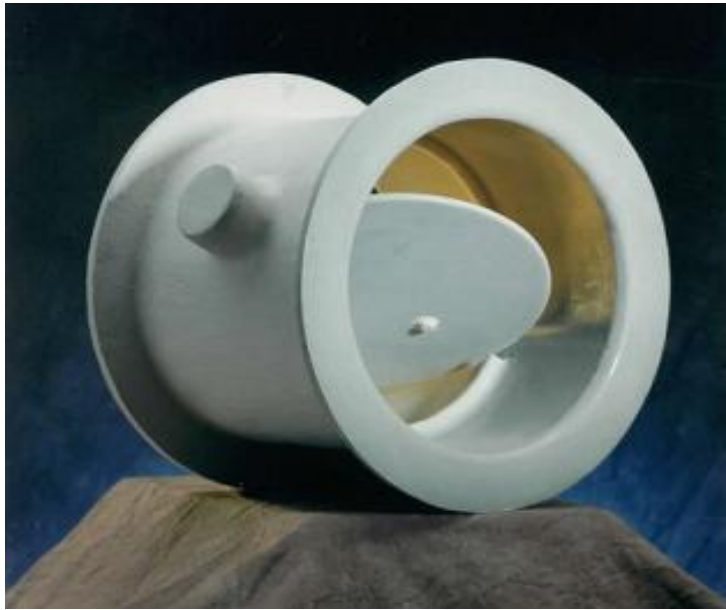


FIBERGLASS
ROUND AND RECTANGULAR
VI-A-TROL®
CONTROL DAMPERS



VIRON®
**INTERNATIONAL
CORPORATION**

FIBERGLASS CONTROL DAMPERS



Viron International Corporation is a leading designer and manufacturer of corrosion resistant ventilation equipment with over 45 years of experience. Our modern manufacturing facilities located in Michigan and Texas employ state-of-the-art equipment and the highest skilled workforce in the industry. Viron equipment consistently sets the bar for efficiency, durability, and low operating cost.

Viron Vi-A-Trol VCD Series heavy-duty air control dampers are engineered for ease of installation, minimal maintenance and exceptional performance. Our custom design philosophy ensures the best damper fit and function from general air balancing to full airflow isolation. They can be supplied with a variety of options including specialty resins, blade/shaft seal types, actuators, and flange patterns to meet your specific, unique system challenges.

All Viron dampers are fabricated using premium vinyl ester resins and custom formulated corrosion barriers to provide optimal chemical resistance in the most aggressive chemical fume environments. Viron Vi-A-Trol VCD dampers are routinely installed in semiconductor facilities, hospitals, university research labs, chemical processing plants, military facilities, metal finishing and waste water treatment plants.





VIRON® INTERNATIONAL CORPORATION

VI-A-TROL VCD SERIES CONTROL DAMPERS

Viron International Corporation certifies that the VCD Series Control Dampers shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program.

The AMCA Certified Ratings Seal applies to Air Leakage and Air Performance Ratings.

Test Information:

Air leakage is based on operation between 50° F and 104° F.

