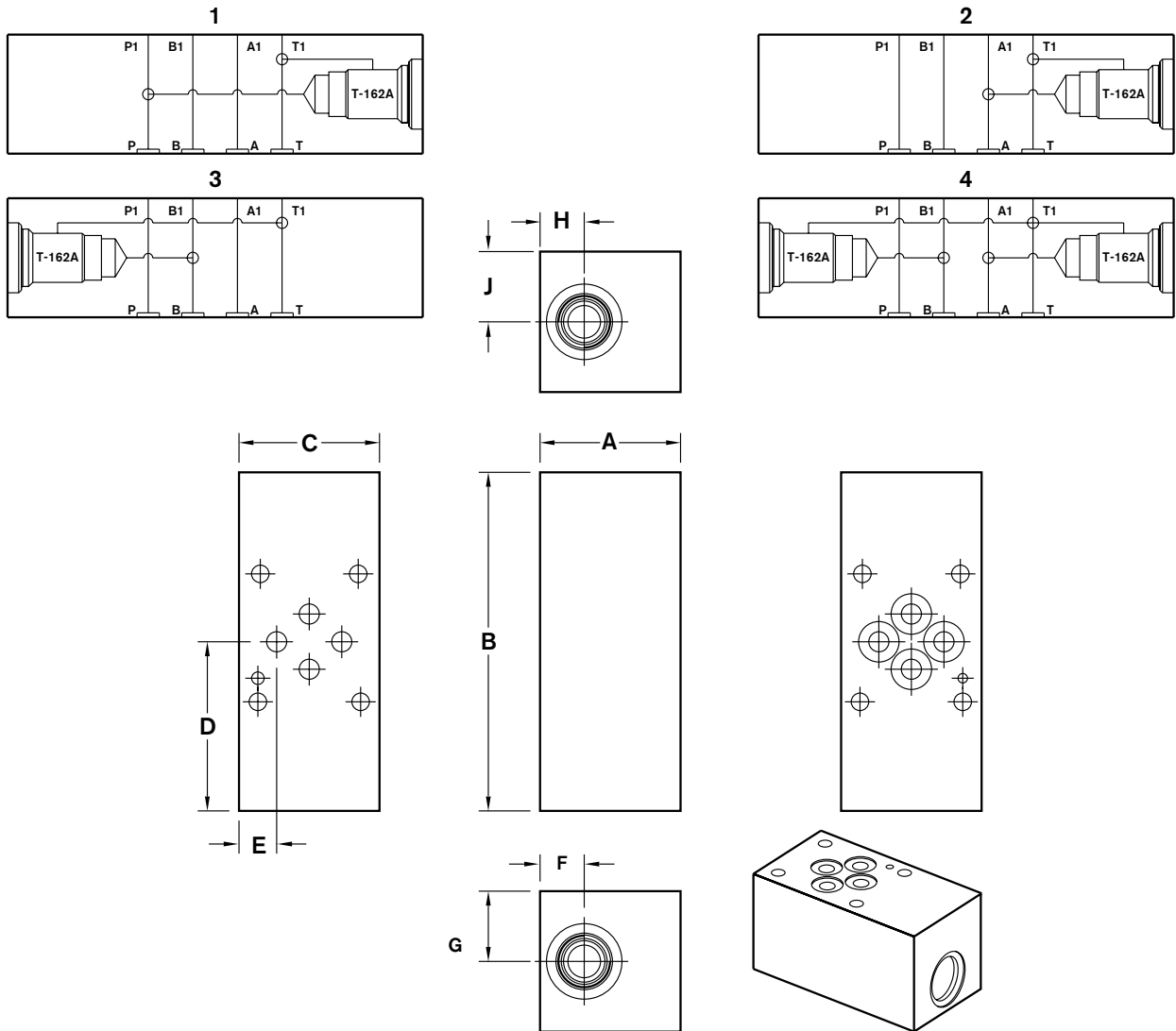


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D03 with T-13A Cavity	102

Compact Sandwich T-162A Cavity, D03 (Size 6)

	<div style="border: 1px solid black; padding: 2px; display: inline-block;">CS1</div> <div style="display: inline-block; vertical-align: middle;">-</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">XX</div> <div style="display: inline-block; vertical-align: middle;">/</div> <div style="display: inline-block; vertical-align: middle;">-</div>				
Circuit	= 1	= 2	= 3	= 4	12 =
P to T					
A to T					
B to T					
A, B to T					
Revision	= XX				
					Ports SAE
					Material Aluminum 6061-T6, 3000 psi Ductile Iron ¹ 65-45-12, 5000 psi



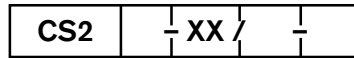
Dimension	A	B	C	D	E	F	G	H	J
CS21...	1.75	3.75	1.75	2.36	0.47	0.55	0.88	—	—
CS22...	1.75	3.25	1.75	1.14	0.47	—	—	0.55	0.88
CS23...	1.75	3.25	1.75	2.11	0.47	0.55	0.88	—	—
CS24...	1.75	4.22	1.75	2.11	0.47	0.55	0.88	0.55	0.88

Mounting hardware is NOT supplied.

1) Blackening

All dimensions in inches

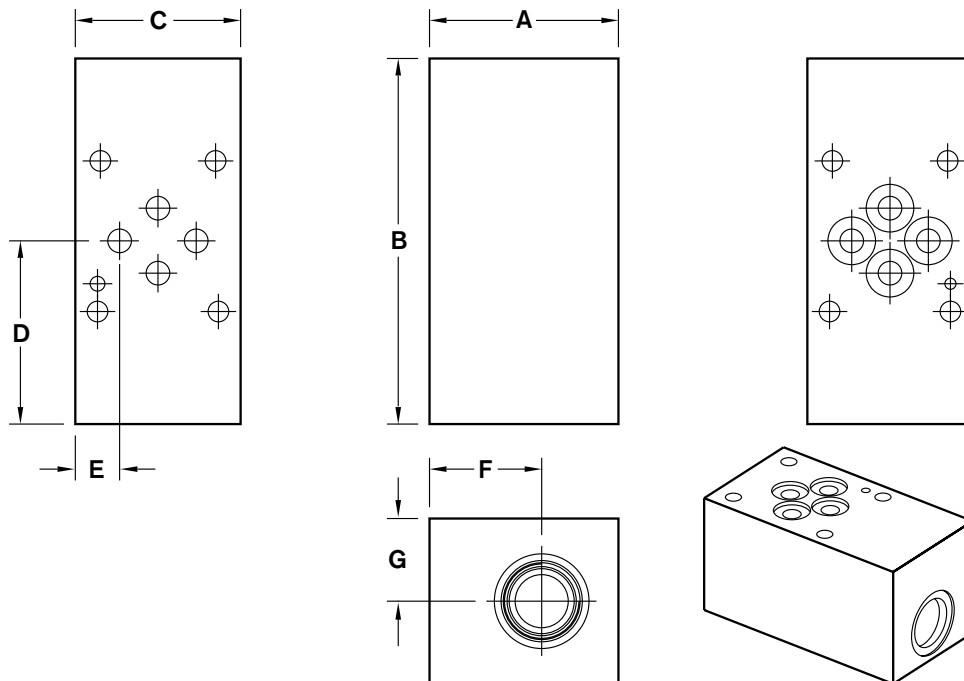
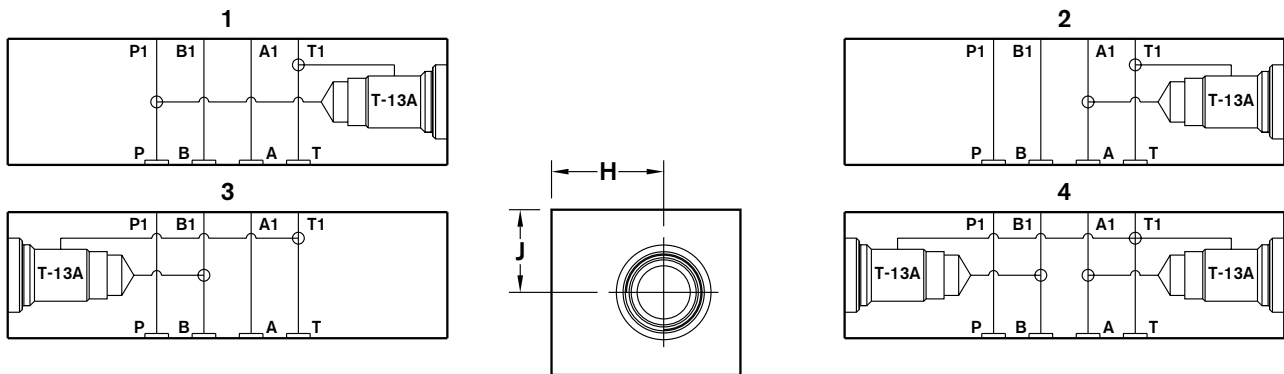
Compact Sandwich T-13A Cavity, D03 (Size 6)



Circuit
 P to T
 A to T
 B to T
 A, B to T
Revision

= 1
 = 2
 = 3
 = 4
 = XX

Ports
 SAE
Material
 Aluminum 6061-T6, 3000 psi
 Ductile Iron¹ 65-45-12, 5000 psi



Dimension	A	B	C	D	E	F	G	H	J
CS21...	2.00	3.87	1.75	2.56	0.47	1.19	0.88	—	—
CS22...	2.00	3.13	1.75	1.19	0.47	—	—	1.19	0.88
CS23...	2.00	3.13	1.75	1.94	0.47	1.19	0.88	—	—
CS24...	2.00	3.87	1.75	1.94	0.47	1.19	0.88	1.19	0.88

Mounting hardware is NOT supplied.

1) Blackening

All dimensions in inches

Section 10

Header and Junction Blocks

RA 09 907/07.04

The Drive & Control Company

Header and Junction Block Features

- For 3/4 to 1-1/4 port sizes
- Aluminum or ductile iron

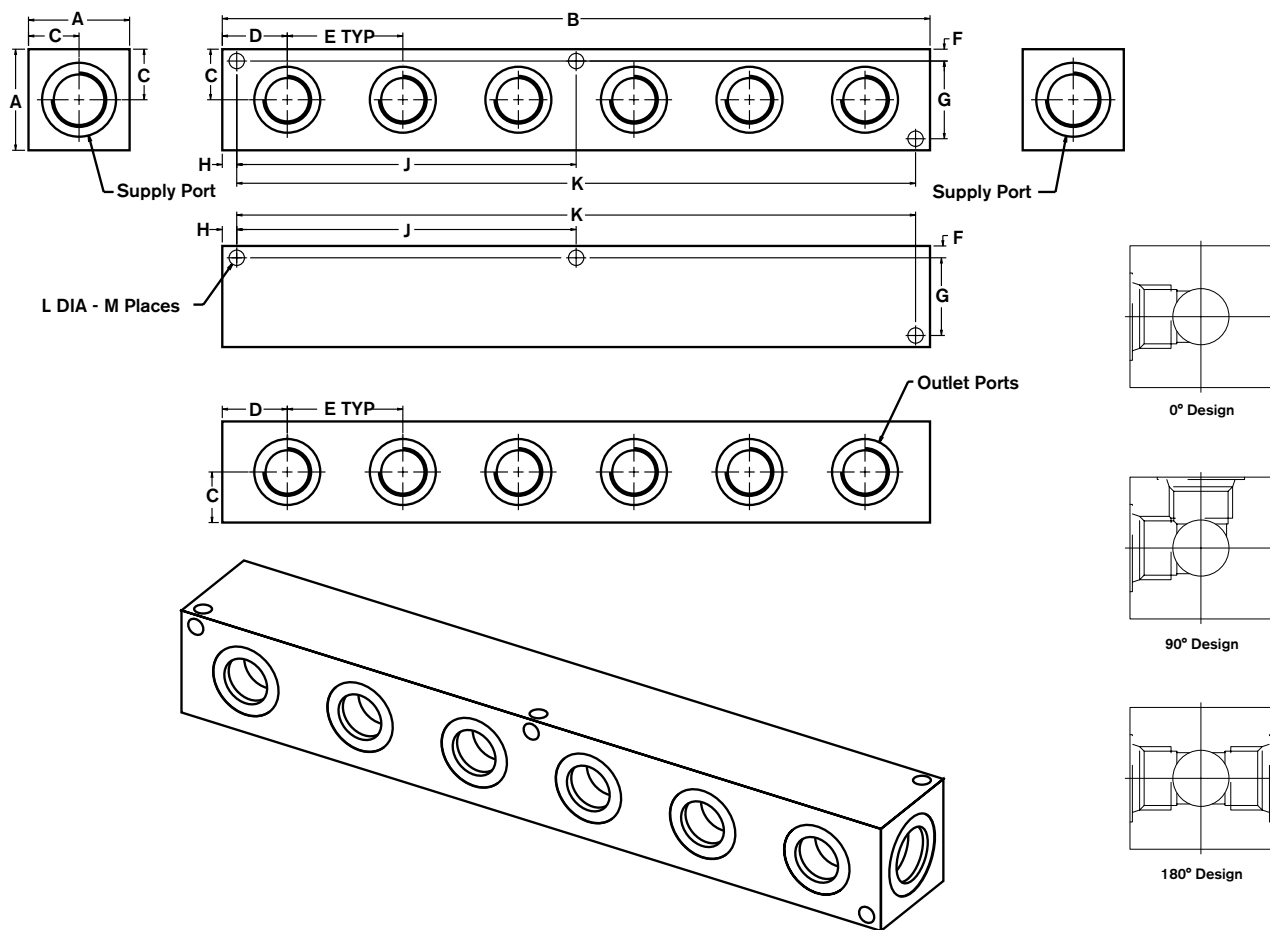


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Junction Blocks	107

Header Blocks

Port Size		HB		XX		Degree Design 0, 90, 180	
3/4"	BSPP	= 3/4					Port Style BSPP SAE
1"	BSPP	= 1					
1-1/4"	BSPP	= 1-1/4					
12	SAE	= 12					
16	SAE	= 16					
20	SAE	= 20	2-6 =		Number of Stations		
Revision		= XX		A =		Material Aluminum 6061-T6, 3000 psi Ductile Iron ¹ 65-45-1, 5000 psi	
				D =			



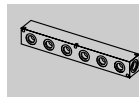
See page 105 for dimensional information

	Mounting Bolts	Supply Ports	Outlet Ports
HB3/4-1X/...	M8-1.25 x (80) LG SHCS	1" BSPP	3/4" BSPP
HB1-1X/...	M10-1.5 x (90) LG SHCS	1-1/4" BSPP	1" BSPP
HB1-1/4-1X/...	M12-1.75 x (120) LG SHCS	1-1/2" BSPP	1-1/4" BSPP
HB12-1X/...	5/16-18 x 3.00 LG SHCS	SAE-16	SAE-12
HB16-1X/...	3/8-16 x 3.50 LG SHCS	SAE-20	SAE-16
HB20-1X/...	1/2-14 x 4.50 LG SHCS	SAE-24	SAE-20

