

City of Meriden, Connecticut Purchasing Department

Invitation to Bid

For

ARPA- Kitchen Hood and Ansul System

Meriden, CT

B024-31

Bids Due: December 20, 2023 @ 11:00 AM

Purchasing Department
142 East Main Street, Room 210
Meriden, CT 06450
(203) 630-4115

LEGAL NOTICE

INVITATION TO BID

The City of Meriden is accepting sealed bids for:

B024-31 – ARPA - Kitchen Hood and Ansul System

The City of Meriden seeks bids for the purchase of a Kitchen Hood and Ansul system as per specifications provided.

Bids shall be submitted on forms and in the manner specified. Forms and specifications may be Purchasing Department, City Meriden obtained the on the of website (www.meridenct.gov/business/bids-rfps/), and on the State of Connecticut Department of Administrative Services website (https://webprocure.proactiscloud.com). Bids will be accepted at the Purchasing Department, 142 East Main Street, Room 210, Meriden, Connecticut 06450 until 11:00 A.M. local, eastern standard time on December 20, 2023 at which time they will be publicly opened and read. Any bid received after the time and date specified shall not be considered.

A site inspection is scheduled on December 5, 2023 at 10:00 a.m. 1448 East Main Street Meriden CT 06450

The right is reserved to reject any or all bids, in whole or in part, to award any item, group of items, or total bid, and to waive informality or technical defects, if it is deemed to be in the best interest of the City of Meriden. No bidder may withdraw its bid within sixty (60) days of the date of the bid opening.

The City of Meriden is an Affirmative Action/Equal Opportunity Employer. Disadvantaged, minority, small, and women business enterprises are encouraged to respond.

Rawle Dummett Purchasing Officer City of Meriden, CT 06450-8022 Dated: November 27, 2023

CITY OF MERIDEN, CONNECTICUT

B024-31 – ARPA - Kitchen Hood and Ansul System

INFORMATION TO BIDDERS

1. BIDDING PROCEDURES

Sealed Bids shall be submitted on the forms designated by the attached proposal bid forms. Bids will be received by the City of Meriden's Purchasing Department, Room 210, City Hall, 142 East Main Street, Meriden, Connecticut, 06450-8022 until 11:00 a.m. on December 20, 2023 and thereafter immediately read in public (the "bid opening").

2. BIDS

Bids are to be submitted on the attached proposal forms. Please submit two copies of the proposal forms and Bidder's Qualification Statement. One shall be an original and one can be a copy. Please submit one complete copy of your bid on a flash drive.

BID WILL BE AUTOMATICALLY REJECTED FOR ANYONE SUBMITTING A SURETY OTHER THAN THOSE SPECIFIED.

- a. Bids must be made out and signed in the corporate, or other, name of Bidder, and must be fully and properly executed by an authorized person.
- b. The sealed envelope must denote the Bidder's name and address in the upper left hand corner and the words "BID DOCUMENT B024-31 ARPA Kitchen Hood and Ansul System to be opened at 11:00 a.m." in the lower left hand corner.
- c. Bids received later than the time and date specified will not be considered.
- d. Amendments to or withdrawal of bids received later than the date and time set forth in the bid opening will not be considered.
- e. All prices must be in ink or typewritten. In the event of a bidder's mathematical error in tabulating any bid prices, *the written unit prices shall govern*.

3. BIDDER QUALIFICATIONS

Bidders will be required to fill out, and include as part of its bid, any attached Bidder's Qualification Statement.

In determining the qualifications of a bidder, the City of Meriden will consider the bidder's record of performance in any prior contracts for construction work. The City of Meriden expressly reserves the right to reject a bid if the bidder's historical performance, in the sole opinion of the City of Meriden, has been unsatisfactory in any manner or if the bidder has habitually and without just cause neglected the payment of bills or has otherwise disregarded its obligations to subcontractors, suppliers, or employees.

4. EXAMINATION OF BIDDING DOCUMENTS

Bidders are to examine all documents and visit the site in order to make a thorough examination of the conditions so that the bidder may familiarize itself with all of the existing requirements, conditions, and difficulties that will affect the execution of the work in order to determine the amount of work necessary to carry out the true intent of the specifications and work shown on the drawings.

The City of Meriden and its agents do not have any responsibility for the accuracy, completeness, or sufficiency of any bid document obtained from any other source other than from the City of Meriden. Obtaining documents from any other source(s) may result in obtaining incomplete and inaccurate information. Obtaining documents from any other source may also result in failure to receive any addenda, corrections, or other revisions to the documents that may be issued.

No request shall be honored if such request is made less than seven (7) calendar days prior to the date fixed for the opening of bids. Any and all such interpretations, and any supplementary instructions, will be in the form of a written addenda to the specifications which, if issued, will be made available on the City of Meriden website (www.meridenct.gov) unless it is to change the date fixed for the opening of bids, not later than three (3) days prior to the date fixed for the opening of bids. Bidders are encouraged to check the website regularly for addenda. Failure of any bidder to receive any such addenda shall not relieve any bidder from any obligations under its bid as submitted.

Any questions about the bid document must be submitted in writing via email to meridenpurchasing@meridenct.gov. Any other format of question will not be answered.

5. BIDS TO REMAIN OPEN

No bidder may withdraw its bid within sixty (60) days of the date of the bid opening. Should there be reason why the contract cannot be awarded within the specified period, the time may be extended by mutual agreement between the City of Meriden and the successful bidder.

6. AWARD OF CONTRACT

The Purchasing Officer reserves the right to make an award on the bid which, by the Purchasing Officer's judgment and recommendation from the Facilities Department following bid evaluations, best meets the specifications and is deemed to be in the best interest of the City of Meriden.

The contract will <u>not</u> be awarded to any corporation, firm, or individual which/who is in arrears to the City of Meriden by debt or contract, or who is in default as security or otherwise by any obligation to the City of Meriden.

The right is reserved to reject any or all bids, in whole or in part, to award any item, group of items, or total bid, and to waive informality or technical defects, if it is deemed to be in the best interest of the City of Meriden.

7. BID PROTEST PROCEDURE

In the event that any bidder wishes to protest the potential award of a bid, or any procedure of act in the advertising or soliciting of the bids, said bidder must make said protest in writing, which shall state the reason therefore and request a conference with respect thereto. Said protest must be received in the City Purchasing Office within FIVE (5) business days after the delivery of bid results or decisions. A conference with respect to said protest shall be scheduled by the Purchasing Officer forthwith and shall be attended by him or his designee and such other persons as the Purchasing Officer and the City Manager shall require to attend. The subject matter of said conference shall be limited to the reasons for the protest specified in the written request for said conference. Said conference shall also include a discussion of all possibilities for a resolution of dispute. The City shall make a decision in writing within three (3) business days after said conference and forward the same to the protesting bidder forthwith. In the event that any protesting bidder wishes to take legal action against the City, they must fully comply with all of these instructions to bidders.

8. CITY OF MERIDEN, LOCAL PREFERENCE

In determining the lowest responsible bidder, the Purchasing Department shall also consider Local Preference.

This section shall not apply in those instances where the bid requested involves a cooperative purchasing arrangement between the City of Meriden and other municipalities or the State of Connecticut.

Bidders are specifically advised that the City of Meriden has adopted Section 3-14 of the Code of the City of Meriden which requires, but is not limited to, a local preference requiring, in part, that a "City-based business" shall mean a business with its principal place of business located within the boundaries of the City of Meriden. A business shall not be considered a "City-based business" unless evidence has been submitted, satisfactory to the Purchasing Department, with each bid (forms included in bidding documents) to establish that the bidder has a bona fide principal place of business, operates out of, or pays property taxes on personal property in the City of Meriden.

Any City-based business bidder which has submitted a bid not more than ten (10) percent higher than the low bid provided such City-based business bidder agrees to accept the award of the bid at the amount of the low bid. The acceptance shall be submitted in writing to the Purchasing Department no later than next business day following the opening of the bid. For example, a bid opened at 11:00 a.m. on a Monday must be accepted by the City-based bidder no later than 11:00 a.m. on Tuesday. If more than one City-based business bidder has submitted bids not more than ten (10) percent higher than the low bid and has agreed to

accept the award of the bid at the amount of the low bid, the lowest responsible bidder shall be one of the City-based business bidders which has submitted the lowest bid.

Bidders claiming status under the local preference are hereby required to submit with its bid an additional form, titled "Request for Status as a Meriden Based Business."

9. EXTENSION OF AGREEMENT – N/A

10. TIME

Inasmuch as the contract concerns a public improvement, the provisions of the contract relating to the time of performance and completion of the work are of the essence of the contract. Accordingly, the successful bidder/contractor ("Contractor") shall begin work on the day specified in paragraph 2.04 of the General Conditions and shall perform the work diligently so as to permit full use not later than the first day following the construction period established in the Contract. See paragraph 10 entitled "Liquidated Damages" of the Agreement between City of Meriden, as owner, and the Contractor.

11. SCHEDULE OF WORK

The Contractor shall schedule all work in a manner that will not disrupt City of Meriden operations. Once the work has begun, the Contractor shall work full-time until completion of the Contract.

12. TAXES

The City of Meriden is exempt under Connecticut General Statutes from the payment of the excise taxes imposed by the federal government and the Sales and Use Tax of the State of Connecticut; such taxes should not be included in the bid price. Upon request, exemption certificates will be furnished to the successful bidder.

13. FAIR EMPLOYMENT PRACTICES

The Contractor shall agree that neither it or its subcontractors, except in the case of a bona fide occupational qualification or need, to refuse to hire or employ or to bar or to discharge from employment any individual or to discriminate against such individual in compensation or in terms, conditions or privileges of employment because of the individual's race, color, religious creed, age, sex, gender identity or expression, marital status, national origin, ancestry, present or past history of mental disability, intellectual disability, learning disability, physical disability, including, but not limited to, blindness or status as a veteran. The aforementioned terms are obtained from Connecticut General Statutes Section 46a-60, *et seq.*, entitled "Discriminatory employment practices prohibited," as amended.

14. FORM OF AGREEMENT BETWEEN CITY OF MERIDEN AND CONTRACTOR

The Agreement for the work will be written on the Agreement between City of Meriden and Contractor, wherein the basis of payment is a stipulated sum.

15. LOCAL SUBCONTRACTORS, SUPPLIERS, etc.

Local subcontractors, material suppliers, and labor in the City of Meriden should be considered and sought out insofar as it is practical in the performance of this project.

16. CITY OF MERIDEN CODE OF ETHICS

The City of Meriden has adopted a Code of Ethics located in Chapter 21 of the Code of the City of Meriden, sections 21-1 through 21-15, inclusive, which are expressly incorporated herein by reference. The terms of the Code of Ethics shall constitute a part of any contract or agreement entered into by the City of Meriden as a result of this bid as if those terms were fully set forth in such contract or agreement.

Bidders are specifically advised that the Code of Ethics prohibits public officers and employees, as well as their immediate families and businesses, with which they are associated from participating in any transaction which is incompatible with the proper discharge of official duties or responsibilities. Bidders are also advised that the Code of Ethics contain provisions with respect to paid contractors and former employees and officials.

BIDDERS SHOULD NOTE THAT BIDS, CONTRACTS, AND AGREEMENTS ENTERED INTO OR AWARDED IN VIOLATION OF THE CODE OF ETHICS ARE VOIDABLE BY RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MERIDEN.

Copies of the Code of Ethics may be obtained from the office of the City Clerk or may be found online on the City of Meriden's website.

17. NON-COLLUSION BID STATEMENT

Each bidder submitting a bid to the City of Meriden for any portion of the work contemplated by the documents on which bidding is based shall execute and attach thereto the sworn Non-Collusive Bid Statement, to the effect that the bidder has not colluded with any other person, firm, or corporation in the submission of the bid.

18. SOIL CONDITIONS

The City of Meriden does not guarantee the accuracy of any information which it may have obtained as to the kind or condition of the soil that may be encountered in the performance of the proposed work; neither does the City of Meriden represent that the plans and specifications drawn are based upon any soil data so obtained. The City of Meriden does not

make any representations as to the soil data so obtained. The City of Meriden does not make any representations as to the soil conditions to be encountered or as to foundation materials.

19. AWARD IN CASE OF A TIE

In the event there are two or more responsive bidders, the decision to award will be based by the following criteria and in the following order:

- a. The incumbent will be awarded the bid over that of another bidder.
- b. In the case of a multi-item bid, if one bidder has been awarded other items from the same bid and the other bidder has not, the bidder with the multiple awards will be awarded the bid over that of another bidder.
- c. The bidder located in the State of Connecticut will be awarded the bid over that of another bidder.
- d. The winner of a coin toss will be awarded the bid over that of another bidder.

The above-referenced provisions do not apply to those situations in which more than one City-based business responsible bidder has submitted bids not more than ten (10) percent higher than the lowest bid and has agreed to accept the award of the bid at the amount of the lowest bid. Under such circumstances, the provisions of the Code of the City of Meriden, section 3-14, are controlling, as set forth under Section 8 of this 'Information to Bidders.'