Tested for air leakage in accordance with ANSI/AMCA Standard 500-D, Figure 5.4

Tested for air performance in accordance with ANSI/AMCA 500-D, Figure 5.3

Torque

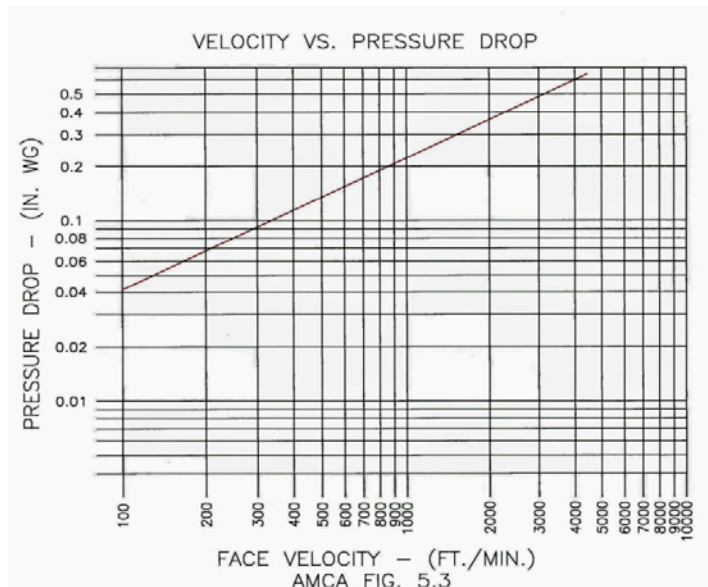
Data are based on maximum torque of 680 in-lb/ft² applied to close and seat the 72" damper during the test.

Leakage Performance

Damper Dia.	Leakage Class			
	1" wg	4" wg	10" wg	30" wg
4"-72"	1A	1	1	1

AMCA Allowable Air Leakage To Achieve Leakage Classification (cfm/ft ²)				
Leakage Class	1" wg	4" wg	10" wg	30" wg
1A	3	N/A	N/A	N/A
1	4	8	12.6	21.9
2	10	20	31.6	54.8
3	40	80	126.5	219.1

Air Performance



SPECIFICATION FOR FIBERGLASS CONTROL DAMPERS

VIRON® VI-A-TROL™ VCD SERIES

Furnish and install FRP control dampers at locations indicated on the drawings and as described herein.

The FRP damper components shall be fabricated using contact molding techniques in accordance with ASTM C 582 and ASTM D 3982 standards. Resin used in all parts shall be a premium grade, flame retardant vinyl ester. Any parts exposed to the airstream will include a resin-rich corrosion barrier with 30 mil chemical resistant veil backed by two layers of glass mat saturated with resin. Resin-to-glass ratios of approximately 90% resin, 10% glass will be maintained throughout the corrosion barrier. The corrosion barrier shall be a minimum 100 mils thick and formulated to provide optimal chemical resistance to airstream constituents. The structural layer shall follow and will consist of consecutive layers of chopped strand glass mat and/or alternating layers of woven roving to meet pressure requirements of the duct system. Resin-to-glass ratios of approximately 65% resin, 35% glass shall be maintained throughout the structural layer. All exterior surfaces shall be finish coated with Viron medium gray gel coat containing UV inhibitors.

Damper housings shall be one-piece construction with integral flanges. Flanges applied by secondary bonding are not acceptable. Damper blades shall be one piece, center pivot design with a full length axle permanently fastened at the blade centerline and fully encapsulated in fiberglass. The blade shall be fabricated using the same materials as the housing and will include a corrosion barrier on both blade surfaces. The maximum blade deflection at 30" W.G. shall be no more than 1/180th of the blade's span. If necessary to limit blade deflection, blade stiffeners will be solid FRP fabricated of the same material as the blade. The axle is to be continuous through the damper and will be solid FRP pultruded round-bar conforming to ASTM D 4385.

Axle penetrations will include molded PTFE bearings to insure smooth blade rotation. Axle seals will be accessible for inspection and replacement. Seal material will be selected based on the airstream constituents and will be chosen to guarantee optimal chemical resistance. Blade seals will be EPDM continuous perimeter wiper type fastened to the blade with a FRP retaining ring and FRP encapsulated stainless steel hardware. When equipped with the EPDM blade seal the damper shall meet a minimum AMCA Class 1 Leakage. Leakage shall not exceed 4 cm per square foot. At 30" w.g. all dampers shall be licensed to bear the AMCA Seal for Leakage and Performance when tested in accordance with AMCA Publication 500. Dampers not bearing the AMCA Seal are not acceptable.

