

**SPECIFICATIONS & NOTES:**

CONTRACTOR SHALL VISIT THE SITE TO DETERMINE PRE-EXISTING CONDITIONS AND ALL WORK NECESSARY, PRIOR TO BIDDING. VERIFY ALL MEASUREMENTS AND EXISTING CONDITIONS IN THE FIELD. GENERAL SCHEMATIC LAYOUT IS INDICATED; ALL OFFSETS, OBSTRUCTIONS, AND EXISTING CONFIGURATIONS AND CONSTRAINTS MUST BE FIELD VERIFIED.

OBTAIN NECESSARY PERMITS AND PAY ASSOCIATED FEES.

COORDINATE ANY SERVICE DISRUPTIONS WITH THE OWNER.

INSTALL ALL COMPONENTS IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS, ALL LOCAL CODES AND STANDARDS, AND UNUM REQUIREMENTS.

DRAWINGS ARE DIAGRAMMATIC ONLY; FIELD-VERIFY ALL EXISTING CONDITIONS. COORDINATE INSTALLATIONS WITH OTHER TRADES.

THE INTENTION OF THESE CONTRACT DOCUMENTS IS TO CALL FOR FINISHED WORK, FULLY TESTED AND READY FOR OPERATION. ANY COMPONENTS OR LABOR NOT MENTIONED IN THE CONTRACT DOCUMENTS BUT REQUIRED FOR FUNCTIONING SYSTEMS SHALL BE PROVIDED. SHOULD THERE APPEAR TO BE ANY DISCREPANCIES OR QUESTIONS OF INTENT, THE CONTRACTOR SHALL REFER THE MATTER TO THE ARCHITECT FOR DECISION BEFORE START OF ANY RELATED WORK.

PERFORM WORK IN ACCORDANCE WITH LOCAL CODES.

SEAL ALL DUCT AND PIPE PENETRATIONS THROUGH FIRE WALLS WITH FIRE SEALANT.

OBSERVE THE OWNER'S CLEANLINESS PROTOCOLS.

**METAL DUCTWORK**

GALVANIZED STEEL DUCTWORK: ASTM A653 GALVANIZED STEEL SHEET, LOCK-FORMING QUALITY, AND 990 ZINC COATING. ALL DUCTWORK SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS. CONSTRUCT DUCT SYSTEMS SO THAT LEAKAGE DOES NOT EXCEED ONE PERCENT OF THE TOTAL AIR QUANTITIES. SEAL ALL DUCT JOINTS WITH GASKETED CONNECTIONS, DUCTMATE, OR EQUAL.

INSULATE DUCTWORK WITH 1-1/2" F.G. BLANKET WITH VAPOR BARRIER JACKET EQUAL TO SCHULLER MICOLITE TYPE 75, ASTM C533, WITH FSK FACING.

PROVIDE VOLUME DAMPERS AT ALL BRANCH DUCTS.

**INSULATED FLEXIBLE DUCTS**

ALUMINUM LAMINATE AND POLYESTER FILM WITH LATEX ADHESIVE SUPPORTED BY HELICALLY WOUND SPRING STEEL WIRE, FIBERGLASS INSULATION, POLYETHYLENE VAPOR BARRIER FILM. R-VALUE = 4.2, UL 181, CLASS 1.

**VAV TERMINAL UNITS**

DESIGN IS BASED ON TITUS. PRESSURE INDEPENDENT. COMPLETE WITH MULTI-POINT AIRFLOW SENSOR. THE TERMINAL CASING SHALL BE MINIMUM 22 GAUGE GALVANIZED STEEL INTERNALLY LINED WITH NON-POROUS, FIBER FREE SEALED LINER WHICH COMPLIES WITH UL 181 AND NFPA 255. DAMPER OF HEAVY GAUGE STEEL.

**AUTOMATIC TEMPERATURE CONTROLS**

- CONTROLS SHALL BE COMPATIBLE WITH THE EXISTING SYSTEM.
- EXTEND EXISTING DDC CONTROL SYSTEM TO SERVE NEW TERMINAL UNITS.
- PROVIDE COMPLETE DDC CONTROLS FOR VAV AND FAN POWERED TERMINAL UNITS.

**TESTING, ADJUSTING AND BALANCING (T-A-B)**

TEST, ADJUST, AND BALANCE EQUIPMENT AND DISTRIBUTION SYSTEMS IN ACCORDANCE WITH NEBB OR ABC PROCEDURAL STANDARDS. TESTS SHALL BE PERFORMED BY AN INDEPENDENT T-A-B AGENCY.

T-A-B ALL NEW AIR INLETS AND OUTLETS. TEST AND ADJUST ADJACENT AFFECTED AREAS IF REQUIRED.

T-A-B NEW VAV BOX.

**NOTE:**

- SEE SHEET M-001 FOR LEGEND AND ABBREVIATIONS.

