



assistant personnel for switch operation

and cable management were required.



Shoulder style

Integrated battery and inverter. Pad with high cushioning to reduce the load on workers.



Hand switch

Available to check the remaining battery level and to turn on/off the power supply.

Vibrator

25 to 30% lighter than the conventional type. Workabillity improved and centrifugal force increased by 10%.

Inverter

Small and lightweight, combined weight of the inverter and the battery is 8.5kg. High airtightness, overcurrent protection function and overheat protection function are installed.



«Specifications

Model	Hose (dia.x length)	Output (W)	Voltage (V)	Current (A)	Frequency (Hz)	Head size (dia.x length)	Hose size (dia.x length)	Weight (kg)
ECV40A	1.5	250		8.0		ф43х273	ф33х1,500	4.3
TOVEO A	1.5	400	25	40.0	200	4E0v007	ψ33Χ1,300	5.5
ECV50A	3.0	400		12.0		ф52x287	ф33х3,000	6.6

		Input			Out	tput			
Model	Capacity	Voltage	Current	Capacity	Voltage	Current	Frequency	External dimensions	Weight
	(W)	(V)	(A)	(W)	(V)	(A)	(Hz)	(mm)	(kg)
ECV-I5	500	36	14	450	25	12	400	164 x 90 x 55	1.1

Model	Capacity (Ah)	Voltage (V)	Operable time (w/ECV40A/ECV50A)	Charging time	External dimensions (mm)	Weight (kg)
BL36200	21	36	3Hour/2Hour	3Hour	500 x 250 x 115	7.4

^{*}Operable time is a calculated value based on battery capacity and crrent consumption. This will vary depending on the working environment.

Concrete placing work using cordless high-frequency vibrator

Improved safety by no using

You will choose to carry

this type of vibrator.

gasoline engine.

The integrated battery and inverter can be carried on the back without disturbing the movement of both hands of the worker.



In addition!

- Mobility increases by eliminating the need to handle ong cables.
- Improvement of workability improves work quality.
- These improvements reduce the time it takes to prepare and cleanup work.

HV Drive unit

«Features

World standard with High durability

The self-centering bearing provides high durability and stabilized vibration.

Reliability "Japan quality"

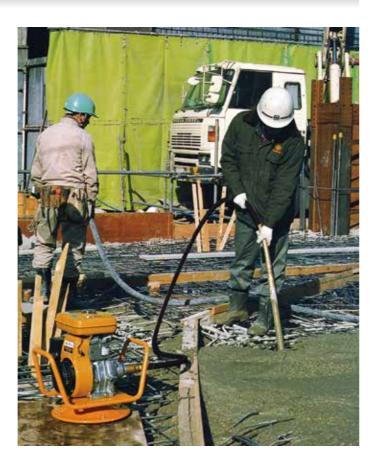
The heat treatment applied to the vibrator head increases its hardness and provides long life.

Excellent Usability

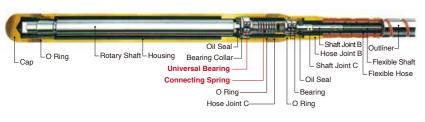
Two-layer mesh constituting the hose reduces breakdown during concrete placement.

«Specifications

	Hose	Frequency	Overall	Head	Weight	
Model	length (m)	(Hz)	length (mm)	(Dia.×L) (mm)	(kg)	
	(111)	(1 12)	(111111)	(111111)	(kg)	
HV28ZB			6,559	28x420	14.1	
HV32ZB		450,000	6,562	32x423	14.1	
HV38ZB	6	158-200	6,585	38x440	15.2	
HV45ZB			6,596	45x451	16.1	
HV60ZB		150-200	6,593	60x448	19.1	



EXEN HV Series Vibrator Cutaway View





EXEN coupling

Twin claws

1. Connecting spring

It reduces the transmission of the vibration which occurred from Rotary shaft, reduces the chance of being cut Flexible shaft.

2. Universal Bearing

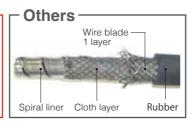
Universal bearing moves adjusting to the movement of the rotary shaft.







