

液压缸 FO



Ref. MA HA MT MTH SR MR MI, MK Pneu. accessories MO HO FO SO CRO RO HSO HRO Hydra. accessories

FO

Series

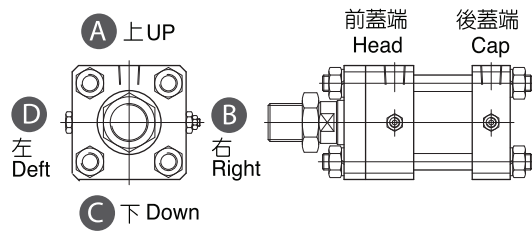
14Mpa Hydraulic Cylinders How to Order

方型重油油壓缸特性資料 Specification

氣壓缸內徑 Bore sizes of cylinder(mm)	Ø40		Ø50		Ø63		Ø80		Ø100	
缸管材質 Material of cylinder bareel	鋼管 Carbon steel STKM-13C OR ST52/白鐵管 Stainless tubes SUS 304									
使用壓力範圍 The range of pressure(MPa)	0.3-14MPa(3-140kg/cm ²) / 另有高壓可特殊訂製,請來電洽詢									
使用溫度範圍 The range of temperature(c°)	NBR/PU{-25°~+80°(C°)}/VITON{-10°~150°(C°)}									
使用速度範圍 The range of speed(mm/sec)	8~300(mm/sec)/另有低摩擦高速油封選用(1000mm以上/sec),請來電洽詢									
標準衝程活塞(PM)的長度,長衝程活塞與緊緊模式請參閱註1	40		40		45		45		50	
各缸徑最大容許衝程 STROKE .mm Max.Permissible	參閱有關軸心挫曲與缸體固定形式技術資料									
衝程之容許公差/Tolerance of stroke	衝程/STROKE	100 以下	100~250	250~630	631~1000	1001~1600	1601以上			
JIS B 8354 B級/Refer to Righ Table	容許差/Tolerance	0~+0.8	0~+1.0	0~+1.25	0~+1.4	0~+1.6	0~+1.8			
活塞桿螺紋加工精度/Accuracy of Threading at Rod End	JIS 6g/6H(相當JIS 2級)									

FO-B-N-063-A-A-030-N-0150-N-N-AST000-N

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1	型式 / TYPE	B: 標準型 B: Standard type			D: 雙軸型 D: Double-Rod type		
2	磁石/MEANET	R: 內加磁石 N:沒有 R: with magnet inside N:No symbol					
3	鋼管內徑/外徑 CYLINDER TUBES	Ø40/Ø48	Ø50/Ø60	Ø63/Ø73	Ø80/Ø95	Ø100/Ø114	
	不銹鋼缸徑/外徑 STAINLESS TUBES	Ø40/Ø46	Ø50/Ø60	Ø63/Ø73	Ø80/Ø95	Ø100/Ø114	
4	油封選用 SEAL SYMBOL 油封材質/Seal material			適用作動油種類 Kint of fluit			
				一般礦物性作動油 Pertroleum-Based fluid	水乙二醇 Water-Glycol fluid	磷酸酯油 Phosphate-Ester fluid	O/W作動油 Water in oil fluid
	A PU Polyurethane rubber	○	×	×	△	△	
	B NBR Nitrile rubber	○	○	×	○	○	
	C VITON Fluoro elastomer	○	×	○	○	○	
備註: 允許使用 ○ 不允許使用 × 請與我們洽詢 △ Note: allowable ○ unallowable × consult us △							
5	入油口位置填入 Port position	前蓋端 Head	A:上(標準型)/B:右/C:下/D:左 A:UP(Standard)/B:Right/C:Down/D:Left				
		後蓋端 Cap	A:上(標準型)/B:右/C:下/D:左 A:UP(Standard)/B:Right/C:Down/D:Left				
		A=AA / B=BB / C=CC / D=DD E=AB / F=AC / G=AD / H=BA I=BC / J=BD / K=CA / L=CB M=CD / N=DA / O=DB / P=DC					
6	軸心/ROD	標 準	Ø20	Ø25	Ø35	Ø40	Ø50
		最 大	Ø25	Ø35	Ø40	Ø50	Ø70
		緩衝軸心	Ø20	Ø25	Ø35	Ø40	Ø50

