Multi speed balancer for Elastic rotors & Ultra precision machines

SB-7707R
SB-7707RB

Model	【7707RBseries】		SB-7707RB	SB-7707RHB	SB-7707RSB	SB-7707RLB
	【7707Rseries】		SB-7707R	SB-7707RH	SB-7707RS	SB-7707RL
Measurement range	Measurement speed*1		180 to 61,000min^{-1}	180 to 120,000min^{-1}	180 to 240,000min^{-1}	60 to 61,000min^{-1}
	Measurement speed resolution		1min^{-1}			
	Vibration resolution		0.001μm			
	Unbalance vibration amplitude	【7707RBseries】	0.001 to 999μm(at 4,200min^{-1})			
		【7707Rseries】	0.001 to 999μm(at 6,000min^{-1})			
	Vibration input channel	【7707RBseries】	2ch			
		【7707Rseries】	2ch / 4ch / 6ch			
	Mesurement method		Multi speed measurement / Single speed measurement			
	Number of correction planes	Multi speed meas.	1 to 4 planes			
		Single speed meas.	1 to 2 planes			
Correction method	Polar coordinate correction		0 to 359° (Angle resolution：1°)			
	Angle split correction		3 to 50(Selectable Equally split or Unequal split)			
	Angle split number selection function		Calculate by invalidating the parts that cannot be used in the angle split correction			
	Weight designation function		Calculate the best correction result using the registered weights			
	Correction weight		Additional/Subtraction			
Vibration analysis function	Unbalance vibration analysis		Recording of unbalanced vibration vector over time			
	Harmonic vibration analysis		Measure the rotation frequency and its integral multiple			
	FFT analyzer		Frequency analysis function (including time waveform measurement function)			
	OverAll vibration meter		Measurement parameters：Acc. Peak/Acc. RMS/Acc. C.F./Vel. RMS/Disp. EQP-P			
	Time waveform		Number of maximum lines：800			
Other	USB memory port	【7707RBseries】	Not equipped			
		【7707Rseries】	Standard equipped(Save the measurement data as CSV format)			
	microSD card slot	【7707RBseries】	Standard equipped(Save the measurement data as CSV format)			
		【7707Rseries】	Not equipped			
	USB connection		mini-B type connector(Data transfer to PC / Hard Copy of the screen)			
	Eccentricity correction function		Standard equipped			
	Measurement range switching		Automatic			
	Number of registered data saved	【7707RBseries】	2			
		【7707Rseries】	8(4)*2		4(2)*2	8(4)*2
	LCD monitor		5.7inch TFTcolor LCD(LED) Touch panel interactive method			
	Power-supply voltage	【7707RBseries】	Li-ion battery(Drive time：8 hours) / AC100V to 240V ±10% 50/60Hz			
		【7707Rseries】	AC100V to 240V ±10% 50/60Hz			
	Environmental		Temperature：10 to 40℃, Humidity：20 to 80%RH(No condensation)			
	Dimensions	【7707RBseries】	187.5(W)×53.5(L)×130(H) mm			
		【7707Rseries】	Without printer：204(W)×71(L)×137(H) mm With printer：204(W)×105(L)×137(H) mm			
	Weight of instrument	【7707RBseries】	0.8kg			
		【7707Rseries】	Without printer：1.7kg With printer：2.2kg			
	Trunk case	【7707RBseries】	Dimensions：385(W)×120(L)×255(H) mm Weight：4.5kg*3			
		【7707Rseries】	Dimensions：455(W)×185(L)×320(H) mm Weight：8.0kg(With printer：8.5kg)*3			
Accessories	Vibration sensor (Choose one)	Charge type	P12SC Sensitivity：10pC/(m/s^2)			P12SC + V10L *4
		CCLD type	SA-02 Sensitivity：10mV/(m/s^2) Protection：IP57 With insulation			SA-02 + V10L *4
	Vibration sensor cable (Choose one)	Charge type	LN-041-2.5MT(2.5 meters straight)			LN-041-2.5MT +For low speed sensor(2.5m)
		CCLD type	Sensor integrated(2.5meters straight)			For low speed sensor(2.5m)
	Mounting magnet		KM-025C(Holding force：100N)			
	Speed sensor（Attached 2 meters cable）		SFS-M1H			
	Speed sensor manual		Standard attached(with sensitivity adjustment driver)			
	Mounting magnet for speed sensor	【7707RBseries】	NF2021(Holding force：320N)			
		【7707Rseries】	DG1030(Holdig force：800N)			
	AC adapter (Choose one)	For Japan	Without printer：UN312-5920(DC5.9V 2A) With printer：UI318-06(DC6V 2.8A) Plug type：A			
		For overseas	UI318-06(DC6V 2.8A) Plug type：A(AC code conversion method)*5			
	Full circle protractor		822-0001(Φ150mm)			
	Balancer manual		CD-ROM			
Optional	Grinder correction mode(G,GW)		Balance correction function by balance pieces(G：1 plane/ GW：2 planes)			
	Vib. input channel(-2 / -4 / -6)	【Only 7707Rseries】	2ch / 4ch / 6ch			
	Printer(-P)	【Only 7707Rseries】	Mechanical dot printer(Optional only when the number of vibration input channels is 2)			
	Multi planes correction’s optional		Vibration sensor+Vibration sensor cable			

