



HIGH-FREQUENCY 48V SERIES INTERCHANGEABLE VIBRATOR INSTRUCTION MANUAL



**ICV40VA • 40VF • 40VR • 40VFLH
ICV50VA • 50VF • 50VR • 50VFLH
ICV60ZX • ZX-R**

EXEN CORPORATION

☆ SAFETY PRECAUTIONS

- ☆ This product is a vibrator for compacting concrete.
Do not use this product for any purpose other than concrete compaction.
- ☆ Although this product has been designed with full consideration for safety, read and follow all DANGER, WARNING, and CAUTION instructions in this manual to ensure proper use.
Also read the power unit instruction manual before operation.
- ☆ Use this product only for its intended purpose. Improper use may result in malfunction, damage, or loss. The manufacturer shall not be liable for any resulting damage or loss.
- ☆ This product must be operated only by qualified and experienced personnel. Improper operation may result in accidents or equipment failure.
- ☆ Read this manual and confirm the latest specifications before use. Use of outdated information may result in improper operation or malfunction. Specifications are subject to change without notice.
- ☆ Provide this manual when transferring the product to a third party. Lack of safety information may result in unsafe operation, accidents, or damage.
- ☆ The following symbols and signal words—DANGER, WARNING, and CAUTION—are used in this manual and on the product to indicate potential hazards and to ensure safe use of this product.



DANGER

【DANGER】 indicates an imminent hazardous situation that, if not avoided, will result in death or serious injury.



WARNING

【WARNING】 indicates a hazardous situation that, if not avoided, could result in death or serious injury.



CAUTION

【CAUTION】 indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.



DANGER



Do not connect to the power unit while disassembled.

- Do not connect to the power unit until the vibrating head, hose, and switch cord assembly are securely connected.
- Contact with terminals may result in electric shock.



Use a power source equipped with a ground fault circuit interrupter (GFCI).

- Before operation, make sure the GFCI operates properly.
- If leakage current occurs or the GFCI fails to operate properly, electric shock or fire may result.



WARNING



Do not use this product with commercial power.

- Motor burnout or electric shock may result.



Do not disassemble or modify this product.



Stop using the product immediately if you notice unusual noise, vibration, or odor during operation.



Use a work platform when working on reinforcing bars or other unstable surfaces.



When working at height, ensure no one is below.

- Wear fall protection equipment.
- Falling objects may cause injury.



Do not operate the vibrator out of concrete.

- The vibrating head may become hot within minutes and cause burns.

 CAUTION

-  Read and understand the instruction manual before use.
-  Operate the product with extreme care.
 - Improper operation or inattention may result in accidents.
-  Inspect the product before use.
 - Ensure there is no damage and the product operates properly.
 - Check for damaged parts and loose components.
 - Check the plug and receptacle for damage, deformation, or loose connections.
 - Do not use the plug if it fits loosely or disconnects easily.
 - Poor contact may cause overheating, electric shock, or fire.
 - If any abnormality is found, stop using the product immediately.
-  If the product is dropped or subjected to impact, check for damage, cracks, or deformation.
 - This may result in accidents or injury.
-  Do not use the product under the following conditions:
 - If you are fatigued or ill
 - If you are under the influence of alcohol or medication
 - If you are pregnantUsing the product under these conditions may result in accidents or injury.
-  Do not operate this product continuously for long periods.
 - Take regular breaks during operation.
 - Fatigue may result in injury.
-  Prevent accidental starting.
 - Do not carry the product with the switch ON while connected to the power unit.
 - Make sure the switch is OFF before connecting the plug to a power source.
 - Turn the switch OFF when not in use or during work interruptions.
 - Unexpected startup may result in serious injury.
-  Wear appropriate clothing during operation.
 - Do not wear loose-fitting clothing or accessories such as necklaces.
 - Wear slip-resistant footwear.
 - Secure long hair with a hat or hair cover.
-  Do not work in an unstable posture.
 - On unstable footing such as rebar, use a stable platform before working.
-  Ensure the work area is well lit and check the surroundings before operation.
 - Working in cluttered or dark areas may result in accidents.

- ⚠ Ensure sufficient working space before starting work.
- ⚠ Keep children and unauthorized persons away from the work area.
 - Distraction may result in unexpected accidents.
- ⚠ Concrete may splash when placing concrete near your feet or in shallow areas.
 - Wear face protection such as safety glasses or a mask.
 - Wear hearing protection when performing noisy work.
- ⚠ Wear hearing protection during operation.
 - Use earplugs or earmuffs in high-noise environments.
- ⚠ Wear anti-vibration gloves during operation.
 - Prolonged operation while holding a high-vibration area may result in vibration-related disorders.
- ⚠ Do not touch the vibrating head during or immediately after operation.
 - The vibrating head becomes hot and may cause burns.
- ⚠ Do not swing the vibrating head by holding the hose or cable.
 - It may strike people or surrounding objects, resulting in injury or property damage.
- ⚠ Do not hook the product onto rebar or similar objects.
 - This may cause tripping, falls, or injury.
- ⚠ Do not leave the product in walkways when stopping work.
 - People may trip over the hose or cable, resulting in falls or injury.
- ⚠ If the product stops suddenly during operation, turn the switch OFF immediately and unplug it from the power unit.
 - Failure to do so may result in electric shock, fire, or equipment damage.
- ⚠ If a protective device of the power unit is activated, stop using the product immediately.
 - The product may be malfunctioning.
 - Contact your dealer.
- ⚠ Do not handle the cable roughly.
 - Do not unplug the cable by pulling on it.
 - Do not place heavy objects on the cable.
 - Do not use the cable to carry or pull the product.
 - Keep the cable away from heat, oil, and sharp edges.

Failure to do so may result in malfunction or electric shock.
- ⚠ Use an extension cable of the proper size.
 - Use an extension cable when operating the unit away from the power source.

Using an improperly sized extension cable may cause a voltage drop, resulting in motor burnout.

Refer to Table 1 for the appropriate extension cable size and maximum cable length.

-  Do not exceed the capacity of the power unit.
 - Overloading may cause malfunction or reduced performance.
 - Refer to Table 2 for the maximum number of vibrators that can be connected.
-  Do not use the power unit in the rain or in locations exposed to water. Do not allow mortar to adhere to the power unit.
 - Failure to do so may result in malfunction or electric shock.
-  Do not allow dust or water to adhere to the connector terminals when handling the unit in a disassembled state.
 - Do not subject the connector terminals to strong impact.
 - Doing so may cause poor contact, damage, or deformation.
-  When storing or transporting the unit in a disassembled state, install the dedicated protective caps.
 - Prevents damage to or deformation of the terminals and threads.
-  The ICV-VFLH Multi Vibrator is long and heavy.
 - Dropping or striking the unit may cause damage, cracks, or deformation to the joint.
 - Check the surrounding area carefully when carrying or handling the unit.
 - Failure to do so may result in injury.

-  Employers must manage working time based on the vibration total value (hand-arm vibration) of the concrete vibrator and take measures to prevent vibration-related disorders.

Comply with the relevant laws and guidelines of the country where the product is used.

-  Noise Regulations

Noise is regulated by applicable laws and ordinances.

Operate the product within the noise limits specified by applicable laws and ordinances to avoid disturbing nearby residents.

If necessary, use noise barriers during operation.

○ INTRODUCTION

Thank you for purchasing this High-Frequency 48V Interchangeable Vibrator.

Read and understand this instruction manual before use.

Use the product properly according to this manual.

Keep this manual for future reference.

CONTENTS

☆ SAFETY PRECAUTIONS.....	1
○ INTRODUCTION.....	5
○ SAFETY	6
○ SYSTEM CONFIGURATION	9
○ NAMES OF PARTS	10
○ EXTENSION CABLE SELECTION	13
○ MAXIMUM NUMBER OF UNITS	14
○ ASSEMBLY AND DISASSEMBLY.....	15
○ OPERATIONS.....	26
○ CLEANING, TRANSPORT, AND STORAGE AFTER USE.....	27
○ INSPECTION	28
○ REPLACEMENT INTERVALS FOR CONSUMABLE PARTS	29
○ TROUBLESHOOTING	30
○ SPECIFICATIONS AND DIMENSIONS.....	31

○ SAFETY



- Wear appropriate personal protective equipment when performing work, including a safety helmet, protective gloves (anti-vibration gloves), safety boots, hearing protection, and face protection such as safety glasses and a mask.
 - Wear fall protection equipment when required.



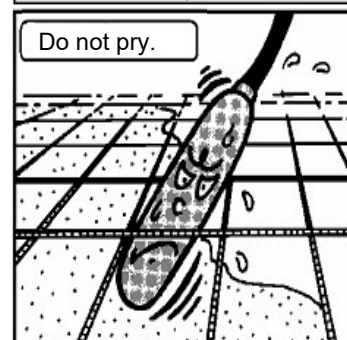
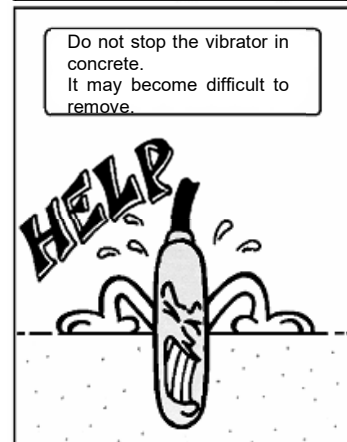
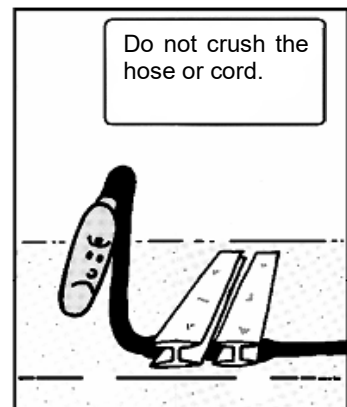
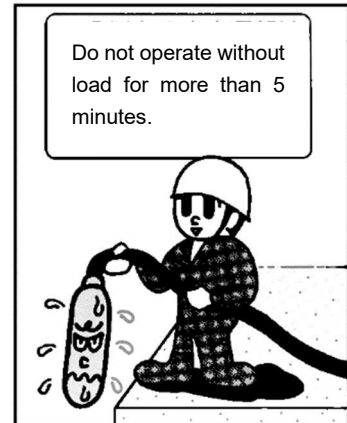
CAUTION

- The vibrator is cooled by inserting it into concrete.
Do not operate it outside the concrete (in the air).
May result in motor burnout.