**EXISTING DUAL DUCT VARIABLE VOLUME UNIT SCHEDULE**

EXISTING DUAL DUCT VARIABLE VOLUME UNIT	MAX. COOLING CFM	MAX. HEATING CFM	TYPICAL UNIT MFG & MODEL NO.	NOTES:
(E) DDVAV 1-5	580	320		
(E) DDVAV 1-6	400	120		
(E) DDVAV 1-7	400	120		
(E) DDVAV 1-8	400	120		
(E) DDVAV 1-9	600	200		
(E) DDVAV 1-10	500	170		
(E) DDVAV 1-11	900	270		
(E) DDVAV 1-12	600	200		
(E) DDVAV 1-13	800	240		
(E) DDVAV 1-14	950	285		
(E) DDVAV 1-15	1200	360		
(E) DDVAV 1-16	880	-		
(E) DDVAV 1-17	200	-		
(E) DDVAV 1-18	200	-		
(E) DDVAV 1-19	800	-		
(E) DDVAV 1-20	800	-		
(E) DDVAV 1-21	1000	-		
(E) DDVAV 1-22	1000	-		
(E) DDVAV 1-23	1000	-		
(E) DDVAV 1-24	800	-		
(E) DDVAV 1-25	400	-		
(E) DDVAV 1-26	1200	360		
(E) DDVAV 1-27	1080	330		
(E) DDVAV 1-28	600	180		
(E) DDVAV 1-29	600	180		
(E) DDVAV 1-30	600	180		
(E) DDVAV 1-31	600	180		
(E) DDVAV 1-32	600	180		
(E) DDVAV 1-33	600	180		
(E) DDVAV 1-34	600	180		
(E) DDVAV 1-35	600	180		
(E) DDVAV 1-36	1200	360		

NOTES:

**REGISTER, DIFFUSER & GRILLE SCHEDULE**

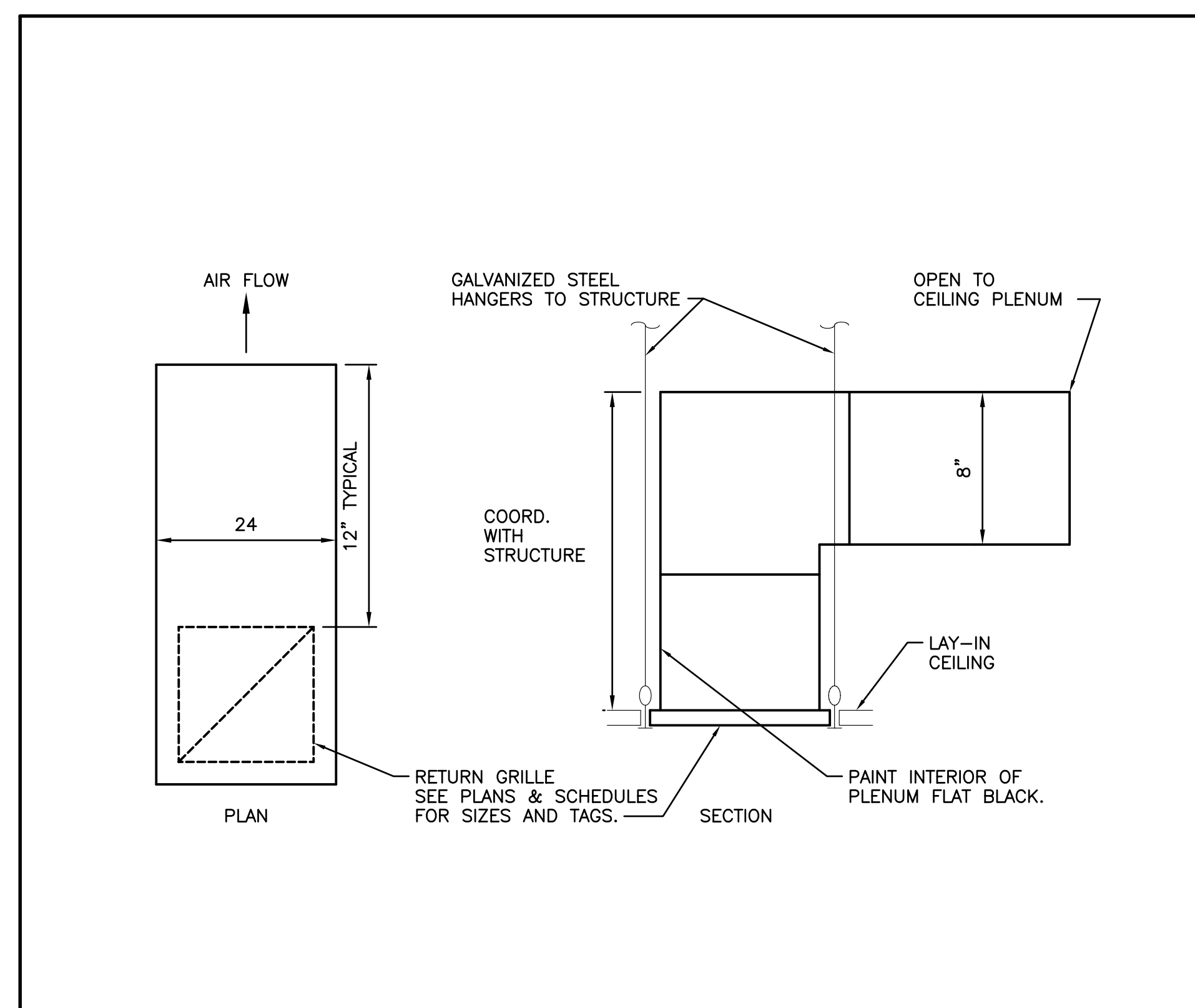
TAG	MAX. CFM	NECK SIZE	TYPE	ΔP	MAX. NC	TYPICAL UNIT MFG & MODEL NO.	NOTES
S-1	0-155	6"ø	SQUARE CEILING DIFFUSER	0.06	25	TITUS TMS 24x24 LAY-IN	①
S-2	156-240	8"ø	SQUARE CEILING DIFFUSER	0.06	25	TITUS TMS 24x24 LAY-IN	①
S-3	180	8"ø	SQUARE CEILING DIFFUSER	0.08	20	TITUS TMS 9x9, 24x24 LAY-IN	①
S-4	200	8"ø	SQUARE CEILING DIFFUSER	0.06	16	TITUS TMS 12x12, 24x24 LAY-IN	①
S-5	320	10"ø	SQUARE CEILING DIFFUSER	0.09	21	TITUS TMS 12x12, 24x24 LAY-IN	①
S-6	85	6"ø	LINEAR LAY-IN	0.09	22	TITUS MP-37-SP 4' LONG	②
S-7	241-380	10"ø	SQUARE CEILING DIFFUSER	0.05	18	TITUS TMS 24x24 LAY-IN	①
R-1	0-900	22x22	RETURN GRILLE	0.02	25	TITUS J50 RL 24x24 LAY-IN	①
R-2	1875	42x20	RETURN GRILLE LAY-IN	0.02	<12	TITUS SOR 24x48	①

