XINGYI Machine USA

MANUAL

IVC-45L PLUS

DUST COLLECTOR

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1. Introduction

1.1 Summary

Together with XINGYI's floor grinders, XINGYI's dust collector is designed to create as dust-free as possible in conjunction with the dry grinding of stone and concrete floors. The dust sucked up is collected in, for example, a bag system. Read the manual carefully so that you know how to use and maintain the dust collector before using it. Contact your local retailer for further information. For contact information, see Contact Us at www.xingyimachineusa.com

1.2 Liability

We make every effort to make this manual as complete and accurate as possible, and we are not responsible for any errors or loss of information. XINGYI reserves the right to change the instructions in this manual without prior notice.

1.3 Warranty

This warranty only covers manufacturing defects. XINGYI bears no responsibility for damage that arises or occurs during transportation, unpacking or use. In no instance and under no circumstances shall the manufacturer be held responsible for damage and defects caused by incorrect use, corrosion or use outside the prescribed specifications. The manufacturer is not responsible for indirect damage or costs under any circumstances. For complete information on the manufacturer's warranty period, see XINGYI MACHINE USA's current warranty terms. Local distributors may have special warranty terms specified in their terms of sale, delivery and warranty. If there is any uncertainty regarding warranty terms, please contact your dealer.

1.4 Safety

This manual indicates the important information / rules that must be observed when using XINGYI's machine.

Operation Safety

Users of machines from XINGYI have the ultimate responsibility for ensuring that everybody who works with or in the vicinity of the equipment follows all applicable safety rules. Safety measures must meet the requirements that apply to this type of equipment. Apart from the standard rules that apply in the workplace, the recommendations in this manual shall also be observed.

All work must be done by trained personnel. Users of machines from XINGYI must have read through the dedicated manual for the machine. Incorrect use of the equipment could result in situations that could cause harm to the operator, the surroundings, or the machine.

Machines from XINGYI may only be used in the way recommended by XINGYI. Machines from XINGYI may only be used for commercial purposes.

Anyone using the machine shall know about:

- its functions
- location of emergency stops
- the safety rules for the work

General precautions:

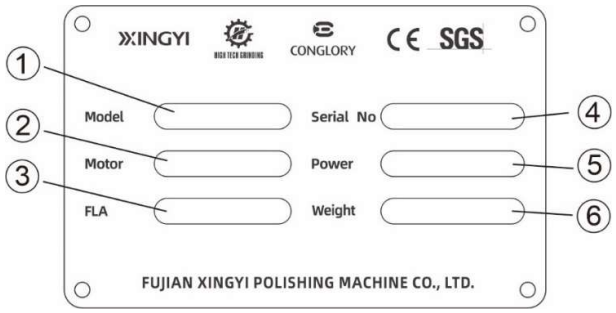
- Check the machine is connected to a grounded power supply.
- Work on live parts shall only be performed by qualified personnel.
- Suitable fire extinguishers should be clearly marked and close to hand.
- Maintenance of the equipment must not be performed during operation.

Electrical Safety

- Work on live parts shall only be performed by qualified personnel.
- The cables and connectors shall meet the machine's specifications.
- The machine is equipped with an overload protector. Once the overload protector has tripped, power off and then power in to restart it.
- Check the cords before powering in. Any broken cords may cause a serious accident.
- The wires should be away from the high temperature surfaces.
- Keep the motor, electrical box, inverter away from water.

1.5 Machine name plate

The machine name plate provides the following information. The model and serial number must be specified when ordering spare parts for the machine.



1. Model name	2. Rated power
3. Full load amps	4. Serial number
5. Rated voltage, phase, frequency	6. Weight

2. Machine Description

2.1 General information

IVC-45L is a HEPA dust collector, which features a two-stage filtering system including a standard of quality and safety. IVC-45L complies with OSHA regulations for concrete dust handling, with its manual shaker cleaning system, IVC-45L cleans the filter in an easy and effective way and achieves high production capacity. The lift-able design for the two dustbins makes it easy for work and transport. The integrated control panel highlights the working parameters. IVC-45L provides a 50 Amp electric outlet for a grinder for convenience.

