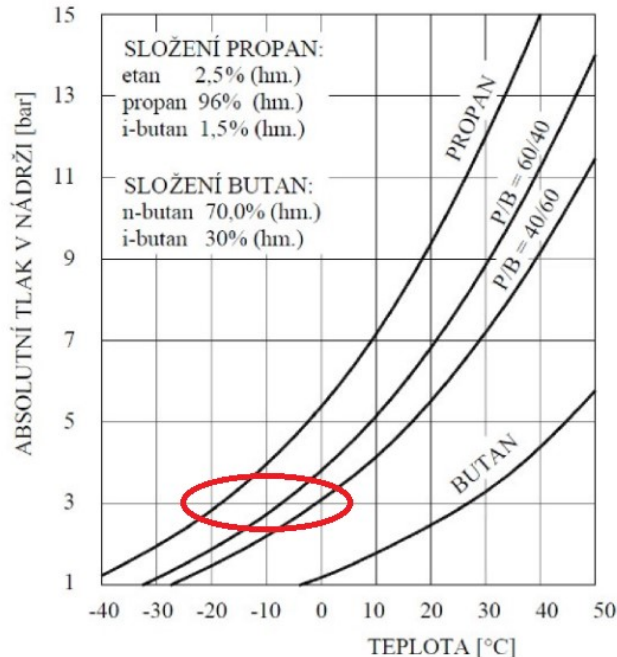


## General information on installing Magic 3 Compact, Magic 3 POWER reducers.

The reducer needs an **inlet** pressure **1.5 bars** higher than the set outlet pressure to achieve **maximum power**. This means that if the tank is at a pressure of 6 bars, there is no problem achieving the maximum declared power. This



applies at temperatures above 20 °C or when the pump is installed in the tank.

At outputs ½ of the declared output, it is sufficient that the **inlet** pressure is approx. 0.5 bars higher than the set outlet pressure.

If you use the vehicle at low temperatures and high power, make sure to select all the parts that affect the pressure losses in front of the reducer! See "17-9-3 Tlakové ztráty (Pressure losses)" see WEB.

Example: Set pressure at the **maximum output** 1.0 + 1.5 = 2.5 bars

At a temperature of -20 °C, the pressure in the pure propane tank is 2.8 bars. It is therefore advisable to adjust the pressure on the injectors as low as possible. (For powerful vehicles - powerful injectors).

The problem is exacerbated when it comes to vehicles with turbo, where the turbo pressure is added to the required pressure (up to +0.8 bars).

For extreme winter periods, it is possible to increase the tank pressure by air. When the tank is half full, press 6 bars of air into the tank. The compressed air remains in the tank until the customer leaves the tank below 20% of the content (the suction strainer in the tank does not suck in the gas phase). Pumps at LPG filling stations have 10-15 bars.

**Connection of water heating:** Parallel to the heating circuit (to the T-pieces) or in a series if the heating has a bypass. Heating can also be used to preheat the oil filter, if available. Turn the water elbows **only clockwise** to connect the hoses. The recommended temperature for switching to LPG is 35 °C. The idle operating temperature with the engine warm is at least 55 °C. After connecting the water, it is advisable to bleed the reducer and the entire system. Tilt the water outlet up and start. If the system is not vented, the pump will whip the air with coolant into an emulsion that has worse thermal properties. **Attention! If water has been drained during installation, bleed the entire system.** Some engines are sensitive to the aeration of the cooling system and can be damaged without venting, such as the BMW six-cylinder engine. The regulator is sensitive to impurities in the coolant. We recommend fitting the input to the regulator with the supplied strainer. If the cooling system is clean, the strainer will **never** clog. If it becomes clogged, this will affect the temperature of the reducer (the reducer does not heat up even when the engine is warm). We recommend removing the strainer and installing the "coolant filter" (code 0360). The filter will solve the problem with dirt. In addition to damaging the reducer, dirt also damages the water pump, engine block, engine head, etc.

**Connecting injectors:** Always behind the gas phase filter. If possible, connect the pressure and temperature sensor behind the gas phase filter in front of the injectors. Always use **at least two** reducer **outlets** for **maximum power**.

**Other important information:** **Do not loosen the pressure relief valve.** If it is pulled out, it must be assembled correctly otherwise the reducer will not work properly. When **loosening** the inlet pipe, use two wrenches, otherwise the inner part may twist and this may cause gas leakage into the water circuit. Check installation after approx. 300-1000km. This means tightening the clamps on all hoses, checking the system for leaks, checking the reducer pressure and checking the system settings.

MAGIC reducers have high quality evaporation and LPG heating. If they are not limited by the lack of pressure in front of the reducer, they fulfil the declared parameters. The outlet pressure drop between idle and maximum power is max. 0.3 Bar. We recommend setting the idle pressure to 1.3 bar so that the maximum power pressure does not drop below 1.0 bar (applies to maximum power). The vaporized LPG temperature is not less than 3 °C downstream of the gas phase filter even after a long run at maximum power (steady state).

For spare parts and technical data of MAGIC 3 reducer see [www.HLpropan.cz](http://www.HLpropan.cz)