氣壓缸的選定：

1.現場供給壓力源(MPa)
2.作動形式：雙動、單動
3.固定形式
4.氣壓缸出力、缸徑、行程、速度
5.是否需要緩衝或感應
6.使用場所的環境狀態，
如溫度、灰塵、腐蝕性、是否會震動
7.使用場所的空間限制
8.空氣消耗量，空氣流量
9.包裝方式，材質

Technical Information:

1. Operating pressure offered
2. Operating type: Double or Single acting
3. Mounting type
4. Operating force, bore diameter, stroke, speed
5. Adjustable Cushion needed ? Sensor needed ?
6. Environmental condition: ex: temperature, dust, corrosiveness, vibration or not
7. Environmental limitation during operation
8. Air consumption, Air flow
9. Packing method, Packing material

SI 單位換算表
SI Units Conversion Factors

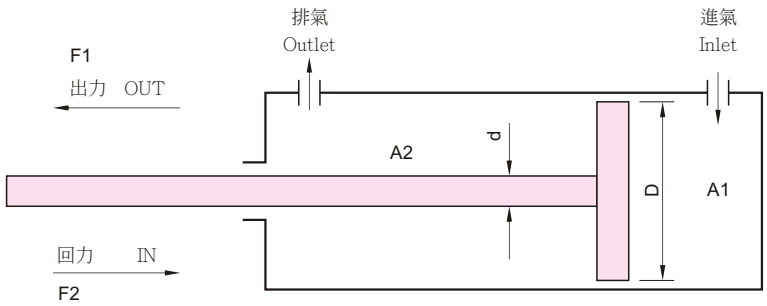
- 壓力 Pressure：1MPa=10.2kgf/cm^2
- 扭力 Torque：1N.m=0.1kgf.m
- 加速度 Acceleration：1m/s^2=0.1G
- 力、荷重 Force：1N=0.1kgf
- 真空壓力 Vacuum：-1kgf=-7.5mmHg

※ 氣壓缸理論出力 Theoretical Force

單位：N

Piston Dia 活塞直徑 (mm)	Pod Dia 活塞桿直徑 (mm)	工作壓力 (Operating Pressure MPa) 0.1 出力 Output force	0.1 回力 Return force	0.2 出力 Output force	0.2 回力 Return force	0.3 出力 Output force	0.3 回力 Return force	0.4 出力 Output force	0.4 回力 Return force	0.5 出力 Output force	0.5 回力 Return force
12	6	11.3	8.5	22.6	17.0	33.9	25.4	45.2	33.9	56.5	42.4
16	6	20.1	17.3	40.2	34.5	60.3	51.8	80.4	69.1	100.5	86.4
	8	20.1	15.1	40.2	30.1	60.3	45.2	80.4	60.3	100.5	75.4
20	8	31.4	26.4	62.8	52.8	94.2	79.1	125.6	105.5	157.0	131.9
	10	31.4	23.6	62.8	47.1	94.2	70.7	125.6	94.2	157.0	117.8
25	10	49.1	41.2	98.1	82.4	147.2	123.6	196.3	164.9	245.3	206.1
	12	49.1	37.8	98.1	75.5	147.2	113.3	196.3	151.0	245.3	188.8
32	12	80.4	69.1	160.8	138.2	241.2	207.2	321.5	276.3	401.9	345.4
	16	80.4	60.3	160.8	120.6	241.2	180.9	321.5	241.2	401.9	301.4
40	16	125.6	105.5	251.2	211.0	376.8	316.5	502.4	422.0	628.0	527.5
50	20	196.3	164.9	392.5	329.7	588.8	494.6	785.0	659.4	981.3	824.3
63	20	311.6	280.2	623.1	560.3	934.7	840.5	1246.3	1120.7	1557.8	1400.8
80	25	502.4	453.3	1004.8	906.7	1507.2	1360.0	2009.6	1813.4	2512.0	2266.7
100	25	785.0	735.9	1570.0	1471.9	2355.0	2207.8	3140.0	2943.8	3925.0	3679.7
125	35	1226.6	1130.4	2453.1	2260.8	3679.7	3391.2	4906.3	4521.6	6132.8	5652.0
150	40	1766.3	1640.7	3532.5	3281.3	5298.8	4922.0	7065.0	6562.6	8831.3	8203.3
160	35	2009.6	1913.4	4019.2	3826.9	6028.8	5740.3	8038.4	7653.8	10048.0	9567.2
200	40	3140.0	3014.4	6280.0	6028.8	9420.0	9043.2	12560.0	12057.6	15700.0	15072.0

Piston Dia 活塞直徑 (mm)	Pod Dia 活塞桿直徑 (mm)	工作壓力 (Operating Pressure MPa) 0.6 出力 Output force	0.6 回力 Return force	0.7 出力 Output force	0.7 回力 Return force	0.8 出力 Output force	0.8 回力 Return force	0.9 出力 Output force	0.9 回力 Return force	1 出力 Output force	1 回力 Return force
12	6	67.8	50.9	79.1	59.3	90.4	67.8	101.7	76.3	113.0	84.8
16	6	120.6	103.6	140.7	120.9	160.8	138.2	180.9	155.4	201.0	172.7
	8	120.6	90.4	140.7	105.5	160.8	120.6	180.9	135.6	201.0	150.7
20	8	188.4	158.3	219.8	184.6	251.2	211.0	282.6	237.4	314.0	263.8
	10	188.4	141.3	219.8	164.9	251.2	188.4	282.6	212.0	314.0	235.5
25	10	294.4	247.3	343.4	288.5	392.5	329.7	441.6	370.9	490.6	412.1
	12	294.4	226.6	343.4	264.3	392.5	302.1	441.6	339.8	490.6	377.6
32	12	482.3	414.5	562.7	483.6	643.1	552.6	723.5	621.7	803.8	690.8
	16	482.3	361.7	562.7	422.0	643.1	482.3	723.5	542.6	803.8	602.9
40	16	753.6	633.0	879.2	738.5	1004.8	844.0	1130.4	949.5	1256.0	1055.0
50	20	1177.5	989.1	1373.8	1154.0	1570.0	1318.8	1766.3	1483.7	1962.5	1648.5
63	20	1869.4	1681.0	2181.0	1961.2	2492.5	2241.3	2804.1	2521.5	3115.7	2801.7
80	25	3014.4	2720.0	3516.8	3173.4	4019.2	3626.7	4521.6	4080.0	5024.0	4533.4
100	25	4710.0	4415.6	5495.0	5151.6	6280.0	5887.5	7065.0	6623.4	7850.0	7359.4
125	35	7359.4	6782.4	8585.9	7912.8	9812.5	9043.2	11039.1	10173.6	12265.6	11304.0
150	40	10597.5	9843.9	12363.8	11484.6	14130.0	13125.2	15896.3	14765.9	17662.5	16406.5
160	35	12057.6	11480.6	14067.2	13394.1	16076.8	15307.5	18086.4	17220.9	20096.0	19134.4
200	40	18840.0	18086.4	21980.0	21100.8	25120.0	24115.2	28260.0	27129.6	31400.0	30144.0



實際效率：

- 氣壓缸之出力效率與配管口，控制閥大小，氣壓缸內滑動面之狀態，以及運動速度等有密切關係，以上項因素很難測定其效率，設計時多留餘裕量。
- 慢速時約為理論出力80%。
- 高速時約理論出力50%以下。
- 一般正常使用狀態約為理論出力65%左右。

Actual Output/Return Efficiency:

- The output/return efficiency is closely related to the condition of pipe, control valve, status of the sliding surface and moving speed, which are difficult to measure, so always keep sufficient tolerance in design.
- It is about 80% at low speed.
- It is under 50% at high speed.
- It is about 65% for normal operation.

■理論力
Theoretical force

$F1=A1*P \qquad F2=A2*P$

$A1=\frac{\pi D^2}{4}$

$A2=\frac{\pi}{4}(D^2-d^2)$

■實際出力
Actual out force

$F1=\frac{\pi D^2}{4}\times P-R$

■實際回力
Actual in force

$F2=\frac{\pi}{4}(D^2-d^2)\times P-R$

F: 理論力 N
Theoretical Force (N)

A1: 加壓側截面積 (mm^2)
Cross-section area of the pressurized side (mm^2)

A2: 排壓側截面積 (mm^2)
Cross-section area of the rod side (mm^2)

D: 氣壓缸內徑 (mm)
Bore Diameter (mm)

d: 活塞桿直徑 (mm)
Diameter of piston rod (mm)

P: 工作壓力MPa
Operating Pressure

R: 摩擦阻力，約F的10~40%，視品質而異。
(HINAKA氣壓缸，R約F的12%~18%)
Friction force normally 10~40% of F, depending on quality.
(For HINAKA cylinders, R is within 12% ~ 18%.)

