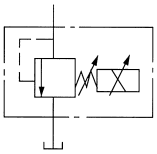
油壓電磁
比例式引導調壓閥

Proportional Electro-Hydraulic Valves

DAIWER®

Proportional Electro-Hydraulic Pilot Relief Valves

DAIWER



特 點：

1. 簡化油壓系統管路，突破傳統式一段壓力一個遙控閥的複雜管路。
2. 比例式線圈可依輸入電流的大小產生無段式壓力，更發揮液電合一的最佳功能。
3. 應答性佳，壓力變化瞬間激壓極小，減小管路共振。
4. 本公司生產 DAIWER® 標準電子控制器HNC-1085提供客戶參考使用。

Characters :

1. Simplify Hydraulic piping system,and improve traditional complicated piping of one pressure with one remote control valve.
2. Proportional coil produces stepless type of pressure upon input current to display the best function unifying Hydraulic and electronic.
3. Good response function, min.momentary exciting pressure of pressure change to reduce piping resonance.
4. **DAIWER** Standard electronic controller HNC-1085 is recommended for customers's reference.

■規 格 Specification:

說 明 Description ＼ 型 號 Mode No.		EDG - 01	
最高使用壓力 Max. Operating pressure	kgf/cm²	210	
最大通過流量 Max. Flow	l/min	2	
壓力調整範圍 Pressure Adjusting Range	kgf/cm²	C	8~140
		H	10~210
容許背壓 Allowable Back-Pressure	kgf/cm²	註：(1)	
定額電流 Rated Current	mA	C	750
		H	700
線圈阻抗 Coil Resistance	Ω	10	
磁滯 Magnetic Hysteresis	%	< 3	
再現性 Repeatability	%	< 0.5	
重量 Weight	kg	2	

■型號說明 Mode Description:

EDG -	01-	C -	※
DAIWER® 油壓電磁比例式引導調壓閥 DAIWER oil pressure electric magnetic proportional guide adjusting valve	閥門口徑 valve caliber	C:140 kgf / cm² H:210 kgf / cm²	製造日期 Date of Manufacture

註：

(1) 回油管盡量減少阻力，單獨使用一條管路直接插入油箱油面以下。
(2) 以上表列是配合本公司生產HNC-1085標準電子控制器及 2 l/min 油泵，單一閥門測試結果。
(3) EDG-01-B 背壓專用型。

Note:

(1) The resistance in the return pipe should be reduced by using one piping seperately and insert directly inside the oil tank.
(2) The left chart is comply with our standard electronic controlier HNC-1085 and 2 l/min oil pump, single valve test result.
(3) EDG-01-B for back pressure control.

油壓電磁
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使用上注意事項：

■安裝位置

正確的閥門安裝位置是必需使放氣孔朝上以便試車時排出油路中的空氣，若配合另外主閥一同使用時，引導管路請不要超過 30 公分，以達壓力更穩定。

■空氣排除

將圓後蓋朝上的放氣孔螺絲打開（請將系統壓力調在 30kgf/cm²）讓空氣排出，當閥內充滿油而不見再有氣泡後，將螺絲再鎖緊。

■手動調壓螺絲

當電氣控制發生故障時，而臨時需要壓力供應，此刻可將手動調整螺絲順時針旋入即可；平時則復歸原位。

■回油管路

回油背壓盡量低，油管末端直接插入油槽油面以下。

Care in Application:

■ Place for installation

Correct valve installation place is to put the bleeder upword in order to eliminate the presence of air in the oil pressage when it have a trial ranming;if use together with another main valve, the guide piping can not exceed 30 cm to make the pressure be more steady.

■ Elimination of Air (Air Vent)

Turn the bleeder on the upword position, then open the screw (adjust system pressure to 30kgf/cm²) eliminating the air. Then lock tightly the screw when there is no bubble but full of oil in valve.

■ Hand-adjusting Screw

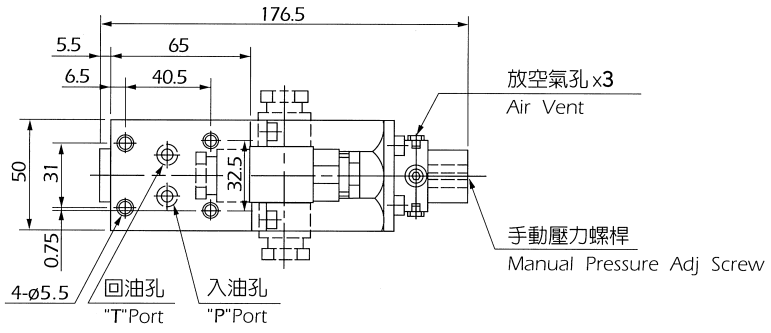
When the electric control is disorder and need to supply pressure occassionally, then just need to turn the hand-adjusting screw in clockwise direction. Restore to the origin at usual time.

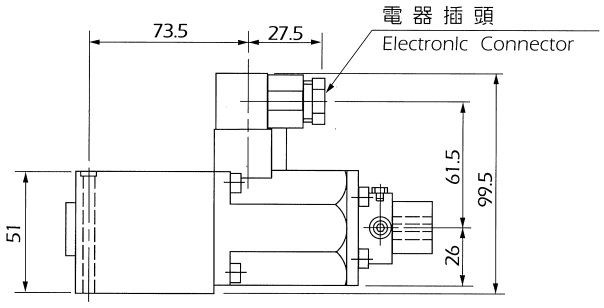
■ Drain

Insert the return back pressure on the end of low oil pipe directly to the place under the oil level of oil tank.

■外部尺寸圖 External Size Drawing

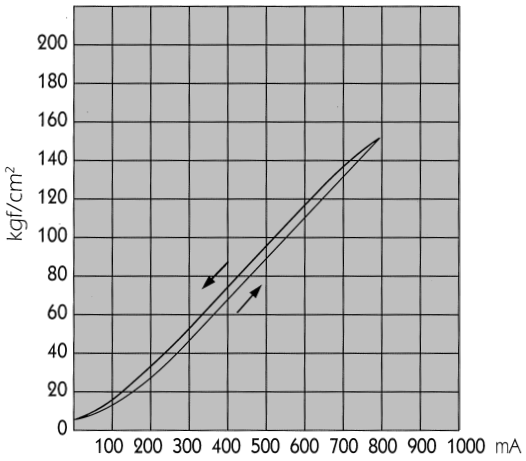
EDG-01





■入力電流－壓力特性 Input Current vs. Pressure

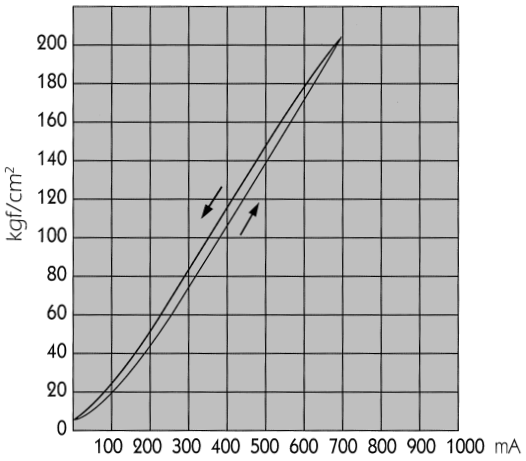
EDG - 01 (C)



測試條件：

油泵 3 l/min ，油溫 45°C ，液壓油粘度 45CST ，DAIWER 專用電子控制器HNC-1085，單一閥門油路系統測試。

EDG - 01 (H)

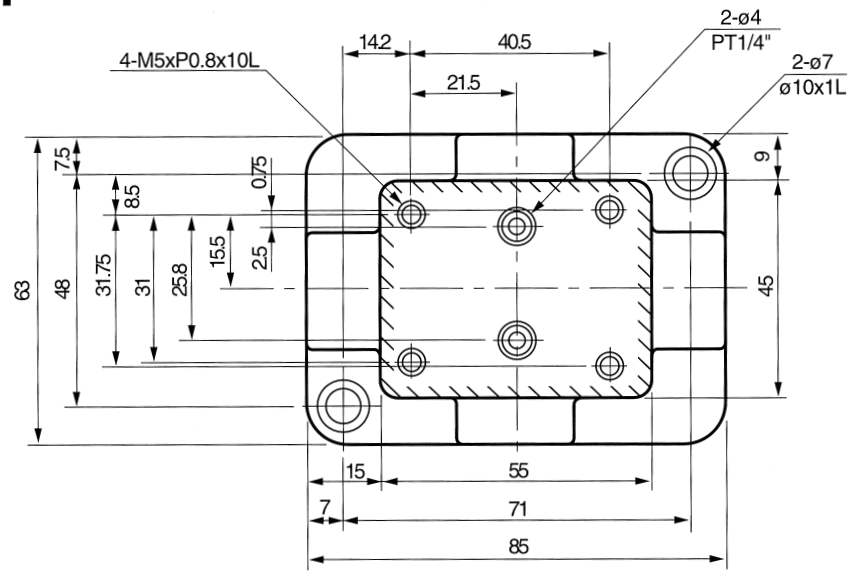


Test Condition:

Oil pump 3 l/min, Oil Temperature 45°C, Hydralic pressure oil viscosity 45CST, HNC Exclusive electric controller **HNC-1085**, Single-valve oil passage system test.

