

ACCUMULATOR

Energy storage device!

●What is the accumulator?

The accumulator is a pressure storage reservoir, in which hydraulic fluid is held under pressure by an external source. The Accumulator used in KOBELCO cranes are bladder type and nitrogen gas is used as the external source.

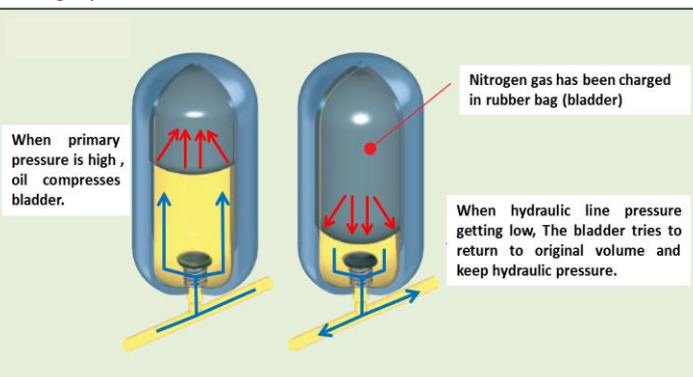


●Why nitrogen gas?

- ▶ is an inert gas.
- ▶ will not react to external conditions such as heat, compression or pressurization, (unlike oxygen).
- ▶ is non-reactive with oil.

●How accumulator's support a crane operation?

Accumulator plays a crucial role in the smooth crane operation. Compressed nitrogen gas is used to accumulate the flow pressure and absorb the circuit surge pressure.



As the primary pressure increases, oil flows into accumulator and compresses the nitrogen gas filled bladder. Whenever the double lever operation is performed, the bladder expands and forces out oil from the accumulator; this maintains the control pressure of 5.4 MPa in the circuit.

●Accumulator potential damage?

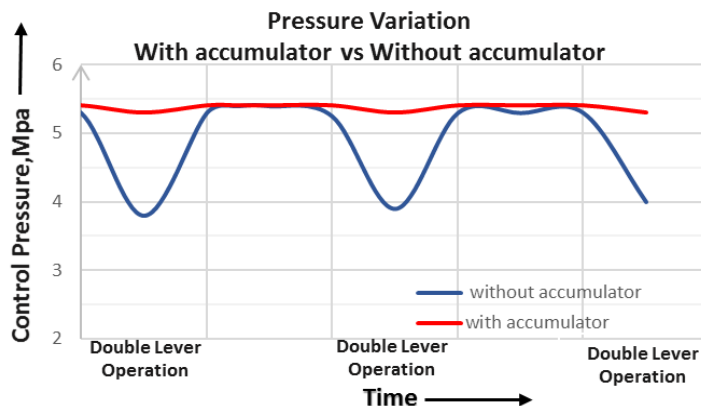
Oil and nitrogen gas leakage from the accumulator are the major problems that arise due to damage of the bladder. The bladder is rubber-type inner part, which usually expand during low system pressure and compresses on high control pressure. Thus the continuous expansion and compression of bladder can cause its damage.



Oil leaking caused by bladder damage

●Can accumulator malfunction affect crane function?

- ▶ Accumulator's maintain the control pressure of 5.4 MPa in the primary circuit regardless of the lever operation. Whenever, there is not enough gas pressure in the accumulator it will affect the simultaneous lever operation. e.g. Winch and swing operation together.
- ▶ Prohibit freefall operation.



An essential item for uninterrupted crane operation!!!

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●Warning....

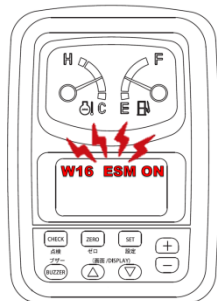
Whenever the accumulator pressure bladder falls below the recommended pressure range of 3.4 - 3.7 MPa, warning codes will be displayed and the operator can notice it from inside the cab.

►CKE series : On cluster gauge

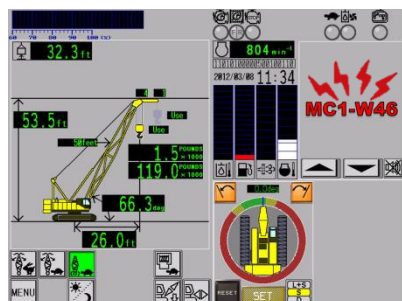
►CKS & 7000S series : On LMI display

Warning Code	CKE series	CKS Series	7000S Series
W-16	●	●	●
W-17	●	●	●
MC1-W46		●	●
MC1-W47		●	●

List of warning codes related with accumulator



CKE series



7000S Series CKS Series

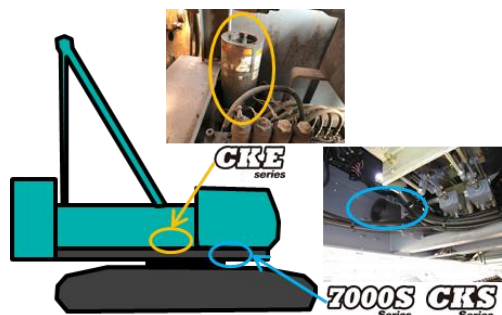
Warning code on cluster gauge & LMI display

●Where is it installed?

Accumulator is installed on the pilot circuit to maintain the constant control pressure.

►CKE series : Behind operator cabin

►CKS and 7000S series : Under the cabin



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●How to clear warning codes?

► Recharge nitrogen gas to recommended pressure range with nitrogen gas recharging kit.

KOBELCO STANDARD : 3.4 - 3.7 MPa



Nitrogen gas recharging kit
P/No : KPM020000003

The gas recharging kit can be used for recharging nitrogen gas as well as to check the accumulator gas pressure.

WE SUPPLY NITROGEN GAS CHARGING KIT!!

►Replace the accumulator assembly, if the bladder found to be damaged.

Check It Now!!

KOBELCO priorities customer satisfaction.

For more inquiries, contact;

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