- Do not place or drop heavy objects on the hose or cable.
Damage to the hose or breakage of the cable may result in malfunction.

- Turn the switch ON and OFF only when the vibrating head is not inserted into concrete.
If the switch is turned OFF while the vibrating head is inserted in concrete, it may become stuck and difficult to remove.

- Do not pry against rebar, formwork, or other hard objects with the vibrating head.
The vibrating head may wear prematurely and cause motor burnout.
The hose may bend and the internal cord may break.



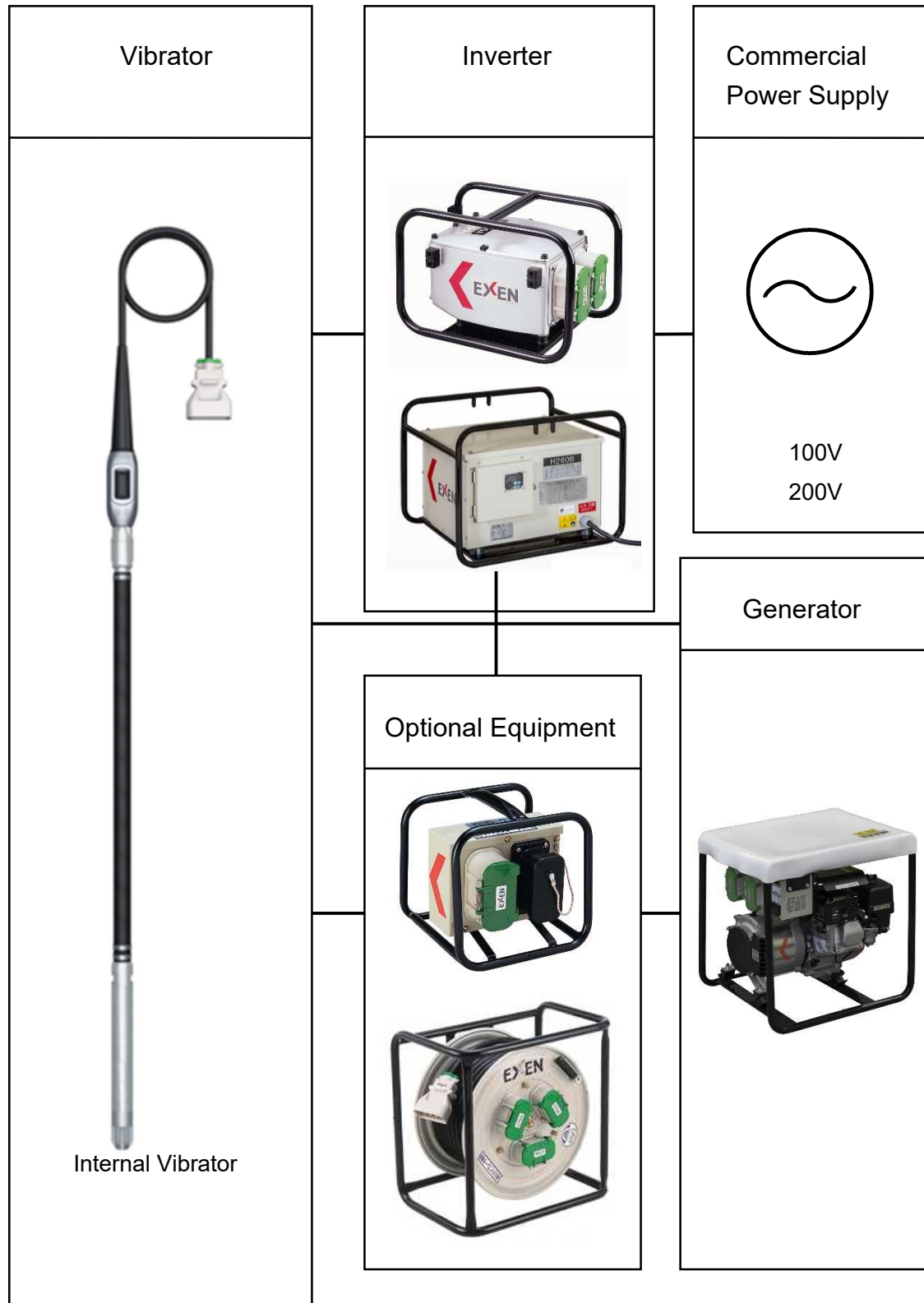
- Do not operate the vibrating head on hard surfaces such as concrete or steel plates.
 - This may result in bearing damage or rotor breakage.
- Remove any dirt or rust from the plug terminals and securely insert the plug into the outlet.
 - Poor contact at the plug may cause motor burnout.
- The following cable sizes can be used with the switch and external cord assembly.

Switch and External Cord Assembly (Cable Size)	Switch Case Joint Color	Applicable Models
2.0mm ²	Silver	ICV40,50
3.5mm ²	Black	ICV40,50,60

NOTE

- The 3.5 mm² external cord can be used with all models; however, it increases the overall mass.
- A silver switch case joint is installed on ICV40 and ICV50 models at shipment.

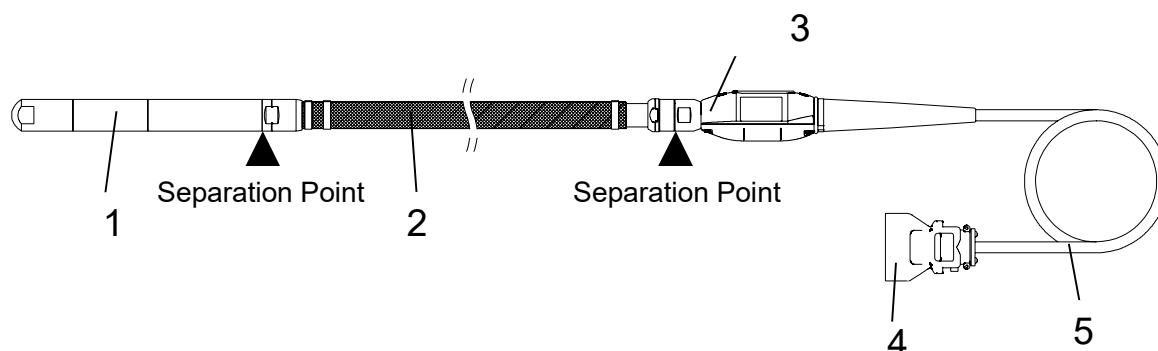
○ SYSTEM CONFIGURATION



○ NAMES OF PARTS

■ ICV40VA/VF/VR

< Connection Status >



1	Vibrating Head	4	Plug
2	Hose	5	Cable
3	Switch	—	—

NOTE

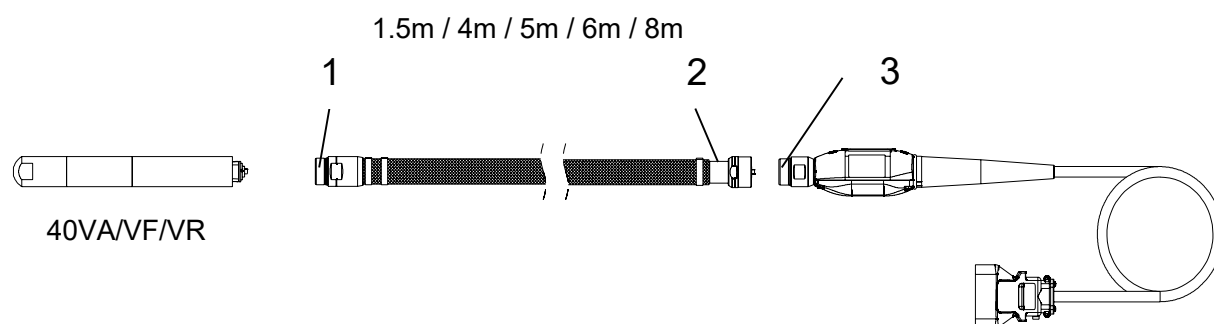
- The VA model has a round vibrating head.
- The VF model has a finned vibrating head.
- The VR model has a rubber-tipped vibrating head.

< Disconnection Status >

Vibrating Head Assembly

Hose Assembly

Switch and External Cord Assembly



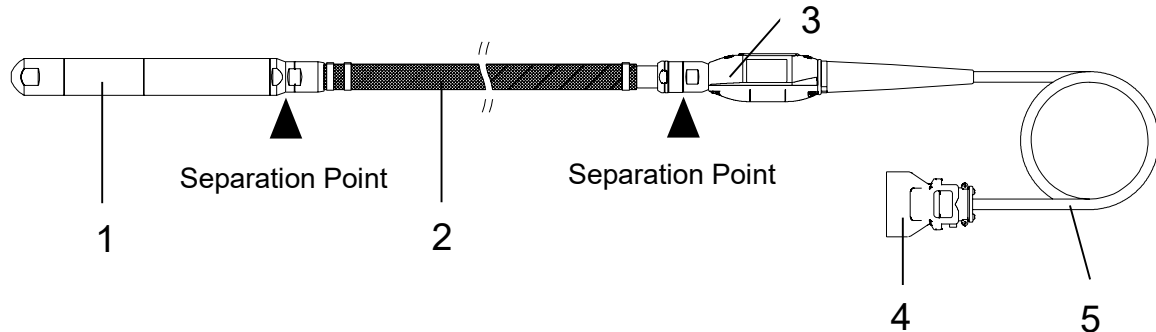
1	Hose Joint	3	Switch Case Joint ▪ Silver: 2.0 mm² × 15 m (ICV40) ▪ Black: 3.5 mm² × 15 m (ICV40)
2	Coupling		

NOTE

- The vibrating head assembly cannot be connected to the switch case joint.
- Do not use a vibrating head assembly other than those for ICV40, ICV50, and ICV60 models in combination with this product.
- The black switch case joint can be used with all models; however, it increases the overall mass.

