HC11 系列油壓缸/Series Hydraulic Cylinders

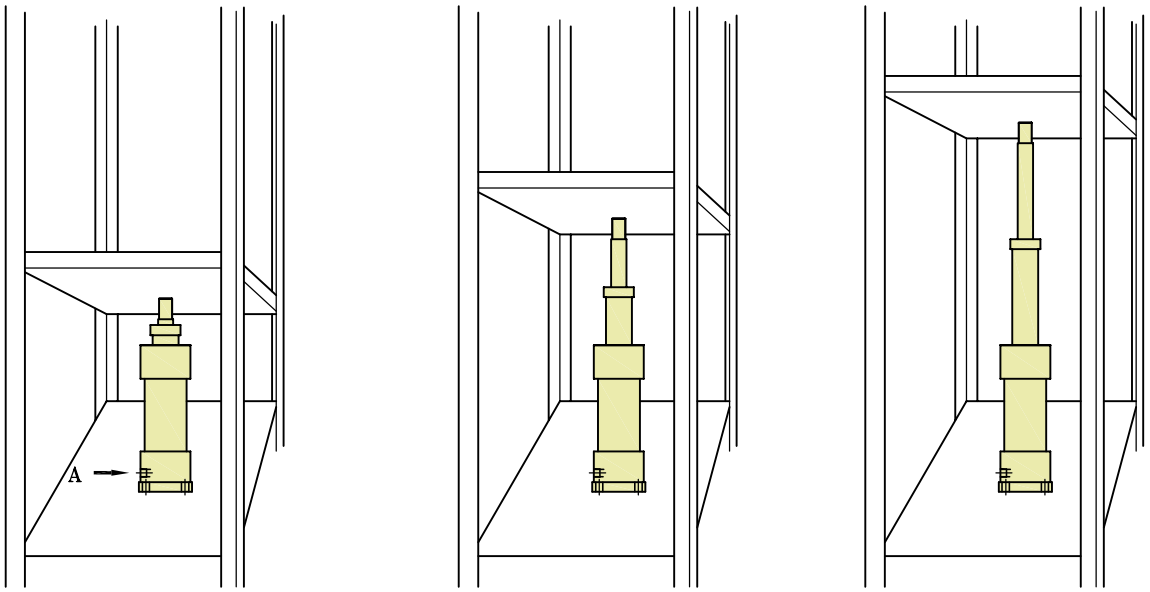
HC11 形同步雙節油壓缸/Two Stage Synchronous Hyd. Cyl. &

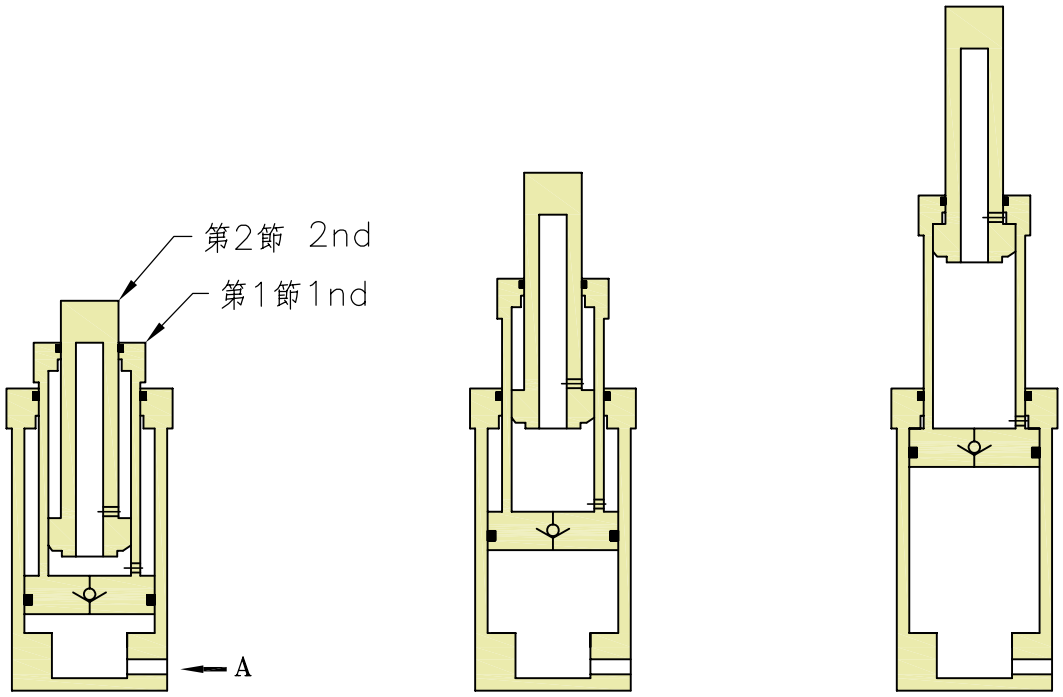
* 快速且穩定性高之作動:HC11形同步雙節式其速度快而且穩定性高，各節同時作動，因爲第2節的活塞桿端之速度爲第1節活塞桿端速度的2倍，所以快速而且速度一定，故稱爲同步形

* Rapid & hi-stability of action: The HC11 two stage synchronous hyd. cyl. which being with rapid & hi-stability of action etc., character. Because the speed of 2nd stage cyl. rod is two multiple of 1st stage cyl. rod. so that, those are same speed during action.

直立伸縮用途例

Stands erect the expansion and contraction use example





在伸出和縮回時第1節和第2節,皆等速距離動作

而縮入時需於前端的重量使其壓回

When stretches out and retracts first and second
All uniform motion
When retracts must cause it to the front end weight to press

HC11

＊訂購內容索引 Ordering Index :

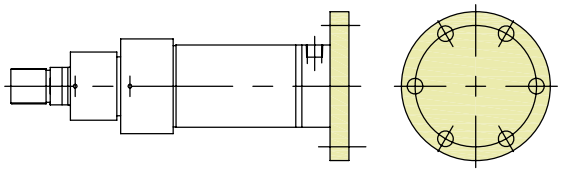
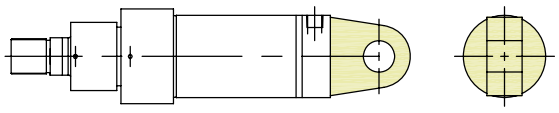
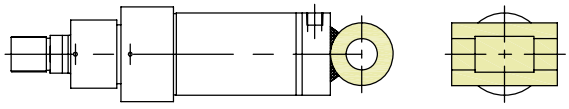
140	HC11	FB	125	1000	E

