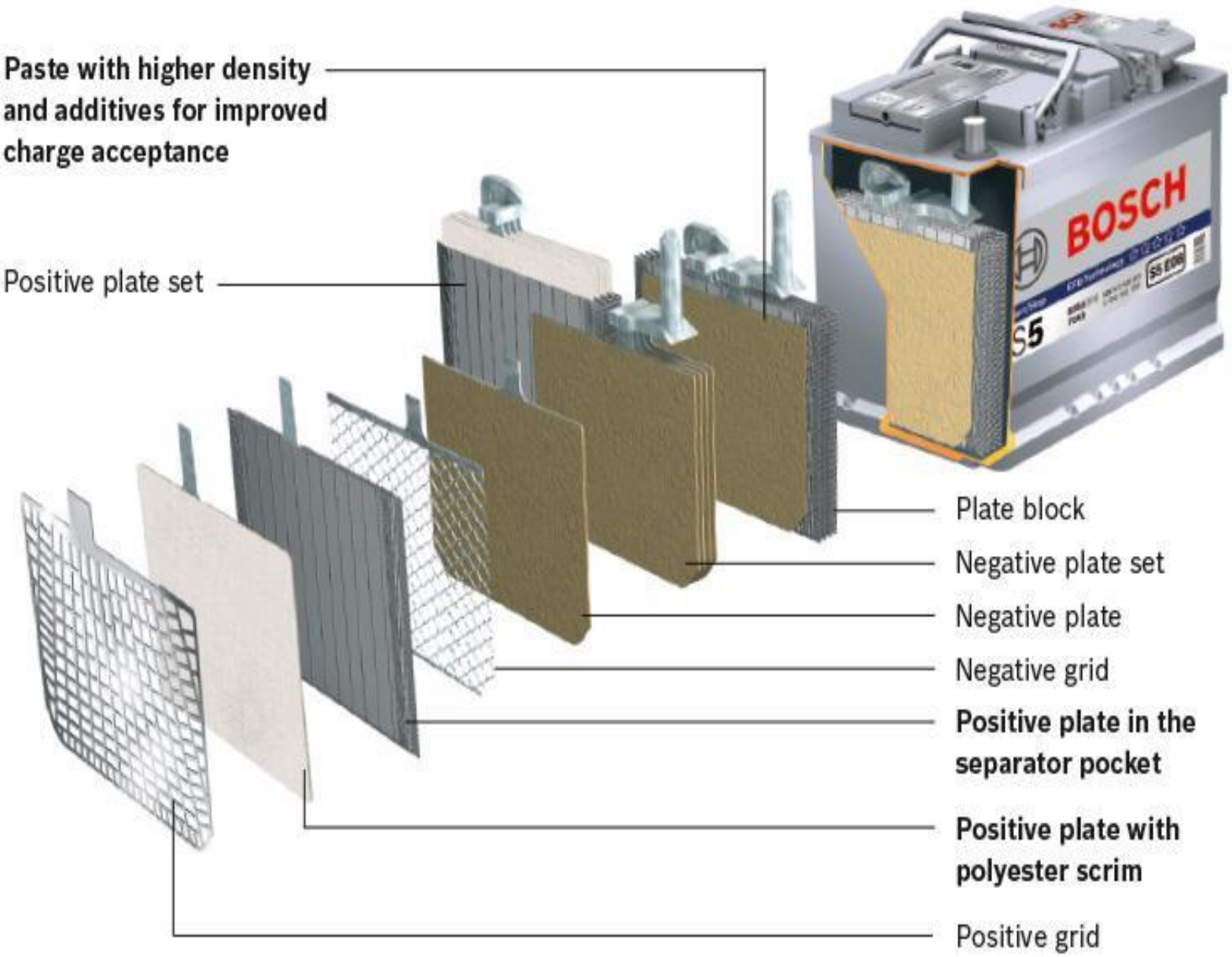
Accumulator

What is a Battery

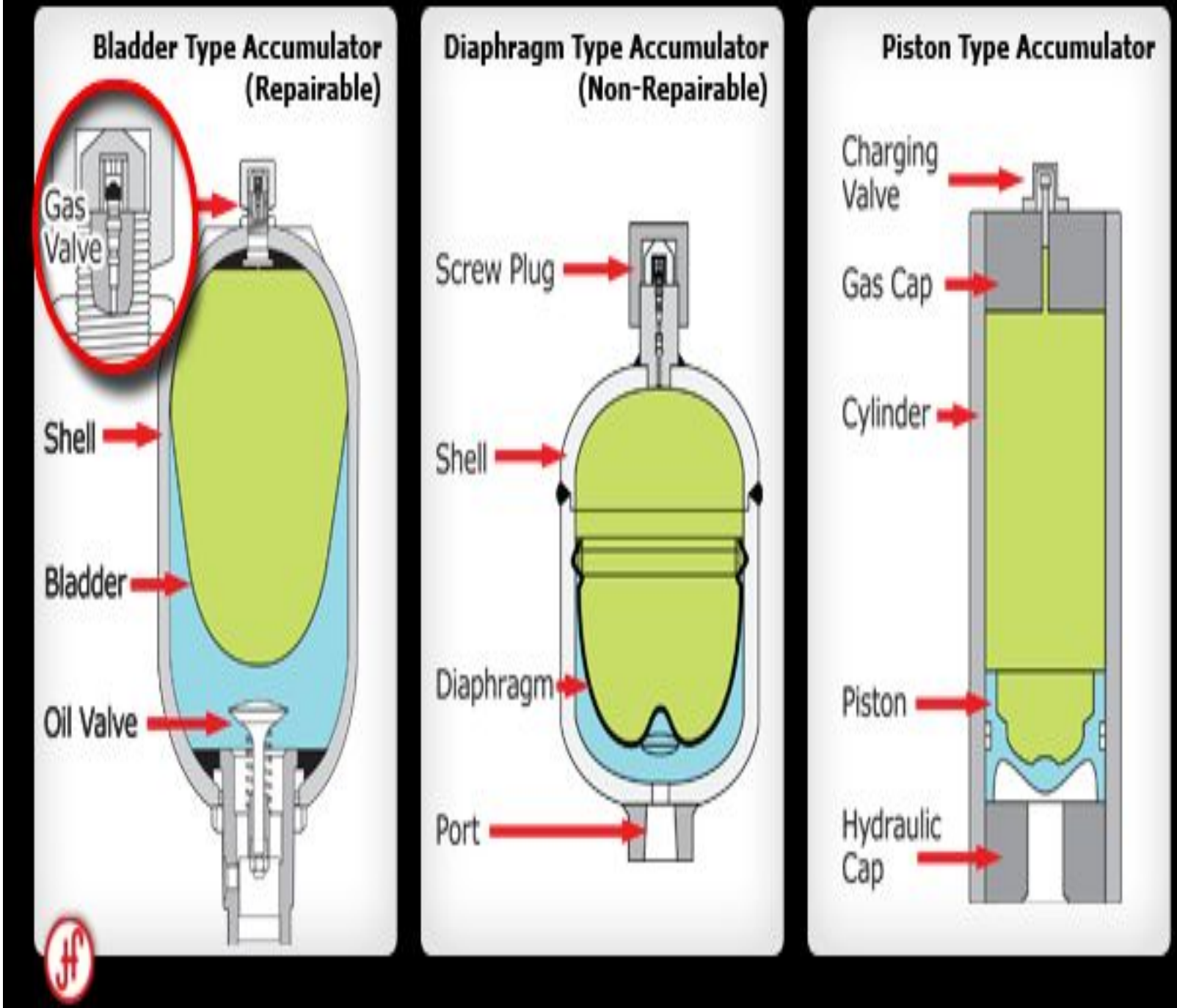
collection of one or more electrochemical cells in which stored chemical energy is converted into electrical energy

EFB battery technology



Accumulator Types

- Weight Loaded Types
- Sealed Piston Type
- Bladder Type
- Load Used for Stabilization in Construction Equipment
- Diaphragm Type
- Piston Type


Bladder Type Accumulator
(Repairable)
Gas
Valve
Shell
Bladder
Oil Valve
Diaphragm Type Accumulator
(Non-Repairable)
Screw Plug
Shell
Diaphragm
Port
Piston Type Accumulator
Charging
Valve
Gas Cap
Cylinder
Piston
Hydraulic
Cap

