

HC4系列油壓缸

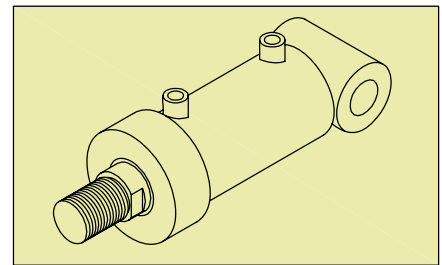
HC4 Series Hydraulic Cylinders

昇降台等特殊用途 Which employed in elevating platform etc. special applications

- * HC4形油壓缸之設計,適用於昇降台,車輛或停車場等機械,在任何嚴酷的環境中使用,如振動,衝擊和瞬間極壓等均安全的強力形油壓缸
- * 本形式是以推出力為主要目的,後蓋面積為前蓋面積約2倍,所以使用時,前蓋端之出入口要注意背壓之問題
- * 加工精度,表面處理,油封材料等各零件之設計均朝向,特殊用途為基準的高性能油壓缸
- * The HC4 hyd cylinders which designed and employed in elevating platform, vehicle & parking equipments etc., Since those are employed at strictly environmental condition and with vibration resistant impulse resistant & anti-instantaneous burst pressure are very effective
- * This series hyd cylinder is aim at extending force and the cylinder cap area is double of cylinder head so that, the back pressure must emphasized at inlet/outlet of cylinder head during operating.
- * The processing accuracy, surface treatment & oil sealer's material etc., selecting & manufacturing are emphasised on special applications.

規範 Specifications

項 目 Item	型 式 Model	HC4系列 HC4 Series
缸管內徑 Cylinder Bore	mm	ø50,ø63,ø80,ø90 ø100,ø125
固定座形式 Mounting		FB , CA , CD
使用壓力 Operating Pressure		180 kgf/cm ²
測試壓力 Testing Pressure		230 kgf/cm ²
最低作動壓力 Min. Operating Press.		3 kgf/cm ²
適用作動油 Fluid		一般礦物性作動油 Mineral oil
最高使用速度 Max Operating Speed		500 mm/sec
最低使用速度 Min Operating Speed		10 mm/sec
周圍溫度範圍 Range of Ambient Temperature		-10 ⁰ C ~ +80 ⁰ C
推桿前端形式 Rod End Type		A TYPE 與 B TYPE
關連零件 Related Attachment		I接頭 (A TYPE使用) Clevis hand type I
最大行程 Max. Stroke		參考彎曲強度低值 (DRAW)
行程容許差 Tolerance of Stroke		JIS B 8354 A級



* 活塞桿前端形式 Rod End Type :

略 圖			
TYPE A		TYPE B	

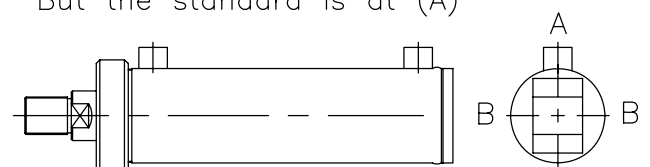
* 固定座形式 Mounting

記號 Symbol	名 稱 Description	略 圖 Configuration
FB	後蓋端法蘭形 Rectangular flange at cylinder cap	
CA	山形座(1山) Plate clevis at cylinder cap	
CD	後蓋端圓筒形 Tube clevis at cylinder cap	

* 出入油孔方向 Port Position :

油孔方向分 ① ② —標準方向為 ①

The port position is divided into(A)(B)
But the standard is at (A)



- * 本油壓缸之油封因較為特殊其材質無氟素橡膠,故作動油不得使用磷酸酯系之作動油
The oil sealer of this series are very special and the material (VITON). So that, the fluid will not be phosphatide ester oil.

HC4

訂購內容索引 Ordering Index :

210 HC4 FB 125 90 100 B A E U

使用壓力140/230 kgf/cm²
Max. Operating Pres.

HC4:系列
HC4:Series Number

固定座形式 Mounting
FB, TC, CA, CD

缸管內徑 Cylinder Bore mm
ø50,ø63,ø80,ø90,ø100,ø125

活塞桿徑 Rod Dia mm
ø35,ø40,ø55,ø65,ø70,ø90

衝程 Stroke mm
要考慮最大容許衝程
Max. Permissible stroke

U-活塞用U型油封
T-活塞用T型油封
U-Piston seal for mode U
T-Piston seal for mode T

特殊附件-TYPE-A
E:活塞桿前端另類螺紋形
K:附固定螺帽 L:接頭,LO,GF
Optionals-TYPE-A

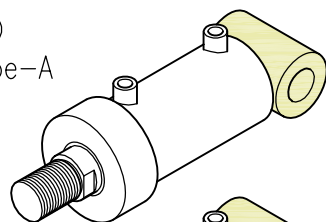
E:Rod end with other threading
K:With locking nut
L:Clevis Hesd LO,GF

出入口之方向 Port Position
A:標準 B:右 A:Standard
B:Right or Left

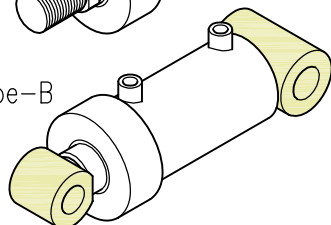
活塞桿前端形式 Rod End Type
Type-A Type-B

* 固定座形式 Mounting

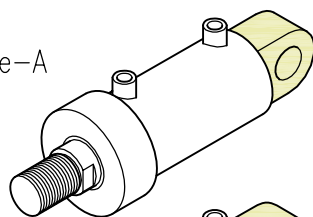
CD
Type-A



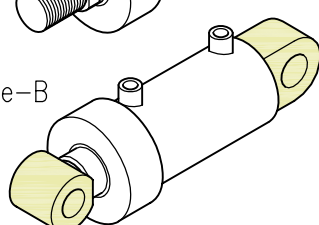
Type-B



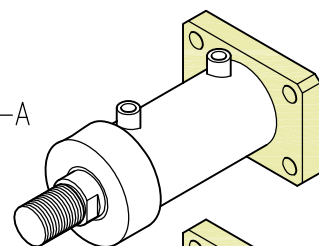
CA
Type-A



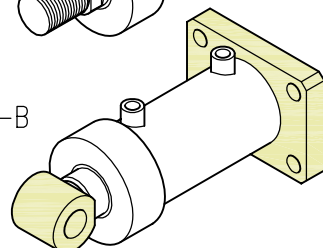
Type-B



FB
Type-A



Type-B

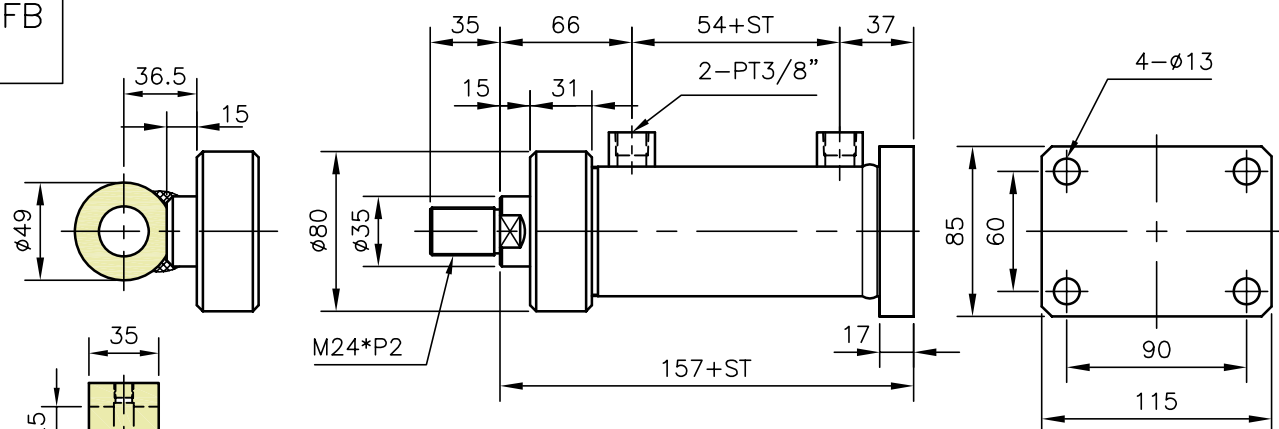


* 技術參數 Technical Data :

