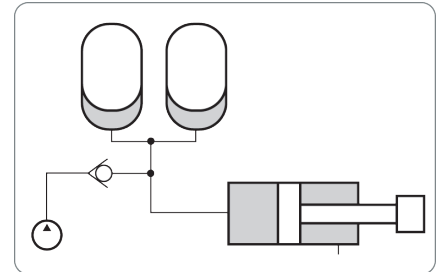


# Accumulator Application 蓄壓器應用

## 1. Energy Storage

An Accumulator stores the surplus fluid discharged from a pump, and releases the fluid instantaneously when actuators require oil volume intermittently above the pump discharge capacity.

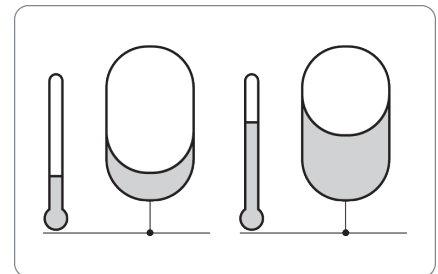
Therefore, the pump can be miniaturized and the noise and the temperature of hydraulic fluid can be decreased by ON-OFF operation. Moreover, the heat exchanger and the electric facility can also be miniaturized, and generally at least 20% of energy can be saved.



## 2. Pressure maintenance circuit

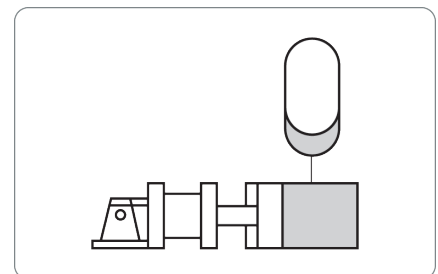
### Temperature Compensation

In a closed hydraulic system, the volume of fluid expands when there is a rise in system temperature (it shrinks when temperature drops). If the expansion of the fluid is great enough, it may cause damage to the system components. Accumulators can be used to absorb this expansion of the fluid.



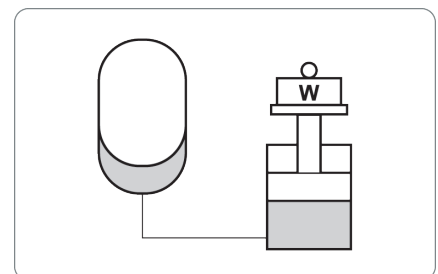
### Leakage compensation

An Accumulator can also be used to make up fluid lost through leakage, cold temperatures, and other change in fluid volume. So, the constant system pressure can be obtained.



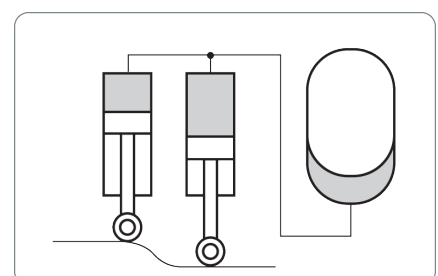
### Counter Balance

An Accumulator settled in conjunction with a hydraulic cylinder can be used to absorb energy from the cylinders and acts as a counter balance for a large load.



### Shock absorption

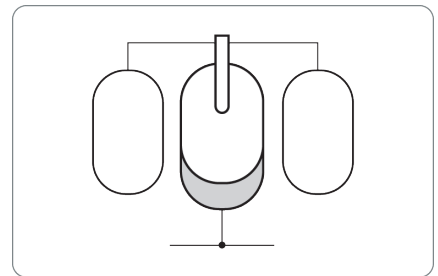
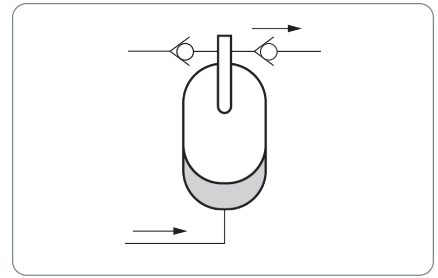
An Accumulator acts as a gas spring and can be used to absorb shocks between the wheels and the body of a vehicle.



### 3. Transfer Barrier

A transfer barrier type Accumulator can be used as a substitute for a hydraulic pump by transferring or transmitting fluids, with the bladder being operated as a piston to let a fluid (oil or gas) flow into and out of the Accumulator intermittently.

