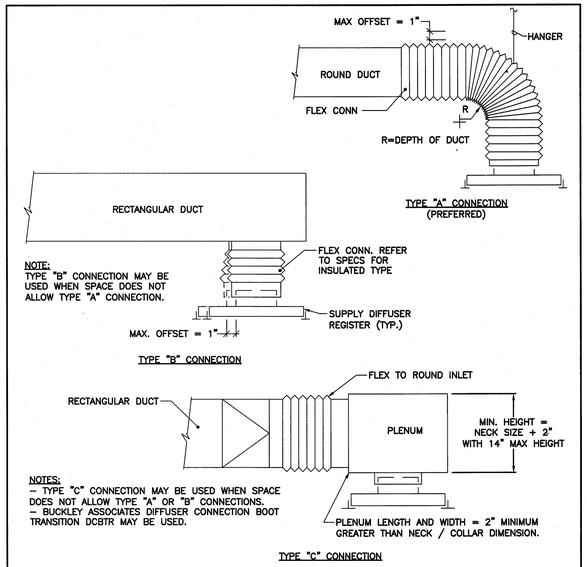
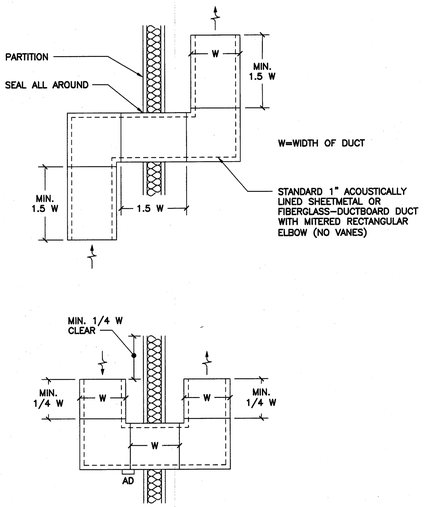


NOTE:
TYPE "B" CONNECTION MAY BE USED WHEN SPACE DOES NOT ALLOW TYPE "A" CONNECTION.

NOTES:
– TYPE "C" CONNECTION MAY BE USED WHEN SPACE DOES NOT ALLOW TYPE "A" OR "B" CONNECTIONS.
– BUCKLEY ASSOCIATES DIFFUSER CONNECTION BOOT TRANSITION DCBTR MAY BE USED.

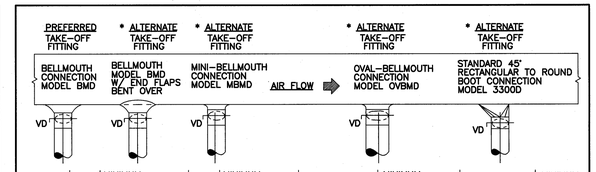
NOTES:
1. THESE DETAILS ALLOW DUCTWORK TO BE PROVIDED BEFORE CEILING GRID IS INSTALLED THEN DIFFUSER/REGISTER CAN BE POSITIONED INTO GRID.
2. PROVIDE INSULATED TRANSITION ROUND TO SQUARE IF REQUIRED AT DIFFUSER.
3. PROVIDE NYLON TY–WRAP TOOL OR REUSABLE SS DRAW BAND PER SPECS.
4. FLEX DUCT SHALL NOT HAVE MORE THAN 1/2" SAG PER FOOT.
5. LENGTH OF FLEX DUCT SHALL NOT EXCEED 6'–0".
6. PROVIDE DUCT MOUNTED VOLUME DAMPER WHENEVER POSSIBLE. TRY TO AVOID NECK DAMPERS.

RDK **TYPICAL SUPPLY DIFFUSER/ REGISTER DUCTWORK & CONNECTION** HSM017



NOTES:
1. IF PARTITION IS FIRE RATED, PROVIDE FIRE DAMPER.
2. SEE PLANS FOR SIZE AND LOCATION OF RETURN AIR TRANSFER DUCTS.