缸管內徑 Cylinder Bore mm	活塞桿徑 Rod Dia. mm	面積比 HA RA	動作 Action	有效面積 Effective Area cm ²	出力 Output Power kgf			流量10L/分 之速度 Flow Rate at Speed 10L/min mm/sec	速度10mm/秒 之流量 Speed at Flow Rate 10mm/sec L/min
					70 kgf/cm ²	140 kgf/cm ²	230 kgf/cm ²		
50	35	1.9	推力 Extend	19.6	1374	2748	4516	85	1.2
		1	拉力 Retract	10	700	1400	2303	167	0.6
63	40	1.8	推力 Extend	31.2	2181	4362	7170	53	1.9
		1	拉力 Retract	18.6	1302	2604	4279	90	1.1
80	55	1.9	推力 Extend	50.3	3517	7034	11561	33	3.0
		1	拉力 Retract	26.5	1855	3711	6097	63	1.6
90	65	2	推力 Extend	63.6	4451	8906	14632	26	3.8
		1	拉力 Retract	30.4	2129	4261	7000	55	1.8
100	70	2	推力 Extend	78.5	5495	10996	18064	21	4.7
		1	拉力 Retract	40.1	2804	5608	9213	42	2.3
125	90	2	推力 Extend	122.7	8586	17181	28225	14	7.4
		1	拉力 Retract	59.1	4135	8270	13593	28	3.5

HC4-ø50

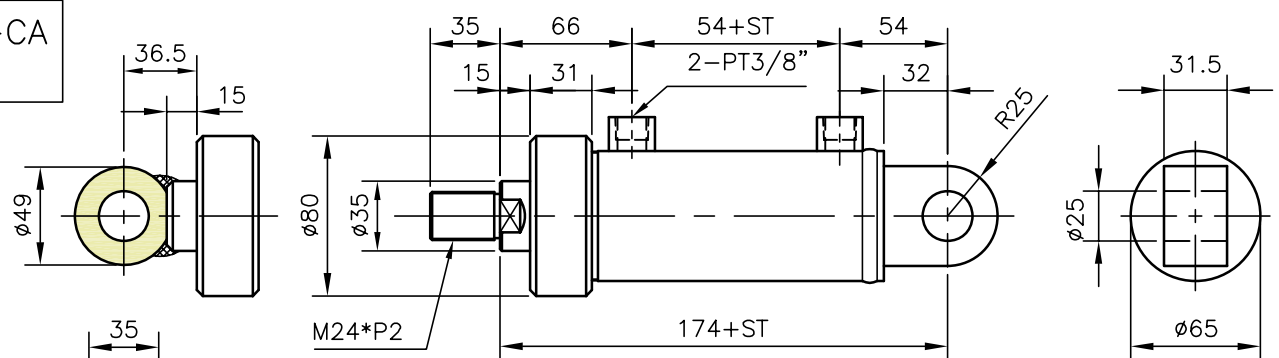
HC4-FB ø50



TYPE A

TYPE B

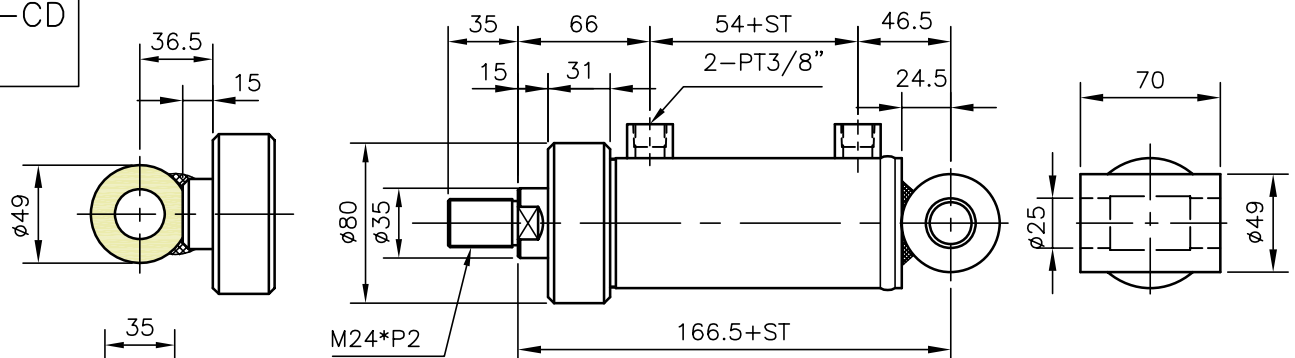
HC4-CA ø50



TYPE A

TYPE B

HC4-CD ø50



TYPE A

TYPE B

油壓缸大概重量計算 Estimated weight of hyd.

EX. : FB , ST=200mm

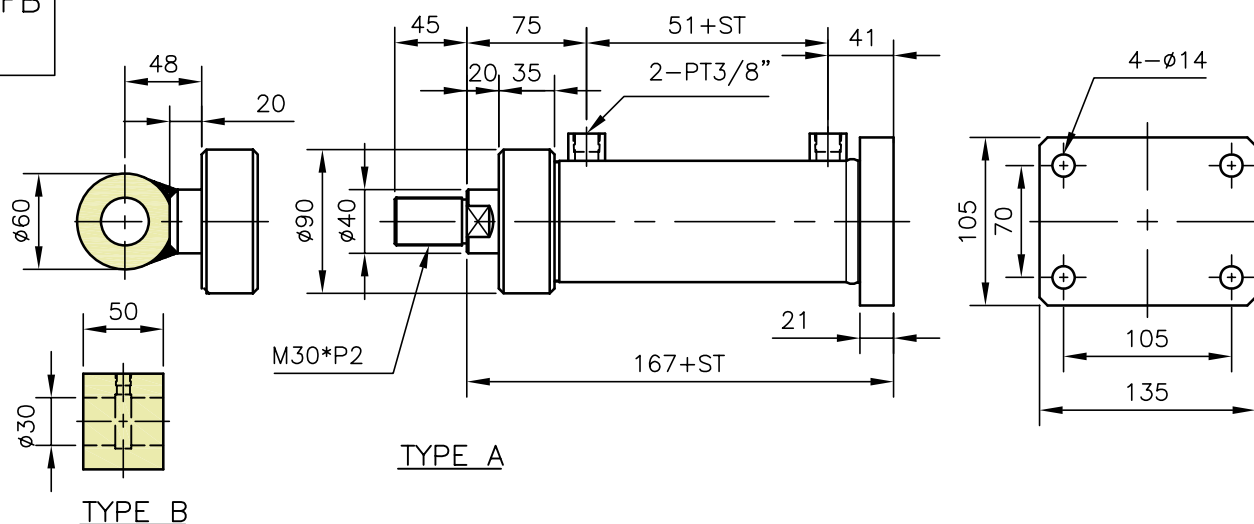
$$\begin{aligned} \text{weight} &= W1 + (W2 * ST) \\ &= 5.5 + (1.83 * 2) \\ &= 9.16 \text{ kg} \end{aligned}$$