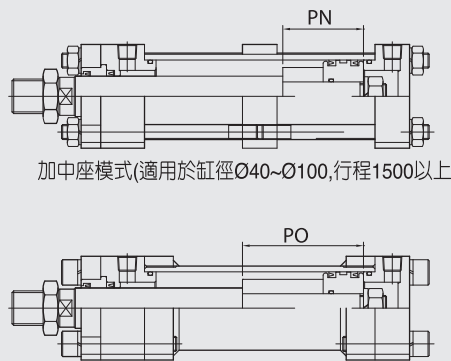


7	緩衝位置 Cushioning Valve Position	N: 無緩衝(標準型) / B:兩端緩衝 / X:前蓋緩衝 / Y:後蓋緩衝 N: NO symbo / B:Double side cushion / X:Rod-cover side cushion / Y:Head-cover side cushion 緩沖型式請參閱說明2					
8	行程/STROKE	填入需要之衝程 Max Permissible stroke					
備註:標準品最大衝程,內徑Ø40~Ø100衝程為1499mm,長衝程訂製時,因考量活塞側向支撐力與繫緊柱子鎖固強度,另外因考量油壓缸固定形式與軸心撓曲度等等問題,需在計算強度或參閱技術資料或敬請與我們洽詢或參閱說明 (1) (2)							
9	缸體 固定方式 BORE ACCESSORY	名 稱 DESCRIPTION	記號 SYMBOL	略 圖 CONFIGURATION	名 稱 DESCRIPTION	記號 SYMBOL	略 圖 CONFIGURATION
		前蓋矩形法蘭 Rectabgular flange at cylinder head	FA		後蓋矩形法蘭 Rectabgular flange at cylinder cup	FB	
		前後端凸耳形 Foot rounting side end angles	LB		U型搖擺座 U-shaped swing seat	TC	
		側端凸耳型 Foot mounting side luge	LA		前蓋端耳軸型 Trunnion mounting at cylinder head	TA	
		後蓋固定 單山型 Plaie clevis at cylinder cap	CA		後蓋可拆 雙山型 Clevis fork at cylinder cap	CB	
	備註:缸體固定如有其它方式可繪製圖面或與我們營業人員洽詢 Note: If the cylinder is fixed in other ways, you can draw a sketch or contact our sales staff						
10	軸心 用配件 ROD ACCESSORY	名 稱 DESCRIPTION	記號 SYMBOL	略 圖 CONFIGURATION	名 稱 DESCRIPTION	記號 SYMBOL	略 圖 CONFIGURATION
		Y型接頭 Rod Clevis	HY		Y型接頭附 插銷 Rod Clevis With Pin	YP	
		I型接頭 I Rod end mounting	HI		浮動接頭 Compensating Joint	KG	
		魚眼接頭 Oscillating Eye	PH		T型接頭 T Rod end mounting	HT	
		焊接接頭 H Rod end mounting	HH		可調螺帽 Adiustble nut	AST	
	備註 : 軸心固定如有其它方式,可繪製草圖或與我們營業人員洽詢 Note : If the axis is fixed in other ways, you can draw a sketch or contact our sales staff						
11	雙軸 可調行程	填入需要的可調行程 AST mm 無記號:沒有 / NO Symbol Adiustble stroke					
12	近接開關 SENSOR SWITCH	無記號:無裝置(標準型)/B:兩端近接開關/X:近接在前/Y:近接在後/T:近接*3/U:近接*4 N:NO symbo /B:Double side sensor switch/X:Rod-cover side sensor switch/ Y:Head-cover side sensor switch/T:sensor switch*3/U:sensor switch*4					

方型重油油壓缸採購指南

14Mpa Hydraulic Cylinders How to Order

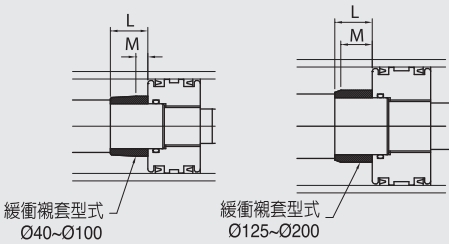
[說明1] 長衝程活塞加長襯套尺寸與繫緊模式選用參考:



缸徑	PN	PO
Ø40	60	90
Ø50	70	100
Ø63	70	100
Ø80	100	150
Ø100	100	120

兩端加法蘭模式 (建議用於缸徑Ø40~Ø100,行程2000mm以上)

[說明2] 緩衝標準距離尺寸:

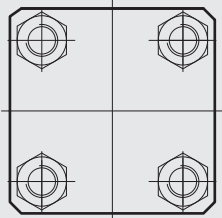
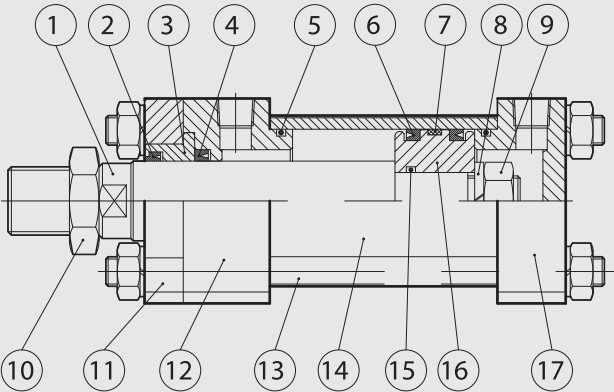


