

SKF Cold Tight System for
Casing closing



Reduces downtime from days to hours



The SKF CT System is a reliable, time-saving method for closing steam turbines. Another reliable well-known design showing time is Big Ben.

The SKF Cold Tight Systems offer considerable benefits. The SKF CT reduces downtime by several days each time a steam turbine is opened and closed. Long cool-down periods are not needed. The system also helps in planning the outage more efficiently.

Increased safety

The Cold Tight bolts sharply reduce accident risks and personal safety is increased since no heat is required to stretch the bolts. The necessary force is provided using clean and safe oil.

The smart way to earn money

Every CT bolt can be tightened individually or as a group. Upto half of all bolts on a casing can be preloaded at the same time and all bolts are tightened using a uniform method. The entire design is fitted within the available area on the spotface of the casing. All tools are operated as an integrated unit with a tapered thread adapter that leaves no threads extending from the nuts.

Reliable closing and sealing

By pre-loading bolts individually or simultaneously and by relating the pressure in the pump to the effective pressure area of the tensioner, you can always be certain of obtaining the required bolt pre-load and an exact load distribution on the casing. This ensures a safe, reliable closing and sealing of the horizontal joint with reliable, repeatable results.

SKF Technology, Quality and Service

The SKF CT is based on the SKF oil injection method developed in the early 1940s. Since then, we have carried the technology even further.

Today, we continue to develop different connection systems with new technology that saves time and money in power stations all over the world.

Thanks to SKF's global sales and service network, you can always find us in your local market.

SKF CT vs bolt heating

A time comparison was made between bolt heating and the SKF CT technology. The study was carried out on an inner and outer casing of a single HP turbine with a total of 72 bolts in diameters of 100 and 150 mm. The result is amazing. More than 100 hours of reduced outage time.

Operation	Time required, hours	
	Bolt heating	SKF Cold Tight
Bolt release	12	6
Bolt release incl. release of bolts to retrieve leads	92	36
Final box-up	72	30
Total	176	72

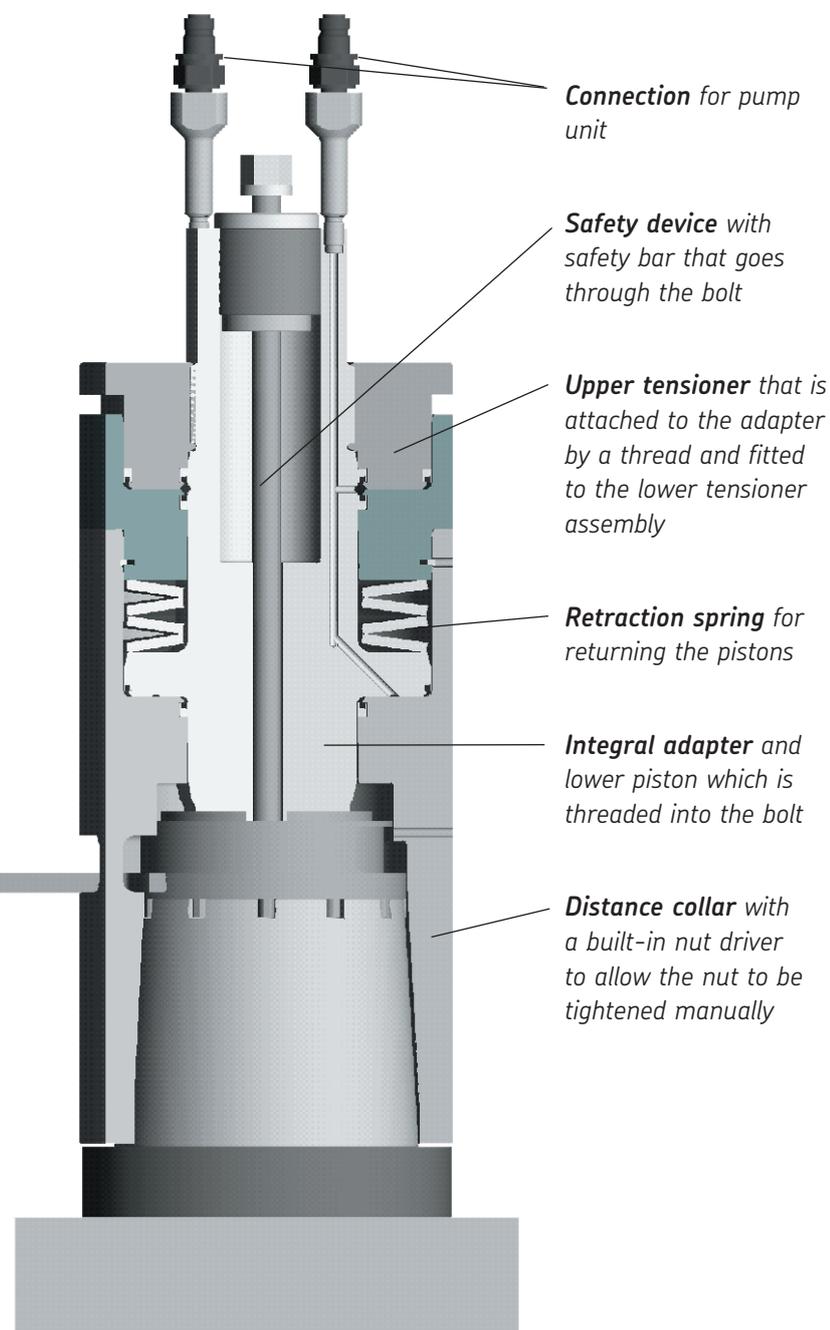
How the SKF CT works

The tensioner assembly is fitted to the bolt by the tapered adapter thread. A safety rod is then fitted through the adapter and the tensioner assembly is completed.

The tensioner is operated by a pneumatic pump unit that deliver an oil pressure of 150 MPa for the preloading.

When closing/opening a turbine casing, the tensioners are mounted on up to 50% of the casing bolts.

The tensioners are connected in series and pressurized by a pump unit. At a specified oil pressure the pump is stopped and the nuts are tightened manually. The pressure is released and the pistons are retracted. The tools are removed and the tension is verified. The process is reversed for dismounting.



SKF Coupling Systems AB was established in the early 1940s when SKF's Chief Designer, Erland Bratt, invented the SKF oil injection method. As the result of continuous development, SKF is currently a world leader in selected market niches.

Our business concept is to develop, produce and supply products based on the SKF oil injection method. These products significantly reduce downtime and lower maintenance costs of the capital-intensive equipment in which they are used.



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