TAKAMI

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Product Catalog

TAKAMI SEIKI CO.,LTD.

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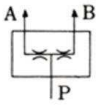
Product

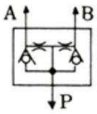
FLOW DIVIDER VALVE

・FDT Type



This is a one-way,synchronnaization valve that controls (synchronizes) forward flow.
It does not handle reverse flow (collection).

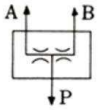
・FDCT Type



This is a one-way,synchronization valve that controls (synchronizes)forward flow.
The check valve allows reverse flow but does not synchronize.

DE CO VALVE

TDCV Type



This is a two-way synchronizationvalve that controls (synchronizes) forward and reverse flow.

Type coding method

FDT
FDCT - ** - *** *
TDCV

Connecting method
No sign ・・・thread connection (PT screws)
G ・・・gasket mounting
F ・・・flange connection
S ・・・thread connection (PF screw)
H ・・・for high pressure type (PT screw)

Inlet diameter
(Diameter of connecting pipe for port P)

03・・・3/8"
04・・・1/2"
06・・・3/4"
08・・・1"
10・・・1 1/4"
12・・・1 1/2"

Port P standard flow rate

■Advantages

(1)Can simply be installed by connecting it between pipees.No adjustment is required.
(2)Synchronization is possible even under large concentrated loads (pressure difference).
(3)The division or collection rate (set rate) may be changed, depending on the type, up to a ratio of 1:3.
(4)Viscosity has little effect on the valve function.
(5)Can be used with high pressure of 300kgf/cm2.
(6)Immediate delivery.

■Flow dividing and collecting accuracy

Synchronization takes place accurately even when the pressure difference (concentrated load) between ports A ando B is as high as 200kgf/cm2.
All units have been tested.

■Pressure loss △P(kgf/cm2)

△P=(Flow rate÷Port P standard flow rate) ×7(kgf/cm2)

At port P standard flow rate △P=7(kgf/cm2)

■Valve selection

(1)Either FDT, FDCT, or TDCV must be selected.
(2)The appropriate type must be selected by matching the capacity (litter/min) and the level of flow required.
・When the valve is used at aflow rate below the specified range, the response of the supplementary spool on the load fluctuation of ports A and B deteriorates, and synchronization accuracy declines.
・hen the flow rate is high , the pressure loss becomes larger but there is little influence on synchronization accuracy.

■Caution

(1)Keep the internal spool horizontal when mounting the valve.
(2)Make sure the flow rate is more than the minimum flow.
(3)If one of either ports A or B is closed, the other port is automatically closed and the flow of oil will stop.(This mey cause a leak.)
(4)Ensure the pipes are connected properly and air is expelled.
(5)In the case of cylinder synchronization, the adjustment of errors is made at the stroke end, and air pressure should be applied normally.
(6)In the case of cylinder synchronization, switching during a stroke could cause an accumulation of errors.
(7)Both left and right pipes from the valve to the actuator should be the same length.

■Causes of poor synchronization

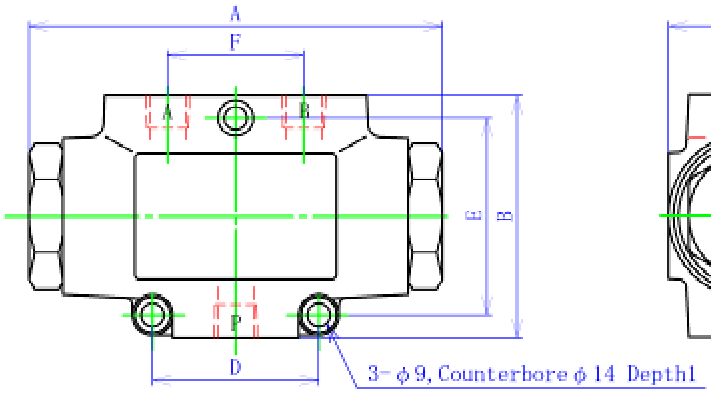
・Insufficient flow rate
・Insufficient pressure
・Insufficient air ejection
・Mechanical trap
・Oil leak
・Others
Ifsynchronization is still poor when the above are functioning normally, disassemble the valve to check it.(Order of disassembly)
(1)Remove the cover on one side.(Be sure not to lose the spring.)
(2)Press the spool with your finger.
Make sure the spring on the other side rebounces to return the spool to the original position.
(3)If it does not return to the original position or if movement is abnomal, remove the spool and clean it.
For the TDCV, check the movement of the sub-spool inside the spool.
(4)Make sure the parts are placed correctly when assembling.