	W1 (kg)	W2 (kg/100mm)
FB	5.5	1.83
CA	4.5	
CD	4.8	

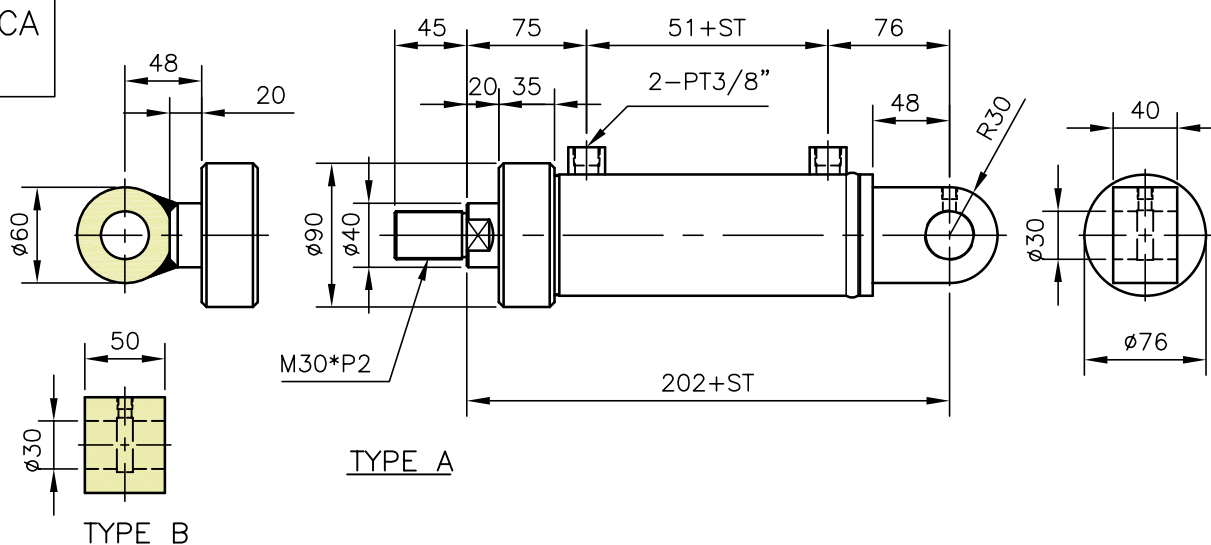
HC4- $\phi 63$

23 MPa

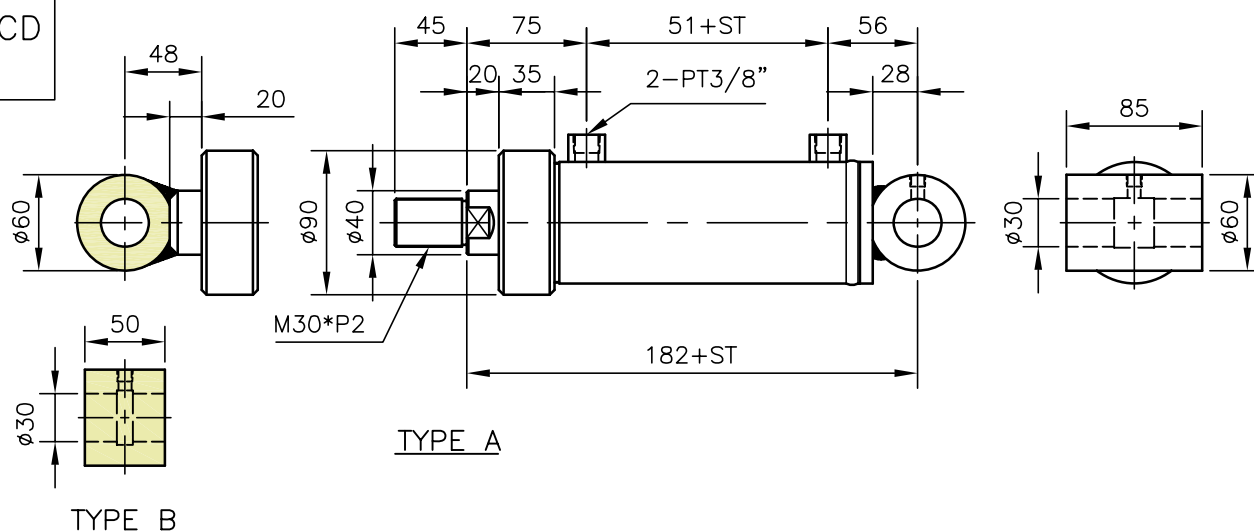
HC4-FB
 $\phi 63$



HC4-CA
 $\phi 63$



HC4-CD
 $\phi 63$



油壓缸大概重量計算

Estimated weight of hyd.

EX. : FB , ST=200mm

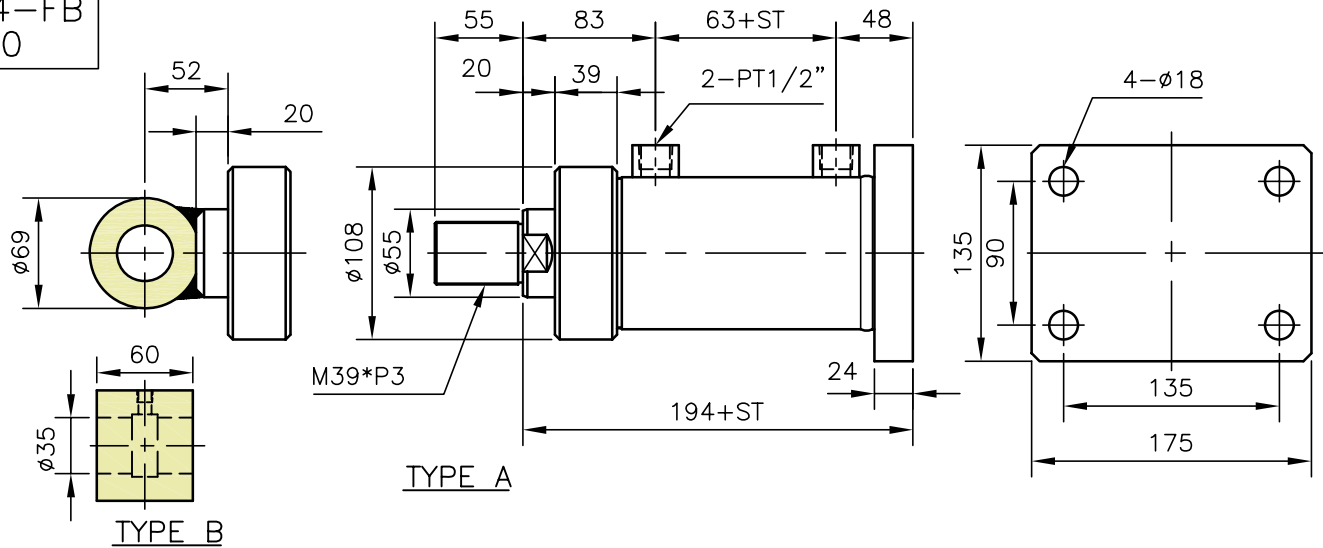
$$\begin{aligned} \text{weight} &= W1 + (W2 * ST) \\ &= 8.2 + (2.1 * 2) \\ &= 12.4 \text{ kg} \end{aligned}$$

