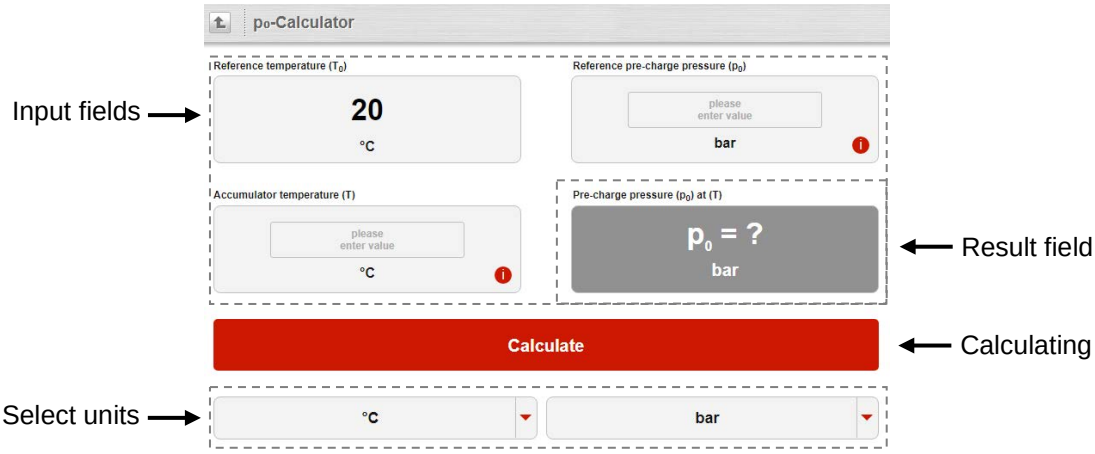
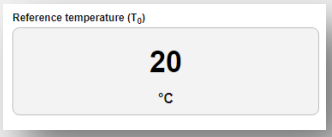
Quickstart: **p_0-Calculator**

Overview



Notes on the input fields

• Reference temperature (T_0)



The reference temperature (T_0) is the temperature at which HYDAC sets and/or calculates the corresponding reference pre-charge pressure (p_0). In general, it is 20°C (ambient temperature). The input field contains this value as a default value and should not be changed if possible.
CAUTION: The accumulator will generally be charged with the reference pre-charge pressure (p_0) at reference temperature (T_0).

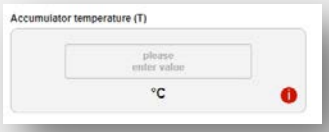
• Reference pre-charge pressure (p_0)

ⓘ Brief explanation: “Please find the reference pre-charge pressure (p_0) on the hydraulic accumulator (label on the accumulator shell • stamped on the accumulator shell • engraved on the name plate), see accumulator instruction manual

The reference pre-charge pressure (p_0) is not the storage pressure (< 2 bar).
If not given as described in the brief explanation above, the reference pre-charge pressure (p_0) is calculated from the system’s operating data. **Please enter the corresponding reference pre-charge pressure (p_0). Please ensure to select a unit for the pressure (e.g. bar).**

For further information, please see the instruction manual for the particular hydraulic accumulator.

• Accumulator temperature (T)

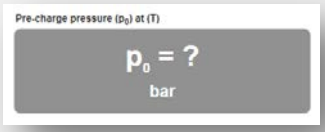


ⓘ Brief explanation: “Surface temperature of the accumulator shell (gas side)”

The accumulator temperature (T) is the measured surface temperature on the gas side of the accumulator.
Please measure directly on the accumulator shell and enter the value in the field.
Please ensure to select a unit for the temperature (e.g. °C).

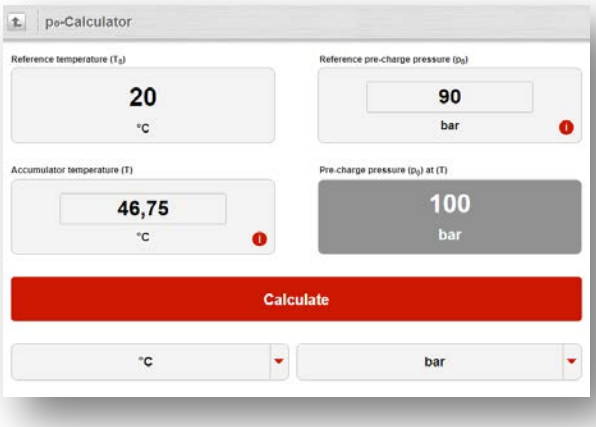
Note on the result field

• Pre-charge pressure (p_0) at (T)



Once entry is complete, please start the calculation by clicking on the “Calculate” button.
The result field shows the pre-charge pressure (p_0) that corresponds to the measured accumulator temperature (T).

Example calculation



In a hydraulic accumulator with a given reference pre-charge pressure (p_0) of 90 bar at a reference temperature (T_0) of 20 °C, a pre-charge pressure (p_0) of 100 bar (nitrogen pressure) is set when the current measured temperature (T) on the accumulator shell is 46.75 °C.

After the accumulator has cooled down to 20 °C, the pre-charge pressure (p_0) also drops to the reference of 90 bar.