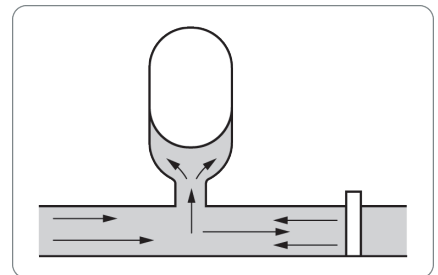
By adding backup nitrogen gas bottles to the systems, a transfer barrier type Accumulator can discharge a greater volume of fluid even when the difference between the maximum and minimum system pressure is small.



### 4. Shock Dampening

Rapid opening and closing of valves can create shock waves in a hydraulic system. These shock conditions can create noise, damage, and premature failure to hoses, fittings, and other components.

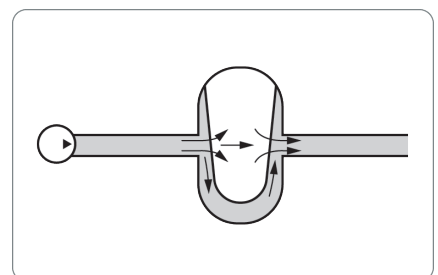
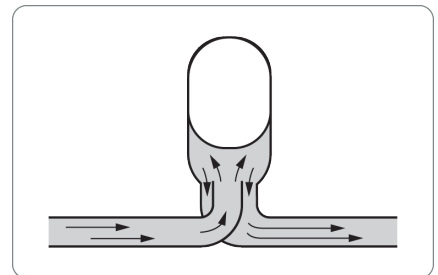
An Accumulator can be used to eliminate the shock in a hydraulic system.

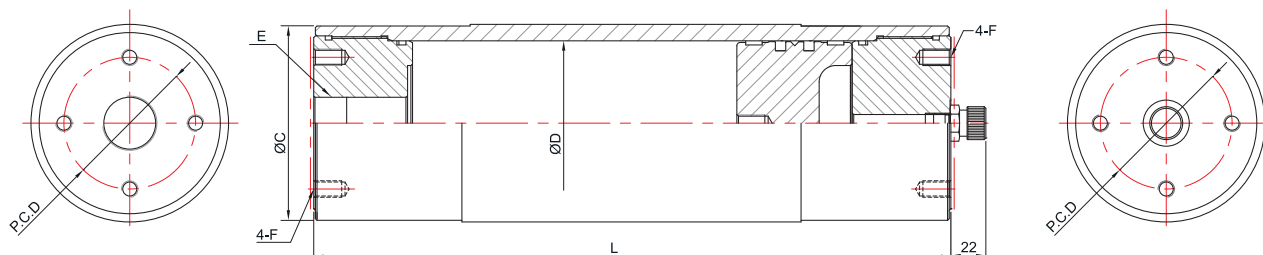


### 5. Pulsation Dampening

To obtain efficiencies of “energy storage”, “shock dampening”, and “pulsation dampening” at the same time, an Accumulator with “Super Pulse Damper” or “Pulse Damper” is suitable.

An Accumulator can be used to dampen shocks and pulsations caused by pumps, protect a hydraulic system from surge and vibration, and eliminate noise. An in-line type Accumulator is most effective for pulsation dampening application.





### MODEL CODE

#### SERIES

**A**=Piston Accumulators

#### MAX WORKING PRESSURE(bar)

**280**=280bar

#### MATERIAL OF SEALS

**S**=NBR/PTFE compound

**V**=FKM/PTFE compound

#### PISTON DIAMETER

**08**=80mm

**10**=100mm

**16**=160mm

**18**=180mm

**25**=250mm

#### CERTIFICATE CODE

**U**=PED 2014/68/EU

#### NOMINAL VOLUME(LITRE)

**20**=20L

#### FLUID CONNECTION

**S**=Standard

#### GAS SIDE CONNECTION

**S**=Standard

#### PRE-CHARGE PRESSURE (bar)

**000**=0bar

**030**=30bar

**A 280 - S - 16 - U - 20 - S S - 000**

SPECIAL SIZES AND SPECIAL VERSIONS ON REQUEST.

