



## Bladder Type Accumulators Type-AS

### Definition and operation

The hydro-pneumatic accumulator is a device designed specifically for the storage of liquids under pressure. As liquids are, for all practical purposes, incompressible, the objective is achieved by utilizing the compressibility of gases (Fig.1):

- A flexible separator bladder is fitted into a pressure vessel (accumulator shell).
- Through a special valve an inert gas (nitrogen) is introduced into the bladder with a pressure  $P_0$ . The bladder expands, filling the entire volume  $V_0$  of the accumulator shell.
- When circuit pressure  $P_1$  is higher than the gas Pre-charge pressure  $P_0$ , the liquid valve opens, and the bladder is compressed reducing the gas volume to  $V_1$ .
- Should the liquid pressure rise to  $p_2$ , the volume of gas reduces to  $V_2$  with an attendant rise in pressure, thus balancing the liquid pressure.

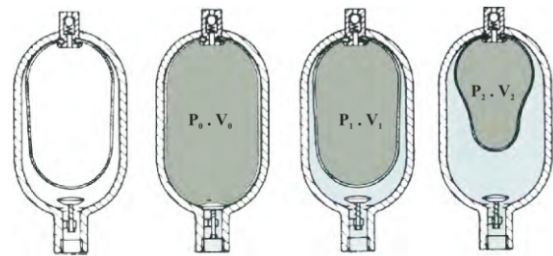


Fig.1

This means that the accumulator has been pressurized  $\Delta V = V_1 - V_2$ , and a potential energy has been created to be utilised as desired.

### Model Code:

<b>AS</b>	<b>35</b>	<b>P</b>	<b>360</b>	<b>C</b>	<b>G</b>	<b>0</b>	<b>-</b> <sup>(2)</sup>	<b>-</b> <sup>(3)</sup>	<b>-</b>	<b>-</b>
<b>Accumulator Type</b>	<b>Bladder Material</b>	<b>Shell Material</b>	<b>Fluid Port Conn.</b>	<b>Valve Material</b>	<b>Gas Fill Valve Conn.</b>					
AS - Standard bladder Accu. ASHF - High flow Accu. ASWD- Welded Accumulator - Poppet design AST - Transfer Accumulator ASL - Liquid separator Accu.	P F H K A B E N Y V (Refer bladder Material table)	C= Carbon Steel - Pointer N= Nickel coated Carbon Steel X= Stainless steel	G= Female BSP Thd. R= With Adaptor" F= With Flange" S= Special theard	- = Same as shell C =Carbon Steel -Pointer N -Nickel coated Carbon Steel X =Stainless steel	- = 5/8"UNF(Std 1= 1-5/16)" UNE/Vg8 2 = 1/4" 0 = without S= Special"					
<b>Nominal Capacity (Ltrs).</b>	<b>Max. Pressure (Bar)</b>	<b>Test Certification</b>			<b>Other</b>					
0.2 1.5 4 10 20 35 0.7 3 5 15 25 55 1	360 210 72 42 350 140 70 30 330 120 48	0 = Factory tested 8 = CE/PED			- = .... Sp = Special (To specify)					

### Ordering Information & Technical Specification

#### Accumulator Assembly For - Bladder Type Max.W.P.330 Bar (NITRILE)

Product code	Mfg. Code	Thread Size G (BSP)	Description / Model Code
201441111	AS 0.2	1/2"	AS 0.2 P 330 CG0- -
201441112	AS 0.7	3/4"	AS 0.7 P 330 CG0- -
201441113	AS 1	3/4"	AS 1 P 330 CG0- -
201441114	AS 1.5	3/4"	AS 1.5 P 330 CG0- -
201441115	AS 3	1 1/4"	AS 3 P 330 CG0- -
201441116	AS 5	1 1/4"	AS 5 P 330 CG0- -
201441117	AS 10	2"	AS 10 P 330 CG0- -
201441118	AS 15	2"	AS 15 P 330 CG0- -
201441119	AS 20	2"	AS 20 P 330 CG0- -
201441120	AS 25	2"	AS 25 P 330 CG0- -
201441121	AS 35	2"	AS 35 P 330 CG0- -
201441122	AS 55	2"	AS 55 P 330 CG0- -