

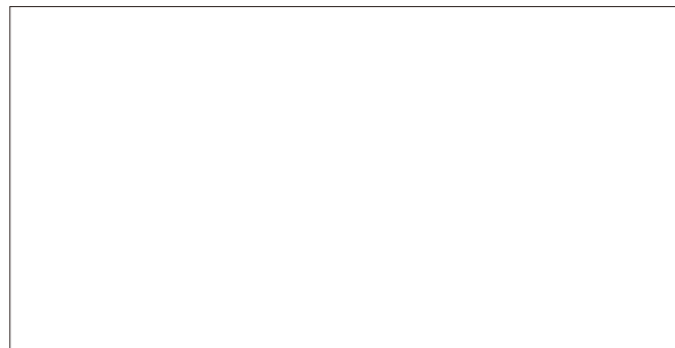


**IMV VIBRATION
TEST SYSTEMS
A series**

IMV CORPORATION

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*The specification and design are subject to change without notice.

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IMV CORPORATION

Concept



A series defines the standard for vibration testing.

From “i-series” to “A-series”.

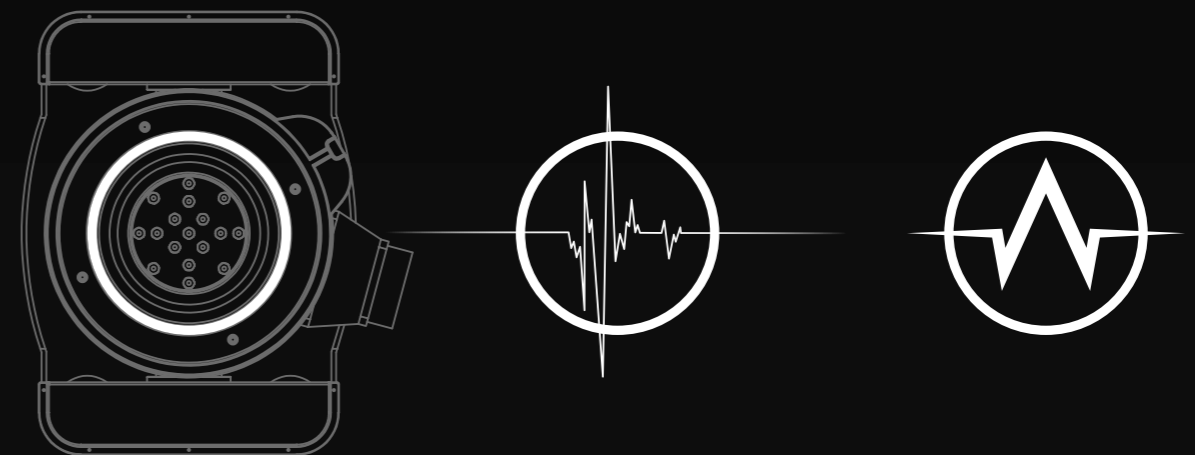
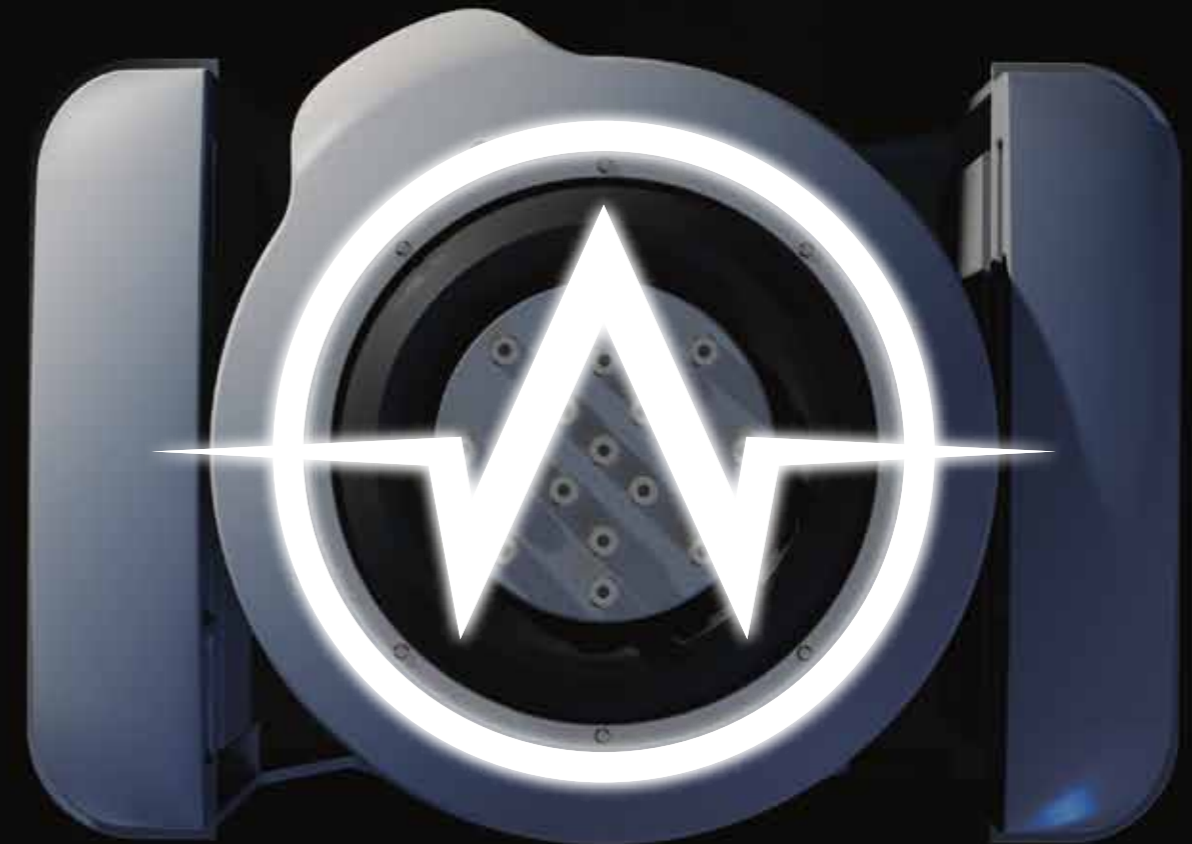
It is not just the renewal of a vibration test system.

