

SCITEQ Box Load test



We help you perform even better

Box Loader - scope

SCITEQ

Scope

The SCITEQ box loading test (BLT) system is designed in accordance to with ISO 13260 for determination of resistance to combined temperature cycling and external loading of thermoplastic piping systems. The pipes are intended for non-pressure underground drainage and sewerage. SCITEQ's system may be configured to perform method A, B or both. The BLT is suitable for pipe sizes Ø110-510mm.

Function

The system can perform two methods for testing pipes and fittings or joints for their resistance to deformation and leakage, when subjected to sustained external loading in conjunction with the passage of hot/cold water. A pipe/fitting sample is placed on a gravel bed and covered with gravel. A constant vertical load is applied via the gravel and temperature cycling is performed. Deflection of the test piece is measured. A further feature is the optional conveyor system that eases gravel handling in terms of filling and emptying the box. The system uses tanks containing hot and cold water supplies depending on the test method.



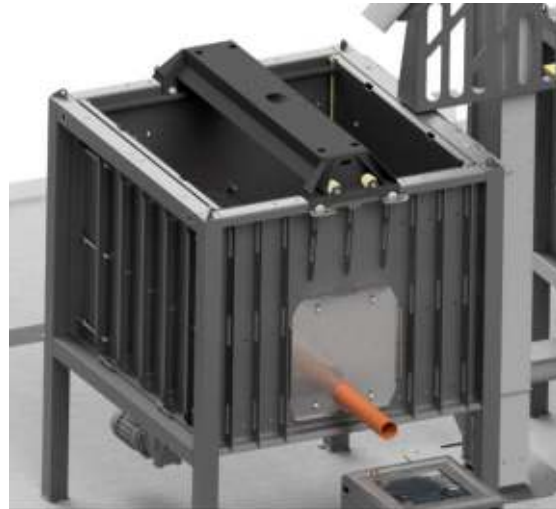
Box Loader - construction

SCITEQ



BLT – the three main parts

The box loading system comprises three main parts; the box loader itself with compression plate, adjustable sides and pipe/fitting inlet/outlet, the tank system and the control cabinet combined with a chiller (chiller only needed for method A). Additional optional parts are the gravel conveyor system and the gravel storage container.



Heavy-duty construction

The box loader itself is heavy-duty and constructed in a way to allow a high degree of flexibility in terms of size adjustability depending on the actual pipe dimension and composition (straight pipe or assembly) to be tested. The gravel will cause severe wear of the inner box and thus the inner box has been constructed in flat sheet metal.



Easy access

The box is accessible in more ways for instance to allow tamping of the gravel, to position the test piece, to load and unload gravel etc. The tank system in stainless steel consists of two water tanks (depending of test method). Return water is lead back to the correct water tank thus saving energy. Continuously circulation in the tanks ensures consistent temperature.



