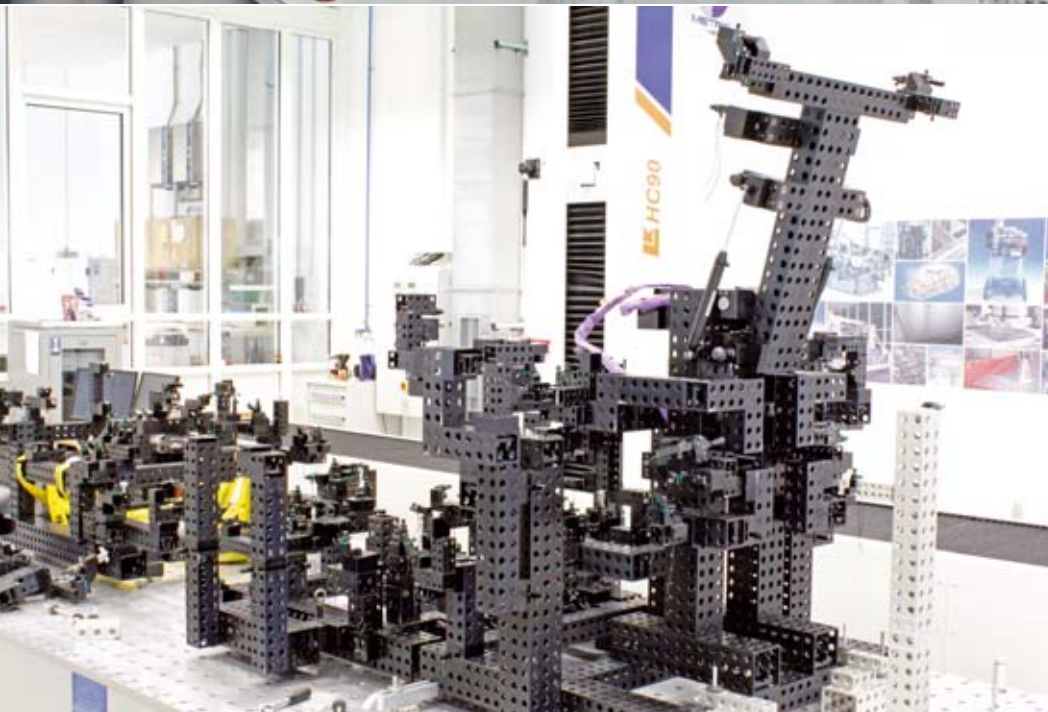
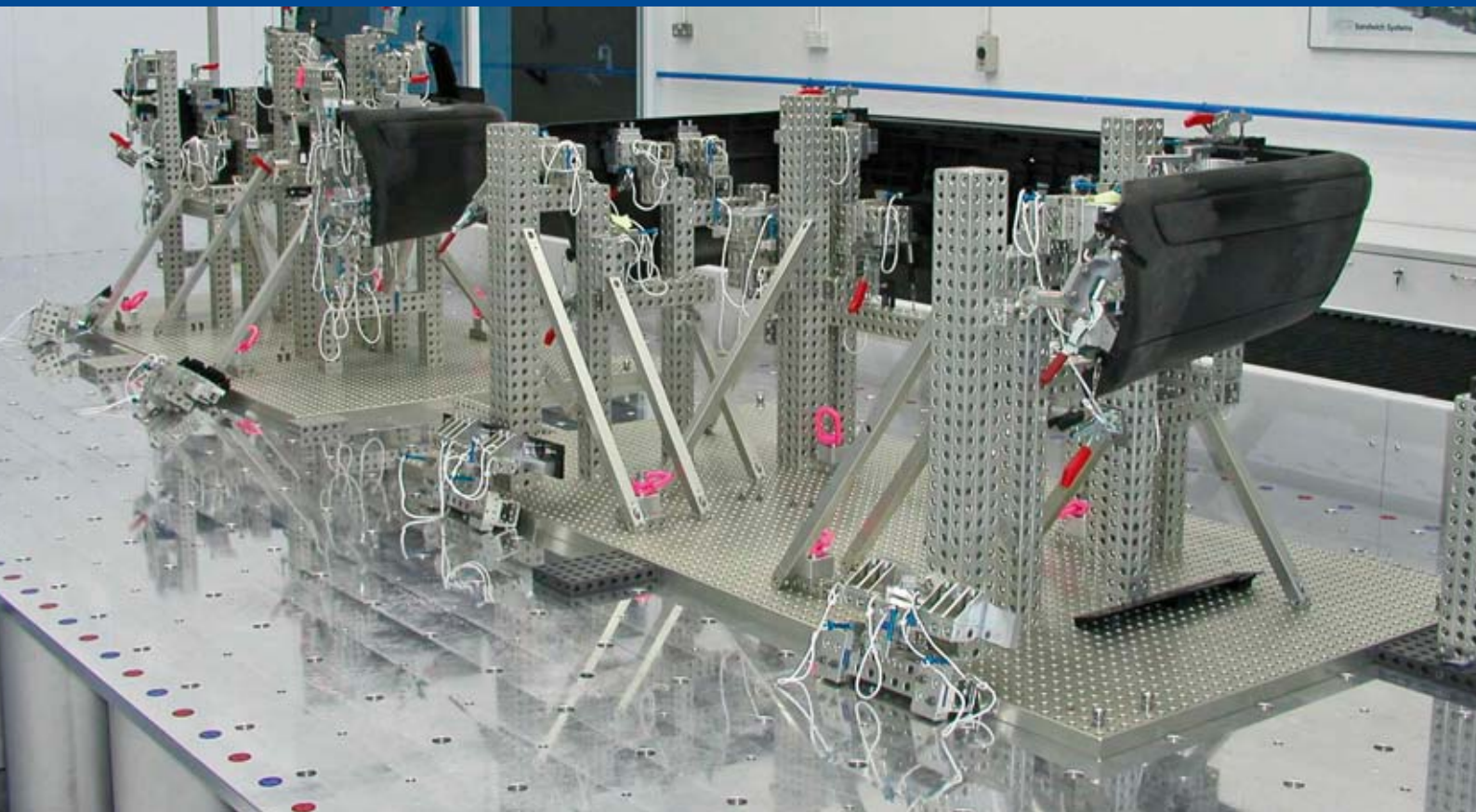


Modular Clamping Systems



ALUFIX CLASSIC
ALUFIX ECO

ALUQUICK
MEGALU





Hightech in Aluminium

Witte was founded in 1969 and initially manufactured complex, high-precision parts for the aerospace industry. Today Witte has developed into a leading manufacturer of fixturing systems and gauges for all kinds of applications.