20. ASSIGNMENT OF CONTRACT

No contract may be assigned without the written consent of the Purchasing Officer or designee.

21. PERMITS

The Contractor shall be responsible for obtaining any and all necessary permits required by the City of Meriden prior to the commencement of work. The Contractor may contact the City of Meriden Building Department for permit information at (203) 630-4091. For all other required permits, contact the City of Meriden Engineering Department at (203) 630-4018.

22. BID PRICE AND PAYMENT

The City of Meriden is exempt from the payment of the excise taxes imposed by the Federal government and the Sales and Use Tax of the State of Connecticut under Connecticut General Statutes; accordingly, such taxes shall not be included in the bid price.

The City of Meriden, unless stated otherwise in the bidding documents or Contract, will make payment to the Contractor not less than thirty (30) days following completion of services.

23. QUALITY

All materials, equipment, supplies, and services shall be subject to rigid inspection. If defective material, equipment, supplies, or services are discovered, the Contractor shall remove or make good such material, equipment, or supplies without extra compensation. It is expressly understood and agreed that any inspection by the City of Meriden will in no way lessen the responsibility of the Contractor or release Contractor from the obligation to perform and deliver to the City sound and satisfactory materials, equipment, supplies, or allow the cost to be deducted from any monies due it from the City of Meriden. All services will be performed in a workmanlike manner.

24. INSURANCE

The successful bidder shall be required to provide a Certificate of Insurance denoting general liability, automobile liability, workers compensation liability, and other coverage required by the City's Risk Manager.

25. CITY HALL CLOSING

If Meriden City Hall is closed due to inclement weather, or any other unforeseen event, bids will be due at the same time on the next business day that City Hall is open.

CITY OF MERIDEN, CONNECTICUT

B024-31 – ARPA - Kitchen Hood and Ansul System

NON-COLLUSIVE BID STATEMENT/AFFIDAVIT

The undersigned bidder, having been duly sworn, does hereby depose and says:

- 1. The bid has been arrived at by the bidder independently and has been submitted without collusion and without any agreement, understanding, or planned common course of action with any other vendor of materials, supplies, equipment, or services described in the Invitation to Bid.
- 2. The contents of the bid have not been communicated by the bidder or its employees or agents to any person not an employee or agent of the bidder or its surety on any bond furnished with the bid, and will not be communicated to any such person prior to the official opening of the bid.
- 3. The undersigned bidder is duly authorized to bind the business entity identified below.

The undersigned bidder further certifies, under oath, that this statement is executed for the purposes of inducing the City of Meriden to consider the bid and make an award in accordance therewith.

Signature of Bidder				
Print Legal Name of Bidder				
Relationship to Business Entity Be	low			
Business Entity Name, Address, Te	elephone Ni	umber, and I	Email Address	
STATE OF CONNECTICUT)) ss:			
COUNTY OF)			
Duly sworn and subscribed to before	re me			
this day of, 2023.				
Notary Public				
My Commission Expires:				
Commissioner of the Superior Cou-	rt			

CITY OF MERIDEN, CONNECTICUT

B024-31 – ARPA - Kitchen Hood and Ansul System

REQUEST FOR STATUS AS A MERIDEN-BASED BUSINESS

Bidders are specifically advised that the City of Meriden has adopted Section 3-14 of the Code of the City of Meriden which requires, but is not limited to, a local preference requiring, in part, that a "City-based business" shall mean a business with its principal place of business located within the boundaries of the City of Meriden. A business shall not be considered a "City-based business" unless evidence satisfactory to the Purchasing Department has been submitted with each bid by said business to establish that is has a bona fide principal place of business in the City of Meriden. Such evidence may include evidence of ownership or a long term lease of the real estate from which the principal place of business is operated, or payment of property taxes on the personal property of the business.

In determining the lowest responsible bidder, the Purchasing Department shall also consider the following:

Any City-based business bidder which has submitted a bid not more than ten (10%) percent higher than the low bid. Such City-based business shall agree to accept the award of the bid at the amount of the low bid. The acceptance shall be submitted in writing to the Purchasing Department no later than the same time of the bid opening on the next business day following the opening of the bid.

If more than one City based business bidder have submitted bids not more than ten (10%) percent higher than the low bid and have agreed to accept the award of the bid at the amount of the low bid, the lowest responsible bidder shall be that one which has submitted the lowest bid.

This section shall not apply in those instances where the bid requested involves a cooperative purchasing arrangement between the City of Meriden and other municipalities or the State of Connecticut.

The bidder may submit any additional information he/she desires that he/she feels establishes the company as a city based business, including but not limited to; evidence of ownership, a long term lease of the real estate from which the principal place of business is operated, or payment of property taxes on the personal property of the business.

1) Name of Bidder:		
2) Meriden Office Address:		
3) Minority owned: Yes	No	

Dated at:	_ this:	_ day of	_, 20
Name of			
bidder:			
By: Title:			
Title:			
IF REQUESTING STATUS AS A MERII PROPOSAL.	DEN-BASED I	BUSINESS, SUBMIT THIS FO	ORM WITH YOUR

4) The undersigned hereby authorizes and requests any persons, firms, or corporations to furnish any information requested by the City of Meriden, in verification of the recitals comprising this Request for Status as a City Based Business.

BIDDER'S QUALIFICATION STATEMENT

This Statement of Bidder's Qualifications is to be submitted by the bidder at the time of the bid opening. All questions must be answered and the data given must be clear and comprehensive. If necessary, questions must be answered on attached sheets. The bidder may submit any additional information they desire. It is understood that when the City has executed an Agreement, to which these General Conditions are a part, it is, in part, done upon the reliance of the answers provided herein by the bidder or the agent of the bidder.

	Fax	
	Vice President Secretary	
:		
ames of partners. If a s	ole proprietorship, give name and title	e of a least one responsible
OWNER	TELEPHONE NUMBER CONTACT NAME	COST
	ames of partners. If a seer shall be qualified by ojects completed within OWNER	

l.	Minority owned business?	yes	no	
2.	Years organized.			
3.	Is your company a corporation If yes where incorporated?	yes	no	
١.	How many years have you been engage	ed in business under	your present firm name? _	
	Former Firm Name (if any)			
•	List total number of Personnel		_	
	Is any principal of your firm an employ family member of an employee or publ family includes: an individual's spouse or spouse; and the child of such individuals.	lic official of the City e, fiancé or fiancée; the dual or the spouse of	of Meriden? (Definition of the parent, brother or sister	of immediate
	List Vehicles and Equipment that you vequipment, sizes, capacities, etc.	-	is work: (show age of veh	
	List the work to be performed by Subco	ontractors and summa	arize the dollar value of ea	ch subcontract.
0.	List the name and address of the more approximate gross cost for each, and the			starting the
1.	General character of work performed b	y you		
2.	Have you ever failed to complete any c	contract awarded to y	ou? If so, where and why?	

14.				in:
15.				be required by the City of Meriden?
16.	The undersigne	ed hereby authorizes and requiuested by the City of Merido	uest any persoi	n, firm or cooperation to furnish any ion of the recitals comprising this Statement o
Dated	this	day of	. 20	
	day	day of month		year
				Name of Bidder
State	of			Title
Count	y of			
			being duly	sworn deposes and says that they are
Name				
title		ot	name of orga	nization
				erein contained are true and correct
		sworn to before me		
this _		day of	20	
	day	month	year	

BID FORM

B024-31 ARPA - Kitchen Hood and Ansul System

Date of Opening: December 20, 2023

At 11:00 AM

To: Rawle Dummett Purchasing Officer	
142 East Main Street, Room 21	0
Meriden, CT 06450	
The undersigned	, doing business in the City/Town of
	State of, herewith, after reading thoroughly the Specifications and my addendum or addenda) submit the following proposal:
Lump sum price:	
Written Amount	Dollars & Cents
Receipt of Addenda is acknowledge	d:
No: Dated	:
No: Dated	:
NAME OF BIDDER	
ADDRESS	
BY:	
Print or type name	Title
SIGNATURE	DATE
TELEPHONE	E-Mail

PLEASE NOTE: All spaces must be filled in with figures or words or your bid may be automatically rejected.

CITY OF MERIDEN, CONNECTICUT

B024-31 - ARPA - Kitchen Hood and Ansul System

AGREEMENT

This A	AGREEMENT, made as of this, 2023 by and between the City of Meriden (hereinafter the "City") and (hereinafter the "Contractor").
	REAS, the City has issued a certain Invitation to Bid for purchase of a Kitchen Hood and system and;
	REAS, the Contractor is in the business of providing such services, is the successful bidder, as been awarded this Agreement.
NOW	THEREFORE, the parties mutually agree as follows:
ä	AGREEMENT OF THE PARTIES: The City hereby contracts for and the Contractor hereby agrees to perform the work as stated in the minimum specifications as required by the City at the locations requested.
_	SCOPE OF SERVICES: As per the bid proposal documents, incorporated by reference herein.
	TERM: This Agreement shall begin and end, unless extended or terminated.
(<u>PAYMENT</u> : The City shall pay the Contractor in accordance with the bid proposal documents, incorporated by reference herein. Work performed without authorization will not be paid for.
1 8 (AUDITS: At any time during normal business hours, and as often as maybe deemed necessary, the Contractor shall make available for examination of all records with respect to all matters covered by this Agreement and will permit authorized City, State, and/or Federal Officials to audit, inspect, examine and make excerpts or transcripts, from such records and to make audits of all contracts, invoices, payrolls, and other data relating to all matters

6. <u>INDEPENDENT CONTRACTOR</u>: It is understood that the services of the Contractor shall be as an independent contractor and not as an employee of the City, and that persons employed by said Contractor providing services under this Agreement shall be the employees of the Contractor and not of the City.

covered by this Agreement.

- 7. INDEMNIFICATION: Contractor shall indemnify and save harmless City against any and all damages to property or injuries to or death of any person or persons, including property and employees or agents of City, and shall defend, indemnify and save harmless City from any and all claims, demands, suits, actions or proceedings of any kind or nature including workers' compensation claims, of or by anyone in any way resulting from or arising out of the operations in connection with this Agreement, including operations of subcontractors and acts or omissions of employees or agents of contractor or his or her subcontractors. Insurance coverage specified in this Agreement constitutes the minimum requirements and said requirements shall in no way lessen or limit the liability of Contractor under the terms of this Agreement. Contractor shall procure and maintain, at its own cost and expense, any additional kinds and amounts of insurance which, in its own judgment, may be necessary for his/her/its proper protection in the prosecution of the work. Contractor agrees that will well and truly save and indemnify and keep harmless the City against all liability, judgments, costs and expenses which may in any way come against owner, or which may in any way result from carelessness or neglect of contractor or its agents, employees or workmen in any respect whatever.
- 8. <u>INSURANCE</u>: The Contractor shall provide and maintain a Certificate of Insurance for the duration of this Agreement naming the City of Meriden as an ADDITIONAL INSURED and with the types and limits stated in the insurance requirements section. The Contractor agrees to provide Certificates of Insurance as requested by the City.
 - The contractor and its subcontractors shall comply with the Workers' Compensation Act of the State of Connecticut and shall provide compensation insurance to protect the Contractor, its subcontractors, and the City from and against any and all workers' compensation claims arising from performance of the Work under the Agreement. The City shall be furnished, prior to undertaking any work, copies of the certificate or certificates evidencing such insurance to be in effect.
- 9. <u>TERMINATION</u>: The City or the Contractor shall have the right, without cause, to terminate this Agreement within fifteen (15) days following the written notification to the other party to that effect by Certified Mail or personal delivery by agent, and upon the expiration of said fifteen (15) day period, this Agreement shall be null and void and all rights established herein shall end and terminate. It shall not be necessary for either party to state a reason for such termination.
- 10. <u>BID PROPOSAL DOCUMENTS</u>: The bid proposal documents are hereby incorporated by reference and made a part of this Agreement.
- 11. <u>DEFECTIVE WORK</u>: During a period of one year from and after the final acceptance of the work except as provided elsewhere in this Agreement, the Contractor shall, at its own expense, make all needed repairs or replacements due to defective work or materials which, in the judgment of the City, shall become necessary during this period. If within ten (10) days after the mailing of a written notice to the Contractor, or its agent, requesting repairs or replacement, the Contractor shall neglect to make or undertake with due diligence to make them, the City may make the repairs at the Contractor's expense; provided, however, that in

the case of emergency where, in the judgment of the City, delay would cause serious loss or damage, repairs or replacement may be made without notice being sent to the Contractor, and the contractor shall pay the cost.

