

● INTERAPID® 312 Dial Test Indicators (Lever-Type)

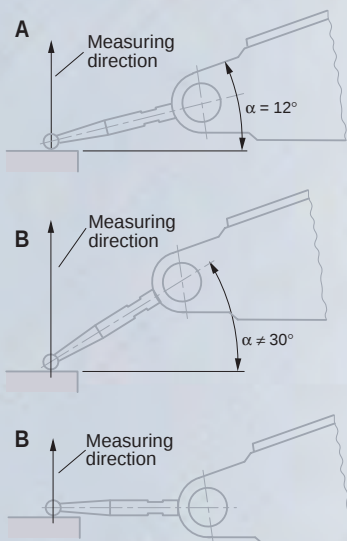
Very large measuring span – Ideal for inspecting all significant size variations, e.g. on the surface plate – Measure positional, form and shape errors.

- Additional revolution counter for sure reading.
- Bidirectional measuring with automatic reversal inside the movement.
- Pointer rotation is thereby constant.
- Jeweled 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.



Angular position of 12° for stylus insert

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

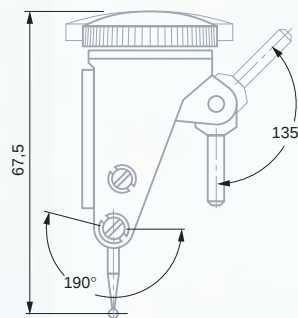
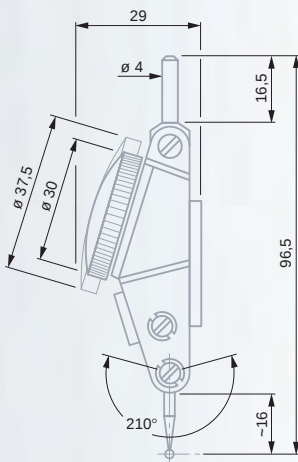


Regular Model

Time-tested dial test indicator (lever-type) with dial face mounted parallel to the insert axis.

Perpendicular Model

Dial test indicator (lever-type) with dial face mounted at right angle to the insert axis.



Technical Data

	0,01 mm		0,002 mm	
	Pointer revolution 1		Pointer revolution 2	
Deviation range	10 µm	20 µm	4 µm	8 µm
Total deviation range	13 µm	23 µm	6 µm	10 µm
Repeatability limit	3 µm		1 µm	
Max. hysteresis	3 µm		2 µm	
Measuring force	0,12 N		0,25 N	

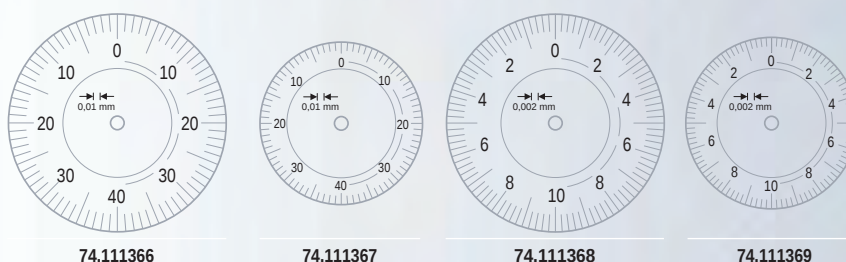
● INTERAPID® 312 Regular Models

No				Bezel dia.		Inserts
74.111366	0,01	1,6	37,5	0 ÷ 40 ÷ 0	16,5	
74.111367	0,01	1,6	30	0 ÷ 40 ÷ 0	16,5	
74.111368	0,002	0,4	37,5	0 ÷ 10 ÷ 0	15,2	
74.111369	0,002	0,4	30	0 ÷ 10 ÷ 0	15,2	
74.111370	0.0005	0.060	1.5	0 ÷ 15 ÷ 0	0.65	
74.111371	0.0005	0.060	1.2	0 ÷ 15 ÷ 0	0.65	
74.111965	0.0005	0.060	1.5	0 ÷ 15 ÷ 0	2.675	
74.111374	0.001	0.060	1.2	0 ÷ 15 ÷ 0	0.65	
74.111372	0.0001	0.016	1.5	0 ÷ 4 ÷ 0	0.65	
74.111373	0.0001	0.016	1.2	0 ÷ 4 ÷ 0	0.65	