■Note

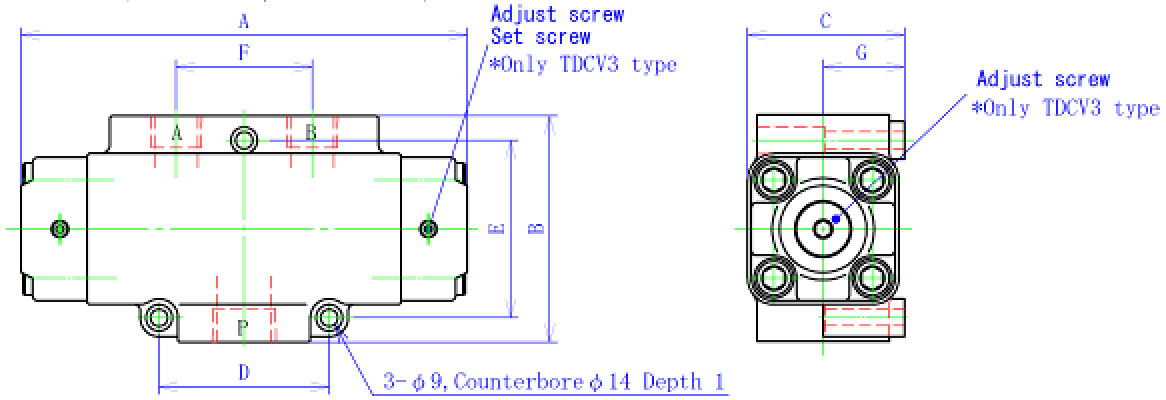
Measurements may very without notification.

FLOW DIVIDER VALVE ·FDT3-**-** TYPE	Thread connection	29.4 MPa
DE CO VALVE ·TDCV3-**-** TYPE		

・Dimensions (FDT3-03·04·06/TDCV3-03·04·06)



・Dimensions (FDT3-08·12/TDCV3-08·12)

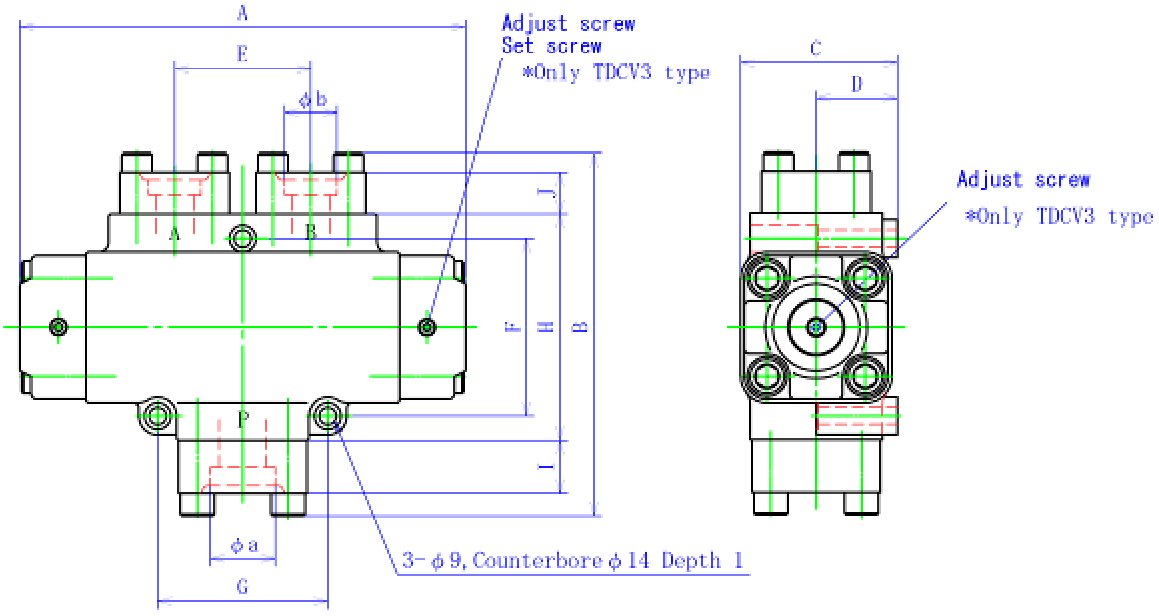


・Specofication

Type			Port P Standard flow (l/min.)	Port P Flow range (l/min.)	Pressure loss (MPa)	Connecting pipe(Rc, G) P	Connecting pipe(Rc, G) A · B	A	B	C	D	E	F	G	Weight (kg)
FDT3 TDCV3	03	4	4	3 ~ 5	±0.3 0.7	3/8"	3/8"	164	96	69	66	78	54	36	4.5
		6	6	5 ~ 8											
		10	10	8 ~ 13											
		15	15	13 ~ 18											
		20	20	17 ~ 25											
	04	30	30	25 ~ 36		1/2"	3/8"								
		40	40	33 ~ 48											
	06	50	50	42 ~ 60		3/4"	1/2"								
		60	60	50 ~ 72											
	08	50	50	42 ~ 60		1"	3/4"	236	120	83	90	94	72	43	11
		60	60	50 ~ 72											
		80	80	67 ~ 95											
		100	100	85 ~ 120											
	12	120	120	100 ~ 145		1·1/2"	1"	298	150	103	114	122	96	53	21
		160	160	135 ~ 195											
		200	200	165 ~ 240											
		240	240	200 ~ 290											
		300	300	260 ~ 350											

FLOW DIVIDER VLVE	·FDT3-**-**F TYPE	Flange connection	29.4 MPa
DE CO VALVE	·TDCV3-**-**F TYPE		

・Dimensions (FDT3-08,12/TDCV3-08,12)