*1 If multi speed measurement mode chosen, lower limit become 600 min^{-1}. *2 The numbers in “( )” is number of saves in the case of 6 channels specification. *3 This weight is when all accessories including the instrument are stored. *4 SB-7707RLB / 7707RL comes with a displacement type low speed sensor (model: V10L) and a cable. V10L is a sensor dedicated to low speed balancing. Cannot use vibration measurement other than balance correction. *5 Please prepare the AC power cord by yourself.

A member of Japan Testing Machine industrial Society
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●Specifications may be changed without any notice due to modification, etc. 2021.05

Balance Monitor®

Multi speed blancer
for Elastic rotors & Ultra precision machines

SB-7707R
SB-7707RB

MAX 240,000 min^{-1}
※SB-7707RS/RSB

A balancer that suppresses vibration in the entire operating range has evolved further

The troublesome work of adjusting the mass of the correction weight is reduced

Uses up to 8 levels of correcting mass registered in advance to output the optimum componentcorrection results.

OK/NG judgment function according to JIS B 0905

The measured value and the permissible value are compared and the OK/NG judgment is displayed.

Either the charge type or CCLD type can be selected for the vibration sensor

In an environment where the cable is long and easy to sway, the CCLD type vibration sensor with less cable noise is suitable.

Utilize measurement data for maintenance

Save measurement data in CSV format.
You can use it for report creation or maintenance.

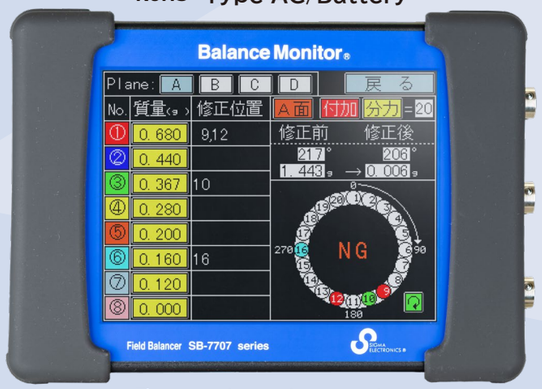
OverAll vibration meter & FFT Analyzer

Effective function for machines maintenance is standard equipment.

Grinder's balance correction function (Optional)

It is also possible to balancing with a balance piece.
The maximum number of correction planes is 2.

CE RoHS SB-7707RB Type AC/Battery



The screen instructing correction using the specified weight

CE RoHS SB-7707R Type AC
Coming soon

*Only 1 sensor is included as standard

The instrument and the accessories can be stored in the trunk case

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Features

Difference between single speed balance method and multi speed balance method

1. Single speed balance method

Fig.1 shows example of single speed balance correction at 10,000min^{-1}.
When a rotating body with a primary critical speed is balanced in the rotation region using the constant speed balance method, the vibration in the critical speed region remains and good balance correction is impossible.

