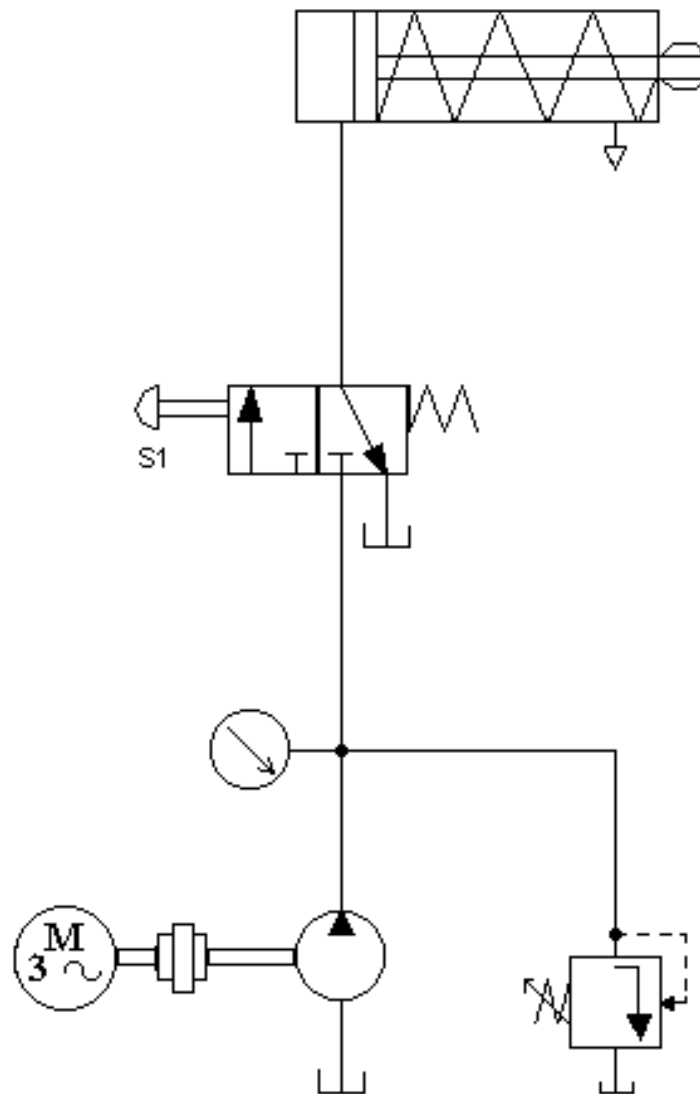
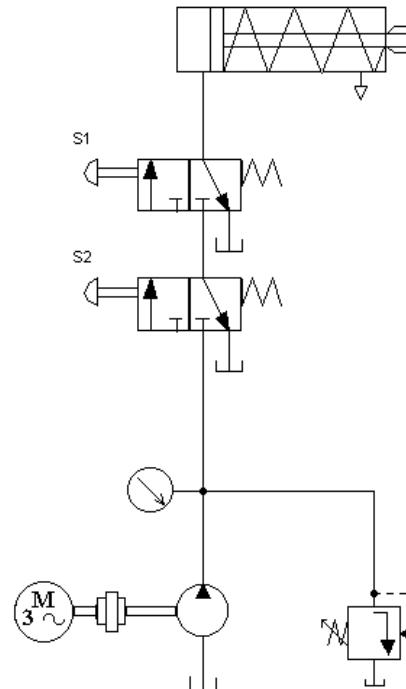


Esquemas Hidraulicos comunes

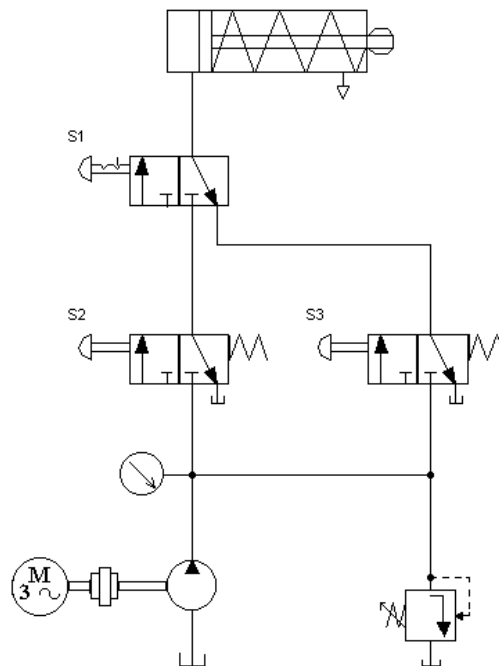
3/ Valvula de una vía.



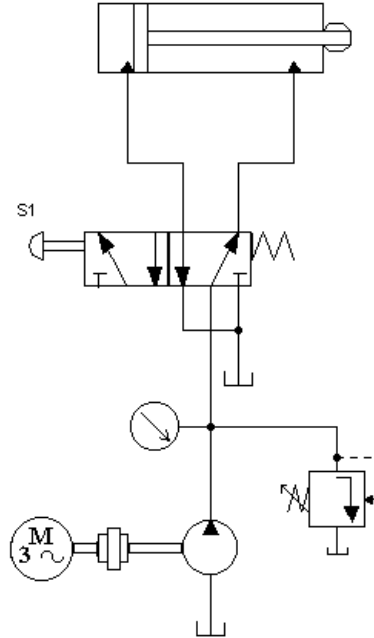
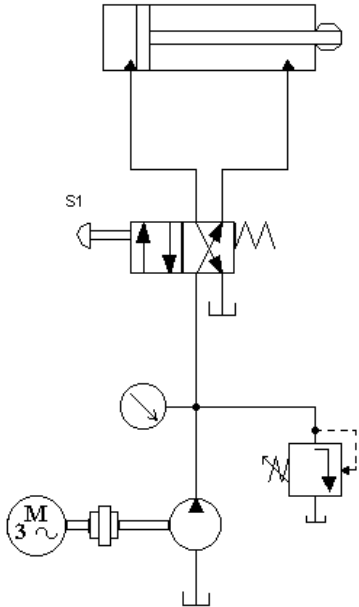
4/ Valvula de una Vía controlada mediante dos pulsadores.