A-series is delivered with high performance as standard responding to the increasing demand of higher test specifications.

A-series provides a comfortable test environment for all people involved in vibration testings.

A-series is the “new standard” in vibration testing, with a solid test performance.

It will be the world’s top brand in vibration test,IMV CORPORATION.



Solution

**A new standard created
by listening to our customers**

A-series meets the demand

—— ①Improvement of performance

A wider range of test requirements and higher test specifications.
A-series meets the needs for such a versatile test environment.

A-series changes

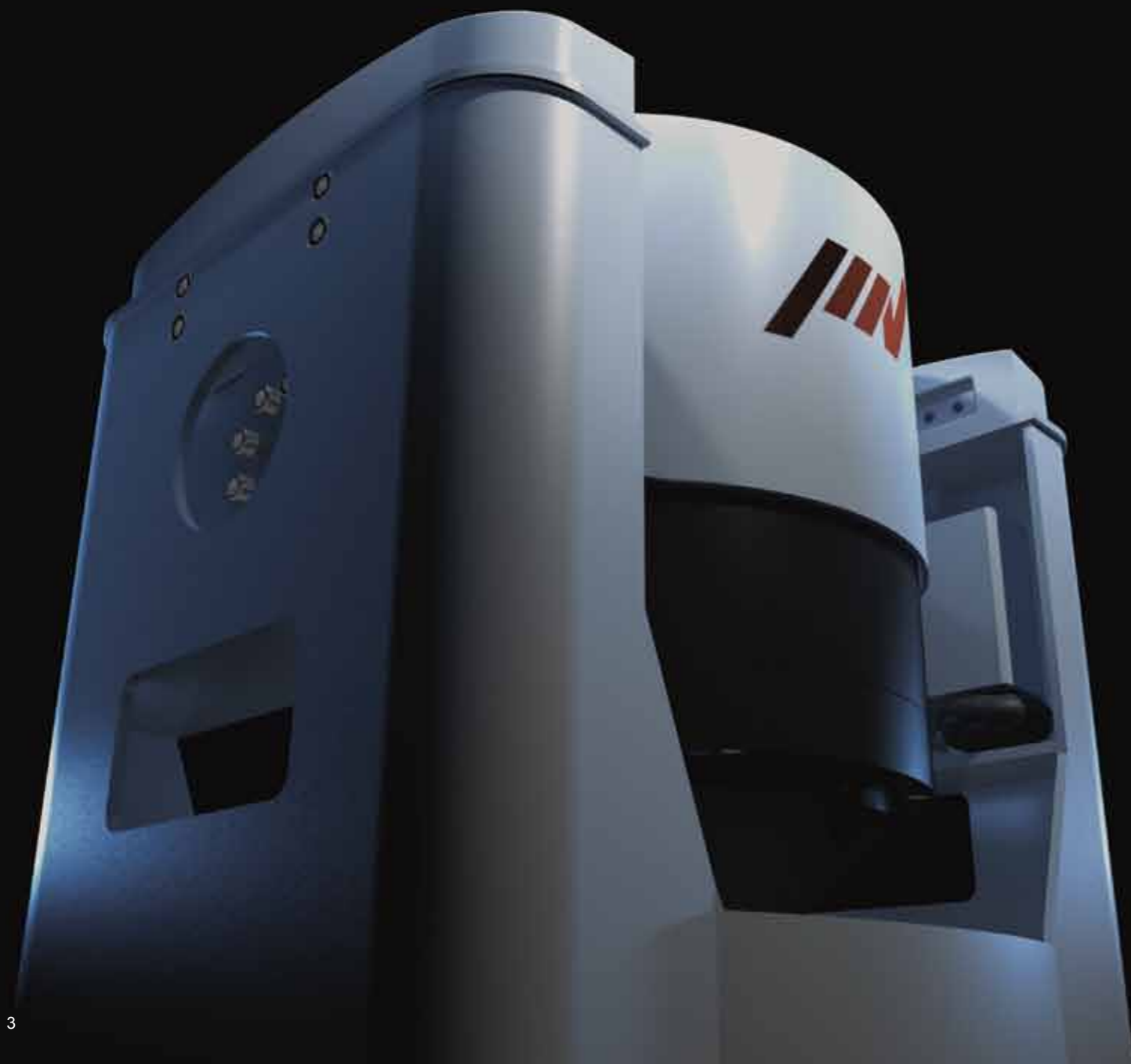
—— ②User friendly and Secure

Advanced automatic energy saving, high level of functionality and
a protected test environment.
A-series improves the working environment of vibration testing.

A-series leads the way

—— ③User first principle

Intuitive interface guides the operator with user-friendly displays.
Versatile options free the user from complicated works.

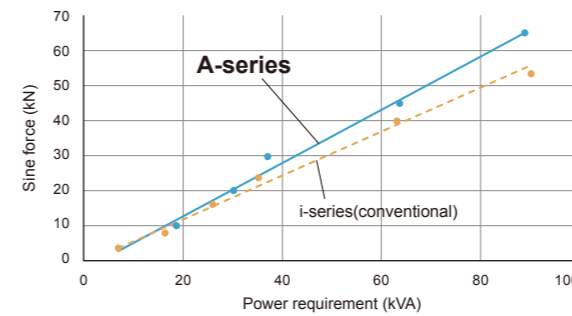




Improvement in excitation force

