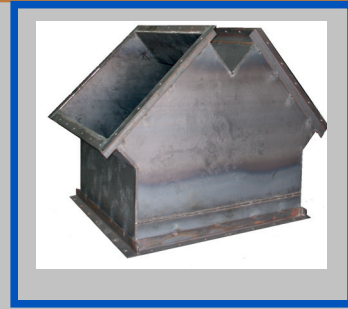
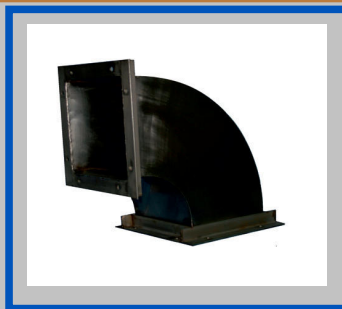


Welded Rectangular Ducts Catalogue



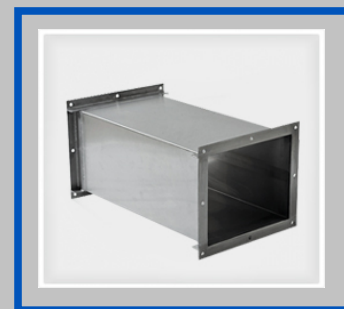
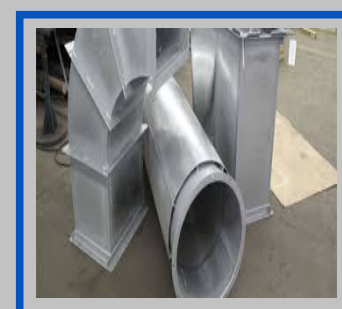
AIRFLOW AC MIDDLE EAST FZE-LLC



As per SMACNA (2nd Edition-1995, 3rd Edition-2005) & DW/144, 142, 172

As per NFPA-96

Materials: Black Steel, Stainless Steel
316 or 304, Galvanized & Aluminum



Airflow AC Middle East FZE-LLC
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MADE IN UAE



AIRFLOW AC MIDDLE EAST FZE-LLC

Welded Rectangular Ducts

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Introduction & Fabrication Procedures	3
Longitudinal Seams and Connections	4
Fittings	5
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Access Door with Insulation	8
Volume Control Damper	9

Tel: +971509293811, UM AL QUWAIN, UAE

1- INTRODUCTION

Welded Rectangular Black Steel Ducts are designed and created to vent grease vapors from cooking equipment to outside the building safely. At Airflow Factory we give special importance in fabricating those types of duct works, knowing the safety requirements and hazards in venting those types of fumes.

Airflow Welded Rectangular Black Steel Ducts are made from **Cold Rolled** Coils, a minimum of 16 gauge metal, which complies with **NFPA 96**. This type of duct is mainly used for the Kitchen Ventilation System; it will be fixed to the exhaust fans that take the air/odor to outside of the kitchens/cooking areas. In Restaurants' kitchens, the temperature usually goes over 100°C, beside the high humidity levels, which occurs a Non-Healthy and uncomfortable environment in the restaurant.

When the Ventilation System is well-designed, it will be more than just an exhaust hood; It will involve the complex interface of the kitchen with the other spaces of the restaurant.

However, Stainless Steel Ducts can be applied for same usage.

Hence, this kind of Ventilation System represents one of the largest kitchen equipment expenses.

***Airflow Welders** are qualified and obtained **WPQ (Welding Procedures Qualifications)** certified by third party based on **WPS (Welding Procedures Specifications)** accomplished.


2- FABRICATION PROCEDURES

Fabrication of Welded Circular Ducts shall be based on Drawings/Take off provided by the client by following consequently below Procedures:

- The Shop Drawings shall be encoded into our CAD-Mep Software, to be converted into individual Plans. All items shall be Tagged on the drawings. Individual Duct pieces shall be nested on sheets to maximize the sheet usage on CNC Machines avoiding material loss.
- An accurate BOQ shall be issued including connectors.
- The fabrication Data shall be saved as NC Program and shall be printed out into different Job Orders (Straight & Fittings).
- The Job Orders shall be sent to the CNC Plasma & Coil Line machines for Cutting and items identification as follows:
 - For Straight Rectangular ducts, the Coil shall be cut into sheets and folded through the Coil Line Machine; two sheets shall be set in line for continuous seam welding. (Straight Duct standard size shall be 1220mm).
 - For Fittings (*Elbow, Tee, Reducer, etc.*), the sheets shall be cut through the Plasma Cutting Machine into individual marked pieces; then shall be taken to the assembly area; later on shall be welded using TIG Welding Machine.
- All fabricated items shall be labeled with following data:

- 1- Tag No.,
- 2- PO Reference,
- 3- Date,
- 4- Customer Name,
- 5- Project Name,
- 6- Job Order No.,
- 7- Type of Materials (*GI, SS, BS, Alum.*)
- 8- Weight, Length, Area,
- 9- Insulation Thickness & Density (if any)
- 10- Connector Dimensions
- 11- Item Type (*Straight, Elbow, Tee Reducer, etc.*)



		Item: SA G67	
P.O. Ref.: 17301195		Date: 10/29/2020	
Customer: M/S. Airflow Air Conditioning Technology			
Project: Workshop			
Job Name: 603 - GROUND FLOOR			
Material: Black Steel x 14		Taper 550 x 400	
Weight: 6.15 (kg)		C1: 550 x 400	C2: 800 x 250
Area: 0.77 (sqm)		C3: Service: Kitchen Extract	
Ins:		Length/Angle: 360 (mm)	
Double Wall: No		Skin Area: (sqm)	
Skin:		MADE IN QATAR	

- QA/QC shall be conducted before each delivery in order to indicate the "Passed" Tag or "Rejected"
- Quantity of items ready for delivery shall be bar coded by our software, same as mentioned in the Delivery Reports.

N.B.: All Ducts fabrication shall be complying with SMACNA Or DW142/144 Standards

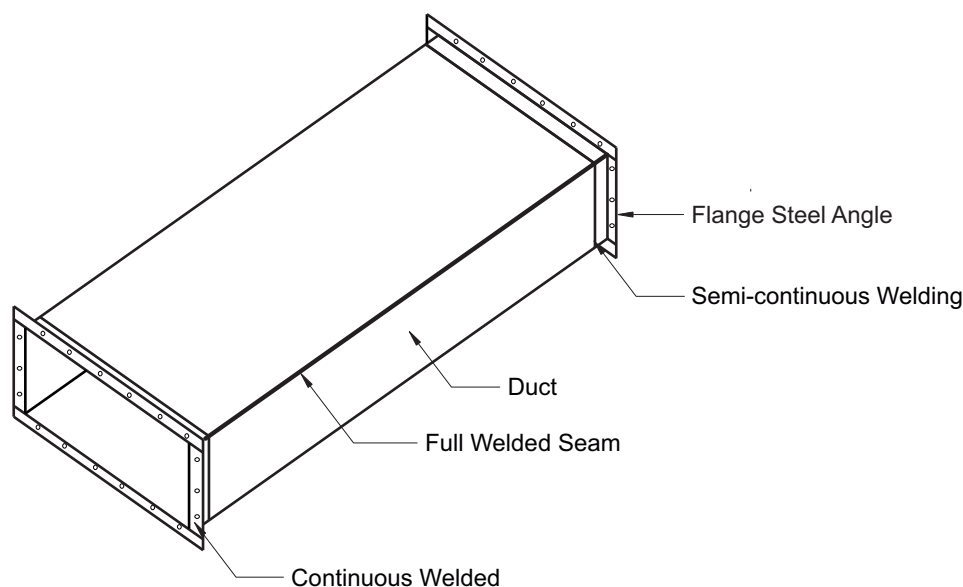
* Materials Used for Ductworks & Connections:

- **Black Steel**: Complying with ASTM A 366/A 366M, Cold-rolled.
- **Stainless Steel**: Complying with ASTM A240M / A480M, Grade 304, 304L, 316 & 316L.

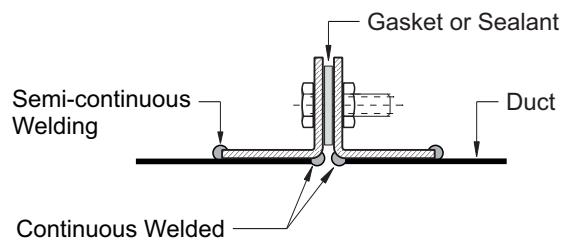
* **KITCHEN Ventilation System**: - Access Doors for Cleaning must be provided at distance not exceeding 3 meters.