■底板圖 Sub - Plates (m/m)

EDG-01

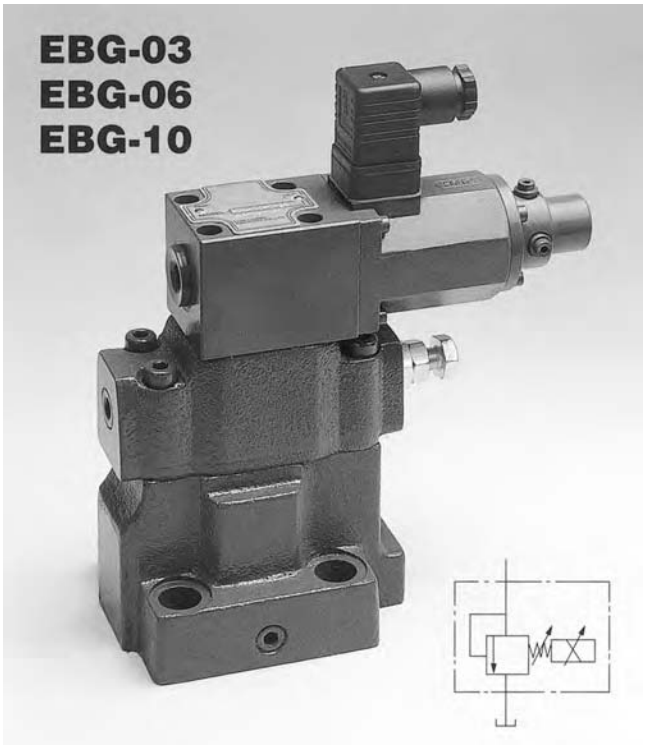


油壓電磁比例式調壓閥

Proportional Electro-Hydraulic Valves

DAIWER

Proportional Electro-Hydraulic Relief Valves



特 點：

1. EBG 閥壓力穩定，低噪音。
2. 適合一般傳統式及微電腦式電氣控制，可達液電合一最佳功能。
3. 精度高，微調容易，壓力變換瞬間激壓小。
4. 本公司生產 DAIWER 標準電子控制器HNC-1085，提供客戶參考使用。

Characters :

1. EBG valve pressure is steady with low noise.
2. Good for general traditional and micro-computer electric control to reach the best function of unifying hydraulic electronic.
3. Hi-precision,easy micro-adjusting, small pressure shift momentary excisting pressure.
4. DAIWER Standard electronic controller HNC-1085 is recammended for customers's reference.

■規 格 Specification:

說 明 Description / 型 號 Mode No.		EBG-03	EBG-06	EBG-10
最高使用壓力 Max. Operating pressure	kgf/cm²	210		
最大通過流量 Max. Flow	l/min	100	200	400
壓力調整範圍 Pressure Adjusting Range	kgf/cm²	C 8~140		
		H 10~210		
容許背壓 Allowable Back-Pressure	kgf/cm²	註：(1)		
定額電流 Rated Current	mA	C 750		
		H 700		
線圈阻抗 Coil Resistance	Ω	10		
磁滯 Magnetic Hysteresis	%	< 3		
再現性 Repeatability	%	< 0.5		
重量 Weight	kg	7.1	8.3	10.7

註：

(1) 回油管盡量減少阻力，單獨使用一條管路直接插入油箱油面以下。

(2) 以上表列是配合本公司生產HNC-1085 標準電子控制器，單一閥門測試結果。

Note:

(1) The resistance in the return pipe should be reduced by using one piping seperately and insert directly inside the oil tank.

(2) The left chart is comply with our standard electronic controlier HNC-1085, single valve test result.

使用上注意事項：

■安裝位置

放氣孔必須朝上（如圖A說明），若遇到閥門必須垂直安裝時，請聯絡本公司商洽。

■空氣排除

為使壓力穩定，管路中及閥門內的空氣必須完全排除，使用朝上的放氣孔，將放氣孔螺絲打開使空氣排出，直到沒有氣泡後再將螺絲鎖緊。

■手動調壓螺絲

當電氣控制發生故障時，而臨時需要壓力供應時，此刻可將手動調壓螺絲順時針旋入即可；平時則復歸原位。

■回油管路

單獨直接將回油管插入油箱的油面以下避免管路曲折或有限流現象。

■最高安全壓力設定

依實際油泵吐出量及實際使用壓力而決定，通常在油泵100 *l*/min以下時，追加15kgf/cm² 即可。

Care in Application:

■ Place of Installation

The bleeder has to be placed upword (as the following drawing described). When the valve has to be installed perpendicuarly, please contact us.

■ Elimination of Air (Air Vent)

To stabilize the pressure, the air in pipe passage and valve has to be emilinated. Place the bleeder upword then open the screw of bleeder and emilinate the air away till there is no bubble, and then lock tightly the screw.

■ Hand-adjusting Pressure Screw

When electric control is disorder and need to supply pressure occassionally,then just to turn the hand-adjusting pressure screw in clockwise direction. Restore it to the origin at usual time.

■ Drain

The resistance in the refurn pipe should be reduced by using one piping seperately and insert directly inside the oil tank.

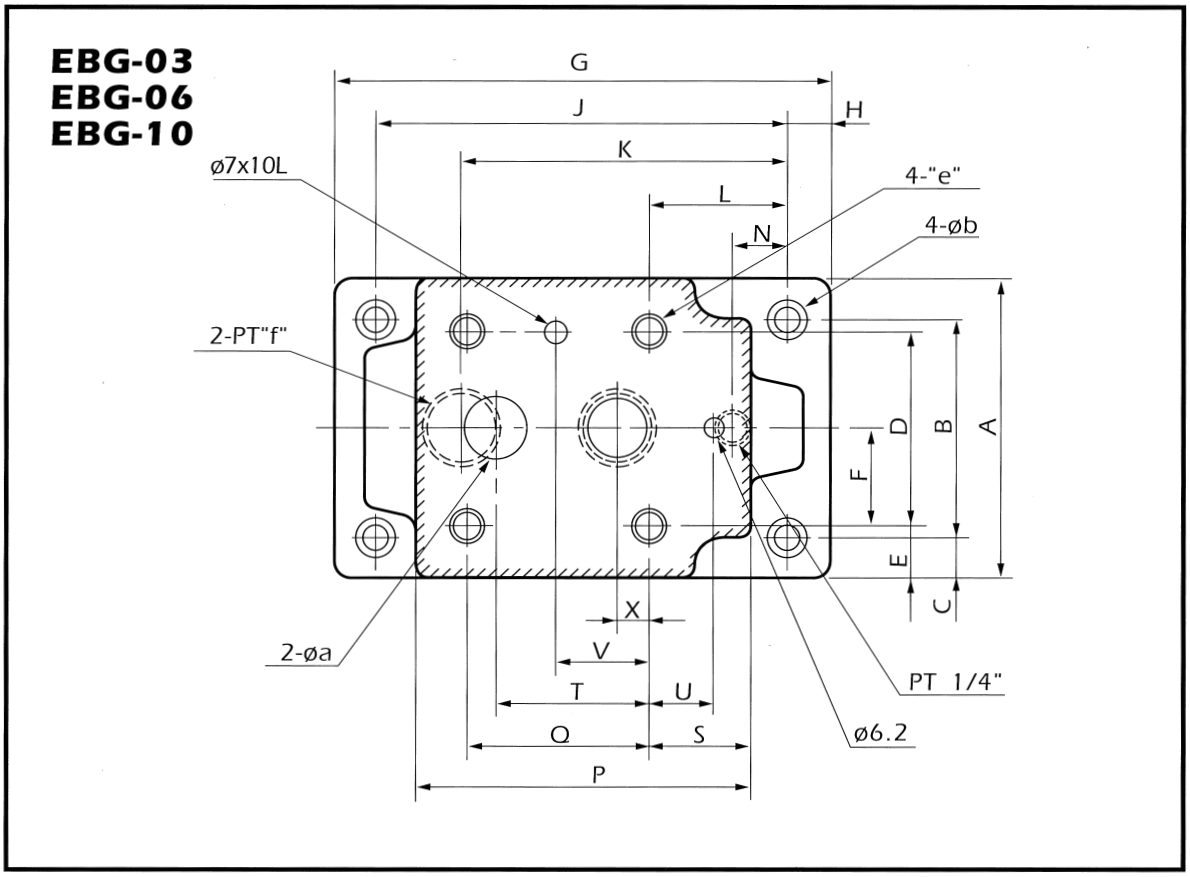
■ Highest Safety Pressure Design

It is demanded upon actual oil pump disorption and actual use pressure,just fine when oil pump is less than 100 *l*/min,super add 15kgf/cm² is recommended.

