

ABSOLUTE Digimatic Scale Units



ABSOLUTE™

Applicable models: SD-G

SD ABSOLUTE Digimatic Scale Units SERIES 572



Horizontal single-function type (Water-proof type)
572-602 SD-20G



Horizontal single-function type
572-202-30 SD-20AX
572-203-10 SD-30D



Horizontal multi-function type
572-461 SD-15E

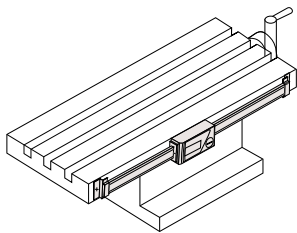


Vertical single-function type
572-303-10 SDV-30D

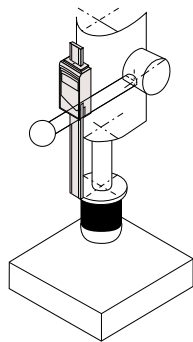
Vertical multi-function type
572-561 SDV-15E

Typical applications

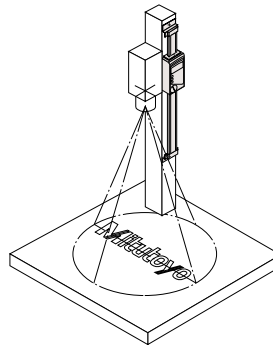
Machine table position



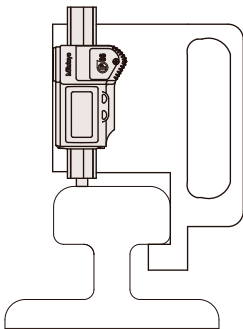
Drilling machine stroke position



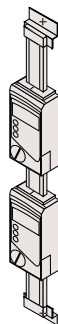
Focus setting on optical instruments



Special applications



As a measurement jig for outdoor use (SD-G)



Detector head mechanism

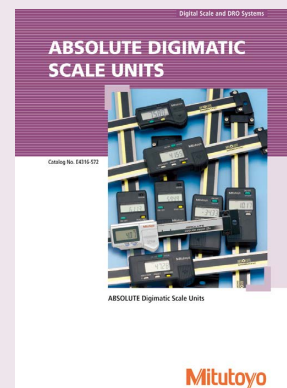
Please contact Mitutoyo for special applications.

- SD Series facilitates mounting on jigs, tools, and small machine tools to enable accurate positioning.
- Built-in absolute scale including the ABS point does not require a zero-set every time the power is turned on. In addition, reliability has improved thanks to elimination of overspeed errors.
- Horizontal or vertical display according to the scale mounting direction.
- The dust resistance and the environmental resistance of the display has improved. The SD-G Series offers dust/water protection level IP66.
- Long battery life.
- EC counters are available as external display units.
- Equipped with an output port to transfer measurement data, allowing implementation in control systems and gaging systems.

Functions

- ABS (Absolute) measurement function
 - INC (Incremental) measurement function
 - Zero-setting function
 - Presetting function (2 preset values can be set. Not available for SD-G, SD-AX, SD-D, SDV-D)
 - Double reading function (Available only for SD-F or SDV-F)
 - Direction switch function (Available only for SD-E, SDV-E)
 - Hold function*
 - Measurement value composition error alarm
 - Low battery alarm
 - Output function
- * To activate the hold function when using SD-AX, SD-D or SDV-D models, an optional hold unit is required. Simultaneous activation with the output function is not available.

Note: These units use 1.5 V silver oxide cells for the power supply. Therefore, when the units are directly fixed to the frame of a machine tool that requires a high voltage, malfunctions such as display digit fluctuations and errors may occur. Countermeasure examples are described in the user manuals provided.



Refer to the ABSOLUTE DIGIMATIC SCALE UNITS Brochure (E4316) for more details.

System Diagram

[Scale units]

[Display units]

Single-function type with high dust/water resistance

SD-G (Horizontal)

Single-function type

SD-AX (Horizontal)

Note 1: **SD-30D** for the measuring range of 300 mm.

SDV-D (Vertical)

Multi-function type

SD-E (Horizontal)

SDV-E (Vertical)

Multi-function type

SD-F (Horizontal)

SDV-F (Vertical)

EC Counter*3

Refer to page G-11 for details.

Tolerance judgment output*1

*3

Digimatic mini-processor
DP-1VA LOGGER
264-505

Palm-sized printer for printing and statistical analysis

*3

Multiplexer
MUX-10F
264-002

Interface unit for the **RS-232C** conversion and output **RS-232C** output

RS-232C output

*3

USB Input Tool Direct
USB-ITN-D
06AFM380D

An interface that easily transfers data to widely used software such as Excel. Slim, with integrated cable.

