

EU TYPE EXAMINATION CERTIFICATE-PRODUCTION TYPE

This is to certify that **LRQA Inspection Iberia, S.A.**.. Notified Body for Pressure Equipment Directive 2014/68/UE, did (in accordance with Module B of the Directive) undertake a Type Examination on the stated pressure equipment to ensure its conformity with the requirements of the Directive which apply to it. The equipment identified below was shown to comply.

This certificate is issued to:

APPLICANT: Refrigeration Solutions France (Profroid)
Aubagne (13), France

PRODUCT DESCRIPTION: Assembly (Article 2 para. 6)

PRODUCT TYPE: Refrigerating System "Machines MC QuietCO2OL / MC CO2Y" :
Config. INDOOR Rotary
Config. "OUTDOOR Rotary"
Config. "INDOOR SH"
Config. "OUTDOOR SH"
Config. "CRYSTAL S..."
Config. "QuietCO2OL LIDL"

Refrigerant: CO2

The attached Schedule details the content of the Technical Documentation and Specified Standards and shall form a part of this certificate.

"This Certificate is not valid for pressure equipment, the design, ratings or operational parameters of which have been varied from the specimen tested. The manufacturer shall notify LRQA Inspection Iberia, S.A. of any modification or changes to the equipment in order to maintain a valid certificate."

"This certificate is valid for ten years from the date of issue."

Certificate No: 0094/PED/LYO/240078 ENG

Original Approval: 19 June 2024

Current Certificate: 19 June 2024

Certificate Expiry: 19 June 2034

LRQA Inspection Iberia, S.A. Notified Body 0094

CARRE Mathieu / LRQA inspection Iberia



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Equipment data:

Product Description: Assembly (Article 2 para. 6)

Product Type: Refrigerating System "Machines MC QuietCO2OL / MC CO2Y" :
 Config. INDOOR Rotary
 Config. "OUTDOOR Rotary"
 Config. "INDOOR SH"
 Config. "OUTDOOR SH"
 Config. "CRYSTAL S..."
 Config. "QuietCO2OL LIDL"

Refrigerant: CO2

Maximum Design Pressure/Temperatures:

	CO2				OIL	
	LP	MP	HP	Réservoir	Huile	Eau/ Glycolée
PS MAX (bars)	80	80	130	80	80	10
TS MAX (°C)	+43	+80	+150	+45	+80	+80
TS MIN (°C)	-50	-15	-10	-10	-10	-40

Assembly components:

1. Config. INDOOR Rotary (P&ID SP-P5-0009):
 - 5 (five) Compressors maxi, No PED.
 - **1 (one) Oil Separator, Cat. II~IV.**
 - **1 (one) Liquid Receiver, Cat. I~IV.**
 - **1 (one) Heat recovery exchanger, Cat. II~IV**
 - **1 (one) Subcooler, Cat. II~IV**
- Piping and accessories, Cat. I maxi.

Boundaries:

- "FROM GASCOOLER" HP inlet connection
 - "TO GASCOOLER" HP outlet connection
 - Heat recovery water connections
 - "From MT consumer" LP inlet connection
 - "TO CONSUMER " MP inlet connection
2. Config. INDOOR SH (P&ID SP-P5-0010):
 - 2 (two) MT Compressors maxi, No PED.



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- 2 (two) LT Compressors maxi, No PED
- **1 (one) Oil Separator, Cat. II~IV.**
- **1 (one) Liquid Receivers, Cat. I~IV.**
- **1 (One) LP Suction Receiver, Cat II~IV**
- **1 (one) Heat recovery exchanger, Cat. II~IV**
- **1 (one) Subcooler, Cat. II~IV**
- **1 (one) Oil receiver, Cat. II~IV.**
- Piping and accessories, Cat. I maxi.

Boundaries:

- "FROM GASCOOLER" HP inlet connection
- "TO GASCOOLER" HP outlet connection
- "FROM MT CONSUMER" MP inlet connection
- "FROM LT CONSUMER" LP inlet connection
- Heat recovery water connections
- "TO CONSUMER " MP inlet connection

3. Config. OUTDOOR Rotary (P&ID SP-P5-0011):

- 5 (five) Compressors maxi, No PED.
- **1 (one) Oil Separator, Cat. II~IV.**
- **1 (one) Liquid Receiver, Cat. I~IV.**
- **1 (one) Heat recovery exchanger, Cat. II~IV**
- **1 (one) Subcooler, Cat. II~IV**
- **1 (one) Gascooler, Art. 4.3**
- Piping and accessories, Cat. I maxi.

