METROTEC

TOOLS AND FIXTURES FOR BIOMEDICAL TESTING

To perform **tests** with **biomedical elements** such as **Syringes, Needles, Protective Clothing, Ampoules, Dental Elements, Hip Prosthesis, Prostheses and Dental Implants, FFP2 Masks, Human Tendons**... these tools being incorporated into a universal testing machine with testing software.

TECHLABSYSTEMS

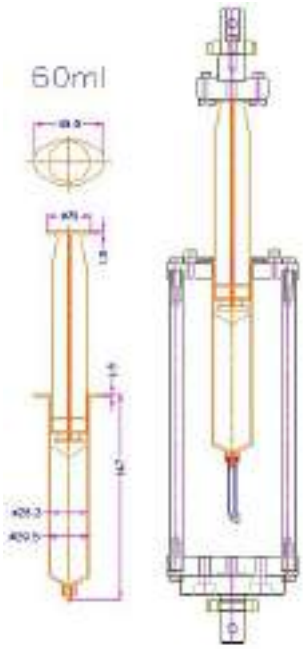
APPLICABLE STANDARDS

DIN EN ISO 7886-1 - DIN EN ISO 11608-3 - DIN EN ISO 7864 - DIN EN ISO 9626 - ASTM F3212 - ASTM F2878 - DIN EN ISO 9187-1 - DIN EN ISO22112 - DIN EN ISO 20795-1

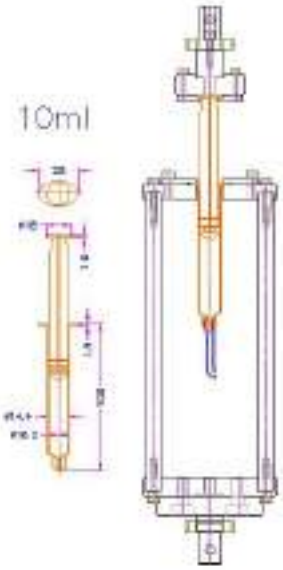
MEDICAL SYRINGE TESTING FIXTURES To determine the force required to operate the syringe piston According to DIN EN ISO 7886-1 standards (Fig E1)	
Maximum load:	5 kN
Coupling:	15.9 or 20 mm Other couplings on request.
Body:	Steel, nickel plated
Temperature range:	0 ... +70°C Other temperature ranges on request
Scope of supply:	1 syringe holder, top with adapter and inserts

With inserts, upper part with adapter and inserts to accommodate syringes of different diameters

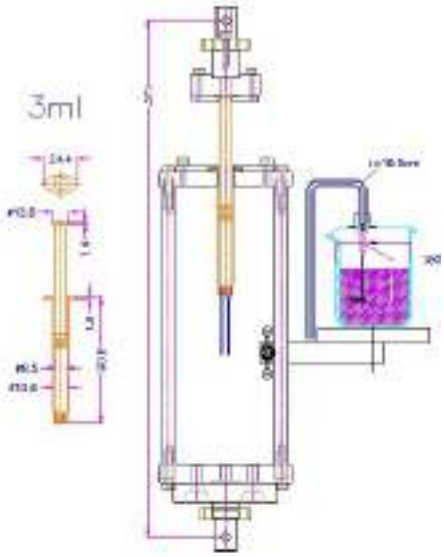
Special version with movable and height-adjustable support plate.



