

Mechanical Dial Comparator Millimess 1002 / 1002 T / 1003 / 1003 T / 1003 XL / 1003 XLT / 1004 / 1004 T



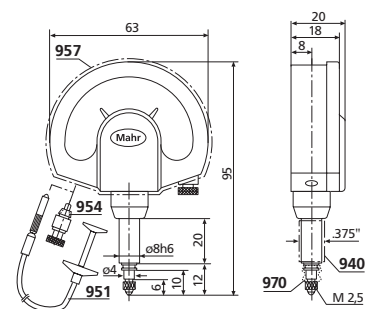
- Large, high contrast dial face
- Adjustable tolerance markers
- Lockable fine adjustment screw
- Shockproof movement
- Mounting shank and measuring spindle are both made of hardened stainless steel
- Measuring spindle is mounted in a high precision ball guide for minimal hysteresis
- Insensitive to lateral forces (side play) acting on the measuring spindle
- Maximum sensitivity and accuracy are ensured by the jeweled movement and in conjunction with the precision gears and pinions
- Box type protective housing
- Constant measuring force
- Measuring spindle can be retracted with either a screw in cable release or with a lifting knob
- **Scope of delivery:** Case



Technical Data

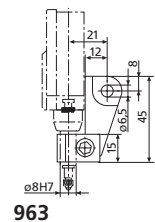
Order no.	4335000	4334102	4335005	4334000	4334103	4334005	4334001	4334006	4333000	4333005
Product type	1002	1002 T	1003	1003 T	1003 XL	1003 XLT	1004	1004 T		
Measuring range μm	± 25		± 50		± 130					
Graduation value μm	0.5		1		2		5			
Type of dial face	25–0–25		50–0–50		130–0–130					
Error limit G_e μm	0.5		1		2		3.5			
Error limit G_{ges} μm	0.6		1.2		2.4		4			
Error limit G_t μm	0.4		0.7		1.4		3			
Measuring value hysteresis f_u μm	0.3		0.5				1			
Repeatability f_w μm	0.3		0.5				1			
Standard	Factory standard		DIN 879–1		Factory standard					
Overtravel mm			2.8				2.5			
Measuring force N			1							
Scale diameter mm			50							
Dial color	yellow	white	yellow	white	yellow		white			
IP protection category			IP 54		IP 54		IP 54		IP 54	

Order no.	Mounting shaft	Scale diameter
	mm	mm
4335000	8	50
4334102	8	50
4335005	8	50
4334000	8	50
4334103	8	50
4334005	8	50
4334001	8	50
4334006	8	50
4333000	8	50
4333005	8	50



Accessories

Order no.	Product name	Product type
4310103	Adapter bush (.375" / 8 mm)	940
4372000	Cable release (250 mm)	951
4372030	Lifting knob	954
4373030	Splash guard cover	957
4334786	Rubber bellows	970
4375002	Lug back to mount on mounting shank 8h6 mm	963



Mechanical Dial Comparator Millimess 1003

DIN 879-1



Application:

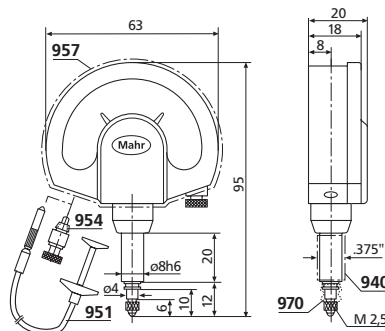
- Models with reduced / increased measuring force
- for measurements on thin-walled or soft materials, or delicate surfaces

Technical Data

Order no.	4334075	4334070	4334050	4334076	4334071	4334010	4334011
Product type	1003						
Measuring range	± 50						
Graduation value	1						
Type of dial face	50-0-50						
Error limit G_e	1						
Error limit G_{ges}	1.2						
Error limit G_t	0.7						
Measuring value hysteresis f_u	0.5						
Repeatability f_w	0.5						
Standard	DIN 879-1					Factory standard	
Overtravel	2.8						
Measuring force	0.3	0.4	0.5	0.6	0.7	2	3
Scale diameter	50						
Dial color	yellow						

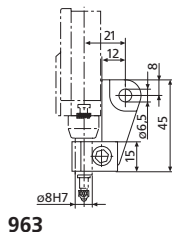
- Large, high contrast dial face
- Adjustable tolerance markers
- Lockable fine adjustment screw
- Shockproof movement
- Mounting shank and measuring spindle are both made of hardened stainless steel
- Measuring spindle is mounted in a high precision ball guide for minimal hysteresis
- Insensitive to lateral forces (side play) acting on the measuring spindle
- Maximum sensitivity and accuracy are ensured by the jeweled movement and in conjunction with the precision gears and pinions
- Box type protective housing
- Constant measuring force
- Measuring spindle can be retracted with either a screw in cable release or with a lifting knob
- **Scope of delivery:** Case