空氣消耗量之計算：

氣壓缸本體之空氣消耗量Q，是指自然情況下之空氣量而言 ，在裝置時應先考慮控制閥之空氣損失及配管等壓力損失以及使用時之可能變動而必須預先附加餘裕量，一般選擇空氣壓縮機時 ，宜按氣壓缸本身之空氣消耗量之2倍計算。

Calculate of Air Consumption

The air consumption Q is the air needed for the cylinder itself under ideal conditions,before installation, the users should consider the air loss in control valve, the pressure loss in pipelines and all possible variations to give sufficient tolerance. Normally the compressor capacity should be twice of the consumption Q.

空氣消耗量之計算：
Calculate of Air Consumption

■ $Q=(A1+A2)*L*\frac{P+0.1013}{0.1013}*10^{-6}*N*K$

空氣流量之計算：
Calculation for Air Flow

■ $Q1=60*A1*V*\frac{P+0.1013}{0.1013}*10^{-6}$

■ $Q2=60*A2*V*\frac{P+0.1013}{0.1013}*10^{-6}$

Q: 在大氣下之空氣消耗量 [l/min](ANR)
Air Consumption at the atmosphere [l/min] (ANR)

A1: 加壓側截面積 (mm^2)
A_1: Cross-section area of the pressurized side (mm^2)

A2: 排壓側截面積 (mm^2)
A_2: Cross-section area of the rod side (mm^2)

L: 行程 (mm)
Stoke (mm)

P: 錶壓力 MPa
Gauge Pressure

N: 每分鐘往返次數
Number of strokes per minute

K: 安全系數 Safty factor=2

Q1: 加壓時所需空氣流量[l/min](ANR)
Air Flow required while pressure is added

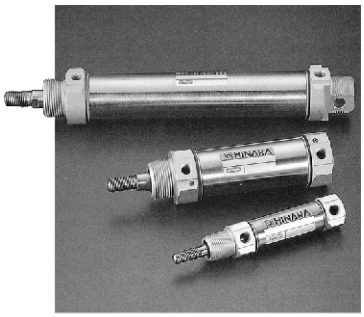
Q2: 排壓時所需空氣流量[l/min](ANR)
Air Flow required while pressure is exhausted

V: 最大作動速度(mm/S)
Max. Velocity(mm/S)

DI 訂購規範 Specifications

HINAKA 台中精機廠股份有限公司 Hinaka Fluid Power Co., Ltd 精心 / 精品 / 精誠 / 精業

D	I	D	–	φ32	M	50	PPV	–	LB	–	Y	–	G-48R 2A	2
1	2	3		4	5	6	7		8		9		10	11



1 作動方式 Acting

D	(雙動) Double Acting	
SR	(後退單動) Single Acting / Spring Return	

2 ISO 6432國際標準:缸徑φ12~φ25 圓形氣壓缸:缸徑φ32, φ40

ISO 6432 Standard Cylinder: φ12~φ25
Round Cylinder: φ32~φ40

3 氣缸型態 Cylinder Types

本體 Body	型式 Type
A	無尾基本型 Boss-Cut Standard Type
C	有尾基本型 Integrated Clevis Standard Type
D	雙軸型 Double Rod
DE	雙軸可調式 Adjustable Double Rod
DO	雙軸空心式 Hollow Double Rod
M	多端點行程型 Multi Stroke Positions / Double Rods
TA	無尾串連倍力型 Boss-Cut, Tandem, Double Forces Cylinder
TC	有尾串連倍力型 Integrated Clevis, Tandem, Double Forces Cylinder

4 氣缸內徑 Bore Diameter

5 感應裝置 Magnetic Sensing Device

M: 有加磁石 M: with magnet
N: 不加磁石 N: without magnet

6 行程 (ST) Stroke

7 φ20~φ40具有可調式端點緩衝功能

Adjustable Cushions for φ20~φ40 cylinders
兩端PPV both ends:PPV 前端FPPV front end:FPPV 後端RPPV rear end:RPPV

8 固定配件 Mountings

FA, CB, TC, LB

9 軸端配件 Rod Accessories

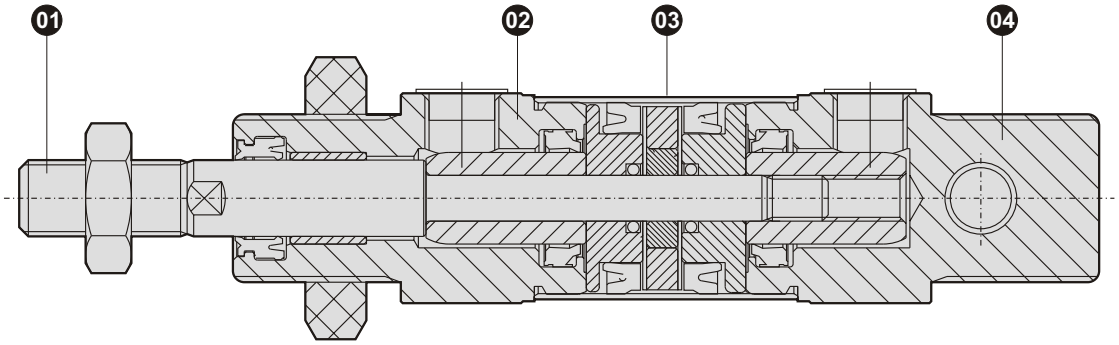
I, Y, P, T, L, F

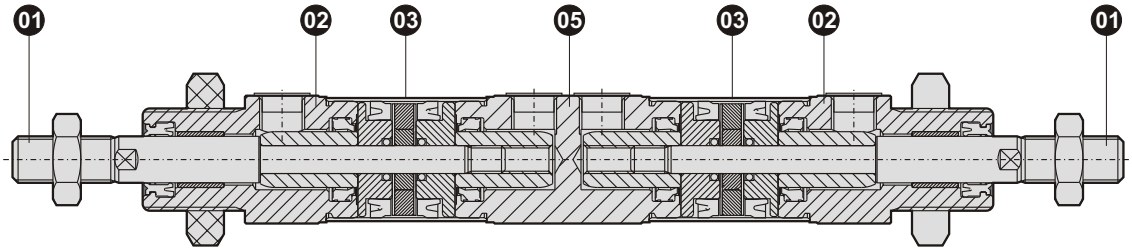
10 近接開關 Proximity Switch (sensor)

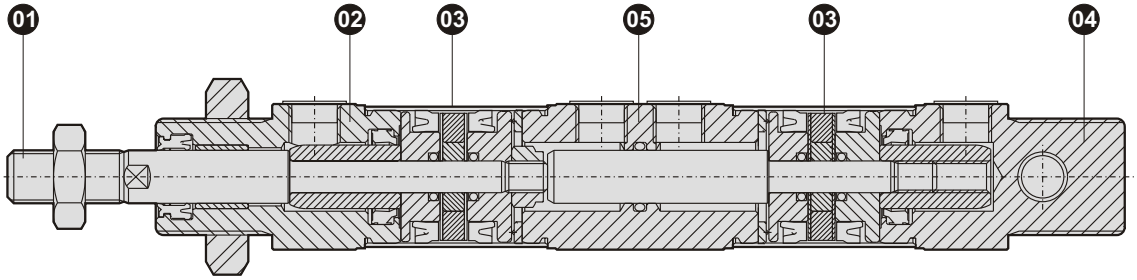
Proximity Switch : G-48R,2A

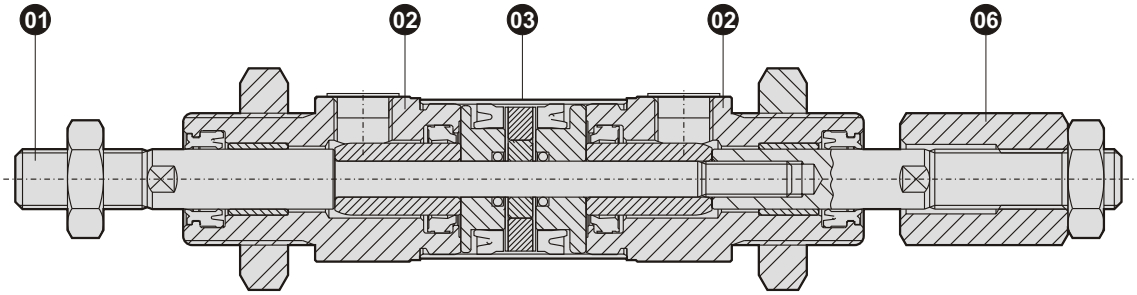
11 近接開關數量 Numbers of Proximity Switch (sensor)

