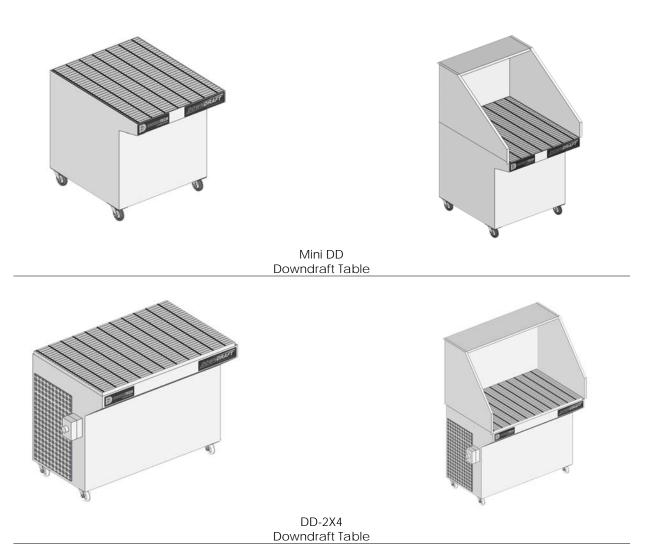


Operation & Maintenance Manual Portable Downdraft Tables



READ AND SAVE THESE INSTRUCTIONS

Visit our Website for more information on this product WWW.diversitech.ca

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SECTION 1 – SAFETY PRECAUTIONS OF FUME & DUST EXTRACTION/COLLECTION

$\overline{\Lambda}$	READ BEFORE	This manual contains specific cautionary statements related to worker safety. To protect yourself and others, read this manual thoroughly and follow as directed before use. Not all hazards of fume & dust control are listed in this manual, and no
	USE	hazards related to welding, cutting, grinding, painting, deburring or other applications are listed. Consult a qualified safety professional
$\underline{\mathbb{V}}$	DO NOT USE	 Do not use this equipment: To extract smoke or fumes above 180°F / 82°C. To extract combustible dusts, liquid vapors, aggressive fumes such as acids. If the power cord has been damaged or ground (third prong) removed. Without a filter.

1.1 Symbols

This manual uses several symbols to highlight specific hazards. Be familiar with these symbols and when you see them in this manual, read adjoining	\bigwedge			
warning text to avoid the hazard.	WARNING!	ELECTRIC	MOVING	HOT
	DANGER!	SHOCK	PARTS	PARTS

1.2 User Responsibility

- Improper use can be hazardous.
- It is your responsibility to follow all applicable ANSI, OSHA, UL, CSA, National & Local Fire Codes, and other regulatory guidelines covering the safe use of equipment that extracts fumes, collects dusts, and exhausts filtered air either indoors or outdoors.
- Before use, inspect the unit for damage and verify it is working properly.
- Only qualified persons should install, operate, maintain, or repair this unit.
- Do not modify or repair the unit with parts or accessories not supplied by the manufacturer.
- Consult filter manufacturer's instructions for filter use and reuse, including instructions for cleaning.

1.2 Fume Extraction Hazards

- Breathing smoke, fumes, or dusts produced in applications such as welding, cutting, grinding, painting, deburring are hazardous to user's health. Proper ventilation or use of well maintained fume extraction and/or dust collection equipment helps the user avoid these hazards.
- Breathable contaminants may not be visible or have an odor.
- Stop operation and leave the area immediately if 1) breathing becomes difficult, 2) experience dizziness, 3) impaired vision, 4) or eye/nose/mouth irritation.

1.3 Dust Collection Hazards

- Dusts from many welding, cutting, grinding, painting, or deburring applications can be combustible.
- Do not use or install equipment where any potential for combustible fumes or dusts are present, until a qualified person has indicated it is safe to do so.
- Never use or install equipment where the potential for combustible fumes or dusts are present without a fire/explosion protection system.
- If you are unsure if the product you purchased is correct for your application, call Diversi-Tech at 1-800-361-3733.

