TWINNER

For the measurement of cylinder-shaped parts

Swiss
Measuring
Instruments

1.

INTRODUCTION

TWINNER is a universal instrument for the measurement of cylinder-shaped parts, which replaces a great number of conventional instruments in the workshop. This measuring centre, multifunctional, flexible and mobile, allows to measure and document practically all that is manufactured by turning.

This instrument has been specifically developed for the workshop and lends itself perfectly to a use in production, close to the machining centre.

TWINNER allows the quality control of sole parts as well as that of small batches. Other areas of use are the control and acceptation of machine tool. All revolution parts can be precisely measured, without adjustment necessary. The range of parts that can be measured spreads over typical turning parts, such as axles, gearbox shafts, camshafts, crankshafts, transmission shafts, joints and revolving parts, to parts with very elaborate geometry.

TWINNER is available in the following dimensions: lengths of 400, 800, 1200 and 2000 mm and diameters of 125 or 160 mm. The manual use and control of the TWINNER are performed by a PC with TWINNER soft.

- BUILT FOR WORKSHOP USE
- VERY SIMPLE HANDLING
- USE WITHOUT PRELIMINARY KNOWLEDGE
- NO USER'S INFLUENCE THANKS TO A CONSTANT MEASURING FORCE
- EXCELLENT REPEATABILITY
- VERY FAST CHANGE OF PART
- EASY CALIBRATION
- COMPLETE SELECTION OF ACCESSORIES

2.

DESCRIPTION

- Length
- Diameter on odd division
- Diameter of recess
- Internal depth (option)
- Concentricity
- Axial run-out to part axis
- Eccentricity
- Radial run-out to part axis
- Pitch

- External diameter
- Width of internal recess (option)
- Width of chamfer
- Angle of taper
- Axial run-out
- Position
- Eccentricity to part axis
- Point of intersection

- Shoulder
- Width of external recess
- Internal distance (option)
- Coaxiality
- Interrupted axial run-out
- Radius
- Interrupted eccentricity
- Angular pitch

Typical parts easily measured with a Twinner.

Display unit

Rotation unit (with or without motor or encoder)