■型號說明 Mode Description:

EBG -	06-	C -	※
DAIWER 油壓電磁比例式調壓閥 DAIWER oil pressure electric magnetic proportional guide adjusting valve	閥門口徑 03, 06, 10 valve caliber	C:140 kgf / cm² H:210 kgf / cm²	製造日期 Date of Manufacture

■底板圖 Sub - Plates (m/m)



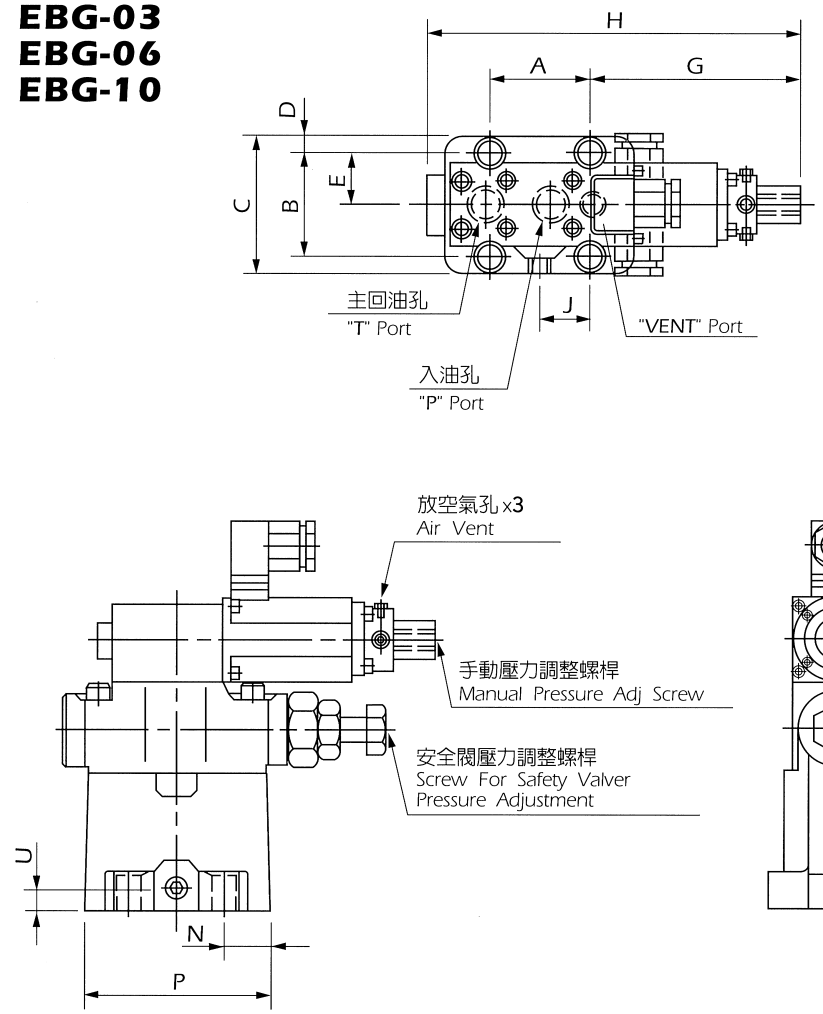
■底板尺寸 Sub - Plates Size (m/m)

符號 Symbol	A	B	C	D	E	F	G	H	J	K	L	N	P	Q
BGM-03	86	60	13	53.8	3	26.9	149	13	123	86	32	26 21	97	53.8
BGM-06	108	78	15	70	4	35	180	15	150	106.5	51	27.2 18	121	66.7
BGM-10	126	94	16	82.6	5.7	41.3	227	16	195	138.2	62	30.2 17	154	88.9

符號 Symbol	S	T	U	V	X	Y	Z	a	b	d	e	f
BGM-03	19	47.4	0	22	22	32	20	14.5	11	17.5	M12 螺絲 深 20 Screw Depth 20	3/8" 1/2"
BGM-06	37	55.5	23.8	33.4	11	40	25	23	13.5	21	M16 螺絲 深 25 Screw Depth 25	3/4" 1"
BGM-10	42	76.2	31.8	44.5	12.7	50	32	28	17.5	26	M20 螺絲 深 28 Screw Depth 28	1 1/4" 1 1/2"

■外部尺寸（圖A） External Size Drawing (A) (m/m)

EBG-03
EBG-06
EBG-10

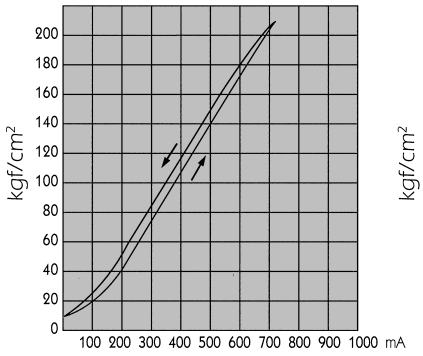


■外部尺寸 External Size (m/m)

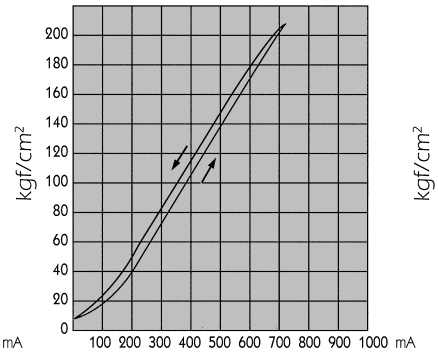
符號 Symbol	A	B	C	D	E	G	H	J	N	P	Q	R	S	T	U
BGM-03	53.8	53.8	76	11	27	115	206	27	26	106	21.5	219	105	152	13
BGM-06	66.7	70	98	14	35	117	210	33	36	124	26	220	105	153	13
BGM-10	89	82.6	120	187	41.3	122	225	45	45	155	34	246	132	178	18

■入力電流－壓力特性 Input Current vs. Pressure

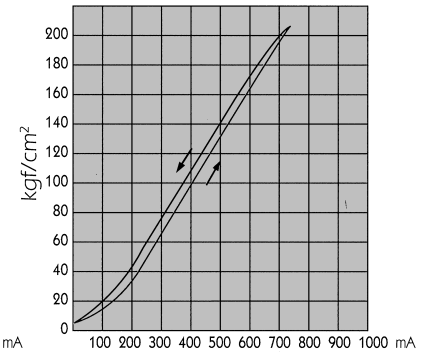
EBG-03(H)



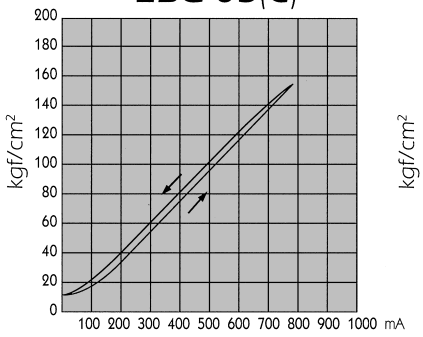
EBG-06(H)



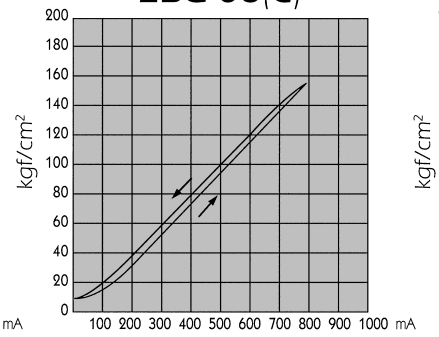
EBG-10(H)



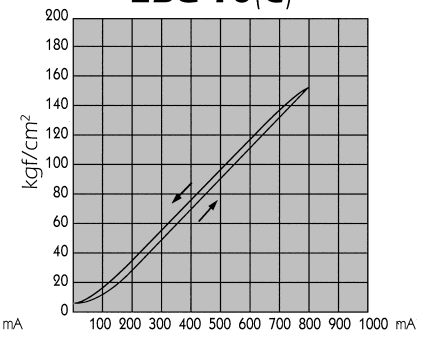
EBG-03(C)



EBG-06(C)



EBG-10(C)



測試條件：

油泵 60*l*/min(03) ， 120*l*/min(06) ， 250*l*/min(10) ，油溫 45°C ，液壓油粘度 45CST ， DAIWER 專用電子控制器 HNC-1085 ，單一閥門油路系統測試。

Test Condition:

Oil pump 60*l*/min(03), 120*l*/min(06), 250*l*/min(10), Oil Temperature 45°C, Hydralic pressure oil viscosity 45CST, DAIWER Exclusive electric controller HNC-1085, Single-valve oil passage system test.

