COMMISSIONING SHEET		
SKILL: Refrigeración	Comunidad:	Puesto nº:
Apellidos y nombre del competidor/a:		
Módulo II: Montaje y puesta en marcha inst. frigorífica		

1. PRESSURE TEST SYSTEM

Perform a step-by-step pressure test of the refrigeration system (R134a) up to a value of 10 bar gauge (1000kpa). The pressure test point should not fall from the maximum 0,1 mbar starting point in the five (5) minutes after the isolation of the pressure test from the nitrogen cylinder. If the pressure test has not been achieved, the competitor can still repair the leak and reach the pressure test, however, the full grade for the pressure test will be lost.

To be filled in by COMPETITORS

Pressure test attempt #1

Start test pressure: _____ □ kPa □ bar Start time: _____

Test pressure after 5 min: _____ □ kPa □ bar End time: _____

Pressure test attempt #2

Start test pressure: _____ □ kPa □ bar Start time: _____

Test pressure after 5 min: _____ □ kPa □ bar End time: _____

Pressure test	Expert 1 Initials: Expert 2 Initials: Expert 3 Initials:

2. EVACUATION

Evacuate the refrigeration system (R134a) according to the manufacturer's instructions and WorldSkills standards using the **deep vacuum method** to maintain a vacuum of at least 1.5 mbar (150Pa absolute). The evacuation point should not increase to a value of more than 1.7mbar in the ten (10) minutes after the vacuum pump has been isolated from the system under test. Maximum difference of starting value 0.2 mbar.

Evacuation attempt #1

Start pressure after evacuating: _____ □ mbar Start time: _____

Evacuation pressure according after 10 min: _____ □ mbar End time: _____

Evacuation attempt #2

Start pressure after evacuating: _____ □ mbar Start time: _____

Evacuation pressure according after 10 min: _____ □ mbar End time: _____

Comments:

Evacuation test	Expert 1 Initials: Expert 2 Initials: Expert 3 Initials:

3. CHARGING WITH REFRIGERANT

Charge the cold system (R134a) with the required refrigerant weight to ensure operation according to the above specifications and in accordance with acceptable trade and environmental practices.

To be done only in the presence of experts.

Bottle weight before loading: _____ □ kg □ pounds

Bottle weight at the end of the charge: _____ □ kg □ pounds

Filler refrigerant: _____□ kg □ pounds

4. ELECTRICAL TESTING

Under the supervision of **an expert,** you will perform all necessary security checks to ensure that the test project can be safely powered.

PLEASE COMPLETE THE EXPERT CONTROL SHEET BELOW BEFORE PROCEEDING

TO BE COMPLETED BY EXPERTS ONLY

All wiring is right by Competitor: □ Yes □ NO

Electrical safety checks right by Competitor: □ Yes □ NO

All wiring checked by Expert before powering on: □ Yes

Electrical safety checked by Expert before powering on: □ Yes

Comments:

5. COMMISSIONING OF THE SYSTEM

Competitors must commission the plant for operation in accordance with the delivered design specifications. Please complete the following commissioning document, where the system is fully functional and as close as possible to the operating temperatures. Please indicate the units by ticking the appropriate boxes.

Ambient Temperature: _____ □ Celsius □ Fahrenheit

Type of refrigerant: _____

Mass of refrigerant charge: _____ □ grams □ pounds

Suction pressure: _____ □ kPa □ bar

High pressure: _____ □ kPa □ bar

Condenser Subcooling: _____ □ Kelvin □ Fahrenheit □ Degree

Overall System Overheating: _____ □ Kelvin □ Fahrenheit □ Degree

Condenser fan on: _____ □ kPa □ bar

Condenser fan out: _____ □ kPa □ bar

Low pressure Control Cut in:	_____	□ kPa	□bar
Low pressure Control Cut out:	_____	□ kPa	□ bar
High pressure Control Cut in:	_____	□ kPa	□ bar
High pressure Control Cut out:	_____	□ kPa	□ bar
Cooling points temperature	_____	□ Celsius	□ Fahrenheit
Final Compression temperature:	_____	□ Celsius	□ Fahrenheit
Operating current compressor:	_____	□ A	
Operating current condensing fan:	_____	□ A	
Power supply	_____	□ V	