ISO 7886-1 fig.E.1

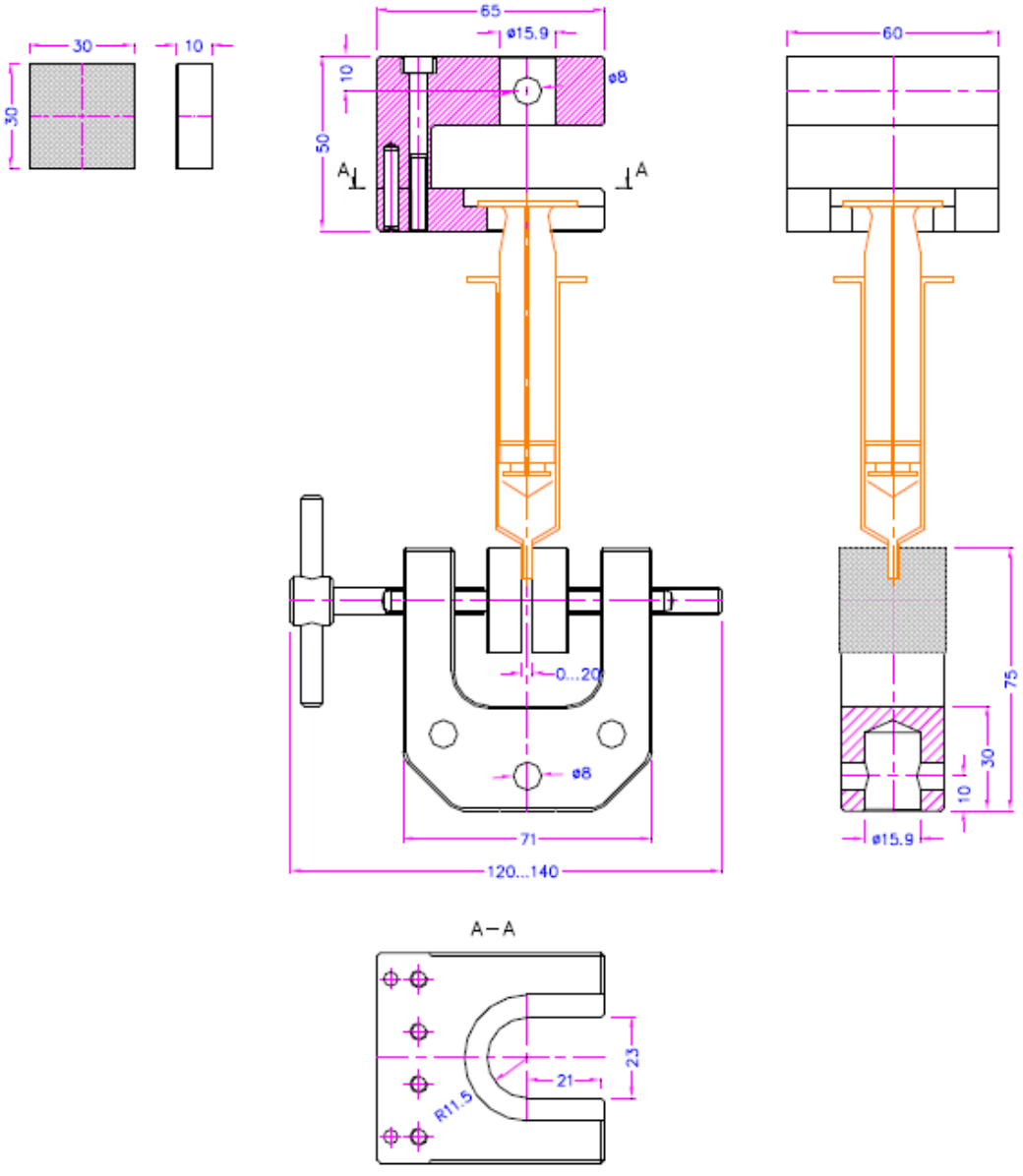


ISO 7886-1 fig.E.1

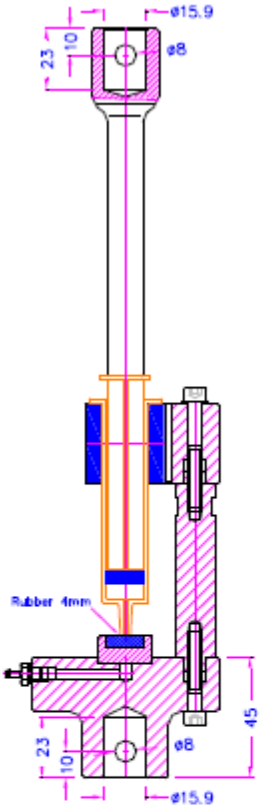


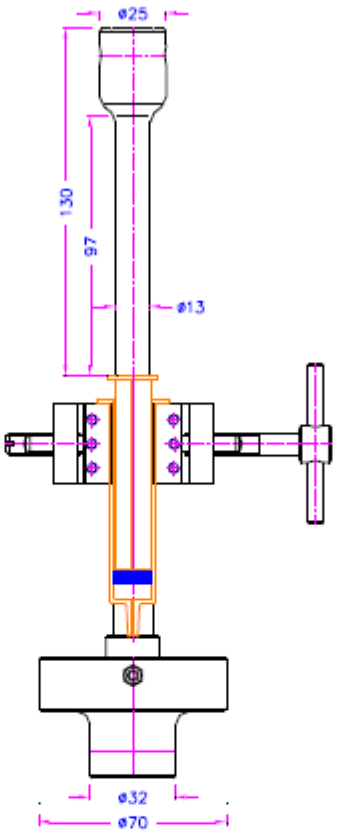
ISO 7886-1 fig.E.1

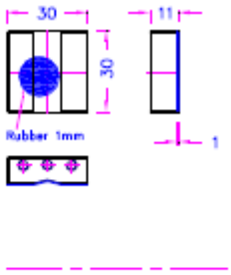
MEDICAL SYRINGE TESTING FIXTURES Syringe holder to determine properties of tensile of the syringes.	
Maximum load:	2 kN
Coupling:	15,9 or 20 mm Other couplings on request
Body:	Aluminium, anodized
Temperature range:	0 ... +70°C Other temperature ranges on request
Scope of supply:	Scope of supply: 1 syringe holder included carrier with insert Lower grip must be ordered separately

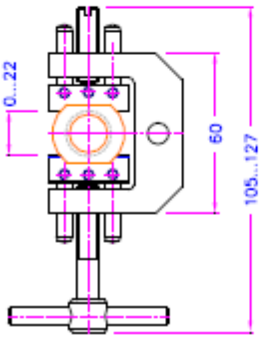


SYRINGE CARTRIDGE TEST FIXTURES (according to DIN EN ISO 11608-3 standards)	
Maximum load:	100 N
Coupling:	15,9 o 20 mm. Other couplings on request
Body:	Steel, nickel plated
Temperature range:	0 ... +70°C Other temperature ranges on request
Scope of supply:	1 fixture made up of a plunger and cartridge holder.