缸 徑	L長度	M長度
Ø40~Ø63	20	8
Ø80~Ø100	25	8

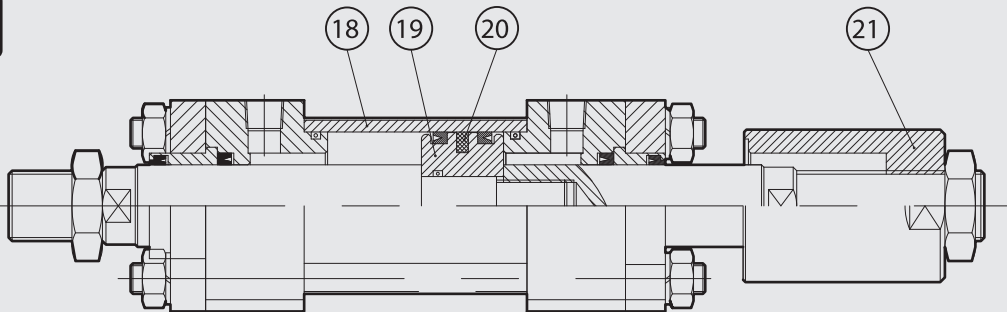
方型重油油壓缸結構圖

14Mpa Hydraulic Cylinders Structure and Parts List

FOB

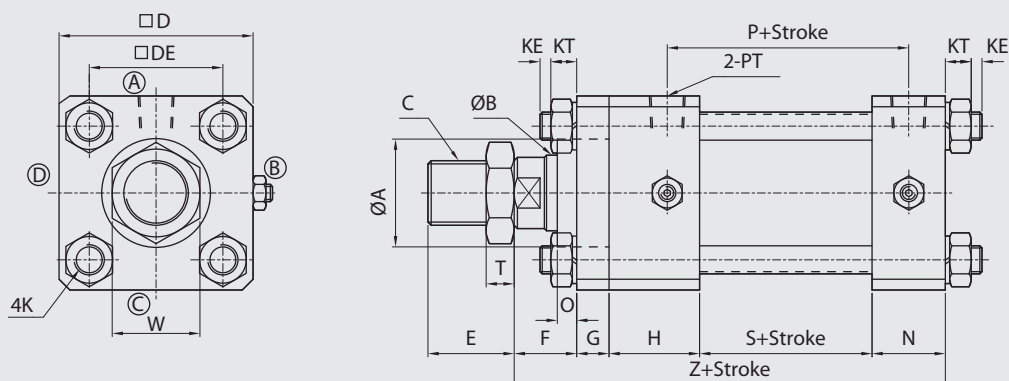


FODR

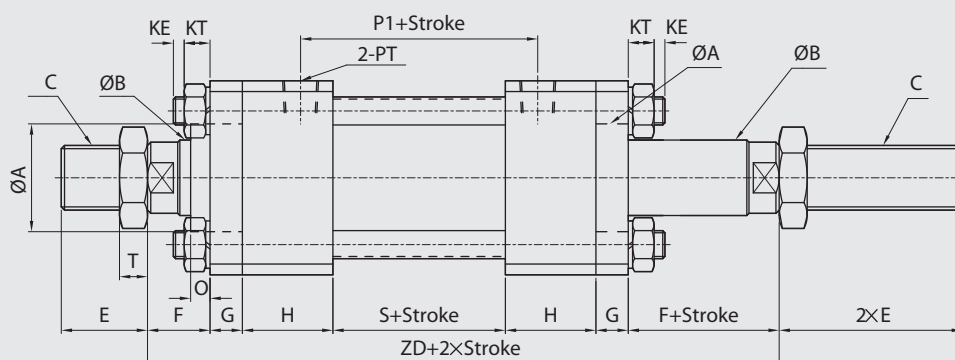


NO	零件名 Part mane	數量 Quantity	NO	零件名 Part mane	數量 Quantity	NO	零件名 Part mane	數量 Quantity
1	活塞桿 Piston rod	1	8	彈簧華司 Spring washer	1	15	O型環 Gasket	1
2	刮油環 Dust wiper	1	9	螺帽 Nut	1	16	活塞本體 Piston	1
3	套銅 Rod bush	1	10	軸心螺帽 Rod nut	1	17	後蓋 End cover	1
4	軸用油封 Rod packiog	1	11	銅壓板 End plate	1	18	油缸本體 Cylinder tube	1
5	O型環 Gasket	2	12	前蓋 Rod cover	1	19	活塞本體 Piston	1
6	橡膠活塞環 Piston packing	2	13	固定柱子 Tie bolt	4	20	磁石 Magnet	1
7	耐磨環 Wearing ring	1	14	油缸本體 Cylinder tube	1	21	可調螺帽 Adjustable nut	1

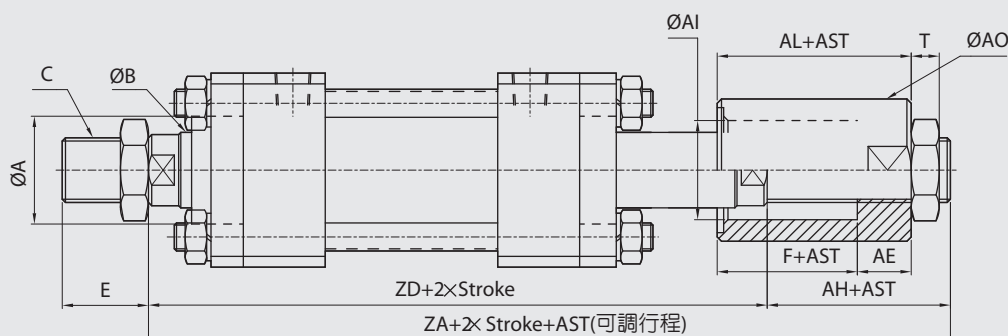
FOB FO+B(標準型) TYPE



FOD FO+D(雙軸型) TYPE



FOD FOD+AST(雙軸型附可調帽) TYPE



FOB-FOD TYPE																								A(可調行程) TYPE						
BORE	SIZE	ØA	ØB	C	□D	□DE	E	F	G	H	O	N	P	P1	PM	PT	K	KE	KT	S	T	W	Z	ZD	ZA	AH	AE	ØAI	ØAO	AL
	Ø40	35	20	M18XP1.5	65	45	30	25	11	36	11	26	88	90	40	1/4	M10XP1.25	10	8	60	8	26	158	204	234	30	20	25	40	45
	Ø50	40	25	M22XP1.5	75	52	35	25	13	42	9	34	92	90	40	3/8	M10XP1.25	10	8	60	13	32	174	220	255	35	20	28	45	45
	Ø63	45	30	M26XP1.5	90	63	40	30	15	42	9	34	97	95	45	3/8	M12XP1.5	10	10	65	13	41	186	239	279	40	25	38	55	55
	Ø80	55	40	M36XP1.5	110	80	45	30	18	46	7	40	105	105	45	1/2	M16XP1.5	10	13	65	15	50	199	253	298	45	30	48	65	60
	Ø100	65	50	M45XP2.0	135	102	50	40	20	50	7	40	114	114	50	1/2	M18XP1.5	10	15	74	15	65	224	294	339	45	30	60	80	70

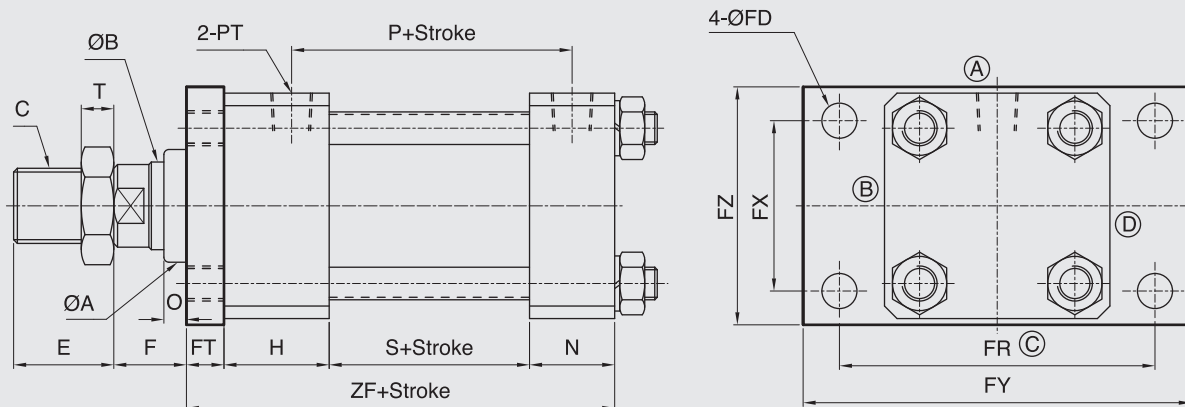
備註：

1. 本系列軸心加大或縮小時如未註明長度尺寸時,依照本公司規定自行加工。
2. F0 系列行程未超過 1500mm 時,活塞(PM)長度如附表,訂製行程如超過 1500mm 時,活塞長度請參閱特性資料表。
3. 本系列行程若超過 2000mm(含)時,須加拉桿中間固定座。
4. 本系列軸心螺帽規格 M50mm(含)以上時,其外徑為圓形。
5. AST 為客戶指定之可調行程。