Mounting Hardware Included

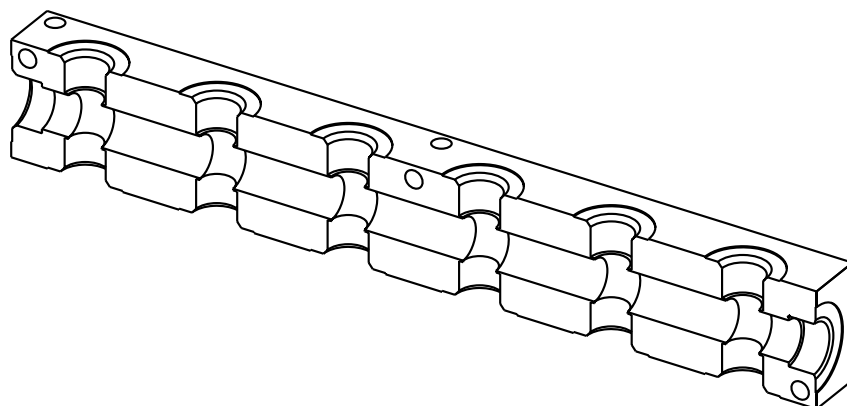
1) Blackening

All dimensions in inches



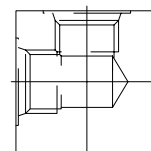
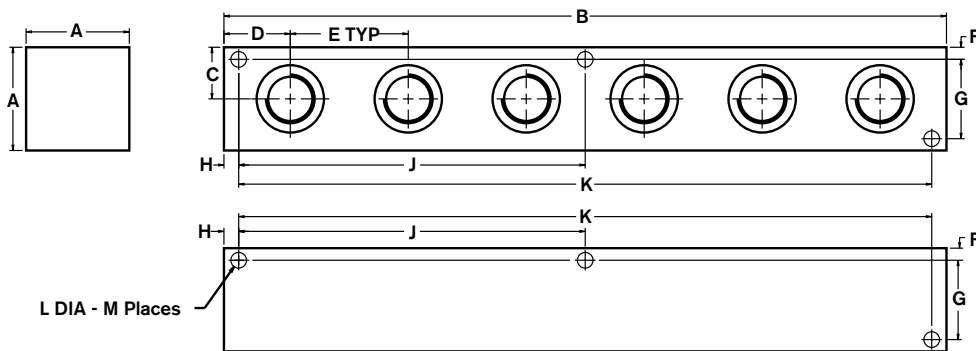
Header Blocks

Dimension	A	B	C	D	E	F	G	H	J	K	L	M
HB3/4-1X/*2-01	2.50	6.88	1.25	1.81	3.25	0.28	1.94	0.38	–	6.13	0.34	4.00
HB3/4-1X/*3-01	2.50	10.13	1.25	1.81	3.25	0.28	1.94	0.38	–	9.38	0.34	4.00
HB3/4-1X/*4-01	2.50	13.38	1.25	1.81	3.25	0.28	1.94	0.38	–	12.63	0.34	4.00
HB3/4-1X/*5-01	2.50	16.63	1.25	1.81	3.25	0.28	1.94	0.38	–	15.88	0.34	4.00
HB3/4-1X/*6-01	2.50	19.88	1.25	1.81	3.25	0.28	1.94	0.38	9.56	19.13	0.34	6.00
HB1-1X/*2-01	3.00	7.75	1.50	2.00	3.75	0.34	2.31	0.38	–	7.00	0.41	4.00
HB1-1X/*3-01	3.00	11.50	1.50	2.00	3.75	0.34	2.31	0.38	–	10.75	0.41	4.00
HB1-1X/*4-01	3.00	15.25	1.50	2.00	3.75	0.34	2.31	0.38	–	14.50	0.41	4.00
HB1-1X/*5-01	3.00	19.00	1.50	2.00	3.75	0.34	2.31	0.38	–	18.25	0.41	4.00
HB1-1X/*6-01	3.00	22.75	1.50	2.00	3.75	0.34	2.31	0.38	11.00	22.00	0.41	6.00
HB1-1/4-1X/*2-01	3.50	8.50	1.75	2.25	4.00	0.41	2.69	0.50	–	7.50	0.53	4.00
HB1-1/4-1X/*3-01	3.50	12.50	1.75	2.25	4.00	0.41	2.69	0.50	–	11.50	0.53	4.00
HB1-1/4-1X/*4-01	3.50	16.50	1.75	2.25	4.00	0.41	2.69	0.50	–	15.50	0.53	4.00
HB1-1/4-1X/*5-01	3.50	20.50	1.75	2.25	4.00	0.41	2.69	0.50	–	19.50	0.53	4.00
HB1-1/4-1X/*6-01	3.50	24.50	1.75	2.25	4.00	0.41	2.69	0.50	11.75	23.50	0.53	6.00
HB12-1X/*2-12	2.50	6.88	1.25	1.81	3.25	0.28	1.94	0.38	–	6.13	0.34	4.00
HB12-1X/*3-12	2.50	10.13	1.25	1.81	3.25	0.28	1.94	0.38	–	9.38	0.34	4.00
HB12-1X/*4-12	2.50	13.38	1.25	1.81	3.25	0.28	1.94	0.38	–	12.63	0.34	4.00
HB12-1X/*5-12	2.50	16.63	1.25	1.81	3.25	0.28	1.94	0.38	–	15.88	0.34	4.00
HB12-1X/*6-12	2.50	19.88	1.25	1.81	3.25	0.28	1.94	0.38	9.56	19.13	0.34	6.00
HB16-1X/*2-12	3.00	7.75	1.50	2.00	3.75	0.34	2.31	0.38	–	7.00	0.41	4.00
HB16-1X/*3-12	3.00	11.50	1.50	2.00	3.75	0.34	2.31	0.38	–	10.75	0.41	4.00
HB16-1X/*4-12	3.00	15.25	1.50	2.00	3.75	0.34	2.31	0.38	–	14.50	0.41	4.00
HB16-1X/*5-2	3.00	19.00	1.50	2.00	3.75	0.34	2.31	0.38	–	18.25	0.41	4.00
HB16-1X/*6-12	3.00	22.75	1.50	2.00	3.75	0.34	2.31	0.38	11.00	22.00	0.41	6.00
HB20-1X/*2-12	3.50	8.50	1.75	2.25	4.00	0.41	2.69	0.50	–	7.50	0.53	4.00
HB20-1X/*3-12	3.50	12.50	1.75	2.25	4.00	0.41	2.69	0.50	–	11.50	0.53	4.00
HB20-1X/*4-12	3.50	16.50	1.75	2.25	4.00	0.41	2.69	0.50	–	15.50	0.53	4.00
HB20-1X/*5-12	3.50	20.50	1.75	2.25	4.00	0.41	2.69	0.50	–	19.50	0.53	4.00
HB20-1X/*6-12	3.50	24.50	1.75	2.25	4.00	0.41	2.69	0.50	11.75	23.50	0.53	6.00

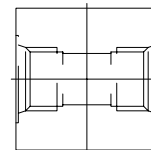
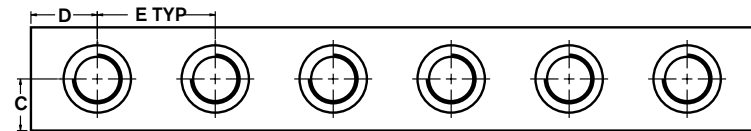


Junction Blocks

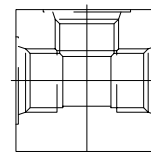
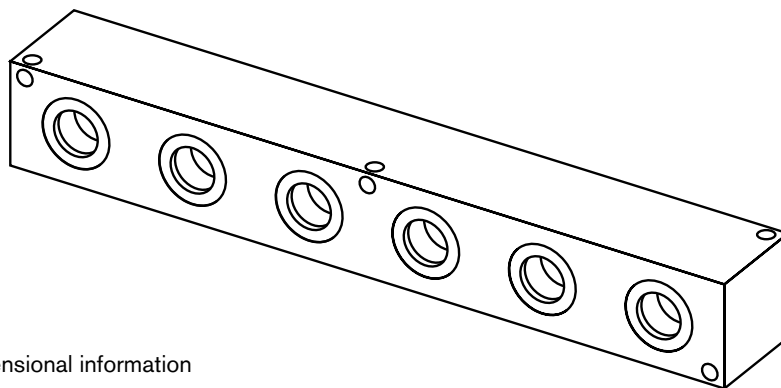
Port Size		JB		XX		Degree Design 90, 180, 270	
3/4"	BSPP	= 3/4					Port Style BSPP SAE
1"	BSPP	= 1					
1-1/4"	BSPP	= 1-1/4					
12	SAE	= 12					
16	SAE	= 16					
20	SAE	= 20	2-6 =		Number of Stations		
Revision		= XX		A =		Material Aluminum 6061-T6, 3000 psi Ductile Iron ¹ 65-45-1, 5000 psi	
				D =			



90° Design



180° Design



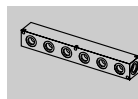
270° Design

See page 108 for dimensional information

Mounting Bolts	
JB3/4-1X/...	M8-1.25 x (80) LG SHCS
JB1-1X/...	M10-1.5 x (90) LG SHCS
JB1-1/4-1X/...	M12-1.75 x (120) LG SHCS
JB12-1X/...	5/16-18 x 3.00 LG SHCS
JB16-1X/...	3/8-16 x 3.50 LG SHCS
JB20-1X/...	1/2-14 x 4.50 LG SHCS

Mounting Hardware Included

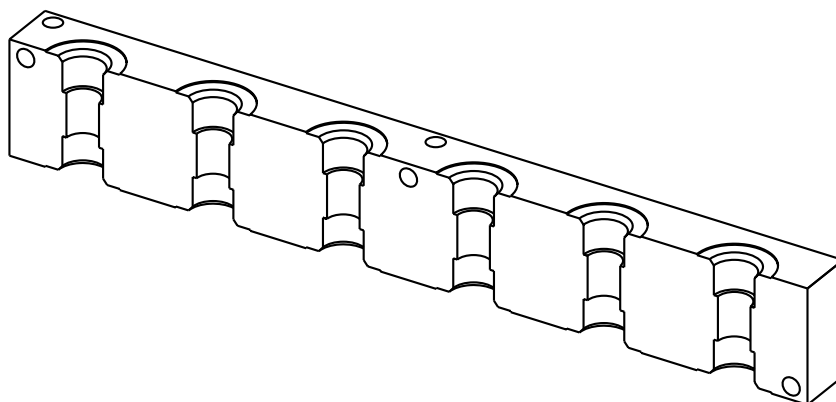
1) Blackening



All dimensions in inches

Junction Blocks

Dimension	A	B	C	D	E	F	G	H	J	K	L	M
JB3/4-1X/*2-01	2.50	6.88	1.25	1.81	3.25	0.28	1.94	0.38	–	6.13	0.34	4.00
JB3/4-1X/*3-01	2.50	10.13	1.25	1.81	3.25	0.28	1.94	0.38	–	9.38	0.34	4.00
JB3/4-1X/*4-01	2.50	13.38	1.25	1.81	3.25	0.28	1.94	0.38	–	12.63	0.34	4.00
JB3/4-1X/*5-01	2.50	16.63	1.25	1.81	3.25	0.28	1.94	0.38	–	15.88	0.34	4.00
JB3/4-1X/*6-01	2.50	19.88	1.25	1.81	3.25	0.28	1.94	0.38	9.56	19.13	0.34	6.00
JB1-1X/*2-01	3.00	7.75	1.50	2.00	3.75	0.34	2.31	0.38	–	7.00	0.41	4.00
JB1-1X/*3-01	3.00	11.50	1.50	2.00	3.75	0.34	2.31	0.38	–	10.75	0.41	4.00
JB1-1X/*4-01	3.00	15.25	1.50	2.00	3.75	0.34	2.31	0.38	–	14.50	0.41	4.00
JB1-1X/*5-01	3.00	19.00	1.50	2.00	3.75	0.34	2.31	0.38	–	18.25	0.41	4.00
JB1-1X/*6-01	3.00	22.75	1.50	2.00	3.75	0.34	2.31	0.38	11.00	22.00	0.41	6.00
JB1-1/4-1X/*2-01	3.50	8.50	1.75	2.25	4.00	0.41	2.69	0.50	–	7.50	0.53	4.00
JB1-1/4-1X/*3-01	3.50	12.50	1.75	2.25	4.00	0.41	2.69	0.50	–	11.50	0.53	4.00
JB1-1/4-1X/*4-01	3.50	16.50	1.75	2.25	4.00	0.41	2.69	0.50	–	15.50	0.53	4.00
JB1-1/4-1X/*5-01	3.50	20.50	1.75	2.25	4.00	0.41	2.69	0.50	–	19.50	0.53	4.00
JB1-1/4-1X/*6-01	3.50	24.50	1.75	2.25	4.00	0.41	2.69	0.50	11.75	23.50	0.53	6.00
JB12-1X/*2-12	2.50	6.88	1.25	1.81	3.25	0.28	1.94	0.38	–	6.13	0.34	4.00
JB12-1X/*3-12	2.50	10.13	1.25	1.81	3.25	0.28	1.94	0.38	–	9.38	0.34	4.00
JB12-1X/*4-12	2.50	13.38	1.25	1.81	3.25	0.28	1.94	0.38	–	12.63	0.34	4.00
JB12-1X/*5-12	2.50	16.63	1.25	1.81	3.25	0.28	1.94	0.38	–	15.88	0.34	4.00
JB12-1X/*6-12	2.50	19.88	1.25	1.81	3.25	0.28	1.94	0.38	9.56	19.13	0.34	6.00
JB16-1X/*2-12	3.00	7.75	1.50	2.00	3.75	0.34	2.31	0.38	–	7.00	0.41	4.00
JB16-1X/*3-12	3.00	11.50	1.50	2.00	3.75	0.34	2.31	0.38	–	10.75	0.41	4.00
JB16-1X/*4-12	3.00	15.25	1.50	2.00	3.75	0.34	2.31	0.38	–	14.50	0.41	4.00
JB16-1X/*5-2	3.00	19.00	1.50	2.00	3.75	0.34	2.31	0.38	–	18.25	0.41	4.00
JB16-1X/*6-12	3.00	22.75	1.50	2.00	3.75	0.34	2.31	0.38	11.00	22.00	0.41	6.00
JB20-1X/*2-12	3.50	8.50	1.75	2.25	4.00	0.41	2.69	0.50	–	7.50	0.53	4.00
JB20-1X/*3-12	3.50	12.50	1.75	2.25	4.00	0.41	2.69	0.50	–	11.50	0.53	4.00
JB20-1X/*4-12	3.50	16.50	1.75	2.25	4.00	0.41	2.69	0.50	–	15.50	0.53	4.00
JB20-1X/*5-12	3.50	20.50	1.75	2.25	4.00	0.41	2.69	0.50	–	19.50	0.53	4.00
JB20-1X/*6-12	3.50	24.50	1.75	2.25	4.00	0.41	2.69	0.50	11.75	23.50	0.53	6.00



Section 11

Pre-engineered Circuit Solutions

RA 09 907/07.04

The Drive & Control Company

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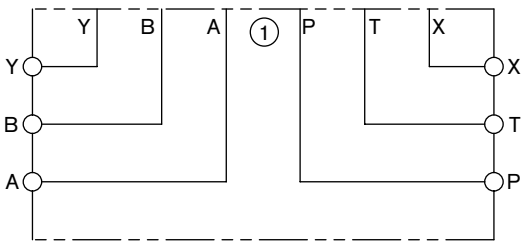
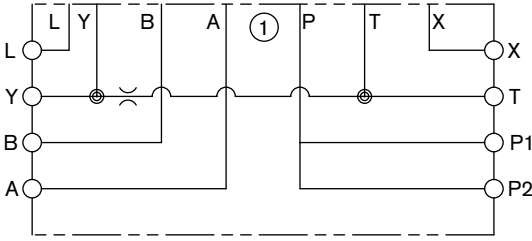
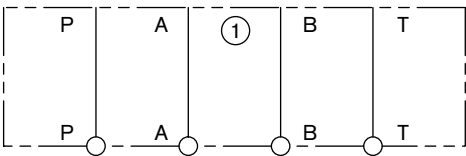
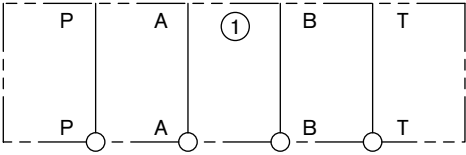
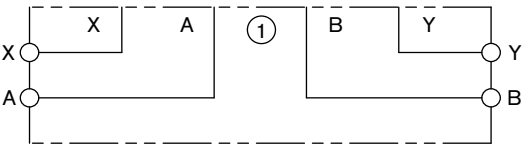
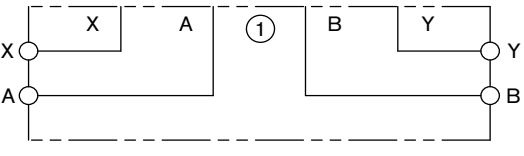
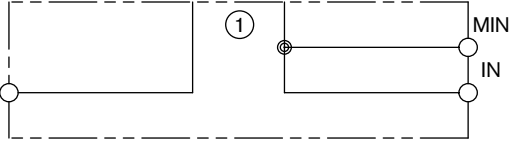
Pre-engineered Circuit Solutions