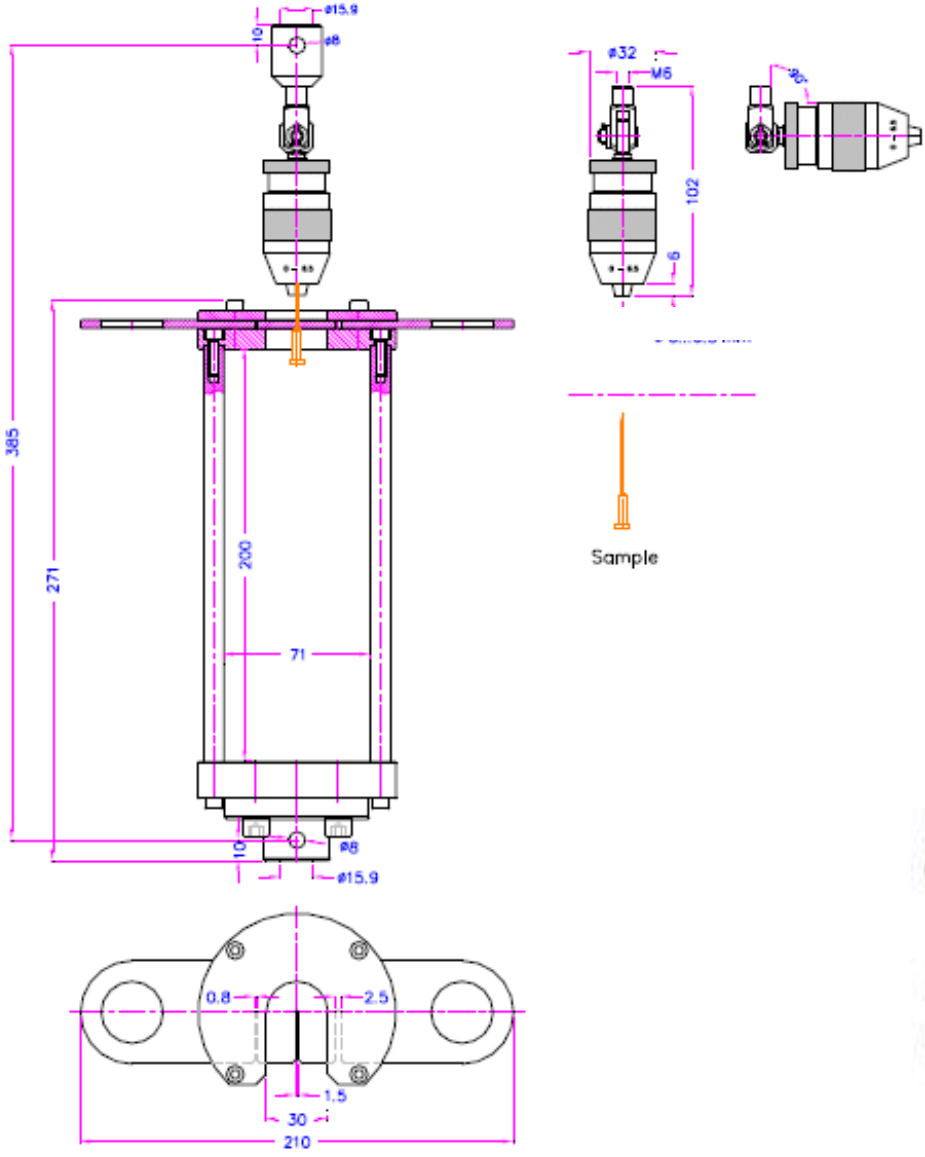




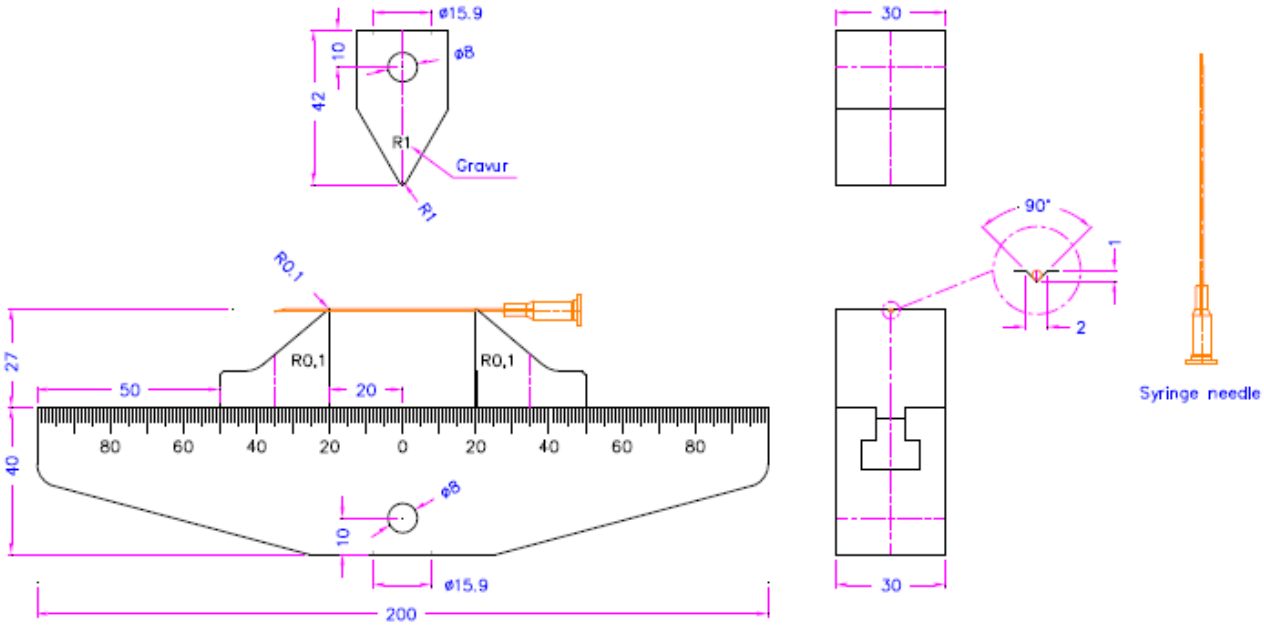




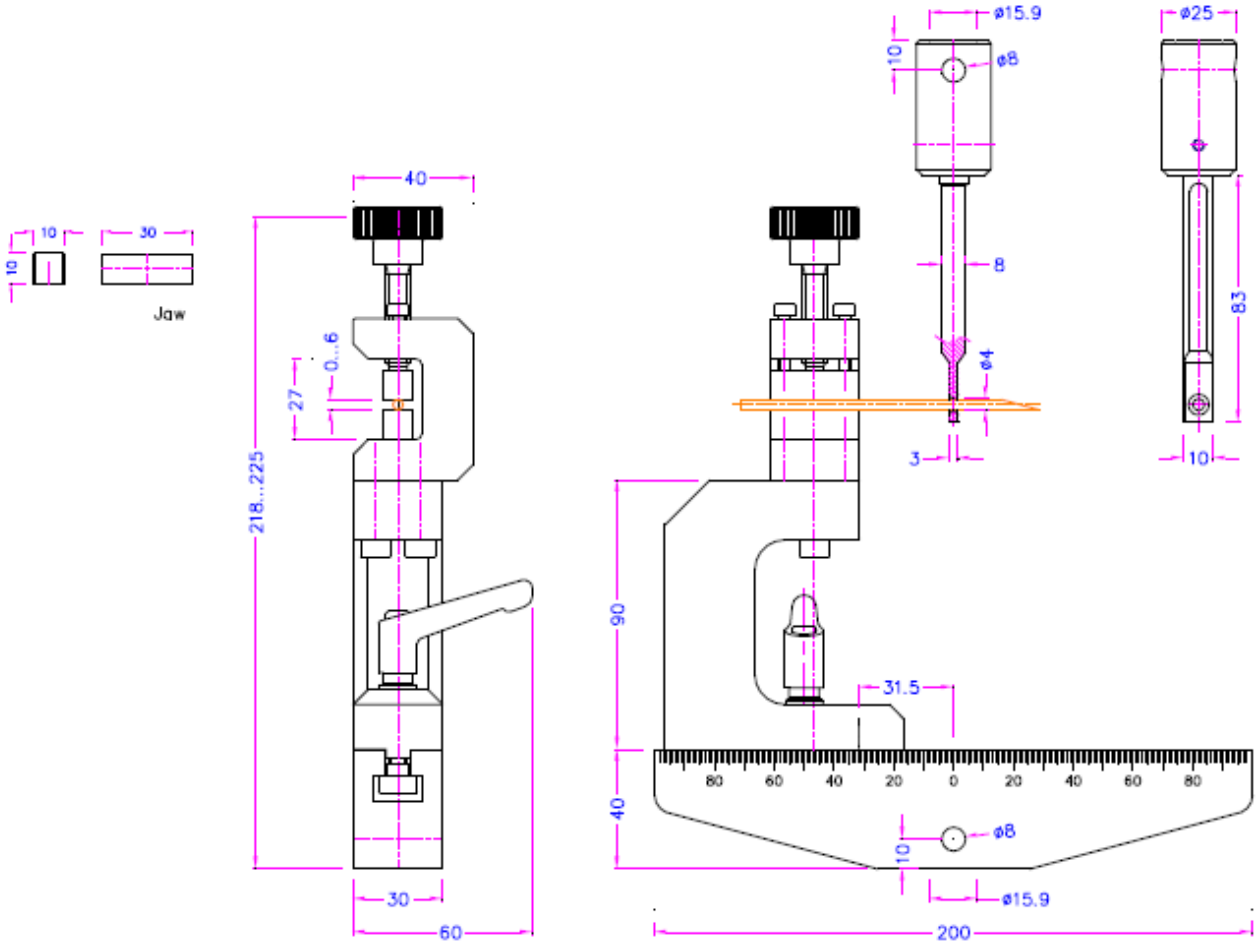
HYPODERMIC NEEDLE TEST FIXTURES (according to DIN EN ISO 7864 standards)	
Maximum load:	2 KN
Maximum sample Ø:	6 mm
Coupling:	15,9 or 20 mm. Other couplings on request
Body:	Aluminiun, Steel
Temperature range:	0 ... +70°C Other temperature ranges on request
Scope of supply:	1 fixture consisting of a lower support and a fast action drill chuck



