













Millimess. Dial Comparators

OVERVIEW

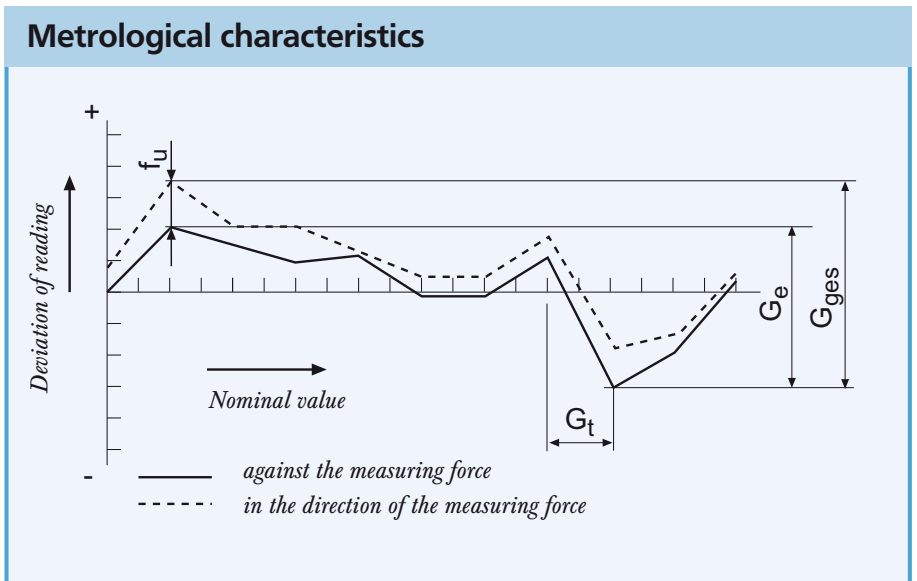
Models				
Metric	1000 A	1000 B	1002	1003
				
Measuring range	± 100 µm	± 50 µm	± 25 µm	± 50 µm
Readings	1 µm	1 µm	0.5 µm	1 µm
Dial style	100-0-100	50-0-50	25-0-25	50-0-50
Accuracy*	Factory standard	Factory standard	DIN 879-1	DIN 879-1
G _{ges}	2 µm	2 µm	0.6 µm	1.2 µm
G ^e	1.5 µm	1.5 µm	0.5 µm	1 µm
f _u	1 µm	1 µm	0.3 µm	0.5 µm
G ^t	0.7 µm	0.7 µm	0.4 µm	0.7 µm
r	0.5 µm	0.5 µm	0.3 µm	0.5 µm
Order no. Standard	4338000 	4339000	4335000	4334000
Order no. Waterproof 			4335005	4334005
Inch			1002 Z	1003 Z
Measuring range			± .0010"	± .0020"
Readings			.00002"	.00005"
Dial style			.001-0-.001	.002-0-.002
Accuracy*			Factory standard	Factory standard
G _{ges}			.000025"	.00006"
G ^e			.00002"	.00005"
f _u			.00001"	.000025"
G ^t			.000014"	.000035"
r			.00001"	.000025"
Order no. Standard			4335900	4334900
Order no. Waterproof 			4335905	4334905

* Accuracy of 1004, 1010, 1010 Z, 1050 exceeds DIN 879-1

** Accuracy of 1110 N and 1150 N exceeds DIN 879-3

1003 XL	1004*	1010*	1050*	1110 N**	1150 N**
					
± 130 μm	± 0.13 mm	± 0.25 mm	± 1.5 mm	± 0.25 mm	± 1.5 mm
2 μm	5 μm	0.01 mm	0.05 mm	0.01 mm	0.05 mm
130-0-130	130-0-130	25-0-25	15-0-15		
DIN 879-1	Factory standard	Factory standard	Factory standard	Factory standard	Factory standard
2.4 μm	4 μm	8 μm	40 μm	12 μm	60 μm
2 μm	3.5 μm	7 μm	35 μm	6.5 μm	35 μm
1 μm	1 μm	2 μm	10 μm	3.5 μm	17 μm
1.4 μm	3 μm	4 μm	24 μm	5 μm	25 μm
1 μm	1 μm	2 μm	10 μm	0.5 μm	17 μm
4334001	4333000	4332000	4330000	4343100	4342100
4334006	4333005	4332005	4330005	4343105	4342105

1004 Z	1010 Z
± .0050"	± .0100"
.0001"	.0005"
.005-0-.005	.01-0-.01
Factory standard	Factory standard
.00012"	.0004"
.0001"	.00035"
.00003"	.0001"
.00005"	.00025"
.00003"	.0001"
4333900	4332900
4333905	4332905



Millimess. Dial Comparators

OVERVIEW

Design Features

Box type protective housing

Constant measuring force

Measuring spindle can be retracted with either a screw in cable release or with a lifting knob.