■ ICV50VA/VF/VR, ICV60ZX/ZX-R

< Connection Status >



1	Vibrating Head	4	Plug
2	Hose	5	Cable
3	Switch	—	—

NOTE

- The VA model has a round vibrating head.
- The VF model has a finned vibrating head.
- The VR model has a rubber-tipped vibrating head.

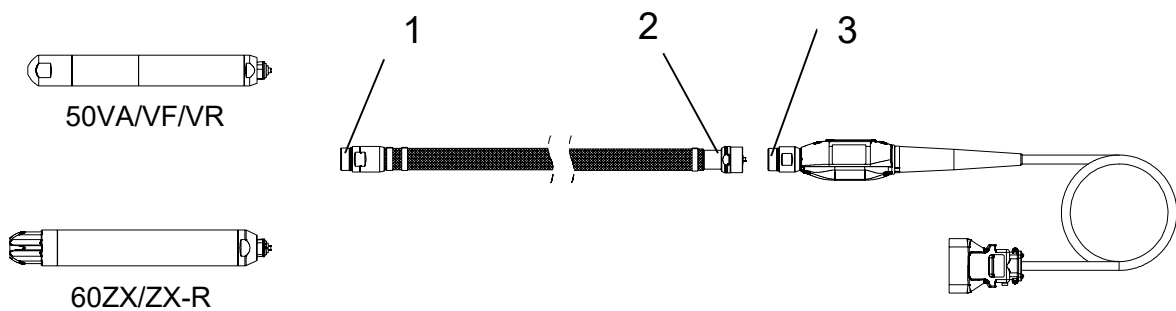
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Vibrating Head Assembly

Hose Assembly

Switch and External Cord Assembly

1.5m / 4m / 5m / 6m / 8m



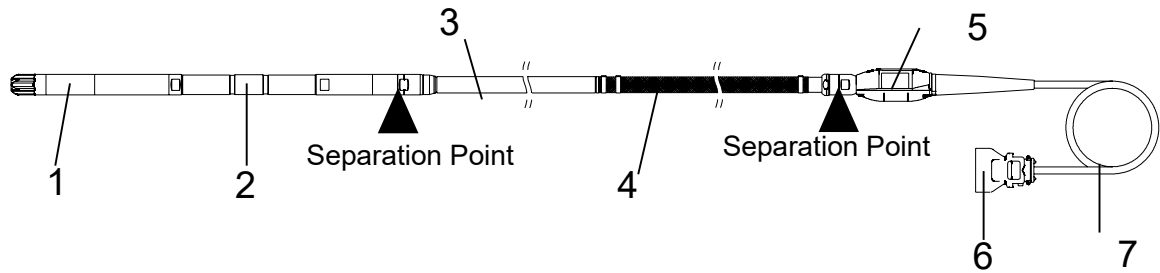
1	Hose Joint	3	Switch Case Joint • Silver: 2.0 mm ² × 15 m (ICV50) • Black: 3.5 mm ² × 15 m (ICV50/60)
2	Coupling		

NOTE

- The vibrating head assembly cannot be connected to the switch case joint.
- Do not use a vibrating head assembly other than those for ICV40, ICV50, and ICV60 models in combination with this product.
- The black switch case joint can be used with all models; however, it increases the overall mass.

■ ICV40/50VFLH

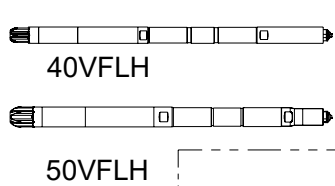
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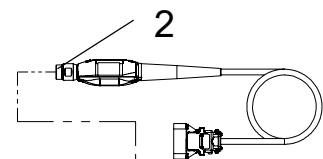
1	Vibrating Head	5	Switch
2	Anti-Vibration Joint	6	Plug
3	Pipe	7	Cable
4	Hose (4 m / 6 m)	—	—

< Disconnection Status >

Vibrating Head Assembly



Switch and External Cord Assembly



Pipe Hose Assembly

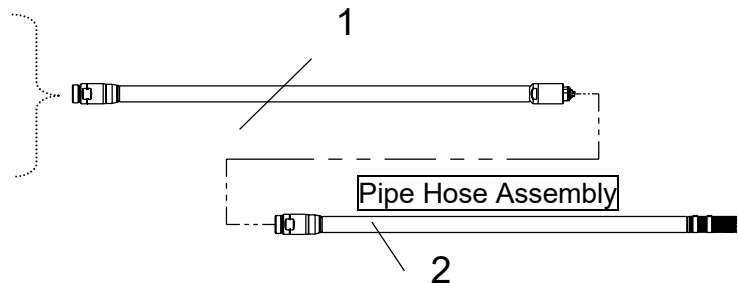
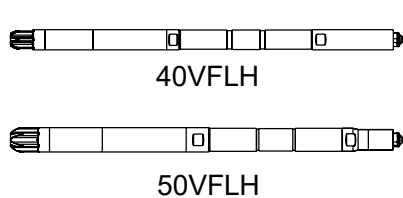
1	Hose (4 m / 6 m)	2	Switch Case Joint • 2.0 mm ² × 15 m
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NOTE

- The vibrating head assembly cannot be connected to the switch case joint.

< Extension Pipe Connection >

Vibrating Head Assembly

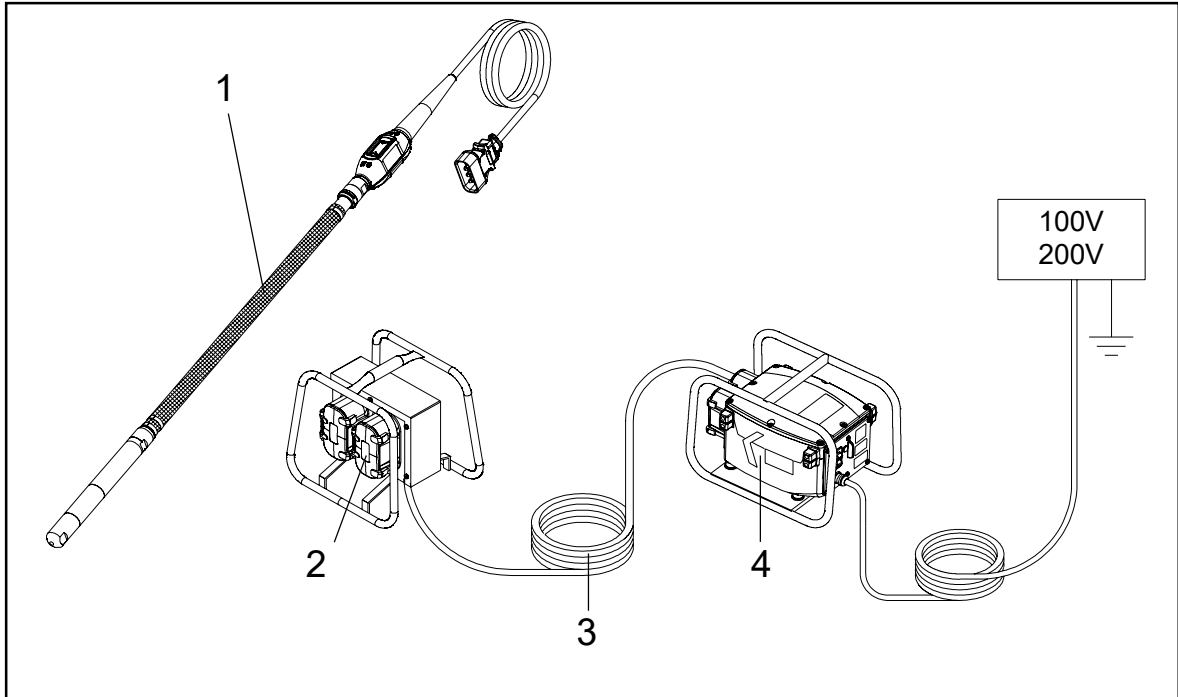


1	1 m Extension Pipe (Optional)	2	Hose (4 m / 6 m)
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NOTE

- Do not use any vibrating head assembly other than those listed above.

○ EXTENSION CABLE SELECTION



▶ 1. Internal Vibrator 2. Optional Equipment 3. Extension Cable 4. Power Unit

Table 1

Unit: m

Model	Cable Size				
	3.5mm ²	5.5mm ²	8.0mm ²	14mm ²	22mm ²
ICV40	60	100	140	250	400
ICV50	30	60	80	150	200
ICV60	20	40	60	100	150

○ MAXIMUM NUMBER OF UNITS

Table 2

Model		ICV (Internal Concrete Vibrator)		
		Φ40	Φ50	Φ60
Inverter	HC111B (RC)	1	1	—
	HC113B	2	1	—
	HC116B	3	2	1
	HC230A/B	6 (5)	4 (3)	2
	H260B	13 (12)	8 (6)	5 (4)
Generator	HAG122MH	4	2	1
	HAG134MHA	7 (6)	4 (3)	3 (2)

NOTE

- The numbers in parentheses indicate the maximum number of units that can be used when all connected vibrators are operated simultaneously under continuous overload conditions.

○ ASSEMBLY AND DISASSEMBLY

- This product can be divided into three sections.

Follow the procedures below for disconnection and connection.



CAUTION

The vibrating head is heavy.

Take care not to drop it during disconnection.

Do not apply heat with a torch or similar tool during disconnection.