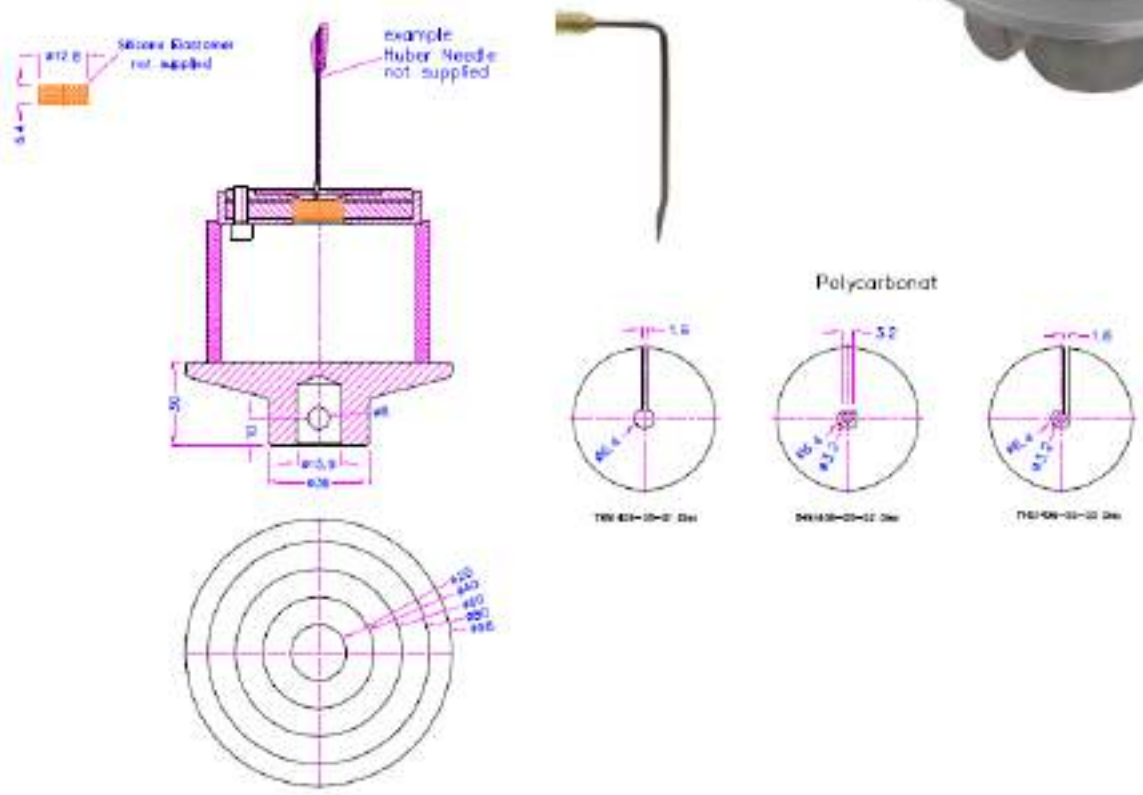
3-POINT BENDING / BENDING FIXTURE for testing stainless steel needle tubes (according to DIN EN ISO 9626 standards)	
Maximum loas:	10 KN
Coupling:	15,9 or 20 mm. Other couplings on request.
Material:	Steel, nickel plated
anvils:	Hardened steel, nickel plated
Temperature range:	0 ... +70°C Other temperature ranges on request
Scope of supply:	1 complete bending test fixture



FLEXURE TESTING FIXTURE special for testing stainless steel needle tubes (according to DIN EN ISO9626-Ann.C standards)	
Maximum load:	1 kN
Coupling:	15,9 or 20 mm. Other couplings on request.
Material:	Aluminium, Steel, Plastic
Temperature range:	0 ... +70°C Other temperature ranges on request
Scope of supply:	1 complete testing fixture



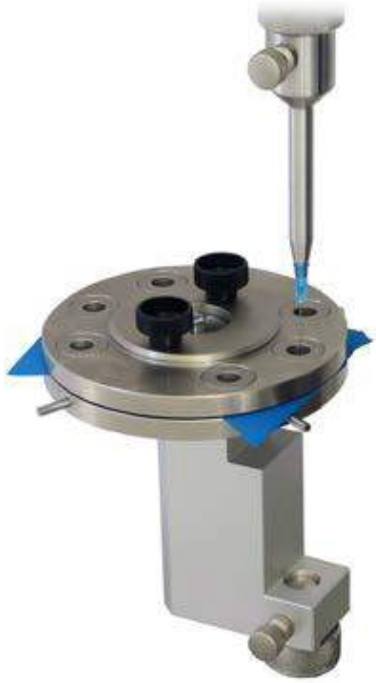
"HUBER" NEEDLE CORE EXTRACTION FIXTURE (according to ASTM F3212)	
Maximum load:	1 kN
Coupling:	15,9 or 20 mm. Other couplings on request
Material:	V2A Stainless Steel, Polycarbonate
Temperature range:	0 ... +70°C Other temperature ranges on request
Scope of supply:	Accessory included inserts. The lower Circular Compression Plate must be ordered separately.