		符合ISO 6432國際標準 ISO 6432 Standard Cylinder		圓形氣壓缸 Round Cylinder
		φ12 φ16	φ20 φ25	φ32 φ40
作動形式	Acting	雙動 / 單動 Double Acting / Single Acting		
使用傳動煤介	Working Fluid	清潔壓縮空氣 Filtered Compressed Air		
耐壓力	Proof Pressure	1MPa(10.2kgf/cm²)	1.3MPa(13.3kgf/cm²)	
最高使用壓力	Max. Operating Pressure	0.7MPa(7.1kgf/cm²)	1MPa(10.2kgf/cm²)	
最低使用壓力	Min. Operating Pressure	0.06MPa(0.6kgf/cm²)	0.1MPa(1kgf/cm²)	
使用溫度範圍	Temperature range	0℃ ~ 60℃		
使用速度範圍	Speed range	500mm/s		
給油	Operation Oil	無給油 Not necessary		









DI 材料剖面圖 Material Structure

件號 NO.	零件名稱	Part Name	材質	Material
01	活塞桿	Piston Rod	中碳鋼	S45C
02	前蓋	Front Cover	鋁合金	AA6063
03	缸管	Cylinder Tube (Bore)	不鏽鋼	SUS 304
04	後蓋	Rear Cover	鋁合金	AA6063
05	中間蓋	Middle Cover	鋁合金	AA6063
06	可調螺帽	Adjustable Nut	構造鋼	SS41
	密封件	Seal	丁腈橡膠	NBR

DI

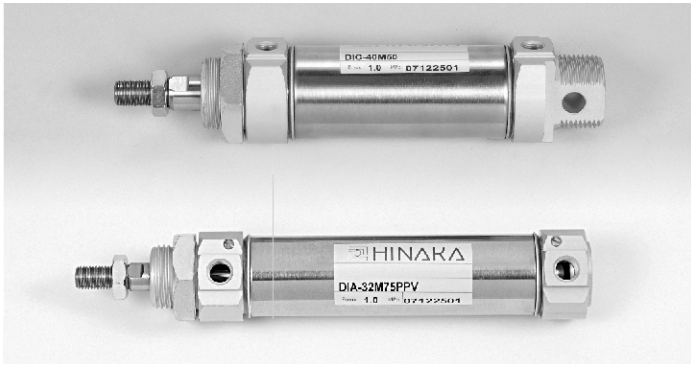
A 無尾基本型 Boss-Cut Standard Type
C 有尾基本型 Integrated Clevis Standard Type

特性說明:

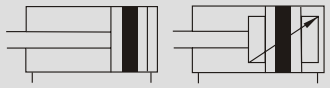
一.此系列氣缸由φ12~φ25之規格均符合ISO6432 國際標準規格。
二.具有可調式端點位置緩衝，吸收氣缸動能，避免震動，提高運作效率。
三.全系列均可裝置感應磁圈為標準配備。
四.前後蓋壓延鉚合成形，氣密性佳，同心度高。
五.缸管採用SUS304材質，外型美觀輕巧、散熱性佳，永不生銹。
六.固定配件齊全，安裝方便。

Features:

1. DI series with bore diameters within φ12~φ25 meet ISO 6432 standard .
2. Equipped with Adjustable cushions to absorb dynamic energy, eliminate vibration and improve operation efficiency.
3. Magnet ring is installed as a standard equipment.
4. The front and rear covers are riveted to give excellent air tightness and concentricity.
5. Cylinder tube (Bore) is made by SUS304 with elegant appearance and light weight. The cylinder has very good thermal dissipation capability and shall never have corrosion.
6. All kinds of mounting accessories are available, easy for installation.

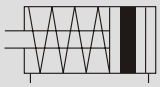


型號 Type：DIC,DIA
功能 Function：



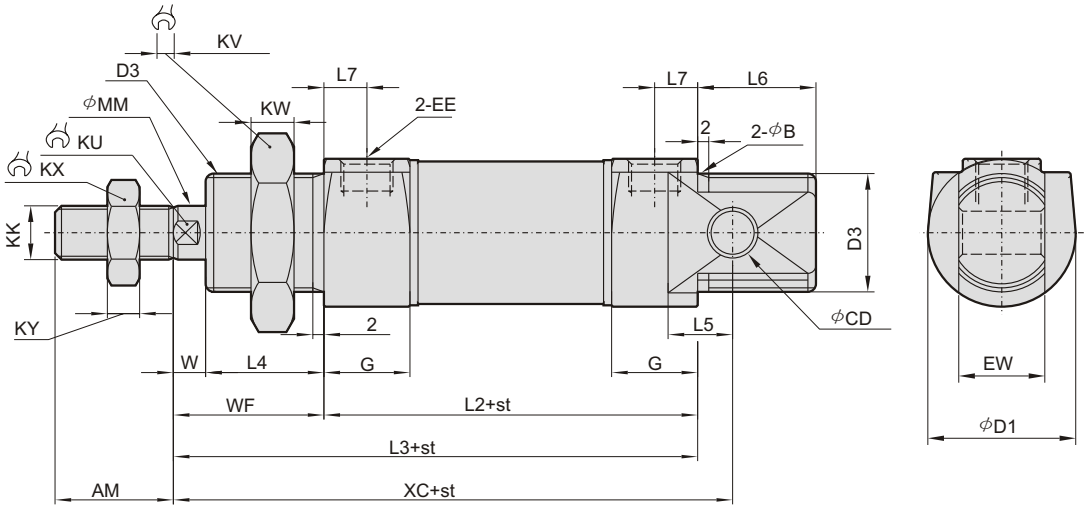
限制條件 Condition Limitation：
緩衝裝置缸徑 φ20~φ40
Cushions for φ20~φ40

型號Type：SRIC,SRIA
功能 Function：

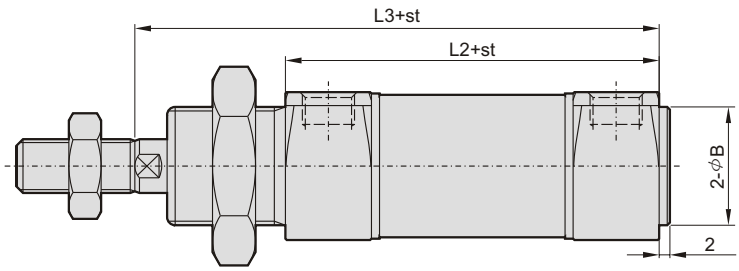


限制條件 Condition Limitation：
行程 10~ 50mm
Stroke 10~50mm

DIC (有尾基本型) Integrated Clevis Standard Type



DIA (無尾基本型) Boss-Cut Standard Type



有標示＊號規格　不是ISO規格　Mark "*" means "not ISO Standard"

unit:m/m　st=行程stroke

Bore 缸徑 \ Marks 記號	AM	D1	φCD H11	D3	WF	L2	L3	L4	L5	L6	L7	KK	KU	KV	KW	KX	KY	MM	W	EW d11	XC ±1	EE	G	φB H9
φ12	16	20	φ6	M16×1.5	22	45	67	17	9	17	4.5	M6×1		24	8	10	5	φ6	5	12	75	M5×0.8	9	16
φ16	16	20	φ6	M16×1.5	22	52	74	17	9	17	5	M6×1		24	8	10	5	φ6	5	12	82	M5×0.8	10	16
φ20	20	27.5	φ8	M22×1.5	24	67.5	91.5	20	12	20	7.6	M8×1.25	7	32	8	12	6	φ8	4	16	95	G1/8	15.2	22
φ25	22	27.5	φ8	M22×1.5	28	69.5	97.5	22	12	22	8	M10×1.25	9	32	8	17	6	φ10	6	16	104	G1/8	16	22
* φ32	22	37	φ10	M27×2	28	83	111	20	13.5	22	9	M10×1.25	10	35	9.5	17	6	φ12	8	22	119.5	G1/8	18	27
* φ40	24	45	φ10	M33×2	31	85	116	20	13.5	22	9	M12×1.25	14	41	9.5	22	8	φ16	11	26	124.5	G1/8	18	33

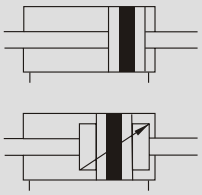
特性說明 :

一.活塞桿與活塞體鉚合成型，活塞永不鬆脫同心度高，摩擦阻力低，圓周無死角。
二.可裝置感應磁圈及可調式端點緩衝。
三.調整型具有前伸行程可調之功能，可做精確定位。

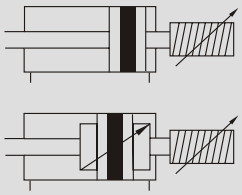
Features:

1. The piston rod and piston body are riveted together to give high concentricity and low friction.
2. Sensors and adjustable cushions are optional.
3. The forward stroke of the adjustable type can be adjusted for fixing position accurately.

