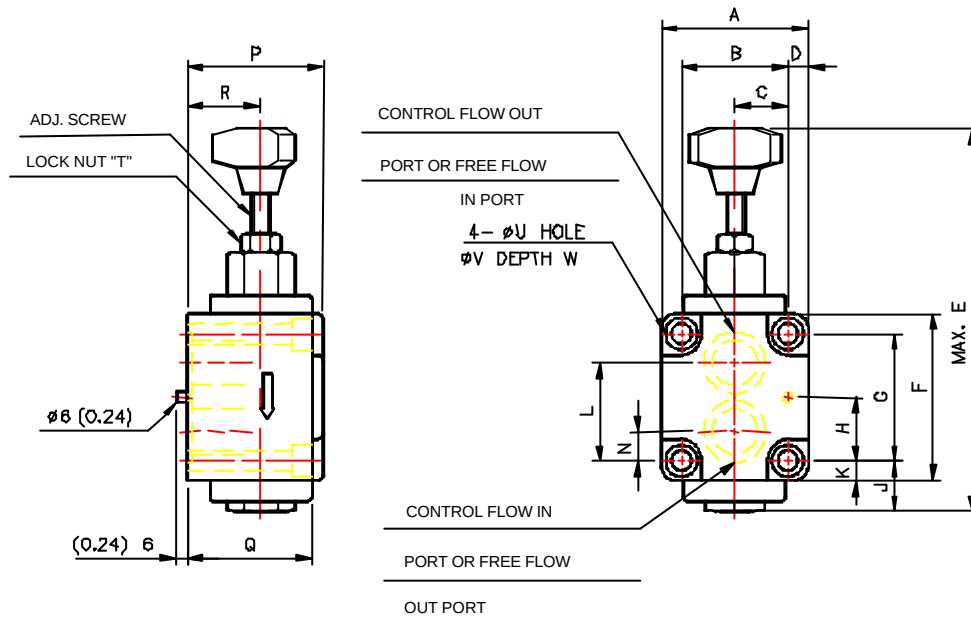


INSTALLATION DIMENSIONS

UNIT mm(inch)

TCV-G03/06/10-10



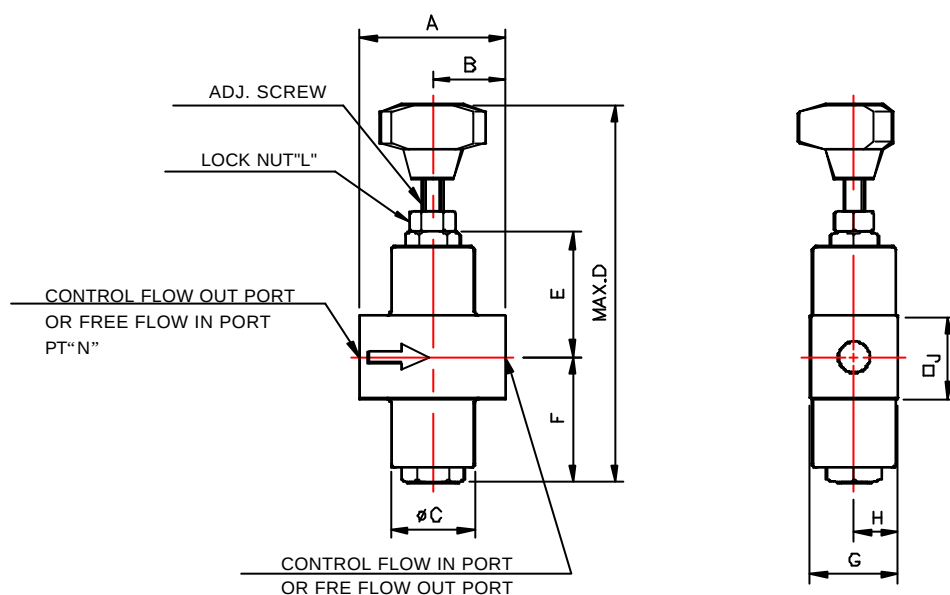
MODEL	A	B	C	D	E	F	G	H	J
TCV-G03	60 (2.36)	40 (1.57)	20 (0.79)	10 (0.39)	179 (7.05)	80 (3.14)	60 (2.36)	30 (1.18)	28 (1.10)
TCV-G06	80 (3.15)	58 (2.28)	29 (1.14)	11 (0.43)	213 (8.39)	95 (3.74)	70 (2.76)	35 (1.38)	30 (1.18)
TCV-G10	100 (3.94)	72 (2.83)	36 (1.42)	14 (0.55)	228 (8.98)	120 (4.72)	92 (3.62)	46 (1.81)	31 (1.22)

MODEL	K	L	N	P	Q	R	T	U	V	W
TCV-G03	10 (0.39)	45 (1.77)	15 (0.59)	62 (2.44)	55 (2.17)	35 (1.38)	19 (0.75)	8.8 (0.35)	14 (0.55)	8.6 (0.34)
TCV-G06	11 (0.43)	54 (2.13)	16 (0.63)	74 (2.91)	68 (2.68)	40 (1.57)	19 (0.75)	11 (0.43)	17.5 (0.69)	10.8 (0.43)
TCV-G10	14 (0.55)	71 (2.80)	21 (0.83)	97 (3.82)	82 (3.23)	50 (1.97)	22 (0.87)	13.5 (0.53)	21 (0.83)	1 (0.04)

INSTALLATION DIMENSIONS

UNIT mm(inch)

TCV-T03/06/10-10



MODEL	A	B	C	D	E	F	G	H	J	L	N
TCV-T03	70 (2.76)	35 (1.38)	40 (1.57)	180 (7.08)	62.5 (2.46)	58 (2.28)	42 (1.65)	21 (0.82)	40 (1.57)	19 (0.75)	3/8
TCV-T06	100 (3.94)	50 (1.97)	60 (2.36)	215 (8.46)	83 (3.27)	65 (2.56)	62 (2.44)	31 (1.22)	60 (2.36)	19 (0.75)	3/4
TCV-T10	130 (5.12)	65 (2.56)	80 (3.15)	228 (8.98)	106 (4.17)	77 (3.03)	82 (3.23)	41 (1.61)	80 (3.15)	22 (0.87)	1-1/4

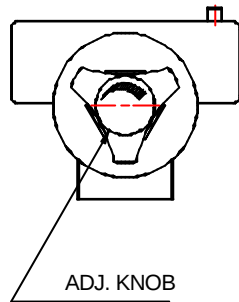
INSTALLATION DIMENSIONS

UNIT mm(inch)

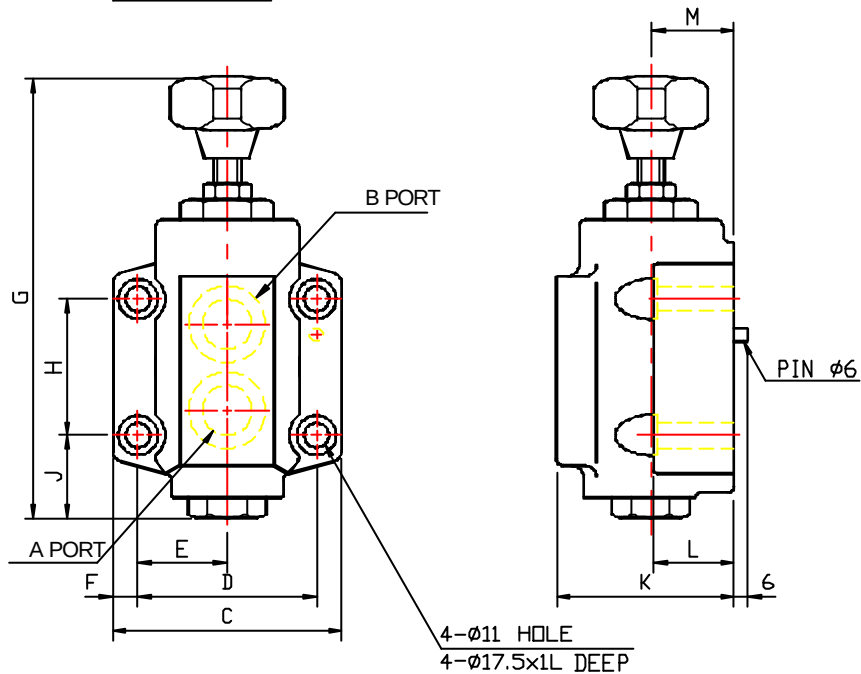
TV/TCV-G03/06

TV/TCV-G03: ISO 5781-AG-06-2-A

TV/TCV-G06: ISO 5781-AH-08-2-A



MODEL	A PORT	B PORT
TV - 03	CONTROL FLOW	CONTROL FLOW
- 06	IN PORT	OUT PORT
TCV - 03	CONTROL FLOW	CONTROL FLOW
- 06	IN PORT OR FREE FLOW OUT PORT	OUT PORT OR FREE FLOW IN PORT



MODEL	C	D	E	F	G	H	J	K
TV/TCV-G03	90(3.54)	66.7(2.63)	33.3(1.31)	11.7(0.46)	173(6.81)	42.9(1.69)	32(1.26)	64(2.52)
TV/TCV-G06	102(4.02)	79.4(3.13)	39.7(1.56)	11.3(0.44)	203(7.99)	60.3(2.37)	36.5(1.44)	79(3.11)

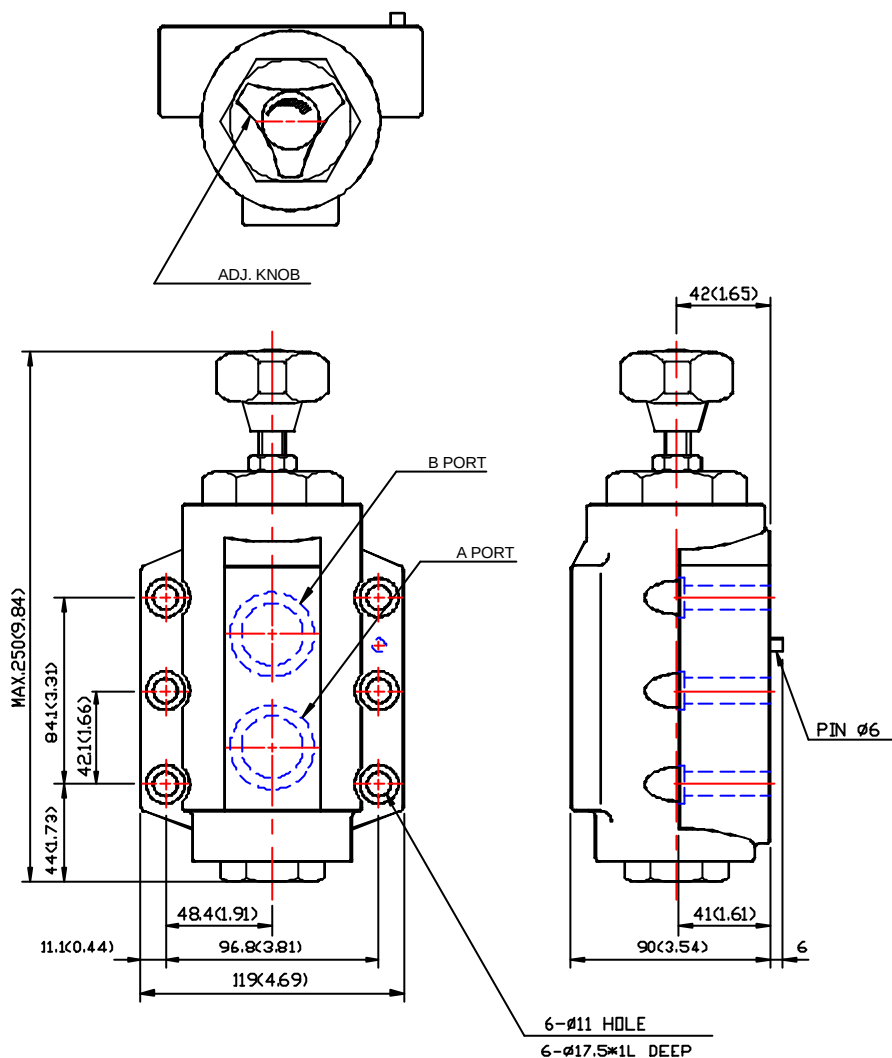
MODEL	L	M
TV/TCV-G03	31(1.22)	31(1.22)
TV/TCV-G06	36(1.42)	37(1.46)

INSTALLATION DIMENSIONS

UNIT mm(inch)

TV/TCV-G10

TV/TCV-G10: ISO 5781-AJ-10-2-A



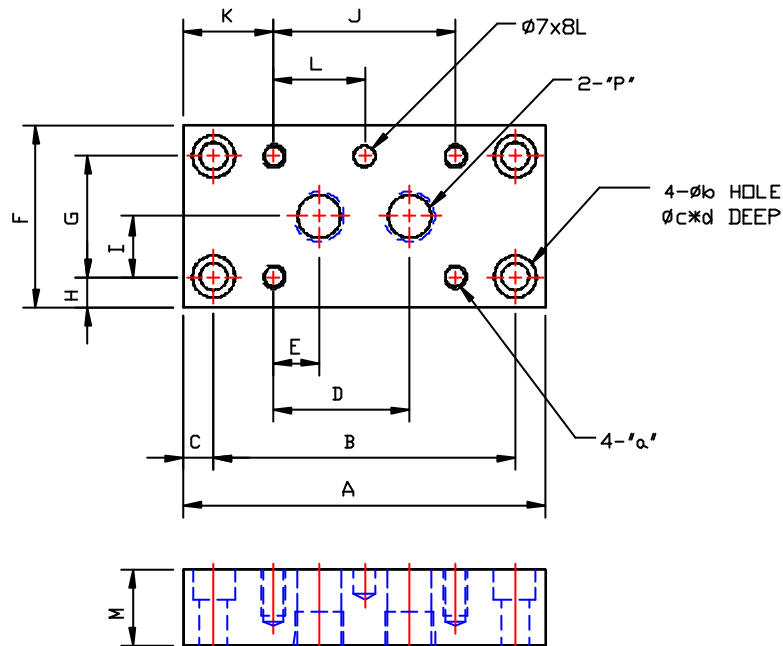
MODEL	A PORT	B PORT
TV-G10	CONTROL FLOW IN PORT	CONTROL FLOW OUT PORT
TCV-G10	CONTROL FLOW IN PORT OR FREE FLOW OUT PORT	CONTROL FLOW OUT PORT OR FREE FLOW IN PORT

INSTALLATION DIMENSIONS

UNIT mm(inch)

TVM - 03 - 03 - N

NO CODE: PT THREADS
N: NPT THREADS
SUBPLATE PORT SIZE
03: 3/8"
06: 3/4"
10: 1-1/4"
VALVE PORT SIZE
03: 3/8"
06: 3/4"
10: 1-1/4"
SUBPLATE FOR NON-ISO STANDARD TV/TCV



MODEL	A	B	C	D	E	F	G	H	I	J
TVM-03	120 (4.72)	100 (3.94)	10 (0.39)	45 (1.77)	15 (0.59)	60 (2.36)	40 (1.57)	10 (0.39)	20 (0.79)	60 (2.36)
TVM-06	134 (5.28)	110 (4.33)	12 (0.47)	54 (2.13)	16 (0.63)	82 (3.23)	58 (2.28)	12 (0.47)	29 (1.14)	70 (2.76)
TVM-10	160 (6.30)	132 (5.20)	14 (0.55)	71 (2.80)	21 (0.83)	100 (3.94)	72 (2.83)	14 (0.55)	36 (1.42)	92 (3.62)

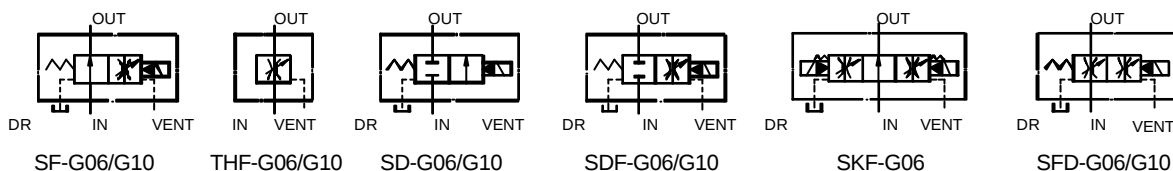
MODEL	K	L	M	P	a	b	c	d
TVM-03	30 (1.18)	30 (1.18)	25 (0.98)	3/8"	M8x15L 5/16"x0.6"L	9 (0.35)	14 (0.55)	10 (0.39)
TVM-06	32 (1.26)	35 (1.38)	32 (1.26)	3/4"	M10x20L 3/8"x0.8"L	11 (0.43)	18 (0.71)	12 (0.47)
TVM-10	34 (1.34)	46 (1.81)	50 (1.97)	1-1/4"	M12x35L 1/2"x1.4"L	13 (0.51)	20 (0.79)	14 (0.55)

FEATURES



- SF,SDF,SD,SKF,SFD ARE SOLENOID OPERATED FLOW CONTROL VALVES WHICH ARE MOST OFTEN USED PLASTIC INJECTION MOLDING MACHINES AND HYDRAULIC PRESSES.
- SF VALVE IS AN ADJUSTABLE FLOW CONTROL VALVE WITH SOLENOID DIRECTIONAL CONTROL VALVE BUILT TOGETHER. NORMALLY IT CONTROLS THE FLOW RATE AS ADJUSTED, BUT PERMITS FREE FLOW WHEN SOLENOID IS ENERGIZED.
- SDF IS A VALVE NORMALLY BLOCKED, BUT PERMITS FLOW TO PASS AT THE ADJUSTED RATE WHEN SOLENOID IS ENERGIZED. VENT PORT SHALL BE CONNECTED TO THE R.C. PORT(VENT PORT) OF MAIN RELIEF. TO REACH THE EFFECT OF LOAD SENSING, WILL GREATLY CONSERVE ENERGY.