- 140 — 使用壓力140 kgf/cm² Max. Operating Pres.
- HC11 — HC11:系列 HC11:Series Number
- FB — 固定座形式 Mounting FB, CA, CD
- 125 — 缸管內徑 Cylinder Bore mm ø90,ø100,ø125,ø150,ø180,ø200
- 1000 — 衝程 Stroke mm 要考慮最大容許衝程 Max. Permissible stroke
- E — 特殊附件 E:異形螺紋 K:附固定螺帽 L:附I接頭 M:附Y接頭 Optional Attachment E:Rod end with other threading K:With locking nut L:With I adapter M:With Y adapter

規範 Specifications

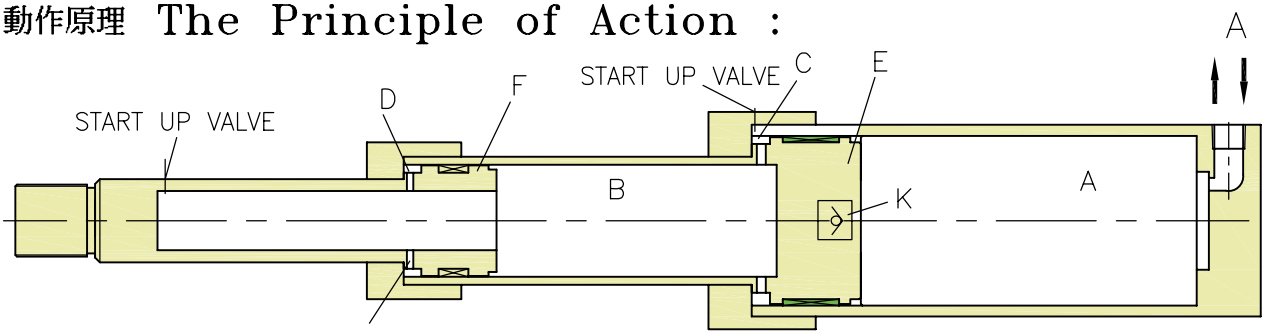
最高使用壓力 Max.Operating Pressuer		160 kgf/cm² −10°C ~ +50°C					
使用溫度範圍 Range of Ambient Temperature		周圍溫度 Ambient temp −10°C ~ +50°C 油溫 Oil temp −5°C ~ +80°C					
適用作動油 Fluid		一般礦物性作動油 Mineral oil					
最低使用速度 mm/sec Min. Operating Speed		2 mm/sec					
缸管內徑 mm Cylinder Bore	主缸 Main Cyl.	90	100	125	150	180	200
	第2節 2nd	65	70	90	100	125	140
最小活塞桿徑 mm Min. Piston Rod Dia.		50	60	75	90	100	120
常用速度 mm/sec General Operating Speed		300	280	250	230	220	220
標準行程限制 mm Permissible Stroke		4400	4800	5100	5500	6800	7700

＊ 固定座形式 Mounting :

記號 Symbol	略圖 Configuration	記號 Symbol	略圖 Configuration
FB		CA	
		CD	

HC11

＊ 動作原理 The Principle of Action :



＊ 推出原理 The Principle of Extending:

＊ 壓油從油口流入到A室，推動活塞E，第2節油缸動作同時在C室內的壓油，經由G油孔流入B室，推動活塞F，活塞桿作動，同時在D室內的壓油，會經H油孔流入B室成為差動回路－因此稱之為同步雙節油壓缸－(如B室內油量不足時，K平衡閥自動補足)

The hyd. action oil flow into portion A from port and thrusted piston E, Meanwhile, the 2nd stage hyd. cyl. will actioned and the hyd. action oil in portion C will flow pass through port G into portion B and thusted piston F,also,the piston rod actioned, Thus the hyd. action oil in portion D will flow pass through port H into portion B and formed hyd. differential circuiting. so that, those are named the twin stage synchronous hyd. cyl.(If the oil volume of portion B is shortage for then, the counter-balance valve K will be supplied automatically)

＊ 縮收原理 The Principle of Extracting:

＊ 由於活塞桿前端的荷重，壓下活塞桿，活塞桿作動，同時在B室內的壓油，經由H油孔與G油孔流入D室與C室，而將活塞E押下，第2節作動，而且於A室內的油會從油孔排出，達到縮收－(如B室內有多餘的壓油，在活塞E到達後蓋時，K平衡閥自動排出)

Owing to, the load at the end of piston rod and pressed the piston rod also the piston rod actioned. Meanwhile, the hyd. action oil in portion B will flow pass throngh port H & G into portion D & C and pressed the piston E, and the 2nd stage actioned, Thus the hyd. action oil in portion A will be discharged from port for which the hyd. cyl. will be extracted (If there are surplus hyd. action oil in portion B and when the piston E is approached to cap for then the surplus oil will be discharged from counter-balance valve K automatically)

＊ 註:初安裝同步雙節油缸，在初次試車時，因為在B室內有可能沒有油或不足，而且都是空氣，開始試車時要先鬆開各排氣閥，讓空氣排出，然後鎖緊排氣閥－(此動作要來回數次)

Remarks: During installing the twin stage synchronous hyd. cyl. in primary and making test running perhaps there are no hyd. action oil or shortage and is full of air for which must released the air from various discharge valve mang times, thus, lock the discharge valves

＊ 油壓缸出力的算法 The Calculating of Hyd. Cyl. Output :

油壓缸出力公式/The Formula $F=AxPx\beta$ (80%)

HC11－ 形同步雙節油壓缸，其A(活塞有效斷面積)是活塞桿有效斷面積－

HC11－ twin stage sgnchronous hyd. cyl.and A (effective section area of piston)

活塞有效斷面積 / Effective Section Area of Piston:

(cm2)

機 種 Model	90	100	125	150	180	200
有效斷面積 Eff Section Area	19.6	28.3	44.2	63.6	78.5	113.1

＊ 如何選擇機種 How To Select The Suited Model:

如想使用HC11－ 雙節同步油壓缸且設使用壓力為140kgf/cm2時，其出力需4500 kgf之昇降台，應如何選擇適當形式之油壓缸－

The HC11- twin stage sgnchronous hyd. cyl. and the operating pressure : 140kgf/cm2 Now, the elevating platform for which the output will be 4500 kgf since how to achieved the suited hyd. cyl.