Mounting shank and measuring spindle are both made of hardened stainless steel

Measuring spindle is mounted in a high precision ball guide (Types 1000 / 1002 / 1003 / 1004) for minimal hysteresis

Insensitive to lateral forces (side play) acting on the measuring spindle

Lockable fine adjustment screw

Self contained movement, which is both quick and easy to remove and replace

Easy to read scale

Adjustable tolerance markers

Maximum sensitivity and accuracy are ensured by the jeweled movement and in conjunction with the precision gears and pinions

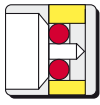
Shockproof Mechanism

Measuring spindle within the measuring range

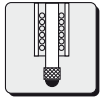
When the measuring range is exceeded the movement will be mechanically decoupled (shown in red)

**SHOCK
PROOF**

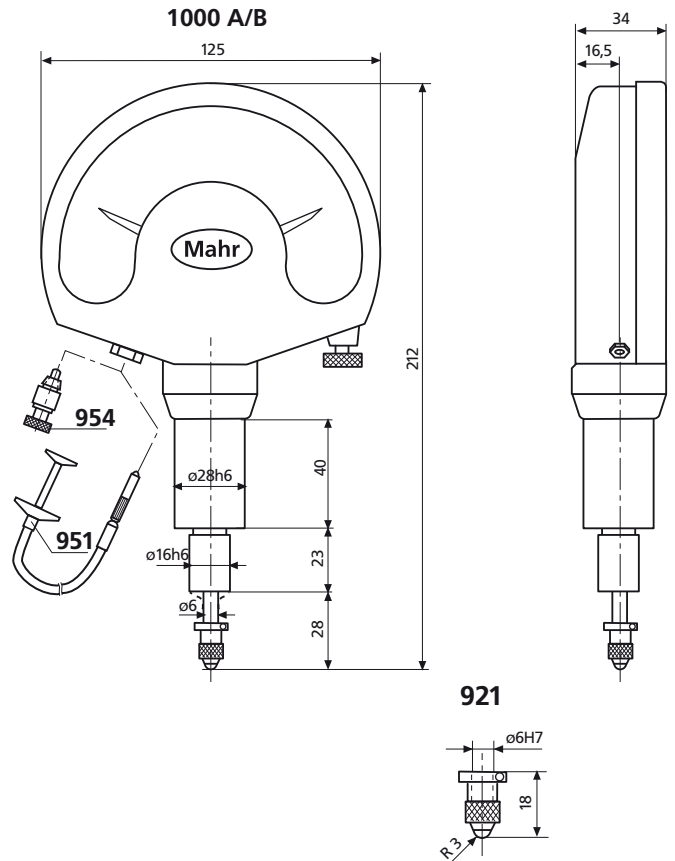
Mechanical Dial Comparator Large Type Millimess



SHOCK
PROOF



1000 A



921

Features

- Large design
- Easy to read dial
- Shockproof movement
- Jeweled movement bearings
- Measuring spindle is mounted in a high-precision ball guide which precludes play
- Supplied with: Cable Release 951, case

Accessories

	Order no.
Contact Points	
with Steel ball	921 4362001
with Ruby ball	921 R 4362002
Cable Release to raise the measuring spindle	951 4372000
Lifting Knob for lifting the measuring spindle	954 4372030
Rubber Bellows to seal the open end of the measuring spindle	4338008
Additional Accessories	Page
Precision Stand	824 GT 8-13

Technical Data

Metric	Measuring range	Reading	Scale division	Over-travel	Measuring force	Order no.
1000 A	$\pm 100 \mu\text{m}$	$1 \mu\text{m}$	1 mm	4 mm	3.5 N	4338000
1000 B	$\pm 50 \mu\text{m}$	$1 \mu\text{m}$	2 mm	4 mm	3.5 N	4339000