SYMBOLS



HOW TO ORDER

SF - G 06 - A220 - 10 - 10 - N

NO CODE: BOLT METER
N: BOLT INCH
DESIGN NUMBER

WIRING
10: JOINT BOX WITH
INDICATING LIGHT
20: HIRSCHMANN TYPE
WITH INDICATING LIGHT
OMIT: FOR THF ONLY

A110: AC110V 60HZ, 100V 50HZ
A120: AC120V 60HZ, 110V 50HZ
A220: AC220V 60HZ, 200V 50HZ
A240: AC240V 60HZ, 220V 50HZ
D12: DC12V
OMIT: FOR THF ONLY

R110: AC110V 60HZ, 100V 50HZ
R120: AC120V 60HZ, 110V 50HZ
R220: AC220V 60HZ, 200V 50HZ
R240: AC240V 60HZ, 220V 50HZ
D24: DC24V

PORT SIZE
06: 3/4"
10: 1-1/4"

G :SUBPLATE MOUNTED

MODEL:
SF
SDF
THF
SFD
SD
SKF(ONLY G06 AVAILABLE)

SPECIFICATIONS

MODEL	MAX.OPERATED PRESSURE KGF/CM ² (PSI)	MAX.FLOW LPM (GPM)	WEIGHT KGS(LBS)	BLOT METER (INCH)	PILO T VALVE
SF-G06	210 (3000)	120 (30)	6.4 (14.1)	M10 x 1.5P x 45L 4 PCS (3/8"x1-3/4)	SWH-G02-B2S
SFD-G06			6.4 (14.1)		SWH-G02-B2
THF-G06			5.0 (11.0)		--
SD-G06			6.1 (13.4)		SWH-G02-B2
SFD-G06			6.7 (14.7)		SWH-G02-B2S
SKF-G06			7.5 (16.5)		SWH-G02-C4
SF-G10		240 (60)	9.9 (21.8)	M12 x 1.75P x 55L 4 PCS (1/2" x 2-1/4)	SWH-G02-B2S
SDF-G10			9.9 (21.8)		SWH-G02-B2
THF-G10			8.4 (18.5)		--
SD-G10			9.4 (20.7)		SWH-G02-B2
SFD-G10			10.4 (22.9)		SWH-G02-B2S

SOLENDID RATING

ELECTRIC SOURCE	COIL TYPE	HZ	VOLTAGE(V)		CURRENT & POWER AT RATED VOLTAGE		
			SOURCE RATED	RANGE	IN- RUSH CURRENT (A)	HOLDING CURRENT (A)	WATTAGE
A.C	A110	50	100	90-110	1.6	0.46	
		60	100	90-110	1.4	0.32	
			110	99-121	1.5	0.39	
	A120	50	110	99-121	1.3	0.38	
		60	120	108-132	1.2	0.27	
	A220	50	200	180-220	0.80	0.23	
		60	200	180-220	0.70	0.16	
			220	198-242	0.75	0.19	
	A240	50	220	198-242	0.67	0.19	
		60	240	216-264	0.59	0.13	
	R110	50	100	90-110	0.3	0.44	
		60	110	99-121	0.3	0.3	
	R220	50	200	180-220	0.15	0.19	
		60	220	198-242	0.15	0.15	
D.C	D12	12		10.8-13.2	2.2	2.2	26



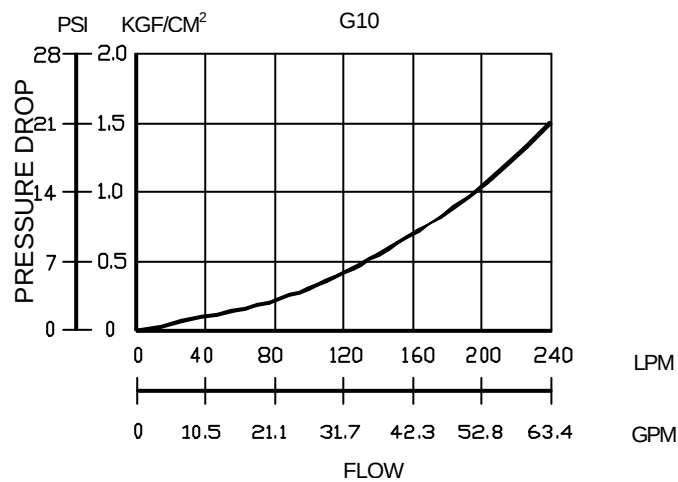
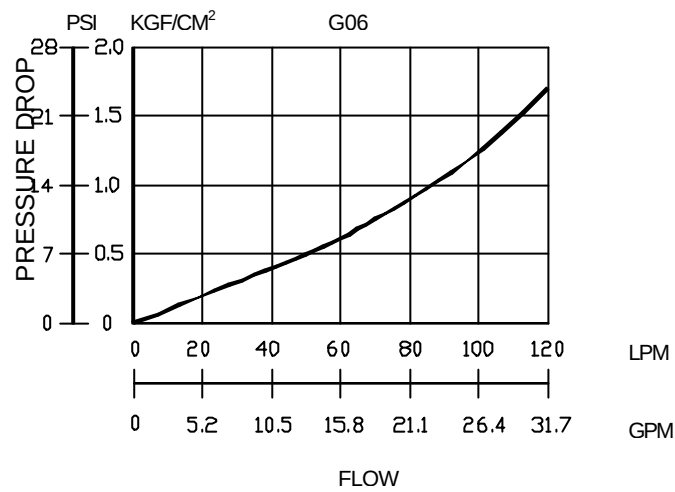
FLOW CONTROLS
SOLENOID OPERATED FLOW CONTROL VALVE

	D24	24	21.6-26.4	1.1	1.1	
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PERFORMANCE CURVES

TEST CONDITIONS
 VISCOSITY: 35 cSt
 TEMPERATURE: 50°C

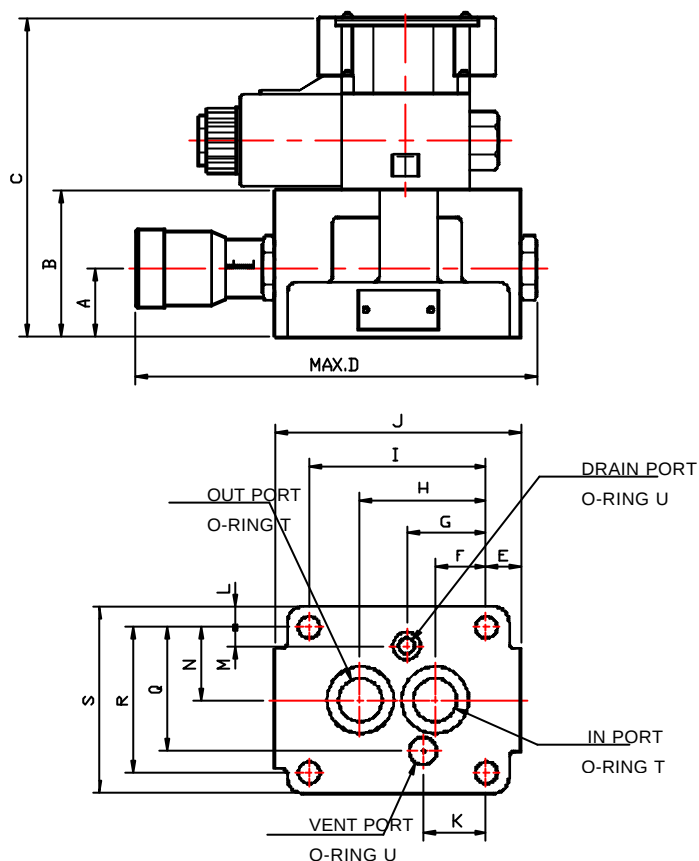
PRESSURE DROP FOR FREE FLOW



INSTALLATION DIMENSIONS

UNIT mm(inch)

SF-G06/G10



MODEL	A	B	C	D	E	F	G
SF-G06	35(1.38)	75(2.95)	162.5(6.4)	209(8.23)	17.5(0.69)	26(1.02)	40.5(1.59)
SF-G10	40(1.57)	86(3.39)	173.5(6.8)	248(9.76)	19(0.75)	34(1.34)	47(1.85)

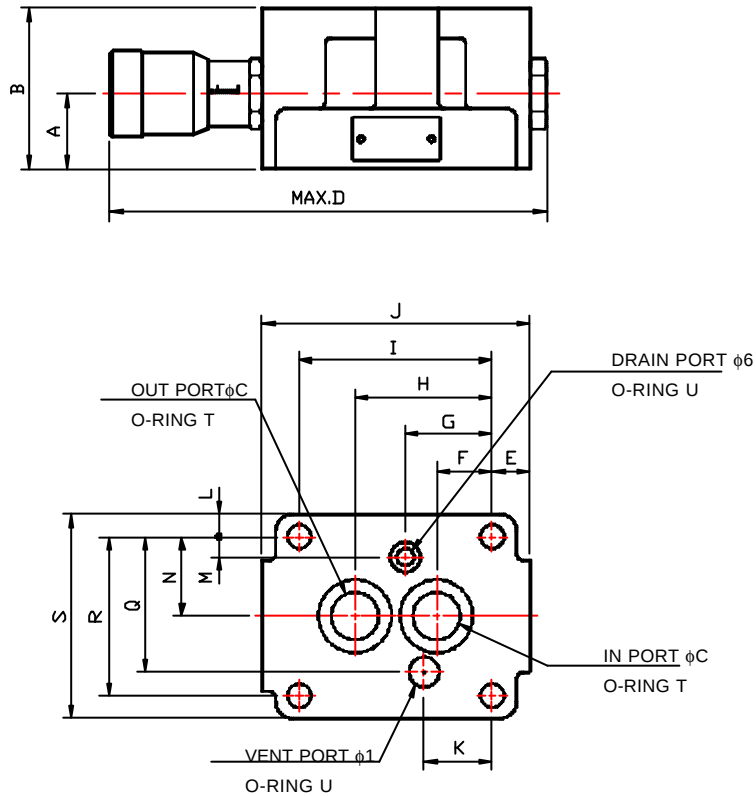
MODEL	H	I	J	K	L	M	N
SF-G06	64(2.52)	90(3.54)	125(4.92)	31.7(1.25)	10.5(0.41)	9.5(0.37)	37(1.46)
SF-G10	78(3.07)	112(4.41)	150(5.91)	37.9(1.49)	14.5(0.57)	16(0.63)	43(1.69)

MODEL	Q	R	S	T	U
SF-G06	63(2.48)	74(2.91)	95(3.74)	P29	P12
SF-G10	76(2.99)	86(3.39)	115(4.53)	P34	P12

INSTALLATION DIMENSIONS

UNIT mm(inch)

THF-G06/G10



MODEL	A	B	C	D	E	F	G
THF-G06	35(1.38)	75(2.95)	ϕ 26(1.02)	209(8.23)	17.5(0.69)	26(1.02)	40.5(1.59)
THF-G10	40(1.57)	86(3.39)	ϕ 29(1.14)	248(9.76)	19(0.75)	34(1.34)	47(1.85)

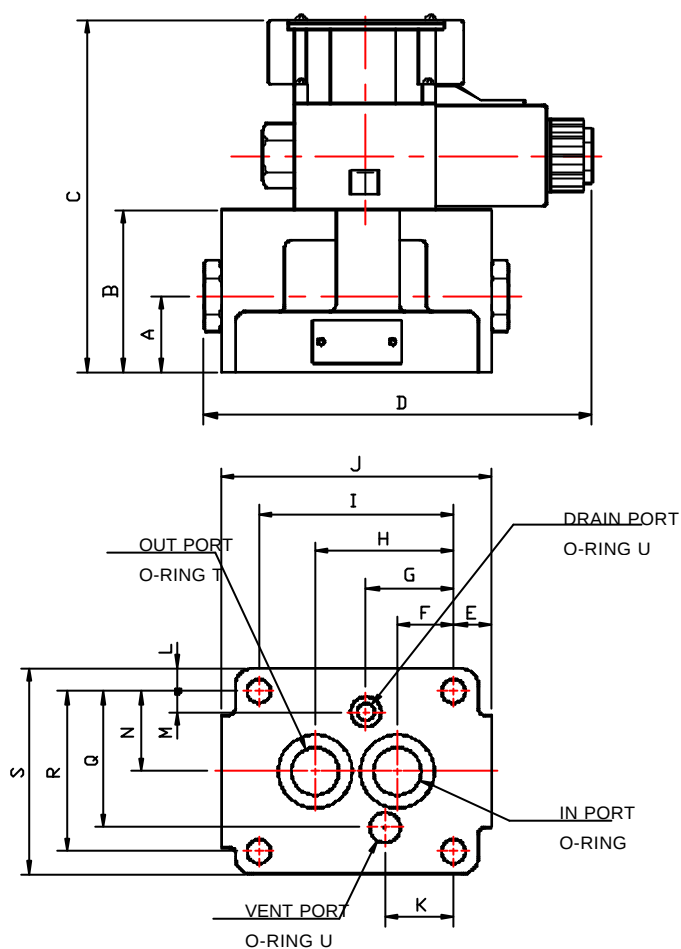
MODEL	H	I	J	K	L	M	N
THF-G06	64(2.52)	90(3.54)	125(4.92)	31.7(1.25)	10.5(0.41)	9.5(0.37)	37(1.46)
THF-G10	78(3.07)	112(4.41)	150(5.91)	37.9(1.49)	14.5(0.57)	16(0.63)	43(1.69)

MODEL	Q	R	S	T	U
THF-G06	63(2.48)	74(2.91)	95(3.74)	P29	P12
THF-G10	76(2.99)	86(3.39)	115(4.53)	P34	P12

INSTALLATION DIMENSIONS

UNIT mm(inch)

SD-G06/G10



MODEL	A	B	C	D	E	F	G
SD-G06	35(1.38)	75(2.95)	162.5(6.4)	180(7.09)	17.5(0.69)	26(1.02)	40.5(1.59)
SD-G10	40(1.57)	86(3.39)	173.5(6.8)	197(7.76)	19(0.75)	34(1.34)	47(1.85)

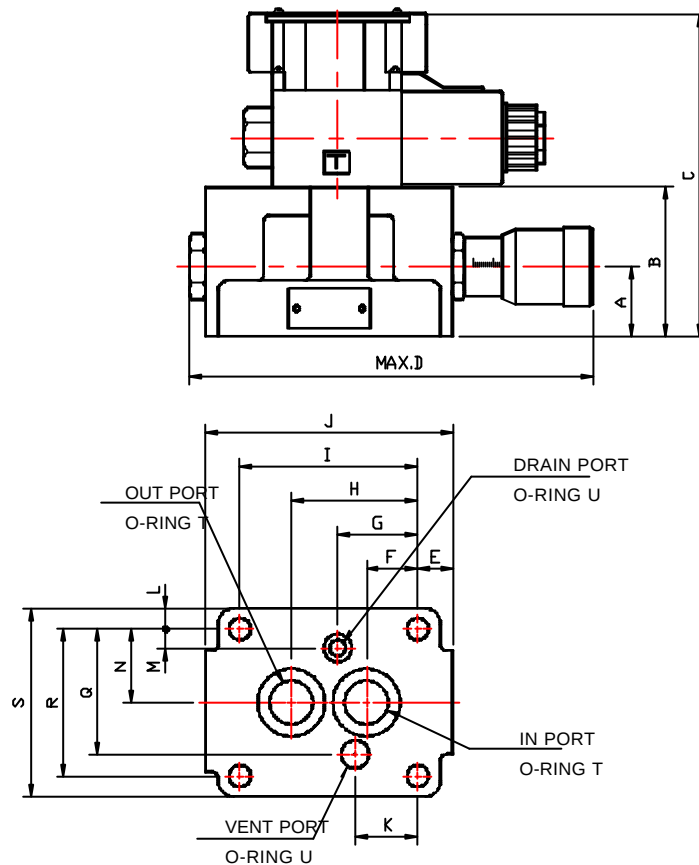
MODEL	H	I	J	K	L	M	N
SD-G06	64(2.52)	90(3.54)	125(4.92)	31.7(1.25)	10.5(0.41)	9.5(0.37)	37(1.46)
SD-G10	78(3.07)	112(4.41)	150(5.91)	37.9(1.49)	14.5(0.57)	16(0.63)	43(1.69)