IVC-45L Plus is equipped with an inverter based on IVC-45L. With the inverter, soft-start capability reduces the mechanical stress on motors and fans to extend equipment life and reduce noise levels. Traditional dust collectors run at a fixed speed, often at full capacity even when it's not needed. With inverter, you can adjust CMF by the potentiometer on the panel based on demand, reducing energy consumption and lowering electricity costs. It also allows for precise control of suction power, adapts to different dust loads, optimize performance, and reduces excessive wear on filters by avoiding over-suction.

2.2 Standard delivery

The machine will go with the following items. If anything is lost, please contact your dealer.

- a dust bag on each dust bin
- a female power connector and a male power connector, each (a male connector and a female connector on the machine)
- 3” 50 feet cord
- A vacuum wand kit

2.3 Machine overview

1. 2”/3” inlet unit
2. Cyclone pre-separator
3. Lifting system
4. Lifting pin
5. Longo Pac unit
6. Rear caster, lockable
7. Filter purge handle
8. Filter chamber
9. Ergonomic handle
10. Airflow valve
11. Control pane
12. Longo Pac unit
13. Power-in female connector
14. Power-out male connector
15. Electric cabinet
16. Front wheel
17. HEPA H13 filter
18. 3” dust house
19. A vacuum wand kit

2.4 Control panel

1. **on-off switch**

2. **Relative vacuum gauge** When the reading is increasing, it might indicate that excessive dust has accumulated on the filter. In this case, shake filter purge handle multiple times to clean the filter until the reading goes down.

3. **Hour meter**

4. **Alarm buzzer** When the filter element is seriously blocked, alarm sounds

5. **Indicator light** it is on while working

6. **Potentiometer** Adjust CFM based on demand, reducing energy consumption and lowering electricity costs.

2.5 Cyclone pre-separator system

Its principle is based on the rotational motion generated by the tangential introduction of airflow. This motion creates a centrifugal force that separates solid particles or liquid droplets with greater inertia by pushing them toward the outer wall, ensuring high separation efficiency.

The dust hose from a grinder connects to the cyclone pre-separator via a quick connector. As dust from grinding enters the pre-separator, the cyclone airflow effectively separates it. Larger dust particles settle and accumulate at the bottom of the cyclone bin, while finer particles continue flowing into the secondary filtration system.

The bottom of the cyclone bin features a locking rotary mechanism, with a dust collection bag attached below. Once the accumulated dust reaches a certain level, gravity triggers the unlocking of the rotary mechanism, allowing the dust to fall into the collection bag for easy disposal.

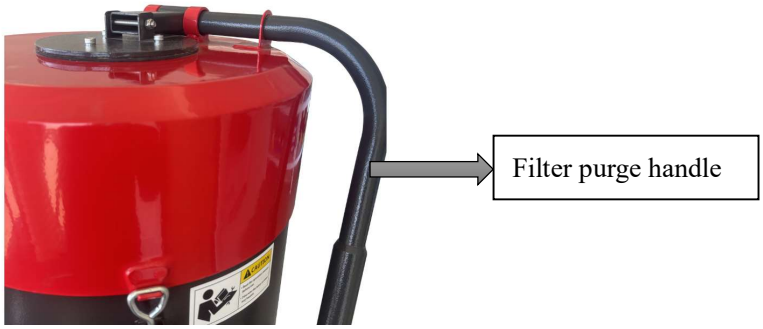
2.6 Filtering system

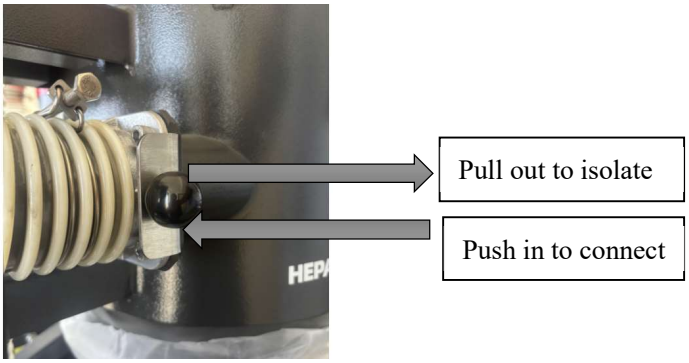
The filtering system utilizes a HEPA H13 cone filter, which plays a vital role in capturing fine dust particles. As air passes through the cyclone pre-separator and enters the cone filter, fine particles are either trapped on the filter surface or, due to gravity, fall into the Longo Pac unit attached on dust bin.