- 12. <u>GUARANTEE</u>: The Contractor shall further guarantee that the sidewalk repairs shall remain in good order and repair for a period of five (5) years from all causes arising from defective work and materials, and to make all repairs arising from these causes during this period without further compensation, and shall guarantee the sidewalks against defective work and materials, and shall keep them in good order and repair without further compensation for a period of two (2) years from and after completion and acceptance of them by the City. The determination of the necessity for the repair or replacement of sidewalks or any portion of them, shall rest entirely with the City, whose decision upon the matter shall be final and obligatory upon the Contractor.
- 13. <u>CLEAN UP</u>: The contractor shall remove and clean up all rubbish, debris, excess material, temporary structures, tools and equipment from streets, alleys, parkways, and adjacent property that may have been used or worked on by the Contractor in connection with the Work promptly as each section or portion is completed and ready for use, leaving the same in a neat and presentable condition. Payment of monthly or partial estimates may be withheld until this has been done to the satisfaction of the City. Final acceptance and payment for the entire project will not be made until this has been fully taken care of.

During the construction, the Contractor shall keep the site of the work and adjacent premises as free from material, debris, and rubbish as is practicable and shall remove this waste entirely and at once, if, in the opinion of the city, such material, debris, or rubbish constitutes a nuisance, a safety hazard or is objectionable in any way to the public.

Upon completion and before final acceptance of the work, the Contractor shall remove from the site of the work and adjacent premises all machinery, equipment, surplus materials, falsework, excavated and useless materials, rubbish, temporary buildings, barricades and signs, and shall restore the site to the same general conditions that existed prior to the commencement of its operations. The cost of final cleaning up will not be paid for under any specific scheduled item but shall be included in the prices bid for the various items, or included in the contract lump-sum price as the case may be.

The Contractor shall clean off all cement streaks or drippings, paint smears or drippings, rust stains, oil, grease, dirt, and any other foreign materials deposited or accumulated on any portion of its work, or existing work, due to its operations.

14. <u>CHARTERS, LAWS, AND ORDINANCES</u>: The Contractor shall at all times observe and comply with the provisions of the charter, ordinances and regulations of the City of Meriden and of state and federal laws, rules and regulations which in any manner limit, control, or apply to the actions or operations of the contractor, its subcontractors, or the subcontractors employees, agents or servants, engaged upon the work or affecting the materials supplied to or by them

- 15. CONTRACTOR'S DUTIES: The Contractor shall be responsible for the completion of the Work according to the bid proposal documents, and its responsibility shall not cease until the whole work contracted for is completed and accepted. The Contractor shall keep fully informed at all times regarding all details of the work. The Contractor shall be responsible for all delays that may result in failure to install the work in the proper manner and proper time. It shall carefully study and compare all drawings, specifications, and other instructions and shall immediately report to the City any error or omission which the Contractor may discover, and shall subsequently proceed with the work in accordance with the instructions from the City concerning the error or omission. The Contractor shall furnish a competent and adequate staff as necessary for the proper administration, coordination and supervision of the work, organize the procurement of all the materials and equipment so that it will be available at the time they are needed for the work. The Contractor shall keep an adequate force of skilled workers on the job to complete the work in accordance with all requirements of the contract documents. Any employee who is considered incompetent or careless in his or her work shall be removed on demand of the engineer and replaced by a competent person.
- 16. <u>LIQUIDATED DAMAGES</u>. The Contractor acknowledges that time is of the essence for the Contractor to render its services and that the City will suffer financial loss if the Work is not completed within the times specified in paragraph 3 above. The Contractor acknowledges the expense and difficulties involved in proving the actual loss suffered by the City if the Work is not completed on time. Accordingly, instead of requiring any such proof, the City and Contractor agree that as liquidated damages for any delay (but not as a penalty), the Contractor shall pay the City TWO HUNDRED FIFTY AND NO/100 DOLLARS (\$250.00) for each day that expires after the time specified in Section 3 for substantial completion until the Work is substantially complete. After substantial completion, if Contractor neglects, refuses, or fails to complete the remaining Work within the time specified in Section 3, Contractor shall pay the City TWO HUNDRED FIFTY AND NO/100 DOLLARS (\$250.00) for each day that expires after the time specified in Section 3 for completion and readiness for final payment.
- 17. <u>BLUE PENCIL PROVISION</u>: In the event that any provision of this Agreement is unenforceable under applicable law, the validity or enforceability of the remaining provisions will not be affected. To the extent any provision of this Agreement is judicially determined to be unenforceable, a court of competent jurisdiction may reform any such provision to make it enforceable. The provisions of this Agreement will, where possible, be interpreted so as to sustain its legality and enforceability.

IN WITNESS WHEREOF, the parties hereto have se indicated.	t their hands and seals on the day and year
CONTRACTOR:	
	Date:
Duly Authorized	
CITY OF MERIDEN:	
	Date:
Emily Holland, Acting City Manager	
Duly Authorized	

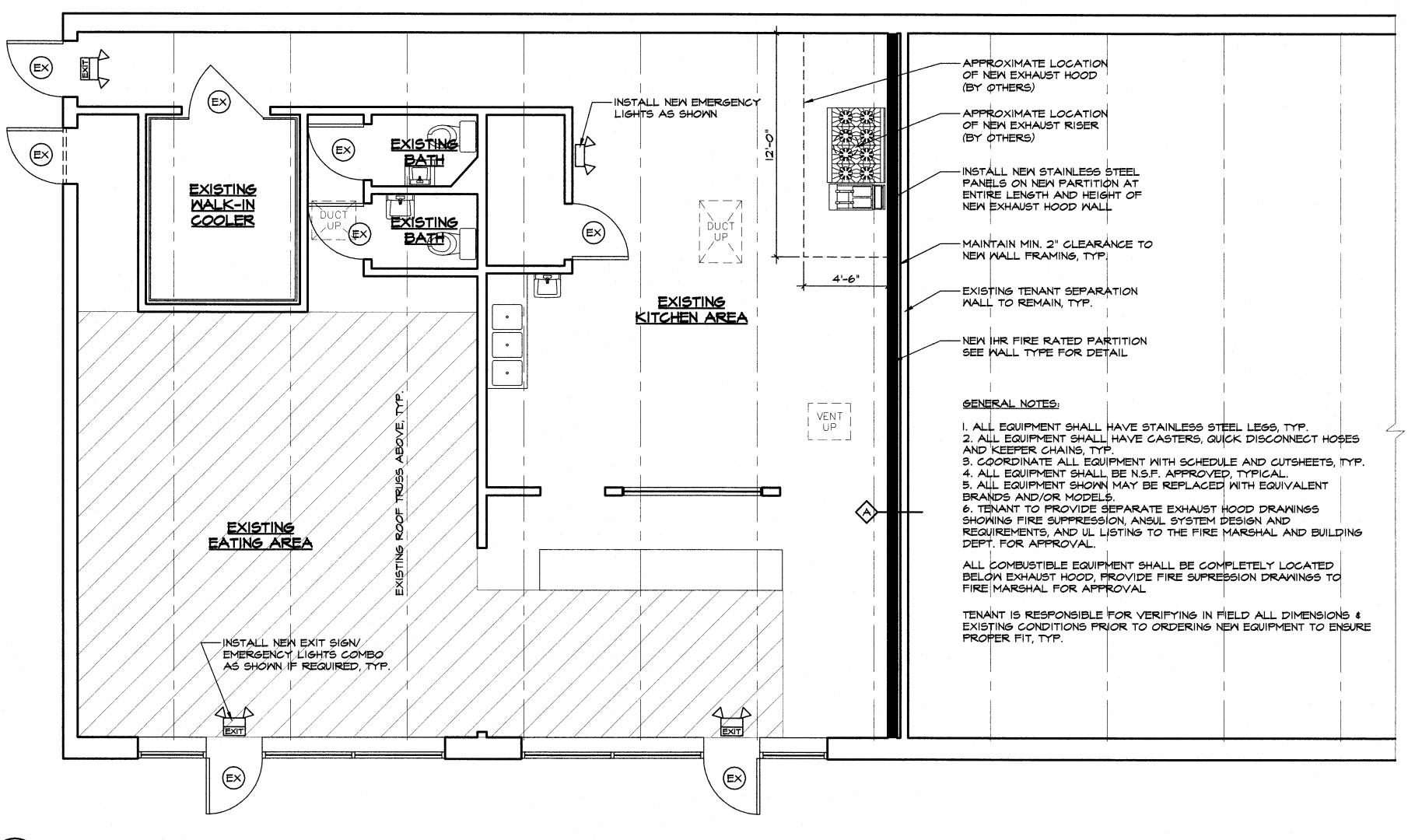
SCHEDULE A

Unit Price

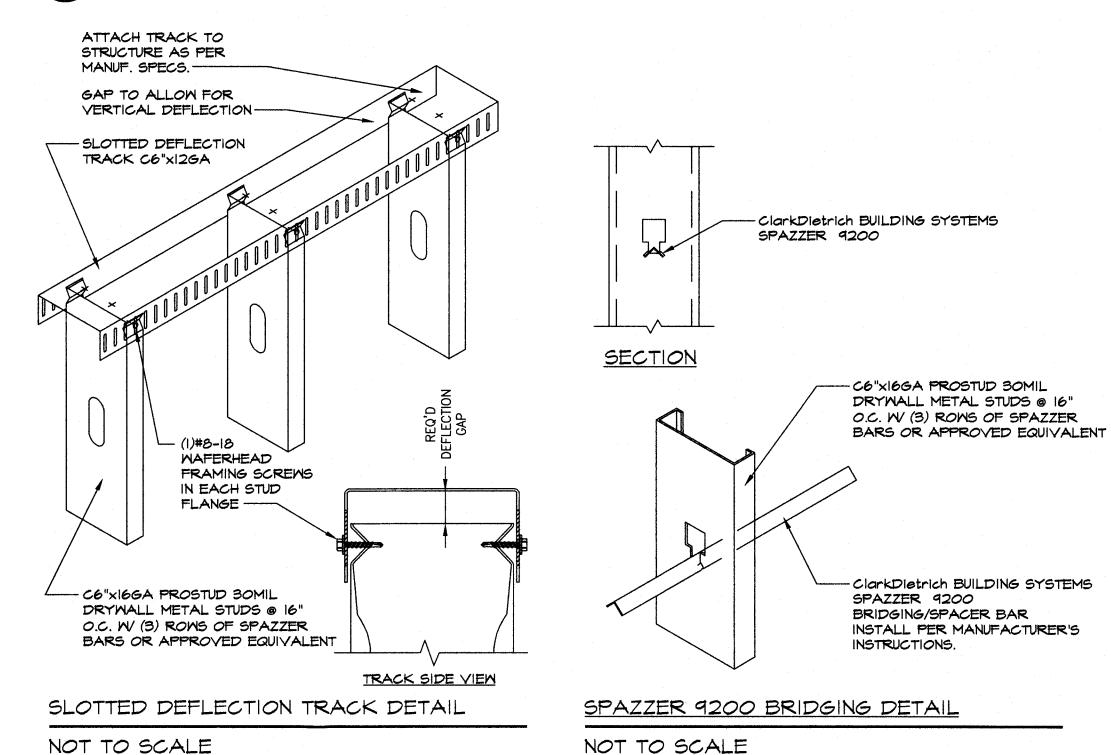
- Cook RCG Galvanized Steel Roof Curb
- Cook VCR Upblast Centrifugal Exhaust Ventilator Roof Mounted/Belt Drive
- Cook Hinged Base (kit assembly)
- Cook Grease Terminator 2
- Cook Non-Vented Extension (Galvanized Extension Centrifugal Units)
- Straight Double Wall Pipe (18")
- Adjustable Pipe (AG 18)
- Plate Support Assembly PA
- Unflanged Hood Transition (Code: TSU)
- Elbow Assembly
- Econ-air Hood (12')
- Direct Gas Fired Heated Make Up Air Unit with 15' Mixed Flow Direct Drive (specs attached)
- Electrical Control Panel
- Ansul System (Equipment only-not including installation)

NB: Pricing for equipment only. Installation not required.