Order no.	Mounting shaft	Scale diameter
	mm	mm
4334075	8	50
4334070	8	50
4334050	8	50
4334076	8	50
4334071	8	50
4334010	8	50
4334011	8	50



Accessories

Order no.	Product name	Product type
4310103	Adapter bush (.375" / 8 mm)	940
4372000	Cable release (250 mm)	951
4372030	Lifting knob	954
4373030	Splash guard cover	957
4334786	Rubber bellows	970
4375002	Lug back to mount on mounting shank 8h6 mm	963



Mechanical Dial Comparator Millimes 1000 A / 1000 B

- Large, high contrast dial face
 - Adjustable tolerance markers
 - Lockable fine adjustment screw
 - Shockproof movement
 - Mounting shank and measuring spindle are both made of hardened stainless steel
 - Measuring spindle is mounted in a high precision ball guide for minimal hysteresis
 - Insensitive to lateral forces (side play) acting on the measuring spindle
 - Maximum sensitivity and accuracy are ensured by the jeweled movement and in conjunction with the precision gears and pinions
 - Box type protective housing
 - Constant measuring force
 - Measuring spindle can be retracted with either a screw in cable release or with a lifting knob
- **Scope of delivery:** Cable release, Case

Application:

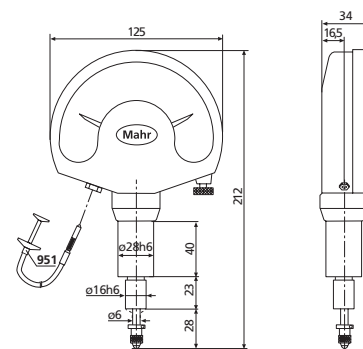
Very clear, reliable and fatigue-free readings due to extra-large housing. Ideal for test stations at which large numbers of serial parts are measured or can only be read at large intervals.



Technical Data

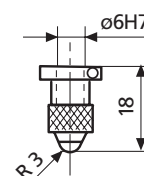
Order no.	4338100	4339100
Product type	1000 A	1000 B
Measuring range	μm ± 120	± 50
Graduation value	μm 1	
Type of dial face	120-0-120	50-0-50
Error limit G_e	μm 1.5	
Error limit G_{ges}	μm 2	
Error limit G_t	μm 0.7	
Measuring value hysteresis f_u	μm 1	
Repeatability f_w	μm 0.5	
Standard		Factory standard
Overtravel	mm 4	
Measuring force	N 3.5	
Scale diameter	mm 110	
Dial color		yellow

Order no.	Mounting shaft	Scale diameter
	mm	mm
4338100	28	110
4339100	28	110



Accessories

Order no.	Product name	Product type
4362001	Contact point, Steel ball	921
4362002	Contact point, Ruby ball	921 R
4372000	Cable release (250 mm)	951
4338008	Rubber bellows for 1000 A/B	



Mechanical Dial Comparator Millimess 1010 / 1010 T / 1050 / 1050 T

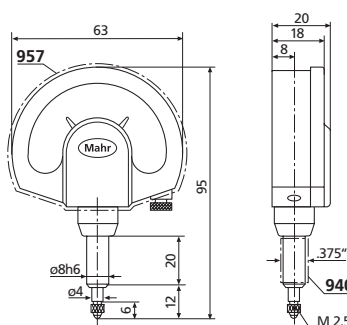


- Large, high contrast dial face
- Adjustable tolerance markers
- Lockable fine adjustment screw
- Shockproof movement
- Mounting shank and measuring spindle are both made of hardened stainless steel
- Insensitive to lateral forces (side play) acting on the measuring spindle
- Maximum sensitivity and accuracy are ensured by the jeweled movement and in conjunction with the precision gears and pinions
- Box type protective housing
- Constant measuring force
- Measuring spindle can be retracted with either a screw in cable release or with a lifting knob
- **Scope of delivery:** Case

Technical Data

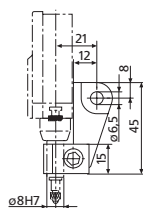
Order no.	4332000	4332005	4330000	4330005
Product type	1010	1010 T	1050	1050 T
Measuring range	mm	±0.25		±1.5
Graduation value	mm	0.01		0.05
Type of dial face		25-0-25		15-0-15
Error limit G_e	μm	7		35
Error limit G_{ges}	μm	8		40
Error limit G_t	μm	4		24
Measuring value hysteresis f_u	μm	2		10
Repeatability f_w	μm	2		10
Standard		Factory standard		
Overtravel	mm	2.5		0.3
Measuring force	N		1	
Scale diameter	mm		50	
Dial color			white	
IP protection category			IP 54	