	W1 (kg)	W2 (kg/100mm)
FB	8.2	2.1
CA	7.2	
CD	7.5	

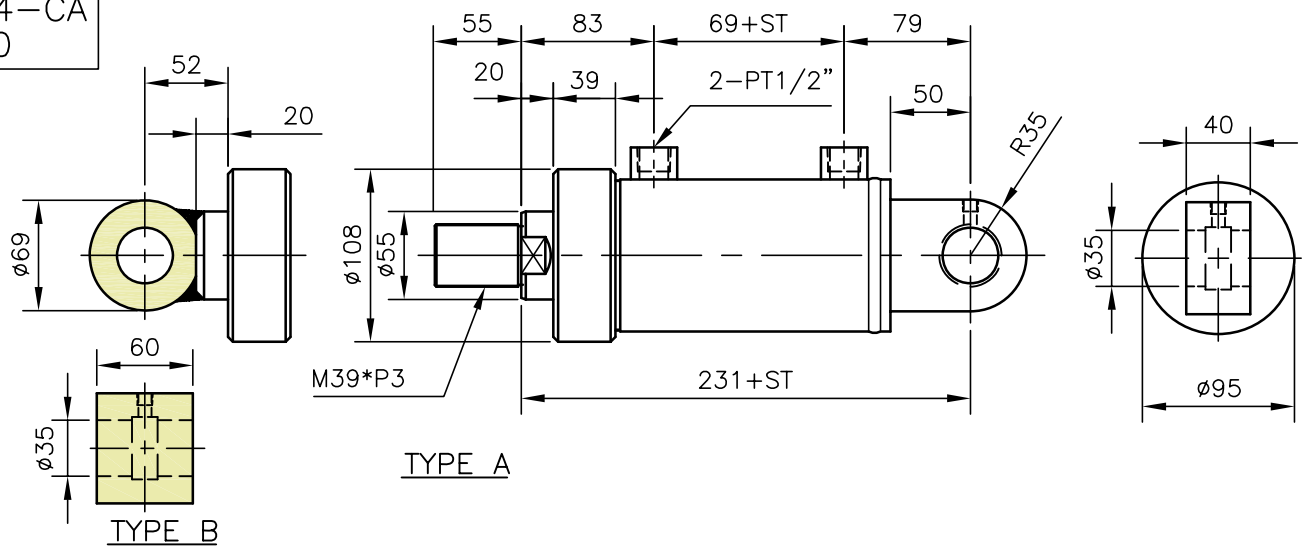
HC4- $\phi 80$

23 MPa

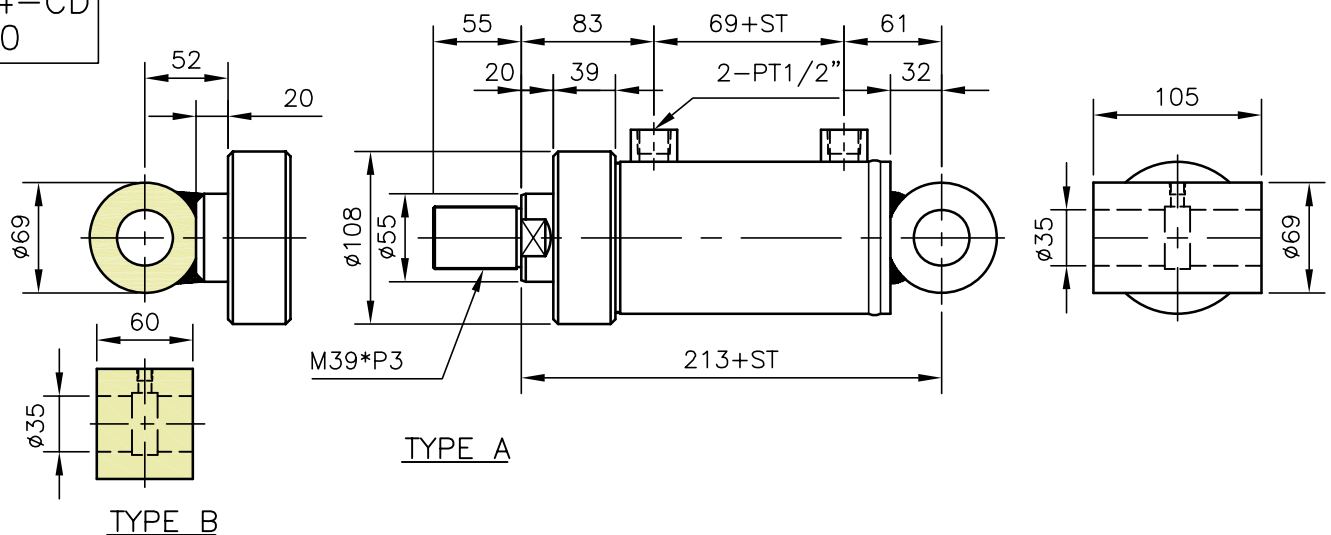
HC4-FB
 $\phi 80$



HC4-CA
 $\phi 80$



HC4-CD
 $\phi 80$



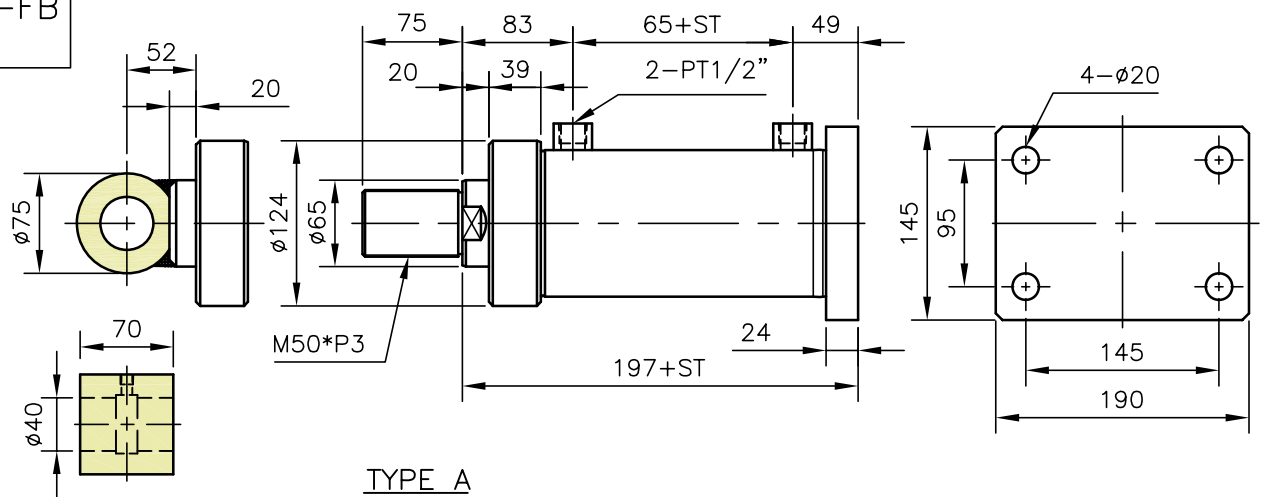
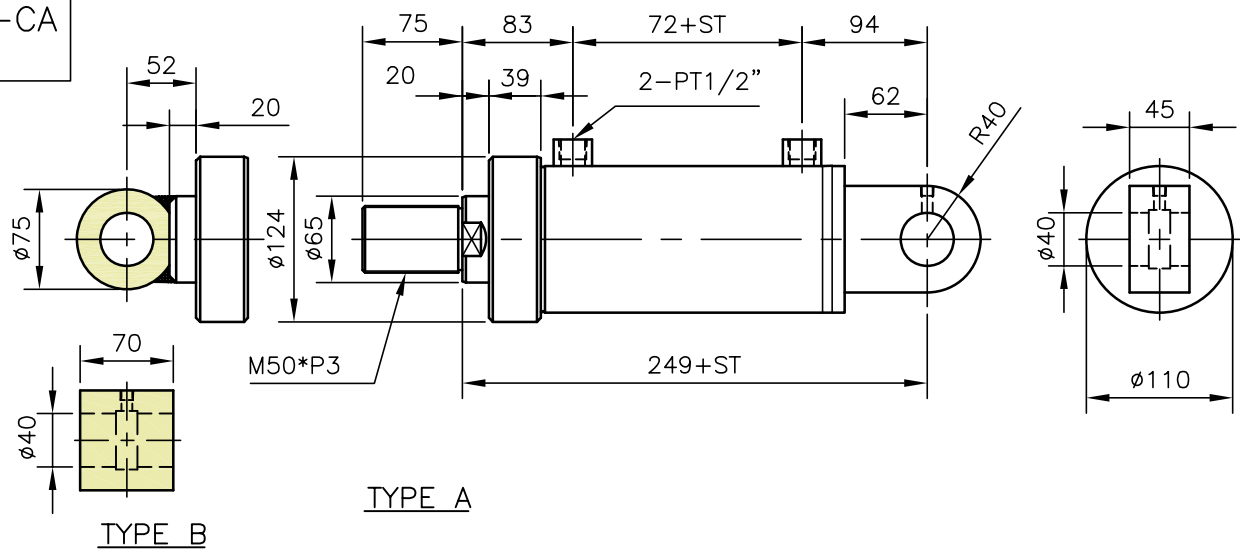
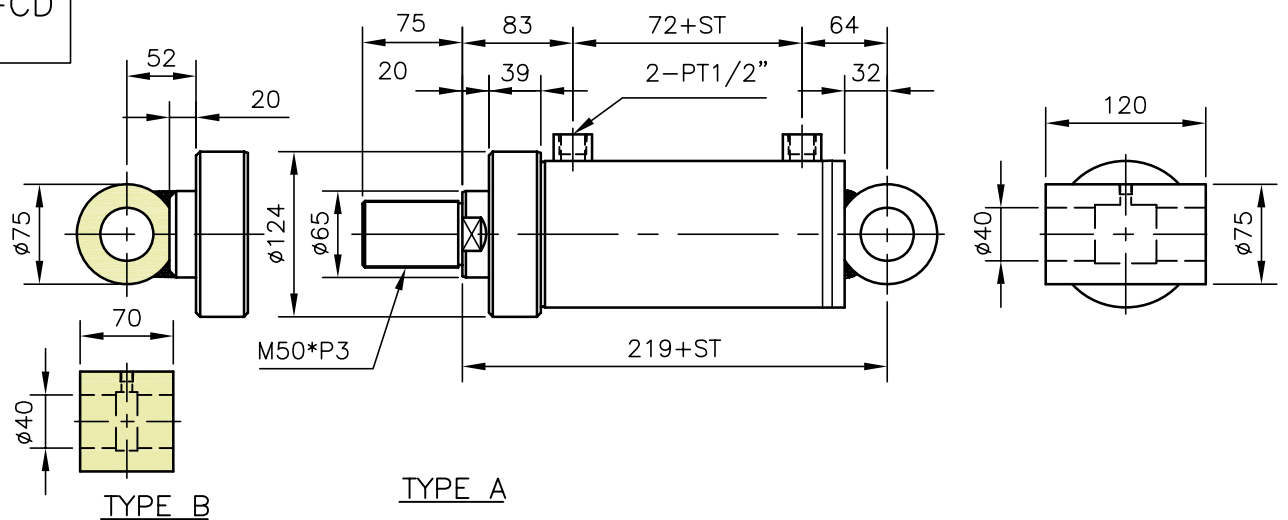
油壓缸大概重量計算

Estimated weight of hyd.