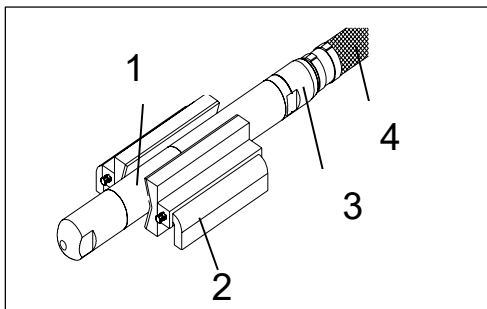
Internal resin and rubber parts may melt and become damaged.

■ ICV40VA/VF/VR

Disconnection

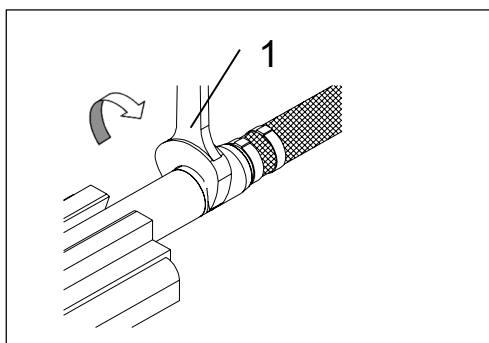
● Disconnection of the Vibrating Head Assembly and Hose

1. Clamp the vibrating head securely in the dedicated vise.



- ▶ 1. Vibrating Head
- 2. Dedicated Vise
- 3. Hose Joint
- 4. Hose

2. Fit a 36 mm wrench onto the hose joint and strike it with a hammer in the loosening direction to loosen the threaded connection.

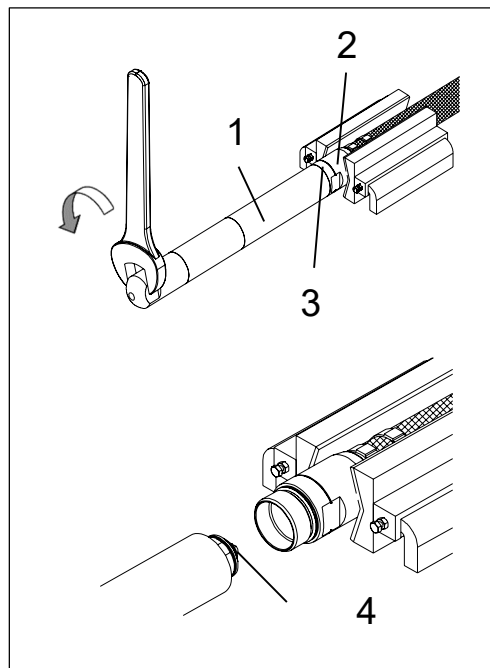


- ▶ 1. 36 mm Wrench

3. Once the threads are loosened, reposition the hose joint in the dedicated vise and rotate the vibrating head to disconnect it.

■ Required Wrench Size

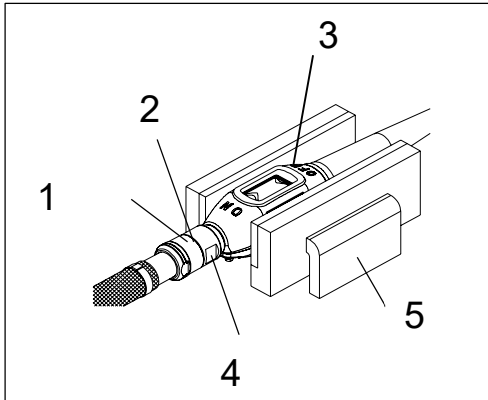
Model	VA	VF	VR
ICV40	36mm	38mm	36mm



- ▶ 1. Vibrating Head
- 2. Hose Joint
- 3. Separation Point
- 4. Male Connector

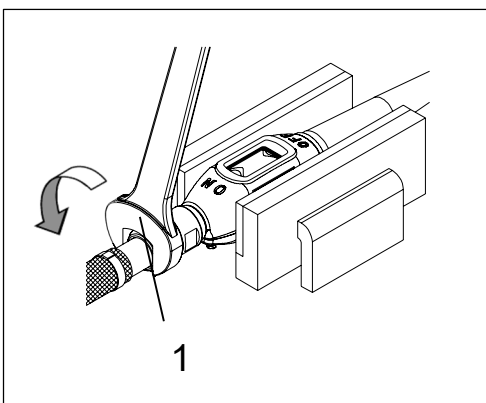
● Disconnecting the Hose and Switch Case (Also Applicable to ICV-LH Models)

1. Secure the switch case assembly firmly in a vise.



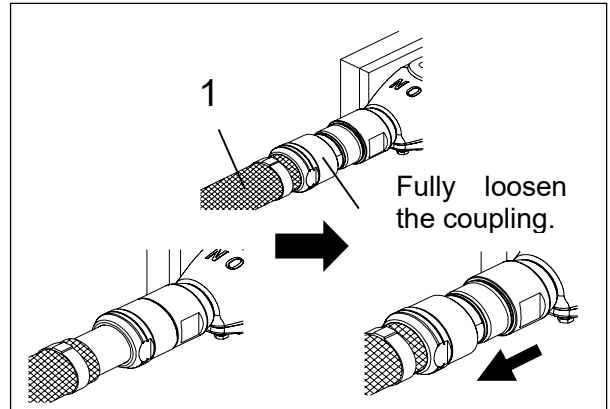
- ▶ 1. Coupling
- 2. Separation Point
- 3. Switch Case Assembly
- 4. Switch Case Joint
- 5. Vise

2. Fit a 41 mm wrench onto the coupling and strike it with a hammer in the loosening direction to loosen the threaded connection.



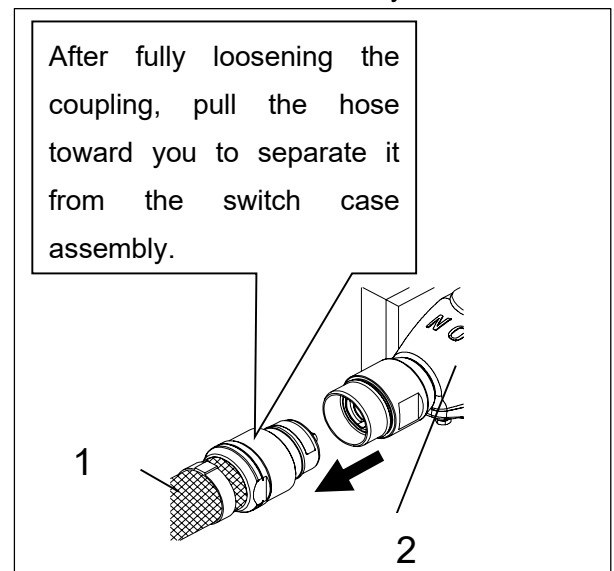
- ▶ 1. 41 mm Wrench

3. Fully loosen the coupling and slide it toward the hose.



- ▶ 1. Hose

4. Pull the hose toward you to separate it from the switch case assembly.



- ▶ 1. Hose
- 2. Switch Case Assembly



CAUTION

Before connecting, apply the specified adhesive to the threaded portion on the hose side.

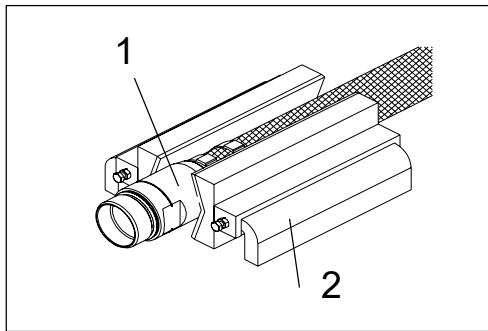
Specified Adhesive: LOCTITE 222

(Vibration- and Impact-Resistant Low-Strength Adhesive)

When reconnecting a vibrating head and hose that have been disassembled, completely remove any adhesive remaining on the threads before applying the specified adhesive.

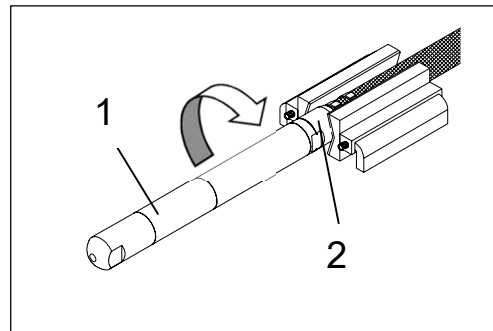
● Connecting the Vibrating Head Assembly and Hose

1. Securely clamp the hose joint in the dedicated vise.



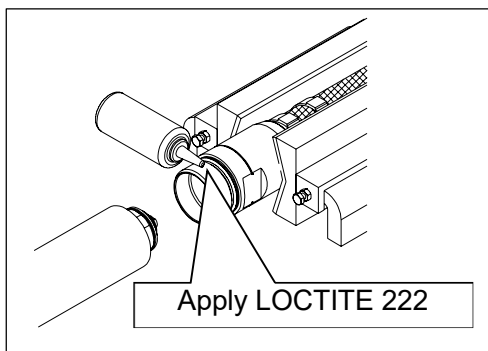
- ▶ 1. Hose Joint
- 2. Dedicated Vise

4. Reposition the vibrating head in the dedicated vise and clamp it securely.



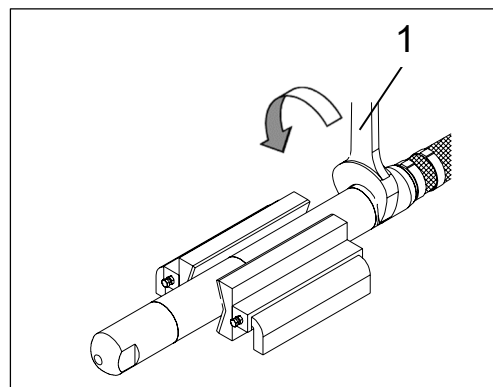
- ▶ 1. Vibrating Head
- 2. Hose Joint

2. Apply the adhesive to the threads of the hose joint, from the second or third thread from the end to approximately halfway along the threaded section.