Boundaries:

- "FROM GASCOOLER" HP inlet connection
- "TO GASCOOLER" HP outlet connection
- Heat recovery water connections
- "From MT consumer" LP inlet connection
- "TO CONSUMER " MP inlet connection

4. Config. OUTDOOR SH (P&ID SP-P5-0012):

- 2 (two) MT Compressors maxi, No PED.
- 2 (two) LT Compressors maxi, No PED
- **1 (one) Oil Separator, Cat. II~IV.**
- **1 (one) Liquid Receiver, Cat. I~IV.**
- **1 (one) Heat recovery exchanger, Cat. II~IV**
- **1 (one) Subcooler, Cat. II~IV**
- **1 (one) Oil receiver, Cat. II~IV.**



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- **1 (one) Gascooler, Art. 4.3**
- Piping and accessories, Cat. I maxi.

Boundaries:

- "FROM MT CONSUMER" MP inlet connection
- "FROM LT CONSUMER" LP inlet connection
- Heat recovery water connections
- "TO CONSUMER " MP inlet connection

5. Config. QuietCO2OL LIDL (P&ID SP-P5-0018):

- **2 (two) Compressors maxi, No PED**
- **1 (one) Oil Separator, Cat. II~IV**
- **1 (one) Liquid Receiver, Cat. I~IV.**
- **1 (one) Gascooler, Art. 4.3**
- Piping and accessories, Cat. I maxi.

Boundaries:

- "LT SUCTION" LP inlet
- "LIQUID" LP outlet

Safety devices:

<u>Deviation</u> (and/or causes)	<u>Protection</u> (PED safety device(s) description)	<u>Setting / Capacity / Action(s)</u> (Safety device(s) characteristics)	<u>Device(s)</u> <u>Category</u>
Config. INDOOR SH (P&ID SP-P5-0010) and OUTDOOR SH (P&ID SP-P5-0012):			
Overpressure on the Assembly induced by the Compressors 1-2	Pressure Switches item 100	Required: setting value: cut-off 0.9 x PS HP side, SIL2, action sequence: shutdown connected compressor	IV
Overpressure on Liquid Receiver and Oil receiver due to extreme hot ambient temperature and fluid expansion	Pressure Safety Valve item 15 installed on Liquid Receiver	Required: setting pressure: PS on RES side, 10% back pressure max	IV
Overpressure on suction line receiver item 28 due to extreme hot ambient temperature	Pressure Safety Valve item 26 installed on Suction line receiver	Required: setting pressure: PS on LP side, 10% back pressure max	IV
Overpressure on the Assembly induced by the Compressors 1-2	Pressure Switches item 20	Required: setting value: cut-off 0.9 x PS HP side, SIL2, action sequence: shutdown connected compressor	IV
Overpressure on Heat recovery due to extreme hot ambient temperature	Pressure Safety Valve item 16 installed downstream Heat Recovery	Required: setting pressure: PS HP side, 10% back pressure max	IV
Overpressure on Heat recovery water side due to extreme hot ambient temperature	Pressure Safety Valve item 27 installed on Heat Recovery water side	Required: setting pressure: 10bar, 10% back pressure max	IV
Config. INDOOR Rotary (P&ID SP-P5-0009) and OUTDOOR Rotary (P&ID SP-P5-0011)			