Viron VCD dampers are designed and manufactured with respect to the following industry standards:

- *ASTM D 3982
- *ASTM C 582
- *ASTM C 581
- *ASTM D 4385
- *ASTM D 2583
- *ASTM D 2584
- *ASTM D 2563
- *ASTM D 4097
- *ASTM D 2996
- *ASTM E 84
- *ANSI/AMCA 500-D
- *ASME/ANSI RTP-1
- *NBS PS15-69
- *SMACNA Thermoset FRP Duct Construction Manual

VIRON® VCD SERIES ROUND CONTROL DAMPERS

• **OPTIONAL FEATURES**

SPECIFIC RESIN SELECTIONS

REICHHOLD VER 9300 FR
 HETRON FR 992
 DERAKANE 510N
 OTHER:

FLANGE DRILLING

ONE FLANGE
 TWO FLANGES

OPERATORS

LOCKABLE HAND QUADRANT
 WORM GEAR
 CHAIN WHEEL
 ELECTRIC
 PNEUMATIC
 OTHER:

BLADE CONFIGURATION

EPDM BLADE SEAL
 FKM (VITON) BLADE SEAL
 NEOPRENE BLADE SEAL
 FULL CIRCUMFERENCE BLADE STOP

AXLE MATERIAL

SOLID PULTRUDED FRP
 316 STAINLESS STEEL
 OTHER:

SHAFT SEAL

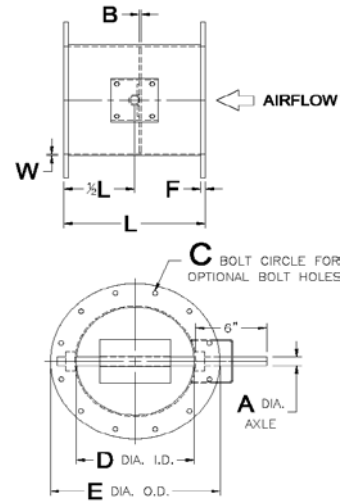
EPDM
 NEOPRENE
 FKM (VITON)
 PTFE (TEFLON)
 DOUBLE-GLAND PTFE STUFFING BOX

FLANGE DIMENSIONS

SMACNA FRP DUCT CONST. MANUAL
 NBS PS15-69
 ASTM D3982
 ASME/ANSI B16.5
 OTHER:

• **STANDARD FEATURES**

SOLID FRP FRAME
 SOLID FRP BLADE
 SOLID FRP AXLE LESS HANDLE
 SHAFT SEAL
 MOLDED PTFE BEARINGS
 RESIN: PREMIUM GRADE VINYL ESTER
 EXTERIOR GEL COAT
 INTERIOR HARDWARE IS POLYPRO / NYLON
 OR ENCAPSULATED STAINLESS STEEL



• **NOTES**

1. ALL OPTIONS PROVIDED AT ADDITIONAL COST.
2. DAMPER DESIGNED FOR 10" W.G.
3. BLADE SEALS NOT AVAILABLE WITH FULL CIRCUMFERENCE BLADE STOPS.
4. CONSTRUCTION PER ASTM C582 AND ASTM D3982