MODEL	Q	R	S	T	U
SD-G06	63(2.48)	74(2.91)	95(3.74)	P29	P12
SD-G10	76(2.99)	86(3.39)	115(4.53)	P34	P12

INSTALLATION DIMENSIONS

UNIT mm(inch)

SDF-G06/G10



MODEL	A	B	C	D	E	F	G
SDF-G06	35(1.38)	75(2.95)	162.5(6.4)	209(8.23)	17.5(0.69)	26(1.02)	40.5(1.59)
SDF-G10	40(1.57)	86(3.39)	173.5(6.8)	248(9.76)	19(0.75)	34(1.34)	47(1.85)

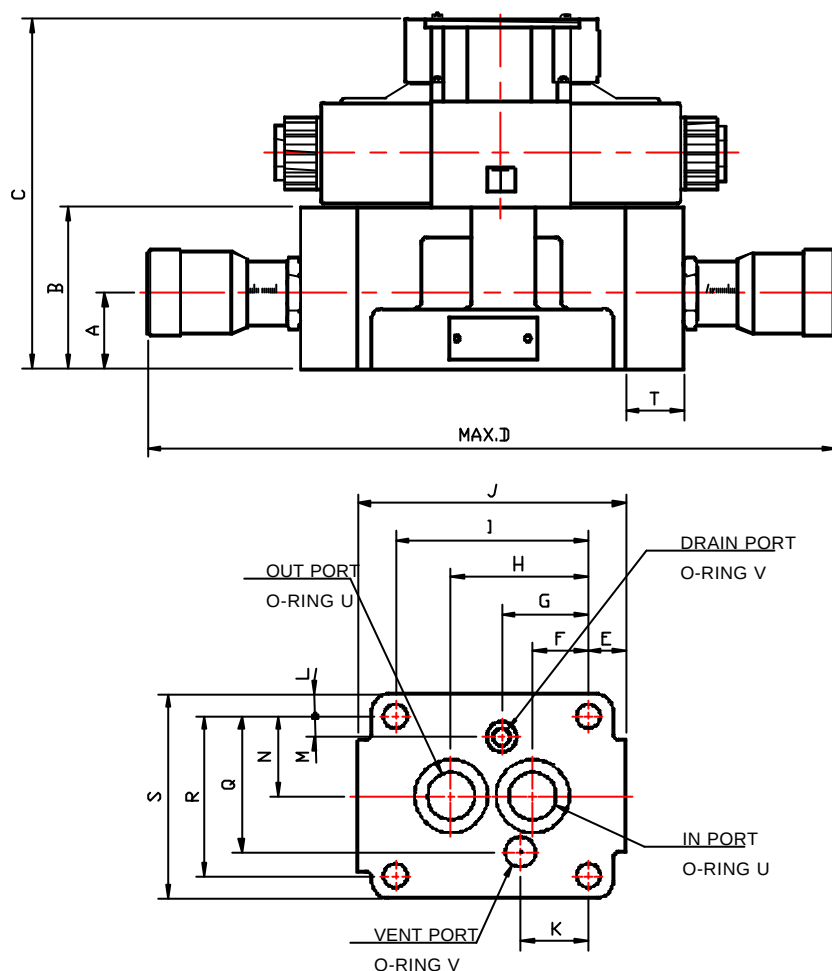
MODEL	H	I	J	K	L	M	N
SDF-G06	64(2.52)	90(3.54)	125(4.92)	31.7(1.25)	10.5(0.41)	9.5(0.37)	37(1.46)
SDF-G10	78(3.07)	112(4.41)	150(5.91)	37.9(1.49)	14.5(0.57)	16(0.63)	43(1.69)

MODEL	Q	R	S	T	U
SDF-G06	63(2.48)	74(2.91)	95(3.74)	P29	P12
SDF-G10	76(2.99)	86(3.39)	115(4.53)	P34	P12

INSTALLATION DIMENSIONS

UNIT mm(inch)

SKF-G06



MODEL	A	B	C	D	E	F	G
SKF-G06	35(1.38)	75(2.95)	162.5(6.4)	277(10.9)	17.5(0.69)	26(1.02)	40.5(1.59)

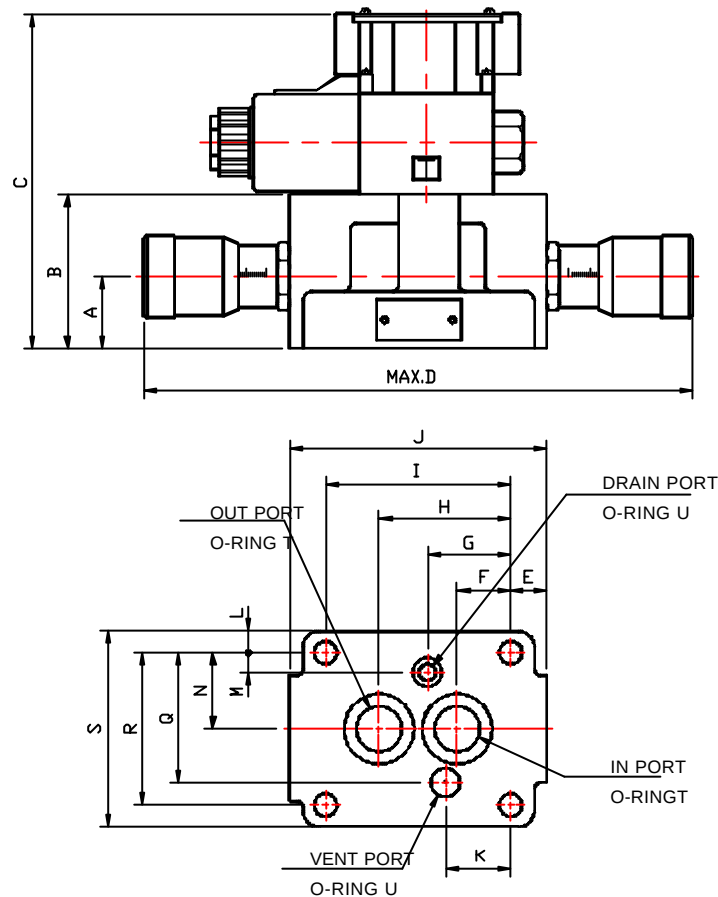
MODEL	H	I	J	K	L	M	N
SKF-G06	64(2.52)	90(3.54)	125(4.92)	31.7(1.25)	10.5(0.41)	9.5(0.37)	37(1.46)

MODEL	Q	R	S	T	U	V
SKF-G06	63(2.48)	74(2.91)	95(3.74)	27(1.06)	P29	P12

INSTALLATION DIMENSIONS

UNIT mm(inch)

SFD-G06/G10



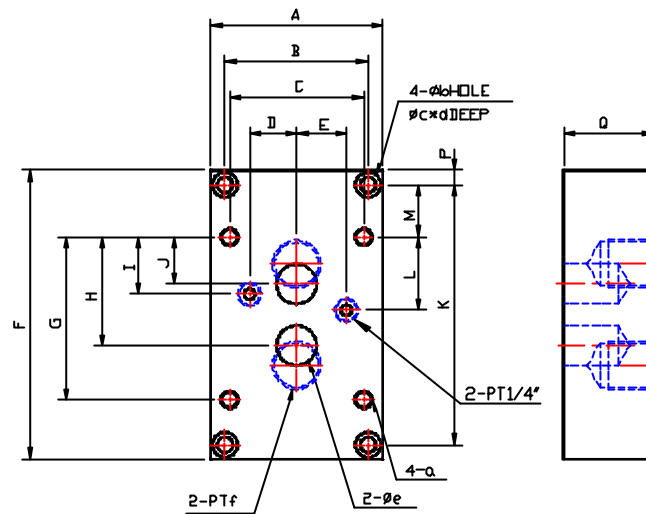
MODEL	A	B	C	D	E	F	G
SFD-G06	35(1.38)	75(2.95)	162.5(6.4)	277(10.9)	17.5(0.69)	26(1.02)	40.5(1.59)
SFD-G10	40(1.57)	86(3.39)	173.5(6.8)	328(12.9)	19(0.75)	34(1.34)	47(1.85)

MODEL	H	I	J	K	L	M	N
SFD-G06	64(2.52)	90(3.54)	125(4.92)	31.7(1.25)	10.5(0.41)	9.5(0.37)	37(1.46)
SFD-G10	78(3.07)	112(4.41)	150(5.91)	37.9(1.49)	14.5(0.57)	16(0.63)	43(1.69)

MODEL	Q	R	S	T	U
SFD-G06	63(2.48)	74(2.91)	95(3.74)	P29	P12
SFD-G10	76(2.99)	86(3.39)	115(4.53)	P34	P12

INSTALLATION DIMENSIONS

UNIT mm(inch)



MODEL	A	B	C	D	E	F	G	H
SFM-06	95 (3.74)	79 (3.11)	74 (2.91)	26 (1.02)	27.5 (1.08)	160 (6.30)	90 (3.54)	64 (2.52)
SFM-10	115 (4.53)	95 (3.74)	86 (3.39)	33 (1.30)	27 (1.06)	182 (7.16)	112 (4.41)	78 (3.07)

MODEL	I	J	K	L	M	P	Q	a
SFM-06	31.7 (1.25)	26 (1.02)	144 (5.67)	40.5 (1.59)	29 (1.14)	8 (0.32)	40 (1.57)	M10 (3/8")
SFM-10	37.9 (1.49)	34 (1.34)	162 (6.38)	47 (1.85)	35 (1.38)	10 (0.39)	50 (1.97)	M12 (1/2")

MODEL	b	c	d	e	f
SFM-06	8.5 (0.34)	14 (0.55)	10 (0.39)	22 (0.87)	3/4"
SFM-10	11 (0.43)	17.5 (0.69)	12 (0.47)	28 (1.10)	1-1/4"

HOW TO ORDER

SFM - 06 - 06 - N

NO CODE: PT THREADS
N: NPT THREADS

SUBPLATE PORT SIZE
06: 3/4"
08: 1"
10: 1-1/4"
12: 1-1/2"

VALVE PORT SIZE
06: 3/4"
10: 1-1/4"

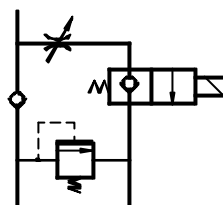
SUBPLATE FOR SF SERIES

FEATURES



- Originally created for their own usage, and patented by KAWAHARA MFG CO., Japan, a 25 year-experienced hydraulic lift-table manufacturer, this valve is now available to the hydraulic industry.
- It provides 4 functions in one integrated body-system relief, check, flow control and solenoid operated directional control with absolute ZERO LEAKAGE feature which is particularly needed by whoever builds hydraulic lifters or uses single acting cylinder for hydraulic control mechanism.

SYMBOL



MAX. OPERATING PRESSURE	210 KGF/CM ² (3000PSI)
MAX. FLOW CAPACITY	25 LPM (6.6 GPM)
MAX. FREQUENCIES OF OPERATING	60 CPM
MAX. TANK LINE BACK PRESSURE	7 KGF/CM ² (100PSI)

HOW TO ORDER

KLV - T03 - A220 - NC - 10

DESIGN NUMBER

NORMAL CLOSED

COIL VOLTAGE

A220 : AC220V 60HZ, AC200V 50HZ

A240 : AC240V 60HZ, AC220V 50HZ

A110 : AC110V 60HZ, AC100V 50HZ

A120 : AC120V 60HZ, AC110V 50HZ

THREAD CONNECTION WITH PORT SIZE 3/8"

KAWAHARA LIFT VALVE

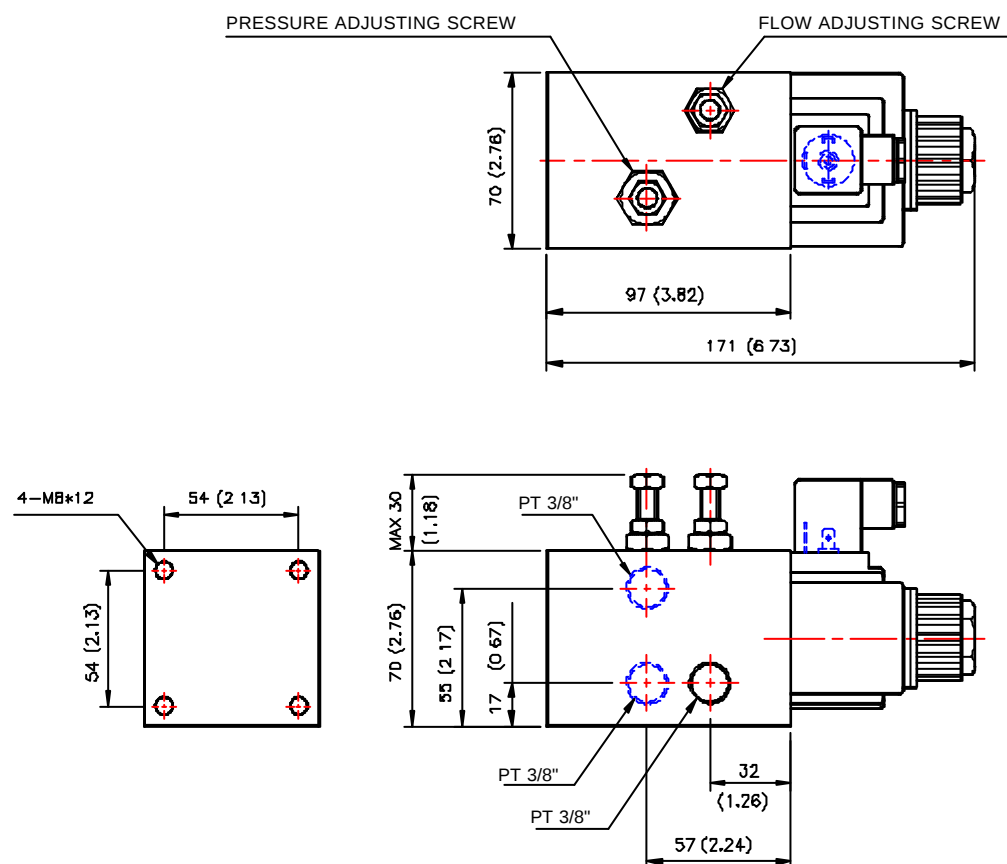
SOLENOID RATING

POWER	COIL TYPE	HZ	VOLTAGE		CURRENT AT RATE VOLTAGE		
			RATED	RANGE	IN-RUSH CURRENT(A)	HOLDING CURRENT(A)	WATTAGE
A.C	A110	50	100	90-110	3.20	0.80	
		60	100	90-120	2.90	0.74	
			110		3.10	0.80	
	A120	50	120	96-132	3.50	1.00	
		60		108-144	2.97	0.77	
	A220	50	200	160-220	1.72	0.48	
		60	200	180-240	1.47	0.37	
			220		1.63	0.40	
	A240	50	220	180-240	1.73	0.51	
		60	240	216-288	1.47	0.39	

INSTALLATION DIMENSIONS

UNIT mm(inch)

KLV-T03



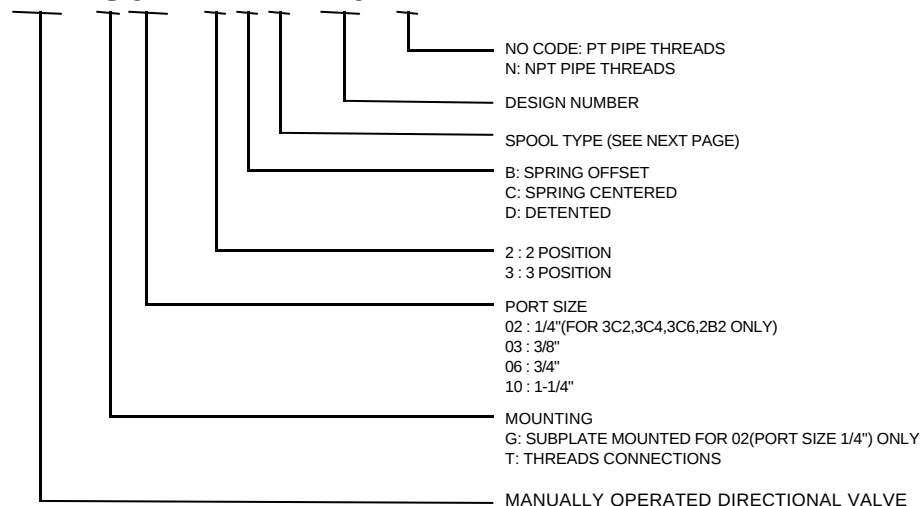


SPECIFICATIONS

MODEL CODE	MAX. FLOW LPM (GPM)	MAX. PRESSURE KGF/CM 2(PSI)
HD-G02-* * *-10	63(16.6)	210 (3000)
HD-T03-* C*-10	100 (25)	210 (3000)
HD-T03-2D* -10	100 (25)	210 (3000)
HD-T03-2B* -10	100 (25)	210 (3000)
HD-T06-* C* -10	300 (80)/ 200* (52*)	210 (3000)
HD-T06-2D* -10	300 (80)	210 (3000)
HD-T06-2B* -10	200 (52)	210 (3000)
HD-T10-* C* -10	500 (132) / 315* (83*)	210 (3000)
HD-T10-2D* -10	500 (132)	210 (3000)
HD-T10-2B* -10	315 (83)	210 (3000)
* IS THE RATING FOR 3C3, 3C5, 3C6		