Drawing #	Description	Hydraulic Schematic 1 = Valve Side, 2 = Manifold Side	Connection	Material Size L x W x H Weight Valve (Mtg.)
AGA-2136	Subplate Bottom Ported 3/4SE6/2X G376/12		A,B,P,T SAE-8 (3/4-16UNF)	Ductile Iron 4.13"x3.15"x1.18" 3.99 lbs 1/4-20 x 0.45 DP.
AGA-1937	Subplate Bottom Ported 3/4SE6/2X G376/05		A,B,P,T 3/8" NPT	Ductile Iron 4.13"x3.15"x1.18" 3.99 lbs 1/4-20 x 0.51 DP.
AGA-2454	Subplate Side Ported D03 3/4-16UNF)		A,B on side 5 P,T on side 6 SAE-8 10-24 x 0.50 DP.	Ductile Iron 4"x3.20"x1.65" 5.49 lbs
AGA-1862	Subplate Side Ported D03 (7/16-20UNF)		A on side 1 B on side 3 SAE-4 10-24 x 0.50 DP.	Ductile Iron 2.50"x1.75"x0.98" 1.11 lbs
AGA-3840	Subplate Side Ported D05		A,B on side 5 P,T on side 6 SAE-8 G 3/4" 1/4-20 x 0.50 DP.	Ductile Iron 4.70"x4.20"x2.70" 13.85 lbs
AGA-1306	Subplate Side Ported D05 (3/4-16UNF)		P,T on side 6 A,B on side 5 SAE-8 1/4-20 x 0.50 DP.	Ductile Iron 4"x4"x1.98 8.23 lbs
AGA-2248	Subplate Side Ported D05		A,B on side 5 P,T on side 6 SAE-8 G 1/2" 1/4-20 x 0.50 DP.	Ductile Iron 4"x4"x1.98 8.23 lbs
AGA-3121	Subplate Side Ported D07		MP,MT side 6 MA,MB side 5 SAE-4 A,B on side 5 P on side 6 SAE-24 T on side 6 SAE-32	Ductile Iron 7.70"x5.60"x5.60" 62.78 lbs 1/4-20 x 0.60 DP. 3/8-16 x 0.60 DP.

* See Technical Information section (Page 144) for side identification numbers.



Pre-engineered Circuit Solutions

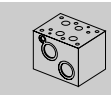
Drawing #	Description	Hydraulic Schematic 1 = Valve Side, 2 = Manifold Side	Connection	Material Size L x W x H Weight Valve (Mtg.)
AGA-1294	Subplate Side Ported D07		X,Y on side 5 SAE-8 (3/4-16UNF) A,B on side 1 P,T on side 3 SAE-12 (1 1/16-12UN)	Ductile Iron 6.37"x4.50"x2.00" 14.9 lbs 1/4-20 x 0.60 DP. 3/8-16 x 0.60 DP.
AGA-0472	Subplate Side Ported D08		X,Y,P2 side 6 L on side 1 SAE-6 (9/16-18UNF) A,B on side 3 P,T on side 1 SAE-16 (1 5/16-12UN)	Ductile Iron 8.50"x6.50"x2.80" 40.2 lbs 1/2-13 x 1.00 DP.
AGA-7592	Subplate Bottom Ported D10		A,B,P,T 1 1/2" SAE (CODE 61) 3000 PSI FLANGE	Ductile Iron 12.00"x8.30"x5.85" 151.4 lbs 3/4-10 x 1.20 DP.
AGA-1777	Subplate Bottom Ported D10		P=2" A,B,T=2 1/2" SAE (CODE 61) 3000 PSI FLANGE	Ductile Iron 11.90"x9.30"x4.35" 125.1 lbs 3/4-10 x 1.20 DP.
AGA-3981	Subplate Side Ported SL30...4X		A,B=1 1/2" X,Y=1/2" SAE (CODE 61) 3000 PSI FLANGE	Ductile Iron 6.50"x6.50"x3.30" 36.2 lbs 3/8-16 x 0.80 DP.
AGA-2684	Subplate Side Ported SL62...		X,Y=G 1/2" A=2",B=2 1/2" SAE (CODE 61) 3000 PSI FLANGE	Ductile Iron 10.40"x7.00"x4.80" 90.8 lbs 3/4-10 x 1.10 DP.
AGA-3083	Subplate Side Ported Filter DF...160P		MIN=SAE-4 IN,OUT=1" SAE (CODE 61) 3000 PSI FLANGE	Ductile Iron 4.60"x4.50"x2.40" 12.9 lbs 5/16-18 x 0.60 DP.

* See Technical Information section (Page 144) for side identification numbers.

Pre-engineered Circuit Solutions

Drawing #	Description	Hydraulic Schematic 1 = Valve Side, 2 = Manifold Side	Connection	Material Size L x W x H Weight Valve (Mtg.)
AGA-1383	Subplate Bottom Ported DVP8	<p>The schematic shows a rectangular valve side (1) and manifold side (2) enclosed in a dashed box. Port A is on the left and port B is on the right. A circled '1' is in the center of the valve side, and a circled '2' is in the center of the manifold side.</p>	A,B SAE-8 (3/4-16UNF) 1/4-20 x 0.60 DP.	Ductile Iron 3.00"x2.00"x1.23" 1.9 lbs
AGA-14171	Subplate Side Ported DR10...5X 1/2" BSPP	<p>The schematic shows a rectangular valve side (1) and manifold side (2) enclosed in a dashed box. Port A is on the left and port B is on the right. Side ports X and Y are also shown. A circled '1' is in the center of the valve side, and a circled '2' is in the center of the manifold side.</p>	A,B 3/4" BSPP X,Y M10 x 0.80 DP.	Ductile Iron 4.00"x4.00"x2.00" 8.3 lbs

* See Technical Information section (Page 144) for side identification numbers.

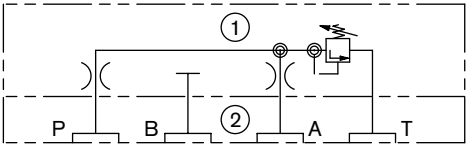
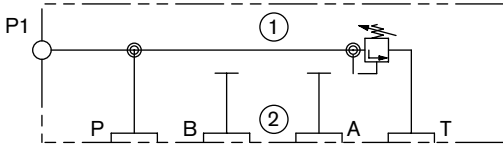
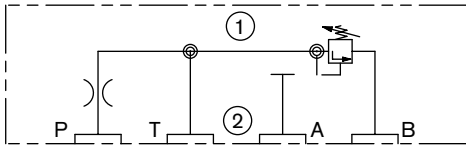
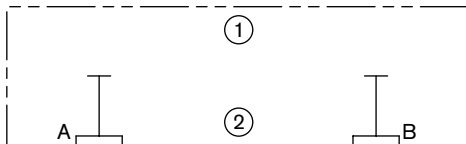
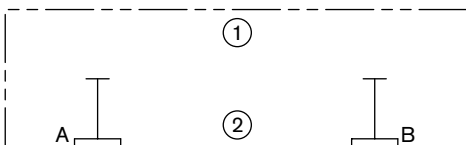
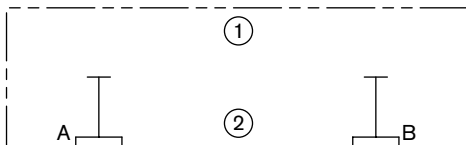
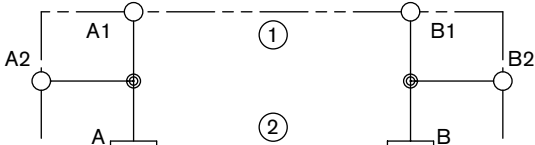


Pre-engineered Circuit Solutions

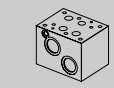
Drawing #	Description	Hydraulic Schematic 1 = Valve Side, 2 = Manifold Side	Connection	Material Size L x W x H Weight Valve (Mtg.)
AGA-0590	Cover Plate SE6			Ductile Iron 2.00"x2.00"x0.95" 0.9 lbs Ø0.281 (3x) 2-109
AGA-2309-2	Cover Plate SE6		P1 SAE-6 (9/16-18UNF)	Ductile Iron 2.00"x2.00"x0.95" 0.9 lbs Ø0.281 (3x) 2-109
AGA-2351-4	Cover Plate D03		P1 SAE-4 (7/16-20UNF)	Ductile Iron 2.50"x1.80"x0.95" 1.1 lbs Ø0.218 (3x) 2-012
AGA-3542	Cover Plate D03		A1 SAE-4 (7/16-20UNF) P1 SAE-8 (3/4-16UNF)	Ductile Iron 2.50"x1.75"x1.75" 1.9 lbs Ø0.218 (4x) 2-012 O-Ring Plate
AGA-1863	Cover Plate D03		A1,B1 SAE-4 (7/16-20UNF)	Ductile Iron 2.50"x1.75"x1.47" 1.6 lbs Ø0.218 (4x) 2-012 O-Ring Plate
811678	Cover Plate D03		A1,B1 SAE-6 (9/16-18UNF)	Ductile Iron 2.50"x1.75"x0.98" 1.1 lbs Ø0.218 (4x) 2-012 O-Ring Plate
AGA-1320	Cover Plate D03		A1,B1,P1,T1 SAE-6 (9/16-18UNF)	Ductile Iron 2.50"x2.00"x0.98" 1.2 lbs Ø0.221 (4x) 2-012
AGA-0543-2	Cover Plate D03		B1 SAE-4 (7/16-20UNF)	Ductile Iron 2.50"x1.80"x0.98" 1.1 lbs Ø0.218 (4x) 2-012 O-Ring Plate

* See Technical Information section (Page 144) for side identification numbers.

Pre-engineered Circuit Solutions

Drawing #	Description	Hydraulic Schematic 1 = Valve Side, 2 = Manifold Side	Connection	Material Size L x W x H Weight Valve (Mtg.)
AGA-6824	Cover Plate D03 W/ DBD...6 Cavity			Ductile Iron 4.20"x2.30"x1.90" 4.7 lbs Ø0.218 (4x) 2-012 O-Ring Plate
AGA-3335-2	Cover Plate D03 W/ DBD...6 Cavity		P1 SAE-4 (7/16-20UNF)	Ductile Iron 4.00"x2.20"x1.75" 4.0 lbs Ø0.218 (4x) 2-012
AGA-2052-2	Cover Plate D03 W/ DBD...6 Cavity			Ductile Iron 4.70"x2.30"x1.80" 4.0 lbs Ø0.221 (4x) 2-012
AGA-10524	Cover Plate KHP16			Ductile Iron 3.90"x2.40"x0.80" 1.9 lbs Ø0.221 -
AGA-10535	Cover Plate KHP20			Ductile Iron 4.70"x3.20"x0.80" 3.1 lbs Ø0.221 -
AGA-5128	Cover Plate KHP25			Ductile Iron 5.30"x3.15"x0.80" 3.4 lbs Ø0.221 (2x) 27x3
AGA-4070	Cover Plate KHP40		A1,B1 SAE-12 A2,B2 SAE-4	Ductile Iron 6.90"x5.20"x1.50" 13.9 lbs Ø0.656 (2x) 2-224

* See Technical Information section (Page 144) for side identification numbers.

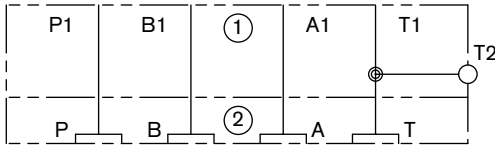
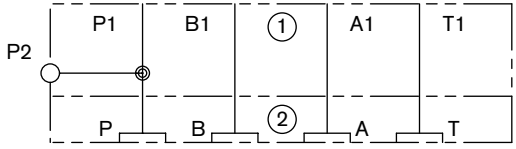
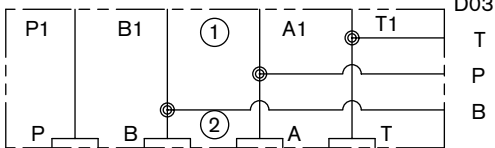
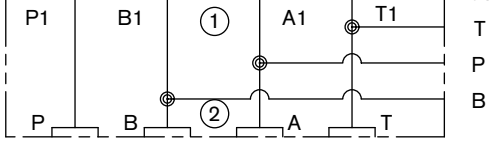
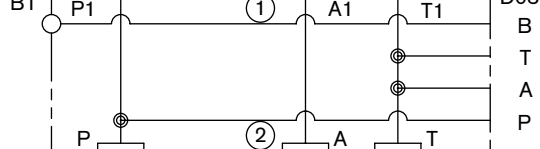
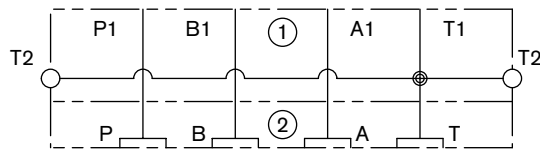
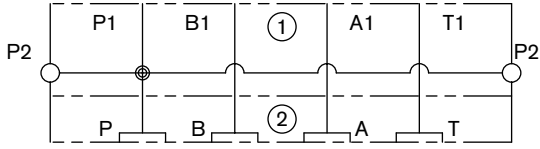
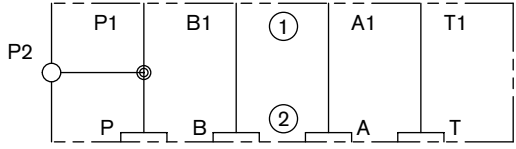


Pre-engineered Circuit Solutions

Drawing #	Description	Hydraulic Schematic 1 = Valve Side, 2 = Manifold Side	Connection	Material Size L x W x H Weight Valve (Mtg.)
AGA-1408-2	Sandwich Plate SE6			Ductile Iron 2.15"x2.15"x1.40" 1.6 lbs Ø0.281 (2x) 8.5x1.5 (1x) 2-013
AGA-0942-2	Sandwich Plate SE6		A2 MS-33649-4 (7/16-20UNF)	Ductile Iron 2.00"x2.00"x0.95" 0.9 lbs Ø0.265 (2x) 8.5x1.5 (1x) 2-013
AGA-2416	Sandwich Plate SE6		P2 SAE-6 (9/16-18UNF)	Ductile Iron 2.50"x2.00"x1.20" 1.5 lbs Ø0.265 (2x) 8.5x1.5 (1x) 2-013
AGA-0663-2	Sandwich Plate SE6		A2,A3 SAE-8 (3/4-16UNF)	Ductile Iron 2.50"x2.00"x1.77" 2.3 lbs Ø0.265 (3x) 2-110
AGA-1779-2	Sandwich Plate SE6 W/ MSR8 Cavity			Ductile Iron 3.30"x2.75"x1.98" 4.6 lbs Ø0.281 (3x) 2-013
AGA-0699-2	Sandwich Plate D03		A2 SAE-8 (3/4-16UNF)	Ductile Iron 2.55"x1.80"x1.25" 1.4 lbs Ø0.218 (4x) 2-012
AGA-4256	Sandwich Plate D03 Move A port +1.062 2 Extra bolt holes added			Ductile Iron 3.50"x1.80"x1.00" 1.6 lbs Ø0.221 (5x) 2-012
AGA-11194	Sandwich Plate D03			Ductile Iron 2.80"x2.00"x0.75" 1 lbs Ø0.218 (4x) 2-012

* See Technical Information section (Page 144) for side identification numbers.

