



**RETURN BIDS TO:  
RETOURNER LES SOUMISSIONS À:**

**Bid Receiving - PWGSC / Réception des  
soumissions - TPSGC**  
**11 Laurier St. / 11, rue Laurier**  
**Place du Portage, Phase III**  
**Core 0B2 / Noyau 0B2**  
**Gatineau, Québec K1A 0S5**  
**Bid Fax: (819) 997-9776**

**REQUEST FOR PROPOSAL  
DEMANDE DE PROPOSITION**

**Proposal To: Public Works and Government  
Services Canada**

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.

**Proposition aux: Travaux Publics et Services  
Gouvernementaux Canada**

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens, services et construction énumérés ici sur toute feuille ci-annexée, au(x) prix indiqué(s).

**Comments - Commentaires**

**Vendor/Firm Name and Address**  
**Raison sociale et adresse du**  
**fournisseur/de l'entrepreneur**

**Issuing Office - Bureau de distribution**  
**Vehicles & Industrial Products Division**  
**11 Laurier St./11, rue Laurier**  
**7A2, Place du Portage, Phase III**  
**Gatineau, Québec K1A 0S5**

<b>Title - Sujet</b> Bldg. 2B - Chiller Package		
<b>Solicitation No. - N° de l'invitation</b> U6800-164721/A	<b>Date</b> 2016-05-16	
<b>Client Reference No. - N° de référence du client</b> U6800-164721		
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$\$HP-912-70951		
<b>File No. - N° de dossier</b> hp912.U6800-164721	<b>CCC No./N° CCC - FMS No./N° VME</b>	
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2016-06-27</b>		<b>Time Zone</b> <b>Fuseau horaire</b> Eastern Daylight Saving Time EDT
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>		
<b>Address Enquiries to: - Adresser toutes questions à:</b> Pearson, Neil		<b>Buyer Id - Id de l'acheteur</b> hp912
<b>Telephone No. - N° de téléphone</b> (873) 469-3312 ( )	<b>FAX No. - N° de FAX</b> (819) 953-2953	
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> DEPARTMENT OF INDUSTRY CANADA 3701 CARLING AVE P.O.BOX 11490 STATION H OTTAWA Ontario K2H8S2 Canada		

**Instructions: See Herein**

**Instructions: Voir aux présentes**

<b>Delivery Required - Livraison exigée</b> See Herein	<b>Delivery Offered - Livraison proposée</b>
<b>Vendor/Firm Name and Address</b> <b>Raison sociale et adresse du fournisseur/de l'entrepreneur</b>	
<b>Telephone No. - N° de téléphone</b> <b>Facsimile No. - N° de télécopieur</b>	
<b>Name and title of person authorized to sign on behalf of Vendor/Firm</b> <b>(type or print)</b> <b>Nom et titre de la personne autorisée à signer au nom du fournisseur/</b> <b>de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b>	
<b>Signature</b>	<b>Date</b>

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## **PART 1 - GENERAL INFORMATION**

### **1. Requirement**

- 1.1 Industry Canada requires Packaged Chiller as detailed herein, in accordance with Annex "A" – Pricing and Annex "B" – Packaged Chiller attached hereto.

### **2. Debriefings**

Bidders may request a debriefing on the results of the bid solicitation. Bidders should make the request to the Contracting Authority within 15 working days of receipt of notification that their bid was unsuccessful. The debriefing may be provided in writing, by telephone or in person.

### **3. Trade Agreements**

The requirement is subject to the provisions of the North American Free trade Agreement (NAFTA), and the Agreement on Internal Trade (AIT).

## **PART 2 - BIDDER INSTRUCTIONS**

### **1. Standard Instructions, Clauses and Conditions**

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the Standard Acquisition Clauses and Conditions *Standard Acquisition Clauses and Conditions Manual* (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) Manual issued by Public Works and Government Services Canada.

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The 2003 (2016-04-04) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

Subsection 5.4 of 2003, Standard Instructions - Goods or Services - Competitive Requirements, is amended as follows:

**Delete:** sixty (60) days

**Insert:** ninety (90) days

### **2. Submission of Bids**

Bids must be submitted only to Public Works and Government Services Canada (PWGSC) Bid Receiving Unit by the date, time and place indicated on page 1 of the bid solicitation.

### **3. Enquiries - Bid Solicitation**

All enquiries must be submitted in writing to the Contracting Authority no later than seven (7) calendar days before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the questions or may request that the Bidder do so, so that the proprietary nature of the question is eliminated, and the enquiry can be answered to all bidders. Enquiries not submitted in a form that can be distributed to all bidders may not be answered by Canada.

#### **4. Applicable Laws**

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the bidders.

#### **5. Improvement of Requirement During Solicitation Period**

Should bidders consider that the specifications or Statement of Work contained in the bid solicitation could be improved technically or technologically, bidders are invited to make suggestions, in writing, to the Contracting Authority named in the bid solicitation. Bidders must clearly outline the suggested improvement as well as the reason for the suggestion. Suggestions that do not restrict the level of competition nor favour a particular bidder will be given consideration provided they are submitted to the Contracting Authority at least seven (7) calendar days before the bid closing date. Canada will have the right to accept or reject any or all suggestions.

## **PART 3 - BID PREPARATION INSTRUCTIONS**

### **1. Bid Preparation Instructions**

Canada requests that bidders provide their bid in separately bound sections as follows:

Section I: Technical Bid ( 2 hard copies)

Section II: Financial Bid ( 1 hard copy)

Section III: Certifications (1 hard copy)

Section IV: Additional Information (1 hard copy)

Canada requests that bidders follow the format instructions described below in the preparation of their bid:

- (a) use 8.5 x 11 inch (216 mm x 279 mm) paper and
- (b) use a numbering system that corresponds to the bid solicitation.

