

**Roth
DURALOCK®
thread**

*„The plus
in safety for
pressure equipment“*



excellent pressure solutions

Roth DURALOCK® thread

The Roth DURALOCK® thread, specially developed for our accumulator systems, ensures added safety and increased life time in the daily use of your hydraulic systems.

Roth Hydraulics products enjoy an excellent reputation worldwide and stand for robustness and durability.

International certifications and approvals ensure global acceptance.

■ Thread as a design detail

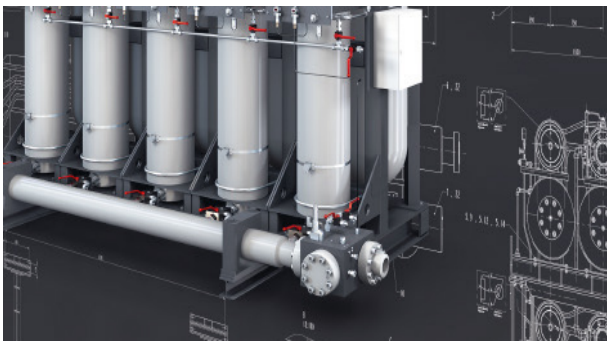
When it comes to safety, the thread in the piston accumulator is the most important feature.

Roth Hydraulics can look back on more than 70 years of experience in accumulator technology and developed the new Roth DURALOCK® thread for the special requirements of this design detail.

It is safer, more robust and more durable than conventional threads.

Compared to conventional threads, the Roth DURALOCK® thread offers with approximately the same dimensions:

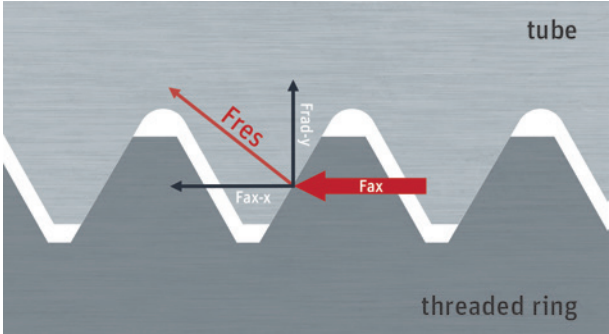
- › Up to 100% higher safety against failure
- › Up to 100% higher load cycles or greater range of pressure variation



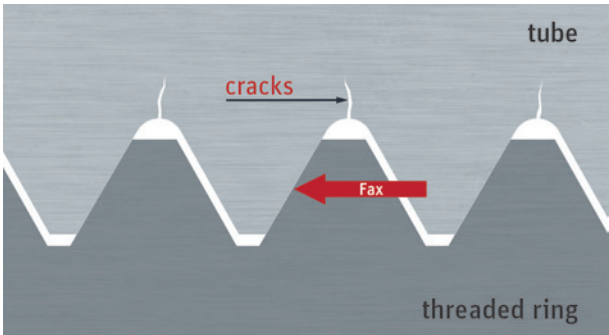
■ The problem

When evaluating the metric threads previously used in piston accumulator construction, the following problem arises:

- > Radial force component leads to a bending of the tube. With a further increase in stress, the pipe widens until the connection fails.



- > There is a stress concentration in the thread base, which can lead to cracks with changing loads and high load changes.



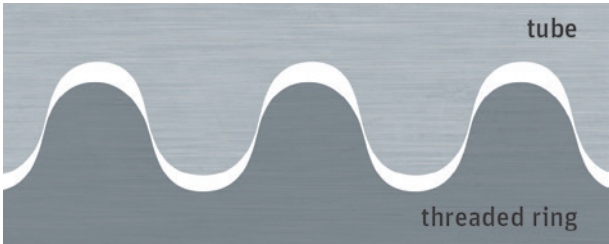
■ The conclusion

In order to improve the properties of the connection, we identified the following design details:

- > Reducing the flank angle to reduce radial forces that occur, results in a significant decrease in bending of the pipe.
- > Increasing the radius in the thread base, which makes the thread significantly less sensitive to cracks.

■ Our solution - the Roth DURALOCK® thread

The Roth DURALOCK® thread combines these properties and, with its optimised geometry, offers great advantages over threads conventionally used in piston accumulator system.



In the further development, the properties of the DURALOCK® thread were taken into account in design and calculation. Many load cycle- and burst tests confirmed the outstanding capabilities of the Roth DURALOCK® thread. TÜV-Hessen accompanied the tests and confirmed the results with its test certificate.

■ Roth DURALOCK® thread

Developed by the specialist for your needs.

- > Extreme safety and constancy
- > High durability
- > Robustness due to twisted thread contour
- > Optimized dimensions
- > Long life time

Technical know-how, decades of experience and knowledge of customer-specific requirements under extreme operating conditions have been incorporated into the development of the Roth DURALOCK® thread.

These factors, the excellent quality of Roth Hydraulics and the manufacturing process „made in Germany“ ensure added safety in the daily operation of our accumulator systems.

In line with our vision
Roth Hydraulics - *excellent pressure solutions*

Roth Hydraulics Portfolio

■ The company

The company was founded in 1943 under the name Bolenz & Schäfer. In 1952, the development and production of hydraulic components and piston accumulators began under the BSD brand.

Since 1989, we have been part of Roth Industries, a family-run and globally active group of companies, which is also documented externally in 2016 with the change of name to Roth Hydraulics.

■ The competence

Roth Hydraulics is a globally recommended partner when it comes to technologies and innovations in accumulator technology. In addition to standard products, we develop and produce customer-specific solutions for a wide variety of markets and applications.

In addition to membrane and bladder accumulators, our product range also includes piston accumulators, pressure vessels and complete hydraulic accumulator systems including an extensive range of accessories.



excellent pressure solutions

Roth Hydraulics International



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