型號 Type：DID
功能 Function：

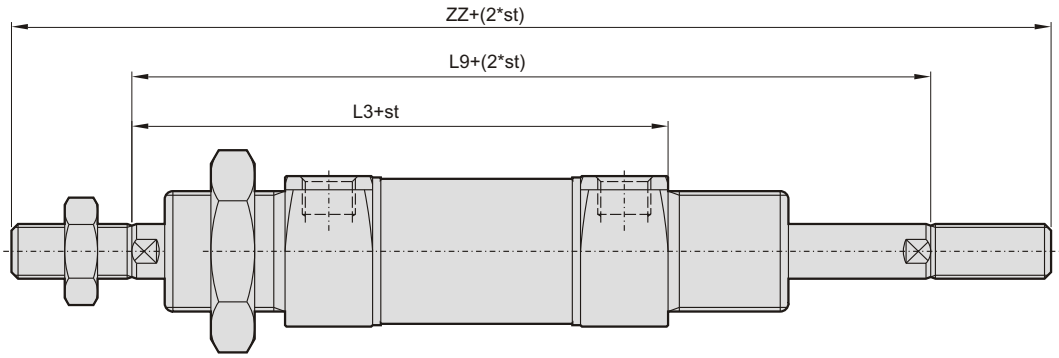


型號 Type：DIDE
功能 Function：

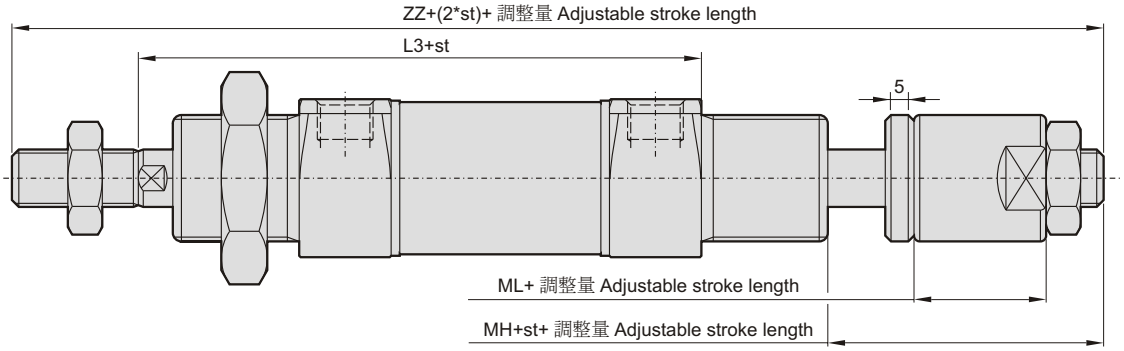


限制條件：緩衝裝置缸徑 φ20~φ40
Condition Limitation Cushions for φ20~φ40

DID(雙軸型) Double Rods



DIDE(雙軸可調型) Adjustable Double Rods



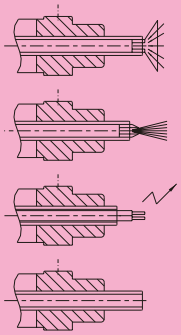
Marks 記號 / Bore 缸徑	L3	L9	ZZ	MH	ML
φ16	74	96	128	21	10
φ20	91.5	115.5	155.5	24	14
φ25	97.5	125.5	169.5	28	16
* φ32	111	139	183	30	16
* φ40	116	147	195	35	21

unit:m/m st=行程stroke

有標示＊號規格 不是ISO規格
Mark "*" means "not ISO Standard"

其他尺吋參考基本型。
Refer to Standard Type for other dimensions.

型式 Type : DIDO
使用例 Applications :



- 接真空吸盤之真空管路
  vacuum pad
- 以壓縮空氣噴流、退件、清潔
  Air Spray Nozzle
- 液體之供應—膠合、沖洗、充填、冷卻
  Fluid Spray Nozzle
- 電線內藏
  Electric wires
- 安裝自己設計之特殊工具—
  夾爪 / 附件 / 治具 / 其他設計
  Connect special designed tool

特性說明 :

一.可接裝真空裝置及其它配件，方便設計。
二.吸盤及配件直接裝於軸端，可避免管路安裝之顧慮。
三.可裝置感應磁圈。

Features:

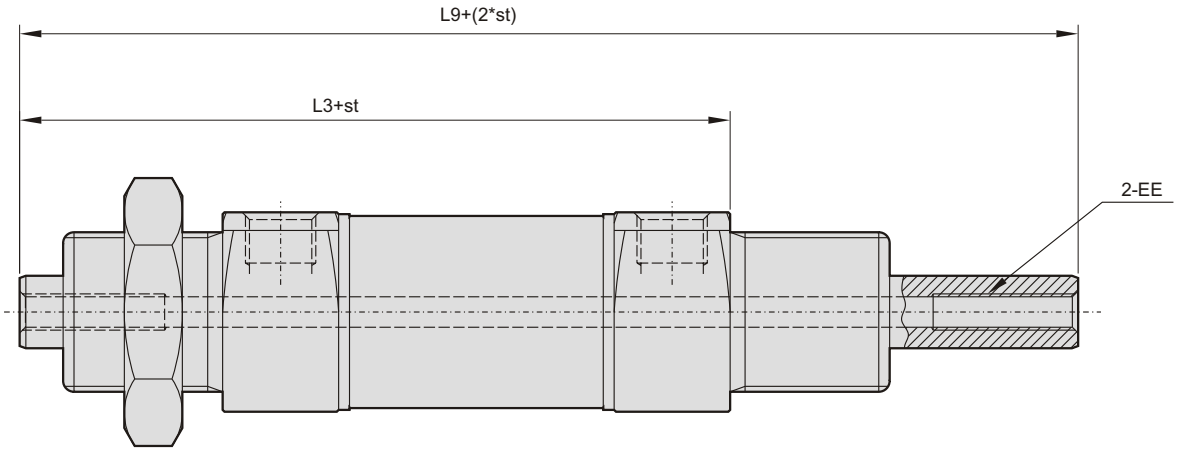
1. Can be used with vacuum pad or other devices.
2. Vacuum pad or other devices can be installed directly on the rod end, which avoids the installation problem of cable or pipe.

型號 Type：DIDO
功能 Function：

限制條件：1. 行程 30~ 100mm
2. 無緩衝裝置，內裝緩衝墊，減少衝擊

Condition Limitation:
1. Stroke 30~100mm
2. Without adjustable cushions but equipped with the built-in buffer-ring to absorb shock

DIDO(雙軸空心式) Hollow Double Rods



st=行程stroke

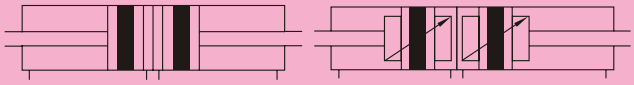
unit:m/m

Marks 記號 / Bore 缸徑	L3	L9	EE
φ25	97.5	125.5	M5×0.8×20深
* φ32	111	139	PT 1/8
* φ40	116	147	PT 1/8

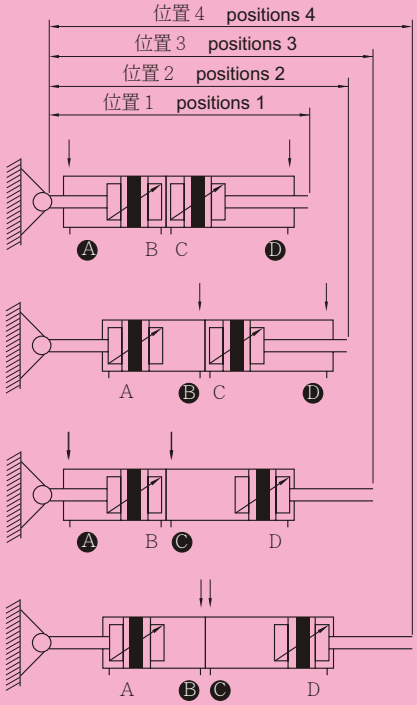
有標示＊號規格 不是ISO規格
Mark "*" means "not ISO Standard"

其他尺吋參考基本型。
Refer to Standard Type for other dimensions.