Almost all leading companies from automotive and aircraft industries now rely on Witte technology in order to maintain high quality in their production process.



EN 9100:2003
Zertifikat: 01 117 058346

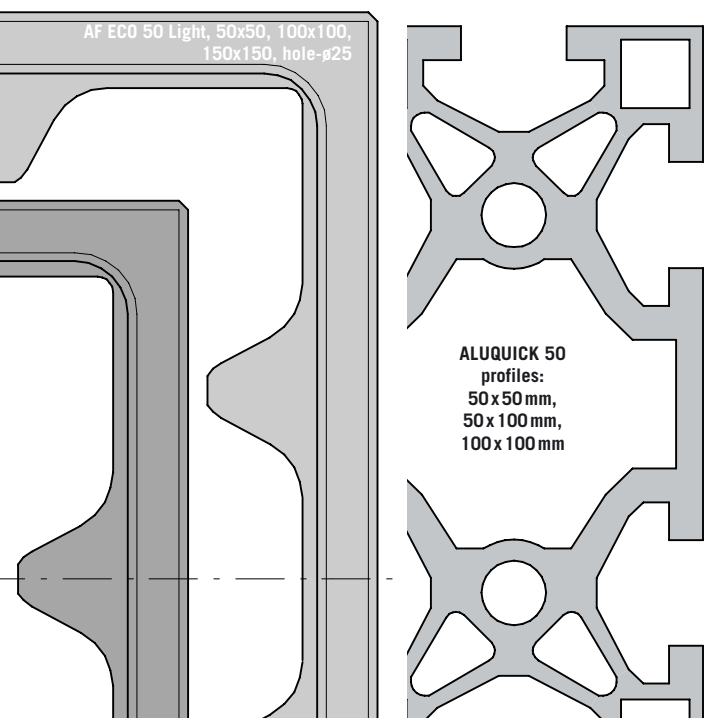
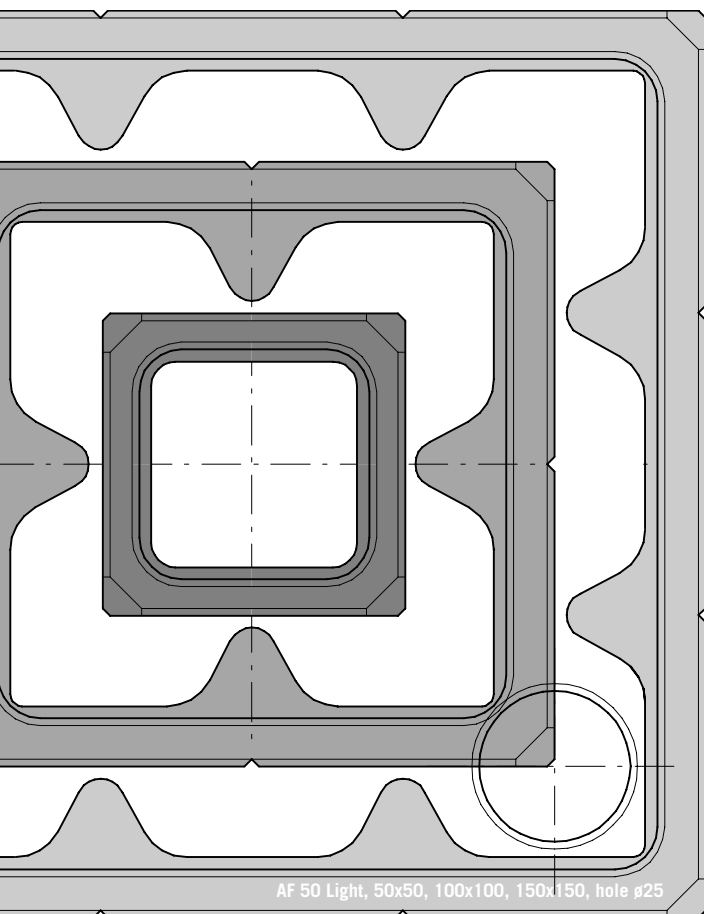


DIN EN ISO 9001:2000
Zertifikat: 01 100 042211

Certification

Witte Gerätebau KG is certified according to

- DIN EN ISO 9001
- DIN EN ISO 9100
- QSF-A (Aerospace suppliers)


ALUFIX Color

All systems can be anodized in different RAL colors.
Natural or black is standard,
other colors against a surcharge.


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Business activities of Witte Gerätebau Barskamp KG

Why should you choose Witte ?

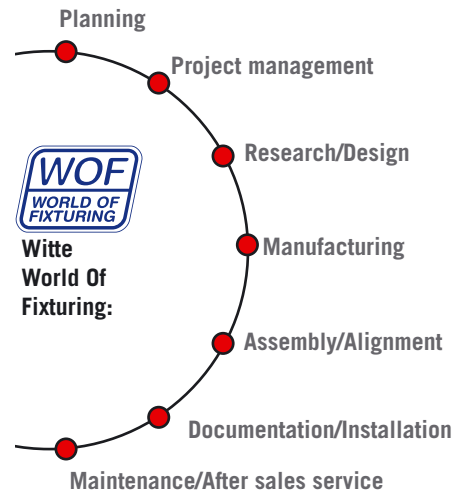
To decide on Witte system solutions and products is a decision for the future and reduces investment for measuring equipment and fixture cost for every following project.

The system components from product lines ALU-FIX Classic /ECO and ALUQUICK can be 100% reused for new tasks, multiple retooling for a life-time. Reusability presupposes durability!