INTERAPID® 312 Perpendicular Models

No				Bezel dia.		Insert
74.111375	0,01	1,6	37,5	0 ÷ 40 ÷ 0	16,5	
74.111376	0,01	1,6	30	0 ÷ 40 ÷ 0	16,5	
74.1113774.11	0.0005	0.060	1.5	0 ÷ 15 ÷ 0	0.65	
74.111378	0.0005	0.060	1.2	0 ÷ 15 ÷ 0	0.65	
74.111958	0.0005	0.060	1.5	0 ÷ 15 ÷ 0	2.675	
74.111379	0.001	0.060	1.2	0 ÷ 15 ÷ 0	0.65	
74.111957	0.0001	0.016	1.5	0 ÷ 4 ÷ 0	0.65	



74.111366

74.111367

74.111368

74.111369



Rotating dial



Very low measuring force as in the table on page E-34



Lever system with friction drive preventing from overload



Accuracy: see table on page E-34



Supplied in a plastic case with:
1 insert with a 2 mm. dia. in hardened steel
1 key No. 18.60307



Identification number



Declaration of conformity



● Full Indicator Sets with Accessories



Full sets consist of:



INTERAPID 312 dial test indicators
as shown in the tables hereafter

74.106331 Rectangular clamp attachment

74.108942 Reducing sleeve, metric
or

74.108943 Reducing sleeve, inch

74.106026 Swivel holder, metric
or

74.106931 Swivel holder, inch

74.111474 Case for measuring insert

18.60307 Key for the measuring insert



Technical
data as listed
under each
single product



Plastic case



Identification
number



Declaration
of conformity

INTERAPID® 312 Regular Models

mm	74.111366	74.111367	74.111368	74.111369	74.106331	74.108942	74.106026	74.111474	18.60307
74.111502	●				●	●	●	●	●
74.111503		●			●	●	●	●	●
74.111504			●		●	●	●	●	●
74.111505				●	●	●	●	●	●
in	74.111370	74.111371	74.111372	74.111373	74.106331	74.108943	74.106931	74.111474	18.60307
74.111508	●				●	●	●	●	●
74.111509		●			●	●	●	●	●
74.111510			●		●	●	●	●	●
74.111511				●	●	●	●	●	●

INTERAPID® 312 Perpendicular Models

mm	74.111375	74.111376	74.106331	74.108942	74.106026	74.111474	18.60307
74.111506	●		●	●	●	●	●
74.111507		●	●	●	●	●	●
in	74.111377	74.111378	74.106331	74.108943	74.106931	74.111474	18.60307
74.111513	●		●	●	●	●	●
74.111514		●	●	●	●	●	●

Measuring Inserts for INTERAPID® 312



Ball tips in
hardened steel
or tungsten carbide



M1,7
coupling thread



Steel
ball tips



Carbide
ball tips



mm

74.107893	74.105993	0,01	2	16,5
74.107895	74.105994	0,01	1,5	16,5
74.107897	74.105995	0,01	0,8	16,5
	74.106358	0,01	2	36,6*
	74.106360	0,01	0,8	36,6*

74.110481	74.110482	0,002	2	15,2
74.110492	74.110491	0,002	1,5	15,2
74.110493	74.110507	0,002	0,8	15,2
	74.110494	0,002	2	34*
	74.110508	0,002	0,8	34*



in

74.107899	74.105996	all**	0.080	0.650
74.107901	74.105997	all**	0.060	0.650
74.107903	74.105998	all**	0.031	0.650
	74.106361	all**	0.080	1.375*
	74.106363	all**	0.031	1.375*

74.111913*** 0.080 2.675

74.111912**** 0.100 2.675



mm / in

18.60307	Key for measuring inserts
74.111474	Case for measuring inserts



Length L of the 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 models No. 74.111965 and No. 74.111958

*** Only for model No. 74.111965

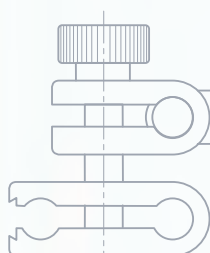
**** Only for model No. 74.111958

Note

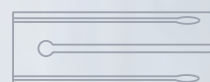
The original measuring insert mounted on every INTERAPID 312 and other inserts with same nominal length but having different tip diameters are completely interchangeable.