型號 Type：DIDM
功能 Function：



四個位置做動說明
4-positions operating instruction:



限制條件：
1. 四個位置兩段行程須不一樣長
2. 三個位置兩段行程須一樣長

Condition Limitation：
1. For 4-positions use, two strokes (ST1, ST2) have to be different.
2. For 3-positions use, two strokes (ST1, ST2) have to be same.

特性說明：

一.DIDM由兩個獨立活塞體及活塞桿組裝而成，透過控制，使兩活塞桿方向相反作動，借由方向相反及行程，使氣壓缸產生四個位置。

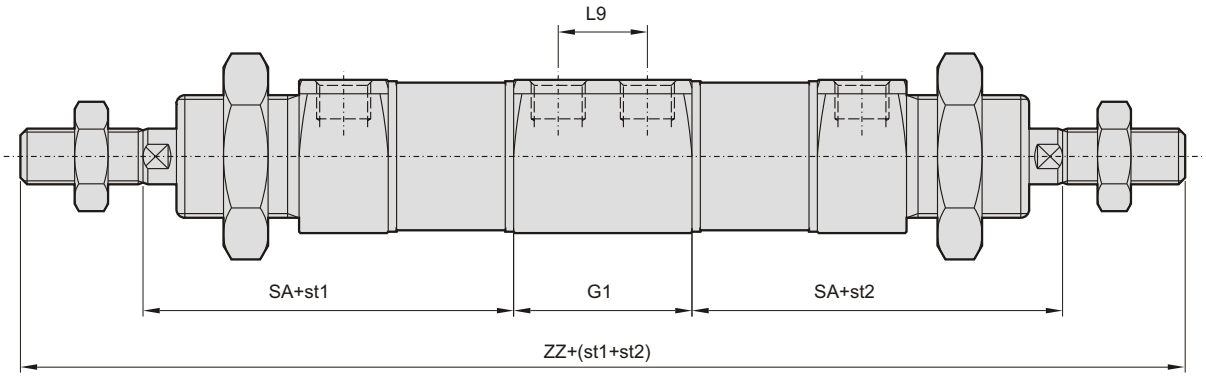
二.因氣壓缸只固定活塞桿其中一端，作動時缸體會隨著作動，所以接氣管時請採用軟性材質。

三.應用於定位，送料，定量充填，左右移位，流量控制，等結構設計。

Features:

1. DIDM is the multi stroke positions cylinder which mainly consists of two individual pistons and two piston rods.
2. Only one side of the piston rod is fixed so the cylinder will follow to move while operating. Due to this reason, please use flexible air pipe.
3. 4-positions can be used for such as fixing position, feeding, moving, flow controlling...etc..

DIDM(多端點行程型) Multi Stroke Positions/Double Rods



st=行程stroke

unit:m/m

Marks 記號 / Bore 缸徑	SA	G1	L9	ZZ
φ20	76.2	30.5	15.3	223
φ25	81.5	32	14.6	239
* φ32	93	36	20	266
* φ40	98	36	18	280

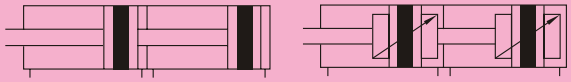
有標示＊號規格 不是ISO規格
Mark "*" means "not ISO Standard"

其他尺吋參考基本型。
Refer to Standard Type for other dimensions.

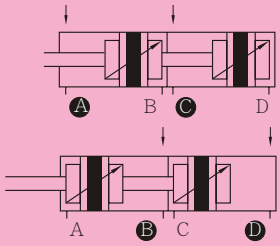
DI

TA 無尾串連式倍力缸(多端點行程) Boss-Cut, Tandem, Double Forces Cylinder
TC 有尾串連式倍力缸(多端點行程) Integrated Clevis, Tandem, Double Forces Cylinder

型號 Type：DITC DITA
功能 Function：



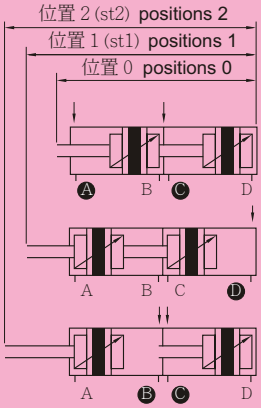
倍力作動說明
Double Forces operating instruction:



限制條件：
1. 兩段行程須一樣長
2. 出力倍力，回復單力

Condition Limitation
1. Two strokes (ST1, ST2) have to be same.
2. Double output forces, then back to Single output force.

三個位置作動說明
3-positions operating instruction:



限制條件：
訂購時請依下列方式填寫

Condition Limitation：
Please show the item number per the following way.

範例 ex ：

DITC-32M25+32M50
st1=25 , st2=50

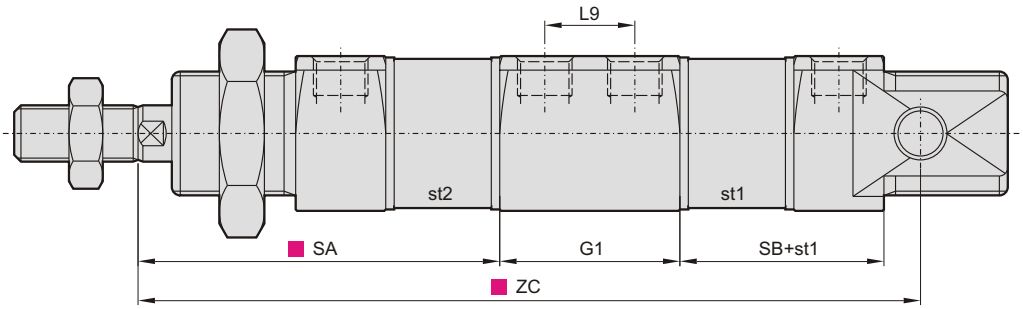
特性說明：

一.DIT由兩個活塞體及活塞桿串聯而成，透過控制，使前段活塞桿產生3個位置的變化。
二.具有三個端點位置，應用於定位、送料、定量充填、左右移位、流量控制等結構設計。
三.另具有增加一倍出力之特性，可彌補出力不足之設計。
四.可裝置感應磁圈及可調式端點緩衝。

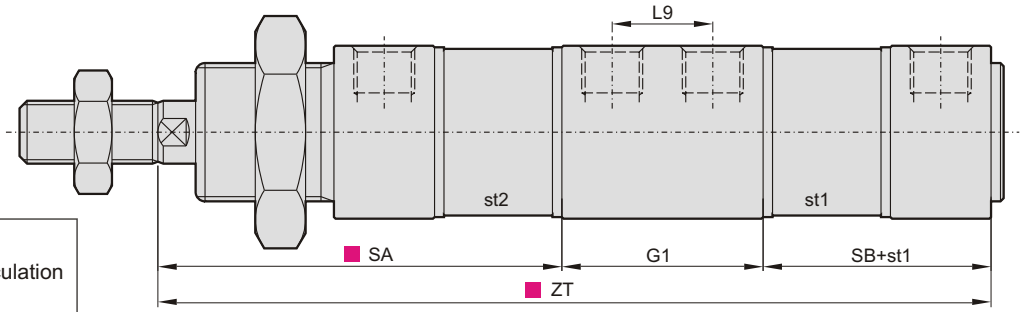
Features:

1. DIT is Tandem connection with two pistons and one piston rod. Through the valve control , the front piston rod will allow 3-positions.
2. With 3-positions, the cylinder can be used in the mechanism for fixing position, feeding, moving, flow controlling ···etc.
3. The output force is double.
4. To be equipped with magnetic ring or adjustable cushions is optional.