RDK **PLENUM TRANSFER DUCT** HSM004

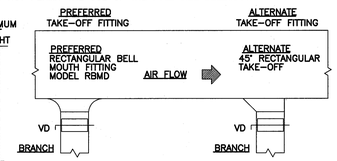


DUCT SIZE	HOLE SIZE	MINIMUM DUCT HEIGHT	DUCT SIZE	HOLE SIZE	MINIMUM DUCT HEIGHT	DUCT SIZE	HOLE SIZE	MINIMUM DUCT HEIGHT	DUCT SIZE	HOLE SIZE	MINIMUM DUCT HEIGHT
5"	8"	9"	5"	—	—	5"	—	—	5"	5" x 10"	7"
6"	9"	10"	6"	7"	9"	6"	—	—	6"	6" x 12"	8"
7"	10"	11"	7"	—	—	7"	9"x 10–9/16"	10"	7"	6" x 12"	8"
8"	11"	12"	8"	9"	11"	8"	9"x 12–1/8"	10"	8"	6–1/2" x 12"	8–1/2"
9"	12"	13"	9"	—	—	9"	9"x 13–11/16"	10"	9"	6–1/2" x 14"	8–1/2"
10"	13"	14"	10"	11"	13"	10"	9"x 15–1/4"	10"	10"	6–1/2" x 16"	8–1/2"
12"	15"	16"	12"	—	—	12"	9"x 18–3/8"	10"	12"	8–1/2" x 18"	10–1/2"
14"	17"	18"	14"	—	—	14"	9"x 21–1/2"	10"	14"	10" x 20"	12"
16"	19"	20"	16"	—	—	16"	9"x 24–5/8"	10"	16"	—	—

ALTERNATE ROUND BRANCH DUCT TAKE–OFFS

* ALTERNATE FITTING'S TO BE USED WHEN DUCT HEIGHT DOES NOT PERMIT THE USE OF THE FULL SIZE BELLMOUTH

DUCT SIZE	HOLE SIZE	MINIMUM DUCT HEIGHT
6 x 4	7.5 x 5.5	7.5
10 x 4	11.5 x 5.5	7.5
16 x 4	17.5 x 5.5	7.5
24 x 4	25.5 x 5.5	7.5
6 x 5	7.5 x 6.5	8.5
10 x 5	11.5 x 6.5	8.5
16 x 5	17.5 x 6.5	8.5
24 x 5	25.5 x 6.5	8.5
6 x 6	7.5 x 7.5	9.5
10 x 6	11.5 x 7.5	9.5
16 x 6	17.5 x 7.5	9.5
24 x 6	25.5 x 7.5	9.5
8 x 8	9.5 x 9.5	11.5
16 x 8	17.5 x 9.5	11.5
24 x 8	25.5 x 9.5	11.5
10 x 10	11.5 x 11.5	13.5
16 x 10	17.5 x 11.5	13.5
24 x 10	25.5 x 11.5	13.5

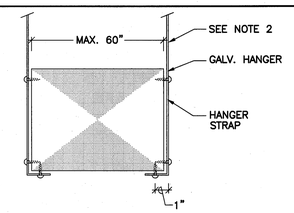


ALTERNATE RECTANGULAR BRANCH DUCT TAKE–OFF

NOTES:
ALL ROUND AND RECTANGULAR BELLMOUTH FITTINGS SHALL BE INCLUDED WITH THE FOLLOWING STANDARD FEATURES:

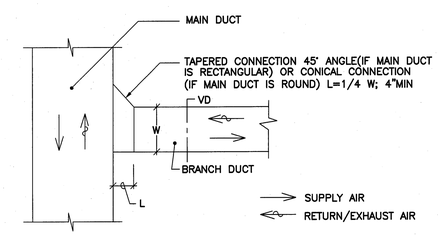
1. NEOPRENE GASKET TO MINIMIZE AIR LEAKAGE.
2. PRE–DRILLED HOLES FOR QUICK MOUNTING.
3. CONSTRUCTED OF HEAVY GALVANIZED STEEL.
4. 26 GAUGE GALV. QUADRANT VOLUME DAMPER W/ TIGHT FITTING GASKETING TO MINIMIZE LEAKAGE AT DAMPER PIVOT POINTS. (FOR LOW PRESSURE DUCTWORK)

RDK **TYPICAL DUCT TAKE–OFF** HSM021



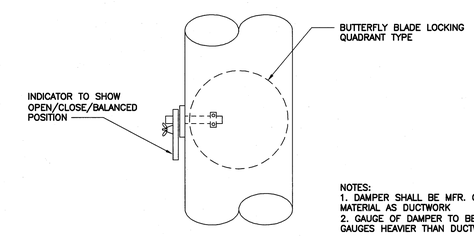
NOTES:
1. CUTTING AND PATCHING SHALL BE LIMITED TO A MINIMUM AS REQUIRED FOR PROPER INSTALLATION.
2. SUPPORTS SHALL BE SPACED AND SIZED AS PER SMACNA.