PRINCIPLE DIMENSIONS FOR 10" S. P. DAMPER

D	E	A	B	C	F	L	W	D	E	A	B	C	F	L	W
4"	8-3/8"	1/2"	1/4"	7"	1/4"	8"	1/8"	30"	34-3/8"	1-1/2"	1/4"	33"	1/2"	12"	3/16"
6"	10-3/8"	3/4"	1/4"	9"	1/4"	8"	1/8"	32"	36-3/8"	1-1/2"	1/4"	35"	1/2"	12"	3/16"
8"	12-3/8"	3/4"	1/4"	11"	1/4"	8"	1/8"	34"	38-3/8"	1-1/2"	1/4"	37"	1/2"	12"	3/16"
10"	14-3/8"	3/4"	1/4"	13"	3/8"	10"	1/8"	36"	40-3/8"	1-1/2"	1/4"	39"	1/2"	12"	3/16"
12"	16-3/8"	1"	1/4"	15"	3/8"	12"	1/8"	38"	42-3/8"	2"	1/2"	41"	5/8"	12"	1/4"
14"	18-3/8"	1"	1/4"	17"	3/8"	12"	1/8"	40"	44-3/8"	2"	5/8"	43"	5/8"	12"	1/4"
16"	20-3/8"	1"	1/4"	19"	1/2"	12"	1/8"	42"	46-3/8"	2"	5/8"	45"	5/8"	12"	1/4"
18"	22-3/8"	1"	1/4"	21"	1/2"	12"	1/8"	48"	54-3/8"	2"	5/8"	52"	5/8"	12"	1/4"
20"	24-3/8"	1"	1/4"	23"	1/2"	12"	1/8"	54"	60-3/8"	2"	5/8"	58"	5/8"	12"	1/4"
22"	26-3/8"	1"	1/4"	25"	1/2"	12"	3/16"	60"	66-3/8"	2"	5/8"	64"	5/8"	12"	1/4"
24"	28-3/8"	1"	1/4"	27"	1/2"	12"	3/16"	62"	68-3/8"	2"	5/8"	66"	3/4"	12"	5/16"
26"	30-3/8"	1-1/2"	1/4"	29"	1/2"	12"	3/16"	66"	72-3/8"	2"	5/8"	70"	3/4"	12"	5/16"
28"	32-3/8"	1-1/2"	1/4"	31"	1/2"	12"	3/16"	72"	78-3/8"	2"	5/8"	76"	3/4"	12"	5/16"

NOTE: Dimensions should not be used for construction, certified prints are available when required.

VIRON® VCD SERIES ROUND CONTROL DAMPERS

• **OPTIONAL FEATURES**

SPECIFIC RESIN SELECTIONS

REICHHOLD VER 9300 FR
 HETRON FR 992
 DERAKANE 510N
 OTHER:

FLANGE DRILLING

ONE FLANGE
 TWO FLANGES

OPERATORS

LOCKABLE HAND QUADRANT
 WORM GEAR
 CHAIN WHEEL
 ELECTRIC
 PNEUMATIC
 OTHER:

BLADE CONFIGURATION

EPDM BLADE SEAL
 FKM (VITON) BLADE SEAL
 NEOPRENE BLADE SEAL
 FULL CIRCUMFERENCE BLADE STOP

AXLE MATERIAL

SOLID PULTRUDED FRP
 316 STAINLESS STEEL
 OTHER:

SHAFT SEAL

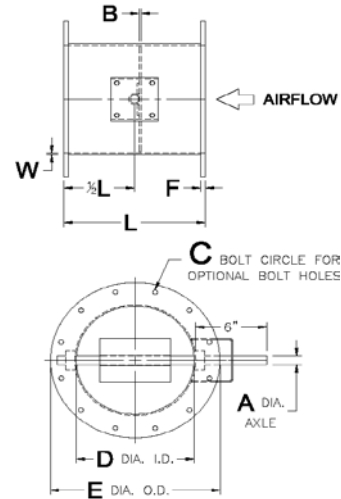
EPDM
 NEOPRENE
 FKM (VITON)
 PTFE (TEFLON)
 DOUBLE-GLAND PTFE STUFFING BOX

FLANGE DIMENSIONS

SMACNA FRP DUCT CONST. MANUAL
 NBS PS15-69
 ASTM D3982
 ASME/ANSI B16.5
 OTHER:

• **STANDARD FEATURES**

SOLID FRP FRAME
 SOLID FRP BLADE
 SOLID FRP AXLE LESS HANDLE
 SHAFT SEAL
 MOLDED PTFE BEARINGS
 RESIN: PREMIUM GRADE VINYL ESTER
 EXTERIOR GEL COAT
 INTERIOR HARDWARE IS POLYPRO / NYLON
 OR ENCAPSULATED STAINLESS STEEL