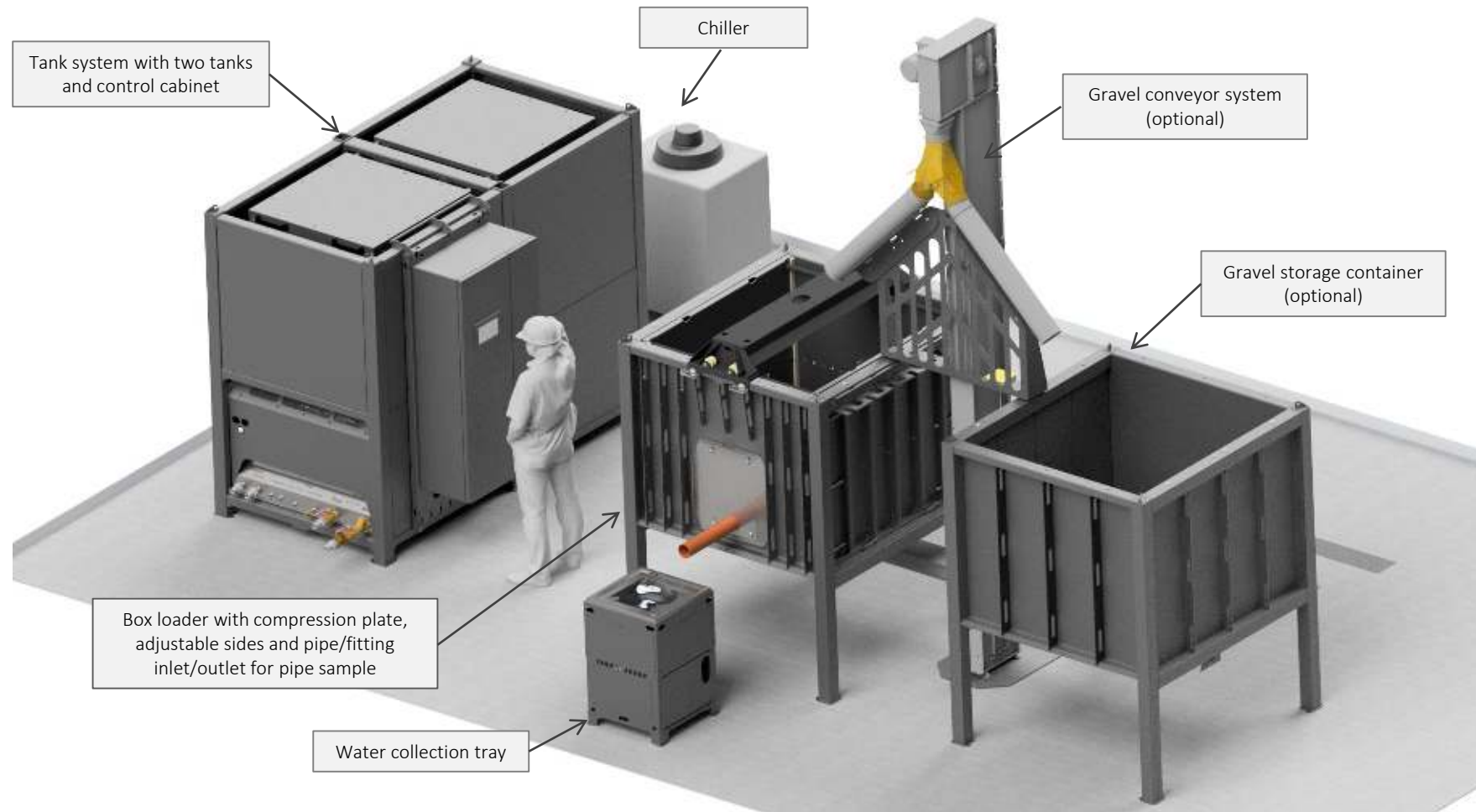
Control cabinet

The control cabinet contains high quality components carefully chosen for their compatibility worldwide. The state-of-the art touch panel is very user-friendly and offers excellent functionality.

ISO 13260 has very strict requirements to the sand/gravel mixture to be used for testing. SCITEQ may be consulted for assistance.

Box Loader - overview

SCITEQ



Box Loader - dimensions

SCITEQ

Dimensions:

- box loader: 1700x1800x2200 mm (LxWxH)
- tank systems with two tanks and control cabinet: 2800x1800x2200mm
- chiller: 800x700x1300mm
- gravel storage container: 1700x1800x2200mm
- gravel conveyor system: Height 4550mm (Optional)