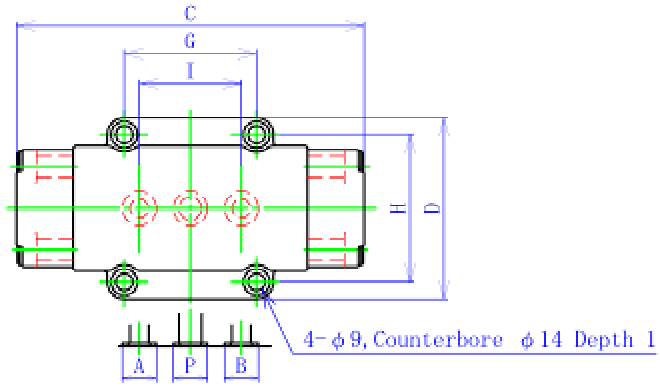


・Specification

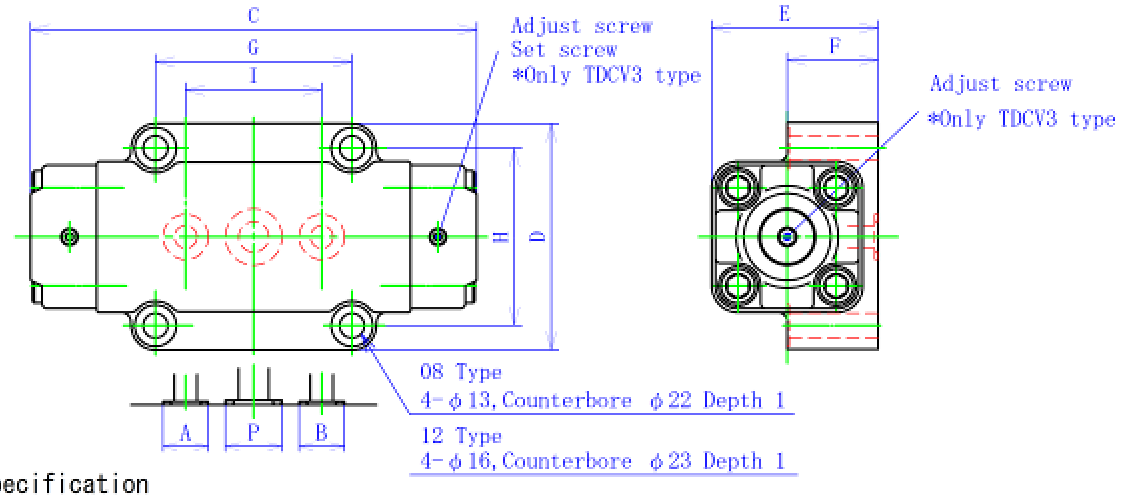
Type			Port P		Pressure loss (MPa)	Connecting pipe		A	B	C	D	E	F	G	H	I	J	φa	φb	Weight (kg)
			Standard flow (l/min.)	flow range (l/min.)		P	A・B													
FDT3 TDCV3	08	50 F	50	42 ～ 60	±0.3 0.7	SSA 25 (1")	SSA 20 (3/4")	236	192	83	43	72	94	90	120	28	22	34.5	27.7	13.8
		60 F	60	50 ～ 72																
		80 F	80	67 ～ 95																
		100 F	100	85 ～ 120																
	12	120 F	120	100 ～ 145		SSA 40 (1・1/2")	SSA 25 (1")	298	242	103	53	96	122	114	150	36	28	49.1	34.5	26.2
		160 F	160	135 ～ 195																
		200 F	200	165 ～ 240																
		240 F	240	200 ～ 290																
		300 F	300	260 ～ 350																

FLOW DIVIDER VALVE ·FDT3-**-**G TYPE	Gasket mounting	29.4 MPa
DE CO VALVE ·TDCV3-**-**G TYPE		

・Dimensions (FDT3-03,04/TDCV3-03,04)



・Dimensions (FDT3-08,12/TDCV3-08,12)