Pre-engineered Circuit Solutions

Drawing #	Description	Hydraulic Schematic 1 = Valve Side, 2 = Manifold Side	Connection	Material Size L x W x H Weight Valve (Mtg.)
AGA-1246	Sandwich Plate D03		T2 SAE-6 (9/16-18UNF)	Ductile Iron 3.00"x1.75"x0.96" Ø0.221 1.3 lbs (4x) 2-012 O-Ring Plate
AGA-1246	Sandwich Plate D03 (9/16-18UNF)		P2 SAE-6 (9/16-18UNF)	Ductile Iron 3.00"x1.75"x0.96" 1.3 lbs Ø0.221 (4x) 2-012 O-Ring Plate
AGA-2459	Sandwich Plate D03		D03 T P B	Ductile Iron 2.70"x2.30"x1.80" 2.9 lbs Ø0.218 (4x) 2-012
AGA-1362	Sandwich Plate D03		D03 T P B	Ductile Iron 3.80"x3.00"x1.80" 5.3 lbs Ø0.234 (4x) 2-012
AGA-7525	Sandwich Plate D03		D03 B T A P B1 SAE-4 (7/16-20UNF)	Ductile Iron 5.00"x3.00"x1.95" 7.6 lbs Ø0.218 (4x) 2-012
AGA-8168	Sandwich Plate D03		T2 G 1/4"	Ductile Iron 3.25"x1.95"x1.76" 2.8 lbs Ø0.218 (4x) 2-012 O-Ring Plate
AGA-8168	Sandwich Plate D03		P2 G 1/4"	Ductile Iron 3.25"x1.95"x1.76" 2.8 lbs Ø0.218 (4x) 2-012 O-Ring Plate
AGA-5296	Sandwich Plate D03		P2 SAE-4 (7/16-20UNF)	Ductile Iron 2.80"x2.00"x1.18" 1.7 lbs Ø0.221 (4x) 2-012

* See Technical Information section (Page 144) for side identification numbers.



Pre-engineered Circuit Solutions

Drawing #	Description	Hydraulic Schematic 1 = Valve Side, 2 = Manifold Side	Connection	Material Size L x W x H Weight Valve (Mtg.)
AGA-1270-2	Sandwich Plate D03		A2 SAE-6 (9/16-18UNF)	Ductile Iron 2.80"x1.80"x1.30" 1.7 lbs Ø0.218 (4x) 2-012
AGA-3602-2	Sandwich Plate D03		A2,B2,P2,T2 SAE-4 (7/16-20UNF)	Ductile Iron 2.55"x2.20"x1.45" 2.1 lbs Ø0.218 (4x) 2-012
AGA-2872	Sandwich Plate D03		T2 3/8" NPT	Ductile Iron 3.00"x1.75"x0.96" 1.3 lbs Ø0.221 (4x) 2-012 O-Ring Plate
AGA-2872	Sandwich Plate D03		P2 3/8" NPT	Ductile Iron 3.00"x1.75"x0.96" 1.3 lbs Ø0.221 (4x) 2-012 O-Ring Plate
AGA-0692-2	Sandwich Plate D03			Ductile Iron 2.55"x1.80"x0.45" 0.5 lbs Ø0.218 (4x) 2-012
AGA-1624	Sandwich Plate D03			Ductile Iron 2.55"x1.80"x0.45" 0.5 lbs Ø0.218 (4x) 2-012
AGA-2826	Sandwich Plate D03			Ductile Iron 4.20"x1.74"x1.45" 2.7 lbs Ø0.221 (4x) 2-012
AGA-8415	Sandwich Plate D03			Ductile Iron 2.50"x2.30"x1.94" 2.9 lbs Ø0.218 (4x) 2-012 O-Ring Plate

* See Technical Information section (Page 144) for side identification numbers.

Pre-engineered Circuit Solutions

Drawing #	Description	Hydraulic Schematic 1 = Valve Side, 2 = Manifold Side	Connection	Material Size L x W x H Weight Valve (Mtg.)
AGA-6875	Sandwich Plate D03		P2 SAE-4 (7/16-20UNF)	Ductile Iron 3.50"x3.20"x1.10" 3.2 lbs Ø0.218 (4x) 2-012
AGA-5899	Sandwich Plate D03		A2,A3 SAE-6 (9/16-18UNF)	Ductile Iron 3.50"x3.20"x1.10" 3.2 lbs Ø0.218 (4x) 2-012
AGA-6500	Sandwich Plate D03			Ductile Iron 2.50"x1.80"x0.95" 1.1 lbs Ø0.218 (4x) 2-012 O-Ring Plate
AGA-6500	Sandwich Plate D03			Ductile Iron 2.50"x1.80"x0.95" 1.1 lbs Ø0.218 (4x) 2-012 O-Ring Plate
AGA-5713	Sandwich Plate D03			Ductile Iron 2.80"x1.75"x1.25" 1.5 lbs Ø0.281 (3x) 2-012
AGA-5921	Sandwich Plate D03			Ductile Iron 3.05"x1.80"x1.20" 1.7 lbs Ø0.218 (4x) 2-012 O-Ring Plate
AGA-5921	Sandwich Plate D03			Ductile Iron 3.05"x1.80"x1.20" 1.7 lbs Ø0.218 (4x) 2-012 O-Ring Plate
AGA-4551	Sandwich Plate D03		A2 SAE-6 (9/16-18UNF)	Ductile Iron 2.75"x1.75"x1.20" 1.5 lbs Ø0.218 (4x) 2-012

* See Technical Information section (Page 144) for side identification numbers.



Pre-engineered Circuit Solutions

Drawing #	Description	Hydraulic Schematic 1 = Valve Side, 2 = Manifold Side	Connection	Material Size L x W x H Weight Valve (Mtg.)
AGA-2825	Sandwich Plate D03		P2 SAE-4 (7/16-20UNF)	Ductile Iron 4.20"x1.74"x1.65" 3.2 lbs Ø0.221 (4x) 2-012
AGA-2479	Sandwich Plate D03		P2 SAE-6 (9/16-18UNF)	Ductile Iron 2.60"x1.90"x1.80" 2.3 lbs Ø0.218 (4x) 2-012 O-Ring Plate
AGA-2479	Sandwich Plate D03		P2 SAE-6 (9/16-18UNF)	Ductile Iron 2.60"x1.90"x1.80" 2.3 lbs Ø0.218 (4x) 2-012 O-Ring Plate
AGA-4924	Sandwich Plate D03		P2 SAE-6 (9/16-18UNF)	Ductile Iron 3.00"x2.50"x1.80" 2.5 lbs Ø0.218 (4x) 2-012
AGA-2417	Sandwich Plate D03		P2 SAE-6 (9/16-18UNF)	Ductile Iron 3.00"x1.75"x1.20" 1.6 lbs Ø0.221 (4x) 2-012
AGA-2718	Sandwich Plate D03		P2 SAE-6 (9/16-18UNF)	Ductile Iron 2.00"x1.75"x0.50" 0.4 lbs Ø0.218 (4x) 2-012
AGA-0054-5	Sandwich Plate D03		A2 SAE-4 (7/16-20UNF)	Ductile Iron 2.62"x1.75"x0.95" 1.1 lbs Ø0.218 (4x) 2-012 O-Ring Plate
AGA-0054-5	Sandwich Plate D03		A2 SAE-4 (7/16-20UNF)	Ductile Iron 2.62"x1.75"x0.95" 1.1 lbs Ø0.218 (4x) 2-012 O-Ring Plate

* See Technical Information section (Page 144) for side identification numbers.

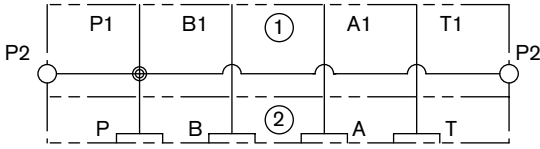
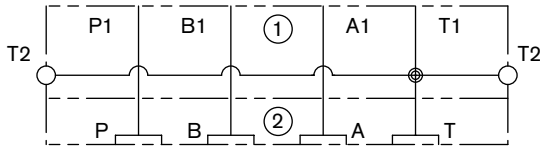
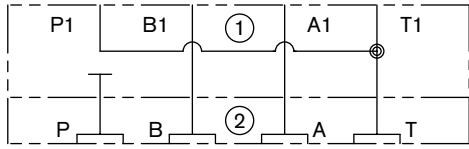
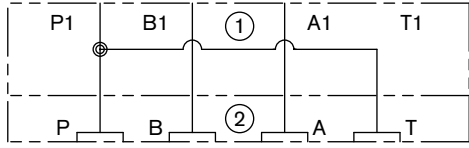
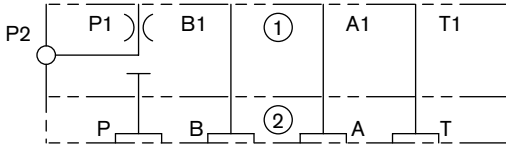
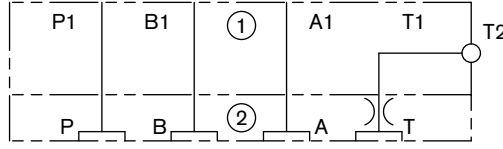
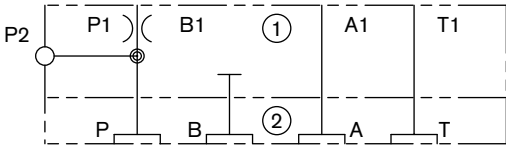
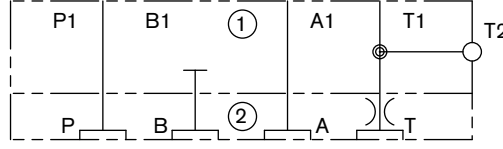
Pre-engineered Circuit Solutions

Drawing #	Description	Hydraulic Schematic 1 = Valve Side, 2 = Manifold Side	Connection	Material Size L x W x H Weight Valve (Mtg.)
AGA-2631	Sandwich Plate D03		P2,T2 SAE-6 (9/16-18UNF)	Ductile Iron 2.75"x1.75"x1.20" 1.5 lbs Ø0.218 (4x) 2-012 O-Ring Plate
AGA-2631	Sandwich Plate D03		P2,T2 SAE-6 (9/16-18UNF)	Ductile Iron 2.75"x1.75"x1.20" 1.5 lbs Ø0.218 (4x) 2-012 O-Ring Plate
AGA-2630	Sandwich Plate D03		P2,T2 SAE-6 (9/16-18UNF)	Ductile Iron 2.75"x1.75"x1.20" 1.5 lbs Ø0.218 (4x) 2-012 O-Ring Plate
AGA-2630	Sandwich Plate D03		P2,T2 SAE-6 (9/16-18UNF)	Ductile Iron 2.75"x1.75"x1.20" 1.5 lbs Ø0.218 (4x) 2-012 O-Ring Plate
AGA-2076-3	Sandwich Plate D03		B2 SAE-6 (9/16-18UNF)	Ductile Iron 2.55"x1.80"x1.10" 1.3 lbs Ø0.218 (4x) 2-012
AGA-1662-3	Sandwich Plate D03		P2 SAE-6 (9/16-18UNF)	Ductile Iron 3.00"x1.75"x0.96" 1.3 lbs Ø0.221 (4x) 2-012
AGA-1662-3	Sandwich Plate D03		T2 SAE-6 (9/16-18UNF)	Ductile Iron 3.00"x1.75"x0.96" 1.3 lbs Ø0.221 (4x) 2-012 O-Ring Plate
AGA-1314	Sandwich Plate D03		P2 SAE-4 (7/16-20UNF)	Ductile Iron 2.50"x1.75"x1.15" 1.3 lbs Ø0.221 (4x) 8x2

* See Technical Information section (Page 144) for side identification numbers.

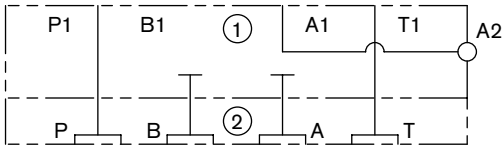
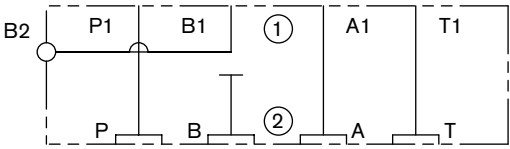
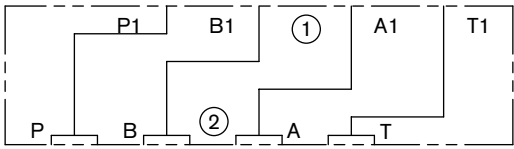
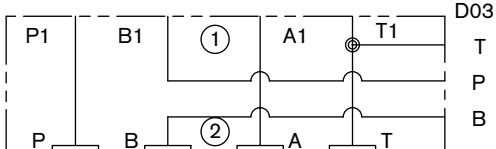
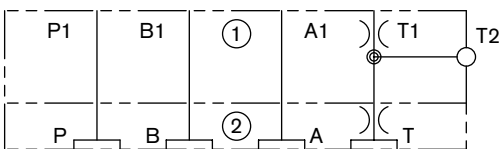
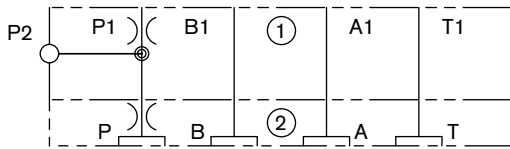
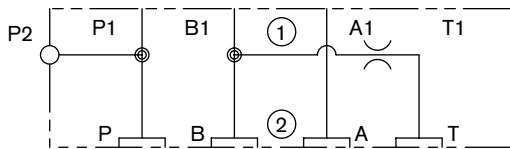
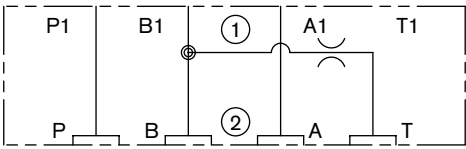


Pre-engineered Circuit Solutions

Drawing #	Description	Hydraulic Schematic 1 = Valve Side, 2 = Manifold Side	Connection	Material Size L x W x H Weight Valve (Mtg.)
AGA-1794	Sandwich Plate D03		P2 SAE-6 (9/16-18UNF)	Ductile Iron 3.25"x1.75"x1.94" 2.8 lbs Ø0.234 (4x) 2-012 O-Ring Plate
AGA-1794	Sandwich Plate D03		T2 SAE-6 (9/16-18UNF)	Ductile Iron 3.25"x1.75"x1.94" 2.8 lbs Ø0.234 (4x) 2-012 O-Ring Plate
AGA-1851	Sandwich Plate D03			Ductile Iron 2.50"x1.75"x0.72" 0.8 lbs Ø0.218 (4x) 2-012 O-Ring Plate
AGA-1851	Sandwich Plate D03			Ductile Iron 2.50"x1.75"x0.72" 0.8 lbs Ø0.218 (4x) 2-012 O-Ring Plate
AGA-1478-2	Sandwich Plate D03		P2 SAE-4 (7/16-20UNF)	Ductile Iron 3.00"x1.75"x1.10" 1.5 lbs Ø0.221 (4x) 2-012 O-Ring Plate
AGA-1478-2	Sandwich Plate D03		T2 SAE-4 (7/16-20UNF)	Ductile Iron 3.00"x1.75"x1.10" 1.5 lbs Ø0.221 (4x) 2-012 O-Ring Plate
AGA-1394-2	Sandwich Plate D03		P2 SAE-4 (7/16-20UNF)	Ductile Iron 2.80"x1.75"x1.40" 1.7 lbs Ø0.218 (4x) 2-012 O-Ring Plate
AGA-1394-2	Sandwich Plate D03		T2 SAE-4 (7/16-20UNF)	Ductile Iron 2.80"x1.75"x1.40" 1.7 lbs Ø0.218 (4x) 2-012 O-Ring Plate

* See Technical Information section (Page 144) for side identification numbers.

