



**Submittal for
Double Wall
Rectangular Duct**



HRANEC SHEET METAL, INC.

SUBMITTAL

Double Wall Rectangular Duct

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SPECIAL NOTES:

1. OUR DOUBLE WALL RECTANGULAR DUCT WORK HAS BEEN EXTENSIVELY AIR TESTED FOR LOW, MEDIUM & HIGH PRESSURES.

2. STANDARD MATERIAL OUTER WALL GALVANIZED G90
ALTERNATE MATERIAL PAINT GRIP
ALTERNATE MATERIAL STAINLESS STEEL 304L,316
ALTERNATE MATERIAL ALUMINUM 3003
ALTERNATE MATERIAL PVC COATED
*(PVC IS NOT RECOMMENDED FOR EXPOSED DUCT THAT IS TO BE PAINTED DUE TO VARIATIONS IN COLORS)

3. PERFORATED INNER ON STRAIGHT JOINTS
SOLID INNER ON FITTINGS.

4. METAL GAUGES ARE PRESSURE CLASS DRIVEN FROM LATEST SMACNA STANDARDS.

5. REINFORCEMENT APPLICATION PER SMACNA STANDARDS.

6. AVAILABLE IN 1", 1-1/2", OR 2" DOUBLE WALL.

7. STANDARD RECTANGULAR STRAIGHT DUCT CONNECTION LENGTHS AS FOLLOWS:
1", 1-1/2"- A.) 56" DUCTMATE 35
 B.) 56" TDC
2"- A.) 60" DUCTMATE 35
 B.) 56" TDC

8. STANDARD DOUBLE WALL BUILT WITH TDC FLANGE

9. DUCTMATE 35 FRAME FASTENED ON 12" CENTERS WITH FLANGE NAILS.

DESCRIPTION

NOTES

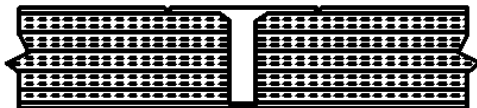


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SPIRAL MANUFACTURERS

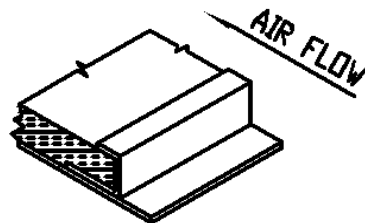
INSULATION USED FOR OUR DOUBLE WALL RECTANGULAR DUCT WORK CONSTRUCTION

NUMBER OF PINS	LINEAR INTERIOR WIDTH
0	8" dn
2	9" - 16"
3	17" - 28"
4	29" - 40"
5	41" - 52"
6	53" - 64"
7	65" - 76"
8	77" - 88"
9	89" - 100"

METAL NOSING MAY BE USED WHEREVER LINER IS PRECEDED BY UNLINED METAL; OTHERWISE WHEN VELOCITY EXCEEDS 4000 FPM (20.3 MPS) USE METAL NOSING ON EVERY LEADING EDGE. NOSING MAY BE FORMED ON DUCT OR BE CHANNEL OR ZEE ATTACHED BY SCREWS, RIVETS OR WELDS.