EX. : FB , ST=200mm

$$\begin{aligned} \text{weight} &= W1 + (W2 * ST) \\ &= 14.4 + (3.5 * 2) \\ &= 21.4 \text{ kg} \end{aligned}$$

	W1 (kg)	W2 (kg/100mm)
FB	14.4	3.5
CA	12.1	
CD	13	

HC4-FB
 $\phi 90$ HC4-CA
 $\phi 90$ HC4-CD
 $\phi 90$ 

油壓缸大概重量計算 Estimated weight of hyd.

EX. : FB , ST=200mm

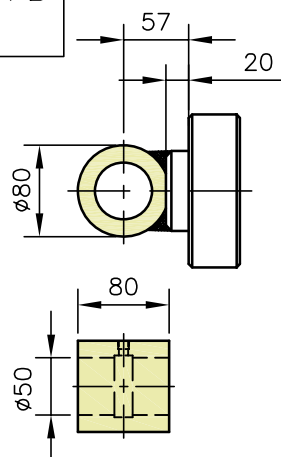
$$\begin{aligned} \text{weight} &= W1 + (W2 * ST) \\ &= 18.8 + (5.1 * 2) \\ &= 29 \text{ kg} \end{aligned}$$

	W1 (kg)	W2 (kg/100mm)
FB	18.8	5.1
CA	17	
CD	17.8	

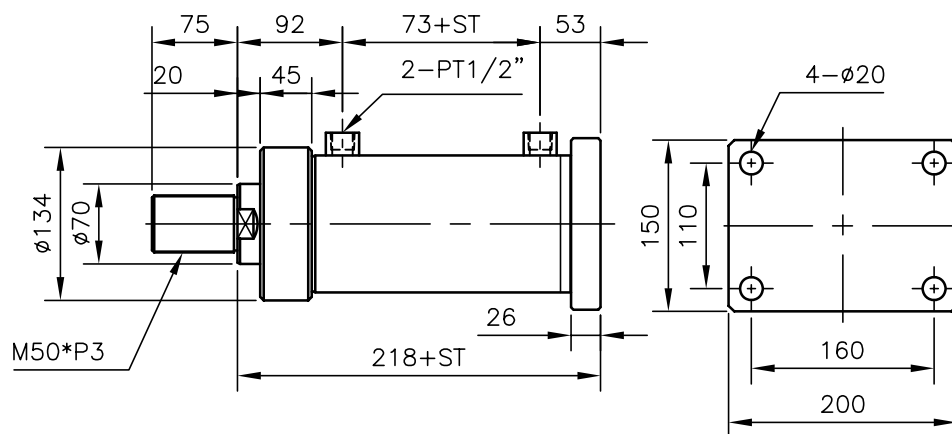
HC4- $\phi 100$

23 MPa

HC4-FB
 $\phi 100$

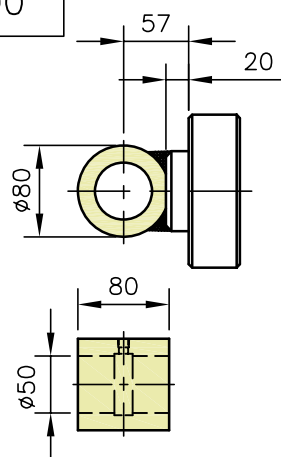