油壓電磁比例式壓力 &
流量複合閥

Proportional Electro-Hydraulic Valves

DAIWER®

Proportional Electro-Hydraulic Relief and Flow Control Valves

DAIWER

■規 格 Specification:

說 明 Description / 型 號 Mode No.			EFBG - 03	
最高使用壓力 Highest Operating pressure		kgf/cm²	210	
最大通過流量 Max. Flow		l/min	125	
流量系統 Flowing System	流量調整範圍 Flow Adjusting Range	l/min	1~125	
	閥門內部阻抗（A→B） Valve Internal Resistance	kgf/cm²	5	
	定額電流 Rated Current	mA	750	
	線圈阻抗 Coil Resistance	Ω	40	
	磁滯 Magnetic Hysteresis	%	< 7	
	再現性 Repeatability	%	< 1	
壓力系統 Pressure System	壓力調整範圍 Pressure Adjusting Range	kgf/cm²	C	8~140
			H	10~210
	容許背壓 Allowable Back Pressure	kgf/cm²	註：(1)	
	定額電流 Rated Current	mA	C	750
			H	700
	線圈阻抗 Coil Resistance	Ω	10	
	磁滯 Magnetic Hysteresis	%	< 3	
	再現性 Repeatability	%	< 1	
重量 Weight		kg	18	

■型號說明 Mode Description:

EFBG -	03-	125 -	C -	※
DAIWER 油壓電磁比例式複合閥 DAIWER Oil Pressure Electric Magnetic Proportional Compound Valve	閥門口徑 valve caliber	最大通過流量 Max. Flow passed	C:140 kgf / cm² H:210 kgf / cm²	設計號碼 Desing No.

註：

(1) 回油管盡量減少阻力，單獨使用一條管路直接插入油箱油面以下。

(2) 以上表列是配合本公司生產HNC-4075, HNC-1085，標準電子控制器及125 l/min油泵，單一閥門測試結果。

Note:

(1) The resistance in the return pipe should be reduced by using one piping seperately and insert directly inside the oil tank.

(2) The left chart is comply with our standard electronic controlier HNC-4075, HNC-1085, standard electronic controller 125l/min, single valve test result.

使用上注意事項：

■安裝位置

放氣孔位置可自由調整，請將其方向朝上，以方便排出管路及閥門內的空氣。

■回油管路

回油管路盡可能避免有限流現象，盡可能減少背壓。

■手動調壓（壓力、流量）螺絲

當電氣故障時，臨時應變使用，平時則復歸原位。

■空氣排除

為達壓力穩定，速度切換靈敏，將管路及閥門內的空氣完全排出是相當重要的（參照 EDG-01）。

■最高安全壓力設定

請參照 EBG-06

Cautional in Application:

■ Place for installation

The place of bleeder can be adjusted freely and put the direction upside avilably to eliminate the air in pipe passage and valve.

■ Drain

The return oil pipe passage should be avoided having Flowed Friction Condition but reduce back pressure as possible.

■ Hand-adjusting(pressure,flow) Screw(bar)

When electric control is disorder and need to supply pressure occassionally, then just to turn the hand-adjusting pressure screw(bar)in clockwise direction. Restore it to the origin at usual time.

■ Elimination of Air (Air Vent)

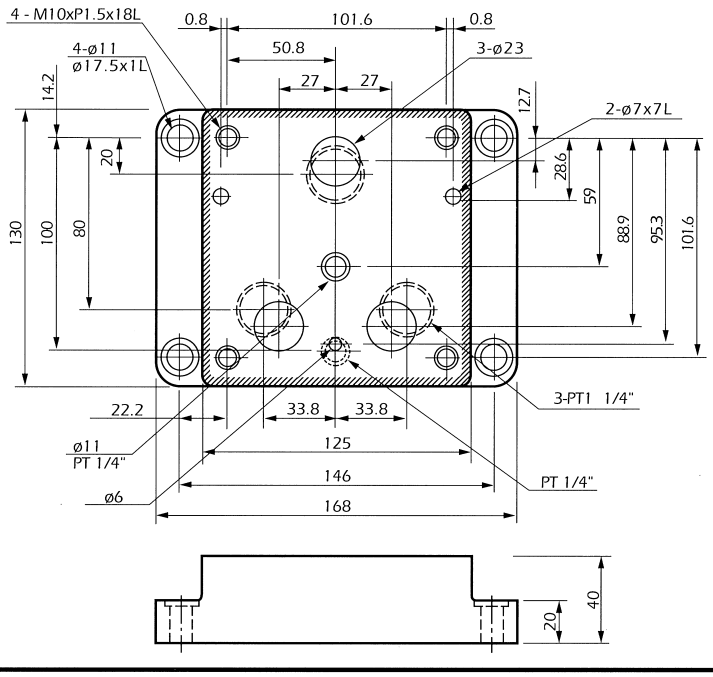
In order to stabilize the pressure and make speed shift acutely. it is very important to emilinate completely the air in pipe passage and valve.(refer to EDG-1).

■ Highest Safety Pressure Set

Refer to EBG-06

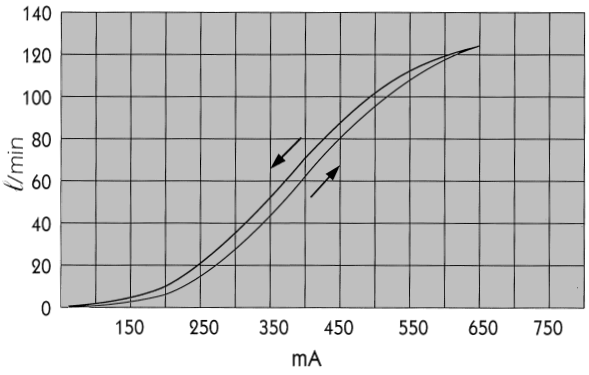
■底板圖 Sub - Plates (m/m)

