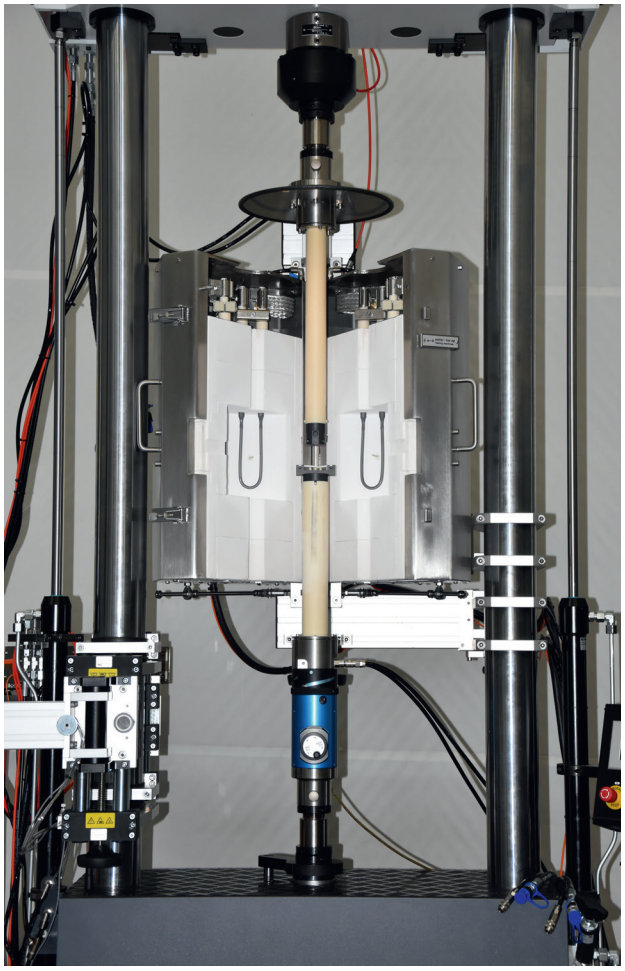
1500°C High Temperature Bend Test Fixture with Deflection Measuring System

Series PMA-06

The PMA-06 water cooled fixture is used for exact deflection and strain measurement during flexural and compression tests of Ceramics and Ceramic Based Materials.

The application range includes

- Specimen Deflection Measurement of Ceramic Specimen during 3- or 4-Point Flexural Test
- Specimen Compressive Strain Measurement of Ceramic and Ceramic Based Specimen during Compression Test



This unique deflection measuring system is available in two versions

Manual Actuated Version

The unit features an adjustment wheel for simple feeler arms movement to the measuring surface (for example specimen) with recognition of contact. Once the adequate contact force has been generated the green light will show the unit is ready for measurement.

Motorized Version

The unit features a plug-in module for stylus approach control to the surface of the specimen with automatic recognition of contact with the specimen and with automatic stopping when adequate contact force has been generated at the specimen.