3. Screw the vibrating head fully onto the hose joint.
Wipe off any excess adhesive.

5. Fit a 36 mm wrench onto the hose joint and strike it firmly 3 to 4 times in the tightening direction with a 1.5 lb hammer.



- ▶ 1. 36mm Wrench

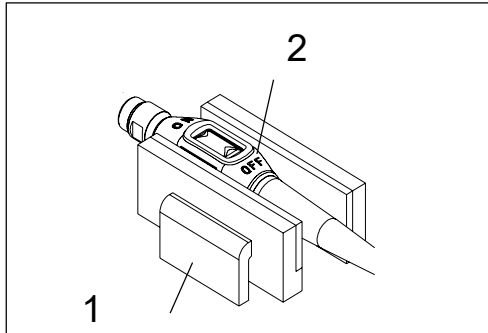
● Connecting the Hose and Switch Case (Also Applicable to ICV-LH Models)



CAUTION

Compatible models vary depending on the color of the switch case joint.

1. Secure the switch case assembly firmly in a vise.

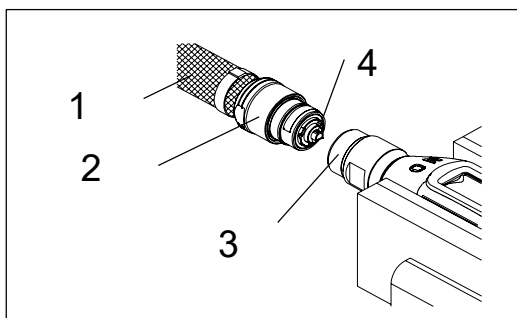


▶ 1. Vise

2. Switch Case Assembly

2. Insert the male connector of the hose into the switch case joint.

External Cord Size	Switch Case Joint Color	Applicable Models
2.0mm ²	Silver	ICV40
3.5mm ²	Black	ICV40



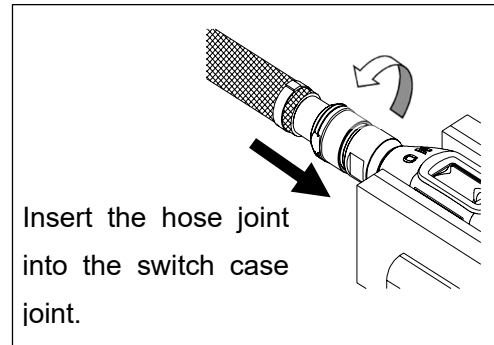
▶ 1. Hose

2. Coupling

3. Switch Case Joint

4. Male Connector

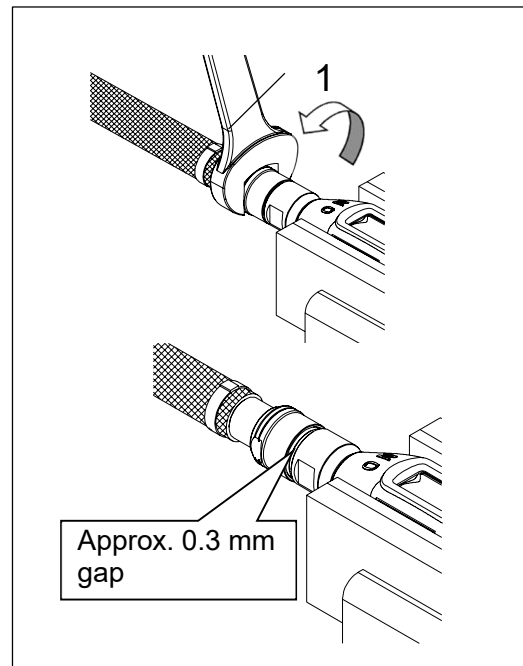
3. Turn the coupling in the tightening direction until it is fully tightened.



4. Fit a 41 mm wrench onto the coupling and strike it firmly 2 to 3 times in the tightening direction with a 1 lb hammer.

NOTE

- Do not strike it harder than necessary.
- When the coupling is fully tightened, a gap of approximately 0.3 mm may remain. This is normal.



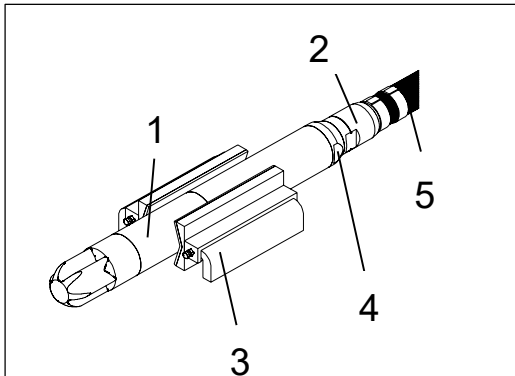
▶ 1. 41mm Wrench

■ ICV50VA/VF/VR, ICV60ZX/ZX-R

Disconnection

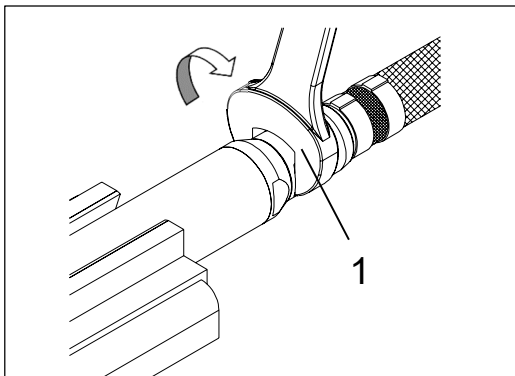
● Disconnection of the Vibrating Head Assembly and Hose

1. Clamp the vibrating head securely in the dedicated vise.



- ▶ 1. Vibrating Head
- 2. Hose Joint
- 3. Dedicated Vise
- 4. Motor Case Joint
- 5. Hose

2. Fit a 36 mm wrench onto the hose joint and strike it with a hammer in the loosening direction to loosen the threaded connection.



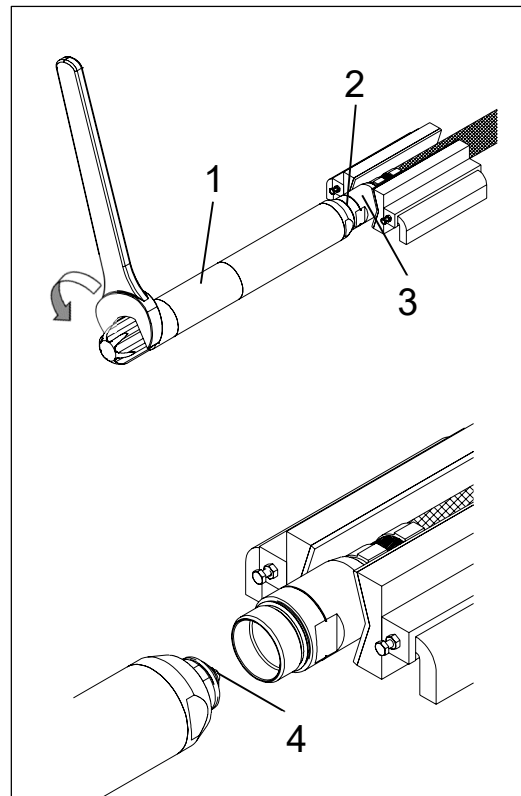
- ▶ 1. 36mm Wrench

3. Once the threads are loosened, reposition the hose joint in the dedicated vise and rotate the vibrating head to disconnect it.

■ Required Wrench Size

Model	VA	VF	VR
ICV50	46mm		

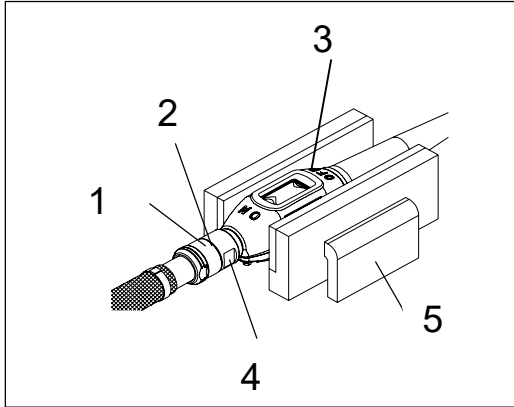
Model	ZX	ZX-R
ICV60	54mm	



- ▶ 1. Vibrating Head
- 2. Separation Point
- 3. Hose Joint
- 4. Male Connector

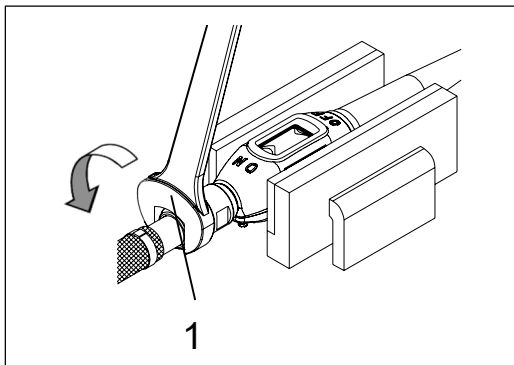
● Connecting the Hose and Switch Case (Also Applicable to ICV-LH Models)

1. Secure the switch case assembly firmly in a vise.



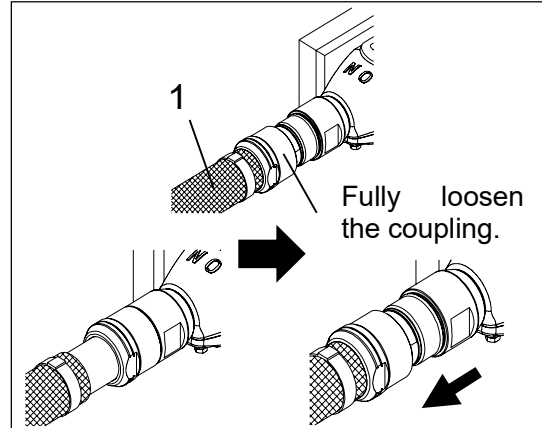
- ▶ 1. Coupling
- 2. Separation Point
- 3. Switch Case Assembly
- 4. Switch Case Joint
- 5. Vise

2. Fit a 41 mm wrench onto the coupling and strike it with a hammer in the loosening direction to loosen the threaded connection.