HOW TO ORDER

HD - G02 - 2 B * - 10 - N

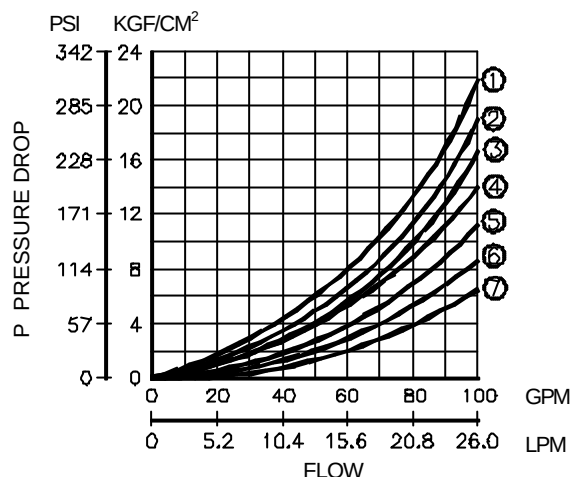


SPOOL TYPES

APPLICATION	TYPE	GRAPHIC SYMBOLS
THREE POSITION SPRING CENTERED	C2	
	C3	
	C4	
	C40	
	C5	
	C6	
	C60	
	C7	
	C8	
	C9	
TWO POSITION DETENT	D2	
	D3	
TWO POSITION SPRING OFFSET	B2	
	B3	
	B20	
TWO POSITION SPRING OFFSET	B2S	
	B3S	
	B20S	

HD-T03 PRESSURE DROP CURVES

TEST FLUID VISCOSITY : 35 cSt (175 SSU)
TEST TEMPERATURE: 50°C(122°F)

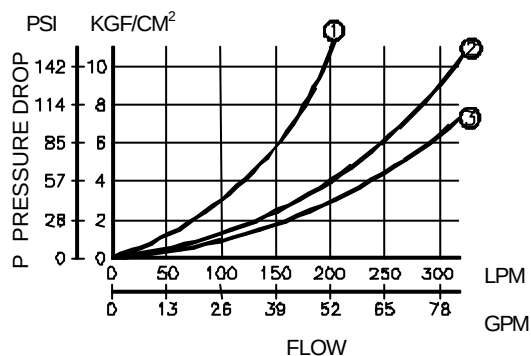


HD-T03 PERFORMANCE CHART

SPOOL TYPE	PRESSURE DROP LINE NUMBER				
	P→A	B→T	P→B	A→T	P→T
C2	4	5	4	5	-
C3	6	6	6	6	6
C4	4	7	4	7	-
C40	4	5	4	5	-
C 5	6	5	4	6	2
C6	5	5	5	5	1
C60	5	5	5	5	1

HD-T06 PRESSURE DROP CURVES

TEST FLUID VISCOSITY : 35 cSt (175 SSU)
TEST TEMPERATURE: 50°C(122°F)

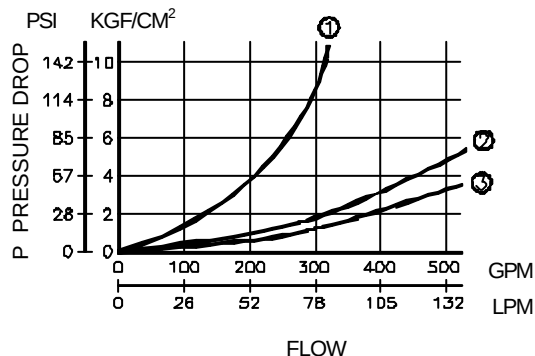


HD-T06 PERFORMANCE CHART

SPOOL TYPE	PRESSURE DROP LINE NUMBER				
	P→A	B→T	P→B	A→T	P→T
C2	2	2	2	2	-
C3	3	2	3	2	2
C4	2	3	2	2	-
C40	2	2	2	2	-
C5	3	2	2	2	-
C6	3	2	3	2	1
C60	3	2	3	2	1

HD-T10 PRESSURE DROP CURVES

TEST FLUID VISCOSITY : 35 cSt (175 SSU)
TEST TEMPERATURE: 50°C(122°F)



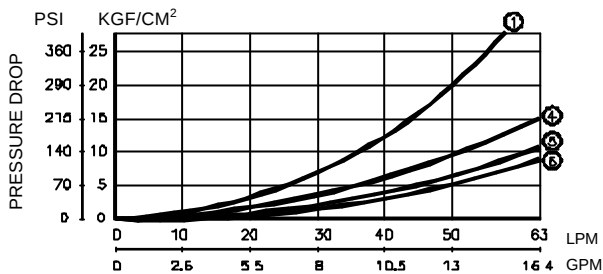
HD-T10 PERFORMANCERE CHART

SPOOL TYPE	PRESSURE DROP LINE NUMBER				
	P→A	B→T	P→B	A→T	P→T
C2	3	2	3	2	-
C3	3	2	3	2	2
C4	3	3	3	2	-
C40	3	2	3	2	-
C5	3	2	3	2	-
C6	3	3	3	3	1
C60	3	3	3	3	1

HD-G02 PRESSURE DROP

HD-G02 PERFORMANCE CHART

PERFORMANCE CURVES



TEST FLUID VISCOSITY : 35 cSt (175 SSU)
TEST TEMPERATURE: 50°C(122°F)

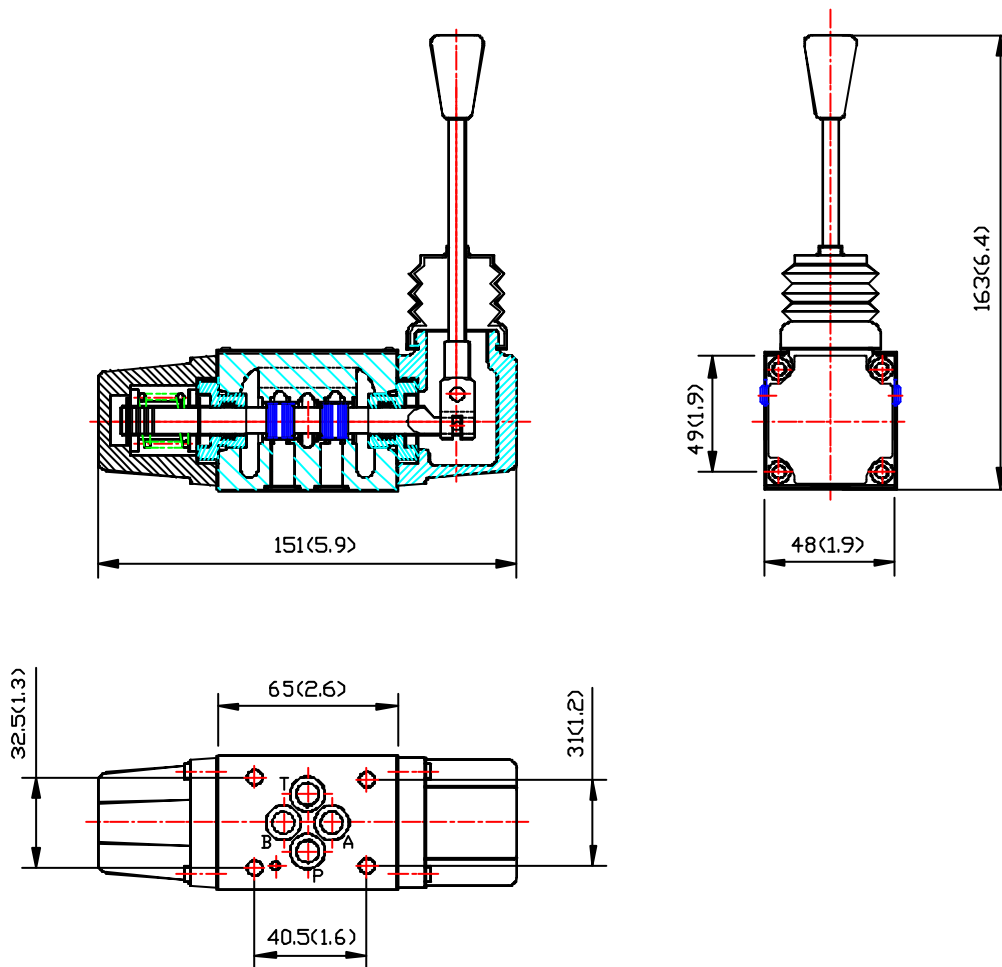
MODEL NO	PRESSURE DROP CURVE NUMBER				
	P->A	B->T	P->B	A->T	P->T
C2	5	5	5	5	—
C4	5	6	5	6	—
C6	1	1	1	1	4
B2	4	5	4	5	—

INSTALLATION DIMENSIONS

UNIT mm(inch)

ISO 4401-AB-03-4-A

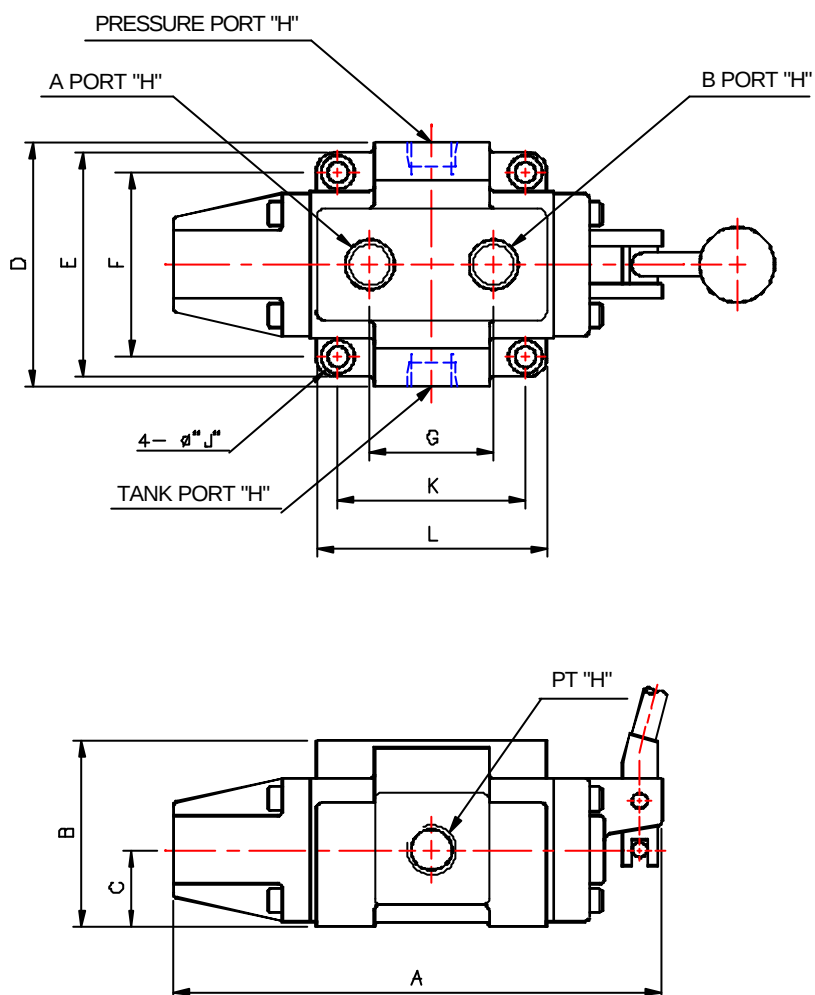
HD-G02-***-10



INSTALLATION DIMENSIONS

UNIT mm(inch)

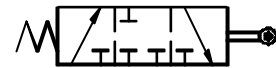
HD-T03/06/10



MODEL	A	B	C	D	E	F	G	H	J	K	L	WEIGHT	
												KGS	LBS
HD-T03 SERIES	174 (6.85)	82 (3.23)	39 (1.53)	74 (2.91)	68 (2.68)	50 (1.96)	33 (1.30)	3/8	68 (0.27)	58 (2.29)	92 (3.62)	4.0	8.9
HD-T06 SERIES	258 (10.16)	99 (3.90)	41 (1.61)	130 (5.12)	120 (4.72)	98 (3.86)	66 (2.60)	3/4	11 (0.43)	100 (3.94)	125 (4.92)	11.5	25.8
HD-T10 SERIES	320 (13.16)	124 (5.10)	50 (1.96)	162 (6.38)	150 (5.90)	125 (3.15)	80 (4.92)	5/4	13.5 (0.53)	134 (5.28)	162 (6.38)	23.8	52.4



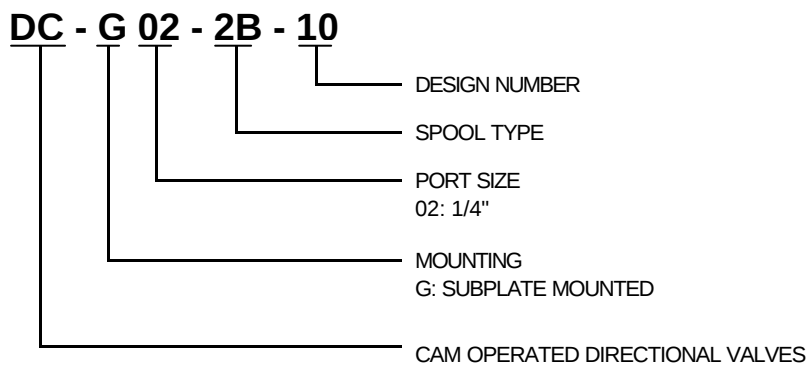
SYMBOLS



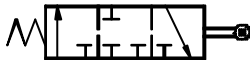
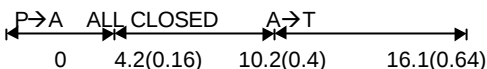
SPECIFICATIONS

MODEL	MAX. PRESSURE KGF/CM ² (PSI)	MAX. FLOW LPM (GPM)	MAX. BACK PRESSURE KGF/CM ² (PSI)	MOUNTED BOLT METER(INCH)	WEIGHT KG(LB)
DC-G02-2B-10	210 (3000)	30 (8)	70 (1000)	M5×45L×4 (#10-24UNC×4)	1.3 (2.9)

HOW TO ORDER



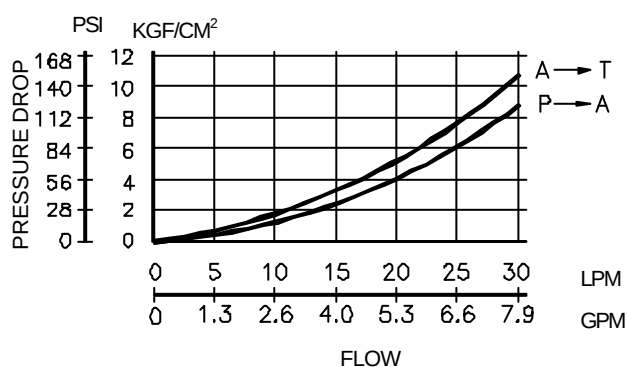
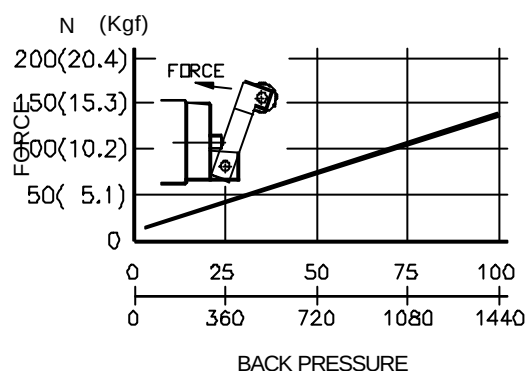
DIRECTION OF OIL FLOW FOR ROLLER POSITION