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Deviation (and/or causes)	Protection (PED safety device(s) description)	Setting / Capacity / Action(s) (Safety device(s) characteristics)	Device(s) Category
Overpressure on the Assembly induced by the Compressors 1-5	Pressure Switches item 100	Required: setting value: cut-off 0.9 x PS HP side, SIL2, action sequence: shutdown connected compressor	IV
Overpressure on Liquid Receiver and Oil receiver due to extreme hot ambient temperature and fluid expansion	Pressure Safety Valve item 15 installed on Liquid Receiver	Required: setting pressure: PS on RES side, 10% back pressure max	IV
Overpressure on the Assembly induced by the Compressors 1-5	Pressure Switches item 20	Required: setting value: cut-off 0.9 x PS HP side, SIL2, action sequence: shutdown connected compressor	IV
Overpressure on Heat recovery due to extreme hot ambient temperature	Pressure Safety Valve item 16 installed downstream Heat Recovery	Required: setting pressure: PS HP side, 10% back pressure max	IV
Overpressure on Heat recovery water side due to extreme hot ambient temperature	Pressure Safety Valve item 27 installed on Heat Recovery water side	Required: setting pressure: 10bar, 10% back pressure max	IV
Config. QuietCO2OL LIDL (P&ID SP-P5-0018):			
Overpressure on the Assembly induced by the Compressor 1	Pressure Switches item 100	Required: setting value: cut-off 120b, SIL2, action sequence: shutdown connected compressor	IV
Overpressure on the Assembly induced by the Compressor 2	Pressure Switches item 101	Required: setting value: cut-off 72b, SIL2, action sequence: shutdown connected compressor	IV
Overpressure on Liquid Receiver due to extreme hot ambient temperature and fluid expansion	Pressure Safety Valve item 15 installed on Liquid Receiver	Required: setting pressure: 80bar, 10% back pressure max	IV
*Refer to document SW052 for each safety valve minimum required discharge capacity in function of refrigerant and equipment it protects.			

The undermentioned documents have been reviewed for compliance with the Pressure Equipment Directive 2014/68/EU and following Design Code(s):

EN378-2: 2016

Technical File Contents

Title	Document Number	Rev	Date
P&ID MCO2YIndorHermétique	SP-P5-0009	0	14/06/2024
P&ID QUIETCOOL MC INDOOR	SP-P5-0010	-	14/06/2024
P&ID MCO2YOutdoorHermétique	SP-P5-0011	0	14/06/2024
P&ID MCO2YOutdoor_SemiHermétique	SP-P5-0012	0	14/06/2024
P&ID 80-80-120 bar	SP-P5-0018	0	14/06/2024
CE NAMEPLATE DRAWING	MPS-P5-001	-	14/06/2024
DOSSIER FABRICANT Machines MC QuietCO2OL / MC CO2Y	DF-P5-0001	4	14/06/2024
Liste des composants critiques suivant Annexe I de la directive des équipements sous pression 2014/68/UE Directive Machine 2006/42/CE annexe I	LCC-P5-0002	07_03_2024	14/06/2024
CE NAMEPLATE DRAWING	MPS-P5-001	5	14/06/2024
NOTICE D'INSTRUCTIONS Originale	IOM_QuietCO2OLMC_CO2 YMC_2024_06_20	-	14/06/2024
			14/06/2024



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CERTIFICATE SCHEDULE 0094/PED/LYO/240078 ENG

Title	Document Number	Rev	Date
NOTICE D'INSTRUCTIONS Originale	IOM_MiniCO2OL MaxiCO2OL CO2OLtecEvo_2024_06_20	-	14/06/2024
Evaluation et reduction des risques suivant Annexe I de la directive des équipements sous pression 2014/68/EU	ADR-P5-001	11_03_2024	14/06/2024
RAPEX Robinets bloqués 240403	-	-	14/06/2024
Rapport de situation interne	ESS-P5-0001	7	14/06/2024
Rapport de situation interne	SEN378-P5-0001	9	14/06/2024
Evaluation et réduction des risques suivant-Détails de EN378-2 - Art.6.2.6.2	SEN378-P5-0009	13_11_2023	14/06/2024
Capacités minimales de décharge requises pour les récipients	SW 052 "RECIPIENTS TRANSCRITIQUE"	20/03/2024	14/06/2024
Capacités minimales de décharge requises pour les récipients	SW 052 "RECIPIENTS TRANSCRITQUES MULTI"	20/03/2024	14/06/2024
Capacités minimales de décharge requises pour les récipients	SW 052 "ECHANGEURS TRANSCRITIQUE"	20/03/2024	14/06/2024

LRQA Reports

Title	Document Number	Date
Design Appraisal Document	PRJ11100429247-1/Btrans3 Issue 02	14/06/2024
Visit Report	PRJ11100512758-1/VR_B_Btrans3 Issue 01	18/06/2024

Schedule Issue: Issue 01
Date of Schedule Issue: 19 June 2024
Notified Body 0094

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