When compared with the conventional i & J-series, the A-series increases the relative excitation force.

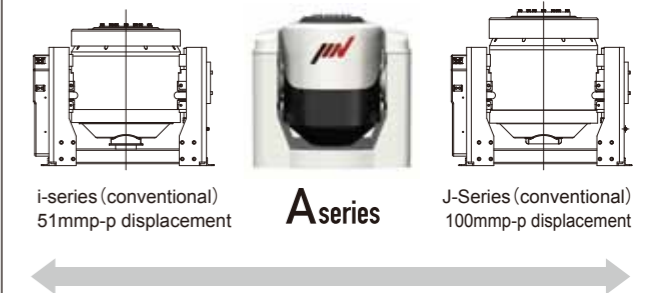
- Increased force per system power requirement
- Increased force per system mass
- Increased force per system size



Standard 76.2mmp-p displacement

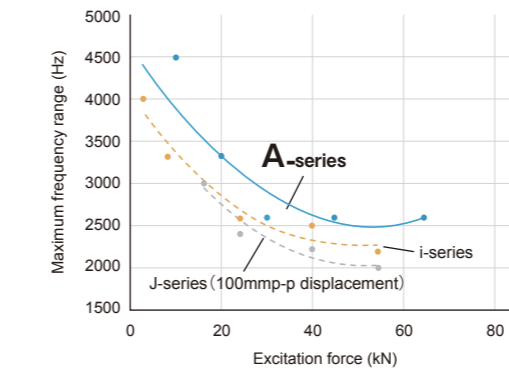
*Only for A30, A45, A65

A series has a displacement of 76.2 mmp-p (3 inch stroke) which gives good balance between specification of velocity, acceleration and displacement. This single system can be used in a very wide variety of tests.



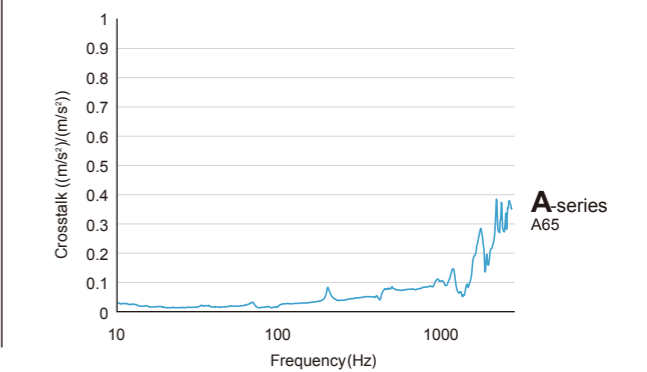
Increase in frequency range

A-series has wider frequency range than conventional systems. (Secured stroke of A30, A45 & A65 is 76.2 mmp-p based on mechanical stroke 82 mmp-p)



Cross-axis acceleration reduction

A series dramatically reduces cross-axis (crosstalk) acceleration (horizontal vibration). Highly accurate testing is achieved.

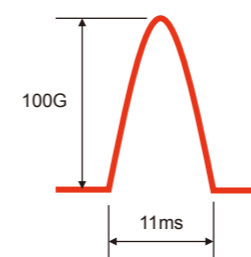


High velocity shock testing

*Only for A30, A45, A65

A-series (EM amplifier model) provides a maximum of 3.5m/s shock velocity testing which has not been possible with standard conventional systems (i, J-series).