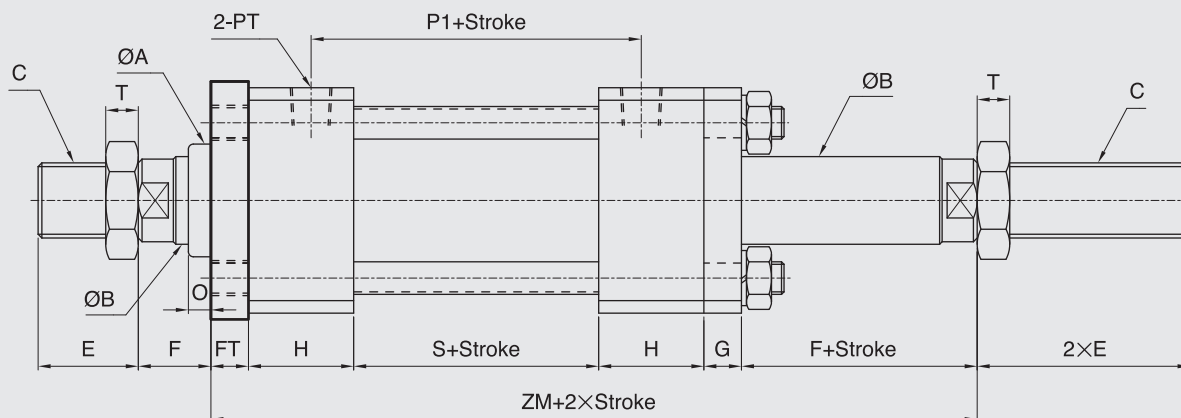
1. The length and size of the axis were not specifide when being enlarged or reduced. The size of the axis will be constructed according to the specification tablet.
2. When this series of stroke exceeds(includes) 1500mm, as see the property information for the length of the piston. Within 1500mm see the (PM) length of piston.
3. When this series of stroke exceeds(includes) 2000mm, the fixed base of the pull rod must be added in the middle.
4. The screw mut specification of this series of axis over M50 is round and W stands for its external diameter.
5. AST is the custom made adjustable stroke.

方型重油油壓缸FA板尺寸圖
14Mpa Hydraulic Cylinders FA Dimensional Features

FOB FOB+FA TYPE



FOD FOD+FA TYPE



FOB-FOD TYPE																		FA TYPE						
BORE	SIZE	ØA	ØB	C	E	F	G	H	O	N	P	P1	PM	PT	S	T	ZF	ZM	ØFD	FT	FR	FX	FY	FZ
	Ø40	35	20	M18XP1.5	30	25	11	36	11	26	88	90	40	1/4	60	8	133	179	11	11	95	46	118	69
	Ø50	40	25	M22XP1.5	35	25	13	42	9	34	92	90	40	3/8	60	13	149	195	11	13	115	58	145	85
	Ø63	45	30	M26XP1.5	40	30	15	42	9	34	97	95	45	3/8	65	13	156	209	14	15	132	65	165	98
	Ø80	55	40	M36XP1.5	45	30	18	46	7	40	105	105	45	1/2	65	15	169	223	18	18	155	87	190	118
	Ø100	65	50	M45XP2.0	50	40	20	50	7	40	114	114	50	1/2	74	15	184	254	18	20	190	109	230	150

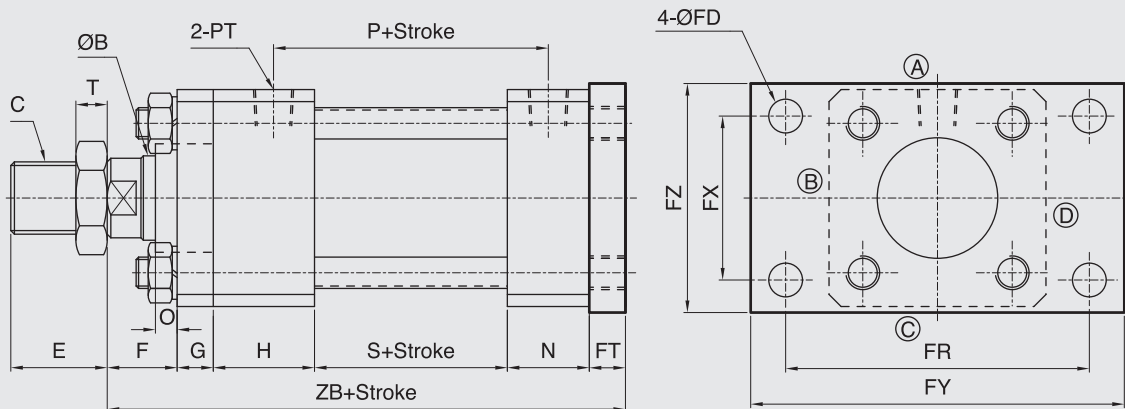
備註：

- 1.本系列軸心加大或縮小時如未註明長度尺寸時,依照本公司規定自行加工。
- 2.F0 系列行程未超過 1500mm時,活塞(PM)長度如附表,訂製行程如超過 1500mm時,活塞長度請參閱特性資料表。
- 3.本系列軸心螺帽規格M50mm(含)以上時,其外徑為圓形。

- 1.The length and size of the axis were not specifide when being enlarged or reduced.
The size of the axis will be constructed according to the specification tablet.
- 2.When this series of stroke exceeds(includes) 1500mm, as see the property information for the length of the piston. Within 1500mm see the (PM) length of piston.
- 3.The screw mut specification of this series of axis over M50 is round and W stands for its external diameter.