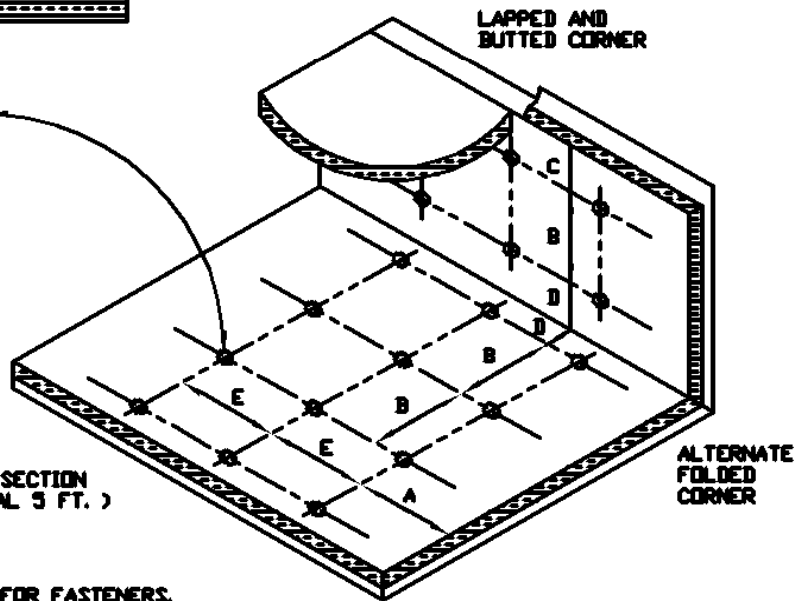


TYPE 1
LINER FASTENER
SPOT WELD PINS
SMACNA REF. FIG. 2.19



THE VELOCITY RATED
SIDE OF LINER MUST
FACE THE AIR FLOW

DUCT SECTION
(TYPICAL 5 FT.)



MAXIMUM SPACING FOR FASTENERS,
ACTUAL INTERVALS ARE APPROXIMATE.

VELOCITY *	DIMENSIONS				
	A	B	C	E	D
0-2500 FPM	3'	12"	4'	18"	6"
2501-6000 FPM	3'	6"	4'	16"	6"

* UNLESS A LOWER LEVEL IS SET BY
MANUFACTURER OR LISTING AGENCY

LINER ADHERED TO THE
DUCT WITH 90% MIN. AREA
COVERAGE OF ADHESIVE.

DESCRIPTION

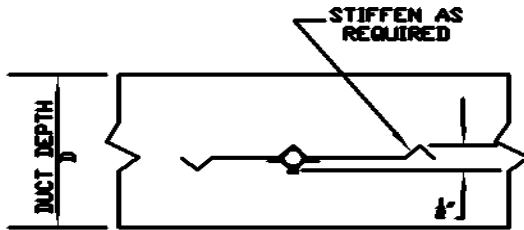
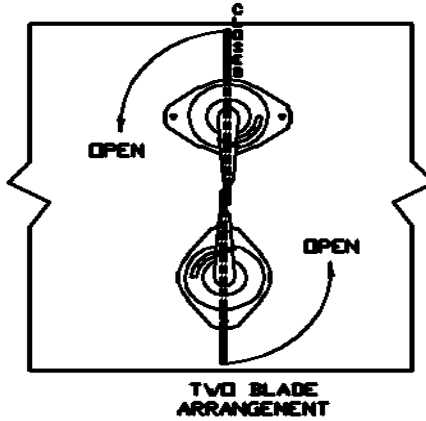
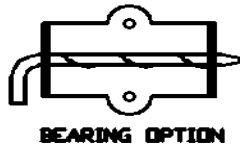
INSULATION



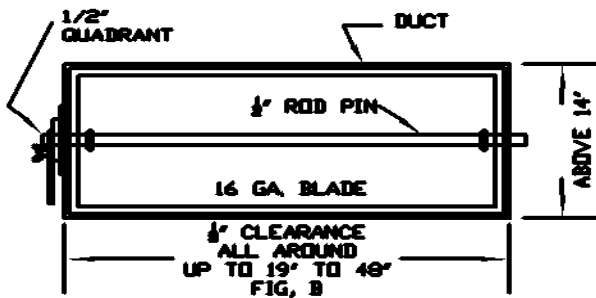
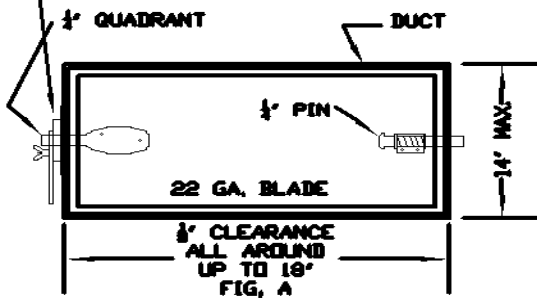
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RECTANGULAR VOLUME DAMPER APPLICATION

NOTE: ALL DAMPERS ARE INSTALLED AND LOCKED IN THE FULLY OPEN POSITION.



