



Instructions for LNG
refuelling at ANDAMUR
fuelling stations

**KNOWLEDGE OF THE INFORMATION IN THIS
MANUAL IS ESSENTIAL FOR REFUELLING.**

LNG = LIQUEFIED NATURAL GAS

LNG is natural gas cooled to -161° so that it condenses and is converted into a liquid, reducing its volume 600-fold compared to its gaseous state. This storage capacity allows excellent range.

Recommended use: Heavy vehicles.

Efficient and environmentally friendly

RISKS



**PELIGRO
ATMÓSFERAS EXPLOSIVAS**
DANGER EXPLOSIVE ATMOSPHERE



**PELIGRO
GAS INFLAMABLE**
DANGER FLAMMABLE GAS



**PELIGRO
BAJA TEMPERATURA**
DANGER LOW TEMPERATURE



**PELIGRO
GAS INODORO**
DANGER ODOURLESS GAS

PROHIBITIONS



PROHIBIDO HACER FUEGO
NO FIRES



**ACCESO PROHIBIDO A
PERSONAL NO AUTORIZADO**
NO UNAUTHORISED ENTRY



PROHIBIDO FUMAR
NO SMOKING



**PROHIBIDO EL USO DE
TELÉFONOS MÓVILES**
NO MOBILE PHONES

COMPULSORY PERSONAL PROTECTIVE EQUIPMENT



**USO OBLIGATORIO DE CASCO
Y PANTALLA PROTECTORA**
HARD HAT AND FACE SHIELD
MUST BE WORN



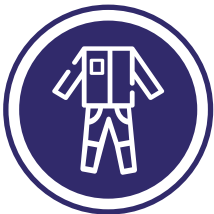
**USO OBLIGATORIO DE
GUANTES CROGENÍCOS**
CRYOGENIC GLOVES
MUST BE WORN



**USO OBLIGATORIO DE
CALZADO DE SEGURIDAD**
SAFETY FOOTWEAR
MUST BE WORN



**USO OBLIGATORIO
DE MANDIL**
PROTECTIVE APRON
MUST BE WORN



**ROPA DE PROTECCIÓN
MANGA Y PANTALÓN LARGO**
PROTECTIVE EQUIPMENT
SLEEVE AND LONG TROUSERS



**RECOMENDAMOS USAR
CHALECO ALTA VISIBILIDAD**
WE RECOMMEND USING
HIGH VISIBILITY WAISTCOAT



**EXPLOSÍMETRO
OBLIGATORIO**
GAS DETECTOR MUST
BE USED



**TOMA A TIERRA
OBLIGATORIA**
CONNECT AN EARTH
TERMINAL TO THE GROUND

PUMP EQUIPMENT



Display
Indicator of kilos, amount and price



**Start
Button**

Earth Clamp

Select Button

Refuelling 1 Hose
(VOLVO type)

**Stop
Button**

PUMP EQUIPMENT



Compressed Air Gun



Gas Phase Hose (small)

Liquid Phase Hose (large)

PAYMENT TERMINAL



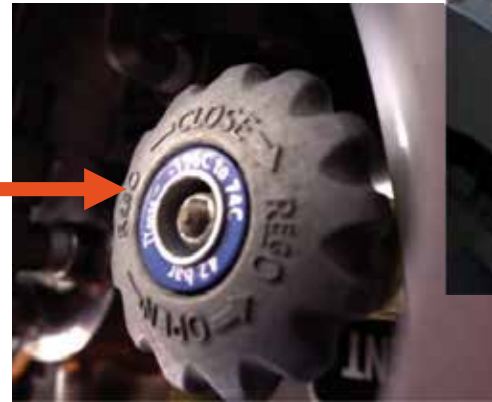
Insert card

Display
Enter PIN and follow instructions

LORRY TANK



Lorry Refuelling **2** hoses



Vent Valve



Liquid Phase
Hose

Gas Phase
Hose



Earth

Filler Neck
Gas Phase

Filler Neck
Liquid Phase

Lorry Refuelling **1** hose
(VOLVO type)