RDK **DUCT HANGER SUPPORT** HSM008



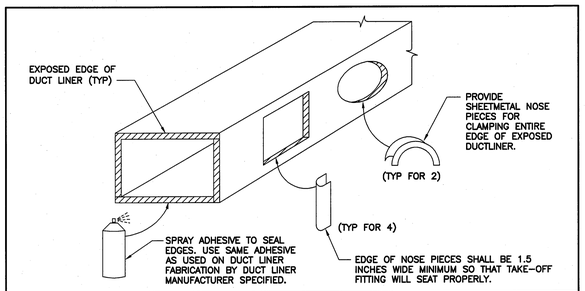
DUCT TAKE–OFF

RDK **BRANCH TAKE–OFFS** HSM001

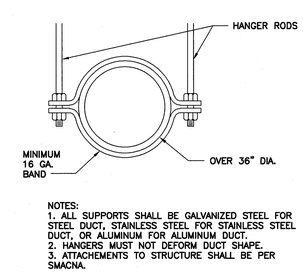


NOTES:
1. DAMPER SHALL BE MFR. OF SAME MATERIAL AS DUCTWORK
2. GAUGE OF DAMPER TO BE (2) GAUGES HEAVIER THAN DUCTWORK

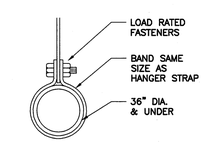
RDK **ROUND VOLUME DAMPER BELOW 14"Ø - LOW PRESSURE** HSM014



RDK **SEALING & SECURING EXPOSED DUCTLINER** HSM003



HANGER STRAPS OR RODS		
MAX. DUCT DIA.	HANGER	MAX. SPACING FEET
20"	ONE 1" x 22 GA. STRAP	10
36"	ONE 1" x 18 GA. STRAP	10
60"	TWO 3/8" DIA. RODS	10
84"	TWO 1/2" DIA. RODS	10



NOTES:
1. ALL SUPPORTS SHALL BE GALVANIZED STEEL FOR STEEL DUCT, STAINLESS STEEL FOR STAINLESS STEEL DUCT, OR ALUMINUM FOR ALUMINUM DUCT.
2. HANGERS MUST NOT DEFORM DUCT SHAPE.
3. ATTACHEMENTS TO STRUCTURE SHALL BE PER SMACNA.

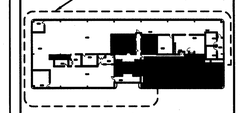
RDK **ROUND METAL DUCT HANGERS** HAS008

56 NORTHPORT DRIVE
(1361 WASHINGTON AVENUE)
PORTLAND, ME

Liberty Mutual.

RDK ENGINEERS
Andover, MA - Boston, MA - New Brunswick, NJ -Amherst, MA - Durham, NC - Charlotte, NC
70 Fargo Street Boston, MA 02210-1964
T.617-345-9885

PROJECT SCOPE



PROJECT NORTH

STATE OF MAINE GREGORY J. TITTERINGTON 5479 REGISTERED PROFESSIONAL ENGINEER

ARC ARCHITECTS

ADD Inc
311 SUMMER STREET BOSTON, MA 02210 617.234.3100

ISSUANCES

No.	Description	Date
1	ISSUED FOR PERMIT	12/23/08

Checked by:

HVAC DETAILS

Drawing Scale: N.T.S.

Job No. 20080729

H-700

M:\2008\20080729 – Liberty Mutual, 511 Congress St. Portland, ME\Vwrk\20080729 H-700 HVAC DETAILS.dwg [Layout1] December 16, 2008 – 9:58am mmonacelos
© 2008 ADD Inc