STANDOFF REQUIRED WHEN DUCT EXTERNALLY INSULATED



DESCRIPTION

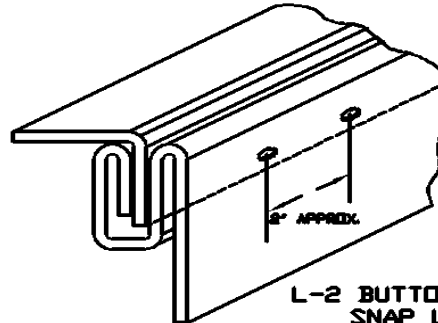
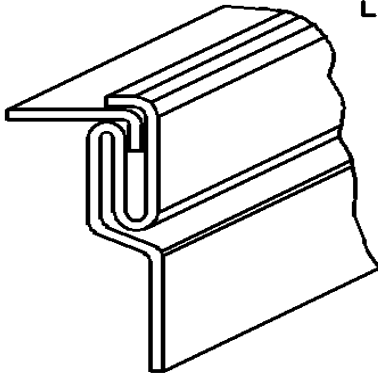
VOLUME DAMPER



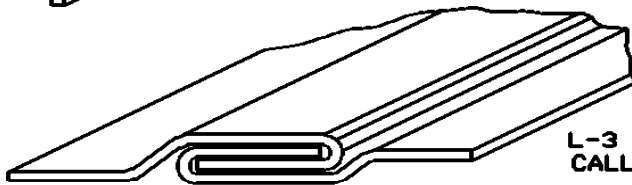
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RECTANGULAR SEAMS

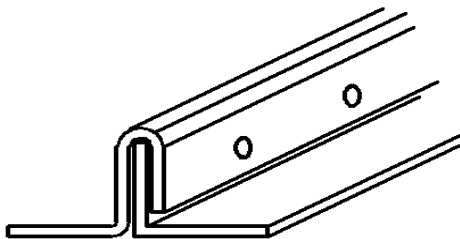
L-1 PITTSBURGH LOCK



L-2 BUTTON PUNCH SNAP LOCK

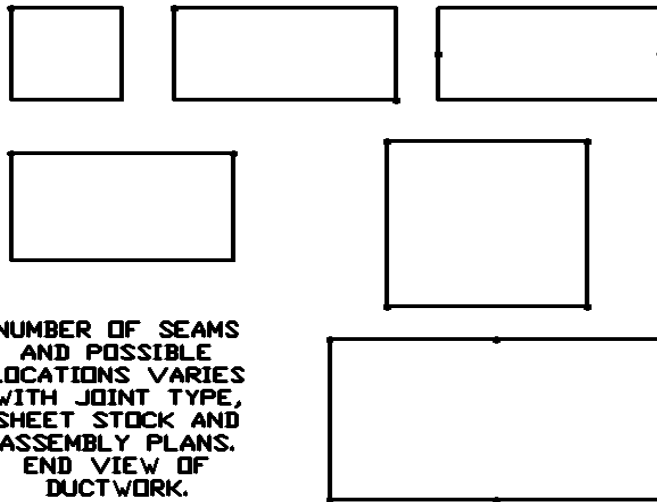


L-3 GROOVED SEAM CALLED FLAT LOCK



L-4 STANDING SEAM

SEAM LOCATIONS



NUMBER OF SEAMS AND POSSIBLE LOCATIONS VARIES WITH JOINT TYPE, SHEET STOCK AND ASSEMBLY PLANS. END VIEW OF DUCTWORK.