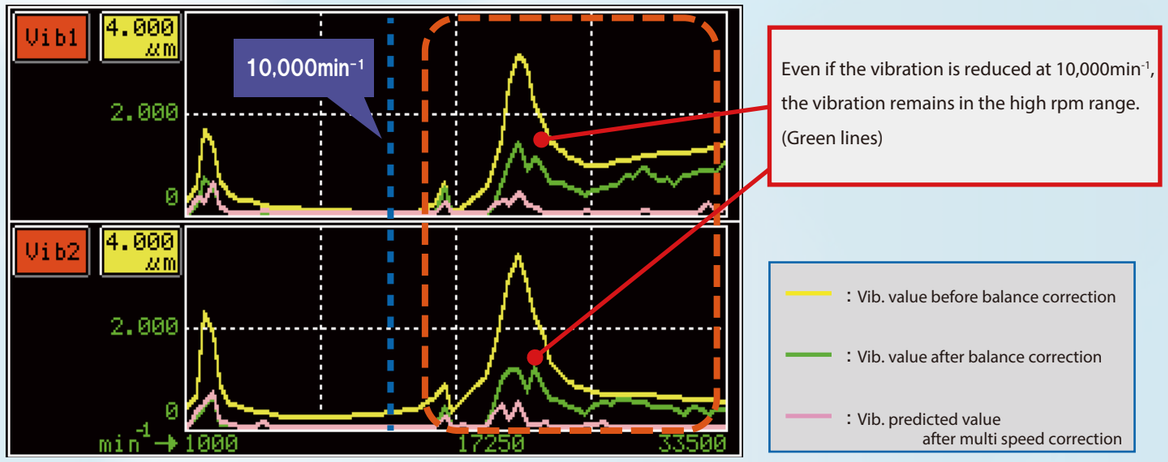


Fig.1. The correction results at single speed correction

2. Multi speed balance method

On the other hand, the multi-speed balance method makes it possible to reduce vibration in the entire operating range by acquiring and calculating the vibration vector during acceleration or deceleration of a rotating body having a primary critical speed in the rotation region. It is a very convenient balance method.
Moreover, since the vibration prediction is calculated after the balance correction, it is possible to select the correction planes or judge the correction limit from this prediction waveform, and efficient correction is possible.

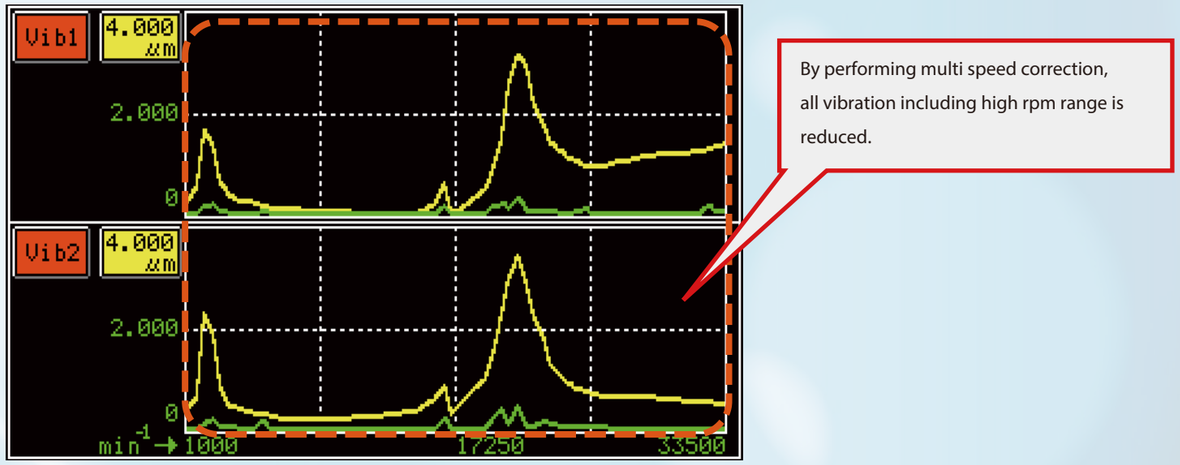
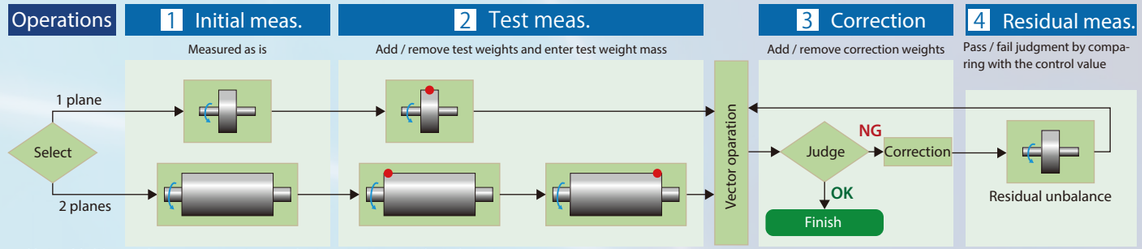