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process Policy on Green Procurement (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, bidders should:

- 1) use paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
- 2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

#### **Section I: Technical Bid**

In their technical bid, bidders should explain and demonstrate how they propose to meet the requirements and how they will carry out the Work.

- 1) Appendix "1" – Evaluation Grid – Packaged Chiller;
- 2) Annex "B" - Packaged Chiller;

## **1. Equivalent Products**

- 1.1 Products that are equivalent in form, fit, function and quality to the item(s) specified in the bid solicitation will be considered where the Bidder:
  - (a) designates the brand name, model and/or part number of the substitute product;
  - (b) states that the substitute product is fully interchangeable with the item specified;
  - (c) provides complete specifications and descriptive literature for each substitute product;
  - (d) provides compliance statements that include technical specifics showing the substitute product meets all mandatory performance criteria that are specified in the bid solicitation; and
  - (e) clearly identifies those areas in the specifications and descriptive literature that support the substitute product's compliance with any mandatory performance criteria.
- 1.2 Products offered as equivalent in form, fit, function and quality will not be considered if:
  - (a) the bid fails to provide all the information requested to allow the Contracting Authority to fully evaluate the equivalency of each substitute product; or
  - (b) the substitute product fails to meet or exceed the mandatory performance criteria specified in the bid solicitation for that item.
- 1.3 Suppliers are encouraged to offer or suggest green solutions whenever possible.
- 1.4 In conducting its evaluation of the bids, Canada may, but will have no obligation to, request bidders offering a substitute product to demonstrate, at the sole cost of bidders, that the substitute product is equivalent to the item specified in the bid solicitation.

## **Section II: Financial Bid**



### **1. Pricing**

The Bidders must submit their prices in Annex “A”- Pricing and in accordance with the Basis of Payment identified in PART 6 - RESULTING CONTRACT CLAUSES.

Prices should not be indicated in any other section of the bid.

### **2.SACC Manual Clauses**

#### **2.1 Exchange Rate Fluctuation Risk Mitigation**

1. The Bidder may request Canada to assume the risks and benefits of exchange rate fluctuations. If the Bidder claims for an exchange rate adjustment, this request must be clearly indicated in the bid at time of bidding. The Bidder must submit form PWGSC-TPSGC 450 , Claim for Exchange Rate Adjustments with its bid, indicating the Foreign Currency Component (FCC) in Canadian dollars for each line item for which an exchange rate adjustment is required.
2. The FCC is defined as the portion of the price or rate that will be directly affected by exchange rate fluctuations. The FCC should include all related taxes, duties and other costs paid by the Bidder and which are to be included in the adjustment amount.
3. The total price paid by Canada on each invoice will be adjusted at the time of payment, based on the FCC and the exchange rate fluctuation provision in the contract. The exchange rate adjustment will only be applied where the exchange rate fluctuation is greater than 2% (increase or decrease).
4. At time of bidding, the Bidder must complete columns (1) to (4) on form PWGSC-TPSGC 450 , for each line item where they want to invoke the exchange rate fluctuation provision. Where bids are evaluated in Canadian dollars, the dollar values provided in column (3) should also be in Canadian dollars, so that the adjustment amount is in the same currency as the payment.
5. Alternate rates or calculations proposed by the Bidder will not be accepted for the purposes of this exchange rate fluctuation provision.

### **Section III:      Certifications**

Bidders must submit the certifications required under PART 5 - CERTIFICATIONS.

### **Section IV:      Additional Information**

Canada requests that bidders submit the following information:

#### **1. Delivery**

##### **1.1 Firm quantity**

The Packaged Chiller system delivery is requested by 30 September 2016, the best delivery that could be offered is:

Item 001 – Quantity one (1) Packaged Chiller system will be delivered within \_\_\_\_\_ calendar days from the effective date of the contract.

##### **1.2 Manufacturer and Model – (*Bidder to complete*)**

Manufacturer: \_\_\_\_\_ Model: \_\_\_\_\_

## **PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION**

### **1. Evaluation Procedures**

- a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- b) An evaluation team composed of representatives of Canada will evaluate the bids.

#### **1.1. Technical Evaluation**

1.1.1 Bidders must submit, with their bid, the followings documents:

- 1) Appendix 1 - Evaluation Grid Packaged Chiller;  
; and
- 2) Annex "B" – Packaged Chiller.

1.1.2 Equivalent Products

Bidders proposing substitutes and/or alternatives must provide with their bid all the information requested as detailed in Part 3, “equivalent products” to be considered for evaluation.

#### **1.2. Financial Evaluation**

1.2.1 The purpose of the financial evaluation is to determine the aggregate price, based on the information submitted in Annex “A” - Pricing.

### **2. Basis of Selection**

- 2.1 A bid must comply with the requirements of the bid solicitation and meet all mandatory criteria to be declared responsive. The responsive bid with the lowest evaluated price will be recommended for award of a contract.

## **PART 5 - CERTIFICATIONS AND ADDITIONAL INFORMATION**

Bidders must provide the required certifications and additional information to be awarded a contract.

The certifications provided by Bidders to Canada are subject to verification by Canada at all times. Unless specified otherwise, Canada will declare a bid non-responsive, or will declare a contractor in default if any certification made by the Bidder is found to be untrue whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority will render the bid non-responsive or constitute a default under the Contract.

### **1. Certifications Required with the Bid**

Bidders must submit the following duly completed certifications as part of their bid.

#### **1.1 Integrity Provisions - Declaration of Convicted Offences**

In accordance with the *Ineligibility and Suspension Policy* (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide with its bid the required documentation, as applicable, to be given further consideration in the procurement process.

### **2. Certifications Precedent to Contract Award and Additional Information**

The certifications and additional information listed below should be submitted with the bid, but may be submitted afterwards. If any of these required certifications or additional information is not completed and submitted as requested, the Contracting Authority will inform the Bidder of a time frame within which to provide the information. Failure to provide the certifications or the additional information listed below within the time frame provided will render the bid non-responsive.