DITA 型
DITA Type



DITC 型
DITA Type



■ 倍力行程計算方式
Double Forces Strokes calculation
[1]: SA+ st2
[2]: ZC+ st1 + st2
[3]: ZT+ st1 + st2

■ 多端點行程計算方式
Multi Positions Strokes calculation
[1]: SA+ st1 + st2
[2]: ZC+ st2 + (2*st1)
[3]: ZT+ st2 + (2*st1)

unit:m/m

Marks 記號 / Bore 缸徑	SA	SB	G1	L9	ZC	ZT
φ20	76.2	52.2	30.5	15.3	162.5	159
φ25	81.5	53.5	32	14.6	173.5	167
* φ32	93	65	36	20	202.5	194
* φ40	98	67	36	18	209.5	201

有標示＊號規格 不是ISO規格
Mark "*" means "not ISO Standard"

其他尺吋參考基本型。
Refer to Standard Type for other dimensions.

特性說明:

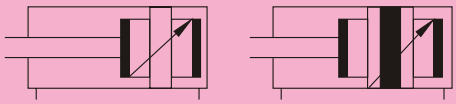
緩衝加長型系將前後兩端點之緩衝區域加長至60mm設計，適用於較高速度之機構可取代外加式油壓緩衝器.

Features:

This version has extended cushions up to 60mm at both ends, this is suitable for high speed mechanism, can be used in place of external hydraulic buffer.

型式 Type ： DIC-C　DIA-C

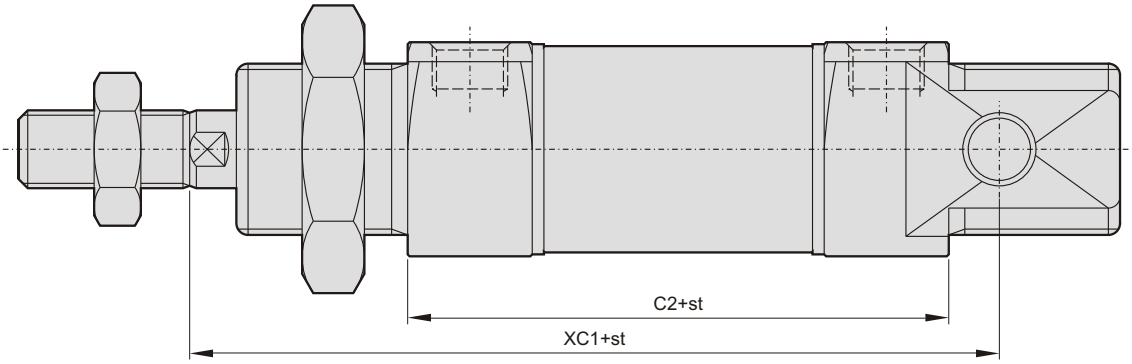
功能 Function：



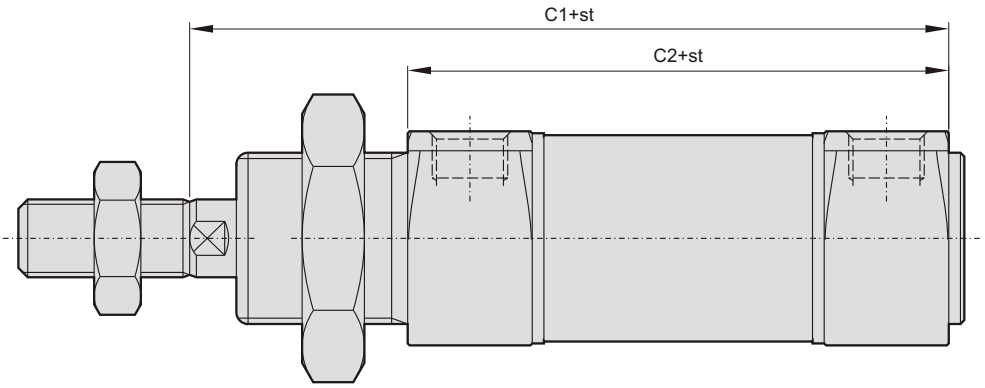
限制條件：緩衝裝置缸徑 φ20~φ40，建議行程超過150mm使用

Condition Limitation Cushions for φ20~φ40.
Suitable for the stroke over 150mm

DIC-C(有尾緩衝加長型) Integrated Clevis with Extended Cushions Type



DIA-C(無尾緩衝加長型) Boss-Cut with Extended Cushions Type



PPV-前後端緩衝加長尺寸

PPV- Dimensions of extended cushions at both ends

Marks 記號 / Bore 缸徑	C1	C2	XC1
φ20	174.5	150.5	178
φ25	175.5	147.5	182
* φ32	192	159	195.5
* φ40	188	157	196.5

一端緩衝加長尺寸

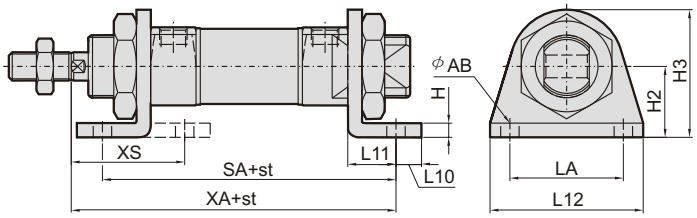
Dimensions of extended cushions at front or rear end

Marks 記號 / Bore 缸徑	C1	C2	XC1
φ20	133	109	136.5
φ25	136.5	108.5	143
* φ32	154	121	157
* φ40	152	121	160.5

unit:m/m
st=行程stroke

有標示＊號規格 不是ISO規格　Mark "*" means "not ISO Standard"

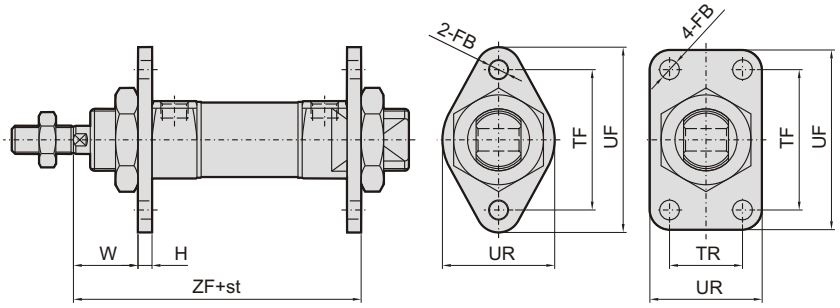
LB 型 LB Type Foot mounting



unit:m/m

Bore 缸徑 \ Marks 記號	L10	L11	L12	LA	H	H2	H3	φAB	SA	XA	XS
φ10	5	11	35	25	3	16	26	4.5	—	—	—
φ12	6	14	42	32	4	20	33	5.5	73	81	32
φ16	6	14	42	32	4	20	33	5.5	80	88	32
φ20	8	17	54	40	5	25	45	6.6	101.5	108.5	36
φ25	8	17	54	40	5	25	45	6.6	103.5	114.5	40
* φ32	7	18	64	50	3	28	48	φ7	119	129	43
* φ40	10	20	74	54	4	31.5	60	φ7	125	136	47

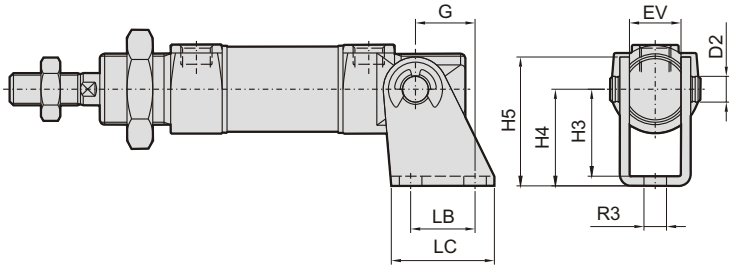
FA 型 FA Type Flange Mounting



unit:m/m

Bore 缸徑 \ Marks 記號	W	H	ZF	TF	TR	UF	UR	φFB
φ8	—	3	—	30	—	40	25	4.5
φ10	—	3	—	30	—	40	25	4.5
φ12	18	4	71	40	—	53	30	5.5
φ16	18	4	78	40	—	53	30	5.5
φ20	19	5	96.5	50	—	66	40	6.6
φ25	23	5	102.5	50	—	66	40	6.6
* φ32	25	3	114	50	26	64	40	7
* φ40	27	4	120	54	30	74	50	7