MODEL	SYMBOL	ROLLER POSITION VS. FLOW mm(inch)
DC-G02-2B-10		

PERFORMANCE CURVES

DC-G02-2B-10

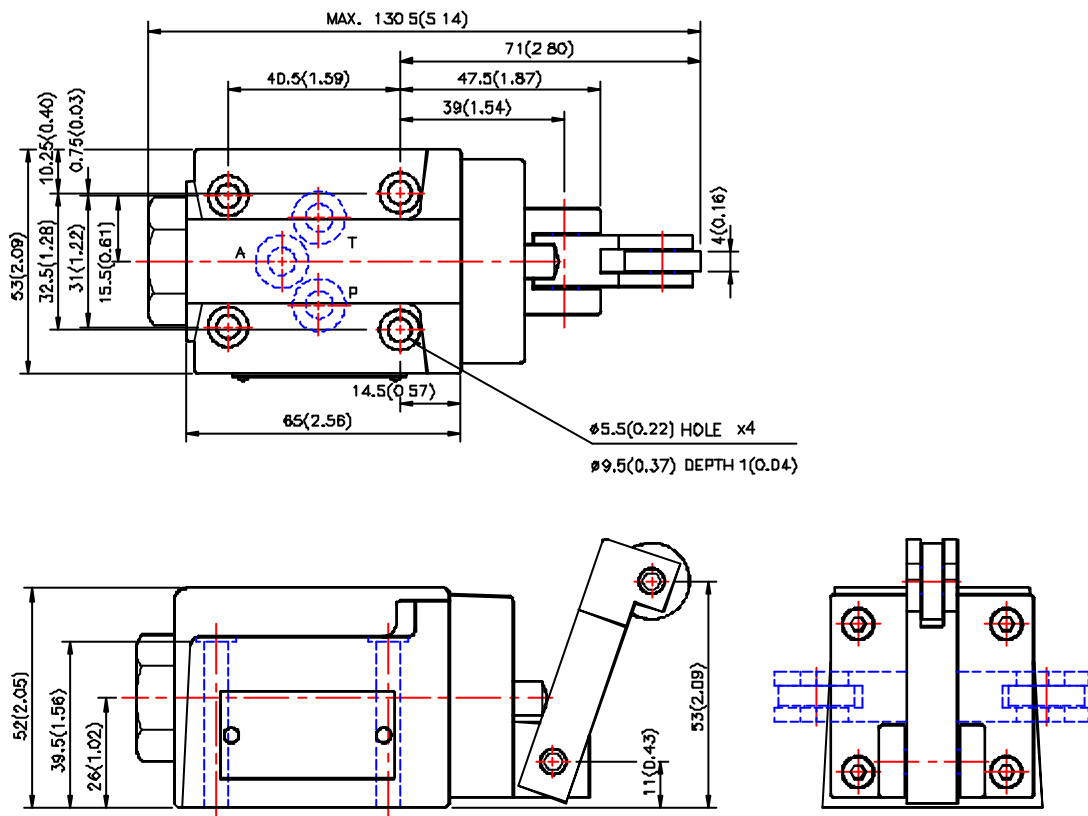
TEST FLUID VISCOSITY: 35 cSt (75SSU)
TEST TEMPERATURE: 50 °C (122 °F)



INSTALLATION DIMENSIONS

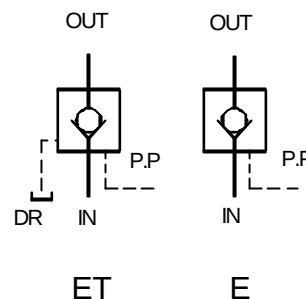
UNIT: mm/inch

DC-G02-2B-10





SYMBOLS

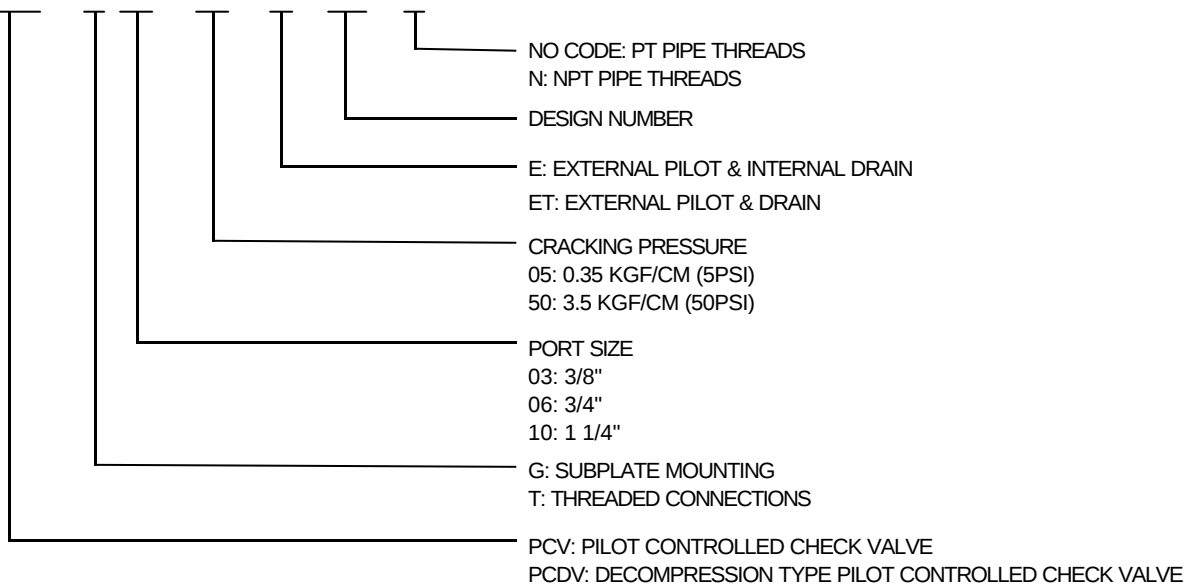


SPECIFICATION

MODEL	RATE FLOW LPM(GPM)	MAX. PRESSURE KGF/CM (PSI)	CRACKING PRESSURE KGF/CM2 (PSI)
PCV/PCDV- 03	40(10.6)	250(3550)	05: 0.35(5)
PCV/PCDV- 06	125(33)		50: 3.5(50)
PCV/PCDV- 10	250(66)		

HOW TO ORDER

PCV - G 03 - 05 - E - 20 - N

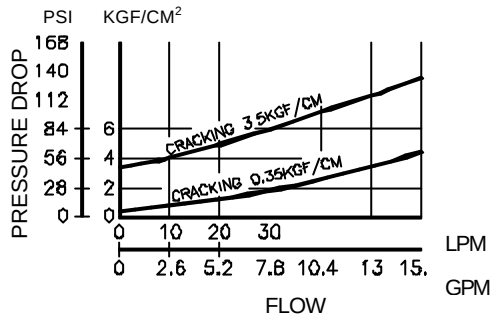


PERFORMANCE CURVES

TEST FLUID VISCOSITY: 35 cSt (175 SSU)
TEST TEMPERATURE: 50°C (122°F)

PRESSURE DROP

PCV-*03 PCDV-*03



MIN. PILOT PRESSURE

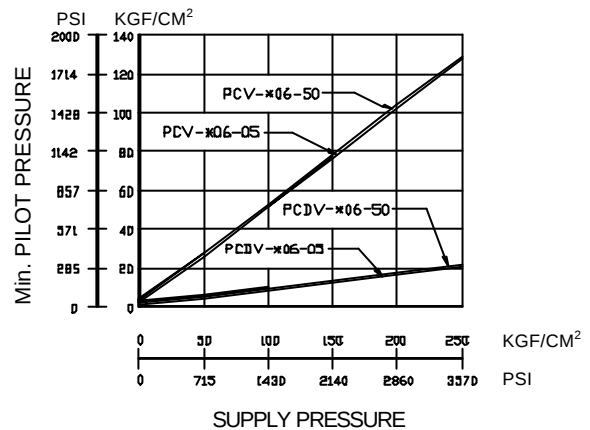
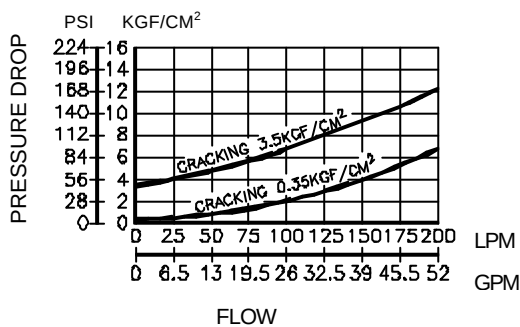
PSI KGF/CM²

Min. PILOT PRESSURE

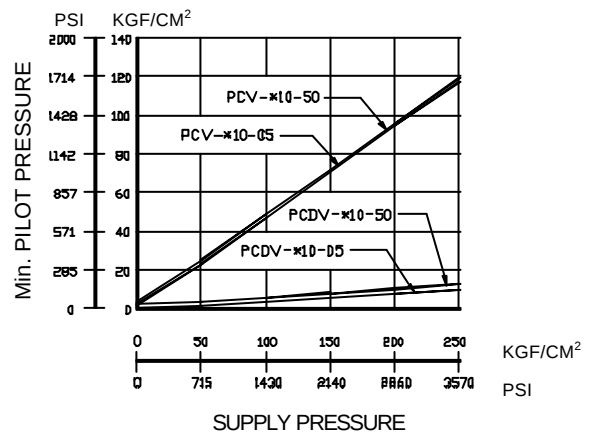
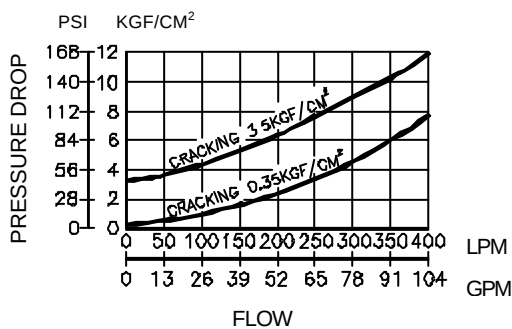
KGF/CM²
PSI

SUPPLY PRESSURE

PCV-*06 PCDV-*06



PCV-*10 PCDV-*10



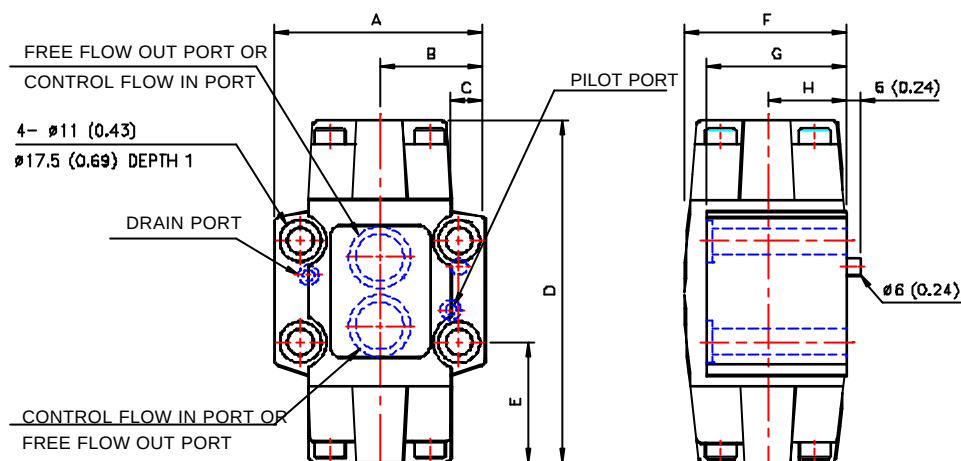
INSTALLATION DIMENSIONS

UNIT: mm/inch

PCV-G03,06

03 : ISO 5781-AG-06-2-A

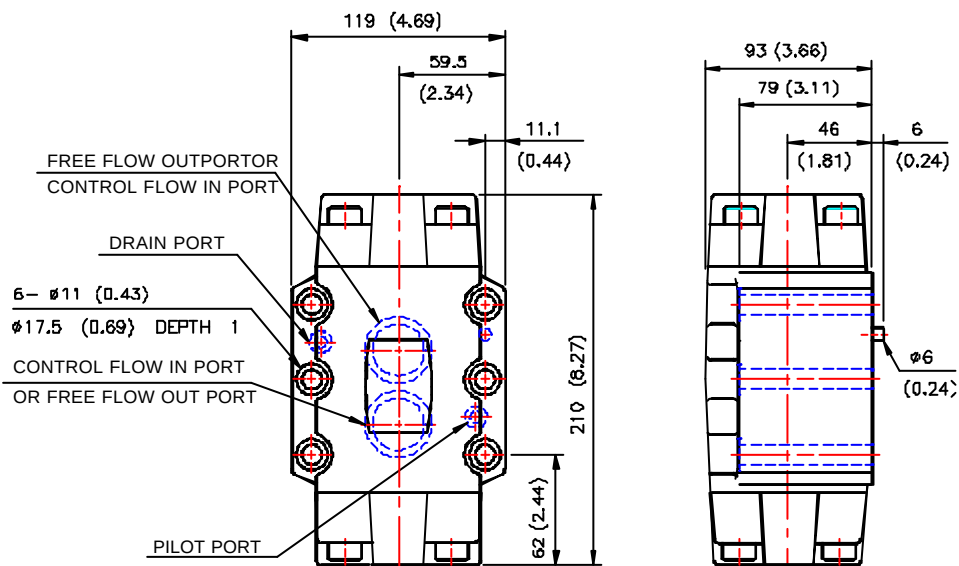
06 : ISO 5781-AH-08-2-A



MODEL	A	B	C	D	E	F	G	H	BOLT	WT kgs(Lbs)
PCV-G03	87.5 (3.44)	44.5 (1.75)	10 (0.39)	144 (5.67)	50.6 (1.99)	68 (2.68)	60 (2.36)	35 (1.38)	M10x70x4PCS (3/8x2 3/4")	4.5 (9.9)
PCV-G06	102 (4.02)	51.0 (2.01)	11.3 (0.44)	174 (6.85)	57 (2.24)	80 (3.15)	70.5 (2.77)	40 (1.57)	M10x80x4PCS (3/8x3 1/4")	7.0 (15.4)

PCV-G10

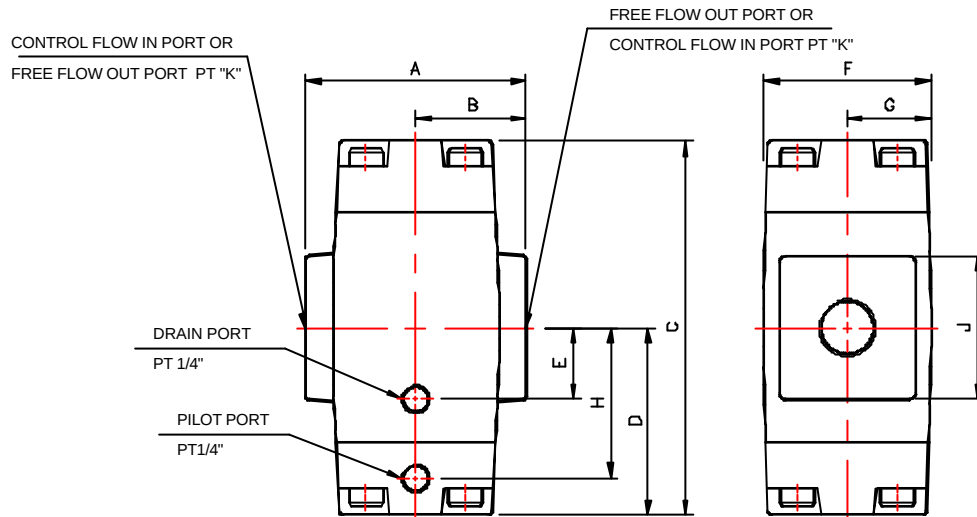
10 : ISO 5781-AJ-10-2-A



INSTALLATION DIMENSIONS

UNIT mm(inch)

PCV-T03/06/10



MODEL	A	B	C	D	E	F	G	H	J	K	WT kgs(Lbs)
PCV-T03	80 (3.15)	40 (1.57)	150.5 (5.93)	75 (2.95)	21 (0.83)	64 (2.52)	35.5 (1.40)	58 (2.28)	41 (1.61)	3/8	3.4(7.5)
PCV-T06	99.6 (3.92)	49.8 (1.96)	174 (6.85)	84 (3.31)	26 (1.02)	73 (2.87)	38 (1.50)	68 (2.68)	65 (2.56)	3/4	6.0(13.2)
PCV-T10	140 (5.51)	70 (2.76)	208 (8.19)	104 (4.09)	35 (1.38)	92 (3.62)	45 (1.77)	84 (3.31)	79 (3.11)	1 1/4	11.6 (25.5)

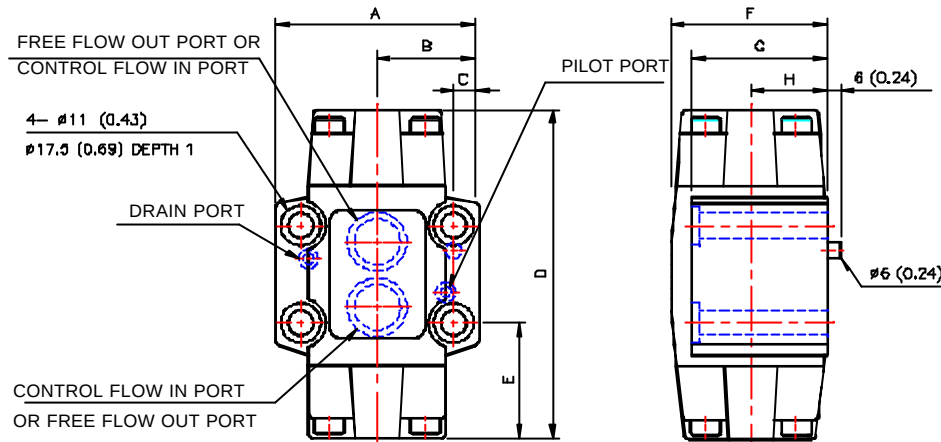
INSTALLATION DIMENSIONS

UNIT mm(inch)

