

PNEUMATIC SYSTEMS

the most flexible and effective solution for running fatigue tests



Characteristics



CUSTOMIZABLE



MAXIMUM
FLEXIBILITY AND
CONFIGURABILITY

Pneumatic Components

The LiTeM pneumatic test systems include three main components:

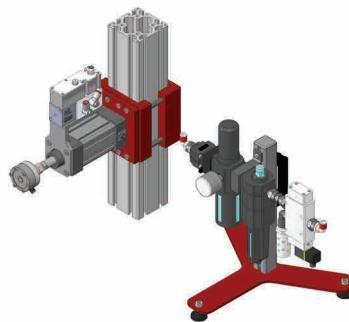
- Real Time Controller RTC
- K-PN pneumatic actuator
- PN-MF or BYC series modular frame

The range offers single-axis and multi-axis systems, actuators with different and interchangeable features and test frames which are set also according to non-standard shapes and measurements.

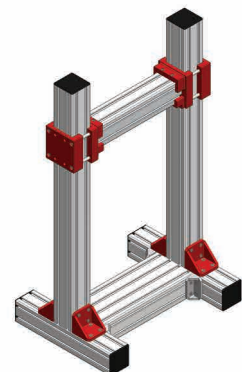
Thanks to their flexibility and modularity, these test systems can be easily adapted for any type of need related to the type of test.



Real Time RTC Controller



K-PN Pneumatic actuator



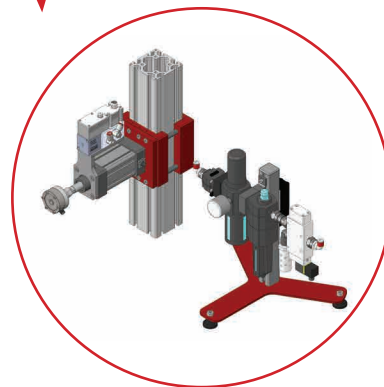
PN-MF Modular Frame

Component description

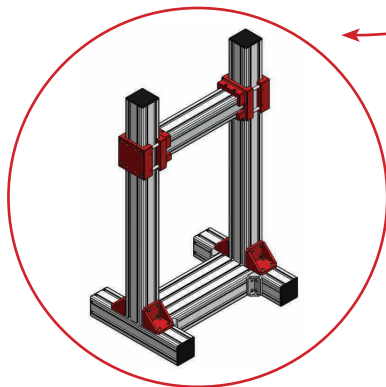


Real Time RTC 9000 Controller, non-expandable version with single axis and expandable version with multi-axis. It is versatile and easy to use and is supplied together with a PC, monitor and the RTC 9000 software suite already installed. It allows you to run static, semi-static, dynamic, cyclical, block and fatigue tests in the following control modes: force, displacement, auxiliary channel and encoder.

Compatible and integrable



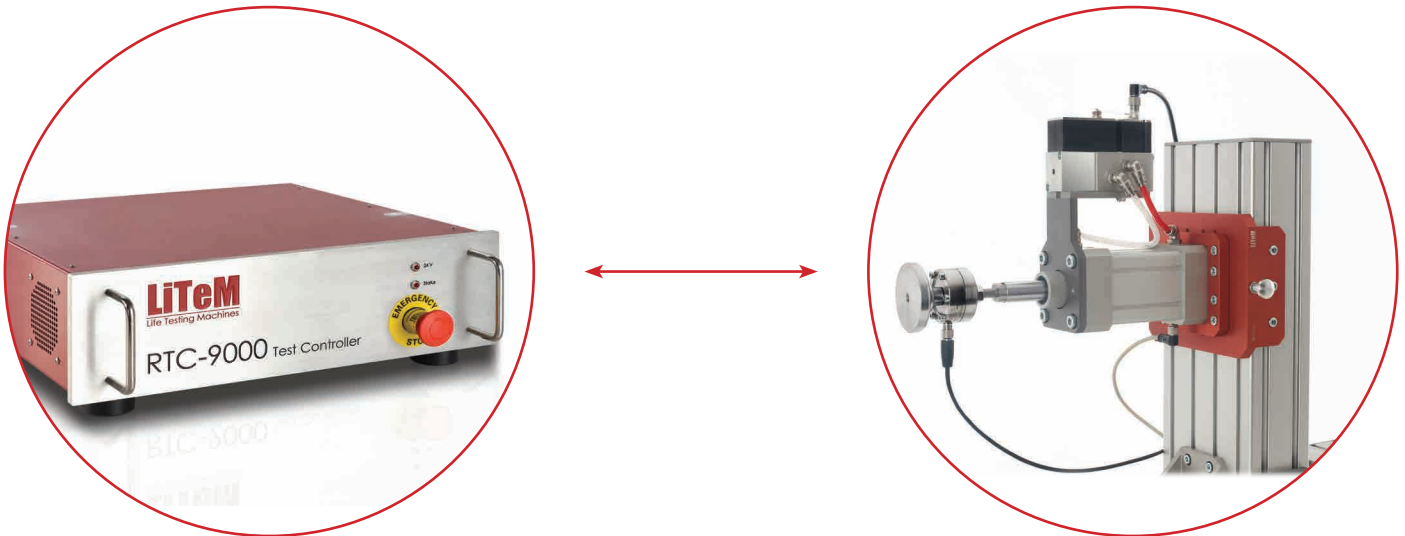
K-PN _ The K-PN pneumatic actuator kit has several configurations which enable the selection of the type of actuator by defining its stroke and maximum static/dynamic force, the type of load cell and the type of fixing for the anchor plates. A series of standard accessories is also available with the kit.