DESCRIPTION

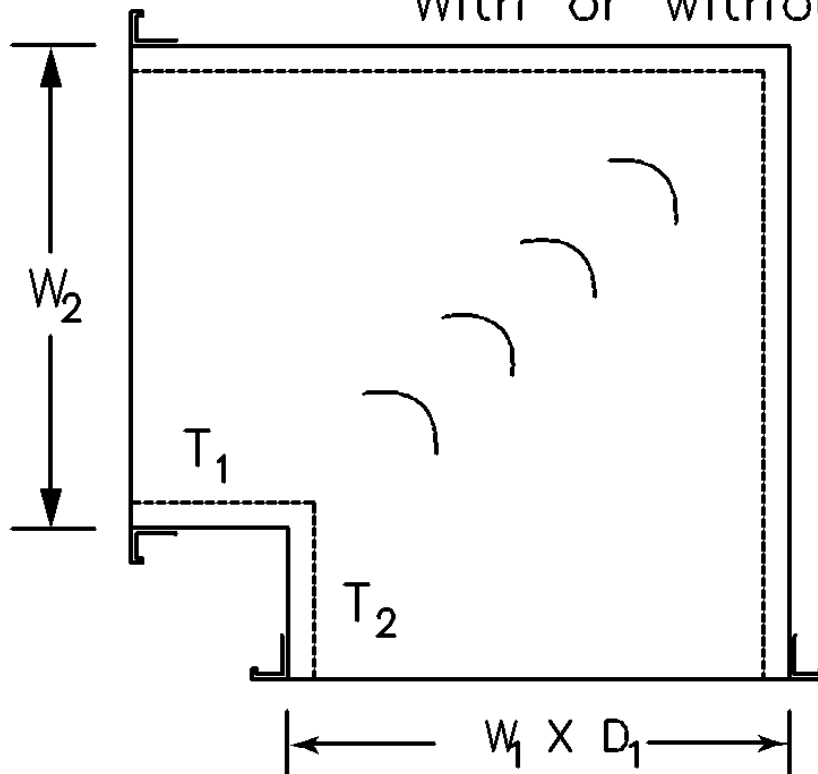
RECTANGULAR SEAMS



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RECTANGULAR DOUBLE WALL ELBOWS

With or without vanes.



NOTES:

A. STANDARD ELBOW SHOWN. OTHER OPTIONS AVAILABLE AS FOLLOWS:

A.) RADIUS HEEL RADIUS THROAT

B.) RADIUS HEEL SQUARE THROAT

B. MITERED ELBOWS CONSTRUCTED PER SPECIFIED DEGREE.

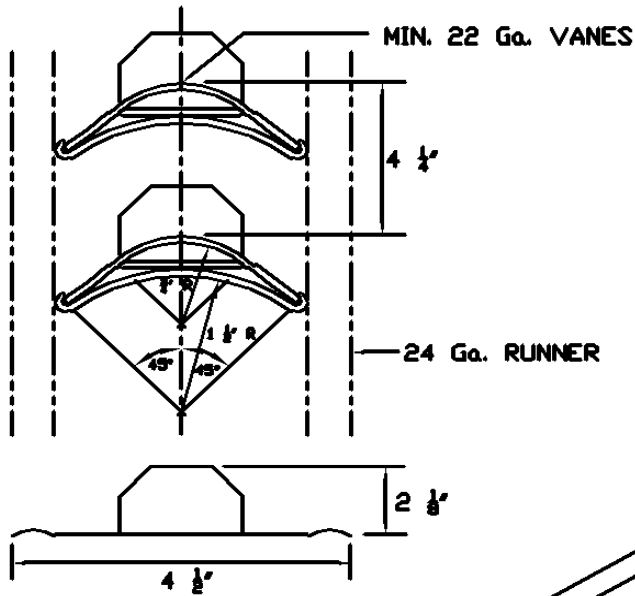
DESCRIPTION

RECTANGULAR DOUBLE WALL
ELBOWS

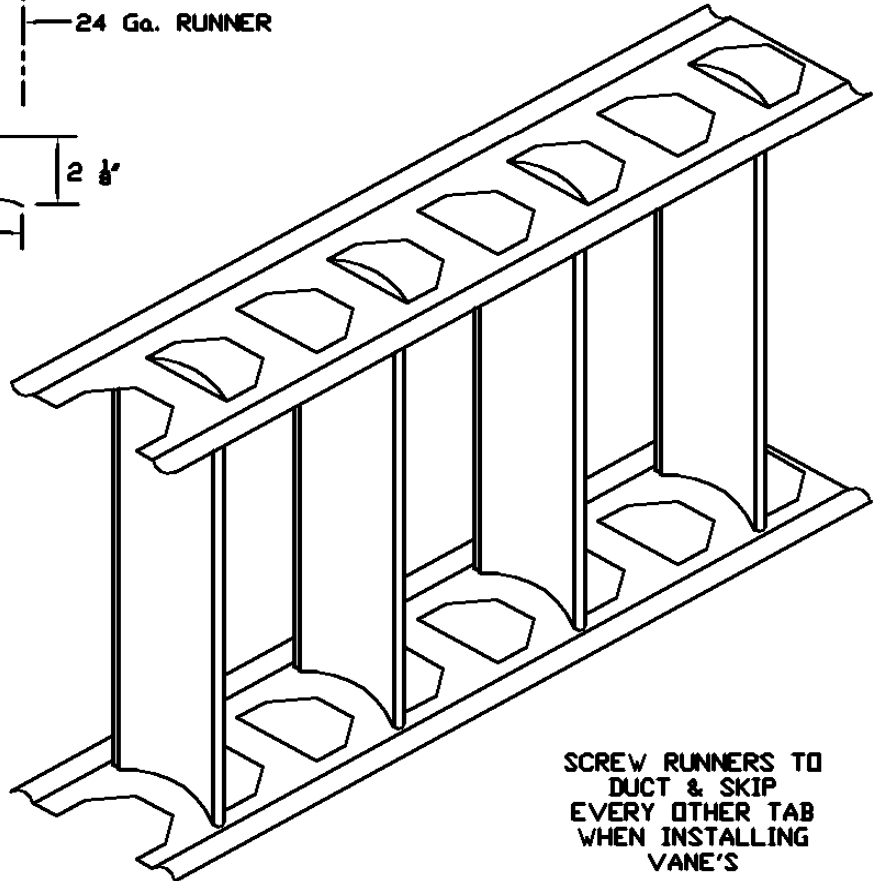


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RECTANGULAR TURNING VANES



FREE AREA BETWEEN
DOUBLE WALL VANES
APPROXIMATES ELBOW
INLET AREA



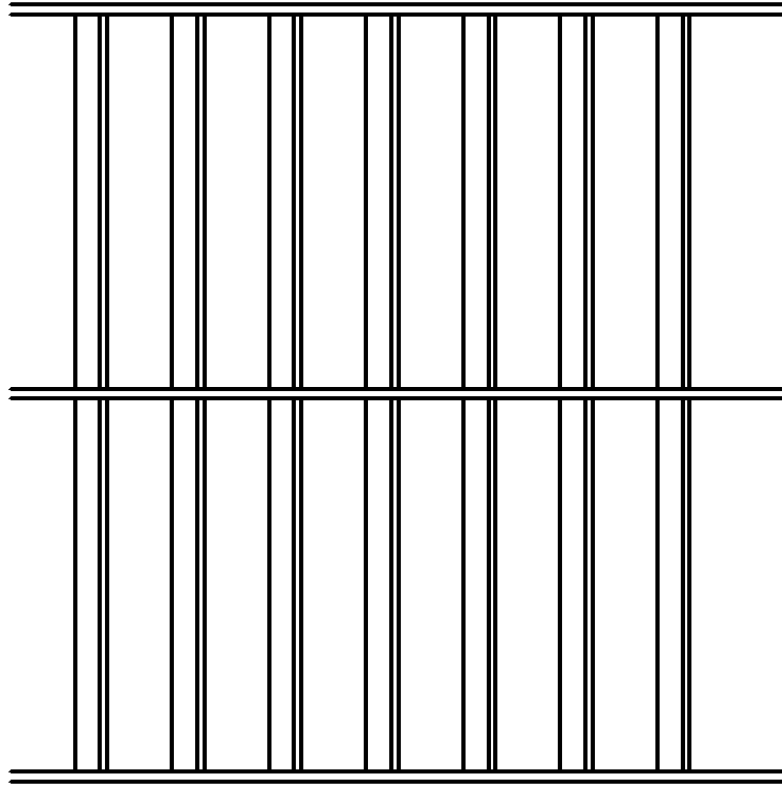
DESCRIPTION

RECTANGULAR TURNING
VANES



HRANEC SHEET METAL INC
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RECTANGULAR TURNING VANE
SUPPORT WHEN APPLICABLE



