

巡航艦冷凍與冷藏系統維護手冊

巡航艦維護手冊

REFRIG-CRUIM-00000-00

Issue No. 001, 2025-09-10

Table of contents

The listed documents are included in issue 001, dated 2025-09-10, of this publication.

| Document title | Document identifier | Issue date | No. of pages | Applicable to |
|---|--|------------|--------------|----------------|
| Cover Page | | | | |
| Maintenance Manual Cover | REFRIG-A-91-00-00-00A-001A-D | 2025-09-10 | 1 | Version: 1.0.0 |
| Table of Contents | | | | |
| Table of contents | REFRIG-A-00-00-00-00A-009A-D | 2025-09-10 | 1 | Version: 1.0.0 |
| Pressure Control Systems | | | | |
| Refrigeration System - Single Function Pressure Controls | REFRIG-A-10-00-00-00A-040A-D | 2025-09-10 | 5 | Version: 1.0.0 |
| Condensing Units | | | | |
| Refrigeration System - Outline Drawing of Condensing Unit 3500H | REFRIG-A-40-00-00-00A-040A-D | 2025-09-10 | 2 | Version: 1.0.0 |

Refrigeration System

Single Function Pressure Controls

| Table of contents | Page |
|--|------|
| Single Function Pressure Controls..... | 1 |
| References..... | 1 |
| Description..... | 1 |
| 1 Single Function Pressure Controls..... | 1 |
| 1.1 General Description..... | 2 |
| 1.2 Type SNS - Automatic Reset Type Specifications..... | 3 |
| 1.3 Type SNS - Manual Reset Type..... | 4 |
| 1.4 Type HNS - Automatic Reset Type..... | 4 |
| 1.5 Type HNS - Manual Reset Type..... | 4 |

List of tables

| | | |
|---|-----------------|---|
| 1 | References..... | 1 |
|---|-----------------|---|

List of figures

| | | |
|---|---|---|
| 1 | Type SNS and HNS Pressure Controls..... | 2 |
|---|---|---|

References

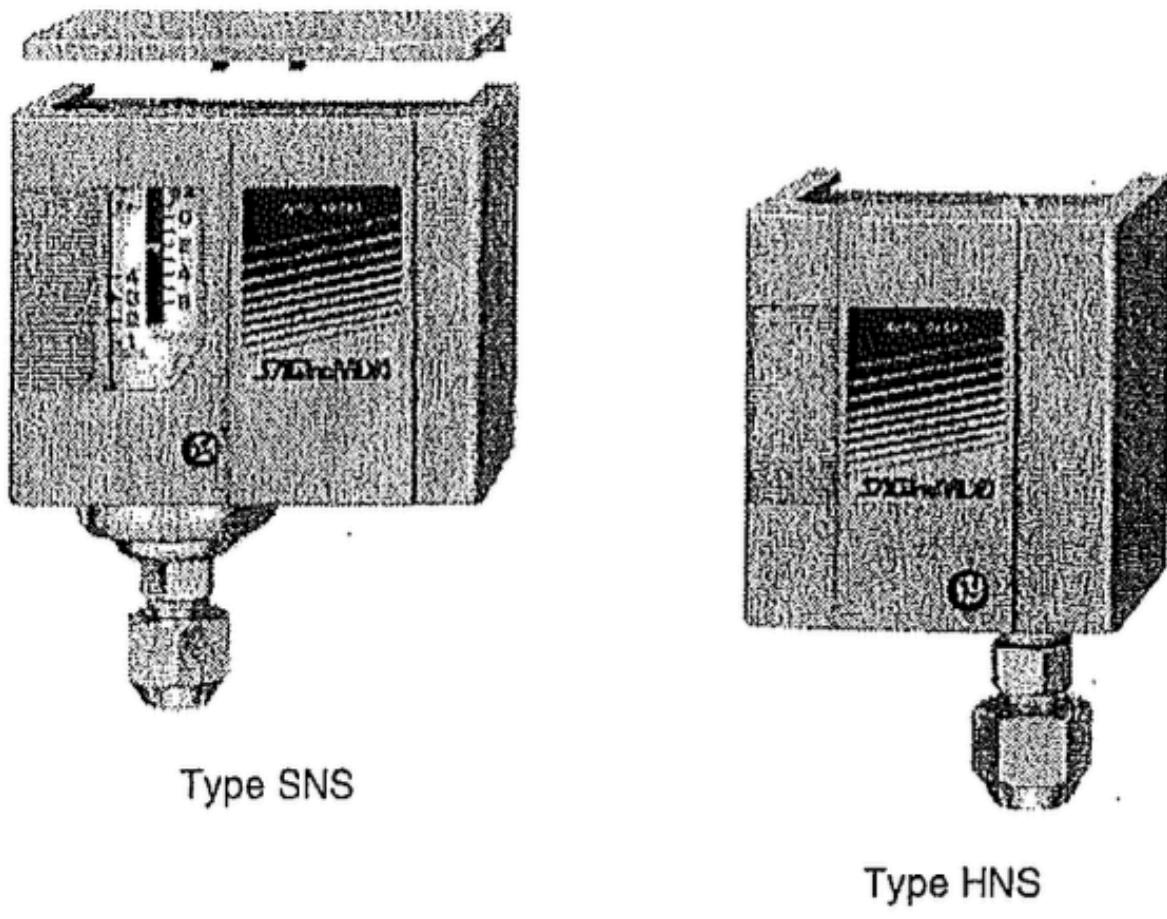
Table 1 References

| Data module/Technical publication | Title |
|-----------------------------------|-------|
| None | |

Description

1 Single Function Pressure Controls

This data module describes the single function pressure controls used in the refrigeration system, including Type SNS and HNS pressure switches.