Order no.	Mounting shaft	Scale diameter
	mm	mm
4332000	8	50
4332005	8	50
4330000	8	50
4330005	8	50



Accessories

Order no.	Product name	Product type
4310103	Adapter bush (.375" / 8 mm)	940
4372000	Cable release (250 mm)	951
4372030	Lifting knob	954
4373030	Splash guard cover	957
4375002	Lug back to mount on mounting shank 8h6 mm	963



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Mechanical Dial Comparator Millimess 1002 Z / 1002 ZT / 1003 Z / 1003 ZT / 1004 Z / 1004 ZT / 1010 Z / 1010 ZT



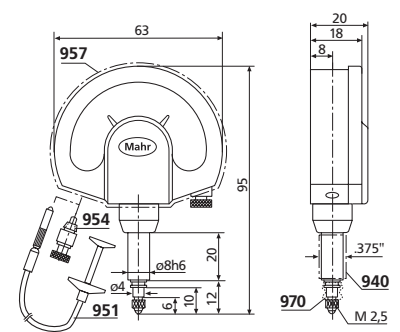
- Large, high contrast dial face
- Adjustable tolerance markers
- Lockable fine adjustment screw
- Shockproof movement
- Mounting shank and measuring spindle are both made of hardened stainless steel
- Insensitive to lateral forces (side play) acting on the measuring spindle
- Maximum sensitivity and accuracy are ensured by the jeweled movement and in conjunction with the precision gears and pinions
- Box type protective housing
- Constant measuring force
- Measuring spindle can be retracted with either a screw in cable release or with a lifting knob
- **Scope of delivery:** Case, Adapter bush 940, 8 mm to 3/8"



Technical Data

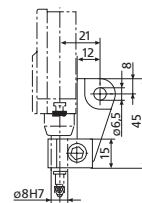
Order no.		4335900	4335905	4334900	4334905	4333900	4333905	4332900	4332905
Product type		1002 Z	1002 ZT	1003 Z	1003 ZT	1004 Z	1004 ZT	1010 Z	1010 ZT
Measuring range	inch	± .0010"		± .0020"		± .0050"		± .0100"	
Graduation value	inch	.00002"		.00005"		.0001"		.0005"	
Type of dial face		.001"–0–.001"		.002"–0–.002"		.005"–0–.005"		.01"–0–.01"	
Error limit G_e	inch	.00002"		.00005"		.0001"		.00035"	
Error limit G_{ges}	inch	.00003"		.00006"		.00012"		.0004"	
Error limit G_t	inch	.000014"		.000035"		.00005"		.00025"	
Measuring value hysteresis f_u	inch	.00001"		.000025"		.00003"		.0001"	
Repeatability f_w	inch	.00001"		.000025"		.00003"		.0001"	
Standard		Factory standard							
Measuring force	N	1							
Scale diameter	mm	50							
Dial color		white							
IP protection category		IP 54		IP 54		IP 54		IP 54	

Order no.	Mounting shaft	Scale diameter
	mm	mm
4335900	8	50
4335905	8	50
4334900	8	50
4334905	8	50
4333900	8	50
4333905	8	50
4332900	8	50
4332905	8	50



Accessories

Order no.	Product name	Product type
4310103	Adapter bush (.375" / 8 mm)	940
4372000	Cable release (250 mm)	951
4372030	Lifting knob	954
4373030	Splash guard cover	957
4334786	Rubber bellows	970
4375002	Lug back to mount on mounting shank 8h6 mm	963



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Mechanical Dial Comparator with limit contacts Millimes 1110 N / 1110 NT



Application:

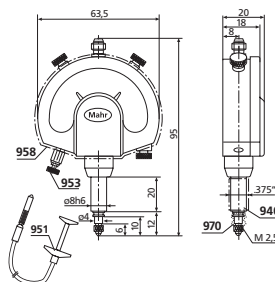
Can be applied for example as tolerance control or as a precision contactor in automatic control systems