#### **2.1 Integrity Provisions – Required Documentation**

*In accordance with the Ineligibility and Suspension Policy, the Bidder must provide the required documentation, as applicable. Consult sections 4.21, 5.16 and 8.70.2 of the Supply Manual for additional information.*

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In accordance with the *Ineligibility and Suspension Policy* (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.

## 2.2 Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list available at the bottom of the page of the Employment and Social Development Canada (ESDC) - Labour's website ([http://www.esdc.gc.ca/en/jobs/workplace/human\\_rights/employment\\_equity/federal\\_contractor\\_program.page?&\\_ga=1.229006812.1158694905.1413548969](http://www.esdc.gc.ca/en/jobs/workplace/human_rights/employment_equity/federal_contractor_program.page?&_ga=1.229006812.1158694905.1413548969)).

Canada will have the right to declare a bid non-responsive if the Bidder, or any member of the Bidder if the Bidder is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list at the time of contract award.

## 2.3 Additional Certifications Precedent to Contract Award

The certifications listed below should be completed and submitted with the bid, but may be submitted afterwards. If any of these required certifications is not completed and submitted as requested, the Contracting Authority will inform the Bidder of a time frame within which to provide the information. Failure to comply with the request of the Contracting Authority and to provide the certifications within the time frame provided will render the bid non-responsive.

### 2.3.1 Product Conformance

The Bidder certifies that packaged Chiller proposed conform, and will continue to conform throughout the duration of the contract, to all technical specifications of the purchase description(s).

This certification does not relieve the bid from meeting all mandatory technical evaluation criteria detailed in Part 4.

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Bidder's authorized representative signature

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Date

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### 2.3.2 General Environmental Criteria Certification

The Bidder must select and complete one of the following two certification statements.

- A) The Bidder certifies that the Bidder is registered or meets ISO 14001.

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Bidders' Authorized Representative Signature

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Date

**Or**

- B) The Bidder certifies that the Bidder meets and will continue to meet throughout the duration of the contract, a minimum of four (4) out of six (6) criteria identified in the table below.

The Bidder must indicate which four (4) criteria, as a minimum, are met.

<b>Green Practices within the Bidders' organization</b>	<b>Insert a checkmark for each criterion that is met</b>
Promotes a paperless environment through directives, procedures and/or programs	
All documents are printed double sided and in black and white for day to day business activity unless otherwise specified by your client	
Paper used for day to day business activity has a minimum of 30% recycled content and has a sustainable forestry management certification	
Utilizes environmentally preferable inks and purchase remanufactured ink cartridges or ink cartridges that can be returned to the manufacturer for reuse and recycling for day to day business activity.	

Solicitation No. - N° de l'invitation  
U6800-164721/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur  
hp912

Client Ref. No. - N° de réf. du client  
U6800-164721

File No. - N° du dossier  
hp912U6800-164721

CCC No./N° CCC - FMS No./N° VME

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Recycling bins for paper, newsprint, plastic and aluminum containers available and emptied regularly in accordance with local recycling program.	
A minimum of 50% of office equipment has an energy efficient certification.	

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Bidders' Authorized Representative Signature

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Date

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## PART 6 - RESULTING CONTRACT CLAUSES

### 1. Requirement

The Contractor must deliver the Packaged Chiller system in accordance with Annex “A” – Pricing and Annex “B” – Packaged Chiller.

### 2. Standard Clauses and Conditions

All clauses and conditions identified in the Contract by number, date and title are set out in the Standard Acquisition Clauses and Conditions Manual Standard Acquisition Clauses and Conditions Manual (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>)) issued by Public Works and Government Services Canada.

#### 2.1 General Conditions

**2010A (2016-04-04) General Conditions - Goods (Medium Complexity)**, apply to and form part of the contract

2.1.1 Subsection 09 of general conditions 2010A is amendment by replacing the period of twelve (12) months by:

1. Standard Warranty (Canada): The refrigeration equipment manufacturer's warranty must be for a period of 1 year from date of equipment start up, but not more than 18 months from shipment. It must cover replacement parts having proven defective within the above period.
2. 1st Year Labor Warranty: Included
3. Refrigerant Warranty: One (1) year R410A refrigerant.

All other provisions of the warranty section remain in effect.

### 3. Term of Contract

#### 3.1 Delivery of the Packaged Chiller

##### 3.1.1 Firm Quantity

Delivery of the Packaged Chiller system must be made as follows:

**Item 001** – Quantity one (1) Packaged Chiller system must be delivered on or before \_\_\_\_\_. (Date to be inserted by PWGSC at time of contract award.)

**Item 002** – Quantity one (1) Installation assistance and Start up service/commission and training must be carried out within 2 months after delivery of Item 001.

#### 4. Authorities

##### 4.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Neil Pearson  
Title: Supply Specialist  
Organization: Public Service and Procurement Canada - Acquisitions Branch  
LEFT Directorate, HP Division,  
7A2, Place du Portage, Phase 3, 11 Laurier Street, Gatineau Quebec,  
K1A 0S5  
Telephone: 873-469-3312  
Facsimile: 819 953-2953  
E-mail: neil.pearson@tpsgc-pwgsc.gc.ca

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

##### 4.2 Procurement Authority

The Procurement Authority for the Contract is:

Name: \_\_\_\_\_ (To be inserted by PWGSC at time of contract award.)  
Title: \_\_\_\_\_  
Organization: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Telephone: \_\_\_\_-\_\_\_\_-\_\_\_\_\_  
Facsimile: \_\_\_\_-\_\_\_\_-\_\_\_\_\_  
E-mail: \_\_\_\_\_

The Procurement Authority is the representative of the department or agency for whom the Work is being carried out under the Contract. The Procurement Authority

is responsible for the implementation of tools and processes required for the administration of the Contract. The Contractor may discuss administrative matters identified in the Contract with the Procurement Authority however the Procurement Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of Work can only be made through a contract amendment issued by the Contracting Authority.