TYPE B

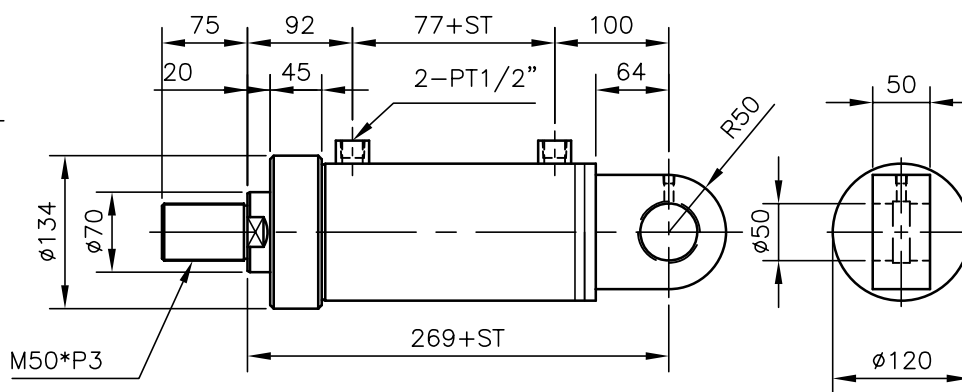


TYPE A

HC4-CA
 $\phi 100$

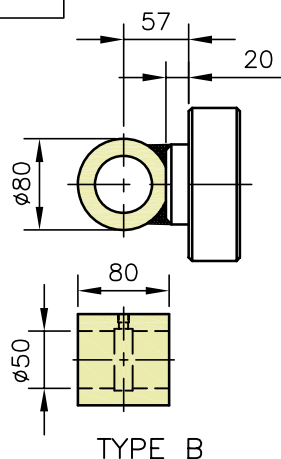


TYPE B

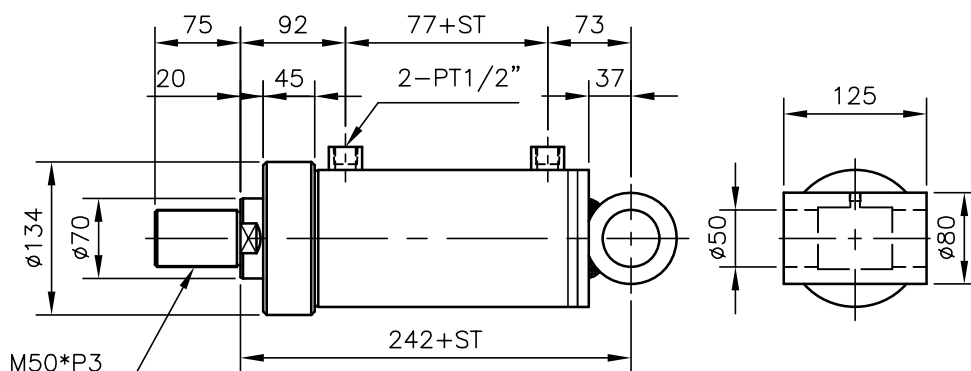


TYPE A

HC4-CD
 $\phi 100$



TYPE B



TYPE A

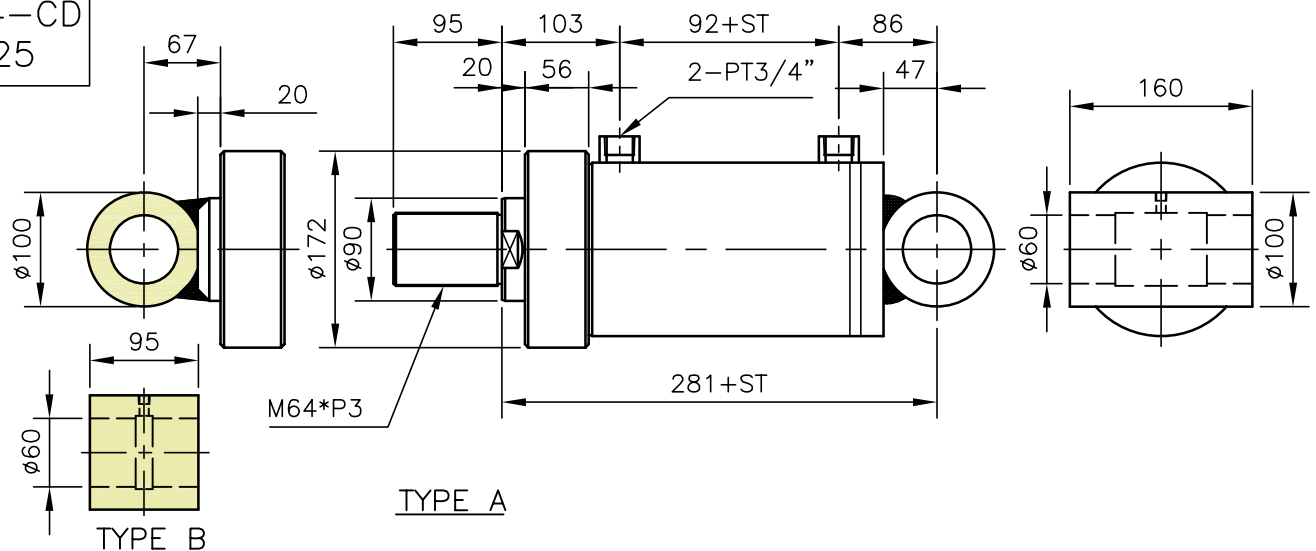
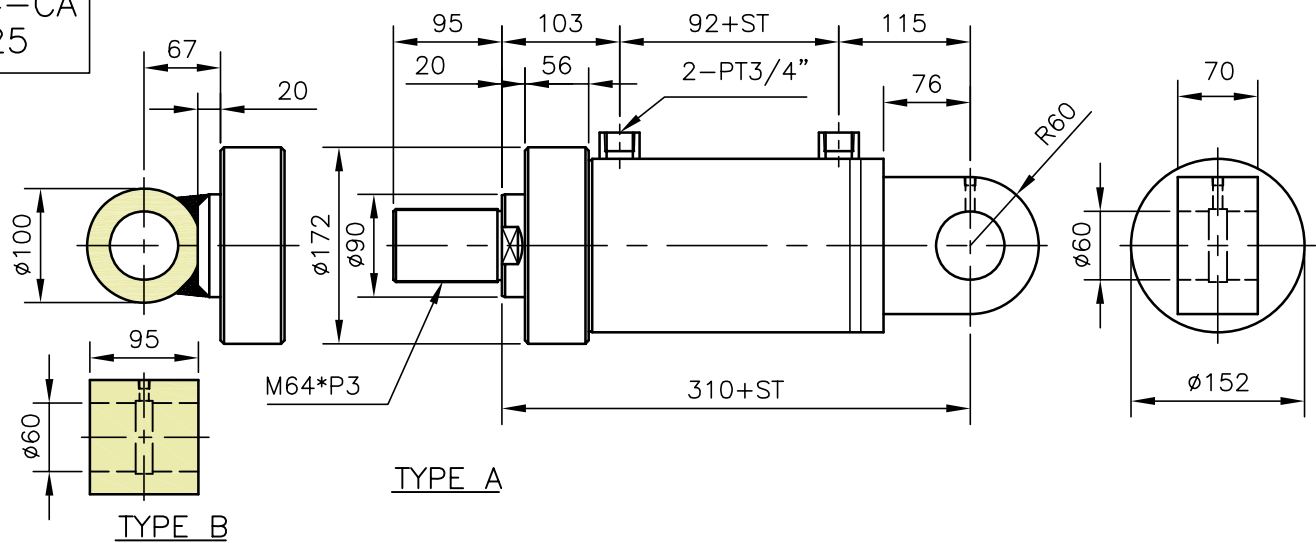
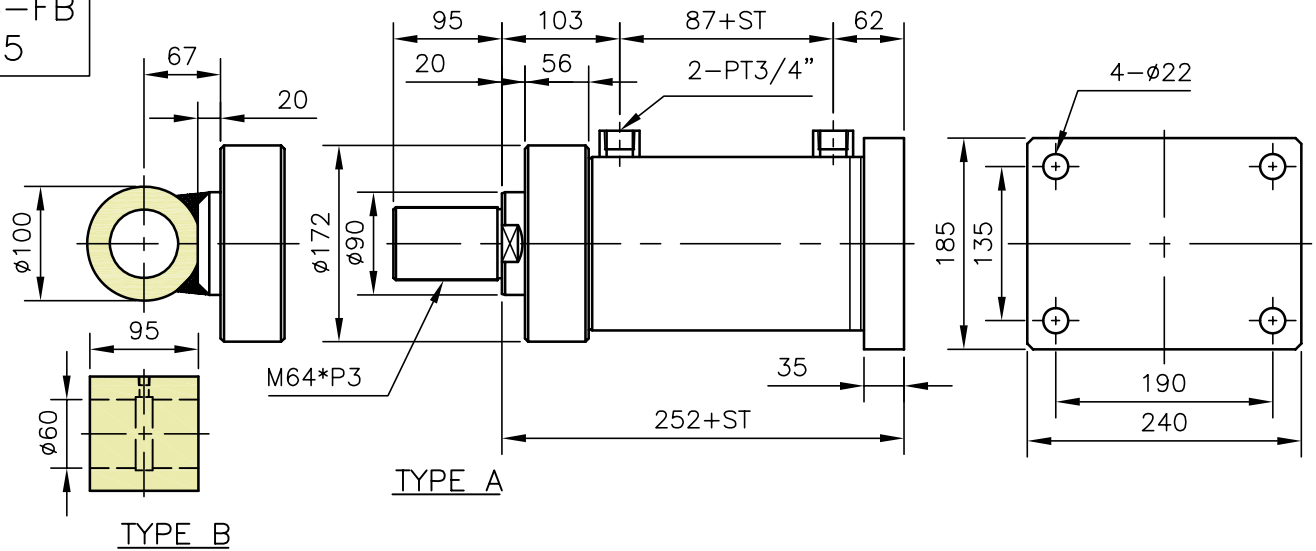
油壓缸大概重量計算 Estimated weight of hyd.

EX. : FB , ST=200mm

$$\begin{aligned} \text{weight} &= W1 + (W2 * ST) \\ &= 23.9 + (5.8 * 2) \\ &= 35.5 \text{ kg} \end{aligned}$$

	W1 (kg)	W2 (kg/100mm)
FB	23.9	5.8
CA	22.8	
CD	22.3	

23 MPa



油壓缸大概重量計算 Estimated weight of hyd.