Witte uses high-grade material quality without compromise. High manufacturing accuracy of the components themselves and in assembly with each other as well as hard-wearing surface protection guarantee "Systematic Quality".

All Witte system elements follow a consistent idea, are downwards compatible and at the same time build a basis for future additional items. Witte modular systems are an optimal match to today's requirements as well as being wisely combinable with each other.

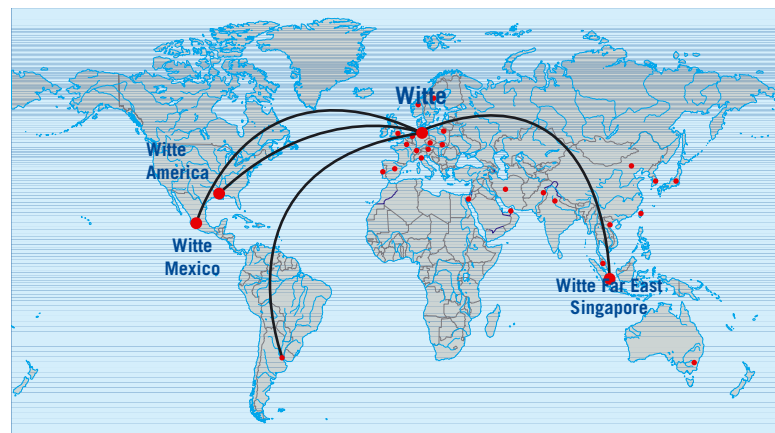
No matter what demand and individual application you have, Witte offers you the correct technical and cost-effective solution.



- As everything is done under one roof, time consuming interfaces and inevitable cost arising from overlapping are dispensed with.
- International sales and service network through own subsidiaries and regional solution partners.
- Experienced project teams with sound knowledge in almost all standards of the automotive industry and their related partners.

www - Witte worldwide

We meet the challenges of our customers wherever they occur. Our sales and service network guarantees support worldwide. Witte companies and subsidiaries in Singapore, Mexico and USA as well as long term partners in all major industrial nations ensure the same high service level all over the World.



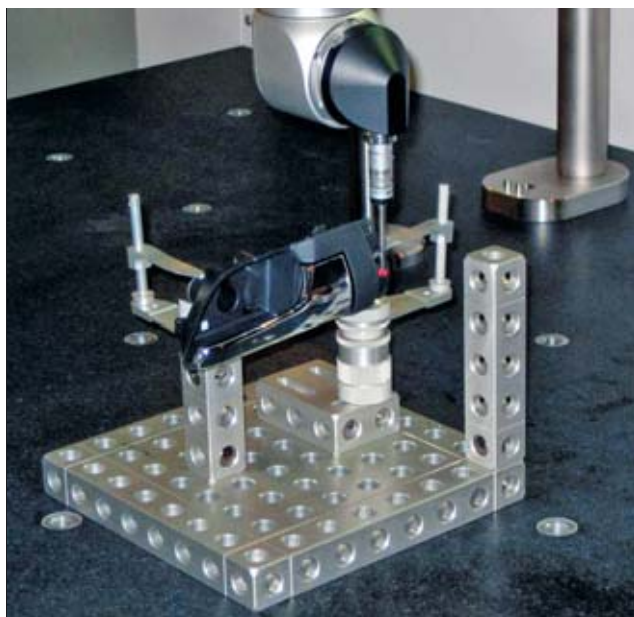
www - Witte worldwide:

www.horst-witte.de
www.alufix.de
www.witteasia.com
www.witteamerica.com

Profile	Precision (Y-axis)	Modularity (X-axis)
MEGALU	Medium	Low
ALUQUICK	Medium-High	Medium
ALUFIX ECO	High	High
ALUFIX CLASSIC	Very High	Very High

All Witte profiles ALUFIX CLASSIC - ALUFIX ECO - ALUQUICK - MEGALU due to their system integration possibilities have extensive patented rights. This ensures that all profiles, connecting and positioning elements are compatible and complementary.





ALUFIX CLASSIC

ALUFIX CLASSIC is a worldwide renowned and proven modular positioning and fixturing system for almost all applications in dimensional measuring technology, particularly on coordinate measuring machines.

Due to the high precision and quantity of intelligent elements ALUFIX sets are also in use as assembly or positioning systems.

Throughout all kinds of companies, ranging from automotive industry to aerospace technology to biomedical equipment manufacturers Witte ALUFIX CLASSIC is the one people rely on.

You have different materials, your parts vary in size, mass and stability, you have to measure using styli or optically? It's no problem for ALUFIX CLASSIC! Based on the variety of elements developed throughout the decades of experience at Witte, ALUFIX offers a solution for every job. ALUFIX CLASSIC is not only an investment for your current needs, but also for the future, because all elements, in accordance with the real idea of a modular system, are reusable and can be combined with all other Witte systems and elements.

System sizes

System	16	25	40	50
Grid	16	25	40	50
Gridstart	8	12,5	20	25
Hole size	8	12,5	20	25
Bars and Base plates multiple of system size	16	25	40	50
	32	50	80	100
	48	75	120	150
	64	100	160	200
	80	125	200	250
	etc.	etc.	etc .	etc .

ALUFIX Classic:

- High accuracy and repeatability
- Reusability
- High cost-effectiveness
- Intelligent components
- Easy, safe handling
- Integration and complementation with other systems

Components



Base plates

serve as a base for building small to medium size fixtures. They can be connected on all 6 sides using quick or screw connection technology and are extremely flexible for all kinds of applications.



Bars

are suitable for building small to medium size fixtures as a link between base and workpiece contact point. They can be connected on all 6 sides using quick or screw connection technology and are extremely flexible for all kinds of applications.



Top sections

provide the contact between workpiece and Alufix fixture. Reliable grid or off-grid positioning is possible with ball joints, screw-jacks and extensions available in many variations.



Struts

serve to increase rigidity in frame type fixtures and for supporting columns. Depending on requirements they are connected at the ends to bars, grid or base plates using quick or screw connectors. The specially designed strut ends allow them to be mounted in two different angles by rotating 180°.