PN-MF_ The PN-MF modular frames, in the VDC and BYC versions, are made with aluminium profiles and plates designed by LiTeM, which ensure the satisfaction of the customer when setting the test bench.

In addition to the modular frames with standard shapes and measurements, LiTeM also produces modular customisable systems. The customer can in fact design their own test system according to the needs of the specific test.

Example of configuration 1



EX 1:
includes the RTC 9001 non-expandable single axis controller and the K-PN pneumatic actuator kit.

Basic configuration and most accessible solution in the series of pneumatic systems.
Ideal for tests on single components or particular assembled components, using contrast structures already existing at the customer's premises.

Only one actuator at a time can be connected to the controller. The features of the actuator (stroke, force...) can be modified for tests with different specifications.

Components included in the Kit	
Code	Description
RTC 9001	RTC 9001 Real Time Controller: RTC9001controller,DellMinitowerPCorsimilar,monitor27",mouse,keyboard,connectioncablesandemergencybutton with 5 m cable
SS-9000	Suite 9000 Software - Already installed
K-PN*	Pneumatic actuator Kit: Actuatorprovidedwithassembledcontactlesspositiontransducer,forcetransducer,proportionalservo-valve,airhandling unit, load cell and servo-valve fixing plate and connection cables
*Note:seethedatasheetoftheK-PNactuatorkittoselectthemodelandspecificationsoftheactuatorandloadcell(www.litem.info)	