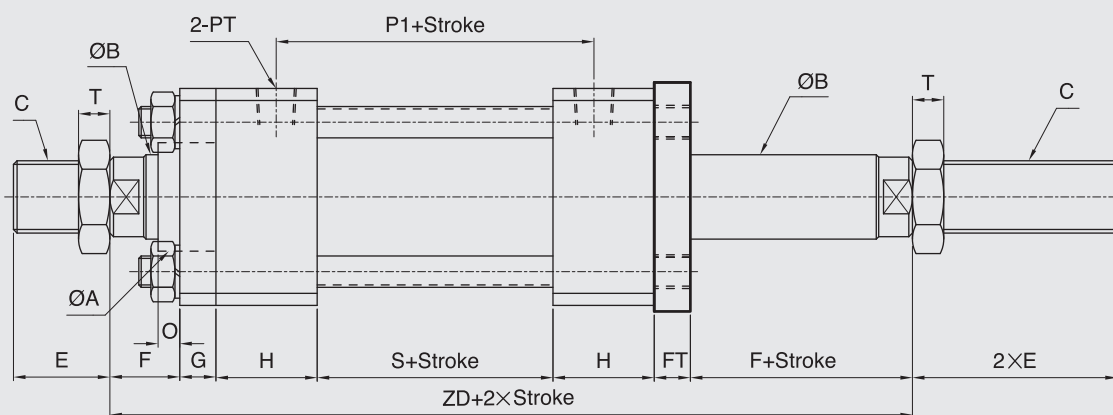
FOB

FOB+FB TYPE



FOD

FOD+FB TYPE



FOB-FOD TYPE

FB TYPE

BORE	SIZE	ØA	ØB	C	E	F	G	H	O	N	P	P1	PM	PT	S	T	ZB	ZD	ØFD	FT	FR	FX	FY	FZ
	Ø40	35	20	M18XP1.5	30	25	11	36	11	26	88	90	40	1/4	60	8	169	204	11	11	95	46	118	69
	Ø50	40	25	M22XP1.5	35	25	13	42	9	34	92	90	40	3/8	60	13	187	220	11	13	115	58	145	85
	Ø63	45	30	M26XP1.5	40	30	15	42	9	34	97	95	45	3/8	65	13	201	239	14	15	132	65	165	98
	Ø80	55	40	M36XP1.5	45	30	18	46	7	40	105	105	45	1/2	65	15	217	253	18	18	155	87	190	118
	Ø100	65	50	M45XP2.0	50	40	20	50	7	40	114	114	50	1/2	74	15	244	294	18	20	190	109	230	150

備註：

- 1.本系列軸心加大或縮小時如未註明長度尺寸時,依照本公司規定自行加工。
- 2.F0 行程未超過 1500mm時,活塞(PM)長度如附表,訂製行程如超過1500mm時,活塞長度請參閱特性資料表。
- 3.本系列軸心螺帽規格M50mm(含)以上時,其外徑為圓形。

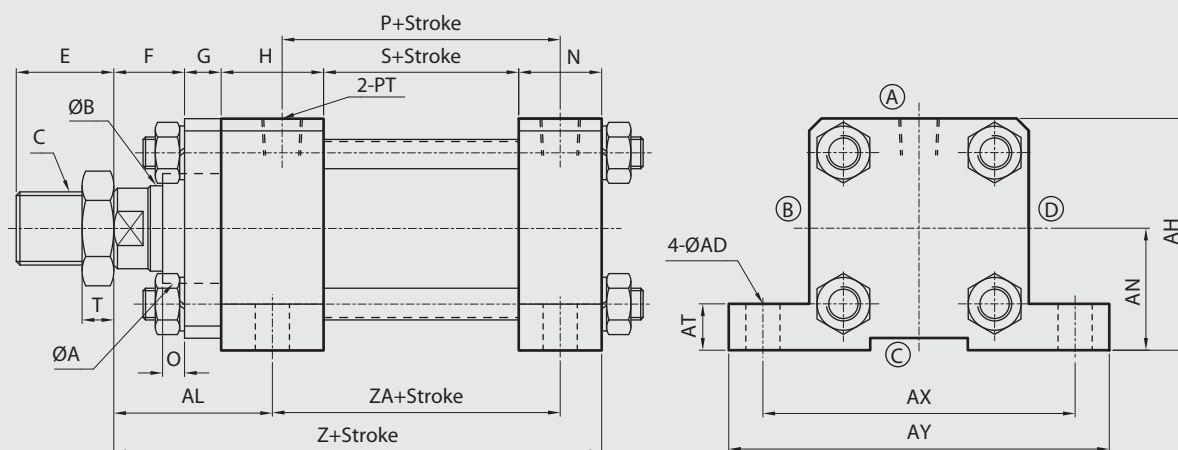
- 1.The length and size of the axis were not specifide when being enlarged or reduced.
The size of the axis will be constructed according to the specification tablet.
- 2.When this series of stroke exceeds(includes) 1500mm, as see the property information for the length of the piston. Within 1500mm see the (PM) length of piston.
- 3.The screw mut specification of this series of axis over M50 is round and W stands for its external diameter.

Ref. MA HA MT MTH SR MR MI, MK Pneu. accessories MO HO FO SO RO CRO HSO HRO Hydra. accessories