Clamping elements

and clamps also in combination with workpiece contact points



Adjustment elements

enable contact points to be accurately aligned with a workpiece independent of the system grid.





ALUFIX ECO

ALUFIX ECO is a product for use where highest accuracy is not required but where all other economics aspects - ECO - play a bigger role. ALUFIX ECO is fully compatible with all other Witte systems on the market, it makes full use of the spectrum of technological functions and properties.

ALUFIX ECO profiles are available in standard lengths from stock



System sizes

System	16	25	40	50
Grid	16	25	40	50
Grid start	8	12,5	20	25
Hole size	8	12,5	20	25
Bars and Base plates multiple of system size	16	25	40	50
	32	50	80	100
	48	75	120	150
	64	100	160	200
	80	125	200	250
	etc.	etc.	etc.	etc.





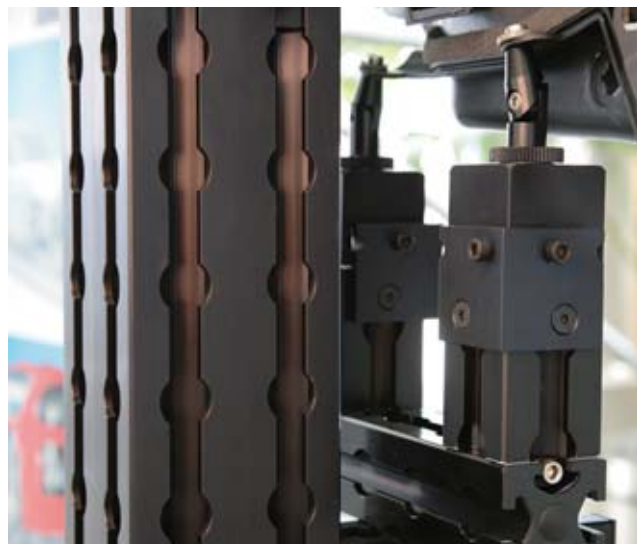
Aluquick

**Minimal components.
Maximum possibilities.**

The trade mark of traditional systems is the large quantity of single elements. To achieve high flexibility comprehensive kits were essential.

ALUQUICK is different.

A compact number of intelligent components guarantee an almost individual application possibility. Compatibility to other Witte systems as well as comprehensive property rights make ALUQUICK unique.



System sizes

System	AQ 40	AQ 50	AQ 100
Grid	40	50	50
Grid start	20	25	25
without grid	on demand	on demand	on demand
Bars and Base plates	40 80 120 160 etc.	50 100 150 200 etc.	50 100 150 200 usw.



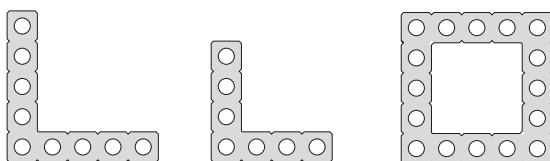
MEGALU

Fixture building with attractive price-performance ratio.

MEGALU is an extruded profile which is sectioned off using chamfer grooves. It is available as L-shaped or square closed profile. MEGALU connections fully meet highest demands on torque and deflection rigidity. MEGALU was conceived for complete fixtures, which enable repeatable part fixation, where subsequent changes are not possible to a great extent. The dedicated fixture elements are reusable in a limited fashion. MEGALU is a simple, accurate and cost-reduced fixturing system for long-term use without claim to modular changes.



System sizes



Profile	L 64x64	L 80x80	□ 80x80
Wall thickness	16	16	16
Hole spacing	16	16	16
Profile length	any up to 3000	any up to 3000	any up to 3000

ALUGRIP

Complementary system

ALUGRIP is a complementary system to ALUFIX and especially for small, simple holding fixtures where repeatability is secondary. ALUGRIP is compatible with ALUFIX CLASSIC and ALUQUICK and is fast to assemble and disassemble. The single elements are reusable. Core item of ALUGRIP are our knurled profiles with 32/42mm diameter. The different connectors and top sections grip into the profile and are fixed with clamping screws.



These systems
are no longer part of
our main range::

Only
available on
request!

POSIFIX

Complementary system

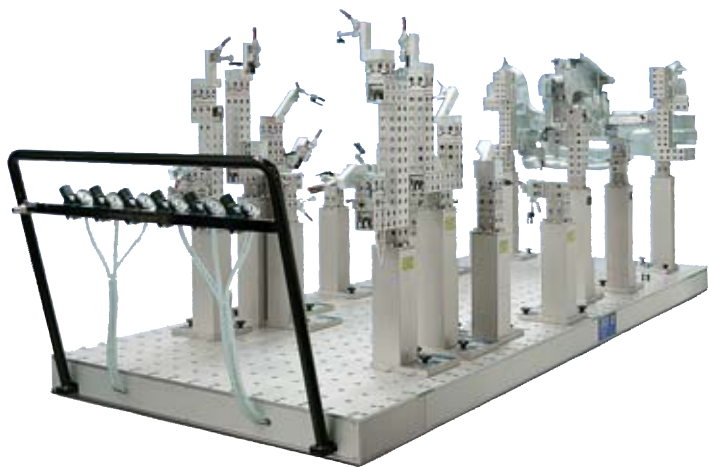
Witte POSIFIX is a three-dimensional joint system in high-tensile aluminum. These system elements enable accurate and repeatable positioning of contact points, positioning aids or styli extensions for measuring machines. Typical characteristic of POSIFIX components are the serrations which ensure form-fitting connections.



Witte FixBase®

Base plates and positioning systems

- Accurate and very rigid Sandwich plates are used as bases for fixtures or as transport plates.
- Sandwich plates can be used vertically or horizontally.
- There are 4 different types available - 2, 4, 5 and 6
- According to customer request plates are available with natural or black anodized surface, hard coating is also possible.
- Whether extremely lightweight and economical or very accurate and demanding one of our options will suit your company's needs. Almost any type of grid can be integrated into the plate surface/s.
- Important accessories to large plates versions 4 and 5 are PWS (Precision Witte System) or PPS (Precision Positioning System) quick clamp systems. These are systems integrated into the plate to allow quick, accurate and repeatable positioning of sub-plates or adapter plates onto the Sandwich plate.
- Additional accessories and specials available on request.