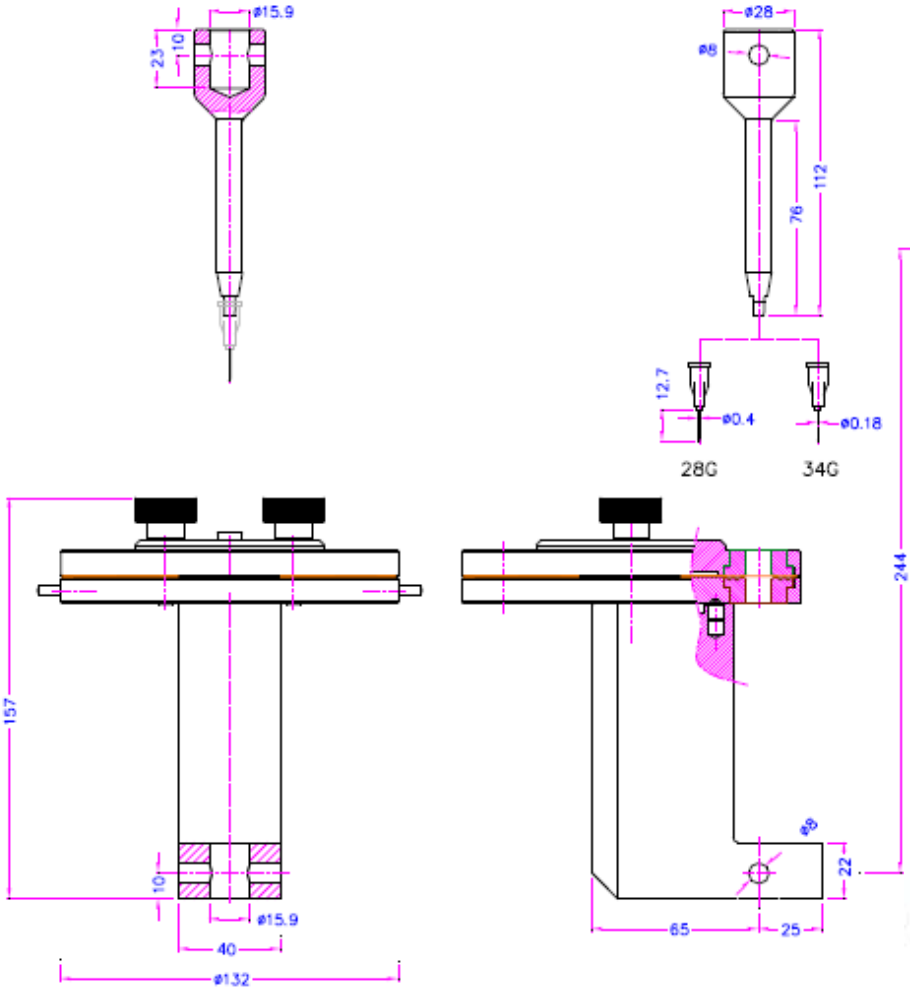


Lower compression plate :

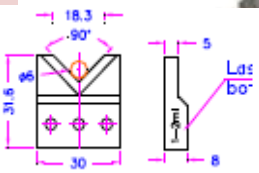
- 96mm diameter,
- 15.9 or 20mm coupling
- Aluminum, anodized

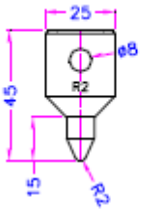
FIXTURE FOR PROTECTIVE CLOTHING TESTS (according to ASTM F2878)	
Maximum load:	2 kN
Coupling:	15,9 or 20 mm. Other couplings on request.
Material:	Steel, Aluminium, Plastic
Temperature range:	0 ... +70°C Other temperature ranges on request
Scope of supply:	1 test fixture including needle holder and cloth sample holder

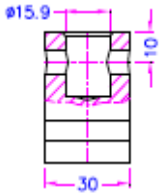


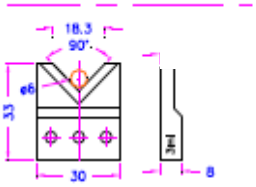


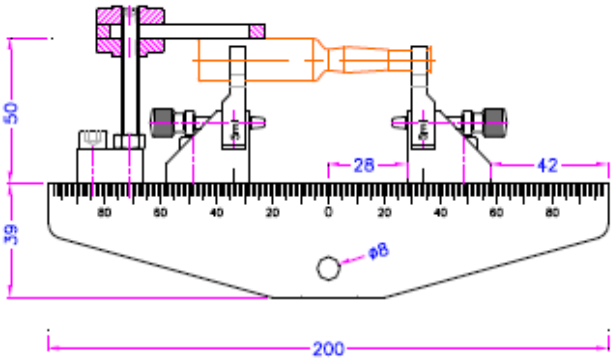
AMPOULE TESTING FIXTURE (according to DIN EN ISO 9187-1 standards)	
Maximum load:	5 kN
Coupling:	15,9 or 20 mm. Other couplings on request
Material:	Steel, Aluminium
Temperature range:	0 ... +70°C Other temperature ranges on request
Scope of supply:	1 bending test fixture including inserts