PCDV-G03,06

03 : ISO 5781-AG-06-2-A

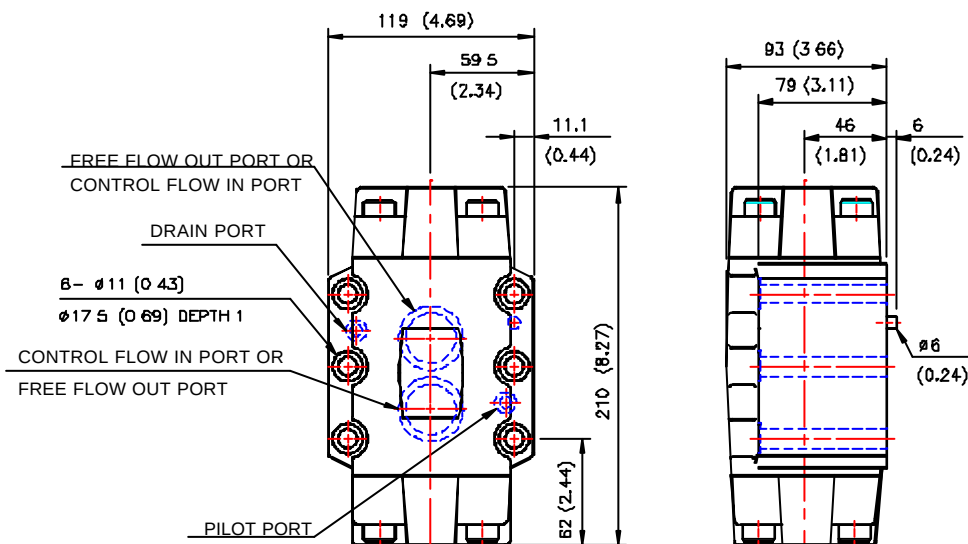
06 : ISO 5781-AH-08-2-A



MODEL	A	B	C	D	E	F	G	H	BOLT	WT gs(Lbs)
PCDV-03	89 (3.50)	44.5 (1.75)	11.1 (0.44)	150 (5.91)	50.6 (1.99)	68 (2.68)	59 (2.32)	35 (1.38)	M10x70x4PCS (3/8x2 3/4")	4.5 (9.9)
PCDV-G06	102 (4.02)	51.0 (2.01)	11.3 (0.44)	174 (6.85)	57 (2.44)	80 (3.15)	69 (2.72)	40 (1.57)	M10x80x4PCS (3/8x3 1/4")	7.0 (15.4)

PCDV-G10

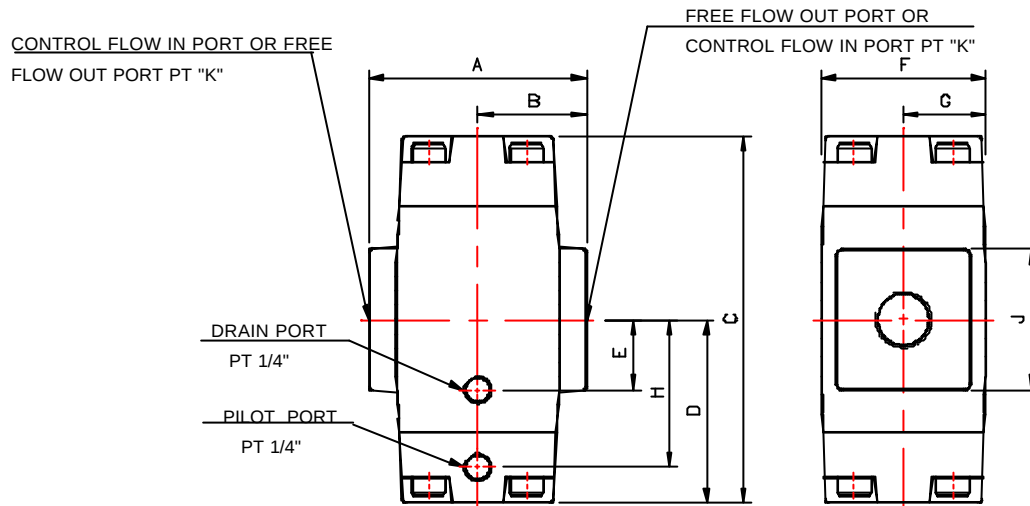
10 : ISO 5781-AJ-10-2-A



INSTALLATION DIMENSIONS

UNIT mm(inch)

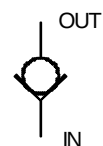
PCDV-T03/06/10



MODEL	A	B	C	D	E	F	G	H	J	K	WT kgs(Lbs)
PCDV-T03	80 (3.15)	40 (1.57)	144 (5.67)	72 (2.83)	21 (0.83)	64 (2.52)	32 (1.26)	58 (2.28)	36 (1.42)	3/8	3.4 (7.5)
PCDV-T06	99.6 (3.92)	48 (1.89)	174 (6.85)	84 (3.31)	26 (1.02)	73 (2.87)	38 (1.50)	68 (2.68)	65 (2.56)	3/4	5.2 (11.5)
PCDV-T10	144 (5.67)	72 (2.83)	208 (8.19)	104 (4.09)	35 (1.38)	88 (3.46)	45 (1.77)	84 (3.31)	84 (3.31)	1 1/4	11.6 (25.5)



SYMBOL

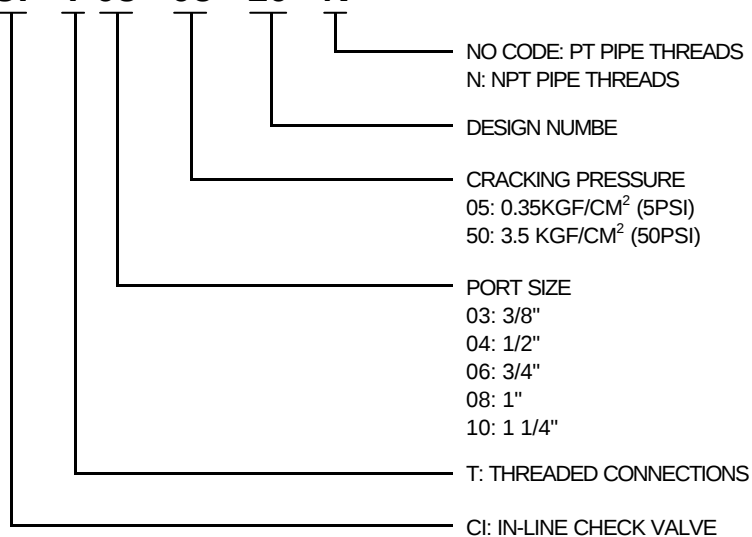


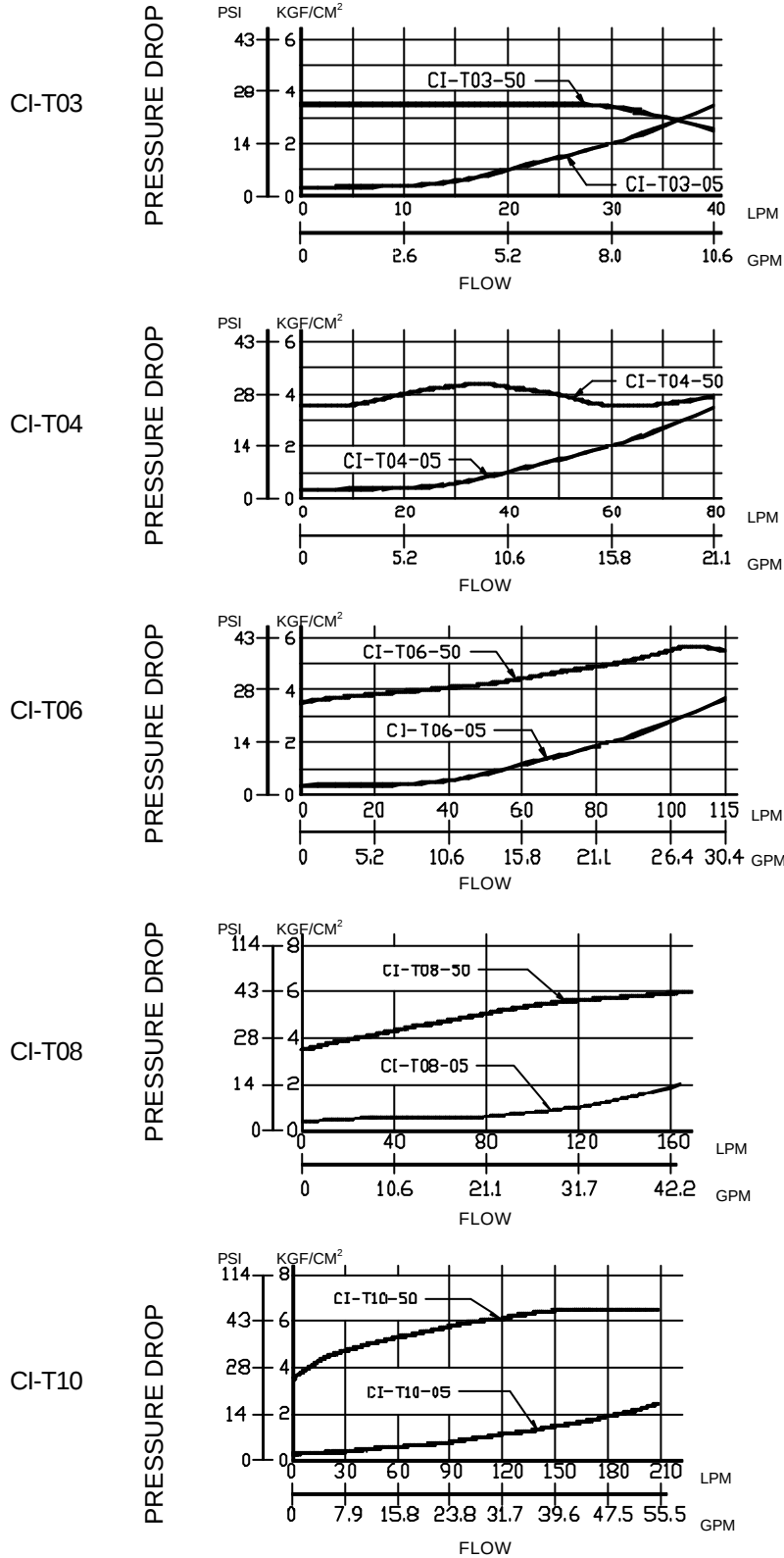
SPECIFICATIONS

MODEL	RATE FLOW LPM(GPM)	MAX. OPERATED PRESSURE KGF/CM ² (PSI)	CRACKING PRESSURE KGF/CM ² (PSI)
CI-T03	30(7.9)	210(3000)	05: 0.35(5) 50: 3.5(50)
CI-T04	65(17.1)		
CI-T06	115(30.4)		
CI-T08	165(43.6)		
CI-T10	210(55.5)		

HOW TO ORDER

CI - T 03 - 05 - 10 - N

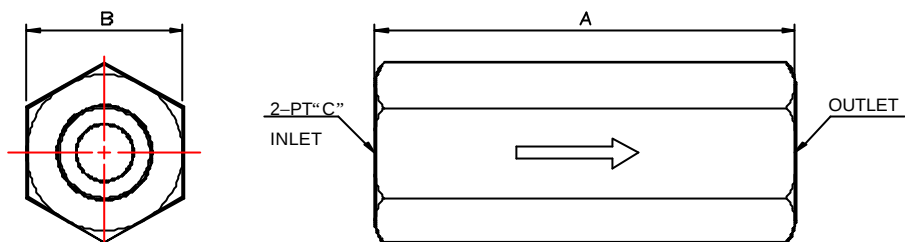




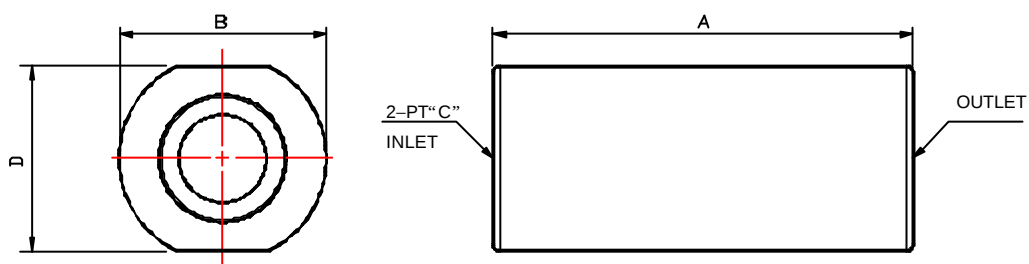
INSTALLATION DIMENSIONS

UNIT mm(inch)

CI-T03/04/06/08

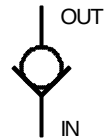


CI-T10



MODEL	A	B	C	D
CI-T03	70 (2.76)	26 (1.02)	3/8	--
CI-T04	82 (3.23)	29 (1.14)	1/2	--
CI-T06	91.5 (3.60)	35 (1.38)	3/4	--
CI-T08	112 (4.41)	51 (2.01)	1	--
CI-T10	132 (5.20)	65 (2.56)	1 1/4	58 (2.28)

SYMBOL



SPECIFICATIONS

MODEL	RATE FLOW LPM(GPM)	MAX. OPERATED PRESSURE KGF/CM ² (PSI)	CRACKING PRESSURE KGF/CM ² (PSI)
CV-G03	40(10.5)	250(3550)	05: 0.35(5)
CV-G06	125(33.0)		50: 3.5(50)
CV-G10	250(66.0)		

HOW TO ORDER

CV - G 03 - 05 - 10 - N

NO CODE: BOLT METER THREADS
N: BOLT INCH THREADS

MOUNTING
10: NON-ISO STANDARD
20: ISO STANDARD

CRACKING PRESSURE
05: 0.35KGF/CM² (5PSI)
50: 3.5 KGF/CM² (50PSI)

PORT SIZE
03: 3/8"
06: 3/4"
10: 1-1/4"

G: SUBPLATE MOUNTED

CV : RIGHT ANGLE CHECK VALVE

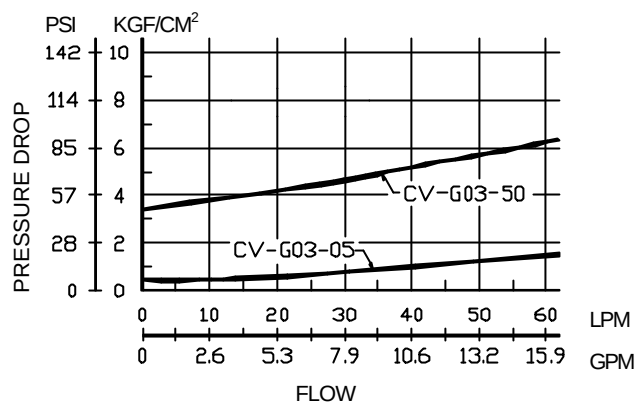
PERFORMANCE CURVES

TEST CONDITIONS

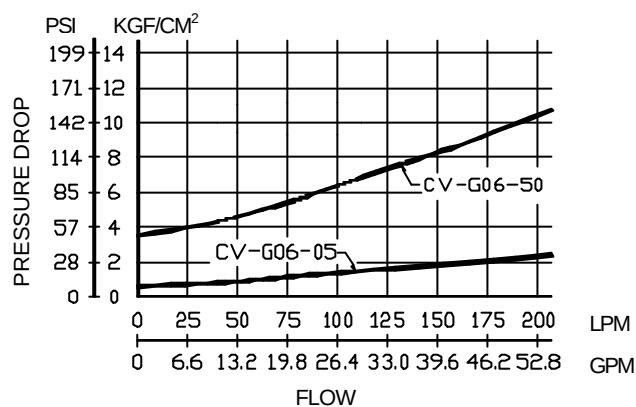
VISCOSITY: 35 cSt (175 SSU)

TEMPERATURE: 50°C (122°F)

