Theta Industries, Inc.

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IQ 1.3

Instrument Questionnaire For Quench Dilatometer

Submitted by _____   Title _____
Organization _____   Dept. _____
Street _____   Tel. No. _____ Ext. ___
City _____ Zip _____   Fax No. _____
State/Province _____   Country _____

1 CHARACTERISTICS OF SPECIMEN TO BE MEASURED

ΔL   Overall
☐ 10 ppM   ☐ 1/2%
                      Needed Accuracy
☐ 50ppM   ☐ 1%   For Required Resolution 1.1
                      Check Chart
☐ 100ppM   ☐ 2%

Length   Diameter   Quench Specimen
                              Size   1.2
                           Deformation Specimen
                              Size
☐ 50mm 2"   ☐ 25 mm   1"   Alpha Specimen
             ☐ 20 mm 3/4"   Size   1.3
☐ 25mm 1"   ☐ 12 mm 1/2"

☐ 10mm   ☑ 6mm   1/4"

☐ 10^{-6} mbar High vacuum
☐ 10^{-4} mbar High vacuum   Desired Specimen
☐ 10^{-2} mbar High vacuum   Environment   1.4
☐ Protective gas

2 PLANNED APPLICATIONS, PHENOMENA, MATERIALS TO BE STUDIED

Applications   ☐ Steel

☐ Educational   ☐ Shape Memory

☐ Production control (QC) ☐ Others

☐ Research

☐ Coefficient of linear
   thermal expansion

☐ Phase transformation

Remarks:

Date _____ Signed _____

3 DESIRED INSTRUMENT CONFIGURATION

☐ Diffusion Pump System   3.1
☐ Turbo Molecular Pump System   3.2

☐ Quench

☐ Deformation   Dilatometer Head   3.3

☐ Coefficient of linear thermal expansion α

☐ Fused Silica   ☐ Platinel TC
☐ Zero Expansion   Specimen Holder   3.4
☐ Sintered Alumina   ☐ PL, Type S TC
☐ Deformation force sensor

☐ Quench   Furnace   3.5
☐ Liquid Nitrogen Quench
☐ Deformation, Double Coil
☐ 1000°C   1600°C

☐ Multi Segment (computer)   Temperature
                                Programmer   3.6

☐ With magnification for recorder
☐ With digital display for computer.   Signal
                                Conditioner   3.7

☐ PC with HP Desk Jet
☐ PC with HP Plotter
☐ Strip, 2-pen 25 cm (10")   Computer   3.8
                                Recorder

☐ Dilasoft 1 for CTE, α
☐ Dilasoft 3 for Quench   Software   3.9
☐ Dilasoft 33 FD Deformation

☐ Const. Temp. Circulator   Accessories   3.10
☐ Overtemperature Protection Attachment
☐ Spot Welder   Services
☐ Installation   Servic Contract

Instrument Price Range:
                          ☐ Our Needs Are:
                          ☐ Immediate
☐ $20,000   ☐ 1 to 3 months
☐ $100,000   ☐ Over 3 months
☐ $150,000   ☐ For Future Reference