-EXEN Wire blade Cloth layer Intermidiate Rubber layer Spiral liner



«Features

Equipped with CC Robin and Honda engines





«Specifications

Model	Engine type	Output/revolution (kW/min-1)	Weight (kg)
HVE-RFA	Robin CC	2.5 / 3,400	25
HVE-FSB	EY20-3D	2.5 / 5,400	22
HVE-RH	HI 0\/400	2. 8 / 3,400	25
HVE-HS	Honda GX160	2. 0 / 3,400	22



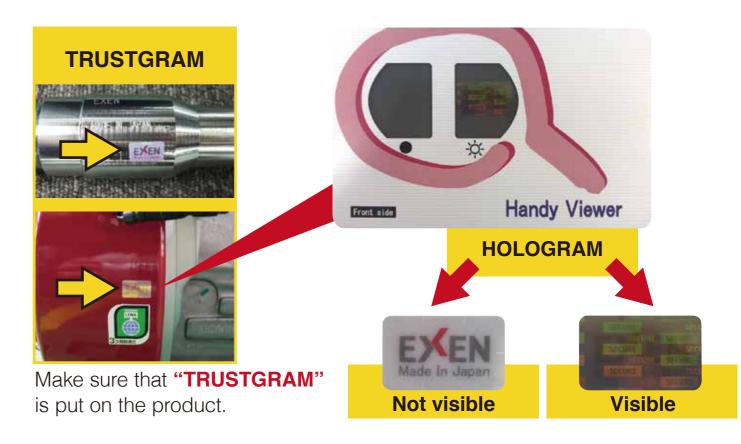




Beware of imitation!



Make sure that the view through the "VIEWER" has changed like below.



3. Special structure hose

Double-layered wire blade realizes long life of the hose.





KFeatures

High durability

Equipped with specially designed "Mechanical oil seal" for maximum durability.

Durable cast iron impeller and aluminum alloy casting design body provides long life use.

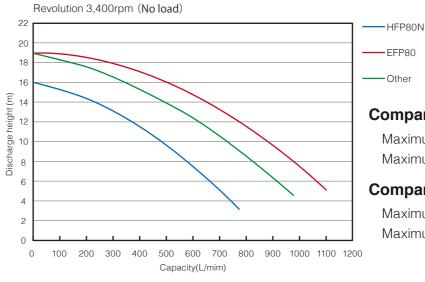
Hose protection outliners in three places.



«Specifications

Hose length	Discharge diameter	Max. lift	Max capacity	Revolution	Weight (kg)		
(m)	(mm)	(m)	(L/min)	(rpm)	Pump	Hose/shaft	Total
6	76(3in)	19.1	1,103	3,400	6.9	19.3	26.2

«Specifications and cmparison



Comparison with the conventional product

Maximum discharge height: increases 20% Maximum capacity: increases 40%

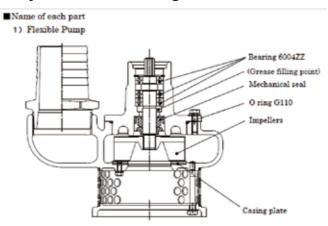
EFP80

Comparison with other manufacturers (in Japan)

Maximum discharge height: 3% higher Maximum capacity: 10% higher

KHigh durability

·Body: increases casing thickness.

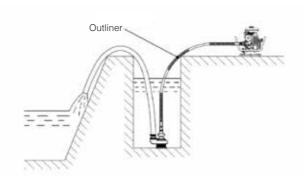


·Impeller : Changed to 5 blades. Increases discharge capacity by adjusting blade angle. Improves 12% durability by changing materials and quenching.





- ·Adopted three Outliner prevent to bend and wear the shaft.
- ·Adopted Japan made Bearings.



- ·Use of SUS304 for Strainer improves durability.
- ·Expands opening area by changing the hole diameter = Increases suction efficiency.





Strainer / HFP80N

Strainer / EFP80

High frequency internal vibrator



«Features

Improved working conditions

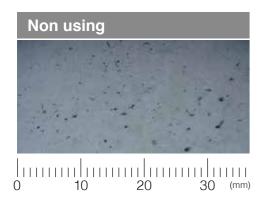
Reduction of vibration transmission to the hands and weight reduction increase working condition.

