



1 **TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **CSANe 22ATEX1032X** Issue: **0**

4 Equipment: **Recovery Unit for Flammable Refrigerants  
Model Number: NRDDF and VRDDF**

5 Applicant: **Zhejiang VALUE Mechanical & Electrical Products CO.,LTD.**

6 Address: **No. 5, 3rd Street  
East Industrial Park  
Wenling  
Zhejiang  
China**

7 This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 CSA Group Netherlands B.V., certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design of Category 3 equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN IEC 60079-0:2018	EN IEC 60079-7:2015+A1:2018	EN 60079-11:2012
EN IEC 60079-15:2019	EN ISO 80079-36:2016	EN ISO 80079-37:2016

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

11 This Type Examination Certificate relates only to the design of the specified equipment, and not to specific items of equipment subsequently manufactured. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:



II 3G  
Ex ec ic nC h IIA T4 Gc  
Tamb = 0°C - +40°C

Signed: M Halliwell

Title: Director of Operations



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## SCHEDULE

### TYPE EXAMINATION CERTIFICATE

CSANe 22ATEX1032X  
Issue 0

#### 13 DESCRIPTION OF EQUIPMENT

The NRDDF and VRDDF Recovery Unit for Flammable Refrigerants are intended to be used for flammable and explosive refrigerant recovery. It consists of a plastic enclosure, a compressor, motor, cooling fan and the condenser. The part of plastic enclosure is covered by elastic material. All the bare conductive live parts are in additional IP54 enclosure, and the Recovery Unit enclosure is in accordance with IP20. The motor is with protection type "ec", the compressor is with protection type "h", main board of Recovery Unit is with protection type "ec" and "ic" and LCD board is with protection type "ic". The maximum operation pressure of Recovery Unit is 38.5bar(3.85MPa).

#### 14 DESCRIPTIVE DOCUMENTS

##### 14.1 Drawings

Refer to Certificate Annexe.

##### 14.2 Associated Reports and Certificate History

Issue	Date	Report number	Comment
0	14 October 2022	R80099910A	The release of the prime certificate.

#### 15 SPECIFIC CONDITIONS OF USE (denoted by X after the certificate number)

- 15.1 Provision shall be made external to the equipment that ensures that the circuits are limited to overvoltage category II as defined in EN 60664-1.
- 15.2 In the final use, the OFF port shall comply with at least IP20.
- 15.3 Maximum recovery weight of refrigerant shall not exceed 80kg at any time. After the working, the Recovery Unit for Flammable Refrigerants shall be stopped and ensured the refrigerant to be cooling.
- 15.4 Equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. In addition, the equipment shall only be cleaned with a damp cloth. For external material information, please contact the manufacturer.
- 15.5 Equipment shall be operated such that the supply cable is protected from mechanical damage. The cable shall not be subjected to tension or torque.

#### 16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

#### 17 CONDITIONS OF MANUFACTURE

- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of CSA Group Netherlands B.V. certificates.
- 17.2 Holders of Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.
- 17.3 The NRDDF and VRDDF Recovery Unit for Flammable Refrigerants shall be subjected to a dielectric strength test with 1500Vac or 2125Vdc for least 60 s without dielectric breakdown occurring between input and the earthing, and between input and the non-metallic surface of the equipment. Alternatively, the test may be carried out at 1800Vac or 2550Vdc for at least 100 ms. Between input and the earthing. The testing base on clause 7.1 of EN IEC 60079-7:2015+A1:2018.

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## SCHEDULE

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- 17.4 The motor of NRDDF Recovery Unit for Flammable Refrigerants shall be subjected to a dielectric strength test with 1500Vac or 2125Vdc for least 60 s without dielectric breakdown occurring between input of motor and the earthing. Alternatively, the test may be carried out at 1800Vac or 2550Vdc for at least 100 ms without dielectric breakdown occurring between input of motor and the earthing. The motor of VRDDF Recovery Unit for Flammable Refrigerants shall be subjected to a dielectric strength test with 1620Vac or 2295Vdc for least 60 s without dielectric breakdown occurring between input of motor and the earthing. Alternatively, the test may be carried out at 1945Vac or 2755Vdc for at least 100 ms without dielectric breakdown occurring between input of motor and the earthing. The testing base on clause 7.1 of EN IEC 60079-7:2015+A1:2018.
- 17.5 Only passed the clamping tests with the values reduced to 25% for cable gland, the manufacturer shall provide additional way to ensure that pulling is not transmitted to the terminations.