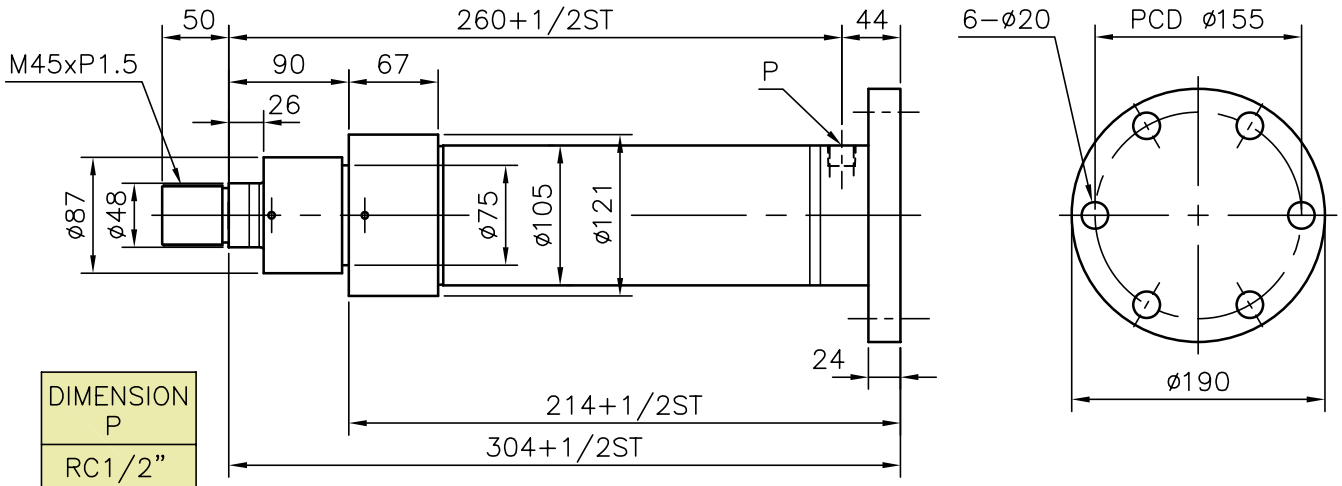
(解答)公式/ According to formula

$$A=\frac{F}{Px\beta} \qquad A=\frac{4500kgf}{140kgf/cm2 \times 0.8}=40.2cm2$$

再從上表各機種之有效段面積，查知為HC11－ **125較適當－

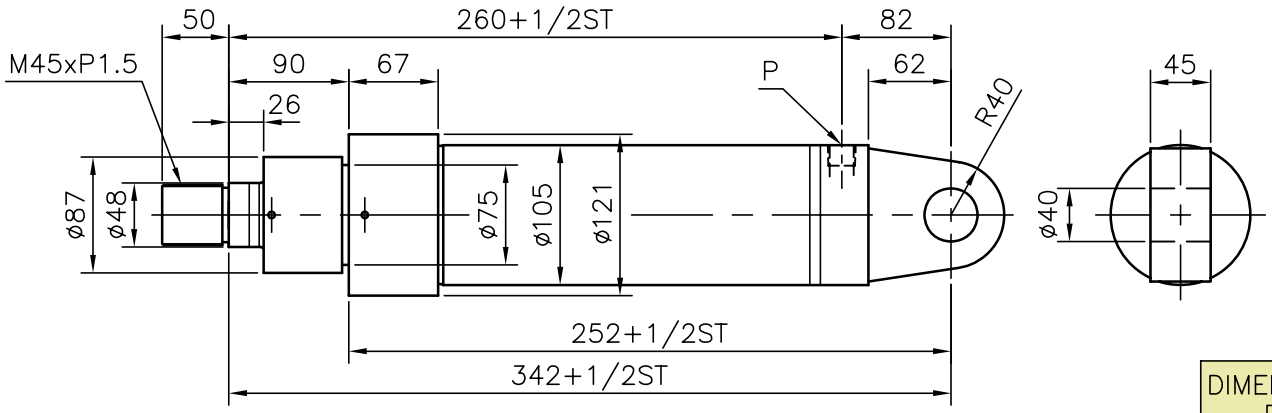
From above table mentioned. We can viewed the HC11 －**125 will be suited.

HC11－FB
ø90x2節



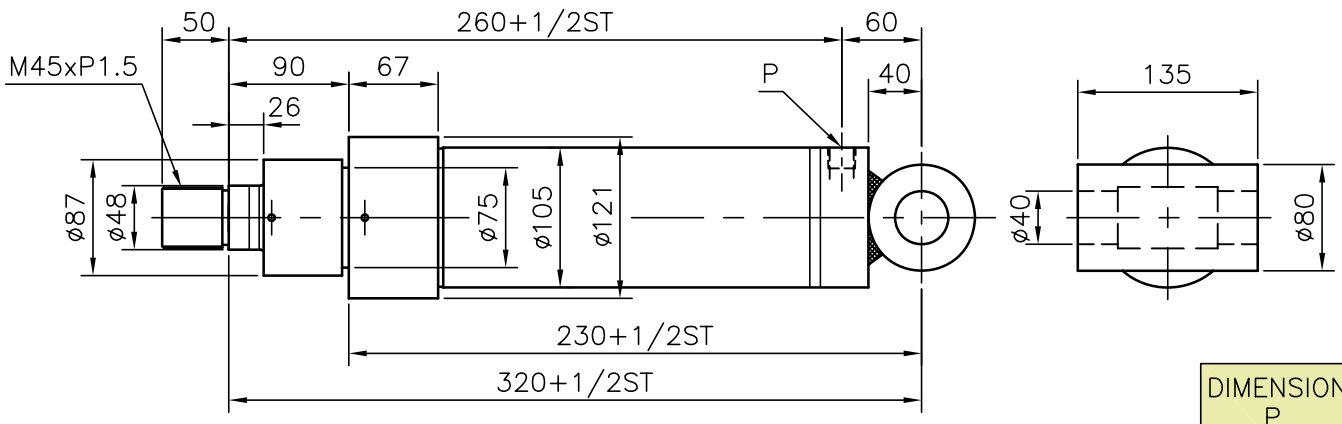
DIMENSION P
RC1/2”
G1/2”

