INTERAPID 312 Dial Test Indicators

Very large measuring span – Ideal for inspecting all significant size variations, e.g. on the surface plate – Measure position, form and shape errors.

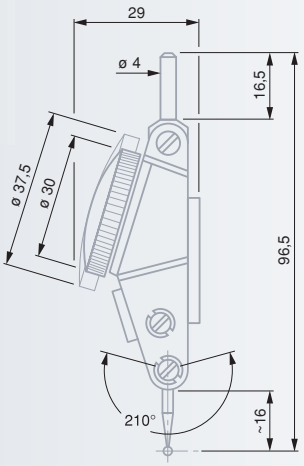
- Additional revolution counter for safe reading.
- Bidirectional measuring with automatic reversal inside the movement.
- Thereby pointer rotation is constant.
- Jewelled movement with rubies.
- Ball-bearing lever system with measuring insert swivelling through 210°.
- Full-metal construction giving outstanding robustness.
- Monobloc housing with mounted dovetail attachments as well as a 4 mm swivelling shank.

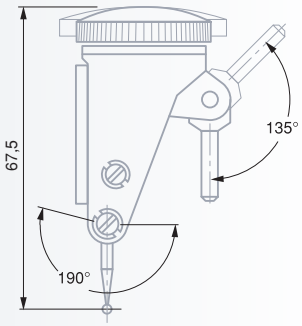
Regular Model

Time-tested dial test indicator with dial face mounted parallel to the insert axis.

Perpendicular Model

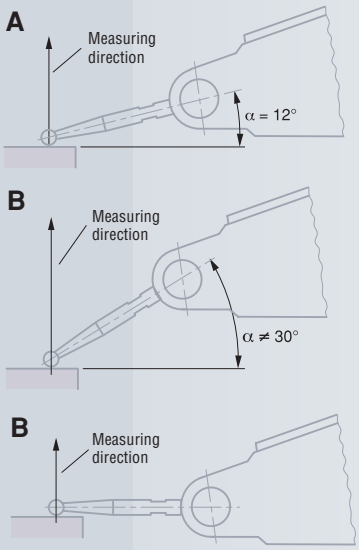
Dial test indicator with dial face mounted at right angle to insert axis.





Stylus insert with angular position of 12°

All models INTERAPID 312 are designed to give a true reading when the angle between the stylus and the workpiece surface is 12° (Fig. A).
In another measuring position, including parallel position of the stylus against the workpiece surface, read values have to be corrected accordingly (Fig. B). With regard to this, also read in the instruction manual.



APermissible limits of a metrological characteristic (MPE/MPL)

	0,01 mm		0,002 mm	
	Pointer Rev 1	2	Pointer Rev 1	2
Deviation range, f_e	10 µm	20 µm	4 µm	8 µm
Total deviation range, f_{ges}	13 µm	23 µm	6 µm	10 µm
Repeatability limit, f_w	3 µm		1 µm	
Max. hysteresis, f_u	3 µm		2 µm	
Measuring force	0,12 N		0,25 N	

INTERAPID 312 Regular Models

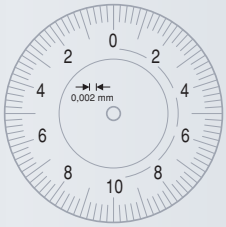
No			Ø		Insert
mm					
074111366	0,01	1,6	37,5	0 ÷ 40 ÷ 0	16,5
074111367	0,01	1,6	30	0 ÷ 40 ÷ 0	16,5
074111368	0,002	0,4	37,5	0 ÷ 10 ÷ 0	15,2
074111369	0,002	0,4	30	0 ÷ 10 ÷ 0	15,2
in					
074111370	*0.0005*	*0.060*	*1.5*	*0 ÷ 15 ÷ 0*	*0.65*
074111371	*0.0005*	*0.060*	*1.2*	*0 ÷ 15 ÷ 0*	*0.65*
074111965	*0.0005*	*0.060*	*1.5*	*0 ÷ 15 ÷ 0*	*2.675*
074111374	*0.001*	*0.060*	*1.2*	*0 ÷ 15 ÷ 0*	*0.65*
074111372	*0.0001*	*0.016*	*1.5*	*0 ÷ 4 ÷ 0*	*0.65*
074111373	*0.0001*	*0.016*	*1.2*	*0 ÷ 4 ÷ 0*	*0.65*