Over time, dust accumulation on the filter element can reduce filtration efficiency. To maintain optimal performance, manual shake cleaning is required.

Manual Shake Cleaning Process:

1) Isolate the filtering system by pulling out the airflow valve.
2) Monitor the pressure gauge—when the reading reaches 10, activate the filter purge handle by shaking it 3-5 times.
3) Close the airflow valve and observe the gauge.
4) When the gauge reading rises to 10 again, repeat the shaking process.
5) Repeat this cycle several times to ensure the filter is effectively cleaned and filtration efficiency is restored.
6) Push the airflow valve in to connect two bins.

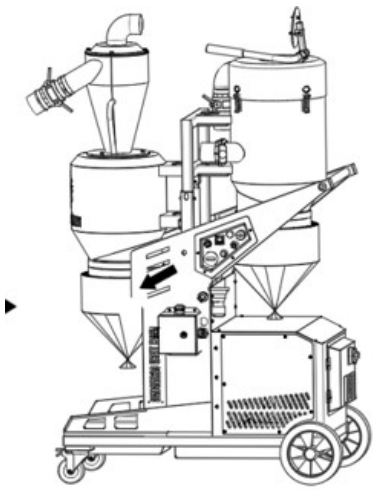




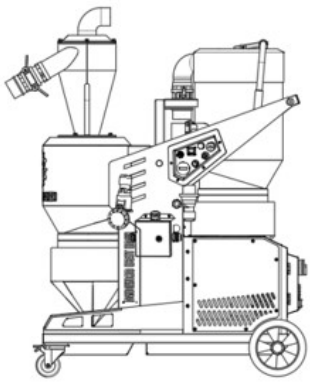
2.7 Lifting system

Operating position Pull out the lifting pin on the lifting frame and push the filter cartridge upward until the pin locks into the lowest positioning hole on the frame.

Transport position When transporting the machine, pull out the lifting pin, push the filter cartridge downward, and lock the pin into the highest positioning hole on the lifting frame.

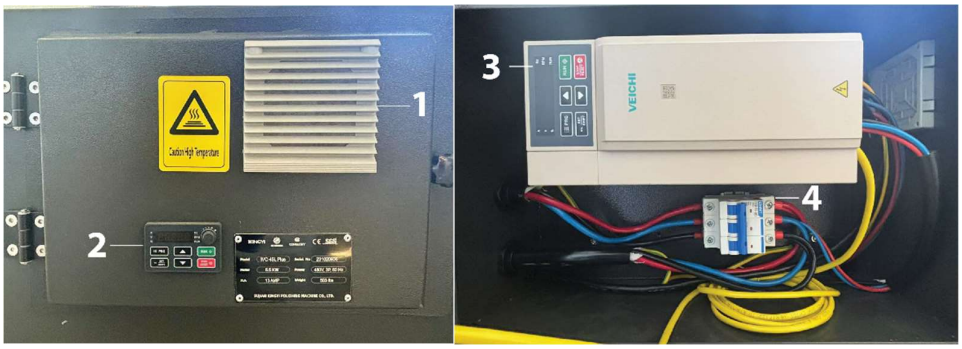


Operating position



Transport position

2.8 Electric cabinet



1. Exhaust vent

2. Monitor of inverter

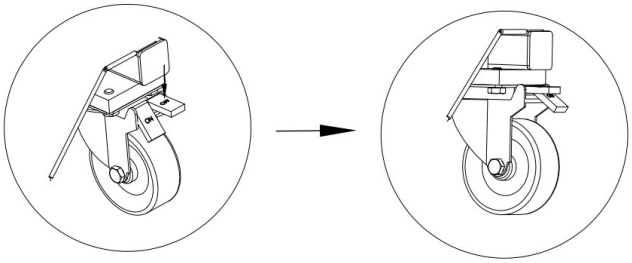
3. Inverter

4. Overload protection: When the current exceeds the set value, the system will enter overload protection mode. Push the switch up to re-connect.

2.9 Rear wheel Locking and Unlocking

To lock the rear wheels, press the brake pedal to the "ON" position with your foot. This will activate the braking function.

To unlock the rear wheels, press the brake pedal to the "OFF" position with your foot to release the lock.



