HIDRACAR S.A.

DIFFERENTIAL OPERATIONAL CHARACTERISTICS BETWEEN PISTON TYPE AND BLADDER TYPE ACCUMULATORS

	ACCUMULATOR	
	PISTON	***BLADDER***
Maximum design pressure	1,000 bar	1,000 bar*
Possibility of a sudden complete loss of gas.**	No	Yes
Recommended P_2 / P_0 ratio between the maximum pressure reached (P_2) and the pre-charge gas pressure (P_0)	$P_2 / P_0 \geq 10$	$P_2 / P_0 \leq 4$
What happens if the P_2 / P_0 ratio is exceeded?	Nothing	The bladder could get broken
Can the accumulator restore all the accumulated oil back to the circuit if the P_2 / P_0 ratio is exceeded?	Yes	No. A high exit speed of the oil at the inlet port suctions the bladder, stretches it and plugs the port hole, what causes that part of the oil gets retained inside the accumulator.
Can the accumulators be repaired?	Yes	Not in the case of welded body accumulators
In case of gas leaks, Is it possible to determine, while being repaired, why it got broken?	Yes	Not in the case of welded body accumulators

* **It can be lower, depending on the model.**

** **If the bladder gets broken all the gas escapes to the circuit and the accumulator becomes useless. In a piston accumulator, in case the piston seals deteriorate, the gas leaking is much slower and the accumulator continues working partially.**

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