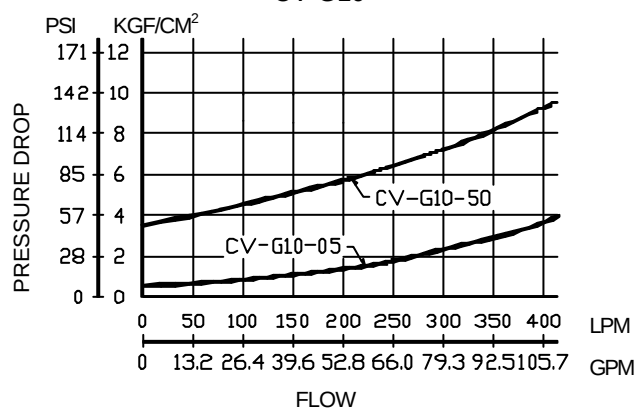
CV-G03



CV-G06



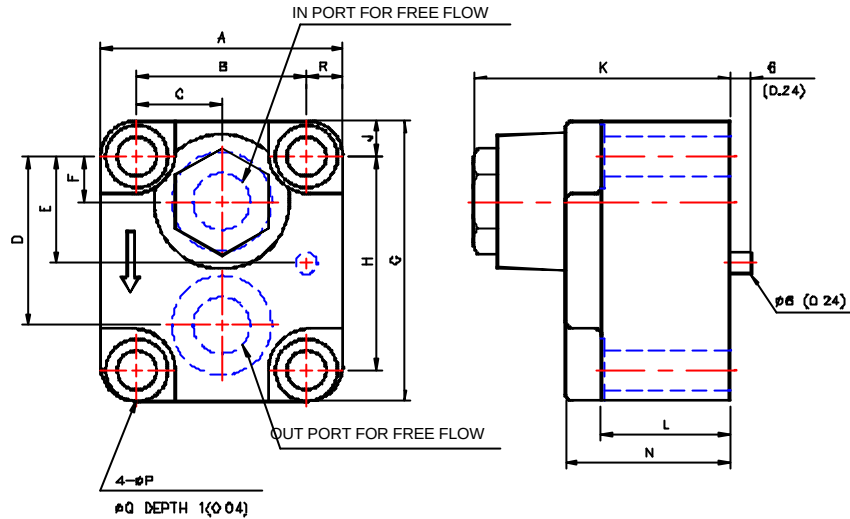
CV-G10



INSTALLATION DIMENSIONS

UNIT mm(inch)

CV-G03/06/10-**-10



MODEL	A	B	C	D	E	F	G	H	J
CV-G03	68 (2.68)	47.6 (1.87)	23.8 (0.94)	47.6 (1.87)	30.1 (1.19)	12.7 (0.50)	80 (3.15)	60.3 (2.27)	10 (0.39)
CV-G06	101 (3.98)	65.2 (2.56)	32.6 (1.28)	68.2 (2.69)	40.5 (1.59)	22.2 (0.87)	114 (4.49)	80.9 (3.19)	16.5 (0.65)
CV-G10	130 (5.12)	92.1 (3.63)	46.1 (1.81)	71.4 (2.81)	46.0 (1.81)	20.6 (0.81)	130 (5.12)	92.1 (3.63)	19 (0.75)

MODEL	K	L	N	P	Q	BOLT	WEIGHT	
							KGS	LBS
CV-G03	70 (2.76)	36 (1.42)	46 (1.81)	11 (0.43)	17.5 (0.69)	M10x50x4PCS (3/8x2")	1.7	3.7
CV-G06	81 (3.19)	38 (1.49)	54 (2.12)	17.5 (0.69)	26 (1.02)	M16x55x4PCS (5/8x2-1/2")	4.1	9.0
CV-G10	100 (3.94)	50 (1.97)	67 (2.64)	21.5 (0.85)	30 (1.18)	M20x75x4PCS (3/4x3")	6.6	14.8

MODEL	R	SUBPLATE
CV-G03	10.2 (0.405)	GM-03
CV-G06	16.45 (0.65)	GM-06
CV-G10	18.95 (0.745)	GM-10

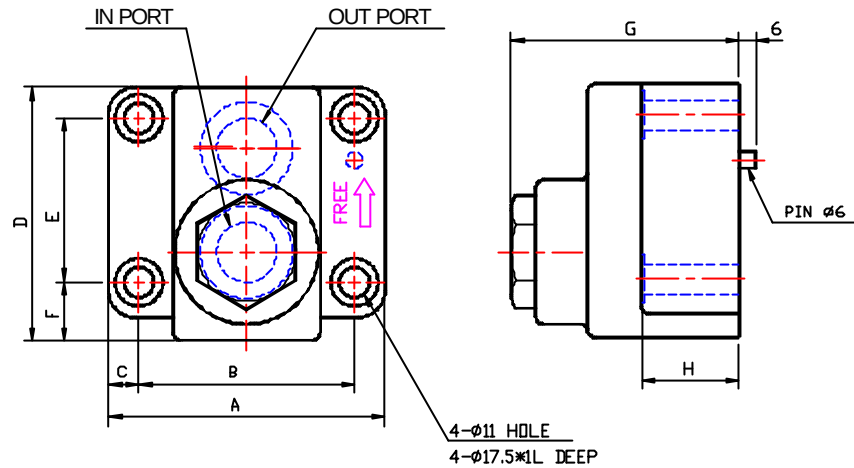
INSTALLATION DIMENSIONS

UNIT mm(inch)

CV-G03/G06-**-20

G03: ISO 5781-AG-06-2-A

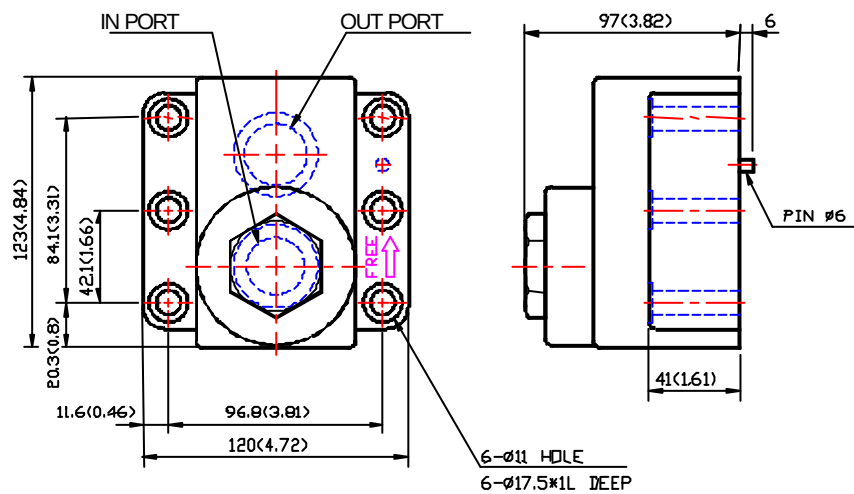
G06: ISO 5781-AH-08-2-A



MODEL	A	B	C	D	E	F	G	H
CV-G03	90(3.54)	66.7(2.63)	11.7(0.46)	72(2.83)	42.9(1.69)	17.5(0.69)	72.5(2.85)	31(1.22)
CV-G06	102(4.02)	79.4(3.13)	11.3(0.44)	93(3.66)	60.3(2.37)	21.4(0.84)	84(3.31)	36(1.42)

CV-G10-**-20

G10: ISO 5781-AJ-10-2-A

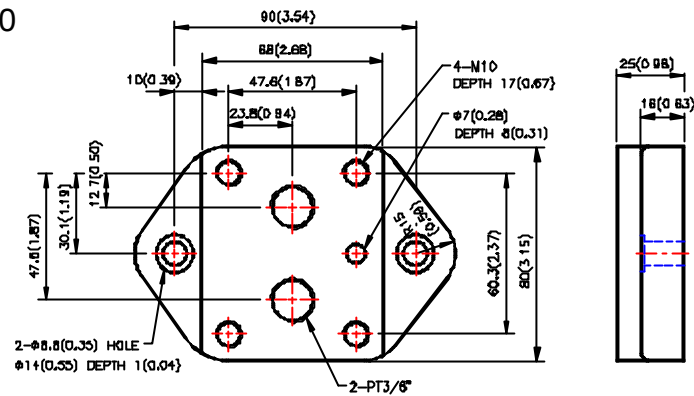


INSTALLATION DIMENSIONS

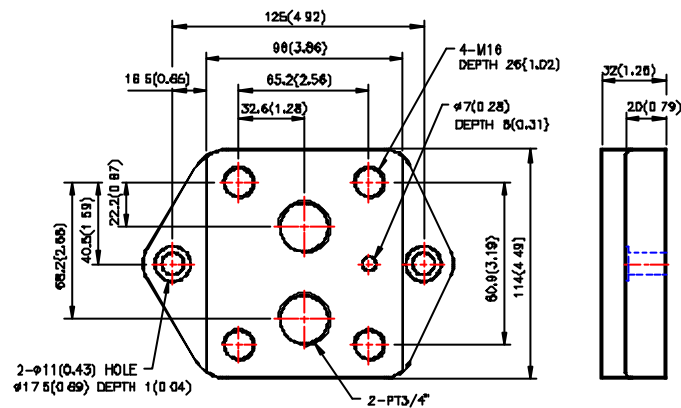
NON-ISO MOUNTING

UNIT mm(inch)

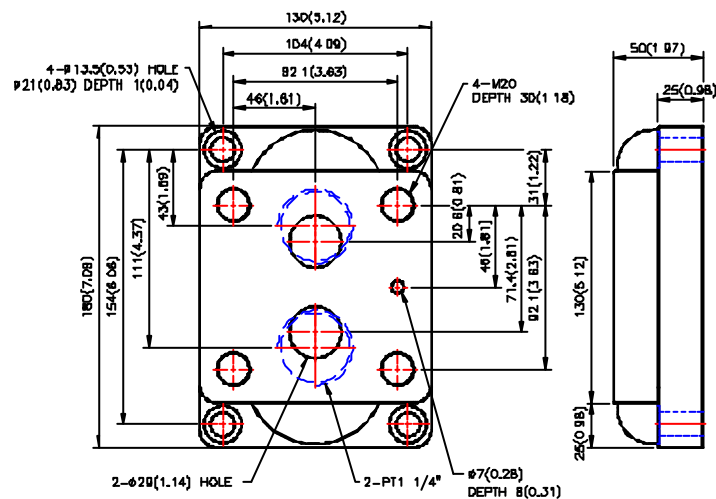
CVM-03-10



CVM-06-10



CVM-10-10





SYMBOL



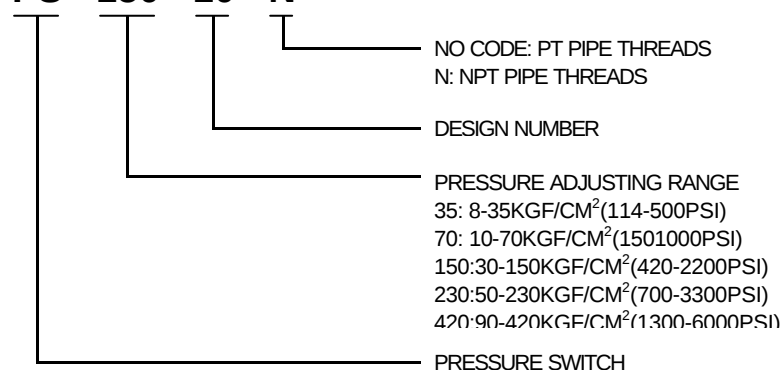
SPECIFICATION

REPETITION ACCURACY	WITHIN 1% OF MAX. PRESSURE
TEMPERATURE RANGE	−20°C(−4°F) TO + 70 °C(+158°F)

MODEL	ADJUSTING RANGE KGF/CM ² (PSI)	BURST RESSURE KGF/CM ² (PSI)	REPETITION ACCURACY	DIFFERENTIAL PRESSURE KGF/CM ² (PSI)
PS- 35	8-35(114-500)	600(8500)	1 %	± 2(28)
PS- 70	10-70(150-1000)		1 %	± 3.5(50)
PS-150	30-150(420-2200)		1 %	± 7.5(107)
PS-230	50-230(700-3300)		1 %	± 11.5(165)
PS-420	90-420(1300-6000)		1 %	± 21(300)

HOW TO ORDER

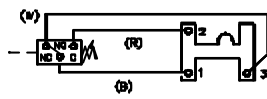
PS - 150 - 10 - N



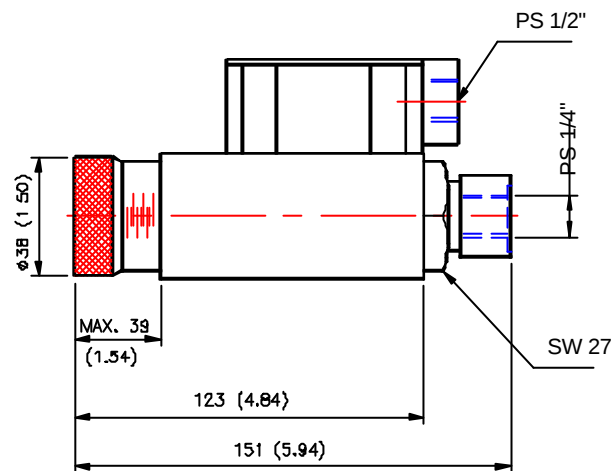
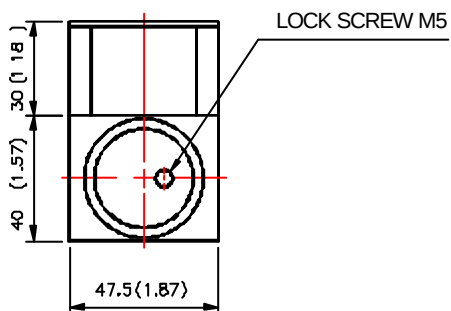
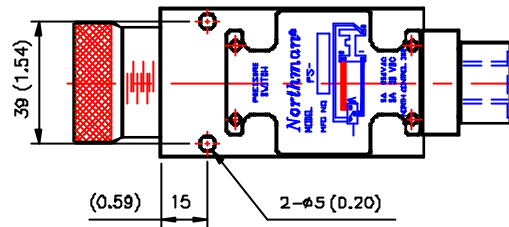
INSTALLATION DIMENSIONS

UNIT mm(inch)

PS-***-***

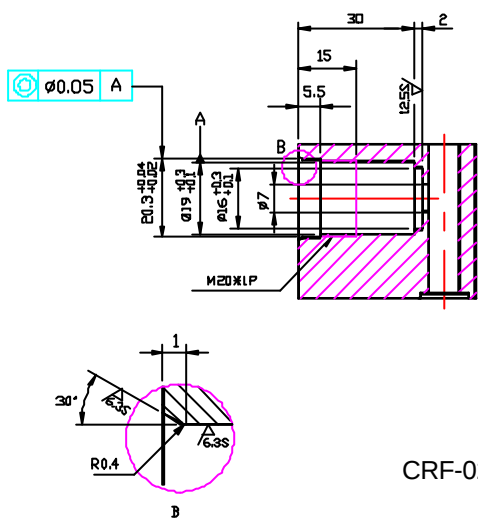
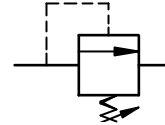


