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PREFERRED TAKE-OFF FITTING * **ALTERNATE TAKE-OFF FITTING** * **ALTERNATE TAKE-OFF FITTING** * **ALTERNATE TAKE-OFF FITTING** * **ALTERNATE TAKE-OFF FITTING**

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"	10"	5"	7"	7"	5"	5"	7"	5"	10"	7"
6"	9"	11"	6"	8"	8"	6"	6"	8"	6"	12"	8"
7"	10"	12"	7"	9"	9"	7"	7"	9"	7"	12"	9"
8"	11"	13"	8"	10"	10"	8"	8"	10"	8"	12"	10"
9"	12"	14"	9"	11"	11"	9"	9"	11"	9"	12"	11"
10"	13"	15"	10"	12"	12"	10"	10"	12"	10"	12"	12"
12"	15"	17"	12"	14"	14"	12"	12"	14"	12"	12"	12"
14"	17"	19"	14"	16"	16"	14"	14"	16"	14"	12"	12"
16"	19"	21"	16"	18"	18"	16"	16"	18"	16"	12"	12"

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	DUCT SIZE	HOLE SIZE	MINIMUM DUCT HEIGHT
6 x 4	7.5 x 5.5	7.5	6 x 5	7.5 x 6.5	8.5
10 x 4	11.5 x 5.5	7.5	10 x 5	11.5 x 6.5	8.5
16 x 4	17.5 x 5.5	7.5	16 x 5	17.5 x 6.5	8.5
24 x 4	25.5 x 5.5	7.5	24 x 5	25.5 x 6.5	8.5
6 x 5	7.5 x 6.5	8.5	10 x 6	11.5 x 7.5	9.5
10 x 5	11.5 x 6.5	8.5	16 x 6	17.5 x 7.5	9.5
16 x 5	17.5 x 6.5	8.5	24 x 6	25.5 x 7.5	9.5
24 x 5	25.5 x 6.5	8.5	8 x 8	9.5 x 9.5	11.5
6 x 6	7.5 x 7.5	9.5	10 x 8	11.5 x 9.5	11.5
10 x 6	11.5 x 7.5	9.5	16 x 8	17.5 x 9.5	11.5
16 x 6	17.5 x 7.5	9.5	24 x 8	25.5 x 9.5	11.5
8 x 8	9.5 x 9.5	11.5	10 x 10	11.5 x 11.5	13.5
10 x 8	11.5 x 9.5	11.5	16 x 10	17.5 x 11.5	13.5
16 x 8	17.5 x 9.5	11.5	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. 28 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 H1521

PREFERRED METHOD:

ALTERNATE METHOD FOR LOW CEILING CLEARANCE ONLY:

NOTES:
1. CONTRACTOR SHALL PROVIDE RETURN AIR BOOTS FOR ALL RETURNS LOCATED WITHIN 15 FEET OF ANY COMPRESSORIZED UNITS, WITHIN 6 FEET OF FAN POWERED BOXES, AND WHERE ADDITIONALLY CALLED OUT ON DRAWINGS.
2. CONTRACTOR SHALL POSITION BOOT SO THAT OPEN ENDS POINT AWAY FROM NOISE SOURCES.
3. IF SPACE RESTRICTS INSTALLATION AS DETAILED, SUBMIT PROPOSED ALTERNATIVE KEEPING NO LINE OF SIGHT BETWEEN GRILLE AND OPENINGS.

RDK RETURN AIR TRANSFER BOOT OPTIONS H1522

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 H1504

NOTES:
1. OFFSETS WITH FLEX DUCT SHALL NOT EXCEED 30" AND SHALL BE GRADUAL. OFFSETS IN EXCESS OF 30" SHALL BE HARD DUCTED.
2. FLEX DUCT SHALL NOT HAVE MORE THAN 1/2" SAG/FT.
3. FOR PERIMETER DIFFUSERS LOCATE DISTANCE FROM OUTSIDE WALL SHOWN ON ARCH PLANS.
4. CONNECTION TO MAIN DUCT SHALL BE HARD DUCT TRANSITION AND VOLUME DAMPER.

RDK LINEAR DIFFUSER CONNECTION H1516

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

RDK TYPICAL SUPPLY DIFFUSER/ REGISTER DUCTWORK & CONNECTION H1517

RADIUS ELBOW AND SPLITTER VANE REQUIREMENTS

r/w RATIO:	NO. OF VANES FOR 1 ELBOW:	NO. OF VANES WHEN 2 ELBOWS ARE WITHIN 2 EQUIV. DIA.:
r/w ≥ 1.50	0	1
1.5 > r/w ≥ 0.70	1	2
0.7 > r/w ≥ 0.60	2	3
0.6 > r/w ≥ 0.55	3	3

EQUIVALENT DIAMETER = (w+h)/2

NOTE: r/w = 0.5 IS A SQUARE THROAT ELBOW! HOWEVER, MINIMUM INSIDE RADIUS R SHOULD BE 2".

TERMINOLOGY:
"NO. 1 OF 3" = NO. 1 VANE OF A TOTAL OF 3 VANES.
"NO. 2 OF 3" = NO. 2 VANE OF A TOTAL OF 3 VANES.

EXAMPLE AT LEFT IS DEPICTED HERE:

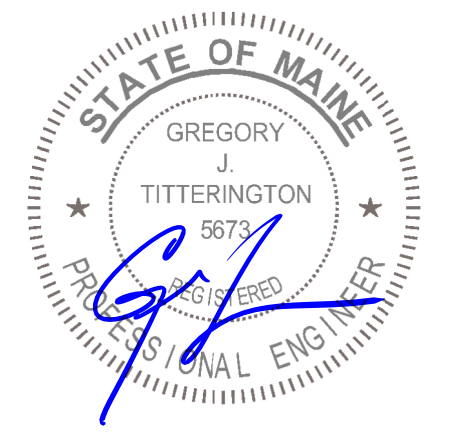
RDK NUMBERING & SPACING OF DUCT SPLITTER VANES H1520

NOTE:
THIS DETAIL HAS TO BE USED WHEN DISTANCE BETWEEN BOX AND TAKE-OFF EXCEEDS 10 FEET. FOR SHORTER DISTANCES USE BELLMOUTH TYPE FITTING WITH DIAMETER TO MATCH BOX INLET. UTILIZE ROUND TO OVAL TRANSITION WHEN BOX INLET IS OVAL.

RDK TAKE-OFF TO TERMINAL BOX H1502

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.

RDK TAKE-OFF TO TERMINAL BOX H1502



REVISIONS

BANK OF AMERICA - HOME LOANS

BANK OF AMERICA

1 MONUMENT SQUARE, PORTLAND ME

TITLE
HVAC DETAILS SHEET 2

DATE 06/29/17 **JOB NO.** 20170237

DRAWING NO.

M-7.1

ISSUED FOR CONSTRUCTION