SECTION 2 – SPECIFICATIONS

2.1 Model Configu	urations & Description		
	Models		Fetures
MINI-DD			 Open 38" x 30" worksurface Multi-stage spark arrestence baffling Industrial swivel-casters
DD-2X4			 Open 48" x 32" worksurface Reverse-pulse filter self-cleaning system Multi-stage spark arrestence baffling Industrial swivel-casters
	Configurations	Application	Includes
WGD DD-2X4 MINI-DD		Welding, Grinding & Deburring Package	Side & Back WallsMetal Mesh PrefilterGrounding Lug
CAW DD-2X4		Clean Air Workstation	 48" tall Side & Back Walls Dust & vapor proof Light Kit Backdraft Hood
SPR DD-2X4 MINI-DD		Spray Painting Package	 Side & Back Walls Paint arrestor prefilter w/10 spare pads Activated carbon in a 12"x12"x24" V-bank module
PLA DD-2X4		Plasma Cutting Package	 Side & Back Walls Metal Mesh Prefilter 2" Steel bar grating Slag collection baffle with ¾" gravel

2.2 Product Specifications

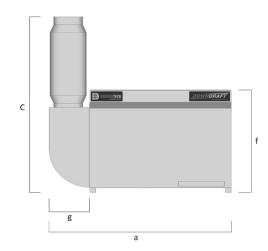
									Avg.		
				Power			Avg. Airflow	Static	Face	Cord	Noise
	Motor	Phase	@120V	@230V	@460V	@575V	Pressure	Pressure	Velocity	Length	@5ft.
Model	(H.P.)	(hz)	(amps)	(amps)	(amps)	(amps)	(CFM)	(in.)	(FPM)	(in.)	(dB)
Portable Downdraft Ta	ables, sing	le phase									
DD-MINI	1.0	1P / 60Hz	12.0				1200	2.5	250	15	72
DD-2X4	1.5	1P / 60Hz	14.2				1500	4.0	340	15	75
Portable Downdraft Tables, three phase											
DD-2X4	3.0	3P / 60Hz		8.0	4.6	3.6	2600	4.0	450		75

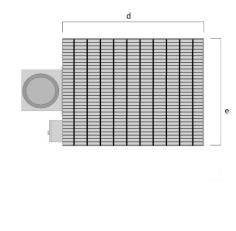
2.3 Filter Specifications

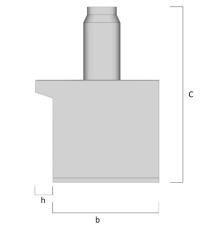
Part	Filter	Filter		Filter
Number	Туре	Size	Washable	Efficiency
MINI-DD Downdraft Ta	bles			
S-MINI-0004	95% Paper Panel	20" x 25" x 2"	No	MERV 8
S-MINI-0014	НЕРА	20" x 25" x 4"	No	99.7% @ 0.3 micron
DD-2X4 Downdraft Tal	bles			
S-2X4-20NF	Nanofiber	20" Cartridge	Compressed Air	99.9% @ 0.5 micron
S-2X4-0001	Cellulose/Polyester	20" Cartridge	Compressed Air	99.8% @ 0.5 micron
S-2X4-0002	Spunbond Poly	20" Cartridge	Water	99.7% @ 0.5 micron

For information on inspecting and cleaning filter, or purchasing replacement filters, contact DiversiTech at 1-800-361-3733.

