

Medium container



Fluid bath for medical testing applications

Applications

Fast reabsorbing materials, which are increasingly used in traumatology, surgery, and wound healing change their material properties incrementally as they make contact with mediums such as saline solution. This must able to be regulated so that the reabsorbing biomaterials can be used purposefully. It is important to know and adapt to the changes in stiffness, tensile strength, and yield point during manufacturing and development.

In the field of biomaterials, the mechanical properties of both regenerative and artificial materials are researched. To reflect the physiological conditions of the body, mechanical tests should be performed in a temperature-controlled fluid bath. ZwickRoell's fluid bath enables simulation of an in-vivo environment for tests on fast reabsorbing materials.



Typical applications for fluid baths in the medical industry include:

- Stents
- Biological materials
- Dental ceramics
- Suture material

Advantages and features

- Glass container can be moved axially with spring support to enable clamping of the specimen outside the liquid medium
- Includes collection trough and hose connection for draining the liquid.
- Various test tools or specimen grips can be connected to the mounting stud located inside the bath
- Quick dismantling for easy cleaning; disinfection also possible in autoclave up to 120°C
- Traceability option in the testXpert III testing software sets the necessary requirements to satisfy all criteria of FDA 21 CFR Part 11



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- A flexure test kit for tests based on DIN EN ISO 6872 is available specifically for medical applications, together with specimen grips for use in liquids
- Optional temperature conditioning device (ambient temperature up to 80°C) for installation in the fluid bath including a separate container for preconditioning the specimen
- Optional use of videoXtens optical extensometer



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Technical data

Туре	Medium container ¹⁾	
Item No.	1062508	
Test load F _{max} , tension	1	kN
Test load F _{max} , compression	500	Ν
Glass container dimensions:		
Outer diameter	150	mm
Inner diameter	140	mm
Height	298	mm
Fill level, approx.	3.8	I
Displacement path, approx.	203	mm
Connections:		
To materials testing machine,		
bottom	Ø20	mm
To connecting rods	Ø8	mm
Container material	Glass	
Temperature range	Ambient temperature +80	°C
Weight, approx.	8.3	kg

1) Not for use with zwickiLine TS

Optional accessories

Required for temperature conditioning of the medium:

Description	Item number
Bath heater	
For connection to the heating thermostat With on-specimen temperature monitoring, temperature range: Room temperature +80 $^\circ\mathrm{C}$	1063082
Heating thermostat, type Lauda Eco E4S with connection hoses (1 x required)	
Europe: 230V/ 50/60Hz - fixed mounted Euro Schuko plug type F ¹⁾ Temperature range: +20 +200 °C, heat output 2 kW, temperature constant ±0.01 K, connec- tion to testXpert III via USB port	1015916
USA: 115V/60Hz - fixed mounted USA Schuko plug type B Temperature range: +20 +200 °C, heat output 2 kW, temperature constant \pm 0.01 K, connection to testXpert III via USB port	1019021

1) For connection to a British square 3-pin grounded socket, a type F Euro plug to BS 1363 adapter (Item No. 059850) is required

Optional accessories

Test fixtures and specimen grips for use in fluid bath		
Description	Item number	
Items for 3-point flexure test based on EN ISO 6872, rustproof		
Flexure table with hardened anvils based on EN ISO 6872 Fmax 1 kN, temperature range -70 to +250°C, connection diameter 8 mm - span, stepless, 2 to 30 mm - span, locked, 15/20 mm - anvil radius 0.8 mm, anvil width 10 mm	002744	



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Description	Item number
Die ¹⁾ Fmax 1 kN, temperature range -70 to +250°C, connection diameter 8 mm - includes jaws (steel, smooth), height x width: 16 x 20 mm - max. opening width: 3 mm - scope of delivery: 1 pair	002778
1 pair screw grips, Type 8153, Fmax 20 N, rustproof	
 1 pair screw grips, Type 8153, Fmax 20 N, rustproof¹⁾ Fmax 20 N, temperature range -70 to +250°C, connection diameter 8 mm - includes jaws (steel, smooth), height x width: 16 x 20 mm - max. opening width: 3 mm - scope of delivery: 1 pair 	002788

1) Depending on installation and specimen size, an 8 H7/8 g6 extension, 100 mm long (Item No. 1015917), is required for testing