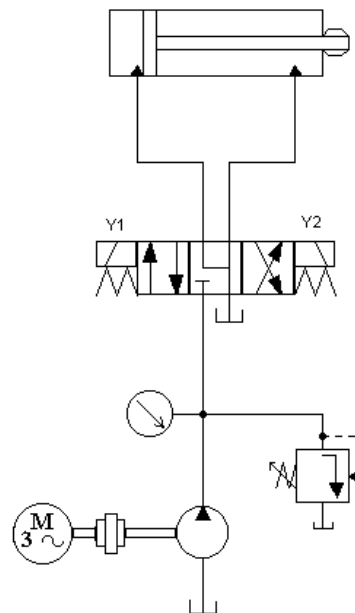
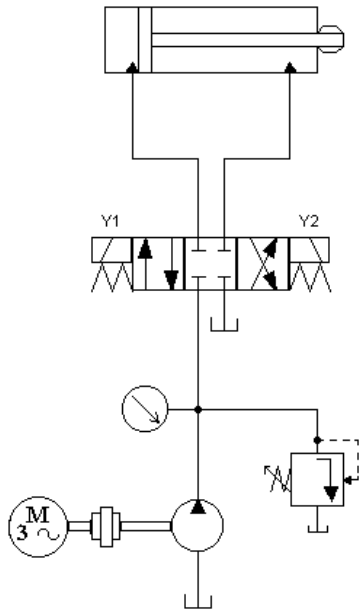
5/ Valvula de 1 Vía controlada mediante 3 pulsadores.

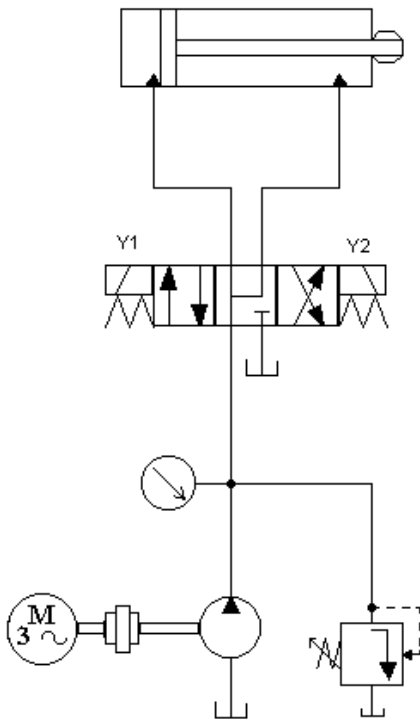
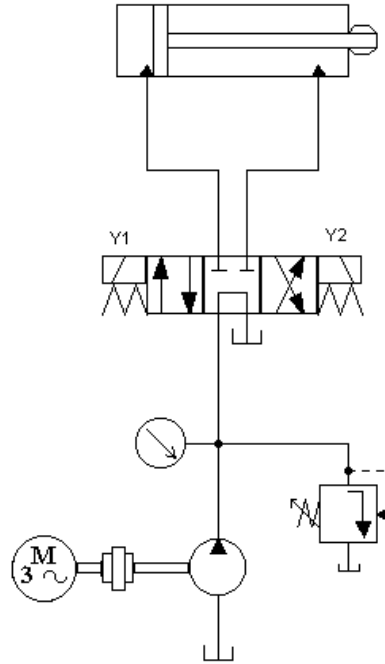
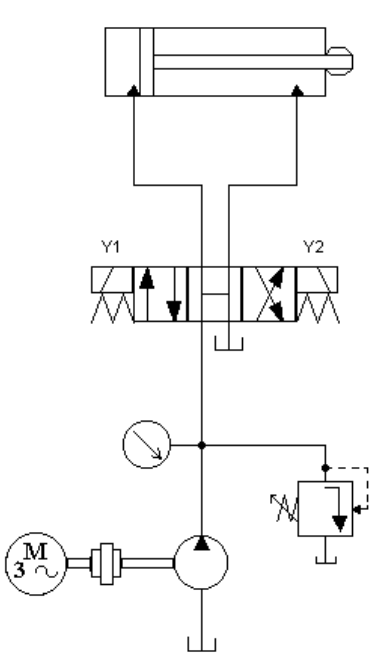


6/ 4/2 eta 5/2 balbulak erabiliz, efektu bikoitzeko zilindroa kontrolatu nahi da.

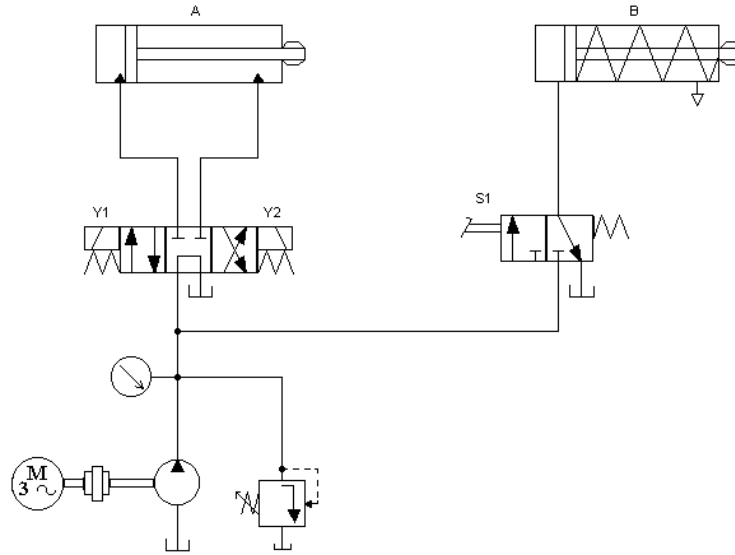


7/ Ondoren, hidraulikako hiru posizioko balbula arruntenak adierazten dira.