- Internal Thermal or Acoustic Lining should not be used and Turning Vanes should be avoided wherever possible.

STRAIGHT DUCTS WITH FLANGE STEEL ANGLES



Flanged Cross Joint

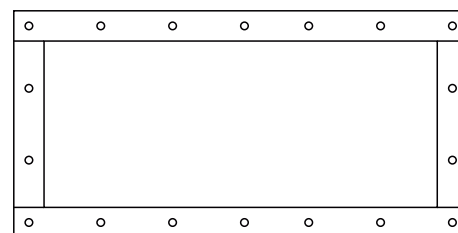


Angle Flanged Joint

Fixing Bolts	
Dimensions	Bolts Diam.
25x25x3mm	8mm
30x30x4mm	8mm
40x40x4mm	8mm
50x50x5mm	10mm
60x60x6mm	12mm

Flange Steel Angle

Fixing Bolts at Each Corner and intermediately Centered at 150mm



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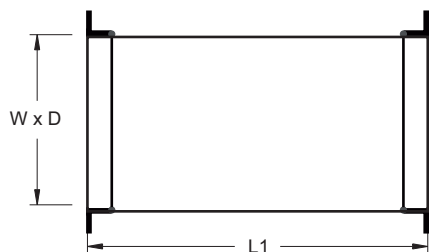
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STRAIGHT & FITTINGS