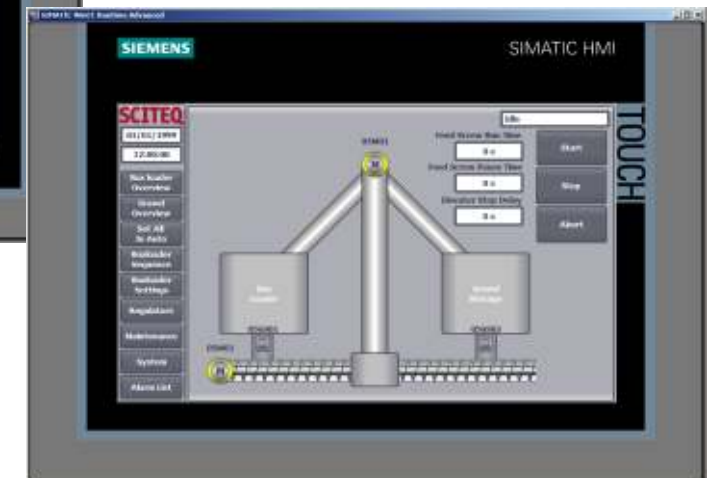
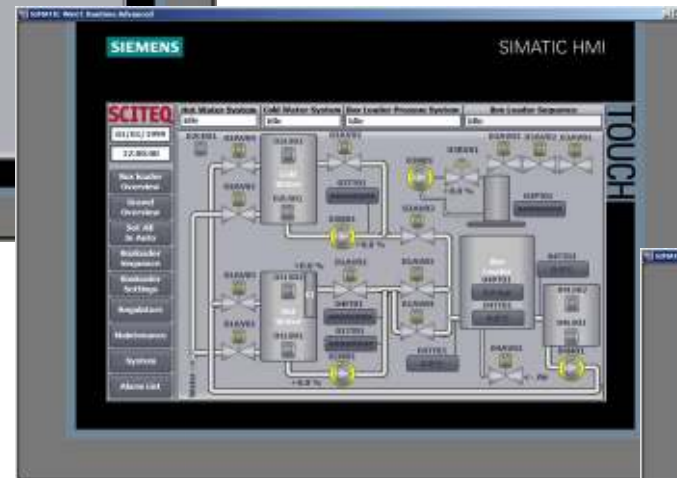
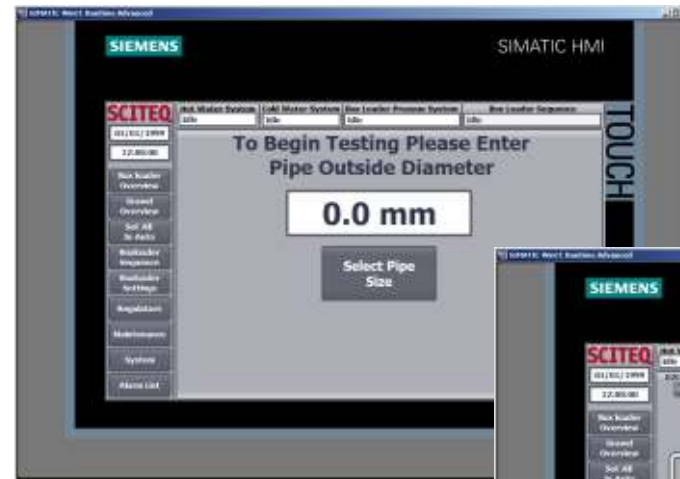
Box Loader – controller/UI

SCITEQ

Touch panel

The box loader is operated from a control touch panel PC.

- ✓ User-friendly
- ✓ Accessible for remote support
- ✓ Instant overview of test progress and alarms
- ✓ Convenient control in manual operation
- ✓ Easy extraction of excel test report via USB



Box Loader – specifications



	BLT standard model
Test methods	methods A & B according to ISO 13260
Pipe sample diameter	method A: Ø110 up to Ø190 mm method B: Ø190 up to Ø510 mm
Vertical deflection	50-60 kN +/- 2 (performed by compression plate)
Type of pipe samples	an assembly of two pipes or fittings assembled with two or more pipes.
Hydrostatic pressure	0,35 bar (assessment of leak tightness)
Cold water temperature	method A: 5-22 degrees C
Hot water temperature	method A: 85 degrees C (+/-2) method B: 50 degrees C (+/-2)
Temperature accuracy	+/- less than 1 degree C.
Ambient temperature	for chiller max. 30 degree C.
Hot and cold cycle time	depending on pipe diameter
Test duration	min. 2500 cycles

	BLT standard model
Accessories included:	- tampering tool - water collection tray
Optional accessories:	- gravel conveyor system - gravel storage container - Inflatable balloons (pipe plugs) - deflection gauge or hardballs
Dimensions:	- box loader: 1700x1800x2200 mm (LxWxH) - tank systems with two tanks and control cabinet: 2800x1800x2200mm - chiller: 800x700x1300mm - gravel storage container: 1700x1800x2200mm - gravel conveyor system: Height 4550mm (Optional)
Weight:	approx. 3 tons (excluding gravel)
Power supply	According to customer specifications (standard: 3x 400 V + neutral, 50/60 HZ)

Essential accessories

SCITEQ



Inflatable balloons

(pipe plugs)