HC11－CA
ø90x2節



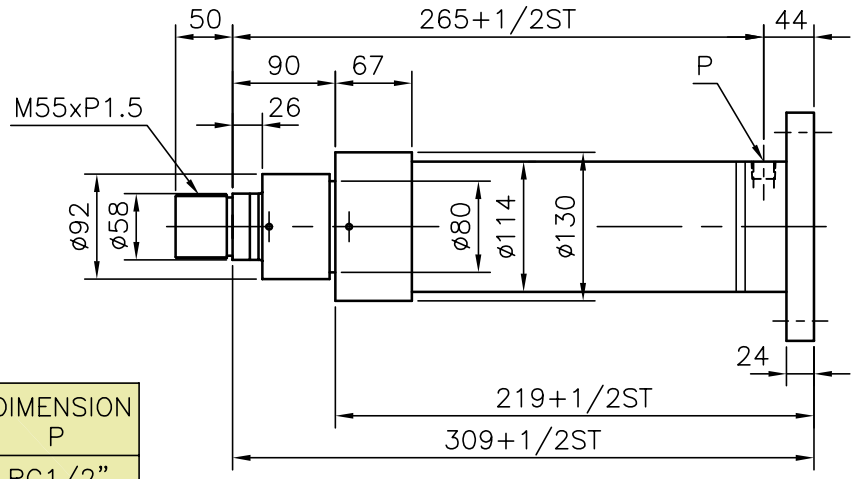
DIMENSION P
RC1/2”
G1/2”

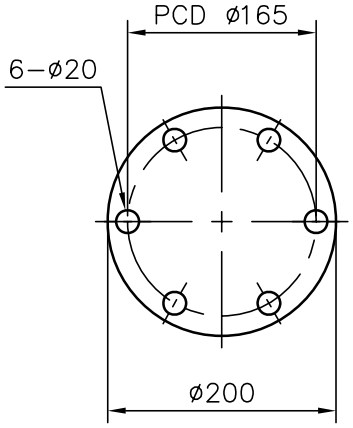
HC11－CD
ø90x2節



DIMENSION P
RC1/2”
G1/2”

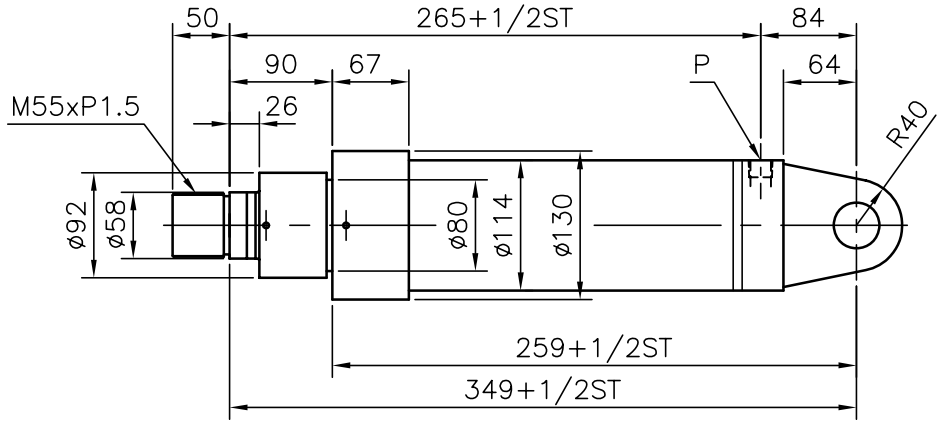
HC11−FB
ø100x2節

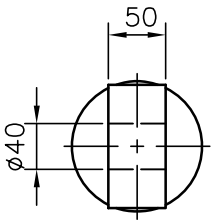




DIMENSION P
RC1/2”
G1/2”

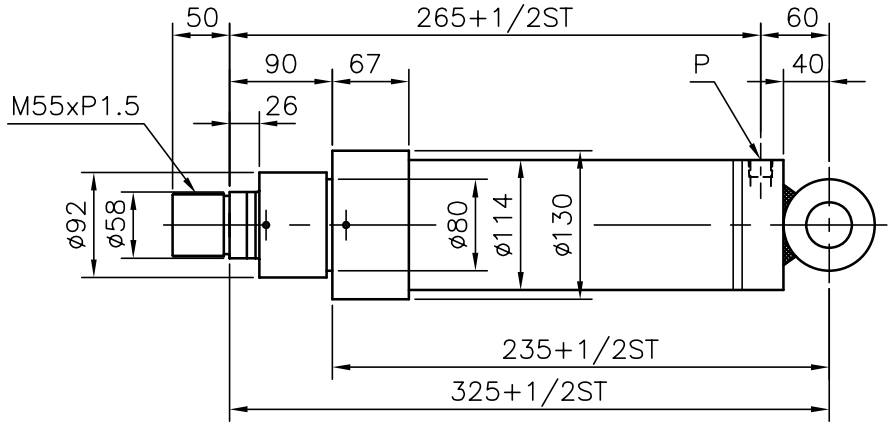
HC11−CA
ø100x2節

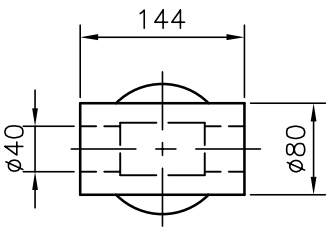




DIMENSION P
RC1/2”
G1/2”