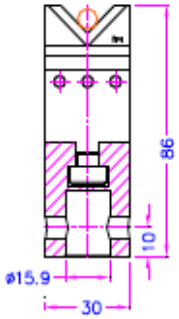


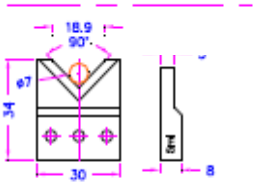


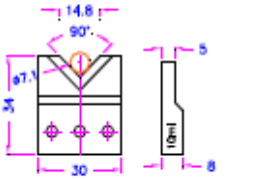


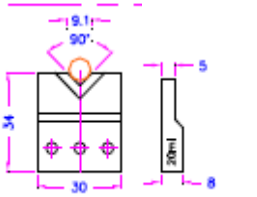






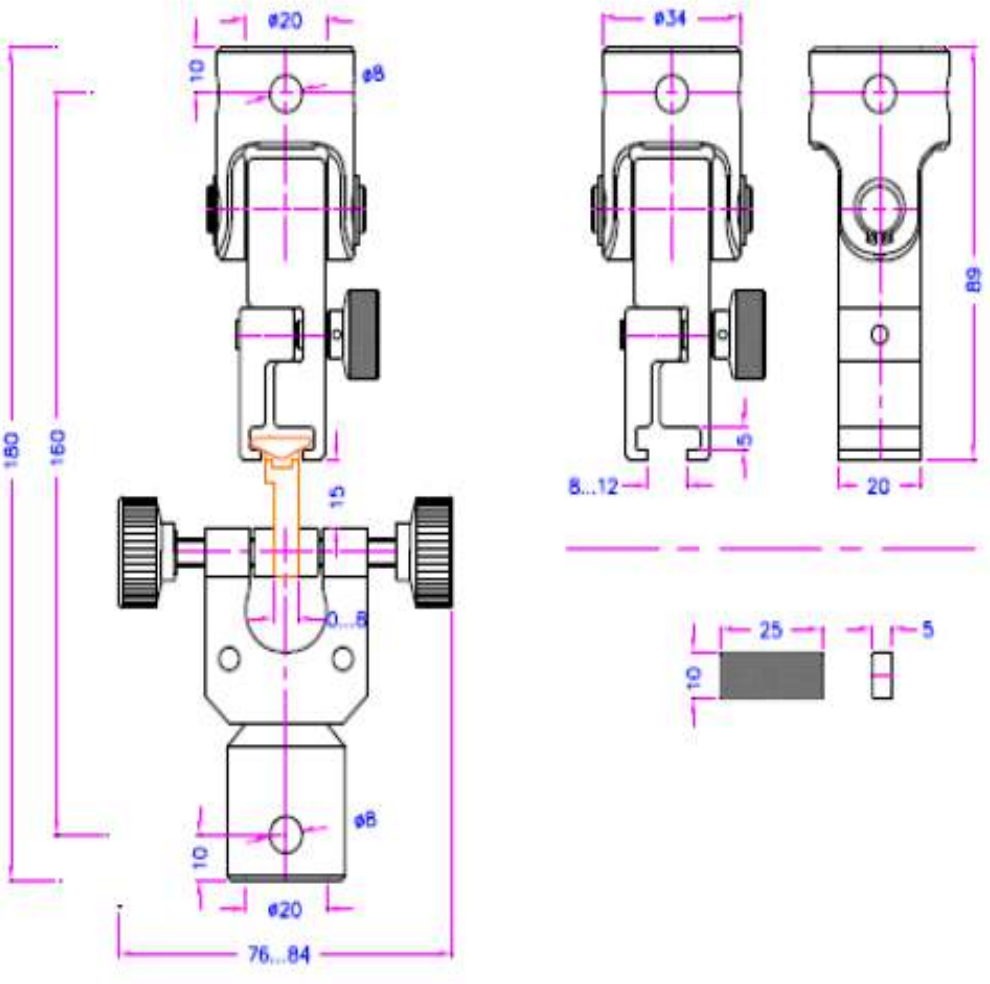






Test fixture with a tray for the collection of fluids from the blisters.

FIXTURE FOR DENTAL TESTS Tensile testing fixture for measuring the bond strength of dental restorations according to DIN EN ISO 22112 and DIN EN ISO 20795-1	
Maximum load:	3 kN
Coupling:	15,9 or 20 mm. Other couplings on request.
Material:	Steel, Aluminium, Plastic
Temperature range:	0 ... +70°C Other temperature ranges on request
Scope of supply:	1 testing fixture that is composed of upper and lower grips



FIXTURE FOR DENTAL TESTS

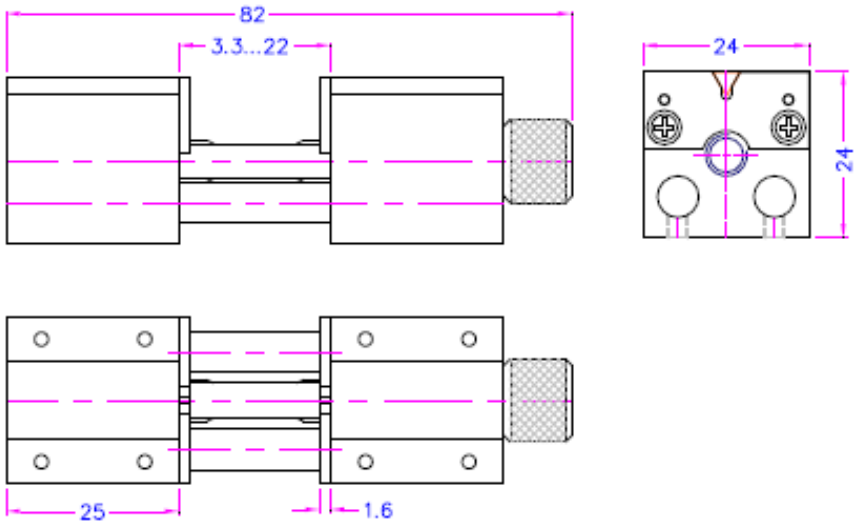
Bonding test between polymer teeth and denture base materials according to DIN ISO/TS 19736

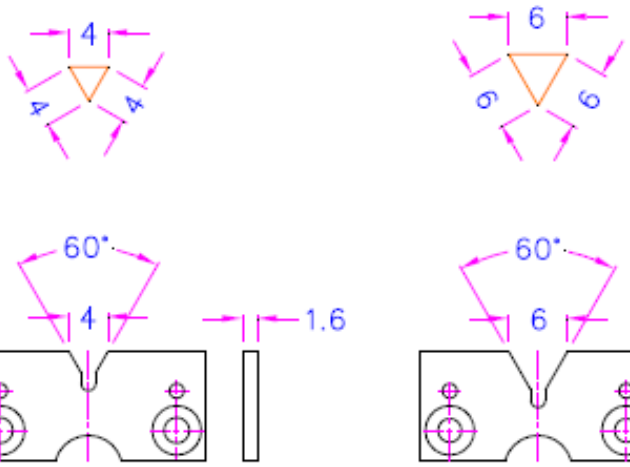
Maximum load:	2 kN
Coupling:	15,9 or 20 mm. Other couplings on request.
Material:	Steel, Aluminium
Temperature range:	0 ... +70°C Other temperature ranges on request
Scope of supply:	1 testing fixture that is composed of upper and lower grips

* Holder for denture base diameter has 25 mm inner Ø

FIXTURE TO CRUSH DENTAL IMPLANTS

Maximum load:	20 kN
Opening:	de 3,3 a 22 mm.
Material:	Flat steel bars, tungsten carbide
Temperature range:	0 ... +70°C Other temperature ranges on request
Scope of supply:	1 test fixture with inserts