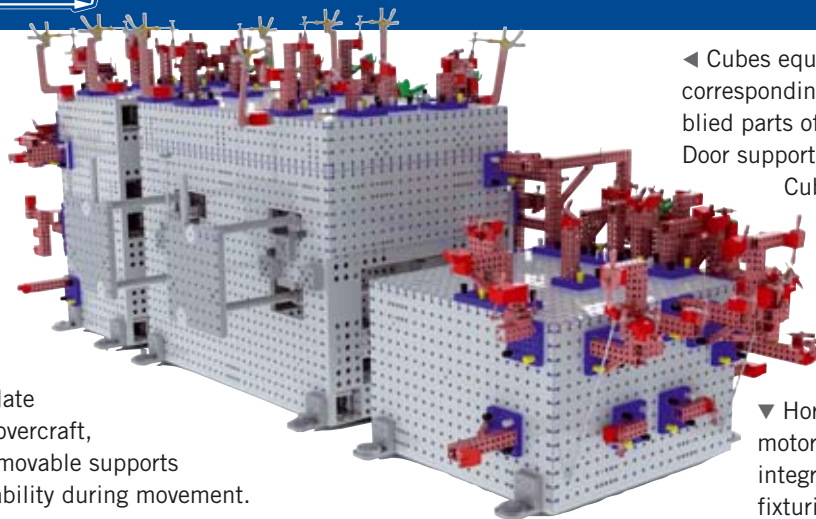
Horizontal base plate, manual drive, with mains supply for compressed air



◀ Hovercraft sandwich plates are especially suitable as a measuring surface for 3D coordinate measuring machines. Preparation and set up take place while measuring continues. Floor level CMMs are used more cost effectively, standing times are reduced to a minimum.

Is your particular application not shown here?
We will gladly advise you and together we
can develop a solution for your requirements.





◀ Vertical grid plate equipped with hovercraft, manual drive, removable supports for additional stability during movement.

◀ Cubes equipped all round with grid plates serve through corresponding configuration for mounting single and assembled parts of different derivatives and car models. Door supports which move outwards can be integrated. Cubes are available up to max dimensions of L3000mm, W1500mm x H2000mm.

▼ Horizontal grid plate with friction drive (electric motor and friction wheels), radio remote controlled, integrated air tanks, additionally prepared for vacuum fixturing technology



▲ MDD (Multi Direction Drive) plate, 4 hydraulic rollers, retractable like aircraft landing gears, are driven with an electric motor, radio remote controlled.



Witte MDD Sandwich plate

Our latest development is an **MDD** sandwich plate (**M**ulti **D**irection **D**rive). New drive and control technology enables diagonal or sideways movement and positioning of sandwich plates. Floor surface is irrelevant, plate moves approx 60mm over the surface

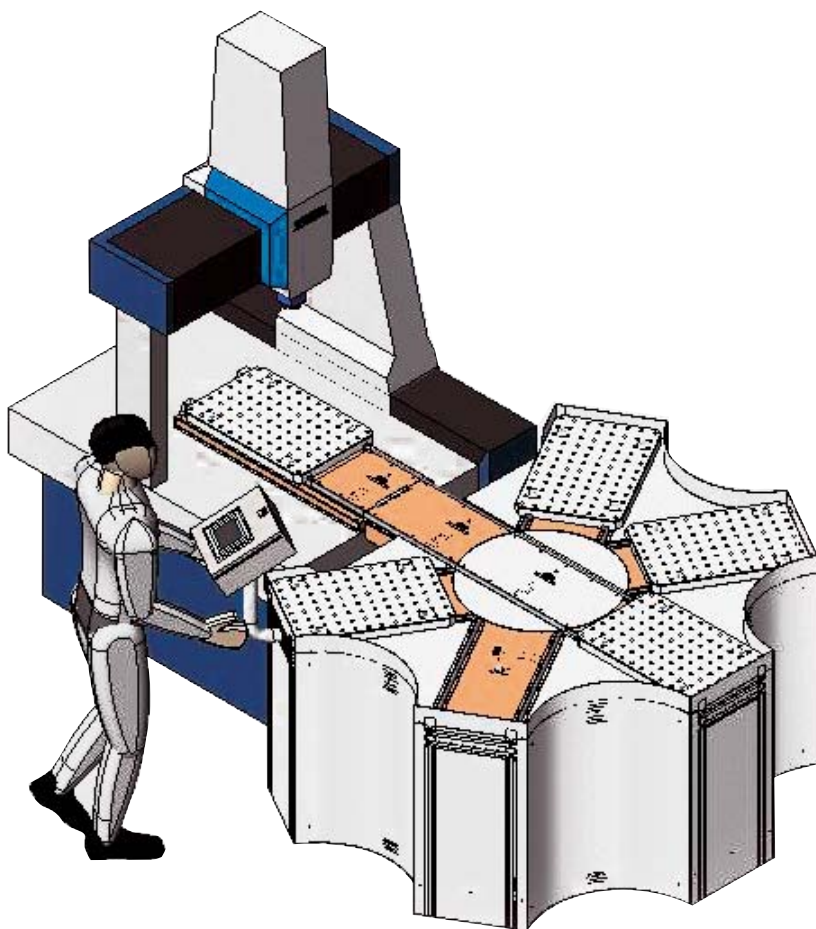
Video: Ask for our video on sandwich plates, or download the film from our website.



EUROFIX

Loading and transport systems

It goes without saying that 3D coordinate measuring machines have long been integrated into or added on to manufacturing processes. Quality checks must fit in with machining cycles and flexibility of production and they fall back more and more on to long established sequences in production. To meet these demands and as a complement to mobile sandwich plates Witte offers compact, lightweight loading and transport systems for parts and fixtures. These transport systems are available as pallets for coordinate measuring machines, jack-up or scissor trolleys or as permanent feed or pallet combinations with or without loading stations. For this range Witte adheres to the familiar modular principle and ensures adaptation also for systems already in place as well as a multitude of applications.