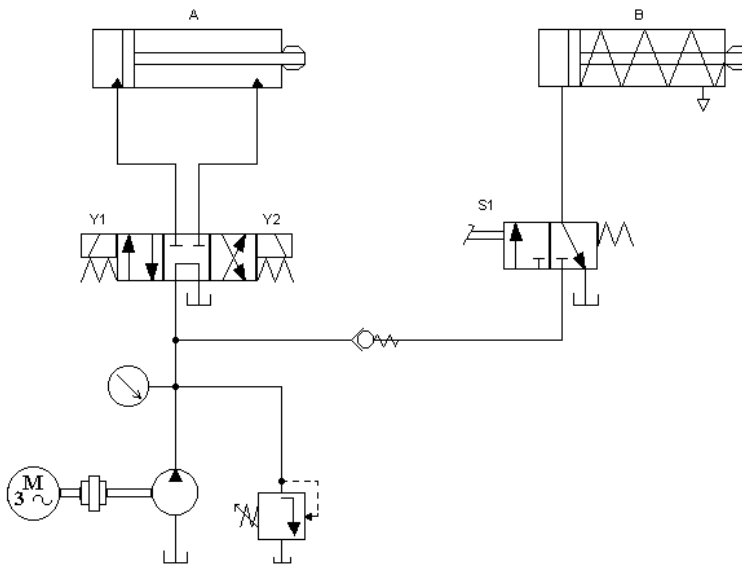




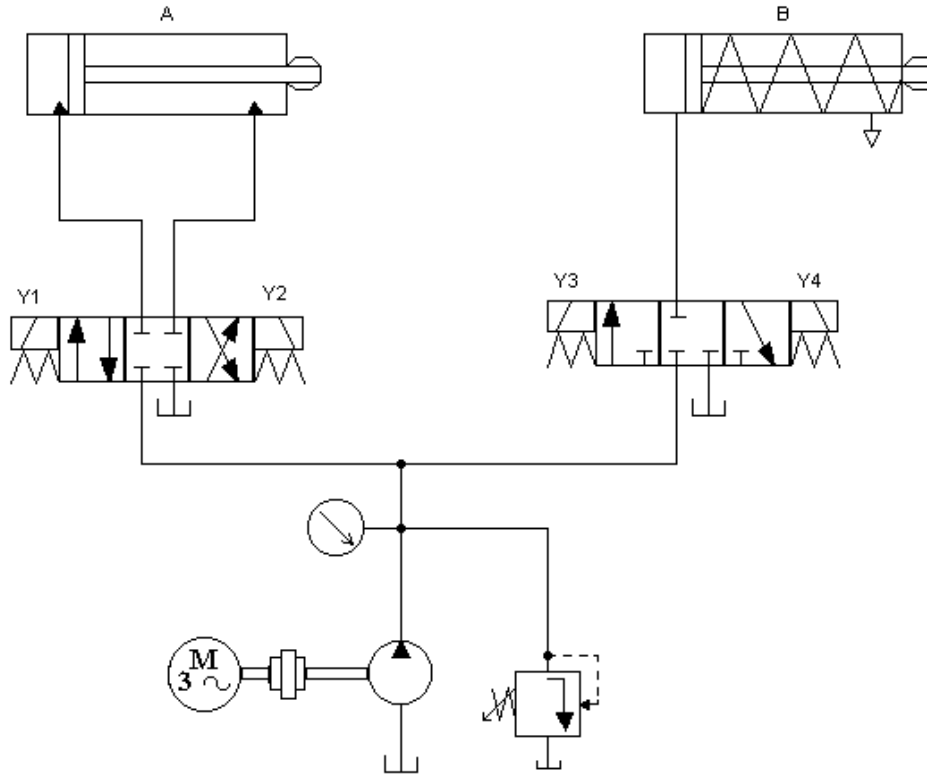
8/ Control de 2 cilindros de diferentes vías y problema de vacío.



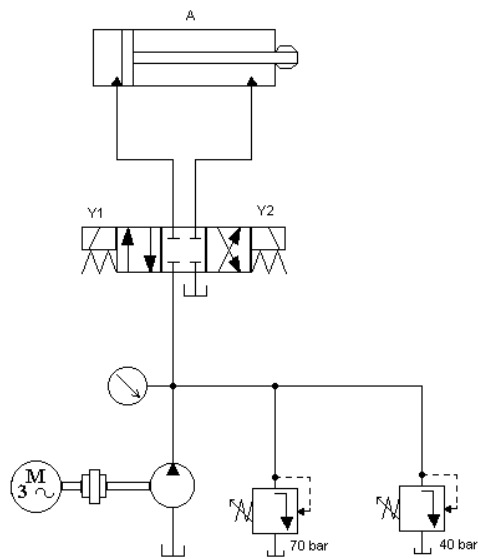
Solución con valvula antiretorno



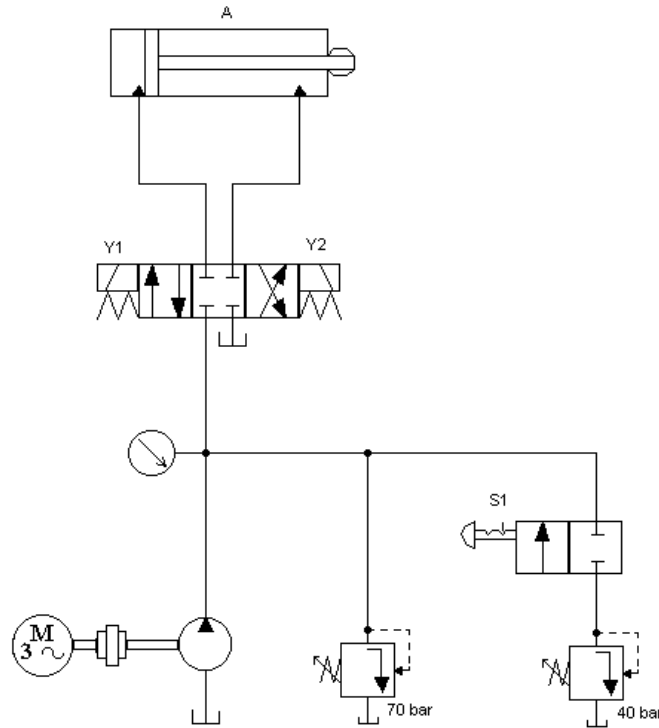
9/ Control de 2 cilindros de diferentes vías