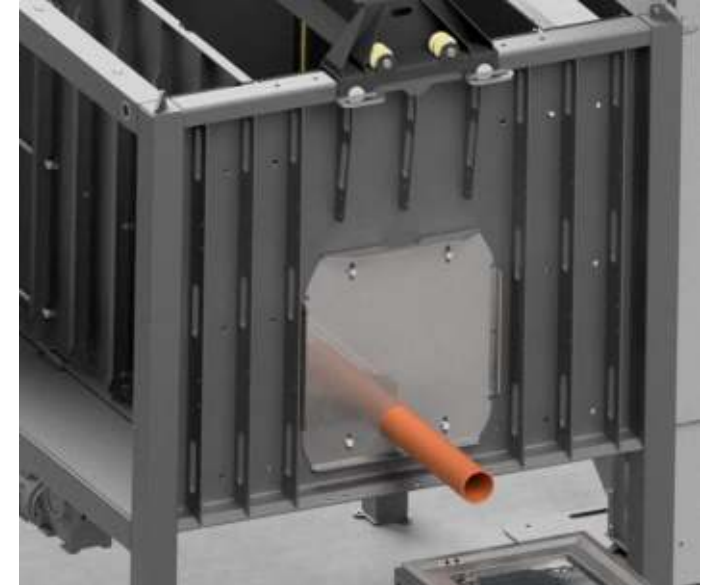
To seal pipe ends according to ISO 13260 assessment of leak tightness - 7.3.1 b)



Gravel mix

According to ISO 13260 (figure 3)

Usually purchased locally.



Internal diameter deflection gauge

(or hardballs)

To measure the deflection of the pipe according to ISO 13260 assessment of initial deflection - 7.3.1 b) use a deflection gauge or hardballs. Optional, kindly request SCITEQ to source.

SIGMA pipe saw

The SCITEQ SIGMA pipe saw is specifically designed for laboratory preparation of pipe samples with dimensions from Ø 50 mm up to Ø 800 mm as standard and larger on request. The saw makes cutting and chamfering of pipes faster, safe and more precise than ever, with the whole process taking place all in the same time. The solution offers a recipe system including features for pre-defined recipes, making it easy to get started no matter the material, length, thickness or diameter of the pipe.





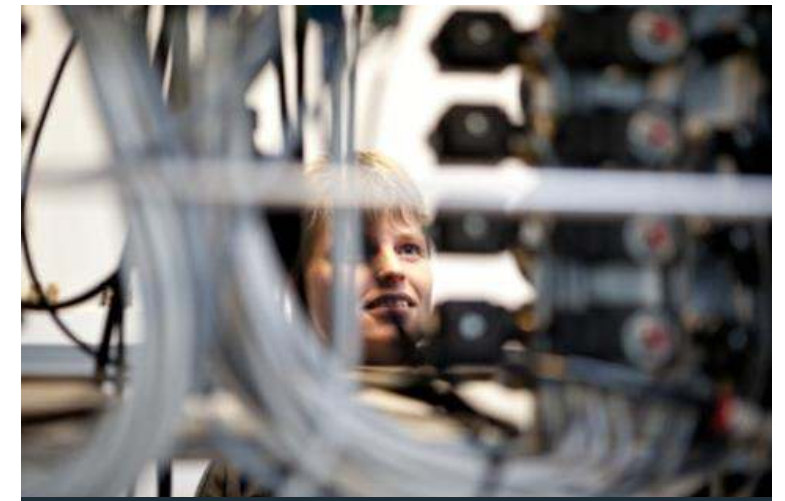
Installation & training

SCITEQ's trained service technicians perform onsite installation of your new SCITEQ equipment as well as onsite or remote training of your operating personnel who will be using the equipment.



SCITEQ Care

You will find the level of service suitable for your test setup with SCITEQ Care. SCITEQ service engineers will visit you annually to perform the best service and calibration. With SCITEQ Basic, More or All Care package you gain access to a long list of advantages, discounts and free support from SCITEQ skilled technician. [Learn more about SCITEQ Care](#)



Support online & on-site

SCITEQ offers online and on-site support on all SCITEQ products, for fast and effective problem solving, training, setup, etc. If you have an unforeseen challenge or you need advise asap, you can contact service@sciteq.com or call us for urgent support.