Examples of shock test



	Model	i240/SA3M		i250/SA5M		i260/SA7M	
		Rated Force Shock (kN)	Shock (kN)	Rated Force Shock (kN)	Shock (kN)	Rated Force Shock (kN)	Shock (kN)
i-series (conventional)		48	108	80	108	108	108
	Maximum Velocity Shock (m/s)	2.2	2.2	2.2	2.2	2.2	2.2
	Maximum Displacement (mmp-p)	51	51	51	51	51	51
	Maximum Load (kg)	Not achievable *not enough force *not enough displacement		Not achievable *not enough force *not enough displacement		Not achievable *not enough force *not enough displacement	
J-series (conventional)	Model	J240/SA4M		J250/SA6M		J260/SA7M	
	Rated Force Shock (kN)	55	80	80	108	108	108
	Maximum Velocity Shock (m/s)	2.4	2.4	2.4	2.4	2.4	2.4
	Maximum Displacement (mmp-p)	100	100	100	100	100	100
Maximum Load (kg)	Not achievable *not enough force		Not achievable *not enough force		Not achievable *not enough force		
A-series	Model	A30/EM3HM		A45/EM5HM		A65/EM7HM	
	Rated Force Shock (kN)	60 (50)	90 (80)	130 (120)	130 (120)	130 (120)	130 (120)
	Maximum Velocity Shock (m/s)	2.5 (3.5)	2.5 (3.5)	2.5 (3.5)	2.5 (3.5)	2.5 (3.5)	2.5 (3.5)
	Maximum Displacement (mmp-p)	76.2	76.2	76.2	76.2	76.2	76.2
Maximum Load (kg)	18	31	50	50	50	50	