TOTAL COST FOR EQUIPMENT -	\$
----------------------------	----







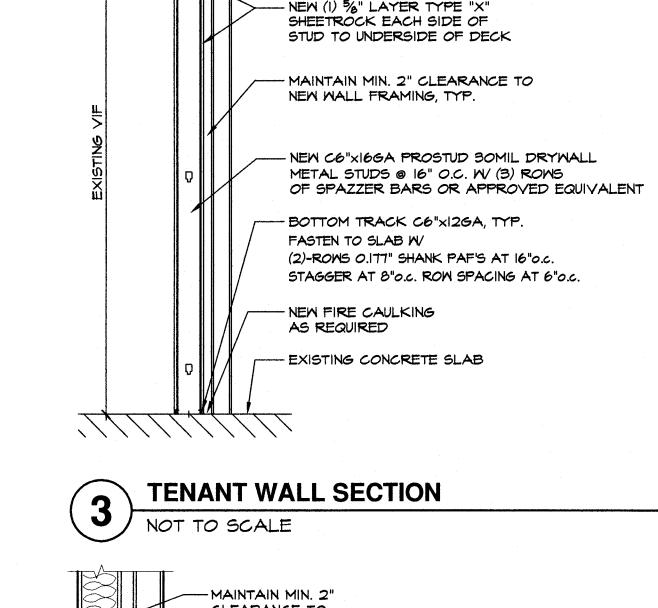
C6"x16GA PROSTUD 30MIL DRYWALL METAL STUDS @ 16" O.C. 1) #10-16 SCREW @ EACH FLANGE BLOCKING BETWEEN STUDS FASTEN TO OTHER MEMBERS W 18 GA. CLIP 2" L'S

OPTIONAL SOLID BLOCKING DETAIL W/ CLIPS (NOT REQUIRED IF USING SPAZZER BARS)

E-mail: bbsdesign@sbcglobal.net

NOT TO SCALE





INSTALL FIRE RATED CAULKING

OF WALL IS NOT EXTENTED TO

SEPARATE TENANT SPACES, TYP.

- EXISTING ROOF DECK

- EXISTING PARTITION WITH

- EXISTING SUSPENDED CEILING

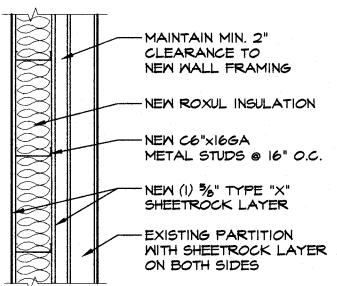
GRID SYSTEM TO REMAIN

OR SPRAY FOAM INSULATION AT ALL

UNDERSIDE OF EXISTING ROOF DECK AND AT ALL EXPOSED SURFACES THAT

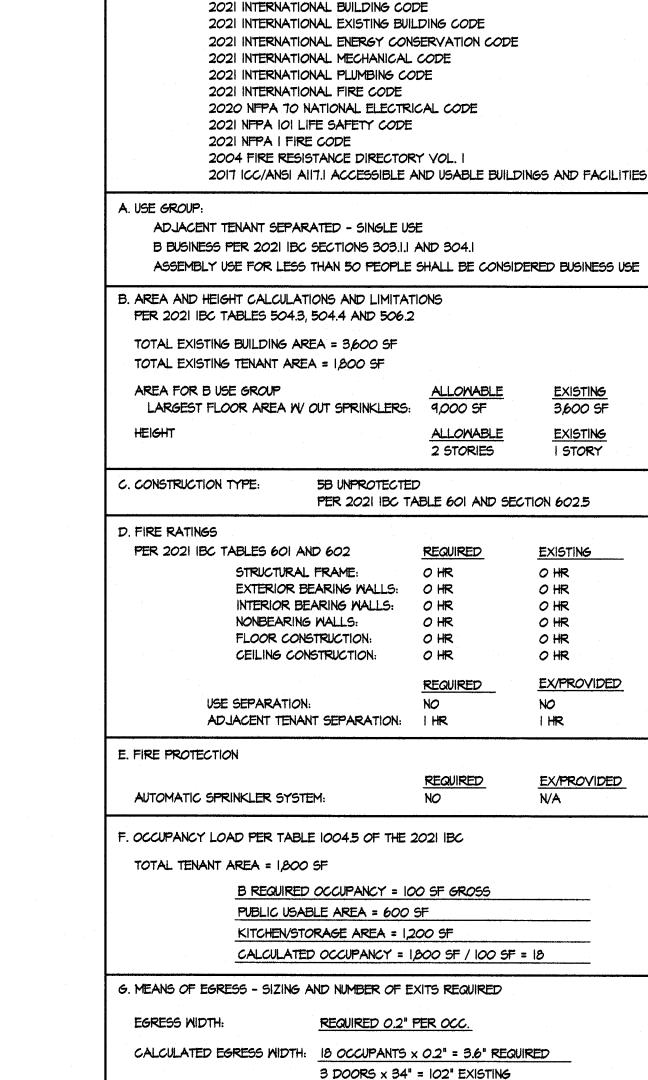
SHEETROCK LAYER ON BOTH SIDES

JOIST/TRUSS CAVITIES WHERE TOP



NEW NON BEARING IHR RATED WALL TO UNDERSIDE OF EXISTING ROOF DECK UL LISTED NO. U404





BUILDING CODE ANALYSIS

2022 CONNECTICUT STATE BUILDING CODE

2022 CONNECTICUT STATE FIRE SAFETY CODE

2022 CONNECTICUT STATE FIRE PREVENTION CODE

3,600 SF

EXISTING

I STORY

EXISTING

EX/PROVIDED

EX/PROVIDED

EX/PROVIDED

APPLICABLE CODES:

FIRE MARSHAL NOTES:

I. PROVIDE EMERGENCY ACCESS BOX OR KEY.

H. ACCESSIBLE PROVISIONS

PER 2021 IBC CHAPTER II

ACCESSIBLE ENTRANCE

2. EXIT SIGNS MUST BE BATTERY BACKUP, VISIBLE WITHIN 100 FEET, OF PROPER SIZE. NO MIRRORS SHALL BE PLACED ON EXIT DOORS OR ADJACENT TO EXIT AREAS.

REQUIRED

STRUCTURAL MEMBERS, WALLS, BEAMS, COLUMNS, FRAME OR ROOF

. STRUCTURAL INTEGRITY: THERE SHALL BE NO ALTERATION AND/OR REMOVAL OF ANY

3. EMERGENCY LIGHTS SHALL BE BATTERY BACKUP, ON ALL OUTSIDE EXITS, SHALL BE TESTED AT NIGHT FOR ENOUGH COVERAGE AND LOCATED IN ALL BATHROOMS.

4. PROVIDE AND INSTALL MAXIMUM OCCUPANT LOAD SIGN.

5. PROVIDE AND INSTALL FIRE EXTINGUISHERS WITH SIGN PER CODE (IOLBS, ABC).

6. PROVIDE COPY OF FIRE ALARM TEST AFTER COMPLETION.

7. FLAME RETARDANT COMBUSTIBLE MATERIALS SHALL COMPLY WITH TEST METHOD I OR 2 AS PER NFPA 701. FOAMED PLASTICS SHALL COMPLY WITH NFPA 289.

8. FLOOR FINISHES SHALL COMPLY WITH SECTION 10.2.7 AND SHALL BE CLASSIFIED AS CLASS I OR CLASS II BASED ON TEST RESULTS FROM NFPA 253. CLASS I FINISHES SHALL BE PERMITTED WHEREVER CLASS II FINISHES ARE REQUIRED.

9. CLOTHING SHALL NOT BE STORED IN CORRIDORS AND SPACES NOT SEPARATED FROM CORRIDORS.

10. INSTALL ADDITIONAL PORTABLE FIRE EXTINGUISHERS AS REQUIRED BY FIRE MARSHAL. FIRE EXTINGHUISHERS SHALL BE 2-A RATED MINIMUM AND BE INSTALLED AND ANCHORED SECURELY ON MOUNTING SURFACES ACCORDING TO MANUF.

INSTALLATION REQUIREMENTS USING BRACKETS AND HANGERS PROVIDED.

FOR PERRMITS & CONSTRUCTION CB BBS Design, LLC Drawn by

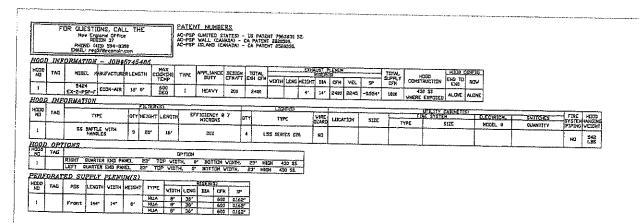
FLOOR PLAN 17 Buckboard Lane New Milford, CT 06776 DETAILS & NOTES Tel: 203.798.0066

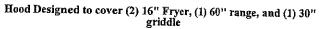
INTERIOR ALTERATIONS MEL'S EATERY

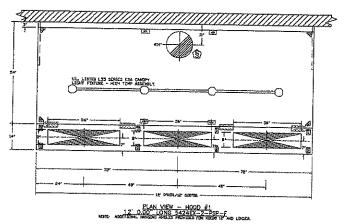
1448 EAST MAIN STREET

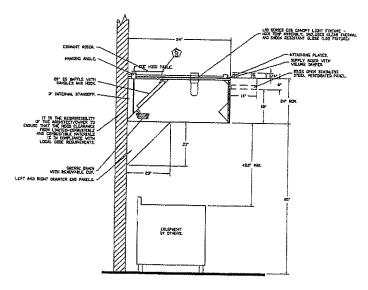
MERIDEN, CT

Drawing No. Checked by CB Date 07-27-23 Scale As noted 1319 Job No.









SECTION VIEW - MODEL 5424EX-2-PSP-F HOOD - #1

CUSTOMER APPROVAL TO	MANUFACTURE:
Approved as Hotel	
Approved with NI Exception Token	n
Revise and Result	
SIGNATURE	
Your Title	Date

Mels Deli Meriden EAST HARTFORD, (

5

₩ 99 (F)

DATE: 1/6/2023 DWO.M: 5745485

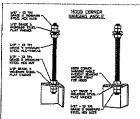
DHAWN MRG - 37

SCALE: 3/4" = 1'-0" MASTER PRAWING

SHEET NO.

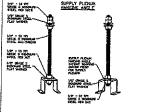






ASSEMBLY INSTRUCTIONS

HANDING ANGLE MAST RESUMPRISED WITH 12" - 3 TPL
GRADE SANDHERS RESUMPRISED WITH 12" - 3 TPL
GRADE SANDHERS RESUMPRISED WITH ANALOG ANGLE
ANGLES AND CELLING ANGURE FORTER
GRADE S GORRHOM HEX MITS AS SHOWN, MIST USE
GRADE S GORRHOM HEX MITS AS SHOWN, MIST USE
GRADE S GORRHOM HEX MITS AS SHOWN, MIST USE
GRADE S GORRHOM RESUMPRISED
GRADE STORMAN ANGLES AND ANGUE CELLING
EXPOSED THREADS ENGLATH BOTTOM HEX MIT, TORRICE
ALL HEX MITS TO ST FT-LIS



ASSEMBLY INSTRUCTIONS

HANDING ANGLE HUST HE SUPPERTED WITH 1/2" - 19 THE GRADE 5 GHINRUP ALL-THERDE SANDWICH HANDING ANGLE AND ELLING ANDRONE DIVINITY WITH 1/2" GRADE 5 GRADE 6 GRADE 5 GRADE 6 GRADE 5 GRADE 6 GRA

GREASE DUCT & CHIMNEY SPECIFICATIONS:
PROVIDE GREASE DUCT EQUAL TO ECON-AIR MODEL "EDW"
ROUND 20 GAUGE 430 STAINLESS STEEL DUCTWORK. MODEL "EDW"
IS LISTED TO UL-1978 AND IS INSTALLED USING "V" CLAMP LOCKING
CONNECTIONS SEALED WITH 3M FIRE BARRIER 2000 PLUS. MODEL "EDW"
DUES NOT REQUIRE WELDING PROVIDING IT HAS BEEN INSTALLED PER
THE MANUFACTURES INSTALLATION GUIDE.
PROVIDE RATED ACCESS DOORS AT EVERY CHANGE IN DIRECTION AND EVERY 12" ON CENTER.
PER MANUFACTURES LISTING MODEL "EDW" HORIZONTAL RUNS LESS THAN 75 FT. CAN BE
SLOPED 1/16" PER 12", HORIZONTAL RUNS MORE THAN 75 FT. CAN BE SLOPED 3/16" PER 12".
DUCT SHOULD BE SLOPED AS MUCH AS POSSIBLE TO REDUCE THE CHANCE OF GREASE

IF THE DUCT OR CHIMNEY IS WITHIN 18 INCHES OF COMBUSTIBLE MATERIAL, PROVIDE UL-2221 OR UL-103 HT LISTED DOUBLE WALL GREASE DUCT OR DOUBLE WALL CHIMNEY EQUAL TO ECON-AIR MODEL "EDW- 2R, 2R TYPE HT, 3R, OR 3Z" ROUND 20 GAUGE 430 STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER SHELL.

ECON-AIR RECOMMENDS THE USE OF LISTED, PRE-FABRICATED ROUND GREASE EXHAUST DUCT TO REDUCE STATIC PRESSURE IN THE SYSTEM, MINIMIZE INSTALLATION AND INSPECTION TIMES, AND ENSURE DUCT IS LIQUID TIGHT

HVAC DISTRIBUTION NOTE

HIGH VELOCITY DIFFUSERS OR HVAC RETURNS
SHOULD NOT BE PLACED WITHIN TEN (10) FEET
OF THE EXHAUST HOOD, PERFORATED
DIFFUSERS ARE RECOMMENDED.

