

# CSF

## 上法蘭油壓支撐缸

### CSF HYDRAULIC SUPPORT CLAMP



#### 產品特性

- ★高支撐力：提高了活塞桿與夾套間的夾緊力，從而產生更高的工件支撐力。
- ★切削液清潔對策：為防止高壓冷卻液及切屑粉塵侵入內部結構而引發的作動不良，更換工件時可在排氣孔進行空氣清潔。空氣清潔需要專用的氣壓回路。（建議清潔氣壓0.3~0.5MPa）

#### 液壓上升型：

活塞桿初始狀態為下降，供給油壓使活塞桿上升並接觸工件任意位置後停止，在停止的同時油壓作用於夾套的夾緊力施加於活塞桿，使活塞桿得以穩固的支撐工件。

#### 彈簧上升型：

活塞桿初始狀態為上升，將工件放置於活塞桿上因工件的重量而下降到特定距離，此時供給油壓作用於夾套的夾緊力施加於活塞桿，使活塞桿得以穩固的支撐工件。

#### 訂購標示法 ORDERING INDICATION

##### 示例：CSF-040BLG

CSF	系列 Series	CSF		
<b>040</b>	油缸外徑 Oil cylinder external diameter	040=Ø40mm 048=Ø48mm	055=Ø55mm 065=Ø65mm	075=Ø75mm 090=Ø90mm
<b>B</b>	型式 Type	A:彈簧上升型 B:液壓上升型(標準)	A:Spring rising type B:Hydraulic rising type (standard)	 液壓上升型  彈簧上升型
<b>L</b>	壓強 Pressure	低壓7MPa Low pressure 7MPa		
<b>G</b>	版式 Type	G:油路板式(配有G螺紋堵頭) S:配管式(PT螺紋)	G: Manifold type ( with G thread plug) S: Line type ( PT thread)	

#### FEATURES

High support force: The clamping force between the piston rod and the clamp cover is increased, thus higher workpiece support force is produced.

Cutting fluid cleaning countermeasures: In order to prevent improper actuation caused by high-pressure coolant and chip dust intruding into the internal structure, air cleaning can be performed in the vent hole when replacing the workpiece.

Air cleaning requires a special-purpose pneumatic circuit. (Recommended cleaning air pressure 0.3-0.5MPa)

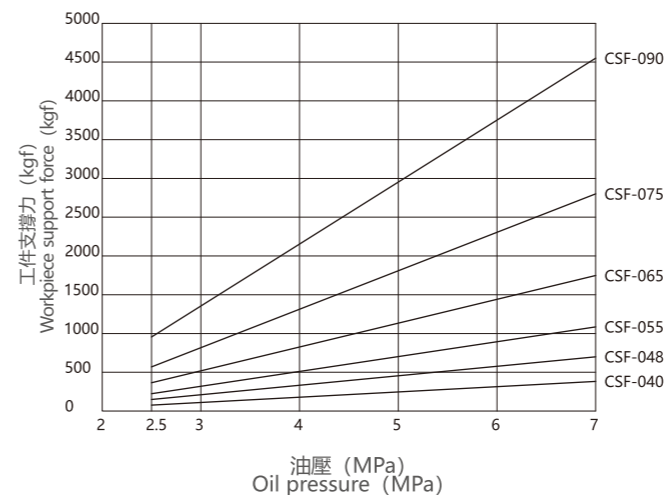
#### Hydraulic pressure rising type:

The initial state of the piston rod is falling. The supply oil pressure makes the piston rod rise and stop after getting into contact with any position of the supply part. At the same time, the clamping force acting on the clamp cover by oil pressure is applied to the piston rod, so that the piston rod can firmly support the workpiece.

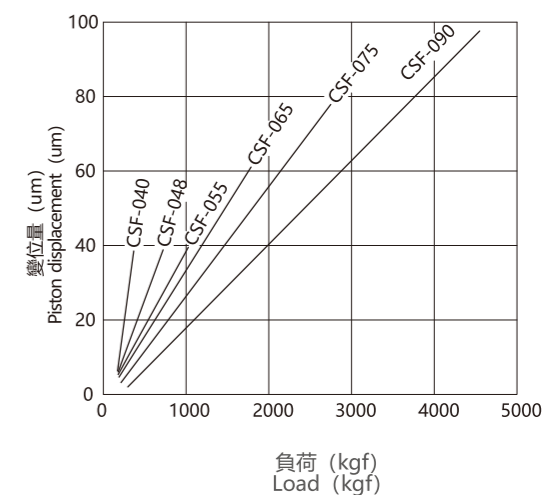
#### Spring rising type:

The initial state of the piston rod is rising, and the workpiece is placed on the piston rod and lowered to a certain distance due to the weight of the workpiece. At this time, the clamping force acting on the clamp cover by supply oil pressure is applied to the piston rod, so that the piston rod can firmly support the workpiece.

