

TBB 913 – Floor Radiant Panel

Test Furnace with Accessories

Measurement method	Determination of the burning behavior of floorings in accordance with EN ISO 9239-1
Test chamber	■ Stainless steel, calcium silicate lining, T: 13.0 mm ■ Flap with fire-resistant glazing (H x W): 11 cm x 110 cm ■ Sample feeding from the front, extractable mounting plate for the sample holder (H x W): 12 cm x 120 cm
Sample holder	■ Welded L-profile design, stainless steel ■ 4x fixing clamps for sample installation ■ Measuring section (W x D): 20 cm x 101.5 cm ■ Sample thickness: max. 30 mm ■ Dimensions (H x W x D): 2.2 cm x 32.5 cm x 114 cm
Gas heater	■ Surface gas burner, steel/silicate, installed in the test chamber ■ 1/2" pipe connection for gas supply, check valve ■ Dimensions (H x W x D): 45 cm x 30 cm x 8 cm
Ignition burner	■ Row gas burner, stainless steel, with pneumatic shifting option ■ 35 gas outlet opening, Ø = 0,7 mm, 60° shifted ■ Dimension (L x Ø): 25 cm x 1 cm ■ 1/2" pipe connection for gas supply, check valve
Sensors	■ 2x NiCrNi mantle thermocouples for measurement of the test chamber temperature and the temperature in the vent ■ Light measuring section, consisting of measuring light source, measuring light receiver, adapter and connection for compressed air flushing ■ bidirectional probe for measurement of differential pressure ■ Hot-wire anemometer ■ Radiation pyrometer 300°C– 1000°C ■ Heat flow meter according to Schmidt-Boelter, 1.1 kW/m² 10.7 kW/m² ■ Linear guided burning distance recorder and hand wheel
Calibration material	Calcium silicate panel with 9 bores, Ø = 2.6 cm dimensions (L x W x T): 105 cm x 25 cm x 2 cm
Weight	328 kg

TBB Measuring and Control Unit

Controller	- Single Board Computer with 32 GB SSD storage - Colour touch screen 10.1", 1280 x 800, PCAP
Temperature measurement	- Beckhoff EtherCAT module (temperature measurement) 3 input thermal voltage, 24 bit ADC integrating - Measuring range -100°C – 1300°C, resolution: 0.1 K - Cold-junction compensation
MFC control	1 RS232 for MFC propane 1 x RS232 for MFC air
Gassteuerung	- Beckhoff EtherCAT module (digital output) 3 connected outputs for valves (propane, air)
Flame control	- Beckhoff EtherCAT module (temperature measurement) 2 Type K thermocouples
Radiation pyrometer	- Measuring range 300°C – 1000 °C - Spectral range 3.9 um
Heat flow meter	- Measuring range 0 kW/m² – 20 kW/m² - Type Schmidt-Boelter/Gordon, water-cooled
Path measurement	- Path sensor, potentiometric - Measurement uncertainty <1%
Flow measurement	- TAURUS EtherCAT module (differential pressure) 1 bidirectional probe 1 differential pressure sensor 25 Pa
Measuring light receiver	- Silicium photo receiver, hardened, heat-protected optics - Spectral filter with CIE distribution - Dimensions (l x Ø): 190 mm x 40 mm
Measuring light emitter	- Halogen point light source 10 W, 2900 K color temperature - Diameter of beam 25 mm, d/f = 0.0375 - Dimensions (l x Ø) 190 mm x 40 mm
Gas installation*	- MFC for air/propane - Magnetic and stop valves
Complete setup	19"-cabinet - Dimensions (W x D x H): 65 cm x 65 cm x 175 cm
Weight	118 kg

TBB Software

Software for measured value acquisition, processing and presentation for floorings to fire tests TBB in accordance with EN ISO 9239-1 under Windows 7/8.1/10 Pro operating system

Graphical and numerical presentation of all measured values and intermediate results

* Compressed air and gas for the burner and radiant heater to be supplied by the user.