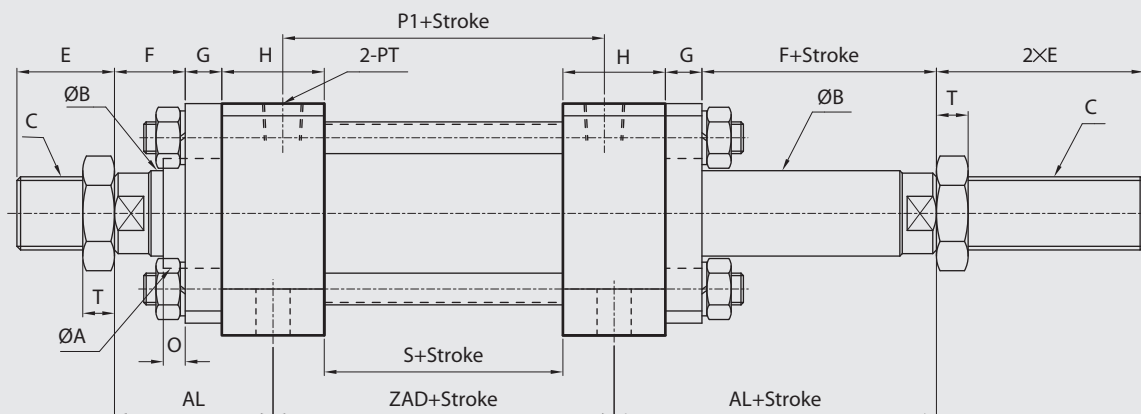
FO-LA Series

方型重油油壓缸LA尺寸圖 14Mpa Hydraulic Cylinders LA Dimensional Features

FOB FOB+LA TYPE



FOD FOD+LA TYPE



FOB-FOD TYPE

LA TYPE

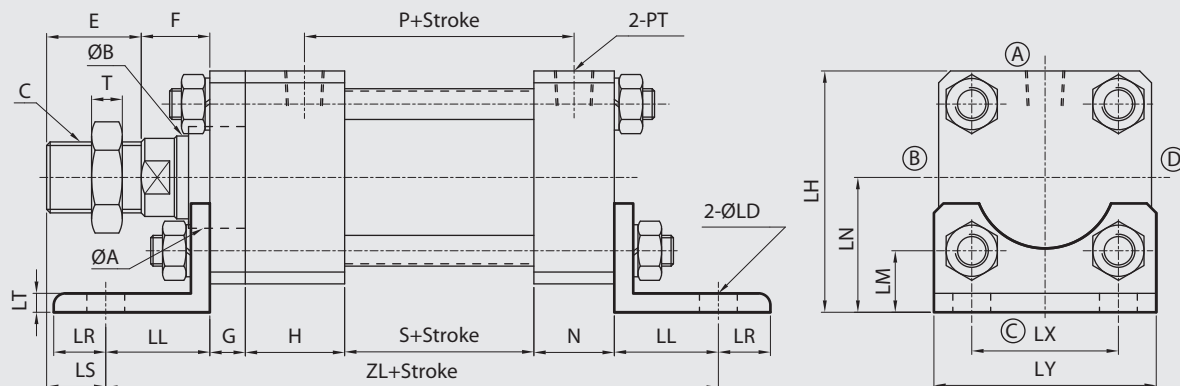
BORE	SIZE	ØA	ØB	C	E	F	G	H	O	N	AH	AL	AN	P	P1	PM	PT	S	T	ZA	ZAD	Z	ØAD	AT	AX	AY
Ø40		35	20	M18XP1.5	30	25	11	36	11	26	70	54	37.5	88	90	40	1/4	60	13	91	96	158	11	14	95	118
Ø50		40	25	M22XP1.5	35	25	13	42	9	34	80	59	42.5	92	90	40	3/8	60	13	98	102	174	11	17	115	145
Ø63		45	30	M26XP1.5	40	30	15	42	9	34	95	66	50	97	95	45	3/8	65	13	103	107	186	14	19	132	165
Ø80		55	40	M36XP1.5	45	30	18	46	7	40	115	71	60	105	105	45	1/2	65	13	108	111	199	18	25	155	190
Ø100		65	50	M45XP2.0	50	40	20	50	7	40	140	85	72.5	114	114	50	1/2	74	15	119	124	224	18	27	190	230

備註：

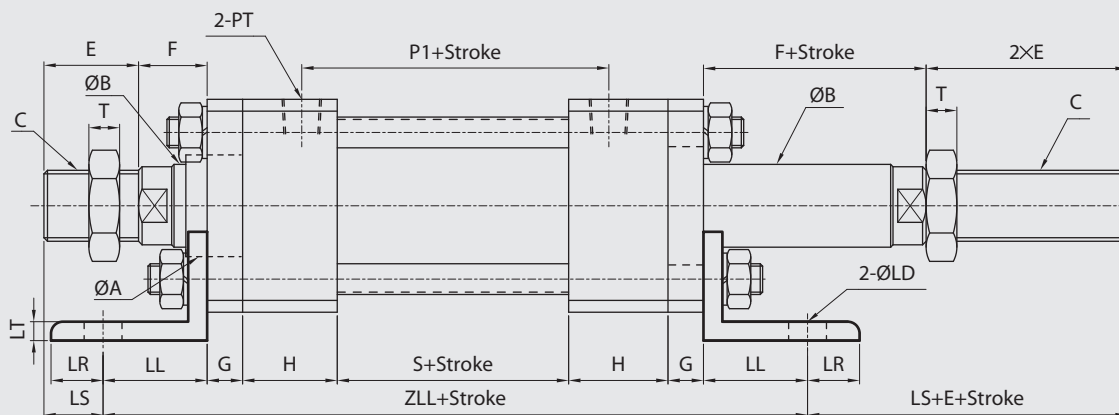
- 1.本系列軸心加大或縮小時如未註明長度尺寸時,依照本公司規定自行加工。
- 2.F0 系列行程未超過 1500mm時,活塞(PM)長度如附表,訂製行程如超過 1500mm時,活塞長度請參閱特性資料表。
- 3.本系列行程若超過2000mm(含)時,須加拉桿中間固定座。
- 4.本系列軸心螺帽規格M50mm(含)以上時,其外徑為圓形。

- 1.The length and size of the axis were not specifice when being enlarged or reduced.
The size of the axis will be constructed according to the specification tablet.
- 2.When this series of stroke exceeds(includes) 1500mm, as see the property information for the length of the piston. Within 1500mm see the (PM) length of piston.
- 3.When this series of stroke exceeds(includes) 2000mm,the fixed base of the pull rod must be added in the middle.
- 4.The screw mut specification of this series of axis over M50 is round and W stands for its external diameter.