#### 油壓與工件支撐力的關係



#### 負荷與變位量的關係



#### 規格參數表 SPECIFICATION

型號	工件支撐力 (油壓為7MPa時) ※1	油缸流量	上升彈簧力 ※2	活塞桿行程	最高使用壓力	最低使用壓力	保證耐壓	使用溫度	質量
MODEL	WORKPIECE SUPPORT FORCE (WHEN OIL PRESSURE IS 7MPa) (kgf)	OIL CYLINDER FLOW (cm <sup>3</sup> )	RISING SPRING FORCE※2 (kgf)	PISTON ROD STROKE (mm)	MAXIMUM WORKING PRESSURE (MPa)	MINIMUM WORKING PRESSURE (MPa)	ENSURE OVERPRESSURE -RESISTANT (MPa)	OPERATING TEMPERATURE (°C)	Quality (kg)
CSF-040	385	1.2	0.5~0.8	8	7	2.5	10.5	0~70	0.6
CSF-048	700	2	0.6~1.0	10	7	2.5	10.5	0~70	0.9
CSF-055	1085	3.3	0.8~1.5	12	7	2.5	10.5	0~70	1.4
CSF-065	1750	4.8	1.0~1.5	14	7	2.5	10.5	0~70	2.2
CSF-075	2800	8.9	1.3~1.9	16	7	2.5	10.5	0~70	3.6
CSF-090	4550	13.1	1.5~2.1	20	7	2.5	10.5	0~70	6

使用流體：普通礦物油基液壓油（相當於ISO-VG32）

※1:將支撐缸與夾緊缸對置使用時,為了使支撐力足夠,所使用的支撐缸支撐力應該為夾緊缸與切削負荷的1.5倍以上,請選擇型號匹配的支撐缸與夾緊缸。

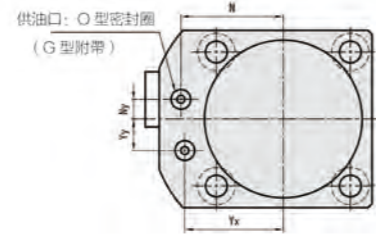
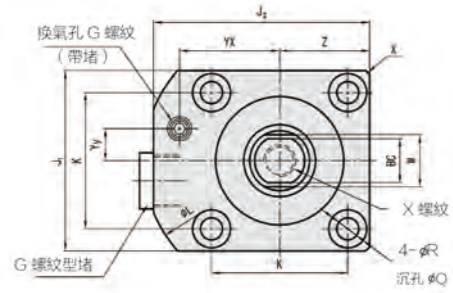
※2:活塞桿上升彈簧力的數值表示彈簧設計值。該值會因活塞桿的滑動阻力、彈簧特性等而產生一定的偏差,所以上升彈簧力為參考值。

Applied fluid: Ordinary mineral oil-based hydraulic oil (equivalent to ISO-VG32)

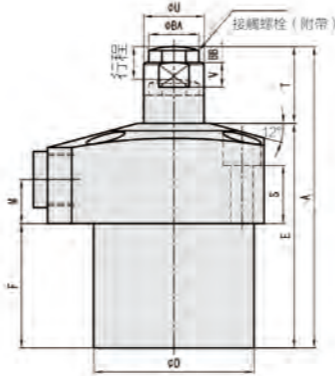
※1: When the supporting cylinder and clamping cylinder are used opposite each other, in order to make the support force sufficient, the support force of the supporting cylinder should be more than 1.5 times that of the clamping cylinder and the cutting load. Please choose the type-matching supporting cylinder and clamping cylinder.

※2: The numerical value of the rising spring force of the piston rod represents the spring design value. This value will produce certain deviation due to the sliding resistance and spring characteristics of piston rod, so the rising spring

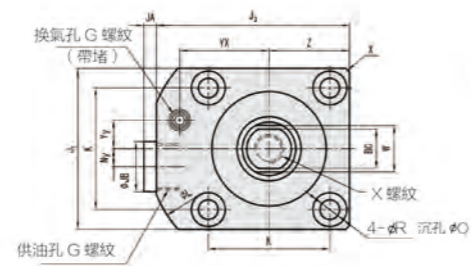
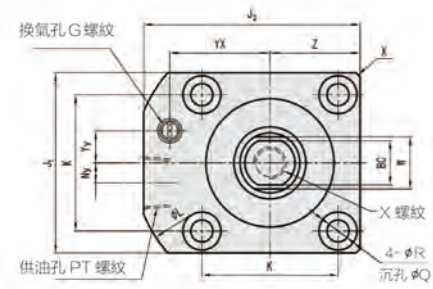
本圖所示為\*\*\*AL-G型



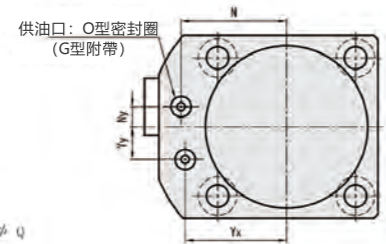
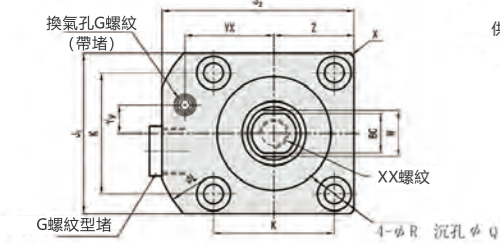
CSF-AL