#### 4.3 Contractor's Representative

Name and telephone number of the person responsible for:

##### General enquiries:

Name: \_\_\_\_\_ (To be completed by the bidder.)  
Title: \_\_\_\_\_  
Telephone: \_\_\_\_-\_\_\_\_-\_\_\_\_  
Facsimile: \_\_\_\_-\_\_\_\_-\_\_\_\_  
E-mail: \_\_\_\_\_

##### Delivery follow-up:

Name: \_\_\_\_\_ (To be completed by the bidder.)  
Title: \_\_\_\_\_  
Telephone: \_\_\_\_-\_\_\_\_-\_\_\_\_  
Facsimile: \_\_\_\_-\_\_\_\_-\_\_\_\_  
E-mail: \_\_\_\_\_

## 5. Payment

### 5.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid the firm unit price(s) specified in Annex "A" - Pricing, and as follows:

Basis of Payment (BOP) Type 1: Firm unit prices in Canadian dollars, Delivered Duty Paid at destination, Incoterms 2000, including Canadian Custom Duties and Excise Taxes included where applicable, and applicable Taxes are extra.

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

## 5.2 SACC Manual Clauses

H1001C Multiple Payments

2008-05-12

## 5.3 Exchange Rate Fluctuation Adjustment

5.1.1 The foreign currency component (FCC) is defined as the portion of the price or rate that will be directly affected by exchange rate fluctuation. The FCC should include all related taxes, duties and other costs paid by the Bidder and which are to be included in the adjustment amount.

5.1.2 For each line item where a FCC is identified, Canada assumes the risks and benefits for exchange rate fluctuation, as shown in the Basis of Payment. For such items, the exchange rate fluctuation amount is determined in accordance with the provision of this clause.

5.3.3 The total price paid by Canada on each invoice will be adjusted at the time of payment, based on the FCC and the exchange rate fluctuation provisions in the contract. The exchange rate adjustment amount will be calculated in accordance with the following formula:

$$\text{Adjustment} = FCC \times Qty \times (i_1 - i_0) / i_0$$

where formula variables correspond to:

FCC

Foreign Currency Component (per unit)

$i_0$

Initial exchange rate (CAN\$ per unit of foreign currency [e.g. US\$1])

$i_1$

exchange rate for adjustments (CAN\$ per unit of foreign currency [e.g. US\$1])

Qty

quantity of units

5.3.4 The initial exchange rate is typically set as the noon rate as published by the Bank of Canada on the solicitation closing date.

5.3.5 For goods, the exchange rate for adjustment will be the noon rate as published by the Bank of Canada on the date the goods were delivered. For services, the exchange rate for adjustment will be the noon rate on the last business day of

the month for which the services were performed. For advance payments, the exchange rate for adjustment will be the noon rate on the date the payment was due. The most recent noon rate will be used for non-business days.

5.3.6 The Contractor must indicate the total exchange rate adjustment amount (either upward, downward or no change) as a separate item on each invoice or claim for payment submitted under the Contract. Where an adjustment applies, the Contractor must submit with their invoice form PWGSC-TPSGC 450, Claim for Exchange Rate Adjustments.

5.3.7 The exchange rate adjustment will only be applied where the exchange rate fluctuation is greater than 2% (increase or decrease), calculated in accordance with column 8 of form PWGSC-TPSGC 450 (i.e.  $[i_1 - i_0] / i_0$ ).

5.3.8 Canada reserves the right to audit any revision to costs and prices under this clause.

## 6. Invoicing Instructions

**6.1** The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed. Suppliers are requested to provide invoices in electronic format unless otherwise specified by the Contracting Authority or Project Authority, thereby reducing printed material.

Invoices must be distributed as follows:

(a) The original and one (1) copy must be forwarded to the following address for certification and payment.

**Industry Canada  
Communications Research Centre  
3701 Carling Ave  
PO Box 11490 Station H  
Ottawa, ON K2H 8S2**

(b) One (1) copy must be forwarded to the Contracting Authority identified under section 4. Authorities of the Contract.

## 7. Certifications

### 7.1 Compliance

Unless specified otherwise, the continuous compliance with the certifications provided by the Contractor in its bid or precedent to contract award, and the ongoing cooperation in providing additional information are conditions of the Contract and failure to comply will constitute the Contractor in default. Certifications are subject to verification by Canada during the entire period of the Contract.

## **8. Applicable Laws**

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

## **9. Priority of Documents**

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- (a) the Articles of Agreement;
- (b) 2010A (2016-06-04) General Conditions - Goods (Medium Complexity);
- (c) Annex "A" - Pricing;
- (d) Annex "B" – Packaged Chiller
- (e) Appendix 1 –Evaluation Grid - Packaged Chiller
- (f) the Contractor's bid dated \_\_\_\_\_.

## **10. SACC Manual Clauses**

A1009C	Work Site Access	2008-05-12
G1005C	Insurance	2016-01-28

## **11. Inspection and Acceptance**

The Technical Authority is the Inspection Authority. All reports, deliverable items, documents, goods and all services rendered under the Contract are subject to inspection by the Inspection Authority or representative. Should any report, document, good or service not be in accordance with the requirements of the Statement of Work and to the satisfaction of the Inspection Authority, as submitted, the Inspection Authority will have the right to reject it or require its correction at the sole expense of the Contractor before recommending payment.

## **12. Preparation for Delivery**

The equipment must be serviced, adjusted and delivered in condition for immediate use. The equipment must be cleaned before leaving the factory and being released to "Industry Canada " personnel at the final delivery location.