Pre-engineered Circuit Solutions

Drawing #	Description	Hydraulic Schematic 1 = Valve Side, 2 = Manifold Side	Connection	Material Size L x W x H Weight Valve (Mtg.)
AGA-0563-2	Sandwich Plate D03		A2 SAE-4 (7/16-20UNF)	Ductile Iron 2.50"x1.75"x0.95" 1 lbs Ø0.218 (4x) 2-012 O-Ring Plate
AGA-0677-2	Sandwich Plate D03		B2 SAE-8 (3/4-16UNF)	Ductile Iron 2.55"x1.80"x1.58" 1.8 lbs Ø0.218 (4x) 2-012
AGA-5437	Sandwich Plate D03 Offset to "A" side			Ductile Iron 4.80"x2.30"x2.00" 5.7 lbs Ø0.218 (4x) 2-012
AGA-1124	Sandwich Plate D03			Ductile Iron 3.30"x2.40"x1.80" 3.7 lbs Ø0.218 (4x) 2-012
AGA-0228-2	Sandwich Plate D03		T2 SAE-4 (7/16-20UNF)	Ductile Iron 2.80"x1.75"x1.40" 1.7 lbs Ø0.218 (4x) 2-012 O-Ring Plate
AGA-0228-2	Sandwich Plate D03		P2 SAE-4 (7/16-20UNF)	Ductile Iron 2.80"x1.75"x1.40" 1.7 lbs Ø0.218 (4x) 2-012 O-Ring Plate
AGA-0911-2	Sandwich Plate D03		P2 SAE-8 (3/4-16UNF)	Ductile Iron 3.55"x1.80"x1.40" 2.3 lbs Ø0.218 (4x) 2-012
AGA-0692-3	Sandwich Plate D03			Ductile Iron 3.05"x1.80"x1.20" 2.3 lbs Ø0.218 (4x) 2-012

* See Technical Information section (Page 144) for side identification numbers.



Pre-engineered Circuit Solutions

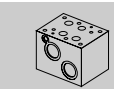
Drawing #	Description	Hydraulic Schematic 1 = Valve Side, 2 = Manifold Side	Connection	Material Size L x W x H Weight Valve (Mtg.)
AGA-0086-3	Sandwich Plate D03		T2 SAE-4 (7/16-20UNF)	Ductile Iron 2.90"x1.75"x0.95" 1.2 lbs Ø0.201 (4x) 2-012
AGA-0201-2	Sandwich Plate D03		P2 SAE-4 (7/16-20UNF)	Ductile Iron 2.50"x1.90"x0.95" 1.2 lbs Ø0.201 (4x) 2-012
AGA-1238	Sandwich Plate D03		P2,T2 SAE-6 (9/16-18UNF)	Ductile Iron 3.25"x1.90"x1.20" 1.9 lbs Ø0.221 (4x) 8x2
AGA-3754	Sandwich Plate D03		D03 T P B	Ductile Iron 3.40"x2.3"x1.80" 3.6 lbs Ø0.218 (4x) 2-012
AGA-0884-2	Sandwich Plate D03		D03 T P B	Ductile Iron 2.70"x2.3"x1.80" 2.9 lbs Ø0.218 (4x) 2-012
AGA-1087	Sandwich Plate D03		D03 T P B	Ductile Iron 3.10"x2.3"x1.80" 3.3 lbs Ø0.218 (4x) 2-012
AGA-8169	Sandwich Plate D03		P2 G 1/4"	Ductile Iron 3.25"x1.95"x1.75" 2.8 lbs Ø0.218 (4x) 2-012 O-Ring Plate
AGA-5574	Sandwich Plate D03		P2 SAE-8 (3/4-16UNF)	Ductile Iron 3.00"x2.00"x1.75" 2.7 lbs Ø0.218 (4x) 2-012

* See Technical Information section (Page 144) for side identification numbers.

Pre-engineered Circuit Solutions

Drawing #	Description	Hydraulic Schematic		Connection	Material	Size L x W x H	Weight	Valve (Mtg.)
		1 = Valve Side, 2 = Manifold Side						
AGA-7547	Sandwich Plate D03 W/ DBD...6 Cavity				Ductile Iron	6.00"x3.00"x1.90"	8.8 lbs	Ø0.218 (4x) 2-012 O-Ring Plate
AGA-6575	Sandwich Plate D03				Ductile Iron	4.70"x4.00"x1.70"	8.3 lbs	Ø0.218 (4x) 2-012 O-Ring Plate
AGA-7065	Sandwich Plate D03				Ductile Iron	3.80"x2.50"x1.60"	3.9 lbs	Ø0.218 (4x) 2-012
AGA-4775	Sandwich Plate D03 W/ WVE 1/2-20 Cavity			A2,B2 SAE-8 (3/4-16UNF)	Ductile Iron	5.10"x2.20"x1.80"	5.2 lbs	Ø0.218 (4x) 2-012
AGA-6823	Sandwich Plate D03 W/ DBD...6 Cavity				Ductile Iron	4.20"x2.20"x1.85"	4.4 lbs	Ø0.218 (4x) 2-012 O-Ring Plate
AGA-5674	Sandwich Plate D03 W/ WVE 1/2-20 Cavity			P2 SAE-4 (7/16-20UNF)	Ductile Iron	4.30"x2.00"x1.80"	4.0 lbs	Ø0.218 (4x) 2-012
AGA-2076-4	Sandwich Plate D03 W/ DBD...6 Cavity				Ductile Iron	4.80"x3"x1.88"	7.0 lbs	Ø0.218 (4x) 2-012
AGA-2076-2	Sandwich Plate D03			B2 SAE-6 (9/16-18UNF)	Ductile Iron	2.55"x1.80"x1.10"	1.3 lbs	Ø0.218 (4x) 2-012

* See Technical Information section (Page 144) for side identification numbers.

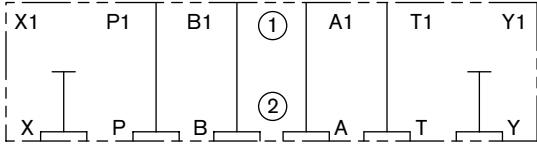
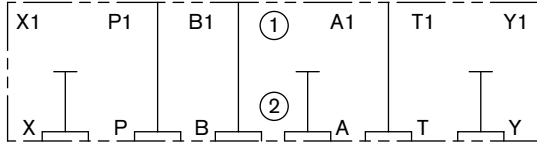
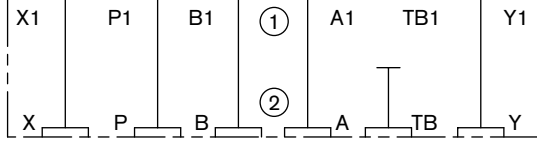
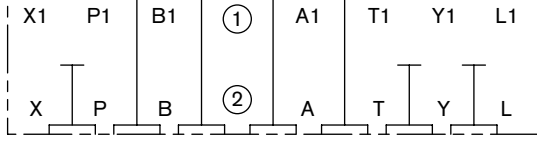


Pre-engineered Circuit Solutions

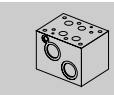
Drawing #	Description	Hydraulic Schematic		Connection	Material Size L x W x H Weight Valve (Mtg.)
		1 = Valve Side, 2 = Manifold Side			
AGA-1853-3	Sandwich Plate D03 W/ DBD...6 Cavity				Ductile Iron 4.10"x2.30"x1.80" 4.4 lbs Ø0.234 (4x) 2-012
AGA-1855-2	Sandwich Plate D03 W/ DBD...6 Cavity			B2 SAE-6 (9/16-18UNF)	Ductile Iron 4.85"x2.10"x1.60" 4.2 lbs Ø0.218 (4x) 2-012
AGA-1967	Sandwich Plate D03 W/ DBD...6 Cavity				Ductile Iron 4.00"x2.10"x1.75" 3.8 lbs Ø0.218 (4x) 2-012
AGA-1836	Sandwich Plate D03 W/ DBD...6 Cavity on A side				Ductile Iron 4.00"x2.10"x1.75" 3.8 lbs Ø0.218 (4x) 2-012
AGA-1880	Sandwich Plate D03 W/ DBD...6 Cavity on B side				Ductile Iron 4.00"x2.10"x1.75" 3.8 lbs Ø0.218 (4x) 2-012
AGA-1116-2	Sandwich Plate D03 W/ DBD...6 Cavity				Ductile Iron 4.10"x3.00"x1.80" 5.4 lbs Ø0.218 (4x) 2-012
AGA-0407	Sandwich Plate D03 W/ DVE...6 Cavity				Ductile Iron 3.40"x2.50"x1.90" 4.1 lbs Ø0.218 (4x) 2-012 O-Ring Plate
AGA-0407	Sandwich Plate D03 W/ DVE...6 Cavity				Ductile Iron 3.40"x2.50"x1.90" 4.1 lbs Ø0.218 (4x) 2-012 O-Ring Plate

* See Technical Information section (Page 144) for side identification numbers.

Pre-engineered Circuit Solutions

Drawing #	Description	Hydraulic Schematic		Connection	Material Size L x W x H Weight Valve (Mtg.)
		1 = Valve Side	2 = Manifold Side		
AGA-11472	Spacer Block D05				Ductile Iron 3.50"x3.00"x0.50" 1.3 lbs Ø0.281 (2x) 2-013 (5x) 12x2
AGA-11898	Spacer Block D05				Ductile Iron 3.50"x3.00"x0.50" 1.3 lbs Ø0.281 (2x) 2-013 (5x) 12x2
AGA-13431	Spacer Block D05				Ductile Iron 3.50"x3.00"x0.50" 1.3 lbs Ø0.281 (2x) 2-013 (5x) 12x2
AGA-11489	Spacer Block D07				Ductile Iron 5.00"x3.50"x1.00" 4.5 lbs (2)Ø0.281 (4)Ø0.406 (3x) 10x2 (4x) 22x2.5

* See Technical Information section (Page 144) for side identification numbers.

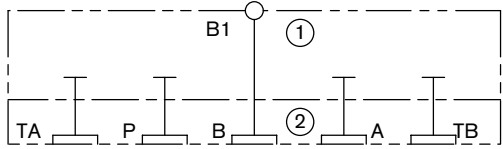
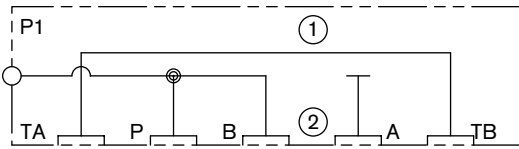
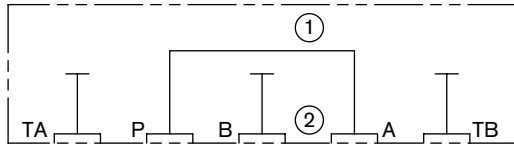
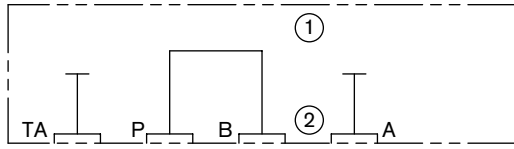
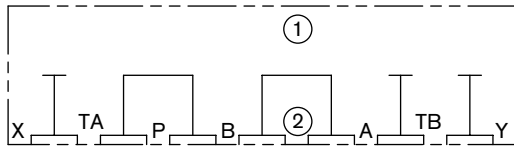
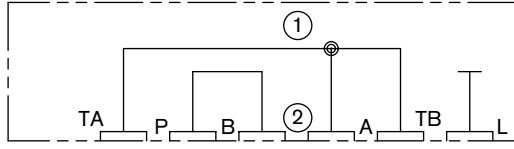
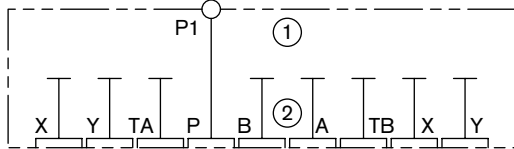


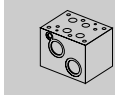
Pre-engineered Circuit Solutions

Drawing #	Description	Hydraulic Schematic 1 = Valve Side, 2 = Manifold Side	Connection	Material Size L x W x H Weight Valve (Mtg.)
AGA-13482	Valve Adaptor	<p style="text-align: center;">D03</p> <p style="text-align: center;">D05</p>		<p>Aluminum</p> <p>2.75"x2.50"x0.75"</p> <p>0.5 lbs</p> <p>10-24 x 0.65 DP.</p> <p>1/4-20 x 1.25"</p> <p>(5x) 12x2mm</p>
AGA-14005	Valve Adaptor	<p style="text-align: center;">4WS2EM10-5X/...</p> <p style="text-align: center;">4WS2EM10A-4X/...</p>		<p>Ductile Iron</p> <p>4.00"x3.25"x1.50"</p> <p>5.7 lbs</p> <p>1/4-20 x 0.75 DP.</p> <p>5/16-18 x 1.5"</p> <p>(5x) 2-013</p>
AGA-13764	Valve Adaptor	<p style="text-align: center;">Size 25/32</p> <p style="text-align: center;">Size 32</p>		<p>Ductile Iron</p> <p>9.00"x8.00"x3.50"</p> <p>65.5 lbs</p> <p>1/2-13 x 1.25 DP.</p> <p>3/4-10 x 3.5"</p> <p>(4x) 42x3mm</p> <p>(2x) 19x3mm</p>

* See Technical Information section (Page 144) for side identification numbers.

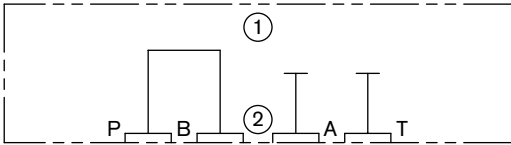
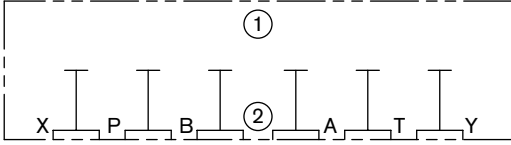
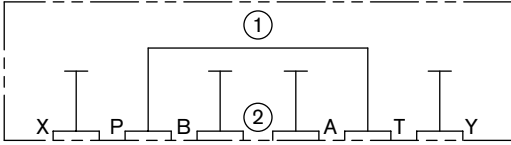
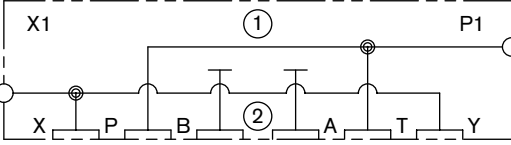
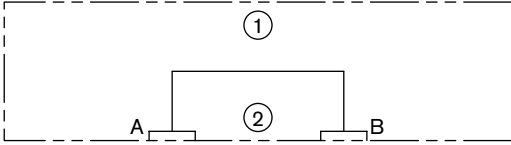
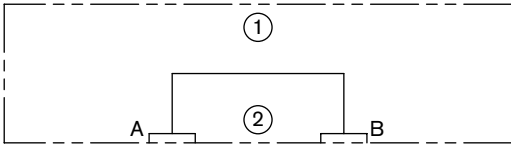
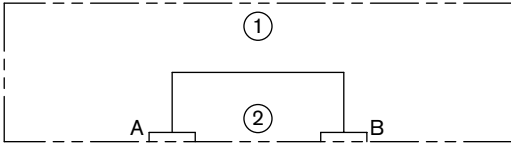
Pre-engineered Circuit Solutions

Drawing #	Description	Hydraulic Schematic		Connection	Material Size L x W x H Weight Valve (Mtg.)
		1 = Valve Side, 2 = Manifold Side			
AGA-2750	Cover Plate D05			B1 SAE-6 (9/16-18UNF)	Ductile Iron 3.50"x2.75"x0.85" 2.1 lbs Ø0.265 (5x) 12x2mm O-Ring Plate
AGA-3564	Cover Plate D05			P1 SAE-6 (9/16-18UNF)	Ductile Iron 3.70"x2.75"x0.95" 2.5 lbs Ø0.281 (5x) 12x2mm
AGA-2617	Cover Plate D05				Ductile Iron 3.65"x2.75"x0.95" 2.5 lbs Ø0.281 (5x) 12x2mm
AGA-0640-2	Cover Plate D05				Ductile Iron 3.62"x2.75"x0.80" 2 lbs Ø0.296 (4x) 12x2mm
AGA-5516	Cover Plate D05				Ductile Iron 3.60"x2.75"x1.95" 5 lbs Ø0.281 (5x) 12x2mm (2x) 2-013
AGA-14217	Cover Plate D05				Ductile Iron 3.50"x3.00"x1.70" 4.6 lbs Ø0.281 (5x) 12x2mm (1x) 2-010
AGA-13002	Cover Plate D05			P1 SAE-4 (7/16-20UNF)	Ductile Iron 3.50"x3.00"x1.00" 2.7 lbs Ø0.281 (5x) 12x2mm (1x) 2-011 (1x) 2-013 (1x) 2-016



* See Technical Information section (Page 144) for side identification numbers.