VERIFY CEILING HEIGHT

1 ... H

HEIGHT REQUIRED TO VERIFY THAT HODD FITS SPACE AND TO SIZE THE ENCLOSURE PANELS

CUSTOMER APPROVAL TO MANUFACTURE:

APPROVED AS NOTEO
APPROVED WITH NO EXCEPTION TAKEN
REVISE AND RESUBBLIT

0

YOUR TITLE

CATE

Mels

Deli Meriden HARTFORD,

DATE: 1/6/2023

5745495

DRAWN MRG - 37

SCALE: 3/4" = 1'-0" MASTER DRAWING

SHEET NO.

MUA	FAN	INFO	RMATION - JOB#574548	5															
FAN UNIT NO	TAG	GTY	FAN UNET HOBEL #	BLOWER	HOUSING	HIN CFM	DESIGN CFH	ESP	RPH	HOTOR THOS.	HP	BHP	PHASE	YOLT	FLA	HCA		Larrest, ch.	20Ni;2
1		1		15MF-1-HDD	A1-3-250	1000	1800	0.500	1919	DDP,PREHIUM	1.500	17560	3	209	4.4		134	517	18
GAS FAN	GAS PIRRD MAKE-UP AIR UNIT(S)																		

GA.S	FIRE	MAKE	-UP AL	R UNIT(S	1		
FAN UNIT NO	TAG	INPUT ETUs	DUTPUT BIUE	TEMP RISE	RECURRED INPUT GAS PRESSURE	GAS TYPE	BLRNER EFFECIENCYCE
. 1		114963	195766	\$8°F	7 IN. VC 14 IN. VC.	NATURAL	92

FAN	TAG	OTY	DESCRIPTION
		1	SIZE 1 TEMPERED COMMERCIAL DOWN DISCHARGE FOR DIRECT DRIVE AMAS
		1	INLET PRESSURE GALGE, 6-35*
		1	MANIFOLD PRESSURE GAUGE, -5 TO 15' WC
		1	SHIP LOUSE GAS STRAINER 3/4"
1		1	HOTERIZED BACKDRAFT DAMPER FOR AI-S HOUSING - MEETS ANCA CLASS IA RATENG
		1	VAV PACKAGE V/ MANUAL/DDC CONTROL CS71 VFB DICLUDED
		ì	VFD FACTORY HOUNTED AND WIRED IN COMMERCIAL CONTROL VESTIBULE FOR TEMPERED SUPPLY FAN
		1	E YEAR PARTS WARRANTY

EAN.	ACCE	SSORL	es		·				
FAN	TAG		EXHAUST		SUPPLY				
NO	IAG	GREASE CUP	GRAVITY DAMPER	WALL	SIDE SIDE	GRAVITY DAMPER	HOYORIZED DAMPER	YALL MOUNT	
					i	***************************************	YES		

<u>çv</u>	RB. A	SSEMBLIES			
×α	ON FAN	VEIGHT	17EH	5120	
Ū.	1 1	24,1 26		PLOOD'V X 71,000'L X 20,000'H ALONG VIDTH, RIGHT INSULATED	<u>.</u>
EA	N SC	UND DATA			

FAN UNIT	TAG	HOTOR		SEUND DATA			DCTAVE BAND SDUMB DATA							
NO.		VITTOR	LWA	SONES & S FT	BBA BSFT	DESTANCE (FT)	63 HZ	125 HZ	250 HZ	500 HZ	I KHZ	2 KHZ	4 KHZ	8 KHZ
		SUPPLY	BLB	18.0311778223182	69.7	- 5	76,8	841	81,3	78,5	74.3	72.6	72	67.B

Nav England Office

REVISIONS

Meis Deil Meriden EAST HARTFORD, CT,

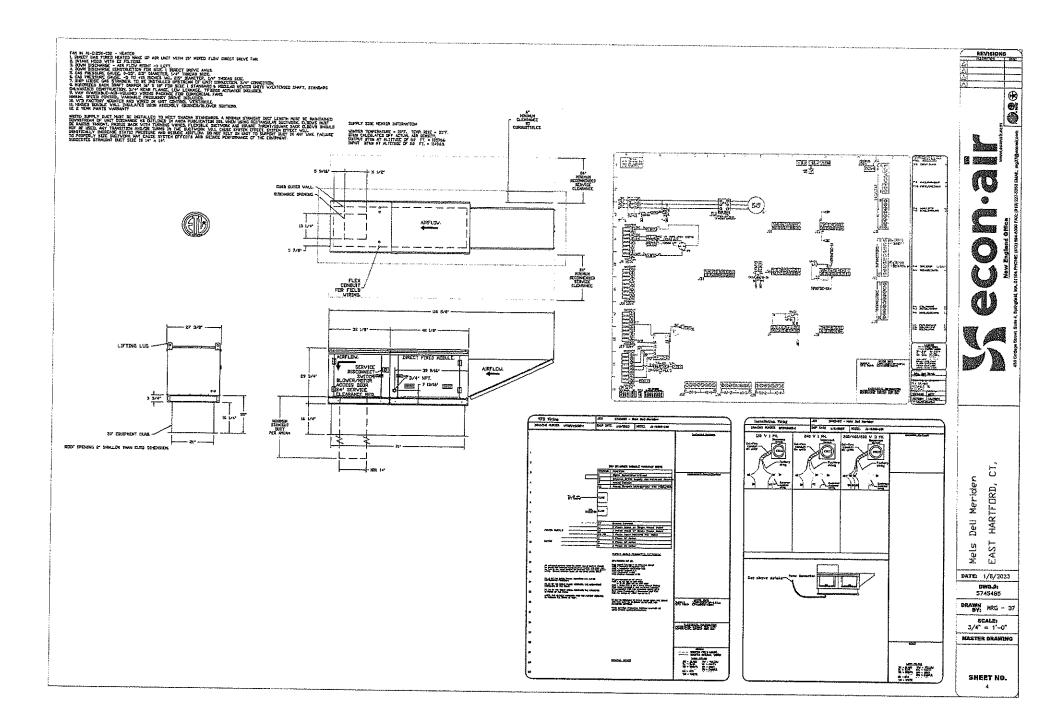
DATE: 1/6/2023

5745485 5745485 DRAWN MRG ~ 37

SCALE: 3/4" = 1'-0"

MASTER DRAWING

SHEET NO.



PROJECT: MELS DINER REV 1

DATE: 1/8/2023

RCG

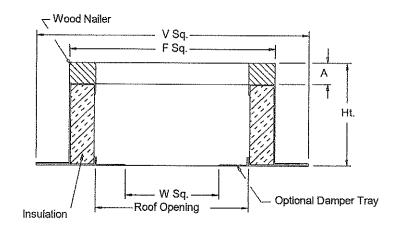
Galvanized Steel Roof Curb

STANDARD CONSTRUCTION FEATURES:

18 gauge galvanized steel - 1-1/2", 3 lbs. density thermal and acoustical insulation - Continuously welded corners -Wood nailer.

Options:(As noted below*)

- 1) No wood nailer (deduct 1-1/2" for actual height).
- 2) Damper tray.
- 3) Liner.
- 4) Gasket on wood nailer.
- 5) Lorenized coating.
- 6) Enamel coating.
- 7) Burglar bars.



Mark	Qty	Description	Ht	Options*	Α	F Sq.	V Sq.	W Sq.	Roof Opening
KEF-1	1	RCG 22	13.5	1;	1-1/2	22-1/2	26-1/2	15-3/4	19-1/2







MARK: KEF-1

PROJECT: MELS DINER REV 1

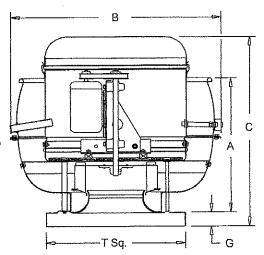
DATE: 1/8/2023

VCR

Upblast Centrifugal Exhaust Ventilator Roof Mounted/Belt Drive

STANDARD CONSTRUCTION FEATURES:

All aluminum housing - Backward inclined all aluminum wheel - Two piece top cap with stainless steel quick release latches - One piece bottom spinning -Welded curb cap corners - Lifting Lugs - Permanently lubricated ball bearing motors - Oil and heat resistant, static conducting belts - Adjustable pitch drives through 5 hp motor - Corrosion resistant fasteners - Regreasable bearings in cast iron pillow block housing, rated at 200,000 hours average life - All fans factory adjusted to specified fan RPM - Transit tested packaging.



Performance (*Bhp includes 10% drive loss)

-	Qty	Catalog Number	Flow (CFM)	SP (inwc)	Fan RPM	Power* (HP)	FEG	FEI
-	1	165V7B	2400	.900	1246	.777	n/a(<1HP)	1.30

Altitude (ft): 180 Temperature (F): 70

Motor Information

F	IP	RPM	Volts/Ph/Hz	Enclosure		FLA	Mounted	
Γ	1	1725	230/1/60	ODP -	SE	8	Yes	

FLA based on NEC (2017) Table 430.248

Sound Data Inlet Sound Power by Octave Band

-	1	2	3	4	5	6	7	8	LwA	dBA	Sones
I	84	89	86	73	69	67	62	58	80	69	17.8

⁻ Distance from Sound source 5 ft

Accessories:

DRIVES (1.5 SF) @ 1246 RPM DISCONNECT NEMA 3 PRE-WIRED ROOF CURB RCG 22 13.5H -C-T-N UL762 (327Y-300DEG) HINGED BASE KIT GREASE TERMINATOR **NVE-23 NONVENTED EXT** SPARE BELT SET

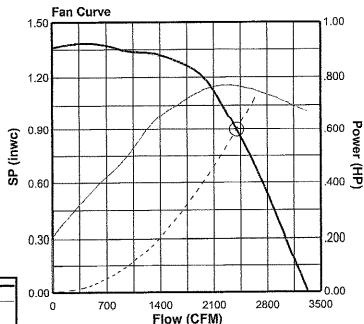
Dimensions (inches)

A	20-15/16
В	34-11/16
С	30-3/4
G	2
T Sq.	24
Roof Open. Sq.*	19-1/2

NOTE: Accessories may affect dimensions shown.

		_		
Weight(lbs)***	Shipping	195	Unit	170

^{*} Roof opening size for curbs supplied by Cook only.
***Includes fan, motor & accessories.



Fan Curve Legend

CFM vs SP CFM vs HP Point of Operation System Curve

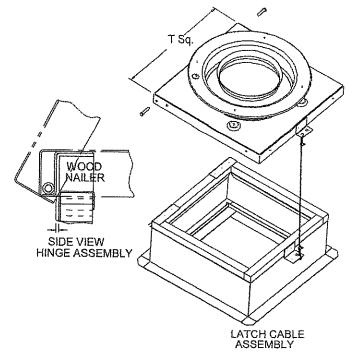


HINGED BASE

Kit Assembly

PROJECT: MELS DINER REV 1

DATE: 1/8/2023



Mark	Qty	Description
KEF-1	1	HINGED BASE KIT

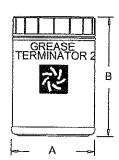


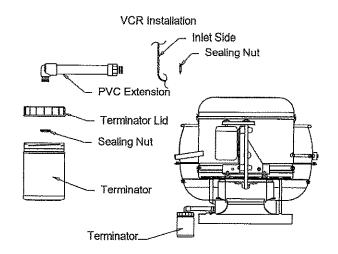
PROJECT: MELS DINER REV 1

DATE: 1/8/2023

Grease Terminator 2

Assembly and Installation





Mark	Qty	Description	А	В
KEF-1	1	GREASE TERMINATOR	4-13/16	6-3/4



DATE: 1/8/2023

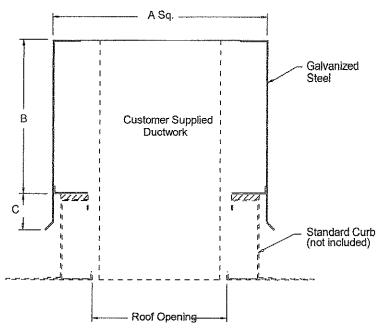
心 COOK

NON VENTED EXTENSION

Galvanized Extension Centrifugal Units

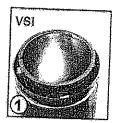
Note:

Roof opening size for curbs supplied by Cook Only.



Mark	Qty	Description	Cat.No.	A Sq.	В	С	Roof Opening
KEF-1	1	NVE-23 NONVENTED EXT	NVE-23	23	16	3-3/4	19-1/2

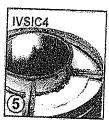
Model VSI vs. Model IVSI











Model(s)

VSI, IVSIC1

NS CZ

IVSI-23

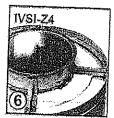
OD Calculation

OD (Inches)

OD=ID+2

COMO+4

OD=ID+6



Ceramic fiber insulation increases the diameter of the outer wall:

Model VSI:

1" air insulation (no ceramic fiber)

Model IVSI-C:

1", 2" and 4" ceramic fiber insulation

Model IVSI-Z

3" and 4" dense fiber insulation

(Reference AMPCO installation instructions for the clearance to combustibles for specific applications) IVSIC4, 24

Understanding Product Codes and Part Numbers

All parts manufactured by AMPCO are identified by a series of numbers and letters which describe their

Here is how to interpret the Part Number designation for Model VSI and IVSI products.