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# Certificate Annexe



Certificate Number: CSANe 22ATEX1032X

Equipment: Product Name: Recovery Unit for Flammable Refrigerants  
Model Number: NRDDF and VRDDF

Applicant: Zhejiang VALUE Mechanical & Electrical Products CO.,LTD.

## Issue 0

Drawing	Sheets	Rev.	Date (Stamp)	Title
<b>Mechanical drawings – NRDDF and VRDDF Recovery Unit for Flammable Refrigerants</b>				
FY-VRR24M-F-00-00	1 of 1	B	20 Sep 22	Assembly drawing of NRDDF
FY-VRR24M-F-00-00-01	1 of 1	B	20 Sep 22	Exploded view of NRDDF
FY-VRR24M-F-00-51	1 of 1	B	20 Sep 22	NRDDF Label
FY-VRR24M-F-00-52	1 of 1	B	20 Sep 22	VRDDF Label
FY-VRR24M-F-06-08	1 of 1	B	20 Sep 22	Cover of LCD console
FY-VRR24M-F-06-00-01	1 of 1	B	20 Sep 22	Exploded view of LCD console
FY-VRR24M-F-06-00-02	1 of 1	B	20 Sep 22	Assembly drawing of LCD console
FY-VRR24M-C-00-01	1 of 1	B	20 Sep 22	Front side of cabinet
FY-VRR24M-NW-00-13	1 of 1	B	20 Sep 22	Knob
FY-VRR24M-F-00-03	1 of 1	B	20 Sep 22	Left side of cabinet
FY-VRR24M-C-04	1 of 1	B	20 Sep 22	Microchannel condenser
FY-VRR24M-F-00-36	1 of 1	B	20 Sep 22	OFP short connector
FY-VRR24M-C-00-02	1 of 1	B	20 Sep 22	Rear side of cabinet
FY-VRR24M-F-00-25	1 of 1	B	20 Sep 22	Power socket cover
FY-VRR24M-C-00-04	1 of 1	B	20 Sep 22	Right side of cabinet
FY-VRR24M-C-00-05	1 of 1	B	20 Sep 22	Roof
FY-VRR24M-F-11-02	1 of 1	B	20 Sep 22	Top cover of controller box
FY-RBZ-02-02-07	1 of 1	B	20 Sep 22	2xΦ3 cable gland
FY-RBZ-02-02-10	1 of 1	B	20 Sep 22	2-Φ4.8/Φ6 cable gland
FY-RBZ-02-02-04	1 of 1	B	20 Sep 22	3xΦ4 cable gland
FY-RBZ-02-02-08	1 of 1	B	20 Sep 22	3xΦ5 cable gland
FY-RBZ-02-02-09	1 of 1	B	20 Sep 22	Φ6/Φ7 cable gland
FY-VRR24M-F-30-10	1 of 1	B	20 Sep 22	Main board power cable connector
FY-VRR24M-F-30-08-01	1 of 1	B	20 Sep 22	Motor three-core power cable connector
FY-VRR24M-F-30-11	1 of 1	B	20 Sep 22	Socket power cable connector
<b>Mechanical drawings – Motor</b>				
FY-VRR24M-F-02-00	1 of 1	B	20 Sep 22	Motor assembly drawing
FY-VRR24M-F-02-00-01	1 of 1	B	20 Sep 22	Exploded view of motor assembly
FY-VRR24M-F-02-21	1 of 1	B	20 Sep 22	Dustproof O-ring
FY-VRR24M-F-02-04	1 of 1	B	20 Sep 22	Motor enclosure
FY-VRR24M-F-02-01	1 of 1	B	20 Sep 22	Motor front cover
FY-VRR24M-F-02-05	1 of 1	B	20 Sep 22	Motor rear cover
FY-VRR24M-F-02-00-03	1 of 1	B	20 Sep 22	Motor rotor assembly
FY-VRR24M-F-02-00-02	1 of 1	B	20 Sep 22	Motor stator assembly
FY-VRR24M-F-02-23	1 of 1	B	20 Sep 22	Pressing line plate
FY-VRR24M-F-02-28	1 of 1	B	20 Sep 22	Protector assembly
FY-VRR24M-F-02-20	1 of 1	B	20 Sep 22	Threading ring
FY-VRR24M-F-02-24	1 of 1	B	20 Sep 22	Wire fixing plate
<b>Mechanical drawings – Compressor</b>				
FY-VRR24M-F-01-00	1 of 1	B	20 Sep 22	Compressor assembly drawing
FY-VRR24M-F-01-00-01	1 of 1	B	20 Sep 22	Exploded view of compressor assembly
FY-VRR24M-B-01-45	1 of 1	B	20 Sep 22	Ceramic bushing
FY-VRR24M-01-12	1 of 1	B	20 Sep 22	Compressor back cover
FY-VRR24M-01-08	1 of 1	B	20 Sep 22	Compressor front cover
FY-VRR24M-F-01-09	1 of 1	B	20 Sep 22	Compressor housing