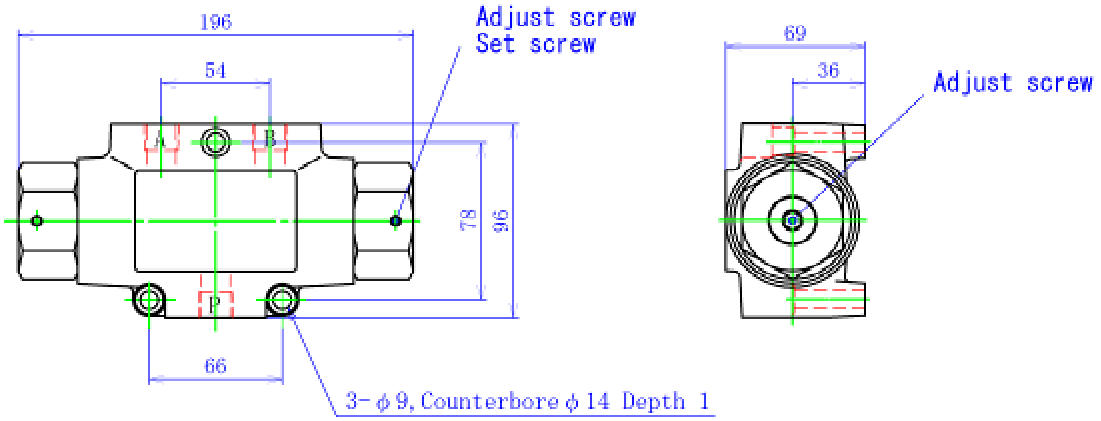


・Specification

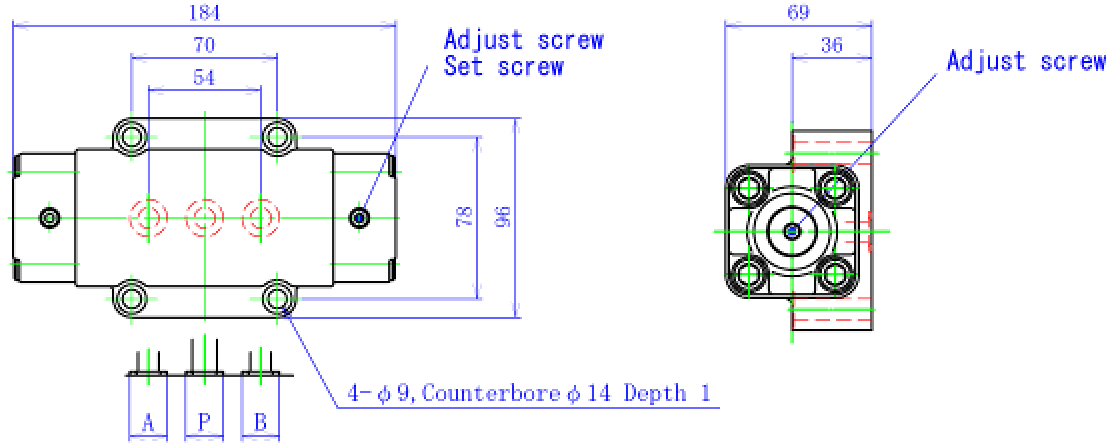
Type			Port P Standard Flow (l/min.)	Port P Flow range (l/min.)	Pressure loss (MPa)	Connecting pipe P	Connecting pipe A・B	C	D	E	F	G	H	I	Weight (kg)
FDT3 TDCV3	03	4 G	4	3 ~ 5	±0.3 0.7	φ18	φ18	184	96	69	36	70	78	54	5.3
		6 G	6	5 ~ 8											
		10 G	10	8 ~ 13											
		15 G	15	13 ~ 18											
		20 G	20	17 ~ 25											
	04	30 G	30	25 ~ 36		φ22	φ18								
		40 G	40	33 ~ 48											
	08	50 G	50	42 ~ 60		φ30	φ24	236	120	88	48	104	94	72	11.5
		60 G	60	50 ~ 72											
		80 G	80	67 ~ 95											
		100 G	100	85 ~ 120											
	12	120 G	120	100 ~ 145		φ40	φ30	298	150	110	60	130	122	96	22
		160 G	160	135 ~ 195											
		200 G	200	165 ~ 240											
		240 G	240	200 ~ 290											
		300 G	300	260 ~ 350											

DE CO VALVE(Ajust screw type)・TDCV3-**B-** TYPE	Thread connection	29.4 MPa
DE CO VALVE(Ajust screw type)・TDCV3-**B-**G TYPE	Gasket mounting	

・Dimensinos (TDCV3-03B・04B・06B)



・Dimensions(TDCV3-03BG・04BG)

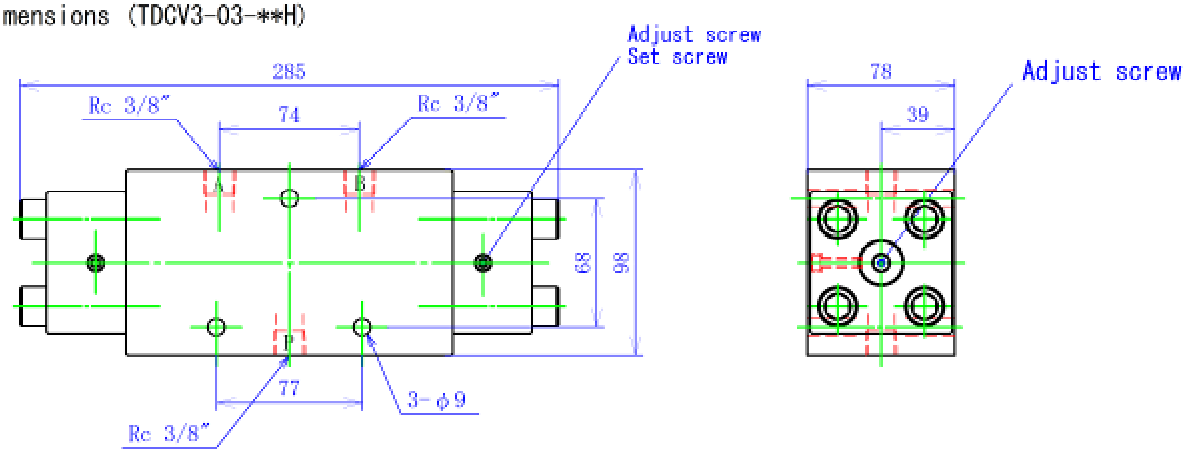


・Specification

Type			Port P		Pressure loss (MPa)	Connecting pipe(Rc,G)		Weight (kg)
			Standard flow (l/min.)	flow range (l/min.)		P	A・B	
TDCV3	03B	4(G)	4	3～ 5	±0.3 0.7	3/8″ Gasket φ18	3/8″ Gasket φ18	5.0 Gasket 5.3
		6(G)	6	5～ 8				
		10(G)	10	8～ 13				
		15(G)	15	13～ 18				
		20(G)	20	17～ 25				
	04B	30(G)	30	25～ 36		1/2″ Gasket φ22	3/8″ Gasket φ18	
		40(G)	40	33～ 48				
	06B	50	50	42～ 60		3/4″	1/2″	
		60	60	50～ 72				