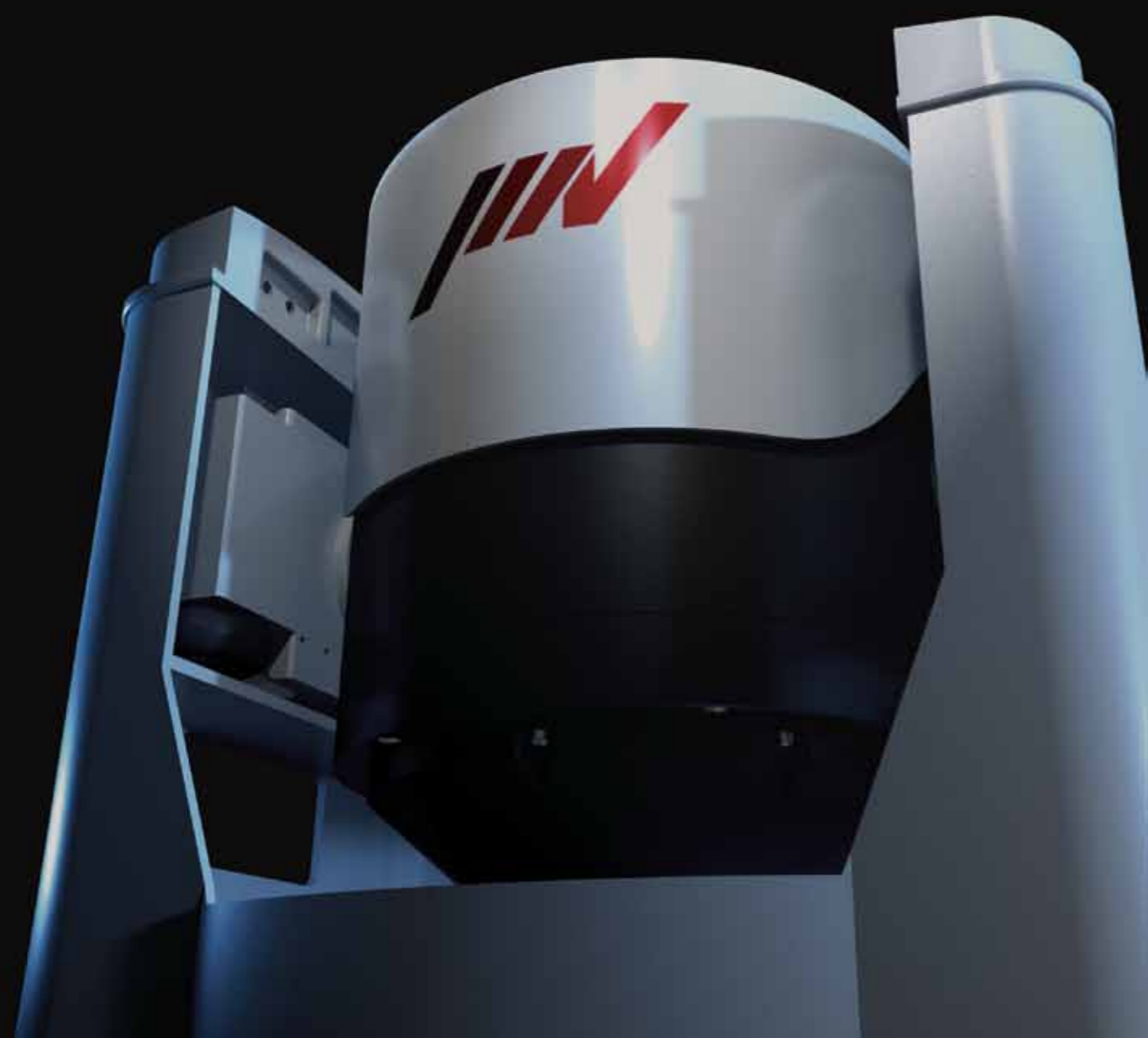
*Maximum load on bare table

A-series meets the demand

① Improvement of performance

A-series changes

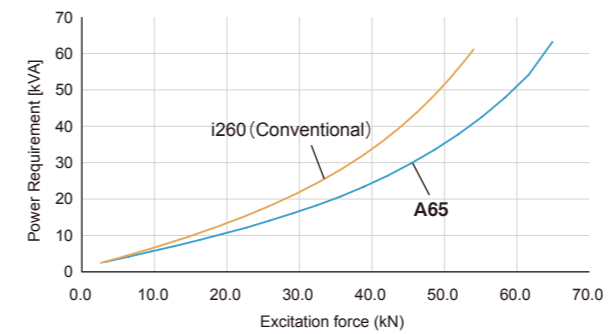
② User friendly and Secure



Lower power consumption

In comparison with the same class of conventional systems (i,J-series), the A-series achieves lower power consumption. With an automatic energy-saving function increased energy saving is achieved across all force ranges.

Comparison of consumed power per excitation force A65 vs i260



International safety standards

A-series complies with international safety standards.



A-series leads the way

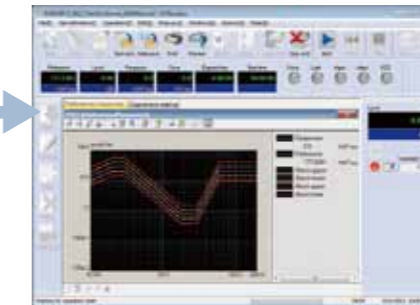
③ User first principle



Rapid creation of a test from a set of pre-defined templates conforming to most international test standards.



Simply select the standard required to generate the main test settings. Click start button to initiate the test.



In-built "Quick Help" provides guidance on each operation.

Remote monitoring of the test status over the internet.

The status of the test, and the amplifier or shaker operation can be viewed on a remote PC using a standard internet browser. Problems or errors are easily identified.



Home screen



Home screen(Error)



Eco screen



Camera screen



Manual link screen



High performance slip table

Slip table for A series provides the following features with a newly developed hydrostatic and hydraulic bearing and new structure.

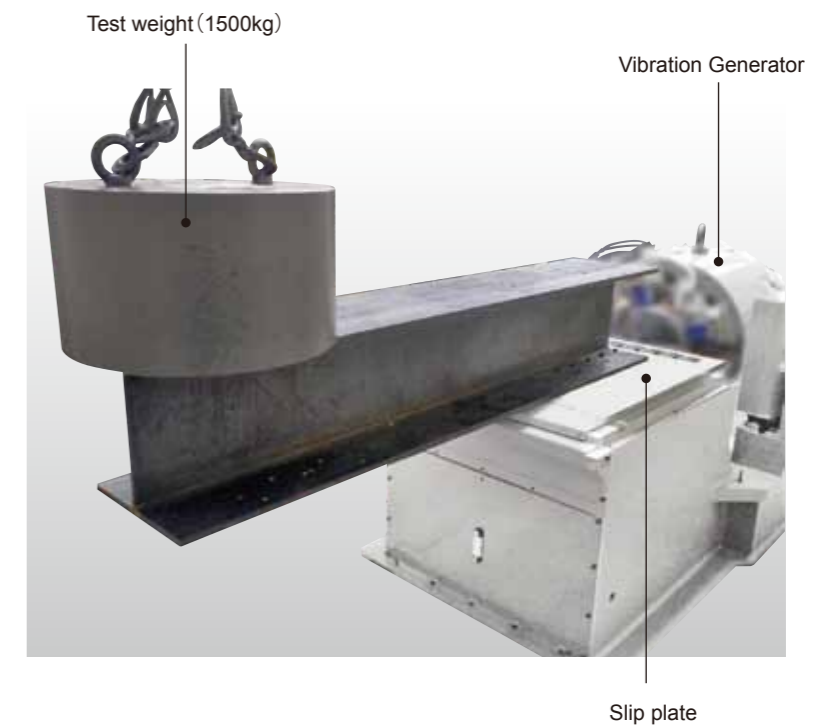
- High moment resistance
- Low cross-axis acceleration
- Low distortion
- No requirement for a separate hydraulic unit
- Good work efficacy
- Smaller system installation space