- 1. It begins with the pipe or fitting's internal diameter (in inches) such as 8, 22, 36, etc.
- 2. This is followed by the Model designation, VSI for air-insulated (Model VSI), or IVSI for parts that are fiber insulated (Model IVSIC1, C2, Z3,C4, or Z4).
- 3. Next, is the product's Material designation, such as 316 or 304/304. The first item indicates the makeup of the inner liner, while the second half indicates the material content of the outer wall, if stainless. If aluminized steel outer (Alum), the part number indicates inner material only.

(Alternate material and custom outer wall treatments are also available, please contact customer service for information.)

4. Then, following a long dash, the product's Code name is listed, such as AG30, JY, or MVT. If the product is air insulated, the product identification ends with this code.

(For Product Code listings, refer to page 2.)

5. Finally, when a product is fiber insulated, a designation is added at the end to indicate Insulation Thickness. C1 means a thickness of 1-inch; C2, 2-inches; Z3, 3-inches; Z4/C4 4 inches.

(For comparison, see photos above.)

Thus, the Ordered Part Number for a 30-inch Adjustable Pipe, with a 6-inch I.D., made of 304 Stainless Steel inner and aluminized steel outer, packed with 2-inch ceramic fiber insulation, is listed:

6IVSI304- AG30C2*

* Note: For products with reduction or increaser parts, the part number changes as follows:

MT and JL - Diameter of Body listed in front of Model VSI or IVSI. Diameter of Snout listed in front of Code designation.

Example - For a Manifold Tee with a 42" dia. Body and 30" dia. Snout:

42VSI304-30MT

OT and OS - Smaller diameter listed first (before Model designation) Larger diameter listed before Code designation

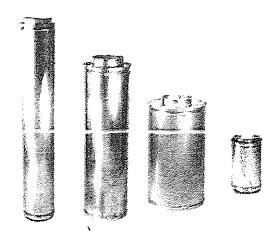
Example - For a Tapered Increaser with an 8" to 16"dia. Body:

8VSI304-16OT

Straight Pipe Lengths Codes:

59, 42, 30, 18

Standard pipe lengths for all AMPCO exhaust systems.



Materials Available

304:Alum	316/Alum	304/304	316/316

Note: Alum is aluminized steel

- 59.13" lengths available in;
 - -6-24" inner diameter for VSI and IVSIC1
 - 6-22" inner diameter for IVSIC2
 - 6-20" inner diameter for Z3
 - 6-18" inner diameter for IVSIC4 and Z4
- 42" lengths available in:
 - 5-42" inner diameter for VSI and IVSIC1
 - -5-40" inner diameter for IVSIC2
 - 5-36" inner diameter for IVSIC4, Z3 and Z4
- 18" & 30" lengths available in:
- 5-48" inner diameter for VSI, IVSIC1, C2, C4
- 5-36" inner diameter for IVSIZ3 and Z4

Ordered Part Includes:

Pipe, plus one VB and one CB.

Notes:

- 1. Special pipe lengths from 6" to 59.13" available upon special request.
- 2. K Factors

(Where L = pipe length in feet and D = pipe diameter in inches)

a. For Boller Stacks and Chimneys:

b. For Diesel and Turbine Exhausts and Grease Ducts:

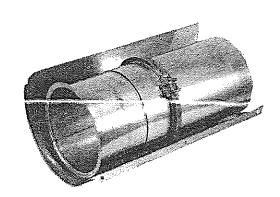
e.g. for 50 feet of 10 inch diameter pipe

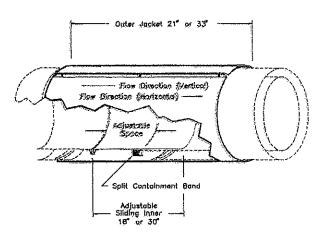
$$K=0.25 \frac{.50}{10} = 1.25$$

Adjustable Pipe Lengths

AG30, AG18

Fills odd dimensions and compensates for expansion between two fixed points on low pressure applications.





Materials Available:

V	gradient and commence to suppress			_
		304/304		
1	4		<u>.</u>	ť

Note: Alum is aluminized steel

Ordered Part Includes:

Pipe, plus one 30" or 18" inner Slip Section, one TSU, one Packing Seal, one two-piece Compression Band, one two-piece Containment Ring, one two-piece Outer Jacket, and one VB. Ceramic fiber insulation provided for IVSI models.

- 1. Minimum installed length is 4".
- 2. AG18 not available for 28" diameter and above.
- 3. Maximum installed space is when the inner slip section protrudes at least 1/2 pipe diameter into the adjacent pipe.
- 4. Flow Resistance Factor (K) is the same as insulated pipe lengths.

Angle Rings HR & FR

Used for guiding and/or supporting horizontal installations.





Materials Available:

Painted Steel

Notes:

1. Model VSI part used for IVSIC1 applications.

Product Pipe Dimensions (Inches) HR				4								
VSI/IVSI IVSI IVSI Hole Circle Holes of Of Holes Of Of Holes Of Of Of Of Of Of Of O						Dimensions (Inches) HR						
C1 C2 Z3 C4/Z4 Hole Circle of Ring Holes (HR) Angles Holes 5 - - - 9 7-1/8 6 (1) 45 6 5 - - 10 8-1/8 6 (1) 45 8 6 - - 12 10-1/8 6 (1) 45 - - 5 - 13 11-1/8 6 (1) 45 10 8 6 - 14 12-1/8 6 (1) 45 10 8 6 - 14 12-1/8 6 (1) 45 12 10 8 6 16 14-1/8 6 (1) 45 12 10 8 18 16-1/8 6 (1) 45 14 12 10 20 18-1/8 6 (1) 45 18 16 14		<u></u>	_			ļ.,						
5 - - - 9 7-1/8 6 (1) 45 6 5 - - 10 8-1/8 6 (1) 45 8 6 - - 12 10-1/8 6 (1) 45 - - 5 - 13 11-1/8 6 (1) 45 - - 5 - 13 11-1/8 6 (1) 45 10 8 6 - 14 12-1/8 6 (1) 45 - - - 5 15 13-1/8 6 (1) 45 - - - 5 15 13-1/8 6 (1) 45 14 12 10 8 16 14-1/8 6 (1) 45 14 12 10 8 18-16/8 6 (1) 45 16 14 12 10 20 18-1/8 6 (1) 45 20 18					1		1					
5 - - 9 7-1/8 6 (1) 45 6 5 - - 10 8-1/8 6 (1) 45 8 6 - - 12 10-1/8 6 (1) 45 - - 5 - 13 11-1/8 6 (1) 45 10 8 6 - 14 12-1/8 6 (1) 45 - - - 5 15 13-1/8 6 (1) 45 12 10 8 6 16 14-1/8 6 (1) 45 14 12 10 8 18 16-1/8 6 (1) 45 16 14 12 10 20 18-1/8 6 (1) 45 18 16 14 12 22-1/18 6 (1) 45 20 18 16										1		
6 5 - - 10 8-1/8 6 (1) 45 8 6 - - 12 10-1/8 6 (1) 45 - - 5 - 13 11-1/8 6 (1) 45 10 8 6 - 14 12-1/8 6 (1) 45 - - - 5 15 13-1/8 6 (1) 45 12 10 8 6 16 14-1/8 6 (1) 45 14 12 10 8 18 16-1/8 6 (1) 45 16 14 12 10 20 18-1/8 6 (1) 45 18 16 14 12 22 20-1/8 6 (1) 45 20 18 16 24 22-1/8 6 (1) 45 22 20		5		T-	_	9						
8 6 - - 12 10-1/8 6 (1) 45 - - 5 - 13 11-1/8 6 (1) 45 10 8 6 - 14 12-1/8 6 (1) 45 12 10 8 6 16 14-1/8 6 (1) 45 12 10 8 6 16 14-1/8 6 (1) 45 14 12 10 8 18 16-1/8 6 (1) 45 16 14 12 10 20 18-1/8 6 (1) 45 18 16 14 12 22 20-1/8 6 (1) 45 20 18 16 14 24 22-1/8 6 (1) 45 20 18 16 24 22-1/8 6 (1) 45 22 20		6	5	1-	-	10						
- - 5 - 13 11-1/18 6 (1) 45 10 8 6 - 14 12-1/18 6 (1) 45 12 10 8 6 16 14-1/18 6 (1) 45 12 10 8 6 16 14-1/8 6 (1) 45 14 12 10 8 18 16-1/8 6 (1) 45 16 14 12 10 20 18-1/8 6 (1) 45 20 18 16 14 22 20-1/8 6 (1) 45 20 18 16 42 22-1/8 6 (1) 45 20 18 16 24 22-1/8 6 (1) 45 20 18 16 24 22-1/8 6 (1) 45 22 20 18 2		8	6	-	-	12		6				
10 8 6 - 14 12·1/8 6 (1) 45 - - - 5 15 13·1/8 6 (1) 45 12 10 8 6 16 14·1/8 6 (1) 45 14 12 10 8 18 16·1/8 6 (1) 45 16 14 12 10 20 18·1/8 6 (1) 45 20 18 16 14 22 20·1/8 6 (1) 45 20 18 16 14 24 22·1/8 6 (1) 45 20 18 16 24 22·1/8 6 (1) 45 20 18 16 26 24·1/8 10 (2) 22·5 24 22 20 18 28 26·1/8 10 (2) 22·5 28 26 <	i		-	5	_			-				
		10	8	6	-	14	12-1/8	6		-		
12 10 8 6 16 14-1/8 6 (1) 45 14 12 10 8 18 16-1/8 6 (1) 45 16 14 12 10 20 18-1/8 6 (1) 45 18 16 14 12 22 20-1/8 6 (1) 45 20 18 16 14 24 22-1/8 6 (1) 45 22 20 18 16 26 24-1/8 10 (2) 22.5 24 22 20 18 28 26-1/8 10 (2) 22.5 24 22 20 30 28-1/8 10 (2) 22.5 26 24 22 30 30-1/8 10 (2) 22.5 28 26 24 34 32-1/8 10 (2) 22.5 30 28 2		-	-	_	5	15		-		-		
14 12 10 8 18 16-1/8 6 (1) 45 16 14 12 10 20 18-1/8 6 (1) 45 18 16 14 12 22 20-1/8 6 (1) 45 20 18 16 14 24 22-1/8 6 (1) 45 22 20 18 16 26 24-1/8 10 (2) 22.5 24 22 20 18 28 26-1/8 10 (2) 22.5 26 24 22 20 30 28-1/8 10 (2) 22.5 28 26 24 22 32 30-1/8 10 (2) 22.5 30 28 28 26 36 34-1/8 10 (2) 22.5 32 30 28 38 36-1/8 10 (2) 22.5	Ì	12	10	8	6	16	-					
16 14 12 10 20 18-1/8 6 (1) 45 18 16 14 12 22 20-1/8 6 (1) 45 20 18 16 14 24 22-1/8 6 (1) 45 22 20 18 16 26 24-1/8 10 (2) 22.5 24 22 20 18 28 26-1/8 10 (2) 22.5 26 24 22 20 30 28-1/8 10 (2) 22.5 26 24 22 32 30-1/8 10 (2) 22.5 30 28 26 24 34 32-1/8 10 (2) 22.5 30 28 26 24 34 32-1/8 10 (2) 22.5 36 - 32 30 40 38-1/8 10 (2) 22.5	ı	14	12	10	8	18						
18		16	14	12	10	20						
20	Į	18	16	14	12	22						
22 20 16 16 26 24-1/8 10 (2) 22.5 24 22 20 18 28 26-1/8 10 (2) 22.5 26 24 22 20 30 28-1/8 10 (2) 22.5 28 26 24 22 32 30-1/6 10 (2) 22.5 30 28 26 24 34 32-1/8 10 (2) 22.5 32 30 28 26 36 34-1/8 10 (2) 22.5 36 30 28 38 36-1/8 10 (2) 22.5 36 30 40 38-1/8 10 (2) 22.5 - 36 32 30 40 38-1/8 10 (2) 22.5 - 36 32 42 40-1/8 10 (2) 22.5 42 - 36 <td>l</td> <td>20</td> <td>18</td> <td>16</td> <td>14</td> <td>24</td> <td>22-1/8</td> <td>6</td> <td>-</td> <td>45</td>	l	20	18	16	14	24	22-1/8	6	-	45		
24 22 20 18 28 26-1/8 10 (2) 22.5 26 24 22 20 30 28-1/8 10 (2) 22.5 28 26 24 22 32 30-1/8 10 (2) 22.5 30 28 26 24 34 32-1/8 10 (2) 22.5 32 30 28 36 34-1/8 10 (2) 22.5 36 32 30 40 38-1/8 10 (2) 22.5 - 36 32 32 42 40-1/8 10 (2) 22.5 - 36 32 32 42 40-1/8 10 (2) 22.5 - 36 42 42 40-1/8 10 (2) 22.5 - 36 42 44-1/8 10 (2) 22.5 - 42 - 36	I	22	20	18	16	26	24-1/8	10				
26 24 22 20 30 28-1/8 10 (2) 22.5 28 26 24 22 32 30-1/8 10 (2) 22.5 30 28 26 24 34 32-1/8 10 (2) 22.5 32 30 28 36 34-1/8 10 (2) 22.5 36 - 32 30 40 38-1/8 10 (2) 22.5 - 36 - 32 42 40-1/8 10 (2) 22.5 - - 36 - 44 42-1/8 10 (2) 22.5 - - 36 - 46 44-1/8 10 (2) 22.5 - 42 - - 48 48-1/8 10 (2) 22.5 - 42 - - 48 48-1/8 10 (2) 22.5 <t< td=""><td>Ĺ</td><td>24</td><td>22</td><td>20</td><td>18</td><td rowspan="2"></td><td>26-1/8</td><td>10</td><td></td><td></td></t<>	Ĺ	24	22	20	18		26-1/8	10				
28 26 24 22 32 30-1/8 10 (2) 22.5 30 28 26 24 34 32-1/8 10 (2) 22.5 32 30 28 36 34-1/8 10 (2) 22.5 36 - 32 30 40 38-1/8 10 (2) 22.5 - 36 - 32 42 40-1/8 10 (2) 22.5 - - 36 - 44 42-1/8 10 (2) 22.5 42 - - 36 46 44-1/8 10 (2) 22.5 - 42 - - 48 48-1/8 10 (2) 22.5 48 - - 42 52 50-1/8 10 (2) 22.5 - 48 - - 54 62-1/8 10 (2) 22.5	l	26	24	22	20		28-1/8	10		22.5		
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32 30 28 26 36 34-1/8 10 (2) 22.5 - 32 30 28 38 36-1/8 10 (2) 22.5 36 - 32 30 40 38-1/8 10 (2) 22.5 - 36 - 32 42 40-1/8 10 (2) 22.5 - - 36 - 44 42-1/8 10 (2) 22.5 42 - - 36 46 44-1/8 10 (2) 22.5 - 42 - - 48 48-1/8 10 (2) 22.5 48 - - 42 52 50-1/8 10 (2) 22.5 - 48 - - 54 62-1/8 10 (2) 22.5	Į	30	28	26	24	34	32-1/8	10		22.5		
32 30 28 38 36-1/8 10 (2) 22.5 36 32 30 40 38-1/8 10 (2) 22.5 36 32 42 40-1/8 10 (2) 22.5 36 44 42-1/8 10 (2) 22.5 42 36 46 44-1/8 10 (2) 22.5 42 42 52 50-1/8 10 (2) 22.5 48 42 52 50-1/8 10 (2) 22.5 48 54 62-1/8 10 (2) 22.5	Ĺ	32	30	28	26	36	34-1/8	10		22.5		
36 - 32 30 40 38-1/8 10 (2) 22.5 - 36 - 32 42 40-1/8 10 (2) 22.5 - - 36 - 44 42-1/8 10 (2) 22.5 42 - - 36 46 44-1/8 10 (2) 22.5 - 42 - - 48 48-1/8 10 (2) 22.5 - 48 - - 42 52 50-1/8 10 (2) 22.5 - 48 - - 54 62-1/8 10 (2) 22.5	Į	-	32	30	28	38	36-1/8	10				
- 36 - 32 42 40-1/8 10 (2) 22.5 36 - 44 42-1/8 10 (2) 22.5 42 36 46 44-1/8 10 (2) 22.5 - 42 48 48-1/8 10 (2) 22.5 48 42 52 50-1/8 10 (2) 22.5 - 48 54 62-1/8 10 (2) 22.5	L	36	-	32	30	40	38-1/8	10		22.5		
36 44 42-1/8 10 (2) 22.5 42 36 46 44-1/8 10 (2) 22.5 42 48 48-1/8 10 (2) 22.5 48 42 52 50-1/8 10 (2) 22.5 48 54 62-1/8 10 (2) 22.5	L	- 1	36	_	32	42	40-1/8	10	(2)			
42 - - 36 46 44-1/8 10 (2) 22.5 - 42 - - 48 48-1/8 10 (2) 22.5 48 - - 42 52 50-1/8 10 (2) 22.5 - 48 - - 54 62-1/8 10 (2) 22.5	L]]	36		44	42-1/8	10				
48 42 52 50 10 (2) 22.5 48 42 52 50 18 10 (2) 22.5 48 54 62 18 10 (2) 22.5	L	42	~	-	36	46		10	(2)	22.5		
- 48 54 62-1/8 10 (2) 22.5	L		42	_	-	48	48-1/B	10				
<u>- 48 54 62-1/8 10 (2) 22.5</u>	L	48		-1	42	52	50-1/8	10	-			
<u> </u>	L		48	-1	- [54	62-1/8	10		22.5		
	L			_[48	58	66-1/8	10	(2)	22.5		

