TITUS™

FOBA®

Think small.
Achieve bigger!

Make your mark with Titus™, the smallest, lightest and easiest-to-integrate laser marking head in the world.

For bigger integration flexibility, bigger usability, bigger throughput and bigger savings.

Weight: ~640 g marking head

Size: 205 mm with 0° beam exit

Size: 214 mm with 90° beam exit

Laser Marking +
Engraving Solutions

FOBA Titus™ – The world's smallest laser marking head
Get more details, visit → www.titus-laser.com

Laser Marking +
Engraving Solutions

FOBA®
Laser at your service

FOBA Y.0200-xs/Y.0300-xs

Uncover your parts marking potential with Titus™:
The smallest, lightest and easiest to integrate laser marking head in the world – and a true game changer in its field!

Give it a try!

Make your mark with Titus™:
→ Just take him with you to your production line and see how nicely this small guy fits.

Think small. Achieve bigger!

All big things start small. Like Titus™. Titus™ will stay small, because this is what makes him so great. Titus™ stands for "tiny tubus" and represents the smallest, most lightweight and easiest-to-install, easiest-to-integrate and easiest-to-operate laser marking head in the world.

Whenever manufacturing space is at a premium, Titus™ is THE solution. With Titus™, the novel 20 W and 30 W fiber laser markers are not only incredibly small, but also dramatically simplify integration and open new areas of application for fast direct parts marking – especially for manufacturers in the automotive, aerospace or electronics industries.
By offering full integration flexibility, high throughputs and decisive TCO savings, Titus™ will help you uncover and unleash your full laser part marking potential.
Think small. Achieve bigger.

From our Customers we learned that easy mechanical integration and a really small sized marking head will
→ solve the biggest direct parts marking related problems of our clients and will help them
→ achieve bigger integration flexibility, bigger throughputs and bigger savings.

Your product benefits

- **Small size:** up to 90% less size and weight compared to current market offerings; designed and built for small spaces and seamless and easy line integration
- **Easy to integrate:** easiest integration and speedy setup through small size and innovative features: 0° and 90° beam orientations for installation in tight spaces; 3 m fiber laser umbilical length for flexible integration and 10 m for more complex setups; clamp'n go-laser head brackets; integrated pilot laser and focus finder for quick job setup and focus adjustment; wide range of communication protocols and interfaces
- **Easy to use:** three easy-to-use user interfaces (FOBA Go, FOBA Draw, FOBA MarkUS) for simple to complex marking job needs

Browser enabled GUI FOBA Go

Titus™ facts and benefits at a glance

EASY TO INTEGRATE + INSTALL
- small size
- 3 m/10 m umbilical
- 0°/90° beam exit
- pilot laser + focus finder
- clamp'n go-brackets
- short working distances allow for small laser safety housings
- IP65/IP69 for harsh environments
- standard communication protocols
  - TCP/IP
  - PROFINET
  - EtherNet/IP
  - EtherCAT, OPC UA*

EASY TO USE
- laser control via 3 easy-to-use user interfaces
  - UI for remote control and simple marking
  - UI for complex applications
  - UI for general and moving applications

EASY TO MAINTAIN
- dust protected lens
- virtually maintenance-free
- non-stop line exchange
- fast product changeovers

Size and speed advantages:
The world's smallest laser scan head

Titus™ is extraordinary small but at the same time extremely mighty. When integration in size-limited production environments is needed, the world's smallest vector scanning laser marking head has a threefold advantage: 1) it fits easier into manufacturing lines, 2) it cuts installation time and costs, and 3) it expands the range of installation opportunities for laser markers.

Titus™ fits the most restrictive spaces

- → Titus™ is the smallest and lightest fiber laser marking head on the market
- → Titus™ is up to 90% smaller in size & weight compared to current state-of-the-art market offerings
- → Titus™ offers simple integration at reduced installation cost and full installation flexibility