Centring pike

Length measuring module

Diameter measuring module
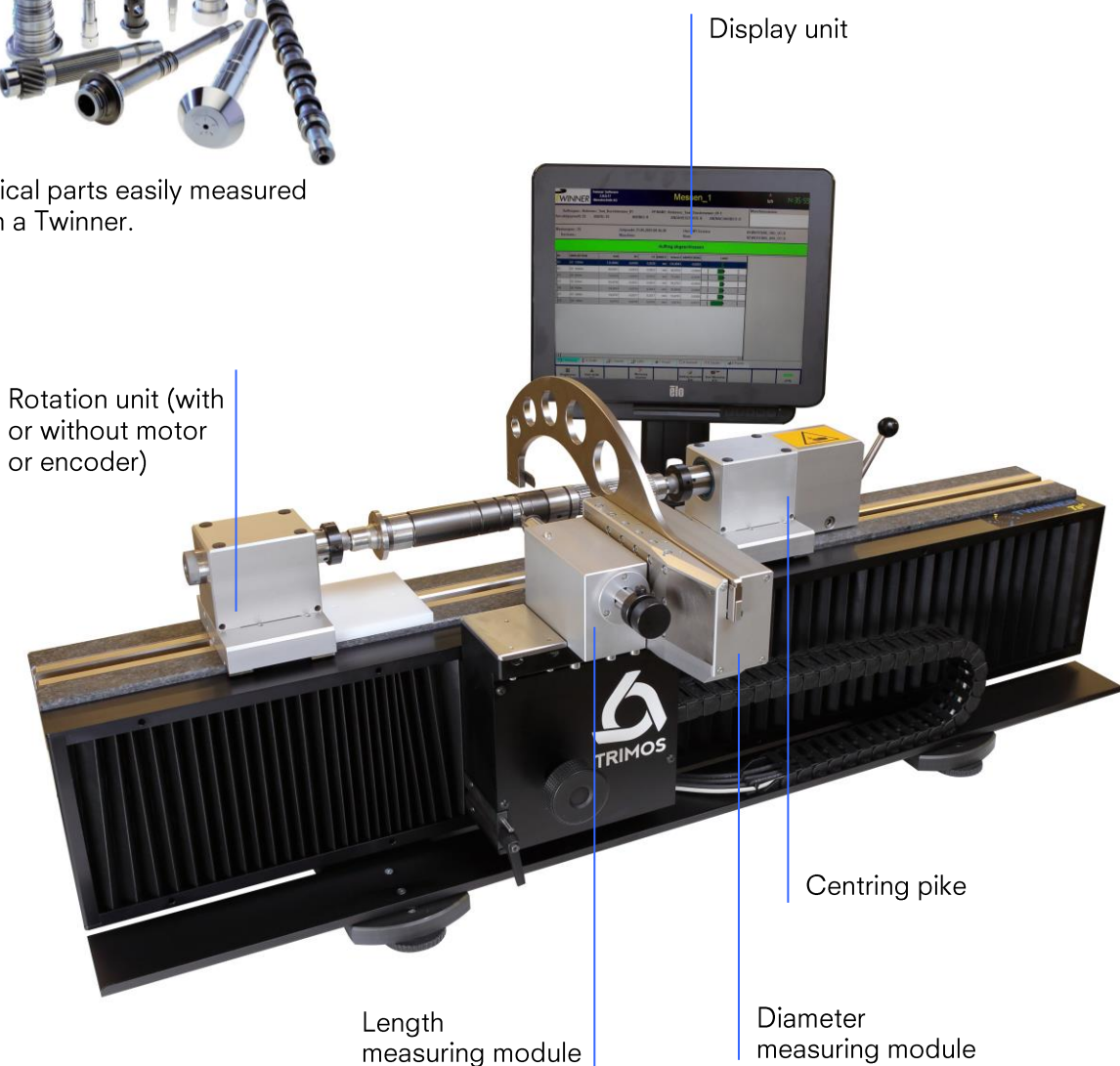
3.

DISPAY/SOFTWARE

The Twinner instruments are controlled by a PC system with different hardware and software modules. Our two main models: Twinner Master and Twinner Premium

	TWINNER Master	TWINNER Premium
Hardware		
Rotating encoder	-	Yes
Diameter module measuring system	1	2
Software	Twinner Soft Easy	Twinner Soft Pro
FREE MEASUREMENT	Yes	Yes
TEST SEQUENCES WITH USER GUIDE	-	Yes
TEACH-IN	-	Yes
STATISTIC	-	Yes
NETWORK CONNECTIVITY	-	Yes
RECORDING OF RESULTS IN Q-DAS	-	Yes
MEASURING REPORTS	Yes	Yes
INDIVIDUAL MACROS	-	Yes

Optical module (optional)

Ideal for the measurement of tiny details such as grooves, angles, chamfers etc.

TWINNER Soft Pro

For better comfort and more functionality, the TWINNER can be equipped with TWINNER soft Pro. This modern SPC system offers unbeatable value for money. Its flexibility makes it adaptable to the most diverse measuring situations.