LNG REFUELING · STEP BY STEP

1. Access the station following the signs and adhere to the rules.
2. Position the vehicle so that the tank to be filled is as close as possible to the pump. **AVOID FORCING THE PUMP HOSES.**
3. Turn off the vehicle's engine and lights. Ensure that the vehicle is properly immobilised.
4. Leave all electronic devices inside the vehicle. Make sure the cab doors are closed while refuelling.
5. Equip yourself with appropriate clothing and personal protective equipment suitable for refuelling.
6. Insert your card in the terminal. PIN REQUIRED
7. Follow the instructions on the display. Select pump no. Enter the vehicle kms (optional)
8. Connect the pump's earth clamp to the vehicle's earth clamp.
9. Open the cap on the filler neck on the lorry's tank.
10. Open the vent valve on the lorry's tank.
 - On the side of the tank on lorries with 2 hoses.
 - Over the filler neck on 1-hose lorries.
11. Clean the vehicle's filler necks and the nozzles on the gas and liquid hoses using the compressed air gun. **EXCESS MOISTURE CAN CAUSE THE LNG TO LEAK.**

LNG REFUELING · STEP BY STEP

12. Connect the pump's gas nozzle to the vehicle. **ONLY 2-HOSE LORRIES.**
13. Connect the pump's liquid nozzle to the vehicle.
14. Check that everything is correct on the pump display. **AMOUNT AND COST AT ZERO.**

BEGIN REFUELLING · 2-HOSE LORRIES

15. Press the GREEN – START button. This button acts as a dead man's switch and must be pressed every 40 seconds or less (or held down, where appropriate). **BEEPING SOUND and PRESS START display message.**

BEGIN REFUELLING · 1-HOSE LORRIES (VOLVO TYPE):

15. Press lower button **ONLY LORRIES WITH 1-HOSE TANK.**
 - After the automatic load and venting control. Display message: **PREPARE VEHICLE FOR FILLING AND PRESS START. CLOSE THE GAS VALVE.**
 - Press the GREEN–START button. This button acts as a dead man's switch and must be pressed every 40 seconds or less (or held down, where appropriate). **BEEPING SOUND and PRESS START display message.**

LNG REFUELING · STEP BY STEP

REFUELLING END

16. When the tank is full this message will appear: **"FIN SUMIN"** (END SUPPLY). Along with cost and amount supplied.
 - To stop refuelling before the vehicle is full, press the **BLACK – STOP button**.
17. Disconnect the gas nozzle from the vehicle. Blow on it with the compressed air gun. Connect it to the pump.
18. Disconnect the liquid nozzle from the vehicle. Blow on it with the compressed air gun. Connect it to the pump.
20. Disconnect the vehicle's earth clamp and return it to its original position.
21. Take the RECEIPT from the Payment Terminal.
22. Move away and store the PPE (personal protective equipment).
23. Start the vehicle and exit the station following the signs.