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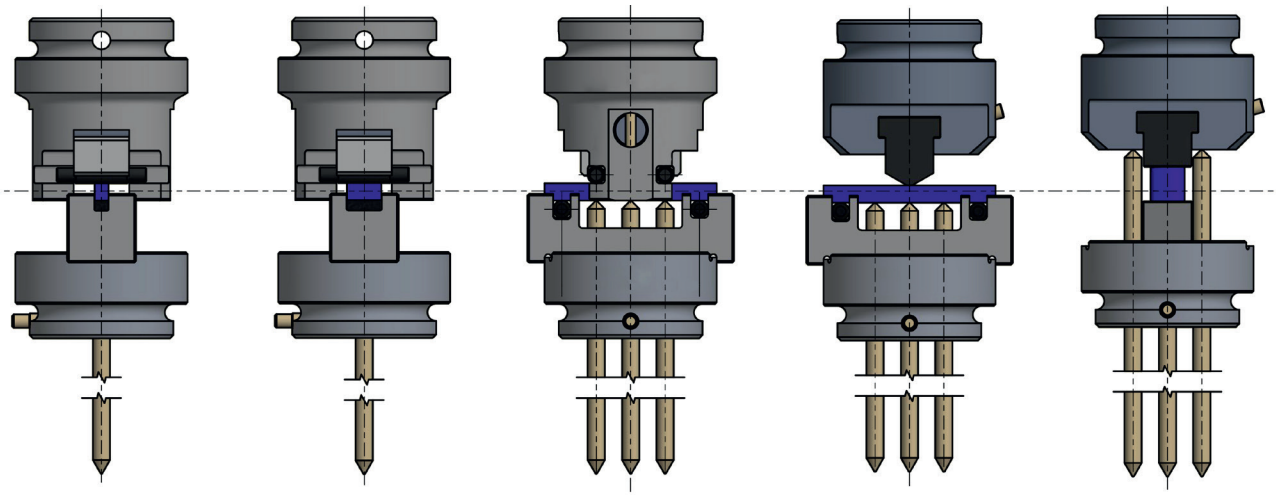
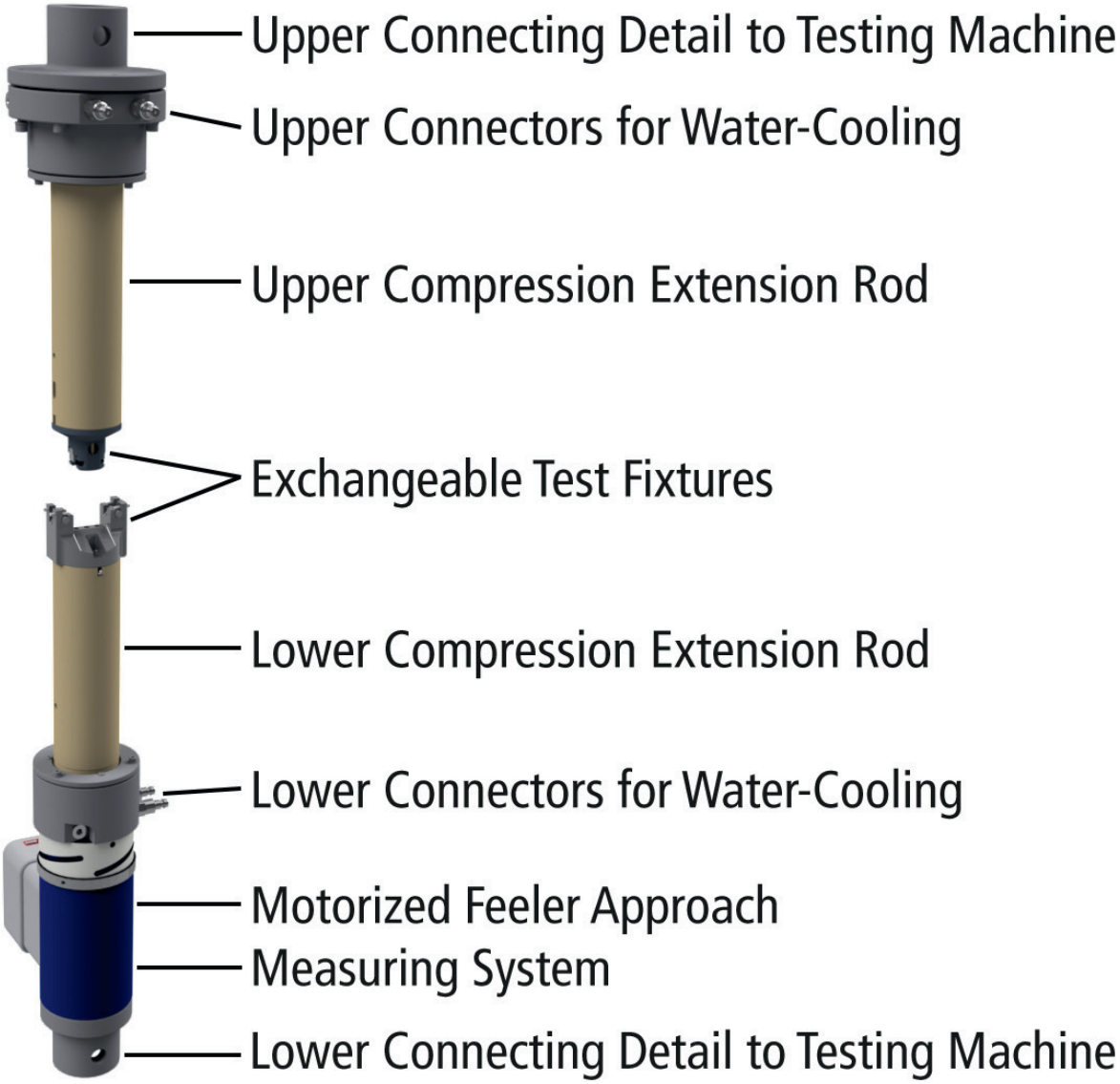
Thermal Deformation Compensation