Pre-engineered Circuit Solutions

Drawing #	Description	Hydraulic Schematic 1 = Valve Side, 2 = Manifold Side	Connection	Material Size L x W x H Weight Valve (Mtg.)
AGA-1410-2	Cover Plate D08			Ductile Iron 6.40"x4.75"x2.15" 16.9 lbs Ø0.531 (4x) 27x3mm
AGA-1366	Cover Plate D10			Ductile Iron 9.50"x7.75"x0.98" 18.75 lbs Ø0.781 (4x) 42x3mm (2x) 19x3mm
AGA-5394	Cover Plate D10			Ductile Iron 9.50"x7.75"x2.40" 45.9 lbs Ø0.781 (4x) 42x3mm (2x) 19x3mm
AGA-7557	Cover Plate D10 32/35		X1 SAE-4 (7/16-20UNF) P1 SAE-20 (1 5/8-12UN)	Ductile Iron 10.50"x7.75"x2.90" 61.3 lbs Ø0.781 (4x) 42x3mm (2x) 19x3mm
AGA-2574	Cover Plate Check valve S Subplate Pattern Size 10			Ductile Iron 3.5"x3.5"x0.95" 3 lbs Ø0.406 (2x) 15x3mm
AGA-2863	Cover Plate Check valve S Subplate Pattern Size 20			Ductile Iron 4.5"x3.5"x1.70" 6.9 lbs Ø0.656 (2x) 24x3mm
AGA-2573	Cover Plate Check valve S Subplate Pattern Size 30			Ductile Iron 5.20"x5.20"x1.80" 12.6 lbs Ø0.781 (2x) 34x3mm

* See Technical Information section (Page 144) for side identification numbers.

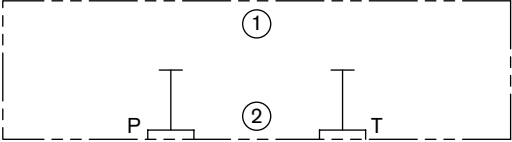
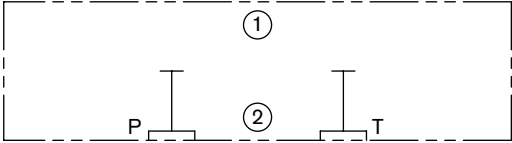
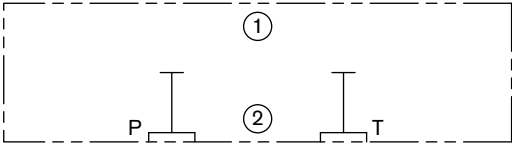
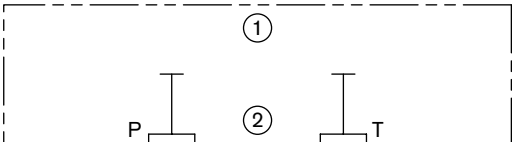
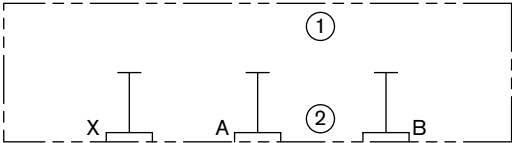
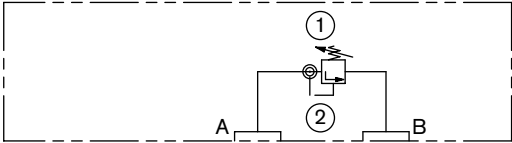
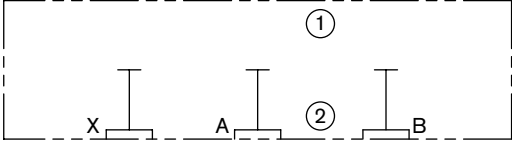
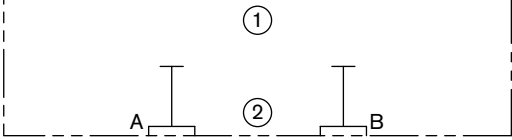
Pre-engineered Circuit Solutions

Drawing #	Description	Hydraulic Schematic 1 = Valve Side, 2 = Manifold Side	Connection	Material Size L x W x H Weight Valve (Mtg.)
AGA-2171	Cover Plate P06 SL,SV,DR,DZ,FD Size 10			Ductile Iron 3.40"x2.70"x0.45" 1 lbs Ø0.437 (2x) 2-012 (2x) 2-115
AGA-2172	Cover Plate P08 SL,SV,DR,DZ,FD Size 20			Ductile Iron 4.00"x3.80"x1.40" 5.5 lbs Ø0.437 (2x) 2-012 (2x) 2-216
AGA-5732	Cover Plate P10 SL,SV,DR,DZ,FD Size 30			Ductile Iron 5.55"x4.75"x1.20" 8.2 lbs Ø0.437 (2x) 2-012 (2x) 2-220
AGA-3169-2	Cover Plate P06 SL,SV,DR,DZ,FD Size 10			Ductile Iron 3.40"x2.70"x1.20" 2.8 lbs Ø0.421 (2x) 15x3mm (2x) 10x2.5mm
AGA-6395	Cover Plate P06 SL,SV,DR,DZ,FD Size 10			Ductile Iron 3.40"x2.70"x1.20" 2.8 lbs Ø0.406 (2x) 15x3mm (2x) 10x2.5mm
AGA-8134	Cover Plate P08 SL,SV,DR,DZ,FD Size 20			Ductile Iron 4.20"x3.75"x1.75" 7.1 lbs Ø0.406 (2x) 2-012 (2x) 2-216
AGA-5152	Cover Plate P10 SL,SV,DR,DZ,FD Size 30			Ductile Iron 4.65"x4.60"x1.80" 10 lbs Ø0.406 (2x) 2-012 (2x) 2-220
AGA-6394	Cover Plate P10 SL,SV,DR,DZ,FD Size 30			Ductile Iron 5.55"x4.75"x2.20" 15 lbs Ø0.421 (2x) 2-012 (2x) 2-220

* See Technical Information section (Page 144) for side identification numbers.



Pre-engineered Circuit Solutions

Drawing #	Description	Hydraulic Schematic 1 = Valve Side, 2 = Manifold Side	Connection	Material
				Size L x W x H Weight Valve (Mtg.)
AGA-2606	Cover Plate Relief Valve DB Subplate Pattern Size 6			Ductile Iron 3.00"x2.25"x0.95" 1.6 lbs Ø0.281 (2x) 7x1.5mm
AGA-2607	Cover Plate Relief Valve DB Subplate Pattern Size 10			Ductile Iron 3.50"x3.00"x0.95" 2.5 lbs Ø0.343 (2x) 12.3x2.4mm
AGA-2608	Cover Plate Subplate Pattern Relief Valve DB Size 20			Ductile Iron 4.75"x3.50"x1.20" 5.1 lbs Ø0.343 (2x) 22x3mm
AGA-2609	Cover Plate Relief Valve DB Subplate Pattern Size 30			Ductile Iron 6.25"x4.75"x1.45" 11.1 lbs Ø0.406 (2x) 34x3mm
AGA-2453-2	Cover Plate R06 Size 10			Ductile Iron 3.30"x3.30"x0.70" 1.9 lbs Ø0.531 (1x) 2-012 (2x) 2-115
AGA-1563-2	Cover Plate W/ DBD...6 R06 Size 10 Cavity			Ductile Iron 4.30"x3.05"x1.50" 5.1 lbs Ø0.531 (2x) 2-115
AGA-2169-2	Cover Plate R08 Size 20			Ductile Iron 4.85"x4.00"x0.55" 2.7 lbs Ø0.656 (1x) 2-012 (2x) 2-216
AGA-1367	Cover Plate R10 Size 30			Ductile Iron 5.80"x4.60"x0.99" 6.8 lbs Ø0.781 (2x) 2-220

* See Technical Information section (Page 144) for side identification numbers.

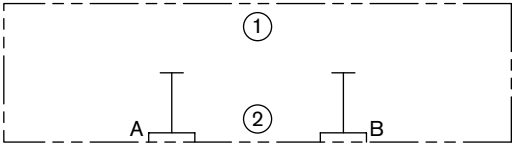
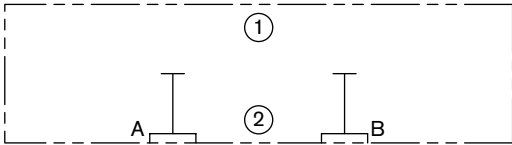
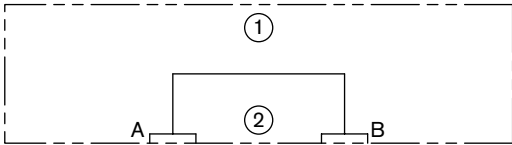
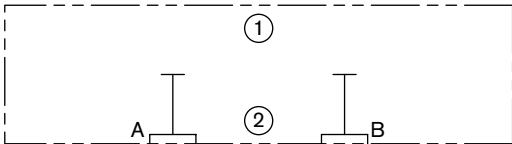
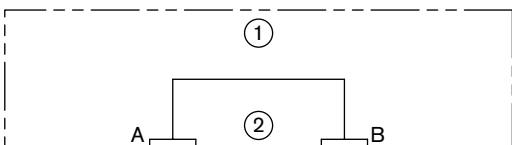
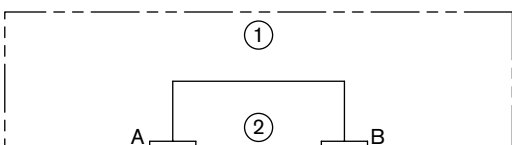
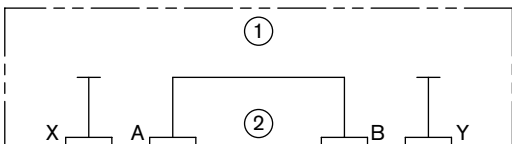
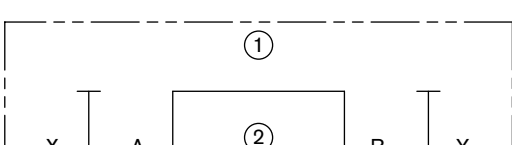
Pre-engineered Circuit Solutions

Drawing #	Description	Hydraulic Schematic 1 = Valve Side, 2 = Manifold Side	Connection	Material Size L x W x H Weight Valve (Mtg.)
AGA-1384	Cover Plate Flow Valve DVP Size 8			Ductile Iron 1.90"x1.85"x0.48" 0.5 lbs Ø0.281 (2x) 9x2mm
AGA-1759	Cover Plate Flow Valve DVP Size 8			Ductile Iron 2.10"x1.90"x0.90" 0.9 lbs Ø0.281 (2x) 9x2mm
AGA-1502-2	Cover Plate Flow Valve DRVP Size 8			Ductile Iron 2.80"x1.90"x0.90" 1.2 lbs Ø0.281 (2x) 9x2mm
AGA-5373	Cover Plate Flow Valve DVP Size 10			Ductile Iron 2.00"x2.00"x0.75" 0.8 lbs Ø0.281 (2x) 12x2mm
AGA-1009-3	Cover Plate Flow Valve DVP Size 16			Ductile Iron 3.70"x2.75"x0.82" 2.1 lbs Ø0.343 (2x) 2-117
AGA-1219	Cover Plate Flow Valve DVP Size 20			Ductile Iron 4.40"x3.00"x0.95" 3.2 lbs Ø0.343 (2x) 2-213
AGA-0857	Cover Plate Flow Valve DVP Size 25			Ductile Iron 5.65"x3.95"x0.70" 4 lbs Ø0.406 (2x) 2-217
AGA-5153	Cover Plate Flow Valve RVP Size 30			Ductile Iron 7.30"x4.55"x2.20" 18.9 lbs Ø0.531 (2x) 39x3mm

* See Technical Information section (Page 144) for side identification numbers.

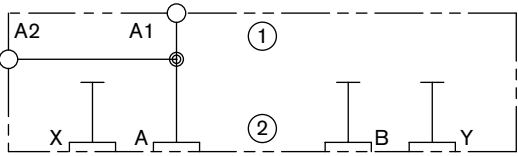
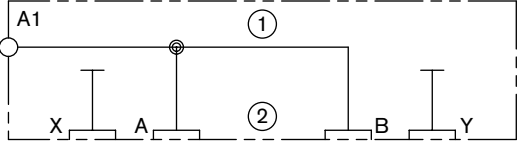
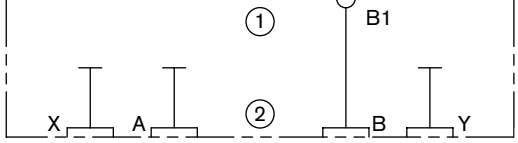
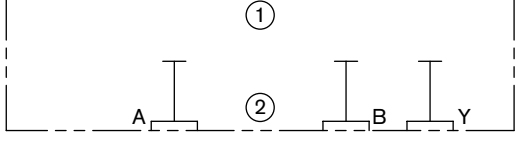
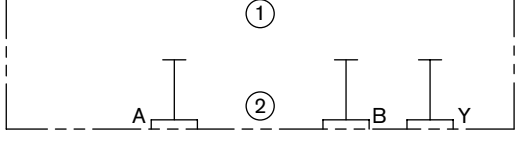
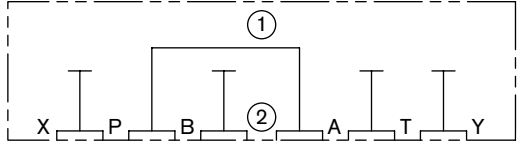
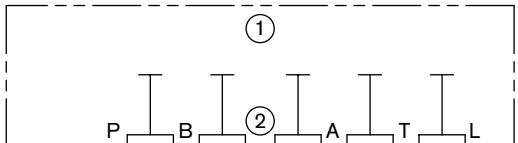
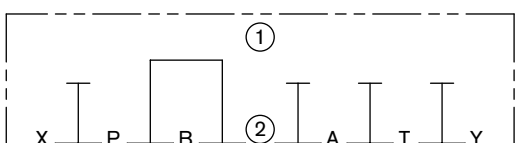


Pre-engineered Circuit Solutions

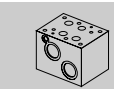
Drawing #	Description	Hydraulic Schematic 1 = Valve Side, 2 = Manifold Side	Connection	Material
				Size L x W x H Weight Valve (Mtg.)
AGA-3375	Cover Plate 2F06 2FRM 5			Ductile Iron 2.36"x2.36"x0.90" 1.3 lbs Ø0.218 (2x) 12x2.5mm
AGA-2437	Cover Plate 2F07 2FRM 10			Ductile Iron 4.00"x3.75"x0.98" 3.8 lbs Ø0.343 (2x) 2-210
AGA-1558	Cover Plate 2F07 2FRM 10			Ductile Iron 3.75"x3.62"x1.24" 4.3 lbs Ø0.343 (2x) 2-210
AGA-0760	Cover Plate 2F08 2FRM 16			Ductile Iron 4.90"x4.90"x0.70" 4.3 lbs Ø0.406 (2x) 2-215
AGA-7876	Cover Plate 2F08 2FRM 16			Ductile Iron 4.90"x4.90"x1.50" 9.3 lbs Ø0.406 (2x) 2-215
AGA-2128-3	Cover Plate R08 Size 20			Ductile Iron 4.50"x3.80"x1.80" 8 lbs Ø0.656 (2x) 2-216
AGA-0961-2	Cover Plate P06 SL,SV,DR,DZ,FD Size 10			Ductile Iron 3.62"x2.80"x1.25" 3.2 lbs Ø0.437 (2x) 2-012 (2x) 2-115
AGA-2736-2	Cover Plate P06 SL,SV,DR,DZ,FD Size 10			Ductile Iron 3.62"x2.80"x1.25" 3.2 lbs Ø0.406 (2x) 2-012 (2x) 2-115

* See Technical Information section (Page 144) for side identification numbers.

