



National Defence

Défense nationale

National Defence Headquarters  
Ottawa, Ontario  
K1A 0K2

Quartier général de la Défense nationale  
Ottawa (Ontario)  
K1A 0K2

## REQUEST FOR PROPOSAL DEMANDE DE PROPOSITION

### 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  
Fax : 819-997-9776

#### Proposal To: National Defence 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 and services listed herein and on any attached sheets at the price(s) set out therefore.

#### Proposition à : Défense nationale Canada

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

#### Solicitation Closes – L'invitation prend fin

At – à : 14 :00 EST

On - le : December 9th, 2021

<b>Title/Titre</b> NSN: 01-6565016 & 01-6565017, LUBRICATING OIL, REFRIGERANT COMPRESSOR		<b>Solicitation No – N° de l'invitation</b> W8482-229654/A Amendment/Amendement 001 <b>Date of Amendment – Date de l'invitation</b> December 02, 2021
<b>Date of Solicitation – Date de l'invitation</b> November 9th, 2021		
<b>Address Enquiries to – Adresser toutes questions</b> Neil Trousdale Materia Acquisition and Support Officer D Mar P 4-3-3-2 neil.trousdale@forces.gc.ca		
<b>Telephone No. – N° de téléphone</b> N/A	<b>FAX No – N° de fax</b> N/A	
<b>Destination</b> See herein		

#### Instructions:

**Municipal taxes are not applicable. Unless otherwise specified herein all prices quoted must include all applicable Canadian customs duties, GST/HST, excise taxes and are to be delivered Delivery Duty Paid including all delivery charges to destination (s) as indicated. The amount of the Goods and Services Tax/Harmonized Sales Tax is to be shown as a separate item.**

**Instructions: Les taxes municipales ne s'appliquent pas. Sauf indication contraire, les prix indiqués doivent comprendre les droits de douane canadiens, la TPS/TVH et la taxe d'accise. Les biens doivent être livrés « rendu droits acquittés », tous frais de livraison compris, à la ou aux destinations indiquées. Le montant de la taxe sur les produits et services/taxe de vente harmonisée doit être indiqué séparément.**

Delivery required - Livraison exigée	Delivery offered - Livraison proposée
Vendor Name and Address - Raison sociale et adresse du fournisseur	
Name and title of person authorized to sign on behalf of vendor (type or print) - Nom et titre de la personne autorisée à signer au nom du fournisseur (caractère d'imprimerie)	
Name/Nom _____	Title/Titre _____
Signature _____	Date _____

## **AMENDMENT 1**

### **Amendment 1 has been raised to provide details on the compressor unit associated with NSNs 01-6565016 & 01-6565017**

Compressor NSN: 4310-20-008-2590

Bronswerk Marine Manufacturers Part Number: 4227-020-P01

Reference Manufacturer (Hartford Compressor Dunham-Bush) Part Number: 1212SE1716BJOC

**The following details describe the main technical specifications of the 400 kW chillers.**

#### Chiller Details

- Cooling Capacity - 400 kW
- Design Saturated Suction Temperature (SST) - 2.44 °C (36.4 °F) and 217.9 kPa (31.6 psig)
- Design Saturated Discharge - 43.6 °C (110.5 °F) and 1017 kPa (147.5 psig)
- Design Pressure (High Side) - 1034 kPa (1500 psig)
- Design Pressure (Low Side) - 190–240 kPa (28 to 35 psig)
- Chilled Water Flow - 1400 to 1700 L/min
- Leaving Chilled Water Temperature - 7.8 °C (adjustable 6.5 °C–8 °C)
- Chilled Water Fresh water with anticorrosion additives, no glycol
- Sea Water Flow - 0 to 1970 L/min (controlled by sea water regulating valve)
- Minimum Loading - 80 kW (20 per cent)
- Weight (Wet/Dry) - 4041 kg wet/3400 kg dry

#### Refrigerant and Oil Details

- Refrigerant Type - R134a
- Full Refrigerant Charge Approx. - 114 kg (250 lbs)
- Refrigerant Flow - 10 342 kg/hr (22 800 lb/hr)
- Oil Type - SOLEST 120 (Polyolester Oil)
- Oil Charge - 18 U.S. Gallons or 68 Litres per chiller (9 U.S. Gallons or 34 Litres per compressor)

### Chiller Electrical Details at Design Condition

- Line Voltage/Phase/Frequency - 440 V, 3 ph, 60 Hz
- Power - 135 kW
- Design Electrical Load at Full Capacity - 190 A
- Chiller Maximum Starting Current - Less than 650 A (less than 550 A per compressor)

### Component Electrical Details at Design Condition

- Compressor A or B - 67.1 kW, 94.8 A, less than 550 A starting, 440 V, 3 ph, 60 Hz
- Sump Heater A or B - 0.4 kW, 120 V, 1 ph, 60 Hz

### Compressors

1. The compressors receive low temperature, low-pressure vapor refrigerant from the evaporator and compresses it to a high-temperature, high-pressure vapor. The refrigerant then enters the condenser and transfers heat to the seawater in an adiabatic condensation process.

2. Each 400 kW chiller has two refrigerant circuits, allowing one to be shut off to maintain a minimum refrigerant flow velocity under lower load conditions. Maintaining a minimum refrigerant velocity prevents the entrapment of oil and liquid refrigerant inside the evaporator circuit. Having two compressors also allows redundancy, as well as a better physical fit in the available space.

3. The compressors have a horizontal inlet (suction line) on their lower front and an outlet (discharge line) at the very top

4. The compressors are of semi-hermetic vertical screw type. They have no exterior rotating shafts and all the moving parts are inside the housing, which can be unbolted and disassembled for maintenance purposes.