2.4 Dimensions







	Exhaust	F	ootprint (in	.)	Worksur	face (in.)	Table		
	Diameter	Width	Height	Length	Width	Length	Height	Exhaust	Overhang
Model	(in.)	[a]	[C]	[b]	[d]	[e]	[f]	[g]	[h]
Downdraft Tables, st	andard size								
DD-MINI		31	34.5	39	30	38	34.5	12	8
DD-2X4		49.5	39	32.5	48	32	39.5	10.5	8
DD-2X4 + SSS	8" x 1	60	69.5	32.5	48	32	39.5	10.5	8
Downdraft Tables, ex	tended overhan	g							
DD-MINI-EO		31	34.5	45	30	44	34.5	12	12
DD-2X4-EO		49.5	39	38.5	48	38	39.5	10.5	12
DD-2X4-EO + SSS	8" x 1	60	69.5	38.5	48	38	39.5	10.5	12

SECTION 3 – SETUP / INSTALLATION

3.1 To Setup or Install Safely



- Do not place unit near flammables or combustible surfaces.
- Refer to SECTION 2: Specifications, to know the electrical requirements of the unit you are installing and ensure adequate input power that is properly sized, rated, and protected.
 - This unit must be grounded for safe operation.

3.2 Un-Packaging

- 1. Immediately upon receiving the unit, carefully examine the carton for damage during transit.
- 2. Remove packing material.
- 3. Avoid tipping or inverting during handling.
- 4. The item serial number, model, and electrical ratings are listed on the nameplate. Record this information in the Maintenance Record provided on page 10, or your own preventative maintenance system.

3.3 Selecting a Location

- Choose a location where the unit will be used, near the operator.
- Choose a location sufficiently close to a grounded power source.

3.4 Installation

- Electrical Connection for units requiring: 1-phase (120V) plug-type connection:
 - Your unit may be equipped with a [115V/20A] fitting, requiring a NEMA 5-20R power receptacle. 0 See APPENDIX 1A: Electrical Diagram for wiring instructions.
 - 0
- Electrical Connection for units requiring: 3-phase (230/460/575V) direct connection:
 - See APPENDIX 1B: Electrical Diagram for wiring instructions.
 - Have a certified electrician install electrical connection according to local regulations.
 - o All three power leads must be connected to L1, L2 and L3 on the contactor.
 - This unit must be grounded for safe operation. 0
 - If on start-up the downdraft table seems to be lacking performance or the table sounds very loud, the 0 motor is most likely running in the reverse direction. Reversing leads L1 and L3 will reverse motor rotation in the right direction.
- For units requiring Compressed Air:
 - Supply 80-90 PSI of CLEAN, DRY, compressed air to the bulkhead bushing on the side of the unit. 0
 - The air tank in the downdraft table is fabricated to allow a maximum of 90 PSI, DO NOT attempt supplying 0 air pressure greater than 90 PSI without a properly installed pressure regulator.
 - o Moisture in airline can damage filter(s); use an air dryer if required.
- Special Installation steps for table options:
 - Side & Back Walls Installation See APPENDIX 4A: Installing Side & Back Walls 0
 - Welding, Grinding, Deburring Packages & Kits 0
 - o Plasma Cutting Packages & Kits
 - Spray Painting Packages & Kits

3.5 Preparing Unit for Operation

- Remove all packaging and shipping protection before use, in accordance with SECTION 3.2: Un-Packaging
- Select a location appropriate for use that complies with all safety instructions contained herein, and SECTION 3.3: ٠ Selecting a Location.
- Confirm installation of correct input power source, compressed air, and any special installation requirements, in accordance with SECTION 3.3: Installation. Look at the manufacturer's label located on the exterior of the unit and ensure the source is correctly sized in terms of Voltage and Amperes.
 - Prior to use in your application, turn the unit ON, and perform a function test. To do so:
 - Turn switch to ON position 0
 - LOOK: Is the unit level, stable, and that nothing is obstructing the extraction path.
 - LISTEN: Does the motor and suction sound smooth and within expected volumes. 0

- FEEL: Place your hand on top of the unit and sense for unexpected vibration. Place you hand in front of the intake surface and sense for expected level(s) of suction.
- Inform all potential users of this equipment where they may find and review this manual.