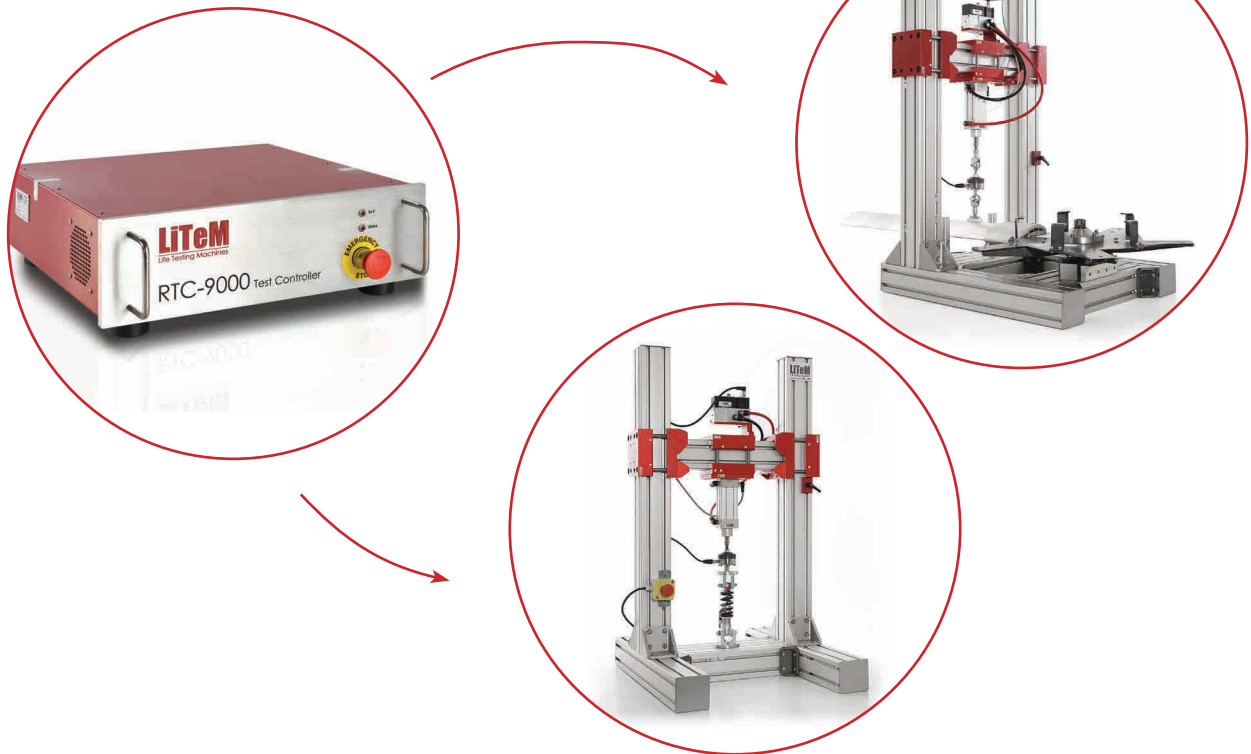
Order codes example

How to order / Coding example:

- RTC 9001
- SS-9000
- K-PN50-100-2.5 (see data sheet of the K-PN Kit)

The system includes the RTC 9001 controller with components included, the SS9000 software and the actuator kit with actuator bore 50 stroke 100 mm - load cell 2.5 kN

Example of configuration 2



EX 2: includes the RTC9001 single-axis non-expandable controller, K-PN pneumatic actuator kit and PN-MF modular frame VDC series.

Complete standard configuration: it supplies the operator with all the parts necessary to run the test except for the compressor and sample to be tested. Ideal for tests on single or assembled components. Only one actuator at a time can be connected to the controller. The features of the actuator (stroke, force...) can be modified for tests with different specifications. The structure of the frame can also be modified by adding new brackets and new aluminium profiles. This system allows the operator to create a tailored test structure according to any need.

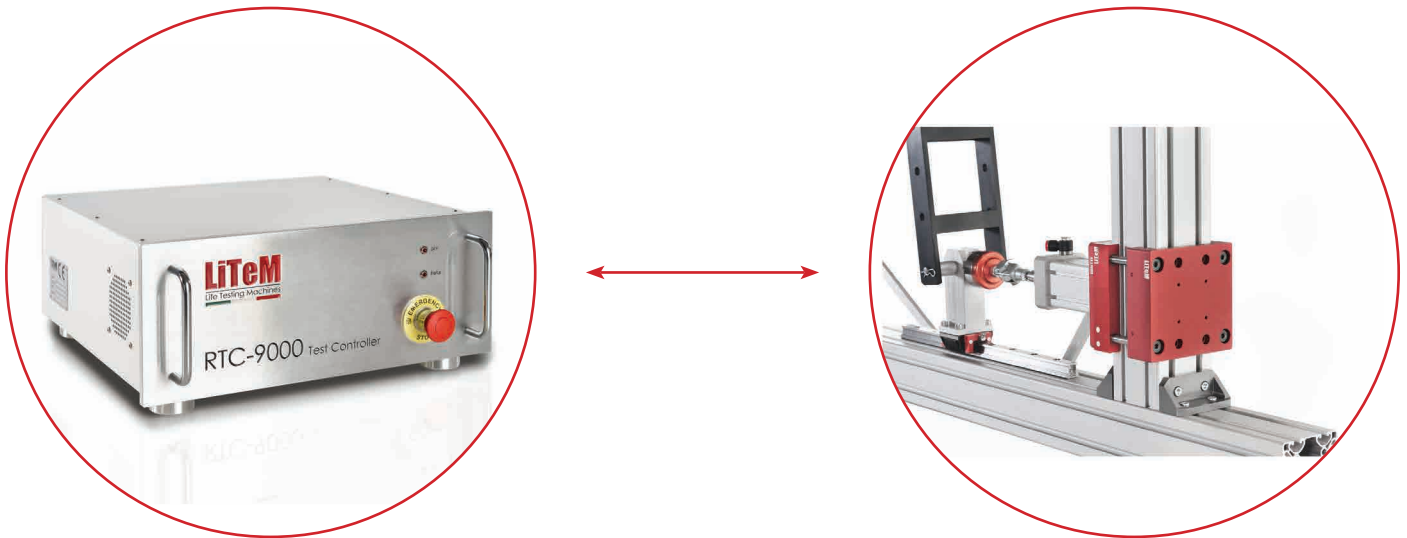
Components included in the Kit	
Code	Description
RTC 9001	RTC 9001 Real Time Controller: RTC9001controller,DellMinitowerPCorsimilar,monitor27",mouse,keyboard,connectioncablesandemergencybutton with 5m cable
SS 9000	SS 9000 Software Suite - Already installed
K-PN*	Pneumatic actuator Kit: Actuatorprovidedwithassembledcontactlesspositiontransducer,forcetransducer,proportionalservo-valve,airhandling unit, load cell and servo-valve fixing plate and connection cables
PN-MF*	PN-MF series modular test frame (available in the VDC and BYC versions)
*Note: see the data sheet of the actuator kit to select the model and specification of the actuator and load cell / see the data sheet of the PN-MF modular frames to set up the frame which best fits your test requirements (www.litem.info)	