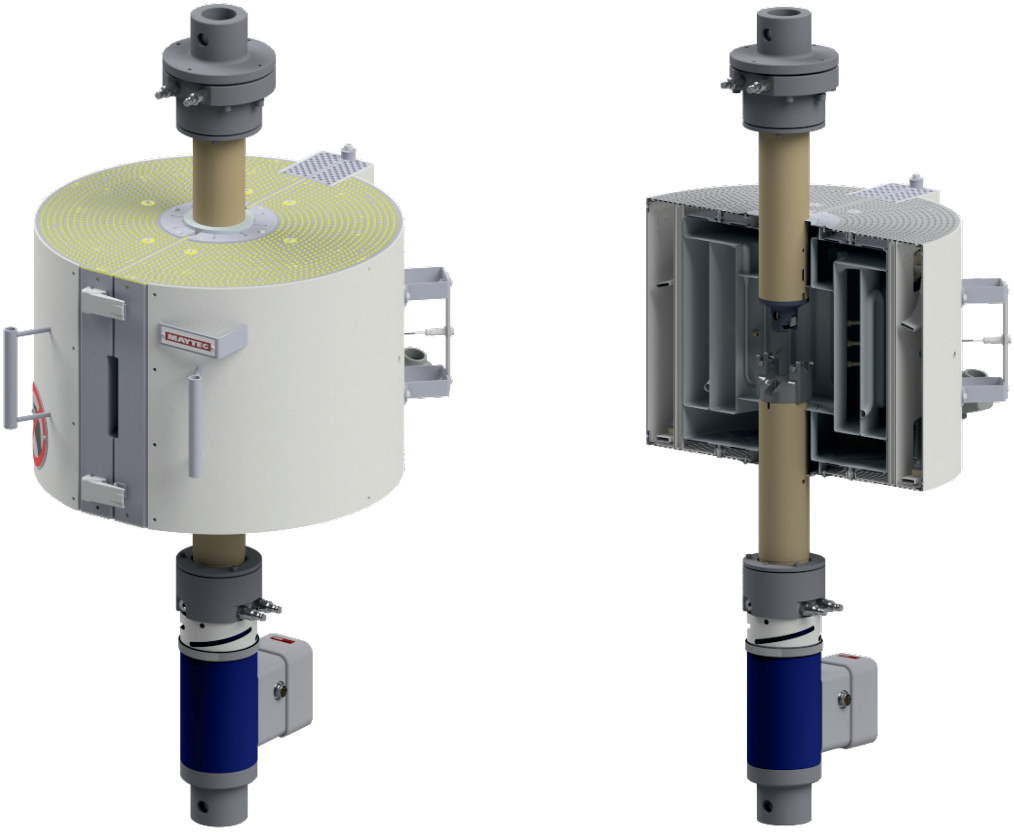
Beside of the measuring sensor arm two additional arms are located on each side and are used for compensating the thermal caused elongation of the measuring arm.