CB 型 CB Type Clevis foot mounting

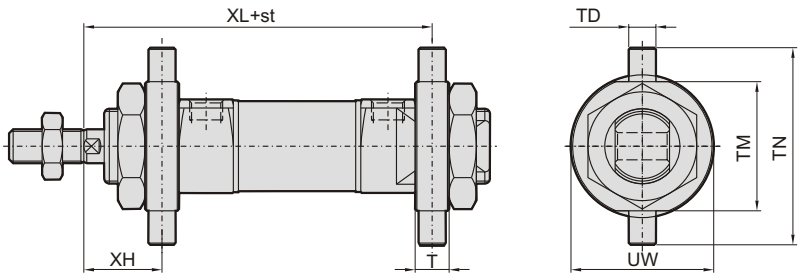


unit:m/m

Bore 缸徑 \ Marks 記號	LB	LC	EV	H3	H4	H5	G	φD2	φR3
φ12	15	25	12	24	27+0.3/-0.2	34	15	6	5.5
φ16	15	25	12	24	27+0.3/-0.2	34	15	6	5.5
φ20	20	32	16	27	30+0.4/-0.2	40	18.5	8	7
φ25	20	32	16	27	30+0.4/-0.2	40	18.5	8	7
* φ32	25	40	22	37	40+0.5/-0.2	53	22.5	10	9
* φ40	25	40	26	37	40+0.5/-0.2	53	22.5	10	9

TC 型 TC Type Trunnion Mounting

固定前端 Front Trunnion (TA)
固定後端 Rear Trunnion (TC)

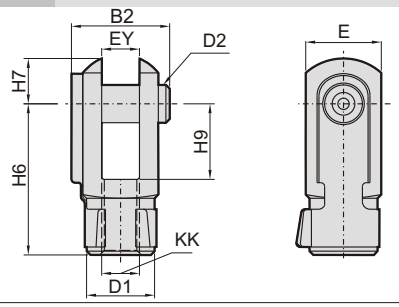


unit:m/m

Bore 缸徑 \ Marks 記號	TN	TM	φTD	φUW	T	XL	XH
φ20	58	38	8	42	10	96.5	19
φ25	58	38	8	42	10	102.5	23
* φ32	60	40	10	45	12	117	22
* φ40	72	48	10	50	12	122	25

有標示＊號規格 不是ISO規格　Mark "*" means "not ISO Standard"

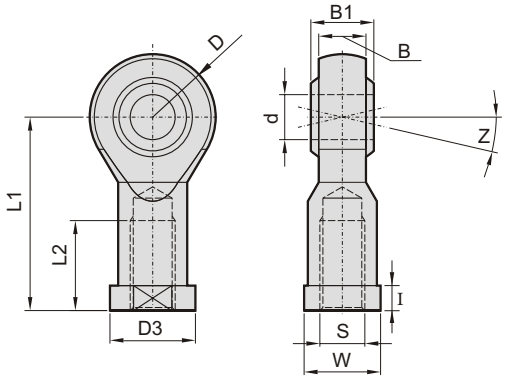
Y 接頭型 Y Type Rod Clevis



unit:m/m

Marks 記號 / Bore 缸徑	H6	H7	H9	φD2	EY	E	KK	B2	φD1
φ8.φ10	16	5	8	4	4B13	8	M4	11	8
φ12.φ16	24	7	12	6	6B13	12	M6	16	10
φ20	32	10	16	8	8B13	16	M8	21.5	14
φ25	40	12	20	10	10B13	20	M10*1.25	26	18
φ32	40	12	20	10	10B13	20	M10*1.25	26	18
φ40	48	14	24	12	12+0.7/+0.15	24	M12*1.25	31	20

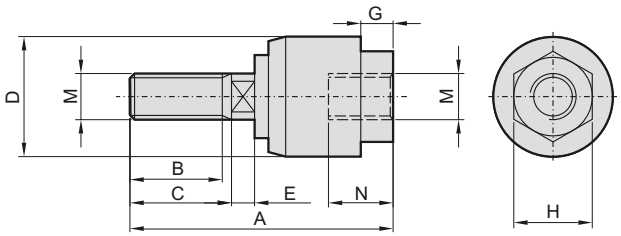
P 型魚眼接頭 P Type Rod eye



unit:m/m

Marks 記號 / Bore 缸徑	φd H7	S	φD	B	B1	L1	L2	W	φD3	I	Z°
PHS 6	6	M6*1.0	9	6.8	9	30	12	11	13	5	13
PHS 8	8	M8*1.25	11	9	12	36	16	14	16	5	13
PHS 10	10	M10*1.25	13	10.5	14	43	20	17	19	6.5	13
PHS 12	12	M12*1.25	15	12	16	50	22	19	22	6.5	13

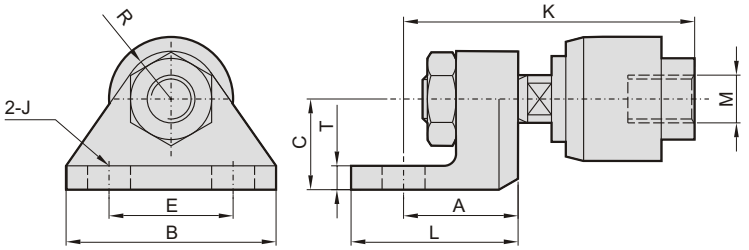
T 型浮動接頭 T Type Foot Type Floating Joint



unit:m/m

Marks 記號 / Bore 缸徑	M	A	B	C	E	N	φD	G	H
KG-1006T	M6*1.0	38	15	18	3	7	18	5	11
KG-1008T	M8*1.25	50	18	20	4	8	24	7	13
KG-1010T	M10*1.25	58	20	22	5	9	26	8	17
KG-1012T	M12*1.25	58	20	22	5	9	28	8	17

L 型浮動接頭托板型 L Type Flange Type Floating Joint

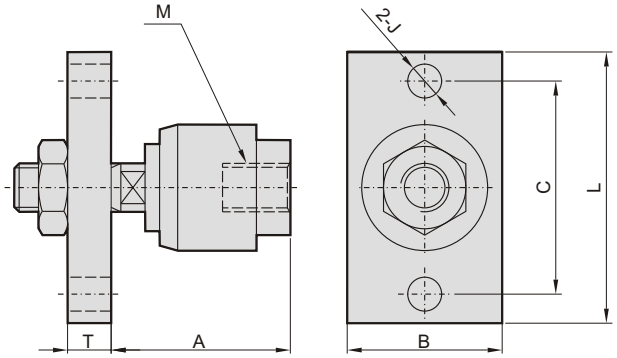


unit:m/m

Marks 記號 / Bore 缸徑	M	A	L	B	E	φJ	C	K	T	R
KG-1008L	M8*1.25	19	29	44	26	9	15	51	4	9
KG-1010L	M10*1.25	24	35	44	26	9	19	62	5	10
KG-1012L	M12*1.25	24	35	44	26	9	19	62	5	10

其他尺寸參考T型
Refer to Standard Type for other dimensions.

F 型浮動接頭法蘭型 F Type Floating Flange

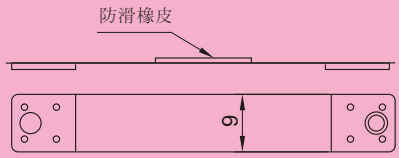


unit:m/m

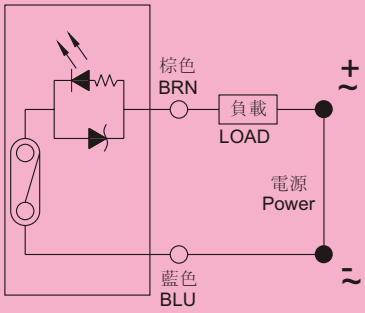
Marks 記號 / Bore 缸徑	M	A	T	B	φJ	C	L
KG-1008F	M8*1.25	32	6	25	7	40	52
KG-1010F	M10*1.25	38	9	32	7	44	56
KG-1012F	M12*1.25	38	9	32	7	44	56

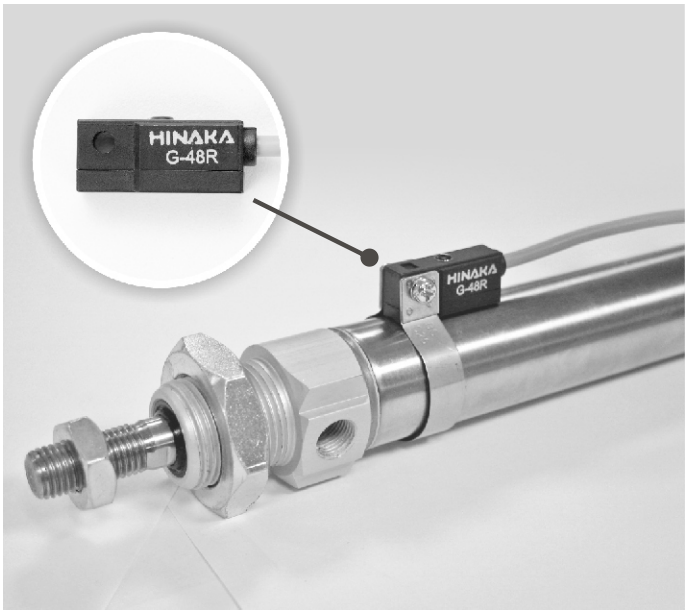
其他尺寸參考T型
Refer to Standard Type for other dimensions.