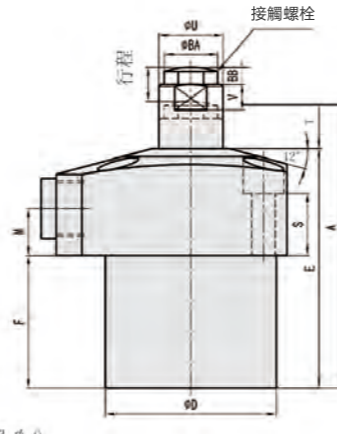
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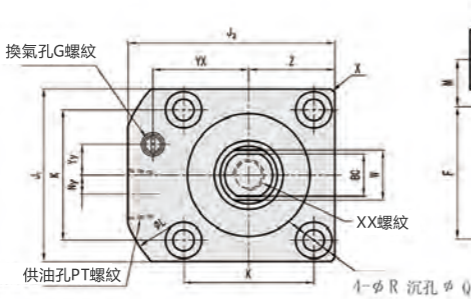
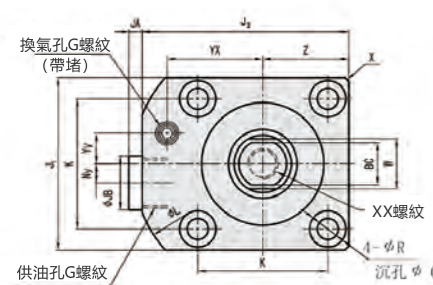
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CSF-BL



本圖所示為\*\*\*BL-S型



外型尺寸及安裝部位加工尺寸表  
External dimensions and machine dimensions for mounting

Unit:mm

ITEM MODEL	CSF-040AL	CSF-040BL	CSF-048AL	CSF-048BL	CSF-055AL	CSF-055BL	CSF-065AL	CSF-065BL	CSF-075AL	CSF-075BL	CSF-090AL	CSF-090BL
A	75	67	85	75	97	85	115	101	142	126	169	149
B	54	54	61	61	69	69	81	81	92	92	107	107
C	45	45	51	51	60	60	70	70	80	80	95	95
D	40	40	48	48	55	55	65	65	75	75	90	90
E	56	56	64	64	70	70	85	85	107	107	128	128
F	31	31	39	39	45	45	56	56	72	72	88	88
Z	22.5	22.5	25.5	25.5	30	30	35	35	40	40	47.5	47.5
□K	□34	□34	□40	□40	□47	□47	□55	□55	□63	□63	□75	□75
L	68	68	73	73	80	80	94	94	106	106	126	126
M	11	11	11	11	11	11	11	11	13	13	13	13
N	26	26	30	30	33.5	33.5	39.5	39.5	45	45	52.5	52.5
Ny	5	5	0	0	0	0	0	0	0	0	0	0
Q	9.5	9.5	9.5	9.5	11	11	11	11	14	14	17.5	17.5
R	5.5	5.5	5.5	5.5	6.8	6.8	6.8	6.8	9	9	11	11
S	14.5	14.5	13.5	13.5	11.5	11.5	14.5	14.5	17	17	18	18
T	19	11	21	11	27	15	30	16	35	19	41	21
U	15	15	16	16	20	20	22	22	25	25	30	30
V	6	6	6	6	8	8	9	9	9	9	10.5	10.5
W	13	13	13	13	17	17	19	19	22	22	24	24
XX	M10x11	M10x11	M10x11	M10x11	M12x13	M12x13	M12x13	M12x13	M16x20	M16x20	M16x20	M16x20
Yx	25	25	28	28	31	31	37	37	42.5	42.5	50	50
Yy	8	8	11	11	13	13	14	14	15	15	15	15
X	C1	C1	C3	C3	R40	R40	R47	R47	R53	R53	R63	R63
BA	14.5	14.5	15.5	15.5	17	17	20	20	24	24	26	26
BB	5	5	5	5	7	7	7	7	8.2	8.2	8.5	8.5
BC	13	13	14	14	17	17	19	19	22	22	24	24
JA	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.5	4.5	4.5	4.5
行程ST	8	8	10	10	12	12	14	14	16	16	20	20
JB	14	14	14	14	14	14	14	14	19	19	19	19
供油孔 Hydraulic port	-S type	PT1/8	PT1/8	PT1/8	PT1/8	PT1/8	PT1/8	PT1/8	PT1/4	PT1/4	PT1/4	PT1/4
	-G type	G1/8	G1/8	G1/8	G1/8	G1/8	G1/8	G1/8	G1/4	G1/4	G1/4	G1/4
O型密封圈 (-G型) O-ring(-G type)	P5	P5	P5	P5	P5	P5	P7	P7	P7	P7	P7	P7
換氣孔Vent port BSPT(Rc-thread)	PT1/8	PT1/8	PT1/8	PT1/8	PT1/8	PT1/8	PT1/8	PT1/8	PT1/8	PT1/8	PT1/8	PT1/8
G螺紋堵頭 G Screw plug	G1/8	G1/8	G1/8	G1/8	G1/8	G1/8	G1/8	G1/8	G1/4	G1/4	G1/4	G1/4