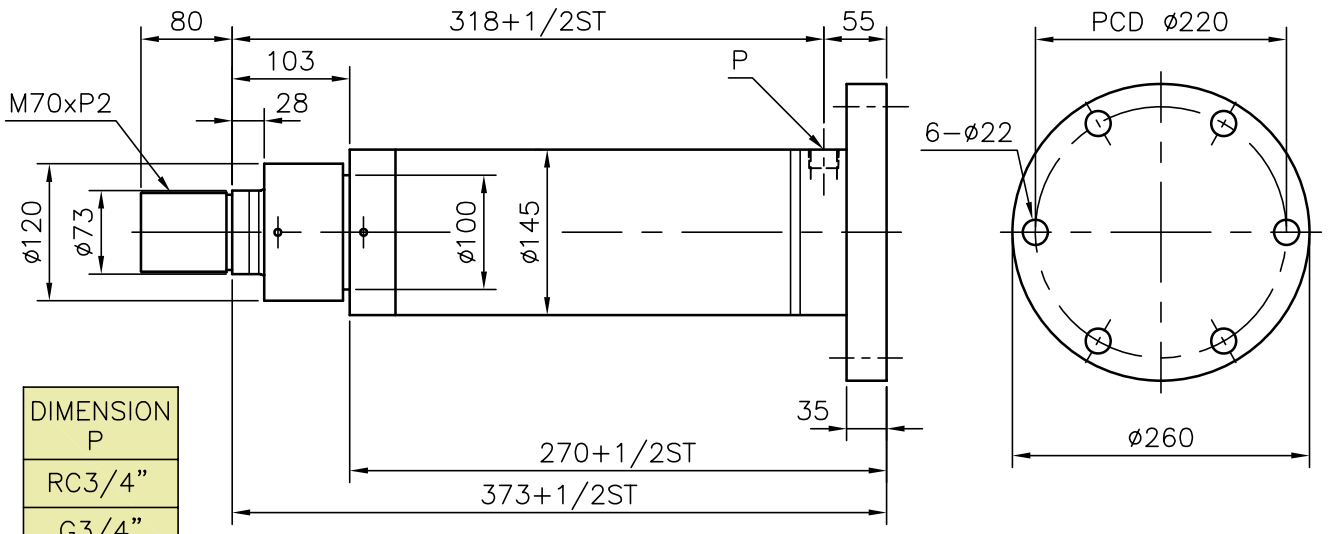
HC11−CD
ø100x2節





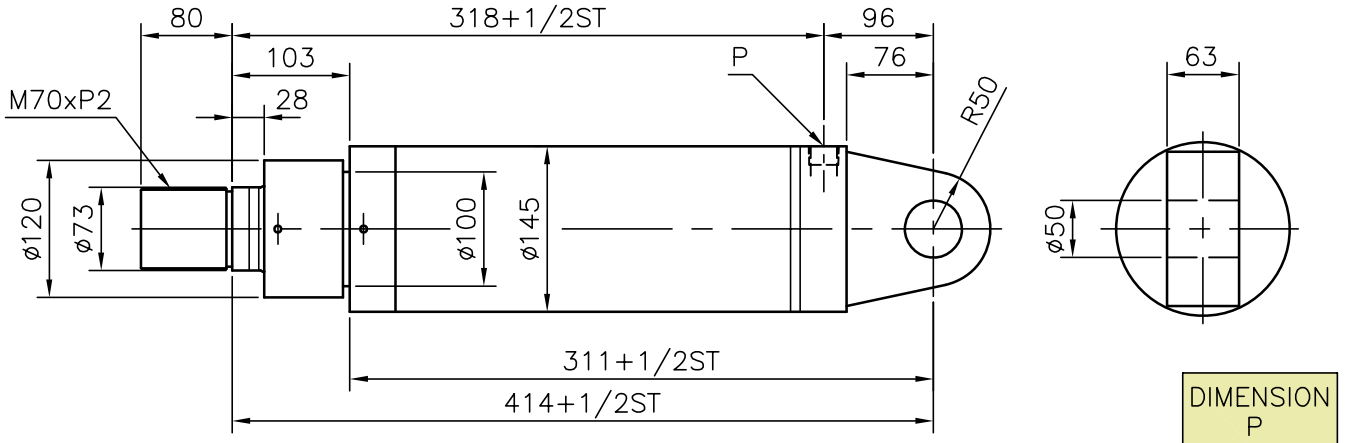
DIMENSION P
RC1/2”
G1/2”

HC11－FB
ø125x2節



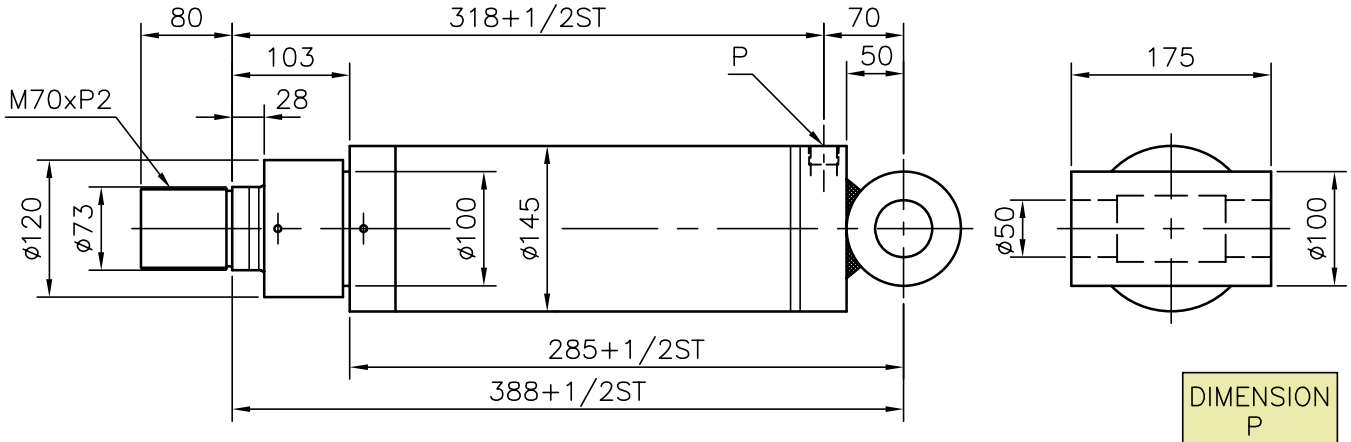
DIMENSION P
RC3/4”
G3/4”

HC11－CA
ø125x2節



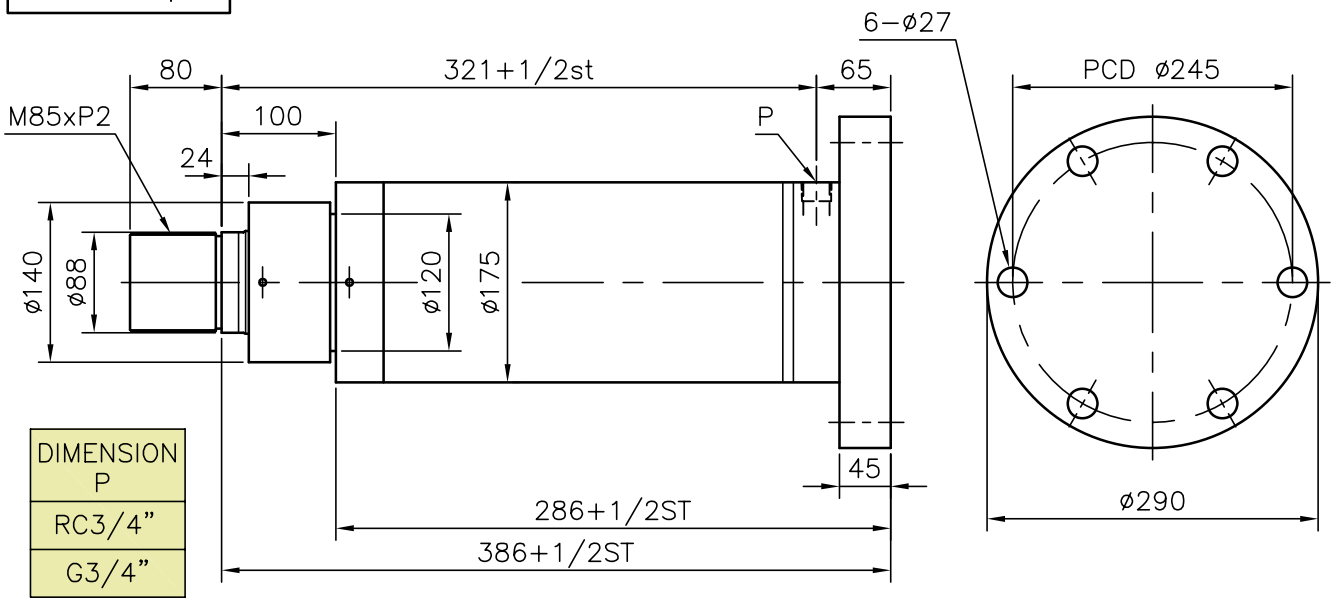
DIMENSION P
RC3/4”
G3/4”