Pre-engineered Circuit Solutions

Drawing #	Description	Hydraulic Schematic 1 = Valve Side, 2 = Manifold Side	Connection	Material Size L x W x H Weight Valve (Mtg.)
AGA-3756	Cover Plate P06 SL,SV,DR,DZ,FD Size 10		A1 G 1/4" A2 G 1"	Ductile Iron 3.40"x2.90"x2.20" 5.6 lbs Ø0.421 (2x) 10x2.5mm (2x) 15x2mm
AGA-4448	Cover Plate P08 SL,SV,DR,DZ,FD Size 20		A1 SAE-12 (1 1/16-12UN)	Ductile Iron 4.50"x4.00"x1.80" 8.4 lbs Ø0.421 (2x) 2-012 (2x) 2-216
AGA-1795-2	Cover Plate P08 SL,SV,DR,DZ,FD Size 20		B1 SAE-20 (1 5/8-12UN)	Ductile Iron 4.00"x3.80"x1.40" 5.5 lbs Ø0.406 (2x) 2-012 (2x) 2-216
AGA-2575	Cover Plate P10 SL,SV,DR,DZ,FD Size 30			Ductile Iron 5.50"x4.75"x2.20" 15 lbs Ø0.406 (1x) 2-012 (2x) 2-220
AGA-1368	Cover Plate P10 SL,SV,DR,DZ,FD Size 30			Ductile Iron 5.50"x4.75"x0.70" 4.7 lbs Ø0.406 (1x) 2-012 (2x) 2-220
AGA-2677	Cover Plate D07			Ductile Iron 5.40"x3.63"x1.45" 7.3 lbs (4x) Ø0.406 (2x) Ø0.281 (2x) 10x2mm (4x) 22x2.5mm
AGA-3308	Cover Plate D07			Ductile Iron 5.50"x3.50"x0.95" 4.7 lbs (4x) Ø0.406 (2x) Ø0.281 (1x) 10x2mm (4x) 22x2.5mm
AGA-1159	Cover Plate D07			Ductile Iron 5.40"x3.63"x1.45" 7.3 lbs (4x) Ø0.406 (2x) Ø0.281 (2x) 10x2mm (4x) 22x2.5mm

* See Technical Information section (Page 144) for side identification numbers.



Pre-engineered Circuit Solutions

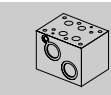
Drawing #	Description	Hydraulic Schematic		Connection	Material Size L x W x H Weight Valve (Mtg.)
		1 = Valve Side, 2 = Manifold Side			
AGA-3630	Sandwich Plate D05			P2 SAE-4 (7/16-20UNF) Side 6	Ductile Iron 3.80"x2.75"x1.15" 3.1 lbs Ø0.281 (5x) 12x2mm O-Ring Plate
AGA-3630	Sandwich Plate D05			P2 SAE-4 (7/16-20UNF) Side 6	Ductile Iron 3.80"x2.75"x1.15" 3.1 lbs Ø0.281 (5x) 12x2mm O-Ring Plate
AGA-2006	Sandwich Plate D05			P2 SAE-6 (9/16-18UNF) Side 6	Ductile Iron 3.50"x2.70"x0.97" 2.3 lbs Ø0.281 (5x) 12x2mm
AGA-2585	Sandwich Plate D05			P2 SAE-12 (1 1/16-12UN) Side 6	Ductile Iron 3.50"x3.00"x1.95" 5.3 lbs Ø0.281 (5x) 12x2mm
AGA-5297	Sandwich Plate D05			P2 SAE-12 (1 1/16-12UN) Side 1	Ductile Iron 4.50"x2.80"x2.00" 6.5 lbs Ø0.281 (5x) 12x2mm
AGA-2495	Sandwich Plate D05				Ductile Iron 3.62"x2.75"x0.95" 2.45 lbs Ø0.281 (5x) 12x2mm
AGA-2221-2	Sandwich Plate D05			A2 SAE-6 (9/16-18UNF)	Ductile Iron 3.90"x2.75"x1.20" 3.3 lbs Ø0.265 (5x) 12x2mm O-Ring Plate
AGA-2221-2	Sandwich Plate D05			B2 SAE-6 (9/16-18UNF)	Ductile Iron 3.90"x2.75"x1.20" 3.3 lbs Ø0.265 (5x) 12x2mm O-Ring Plate

* See Technical Information section (Page 144) for side identification numbers.

Pre-engineered Circuit Solutions

Drawing #	Description	Hydraulic Schematic 1 = Valve Side, 2 = Manifold Side	Connection	Material Size L x W x H Weight Valve (Mtg.)
AGA-0110-2	Sandwich Plate D05			Ductile Iron 3.60"x2.75"x1.40" 3.6 lbs Ø0.281 (5x) 12x2mm O-Ring Plate
AGA-0089-2	Sandwich Plate D05		A2,B2,P2,T2 SAE-4 (7/16-20UNF)	Ductile Iron 3.90"x2.75"x0.95" 2.6 lbs Ø0.265 (5x) 12x2mm O-Ring Plate
AGA-0001-2	Sandwich Plate D05		A2,B2,P2,T2 SAE-4 (7/16-20UNF)	Ductile Iron 3.90"x2.75"x0.95" 2.6 lbs Ø0.265 (5x) 12x2mm O-Ring Plate

* See Technical Information section (Page 144) for side identification numbers.



Notes

Section 12

Technical Information

RA 09 907/07.04

The Drive & Control Company

Section 12 Index

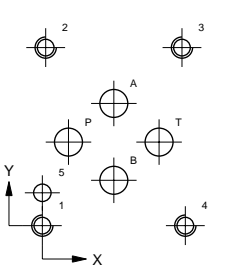
Description	Page
Blackening	141
Hydraulic Fluid Power Valves Mounting Interfaces	142
Technical Reference	144

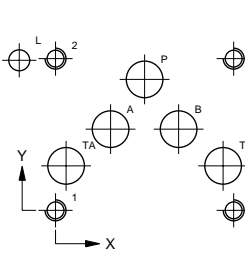
Blackening

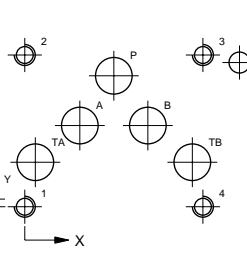
All Rexroth Standard Manifolds constructed of ductile iron material are blackened prior to shipment. After the manifold block is cleaned with a high-pressure detergent solution, the manifold is immersed into two room-temperature tanks that contain a blackening agent. The first tank conditions the part to accept the blackening and removes any surface rust. The second tank blackens the part by adding a thin surface layer approximately 5 millionths of an inch. Once blackened, the manifold is then immersed into a water-displacing rust preventative solution, which leaves a thin dry film on the manifold. The rust preventative coating is designed to last up to 25 days when exposed to the ASTM-D-1748 humidity test and 50 hours of the ASTM-B-117 salt spray test. Some of the chemicals used to blacken the manifold will temporarily inhibit the oxidation process, however a permanent coating such as paint is recommended for long-term rust protection.

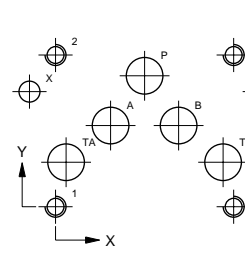


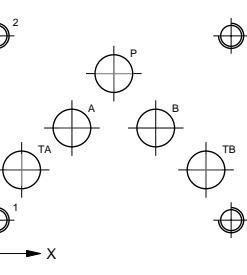
Hydraulic Fluid Power Valves Mounting Interfaces

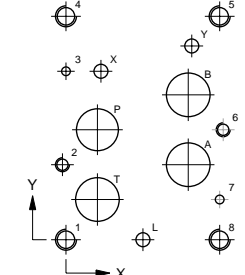
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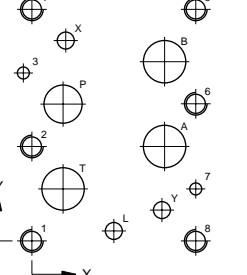
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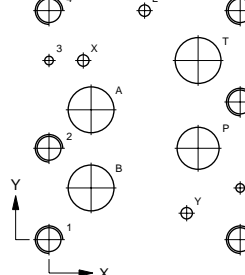
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Y	-0.440	0.091	0.25																																														

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	<table border="1"> <thead> <tr> <th></th> <th>X</th> <th>Y</th> <th>Dia.</th> </tr> </thead> <tbody> <tr><td>1</td><td>0.000</td><td>0.000</td><td>1/4-20</td></tr> <tr><td>2</td><td>0.000</td><td>1.811</td><td>1/4-20</td></tr> <tr><td>3</td><td>2.126</td><td>1.811</td><td>1/4-20</td></tr> <tr><td>4</td><td>2.126</td><td>0.000</td><td>1/4-20</td></tr> <tr><td>A</td><td>0.657</td><td>0.969</td><td>0.437</td></tr> <tr><td>B</td><td>1.469</td><td>0.969</td><td>0.437</td></tr> <tr><td>P</td><td>1.063</td><td>1.563</td><td>0.437</td></tr> <tr><td>TA</td><td>0.126</td><td>0.531</td><td>0.437</td></tr> <tr><td>TB</td><td>2.000</td><td>0.531</td><td>0.437</td></tr> <tr><td>X</td><td>-0.311</td><td>1.374</td><td>0.25</td></tr> <tr><td>Y</td><td>2.437</td><td>1.374</td><td>0.25</td></tr> </tbody> </table>		X	Y	Dia.	1	0.000	0.000	1/4-20	2	0.000	1.811	1/4-20	3	2.126	1.811	1/4-20	4	2.126	0.000	1/4-20	A	0.657	0.969	0.437	B	1.469	0.969	0.437	P	1.063	1.563	0.437	TA	0.126	0.531	0.437	TB	2.000	0.531	0.437	X	-0.311	1.374	0.25	Y	2.437	1.374	0.25
	X	Y	Dia.																																														
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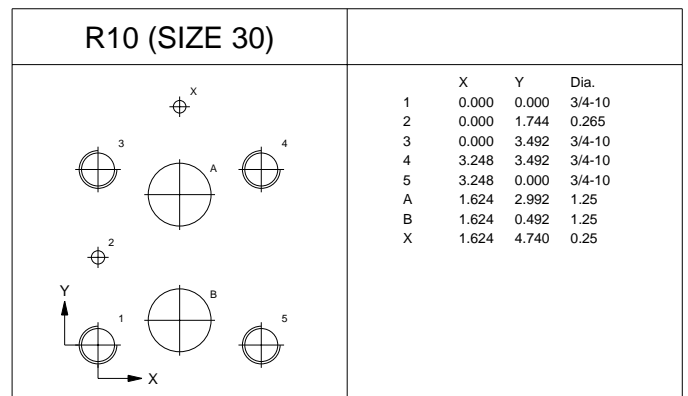
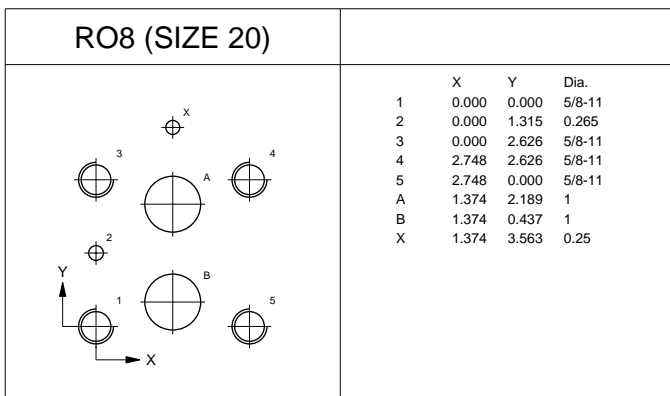
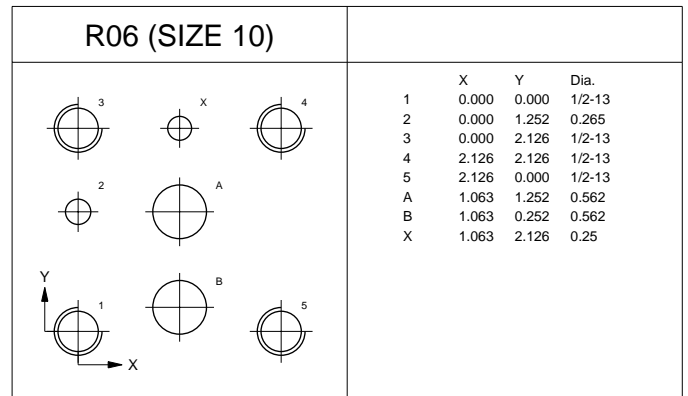
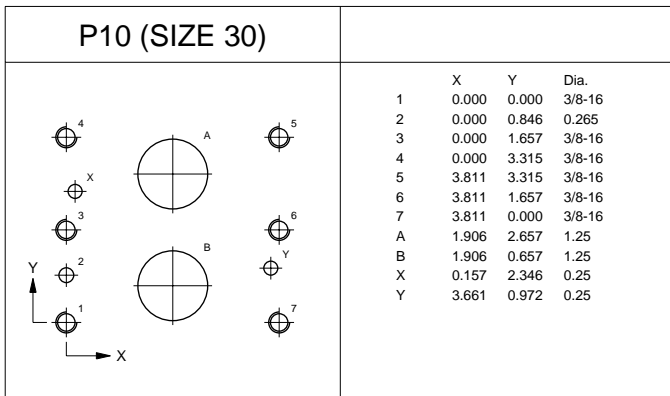
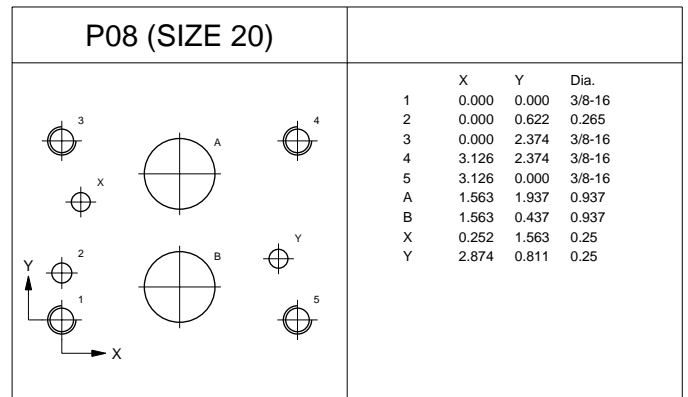
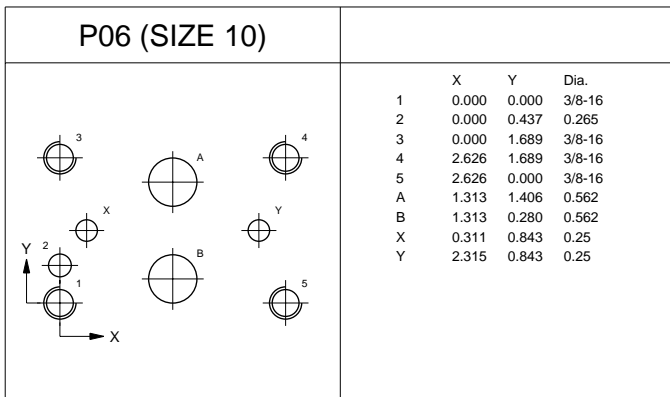
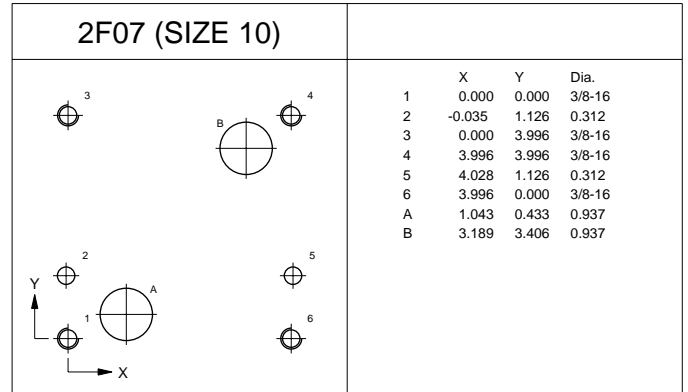
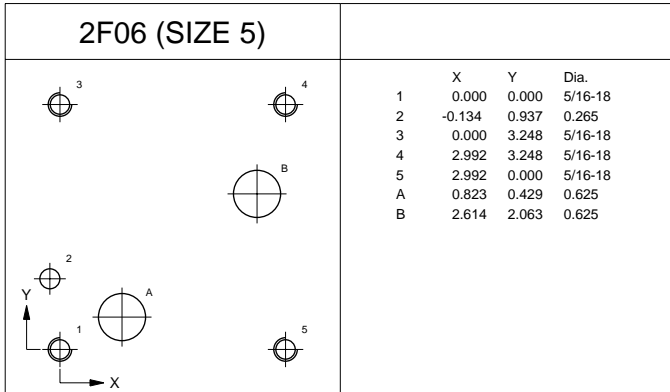
D06																																									
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D07 (size 16)																																																																	
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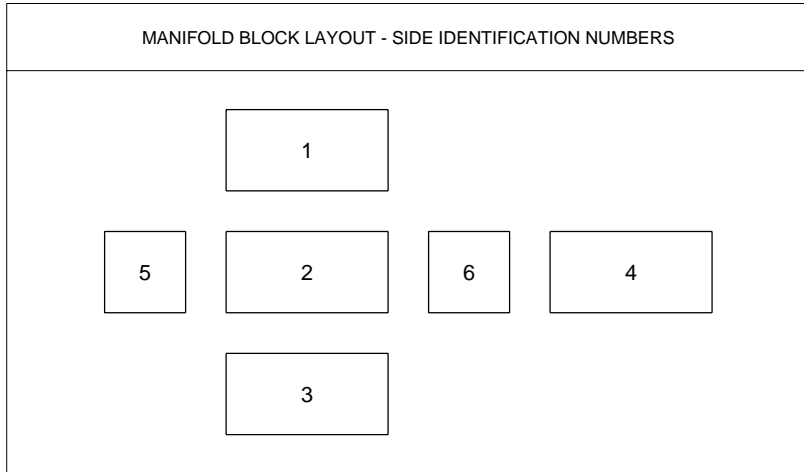
D08 (size 22)																																																																	
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Hydraulic Fluid Power Valves Mounting Interfaces