EX. : FB , ST=200mm

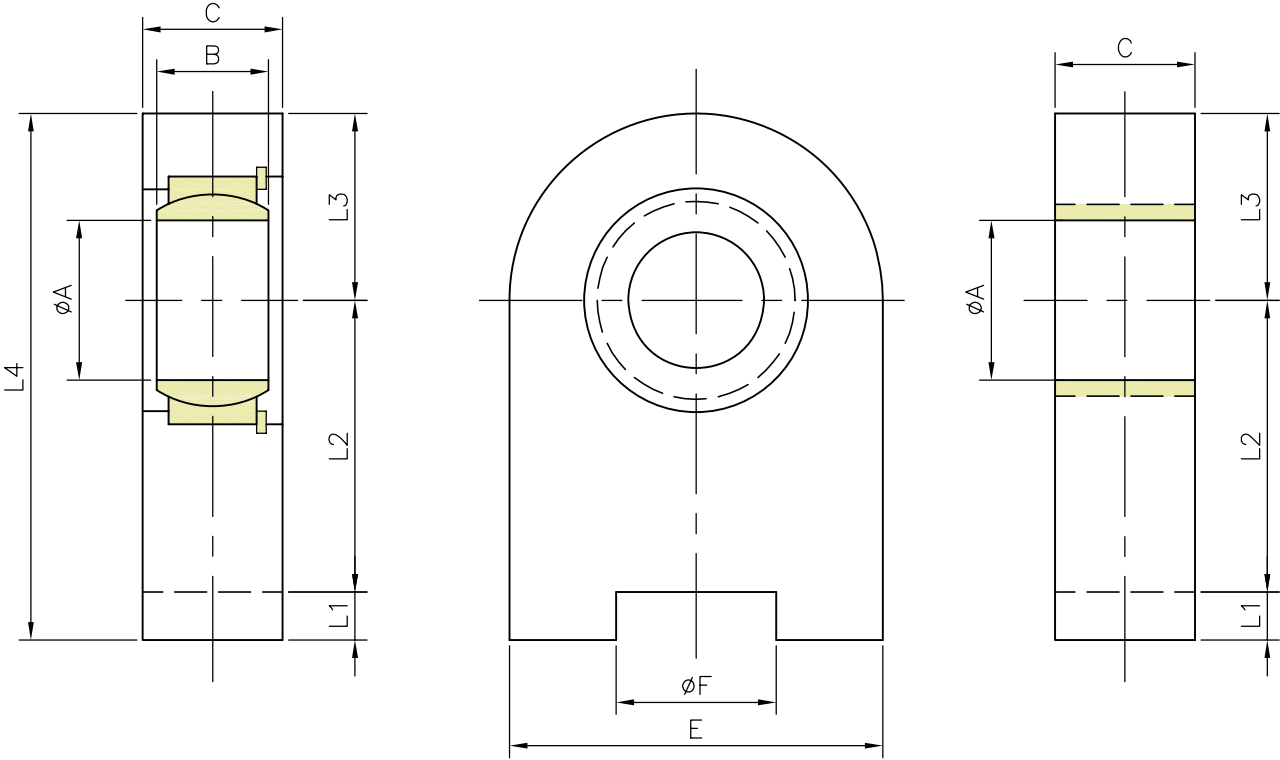
$$\begin{aligned}\text{weight} &= W1 + (W2 * ST) \\ &= 45.8 + (9.7 * 2) \\ &= 65.2 \text{ kg}\end{aligned}$$

	W1 (kg)	W2 (kg/100mm)
FB	45.8	9.7
CA	42.6	
CD	42.3	

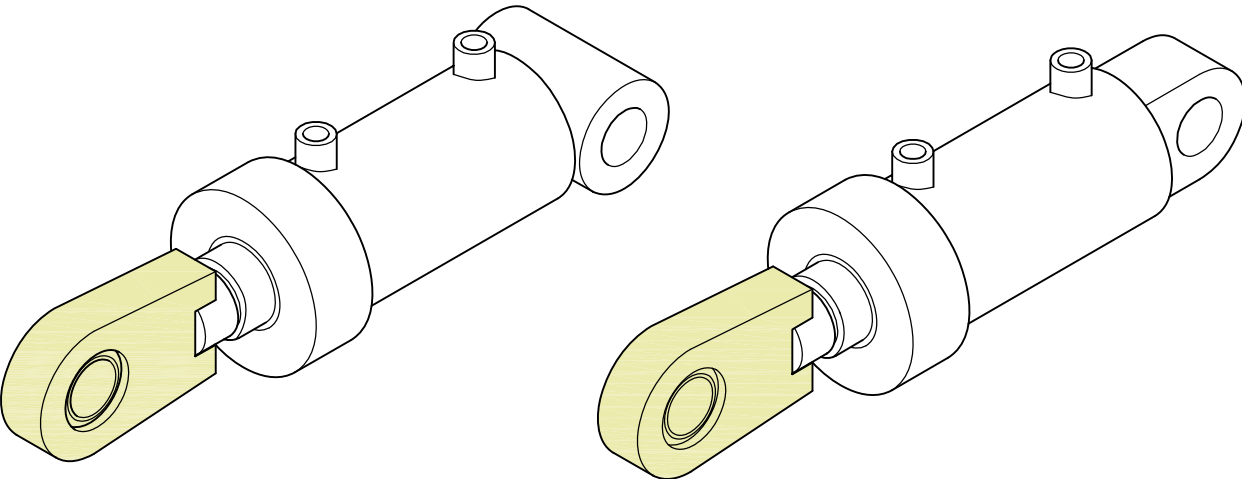
接頭 Clevis Head— GF

前端球面軸承接頭— GF1
Spherical Rod End Type— GF1

前端平行接頭— GF2
Plain Rod End Type— GF2



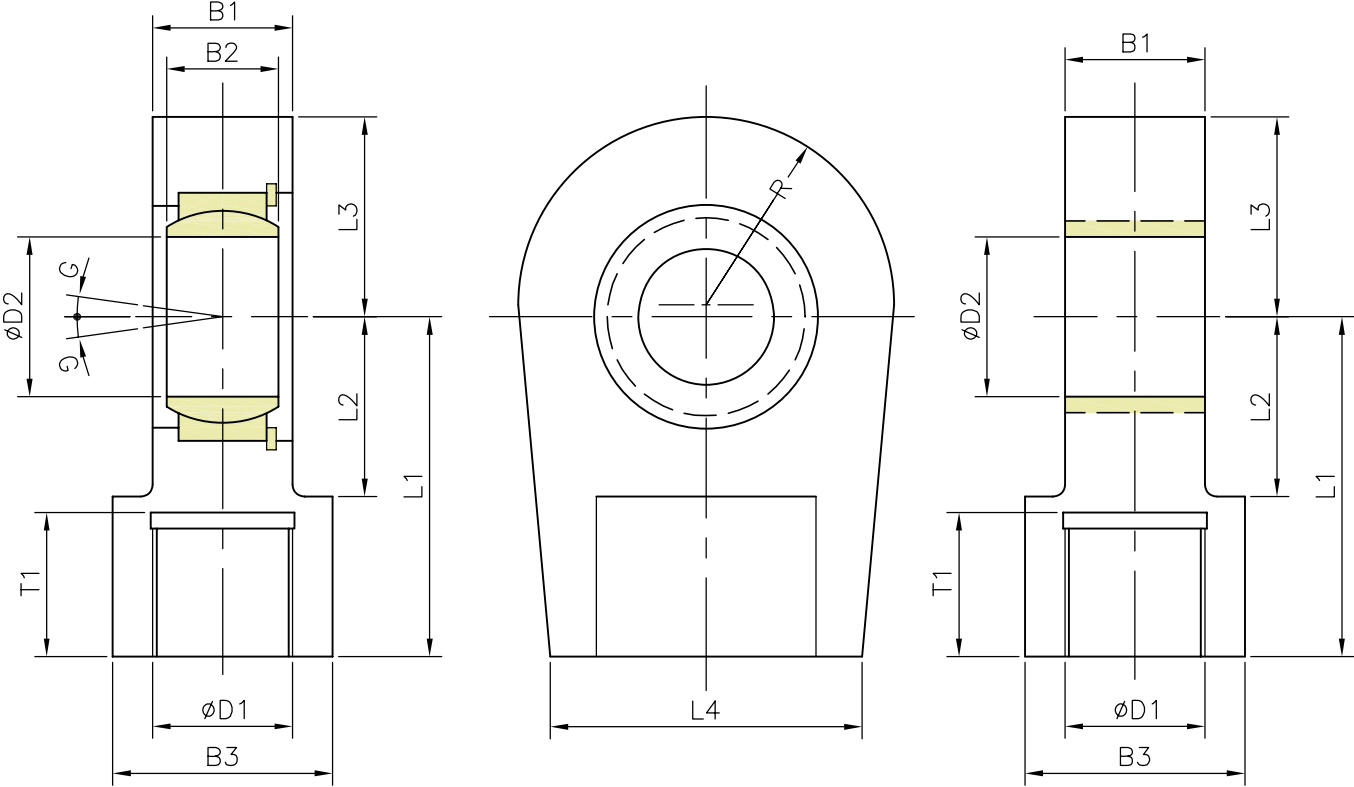
Piston Dia.	øA	B	C	E	øF	L1	L2	L3	L4	R
50	30	22	28	65	28	14	51	32.5	97.5	32.5
63	35	25	30	83	30	15	61	41.5	117.5	41.5
80	40	28	35	100	45	23	69	50.0	142	50.0
90	50	35	40	123	50	30	88	61.5	179.5	61.5
100	50	35	40	123	55	35	88	61.5	184.5	61.5
125	60	44	50	140	65	40	100	70.0	210	70.0



