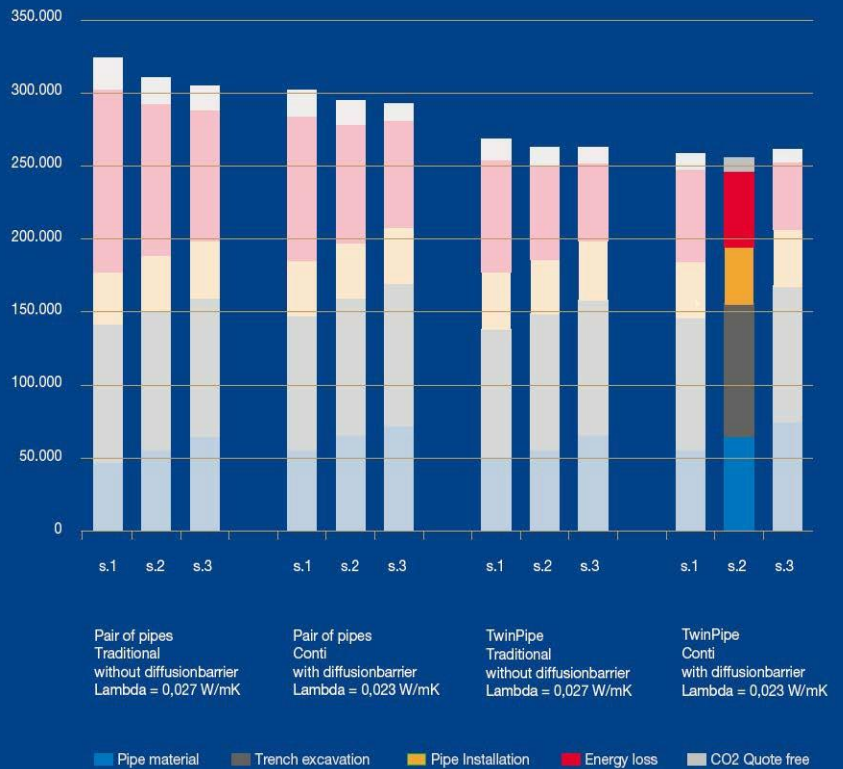


TCO cost in EUR

LOGSTOR TCO Tool - choose the right system the first time



UPDATE REGARDING LOGSTOR PRODUCT PROGRAM

It's once again time for new updates regarding our digital tools and LOGSTOR product program. Below, please find our Product info No. 2-2023 with following updates:

- LOGSTOR TCO Tool - updates
- LOGSTOR Design Tool - updates
- Pre-insulated stop valves, single pipes with outlet for alarm system
- Pre-insulated bends 90°, single pipes with different leg lengths
- Other

Should you have any questions, please contact your usual LOGSTOR contact person or the undersigned.

Best regards
Kingspan LOGSTOR

Peter Jorsal
Product & Academy Manager

LOGSTOR TCO Tool

As previously informed, LOGSTOR TCO Tool is a calculation program which, based on the customer's prerequisites, can guide our customers in choosing the most optimal pre-insulated pipe system for both bonded and flexible system in relation to "Total Cost of Ownership" (TCO).

We have made various updates and the latest version of LOGSTOR TCO Tool is available on our website: <https://tco.logstor.com/>

The updates are as follows:

- It is possible to include an annual percentage increase in the energy price in the TCO calculation
- TCO Tool is available in nine different language versions
- Various adjustments

The screenshot displays the LOGSTOR TCO Tool interface with the following data:

Design data		TCO Calculation data		CO ₂ Emission data	
T flow [°C]	Winter: 80, Summer: 70	Currency	EUR	Fuel type	Natural Gas
T return [°C]	35, 40	Exchange rate	1	Ton CO ₂ /TJ	55.52
T soil [°C]	4, 14	Interest [%]	0	Include CO ₂ in TCO	<input checked="" type="checkbox"/>
Days in operation	215, 150	Period TCO calc [years]	30	CO ₂ quote price (currency/ton)	35
Pressure [bar]	6	Energy unit	MWh	Number of years in TCO	30
Soil Cover [m]	0.6	Energy price [price/unit]	40		
Lambda Soil [W/mK]	1.6	Rise in energy price [%]	2		

Reach out to your usual LOGSTOR contact or the undersigned if you would like a demonstration of the TCO Tool.

LOGSTOR Design Tool

The LOGSTOR Design Tool provides the possibility to calculate axial stresses in steel, expansion at bends and T-pieces, location and number of foam pads and other calculations for use in the static system layout of the pre-insulated pipe system.