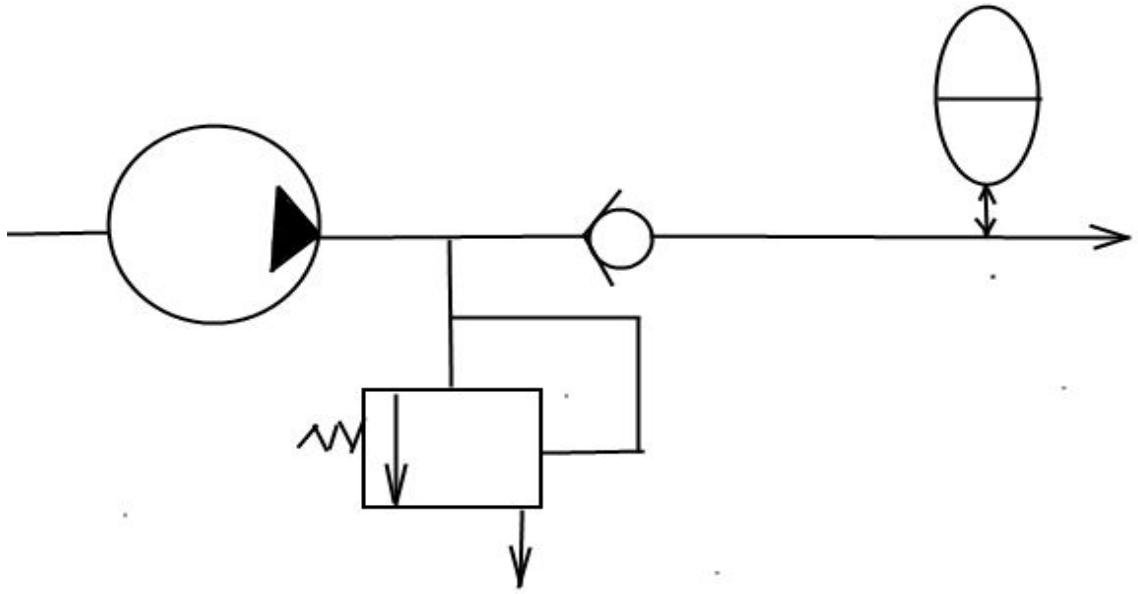
The volume of the gas chamber

$$V = V_{\kappa}(p_o/p_{max})$$

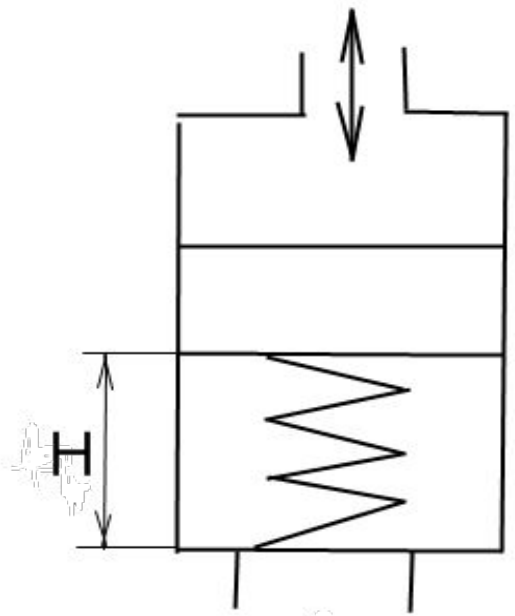
p_o - *Pre-filled pressure accumulator*

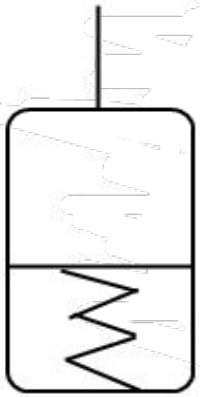
p_{max}-*the maximum pressure of the accumulator*

Hydraulic accumulator-*the hydraulic power drive in order to use the working fluid pressure exceeds the energy storage device.*



Add hydraulic accumulator scheme





The scheme of the spring-loaded accumulator

The volume of the spring-loaded accumulator

$$V=\rho S^2/c$$

ρ-the density of the spring

s-the piston area

c-the severity of the spring

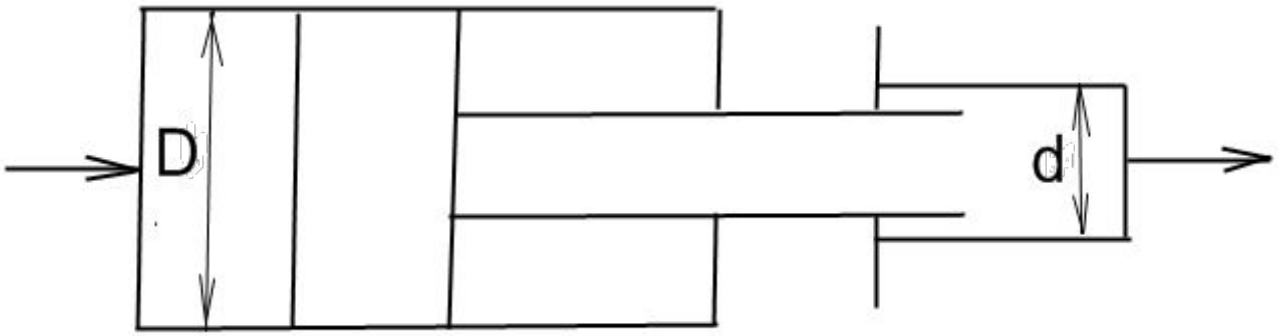
The spring-loaded pressure

$$P = R_{ПР} / S$$

$R_{ПР}$- the Compression spring breathing

S- the piston area

Assigned to the high-pressure amplifier multiplier or pressure transducers are used to increase the pressure on the hydraulic power drive.



The pressure multiplier scheme

1. TOWER TYPE ACCUMULATOR

- The first accumulators for Armstrong's hydraulic dock machinery were simple raised water tower.
- It uses hydraulic head
- It delivers constant pressure to the output

LONDON TOWER BRIDGE

THANKS