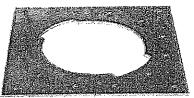
(1) Size of Angles = 11/2 x 11/2 x 3/16 (2) Size of Angles = 2 x 2 x 3/19

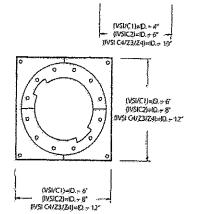
Plate Support Assembly Code:

PA

Used for supporting the load of the stack, and as a fixed point anchor near fittings.







Materials Available:

Painted Steel

Ordered Part Includes: Split (square) plate, one CF, two HCB's and hardware.

Plate Thickness:

0.188" for sizes 6" through 20" diameters 0.250" for sizes 22" through 36" diameters 0.375" for sizes 42" through 48" diameters

Notes:

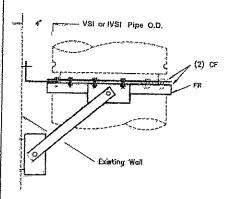
- 1. Two 316 Stainless Steel HCB's are provided for stainless steel outer projects.
- 2. PA plate fabricated from Stainless Steel is available upon special request for an additional cost; allow additional time for manufacturing.

Wall Support Assembly

WA

"Limited" support assembly with factory supplied bracing.





Materials Available:

Painted Steel

Ordered Part Includes:

One FR, two CF's, two HCB's, five brackets, two struts, and all hardware except connection at wall,

Notes:

- 1. Assembly will maintain a 4" clearance between pipe O.D. and supporting
- 2. WA fabricated from Stainless Steel is available upon special request for an additional cost; allow additional time for manufacturing.

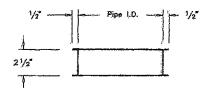
Flanged **Hood Transition**

Code:

TS

Used on standard appliances such as kitchen hood exhausts. Flanged at both ends.





Materials Available:

1	304/Alum	316/Alum	304/304	316/316
		1 : 5	1	

Note: Alum is aluminized steel

Ordered Part Includes: TS, plus one CB and one VB. Ceramic fiber insulation provided with IVSI models.

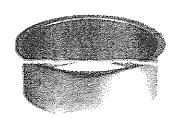
Notes:

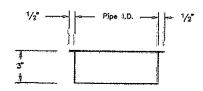
1. Can be used for welding to equipment or transitions fabricated in the field.

Unflanged **Hood Transition**

TSU

Used on standard appliances such as kitchen hood exhausts. Flanged at one end.





Materials Available

	304/Alum	318/Alum	304/304	316/316
H				

Note: Alum is aluminized steel

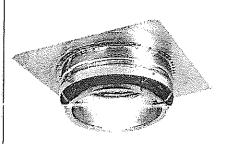
Ordered Part Includes: TSU, plus one CB and one VB. Ceramic fiber insulation provided with IVSI models.

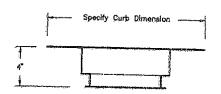
1. Can be used for welding to equipment or transitions fabricated in the field.

Fan Adapter Code:

FA

Used for connection to an "upblast" kitchen exhaust fan.





Materials Available:

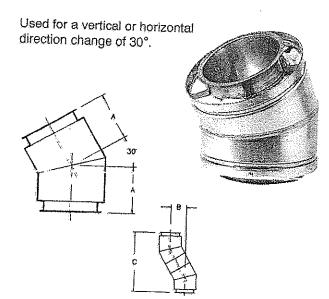
ŧ		· · · · · · · · · · · · · · · · · · ·		
	304/Alum	316/Alum	304/304	316/316
ř				

Note: Alum is aluminized steel

Ordered Part Includes: FA, plus one VB and one CB.

1. Dimension of square plate (which is sandwiched between curb and fan housing) must be specified when ordering.

30° Elbow EL30



Materials Available:

304/Alum | 316/Alum | 304/304 316/316

Note: Alum is aluminized steel

Ordered Part Includes: EL30, plus one CB and one VB.

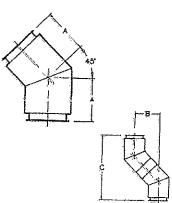
Notes:

1. K = 0.12 Flow Resistance Factor

							-,,			
	Pro	duct			Dimensions					
ļ	{Pipe				(Inches)					
VSI/IVS	i ivsi	IVS	I IVSI			1	7			
C1	C2	Z 3	C4/Z	4 A	В	С	(O, D,			
5		_	_	6-1/8	6-1/8	22-3/8	7			
6	5	_	-	6-1/8	6-1/8	22-7/8	8/9			
8	6		.5~	6-3/8	6-3/8	23-7/8	10			
-		.5	-	6-9/16	6-9/16	24-3/8	11			
10	8	6	-	6-11/16		24-7/8	12			
			5	7-5/16	7-5/16	27-1/4	13			
12	10	8	6	7-5/16	7-5/16	27-1/4	14			
14	12	10	8	7-7/8	7-7/8	29-5/8	16			
16	14	12	10	8-1/4	8-1/4	30-5/8	18			
18	16	14	12	8-5/8	8-5/8	31-5/8	20			
20	8.1	16	14	9-1/8	9-1/8	34-1/8	22			
22	20	18	16	.9-3/8	9-3/8	35	24			
24	22	20	18	10-1/16	10-1/16	37-1/2	26			
26	24	22	20	10-5/16	10-5/16	38-1/2	28			
28	26	24	22	11	11	40-7/8	30			
30	28	26	24	11-1/4	11-1/4	41-7/8	32			
32	30	28	26	11-7/8	11-7/8	44-3/8	34			
	32	30	28	12-3/16	12-3/16	45-3/8	36			
36		32	30	12-7/8	12-3/4	47-3/4	38			
	36		32	13-1/8	13-1/8	48-7/8	40			
_=		36	<u> </u>	13-9/16	13-9/16	50-5/8	42			
42			36	14	14	52-1/2	44			
	42		-	14-1j4	14-1/4	53-1/8	46			
48			42	14-3/16	14-3/16	56-7/16	50			
	48		[15-5/16	15-5/16	57-1/8	52			
			48	15-5/16	15-5/16	57-1/8	56			

45° Elbow **EL45**

Used for a vertical or horizontal direction change of 45°.





Materials Available:

304/Alum 316/Alum 304/304 316/316

Note: Alum is aluminized steel

Ordered Part Includes: EL45, plus one CB

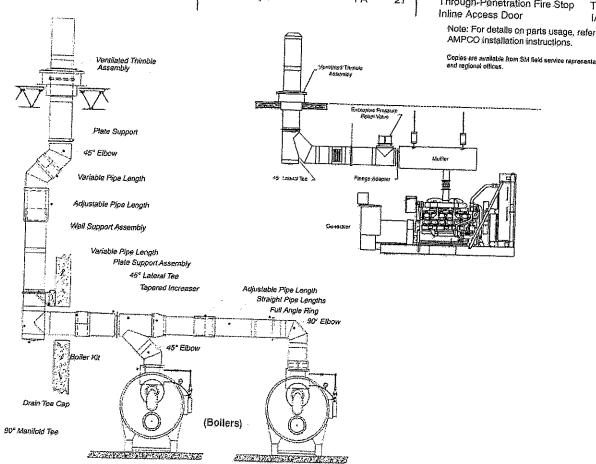
Notes:

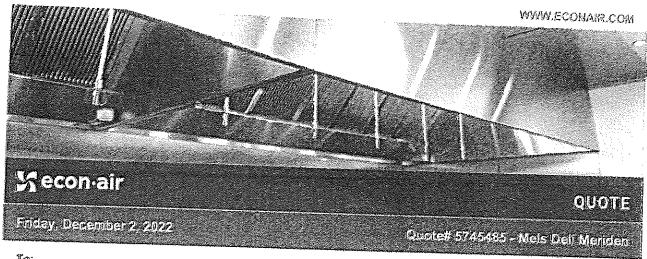
1. K = 0.15 Flow Resistance Factor and one VB.