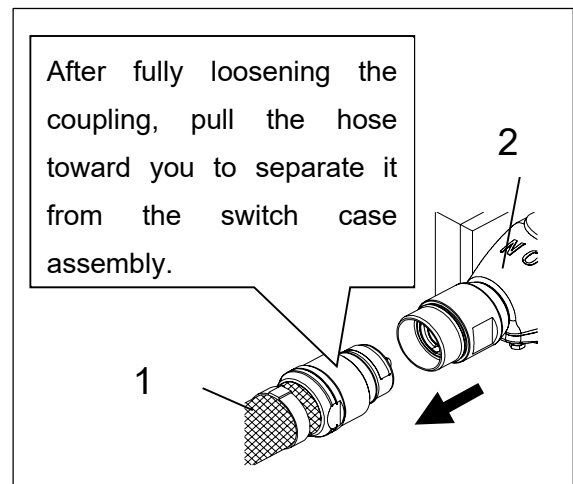
- ▶ 1. 41mm Wrench

3. Fully loosen the coupling and slide it toward the hose.



- ▶ 1. Hose

4. Pull the hose toward you to separate it from the switch case assembly.



- ▶ 1. Hose
- 2. Switch Case Assembly



CAUTION

Before connecting, apply the specified adhesive to the threaded portion on the hose side.

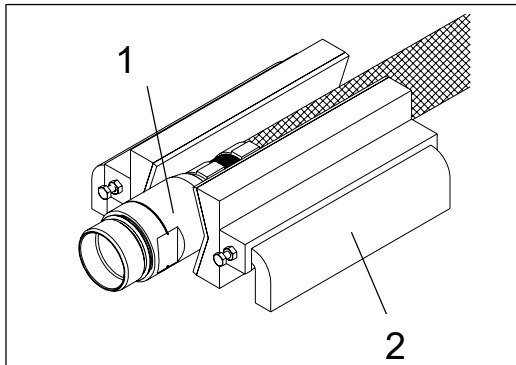
Specified Adhesive: LOCTITE 222

(Vibration- and Impact-Resistant Low-Strength Adhesive)

When reconnecting a vibrating head and hose that have been disassembled, completely remove any adhesive remaining on the threads before applying the specified adhesive.

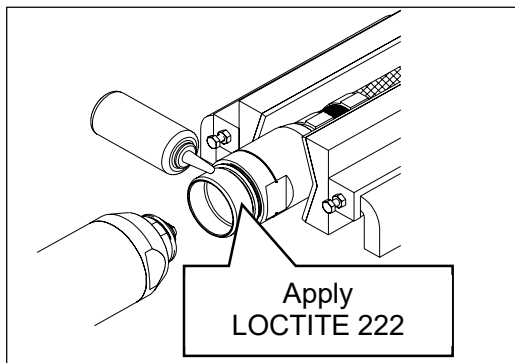
● Connecting the Vibrating Head Assembly and Hose

1. Securely clamp the hose joint in the dedicated vise.



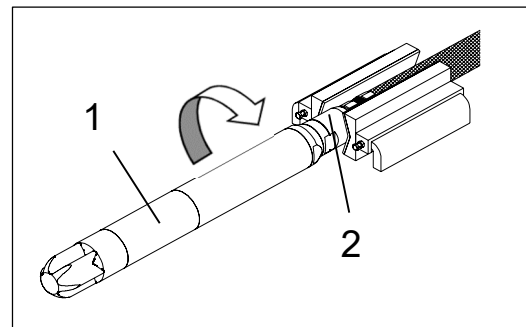
- ▶ 1. Hose Joint
- 2. Dedicated Vise

2. Apply the adhesive to the threads of the hose joint, from the second or third thread from the end to approximately halfway along the threaded section.



3. Screw the vibrating head fully onto the hose joint.

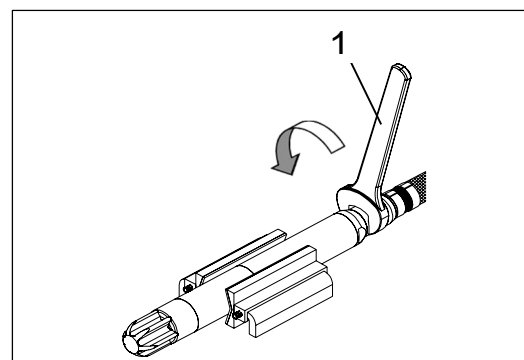
Wipe off any excess adhesive.



- ▶ 1. Vibrating Head
- 2. Hose Joint

3. Reposition the vibrator assembly in the dedicated vise and clamp it securely.

4. Fit a 36 mm wrench onto the hose joint and strike it firmly 3 to 4 times in the tightening direction with a 1.5 lb hammer.



- ▶ 1. 36mm Wrench

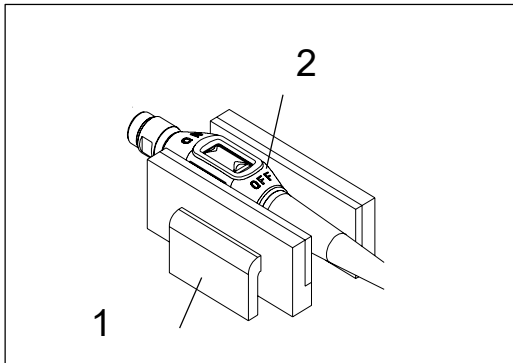
● Connecting the Hose and Switch Case (Also Applicable to ICV-LH Models)



CAUTION

Compatible models vary depending on the color of the switch case joint.

1. Secure the switch case assembly firmly in a vise.

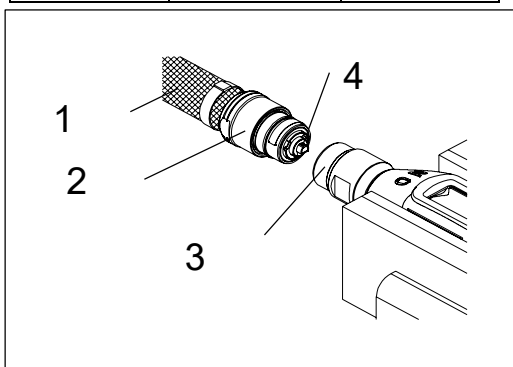


▶ 1. Vise

2. Switch Case Assembly

2. Insert the male connector of the hose into the switch case joint.

External Cord Size	Switch Case Joint Color	Applicable Models
2.0mm ²	Silver	ICV50
3.5mm ²	Black	ICV50/60



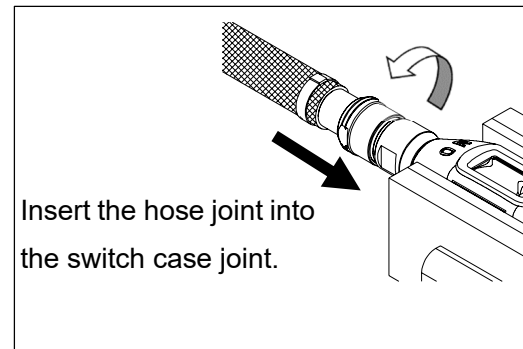
▶ 1. Hose

2. Coupling

3. Switch Case Joint

4. Male Connector

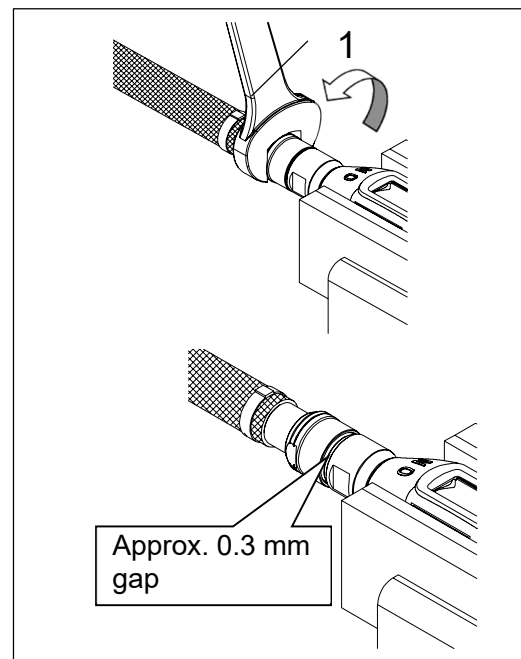
3. Turn the coupling in the tightening direction until it is fully tightened.



4. Fit a 41 mm wrench onto the coupling and strike it firmly 2 to 3 times in the tightening direction with a 1 lb hammer.

NOTE

- Do not strike it harder than necessary.
- When the coupling is fully tightened, a gap of approximately 0.3 mm may remain. This is normal.



▶ 1. 41mm Wrench

■ For ICV40/50VFLH

○ ICV-LH Multi Vibrators are shipped disassembled from the factory.

Connect them before use.



CAUTION

ICV-LH Multi Vibrators are long and heavy. Exercise extreme care when handling them.

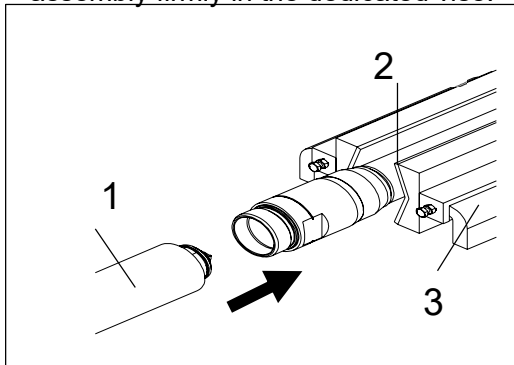
Connection and disconnection work must be performed by multiple people.