EFBG-03-125



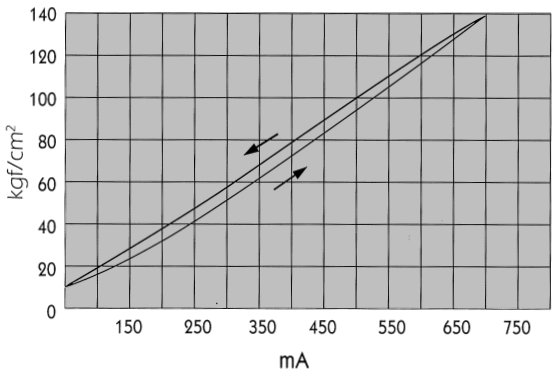
■入力電流－流量特性
Input Current vs. Flow

EFBG-03-125



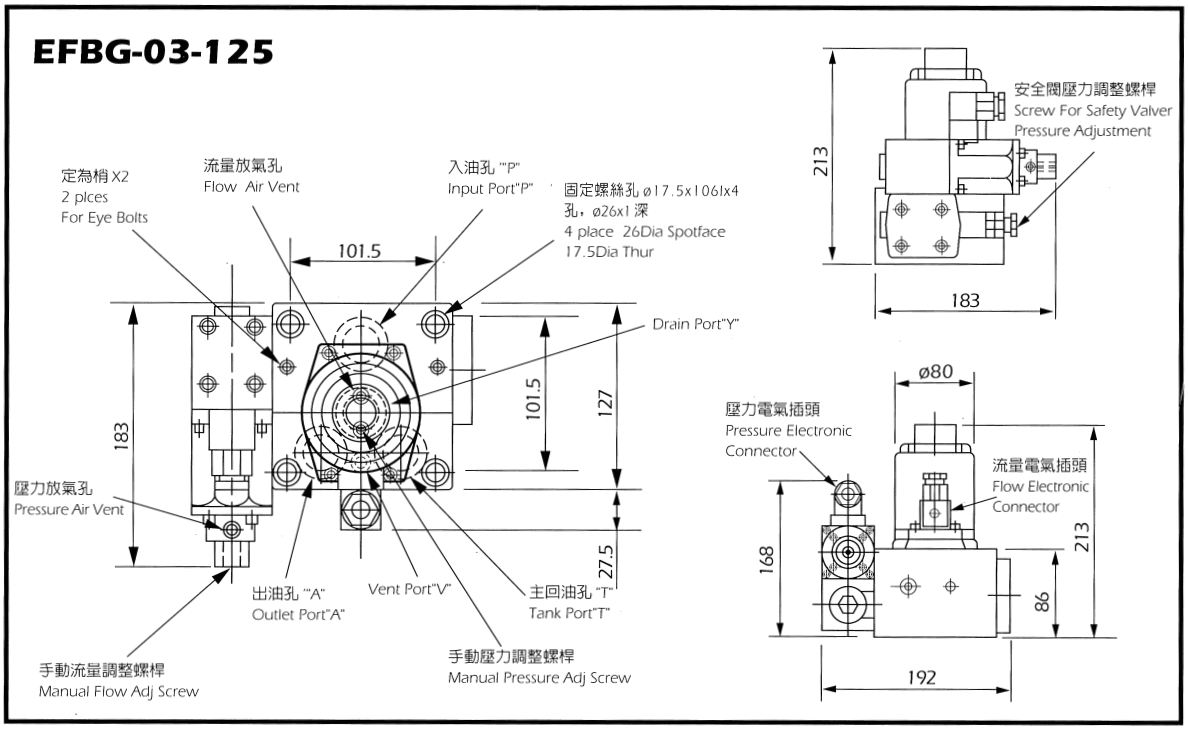
■入力電流－壓力特性
Input Current vs. Pressure

EFBG-03 (C)



■外部尺寸圖 External Size Drawing (m/m)

EFBG-03-125



油壓電磁比例式壓力 &
流量複合閥

Proportional Electro-Hydraulic Valves

DAIWER®

Proportional Electro-Hydraulic Relief and Flow Control Valves

DAIWER

■規 格 Specification:

說 明 Description / 型 號 Mode No.			EFBG - 06	
最高使用壓力 Max. Operating pressure		kgf/cm²	210	
最大通過流量 Max. Flow		l/min	250	
流量系統 Flowing System	流量調整範圍 Flow Adjusting Range	l/min	2~250	
	閥門內部阻抗（A→B） Valve Internal Resistance	kgf/cm²	5	
	定額電流 Rated Current	mA	750	
	線圈阻抗 Coil Resistance	Ω	40	
	磁滯 Magnetic Hysteresis	%	< 7	
	再現性 Repeatability	%	< 1	
壓力系統 Pressure System	壓力調整範圍 Pressure Adjusting Range	kgf/cm²	C	8~140
			H	10~210
	容許背壓 Allowable Back Pressure	kgf/cm²	註：(1)	
	定額電流 Rated Current	mA	C	750
			H	700
	線圈阻抗 Coil Resistance	Ω	10	
	磁滯 Magnetic Hysteresis	%	< 3	
	再現性 Repeatability	%	< 1	
重量 Weight		kg	33	

■型號說明 Mode Description:

EFBG -	06-	250 -	C -	※
DAIWER 油壓電磁比例式複合閥 DAIWER Oil Pressure Electric Magnetic Proportional Compound Valve	閥門口徑 valve caliber	最大通過流 量 Max. Flow passed	C:140 kgf / cm² H:210 kgf / cm²	設計號碼 Desing No.

註：

(1) 回油管盡量減少阻力，單獨使用一條管路直接插入油箱油面以下。

(2) 以上表列是配合本公司生產HNC-4075, HNC-1085，標準電子控制器及250 l/min油泵，單一閥門測試結果。

Note:

(1) The resistance in the return pipe should be reduced by using one piping seperately and insert directly inside the oil tank.

(2) The left chart is comply with our standard electronic controlier HNC-4075, HNC-1085, standard electronic controller 250l/min, single valve test result.

使用上注意事項：

■安裝位置

放氣孔位置可自由調整，請將其方向朝上，以方便排出管路及閥門內的空氣。

■回油管路

回油管路盡可能避免有限流現象，盡可能減少背壓。

■手動調壓（壓力、流量）螺絲

當電氣故障時，臨時應變使用，平時則復歸原位。

■空氣排除

為達壓力穩定，速度切換靈敏，將管路及閥門內的空氣完全排出是相當重要的（參照 EDG-01）。

■最高安全壓力設定

請參照 EBG-06

Cautional in Application:

■ Place for installation

The place of bleeder can be adjusted freely and put the direction upside avilably to eliminate the air in pipe passage and valve.

■ Drain

The return oil pipe passage should be avoided having Flowed Friction condition but reduce back pressure as possible.

■ Hand-adjusting(pressure,flow)Screw(bar)

When electric control is disorder and need to supply pressure occassionally, then just to turn the hand-adjusting pressure screw(bar)in clockwise direction. Restore it to the origin at usual time.

■ Elimination of Air (Air Vent)

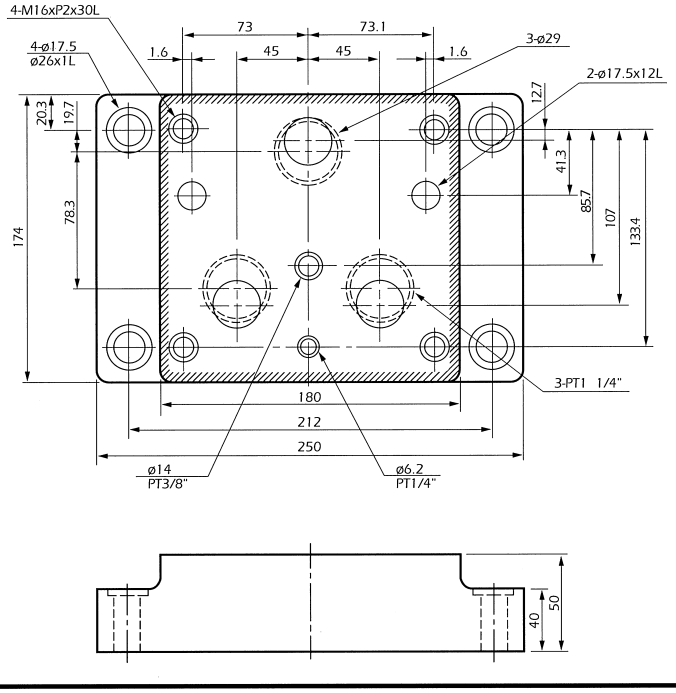
In order to stbilize the pressure and make speed shift acutely.it is very important to emilinate completely the air in pipe passage and valve.(refer to EDG-1).

■ Highest Safety Pressure Set

Refer to EBG-06

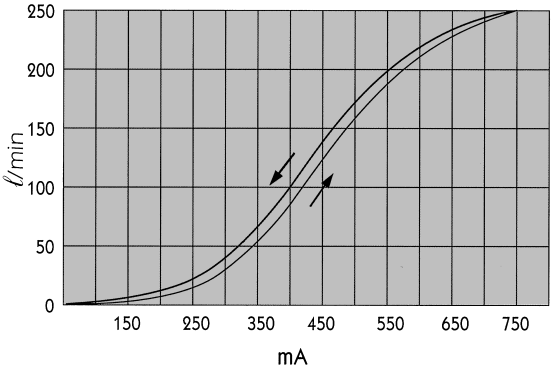
■底板圖 Sub - Plates (m/m)