• **NOTES**

1. ALL OPTIONS PROVIDED AT ADDITIONAL COST.
2. DAMPER DESIGNED FOR 10" W.G.
3. BLADE SEALS NOT AVAILABLE WITH FULL CIRCUMFERENCE BLADE STOPS.
4. CONSTRUCTION PER ASTM C582 AND ASTM D3982

PRINCIPLE DIMENSIONS FOR 30" S. P. DAMPER

D	E	A	B	C	F	L	W	D	E	A	B	C	F	L	W
4"	8-3/8"	1/2"	1/4"	7"	1/4"	8"	1/8"	30"	34-3/8"	1-1/2"	1/4"	33"	1/2"	12"	5/16"
6"	10-3/8"	3/4"	1/4"	9"	1/4"	8"	1/8"	32"	36-3/8"	1-1/2"	1/4"	35"	1/2"	12"	5/16"
8"	12-3/8"	3/4"	1/4"	11"	1/4"	8"	1/8"	34"	38-3/8"	1-1/2"	1/4"	37"	1/2"	12"	5/16"
10"	14-3/8"	3/4"	1/4"	13"	3/8"	10"	3/16"	36"	40-3/8"	1-1/2"	1/4"	39"	1/2"	12"	5/16"
12"	16-3/8"	1"	1/4"	15"	3/8"	12"	3/16"	38"	42-3/8"	2"	1/2"	41"	5/8"	12"	5/16"
14"	18-3/8"	1"	1/4"	17"	3/8"	12"	3/16"	40"	44-3/8"	2"	5/8"	43"	5/8"	12"	5/16"
16"	20-3/8"	1"	1/4"	19"	1/2"	12"	3/16"	42"	46-3/8"	2"	5/8"	45"	5/8"	12"	5/16"
18"	22-3/8"	1"	1/4"	21"	1/2"	12"	3/16"	44"	48-3/8"	2"	5/8"	47"	5/8"	12"	5/16"
20"	24-3/8"	1"	1/4"	23"	1/2"	12"	3/16"	46"	50-3/8"	2"	5/8"	49"	5/8"	12"	3/8"
22"	26-3/8"	1"	1/4"	25"	1/2"	12"	1/4"	48"	52-3/8"	2"	5/8"	51"	5/8"	12"	3/8"
24"	28-3/8"	1"	1/4"	27"	1/2"	12"	1/4"	50"	54-3/8"	2"	5/8"	53"	3/4"	12"	3/8"
26"	30-3/8"	1-1/2"	1/4"	29"	1/2"	12"	1/4"	52"	56-3/8"	2"	5/8"	55"	3/4"	12"	3/8"
28"	32-3/8"	1-1/2"	1/4"	31"	1/2"	12"	1/4"	54"	58-3/8"	2"	5/8"	57"	3/4"	12"	3/8"

NOTE: Dimensions should not be used for construction, certified prints are available when required.

VIRON® VCD SERIES RECTANGLE CONTROL DAMPERS

• **OPTIONAL FEATURES**

SPECIFIC RESIN SELECTIONS

REICHHOLD VER 9300 FR
 HETRON FR 992
 DERAKANE 510N
 OTHER:

FLANGE DRILLING

ONE FLANGE
 TWO FLANGES

OPERATORS

LOCKABLE HAND QUADRANT
 WORM GEAR
 CHAIN WHEEL
 ELECTRIC
 PNEUMATIC
 OTHER:

BLADE CONFIGURATION

EPDM BLADE SEAL
 FKM (VITON) BLADE SEAL
 NEOPRENE BLADE SEAL
 FULL CIRCUMFERENCE BLADE STOP

AXLE MATERIAL

SOLID PULTRUDED FRP
 316 STAINLESS STEEL
 OTHER:

SHAFT SEAL

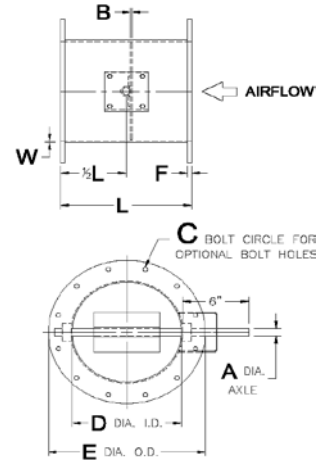
EPDM
 NEOPRENE
 FKM (VITON)
 PTFE (TEFLON)
 DOUBLE-GLAND PTFE STUFFING BOX

FLANGE DIMENSIONS

SMACNA FRP DUCT CONST. MANUAL
 NBS PS15-69
 ASTM D3982
 ASME/ANSI B16.5
 OTHER:

• **STANDARD FEATURES**

SOLID FRP FRAME
 SOLID FRP BLADE
 SOLID FRP AXLE LESS HANDLE
 SHAFT SEAL
 MOLDED PTFE BEARINGS
 RESIN: PREMIUM GRADE VINYL ESTER
 EXTERIOR GEL COAT
 INTERIOR HARDWARE IS POLYPRO / NYLOI
 OR ENCAPSULATED STAINLESS STEEL



• **NOTES**

1. ALL OPTIONS PROVIDED AT ADDITIONAL COST.
2. DAMPER DESIGNED FOR 10" W.G.
3. BLADE SEALS NOT AVAILABLE WITH FULL CIRCUMFERENCE BLADE STOP.
4. CONSTRUCTION PER ASTM C582 AN ASTM D3982

PRINCIPLE DIMENSIONS FOR 10" S. P. DAMPER

E	C	F	D	A	B	T	L	W	E	C	F	D	A	B	T	L	W
8"				3/4"	1/4"	1/4"	8"	3/16"	34"				1-1/2"	1/4"	1/2"	12"	1/4"
10"				3/4"	1/4"	3/8"	10"	3/16"	36"				1-1/2"	1/4"	1/2"	12"	1/4"
12"				1"	1/4"	3/8"	12"	3/16"	38"				2"	1/2"	5/8"	12"	5/16"
14"				1"	1/4"	3/8"	12"	3/16"	40"				2"	5/8"	5/8"	12"	5/16"
16"				1"	1/4"	1/2"	12"	3/16"	42"				2"	5/8"	5/8"	12"	5/16"
18"				1"	1/4"	1/2"	12"	3/16"	44"				2"	5/8"	5/8"	12"	5/16"
20"				1"	1/4"	1/2"	12"	3/16"	46"				2"	5/8"	5/8"	12"	5/16"
22"				1"	1/4"	1/2"	12"	1/4"	48"				2"	5/8"	5/8"	12"	5/16"
24"				1"	1/4"	1/2"	12"	1/4"	54"				2"	5/8"	5/8"	12"	5/16"
26"				1-1/2"	1/4"	1/2"	12"	1/4"	60"				2"	5/8"	5/8"	12"	5/16"
28"				1-1/2"	1/4"	1/2"	12"	1/4"	62"				2"	5/8"	3/4"	12"	3/8"
30"				1-1/2"	1/4"	1/2"	12"	1/4"	66"				2"	5/8"	3/4"	12"	3/8"
32"				1-1/2"	1/4"	1/2"	12"	1/4"	72"				2"	5/8"	3/4"	12"	3/8"

NOTE: Dimensions should not be used for construction, certified prints are available when required.