When performing connection and disconnection work, support the tip of the vibrating head to prevent the anti-vibration rubber joint from bending.

Connection

■ Connection of the Vibrating Head Assembly and the Pipe Hose Assembly

1. Secure the pipe section of the pipe hose assembly firmly in the dedicated vise.



▶ 1. Vibrating Head Assembly

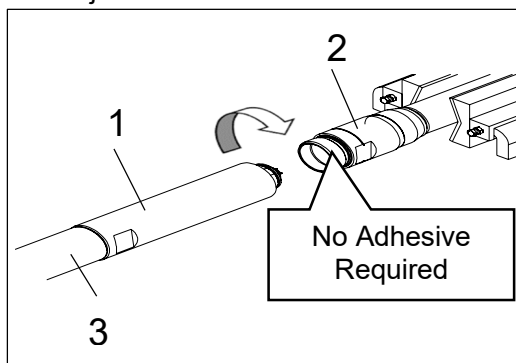
2. Pipe Section

3. Dedicated Vise

2. Screw the vibrating head assembly into the pipe joint until it is fully tightened.

NOTE

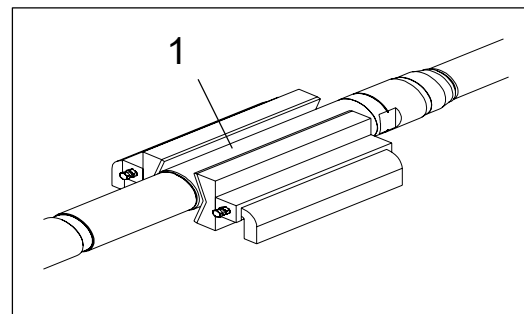
- Do not apply adhesive to the pipe joint.



▶ 1. Coupling joint 2. Pipe Joint

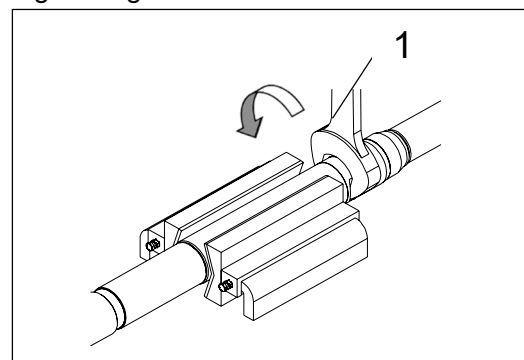
3. Anti-Vibration Joint

3. Clamp the coupling joint of the vibrating head assembly securely in the dedicated vise.



▶ 1. Coupling joint

4. Fit a 36 mm wrench onto the pipe joint and strike it firmly 3 to 4 times in the tightening direction with a 1.5 lb hammer.



▶ 1. 36mm Wrench

■ Connection of the Hose and Switch Case

The connection procedure is the same as that for the ICV-VA, VF, VR, ZX, and ZX-R models.

Disconnection

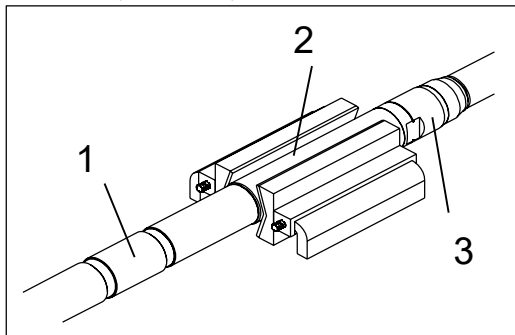


CAUTION

Since no adhesive is used, heating with a torch or similar tool is not required.

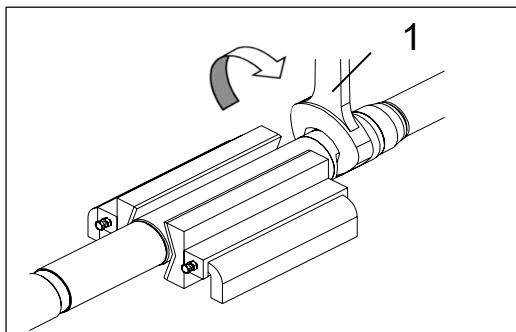
● Disconnection of the Vibrating Head Assembly and the Pipe Hose Assembly

1. Clamp the coupling of the vibrating head assembly securely in the dedicated vise.



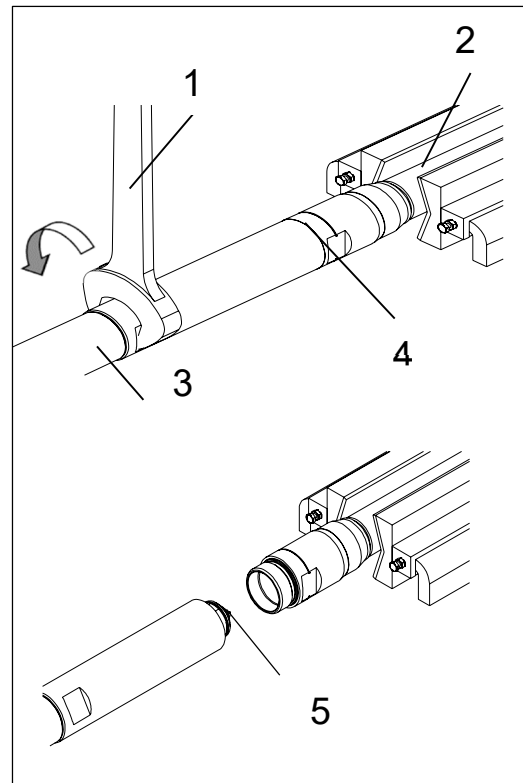
- ▶ 1. Vibrating Head Assembly
- 2. Coupling joint
- 3. Pipe Joint

2. Fit a 36 mm wrench onto the pipe joint and strike it with a 1.5 lb hammer in the loosening direction to loosen the threaded connection.



- ▶ 1. 36mm Wrench

3. Reposition the pipe section in the dedicated vise, fit a 36 mm wrench onto the coupling joint, and rotate it in the loosening direction to disconnect the vibrating head assembly from the pipe hose assembly.



- ▶ 1. 36mm Wrench
- 2. Pipe Section
- 3. Vibrating Head Assembly
- 4. Separation Point
- 5. Vibrating Head Male Connector

■ Disconnection of the Hose and Switch Case

The disconnection procedure is the same as that for the ICV-VA, VF, VR, ZX, and ZX-R models.

■ Connection and Disconnection of the Extension Pipe

- Connect the 1 m extension pipe (sold separately) between the vibrating head assembly and the pipe hose assembly.
- When using the 1 m extension pipe, do not exceed the maximum number of extension pipes specified in the table below.

Model	Maximum Number of Extension Pipes
ICV40VFLH	2
ICV50VFLH	1

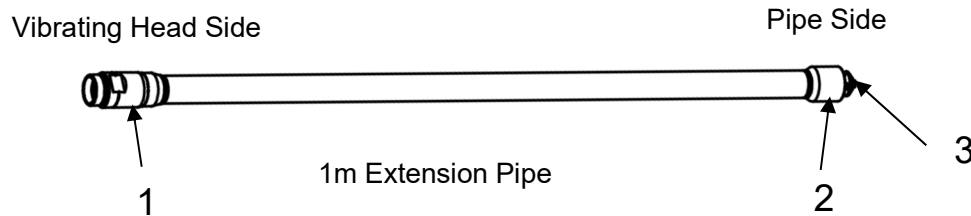
 CAUTION

Do not connect more than the specified number of extension pipes.

- Failure to do so may cause the pipe to bend.

The extension pipe has a vibrator side and a pipe hose side.

- Make sure the orientation is correct before connecting.



 1. Joint 2. Coupling 3. Male Connector

■ Connection

- To connect the vibrating head assembly to the extension pipe, refer to "Connection of the Vibrating Head Assembly and Pipe Hose Assembly. "

■ Disconnection

- To disconnect the vibrating head assembly from the extension pipe, refer to "Disconnection of the Vibrating Head Assembly and Pipe Hose Assembly. "

○ OPERATIONS

- Before operating the vibrator, review the work procedures and signaling methods in advance.

For safe and efficient operation, the task should be performed by two people: one operating the vibrating head and the other controlling the ON/OFF switch.

1. Check that all assemblies are securely connected.

NOTE

- Perform a continuity test and confirm that continuity is present when the switch is in the ON position.

2. Check that the vibrator switch is in the OFF position.
3. Start the power unit.

NOTE

- Refer to the power unit instruction manual for operating procedures.

4. Connect the vibrator plug to the outlet of the power unit.
5. Check that the latch on the outlet case cover is securely engaged with the plug and that the plug cannot be disconnected.
6. Hold the vibrator hose and suspend the vibrating head.
7. When ready, signal the person operating the switch and turn the vibrator ON.

NOTE

- Hold the vibrator hose at a point where vibration is minimal to reduce vibration transmitted to your hands.

8. Insert the vibrator vertically into the concrete at proper spacing within the effective compaction range.

NOTE

- As a guide, the effective compaction range is approximately 10 times the diameter of the vibrating head.

9. After insertion, wait until settlement stops and mortar rises uniformly with a glossy surface, then move to the next position.

NOTE

- Do not over-vibrate at one location; this may cause segregation of the concrete.
- If segregation occurs during placement, redistribute the coarse aggregate evenly before continuing.
- When placing concrete on a slope or embankment, start from the lower side to prevent mortar segregation.

10. Pull out the vibrator slowly to prevent leaving a hole in the concrete.
11. When concrete placement is complete, signal the person operating the switch and turn the vibrator OFF.
12. Unplug the power plug from the power unit.

NOTE

- Lift the outlet case cover to release the latch, then unplug the power plug.

13. Turn OFF the power unit.

○ CLEANING, TRANSPORT, AND STORAGE AFTER USE



CAUTION

Before cleaning, transporting, or storing the product, be sure to stop the power unit and disconnect the plug from the power outlet.