SECTION 4 – OPERATION

4.1 To Operate Safely



- Read and understand <u>SECTION 1: Safety Precautions</u> and <u>SECTION 4: Operation</u> before use Read and understand all Material Safety Data Sheets and Manufacturer's instructions of all
- process materials, consumables, and equipment used in conjunction with this equipment.
- Keep away from all mechanical moving parts including motor, gears, and other pinch points.
 Do not use product without first confirming if a Spark Arrestor is required and installed for the
- type of dust, or fumes you are extracting and/or collection. If you are unsure, call a DiversiTech representative at 1-800-361-3733.

4.2 Controls



4.3 Pre-Use Checklist

- Prior to use in your application, turn the unit ON, and perform a function test. To do so:
 - o Turn switch to ON position
 - o LOOK: Is the unit level, stable, and that nothing is obstructing the extraction path.
 - o LISTEN: Does the motor and suction sound smooth and within expected volumes.
 - FEEL: Place your hand on top of the unit and sense for unexpected vibration. Place you hand in front of the intake surface and sense for expected level(s) of suction.
- Inform all potential users of this equipment where they may find and review this manual.

4.4 Principles of Operation

This product is designed to capture and clean smoke and dust from light & medium duty welding, soldering, and grinding applications. When operating, air is drawn in through the table surface grating, passes through spark-arrestor baffling, then through the table's filtration system, and exhausted through the side exhaust.

This product consists of basic components:

- 1. Protective table surface grating(s)
- 2. Multi-stage spark-Arrestance baffling
- 3. Table cabinet
- 4. Cartridge Filter

- 5. Motor/Blower Assembly
- 6. Push-button pulse filter cleaning system
- 7. Dust Drawer

4.5 DD-2X4 Pulse Filter Cleaning System

The DD-2X4 downdraft table is equipped with a pulse filter cleaning system. This system is controlled by a push-button affixed to the left side of the cabinet. It is recommended that you pulse the unit after every 4hours of use.



SECTION 5 – MAINTENANCE & TROUBLESHOOTING

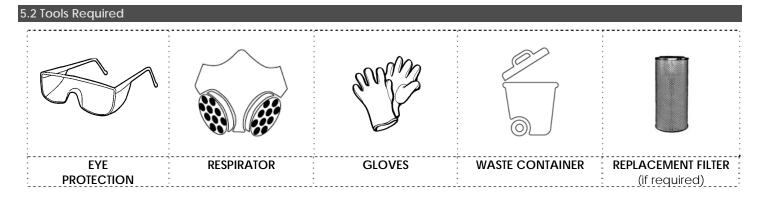
5.1 To Maintain this Product Safely



- Read and understand <u>SECTION 1: Safety Precautions</u> and <u>SECTION 4: Operation</u> before maintenance.
- Do not breathe the dust collected from product while changing/cleaning filters or performing maintenance on this product.
- Disconnect power before performing any maintenance on unit, including filter inspection. The input power to this unit is high voltage, and touching any live electrical parts can cause fatal shocks or severe burns. Do not touch live electrical parts.
 - Keep away from all mechanical moving parts including motor, gears, and other pinch points while operating.



• Operating this unit causes some parts to heat to a point that will burn bare hands. Before maintenance allow parts to cool, or use proper tools and personal protection equipment during maintenance.



Warning

- Do not attempt to clean filters containing hazardous materials; refer to local regulations regarding disposal procedures as some captured contaminants may be flammable, explosive, or toxic.
- Cleaning cartridge filters with compressed air, water, or solvents can damage/destroy the filter media. Always check the manufacturer's instructions and specifications prior to cleaning.



Nanofiber / Paper-pleated filters

• Do not wet or clean the cartridge with any liquid, as it may cause the forming of unwanted blockage on the filter media.