3. Transport & Storage

3.1 Transport & lifting

Always ensure that the dust collector is emptied of dust and other particles before it is transported, lifted or hoisted.

When moving with a forklift, always place the forks under the protection bar. Always make sure that the dust collector is securely anchored to its surroundings and that the two front casters are in a locked position during transport to prevent it from moving during transport.

When lifting the machine, use 2 approved lifting straps at the lifting points on the machine.

3.2 Storage

The dust collector should be stored in a heated, dry area when not in use. Otherwise, it may be damaged by condensation and cold. The dust collector's dimensions and weight are given in chapter technical data.

4. Operation

4.1 Hose connection

XINGYI provides a 3-inch quick connector and a 50-foot, 3-inch dust hose, ensuring a fast, easy, and secure connection between the grinding machine and the dust collector.

4.2 Operating position

Pull out the lifting pin on the lifting frame and push the filter cartridge upward until the pin locks into the lowest positioning hole on the frame.

4.3 Power connection, Starts or stops

1. Connect the power supply: Plug the power-in female connector into the power source and the power-out male connector into the grinder. Ensure the voltage matches your machine's requirements.

2. Start the dust collector: Turn the on-off switch to the "ON" position.

3. Turn on the grinder: Once the dust collector is running, power on the grinder.

4. Shut down after use: When the job is complete, turn off the dust collector before disconnecting the equipment.

4.4 Manual shaker cleaning

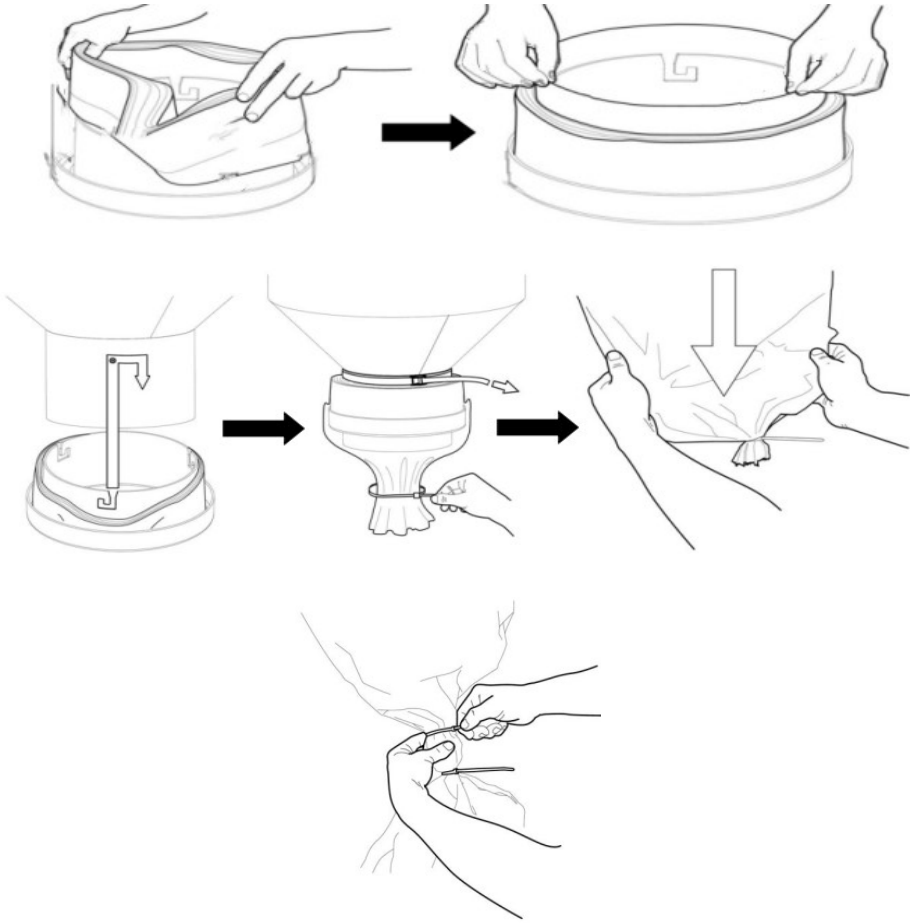
1) Isolate the filtering system by pulling out the airflow valve to build up greater negative pressure.
2) Monitor the pressure gauge—when the reading reaches 10, activate the filter purge handle by shaking it 3-5 times.
3) Close the airflow valve and observe the gauge.
4) When the gauge reading rises to 10 again, repeat the shaking process.
5) Repeat this cycle several times to ensure the filter is effectively cleaned and filtration efficiency is restored.
6) Push the airflow valve in to connect two bins.