	Pro	duct		Dimensions						
		t con t				(Inches)				
VSIJIVS	il wa	TVS	IVSI		<u> </u>	1		-		
C)	C2	Z3	C4/Z4	l A	1 8	C	(O. D.			
5				8-1/2	12	29	7	۲		
6	5	<u> L</u> -		8-1/2	12	29	8/9	4		
8	6		-	8-15/16	12-5/8	30-7/16	10	٦		
	<u> </u>	5	T -	9-1/8	12-7/8	31-1/8	11	┪		
10	8	6		9-5/16	13-3/16	31-7/8	12	7		
		,	5	10-1/4	14-1/2	35	13	┥		
12	10	8	6	10-1/4	14-1/2	36	14	1		
14	12	10	8	10-11/16		36-1/2	16	1		
16	14	12	10	11-5/8	16-7/16	39-588	18	1		
18	16	14	12	12-1/16	17-1/16	41.1/8	20	1		
20	18	16	14	18	18-3/8	44-1/4	22	ł		
22	20	18	16	13-5/16	18-13/16	45-1/2	24	1		
24	22	20	18	14-5/16	20-1/4	48-1/8	26			
26	24	22	20	14-7/8	21-1/16	50-7/8	28	Į		
28	26	24	22	15-11/16	22-3/16	53-1/2	30	ĺ		
30	28	26	24	16-1/4	22-15/16	53-3/8	32			
32	30	28	26	17	24	58	34	l		
-	32	30	28	17-9/16	24-3/4	59-7/8	36			
36		32	30	18-3/8	25-15/16	62-5/8	38			
-	36	-	32	18-7/8	26-11/16	64-1/2	40			
	_	35		19-5/16	27-5/16	65-15/16	42			
42		-	36	19-11/16	27-7/8	67	A4			
	42			20-1/8	28-7/16	68-5/8	46			
48		~]	42	21-7/16	30-5/16	74-7/8	50			
	48	-	~]	21-7/16	30-5/16	74-7/8	52			
		-	48	21-7/16	30-5/16	74-7/8	56			

This page illustrates some of the major parts described on pages 8-30,

This p	age illu	ıstrat	es some of the major	parts	desci	ibed on pages 8-30		
The second secon	Code	page	Product	Code	page	Product		
Joint Assembly Parts Overlapping Vee Band Channel Band Half Channel Band Low Temperature Sealant High Temperature Sealant Special Gas Vent Sealant Double Wall Pipe 59.13" Pipe Length 42" Pipe Length 30" Pipe Length 18" Pipe Length	VB CB HCB P600 P2000 SGV550 59 42 30 18	8 8 8 8 8 10 10	Double Wall Fittings (cont) Drain Tee Cap Clean Out Tee Cap 15° Elbow 30° Elbow 45° Elbow 90° Elbow Tapered Increaser Step Increaser Drain Section Support/Guide Accessories Half Angle Ring	TC TON EL15 EL30 EL45 EL90 OT OS DS	13 14 14 15 15 16 16 17	Roof Penetrations Storm Collar Tall Flashing Pitched Tall Flashing Ventilated Thimble Ventilated Tall Flashing Ventilated Storm Collar Ventilated Storm Collar Ventilated Storm Assembly Ventilated Support Assembly Pitched Ventilated Thimble Terminations	SC TF PTF THB VTF VSC MVT MRS PVT	22 22 22 23 23 23 23 24 24
Adjustable/Variable Pipe 30" Adjustable Pipe 18" Adjustable Pipe Deliows Joint 30" Variable Pipe 18" Variable Pipe	AG30 AG18 BJ VL30 VL18	10 10 11 11	Full Angle Fling Full Angle Fling Plate Support Assembly Wall Support Assembly Wall Guide Assembly Floor Guide Assembly Support Strap	HR FR PA WG FG SS	18 18 18 18 19 19	Closure Ring Chimney Top Stack Cap Exit Cone Flip Top Miter Cut Fan Adapter Termination	CR CT SK EC FL MC FAT	25 26 26 27 27 27
Double Wall Fittings 90° Tee Combination Lateral Tee 45° Tee - Lateral 90° Wye	MT CL JV	11 12 12 13	Connection Accessories Boiler Kit Seal Ring Flange Adapter Clamp Flange Flanged Hood Transition Unflanged Hood Transition Fan Adapter	BK SR FD CF TS TSU FA	19 20 20 20 21 21 21	Miscellaneous Excessive Pressure Relief Valve Guy Section Guy Tensioner Slope Transition No Tool Access Cap Nozzle Tee Section Through-Penetration Fire Stop Inline Access Door	GS GT ST NTAC NTS TPF	28 28 28 29 29 29 30 30
Ventilialed Assambly	Thimole		- Marrishbud T Assertie	hitanie Ilianie		Note: For details on parts usage, re AMPCO installation instructions. Copies are available from SM field service represend regional offices.	efer to the	uv





To:

From:

Ship To:

Econ-Air proposes to furnish the following equipment. Production of listed items will commence upon receipt of an approved proposal, a purchase order, an approved submittel and approved credit.

EQUIPMENT:

Hood #1 - Job #5745485

5424EX-2-PSP-F - 12ft 0" Long Exhaust-Only Wall Canopy Hood with 14" Wide Front	
Perforated Supply Plenum with Built-in 3" Back Standoff	x 1
- 430 SS Where Exposed	
- Ell TER - 20" toll v 46" wide Mars C.	×1
 FILTER - 20" tall x 16" wide Kleen-Gard Stainless Steel Baffle Filter with Handles and Bottom Hanging Hook, UL Classified 	x 9
- L55 Series E26 Canopy Light Fixture - High Temp Assembly, Includes Clear	
Thermal and Shock Resistant Globe (L55 Fixture), Bulbs By Others	x4
- EXHAUST RISER - Factory installed 16" Diameter X 4" Height	
	x1
- SUPPLY RISER - 8"x 36" Supply Riser with Volume Dampers	x3
- 1/2 Pint Grease Cup New Style, Flanged Slotted	
	x2
- RIGHT QUARTER END PANEL 23" Top Width, 0" Bottom Width, 23" High 430 SS	x 1
- LEFT QUARTER END PANEL 23" Top Width, 0" Bottom Width, 23" High 430 SS	
	:x1

NOTE: Designed to cover (1) Fryer (1) 8burn range.

To upgrade to Captrate Solo Filter with Hook filter(s

The Captrate Solo filter is designed to capture and remove a high percentage of the total grease particulate emissions produced during commercial kitchen cooking operations. Benefits of the solo filters include reduced fire hazard and maintenance associated with grease build-up in hood plenums, duct work, fan assemblies, rooflops and adjacent surfaces. (A larger fan may be required. Consult your sales person for details.)

Fan #1 EA1-D.250-15D - Heater - Job #5745485

EA1-D.250-15D Direct Gas Fired Heated Make Up Air Unit with 15" Mixed Flow Direct Drive Fan Supply Fan handles 1800 CFM @ 0.500" wc ESP, Fan runs at 1919 RPM, Heater supplies 105766 BTUs. 55°F Temperature Rise. [Fuel: Natural Gas] Supply Motor: 1.500 HP, 3 Phase, 208 V, 60Hz, 4.4 FLA. ODP, Premium (E-Plus3) Eff. Down Discharge - Air Flow Right -> Left	x1	
- Sloped Filtered Intake for Size #1 Modular Heater. 21.813" Wide x 44.375" Long x 23.375" High, Includes 2" MV EZ Kleen Metal Mesh Filters.	x1	
- 0-150°F Discharge Temp Control • Heating Activation Based On Intake Set Point • Manual Blower Mode.Use with MUA.	x 1	
- Gas Manifold for DF1 GM - BTU 0 - 550001 - 7 in. w.c 14 in. w.c., No Insurance Requirement (ANSI), BV250-66	x1	
- Down Discharge Construction for Size 1 Direct Drive AHUs	x1	
- Gas Pressure Gauge, 0-35", 2.5" Diameter, 1/4" Thread Size	x1	
- Gas Pressure Gauge, -5 to +15 Inches Wc., 2.5" Diameter, 1/4" Thread Size	x 1	
- Ship Loose Gas Strainer. To be installed upstream of unit connection. 3/4" Connection	x 1	
 Motorized Back Draft Damper 16" X 18" for Size 1 Standard & Modular Heater Units w/Extended Shaft, Standard Galvanized Construction, 3/4" Rear Flange, Low Leakage, TFB120S Actuator Included 	x 1	
- VAV (Variable-Air-Volume) Wiring Package for Commercial Fans. Manual Speed Control Variable Frequency Drive Included	x 1	
- ESV112N02YXB571 - Variable Frequency Drive - 1-1/2 HP Max., 200/240 V, Single or Three Phase Input, 6.0 A Max., NEMA 1 Enclosure, with 2RJ-45 FOR MODBUS	x 1	
- VFD factory mounted and wired in unit control vestibule.	x1	
- Curb CRB21X71X20INS Insulated On Fan #1 Flat Curb	x 1	
- Full Bottom Curb Corner, Base flange corners fully welded or staked by factory.	x 1	

NOTE: Flat roof assumed 3phase 208V building power assumed.

INSTALLATION BY OTHERS

By Others:

Installation, ductwork, patching, all electrical field wiring, start-up & balance, gas or electric shutdown for fire system hook-up, fire system chemical agent, NO2 cartridge, field piping, detection and pull station line(s), tesis and permits.

Note:

Customer is responsible for additional labor charges as a result of cooking equipment layout changes after the release of the order, union labor or prevailing wage charges, or additional trips by fire system distributor caused by jobsite delays, permits, fees or test required by local authority. Submittal will specify applicable testing and approval agencies.

The fire suppression system final hook up is not included on this quote. The final hook up usually consists of, but is not limited to, the chemical agent, NO2 cartridge, field piping/re-piping, detection and put station line(s), tests, and permits. Hook up for the fire system must be performed by an Authorized Distributor. If not installed by an Authorized Distributor, then the warranty on this product will be yolded.

Econ-Air requirement for all field book ups:
All fire system detection conduit must be half inch EMT. All conduit fittings must be compression type and fully tightened. All conduit ends must be reamed and deburred and blown clear of debris prior to assembly. All conduit

and blown clear of debris prior to assembly. All conduit must be fully and robustly supported to avoid accidental fire system discharge.

Econ-Air product must be installed in accordance with installation instructions provided with equipment or available on our web site at www.econair.com.

Ductwork must be designed and installed in accordance with AMCA and ASHRAE standards as presented in Econ-Air "Guide to Designing Air Flow Systems", available here.

Hood and Ductwork hanging brackets and angles must be supported with 1/2" - 13 TPI grade 5 (minimum) all-thread. Sandwich hanging angles and ceiling anchor points with 1/2" grade 5 (minimum) steel flat washers and 1/2" - 13 TPI grade 5 (minimum) hex nuts. A doubled hex nut configuration must be used beneath hood and duct hanging brackets and above ceiling anchors (single hex nut beneath hanging angle is only acceptable for full length and supply plenum hanging angle types). Maintain 1/4" of exposed threads beneath bottom hex nut. Torque all hex nuts to 57 ft-libs. Reference the installation manual for additional details and limitations of all structural supports.

WARRANTY

Standard Product Warranty

This equipment is warranted to be free from defects in materials and workmanship, under normal use and service, for a period of 2-years from date of shipment.

Warranty Instructions

This Standard Product Warranty shall not apply if:

- The equipment is not installed by a qualified installer per the MANUFACTURER'S installation instructions shipped with the product.
- 2. The equipment is not installed in accordance with federal, state and local codes and regulations.
- 3. The equipment is misused or neglected, or not maintained per the MANUFACTURER'S maintenance instructions.
- 4. The equipment is not operated within its published capacity.
- 5. The invoice is not paid within the terms of the sales agreement.

The MANUFACTURER shall not be liable for incidental and consequential losses and damages potentially attributable to malfunctioning equipment. Should any part of the equipment prove to be defective in meterial or workmanship within the **Standard Product Warranty**, upon examination by the MANUFACTURER, such part will be repaired or replaced by MANUFACTURER at no charge. The BUYER shall pay all labor costs incurred in connection with such repair or replacement. Equipment shall not be returned without MANUFACTURER'S prior authorization and all returned equipment shall be shipped by the BUYER, freight prepaid to a destination determined by the MANUFACTURER.

NOTE: To receive warranty coverage, register this product by filling out the Start-up and Maintenance Document. Fax the form to 1-919-554-9374 or call 1-866-784-6900 for email information.

SHIPPING

Lift gates are not available from LTL shipping carriers for products over 96" in length,