FOB FOB+LB (架) TYPE



FOD FOD+LB TYPE



FOB-FOD TYPE																				LB TYPE							
BORE	SIZE	ØA	ØB	C	E	F	G	H	N	LH	LN	LS	P	P1	PM	PT	S	T	ZL	ZLL	ØLD	LL	LM	LR	LT	LX	LY
	Ø40	35	20	M18XP1.5	30	25	11	36	26	75.5	43	23	88	90	40	1/4	60	8	197	218	11	32	20.5	13	8	45	65
	Ø50	40	25	M22XP1.5	35	25	13	42	34	87.5	50	25	92	90	40	3/8	60	13	219	240	11	35	24	15	8	50	75
	Ø63	45	30	M26XP1.5	40	30	15	42	34	105	60	28	97	95	45	3/8	65	13	240	263	14	42	28.5	18	10	58	90
	Ø80	55	40	M36XP1.5	45	30	18	46	40	127	72	25	105	105	45	1/2	65	15	269	293	18	50	32	20	12	78	110
	Ø100	65	50	M45XP2.0	50	40	20	50	40	127	85	35	114	114	50	1/2	74	15	294	324	18	55	34	23	12	96	135

備註：

- 1.本系列軸心加大或縮小時如未註明長度尺寸時,依照本公司規定自行加工。
- 2.F0 系列行程未超過 1500mm時,活塞(PM)長度如附表,訂製行程如超過 1500mm時,活塞長度請參閱特性資料表。
- 3.本系列行程若超過2000mm(含)時,須加拉桿中間固定座。
- 4.本系列軸心螺帽規格M50mm(含)以上時,其外徑為圓形。

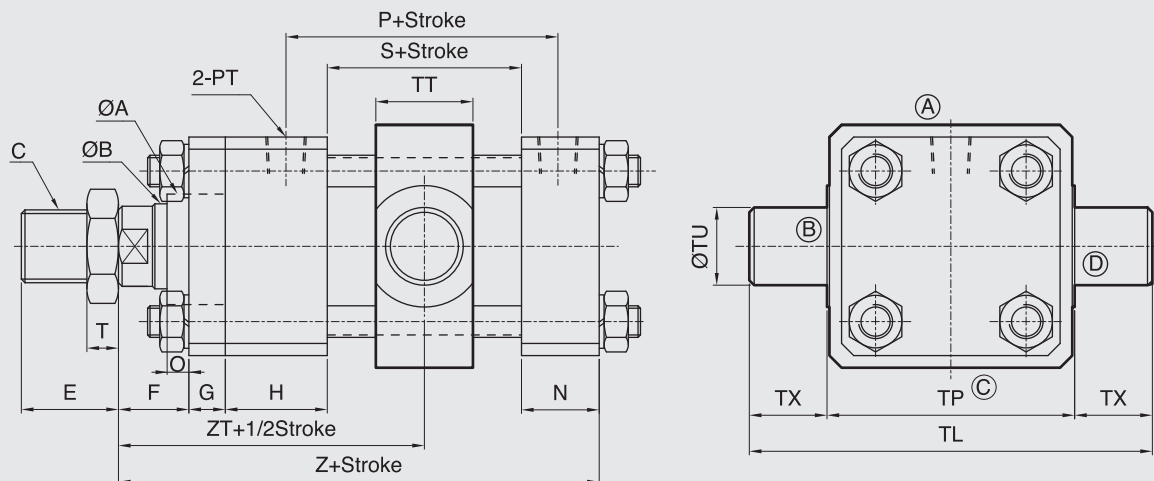
- 1.The length and size of the axis were not specifice when being enlarged or reduced. The size of the axis will be constructed according to the specification tablet.
- 2.When this series of stroke exceeds(includes) 1500mm, as see the property information for the length of the piston. Within 1500mm see the (PM) length of piston.
- 3.When this series of stroke exceeds(includes) 2000mm,the fixed base of the pull rod must be added in the middle.
- 4.The screw mut specification of this series of axis over M50 is round and W stands for its external diameter.

FO-TC

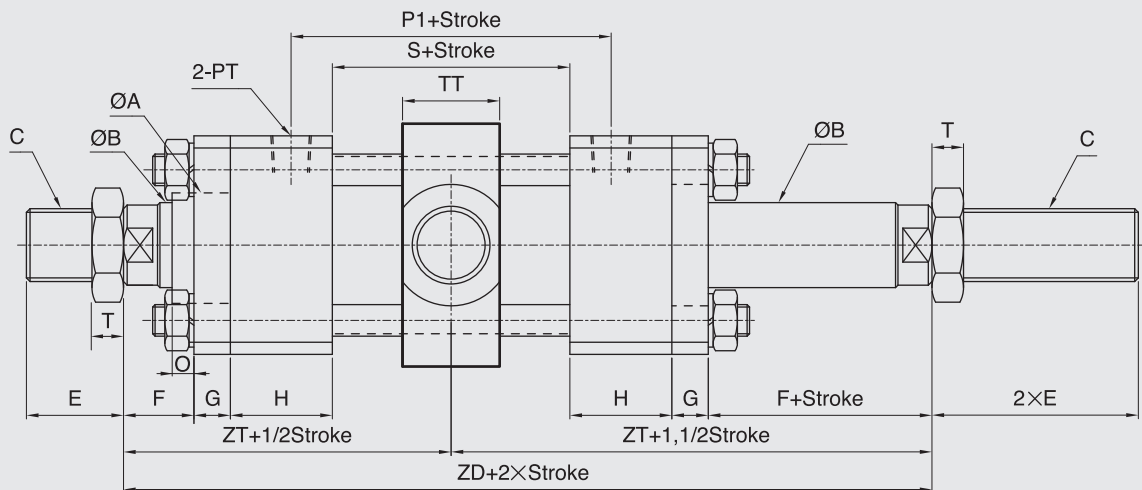
Series

方型重油油壓缸TC尺寸圖 14Mpa Hydraulic Cylinders TC Dimensional Features

FOB FOB+TC TYPE



FOD FOD+TC TYPE



FOB-FOD TYPE

TC TYPE

BORE	SIZE	ØA	ØB	C	E	F	G	H	O	N	P	P1	PM	PT	S	T	Z	ZD	ZT	ØTU	TL	TP	TT	TX
Ø40		35	20	M18XP1.5	30	25	11	36	11	26	88	90	40	1/4	60	8	158	204	102	20	109	69	25	20
Ø50		40	25	M22XP1.5	35	25	13	42	9	34	92	90	40	3/8	60	13	174	220	110	25	135	85	33	25
Ø63		45	30	M26XP1.5	40	30	15	42	9	34	97	95	45	3/8	65	13	186	239	119.5	30	160	100	40	30
Ø80		55	40	M36XP1.5	45	30	18	46	7	40	105	105	45	1/2	65	15	199	253	126.5	30	180	120	40	30
Ø100		65	50	M45XP2.0	50	40	20	50	7	40	114	114	50	1/2	74	15	224	294	147	40	225	145	50	40