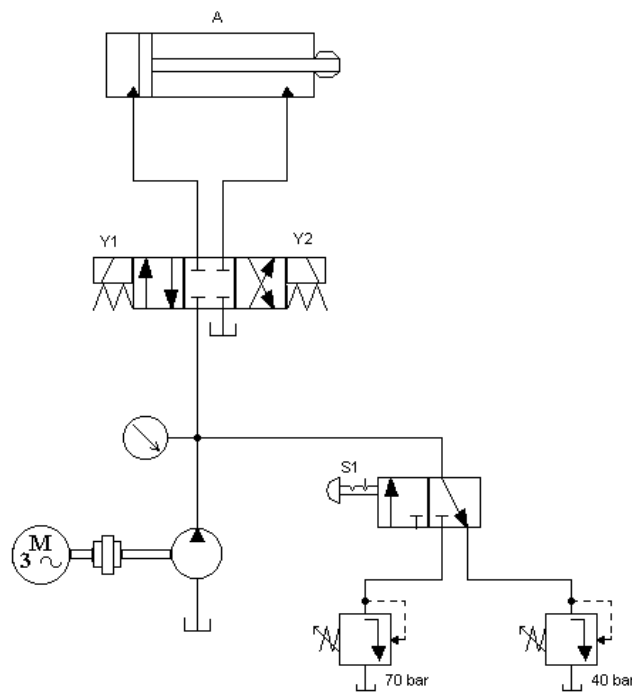
10/ Limitadoras de presión en paralelo.



11/ Selección entre limitadoras de presión.

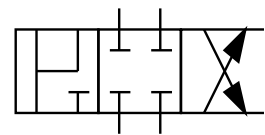
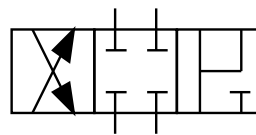
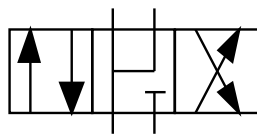
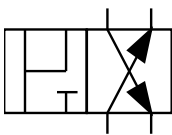
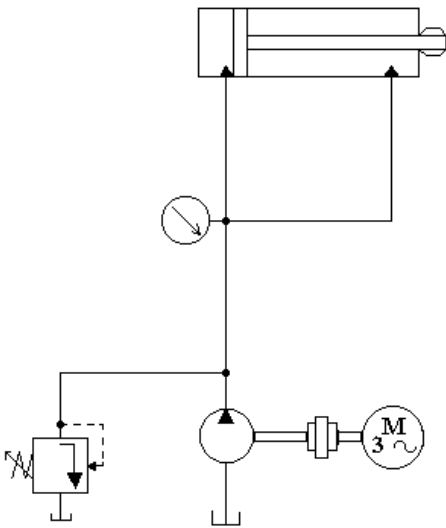


Otra opción

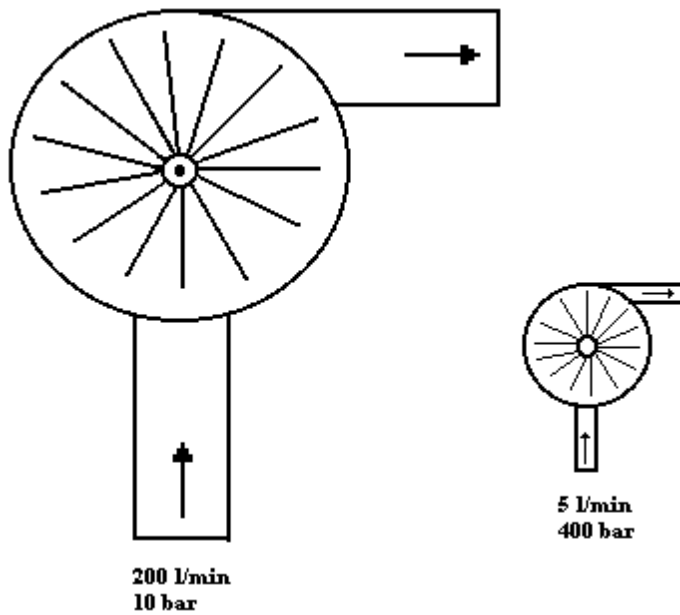
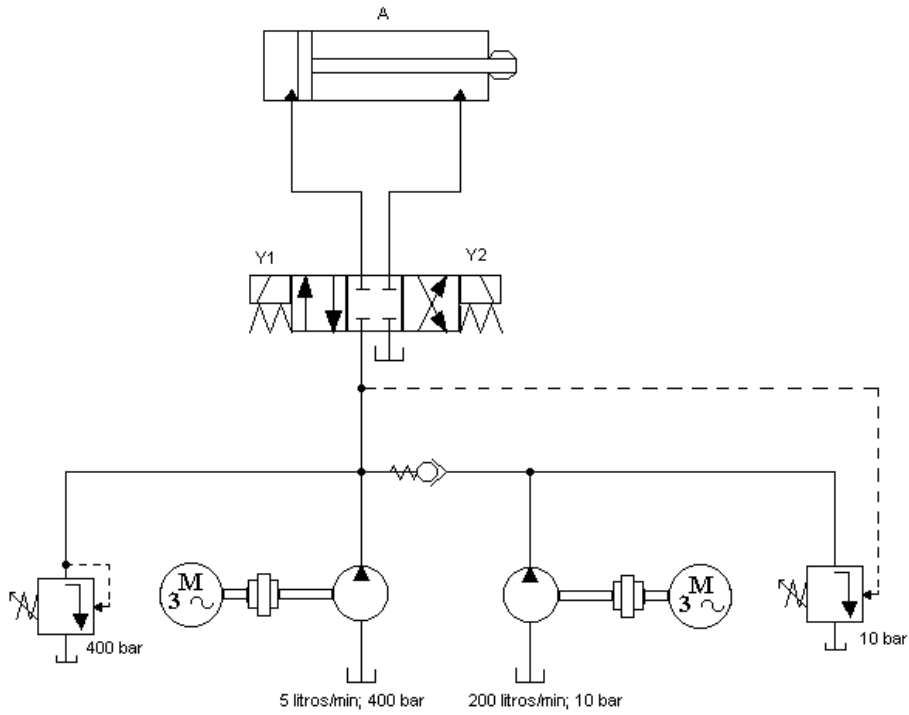