CLEANING



▶ Cleaning the vehicle's filler necks with air

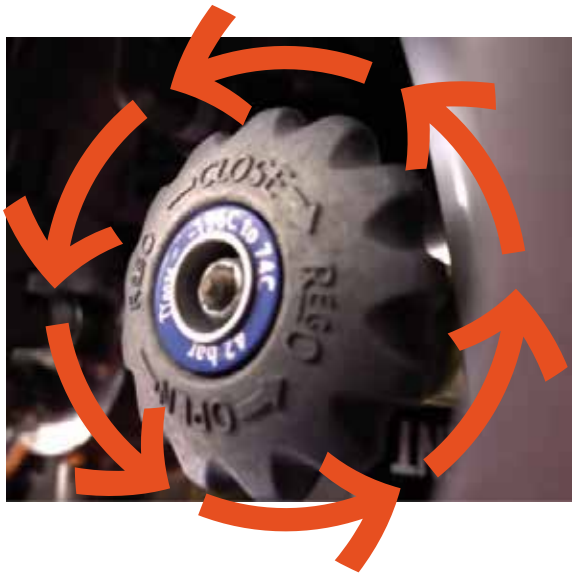


▶ Cleaning gas and liquid nozzles with air

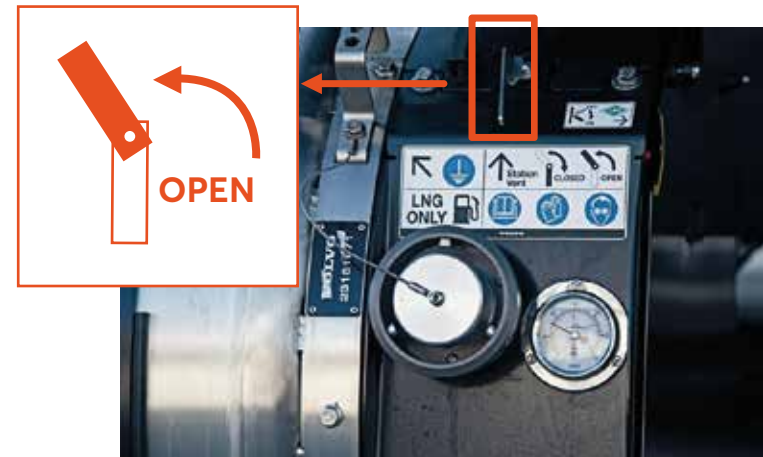


OPENING VENT VALVE

▶ Lorry Refuelling **2** hoses



▶ Lorry Refuelling **1** hose
(VOLVO type)



GAS HOSE CONNECTION

▶ **STEP 1**

Connection. Nozzle insertion



▶ **STEP 2**

Turn nozzle 90° to tighten

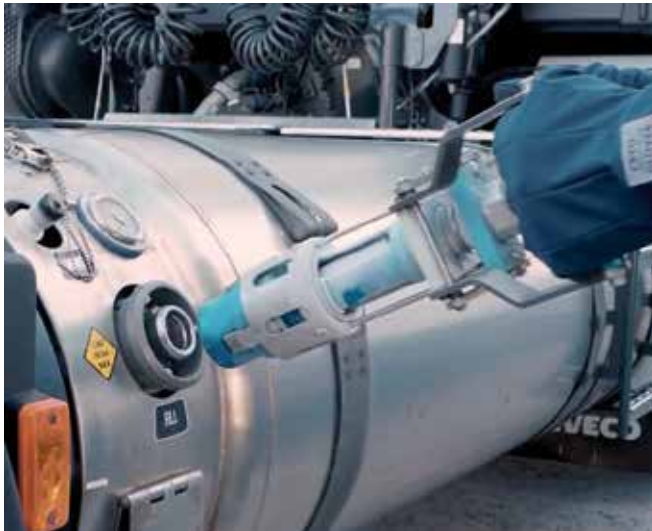


LIQUID HOSE CONNECTION

▶ STEP 1

Connection.

Levers in retracted position



▶ STEP 2

Press while pushing the levels forward



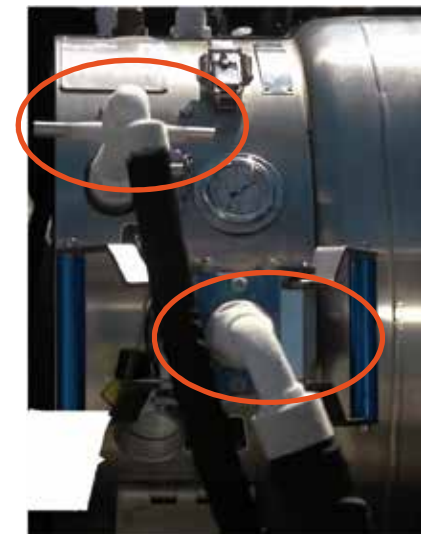
TRUCKS WITH 2 DISCHARGE HOSES

▶ STEP 1

- ▶ Press the start button on the pump. GREEN BUTTON.
- ▶ The pump performs automatic load control. The cooling process starts.
- ▶ THERMOMETER symbol on display. This process can take from 30 to 180 secs

▶ STEP 2

- ▶ Start filling the tank. NOZZLE symbol on display.
- ▶ Warning. Frost forms on the hoses and connectors. LNG temperature **-130°C**.
- ▶ During refuelling, the GREEN BUTTON MUST BE PRESSED EVERY 40 SECONDS. Otherwise it will stop refuelling.



TRUCKS WITH 1 DISCHARGE HOSE

▶ STEP 1

Press the discharge button specific to this type of lorry. LOWER MIDDLE BUTTON



▶ STEP 2

Press green START button. The pump performs automatic load control. Close the lorry's vent valve.



▶ STEP 3

The cooling process starts. THERMOMETER symbol on display. Process can last from 30 to 60 secs



▶ STEP 4

Filling starts. NOZZLE symbol on display.



END OF REFUELLING

▶ OPTION A

Press the STOP button



▶ OPTION B

Wait for it to end automatically. The message FIN SUMIN (SUPPLY END) will appear on the display.