5A 250 VAC
5A 30 VDC

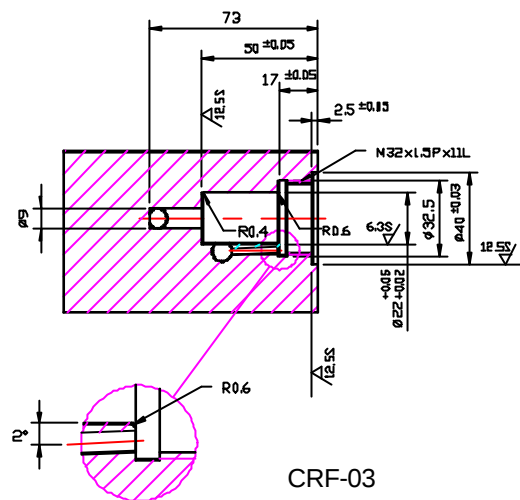




SYMBOL



CRF-02

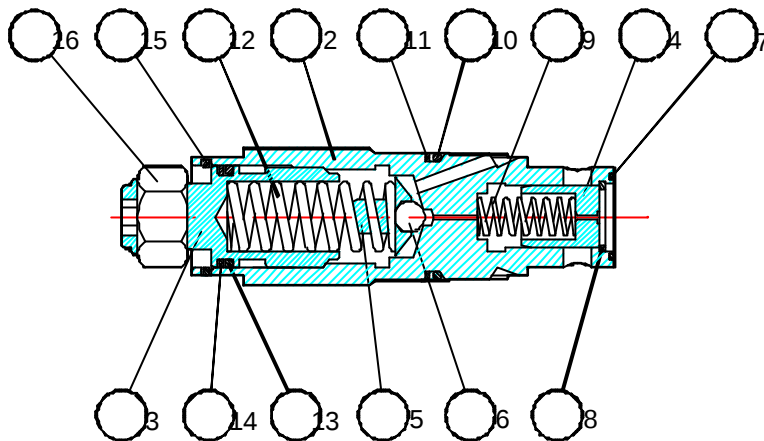


CRF-03

HOW TO ORDER

CRF - 02 - 1- K- 20

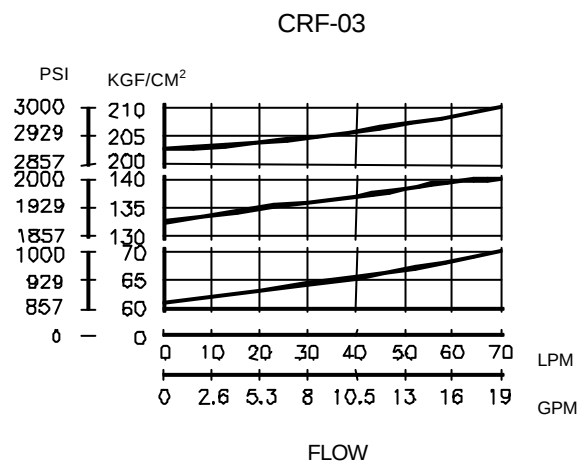
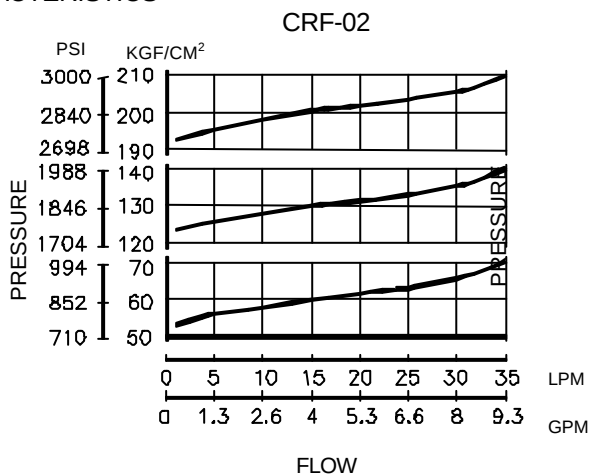
- DESIGN NUMBER
- ADJUSTMENT MODEL
K: WITH KNOB
NO CODE: WITHOUT KNOB
- PRESSURE ADJUSTMENT RANGE
1: 8-70 KGF/CM (120-1000 PSI)
2: 35-140 KGF/CM (500-2000 PSI)
3: 70-210 KGF/CM (1000-3000)
- FLOW RANGE
02: 60 LPM(15 GPM)
03: 100 LPM(25 GPM)
- CARTRIDGE PRESSURE RELIEF

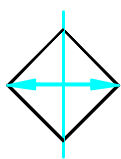


NO.	DESCRIPTION	QT'Y	SPEC.	NO.	DESCRIPTION	QT'Y	SPEC.
2	BODY	1		10	SPRING	1	AS568-017
3	ADJUST SCREW	1		11	BACK-UP RING	1	AS568-017
4	PISTON	1		12	SPRING	1	
5	SEAT	1		13	OORING	1	AS568-014
6	STEEL BALL	1		14	BACK-UP RING	1	AS568-014
7	O-RING	1	M12	15	SNAP-RING	1	R11
8	C-RING	1		16	HEX. NUT	1	
9	SPRING	1					

PERFORMANCE CURVES

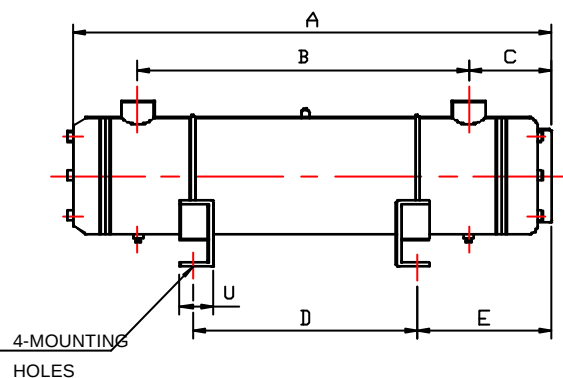
NOMINAL OVERRIDE CHARACTERISTICS





HYDRAULIC

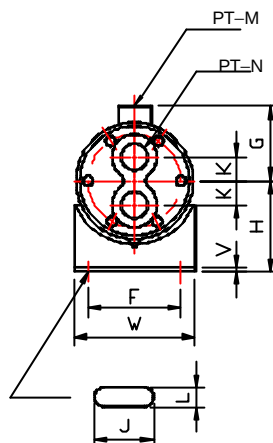
INSTALLATION DIMENSIONS



FEATURES

- 1. Only fresh water to be used as cooling water. Brine water
- Application available by special order
- 2. Not to be used for food process or for chemicals
- 3. Temperature difference between oil inlet port and water inlet
- Port can not exceed 80 (176°F)
- 4. Max. working pressure:
- A. Oil side: 10 kgf/cm² (150 psi)
- B. Water side: 7 kgf/cm² (100 psi)

UNIT mm(inch)



MOUNTING HOLE

SPECIFICATION

MODEL	A	B	C	D	E	F	G	H	J	K
TJ-0905-A	590 (23.2)	408 (16.1)	88 (3.4)	270 (10.6)	150 (5.9)	80 (3.1)	63 (2.5)	80 (3.1)	25 (1.0)	22 (0.86)
TJ-0908-A	880 (34.6)	720 (28.2)	78 (3.1)	500 (19.7)	190 (7.5)	80 (3.1)	63 (2.5)	80 (3.1)	25 (1.0)	22 (0.86)
TJ-1405-A	600 (23.6)	398 (15.7)	100 (3.9)	270 (10.6)	162 (6.4)	140 (5.5)	90 (3.5)	110 (4.3)	32 (1.2)	29 (1.1)
TJ-1408-A	890 (35.0)	710 (27.9)	85 (3.3)	500 (19.7)	202 (7.9)	140 (5.5)	90 (3.5)	110 (4.3)	32 (1.2)	29 (1.1)
TJ-1412-A	1310 (51.6)	1110 (43.7)	100 (3.9)	700 (27.6)	303 (11.9)	140 (5.5)	90 (3.5)	110 (4.3)	32 (1.2)	29 (1.1)
TJ-1712-A	1335 (52.6)	1060 (41.7)	138 (5.4)	700 (27.6)	310 (12.2)	145 (5.7)	115 (4.5)	125 (4.9)	32 (1.2)	53 (2.1)
TJ-1716 A	1745 (68.7)	1510 (59.4)	118 (4.6)	850 (33.4)	460 (18.1)	145 (5.7)	115 (4.5)	125 (4.9)	32 (1.2)	53 (2.1)
TJ- 1722A	2200 (86.6)	1850 (72.8)	247 (9.7)	1400 (55.1)	420 (16.5)	142 (5.6)	115 (4.5)	125 (4.9)	32 (1.2)	53 (2.1)

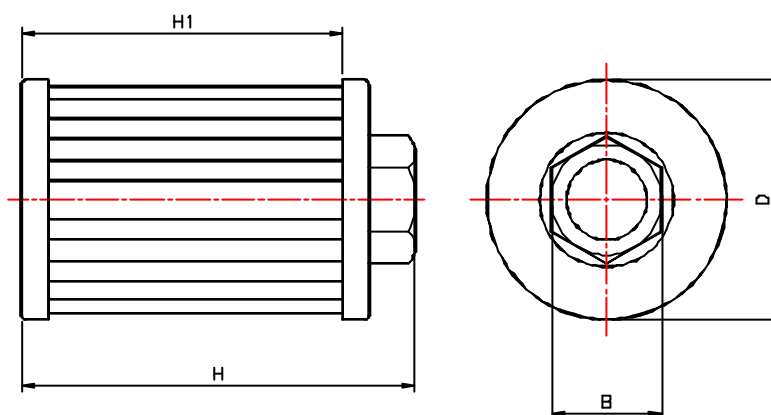
MODEL	L	M	N	S	U	V	W	AREA M ² /ft ²	FLOW LPM/GPM	WEIGHT KG/LB
TJ-0905-A	10 (0.4)	3/4	3/4	89.5 (3.5)	30 (1.2)	2.3 (0.1)	115 (4.5)	0.41 (4.4)	60 (15.8)	10 (22)
TJ-0908-A	10 (0.4)	3/4	3/4	89.5 (3.5)	30 (1.2)	2.3 (0.1)	115 (4.5)	0.7 (7.5)	100 (26.4)	14 (30.1)
TJ-1405-A	12 (0.5)	1 1/4	1 1/4	140.8 (5.5)	40 (1.6)	3.2 (0.12)	176 (6.9)	1.1 (11.8)	150 (39.6)	20 (44.1)
TJ-1408-A	12 (0.5)	1 1/4	1 1/4	140.8 (5.5)	40 (1.6)	3.2 (0.12)	176 (6.9)	1.9 (20.3)	250 (66)	26 (57.3)
TJ-1412-A	12 (0.5)	1 1/2	1 1/4	140.8 (5.5)	40 (1.6)	3.2 (0.12)	176 (6.9)	2.9 (31)	350 (92.5)	37 (81.5)
TJ-1712-A	12 (0.5)	2	1 1/4	166.5 (6.6)	40 (1.6)	3.2 (0.12)	200 (7.8)	4.6 (49.2)	600 (158)	48 (106)
TJ-1716 A	12 (0.5)	2	1 1/4	166.5 (6.6)	40 (1.6)	3.2 (0.12)	200 (7.8)	6.5 (69.5)	840 (222)	59 (130)
TJ- 1722A	12 (0.5)	2	1 1/4	166.5 (6.6)	40 (1.6)	3.2 (0.12)	200 (7.8)	7.2 (77)	1000 (264)	70 (154)



FEATURES

- Material and construction: stainless steel screen supported by a center core of plated perforated steel. Heavy chrome plated end caps.
- Generous screen area for long life and low pressure drop. 100 mesh screen (140 micron) with 33.3% open area. Mesh opening is 0055 inches.
- Can be used in all common hydraulic fluids, lubricating oils, coolants, fuels and water. Can tolerate high temperature up to 80°C. or 175°F.

INSTALLATION DIMENSIONS



SPECIFICATION

FOR 100 MESH ONLY

MODEL	PIPE SIZE PT	CAPACITY LPM(GPM)	D mm(in)	H mm(in)	H1 mm(in)	B mm(in)
MF-02	1/4"	15(3.96)	56(2.2)	61(2.4)	50(2.0)	22(0.9)
MF-03	3/8"	17(4.49)	56(2.2)	61(2.4)	50(2.0)	22(0.9)
MF-04	1/2"	33(8.72)	56(2.2)	98(3.9)	90(3.5)	28(1.1)
MF-06	3/4"	55(14.53)	56(2.2)	139(5.5)	127(5.0)	34(1.3)
MF-08	1"	110(29.06)	56(2.2)	169(6.6)	153(6.0)	46(1.8)
MF-10	1-1/4"	210(55.48)	70(2.8)	184(7.2)	171(6.7)	54(2.1)
MF-12	1-1/2"	285(75.29)	84(3.3)	193(7.6)	180(7.1)	65(2.6)
MF-16	2"	395(104.35)	102(4.0)	215(8.5)	199(7.8)	75(2.9)
MF-20	2-1/2"	750(198.14)	159(6.3)	353(13.9)	326(12.8)	90(3.5)
MF-24	3"	800(211.35)	159(6.3)	353(13.9)	326(12.8)	105(4.1)
MF-32	4"	1000(264.18)	208(8.2)	353(13.9)	338(13.3)	147(5.8)

* Available in NPT female pipe threads (optional)
Please indicate when ordering.



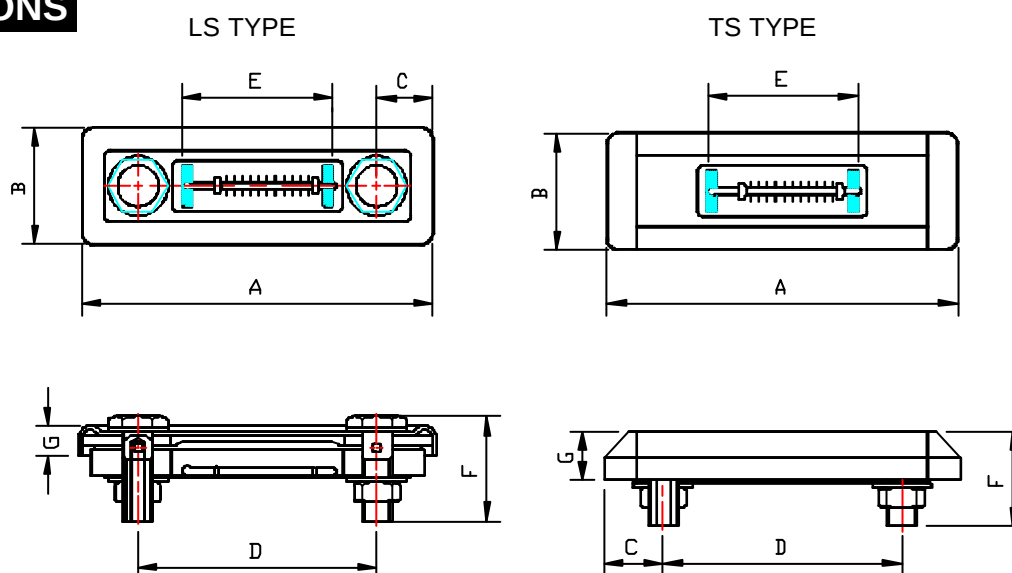
FEATURES

- Chrome plated surface finishing
- Cork material back packing, prevent leaking
- Thermometer with dual scales-for both Celsius and Fahrenheit
- High quality but competitively priced
- 3" & 5" models to meet needs from all sizes of reservoir

SPECIFICATION

MODEL	A	B	C	D	E	F	G	WEIGHT Kg(Lb)
LS-3"	118(4.6)	42(1.7)	20(0.8)	79(3.1)	58(2.3)	41(1.6)	18(0.7)	0.19(0.42)
LS-5"	182(7.2)	51(2.0)	28(1.1)	127(5.0)	95(3.7)	45(1.8)	17(0.7)	0.33(0.73)
TS-3"	101(3.9)	36(1.4)	13(0.5)	76.2(3)	42(1.6)	38(1.5)	19(0.75)	0.09(0.20)
TS-5"	151(5.9)	36(1.4)	13(0.5)	76.2(3)	91(3.6)	38(1.5)	19(0.75)	0.12(0.27)

DIMENSIONS





FEATURES

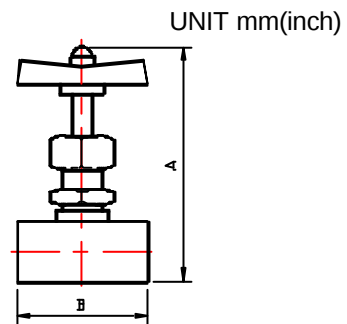
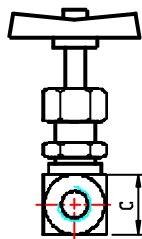
- Pressure gauge's life can be greatly extended if mounted with gauge cock. When pressure adjustment or monitoring is needed, the cock can be opened, otherwise, it can be shut off.

SPECIFICATION

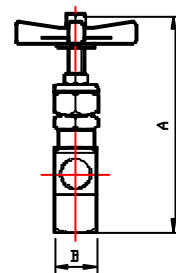
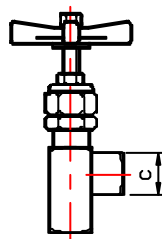
MODEL	PORT SIZE PT	MAX. FLOW LPM(GPM)	MAX. PRESSURE KGF/CM (PSI)	A	B	C	WEIGHT Kg(Lb)
GCT02-90	1/4"	2(0.53)	350(5000)	122(4.8)	37(1.5)	22(0.87)	0.3(0.6)
GCT02-180	1/4"	2(0.53)	350(5000)	97(3.8)	51(2)	22(0.87)	0.3(0.6)
GCT03-90	3/8	21(5.5)	350(5000)	122(4.8)	37(1.5)	22(0.87)	0.3(0.6)
GCT03-180	3/8"	21(5.5)	350(5000)	97(3.8)	51(2)	22(0.87)	0.3(0.6)
GCT04-180	1/2"	30(7.9)	350(5000)	108(4.2)	65(2.6)	32(1.26)	0.7(1.5)
GCT06-180	3/4"	100(26.4)	350(5000)	128(5.1)	80(3.2)	38(1.49)	1.1(2.4)
GCT08-180	1"	300(79.3)	350(5000)	141(5.6)	95(3.7)	51(2)	2.3(5.1)

DIMENSIONS

GCT0*-180



GCT0*-90





MODEL	PRESSURE RANGE											ACCURACY
	KGF/CM ²											
G40LM/CBM	10	15	20	25	35	70	100	150	210	--	--	1.5%
G50LM/CBM	10	15	20	25	35	70	100	150	210	--	--	
G60LM/CBM/CBM-F	10	15	20	25	35	70	100	150	250	350	500	
G100LM/CBM/CBM-F	10	15	20	25	35	70	100	150	250	350	500	

HOW TO ORDER

G 100 LBM - 250 - K-10 - N

