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**Economic Commission for Europe****Inland Transport Committee****Working Party on the Transport of Perishable Foodstuffs****Eightieth session**

Geneva, 24-27 October 2023

Item 5 (b) of the provisional agenda

**Proposals of amendments to ATP:  
new proposals****Proposed list of major components and key characteristics****Transmitted by Transfrigoroute International***Summary*

- Executive summary:** Following a proposal from Germany (ECE/TRANS/WP.11/2019/4), it was agreed that drafting a list of components and key characteristics that might affect the cooling capacity of the unit was necessary to clarify the meaning of the expression “no modification to major components” and the representatives of Transfrigoroute International offer to submit a proposal for consideration
- Action to be taken:** Annex 1, Appendix 2, Model No. 12  
Annex 1, Appendix 2, Model No. 1 A
- Related documents:** Report of the seventy-fifth session (ECE/TRANS/WP.11/241)  
ECE/TRANS/WP.11/2021/17 (Germany)  
Informal document INF.6 of the seventy-seventh session (Transfrigoroute International)  
Report of the seventy-seventh session (ECE/TRANS/WP.11/245)  
ECE/TRANS/WP.11/2022/7 (Transfrigoroute International)  
Report of the seventy-eighth session (ECE/TRANS/WP.11/247)  
ECE/TRANS/WP.11/2022/18 (Transfrigoroute International)  
Report of the seventy-ninth session (ECE/TRANS/WP.11/249)



## Introduction

1. In the report of the seventy-fifth session, WP11 requested Transfrigoroute International (TI) to provide a list of major components (as detailed below):

**“3. Proposal to amend Annex 1, Appendix 1, Section 6 (a) and (b): Validity of test reports for mechanical refrigeration units**

*Document:* ECE/TRANS/WP.11/2019/4 (Germany)

47. Several concerns were raised concerning the following:

- It was not specified to which competent authority the proposal was referring, the national competent authority or the competent authority of the country of manufacture;
- A clear definition of the expression “no modification to major components” was missing, making it difficult for competent authorities to decide on whether the extension of the validity of the type approval certificate was warranted;
- There was no reference to the version of the software used and in the opinion of some delegations, this information should be available.

48. It was agreed that drafting a list of components that might affect the cooling capacity of the unit was necessary to clarify the meaning of the expression “no modification to major components” **and the representatives of Transfrigoroute International will submit a proposal for consideration at the next session.”**

2. In fact, more important than the list major components, it is the detail of their key characteristics.

## Proposal

3. The proposal below is mainly based on existing Model 1 A and Model 12 of Annex 1, Appendix 2.

4. Today if we make a high-level functional analysis of a special equipment for the transport of perishable foodstuffs, we could list different functions as listed below:

- Power source
- Cold/heat production & distribution
- Insulation

5. Transfrigoroute International suggests to clearly separate components and their key characteristics related to each of above functions.

6. TI also suggests adding those lists at the end of Model 1A and Model 12 as a summary and referential of the key components and characteristics.

7. In regard to the multiple developments of alternative power sources for vehicles, including electrification, Transfrigoroute International suggests adjusting the list of major components and key characteristics related to power source as follows:

- List of major components related to Power source (to be added at the end of Model 12)

Compressor drive

Electrical Power source	Type	
	Current type (AC/DC)	
	Nominal output power	kW
	Nominal speed (if applicable)	rpm
	Supply voltage	V
	Supply frequency	Hz

Internal Combustion Engine	Type		
	Number of cylinders		
	Cubic capacity		cc
	Nominal output power		kW
	Nominal speed		rpm
Hydraulic motor	Fuel		
	Type		
Other mechanical	Method of drive		
	Nominal speed	rpm	
	Minimum speed	rpm	

*Note: Each component or characteristic should be understood "if applicable".*

- List of major components related to cold/heat production & distribution (to be added at the end of Model 12)

Refrigerant	Refrigerant fluid		
	Refrigerant charge		kg
Compressor	Type		
	Number of cylinders		
	Cubic capacity		cc
	Nominal speed of rotation		rpm
Heat exchangers	Type		
	<i>Condenser</i>	Number of tubes	
<i>Evaporator(s)</i>	Fin pitch		mm
	Nature of tube		
	Diameter of tube		mm
	Exchange surface area		m <sup>2</sup>
	Frontal area		m <sup>2</sup>
	Heat exchangers Fans	Number of fans	
<i>Condenser</i>	Fan type (axial/radial)		
	<i>Evaporator(s)</i>	Number of blades per fan	
Diameter of fan			mm
Nominal power			W
Total nominal output at defined pressure			(m <sup>3</sup> /h)
or			
Nominal rotation speed			rpm
Expansion valve	Method of drive		
	Type		

*Note: Each component or characteristic should be understood "if applicable".*

- List of major components related to Insulation (as per Annex 1, Appendix 2, Model No. 1 A)

Principal dimensions	Total inside surface area $S_i$ of body	$m^2$
	Total outside surface area $S_e$ of body	$m^2$
Specifications of the body walls <sup>a</sup>	Top	
	Bottom	
	Sides	
Structural peculiarities of body	Number of doors	
	Number of vents	
	Number of ice-loading apertures	
Accessories <sup>b</sup>	Number and type	

<sup>a</sup> Nature and thickness of the main materials and thickness of panels constituting the body walls

<sup>b</sup> Accessories that can have an impact on  $K$  coefficient

**Note:** Each component or characteristic should be understood "if applicable".

## Justification

Cost:	No cost impact
Feasibility:	The proposal can easily be implemented in ATP. A transitional period is not needed.
Impact:	Thanks to this proposal, ATP could be easier to apply in case of multiple power source. This case will become more and more frequent, so it is important that ATP get adapted.
Enforceability:	Updated Model 1A and Model 12 could be monitored

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