HC11－CD
ø125x2節



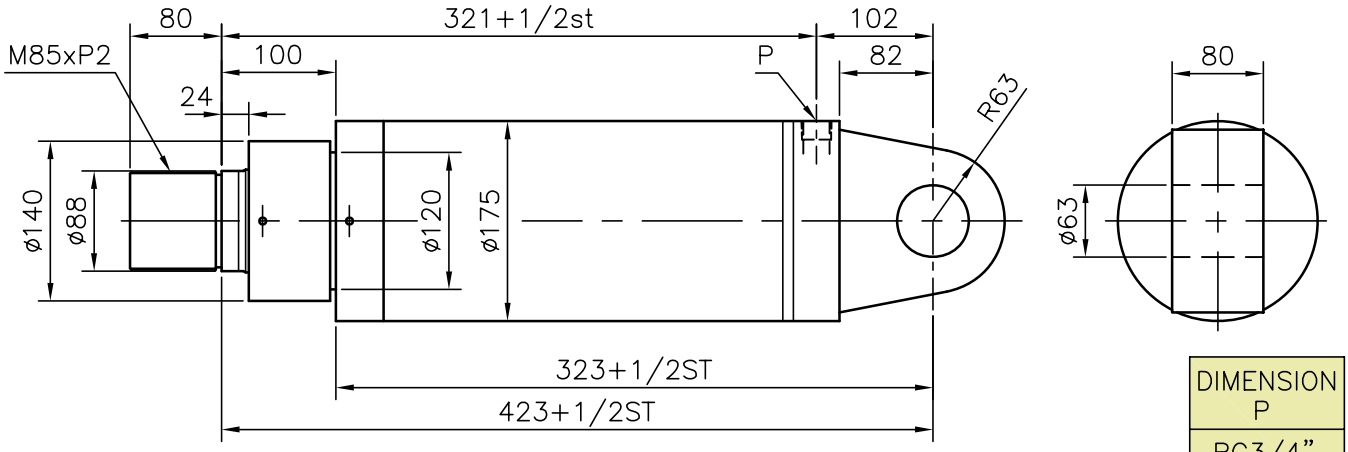
DIMENSION P
RC3/4”
G3/4”

HC11−FB
ø150x2節



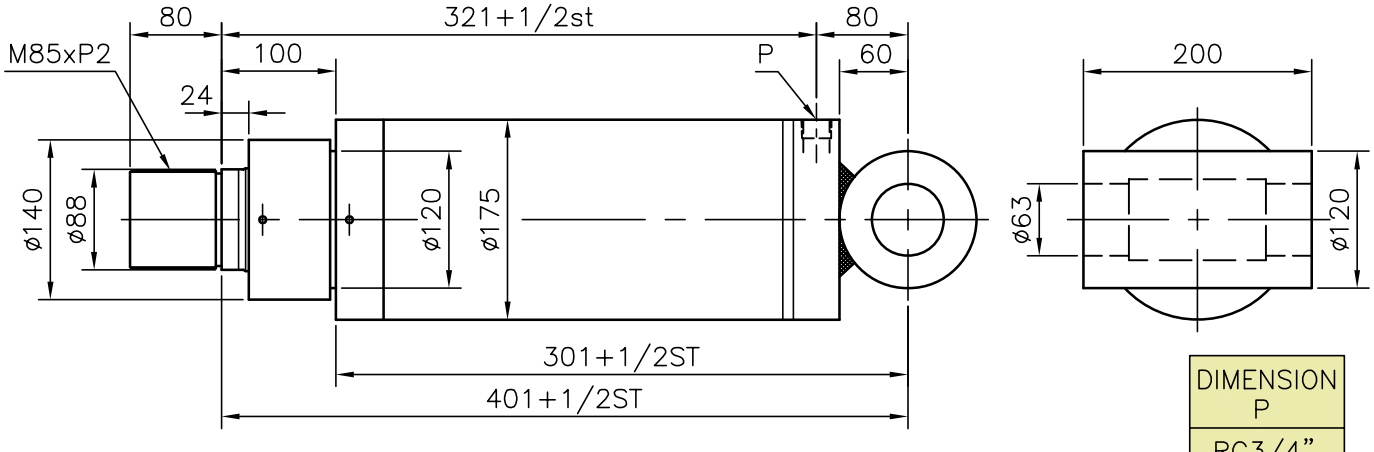
DIMENSION P
RC3/4”
G3/4”

HC11−CA
ø150x2節



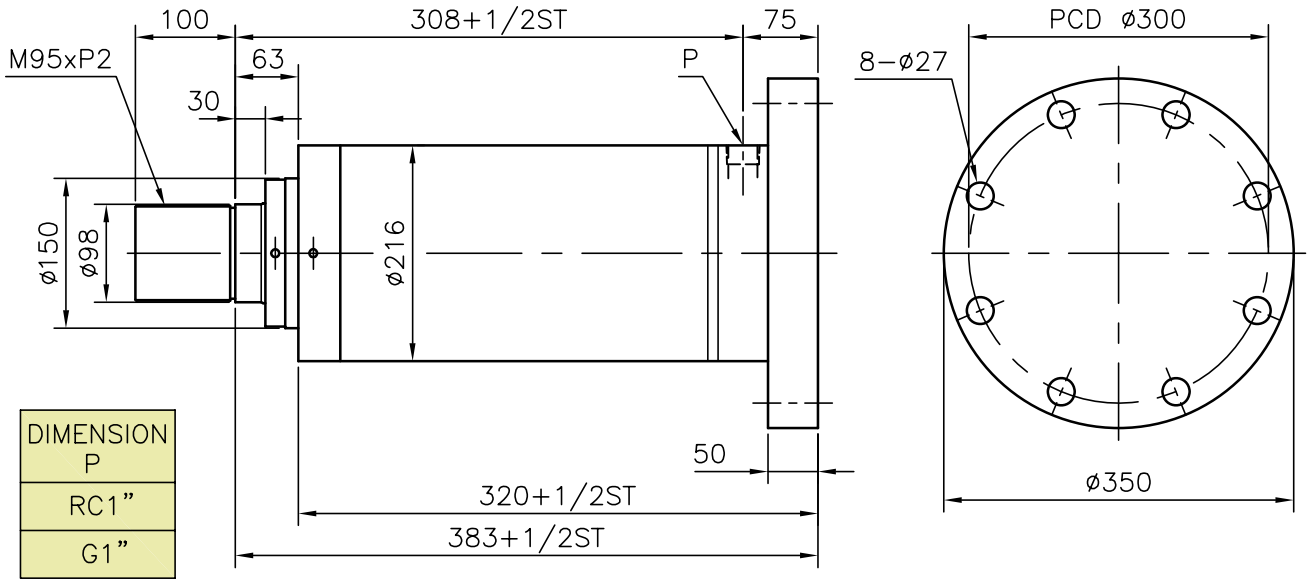
DIMENSION P
RC3/4”
G3/4”