NOTES: ① WHITE FINISH. ② TWO 1/2" SLOTS, ADJUST AIRFLOW FOR 50% IN EACH DIRECTION.

**VARIABLE AIR VOLUME (VAV) TERMINAL SCHEDULE**

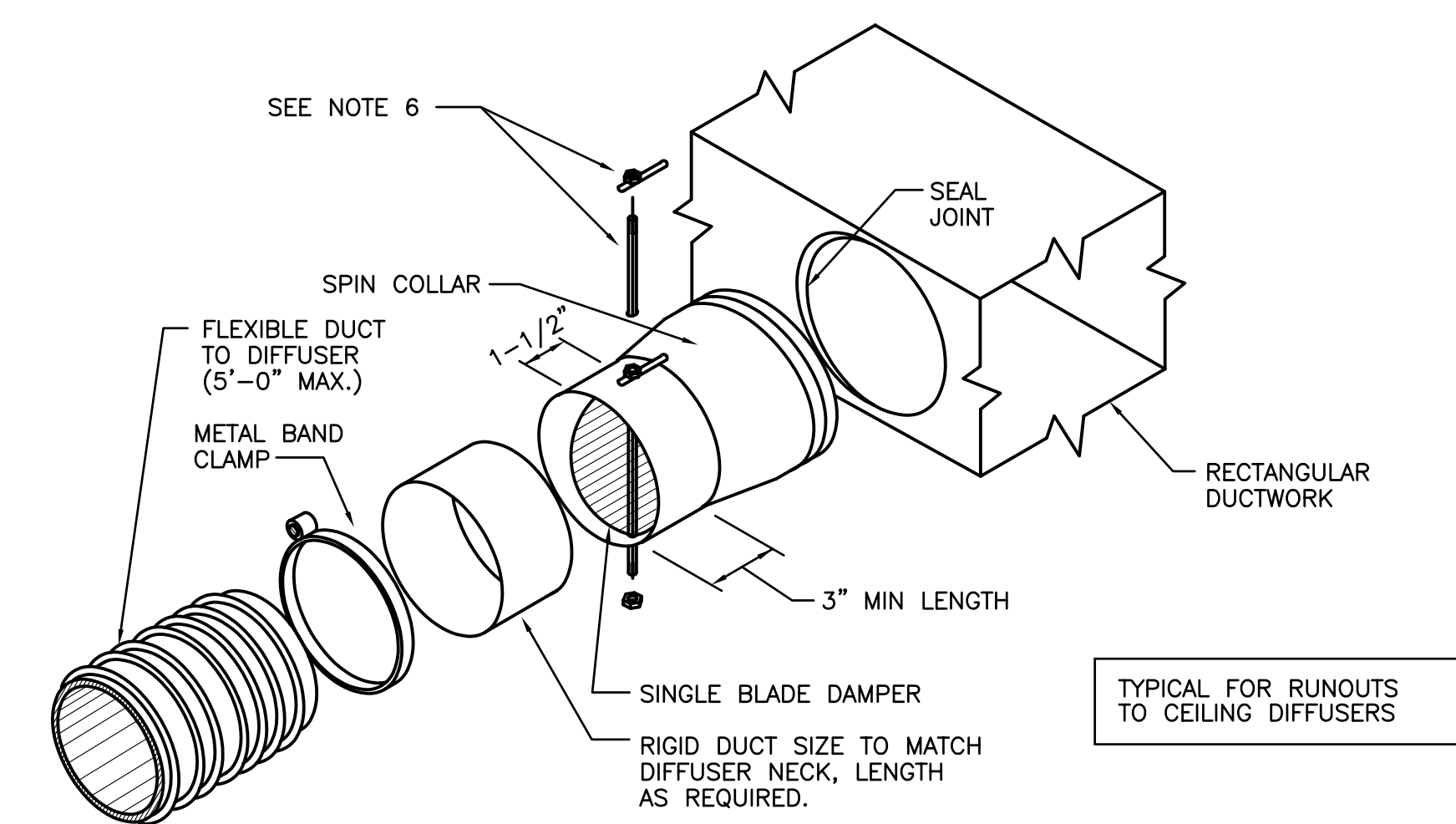
TAG	INLET SIZE	OUTLET SIZE	CFM MAX	CFM MIN	INLET STATIC PRESSURE MIN	APD MAX	TYPICAL UNIT MFG & MODEL NO.	NOTES:
(E) C-11	*	*	1300	0	*	*	*	①
C-11A	8"	15x10	700	0	1.0	0.16	TITUS EVS 08	②
(E) C-12			600	0				①
(E) C-13			1100	0				①
(E) C-14			800	0				①
(E) C-15			800	0				①
(E) C-16			1100	0				①
(E) C-17			600	0				①
(E) C-19			1100	0				①

NOTES: ① EXISTING TERMINAL UNIT. ② FIBRE FREE LINING.



**A8 RETURN AIR BOOT**

NOT TO SCALE



- NOTES:**
- SUPPORT IN ACCORDANCE WITH SMACNA GUIDELINES.
  - BAND FLEX TO COLLAR 1/2" MINIMUM FROM OUTBOARD END OF COLLAR.
  - INSTALL SPIN COLLAR DAMPER IN OPEN POSITION; FINAL ADJUSTMENT BY TAB CONTRACTOR.