固定鋼帶尺寸圖 Mounting Clamps



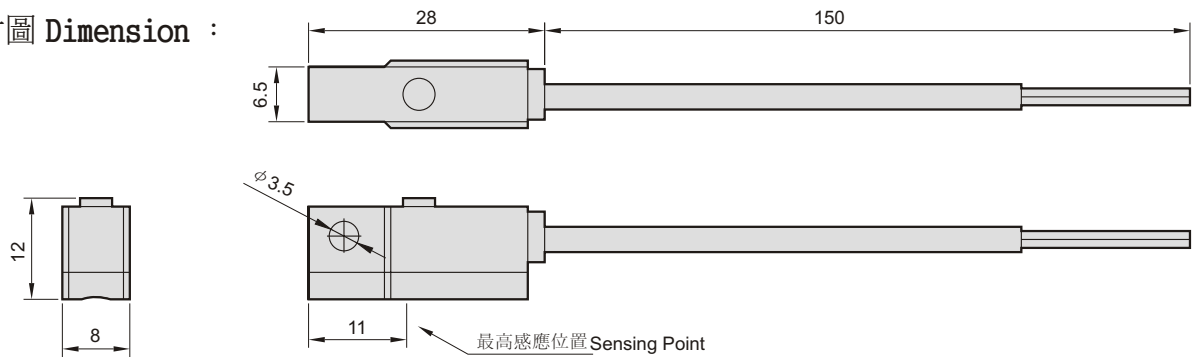
接線圖
Schematic



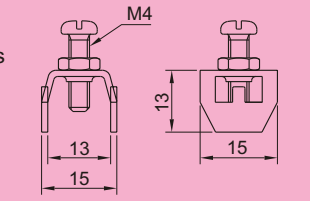


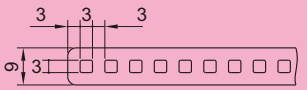
G-48R 規格表 G-48R Specification		
配線方式	Wiring Method	兩線式 2-Wire Type
開關邏輯	Switching Logic	SPST常開型 SPST Normally Open
輸出接點型式	Sensor Type	有接點 Reed Switch
使用電壓範圍	Operating Voltage	5~240V DC/AC
最大開關電流	Switching Current	100 mA max.
接點容量	Contact Rating	10W max.
內部電壓降	Voltage Drop	2.5V max.
指示燈顏色	Indicator	紅色 Red LED
電線	Cable	3 φ , 2C , PU (灰色)
最大切換工作頻率	Operating Frequency	200 Hz
感應磁場強度	Magnet Requirement	75高斯 Gauss Parallel（測量使用之標準磁石: φ15.5* φ8* φ5t 異方性橡膠磁石）
使用溫度範圍	Temperature Range	-10 ˚ ~70 ˚
耐沖擊	Shock	30G (正弦波 / X.Y.Z3 軸向 / 每一軸向3回 / 每一回時間11ms)
耐振動	Vibration	9G (復振幅 1.5mm / 10HZ-55HZ-10HZ 掃頻,持續1分鐘 / 每一次 X.Y.Z3 軸向操作一小時)
保護構造等級	Enclosure Classification	IEC 529 IP 67
保護回路	Protection Circuit	無 None

尺寸圖 Dimension ：

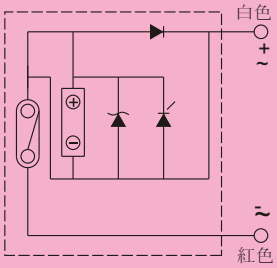


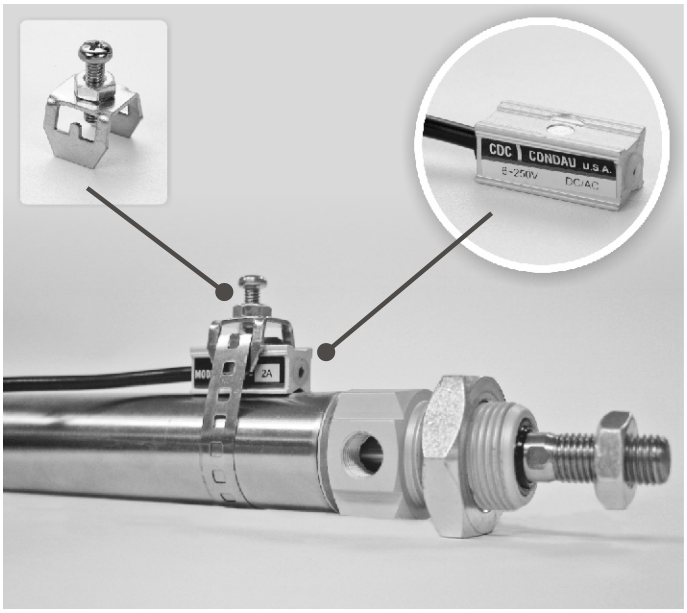
固定件尺寸圖
Mounting Clamps





接線圖
Schematic

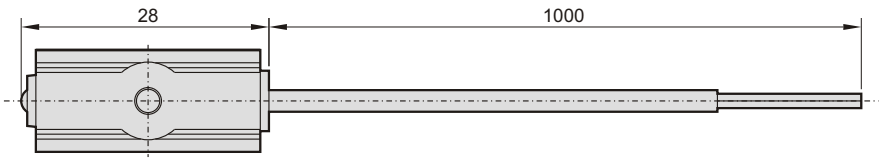


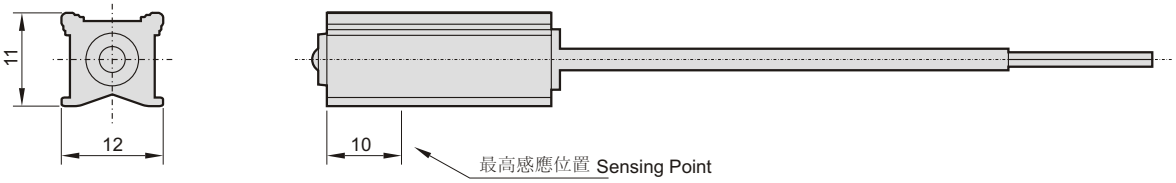


2A 規格表 2A Specification

配線方式	Wiring Method	兩線式 2-Wire Type
開關邏輯	Switching Logic	SPST常開型 SPST Normally Open
輸出接點型式	Sensor Type	有接點 Reed Switch
使用電壓範圍	Operating Voltage	5~250V DC/AC
最大開關電流	Switching Current	500 mA max.
接點容量	Contact Rating	10W max.
內部電壓降	Voltage Drop	2.4V max.
指示燈顏色	Indicator	紅色 Red LED
電線	Cable	3.5 φ , 2C , PU (灰色)
最大切換工作頻率	Operating Frequency	500 Hz
感應磁場強度	Magnet Requirement	60~100高斯
使用溫度範圍	Temperature Range	-10° ~70°
耐沖擊	Shock	30G (正弦波 / X.Y.Z3 軸向 / 每一軸向3回 / 每一回時間11ms)
耐振動	Vibration	9G (復振幅 1.5mm / 10HZ-55HZ-10HZ 掃頻,持續1分鐘 / 每一次 X.Y.Z3 軸向操作一小時)
保護構造等級	Enclosure Classification	IEC 529 IP 67
保護回路	Protection Circuit	無 None

尺寸圖 Dimension ：





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