



# Economic and Social Council

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## Economic Commission for Europe

### Inland Transport Committee

#### Working Party on the Transport of Perishable Foodstuffs

##### Seventy-ninth session

Geneva, 25-28 October 2022

Item 5 (a) of the provisional agenda

**Proposals of amendments to ATP:  
pending issues**

### **Proposed list of major components and their key characteristics**

#### **Transmitted by Transfrigoroute International (TI)**

##### *Summary*

**Executive summary:** Following a proposal from Germany (ECE/TRANS/WP.11/2019/4), 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 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 of WP.11 from 2019.  
ECE/TRANS/WP.11/2021/17 (Germany)  
Informal document INF.6 of the seventy-seventh session (Transfrigoroute International)  
Report of the seventy-seventh session of WP.11 from 2021.  
ECE/TRANS/WP.11/2022/7 (Transfrigoroute International)



## Introduction

1. In the report of the seventy-fifth session of WP.11 from 2019, it was requested to 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.

49. WP.11 invited the German delegation to submit a revised proposal at the next session.”

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

## I. 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 below:

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

5. Transfrigoroute International (TI) suggest to clearly separate components and their key characteristics related to each of above functions.

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

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

In regard to the multiple development of alternative power source for vehicles, including electrification, Transfrigoroute International suggest adjusting the list of major components and their key characteristics related to Power source as follow.

**Table 1***Compressor drive*

Electrical Power source	Type	
	Current type (AC/DC)	
	Nominal output power	kW
	Nominal speed	rpm
	Supply voltage	V
	Supply frequency	Hz
Internal Combustion Engine	Type	
	Number of cylinders	
	Cubic capacity	cc
	Nominal output power	kW
	Nominal speed	rpm
	Fuel	
Hydraulic motor	Type	
	Method of drive	
Alternator	Type	
	Method of drive	
Other mechanical	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)

**Table 2**

Refrigerant	Refrigerant fluid	
	Refrigerant charge	kg
Compressor	Type	
	Number of cylinders	
	Cubic capacity	cc
	Nominal speed of rotation	rpm
Heat exchangers Condenser Evaporator(s)	Type	
	Number of tubes	
	Fin pitch	mm
	Nature of tube	

**Table 2 (continuation)**

	Diameter of tube	mm
	Exchange surface area	m <sup>2</sup>
	Frontal area	m <sup>2</sup>
	Number of fans	
Heat exchangers Fans	Fan type (axial/radial)	
Condenser	Number of blades per fan	
Evaporator(s)	Diameter of fan	mm
	Nominal power	W
	Total nominal output at defined pressure	(m <sup>3</sup> /h)
	or	
	Nominal rotation speed	rpm
	Method of drive	
	Type	
Expansion valve		

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)

**Table 3**

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

<sup>a</sup> Nature and thickness of materials 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”.

## II. 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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