VIRON® VCD SERIES RECTANGLE CONTROL DAMPERS

OPTIONAL FEATURES

SPECIFIC RESIN SELECTIONS

REICHHOLD VER 9300 FR
 HETRON FR 992
 DERAKANE 510N
 OTHER:

FLANGE DRILLING

ONE FLANGE
 TWO FLANGES

OPERATORS

LOCKABLE HAND QUADRANT
 WORM GEAR
 CHAIN WHEEL
 ELECTRIC
 PNEUMATIC
 OTHER:

BLADE CONFIGURATION

EPDM BLADE SEAL
 FKM (VITON) BLADE SEAL
 NEOPRENE BLADE SEAL
 FULL CIRCUMFERENCE BLADE STOP

AXLE MATERIAL

SOLID PULTRUDED FRP
 316 STAINLESS STEEL
 OTHER:

SHAFT SEAL

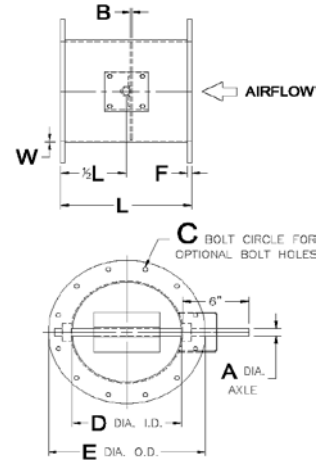
EPDM
 NEOPRENE
 FKM (VITON)
 PTFE (TEFLON)
 DOUBLE-GLAND PTFE STUFFING BOX

FLANGE DIMENSIONS

SMACNA FRP DUCT CONST. MANUAL
 NBS PS15-69
 ASTM D3982
 ASME/ANSI B16.5
 OTHER:

STANDARD FEATURES

SOLID FRP FRAME
 SOLID FRP BLADE
 SOLID FRP AXLE LESS HANDLE
 SHAFT SEAL
 MOLDED PTFE BEARINGS
 RESIN: PREMIUM GRADE VINYL ESTER
 EXTERIOR GEL COAT
 INTERIOR HARDWARE IS POLYPRO / NYLON
 OR ENCAPSULATED STAINLESS STEEL



NOTES

1. ALL OPTIONS PROVIDED AT ADDITIONAL COST.
2. DAMPER DESIGNED FOR 10" W.G.
3. BLADE SEALS NOT AVAILABLE WITH FULL CIRCUMFERENCE BLADE STOP.
4. CONSTRUCTION PER ASTM C582 AN ASTMD3982

PRINCIPLE DIMENSIONS FOR 30" S. P. DAMPER

E	C	F	D	A	B	T	L	W	E	C	F	D	A	B	T	L	W
8"				3/4"	1/4"	1/4"	8"	1/4"	34"				1-1/2"	1/4"	1/2"	12"	5/16"
10"				3/4"	1/4"	3/8"	10"	1/4"	36"				1-1/2"	1/4"	1/2"	12"	5/16"
12"				1"	1/4"	3/8"	12"	1/4"	38"				2"	1/2"	5/8"	12"	3/8"
14"				1"	1/4"	3/8"	12"	1/4"	40"				2"	5/8"	5/8"	12"	3/8"
16"				1"	1/4"	1/2"	12"	1/4"	42"				2"	5/8"	5/8"	12"	3/8"
18"				1"	1/4"	1/2"	12"	1/4"	44"				2"	5/8"	5/8"	12"	3/8"
20"				1"	1/4"	1/2"	12"	1/4"	46"				2"	5/8"	5/8"	12"	3/8"
22"				1"	1/4"	1/2"	12"	5/16"	48"				2"	5/8"	5/8"	12"	3/8"
24"				1"	1/4"	1/2"	12"	5/16"	54"				2"	5/8"	5/8"	12"	3/8"
26"				1-1/2"	1/4"	1/2"	12"	5/16"	60"				2"	5/8"	5/8"	12"	3/8"
28"				1-1/2"	1/4"	1/2"	12"	5/16"	62"				2"	5/8"	3/4"	12"	7/16"
30"				1-1/2"	1/4"	1/2"	12"	5/16"	66"				2"	5/8"	3/4"	12"	7/16"
32"				1-1/2"	1/4"	1/2"	12"	5/16"	72"				2"	5/8"	3/4"	12"	7/16"

NOTE: Dimensions should not be used for construction, certified prints are available when required.