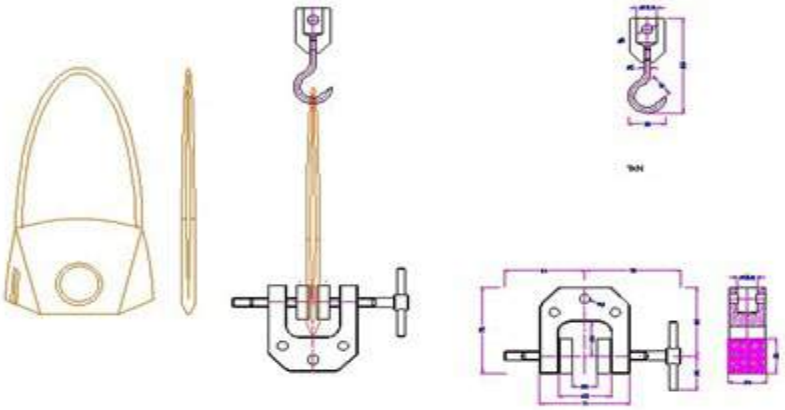
EXAMPLES OF OTHER TESTING FIXTURES:

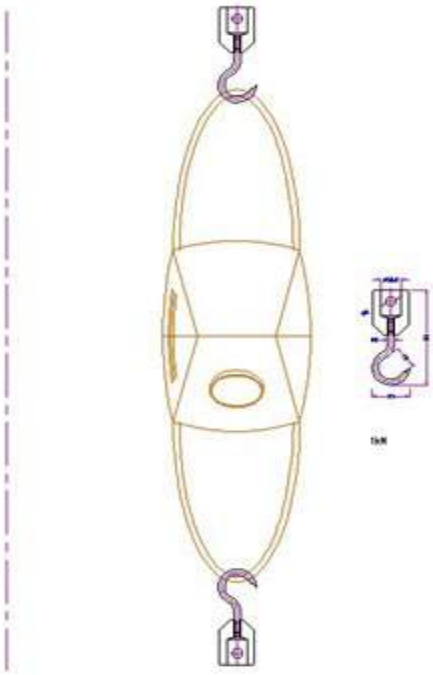
Special accessory for pull-out tests to measure the strength of medical needle joints, stainless steel

(syringe holder) + (upper grip)

Special accessory for measuring the withdrawal force of the needle cap tips

Special syringe holder for the 90° bend test





FFP2 mask loop test according to EN 149

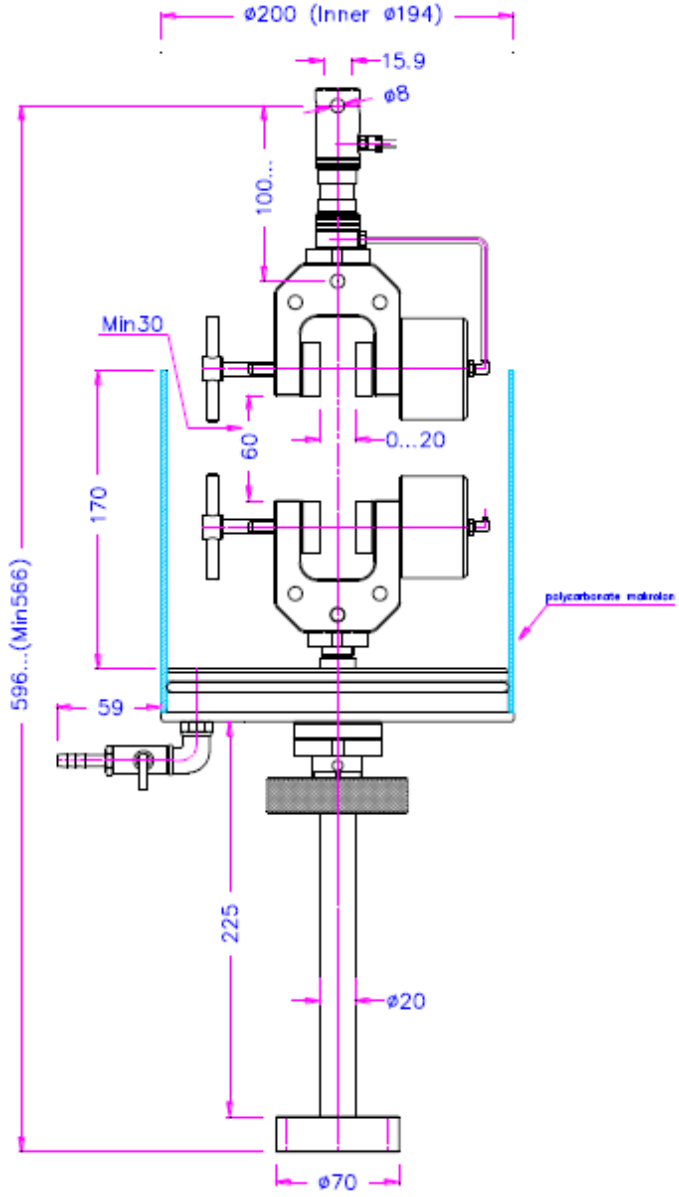
Special accessory for testing needles syringe, stainless steel

FIXTURE FOR HUMAN TENDONS TESTS

Special Plexiglas container with tensile grips for cyclic and creep loading test on human flexor tendons

Maximum load:	10 kN
Coupling:	15,9 or 20 mm. Other couplings on request.
Material:	Makrolon, Steel, Aluminium
Temperature range:	0 ... +120°C Other temperature ranges on request
Scope of supply:	1 bath without grips and pull rod adapters. For grips we recommend Pneumatics MDN series

* Water outlet through a hole in the base.



Special accessories for testing hip prostheses according to ISO 7206-4

To determine the strength properties and performance of stemmed femoral components of partial and total hip joint prostheses for surgical implants. Max. Load 30 kN.

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