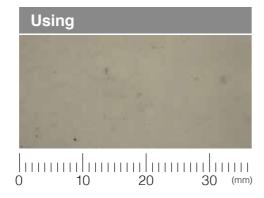
Improved quality of concrete products

High frequency vibration can create a robust, solid and smooth surface.

Various types of vibrators are available

According to various applications, a suitable model can be chosen.





«Specifications

Model	Output (W)	Voltage (V)	Current (A)	Frequency (Hz)	Head (mm)	Hose (mm)	Weight (kg)
HBM30ZX	130		3.5		31×376	28×6,000	9.6
HBM40VF	250	48	5.5	200/240	43×348	33×6,000	12.1
HBM50VF	400	40	9.0	200/240	52×397	36×6,000	16.1
HBM60ZX	500		13.0		61×415		17.5

^{*}Weight includes cabtyre cable

«Multifunction vibrators

3 types of heads available



Vibrator for slab pouring

CSV ideal configuration (the short and light head) for slab pouring.



Vibrator with extension pipe

ZXLH (its 1m long extension pipe) is suitable for tall concrete structure.



Model	Output (W)	Voltage (V)	Current (A)	Frequency (Hz)	Head (mm)	Hose (mm)	Weight (kg)
CSV50	250		5.5	200/240	52×244	33×1,500	8.5
HBM30ZXLH	130	48	3.5		31×376	28×4,000	12.1
HBM40VFLH	250		5.5		43×360		13.9

^{*}Weight includs cabtyre cable.

^{*3} types of head shapes are available. (Detail see next page)



Electric type

«Features

Usability

Quick mount design allows one bolt mounting/dismounting.

Resist to steam curing (totally sealed design)

Unnecessary to dismount during steam curing.

Resist long time operation

Special motor design allows long time operation.



«Specifications

Model	Output (W)	Voltage (V)	Current (A)	Frequency (Hz)	Vibration frequency (Hz)	Centrifugal force (kN)	Weight (kg)
HKM55LFA	550	40	12.5	100-240	50-120	8.80	16.5
HKM75LFA	750	48	17.0			11.6	21.3

*Weight includs cabtyre cable.

Pneumatic type

«Features

- •Quick mount design using hook base bracket and simple hinge bolt.
- $\cdot \textbf{High frequency vibration for excellent surface finishing.}$
- •Totally sealed design for steam curing environment.





«Specifications

Model	Frequency (Hz)	Centrifugal force (kN)	Air Consumption (Nm³/min)	Air Pressure (Mpa)	Base Type	Weight kg)
CRJ606LF	200	4.1	800		CRJ606LF	5.5
CRJ610LF	200	6.8	800		CRJ610LF	7.5
CR80LF		25		0.2-0.6		15.9
CR90LF	217	33	1680		CR100	16.5
CR100LF		47				18

≪The application of CR vibrator to precast concrete products



High frequency electric converter



«Features

Water proof

Aluminum die cast design provides IP55 water proof structure.

Durability

Solid frame and rubber vibration insulator improve the durability.

Reliability

HC series can provide stable output voltage which can provides maximum vibrator performance.









«Specifications

Model		Capacity (kW)	Voltage (V)	Current (A)	Frequency (Hz)	Outlet	Weight (kg)	
HC111B	Input	1.3	100	13	50/60	1	0.0	
TICTIB	Output	1.03	48	12.4	240	ı	9.8	
HC113B	Input	1.5	100	15	50/60		10.0	
TICTISE	Output	1.3	48	15	240	2		
HC116B	Input	2.0	100	20	50/60	۷	10.1	
HCTIOB	Output	1.6	48	19	240		10.1	
HC230A	Input	3.8	200	11	50/60	3	4E E	
110230A	Output	3.0	48	36	100-240	3	15.5	

High frequency power supply



«Features

Frequency adjustable

Adjustable frequency function of H series make precast concrete robust, solid, smooth surface.