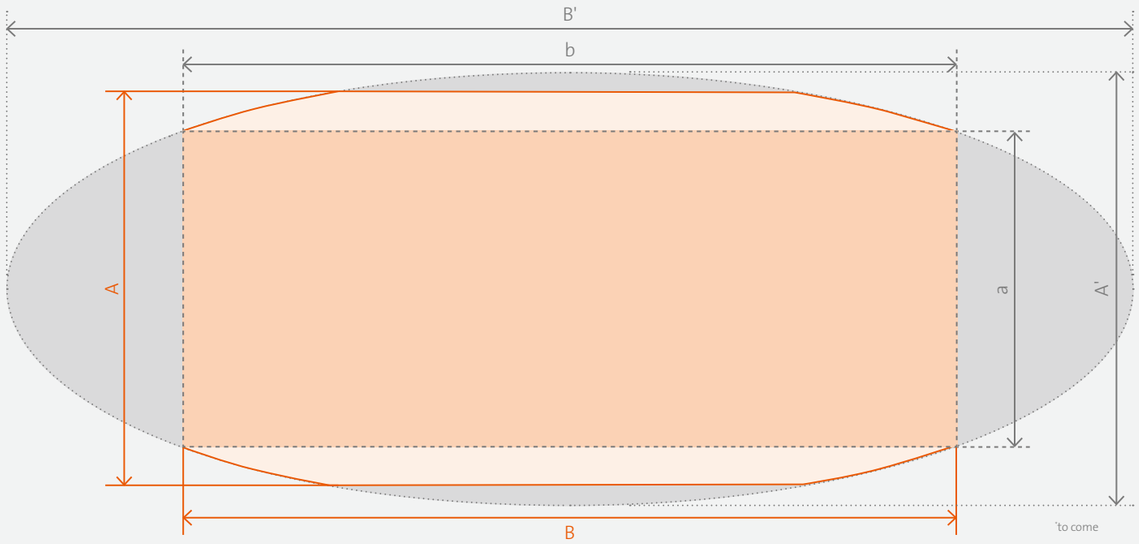
Titus™ is made for ultra fast marking

- → Small laser with high marking performance
- → Marking at up to 2,000 characters per second*
- → Excellent beam quality and marking results on various materials incl. plastics and metals
- → Three marking fields per marking head: S, M and L

"Fascinating form and size!"

Laser marked door handle

"The very high marking quality this tiny laser achieves on so many materials is impressive!"



*to come

Marking Fields

Scan Head**	Working Distance (mm)	Marking Field (mm)		Elliptical Mark. Field (mm)		Rectangular Field (mm)		
		A	B	A'	B'	a	b	
CFS-S	72	37.01	63.58	39.70	121.62	33.84	63.58	
CFS-M	112.5	48.27	89.30	51.91	141.42	40.24	89.30	
CFS-L	171	64.46	126.30	70.79	183.85	51.44	126.30	← *Largest available field*
CFT-S	89	37.01	63.58	39.70	121.62	33.84	63.58	
CFT-M	129.5	48.27	89.30	51.91	141.42	40.24	89.30	
CFT-L	188	64.46	126.30	70.79	183.85	51.44	126.30	← *Largest available field*

← *1 : 1 illustration of largest available marking fields*

Olaf Günther, Laser Marking Günther | * Depends on the application | ** CFS = straight-out (0°), CFT = turned (90°) beam exit

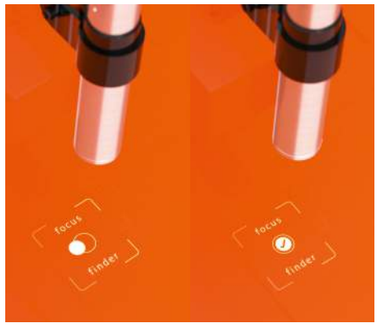
Integration and setup advantages:
The new standard for ease of laser integration

When manufacturing space and time are limited, you need an innovative and versatile laser marking solution. The new Y.0200-xs and Y.0300-xs fiber laser markers and their tiny scan head Titus™ redefine ease of laser integration for parts marking lines.

You need ...	Titus™ offers ...
simple mechanical integration with minimal space requirements	→ **the smallest and lightest fiber laser scan head** → **clamp'n go-brackets** for non-stop installation/exchange → easy-to-use user interfaces for quick job setup
fast installation and setup	→ up to 90% **installation time reduction** with small component size and reduced bracketry → an integrated **focus finder** for quickly finding the right focus during laser and job setup → a **pilot laser** for marking content simulation
full integration flexibility ...	→ marking head with **straight-out (0°) and turned (90°) beam exit** options for easy and flexible integration → **3 m and 10 m fiber laser umbilicals** – *10 m cords are a complete novum on the market and allow for setups where the supply unit is placed further away from the point of marking* → short working distances for much smaller laser safety housings → a **wide range of communication protocols**, incl. TCP/IP, PROFINET, EtherNet/IP (EtherCAT and OPC UA to come)
... even in harsh environments	→ **IP65 and IP69 rated** Titus™ marking head → no additional housing or protective equipment needed
easy serviceability and product changeover	→ **clamp'n go-brackets** for quick and easy marking head adjustment and repositioning → an integrated focus finder for quick focus finding → a pilot laser for marking content simulation

clamp'n go-brackets and straight (0°) and turned (90°) laser exit

To sum it up: When manufacturing space and time are at a premium and you wish to increase the range of laser installation opportunities, FOBA Titus™ is the solution. **The miniature laser marker scan head ensures an easier, faster and error-free laser installation, setup and service process and quick product changeovers, both for production lines and OEM and complex equipment.**



Ultra quick job setup with built-in pilot laser that is used as a focus finder and marking content simulator

Operation advantages:
Simple usability – for daily use, maintenance and service

The Y.0X00-xs fiber laser markers will make industrial part marking much easier. Clients can choose between three easy-to-use and easy-to-connect interfaces: FOBA's MarkUS GUI enables custom user interfaces; clients who value utmost flexibility will benefit from remote control on various devices with FOBA Go; and clients with marking-on-the-fly applications can select FOBA Draw. With standard communication protocols such as TCP/IP and I/Os, connecting customer software is as flexible as it can be.