Accidental operation may result in injury.

1. Remove any concrete from the vibrating head, hose, switch case, and cable before it hardens.

2. Remove any concrete from the joint sections of each assembly before it hardens.

Hardened concrete may interfere with disassembly and reassembly.

3. Remove any dust or concrete from the power unit outlet and the vibrator plug.

4. Coil the hose and cable to a diameter of approximately 50 cm and secure them at two or three points.

For transport, place the coiled loop over your shoulder by passing your arm through the loop.

This allows both hands to remain free and makes carrying easier.

5. When storing the assembly, attach protective caps to the joint sections to prevent water or dust from entering.
6. Store the product away from direct sunlight to prevent deterioration of the hose and cable.

○ INSPECTION



CAUTION

Before inspection, stop the power unit and disconnect the plug from the power outlet.
Accidental operation may result in injury.

- Perform the following inspections and maintenance before using the product.
This helps prevent problems during operation.
- 1. Check that the vibrating head is free from excessive wear, cracks, or looseness.
- 2. Check that the hose is free from excessive wear, tears, or damage.
- 3. Check that all connectors and threaded sections are free from deformation or damage.
- 4. Check that the switch case is free from deformation, torn rubber parts, or other abnormalities.
- 5. Check that the cable is free from wear, cracks, or other damage.
- 6. Check that the plug terminals are free from dirt, rust, or other abnormalities.
- 7. Check that the switch can be turned ON and OFF properly.
- 8. Check that there are no abnormal noises during operation.
(A steady operating sound is normal.)
- 9. Check the electrical continuity of each assembly.
(Check each assembly individually.)
- 10. Check that the insulation resistance value is within the specified range.
(DC 500 V, 20 MΩ or more)
- 11. Check that the joint sections are free from looseness.

○ REPLACEMENT INTERVALS FOR CONSUMABLE PARTS



CAUTION

- Before replacing consumable parts, stop the power unit and disconnect the plug from the power outlet.
Accidental operation may result in injury.

○ Refer to the following table when replacing consumable parts.

Consumable Parts	Visual and Audible Replacement Criteria	Replacement Interval (Guideline)
Vibrating Head	Wear condition (Visual)	200 –300 hours
Bearing	Operating sound (Audible)	300 –400 hours
Hose	Wear or damage (Visual)	Upon detection

NOTE

- Replacement intervals are provided as general guidelines only.
- Replace parts earlier depending on operating conditions.

○ TROUBLESHOOTING

Condition	Symptom	Cause	Solution
Vibrates	Abnormal noise (e.g., metallic noise)	Bearing failure (Rough rotation or wear)	Replace the bearing
	Weak vibration	Stator failure	Replace the vibrator assembly
Does not vibrate	Humming noise	Open phase	Repair
		Poor contact at the connector	Repair
		Stator failure	Replace the vibrator assembly
		Bearing failure (seizure / damage)	Replace the bearing
	No sound	Burned stator	Replace the vibrator assembly
		Cable breakage	Repair or replace the cable
		Poor contact at the joint connector section	Replace the ring connector assembly
	Power supply failure	Ground fault	Inspection and Repair

○ SPECIFICATIONS AND DIMENSIONS

■ Specifications <Product>

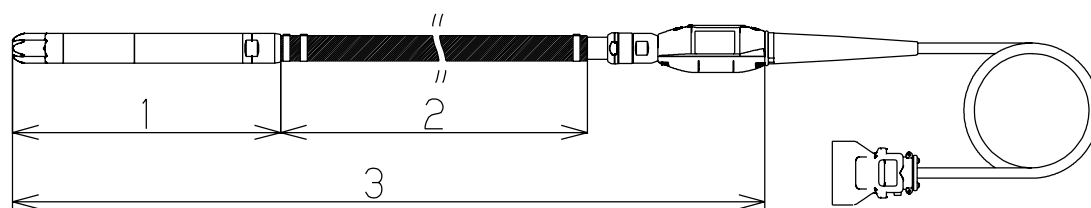
Model	Output (W)	Voltage (V)	Current (A)	Cycle (Hz)	Frequency (Hz)	Overall Length (mm)	Vibrating Head Diameter × Length (mm)	External Hose Length Diameter × Length (mm)	Mass (kg)				
ICV40VA 6M	250	48	5.5	200 / 240	200 / 240	6,650	43×396	36×6,000	14.2				
ICV40VF 6M						6,641	43×386	36×6,000	14.2				
ICV40VR 6M						6,659	43×405	36×6,000	14.3				
ICV40VFLH 4M						5,936	43×360	33×4,000	16.1				
ICV50VA 6M	400		9.0			200 / 240	200 / 240	6,696	52×442	36×6,000	16.2		
ICV50VF 6M								6,719	52×465	36×6,000	16.2		
ICV50VR 6M								6,724	52×470	36×6,000	16.3		
ICV50VFLH 4M								5,936	52×423	33×4,000	18.4		
ICV60ZX 6M	500		13.0					200 / 240	200 / 240	6,727	61×472	36×6,000	18.9
ICV60ZX-R 6M										6,763	61×509	36×6,000	19.2

NOTE

- Mass includes the external cord (15 m).
- Mass of ICV40 and ICV50 includes the silver switch case joint.

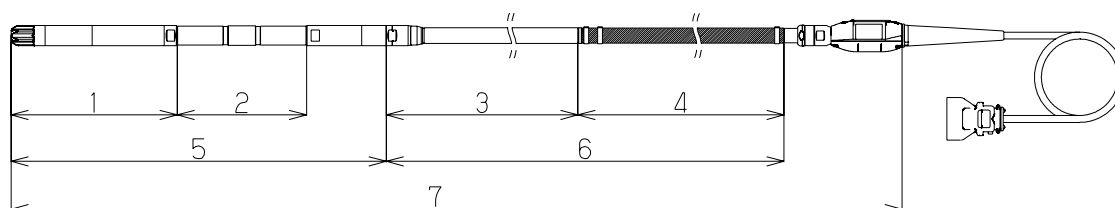
■ Dimensions

ICV-VA/VF/VR/ZX/ZX-R



1. Vibrating Head 2. Hose Length 3. Overall Length

ICV-VFLH



1. Vibrating Head 2. Anti-Vibration Joint 3. Pipe Length: 868 mm 4. Hose Length
5. Vibrator Assembly 6. Pipe Hose Assembly 7. Overall Length

■ Vibration Total Value (ahv) [m/s²]

Model	Vibration Total Value (ahv) [m/s ²]	Model	Vibration Total Value (ahv) [m/s ²]
ICV40VA	3.1	ICV60ZX	3.8
ICV40VF	3.8	ICV60ZX-R	< 2.5
ICV40VR	2.9	ICV40VFLH	< 2.5
ICV50VA	4.4	ICV50VFLH	< 2.5
ICV50VF	3.6		
ICV50VR	3.4		

NOTE

- The vibration value is the vibration total value measured in accordance with ISO 5349-1 and ISO 5349-2.

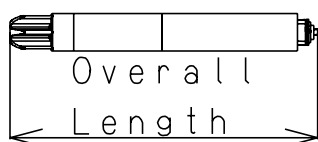
<ICV Assembly>

Model	Overall Length (mm)	Mass (kg)	Model	Overall Length (mm)	Mass (kg)
ICV Vibrating Head Assembly 40VA	364	2.71	ICV Hose Assembly 1.5 m	1,644	2.62
ICV Vibrating Head Assembly 40VF	355	2.67	ICV Hose Assembly 4 m	4,144	4.92
ICV Vibrating Head Assembly 40VR	373	2.77	ICV Hose Assembly 5 m	5,144	5.85
ICV Vibrating Head Assembly 50VA	410	4.71	ICV Hose Assembly 6 m	6,144	6.77
ICV Vibrating Head Assembly 50VF	433	4.71	ICV Hose Assembly 8 m	8,144	8.61
ICV Vibrating Head Assembly 50VR	438	4.78	ICV External Switch Cord Assembly	—	4.72
ICV Vibrating Head Assembly 60ZX	441	6.28	ICV External Switch Cord Assembly CT3.5	—	5.82
ICV Vibrating Head Assembly 60ZX-R	478	6.56			

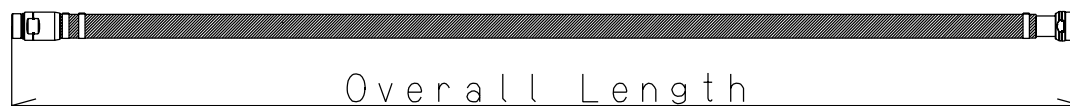
NOTE

- Mass excluding protective cap.

Vibrating Head Assembly



Hose Assembly



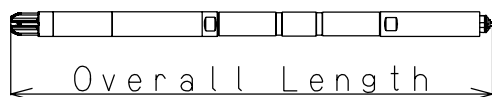
<ICV-LH Assembly>

Model	Overall Length (mm)	Mass (kg)	Model	Overall Length (mm)	Mass (kg)
ICV Vibrating Head Assembly 40VFLH	836	5.6	ICV Pipe Hose Assembly 4 m LH	4,959	5.8
ICV Vibrating Head Assembly 50VFLH	836	7.9	ICV Pipe Hose Assembly 6 m LH	6,959	7.2
—	—	—	ICV Extension Pipe 1 m LH	1,044	2.5

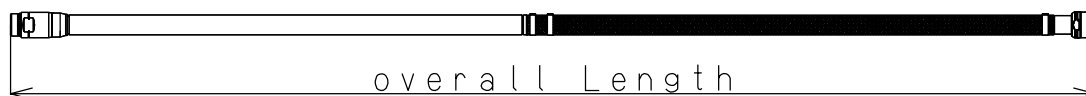
NOTE

- Mass excluding protective cap.

Vibrating Head Assembly



Pipe Hose Assembly



Extension Pipe



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