

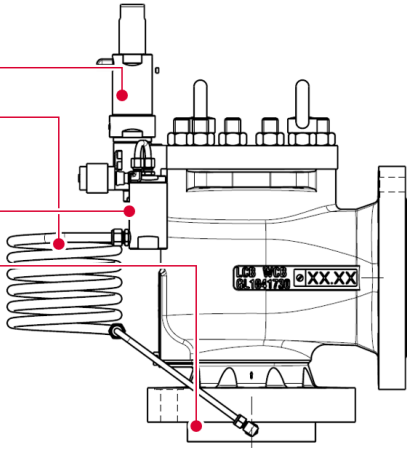
## LESER Training Break „Liquified Natural Gas (LNG)”

In the eighth part of the LESER webinar series on the topic of "Liquified Natural Gas" you first learned about the challenges of LNG applications.

The liquefaction process must be designed efficiently so that LNG can be offered economically. The LNG media temperature of  $-162\text{ °C} / -260\text{ °F}$  and ambient conditions down to  $-60\text{ °C} / -76\text{ °F}$  are a challenge for the technical design of the individual components in the plant. This also applies in particular to the safety valves, which must function reliably as the final protection in the case of overpressure, even at the cryogenic process temperatures. Therefore, a leak test under operating conditions is necessary.

The corresponding product groups for the whole LNG value chain were then presented.

Challenges	Solutions
<ul style="list-style-type: none"><li>▪ Pilot control uses elastomer materials as static and dynamic seals</li><li>▪ Cryogenic medium temperatures <math>\sim -162\text{ °C} / -260\text{ °F}</math></li><li>▪ Ambient temperatures from <math>-60\text{ °C} / -76\text{ °F}</math> to <math>+50\text{ °C} / +122\text{ °F}</math></li><li>▪ Different operating and ambient conditions lead to combination of different design solutions</li></ul>	<ul style="list-style-type: none"><li>▪ Specific soft sealing materials for Cryo application</li><li>▪ Vaporizer part 1: tubing system to heat up the medium</li><li>▪ Vaporizer part 2: storage tank for heated medium</li><li>▪ Full nozzle and metal disc to avoid sealing points in critical areas</li><li>▪ The described solution was extensively tested on the LESER Cryo Test Bench</li></ul>



Furthermore, you have learned about the tightness requirements according to API 527 and the LESER Standard (LESER Nanotightness) based on it. In the last part of the webinar the functional tightness of a pilot operated safety valve was performed in the LESER Chatroom. This was followed by the live connection to the production in Hohenwestedt. Here the identical pilot operated safety valve was successfully tested for tightness under cryogenic conditions.



Best regards from your experienceLESER Trainer Team