Spunbond-poly filters

- Cleaning should be carried out on water-soluble materials only.
- Hydrocarbons may not be removable.
- The use of solvents may attack certain components of the filter. Consult the instructions and specifications prior to cleaning.

The manufacturer recommends the following routine maintenance based on light-duty use in normal operating conditions. Service more frequently if the unit is used in severe conditions.

Frequency	Manual Reference
Pre-Use	
 Perform pre-use inspection to ensure operating correctly. If you application involves grinding, or any process that produces heat/sparks – lift the top grate and visually confirm that metal-mesh pre-filters (spark arrestors) are correctly seated on the baffle tray, and that no holes are present. 	4.3
Every (1) Week or 20 Operating Hours - Empty Dust Drawer/Clean Surface	
 Remove and wipe clean surface matting (if used). Remove dust drawer and deposit accumulated particulate in appropriate waste container. Refer to local regulations regarding disposal procedures as some captured contaminants may be flammable, explosive, or toxic. Particles and stray material on the surface should be blown into the table towards the filter using compressed air. If a cushion grid mat (option) is used, direct particles into the table using a broom or brush. Recommended frequency is one week, but may be less or more depending of application. 	
Every (4) Week or 80 Operating Hours – Inspect/Clean Cabinet	
 Remove and wipe down dust drawer, baffle trays, and metal mesh prefilters, depositing accumulated particulate in appropriate waste container. Refer to local regulations regarding disposal procedures as some captured contaminants may be flammable, explosive, or toxic. Inspect, and clean if necessary the cabinet interior and dust drawer slats. Inspect Metal Mesh Prefilter for any holes, or damage caused by hot sparks. Metal Mesh Prefilter can be cleaned by either blowing out with compressed air, or submerged and washed in warm, soapy water. 	
As Required – Replace Filter	
1. Replace Filter, see SECTION 5.4: Filter Replacement for instruction	
Every (12) months Inspect Basic Components	
 Clean unreadable labels and exterior surfaces Cabinet: Look for loose wiring. 	

5.4 Filter Replacement DD-MINI

As part of routine maintenance, it is important to visually inspect the filter. Replace the filter if you see:

- 1. Overloading or accumulation of particles
- 2. Rips, tears, or warping of filter media
- 3. Decreased table performance due to excessive static build up

To remove the filter, follow this 3-step procedure:

1. Unscrew knobs to open the cabinet door.



4. Inspect cabinet interior for debris.

2. Remove Metal Mesh Prefillter (if applicable).



5. Insert clean replacement filter.

3. Remove dirty filter.



6. Ensure airflow indicator points in correct direction.







7. Replace Metal Mesh Prefilter (if applicable).



8. Replace cabinet door.

5.5 Filter Replacement DD-2X4

As part of routine maintenance, it is important to visually inspect the filter. Replace the filter if you see:

- 4. Overloading or accumulation of particles
- 5. Rips, tears, or warping of filter media
- 6. Decreased table performance due to excessive static build up

To remove the filter, follow this 3-step procedure:

1. Open the cabinet door.



4. Inspect cabinet interior for debris.

 Using a ³/₄" wrench, unscrew 3. The filter compression nut.