Any attempt by the carrier to deliver the equipment will be refused unless arrangements have been made for authorized, qualified personnel to be available to perform inspections and to accept the delivery. When the carrier is required to return due to its failure to make an appointment for delivery, Canada will not be liable to pay for additional costs.

### **13. Delivery and Handling**

The Packaged Chiller must be delivered to the job site with the outdoor section completely assembled. The outdoor unit and the remote evaporator shall each be shipped with a holding charge of nitrogen.

### **14. Shipping Instructions**

The Contractor must ship the goods prepaid DDP - Delivered Duty Paid (as detailed in Annex "A"- Pricing). Unless otherwise directed, delivery must be made by the most economical means. The Contractor is responsible for all delivery charges, administration, costs and risks of transport and customs clearance, including the payment of customs duties and taxes.

Item 001 - the contact person for delivery is: \_\_\_\_\_ (to be inserted by PWGSC at time of contract award).

### **15. Packaging**

The methods used for preservation and packaging must be in conformity with the contractor's normal standard for domestic shipment or, if necessary, with standards for overseas shipment as below deck cargo.

### **16. Material**

Material supplied must be new, unused by manufacturer.

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## ANNEX "A" – PRICING

### Item 001 Packaged Chiller System

The Contractor must deliver the equipment including all deliverables in accordance with the attached Annex "B" – Packaged Chiller.

The Packaged Chiller system and related items must be delivered to:

Industry Canada  
Communications Research Centre  
3701 Carling Ave  
PO Box 11490 Station H  
Ottawa, Ontario

Delivery contact: \_\_\_\_\_ (Name to be inserted by PWGSC at time of contract award.)

Date of delivery: \_\_\_\_\_ (Date to be inserted by PWGSC at time of contract award.)

Firm Lot price of \$ \_\_\_\_\_ for Packaged Chiller system including all related Items, in accordance with Basis of Payment Type 1 (as detailed at Clause 5.1 Basis of Payment).

Manufacturer and Model – (to be inserted by PWGSC at time of contract award.)

Manufacturer: \_\_\_\_\_ Model: \_\_\_\_\_

Quantity: One (1)

### Item 002 Installation Assistance and Start up Service/ Commission and Training

The Contractor must carry out Installation assistance and Start up service/commission and training in accordance with the attached Annex "B" - Packaged Chiller

Firm unit price of \$ \_\_\_\_\_ per Installation assistance and Start up Service/Commission and training in accordance with Basis of Payment Type 1 (as detailed at Clause 5.1 Basis of Payment).

Quantity: One (1)

**Part 1 General**

**1.1 SUMMARY**

- .1 Section includes design, performance criteria, refrigerants, controls, etc., for the supply of one air-cooled scroll compressor chiller with remote evaporator for outdoor installation.

**1.2 REFERENCES**

- .1 Comply with applicable Standards/Codes of AHRI 550/590, ANSI/ASHRAE-15 and cETL.
- .2 Units shall meet the efficiency standards of ASHRAE Standard 90.1 (2010).

**1.3 SUBMITTALS**

- .1 Submit shop drawings and product data in accordance with these specifications.
- .2 Submittals shall include the following:
  - .1 Dimensioned plan and elevation view drawings, required clearances, and location of all field connections.
  - .2 Summary of all auxiliary utility requirements such as electricity, water, etc. Summary shall indicate quality and quantity of each required utility.
  - .3 Single line schematic drawing of the field power hookup requirements, indicating all items that are furnished.
  - .4 Schematic diagram of control system indicating points for field interface/connection.
  - .5 Diagram shall fully delineate field and factory wiring.

**1.4 DELIVERY AND HANDLING**

- .1 Chiller shall be delivered to the job site with the outdoor section completely assembled. The outdoor unit and the remote evaporator shall each be shipped with a holding charge of nitrogen and shall be mounted, piped, wired and charged with refrigerant by the installing contractor.
- .2 Comply with the manufacturer's instructions for rigging and handling equipment.

**1.5 WARRANTY**

- .1 Standard Warranty (Canada): The refrigeration equipment manufacturer's warranty shall be for a period of 1 year from date of equipment start up, but not more than 18 months from shipment. It shall cover replacement parts having proven defective within the above period.
- .2 1st Year Labor Warranty: Entire unit
- .3 Refrigerant Warranty: One (1) year R410A refrigerant.

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**Part 2            PRODUCTS**

**2.1                UNIT DESCRIPTION**

- .1      Supply one factory-assembled, air-cooled scroll compressor chiller with remote evaporator in the capacity specified herein. The outdoor unit shall consist of 4 compressors hermetic tandem, air-cooled condenser section, microprocessor-based control system and all components necessary for controlled unit operation. A multi-circuit, direct expansion, brazed-plate evaporator shall be provided for remote location to be installed and piped to the outdoor unit by the installing contractor. Components shall be shipped with a holding charge of nitrogen.
  
- .2      Chiller shall be factory run-tested with water to verify full-load operation. Operating controls and refrigerant charge shall be verified for proper operation and optimum performance. Units with remote evaporators shall be tested with a temporary connection to a factory evaporator. Any deviation shall be remedied prior to shipment and the unit retested if necessary to confirm repairs or adjustments.

**2.2                DESIGN REQUIREMENTS**

- .1      General: Provide a complete air cooled scroll compressor chiller with remote evaporator as specified herein. The unit shall be in accordance with the standards referenced and any local codes in effect.
  
- .2      Performance: The chiller shall be capable of stable operation to a minimum percentage of full load (without hot gas bypass) of 25%. Performance shall be in accordance with AHRI Standard 550/590.
  
- .3      Acoustics: Sound pressure levels for the unit shall not exceed the following specified levels. Sound data shall be provided with submittals. Test shall be in accordance with AHRI Standard 370.