USB keyboard signal conversion

*3

Input Tool (USB keyboard signal conversion model)
IT-020U
264-020

USB Interface unit that converts and transfers data into spreadsheets

USB keyboard signal conversion

Note 2: May also be connected to an RS-232C conversion type (**IT-007R**) input tool.

USB Input Tool Direct
USB-ITN-A 06AFM380A
USB-ITN-C 06AFM380C
USB-ITN-F 06AFM380F

USB keyboard signal conversion

Measurement Data Wireless Communication System
U-WAVE

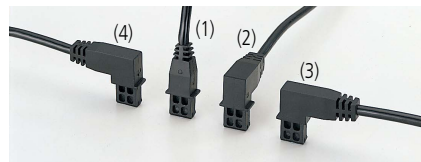
The data output from the **SD** Series can be sent to the computer by wireless communication without using the **EC** counter. Refer to pages A-9 to A-14 for details.

USB keyboard signal conversion

Connecting cable with the water-proof type output switch*2 1 m: **05CZA624**
2 m: **05CZA625**

Connecting cable with the output switch 1 m: **959149**
2 m: **959150**

Connecting cable with the output switch



(1) 1 m: **905338** (3) 1 m: **905691**
2 m: **905409** 2 m: **905692**

(2) 1 m: **905689** (4) 1 m: **905693**
2 m: **905690** 2 m: **905694**

Connecting cable 1 m: **936937**
2 m: **965014**

*1 Select the tolerance judgment output or Digimatic output when setting the parameters.

*2 Connecting cable with the water-proof type output switch can be used only for **SD-G** or Water-proof Digital Caliper equipped with the external output function.

*3 Connecting of **SD** Series and **DP-1VA LOGGER/MUX-10F/IT-020U** is also available without passing through the **EC** counter. In this case, connect these units and **SD** Series with the cables used for connection with the **EC** counter.