5. Open dust drawer and remove material.

3. Slide filter out.



6. Insert clean replacement filter.



7. Screw the filter compression nut.

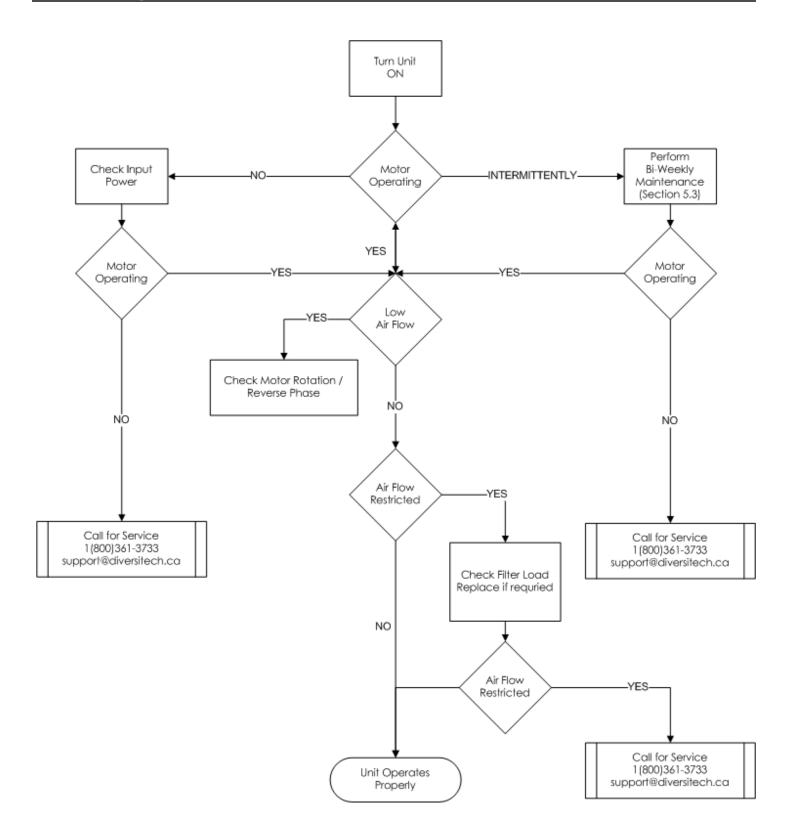




8. Close the cabinet door.



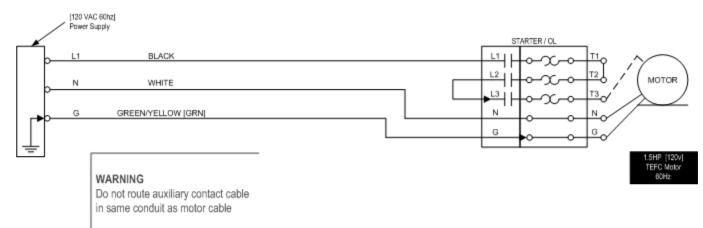




APPENDIX 1A - ELECTRICAL DIAGRAM [120 VAC] Single-Phase Power



ELECTRIC SHOCK HAZARD Disconnect power before performing any maintenance on unit, including filter inspection. The input power to this unit is high voltage, and touching any live electrical parts can cause fatal shocks or severe burns. Do not touch live electrical parts.



NOTE

Specific transformer wiring may differ depending on voltage configuration.

Units in brackets [] refer to imperial system values.

APPENDIX 1B - ELECTRICAL DIAGRAM [230/460/575v] 3-Phase Power



ELECTRIC SHOCK HAZARD

BLACK

RED

WHITE

GREEN/YELLOW [GRN]

Disconnect power before performing any maintenance on unit, including filter inspection. The input power to this unit is high voltage, and touching any live electrical parts can cause fatal shocks or severe burns. Do not touch live electrical parts.

STARTER / OL

T1

т2

тз

G

MOTOR

TEFC Motor 3500RPM 60Hz

L1]

L2

비

G

WARNING

[230/460/575V / 3/60hz] Power Supply

L1

L2

L3

G

Do not route auxiliary contact cable in same conduit as motor cable

NOTE

Specific transformer wiring may differ depending on voltage configuration.

Units in brackets [] refer to imperial system values.

APPENDIX 2 – MAINTENANCE RECORD

DiversiTech Inc. authorizes this page to be photocopied or otherwise reproduced as needed for management of maintenance records.

MANUFACTURER:	DIVERSITECH INC.	MODEL NO:	DOWNDRAFT	SERIAL NO:	
SERVICE LOCATION:				CONTROL NO:	

Date	Description of Service	Serviced By	Location	Comments

Only use manufacturer approved replacement parts on this unit.