EFBG-06-250



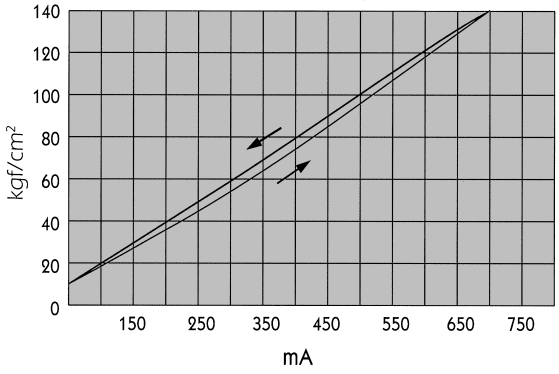
■入力電流－流量特性
Input Current vs. Flow

EFBG-06-250



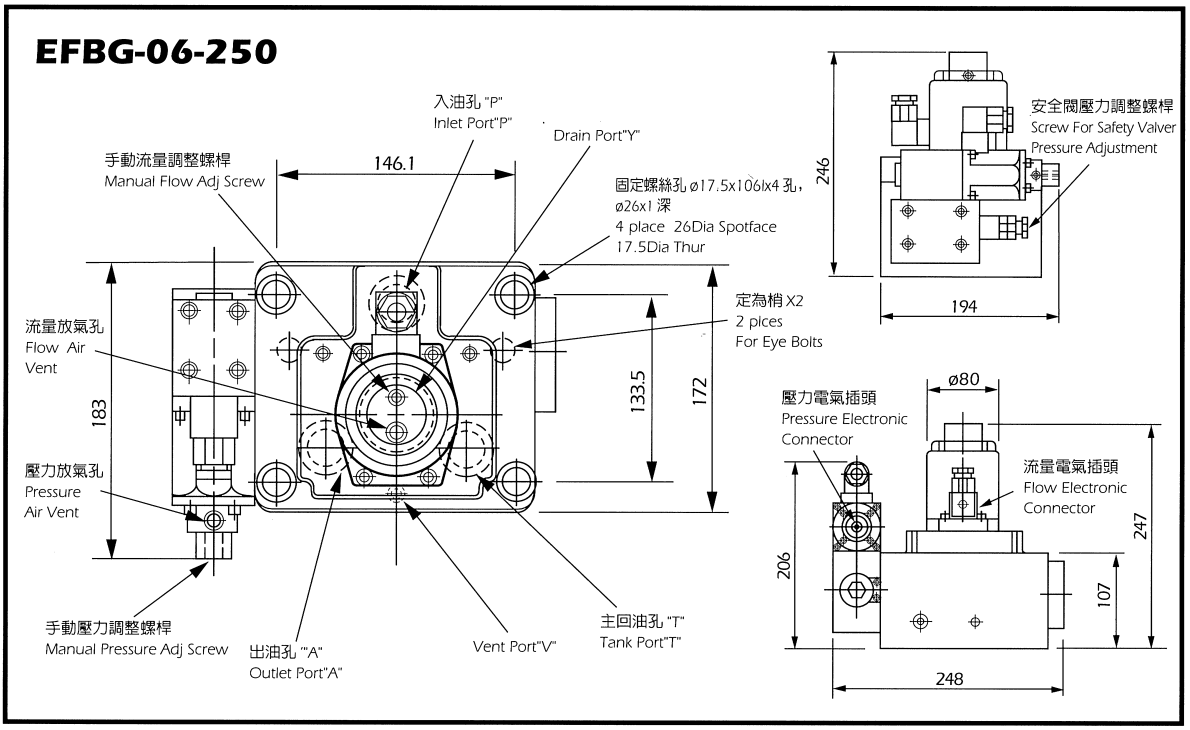
■入力電流－壓力特性
Input Current vs. Pressure

EFBG-06 (C)



■外部尺寸圖 External Size Drawing (m/m)

EFBG-06-250



油壓電磁比例式壓力 &
流量複合閥

Proportional Electro-Hydraulic Valves

DAIWER®

Proportional Electro-Hydraulic Relief and Flow Control Valves

DAIWER

■規 格 Specification:

說 明 Description / 型 號 Mode No.			EFBG - 10	
最高使用壓力 Highest Operating pressure		kgf/cm²	210	
最大通過流量 Max. Flow		l/min	500	
流量系統 Flowing System	流量調整範圍 Flow Adjusting Range	l/min	5~500	
	閥門內部阻抗（A→B） Valve Internal Resistance	kgf/cm²	5	
	定額電流 Rated Current	mA	750	
	線圈阻抗 Coil Resistance	Ω	40	
	磁滯 Magnetic Hysteresis	%	< 7	
	再現性 Repeatability	%	< 1	
壓力系統 Pressure System	壓力調整範圍 Pressure Adjusting Range	kgf/cm²	C	8~140
			H	10~210
	容許背壓 Allowable Back Pressure	kgf/cm²	註：(1)	
	定額電流 Rated Current	mA	C	750
			H	700
	線圈阻抗 Coil Resistance	Ω	10	
	磁滯 Magnetic Hysteresis	%	< 3	
	再現性 Repeatability	%	< 1	
重量 Weight		kg	58	

■型號說明 Mode Description:

EFBG -	10-	500 -	C -	※
DAIWER Oil Pressure Electric Magnetic Proportional Compound Valve 油壓電磁比例式複合閥	閥門口徑 valve caliber	最大通過流量 Max. Flow passed	C:140 kgf / cm² H:210 kgf / cm²	設計號碼 Desing No.

註：

(1) 回油管盡量減少阻力，單獨使用一條管路直接插入油箱油面以下。

(2) 以上表列是配合本公司生產HNC-4075, HNC-1085，標準電子控制器及500 l/min油泵，單一閥門測試結果。

Note:

(1) The resistance in the return pipe should be reduced by using one piping seperately and insert directly inside the oil tank.

(2) The left chart is comply with our standard electronic controlier HNC-4075, HNC-1085, standard electronic controller 500l/min, single valve test result.

使用上注意事項：

■安裝位置

放氣孔位置可自由調整，請將其方向朝上，以方便排出管路及閥門內的空氣。

■回油管路

回油管路盡可能避免有限流現象，盡可能減少背壓。

■手動調壓（壓力、流量）螺絲

當電氣故障時，臨時應變使用，平時則復歸原位。

■空氣排除

為達壓力穩定，速度切換靈敏，將管路及閥門內的空氣完全排出是相當重要的（參照 EDG-01）。

■最高安全壓力設定

請參照 EBG-06

Cautional in Application:

■ Place for installation

The place of bleeder can be adjusted freely and put the direction upside avilably to eliminate the air in pipe passage and valve.

■ Drain

The return oil pipe passage should be avoided having Flowed Friction condition but reduce back pressure as possible.

■ Hand-adjusting(pressure,flow)Screw(bar)

When electric control is disorder and need to supply pressure occassionally, then just to turn the hand-adjusting pressure screw(bar)in clockwise direction. Restore it to the origin at usual time.

■ Elimination of Air (Air Vent)

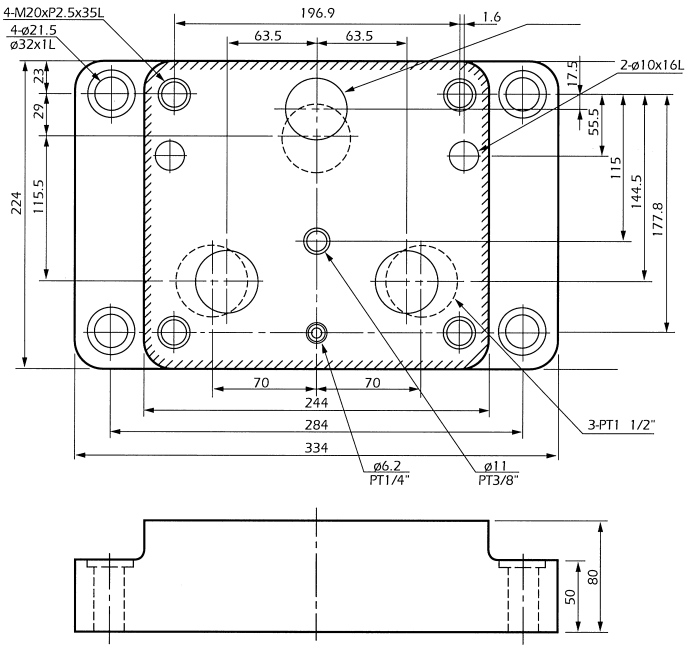
In order to stbilize the pressure and make speed shift acutely.it is very important to emilinate completely the air in pipe passage and valve.(refer to EDG-1).