■Duct

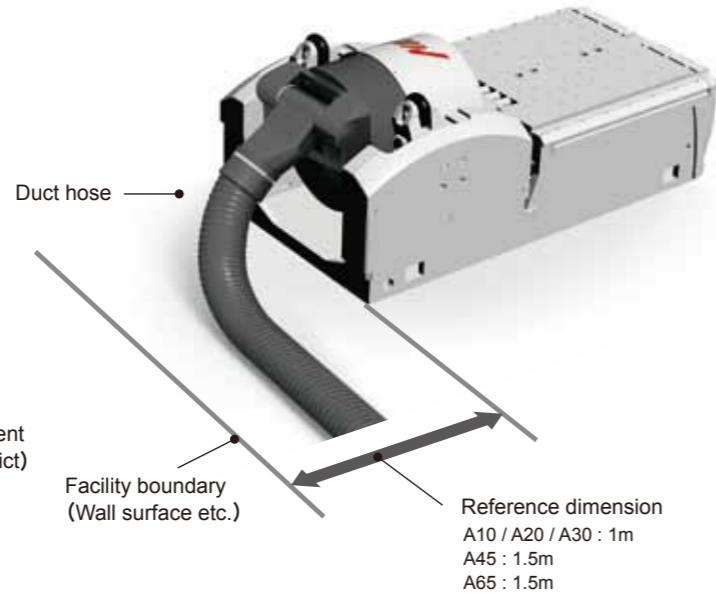
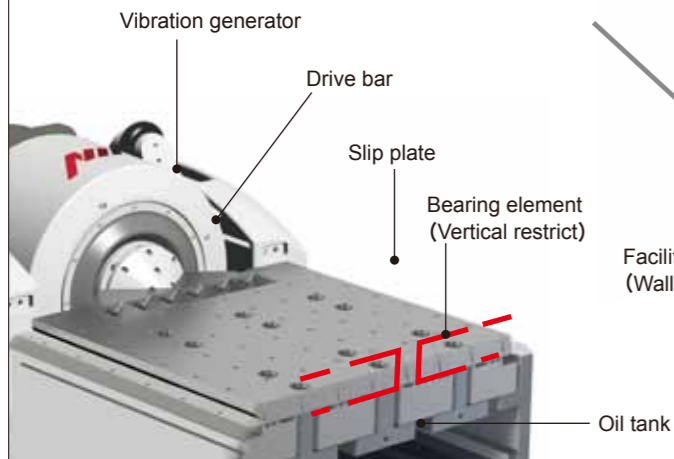
A newly developed duct is provided as standard. No operation needed for direction change between vertical and horizontal. Space behind the shaker is minimised.



■Allowable eccentric moment verification test



■Bearing structure



Reference dimension
A10 / A20 / A30 : 1m
A45 : 1.5m
A65 : 1.5m

*Above is just a reference.
Fitting is required somewhere in ducting route.

■Slip table range

Slip table	Model	Standard			High rigidity				
		TBH-8TL	TBH-10TL	TBH-12TL	TBH-6TH	TBH-8TH	TBH-10TH	TBH-12TH	TBH-15TH
	Size	□750mm	□950mm	□1150mm	□550mm	□750mm	□950mm	□1150mm	□1450mm
	Maximum displacement of compatible shaker (mmp-p)	76.2	76.2	76.2	51	76.2	76.2	76.2	76.2
	Maximum Travel (mmp-p)	100	100	100	80	100	100	100	100
	Maximum Load (kg)	3000	3000	3000	1500	9000	9000	9000	9000
	Frequency Range (Hz)	~2000	~1250	~1000	~2000	~2000	~1250	~800	~500
	Allowable Eccentric Moment (kN·m)	10	17	17	3	32	51	51	99
Armature mass(kg)	A10, A20, A30	128	183	250	85	159	215	298	452
	A45, A65	149	204	271	-	180	236	318	473

*Contact IMV or your local distributor for A03.

Option

Combined option with High thermal insulation

Combined option of direct coupling of A series uses a newly designed high thermal insulation structure. Improved temperature uniformity inside the chamber reduces the effect of dew condensation.