With the LOGSTOR Design Tool, both single pipe and TwinPipe systems can be calculated.

Previously, access to the LOGSTOR Design Tool was via the LOGSTOR Calculator.

This has been changed, so currently there is a direct access to the LOGSTOR Design Tool via our website through the following link: <https://www.logstor.com/service-support/tools/logstor-design-tool>

The screenshot shows the top navigation bar of the LOGSTOR website. The Kingspan logo is on the left, followed by the LOGSTOR logo. The navigation menu includes: District Heating, District Cooling, Industry, Thermal Solutions, Catalogues and documentation, Service & Support (highlighted with a red underline and a dropdown arrow), and About us. Below this, a secondary menu lists: Kingspan Academy, Product info, Tools (highlighted in red), Installation, Technical sales support, and Sales and supply.

The main content area has a dark blue background with the text "LOGSTOR Design Tool" in large white font. Below it, a subtitle reads "- an online calculation tool to fit your needs!". Two buttons are present: "Go to LOGSTOR Design Tool - Single pipes" and "Go to LOGSTOR Design Tool - TwinPipes", both with white text and underlines.

The footer is white and contains a grid of tool links: LOGSTOR TCO Tool, LOGSTOR Calculator, LOGSTOR Design Tool (highlighted with a red underline), Industry Calculator, LOGSTOR WeldMaster 5.0, LOGSTOR Connect, LOGSTOR Detect, and LOGSTOR Foam Volume Calculator.

Pre-insulated stop valves, single pipe, with outlet for alarm system (Nordic alarm system)

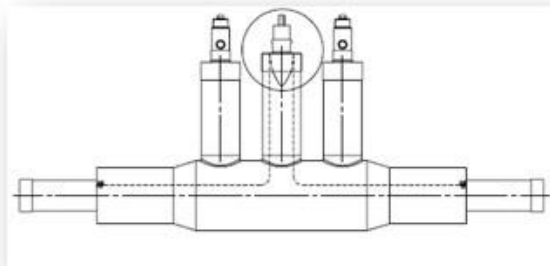
Currently, we have two versions of pre-insulated stop off valves for single pipe systems:

- The two 1.5 mm² copper wires are passed through the main pipe
- The two 1.5 mm² copper wires are led up into the spindle and the possibility of a measuring point outlet is established by pulling an insulated 1.5 mm² wire out from under the end cap in a loop

To reduce the complexity of our product range, the future standard version of pre-insulated stop valves will be with a measuring point outlet established as described above.

Where the insulated wire is taken out under the end cap, mastic is fitted around the wire and 25mm on each side of the wire to ensure tightness.

This will thus be the standard solution on pre-insulated stop valves without a service valve and on pre-insulated stop valves with 1 or 2 service valves. See the principle sketch below:



Customer advantages:

- Easy access to a measuring point outlet. It will always be possible to use the measuring point outlet when locating faults
- We can optimize our stock of pre-insulated stop valves, which will ultimately lead to better delivery service
- Pre-insulated stop valves for single pipe systems with measuring point outlets for the alarm system have been supplied for more than 30 years with good experience in relation to quality and use of the alarm system

The above will be implemented as we sell out of stock of the current solution.

It is important that the current type of pre-insulated valve built into the system is recorded on the as-built drawings of alarm systems.

Our product catalog will be updated in April 2023.

Pre-insulated bends 90°, single pipes with different leg lengths

90° bends with different leg lengths are used where there is a need to pre-mount the casing joint on the bend. For example, when the bend is built together with another bend.

In the dimension range 26.9 - 88.9 mm, we have two different versions of the pre-insulated bend with different leg lengths:

- 750 x 1250 mm
- 1000 x 1500 mm

To reduce the complexity of our product range, the future standard version for pre-insulated bends 90°, single pipe, will be 1000 x 1500 mm.

Customer benefits:

- We can optimize our stock of pre-insulated bends 90°, single pipe, with different leg lengths, which will ultimately lead to better delivery service
- It will be possible to pre-mount all types of casing joints regardless of dimension and insulation series

The above will be implemented as we sell out of stock of the current solution.

Our product catalog will be updated in April 2023.

Other

Our next Product Info will contain the following topics:

- Update of our Handling Manual regarding insulation of joints
- New rules regarding EU training requirements for everyone who works with isocyanate
- Radon and waterproof sealing ring
- New transition pipe for AluFlextra

LOGSTOR Denmark Holding ApS
Danmarksvej 11 | DK-9670 Løgstør

T: +45 99 66 10 00
E: logstor@kingspan.com



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