APPENDIX 3 – REPLACEMENT PARTS

Portable Do	INIW-DO	DD-MINI4	DD-2X4 (1.5HP)	DD-2X4 (3HP)	
ITEM NUMBER	DESCRIPTION				
S-DXD-0907	3/4" Air Valve, DD			•	•
S-MINI-TG	Steel surface grate, 1" slots / 4" cross rods	•			
S-CONE-0072	1.5HP Motor Cone, Plastic			•	
S-CONE-0073	3.0HP Motor Cone, Plastic				•
S-2X4-0010	1.5HP Composite Blower Wheel, backward inclined			•	
S-2X4-1034	3.0HP Composite Blower Wheel, backward inclined				•
S-MINI-010T1	1.0HP TEFC Motor Blower Assembly[120/1/60]	•	•		
S-2X4-015T1	1.5HP TEFC Motor, C-Face [115-1-60]			•	
S-2X4-030T2	3.0HP TEFC Motor [230-3-60]				•
S-2X4-030T4	3.0HP TEFC Motor [460-3-60]				•
S-2X4-030T5	3.0HP TEFC Motor [575-3-60]				•

Replacement Filters

Part	Filter	Filter		Filter
Number	Туре	Size	Washable	Efficiency
MINI-DD Downdraft Ta	bles			
S-MINI-0004	95% Paper Panel	20" x 25" x 2"	No	MERV 8
S-MINI-0014	HEPA	20" x 25" x 4"	No	99.7% @ 0.3 micron
DD-2X4 Downdraft Tal	bles			
S-2X4-20NF	Nanofiber	20" Cartridge	Compressed Air	99.9% @ 0.5 micron
S-2X4-0001	Cellulose/Polyester	20" Cartridge	Compressed Air	99.8% @ 0.5 micron
S-2X4-0002	Spunbond Poly	20" Cartridge	Water	99.7% @ 0.5 micron

APPENDIX 4A – INSTALLING SIDE & BACK WALLS

To install the side & back walls, follow this 3-step procedure:

1. Prepare hardware



2. Attach walls



3. Fasten hardware



- Locate the bolt holes on the side and back of the cabinet
- Loosely attach bolt, lock washer, and washer
- Leave sufficient gap to fit the wall piece between the cabinet and the washers

- Insert one back wall, and one side wall between the cabinet and the washers
- While resting the wall edge on the hardware, check for alignment of bolt holes

- Fasten bolt, lock washer, washer, net on the vertical edge attaching one side wall to one back wall
- Repeat process to attach all walls
- Ensure to tighten hardware attaching walls to cabinet

Limited Equipment Warranty

All Diversi-Tech units are warranted to be free from defects in material for a period of two years from the date of purchase. Diversi-Tech Inc. will repair, at our option, any defective parts returned to the manufacturer's plant in Montreal - Quebec freight prepaid- which fail during the warranty period. This warranty is limited to replacement parts ONLY, subject to on site or in house evaluation of defective materials and does not apply to any personal liability or property loss that occurs due to the use or installation of this equipment.

FREIGHT CLAIMS

All Diversi-Tech units are sold ex-plant, Montreal, Qc., Canada. Therefore, it is the user's responsibility to file any freight claims for obvious or concealed damages which developed in transit from Montreal to your location or when drop shipped.

RETURN MATERIAL POLICY

Prior to the return of material, for whatever reason, a return manufacturing authorization number (RMA#) is required from the Diversi-Tech production control department. This procedure is necessary for proper control and handling of returned materials. Fax us or call to obtain the RMA.

All material must be returned prepaid. Credit will be given for returns for warranty replacement. Freight collect shipments will not be accepted. It is the shipper's responsibility to insure that material being returned to Diversi-Tech is adequately packaged for shipment to preclude damages.

Visit our Website for more information of this product WWW.diversitech.ca



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