Technical Data

Order no.	4343100		4343105	
Product type	1110 N		1110 NT	
Measuring range	mm			±0.25
Graduation value	mm			0.01
Type of dial face	25–0–25			
Error limit G_e	µm			6.5
Error limit G_{ges}	µm			12
Error limit G_t	µm			5
Measuring value hysteresis f_u	µm			3.5
Repeatability f_w	µm			3.5
Standard	Factory standard			
Overtravel	mm			0.3
Measuring force	N			2
Scale diameter	mm			50
Dial color	white			
IP protection category			IP 54	
Maximum switching capacity	mW			240
Maximum switching voltage	V			24
Maximum switching current	mA			100
Switching accuracy with non-inductive load of 10 mA/24 V	µm			1.5

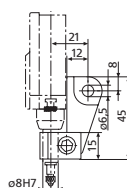
- Large, high contrast dial face
- Adjustable tolerance markers
- Lockable fine adjustment screw
- Mounting shank and measuring spindle are both made of hardened stainless steel
- Measuring spindle is mounted in a high precision ball guide for minimal hysteresis
- Insensitive to lateral forces (side play) acting on the measuring spindle
- Maximum sensitivity and accuracy are ensured by the jeweled movement and in conjunction with the precision gears and pinions
- Self contained movement, which is both quick and easy to remove and replace
- Box type protective housing
- Constant measuring force
- Adjustable limit contacts made from high-grade precious metal
- Limit contacts are particularly well protected against vibration and mechanical overload
- **Scope of delivery:** Case, Instruction manual, Adjusting knob 953, Connection Cable 1,2m

Order no.	Mounting shaft	Scale diameter
	mm	mm
4343100	8	50
4343105	8	50



Accessories

Order no.	Product name	Product type
4372000	Cable release (250 mm)	951
4372020	Setting knob for setting the limit contacts without an additional setting standard	953
4372030	Lifting knob	954
4373031	Splash guard cover	958
4310103	Adapter bush (.375" / 8 mm)	940
4334786	Rubber bellows	970
4375002	Lug back to mount on mounting shank 8h6 mm	963
4345694	Connection cable (5 m), axial	
4345695	Connection cable (1,2 m), axial	



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Mechanical Dial Comparator with limit contacts Millimes 1150 N / 1150 NT



- Large, high contrast dial face
- Adjustable tolerance markers
- Lockable fine adjustment screw
- Mounting shank and measuring spindle are both made of hardened stainless steel
- Measuring spindle is mounted in a high precision ball guide for minimal hysteresis
- Insensitive to lateral forces (side play) acting on the measuring spindle
- Maximum sensitivity and accuracy are ensured by the jeweled movement and in conjunction with the precision gears and pinions
- Self contained movement, which is both quick and easy to remove and replace
- Box type protective housing
- Constant measuring force
- Adjustable limit contacts made from high-grade precious metal
- Limit contacts are particularly well protected against vibration and mechanical overload
- **Scope of delivery:** Case, Instruction manual, Adjusting knob 953, Connection Cable 1,2m



Application:

Can be applied for example as tolerance control or as a precision contactor in automatic control systems

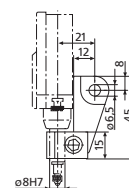
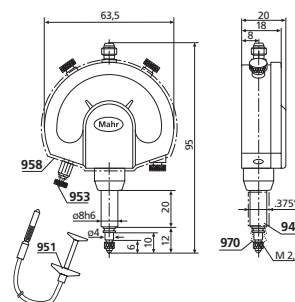
Technical Data

Order no.		4342100	4342105
Product type		1150 N	1150 NT
Measuring range	mm		±1.5
Graduation value	mm		0.05
Type of dial face			15–0–15
Error limit G_e	μm		35
Error limit G_{ges}	μm		60
Error limit G_t	μm		25
Measuring value hysteresis f_u	μm		17
Repeatability f_w	μm		17
Standard			Factory standard
Overtravel	mm	2.5	3.5
Measuring force	N		1.5
Scale diameter	mm		50
Dial color			white
IP protection category			IP 54
Maximum switching capacity	mW		240
Maximum switching voltage	V		24
Maximum switching current	mA		100
Switching accuracy with non-inductive load of 10 mA/24 V	μm		7

Order no.	Mounting shaft	Scale diameter
	mm	mm
4342100	8	50
4342105	8	50

Accessories

Order no.	Product name	Product type
4372000	Cable release (250 mm)	951
4372020	Setting knob for setting the limit contacts without an additional setting standard	953
4372030	Lifting knob	954
4373031	Splash guard cover	958
4310103	Adapter bush (.375" / 8 mm)	940
4334786	Rubber bellows	970
4375002	Lug back to mount on mounting shank 8h6 mm	963
4345694	Connection cable (5 m), axial	
4345695	Connection cable (1,2 m), axial	



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