Mechanical Dial Comparators



1002
DIN 879-1



1003
DIN 879-1



1004



1003XL
DIN 879-1



1003T**
DIN 879-1



Technical Data

Metric		Measuring range	Readings	Overtravel	Measuring force	Order no. Standard*	Order no. Waterproof**
1002	Supramess	± 25 µm	0.5 µm	2.8 mm	1 N	4335000	4335005
1003	Millimess	± 50 µm	1 µm	2.8 mm	1 N	4334000	4334005
1003	Millimess	± 50 µm	1 µm	2.8 mm	0.3 N	4334075	
1003	Millimess	± 50 µm	1 µm	2.8 mm	0.5 N	4334050	
1003	Millimess	± 50 µm	1 µm	2.8 mm	0.7 N	4334071	
1003	Millimess	± 50 µm	1 µm	2.8 mm	2 N	4334010	
1003	Millimess	± 50 µm	1 µm	2.8 mm	3 N	4334011	
1003 XL	Millimess XL	± 130 µm	2 µm	2.5 mm	1 N	4334001	
1004	Compramess	± 0.13 mm	5 µm	2.5 mm	1 N	4333000	4333005
1010	Zentimess	± 0.25 mm	0.01 mm	2.5 mm	1 N	4332000	4332005
1050	Dezimess	± 1.5 mm	0.05 mm	0.3 mm	1 N	4330000	4330005
Inch							
1002 Z	Supramess	± .0010"	.00002"	.11"	1 N	4335900	4335905
1003 Z	Millimess	± .0020"	.00005"	.11"	1 N	4334900	4334905
1004 Z	Compramess	± .0050"	.0001"	.10"	1 N	4333900	4333905
1010 Z	Zentimess	± .0100"	.0005"	.10"	1 N	4332900	4332905

* Incl. Plastic Case; Adapter 940 (for inch instruments only)

** IP54, Incl. Plastic Case, Splash Guard Cover 957, Rubber Bellows (only for 1002/1003/1004); Adapter 940 (for inch instruments only)

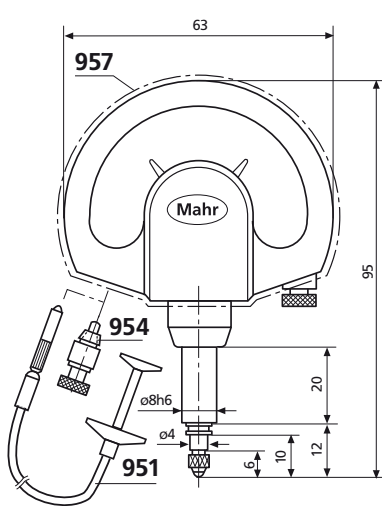
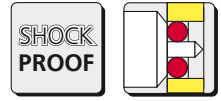
Mechanical Dial Comparators



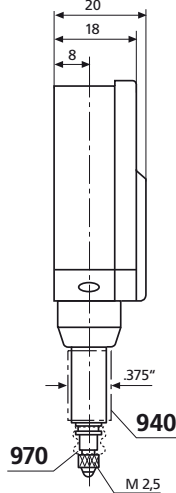
1010



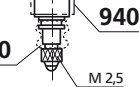
1050



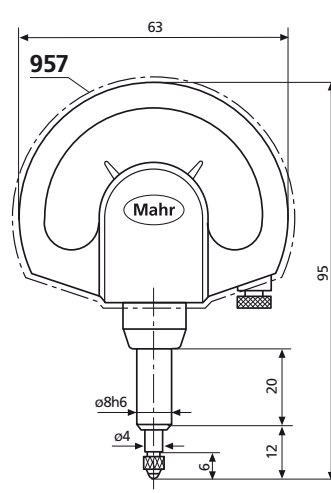
1002/1003/1004



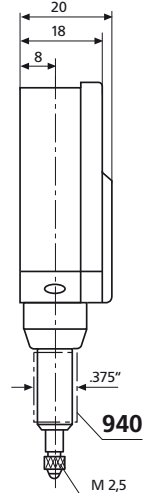
970



940



1010/1050

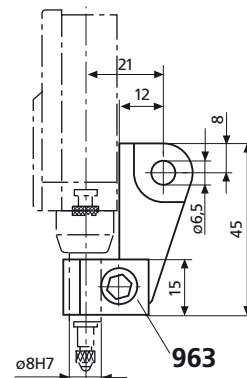


940

Accessories

	Order no.
Adapter Bush for adapting mounting shank 8h6 mm to inch bore .375"	940 4310103
Cable Release to raise the measuring spindle	951 4372000
Lifting Knob for lifting the measuring spindle	954 4372030
Splash Guard Cover	957 4373030
Rubber Bellows for 1002/1003/1004 to seal the open end of the measuring spindle	970 4334786
Mounting Lug to mount on mounting shank 8h6 mm	963 4375002