Automatic pallet exchange system

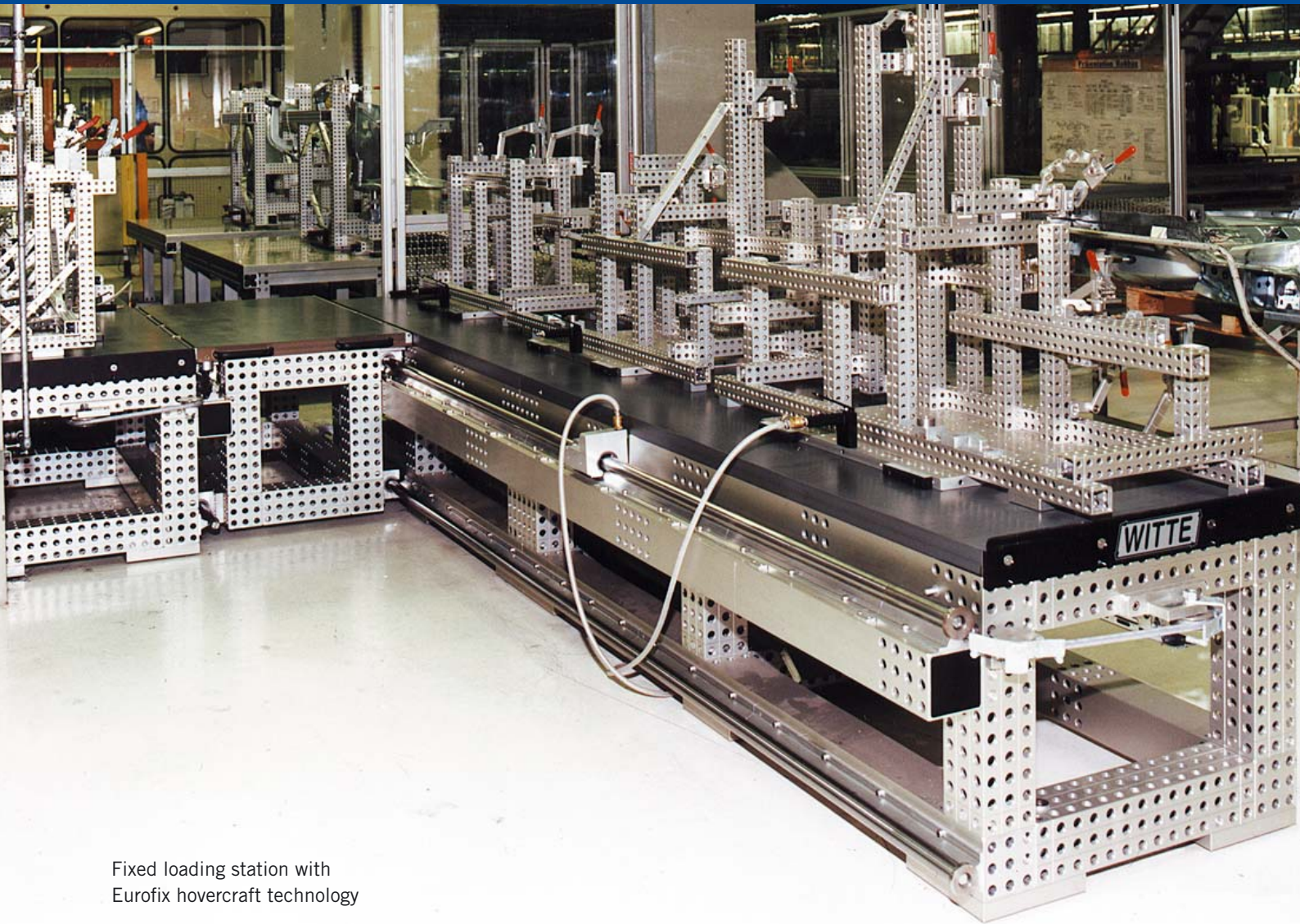


Eurofix hovercraft grid plate

for moving or positioning heavy workpieces on coordinate measuring machines. Air cushion created underneath is sufficient to allow crossing over of threaded sleeves, T-slots or gaps between loading station and CMM



Loading station with 4 loading areas and table for transfer to CMM.



Fixed loading station with Eurofix hovercraft technology



Loading station and transfer table, for use with five hovercraft plates with measuring fixtures for different parts.

FIXINSPECT®

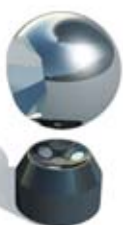
Measuring accessories for tactile and optical measuring processes

Fixinspect measuring adapters simplify and speed up measuring processes on tactile or optical systems. The functional characteristic common to all Fixinspect products is the mounting of the adapters directly on points to be measured. The accessories can be measured faster than the actual point. Based on the adapters defined contact surfaces and accurate manufacturing, the coordinates for each measuring point are calculated back by using the measuring values of the adapter.



FIXINSPECT

Measuring accessories for tactile measuring



FIXINSPECT LT

Measuring accessories for laser trackers



FIXINSPECT PG

Measuring accessories for photogrammetry systems



FIXINSPECT FT

Measuring accessories Feature Targets for photogrammetry systems with retro-reflective tapes



FIXINSPECT HP

Measuring accessories for hidden points for aircraft builders to check points difficult to access optically

EXPERT 2011

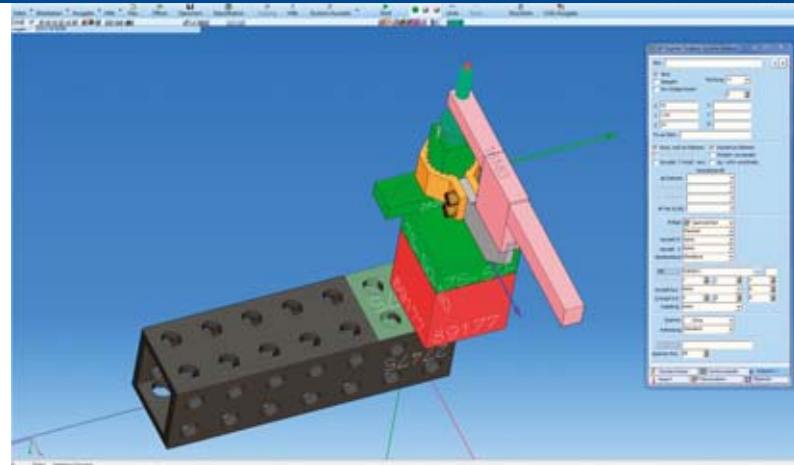
Design software

Alufix Expert software makes automatic designs for fixtures with corresponding partlists. You choose the system and define clamping points. The software calculates on the basis of this information complete solutions and variations of a fixture.