Specially designed brush

Specially designed brush for EFC prevents premature damage of the machine.

Cooling device

HAG series combine special fan cooling system to make the machine last longer.









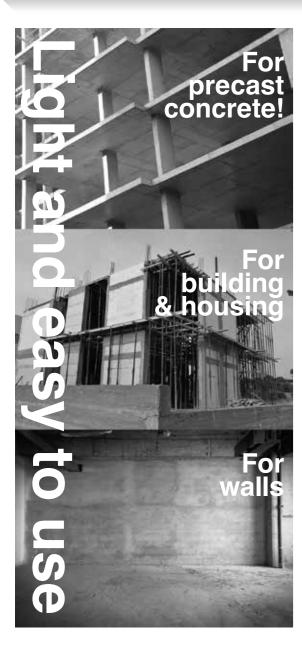
H460(J)

EFC4B

HAG122MH

HAG134MHA

Model		Capacity (kW)	Voltage (V)	Current (A)	Frequency (Hz)	Weight (kg)	Remark
11400(1)	Input	7.9	380	12	50	F0.	
H460(J)	Output	6.0	48	72	100-240	50	Output
EEC4P	Motor	4.2	380	7.4	50	70	48V
EFC4B	Generator	4.0	48	48	200	70	
H460NT(J)	Input	12	380	18.2	50	32	Output
H460N1(3)	Output	9.1	380	15	100-240	32	
H4150NT(J)	Input	28	380	42.5	50	38	380V
114130111(0)	Output	23	380	34.9	100-240	36	
HAG122MH	Output	2.2	48	26.5	240	36	
HAG IZZIVIH	Engine	Honda GX	(160T2 VXJE	Output(k	W) 3.6/2.9 (Outlet 2nos.	Output
110010404110	Output	3.4	48	40.9	240	40	48V
HAG134MHA	Engine	Honda G	(200T2 VXJE	Output(k	Output(kW) 4.1/3.7 Outlet 3nos.		



KFeatures

Durability

Durable aluminum die cast motor case allows using for last long.

Safety

Dual insulation structure allows safety use.

Comfortable

Double anti-vibration handles design for comfortable operation.



«Specifications

Model	Hose length	Output	Voltage	Current	Frequency	Total length	Head	Vibrator assembly	Weight
	(m)	(W)	(V)	(A)	(Hz)	(mm)	(mm)	(mm)	(kg)
	0.4				220-280	1,074	23×336 28×186	820	5.0
E23F	0.8					1,489		1,235	5.5
LZJI	1.3		100	5.0		1,989		1,735	6.3
	1.8					2,489		2,235	7.1
	0.6		110	4.5	220-200	1,078		824	5.0
E28FP	1.0	280				1,482		1,228	5.6
LZ01 F	1.5		115	4.3		1,982		1,728	6.4
	2.0				2,482		2,228	7.2	
	0.6		200	2.5	210-270	1,079	32×187	825	5.2
E32FP	1.0					1,483		1,229	5.9
LJZI F	1.5		220	2.3		1,983		1,729	6.7
	2.0					2,483		2,229	7.4
	0.6		230	2.2	210-210	1,079		825	5.6
E38FP	1.0		240	2.1		1,483		1,229	6.2
LJOFF	1.5					1,983		1,729	7.0
	2.0					2,483		2,229	7.8



«Features

Surface finish (E32DH, E32DP, E32DPS,EKCA)

Extremely unique configuration vibrators provide smooth surface finish of concrete.

Easy operation

Simply insert along the wall of the concrete mold. (E32DH,E32DP,E32DPS) Simply push against the outside of the mold (EKCA)

Usability

Easy to us

Hard shaft type vibrators (E-DS,E-D,E-DL) are easy to insert to the target point.