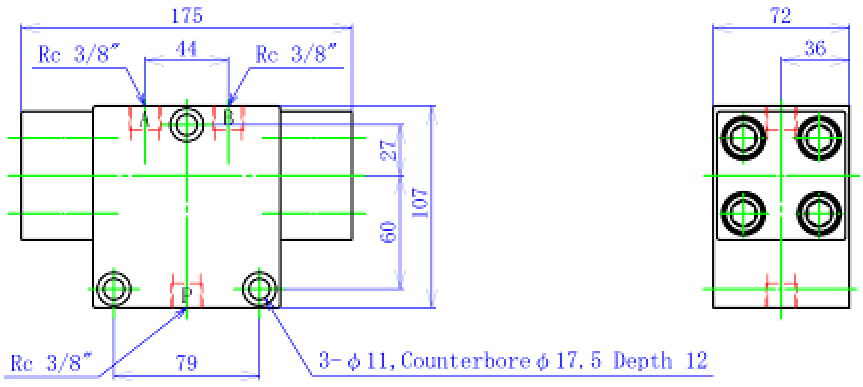
Special Types				
DE CO VALVE	·TDCV3-03-**H	High pressure type	Thread connecting	68.6 MPa
FLOW DIVIDER VALVE	·FDCT-03-**H			

・Dimensions (TDCV3-03-**H)



Type		Port P		Pressure loss (MPa)	Weight (kg)
		Standard flow(l/min.)	Flow range (l/min.)		
TDCV3-03	4 H	4	3 ～ 5	±0.3 1.0	8.0
	6 H	6	4 ～ 8		
	10 H	10	7 ～ 13		
	15 H	15	10 ～ 18		
	20 H	20	15 ～ 27		

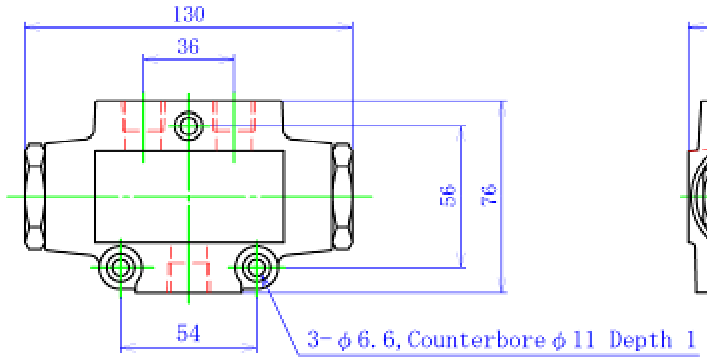
・Dimensions (FDCT-03-**H)



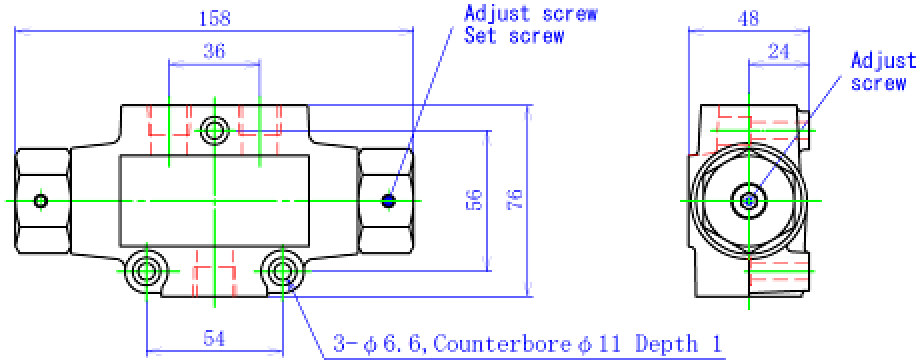
Type		Port P		Pressure loss (MPa)	Weight (kg)
		Standard flow(l/min.)	Flow range (l/min.)		
FDCT-03	4 H	4	3 ～ 5	±0.3 1.0	11.8
	6 H	6	5 ～ 8		
	10 H	10	8 ～ 13		
	15 H	15	12 ～ 18		
	20 H	20	17 ～ 27		

FLOW DIVIDER VLVE	·FDT5-**-** TYPE	Thread connection	29.4 MPa
DE CO VALVE	·TDCV5-**-** TYPE		
DE CO VALVE (Ajust screw type)	·TDCV5-**B-** TYPE		

・Dimensions (FDT5-02, 03, 04/TDCV5-02, 03, 04)



・Dimensions (TDCV5-02B, 03B, 04B)