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# Certificate Annexe



Certificate Number: CSANe 22ATEX1032X

Equipment: Product Name: Recovery Unit for Flammable Refrigerants  
 Model Number: NRDDF and VRDDF

Applicant: Zhejiang VALUE Mechanical & Electrical Products CO.,LTD.

Drawing	Sheets	Rev.	Date (Stamp)	Title
FY-VRR24M-B-01-16	1 of 1	B	20 Sep 22	Connecting rod
FY-VRR24M-FP-01-10	1 of 1	B	20 Sep 22	Crankshaft
FY-VRR24M-B-01-46	1 of 1	B	20 Sep 22	Cylinder
FY-VRR24M-01-21	1 of 1	B	20 Sep 22	Exhaust spool spring
FY-VRR24M-B-01-23	1 of 1	B	20 Sep 22	Intake spool spring
FY-VRR24M-F-01-35	1 of 1	B	20 Sep 22	O-ring for compressor housing
FY-VRR24M-F-01-36	1 of 1	B	20 Sep 22	O-ring for cylinder
FY-VRR24M-F-01-38	1 of 1	B	20 Sep 22	O-ring for intake valve core
FY-VRR24M-F-01-39	1 of 1	B	20 Sep 22	O-ring for sealing ring
FY-VRR24M-F-01-37	1 of 1	B	20 Sep 22	O-ring for valve seat
<b>Electrical drawings – NRDDF and VRDDF Recovery Unit for Flammable Refrigerants</b>				
FY-VRR24M-F-29-00	1 of 1	B	20 Sep 22	24M-F equivalent circuit diagram
24MFB-DR	1 of 1	V2.0	20 Sep 22	Main board schematic
FYYY-24MFB-DR	1 to 4	V2.0	20 Sep 22	Main board PCB Layout
24MFB-DR-BOM-110	1 of 1	A0	20 Sep 22	Main board PCBA-110V
24MFB-DR-BOM-220	1 of 1	A0	20 Sep 22	Main board PCBA-220V
24M-F-LCD-SCH	1 of 1	V1.3	20 Sep 22	LCD board Schematic
24M-F-LCD	1 to 5	V1.3	20 Sep 22	LCD board PCB Layout
24M-F-LCD-BOM	1 of 1	A0	20 Sep 22	LCD board PCBA
24M-F-Presen-SCH	1 of 1	V3.0	20 Sep 22	Pressure sensor schematic
24M-F-Presen	1 to 4	V3.0	20 Sep 22	Pressure sensor PCB Layout
24M-F-HPS-BOM	1 of 1	A0	20 Sep 22	High pressure sensor PCBA
24M-F-LPS-BOM	1 of 1	A0	20 Sep 22	Low pressure sensor PCBA

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