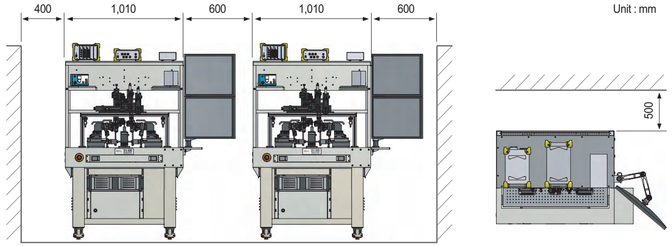
Specifications

Electrical	
Power	110~230 VAC, single phase
Power consumption	1200 VA max
Pneumatic	
Input pneumatic pressure	0.48~1.5MPa (equiv. to 70~210 psi)
Mechanical	
System dimensions (W) x (D) x (H)	1,010 x 800 x 1,550 mm (measurement instrument and display excluded) 1,300 x 1,100 x 1,700 mm
Weight	<500kg
Optical table	Pneumatic vibration isolation table
Alignment mechanism	
Alignment stage resolution (In/Output stage assembly)	Liner translation stage (X,Y,Z) 0.05um @ 1/20 microstep drive Rotational stage (θX,θY,θZ) 0.0016degree @ 1/20 microstep drive
Supporting chip angles	0˚, ±8˚, ±5˚ (quick adjustment of angle bracket)
Tool positioner [1]	0.5um or better @ 1/20 microstep drive
Center jig	Detachable center jig
Process performance	
Gap control repeatability	±1um
Stability test	0.1dB (peak-to-peadk variation for three minutes)
Alignment repeatability [2]	< ±0.03dB typical, ±0.075dB maximum (insertion loss variation)

1) Position control of cameras, UV LED head, epoxy syringe
2) For 11 times of alignment with typical optical splitters

System dimension and space requirements



FIBERPRO

FIBERPRO Headquarters Tel : +82-42-360-0030 Fax : +82-42-360-0050
FIBERPRO USA Tel : +1-408-835-7796 Fax : +1-408-521-0402
FIBERPRO CHINA Tel : +86-27-8663-5497 Fax : +86-27-8663-5701
www.fiberpro.com sales@fiberpro.com

For more information, please visit our web site - **www.fiberpro.com** - or email our sales department, sales@fiberpro.com

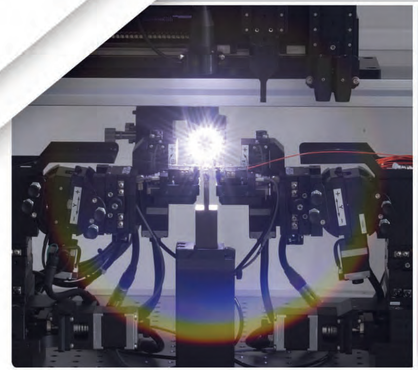
LET-IFA-600-01

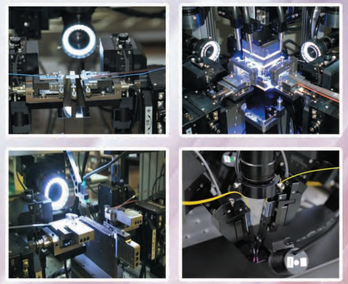
www.fiberpro.com

Auto Alignment System
IFA-600

FIBERPRO

- Photonic Integrated Circuit (SiP devices)
- Integrated Optical Circuit (LiNbO3 chip)
- VOA (Variable Optical Attenuator)
- AWG (Arrayed Waveguide Gratings)
- PLC Splitter
- Collimator
- Other optical devices





Auto Alignment system IFA-600 Series

Instrument

Multipurpose Driving Unit
MDU1000

Supporting optical source and/or current source

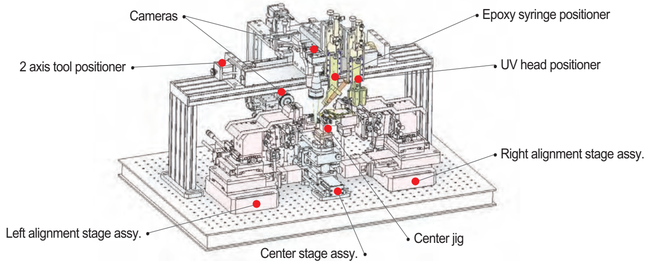
Multichannel Optical Power Meter (Current Meter) : PM2000

Wavelength range : 1270nm~1630nm
Power dynamic range : +5dBm~80dBm
Resolution : 0.01dB
Free space connector type
Interface : TCP/IP, RS232, GPIB

Key Features

- Automatic alignment with excellent repeatability based on optimized alignment algorithm and precision stage control
- Automatic gap control and angle alignment using precision displacement sensor
- Quick input port alignment with multimode fiber
- Fast initial alignment based on vision processing and 2D scanning algorithm
- Convenient graphic user interface and versatile function for data management
- Remote controllable via user software
- Compact mechanical design

Principal Mechanical for Alignment



Alignment stage assy. (Left/Right stage)

- Supporting various chip angles
  0°, ±8°, ±5°
  Quick adjustment of angle bracket (customizable)
- Detachable FAB jig (customizable)
- Sensor for automatic gap control
- Various types of jig/parts
  (e.g. gripper, electrical probes) supported

Center stage assy.

- Highly customizable center jig (detachable)
- Optional temperature control

Tool positioner assy.

- Position control of cameras, UV LED head

Option

UV curing system

- Automatic start/stop control by system software
- Automatic positioning of UV guide/head in up/down direction for UV curing process
- Installed on the tool positioner

Epoxy dispenser

- Automatic positioning of dispenser needle in 2 direction (Y,Z), based on pneumatic cylinder
- Installed on the tool positioner

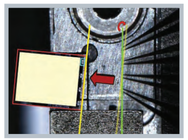
Temperature controller

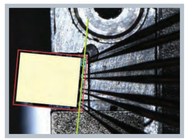
- Heating/Cooling type: thermoelectric cooler
- Temperature control range : 5 ~ 75 deg. celsus (85℃ at best efforts)
- Environment temperature : 25±3 deg. celsus

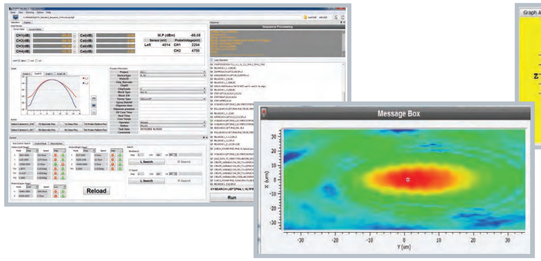
※ Details can be changed for better engineering

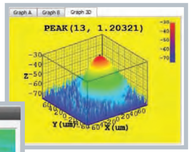
Vision Processing

- Automatic angle alignment
- Pattern recognition for probe positioning
- Edge detection and barcode reading









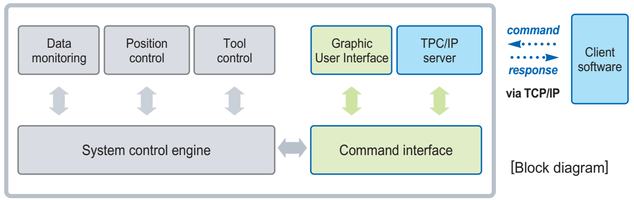
3D scanning

2D scanning

(Automatic alignment or manual pick on power distribution graph)

Graphic User Interface

- Capable of alignment/epoxy bonding of optic device based on vision processing and optic feedback
- User programmable sequence
- Support remote control of client's software via TCP/IP communication



[Block diagram]