USE OF PROGRAM ADAPTED TO THE WORKSHOP
MEASURING GRAPHICAL HELP
MEASURING MACROS
FREELY CONFIGURABLE VIEWS
MODERN AND CONVENIENT SPC SYSTEM
FUNCTIONS ADMINISTRATION BY USERS AND PASSWORDS
RECORDING OF RESULTS IN ASCII FORMAT IN Q-DAS
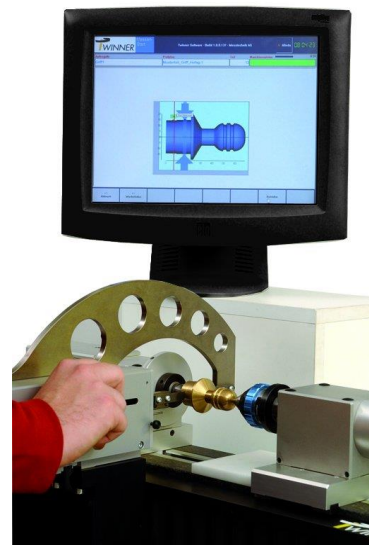
TWINNER Soft Pro considerably reduces the programming time of a measuring sequence and allows a rational use of the instrument.
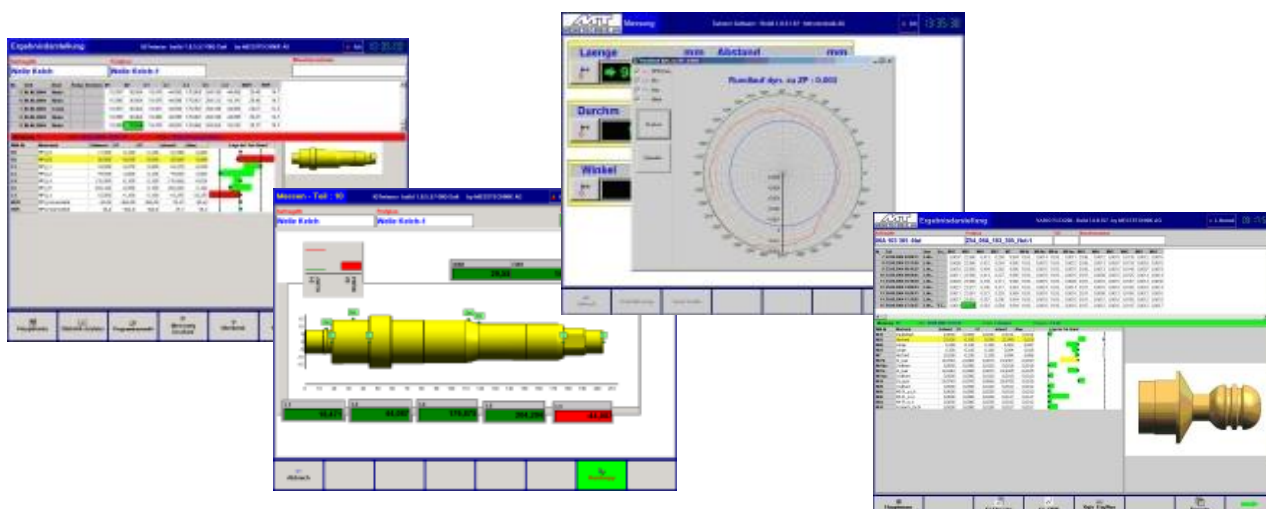
Numerous functions are integrated into the software:

- Freely configurable masks, reports and graphs
- Administration of functions by users and passwords
- Recording of results in ASCII format in Q-DAS

4.

TECHNICAL SPECIFICATIONS

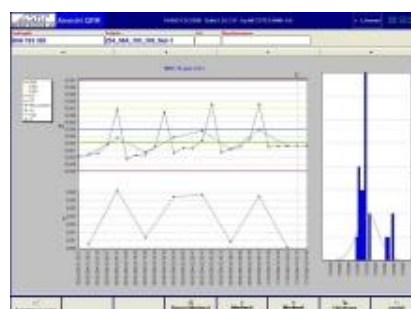| Twinner		T4M	T8M	T12M	T20M
Measuring range, length X	mm	400	800	1200	2000
Measuring range, diameter Y	mm	125/160			
Max. permissible errors, length X [1]	µm	$3 + L(mm)/100$			
Max. permissible errors, diameter Y[1]	µm	$1.5 + D(mm)/100$			
Repeatability, length X (2s) [1]	µm	≤ 2.0			
Repeatability, diameter Y [1]	µm	≤ 1.0			
Resolution, length X	mm	0.001 / 0.0001			
Resolution, diameter Y	mm	0.001 / 0.0001			
Measuring force, length and diameter	N	2.0			
Max. part weight	kg	20 / 100			
Weight (instrument)	kg	120	140	180	240

1) Values valid at temperature of 20±0.2 °C and relative humidity of 50±5%.