Fig.2. The correction results at multi speed correction

Easy even for the first time!

Since the operation procedure of the constant speed method and the multi-speed method is the same, anyone can correct the balance in a short time and with high accuracy by following the procedure.



Note : Multi speed measurement can select up to 4 correction planes

In order to correct the balance of a rotar possess a primary critical speed, 3 planes correction is effective.
SB-7707R / RB supports up to 4-planes correction, so it can handle up to secondary critical speeds.

Model

■ **Measurement speed**
RS : 180 - 240,000min^{-1}
RH : 180 - 120,000min^{-1}
R : 180 - 61,000min^{-1}
RL : 60 - 61,000min^{-1}

Note : When performing multi-speed measurement, the minimum speed is 600min^{-1}.

■ **Grinder correction**
G : 1 plane
GW : 2 planes

■ **Vibration input channels**
2 : 2ch
4 : 4ch
6 : 6ch

■ **Optional**
P : with printer

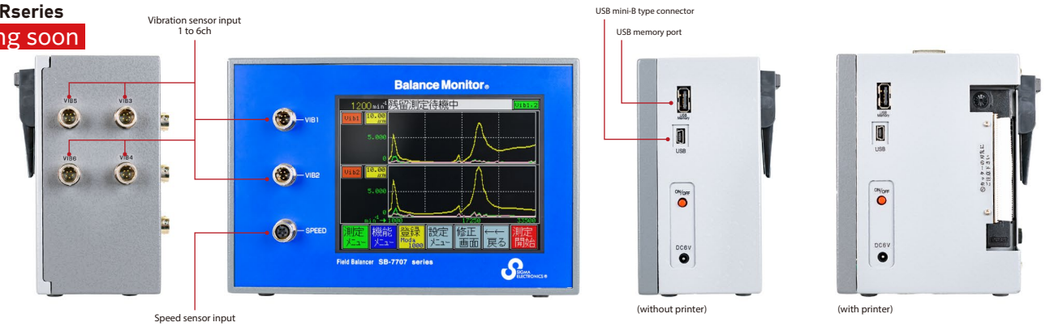
Note : When select printer, vibration input channels become 2ch.

Type AC **SB-7707□□-□□**

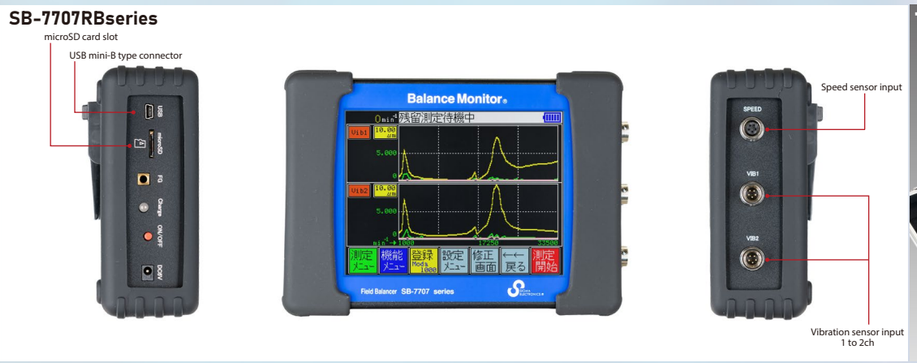
Type AC/Battery **SB-7707□□B-2**

7707RBseries prepared only 2ch.

SB-7707Rseries
Coming soon



SB-7707RBseries



Trunk cases
Stores the instrument and all accessories