It is recommended to clean the filter every 30 mins depending on the working conditions.

4.5 Replacing the dust bag

The dust extractor is equipped with a bag system that makes it possible to minimize dust exposure when changing dust bags. This bag system can be ordered. Please contact your XINGYI retailer.

Place the bags in the holder and install them in the container. Pull up the inner part of the bag and tighten with the strap. Seal the lower part with a tie. Pull out a new length of empty bag down to the collection plate.



When the bag is full, pull out the bag and install two ties up the full bag and cut off between the two ties.

Typically, dust needs to be emptied from the cyclone bin 5-8 times before the dust bag in the filter bin requires cleaning.

5. Maintenance

We recommend regular inspection of the dust collector.

5.1 Cleaning the dust collector

- Vacuum the dust collector.
- Perform filter cleaning and empty the machine of dust.
- Then clean the dust collector after use with a damp sponge or cloth.
- Only use water.

5.2 Daily maintenance

- Check that the dust bags are intact.
- Check that the inlet valve is not damaged.

- Check the filter status.
- Check that accessories such as hoses that connect to the dust collector are intact and do not have any cracks.
- In addition, make sure that the air flow is unobstructed and that there are no blockages.

5.3 Weekly maintenance

- Check for leaks.
- Turn the CFM potentiometer all the way up and make sure the reading go up to 18.
- Inspect sealing rubber strips and surfaces for cracks or damage.
- Check for unusual dust build up.
- Also check for cracks or other irregularities.
- Check filter cleaning valve.
- Check side duct fan
- If necessary, vacuum up any dust on visible parts of the side duct fan. Dust around the fan can cause overheating.
- Also listen to the noise from the side duct fan.

6. Filter cleaning or replacement

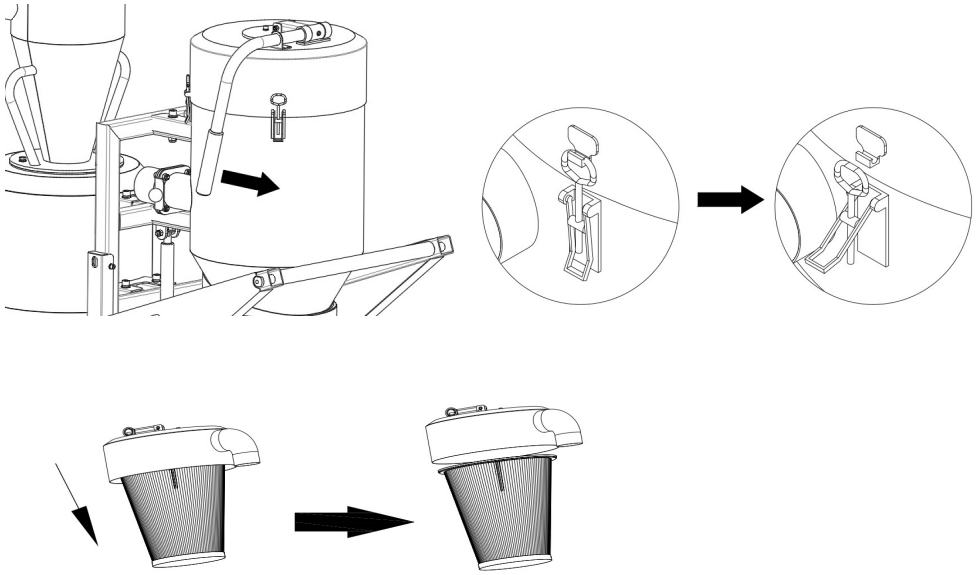
To clean or replace the filter, remove the lock ring, pull the whole cone over to reduce contact with dust particles. Loosen the three locks on the filter cover and turn it counterclockwise to remove the cover. Check the inside of the coarse filter. In the event of dust, replace the filter. Use a bag here to protect against dust particles.

6.1 Safety First

- Turn off the dust collector and disconnect the power.
- Wear appropriate personal protective equipment (PPE), such as gloves, a dust mask, and safety goggles.