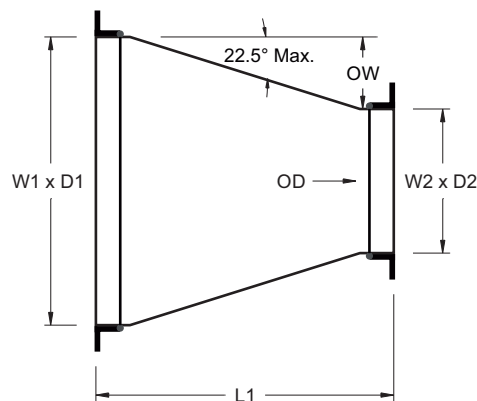
Straight

Standard Length 1220mm



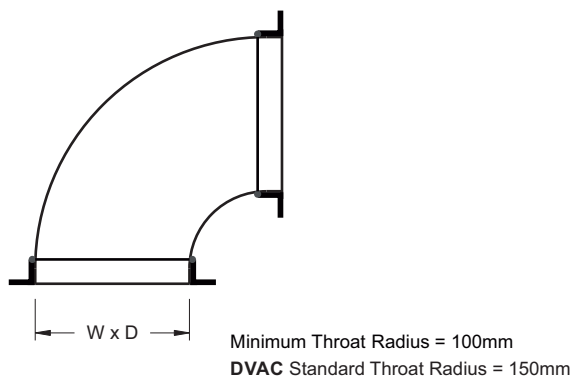
A

Taper



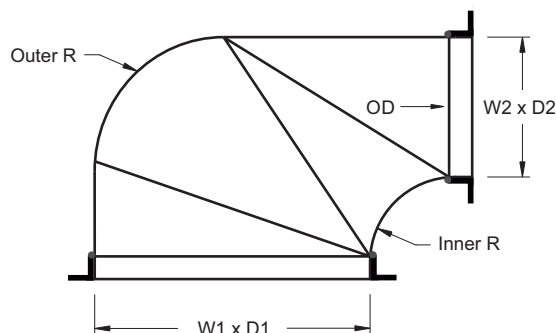
B

Radius Bend



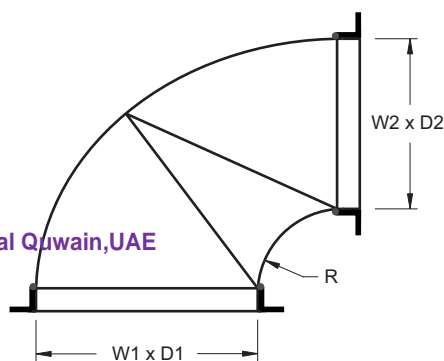
C

Master Bend



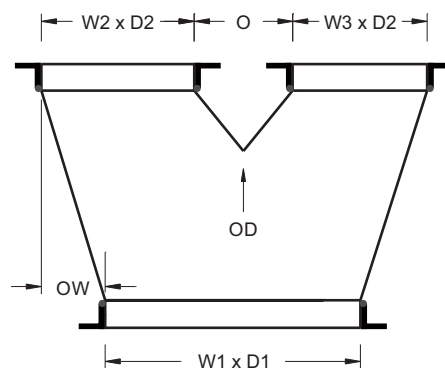
D

Drop Cheek Bend



E

Trousers Piece



F

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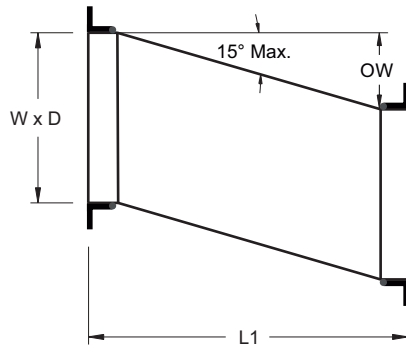
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FITTINGS

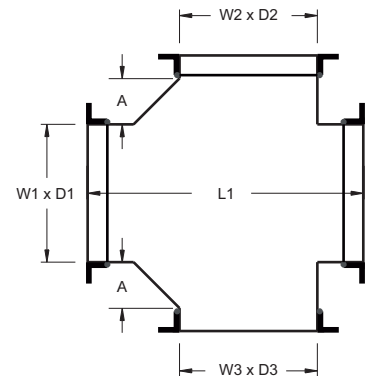
Angled Offset



G

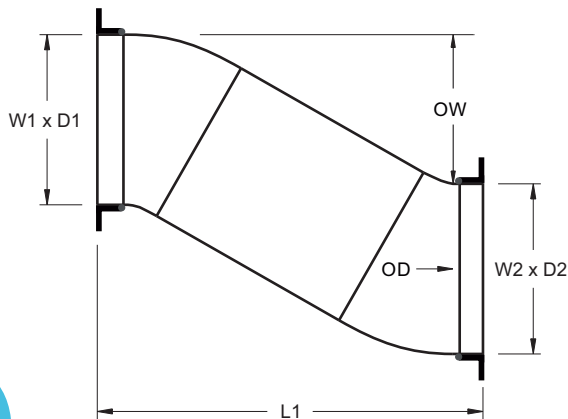
Straight + 2 Branches

Width (W) mm	Dim. (A) mm
Up to 200	75
„ 300	100
„ 400	125
„ 600	150
Over 600	200



H

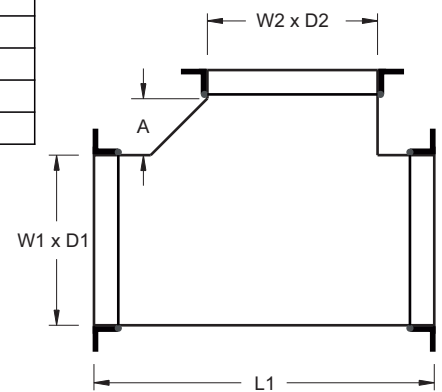
Radius 2-Way Offset



I

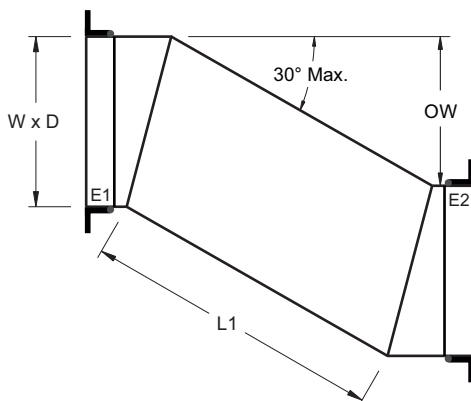
Straight + Branch

Width (W) mm	Dim. (A) mm
Up to 200	75
„ 300	100
„ 400	125
„ 600	150
Over 600	200



J

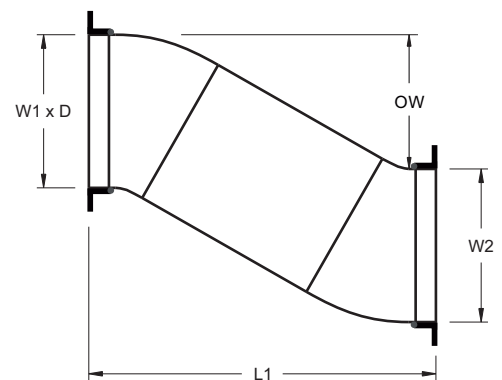
Metered Offset



K

Radius Offset

Minimum Throat Radius = 100mm



L

* Materials Used for Ductworks & Connections:

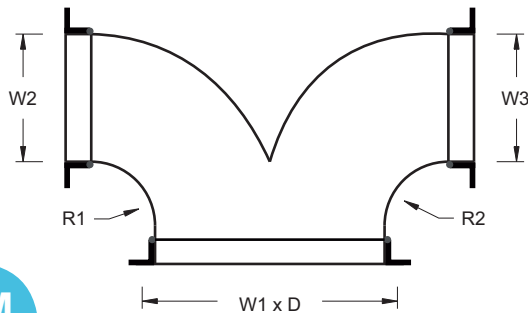
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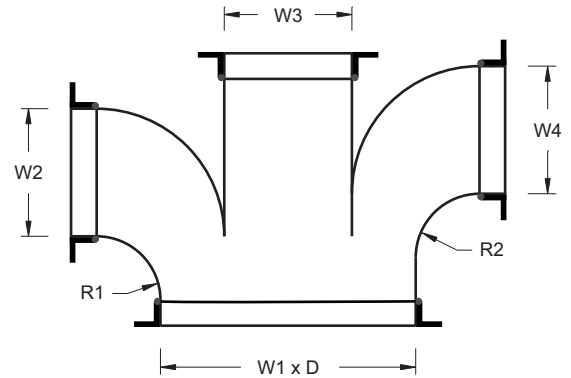
FITTINGS