Down to **1/5**

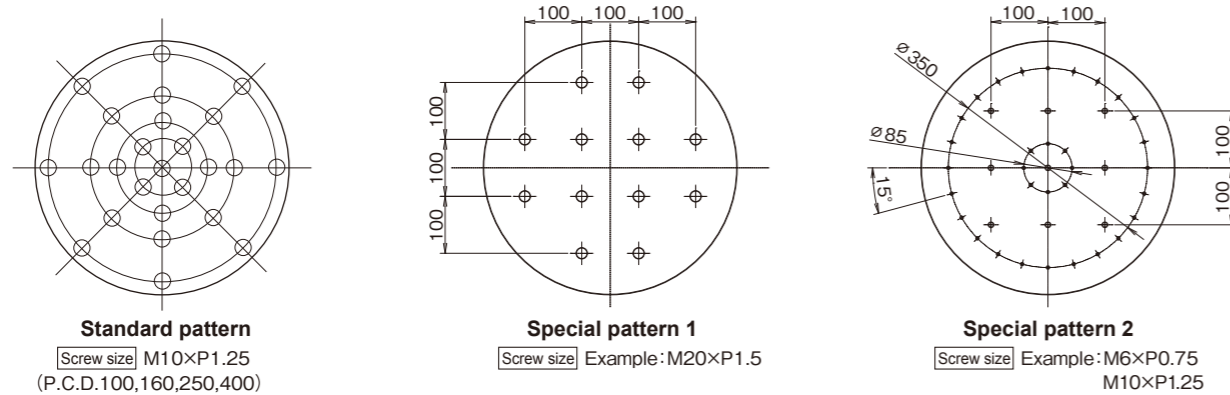


Special table insert pattern

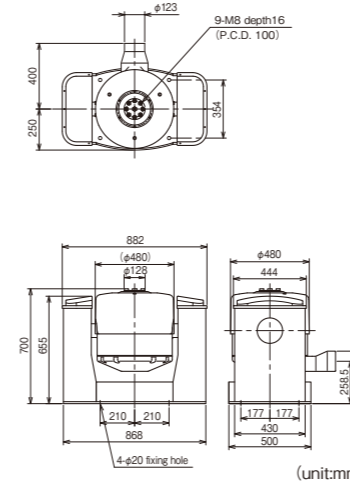
The A-series has the option to freely select the table insert pattern on the shaker armature.

*1) Selecting this option, the armature mass will increase.

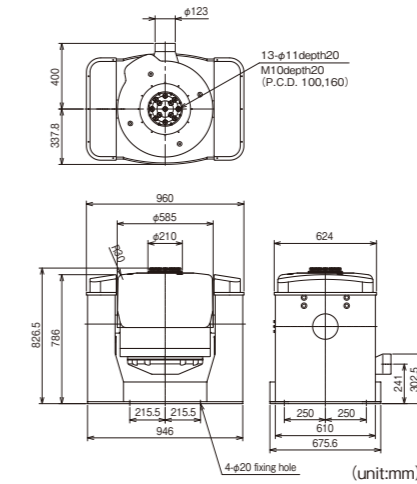
*2) Due to combining with other options; the horizontal slip table, insert pattern may have restrictions.