ABSOLUTE Digimatic Scale Units

ABSOLUTE Digimatic Scale Units SERIES 572 SPECIFICATIONS

Type	Unit spec.	Order No.	Model	Range	Resolution	Accuracy	Repeatability	Response speed*2	Battery life									
Horizontal single-function type (Water-proof type)	Metric	572-600	SD-10G	100 mm	0.01 mm	0.03 mm	0.01 mm	Unlimited	Approx. 13,000 hours									
		572-601	SD-15G	150 mm														
		572-602	SD-20G	200 mm														
	Metric/Inch	572-613	SD-4" /10G	100 mm/4 in	0.0005 in/0.01 mm	0.03 mm/0.001 in	0.01 mm/0.0005 in											
		572-614	SD-6" /15G	150 mm/6 in														
		572-615	SD-8" /20G	200 mm/8 in														
Horizontal single-function type	Metric	572-200-30	SD-10AX	100 mm	0.01 mm	0.03 mm	0.01 mm	Unlimited	Approx. 18,000 hours									
		572-201-30	SD-15AX	150 mm														
		572-202-30	SD-20AX	200 mm														
		572-203-10	SD-30D	300 mm														
		572-210-30	SD-4" AX	100 mm/4 in														
	Metric/Inch	572-211-30	SD-6" AX	150 mm/6 in	0.0005 in/0.01 mm	0.03 mm/0.001 in	0.01 mm/0.0005 in			0.04 mm	Approx. 18,000 hours							
		572-212-30	SD-8" AX	200 mm/8 in														
		572-213-10	SD-12" D	300 mm/12 in														
		Horizontal multi-function type	Metric	572-460								SD-10E	100 mm	0.01 mm	0.03 mm	0.01 mm	Unlimited	Approx. 5,000 hours
				572-461								SD-15E	150 mm					
572-462	SD-20E			200 mm														
572-463	SD-30E			300 mm														
572-464	SD-45E			450 mm														
572-465	SD-60E			600 mm														
572-466	SD-80E			800 mm														
572-467	SD-100E		1000 mm															
Metric/Inch	572-470		SD-4" E	100 mm/4 in	0.0005 in/0.01 mm	0.03 mm/0.001 in	0.01 mm/0.0005 in	0.04 mm	Approx. 5,000 hours									
	572-471		SD-6" E	150 mm/6 in														
	572-472	SD-8" E	200 mm/8 in															
	572-473	SD-12" E	300 mm/12 in															
Horizontal multi-function type (equipped with double reading function)	Metric	572-480-10*1	SD-10F	100 mm	0.01 mm	0.03 mm	0.01 mm (Radius indication, not diameter)	Unlimited	Approx. 5,000 hours									
		572-481-10*1	SD-15F	150 mm														
		572-482-10*1	SD-20F	200 mm														
		572-483-10*1	SD-30F	300 mm														
		572-484-10*1	SD-45F	450 mm														
		572-485-10*1	SD-60F	600 mm														
		572-486-10*1	SD-80F	800 mm														
	572-487-10*1	SD-100F	1000 mm															
	Metric/Inch	572-490-10*1	SD-4" F	100 mm/4 in	0.0005 in/0.01 mm	0.03 mm/0.001 in	0.01 mm/0.0005 in (Radius indication, not diameter)			0.04 mm	Approx. 5,000 hours							
		572-491-10*1	SD-6" F	150 mm/6 in														
572-492-10*1		SD-8" F	200 mm/8 in															
572-493-10*1		SD-12" F	300 mm/12 in															
Vertical single-function type	Metric	572-300-10	SDV-10D	100 mm	0.01 mm	0.03 mm	0.01 mm	Unlimited	Approx. 20,000 hours									
		572-301-10	SDV-15D	150 mm														
		572-302-10	SDV-20D	200 mm														
		572-303-10	SDV-30D	300 mm														
		572-310-10	SD-4" D	100 mm/4 in														
	Metric/Inch	572-311-10	SD-6" D	150 mm/6 in	0.0005 in/0.01 mm	0.03 mm/0.001 in	0.01 mm/0.0005 in			0.04 mm	Approx. 20,000 hours							
		572-312-10	SD-8" D	200 mm/8 in														
		572-313-10	SD-12" D	300 mm/12 in														
		Vertical multi-function type	Metric	572-560								SDV-10E	100 mm	0.01 mm	0.03 mm	0.01 mm	Unlimited	Approx. 5,000 hours
				572-561								SDV-15E	150 mm					
572-562	SDV-20E			200 mm														
572-563	SDV-30E			300 mm														
572-564	SDV-45E			450 mm														
572-565	SDV-60E			600 mm														
572-566	SDV-80E			800 mm														
572-567	SDV-100E		1000 mm															
Metric/Inch	572-570		SDV-4" E	100 mm/4 in	0.0005 in/0.01 mm	0.03 mm/0.001 in	0.01 mm/0.0005 in	0.04 mm	Approx. 5,000 hours									
	572-571		SDV-6" E	150 mm/6 in														
	572-572	SDV-8" E	200 mm/8 in															
	572-573	SDV-12" E	300 mm/12 in															
Vertical multi-function type (equipped with double reading function)	Metric	572-580-10*1	SDV-10F	100 mm	0.01 mm	0.03 mm	0.01 mm (Radius indication, not diameter)	Unlimited	Approx. 5,000 hours									
		572-581-10*1	SDV-15F	150 mm														
		572-582-10*1	SDV-20F	200 mm														
		572-583-10*1	SDV-30F	300 mm														
		572-584-10*1	SDV-45F	450 mm														
		572-585-10*1	SDV-60F	600 mm														
		572-586-10*1	SDV-80F	800 mm														
	572-587-10*1	SDV-100F	1000 mm															
	Metric/Inch	572-590-10*1	SDV-4" F	100 mm/4 in	0.0005 in/0.01 mm	0.03 mm/0.001 in	0.01 mm/0.0005 in (Radius indication, not diameter)			0.04 mm	Approx. 5,000 hours							
		572-591-10*1	SDV-6" F	150 mm/6 in														
572-592-10*1		SDV-8" F	200 mm/8 in															
572-593-10*1		SDV-12" F	300 mm/12 in															
Metric/Inch	572-594-10*1	SDV-18" F	450 mm/18 in	0.0005 in/0.01 mm	0.04 mm/0.002 in	0.01 mm/0.0005 in	0.05 mm	Approx. 5,000 hours										
	572-595-10*1	SDV-24" F	600 mm/24 in															
	572-596-10*1	SDV-32" F	800 mm/32 in															
	572-597-10*1	SDV-40" F	1000 mm/40 in															

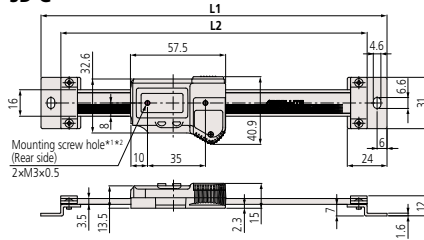
*1 Available to special order

*2 High slider speed does not cause data errors. Position feedback and output data may not be used while the slider is moving.