### DIMENSION

| LITRE | L    | ØC  | ØD  | E       | F       | P.C.D |
|-------|------|-----|-----|---------|---------|-------|
| 0.5   | 270  | 95  | 80  | G 3/4   | M10X1.5 | 60    |
| 1     | 370  | 95  | 80  | G 3/4   | M10X1.5 | 60    |
| 2     | 570  | 95  | 80  | G 3/4   | M10X1.5 | 60    |
| 3     | 770  | 95  | 80  | G 3/4   | M10X1.5 | 60    |
| 4     | 970  | 95  | 80  | G 3/4   | M10X1.5 | 60    |
| 5     | 1170 | 95  | 80  | G 3/4   | M10X1.5 | 60    |
| 2     | 450  | 120 | 100 | G 1     | M10X1.5 | 80    |
| 3     | 580  | 120 | 100 | G 1     | M10X1.5 | 80    |
| 4     | 710  | 120 | 100 | G 1     | M10X1.5 | 80    |
| 5     | 840  | 120 | 100 | G 1     | M10X1.5 | 80    |
| 8     | 1230 | 120 | 100 | G 1     | M10X1.5 | 80    |
| 10    | 1490 | 120 | 100 | G 1     | M10X1.5 | 80    |
| 10    | 755  | 190 | 160 | G 1,1/4 | M16X2.0 | 135   |
| 15    | 1005 | 190 | 160 | G 1,1/4 | M16X2.0 | 135   |
| 20    | 1255 | 190 | 160 | G 1,1/4 | M16X2.0 | 135   |
| 25    | 1505 | 190 | 160 | G 1,1/4 | M16X2.0 | 135   |
| 30    | 1755 | 190 | 160 | G 1,1/4 | M16X2.0 | 135   |
| 40    | 2255 | 190 | 160 | G 1,1/4 | M16X2.0 | 135   |
| 10    | 670  | 216 | 180 | G 1,1/4 | M16X2.0 | 150   |
| 15    | 870  | 216 | 180 | G 1,1/4 | M16X2.0 | 150   |
| 20    | 1070 | 216 | 180 | G 1,1/4 | M16X2.0 | 150   |
| 25    | 1270 | 216 | 180 | G 1,1/4 | M16X2.0 | 150   |
| 30    | 1470 | 216 | 180 | G 1,1/4 | M16X2.0 | 150   |
| 40    | 1870 | 216 | 180 | G 1,1/4 | M16X2.0 | 150   |
| 30    | 965  | 299 | 250 | G 1,1/2 | M16X2.0 | 210   |
| 40    | 1170 | 299 | 250 | G 1,1/2 | M16X2.0 | 210   |
| 50    | 1375 | 299 | 250 | G 1,1/2 | M16X2.0 | 210   |
| 60    | 1580 | 299 | 250 | G 1,1/2 | M16X2.0 | 210   |
| 80    | 1990 | 299 | 250 | G 1,1/2 | M16X2.0 | 210   |
| 100   | 2400 | 299 | 250 | G 1,1/2 | M16X2.0 | 210   |

### TECHNICAL DATA

Operating pressure : Max.280bar

Operating temperature : NBR -30°C to +80°C

Mounting type : any position

### STANDARD CONSTRUCTION CHARACTERISTICS

Gas connection valve : 5/8"-18UNF

Painting : anti-rust primer

Test : standard factory tested

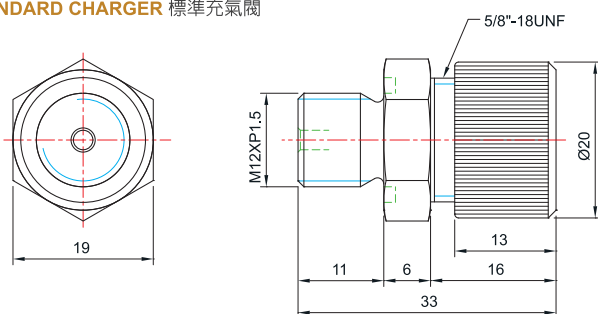
Piston speed : standard 1m/s

**ASHUN** piston accumulators consist of :

- A cylinder with very finely machined internal surface.
- End caps on the gas side and the oil side. Sealed with O-rings.
- A floating steel or aluminium piston.
- A sealing system adapted to the particular application. The piston floats on two guide rings which prevent metal-to-metal contact between the piston and the accumulator wall. Suitable materials are also available for low temperature applications.

# CHARGER

## ■ STANDARD CHARGER 標準充氣閥



## STANDARD CONSTRUCTION CHARACTERISTICS

- Operating pressure : Max.280bar.
  - Gas connection port thread : 5/8"-18UNF
  - Painting : anti-rust primer
  - Test : standard factory tested
  - Description : STANDARD CHARGER
- Not only can provide gas filling and discharge function, but also effectively prevent gas leakage.

標準充氣閥可提供氣體充填及排放功能，能有效防止氣體洩漏。

## ■ Pressure gauge model 壓力計轉接頭

GAS Side connection on the piston accumulator for permanent monitoring of the pre-charge pressure