Unit Overview									
Capacity kW (Tons Min.)	EER	IPLV EER	Voltage	Unit Starter Type	ASHRAE 90.1	Input Power			
352 kW 99.1 Tons	9.5	15.1	575 / 60 / 3	Across the Line	2010	124.5 kW			
Entering Fluid Temperatu re	Leaving Fluid Temperatu re	Fluid Type	Glycol Concentrat ion	Fluid Flow (nominal)	Fluid Flow Min / Max (nominal)	Pressure Drop			
12.8 °C	7.2 °C	Water	n/a	16.10 L/s	9.44 / 24.18 L/s	44.8 kPa			
Condenser									
Coil Fins: Guards:	Aluminum Fin Condenser Coil Grilles only								
Ambient Air Temperature	Altitude	Fan Diameter	Fan Motor Horsepower	Fan Speed	Low Ambient Control to	Unit Airflow (nominal)			
35.0 °C	0 m	750mm	2.0 hp	1140 RPM	1.7 °C	30,634 L/s			
Sound									
Maximum Sound Pressure (at 10 Metres)									
63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz		4 kHz	8 kHz	Overall
dB	dB	dB	dB	dB	dB		dB	dB	dBA
66	68	65	5	62	56		56	55	67
Maximum Sound Power									
63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz		4 kHz	8 kHz	Overall
dB	dB	dB	dB	dB	dB		dB	dB	dBA
93	95	92	92	89	83		83	82	94
Octave band is non 'A' weighted and overall readings are 'A' weighted. Sound data rated in accordance with AHRI Standard-370.									

## 2.3 CHILLER COMPONENTS

### .1 Compressor

- .1 The compressors shall be sealed hermetic, scroll type with crankcase oil heater and suction strainer. The compressor motor shall be refrigerant gas cooled, high torque, hermetic induction type, two-pole, with inherent thermal protection on all three phases and shall be mounted on vibration isolator pads. The compressors shall be equipped with an internal module providing compressor protection and communication capability.

### .2 Evaporator

- .1 The evaporator shall be a compact, high efficiency, dual circuit, brazed plate-to-plate type heat exchanger consisting of parallel stainless steel plates.
  - .1 The water-side working pressure shall be a minimum of 4,502 kPa (653 psig).
  - .2 Performance:
    - .1 Entering Water Temperature: 12.8 Deg. C.
    - .2 Leaving Water Temperature: 7.2 Deg. C.
    - .3 Nominal Fluid Flow: 16.1 L/s
    - .4 Minimum Water Pressure Drop: 44.8 kPa

.3 Condenser

- .1 The condenser coils shall consist of 10mm seamless copper tubes mechanically bonded into plate type fins. The fins shall have full drawn collars to completely cover the tubes. A subcooling coil shall be an integral part of the main condenser coil.
  - .1 Condenser fans shall be propeller type arranged for vertical air discharge and individually driven by direct drive fan motors. Each fan shall be in its own compartment to eliminate cross flow of condenser air during fan cycling and shall be equipped with a heavy-gauge vinyl coated fan guard.
  - .2 Fan motors shall be weather protected, three-phase, direct-drive, 1140 rpm, with permanently lubricated ball bearings and inherent overload protection. External coils surfaces shall have wire mesh protective guards.
- .2 Condenser coils shall have aluminum fins.

.4 Refrigerant Circuit

- .1 Each of the two refrigerant circuits shall include a replaceable-core refrigerant filter-drier, sight glass with moisture indicator, liquid line solenoid valve, thermal expansion valve, and insulated suction line.

.5 Construction

- .1 Unit casing and all structural members and rails shall be fabricated of steel and painted.
- .2 Upper condenser coil section of unit shall have protective, PVC-coated, wire grille guards.
- .3 Upper section of unit shall have protective and decorative louvers covering the coils and unit end.

.6 Control System

- .1 A centrally located weatherproof control panel shall contain the field power connection points, control interlock terminals, and control system. Power and starting components shall include factory circuit breaker of fan motors and control circuit, individual contactors for each fan motor, solid-state compressor three-phase motor overload protection, inherent fan motor overload. Hinged access doors shall be lockable.
- .2 Shall include single-point connection to a factory-supplied non-fused disconnect switch.

.7 Unit Controller

- .1 An advanced DDC microprocessor unit controller with a liquid crystal display provides the operating and protection functions. The controller shall take pre-emptive limiting action in case of high discharge pressure or low evaporator pressure. The controller shall contain the following features as a minimum:

- .2 Equipment Protection
  - .1 The unit shall be protected in two ways:
    - .1 By alarms that shut the unit down and require manual reset to restore unit operation
    - .2 By limit alarms that reduce unit operation in response to some out-of-limit condition. Shut down alarms shall activate an alarm signal.
- .3 Shutdown Alarms
  - .1 No evaporator water flow (auto-restart)
  - .2 Sensor failures
  - .3 Low evaporator pressure
  - .4 Evaporator freeze protection
  - .5 High condenser pressure
  - .6 Outside ambient temperature (auto-restart)
  - .7 Motor protection system
- .4 Limit Alarms
  - .1 Condenser pressure.
  - .2 Low ambient lockout.
  - .3 Low evaporator pressure.
- .5 Unit Enable Selection
  - .1 Enables unit operation from either local keypad, digital input, or BAS
- .6 Analog Inputs:
  - .1 Reset of leaving water temperature, 4-20 mA
  - .2 Current Limit
- .7 Digital Inputs
  - .1 Unit off switch
  - .2 Remote start/stop
  - .3 Flow switch
  - .4 Motor protection
- .8 Digital Outputs
  - .1 Shutdown alarm.
- .9 Condenser fan control - The unit controller shall provide control of condenser fans based on compressor discharge pressure.
- .10 Building Automation System (BAS) Interface
  - .1 Factory mounted DDC controller shall support operation on a BACnet IP network.
  - .2 The information communicated between the BAS and the factory mounted unit controllers shall include the reading and writing of data to allow unit monitoring, control and alarm notification as specified in the unit sequence of operation and the unit points list.

