# OPTOFLASH SHOPFLOOR QUALITY CONTROL

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**TURNERIES APPLICATIONS** 





Up to 4.000 workpieces, controlled every single day. This is the typical capability of one Optoflash unit integrated into an automatic line, for quality control of turned parts.

An high level of throughput as this one is not sustainable for a many measuring system, neither optical, while it is a normal rate for the Optoflash.



#### WHY OPTOFLASH IN PRECISION TURNERIES?

In a landscape where large manufacturing OEMs need super-demanding time-to-market and large volumes in deliveries, companies specialized in precision component manufacturing, as precision turneries, are quickly becoming strategic partners for large OEM companies.

The great success of precision turneries is based on a mix of aspects, as the capability to immediately react to new production orders, to deliver large volumes from the start, to guarantee a predictable quality of the worpieces in deliver.

Being this trend intensive in the manufacturing industry, so it is clear the reason why the OPTOFLASH IS A SUCCESSFUL SOLUTION FOR COMPONENT SUPPLIERS, AS PRECISION TURNERIES COMPANIES.



## Not only the measuring speed is the winning factor

The Optoflash is the only in the marketplace that implements a 2D optical architecture, a solution that eliminates the need for optical scanning of the part to measure, as instead necessary for traditional linear sensor systems.

The result of the 2D architecture is an unprecedented measuring speed.

While for many optical systems a measuring cycle time is proportional to the number of measurements, for the Optoflash the measurement time is fixed and predictable.

## THE PART IS COMPLETELY ACQUIRED INTO EACH SINGLE IMAGE FRAME AND IMAGE ELABORATION TIME HAS A TINY IMPACT ON TOTAL MEASURING TIME VARIABILITY.

The throughput consistency simply eliminates the risk of productivity reduction for new part models. In addition the measurement setup for new parts is a fast operation on the Optoflash, since there is no need for fine-tuning to achieve the target cycle time.





### No matter if manual or automated loading Measuring speed makes money

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Since the measuring speed is a pivotal parameter to dimension automatic control systems, the super-high measuring speed of the Optoflash immediately reflects into a smaller investment for quality control equipments.





# OPTICAL MEANS FLEXIBLE

In the business model of precision turneries, equipment flexibility is a must: production line must switch quickly from one part in production to a new one.

# MARPOSS

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### Integrated 3D model reconstruction 100+ measurement types, no extra licenses d 🖬 @.]L.⊕@.+D:: Ш $f_x$ L n 🗷 🛠 🖉 ★ Q Start cycle

Intuitive measure report / 命心亡●◎十つ∷ 0.1L€ i Ø @ % K. Z^ Z. i. j. n 🗷 🖋 🥒 \star Q Start log