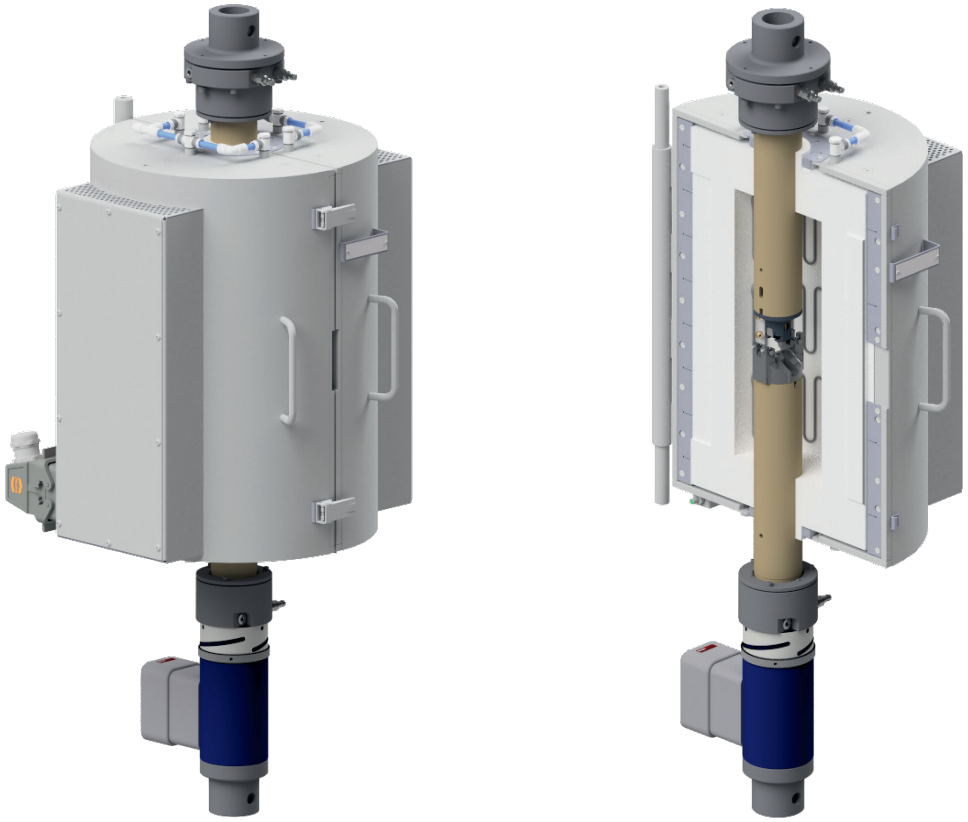
Typical Test Set-Up



The PMA-06 deflection measurement system can be combined with virtually every furnace. Push rods and measuring arms extending into the furnace are made with suitable lengths.



Example PMA-06 in combination with 1600°C 1-Zone Short Furnace HTO-36



Example PMA-06 in combination with 1600°C 3-Zone Furnace HTO-20

Technical Data

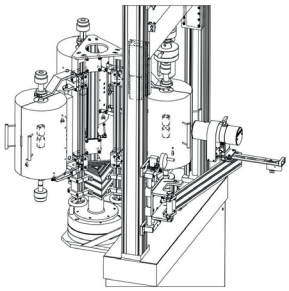
Type		PMA-06/V6-01HB	PMA-06/V6-01LV	PMA-06/V6-05HB	PMA-06/V6-05LV
Temperature Range	°C	1500			
Measuring Range	mm	±1	±1	±5	±5
Measuring Accuracy	ISO 9513	Grade 0.5			
Measuring Resolution	µm	0.1			
Contact Force of Sensor Arms	N	1…2 N variable adjustable			
Reference Arms Travel	mm	±1.5			
Sensor Arm materials		AL2O3 or SiC			AL2O3 or SiC
Measuring Principle		Inductive Half-Bridge	Inductive Diff.-Transf., LVDT	Inductive Half-Bridge	Inductive Diff.-Transf., LVDT
Supply Voltage	V	1…10			
Carrier Frequency	kHz	2…20			
Signal Output	mV/V/mm	83	210	105	51
Max. Environmental Temperature	°C	80	80	80	80

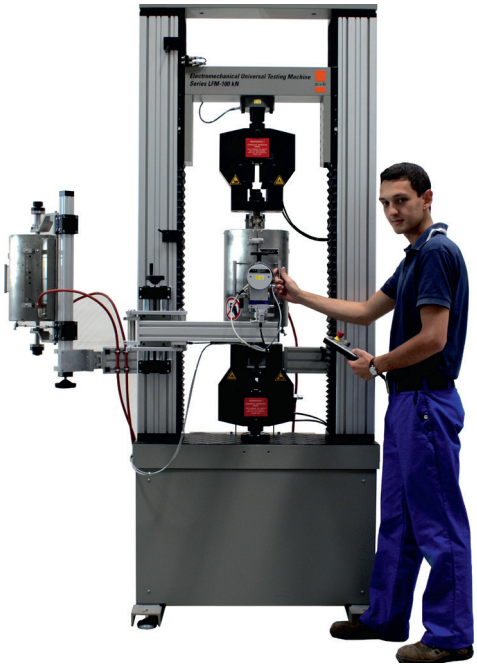
Application Example:

Efficient High Temperature Testing of Metals & Alloys

Walter + Bai offers test systems for tensile testing of metallic materials at elevated temperatures with a multiple furnace system for increased productivity. Working with more than one furnace allows to pre-heat samples outside the testing machine and swivel them into place once the test temperature is reached or the dwell time is passed.

Depending on the number of employed furnaces, they are attached to the testing machine, integrated in a rotary rack or mounted on roller guided carriers.





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