12/ Circuito diferencial

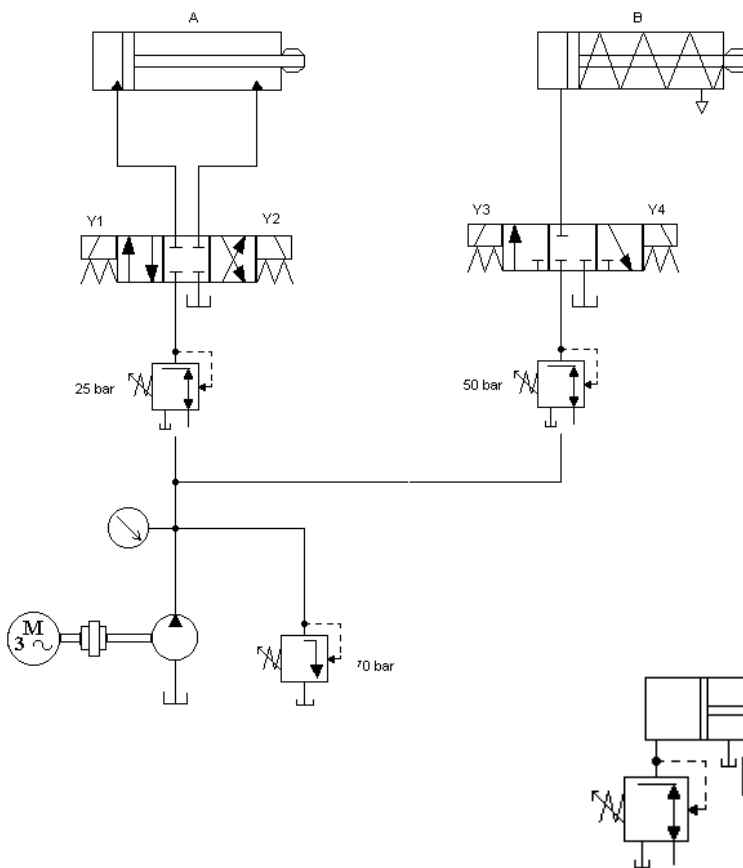
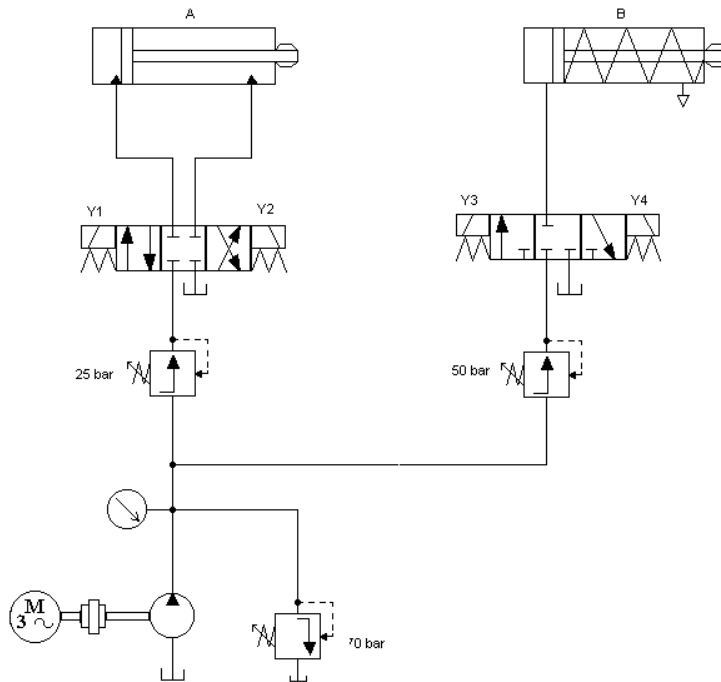
Jakinda: $Abiadura = \frac{Emaria}{Azalera}$ eta $Indarra = Presio \cdot Azalera$



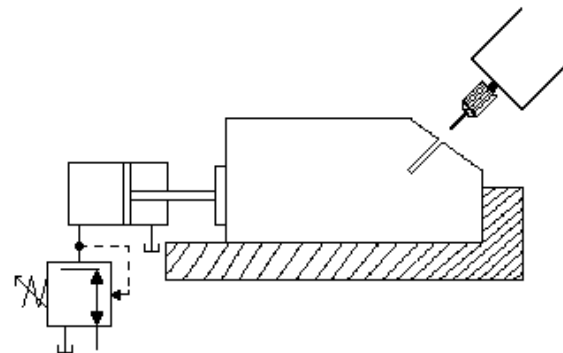
13/ Bombas multiples.



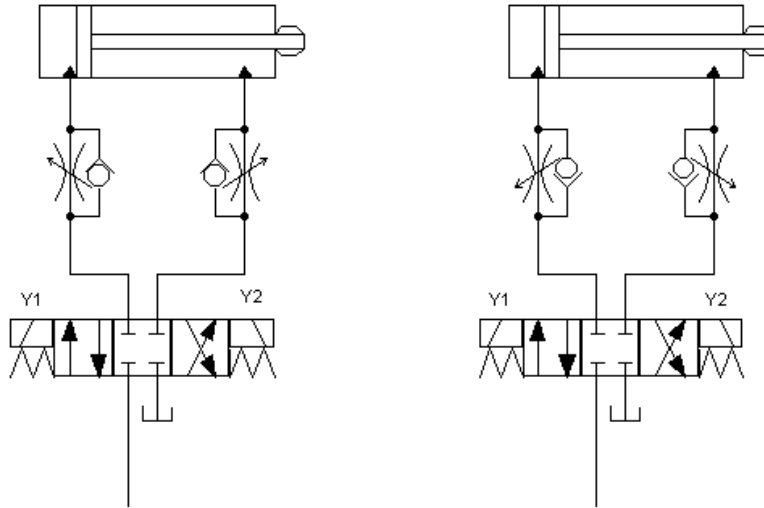
14/ Reductoras de presión.



