

TECHNICAL SPECIFICATIONS



OPTIFIVE[®]

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I. INTRODUCTION

The OPTIFIVE® measuring plate has been designed to meet all users' requirements for increasing the efficiency of their 5-axis equipment.

OPTIFIVE® measuring plates incorporate the following main features:

- An extremely high degree of accuracy
- Excellent repeatability
- Simple operation

Top quality, high-tech materials are used in the design and construction of OPTIFIVE®.

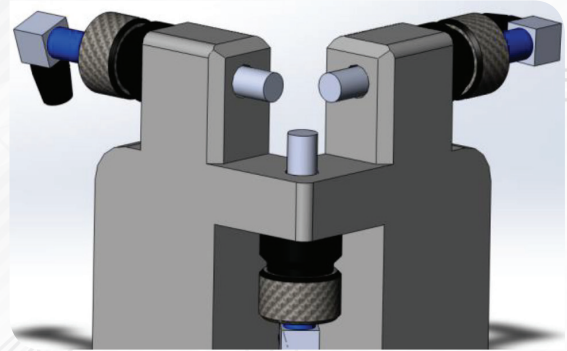
EMCI has been designing and making OPTIFIVE® measuring plates for many years. Our measuring plate design combines our long-standing experience and collective engineering knowledge in the field of metrology on 5-axis machine tools. The materials used are certified to ensure that accuracy and plate stability are maintained over many years.

This document contains the technical specifications of the OPTIFIVE® measuring plates made by EMCI. The content of this document corresponds to the technical specifications of measuring plates on their date of purchase. We reserve the right to make modifications in order to incorporate technical or design improvements.



2. LVDT ABSOLUTE DISPLACEMENT TRANSDUCERS

3 flat tip displacement transducers	Ø4,75 mm
Type of tip	Tungsten carbide
Measurement range [mm]	0/+5 mm
Probing direction	±X, ±Y, ±Z
Probing force (± 20%)	0,7 N \Leftrightarrow 70 g
Resolution [µm]	< 0.05
Repeatability [µm]	0.15
Linearity [% FSO]	< 20
Temperature range [°C]	40 to +120
Protection [IP]	IP 65



3. STANDARD OPTIFIVE® MEASURING PLATE SUPPORT

Material	Aluminium
Treatment.....	Anodising
Colour	Grey
Dimensions	Ø150 x HT 160 mm
Weight	1.3 kg

Complete assembly supplied with:

- 3 displacement transducers
- 5 V battery
- Power supply module
- Bluetooth® communication module



4. µ OPTIFIVE® MEASURING PLATE SUPPORT

Material	Aluminium
Treatment	Anodising
Colour	Gris
Dimensions	Ø80 x HT 75 mm
Weight	0,65 kg

Complete assembly supplied with:

- 3 displacement transducers
- 5 V battery
- Power supply module
- Bluetooth® communication module



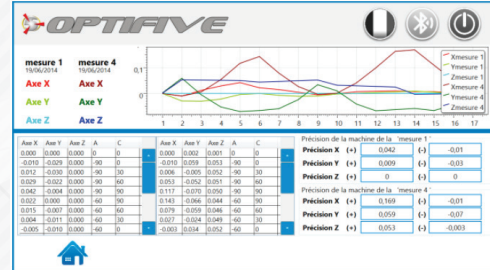


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5. PREINSTALLED OPTIFIVE® SOFTWARE

Software with powerful algorithm for setting the pivot point of 5-axis machines.

Whatever NC (numerical controller) is used and whatever the kinematics (Twist, Tilting, or Mixed), OptiFive® will recalculate the correction values to be applied to your machine, in less than 30 minutes!



6. MOTION® CL920 TABLET PC

Processor/cache:

Intel® N3540 “Bay Trail” quad-core processor
2.16 GHz clock speed (2.66 GHz burst frequency)

Screen: 10.1” HD LED (resolution 1366 x 768)

Chipset: Intel® HD Graphics

Operating system: Windows® 10 Pro

Storage: 64 GB

Data entry: 10-point “multi-touch” capacitive screen - Active stylus

I/O ports: 1 USB 3.0/1 micro-HDMI/1 SD slot

Camera: rear facing 5.0 MP/front facing 1.3 MP

Durability: IP52 (water and dust resistant)

Communications: Dual band wireless-AC with Bluetooth 4.0

Battery: 43 WHr lithium ion. Battery life up to 8 hours

AC adaptor: 65 W - 100-240 V ~1.5 A, 50-60 Hz

Dimensions: 276.7 mm x 179.2 mm x 15.7 mm

Weight: 0.84 kg

Warranty: 1 year



7. CALIBRATION SPHERE FOR STANDARD OPTIFIVE® PLATE AND μ OPTIFIVE® PLATE

Standard OPTIFIVE®

Grade 10 tungsten carbide CMM sphere, Ø 25 mm ±1.0 μm with UKAS inspection certificate

μ OPTIFIVE®

Grade 10 tungsten carbide CMM sphere, Ø 20 mm ±1.0 μm with UKAS inspection certificate





8. ER NUT FOR SPINDLE RUN-OUT COMPENSATION*

These nuts, specially designed to compensate for spindle run-out, are easy to adjust to within 0.001 mm, using 4 perimeter screws.

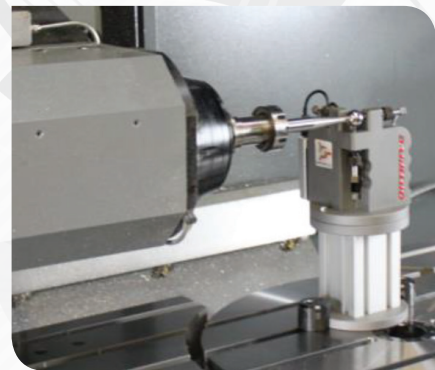
Item supplied	Option
Adjustable nut for DIN collet 6499 ER16 Ø 1-10 mm (426E)	1 x DIN6499 ER16 Ø 10.0 collet 1 x wrench for 116 nut
Adjustable nut for DIN collet 6499 ER25 Ø 1-16 mm (430E)	1 x DIN6499 ER25 Ø 16.0 collet 1 x wrench for 125 nut
Adjustable nut for DIN collet 6499 ER32 Ø 2-20 mm (470E)	1 x DIN6499 ER32 Ø 16.0 collet 1 x wrench for 132 nut

*Requires an ER collet chuck (DIN 6499)



9. SPACER FOR TWIST AND MIXED KINEMATICS

Material Aluminium
 Treatment Anodising
 Colour Grey
 Dimensions Ø150 x HT 160 mm
 Weight 0,4 Kg



10. RECHARGEABLE BATTERY

3200 mAh rechargeable battery with 6 hours' battery life
 Aluminium housing
 5 V/1 A USB output port





II. PELICASE 1560 TRANSPORT CASE

Moulded case made of high strength copolymer and polypropylene resin
Watertight design (with O-ring seal), shock-resistant and dustproof
Corrosion-resistant and withstands impact damage
Automatic equalisation valve balances internal air pressure and prevents water ingress
Easy to open double throw latches
Comfortable folding rubber over-moulded top and side handles
Retractable telescopic extension handle
Strong polyurethane wheels with stainless steel bearings
Colour: Black
Weight: 14 kg
Temperature range: -40° to +99°C
IP67
Internal dimensions L x W x H: 51.7 x 39.2 x 22.9 cm
External dimensions L x W x H: 56.1 x 45.5 x 26.5 cm

