

FLUICAL[®]

Bench-top Calibration System

BRONKHORST HIGH-TECH BV designed a bench-top calibration system for the calibration of (mass) flow meters and controllers for gases. It is an automatic system that consists of one or more calibration devices and an interface / readout / control unit.

The **piston prover** is a volumetric calibration device consisting of a precision bore borosilicate glass tube and a mercury sealed piston.

When a gas flow enters into the vertical mounted glass tube the piston will move upwards. A number of sensors have been mounted along the wall of the tube to detect the presence of the piston. The volume between these sensors has been calibrated and is therefore a fixed known volume. Together with the travel time, pressure and temperature in the glass tube, the flow at reference conditions can be calculated.

The piston provers can be used for flows to a maximum of 10 l/min whilst for higher flow rates high-accuracy **rotor meters** (maximum 100 m³/h) can be used.

The FLUICAL[®] piston provers and rotor meters can be controlled by means of the Bronkhorst High-Tech series E-7000 digital readout and control system. With an optional RS232 - interface the FLUICAL[®] system can be connected to and controlled by means of a personal computer.



Normally the FLUICAL[®] calibration devices are provided with Bronkhorst High-Tech calibration certificates. If required the calibration devices can be certified by NMI or NKO (Dutch calibration organisations).

Technical Specifications:

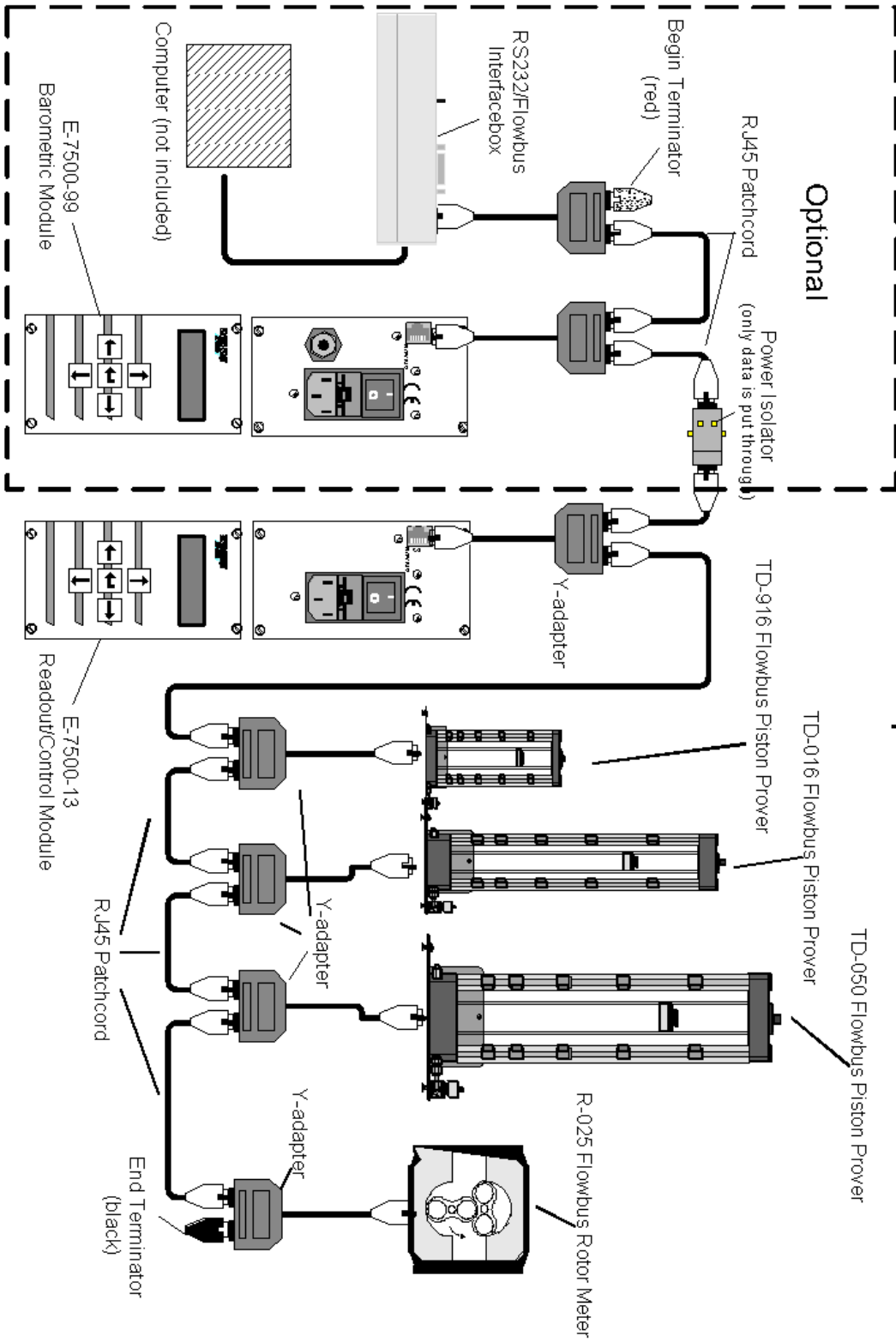
Range up to

200 ml/min	Air
1000 ml/min	Air
10000 ml/min	Air
25 m ³ /h	Air
65 m ³ /h	Air

Calibration device

model T-916-TD	(Piston prover)
model T-016-TD	(Piston prover)
model T-050-TD	(Piston prover)
model R-025-TD	(Rotor meter)
model R-065-TD	(Rotor meter)

Uncertainty 0,2...0,4 rd



SENSORS FOR MASS FLOW AND PRESSURE