Accessories for INTERAPID® 312



74.106331



74.108942



74.106026

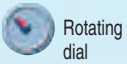


mm

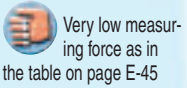


in

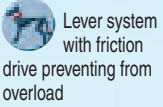
74.106331	Rectangular clamping attachment, complete		74.106331	
18.40203	Rectangular attachment with clamp	13 x 6 x 50 ø 5,6	18.50203	1/2 x 1/4 x 2 ø 7/32
74.108603	Double attachment with clamping point and dovetail	ø 4	74.108603	
74.106026	Swivel holder with clamping points and dovetail	ø 8 x 133 ø 4	74.106931	ø 3/8 x 5.25
74.108942	Reducing sleeve	ø 8 / ø 4	74.108943	ø 3/8 / ø 5/32
	Rectangular fixing shank		74.111481	3/16 x 5/16



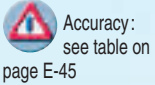
Rotating dial



Very low measuring force as in the table on page E-45



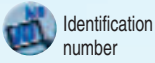
Lever system with friction drive preventing from overload



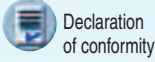
Accuracy: see table on page E-45



Supplied in a plastic case

with:
1 insert with a .080 in / 2 mm dia. in hardened steel
1 key No. 18.60307


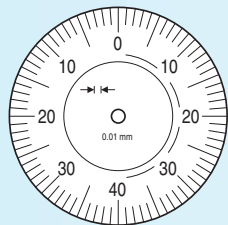
Identification number



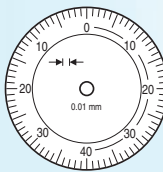
Declaration of conformity

INTERAPID® 312 Horizontal Models

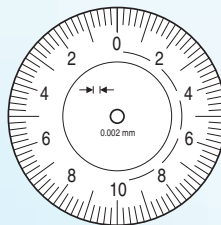
		Series				Bezel Dia.		Inserts
	in							
74.111370	42775	312b-1	0.0005	0.060	1.5	0 - 15 - 0	0.65	
74.111371	86150	312b-2	0.0005	0.060	1.2	0 - 15 - 0	0.65	
74.111965	41716	312b-15	0.0005	0.060	1.5	0 - 15 - 0	2.675	
74.111374	41682	312b-20	0.001	0.060	1.2	0 - 15 - 0	0.65	
74.111372	41680	312b-3	0.0001	0.016	1.5	0 - 4 - 0	0.65	
74.111373	41681	312b-4	0.0001	0.016	1.2	0 - 4 - 0	0.65	
	mm							
74.111366	41674	312-1	0.01	1.6	37.5	0 - 40 - 0	16.5	
74.111367	41675	312-2	0.01	1.6	30.0	0 - 40 - 0	16.5	
74.111368	42773	312-3	0.002	0.4	37.5	0 - 10 - 0	15.2	
74.111369	42774	312-4	0.002	0.4	30.0	0 - 10 - 0	15.2	



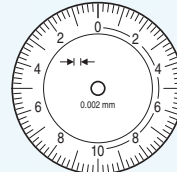
74.111366



74.111367



74.111368



74.111369

INTERAPID® 312 Vertical Models

						Bezel Dia.		Inserts
	in							
74.111377	41685	0.0005	0.060	1.5		0 - 15 - 0	0.65	
74.111378	41686	0.0005	0.060	1.2		0 - 15 - 0	0.65	
74.111958	41715	0.0005	0.060	1.5		0 - 15 - 0	2.675	
74.111379	41687	0.001	0.060	1.2		0 - 15 - 0	0.65	
74.111957	41714	0.0001	0.016	1.5		0 - 4 - 0	0.65	
	mm							
74.111375	41683	0.01	1.6	37.5		0 - 40 - 0	16.5	
74.111376	41684	0.01	1.6	30.0		0 - 40 - 0	16.5	