Order codes example

How to order / Coding example

- RTC 9001
- SS-9000
- K-PN50-100-2.5 (see data sheet of the K-PN Kit)
- VDC-3-003 (see data sheet of the PN-MF series VDC modular frame)

The system includes the RTC 9001 controller with components included, the SS9000 software, actuator kit with actuator bore 50 stroke 100 mm - load cell 2.5 kN and two-column VDC frame 2.5 kN



EX 3:

This configuration includes the expandable RTC 9000-1 controller with single axis and the K-PN pneumatic actuator kit.

This basic configuration is the most ideal solutions for those operators who intend to run fatigue tests on components and/or parts, with the aim of rapidly implementing the test range to be performed. The controller can be extended with more channels by simply purchasing a software licence. The controller allows the operator to run multi-axis tests up to 4 axes.

As for the single-axis model (ES-1), you can use different actuators per stroke, dynamic force and operation mode.

Components included in the Kit	
Code	Description
RTC 9000-1	RTC 9000-1 Real Time Controller: The RTC9000-1 controller, Dell Minitor PC or similar, monitor 27", mouse, keyboard, connection cables and emergency button with 5m cable
SS 9000	SS 9000 Software Suite - Already installed
K-PN*	Pneumatic actuator Kit: Actuator provided with assembled contactless position transducer, force transducer, proportional servo-valve, air handling unit, load cell and servo-valve fixing plate and connection cables
*Note: see the data sheet of the actuator kit to select the model and specifications of the actuator and load cell (www.litem.info)	

Order codes example

How to order / Coding example:

- RTC 9000-1
- SS-9000
- K-PN50-100-2.5 (see data sheet of the K-PN Kit)

The system includes the multi-axis RTC 9000 -1 controller with components included, the SS9000 software, actuator kit with actuator bore 63 stroke 63 mm - load cell 2.5 kN

Example of configuration 4



EX-04:

includes the multi-axis RTC 9000-4 controller with 4 active axes and 4 pneumatic actuator kits. This configuration can be used for multi-axis tests on the same component or to run four independent tests on four different test samples. Basically, it is like having four stand-alone systems. The frame, or frames according to the application, must be created by the customer.

Components included in the Kit

Code	Description
RTC 9000-4	RTC 9000-4 Real Time Controller: The RTC9000-1 controller, Dell Minitower PC or similar, monitor 27", mouse, keyboard, connection cables and emergency button with 5m cable
SS 9000	SS 9000 Software Suite - Already installed
K-PN*	No. 4 Pneumatic actuator kits: Actuator provided with assembled contactless position transducer, force transducer, proportional servo-valve, air handling unit, load cell and servo-valve fixing plate and connection cables

Order codes example

How to order / Coding example:

- RTC 9000-1
- SS-9000
- No. 2 K-PN50-100-2.5 units (see data sheet of the K-PN Kit)
- No. 2 K-PN80-50-5 units

The system includes the multi-axis RTC 9000-1 controller with components included, the SS9000 software, no. 2 kits with actuator bore 50 - stroke 100 mm - load cell 2.5 kN and no. 2 kits with actuator bore 80 - stroke 50 mm - load cell 5 kN



EX-05:
 this includes the multi-axis RTC 9000-4 controller with 4 active axes, 4 pneumatic actuator kits assembled on 4 PN-MF modular frames. This configuration can be used for multi-axis tests on the same component or to run four independent tests on four different test samples. Basically, it is like having four stand-alone systems. According to the type of application, the frames may have different shapes and sizes.