SCHEMA
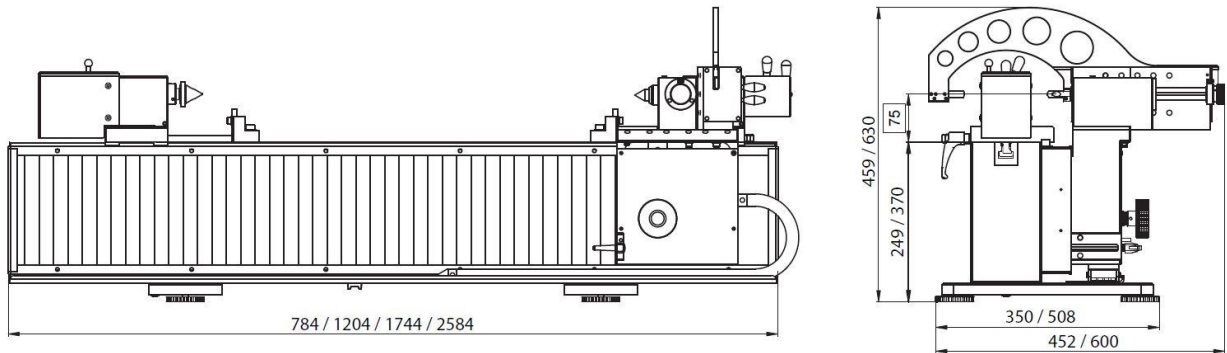
5.

PACKAGES

Twinner		Rotating encoder	Diameter module with measuring system	Software Measurement
T4 Master (Easy)	700 215 10 14	-	1x	Free
T4 Premium (Pro)	700 215 10 15	Yes	2x	Sequences
T8 Master (Easy)	700 215 20 14	-	1x	Free
T8 Premium (Pro)	700 215 20 15	Yes	2x	Sequences
T12 Master (Easy)	700 215 30 14	-	1x	Free
T12 Premium (Pro)	700 215 30 15	Yes	2x	Sequences
T16, T20, T25…	Twinner T16, T20, T25 etc. (On demand)			

The Twinner can also be equipped according to each specific application need. A complete equipment list can be found in the list of accessories.

STANDARD INSTRUMENT

| The Twinner instruments are supplied as follows:			Master	Premium
D-Module 125 1-Measuring system	TA-MS-501	1	x	
D-Touche HM-Knive	TA-MI-501	2	x	x
L-Module	TA-MS-510	1	x	x
L-Probe Type E	TA-MI-516	1	x	x
Fixed centers 20Kg (including T protection)	TA-AD-524	1	x	x
Manual/fixed centers 20Kg (including T protection)	TA-AD-522	1	x	
Centering point 60° D=18mm (standard)	TA-SU-511	2	x	
PC-System 130, all in one 18.5", with counter card, 3 axes, Twinnersoft easy	TA-DU-531	1	x	
Tools and cleaning set	TA-TO-510	1	x	x
Packaging for T4M D125/D160	TA-TO-550	1	x	
D-Module 125 2-Measuring systems	TA-MS-502	1		x
Rotating system 20 Kg empty (including T protection)	TA-AD-527	1		x
Centering point 60° D=18mm (standard)	TA-SU-511	1		x
Encoder system (1 Vss)	TA-MS-540	1		x
Crank	TA-MS-541	1		x
Rotating center 60° D=18mm	TA-SU-520	1		x
Power supply box, with counter card for 3 axes for T4M-T12M Premium	TA-EL-501	1		x
PC-System 160, all in one 18.5", with counter card, 6 axes, Twinnersoft easy, keyboard DE	TA-DU-534	1		x
Twinnersoft Pro with programming and statistics	TA-SW-502	1		x