INTERAPID 312 Perpendicular Models

No			Ø		Insert
mm					
074111375	0,01	1,6	37,5	0 ÷ 40 ÷ 0	16,5
074111376	0,01	1,6	30	0 ÷ 40 ÷ 0	16,5
in					
074111377	*0.0005*	*0.060*	*1.5*	*0 ÷ 15 ÷ 0*	*0.65*
074111378	*0.0005*	*0.060*	*1.2*	*0 ÷ 15 ÷ 0*	*0.65*
074111958	*0.0005*	*0.060*	*1.5*	*0 ÷ 15 ÷ 0*	*2.675*
074111379	*0.001*	*0.060*	*1.2*	*0 ÷ 15 ÷ 0*	*0.65*
074111957	*0.0001*	*0.016*	*1.5*	*0 ÷ 4 ÷ 0*	*0.65*

074111366

074111367



074111368

074111369

✓ Rotating dial

Very low measuring force (see table on page F-7)

Lever system with friction drive to prevent overload

Accuracy: see table on page F-7

Supplied in a plastic case along with:
1 steel insert with a 2 mm diameter, hardened.
1 key No. 01860307

Identification number

Declaration of conformity

✓ Technical data as listed under: each single product

Plastic case

Identification number

Declaration of conformity

Dial Test Indicator Sets, Complete with Accessories

Each full set consists of:

№	=
	INTERAPID 312 as listed in the tables below
074106331	Rectangular attachment
074108942	Reducing sleeve, metric
	or
074108943	Reducing sleeve, inch
074106026	Swivel holder, metric
	or
074106931	Swivel holder, inch
074111474	Storage case for measuring inserts
01860307	Wrench for measuring inserts

INTERAPID 312 Regular Models

№ mm	074111366	074111367	074111368	074111369	074106331	074108942	074106026	074111474	01860307
074111502	●				●	●	●	●	●
074111503		●			●	●	●	●	●
074111504			●		●	●	●	●	●
074111505				●	●	●	●	●	●

№ *in*	*074111370*	*074111371*	*074111372*	*074111373*	*074106331*	*074108943*	*074106931*	*074111474*	*01860307*
074111508	●				●	●	●	●	●
074111509		●			●	●	●	●	●
074111510			●		●	●	●	●	●
074111511				●	●	●	●	●	●

INTERAPID 312 Perpendicular Models

№ mm	074111375	074111376	074106331	074108942	074106026	074111474	01860307
074111506	●		●	●	●	●	●
074111507		●	●	●	●	●	●

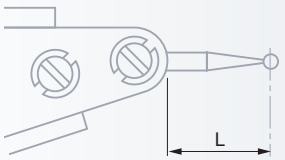
№ *in*	*074111377*	*074111378*	*074106331*	*074108943*	*074106931*	*074111474*	*01860307*
074111513	●		●	●	●	●	●
074111514		●	●	●	●	●	●

Measuring Inserts for INTERAPID 312

Ball tips in hardened steel or tungsten carbide

M1,7 coupling thread

Length L of measuring inserts



Steel ball tips	Carbide ball tips			L
		mm		
074107893	**074105993**	0,01	2	16,5
074107895	**074105994**	0,01	1,5	16,5
074107897	**074105995**	0,01	0,8	16,5
	074106358	0,01	2	36,6*
	074106360	0,01	0,8	36,6*
074110481	**074110482**	0,002	2	15,2
074110492	**074110491**	0,002	1,5	15,2
074110493	**074110507**	0,002	0,8	15,2
	074110494	0,002	2	34*
	074110508	0,002	0,8	34*
		in		
074107899	***074105996***	*all***	*0.080*	*0.650*
074107901	***074105997***	*all***	*0.060*	*0.650*
074107903	***074105998***	*all***	*0.031*	*0.650*
	074106361	*all***	*0.080*	*1.375**
	074106363	*all***	*0.031*	*1.375**
	074111913***		*0.080*	*2.675*
	074111912****		*0.100*	*2.675*

mm/*in*	
01860307	Wrench for measuring inserts
074111474	*Storage case for measuring inserts*

* The length of the used insert changes the amplification factor of the lever system. Therefore, each read value must be doubled.
** Except for both models No. 074111965 and 074111958.
*** Model No. 074111965 only.
**** Model No. 074111958 only.

Note
The original measuring insert mounted on every INTERAPID 312 as well as any other insert with same nominal length but having different ball tip diameters are fully interchangeable.

Accessories for INTERAPID 312

		mm		*in*
074106331	Rectangular clamping attachment, complete		**074106331**	
01840203	Rectangular attachment with clamp	13 x 6 x 50 Ø 5,6	***01850203***	*1/2 x 1/4 x 2* *Ø 7/32*
074108603	Double attachment with clamping point and dovetail	Ø 4	**074108603**	
074106026	Swivel holder with clamping points and dovetail	Ø 8 x 133 Ø 4	***074106931***	*Ø 3/8 x 5.25*
074108942	Reducing sleeve	Ø 8 / Ø 4	***074108943***	*Ø 3/8 / Ø 5/32*
	Rectangular mounting rod		***074111481***	*3/16 x 5/16*