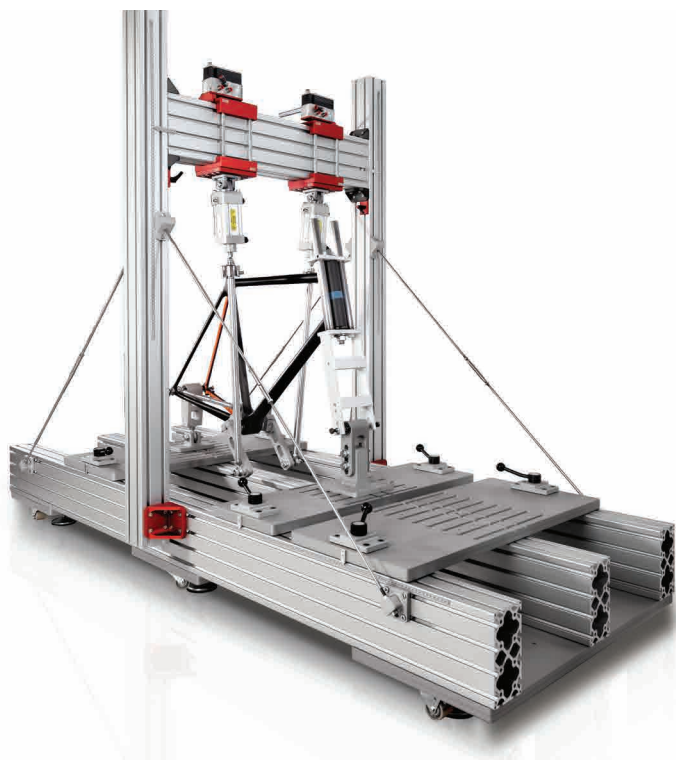
Components included in the Kit	
Code	Description
RTC 9000-4	RTC 9000-4 Real Time Controller: The RTC 9000-4 controller, Dell Minitower PC or similar, monitor 27", mouse, keyboard, connection cables and emergency button with 5m cable
SS 9000	SS 9000 Software Suite - Already installed
K-PN*	No. 4 Pneumatic actuator kits: Actuator provided with assembled contactless position transducer, force transducer, proportional servo-valve, air handling unit, load cell and servo-valve fixing plate and connection cables
PN-MF	PN-MF series modular test frame (available in the VDC or BYC or customised versions)

Order codes example

How to order / Coding example

- RTC 9000-1
- SS-9000
- No. 2 K-PN50-100-2.5 units (see data sheet of the K-PN Kit)
- No. 2 K-PN80-50-5 units
- No. 2 VDC-3-001 units
- No. 2 VDC-3-600-600-1500 units (see data sheet of the PN-MF series VDC modular frames)

Example of configuration 6



EX 6:

this includes the expandable multi-axis RTC 9000-2 controller with 2 active axes and 2 K-PN pneumatic actuator kits assembled for a BYC test bench.

This configuration includes a multi-axis system provided with test bench and is ideal for tests on a frame and assembled mechanical parts. The example shows a frame conceived to run a certain number of tests on bicycle frames as defined by the ISO 4210 standard

As for the single-axis model (EX 1), you can use different actuators for stroke, dynamic force and operation mode.

Components included in the Kit	
Code	Description
RTC 9000-2	RTC 9000-2 Real Time Controller: The RTC9000-2 controller, Dell Minitower PC or similar, monitor 27", mouse, keyboard, connection cables and emergency button with 5m cable
SS 9000	SS 9000 Software Suite - Already installed
K-PN*	No. 2 Pneumatic actuator kits: Actuator provided with assembled contactless position transducer, force transducer, proportional servo-valve, air handling unit, load cell and servo-valve fixing plate and connection cables
BYC	PN-MF modular test frame BYC series
*Note: see the data sheet of the actuator kit to select the model and specifications of the actuator and load cell (www.litem.info)	

Order codes example

How to order / Coding example:

- RTC 9000-2
- SS-9000
- No. 2 K-PN63-100-2.5 units (see data sheet of the K-PN Kit)
- BYC-100 test frames

The system includes the multi-axis RTC 9000-1 controller with components included, the SS9000 software, no. 2 actuator kits with actuator bore 63 stroke 100 mm - load cell 2.5 kN and BYC-100 series frame for tests on bicycles

Training

LiTeM provides training courses for operators during the installation phase at the customer's premises (costs are indicated in the purchase contract), or free of charge at the company's premises or remotely using on-line platforms.

In addition, tutorial videos on the RTC 9000 system are available for all customers.



TUTORIAL
VIDEO

www.litem.info

Al fine di migliorare le prestazioni tecniche del prodotto, la società si riserva di apportare variazioni senza preavviso.
In order to improve the technical performances of the product, the company reserves the right to make any change without notice.

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 GENERAL INFORMATION
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