HC11−CD
ø150x2節



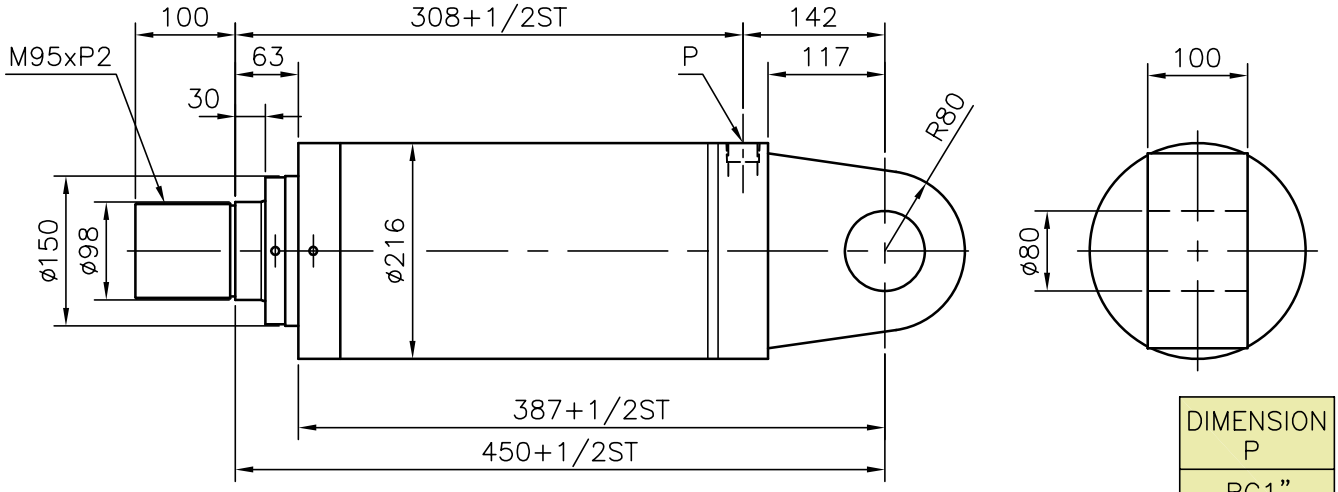
DIMENSION P
RC3/4”
G3/4”

HC11−FB
ø180x2節



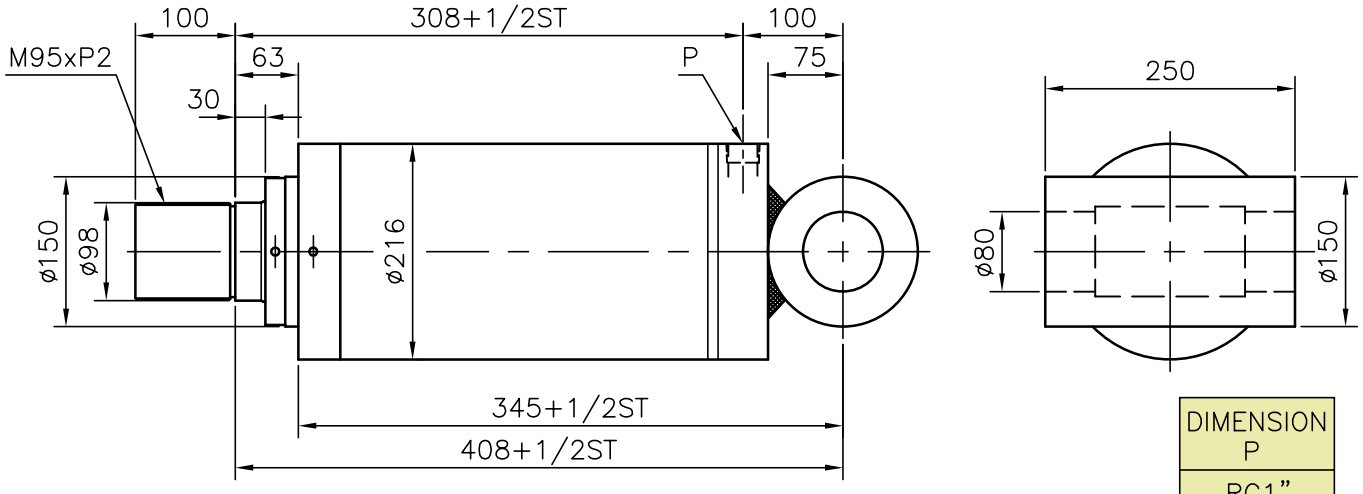
DIMENSION P
RC1”
G1”