Type SNS

Type HNS

ICN-REFRIG-A-10-00-00-00A-040A-D-001-01

Fig 1 Type SNS and HNS Pressure Controls

1.1 General Description

- For use with fluorinated refrigerants as well as with air and water. (Allowable fluid temp.: -20 to 120°C)
- Type SNS for universal application.
- Type HNS for high pressure safety cut out.
- Available drip proof enclosure for marine application or explosion proof enclosure for special application.
- Mounting bracket is supplied as standard.
- With SPDT contact mechanism.

- IP44 with upper lid (option).
- Stainless Steel models available upon request.
- CE mark applicable (available upon request)
- UL recognized (available upon request)

1.2 Type SNS - Automatic Reset Type Specifications

| Catalog No. | Range Min. | Range Max. | Differ-ential Min. | Differ-ential Max. | Factory Setting Off(On) | Factory Setting On(Off) | Max. Working Pressure |
|-------------|----------------|------------------|--------------------|--------------------|-------------------------|-------------------------|-----------------------|
| SNS-C101X | -0.06(-50cmHg) | 0.1(1) (0.15) | 0.015 | 0.05(0.5) | 0.025(0.25) | 0.05(0.5) | 0.3(3) |
| SNS-C102X | -0.02(-20cmHg) | 0.2(2) (0.25) | 0.025 | 0.15(1.5) | - | - | 0.5(5) |
| SNS-C103X | -0.06(-50cmHg) | 0.3(3) (0.35) | 0.035 | 0.05(0.5) | 0.15(1.5) | - | 1.1(11) |
| SNS-C104X | -0.06(-50cmHg) | 0.4(4) (0.4) | 0.04 | 0.1(1) | 0.2(2) | - | 1.5(15) |
| SNS-C106X | -0.06(-50cmHg) | 0.6(6) (0.6) | 0.06 | 0.2(2) | 0.3(3) | 0.6(6) | Diagram 1 |
| SNS-C110X | 0.1(1) | 1(10) (1) | 0.1 | 0.3(3) | 0.4(4) | 0.6(6) | 0.33 |
| SNS-C120X | 0.5(5) | 2(20) (2) | 0.2 | 0.5(5) | 1.2(12) | 1.5(15) | 3(30) |
| SNS-C130X | 0.5(5) | 3(30) (3) | 0.3 | 1(10) | 2(20) | 2.5(25) | 3.3(33) |
| SNS-C135X | 1(10) | 3.5(35) | 0.5 (5) | 1.5(15) | 2.5(25) | 3(30) | 3.8(38) |

Unit: MPa (kgf/cm²)

1.3 Type SNS - Manual Reset Type

| Catalog No. | Range Min. | Range Max. | Manual Reset | Factory Setting | Max. Working Pressure |
|-------------|----------------|------------|---|-----------------|-----------------------|
| | | | | Off | |
| SNS-C102XM2 | -0.02(-20cmHg) | 0.2(2) | Automatic operation on pressure decrease, and manual reset. | 0.025(0.25) | 0.5(5) |
| SNS-C106XM2 | -0.06(-50cmHg) | 0.6(6) | Manual operation on reset | manual reset | 1.5(15) |
| SNS-C130XM2 | 0.5(5) | 3(30) | Manual reset at 2(20) | manual reset | 3.3(33) |

* Based on the 1-3 terminal connection.

Unit: MPa (kgf/cm²)

1.4 Type HNS - Automatic Reset Type

| Catalog No. | Range Min. | Range Max. | Differential | Factory Setting | Factory Setting | Max. Working Pressure |
|-------------|------------|------------|------------------------------------|-----------------|-----------------|-----------------------|
| | | | | Off | On | |
| HNS-C130X | 0.8(8) | 3(30) | 0.3 to 0.5 fixed (3 to 5 fixed) | 2(20) | 1.6(16) | 3.3(33) |

* Based on the 1-3 terminal connection.