■ Highest Safety Pressure Set

Refer to EBG-06

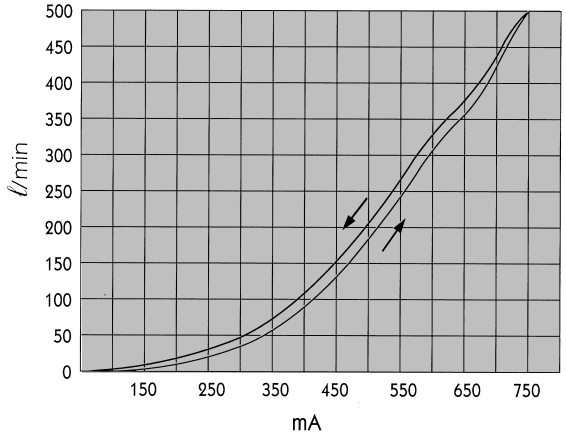
■底板圖 Sub - Plates (m/m)

EFBG-10-500



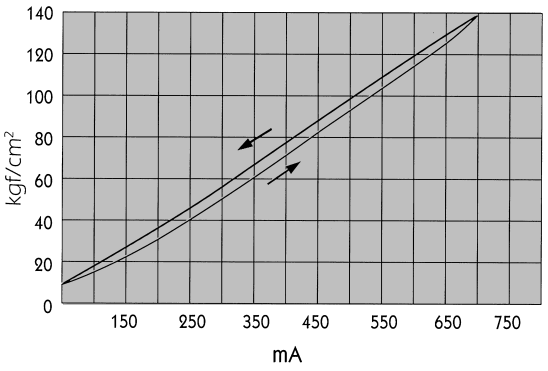
■入力電流－流量特性
Input Current vs. Flow

EFBG-10-500



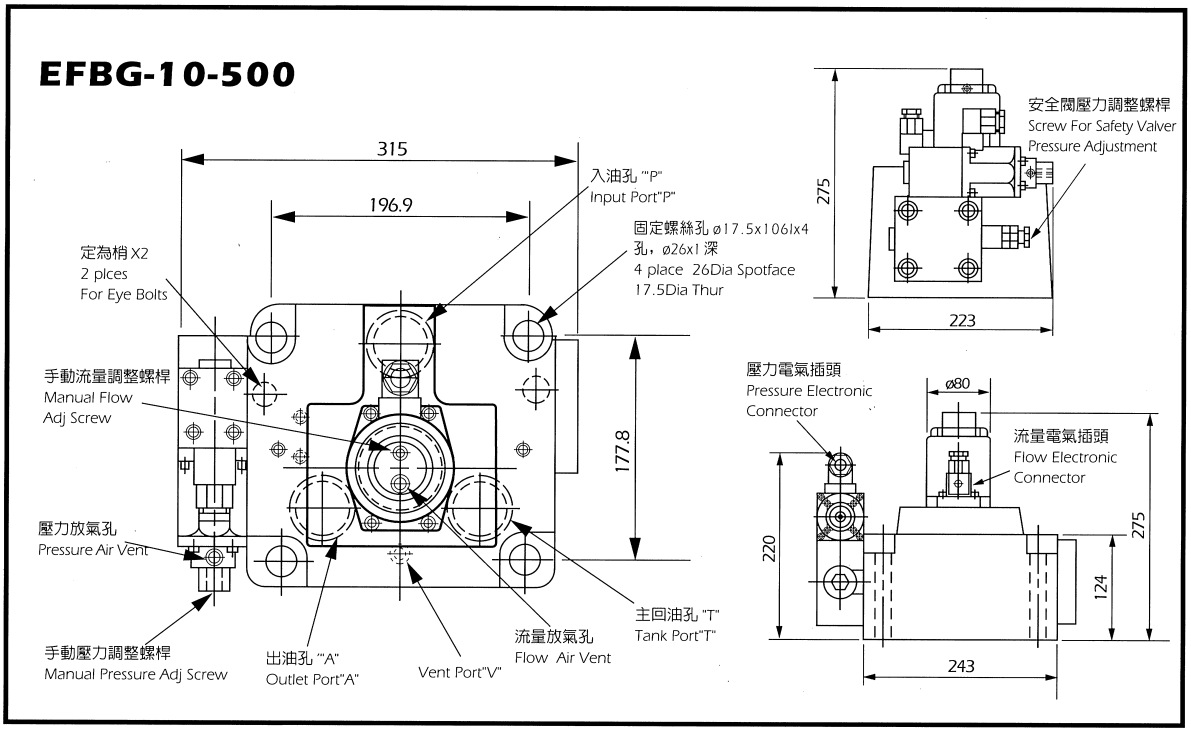
■入力電流－壓力特性
Input Current vs. Pressure

EFBG-10 (C)



■外部尺寸圖 External Size Drawing (m/m)

EFBG-10-500

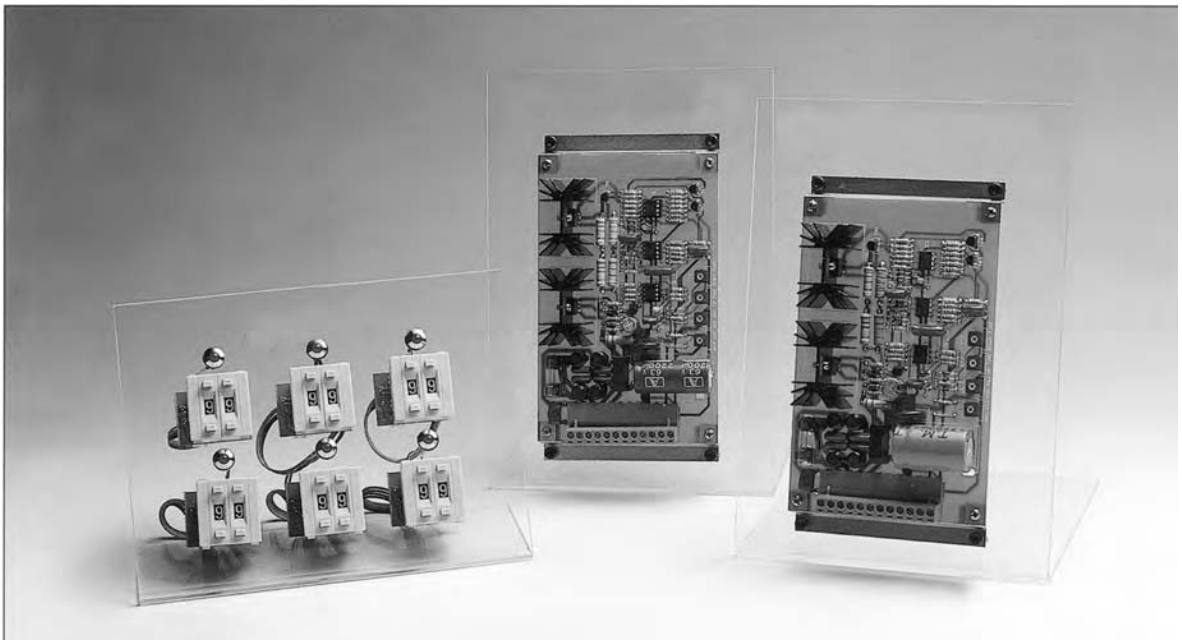


電子控制電路板

Proportional Electro-Hydraulic Valves

DAIWER

Electronic Amplifier P-C Board



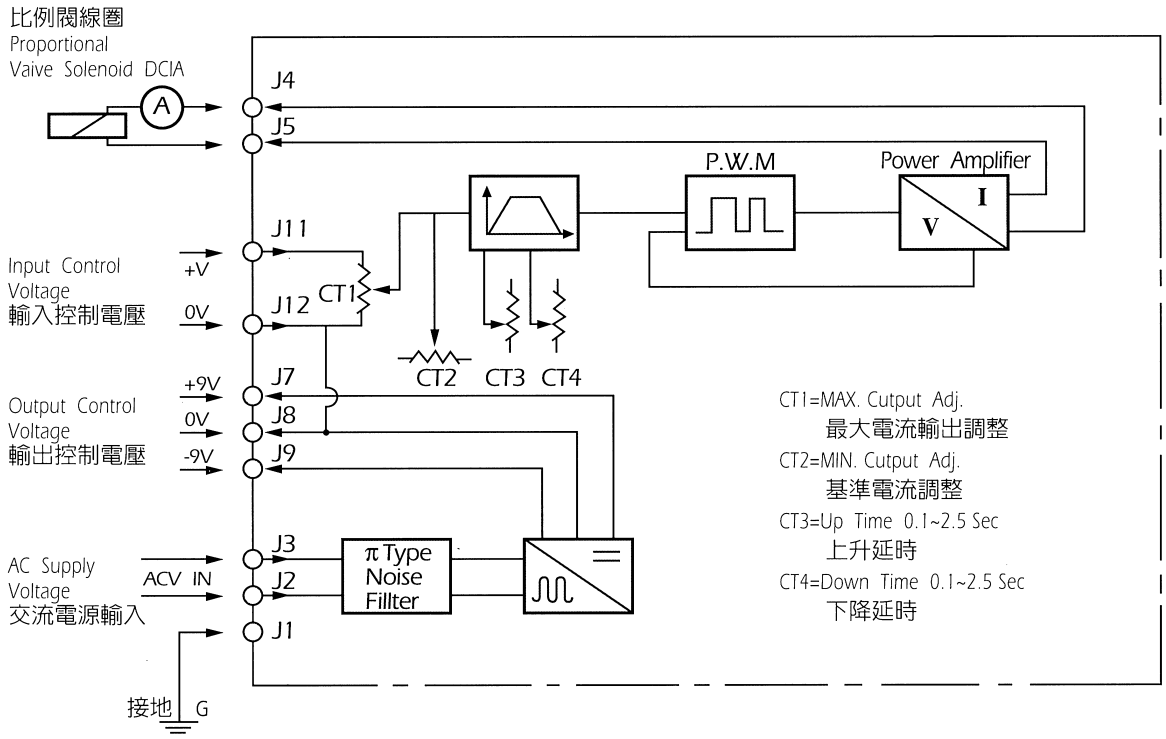
1. HNC-1085 型號的電子控制電路板適用於負載阻抗 10 歐姆的比例式壓力控制閥。
2. HNC-4075 型號的電子控制電路板適用於負載阻抗 40 歐姆的比例式流量控制閥。