- .3 All communication from the chiller unit controller as specified in the points list shall be via standard BACnet objects.

## **2.4 OPTIONS AND ACCESSORIES**

- .1 The following options are to be included:
  - .1 Hot Gas Bypass: allows unit operation to 10 percent of full load. Includes factory-mounted hot gas bypass valve, solenoid valve, and manual shutoff valve for each circuit. Remote evaporator unit shall have hot gas line field piped to the evaporator inlet according to manufacturer instructions.
  - .2 Ground Fault Protection: Factory installed circuit breaker to protect equipment from damage from line-to-ground fault currents less than those required for conductor protection.
  - .3 BAS interface module to provide interface with the BACnet IP protocol.
  - .4 Compressor Sound Reduction - Acoustic reduction blankets shall be factory installed on each compressor as required to meet sound level requirements.
  - .5 The following accessories are to be included:
    - .1 Evaporator inlet strainer, 40-mesh with extension pipe and Victaulic couplings.
    - .2 Rubber-in-shear vibration isolators for field installation.

## **Part 3 EXECUTION**

- .1 Manufacturer's representative shall provide qualified technician for 1 day for the following:
  - .1 Certify installation.
  - .2 Start up and commission installation.
  - .3 Carry out on-site performance verification tests.
  - .4 Demonstrate operation and maintenance.
  - .5 Provide instruction and training to O&M personnel.
- .2 Submit written report of inspections and test results.

**END OF SECTION**

## EVALUATION GRID

### 1.1 SUBMITTALS

- .1 Submittals shall include the following:
- .1 Dimensioned plan and elevation view drawings, required clearances, and location of all field connections.  
Yes \_\_\_\_\_ No \_\_\_\_\_
  - .2 Summary of all auxiliary utility requirements such as electricity, water, etc. Summary shall indicate quality and quantity of each required utility.  
Yes \_\_\_\_\_ No \_\_\_\_\_
  - .3 Single line schematic drawing of the field power hookup requirements, indicating all items that are furnished.  
Yes \_\_\_\_\_ No \_\_\_\_\_
  - .4 Schematic diagram of control system indicating points for field interface/connection.  
Yes \_\_\_\_\_ No \_\_\_\_\_
  - .5 Diagram shall fully delineate field and factory wiring.  
Yes \_\_\_\_\_ No \_\_\_\_\_

### 2.2 CHILLER COMPONENTS

- .1 Compressor
- .1 The compressors shall be sealed hermetic, scroll type with crankcase oil heater and suction strainer. The compressor motor shall be refrigerant gas cooled, high torque, hermetic induction type, two-pole, with inherent thermal protection on all three phases and shall be mounted on vibration isolator pads. The compressors shall be equipped with an internal module providing compressor protection and communication capability.  
Yes \_\_\_\_\_ No \_\_\_\_\_
- .2 Evaporator
- .1 The evaporator shall be a compact, high efficiency, dual circuit, brazed plate-to-plate type heat exchanger consisting of parallel stainless steel plates. Yes \_\_\_\_\_ No \_\_\_\_\_
    - .1 The water-side working pressure shall be a minimum of 4,502 kPa (653 psig). Yes \_\_\_\_\_ No \_\_\_\_\_

- .2 Performance:
  - .1 Entering Water Temperature: 12.8 Deg. C.  
Yes \_\_\_\_\_ No \_\_\_\_\_
  - .2 Leaving Water Temperature: 7.2 Deg. C.  
Yes \_\_\_\_\_ No \_\_\_\_\_
  - .3 Nominal Fluid Flow: 16.1 L/s  
Yes \_\_\_\_\_ No \_\_\_\_\_
  - .4 Minimum Water Pressure Drop: 44.8 kPa  
Yes \_\_\_\_\_ No \_\_\_\_\_
- .3 Condenser
  - .1 The condenser coils shall consist of 10mm seamless copper tubes mechanically bonded into plate type fins. The fins shall have full drawn collars to completely cover the tubes. A subcooling coil shall be an integral part of the main condenser coil. Yes \_\_\_\_\_ No \_\_\_\_\_
    - .1 Condenser fans shall be propeller type arranged for vertical air discharge and individually driven by direct drive fan motors. Each fan shall be in its own compartment to eliminate cross flow of condenser air during fan cycling and shall be equipped with a heavy-gauge vinyl coated fan guard. Yes \_\_\_\_\_ No \_\_\_\_\_
    - .2 Fan motors shall be weather protected, three-phase, direct-drive, 1140 rpm, with permanently lubricated ball bearings and inherent overload protection. External coils surfaces shall have wire mesh protective guards. Yes \_\_\_\_\_ No \_\_\_\_\_
  - .2 Condenser coils shall have aluminum fins.
- .4 Refrigerant Circuit Yes \_\_\_\_\_ No \_\_\_\_\_
  - .1 Each of the two refrigerant circuits shall include a replaceable-core refrigerant filter-drier, sight glass with moisture indicator, liquid line solenoid valve, thermal expansion valve, and insulated suction line.
- .5 Construction
  - .1 Unit casing and all structural members and rails shall be fabricated of steel and painted. Yes \_\_\_\_\_ No \_\_\_\_\_
  - .2 Upper condenser coil section of unit shall have protective, PVC-coated, wire grille guards. Yes \_\_\_\_\_ No \_\_\_\_\_
  - .3 Upper section of unit shall have protective and decorative louvers covering the coils and unit end. Yes \_\_\_\_\_ No \_\_\_\_\_
- .6 Control System
  - .1 A centrally located weatherproof control panel shall contain the field power connection points, control interlock terminals, and control system. Power and starting components shall include factory circuit breaker of fan motors and control circuit, individual contactors for each fan motor, solid-state compressor three-phase motor overload protection, inherent fan motor overload. Hinged access doors shall be lockable. Yes \_\_\_\_\_ No \_\_\_\_\_
  - .2 Shall include single-point connection to a factory-supplied non-fused disconnect switch. Yes \_\_\_\_\_ No \_\_\_\_\_