•								
Model	Output	Voltage	Current	Frequency	Total length	Head	Vibrator assembly	Weight
	(W)	(V)	(A)	(Hz)	(mm)	(mm)	(mm)	(kg)
E25DS		100	5.0	235-285	756	25×447	447	4.9
E23D			0.0	233-263	865	23×556	556	4.9
E28D		110	4.5	220-270	784	28×475	475	5.0
E32D		115	4.3	200-250	807	32×498	498	5.6
E23DL			110	4.0	235-285	1,009	23×700	700
E28DL	280	200	2.5	220-270	1,015	28×706	706	5.8
E32DL			2.3	200-250	1,036	28×727	727	6.3
E32DH		220		225-275	1,070	50×550	761	5.6
E32DP		230	2.2	225-215	1,138	300×400	829	7.5
E32DPS				205-280	1,739	120×1219	1,430	7.8
EKCA		240	2.1	160-200	404	76×113	95	4.7







KFeatures

Model

C25DS

C28D

C28DL

C28F 0.6m

CKCA

No need cord and power supply

Easy operation at the construction site.

Lithium battery adoption

Powerful and long life. 20-30 minutes continuous use.

Comfortable operation

Compact, lightweight and ergonomic design absorb vibration for comfortable operation.

30

25

20

20





767

955

1,089

415

25×447

76×113

(kg)

4.1

4.2

5.0

4.2

Dam construction vibrator "VIBACK"

«Features

For compacting mass concrete

Front assembly is developed for compacting mass concrete for hydropower dam.

Our Front assembly called "Viback VB-AK series" have many delivery records in the world.

Reduce labor cost

Vibrator front assembly dedicates reducing labor cost.

It has 4-8 numbers of vibrators HIB150HDL, and is used by mounted on the excavator.

The HIB150HDL vibrators generates powerful vibration which places concrete of 25 cbm/h. (per one vibrator)

It reduces 35% labor cost compared with handheld vibrators.

High durability and easy maintenance

Heat-treated ductile cast iron tip provides excellent wear resistance.

Also, at the time of repair it is also possible to replace only the tip.

«Specifications

Front assembly VB-AK series

	,					
Model	Number of vibrator	Concrete compacting ability	Excavator class	Oil flow for vibrator at 18MPa	Rounding	Weight
		(m³./h)	(t)	(L/min)		(kg)
VB-70AK4F	4	100	6-8	60	Not available	620
VB-70AK4R	6	100	0-0	00		780
VB-130AK6R	O	150	12-13	110	Available	1200
VB-130AK8R	8	200	12-13	145		1400



HIB-100





0.8

Model	Frequency (Hz)	Centrifugal force (kN)	Normal pressure (MPa)	Oil flow ratey (L/min)	Head dia.xLength (mm)	Effective range (m)	Weight (kg)	
HIB150HDL	117-133	13.6-17.8	20.6	14-16	150x850	1	68	
Model	Output (W)	Voltage (V)	Current (A)	Frequency (Hz)	Centrifugal force (kN)	Length (mm)	Head dia.xlength (mm)	Е
HIB100A	1,500	200	7.5	120/125	8.83-9.56	924	101×664	
Model		Capacity (KVA)	Voltage (V)	Current (A)	Frequency (Hz)	Weight (kg)	Number of vibrators (HIB100A)	
HD2100A	Input Output	13 10	200	38 29	50/60 125	173	4	
Model	Voltage (V)	Permissik	ole current o	of breaker	Weight (kg)	Number of vibrators (HIB100A)		
HIB-BSA	200	12			21	4		







«Features

Just push it

Just push the handle to sweep. No engine.

Wide product range to fit various conditions

Five kinds of sweepers provide good sweeping performance in various conditions.

Battery operated brush (ES-B770 only)

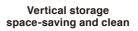
Due to adopting battery-powered brush, ES-B770 is much easier to push. Battery: 3 hours operating time. 12V 12Ah.

«Specifications

Model	ES-2RA	ES-390J	ES-550A	ES-770	ES-B770
Sweeping width (cm)	71.5	39	55	77	77
Sweeping performance (m³/h)	2,500	1,360	1,920	2,690	3,230
Dirt container capacity (L)	20	1.6	20	50	50
Weight (kg)	27	7.2	7.2	13	21









Sealing lip & filter
keep the dust in the machine

Brush down holder



& side roller for easy sweeping along curbs and walls



Rush height adjustment

ensure optimal cleaning performance on various types of surface