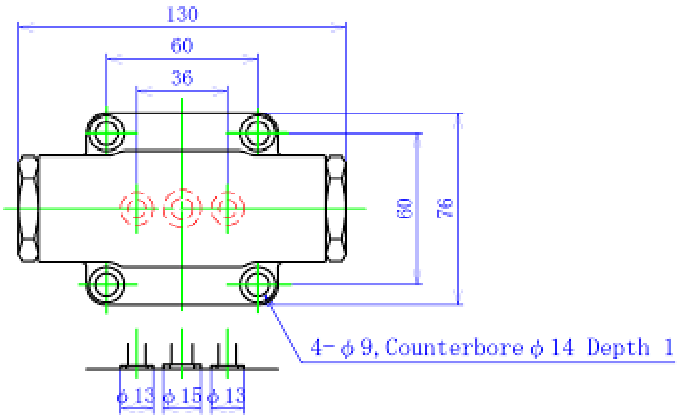


・Specification

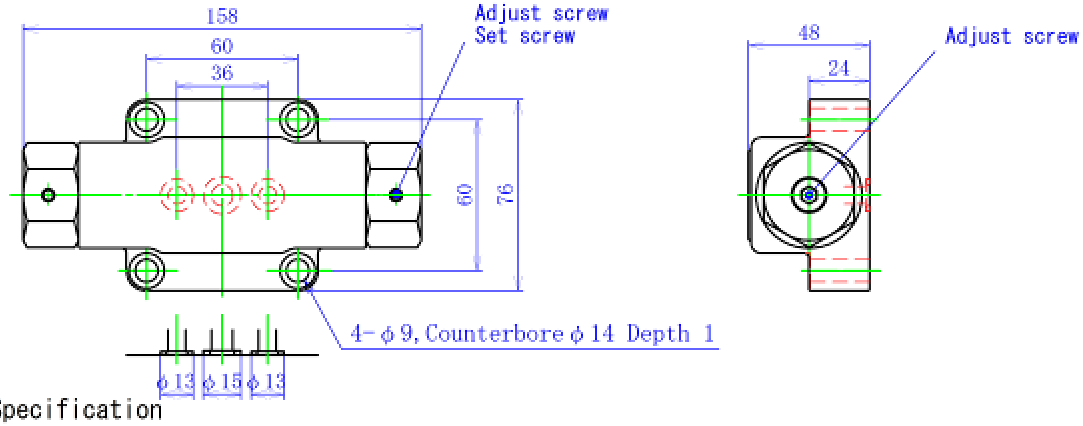
Type			Port P		Pressure loss (MPa)	Connecting pipe (Rc, G)		Weight (kg)
			Standard flow (L/min.)	Flow range (L/min.)		P	A・B	
FDT5 TDCV5	02 (B)	2	2	1.5～2.5	±0.2 0.7	1/4″	1/4″	1.8 screw 2.0
		3	3	2.5～ 4				
	03 (B)	4	4	3～ 5	±0.2 0.8	3/8″	3/8″	
		6	6	5～ 8				
		10	10	8～ 13				
		15	15	13～ 18				
		20	20	17～ 25				
	04 (B)	30	30	25～ 36	±0.2 1.2	1/2″	3/8″	
		40	40	33～ 48				

FLOW DIVIDER VALVE	·FDT5-**-**G TYPE	Gasket mounting	29.4 MPa
DE CO VALVE	·TDCV5-**-**G TYPE		
DE CO VALVE (Ajust screw type)	·TDCV5-**B-**G TYPE		

・Dimensions (FDT5-02G, 03G, 04G/TDCV5-02G, 03G, 04G)



・Dimensions (TDCV5-02BG, 03BG, 04BG)

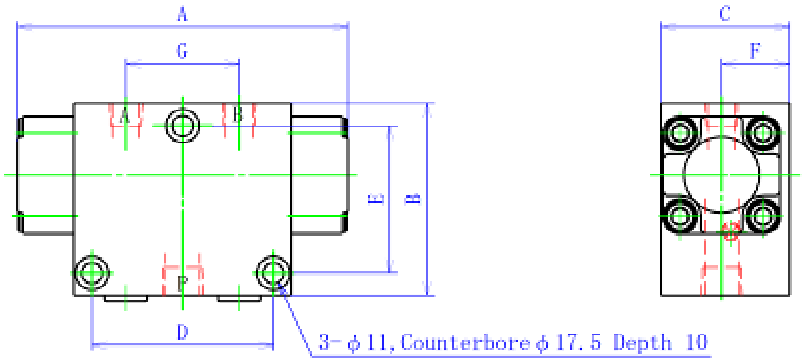


・Specification

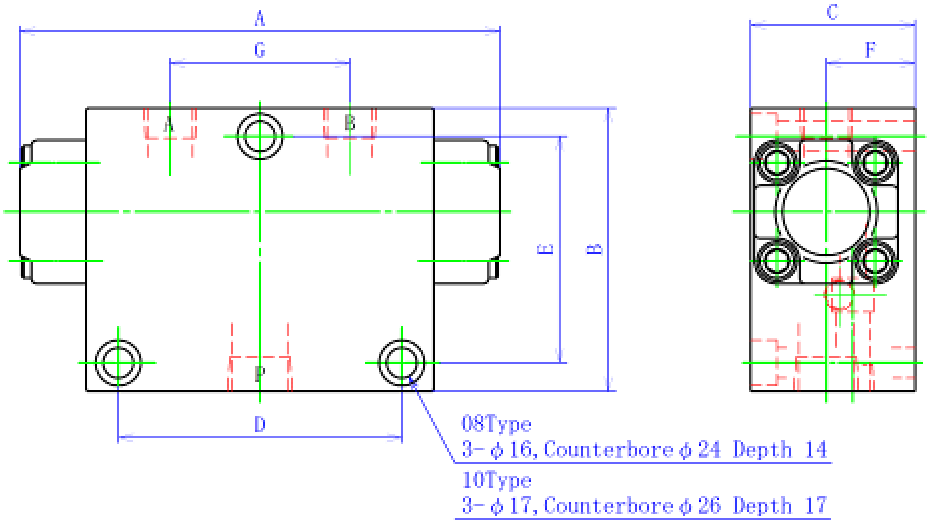
Type			Port P Standard flow (L/min.)	Port P Flow range (L/min.)	Pressure loss (MPa)	Weight (kg)
FDT5 TDCV5	02(B)	2 G	2	1.5～2.5	±0.2 0.7	1.8 Screw 2.0
		3 G	3	2.5～ 4		
	03(B)	4 G	4	3～ 5	±0.2 0.8	
		6 G	6	5～ 8		
		10 G	10	8～ 13		
		15 G	15	13～ 18		
		20 G	20	17～ 25		
	04(B)	30 G	30	25～ 36	±0.2 1.2	
		40 G	40	33～ 48		