.7 Unit Controller

- .1 An advanced DDC microprocessor unit controller with a liquid crystal display provides the operating and protection functions. The controller shall take pre-emptive limiting action in case of high discharge pressure or low evaporator pressure. The controller shall contain the following features:
- .2 Equipment Protection
  - .1 The unit shall be protected in two ways: Yes \_\_\_\_\_ No \_\_\_\_\_
    - .1 By alarms that shut the unit down and require manual reset to restore unit operation Yes \_\_\_\_\_ No \_\_\_\_\_
    - .2 By limit alarms that reduce unit operation in response to some out-of-limit condition. Shut down alarms shall activate an alarm signal. Yes \_\_\_\_\_ No \_\_\_\_\_
- .3 Shutdown Alarms
  - .1 No evaporator water flow (auto-restart) Yes \_\_\_\_\_ No \_\_\_\_\_
  - .2 Sensor failures Yes \_\_\_\_\_ No \_\_\_\_\_
  - .3 Low evaporator pressure Yes \_\_\_\_\_ No \_\_\_\_\_
  - .4 Evaporator freeze protection Yes \_\_\_\_\_ No \_\_\_\_\_
  - .5 High condenser pressure Yes \_\_\_\_\_ No \_\_\_\_\_
  - .6 Outside ambient temperature (auto-restart) Yes \_\_\_\_\_ No \_\_\_\_\_
  - .7 Motor protection system Yes \_\_\_\_\_ No \_\_\_\_\_
- .4 Limit Alarms
  - .1 Condenser pressure. Yes \_\_\_\_\_ No \_\_\_\_\_
  - .2 Low ambient lockout. Yes \_\_\_\_\_ No \_\_\_\_\_
  - .3 Low evaporator pressure. Yes \_\_\_\_\_ No \_\_\_\_\_
- .5 Unit Enable Selection
  - .1 Enables unit operation from either local keypad, digital input, or BAS Yes \_\_\_\_\_ No \_\_\_\_\_
- .6 Analog Inputs:
  - .1 Reset of leaving water temperature, 4-20 mA Yes \_\_\_\_\_ No \_\_\_\_\_
  - .2 Current Limit Yes \_\_\_\_\_ No \_\_\_\_\_
- .7 Digital Inputs
  - .1 Unit off switch Yes \_\_\_\_\_ No \_\_\_\_\_
  - .2 Remote start/stop Yes \_\_\_\_\_ No \_\_\_\_\_
  - .3 Flow switch Yes \_\_\_\_\_ No \_\_\_\_\_
  - .4 Motor protection Yes \_\_\_\_\_ No \_\_\_\_\_
- .8 Digital Outputs
  - .1 Shutdown alarm. Yes \_\_\_\_\_ No \_\_\_\_\_
- .9 Condenser fan control - The unit controller shall provide control of condenser fans based on compressor discharge pressure.  
Yes \_\_\_\_\_ No \_\_\_\_\_

.10 Building Automation System (BAS) Interface

- .1 Factory mounted DDC controller shall support operation on a BACnet IP network.  
Yes \_\_\_\_\_ No \_\_\_\_\_
- .2 The information communicated between the BAS and the factory mounted unit controllers shall include the reading and writing of data to allow unit monitoring, control and alarm notification as specified in the unit sequence of operation and the unit points list.  
Yes \_\_\_\_\_ No \_\_\_\_\_
- .3 All communication from the chiller unit controller as specified in the points list shall be via standard BACnet objects. Yes \_\_\_\_\_ No \_\_\_\_\_

**2.4**

**OPTIONS AND ACCESSORIES**

- .1 The following options are to be included:
  - .1 Hot Gas Bypass: allows unit operation to 10 percent of full load. Includes factory-mounted hot gas bypass valve, solenoid valve, and manual shutoff valve for each circuit. Remote evaporator unit shall have hot gas line field piped to the evaporator inlet according to manufacturer instructions. Yes \_\_\_\_\_ No \_\_\_\_\_
  - .2 Ground Fault Protection: Factory installed circuit breaker to protect equipment from damage from line-to-ground fault currents less than those required for conductor protection. Yes \_\_\_\_\_ No \_\_\_\_\_
  - .3 BAS interface module to provide interface with the BACnet IP protocol.  
Yes \_\_\_\_\_ No \_\_\_\_\_
  - .4 Compressor Sound Reduction - Acoustic reduction blankets shall be factory installed on each compressor as required to meet sound level requirements. Yes \_\_\_\_\_ No \_\_\_\_\_
- .5 The following accessories are to be included:
  - .1 Evaporator inlet strainer, 40-mesh with extension pipe and Victaulic couplings. Yes \_\_\_\_\_ No \_\_\_\_\_
  - .2 Rubber-in-shear vibration isolators for field installation.  
Yes \_\_\_\_\_ No \_\_\_\_\_

SOUND																	
MAXIMUM SOUND PRESSURE (at 10 Metres)																	
63 Hz		125Hz		250 Hz		500 Hz		1kHz		2kHz		4kHz		8kHz		Overall	
dB		dB		dB		dB		dB		dB		dB		dB		dBA	
66		68		65		5		62		56		56		55		67	
Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
MAXIMUM SOUND POWER																	
63 Hz		125Hz		250 Hz		500 Hz		1kHz		2kHz		4kHz		8kHz		Overall	
dB		dB		dB		dB		dB		dB		dB		dB		dBA	
93		95		92		92		89		83		83		82		94	
Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Octave band is non "A" weighted and overall readings are "A" weighted. Sound data rated in accordance with AHRI Standard-370																	