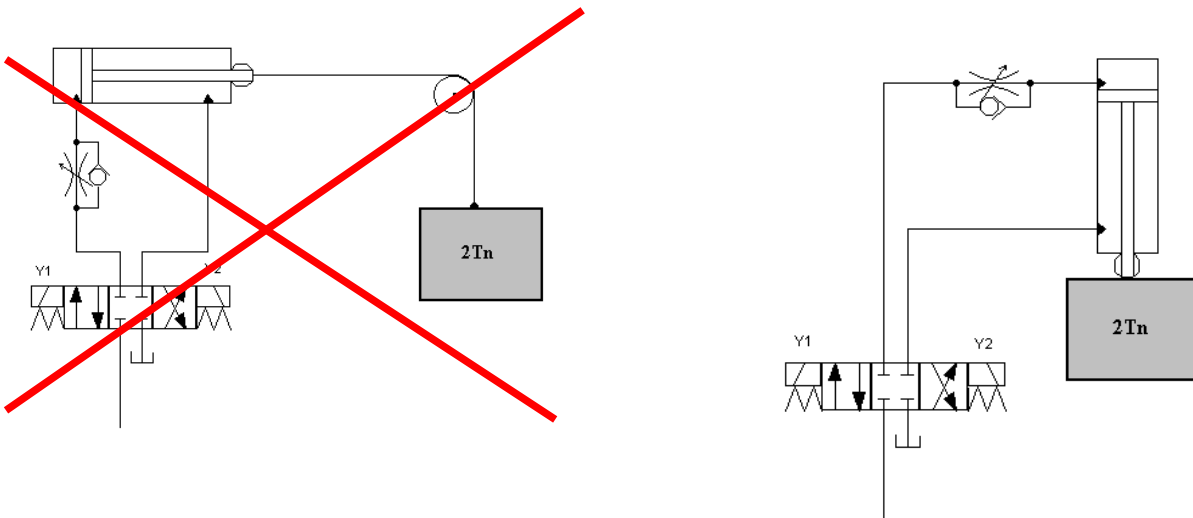
Kasu honetan, hiru zulodun presio erregulatuak balbulak ere erabili ditzakegu. Bi zuloduna baino hobetagoa da, zeren makinan edozein arrazoigaitik presioa handitu egiten bada, balbula hau konpontzen saiatuko da. Nola? Olio pixka bat tankera bideratzen du, eta horrela presioa jeitsi egingo da. Irudiak kasu horietako bat adierazi nahi du. Pieza presio batez lotu ondoren, daratula zuloa egiten hasten denean, zilindroaren ganbaran presioa handitu egingo da, baina bere sarreran hiru zulodun presio erregulatuak bat ipintzen bada, esan bezala konpondu egingo du.



15/ Control de la velocidad. Metodo correcto?



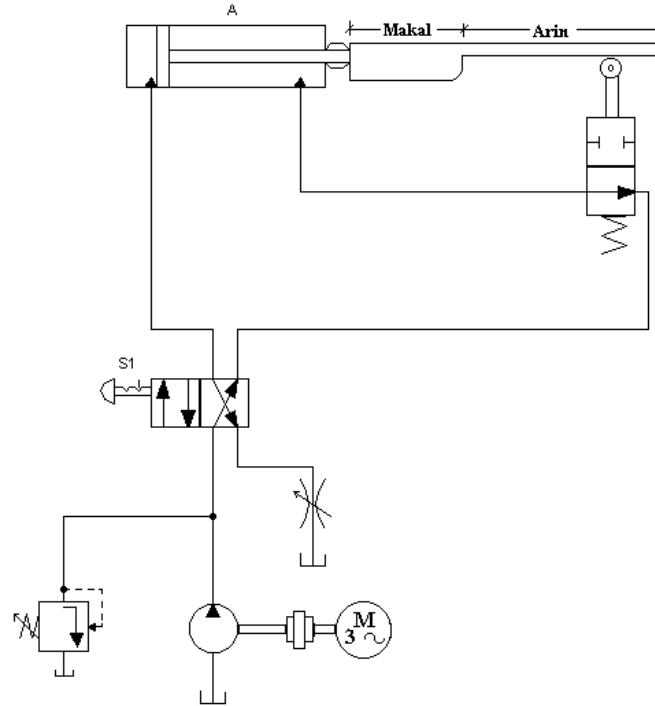
Pneumatikaren metodoaren alderantziz, hidraulikan zilindro baten zurtoinareen abiadura bi eratarak makaldu dezakegu: 1/ganbarara sartzen den olioak kontrolatuaz; 2/ ganbaratik ateratzen den olioak kontrolatuaz. Biak erabili daitezke, baina kontuz, lehenengo aukera kasu bakar batzutan ezik, bestea beti.