備註：

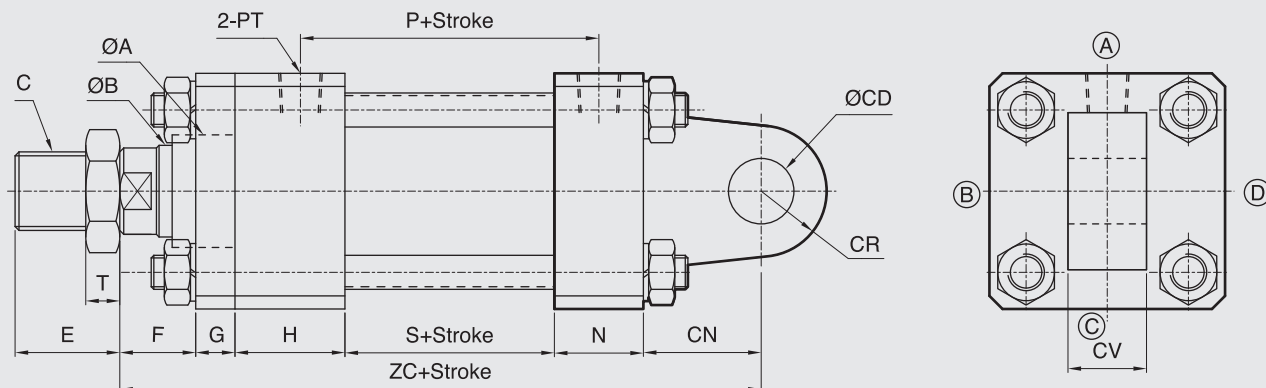
- 1.本系列軸心加大或縮小時如未註明長度尺寸時,依照本公司規定自行加工。
- 2.F0 行程未超過 1500mm時,活塞(PM)長度如附表,訂製行程如超過 1500mm時,活塞長度請參閱特性資料表。
- 3.本系列軸心螺帽規格M50mm(含)以上時,其外徑為圓形。

- 1.The length and size of the axis were not specifide when being enlarged or reduced.
The size of the axis will be constructed according to the specification tablet.
- 2.When this series of stroke exceeds(includes) 1500mm, as see the property information for the length of the piston. Within 1500mm see the (PM) length of piston.
- 3.The screw mut specification of this series of axis over M50 is round and W stands for its external diameter.

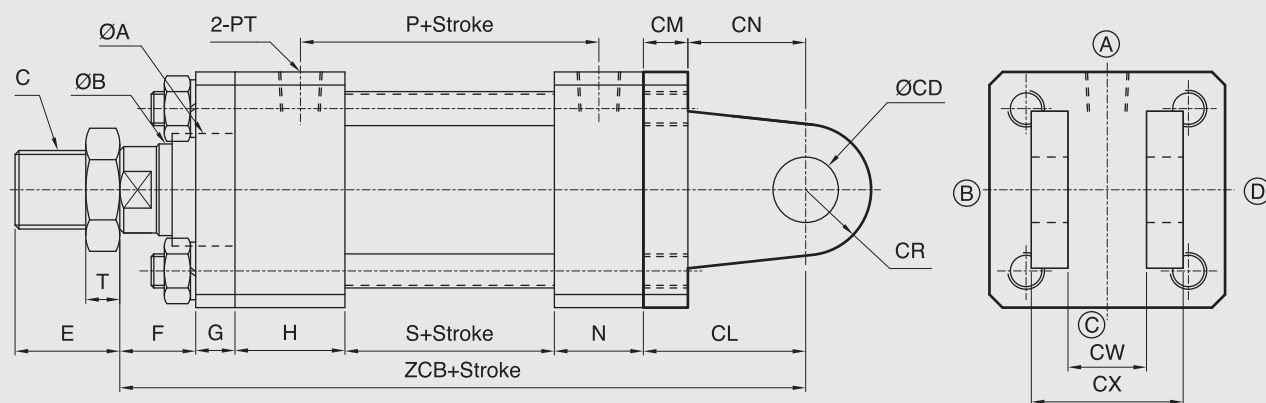
方型重油油壓缸CA,CB尺寸圖

14Mpa Hydraulic Cylinders Dimensional Features

FOB FOB+CA TYPE



FOB FOB+CB TYPE



FOB TYPE																	CA-CB TYPE								
BORE	SIZE	ØA	ØB	C	E	F	G	H	O	N	P	PM	PT	S	T	ZC	ZCB	ØCD	CL	CM	CN	CR	CV	CW	CX
		Ø40	35	20	M18XP1.5	30	25	11	36	11	26	88	40	1/4	60	8	183	194	16	36	11	25	15	18	19
	Ø50	40	25	M22XP1.5	35	25	13	42	9	34	92	40	3/8	60	13	209	222	20	48	13	35	20	20	21	45
	Ø63	45	30	M26XP1.5	40	30	15	42	9	34	97	45	3/8	65	13	226	241	25	55	15	40	25	25	26	54
	Ø80	55	40	M36XP1.5	45	30	18	46	7	40	105	45	1/2	65	15	239	257	30	58	18	40	30	30	31	71
	Ø100	65	50	M45XP2.0	50	40	20	50	7	40	114	50	1/2	74	15	274	294	35	70	20	50	35	40	41	81

備註：

- 1.本系列軸心加大或縮小時如未註明長度尺寸時,依照本公司規定自行加工。
- 2.F0 行程未超過 1500mm時,活塞(PM)長度如附表,訂製行程如超過1500mm時, 活塞長度請參閱特性資料表。
- 3.本系列CA型行程若超過2000mm(含)時,須加拉桿中間固定座。
- 4.本系列軸心螺帽規格M50mm(含)以上時,其外徑為圓形。

- 1.The length and size of the axis were not specificide when being enlarged or reduced. The size of the axis will be constructed according to the specification tablet.
- 2.When this series of stroke exceeds(includes) 1500mm, as see the property information for the length of the piston. Within 1500mm see the (PM) length of piston.
- 3.When this series of stroke exceeds(includes) 2000mm,the fixed base of the pull rod must be added in the middle.
- 4.The screw mut specification of this series of axis over M50 is round and W stands for its external diameter.

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