Simply select the desired Alufix system, the basic type of build (frame or plate), the grid size and the position and function of clamping points. On the basis of this input the software calculates complete solutions and variations.

For checking purposes and measuring off of surface vectors additional part data in all established formats can be imported.

Pictures show some variations, which have been calculated by the software.



The clearly structured, self-explaining software is easy to learn. Two separate but complementing help functions (Tool tips and Operation Manual) support users at all times. The design data is exported in either IGES, STL or VRML format (i.e. for offline programming of coordinate measuring machines), or can be transferred with a macro and the corresponding parts library in Catia V4/V5, Unigraphics or Autocad.

Pos	Qty	No.	Description	AP	Dimensions	Weight
1	1	20426	Bar Light	25	50	360
2	2	22990	Bar Light	25	50	2400
3	2	24245	Bar Light	25	50	360
4	2	24811	Bar Light	25	50	7960
5	2	25375	Bar Light	25	50	480
6	2	25658	Bar Light	25	50	800
7	7	26745	Bar Light	25	50	9170
8	7	Sonder	Special	25	Special	2366
9	1	Sonder	Special	0	Special	141
10	1	Sonder	Special	0	Special	151
11	1	Sonder	Special	0	Special	153
12	1	Sonder	Special	0	Special	5

Below the partslist table are buttons for 'Print', 'Save', 'Cancel', 'Quick connectors', 'No connectors', and 'Screw connectors'.

Individual training is available in house or it can take place on customer's premises under agreement against surcharge

System requirements for Expert 2011:
Pentium PC, 2MB RAM, 1GB free hard drive memory, operating system Windows XP, Vista, Windows7

Special solutions

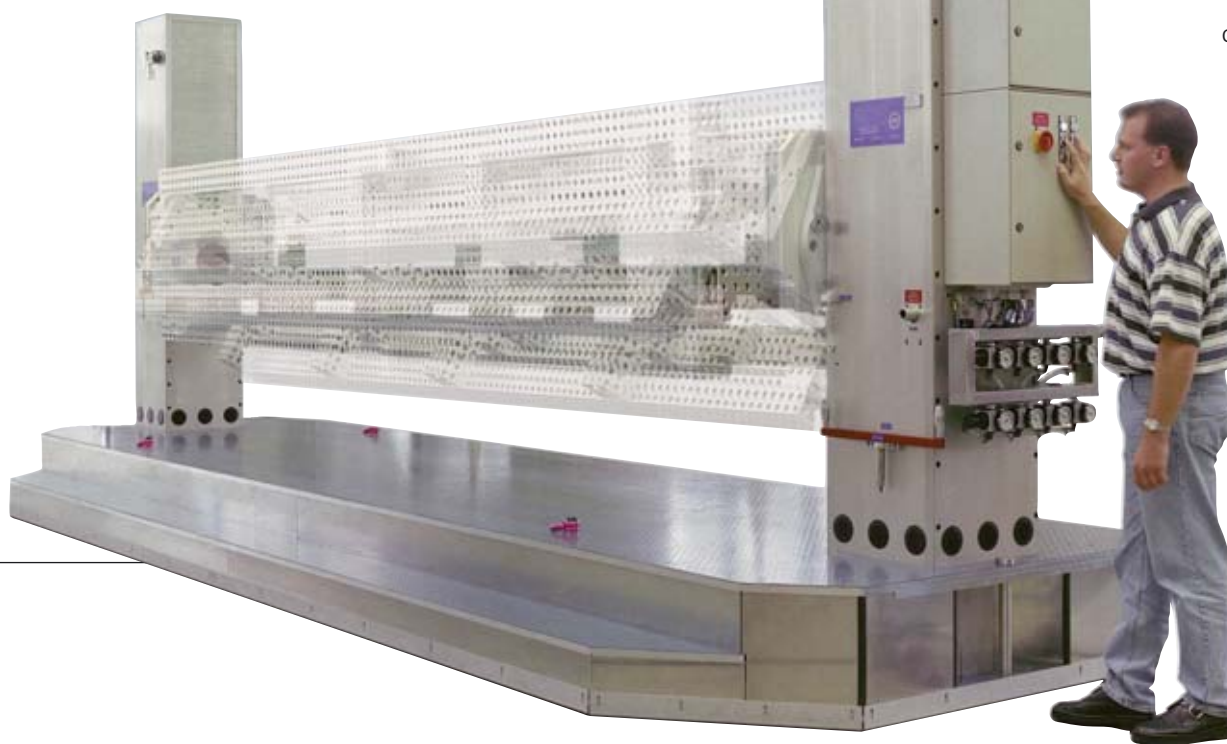
Witte know-how and decades of experience in developing fixturing applications for measuring and machining.