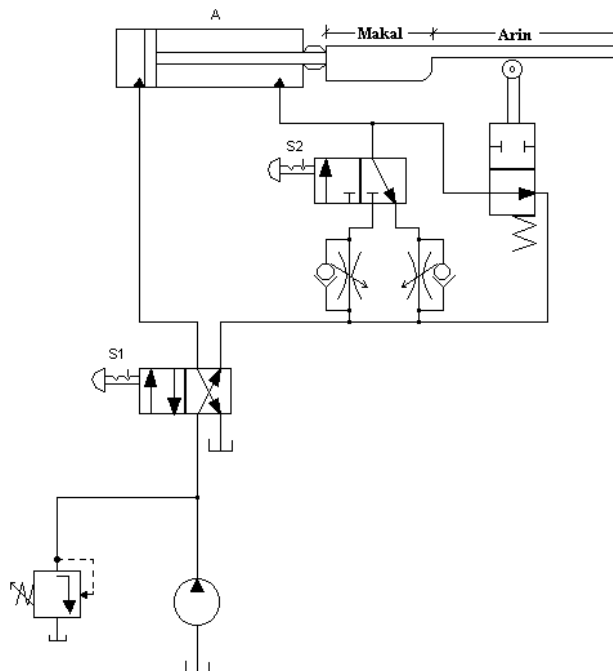
Adibidez, guk abiadura makaldu nahi dugun norantza berdinean kanpotik zilindroaren zurtoinari indar batek tira egiten badio, lehendabiziko aukera ezin dugu erabili, zeren kasu horretan, zurtoina kolpeak emanaz aterako da beti (stick-light efektua).

Alderantziz, bigarren aukera beti ondo joango zaigu, ez du axolarik nondik egiten zaion indarra eta ze norantzarekin zilindroaren zurtoinari, baina bestaldetik, pistoiaren juntak asko gastatuko dira, zeren kanpoan irabazi behar den indarrak gain, beste ganbarak egiten dion kontrako indarra irabazi beharko du aurrera bidaltzerakoan.

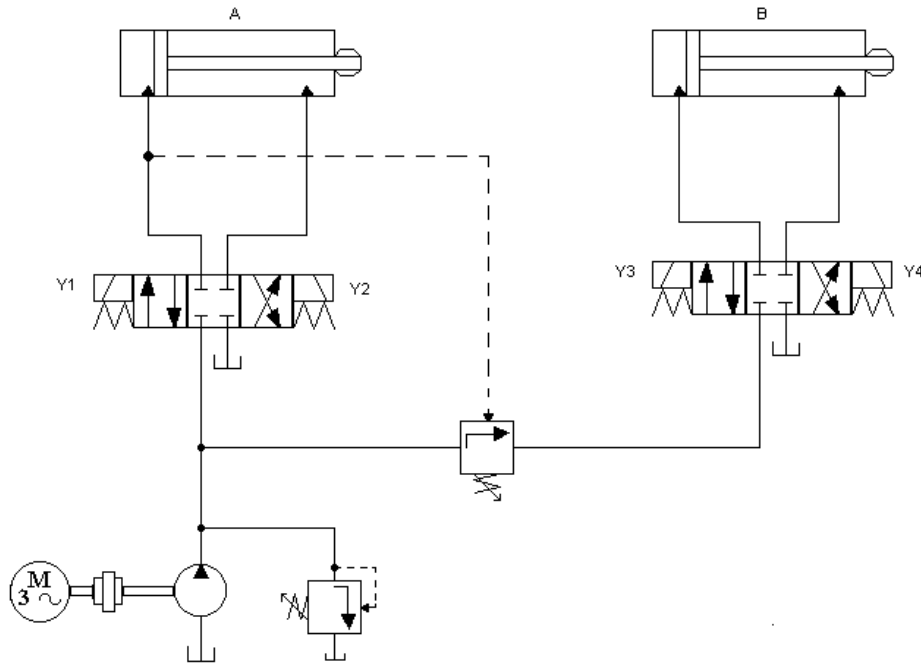
16/ Control de la velocidad escalonaria



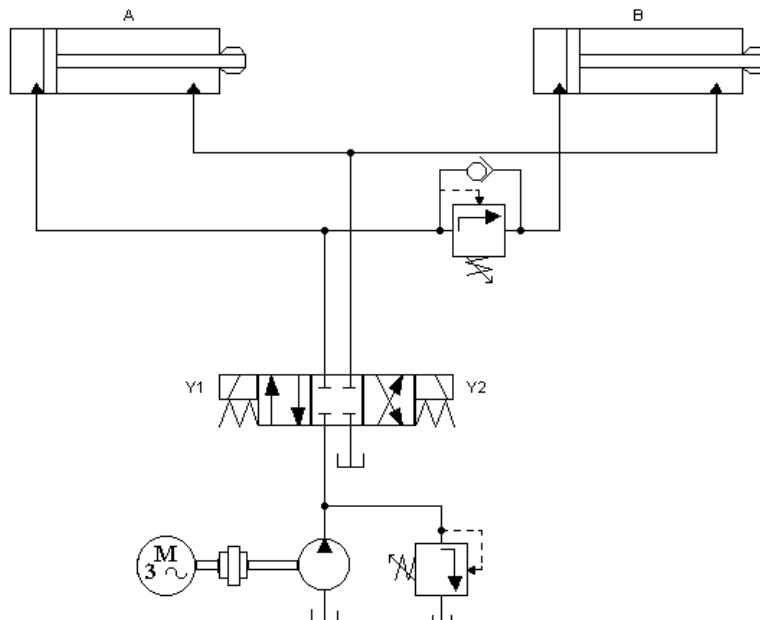
17/ Control de la velocidad escalonaria. 2 Velocidades.