Technical Reference



Conversion factors:

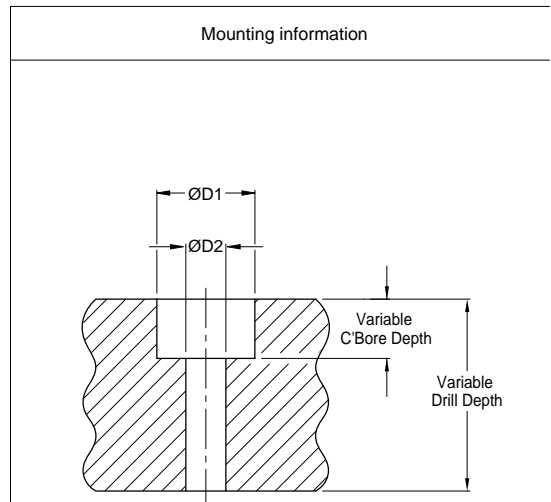
Volume:	Pressure
1 gallon = 231 in. ³	1 bar = 14.5 PSI
1 gallon = 3.785 liters	1 PSI = 6.89 kpa
1 liter = 61.02 in. ³	Length
	1 mm = 0.03937"
	0.001" = 0.0254 mm

Weight Calculation (Raw Material)

Ductile Iron:	L x W x H x 0.26
ALUMINUM:	L x W x H x 0.0975
Steel:	L x W x H x 0.28

1 PSI = .0689655 Bar				1 Bar = 14.5 PSI			
PSI	Bar	PSI	Bar	Bar	PSI	Bar	PSI
20	= 1.379	1100	= 75.86	1	= 14.5	55	= 797.5
30	= 2.069	1200	= 82.76	2	= 29	60	= 870
40	= 2.759	1300	= 89.66	3	= 43.5	65	= 942.5
50	= 3.448	1400	= 96.55	4	= 58	70	= 1015
60	= 4.138	1500	= 103.5	5	= 72.5	75	= 1087.5
70	= 4.828	1600	= 110.3	6	= 87	80	= 1160
80	= 5.517	1700	= 117.2	7	= 101.5	85	= 1232.5
90	= 6.207	1800	= 124.1	8	= 116	90	= 1305
100	= 6.897	1900	= 131.0	9	= 130.5	95	= 1377.5
200	= 13.79	2000	= 137.9	10	= 145	100	= 1450
300	= 20.69	2250	= 155.2	15	= 217.5	150	= 2175
400	= 27.59	2500	= 172.4	20	= 290	200	= 2900
500	= 34.48	2750	= 189.7	25	= 362.5	250	= 3625
600	= 41.38	3000	= 206.9	30	= 435	300	= 4350
700	= 48.28	3500	= 241.4	35	= 507.5	350	= 5075
800	= 55.17	4000	= 275.9	40	= 580	400	= 5800
900	= 62.07	4500	= 310.3	45	= 652.5	450	= 6525
1000	= 68.97	5000	= 344.8	50	= 725	500	= 7250

1 GPM = 3.785 Litres/min				1 Litres/min = 0.2642 GPM			
GPM	L/min	GPM	L/min	L/min	GPM	L/min	GPM
1	= 3.785	75	= 283.9	5	= 1.32	300	= 79.3
2	= 7.57	80	= 302.8	10	= 2.64	350	= 92.5
3	= 11.36	85	= 321.7	20	= 5.28	400	= 106
4	= 15.14	90	= 340.7	30	= 7.92	450	= 119
5	= 18.93	95	= 359.6	40	= 10.56	500	= 132
10	= 37.85	100	= 378.5	50	= 13.2	550	= 145
15	= 56.78	125	= 473.1	60	= 15.84	600	= 159
20	= 75.7	150	= 567.8	70	= 18.48	650	= 172
25	= 94.63	175	= 662.4	80	= 21.12	700	= 185
30	= 113.6	200	= 757	90	= 23.76	750	= 198
35	= 132.5	225	= 851.6	100	= 26.4	800	= 211
40	= 151.4	250	= 946.3	125	= 33	900	= 238
45	= 170.3	275	= 1041	150	= 39.6	1000	= 264
50	= 189.3	300	= 1136	175	= 46.2	1100	= 291
55	= 208.2	325	= 1230	200	= 52.8	1200	= 317
60	= 227.1	350	= 1325	225	= 59.4	1300	= 343
65	= 246	375	= 1420	250	= 66.1	1400	= 370
70	= 265	400	= 1514	275	= 72.7	1500	= 396



BOLT SIZE	D1	D2	BOLT SIZE	D1	D2
M5	0.406	0.218	#8	0.312	0.187
M6	0.437	0.265	#10	0.375	0.218
M8	0.562	0.343	1/4	0.437	0.281
M10	0.687	0.421	5/16	0.562	0.343
M12	0.812	0.531	3/8	0.625	0.406
M14	0.937	0.593	7/16	0.750	0.468
M16	1.031	0.687	1/2	0.812	0.531
M18	1.187	0.781	9/16	0.937	0.593
M20	1.250	0.843	5/8	1.000	0.656
M22	1.437	0.937	3/4	1.187	0.781
M24	1.562	1.000	7/8	1.375	0.906
M30	1.937	1.250	1	1.562	1.031
M36	2.250	1.500	1-1/8	1.750	1.156
			1-1/4	2.000	1.312
			1-3/8	2.187	1.437
			1-1/2	2.375	1.562

All dimensions in inches

Technical Reference

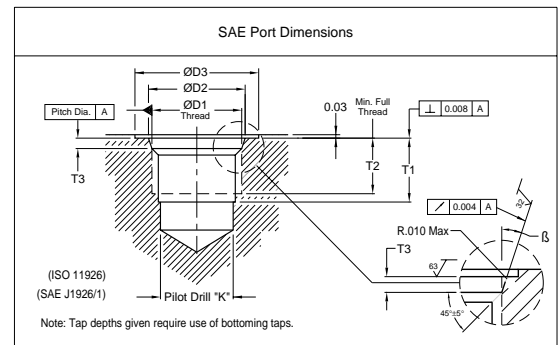
Fraction	DEC.	MM
1/32	1/64 - 0.01562	0.397
	0.03125	0.794
	3/64 - 0.04688	1.191
1/16	0.0625	1.588
	5/64 - 0.07812	1.984
3/32	0.09375	2.381
	7/64 - 0.10938	2.778
	0.125	3.175
1/8	9/64 - 0.14062	3.572
	0.15625	3.969
	11/64 - 0.17188	4.366
3/16	0.1875	4.763
	13/64 - 0.20312	5.159
7/32	0.21875	5.556
	15/64 - 0.23438	5.953
	0.25	6.35
1/4	17/64 - 0.26562	6.747
	0.28125	7.144
	19/64 - 0.29688	7.541
5/16	0.3125	7.938
	21/64 - 0.32812	8.334
11/32	0.34375	8.731
	23/64 - 0.35938	9.128
	0.375	9.525
3/8	25/64 - 0.39062	9.922
	0.40625	10.319
	27/64 - 0.42188	10.716
7/16	0.4375	11.113
	29/64 - 0.45312	11.509
15/32	0.46875	11.906
	31/64 - 0.48438	12.303
	0.5	12.7
1/2	33/64 - 0.51562	13.097
	0.53125	13.494
	35/64 - 0.54688	13.891
9/16	0.5625	14.288
	37/64 - 0.57812	14.684
19/32	0.59375	15.081
	39/64 - 0.60938	15.478
	0.625	15.875
5/8	41/64 - 0.64062	16.272
	0.65625	16.669
	43/64 - 0.67188	17.066
11/16	0.6875	17.463
	45/64 - 0.70312	17.859
23/32	0.71875	18.256
	47/64 - 0.73438	18.653
	0.75	19.05
3/4	49/64 - 0.76562	19.447
	0.78125	19.844
	51/64 - 0.79688	20.241
13/16	0.8125	20.638
	53/64 - 0.82812	21.034
27/32	0.84375	21.431
	55/64 - 0.85938	21.828
	0.875	22.225
7/8	57/64 - 0.89062	22.622
	0.90625	23.019
	59/64 - 0.92188	23.416
15/16	0.9375	23.813
	61/64 - 0.95312	24.209
31/32	0.96875	24.606
	63/64 - 0.98438	25.003
	1	25.4

Tap Drill Ø	Tap size UNC
0.04688	0-80
0.0595	1-64,72
0.0700	2-56,64
0.0785	3-84
0.0820	3-56
0.0890	4-40
0.0935	4-48
0.1015	5-40
0.1040	5-44
0.1065	6-32
0.1130	6-40
0.1360	8-32,36
0.1495	10-24
0.1590	10-32
0.1770	12-24
0.1820	12-28
0.2010	1/4-20
0.2130	1/4-28
0.257	5/16-18
0.2720	5/16-24
0.3125	3/8-16
0.3320	3/8-24
0.3680	7/16-14
0.3906	7/16-20
0.4219	1/2-13
0.4531	1/2-20
0.4844	9/16-12
0.5156	9/16-18
0.5312	5/8-11
0.5781	5/8-18
0.6562	3/4-10
0.6875	3/4-16
0.7656	7/8-9
0.8125	7/8-14
0.8750	1-8
0.9219	1-12
0.9844	1 1/8-7
1.0469	1 1/8-12
1.1094	1 1/4-7
1.1719	1 1/4-12
1.2188	1 3/8-6
1.2969	1 3/8-12
1.3438	1 1/2-6
1.4219	1 1/2-12

Tap Drill Ø	Tap size mm
0.0492	1.6x0.35
0.0571	1.8x0.35
0.0630	2x0.4
0.0689	2.2x0.45
0.0807	2.5x0.45
0.0984	3x0.5
0.1142	3.5x0.6
0.1299	4x0.7
0.1457	4.5x0.75
0.1654	5x0.8
0.1968	6x1
0.2362	7x1
0.2638	8x1.25
0.2756	8x1
0.3346	10x1.5
0.3425	10x1.25
0.4016	12x1.75
0.4252	12x1.25
0.4724	14x2
0.4921	14x1.5
0.5512	16x2
0.5709	16x1.5
0.6102	18x2.5
0.6496	18x1.5
0.6890	20x2.5
0.7283	20x1.5
0.7677	22x2.5
0.8071	22x1.5
0.8268	24x3
0.8661	24x2
0.9449	27x3
0.9843	27x2
1.0433	30x3.5
1.1024	30x2
1.1614	33x3.5
1.2205	33x2
1.2598	36x4
1.2992	36x3
1.3780	39x4
1.4173	39x3

Tap Drill Ø	Tap size NPT
0.25	1/16-27
0.3438	1/8-27
0.4375	1/4-18
0.5781	3/8-18
0.7187	1/2-14
0.9218	3/4-14
1.1562	1-11 1/2
1.5	1 1/4-11 1/2
1.75	1 1/2-11 1/2
2.2187	2-11 1/2
2.6562	2 1/2-8
3.25	3-8
3.75	3 1/2-8
4.25	4-8

Torque Values for plugs	
Tap size NPT	Max. Torque Inch-Pounds
1/16-27	150
1/8-27	250
1/4-18	600
3/8-18	1,200
1/2-14	1,800
3/4-14	3,000
1-11 1/2	4,200
1 1/4-11 1/2	5,400
1 1/2-11 1/2	6,900
2-11 1/2	8,500



Nominal Tube Size	SAE Size	ØD1 (CLASS-2B)	ØD2 +0.05 -0.00	ØD3 MIN	T1 MIN	T2 MIN	T3 +0.015 -0.000	±1°	Pilot Drill (K)
1/8	2	5/16-24 UNF	.358	.672	.472	.394	.075	12R	.250
3/16	3	3/8-24 UNF	.421	.748					.312
1/4	4	7/16-20 UNF	.487	.828					.375
5/16	5	1/2-20 UNF	.550	.906					.437
3/8	6	9/16-18 UNF	.614	.984	.610	.500			.468
1/2	8	3/4-16 UNF	.811	1.188	.689	.563	.098		.625
5/8	10	7/8-14 UNF	.941	1.344	.787	.658		.750	
3/4	12	1-1/16-12 UN	1.149	1.625				.937	
7/8	14	1-3/16-12 UN	1.272	1.772				1.000	
1	16	1-5/16-12 UN	1.398	1.929	.905	.750	.130	1.156	
1 1/4	20	1-5/8-12 UN	1.713	2.283				1.500	
1 1/2	24	1-7/8-12 UN	1.961	2.560				1.750	
2	32	2-1/2-12 UN	2.587	3.480				2.375	

All dimensions in inches

Notes

Notes

Notes

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