6.2 Remove the Filter

- Remove the lock ring.
- Pull the whole cone over to reduce contact with dust particles.
- Loosen the three locks on the filter cover and turn it counterclockwise to remove the cover.
- Carefully remove the filter cone without shaking it excessively to minimize dust dispersion.



6.3 Cleaning Methods

A. Dry Cleaning (For Standard Filters)

- Compressed Air Blow:
  Use a compressed air gun at low pressure (30-40 PSI) to blow dust off from the inside out.
  Do this in a well-ventilated area or outdoors to prevent dust accumulation.
- Vacuuming:
  Use an industrial vacuum cleaner with a HEPA filter to remove surface dust.

B. Wet Cleaning (For Washable Filters Only)

- Rinse the filter with low-pressure water (avoid high pressure, which can damage the filter).
- Use mild detergent if needed but avoid harsh chemicals.
- Let the filter fully dry before reinstalling (preferably for 24 hours in a well-ventilated area).

6.4 Inspect and Reinstall

- Check the filter for damage (tears, holes, or wear). If damaged, replace it.
- Reinstall the filter securely and close the access panel.
- Restore power and test the dust collector.

6.5 Maintenance Tips

- Clean the filter regularly, at least once every two weeks, if used daily.
- Monitor pressure drop across the filter—excessive pressure indicates clogging.
- Consider replacing the filter when cleaning no longer restores airflow efficiency.

7. Troubleshooting

Problem	Problem cause	Action
Machine Does Not Start	The machine is not receiving or outputting power.	Connect the power cable to the machine and start it.
	Motor protection has tripped.	Follow the overload protection steps in section 2.4
		Check the circuit board fuse.
Vacuum Stops After Startup	Relay overload protection activated.	Follow the overload protection steps in section 2.4
Machine Makes a Low Buzzing Sound When Switched On	Phase loss. Power off the machine to avoid motor damage.	Check the power input. Or contact a licensed electrician for diagnosis.
	Dust accumulation in the motor impeller or motor burnout.	contact a licensed electrician for diagnosis. Replace the motor.
Machine Blows Air Instead of Suction	Phase relay failure.	1. Swap the L1 and L3 wires on the power plug. 2. Replace the phase relay if needed.
Poor Suction Performance	Poorly sealed	Inspect the hose, canister, and filter compartments for visible gaps, cracks, or misalignments. Seal them with duct tape temporarily or replace the damaged parts.
	A clogged filter	Wash or replace the filter based on manufacturer recommendations (see 6.).
	Improper assembly	1. If parts of the vacuum (dustbin, filter, hose, etc.) don't fit tightly, air may escape. Reassemble all components and ensure they snap or lock in place correctly.

		2. If the hose is loose where it connects to the vacuum body, try repositioning it.
Dust Emission	Clogged or Dirty Filters	Clean or replace the filter (HEPA, foam, or pre-motor filter) based on the manufacturer's instructions.
	Full or Overfilled Dust Bin/Bag	When the dustbin or bag is full, excess debris may be pushed out through exhaust vents. Empty the dustbin or replace the bag before it reaches maximum capacity.
	Poor Sealing or Damaged Gaskets	Inspect the rubber seals around the dustbin, hose, and filter compartments. Replace any worn-out seals.
	Leaky or Cracked Hose	A damaged hose can let dust escape before reaching the filter or bag. Check for holes or cracks in the hose. If found, use duct tape for a temporary fix or replace the hose.
	Incorrectly Installed or Missing Filter	If the filter is not properly installed or missing, dust won't be trapped effectively. Ensure the filter is correctly placed and locked in according to the user manual.

8. Technical Data

IVC-45L PLUS		
Power	5.5 KW /7.5 HP	
Rated Voltage（V）	3P 220V	3P 480V
Rated current（Amp）	26	13
Input frequency	50HZ/60HZ	
The maximum suction	30 Kpa	
CFM	353	
Hose	3” / 80 mm	
Recommended minimum cable	6mm² /AWG 10	4mm² /AWG 12
Filter	2.8 m² >99.99%@0.3μm, HEPA H-13	
Weight	494 lb.	
Noise	80 db.	
Dimensions(L-W-H)	51 X 28 X 63 in	

9. Dimensions