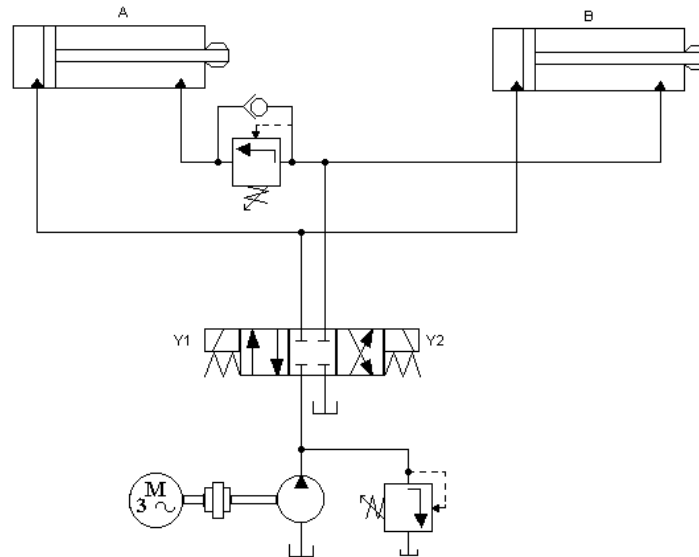
19/ Valvulas de Secuencia



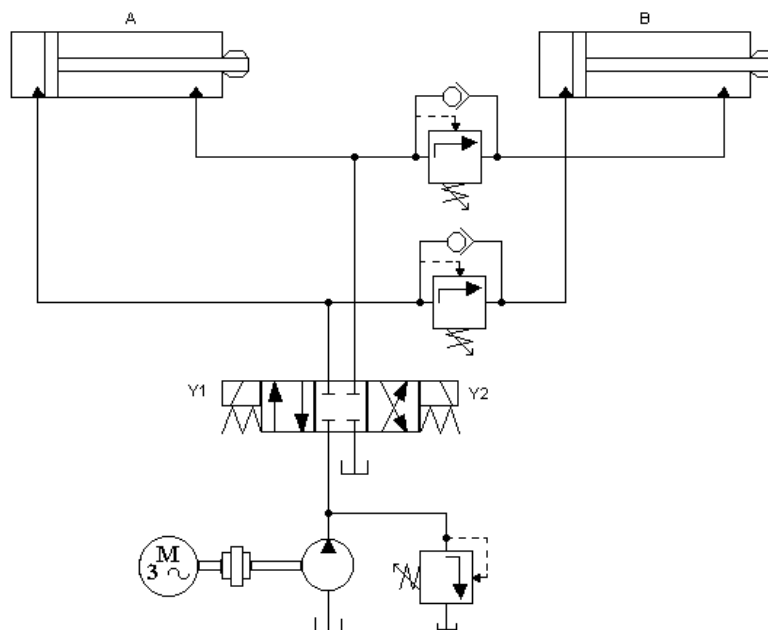
20/ Valvulas de Secuencia con antiretorno



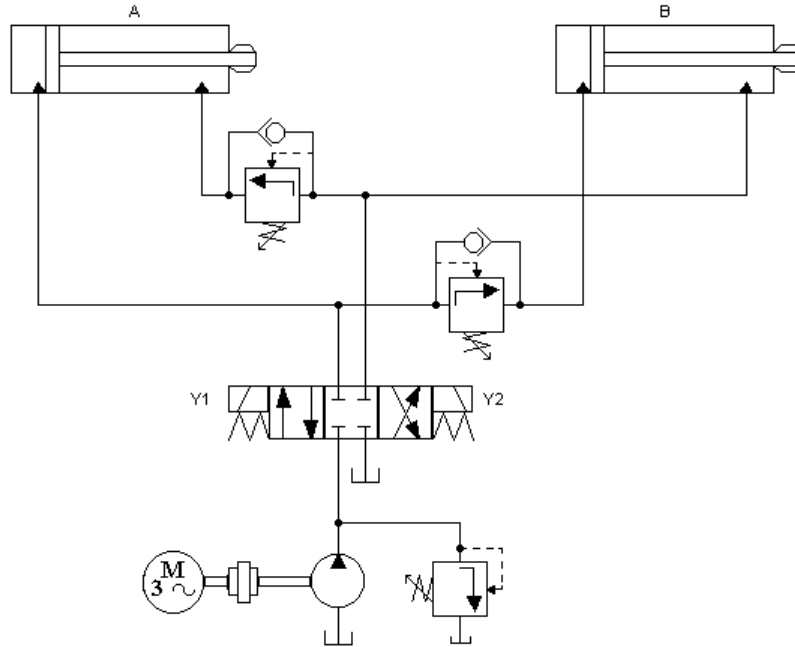
21/ Valvulas de Secuencia con antiretorno



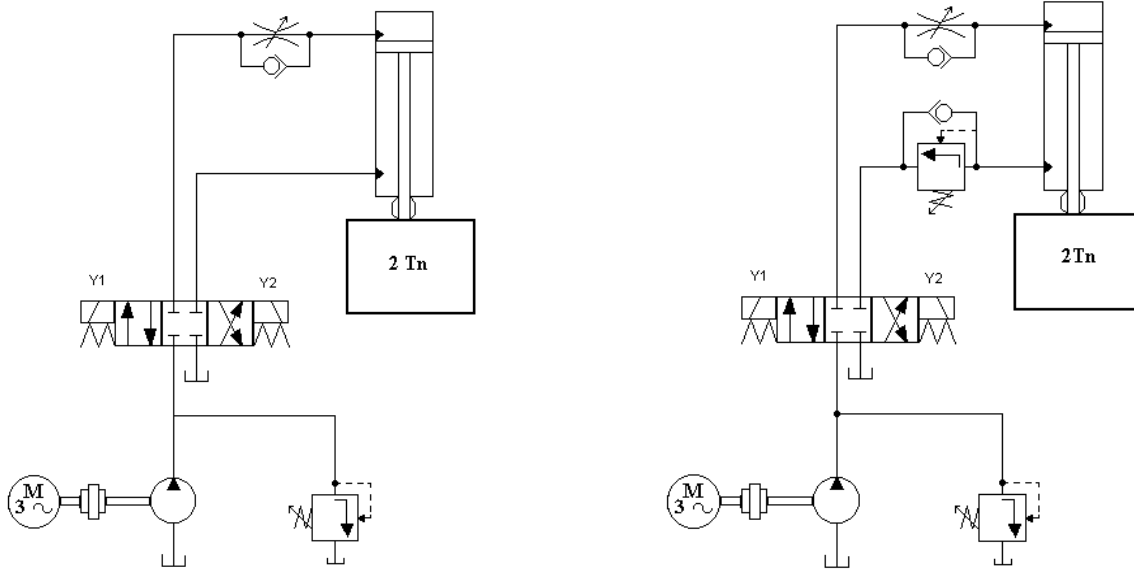
22/ Valvulas de Secuencia con antiretorno



23/ Valvulas de Secuencia con antiretorno



24/ Valvula de Amortiguación para contrarestar el efecto stick-light



25/ Valvula de amortiguación.