▲ Vacuum clamping fixture with its own bridge and integrated, hydraulic press process (2000kg)



▲ Manual tilt table for modelling

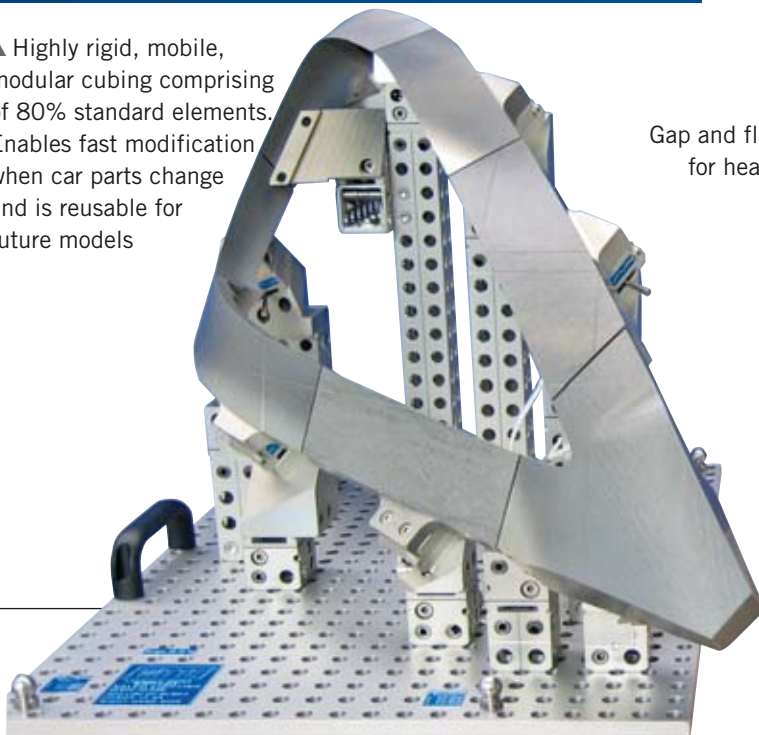


◀ Analysis fixture for development potential of underbody carpeting, hovercraft, height adjustable, rotating, electrically controlled





▲ Highly rigid, mobile, modular cubing comprising of 80% standard elements. Enables fast modification when car parts change and is reusable for future models



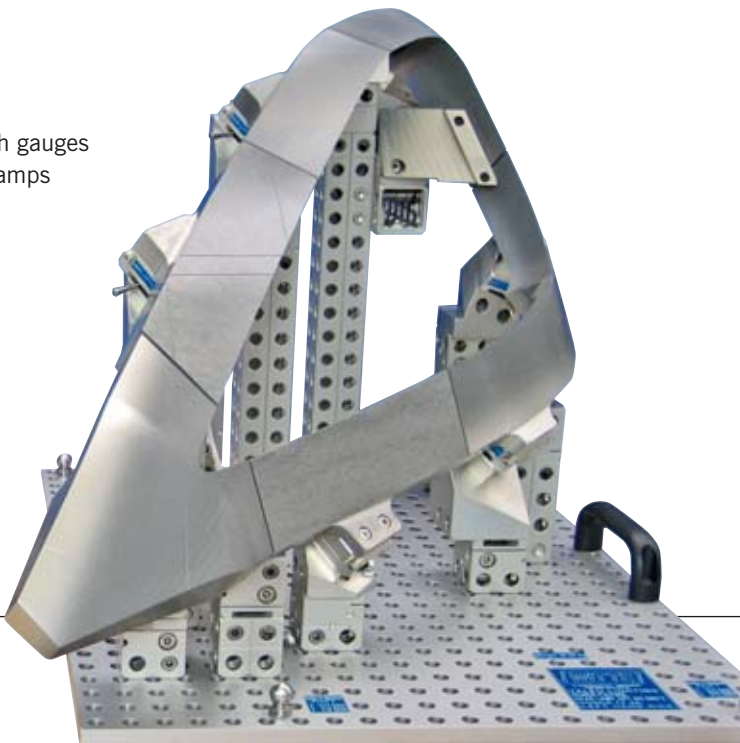
Gap and flush gauges for headlamps

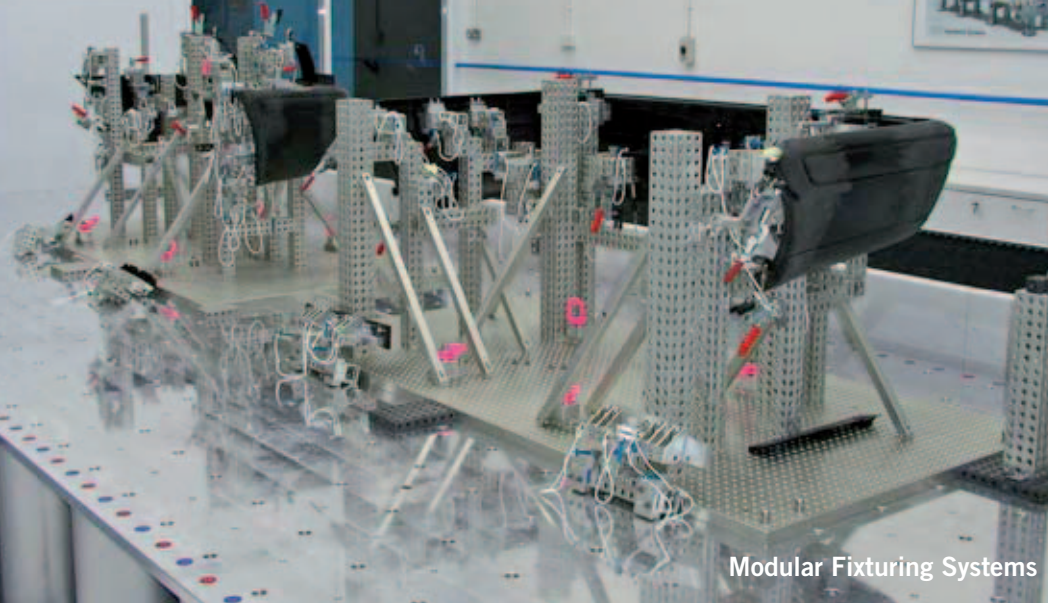


▲ Measuring fixture for complete car, comprising hovercraft sandwich plate and part specific Alufix columns



▲ Clamping fixture for cylindrical, pre-rolled fuselage parts - they are pressed down, rolled flat and clamped with vacuum, hydraulic and mechanical clamps





Modular Fixturing Systems



Subcontracting



Vacuum Clamping Technology

Witte –
specialists for

**Modular
Fixturing Systems**

**High-Precision
Subcontracting**

**Vacuum Clamping
Technology**

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#XOXOX - Modulare Spannsysteme englisch

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