FLOW DIVIDER VALVE ·FDCT-**-** TYPE	Thread connecting	20.6 MPa

・Dimensions (FDCT-04)



・Dimensions (FDCT-08·10)

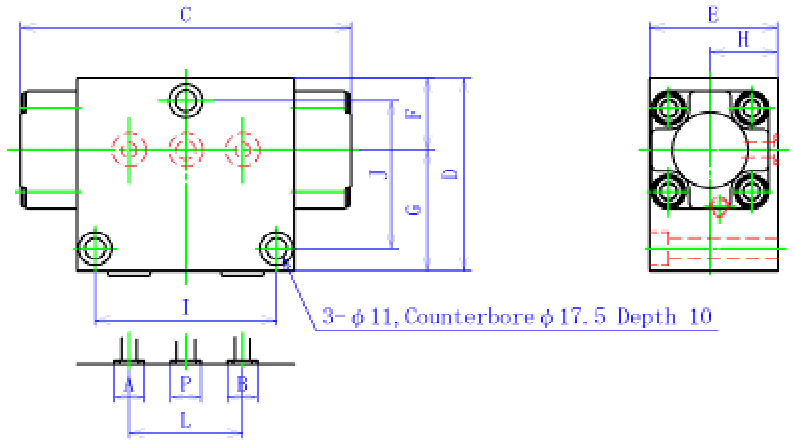


・Specification

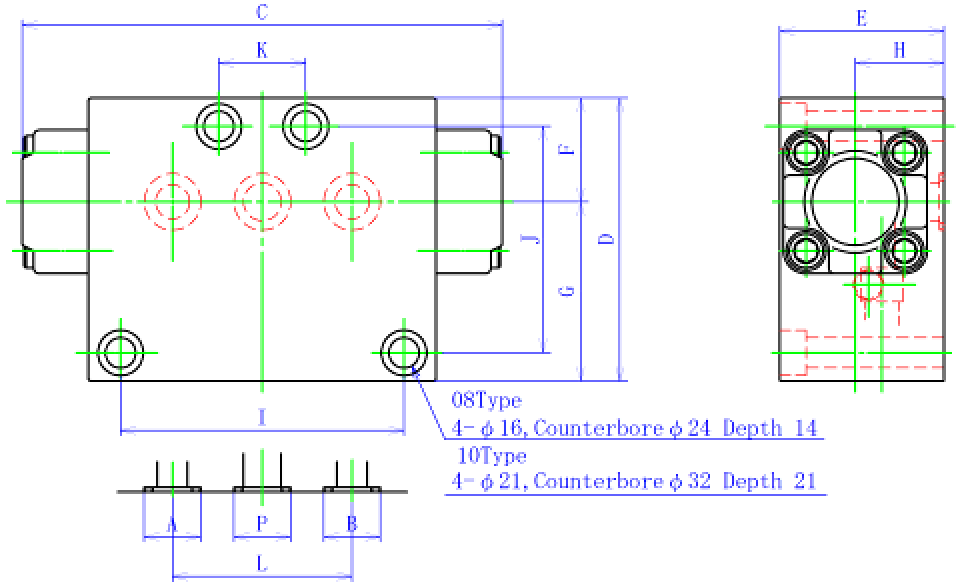
Type			Port P		Pressure loss (MPa)	Connecting pipe		A	B	C	D	E	F	G	Weight (kg)
			Standard flow (l/min.)	Flow range (l/min.)		P	A・B								
FDCT	04	4	4	3 ～ 5	±0.3 0.7	1/2″	3/8″	175	102	68	96	78	36	60	6.5
		6	6	4 ～ 8											
		10	10	7 ～ 13											
		15	15	10 ～ 18											
		20	20	15 ～ 27											
		30	30	22 ～ 35											
		40	40	30 ～ 47											
	08	60	60	45 ～ 75		1″	3/4″	254	150	87	150	120	47	95	17.5
		90	90	65 ～ 110											
	10	140	140	100 ～ 160		1 1/4″	1″	302	180	117	180	144	62	106	34
		200	200	150 ～ 220											

FLOW DIVIDER VALVE ·FDCT-**-**G TYPE	Gasket mounting	20.6 MPa

・Dimensions (FDCT-04G)



・Dimensions (FDCT-08G・10G)