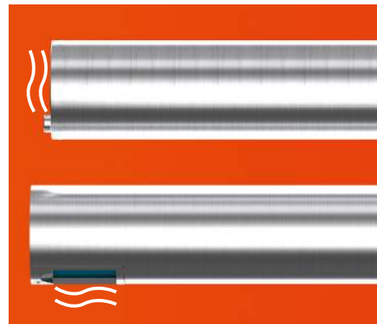
Simple to operate

Available User Interfaces		
FOBA Go	**FOBA Draw (Smart Graph)**	**FOBA MarkUS**
		
Browser enabled GUI for remote laser control from either a PC, the FOBA Touch display, a mobile or a tablet	PC based interface	PC based interface
→ **For simple marking** jobs with **remote connectivity** and **marking on the fly** → Multi-laser functionality with web browser → Software installation is not needed	→ **For general marking applications and marking on the fly** (serial numbers, barcodes, 2D codes)	→ **For more sophisticated and complex markings** → Intuitive high-performance laser marking software → Customized user workflows (AOP Advanced Operator Plugin)
FOBA Draw users can import marking jobs into FOBA Go		

Simple to service and maintain

- → Titus™ features a **dust protected lens** – a constant air stream keeps the lens free of dust, daily lens cleaning intervals belong to the past and do no longer interrupt production
- → Titus™ is so easy to mount that **line and product changes can be done in minutes** and are nothing to worry about any longer
- → Virtually **no maintenance** due to very few wear parts and thus reduced number of parts
- → Benefit from a range of **preventative products and services**: fume extraction, filters, end-user changeable protection window, FOBA Remote Services (i.e. for application consulting, user training)

The integrated air knife ensures a constant air stream that keeps the lens dust-free



FOBA Y.0200-xs/ Y.0300-xs Fiber Laser Markers

Technical Data

Marking features

Marking heads	→ CFS – straight out (0°) beam exit → CFT – turned (90°) beam exit 3 precision optics for focusing (S, M, L)
Marking fields	3 marking fields per marking head (S, M, L)
Marking speed*	Up to 2,000 characters/sec.

Laser

Type	→ Pulsed Ytterbium fiber laser, 20 W and 30 W → Pulse frequency range 1 kHz – 400 kHz → Wavelength within 1,040 – 1,090 nm
Laser class	4 (acc. to IEC 60825-1)

User Interfaces

→ PC UIs FOBA Draw and FOBA MarkUS

→ Browser-enabled Touch Control UI FOBA Go (optionally on FOBA Touch Display)

Interfaces

→ Communication protocols (TCP/IP, PROFINET, EtherNet/IP; EtherCAT and OPC UA to come)

→ Control interfaces (Trigger, Encoder, I/O customer interface)

Supply

Electrical requirements	L/N/PE 100 – 240 VAC, 50/60 Hz
Power consumption	360 VA max.
IP rating	→ Marking head and umbilical IP65, IP69 → Supply unit IP21
Umbilical length	→ 3 m (20 W and 30W) → 10 m (30 W)
Cooling	Air-cooled
Cleaning	Self-cleaning of lens with air blade
Temperature	5 – 40 °C
Humidity	10 – 90 %, non-condensing
Weight	→ Titus™ marking heads ~0.64 kg → Supply unit with 3 m umbilical 23 kg → Supply unit with 10 m umbilical 27 kg

Scope of delivery

→ Fiber laser marker with Titus™ marking head (0°/90°)

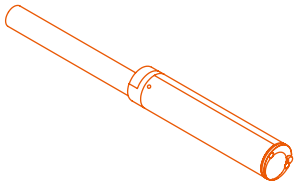
→ Fully integrated pilot laser for focus finding and simulation of marking content

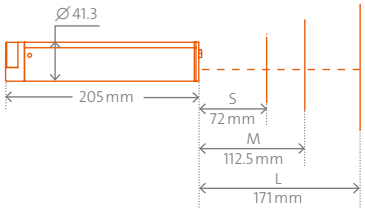
Options, accessories

→ Exhaust units

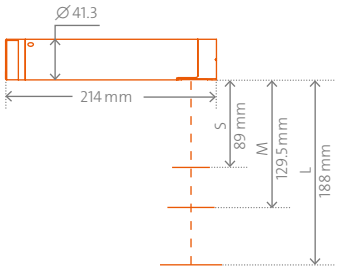
→ Integration brackets

→ FOBA Touch display for FOBA Go UI

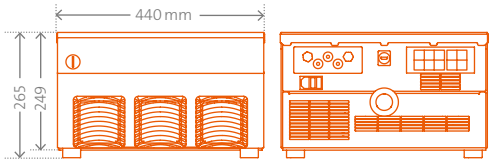




0° Marking head (CFS)



90° Marking head (CFT)



Supply unit

* Depends on the application

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