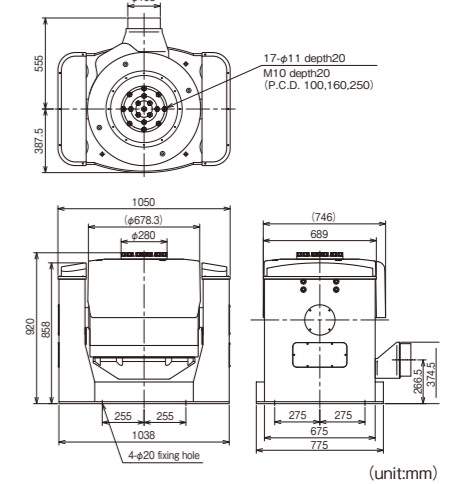
■A03



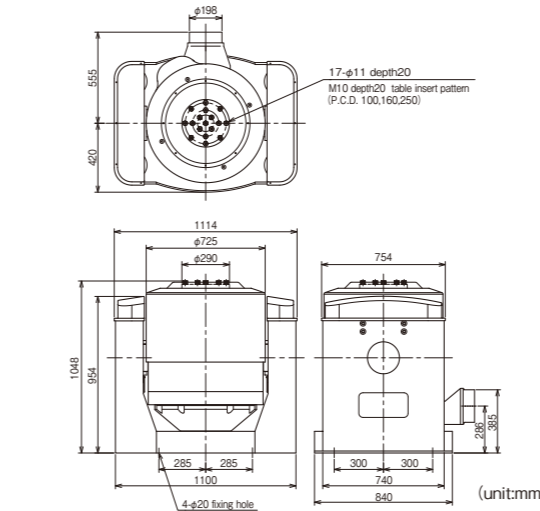
■A10



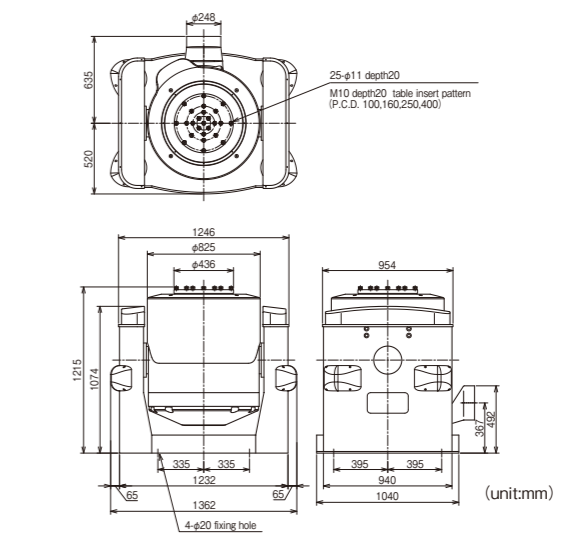
■A20



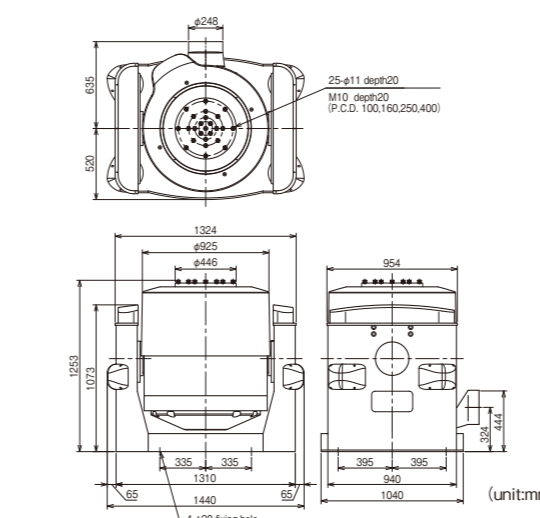
■A30



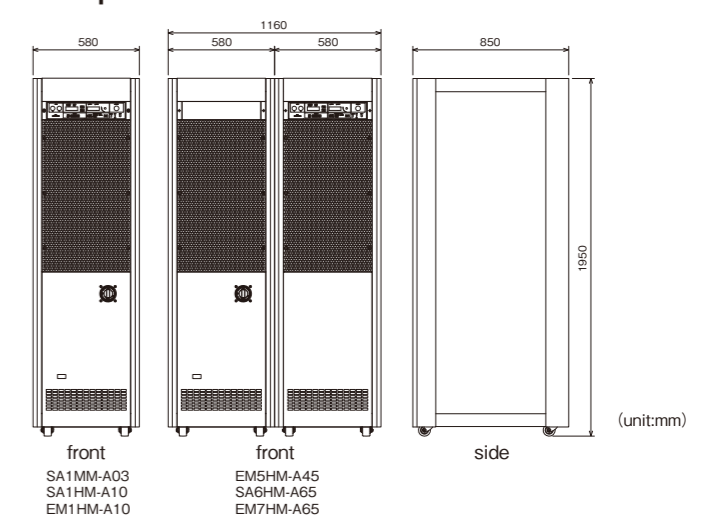
■A45



■A65



■Amplifier



Specifications

Model		A03/SA1MM	A10/SA1HM	A10/EM1HM	A20/SA2HM	A20/EM2HM	A30/SA3HM	A30/EM3HM	A45/SA5HM	A45/EM5HM	A65/SA6HM	A65/EM7HM	
Frequency Range	Hz	0~4000	0~4500	0~4500	0~3300	0~3300	0~2600	0~2600	0~2600	0~2600	0~2600	0~2600	
Rated Force	Sine	kN	3	10	10	20	20	30	30	45	45	65	65
	Random ²⁾	kNrms	3	10	10	20	20	30	30	45	45	65	65
	Shock	kN	6	20	20	40	40	60	60(50) ⁶⁾	90	90(80) ⁶⁾	130	130(120) ⁶⁾
Maximum Acceleration	Sine	m/s ²	1000	900	900	900	900	900	900	900	900	900	
	Random	m/s ² rms	700	630	630	630	630	630	630	630	630	630	
	Shock	m/s ² peak	2000	1500	1500	1500	1500	1500	1500	1500	1500	1500	
Maximum Velocity	Sine	m/s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
	Shock	m/s peak	2.3	2.3	2.3	2.5	2.5	2.5	2.5(3.5) ⁶⁾	2.5	2.5(3.5) ⁶⁾	2.5	2.5(3.5) ⁶⁾
	Displacement	mmp-p	30	51	51	51	51	76.2	76.2	76.2	76.2	76.2	
Maximum Travel	mmp-p	40	64	64	66	66	82	82	82	82	82	82	
Maximum Load	kg	120	200	200	300	300	400	400	600	600	1000	1000	
Power Requirement ¹⁾	kVA	8.7	20.4	20.4	30	30	36	36	57	57	83	83	
Mass(Vibration Generator)	kg	400	1080	1080	1600	1600	2000	2000	3000	3000	3500	3500	
Vibration Generator Model		A03	A10	A10	A20	A20	A30	A30	A45	A45	A65	A65	
Amplifier Model		SA1MM-A03	SA1HM-A10	EM1HM-A10	SA2HM-A20	EM2HM-A20	SA3HM-A30	EM3HM-A30	SA5HM-A45	EM5HM-A45	SA6HM-A65	EM7HM-A65	

*1) Power supply:3-phase 200/220V, 50/60Hz or 3-phase 380/400/415/440V, 50/60Hz.
 *2) Force ratings are specified in accordance with ISO5344 conditions. Please contact IMV or your local distributor with specific test requirements.
 *3) The specification shows the maximum system performance. For long-duration tests, de-rating by up to 70% must be applied. Continuous use at maximum levels may cause failure.
 *4) In the case of Random vibration test, please set the test definition of the peak value of acceleration waveform to be operated less than the maximum acceleration of Shock.
 *5) Frequency range values vary according to sensor and vibration controller.
 *6) High velocity restricts max. Shock force.