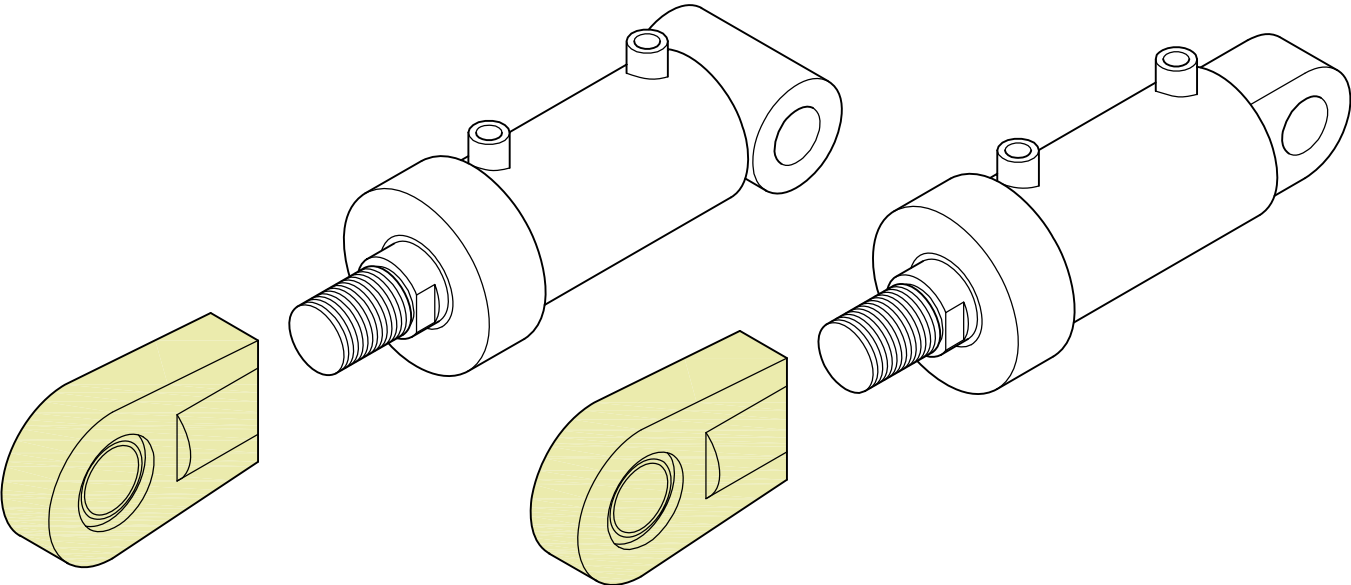
接頭 Clevis Head— L0

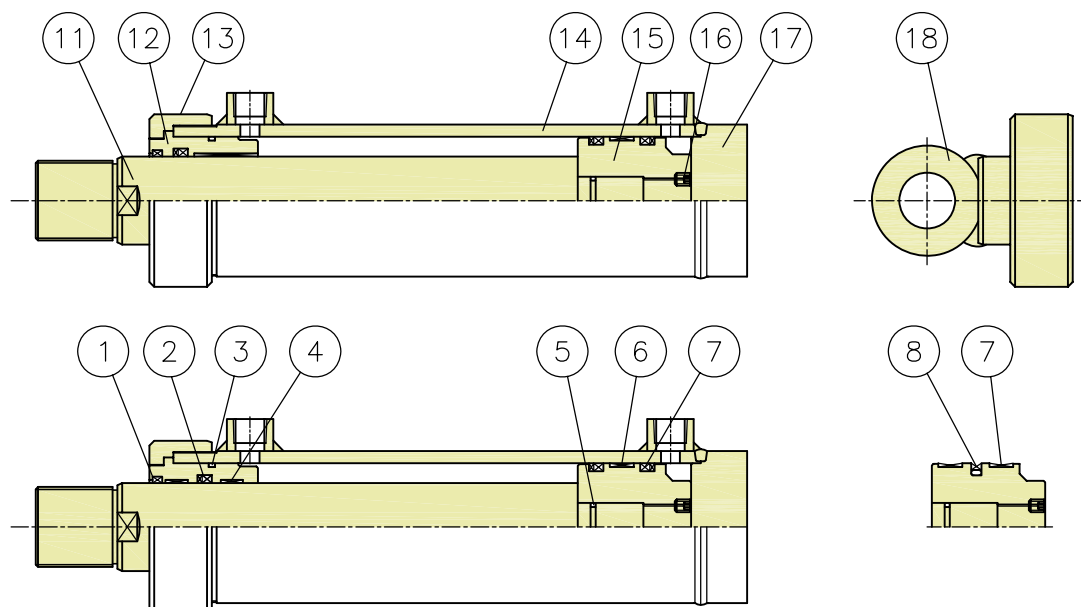
前端球面軸承接頭— L01
Spherical Rod End Type— L0

前端平行接頭— L02
Plain Rod End Type— L0



Piston Dia.	B1 ⁰ ₋₀₄	B2	B3	D1	øD2	L1	L2	L3	L4	R	T1	G	Weigh(kg)
50	28	22 ⁰ _{-0.12}	34	M 24x2	30 ⁰ _{-0.012}	75	30	34.0	27	32.0	35	7°	1.0
63	30	25 ⁰ _{-0.15}	44	M 30x2	35 ⁰ _{-0.015}	90	40	42.0	33	65.0	45	7°	2.4
80	35	28 ⁰ _{-0.12}	55	M 39x3	40 ⁰ _{-0.012}	105	45	50.0	78	47.0	55	7°	2.4
90	40	35 ⁰ _{-0.12}	70	M 50x3	50 ⁰ _{-0.012}	135	55	63.0	90	58.0	75	7°	4.1
100	40	35 ⁰ _{-0.12}	70	M 50x3	50 ⁰ _{-0.012}	135	55	63.0	90	58.0	75	7°	4.1
125	50	44 ⁰ _{-0.15}	87	M 64x3	60 ⁰ _{-0.015}	170	65	70.0	118	65.0	95	7°	6.5





零件名稱及材質表 Parts Description & Material List:

NO	名 稱Description.	材 質 Material.	Q'TY	NO	名 稱Description.	材 質 Material.	Q'TY
11	活塞桿 Piston Rod	機械構造用碳鋼 Carbon Steel for Mechanical Structure	1	15	活塞 Piston	一般構造用軋鋼 Rolled Steel for General Structure	1
12	前蓋 Head	一般構造用軋鋼 Rolled Steel for General Structure	1	16	防鬆螺絲 Set Screw	機械構造用碳鋼 Carbon Steel for Mechanical Structure	1
13	壓板 Cover	一般構造用軋鋼 Rolled Steel for General Structure	1	17	後蓋 Cylinder Cap	一般構造用軋鋼 Rolled Steel for General Structure	1
14	缸管 Cylinder Tube	機械構造用碳鋼鋼管 Carbon Steel Pipe for Mechanical Structure.	1	18	前端接頭 Clevis head	一般構造用軋鋼 Rolled Steel for General Structure	1

油封規格表 Specifications of Oil Seal:

NO	1	2	3	4	5	6	7	8
名 稱	防塵油封 Dust Seal	軸心油封 Rod Seal	O型環 O Ring	耐磨片 Wear Ring	O型環 O Ring	耐磨片 Wear Ring	活塞油封 Piston Seal	活塞用T型油封 Piston seal for mode T
材質	PU	PU	NBR	PTFE	NBR	PTFE	PU	PTFE+NBR
數 量 內徑	1 φ, φ.w mm	φ, φ.w 1 mm +Backup ring	1	2	1	1	φ, φ.w 2 mm +Backup ring	1 φ, φ.w mm
φ50	35-43-6.5	35-45-9	G-45	35-2.5	P-18	50-2.5	50-40-9	50-39-4.2
φ63	40-48-6.5	40-50-9	G-58	40-2.5	P-21	63-2.5	63-53-9	63-52-4.2
φ80	55-63-6.5	55-65-9	G-75	55-2.5	G-25	80-2.5	80-70-9	80-64.5-6.3
φ90	65-73-6.5	65-75-9	G-85	65-2.5	G-35	90-2.5	90-80-9	90-74.5-6.3
φ100	70-80-8	70-80-9	G-95	70-2.5	G-45	100-2.5	100-85-13	100-84.5-6.3
φ125	90-100-8	90-105-13	G-120	90-2.5	G-60	125-2.5	125-112-13	125-109.5-6.3