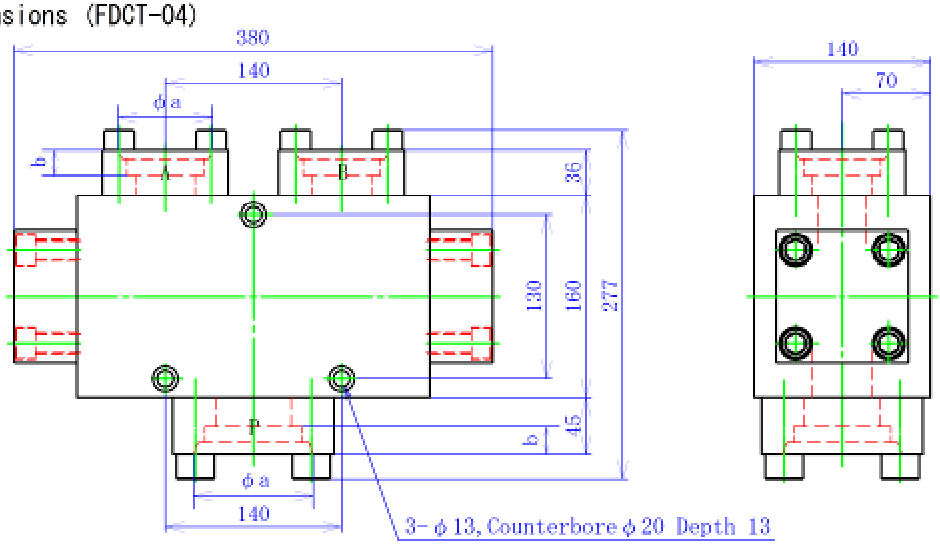


・Specification

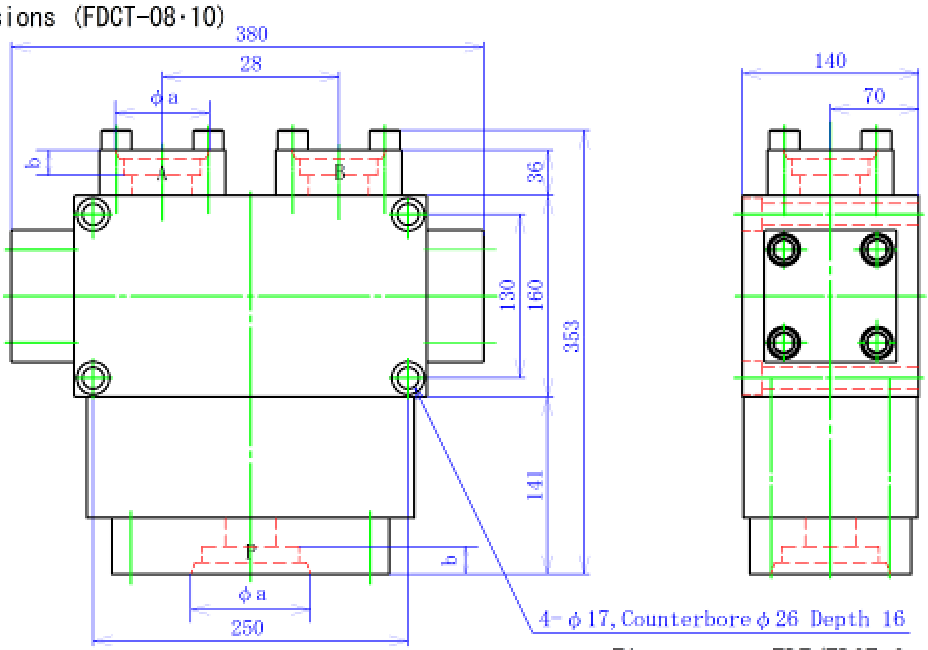
Type			Port P Standard flow (l/min.)	Port P Flow range (l/min.)	Pressure loss (MPa)	Connecting pipe P	Connecting pipe A・B	C	D	E	F	G	H	I	J	K	L	Weight (kg)
FDCT	04	4 G	4	3 ～ 5	±0.3 0.7	φ16	φ16	175	102	68	38	52	36	96	78		60	6.5
		6 G	6	4 ～ 8														
		10 G	10	7 ～ 13														
		15 G	15	10 ～ 18														
		20 G	20	15 ～ 27														
		30 G	30	22 ～ 35														
		40 G	40	30 ～ 47														
	08	60 G	60	45 ～ 75		φ30	φ30	254	150	87	55	95	47	150	120	46	95	17.5
		90 G	90	65 ～ 110														
	10	140 G	140	100 ～ 160		φ40	φ30	302	180	117	70	110	62	180	144	62	106	34
		200 G	200	150 ～ 220														

Special Types				
FLOW DIVIDER VALVE	·FDT-20-***F	High flow type	Flange connection	20.6 MPa
FLOW DIVIDER VALVE	·FDCT-20-***F			

・Dimensions (FDCT-04)



・Dimemsions (FDCT-08·10)



・Specification

Type			Port P		Pressure loss (MPa)	Weight (kg)
			Standard flow (l/min.)	Flow range (l/min.)		
FDT FDCT	20	300 F	300	250 ~ 350	±0.3 0.7	FDT 60 FDCT 85
		400 F	400	330 ~ 450		
		500 F	500	420 ~ 560		
		600 F	600	500 ~ 670		

・Flange type FDT/FDCT Common(Free Choice)

Type		Connecting pipe	φa	b
Port P	SSA 40	1 1/2"	49.1	18
	SSA 50	2"	61.1	20
	SSA 65	2 1/2"	77.1	22
Port A, B	SSA 32	1 1/4"	43.2	16
	SSA 40	1 1/2"	49.1	18
	SSA 50	2"	61.1	20