#### Graphic measurement report

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Cli	Talean	Part 1 Grey	inter Control			) (	$\supset \square$	(Deeps	$\mathcal{O}$	() Mari part	M001	- 108 - CSC ( 20	
0.	Natio	Short description	Description	Tipe	UH	Norskull value	Value	Bargrap	n 1	n.	Chawreg View		
0	M001	Z Distance	Z Distance,201,218.6	17	ITAR	185000	18.5468			0.0500			
	M002	2 Distance	Z Distance_234.7_218.6	1	mm	16.1972	16.1714			-0.1000			
	M003	Z Distance	2 Distance_218.6_295.8	7	mm	77,2000	77.1902	1	1.1	-0.1000			
٥.	M004	Z Distance	Z Distance_Z105.0_Z18.6	7	mm	86.4169	86.3467			-0.1000		-	-
	M005	Distance At Specific Diameter	Distance At Specific Diameter	16	mm	156,2500	157,4816	1	1	-0.1500			10
0	M006	Z Distance	2 Distance_218.6_2178.9	7	mm	160,2000	160.2431		1.	-0.1000			
	M007	Z Distance	Z Distance_Z18.6_Z184.8	1	mm	166,2640	166.2219		11	-0.1000			
	MOOR	Z Distance	Z Distance_Z158.7_Z178.9	1	mits	20.1000	20.1296		1	-0.1000	the state		
	M009	Z Distance	Z Distance_Z177.9_Z177.9	1	min	1.2100	1.2150	1.1	1	-0.1000			
	M010	Chamfer angle	Chamler angle_Line21_Part Asis	4	+	15.0000	15.2423			-0.2500	and a second sec		
	M011	Dynamic diameter	Dynamic diameter, 2153.1	23	mm	31,9630	31.9626	11		-0.0130	Contraction of Contra		
	M012	Radial runout	Radial runout, 2153.1	2	mitt	0.0000	0.0035	1		0.0000		Area Mareau	
0	M013	Radial runout	Radial runout, Z100.8	27	179379	0.0000	0.0053	1	1	0.0000			
0	M014	Radial runout	Radial runout_Z27.1	27	100.00	0.0000	0.0161		1	0.0000			
0	M015	Dynamic diameter	Dynamic diameter 227.1	23	mm	-44.0000	44,0040			-0.0150			
D)	M016	Concentricity	Concentricity 29.8	0	mits	0.0000	0.0636			0.0000			
	M017	Dynamic diameter	Dynamic diameter Z100.8	12	-	33,0000	33.0280			-0.1000			
	M018	Dynamic diameter	Dynamic diameter 292.3	4	mm	38.0000	37.9902		10	-0.0310			
	M019	Maximum diameter	Maximum diameter	ø	mm	27,6000	28.2919			-0.1000			
0	M020	Chamfer angle	Chamfer angle_Line23_Line24	4	4	7.6280	7.6331	. 1	1.1	-0.0330			
0	M021	Radial runout	Radial runout, Z171.9	2	mm	0.0000	0.0575	1		0.0000			
	M022	Z Distance	Z Distance_2183.9_2184.8	7	mm	1,0000	1.0073	11		-0.1000			
0	M023	Chamfer angle	Chamler angle Line31, Part Asis	2	÷	30.0000	27.0434	-		-0.5000			
	M024	Arc radius	Arc radius Arc33	A	mm	5.0000	5.1176			-0.1000	/		

#### Advanced measurements, as thru-holes or profiles







On the Optoflash, introducing a new part model into setup is actually an easy operation. The product integrates a measurement configuration environment, where operators can load the drawing of the workpiece and activate the required measurements through simple drag 'n drop operations.

## OPTOFLASH MODELS

<image/>		
MEASURING RANGE [MAX PART DIMENSION] LENGTH (mm) DIAMETER (mm)	30 [30] 20 [20]	60 [60] 20[20]
MAX PART WEIGHT (Kg)	1	
MEASURING UNCERTAINTY <sup>1</sup> LENGTH (mm) DIAMETER (mm)	U95 (2+L[mm U95 (1+D[mm	n]/100) μm n]/100) μm
PART LOADING MODE	MANUAL AND AUTON	ATIC (BY ROBOT)
PART ROTATION	OPTIC	DN
MEASUREMENTS MODE	STATIC AND	DYNAMIC
DIMENSIONS OF THE MEASURING SYSTEM W x D x H (mm)	610 x 545 x 400	

1) Calculated following DIN 1319 part 3 / ISO norms on a reference master. Ambient temperature at 20°C  $\pm$  1K with a maximum variation of 0.5K/h. Part temperature 20°C  $\pm$  1K. After standard product calibration procedure.





300 [300] 60 [90]

200 [200] 60 [90]

100 [100] 60 [90]

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U95 (2+L[mm]/100) μm U95 (1+D[mm]/100) μm

#### MANUAL AND AUTOMATIC (BY ROBOT)

OPTION

#### STATIC AND DYNAMIC

854 x	854 x	854 x
612 x	612 x	612 x
626	740	842



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