Breeches Piece



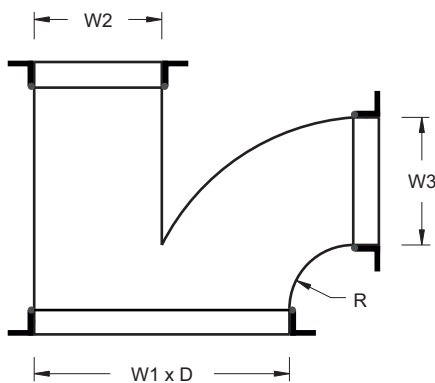
M

3-Way Tee



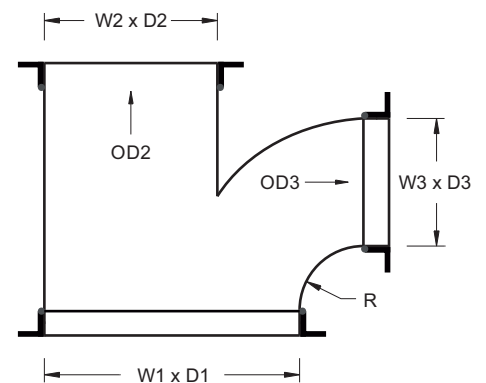
N

Side Branch



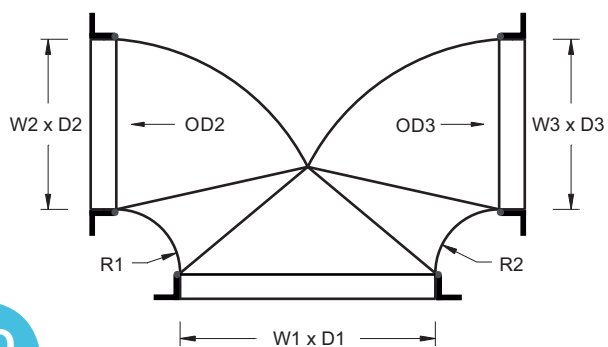
O

2-Way Breeches



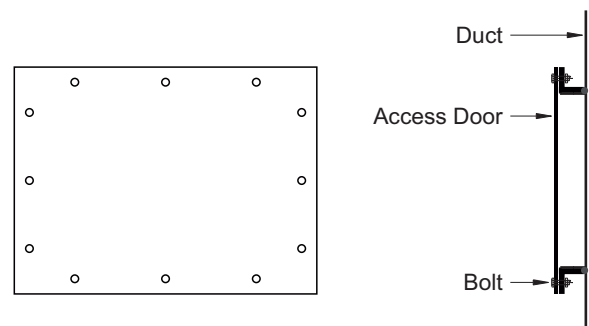
P

Drop Cheek Breeches Piece



Q

Access Door



R

Ensure that Cleaning Doors are not on the underside of the ductwork

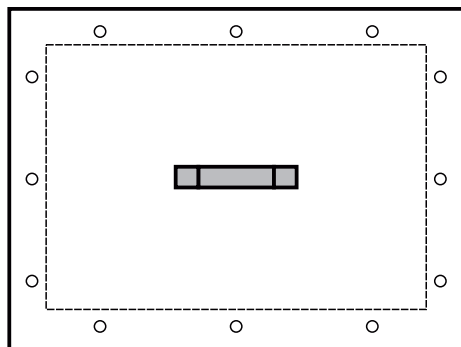
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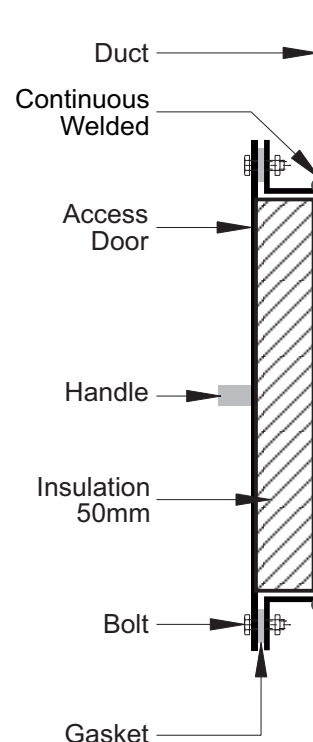
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ACCESS DOOR WITH INSULATION



Underside of the Ductwork.



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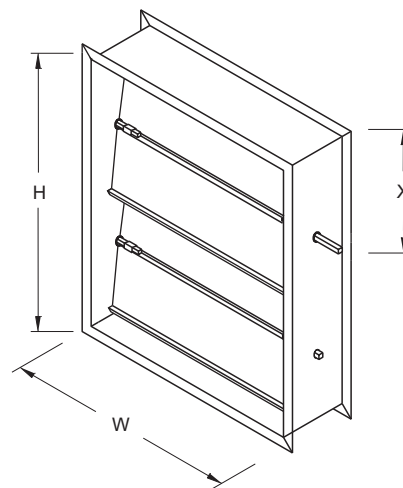
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RECTANGULAR VOLUME CONTROL DAMPER

CONSTRUCTION:

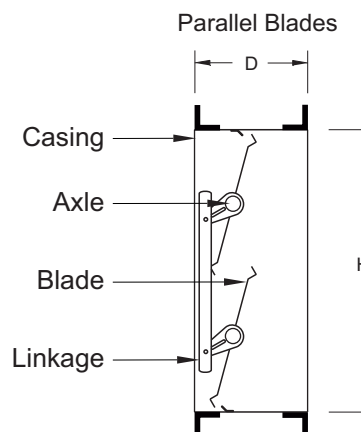
- **Casing:** 1.5mm Black Steel (Optional - Stainless Steel)
- **Blades:** **Triple-Vee Profile** 1.5mm Black Steel (Optional - Stainless Steel)
- **Axles:** Round Black Steel, 16mm (Optional - Stainless Steel)
- **Linkage:** 3mm Black Steel (Optional - Stainless Steel)
- **Quadrant:** Galvanized Hand Locking Quadrant (Optional - Stainless Steel)



Blade Depth, Number of Blades and Position of Drive Arm

Height (mm)	Blade Depth (mm)	Number of Blades #	Position of Drive Arm X (mm)
150	150	1	75
200	200	1	100
250	250	1	125
300	300	1	150
350	350	1	175
400	400	1	265
450	225	2	300
500	250	2	325
600	300	2	300
700	350	2	415
800	400	2	475
900	320	3	450
1000	350	3	565
1100	370	3	625
1200	400	3	600

* W&H Dimensions Furnished
Approximately 1/4"(6mm) Undersize.



Size Limitations:

- **Minimum Size:** One blade: 4"x4" (100x100mm)
- **Maximum Size:** Single section: 32"x48" (800x1200mm)
Multiple sections: Unlimited

Ordering example:
VCD-FC 300x150 BS
Code _____
Width x Height _____
Material _____

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