Unit: MPa (kgf/cm²)

1.5 Type HNS - Manual Reset Type

| Catalog No. | Range Min. | Range Max. | Manual Reset | Factory Setting | Factory Setting | Max. Working Pressure |
|-------------|------------|------------|---|-----------------|-----------------|-----------------------|
| | | | | Off | On | |
| HNS-C130XM1 | 0.8(8) | 3(30) | Automatic operation on pressure increase, and manual reset. | 2(20) | manual reset | 3.3(33) |

- * Based on the 1-3 terminal connection.
 - * Enclosure: IP20
 - * Drip Proof Models: Available upon request. (Refer to Pages 46, 47.)
- Unit: MPa (kgf/cm²)

Refrigeration System

Outline Drawing of Condensing Unit 3500H

| | Page |
|--|------|
| Outline Drawing of Condensing Unit 3500H..... | 1 |
| References..... | 1 |
| Description..... | 2 |
| 1 Outline Drawing of Condensing Unit 3500H..... | 2 |

List of tables

| | |
|---------------------------------|---|
| 1 References..... | 1 |
|---------------------------------|---|

List of figures

| | |
|--|---|
| 1 Condensing Unit 3500H - Outline Drawing..... | 2 |
|--|---|

References

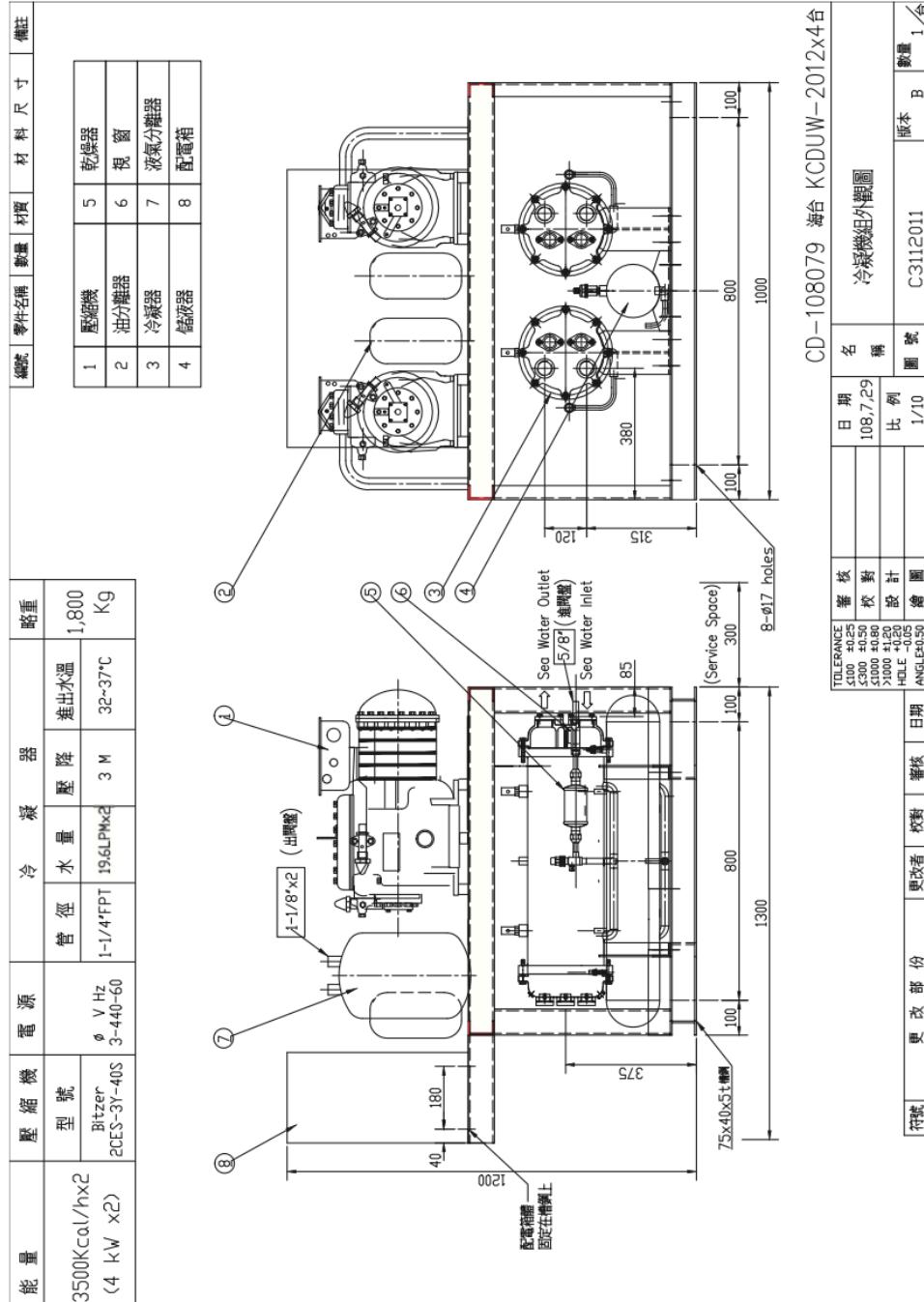
Table 1 References

| Data module/Technical publication | Title |
|-----------------------------------|-------|
| None | |

Description

1

Outline Drawing of Condensing Unit 3500H



ICN-REFRIG-A-40-00-00-00A-040A-D-001-01

Fig 1 Condensing Unit 3500H - Outline Drawing