▶ In both cases the display will show the AMOUNT supplied and the COST.

GAS HOSE DISCONNECTION

▶ **STEP 1**

Turn gas nozzle -90° to release



▶ **STEP 2**

Clean nozzle with air



▶ **STEP 3**

Connect to pump



LIQUID HOSE DISCONNECTION

▶ **STEP 1**

Pull the levers back



▶ **STEP 2**

Clean nozzle with air



▶ **STEP 3**

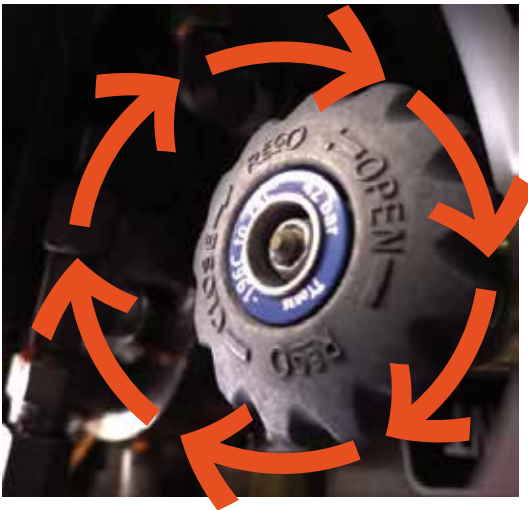
Connect to pump



TO FINISH

▶ STEP 1

Close the lorry's vent valve.
ONLY 2-HOSE LORRIES.



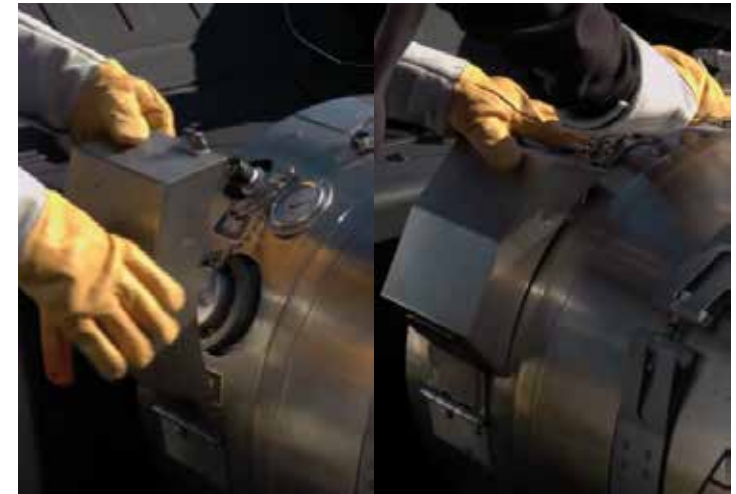
▶ STEP 2

Disconnect earth clamp and leave it in place on the pump.



▶ STEP 3

Close the filling neck protection caps.



PLUS...

1. The service station may be staffed on weekdays or unstaffed 24-hours a day any day of the year.
2. If ANDAMUR staff or the service station's own staff are present, follow their instructions if necessary.
3. There are refuelling instructions on the LNG pumps that can be easily followed.
4. Refuelling any element and/or apparatus other than an LNG fuel tank installed on a lorry (e.g. gas bottles, camping gas, etc.) is strictly forbidden.
5. Avoid the presence of people not involved in the refuelling operation and not properly equipped near the pump.
6. Rubbish or any other kind of waste must not be left anywhere outside the containers intended for it. If there is no such container in the service station, it must be taken away.
7. If a problem arises during filling, speak to the station staff or call our customer services line: +34 968 102 000.

PLUS... BE AWARE



- ▶ There are security cameras installed that record the activity taking place in the refuelling station continuously.



- ▶ Any act of vandalism will be reported to the authorities.



- ▶ Failure to follow these rules may result in withdrawal of your fuel card.

IN CASE OF EMERGENCY

- ▶ If there is an **incident** or liquid or **gas leakage** is observed, if present, **notify the fuelling station staff**.
- ▶ There are **emergency buttons on each pump** to stop refuelling at any time.
- ▶ If a fire is started, **use the extinguishers** located throughout the fuelling station and next to each pump.




+34 968 102 000
 Customer service line.

Safety is everyone's responsibility.



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