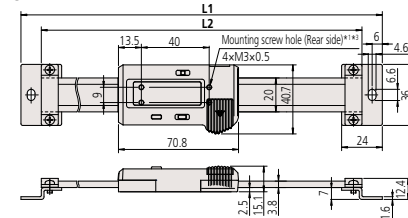
DIMENSIONS

Unit: mm

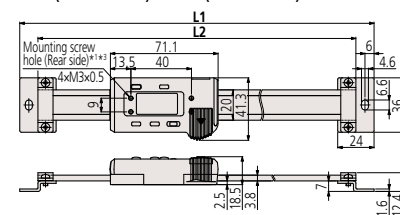
SD-G



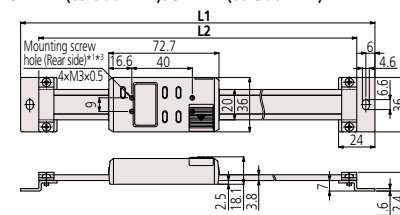
SD-D



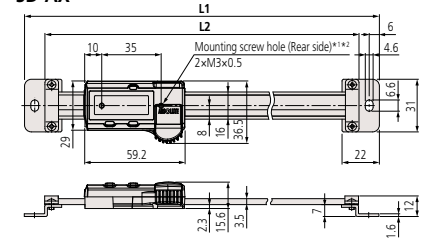
SD-E (to 300 mm)/SD-F (to 300 mm)



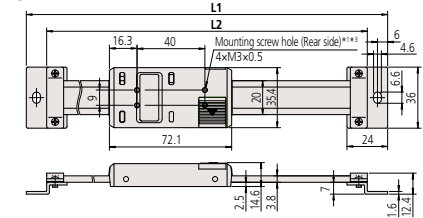
SDV-E (to 300 mm)/SDV-F (to 300 mm)



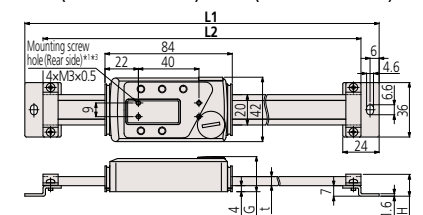
SD-AX



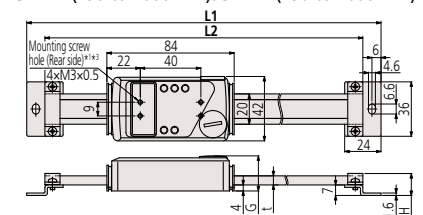
SDV-D



SD-E (450 to 1000 mm)/SD-F (450 to 1000 mm)



SDV-E (450 to 1000 mm)/SDV-F (450 to 1000 mm)



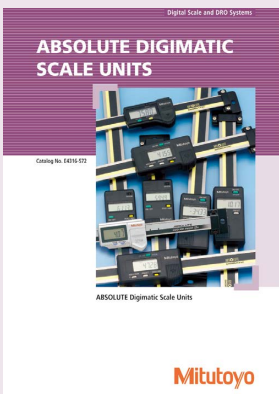
*1 Refer to the dimension table for details of the depth including the screw on the rear of the display.

*2 Mounting screw hole: 2xNo.5-40 UNC (Inch type, Inch/Metric switching type)/2xM3x0.5 (Metric type) Screwed depth on the rear side of display unit: under 2 mm

*3 Mounting screw hole: 4xNo.5-40 UNC (Inch type, Inch/Metric switching type)/4xM3x0.5 (Metric type) Screwed depth on the rear side of display unit: under 2 mm

SPECIFICATIONS

Model	Range (mm)	Dimensions (mm)					Depth including the screw on the rear of the display	Mass (g)
		L1	L2	t	G	H		
SD-G	100	209	185	—	—	—	Less than 2 mm	390
	150	259	235	—	—	—		410
	200	311	287	—	—	—		430
SD-AX	100	209	185	—	—	—		235
	150	259	235	—	—	—		255
SD-30D	200	311	287	—	—	—		275
	300	444	420	—	—	—		370
SD-E SD-F	100	244	220	—	—	—		250
	150	294	270	—	—	—		280
	200	344	320	—	—	—		310
	300	444	420	—	—	—	370	
	450	594	570	6	23.2	14.6	760	
	600	774	750	6	23.2	14.6	900	
	800	974	950	10	27.2	18.6	1710	
SDV-D	1000	1174	1150	10	27.2	18.6	2040	
	100	244	220	—	—	—	Less than 2 mm	250
	150	294	270	—	—	—		280
	200	344	320	—	—	—		310
	300	444	420	—	—	—		370
SDV-E SDV-F	100	244	220	—	—	—		250
	150	294	270	—	—	—		280
	200	344	320	—	—	—		310
	300	444	420	—	—	—		370
	450	594	570	6	23.2	14.6		760
SDV-E SDV-F	600	774	750	6	23.2	14.6		900
	800	974	950	10	27.2	18.6	1710	
	1000	1174	1150	10	27.2	18.6	Less than 3 mm	2040
								2040



Refer to the ABSOLUTE DIGIMATIC SCALE UNITS Brochure (E4316) for more details.