HC11−CA
ø180x2節



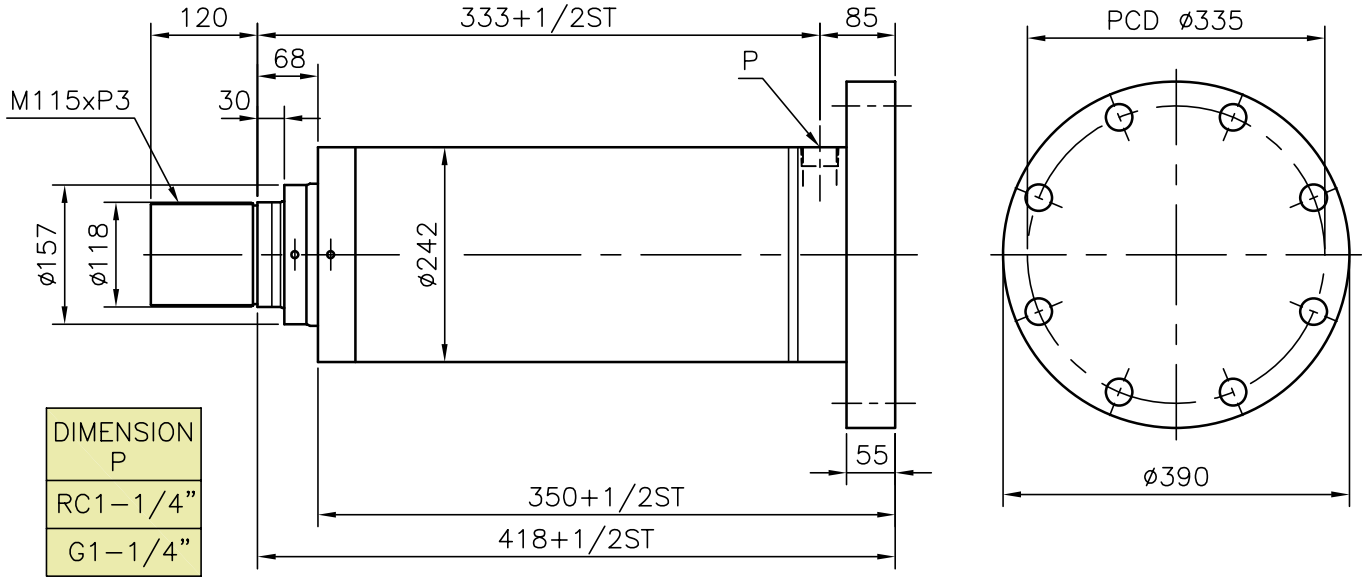
DIMENSION P
RC1”
G1”

HC11−CD
ø180x2節



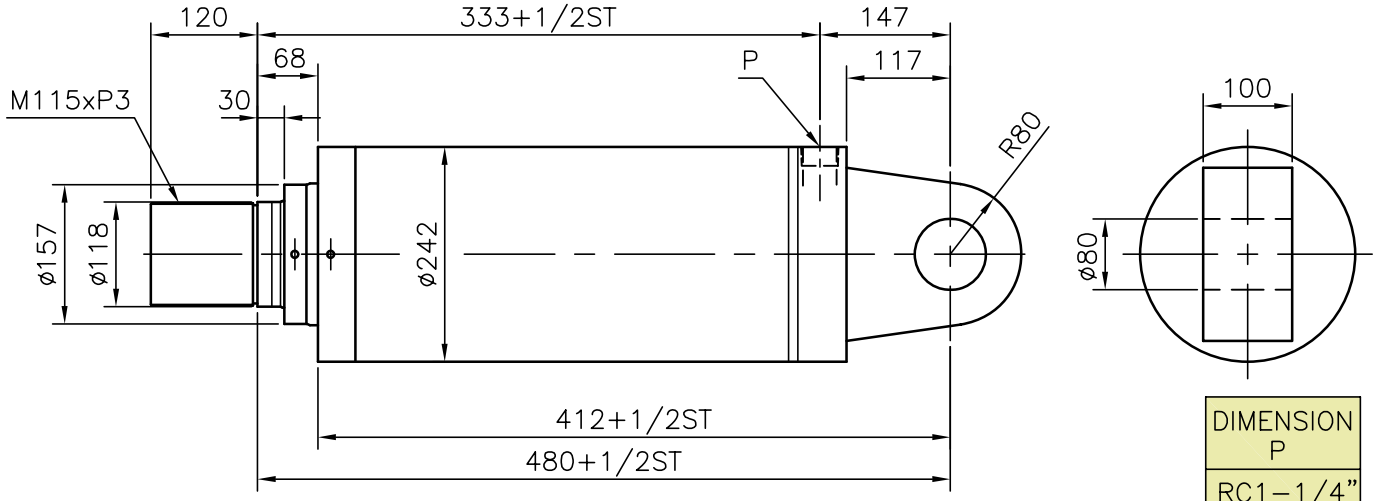
DIMENSION P
RC1”
G1”

HC11−FB
ø200x2節



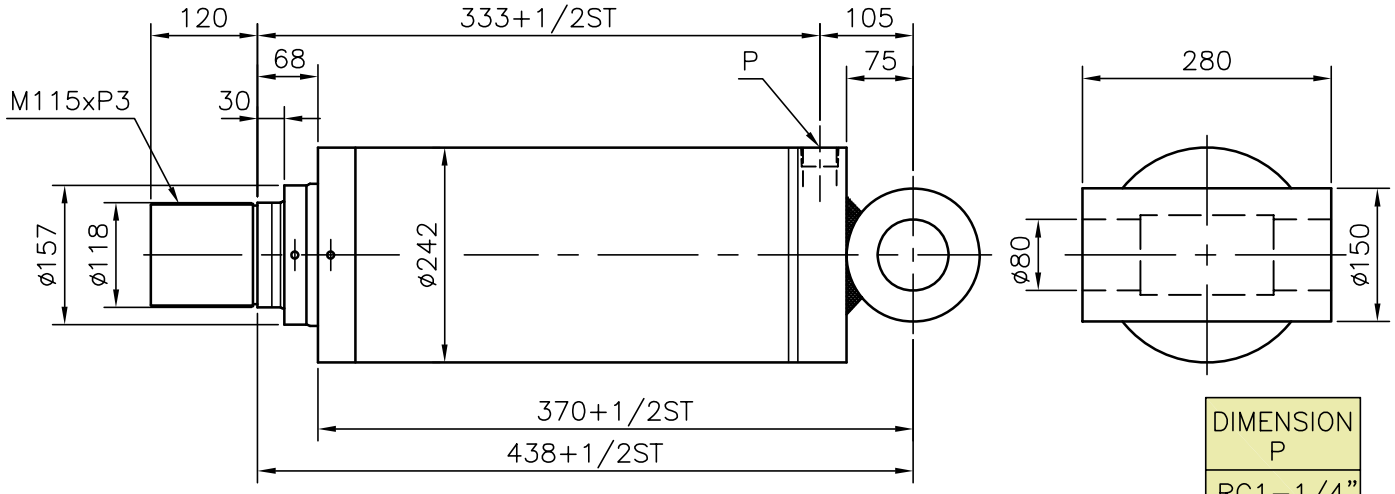
DIMENSION P
RC1−1/4”
G1−1/4”

HC11−CA
ø200x2節



DIMENSION P
RC1−1/4”
G1−1/4”

HC11−CD
ø200x2節



DIMENSION P
RC1−1/4”
G1−1/4”