NOTES:

- A. VANES SHAL BE SECURELY FASTENED TO RUNNERS
- B. ALL VANES SHALL BE SECURE AND STABLE IN INSTALLED OPERATING POSITION.
- C. INSTALL VANES IN SECTIONS OR USE TIE RODS TO LIMIT UN-BRACED VANE LENGTH.
- D. TO PREVENT LINER DAMAGE, CARE MUST BE EXERCISED WHEN INSTALLING VANES IN LINED OR FIBROUS GLASS DUCT.

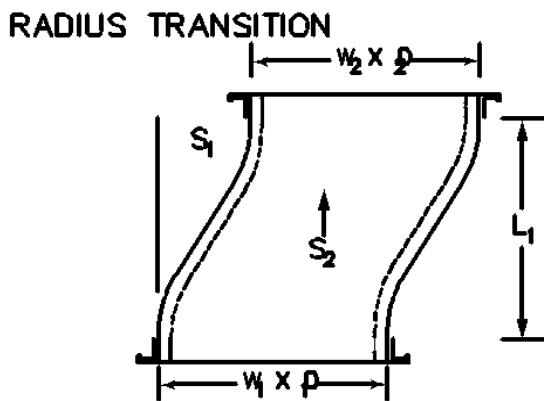
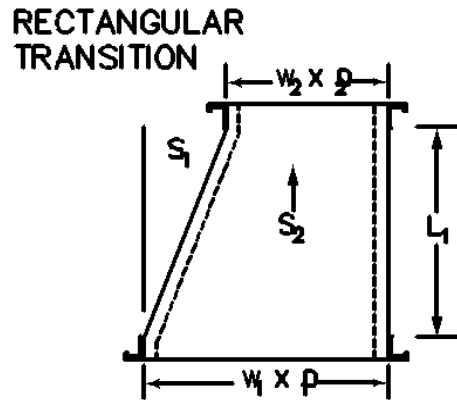
DESCRIPTION

RECTANGULAR TURNING VANE
SUPPORT



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DOUBLE WALL RECTANGULAR OFFSETS & TRANSITIONS



- FABRICATED LENGTH IS 2 TO 3 TIMES THE
GREATEST SET OF THE FITTING.

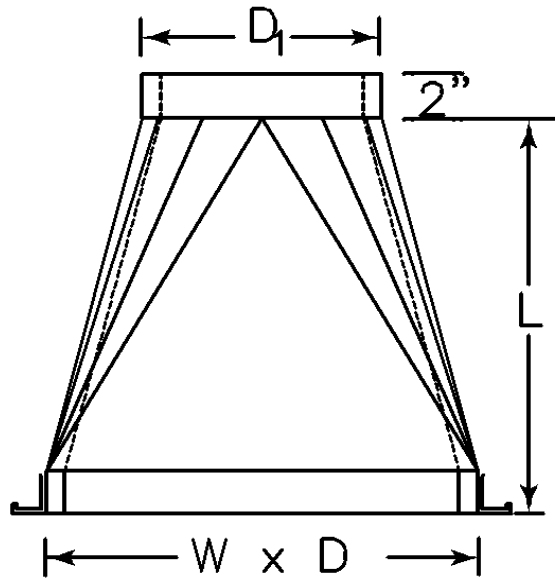
DESCRIPTION

OFFSETS & TRANSITIONS



HRANEC SHEET METAL INC
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DOUBLE WALL SQUARE to
ROUND



NOTES:

- A. SEALED, SPOT WELDED SEAMS USED ON SQUARE TO ROUNDS.
- B. COUPLING CONNECTION SMALL END.
- C. FLANGED CONNECTIONS PIPE SIZE.
- D. FITTING CONNECTION DUCTMATE 35.
- E. FITTING CAN ALSO BE USED AS A REGISTER CONNECTION WITH A FLANGE IN OR OUT.

DESCRIPTION

SQUARE TO ROUND



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