Additional Accessories	Page
Contact Points	901-913 5-52
Special Holder	941 5-52
Sensor Lever	943 5-53



963

Mechanical Dial Comparators with limit contacts



1110 N



1150 N

Features

- Can be applied for example as tolerance control or as a precision contactor in automatic control systems
- Design features are identical with Mechanical Dial Comparators, but with the addition of adjustable limit contacts; made from high-grade precious metal
- Limit contacts are particularly well protected against vibration and mechanical overload

Technical Data

	Measuring range	Readings	Over-travel	Measuring force	Order no. Standard*	Order no. Waterproof**
Metric						
1110 N Elzentimess	± 0.25 mm	0.01 mm	2.3 mm	2 N	4343100	4343105
1150 N Eldezimess	± 1.5 mm	0.05 mm	0.3 mm	1.5 N	4342100	4342105

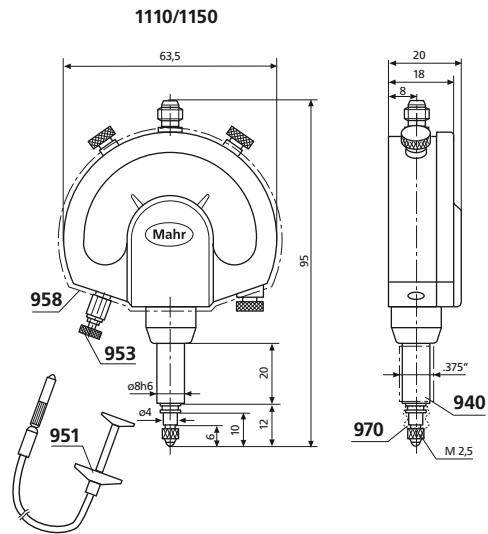
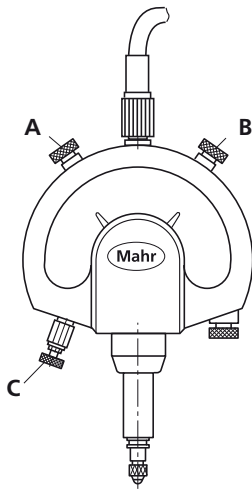
* Incl. Plastic Case, Setting Knob 953, Cable (1.2m)

** IP54, Incl. Plastic Case, Splash Guard Cover 957, Rubber Bellows (only for 1110)

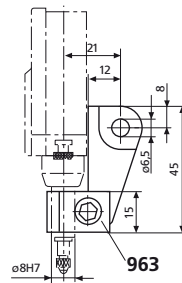
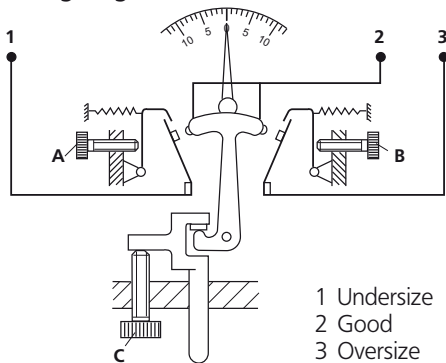
Mechanical Dial Comparators with limit contacts

Electrical Specifications

	Contact uncertainty with non-inductive load of 10 mA/24V	max. contact rating	max. contact voltage	max. contact current
1110 N	+/- 1,5 µm	240 mW	24 V	100 mA
1150 N	+/- 7 µm			



Wiring diagram



Accessories

	Order no.		Order no.
Connection Cable (1.2 m), axial	4345695	Splash Guard Cover	958 4373031
Connection Cable (5 m), axial	4345694	Rubber Bellows to seal the open end of the measuring spindle	970 4334786
Adapter Bush for adapting mounting shank 8h6 mm to inch bore .375"	940 4310103	Mounting Lug to mount on mounting shank 8h6 mm	963 4375002
Cable Release to raise the measuring spindle	951 4372000		
Setting Knob for setting the limit contacts without an additional setting standard	953 4372020	Additional Accessories	Page
Lifting Knob for lifting the measuring spindle	954 4372030	Contact Points	901-913 5-52
		Special Holder	941 5-52
		Sensor Lever	943 5-53