  - POP RIVET OR SHEET METAL SCREWS, MINIMUM 3 EA AT 120" INTERVALS, CONNECTING STOVEPIPE TO COLLAR. ENSURE RIVETS OR SCREWS DO NOT INTERFERE W/ DAMPER.
  - SEAL JOINTS WITH SPECIFIED SEALANTS TO PREVENT LEAKAGE.
  - INSTALL LOCKING QUADRANT AND HANDLE ON BOTTOM OF DUCT FOR EASY SERVICE (SHOWN ON TOP FOR EASE OF ILLUSTRATION ONLY).
  - SUPPORT FLEXIBLE DUCT TO PREVENT KINKING AND SHARP TURNS.

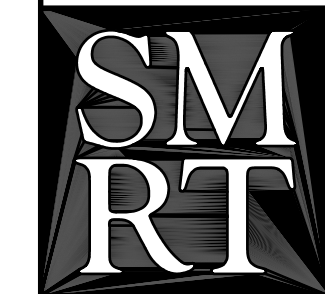
**A13 SPIN COLLAR FLEXIBLE DUCT CONNECTOR W/ DAMPER**

NOT TO SCALE

2	ISSUED FOR SI-2	6-9-03
1	ISSUED FOR SI-1	6-2-03
0	ISSUED FOR CONSTRUCTION-PHASE 1	5-21-03
REV.	DESCRIPTION	DATE

**ISSUED FOR SI-2 6-9-03**

CURRENT ISSUE STATUS:



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**SPECIFICATIONS, DETAILS AND SCHEDULES**

SHEET TITLE:	AS NOTED	DATE:	5-21-03
PROJECT MANAGER:	JLH	GRAPHIC SCALE:	0" 1"
JOB CAP/DRAWN:	RJL/BGG		
A/E OF RECORD:	DCM	SHEET No.	
SMRT CAD FILE:	M-002-03051		
PROJECT No.	03051		

**M-002**