SPECIFIC MODELS

Trimos offers specific solutions adapted to all applications for measurement of cylinder-shaped parts and revolving parts. For more information, your local Trimos agent remains at your disposal.
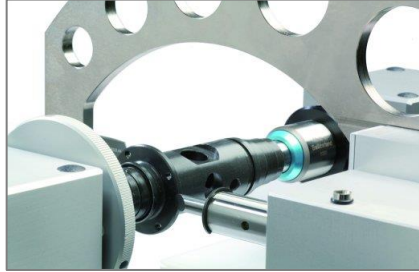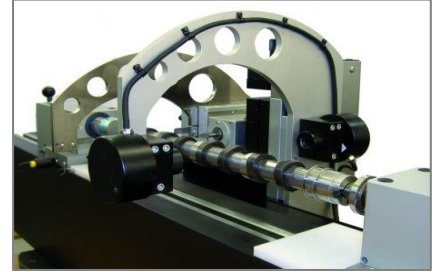
2 m long model
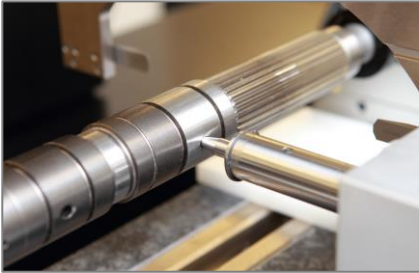
5.

APPLICATIONS
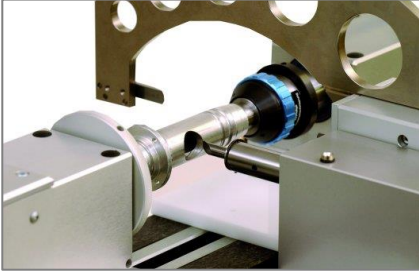
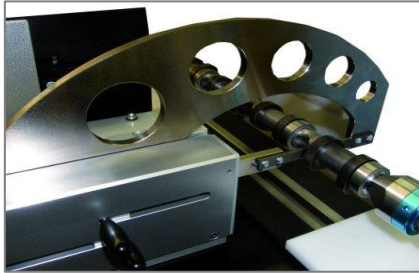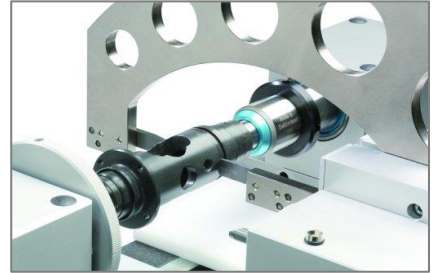Centerline measurement

Length measurement

Optical measurement of the characteristics of a camshaft

Measurement of rack rail teeth inclination (specific design)
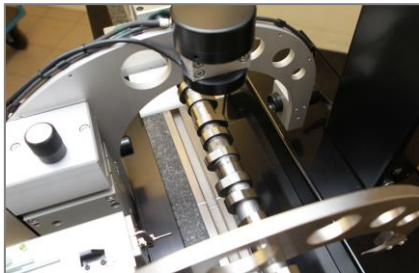

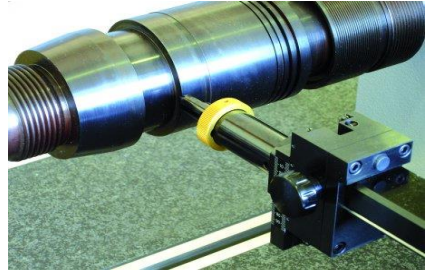Diameter measurement on a camshaft

Diameter measurement in a groove

Positions measurement (specific design)

Installation for eccentric diameter measurement (specific construction)

Length measurement for large parts (specific design)