1. Electronic amplifier type HNC-1085 is used for proportional pressure control valve. Load coil Resistance 10Ω
2. Electronic amplifier type HNC-4075 is used for proportional Flow control valve. Load coil resistance 40Ω

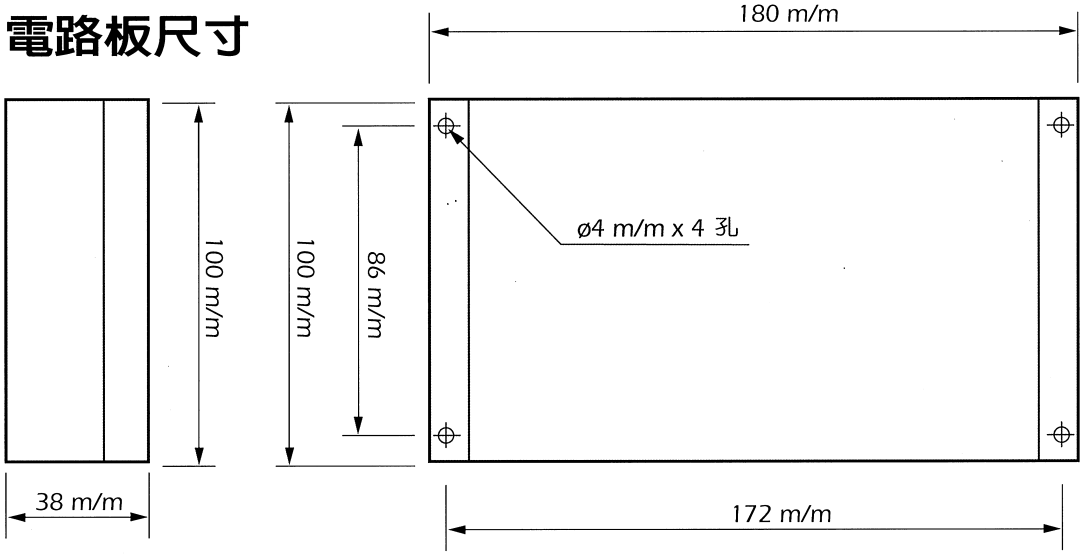
■電氣特性 Electrical technical data

項目 Description / 型號 Type	HNC-1085	HNC-4075
電源供應 Supply voltage	AC 28V±20%	AC 40V±20%
保 險 絲 Fuse	2A	2A
負載阻抗 Load coil resistance	10Ω/20°C	40Ω/20°C
輸入控制電壓 Input control voltage	0V~+9V	0V~+9V
最大電流輸出範圍 Max.current output range	0~850mA	0~750mA
基準電流調整範圍 Pilot current adj. range	0~150mA	0~150mA
上升延時 Up ramp time	0.1~2.5sec.	0.1~2.5sec.
下降延時 Down ramp time	0.1~2.5sec.	0.1~2.5sec.
溫度誤差 Temperature drift	0.1mA/1°C	0.2mA/1°C
工作溫度 Work temperature	0~50°C	0~50°C
最大消耗電力 Max. power repuirement	15VA	40VA

HNC-1085, HNC-4075



P-C Board Dimensions
電路板尺寸



電路板連結器配線說明

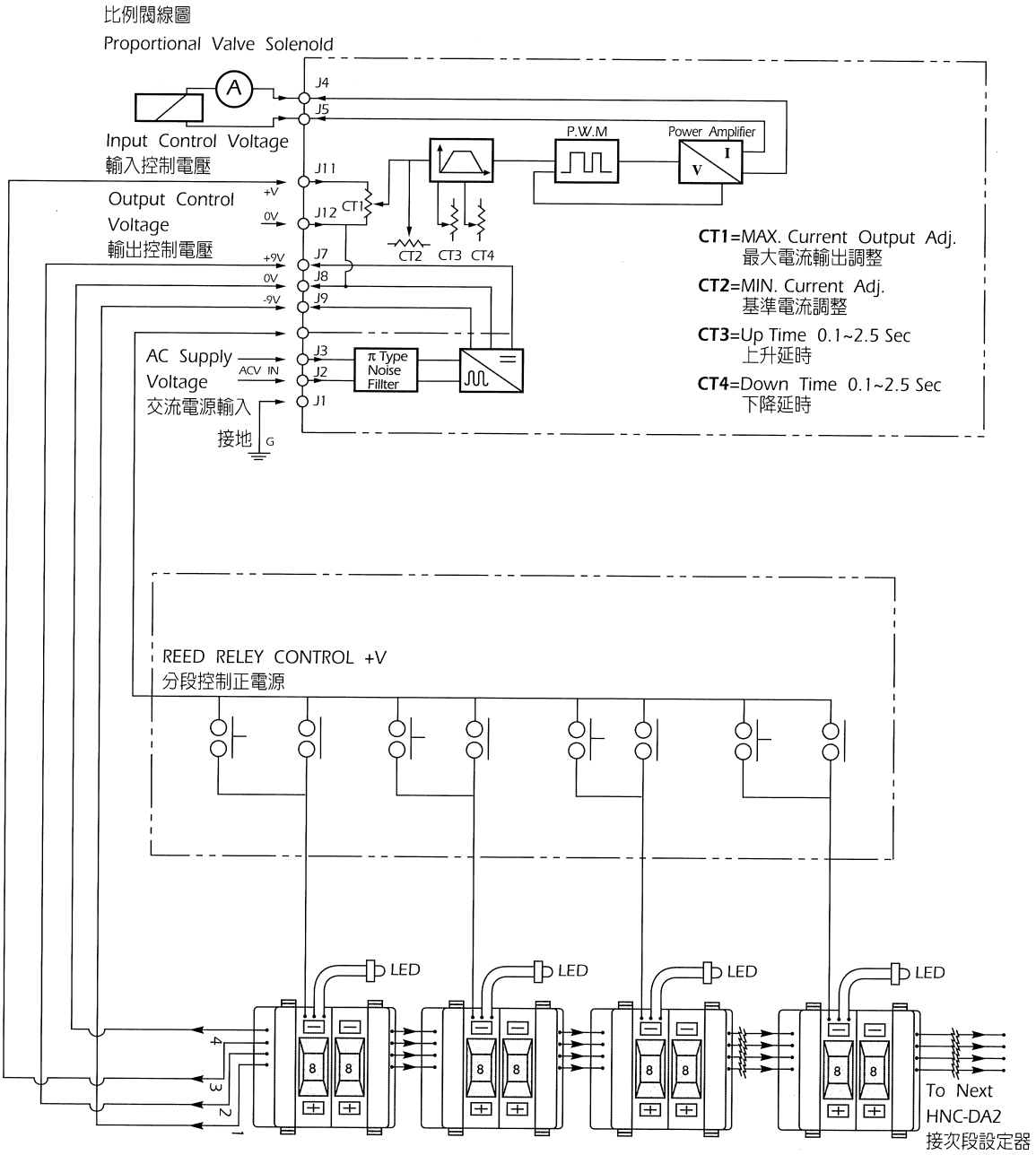
Proportional Electro-Hydraulic Valves

DAIWER

Electronic Amplifier Terminal Connections

DAIWER

HNC-1085, HNC-4075



比例式電氣控制系統聯接圖