

Economic Commission for Europe

Inland Transport Committee

19 October 2021

Working Party on the Transport of Perishable Foodstuffs

English

Seventy-seventh session

Geneva, 26-29 October 2021

Item 5 (b) of the provisional agenda

Proposals of amendments to ATP:**new proposals**

Proposed list of major components**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 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 75th session of WP11 from 2019.
ECE/TRANS/WP.11/2021/17 (Germany)

Introduction

In the report of the 75th, WP11 session 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.

Proposal

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

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

Transfrigoroute International suggest to clearly separate components related to each of above functions.

- List of major components related to Power generation/Power source
(as per Annex 1, Appendix 2, Model No. 12)

Compressor drive

Electrical motor	Type	
	Nominal power	kW
	Nominal speed	rpm
	Supply voltage	V
	Supply frequency	Hz
Internal Combustion Engine	Type	
	Number of cylinders	
	Cubic capacity	cc
	Nominal power	kW
	Nominal speed	rpm
	Fuel	

Compressor drive

Hydraulic motor	Type	
	Method of drive	
Alternator	Type	
	Method of drive	
Other mechanical	Nominal speed	rpm
	Minimum speed	rpm

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

- List of major components related to Power generation/Power source
(Transfrigoroute International proposal Oct. 2021)

Compressor drive

Electrical power source	Type	
Electrical motor		
Alternator	Current type (AC/DC)	
Inverter/converter	Nominal power	kW
ePTO		
Battery etc	Nominal speed (if applicable)	rpm
	Supply voltage	V
	Supply frequency	Hz
Internal Combustion Engine	Type	
	Number of cylinders	
	Cubic capacity	cc
	Nominal power	kW
	Nominal speed	rpm
	Fuel	see note below
Hydraulic motor	Type	
	Method of drive	
Other mechanical	Nominal speed	rpm
	Minimum speed	rpm

For Fuel type, please refer to the standards below (several fuel type could be mentioned)

<i>Fuel type</i>	<i>Industry standard</i>
Road + Non-Road Gasoil	EN 590
HVO - XTL	EN 15940

<i>Fuel type</i>	<i>Industry standard</i>
Fatty Acid Methyl Esters (FAME)	EN 14214:2012 + A1:2014
High FAME diesel fuel (B20 and B30)	EN 16709:2015 + A1:2018
High FAME diesel fuel (B20 and B30)	EN 16709:2015 + A1:2019
Natural gas or Biogas (CNG, LNG)	No standards

- List of major components related to Cold/heat production & distribution
(as per Annex 1, Appendix 2, Model No. 12)

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	
	Fan pitch	mm
	Nature of tube	
	Diameter of tube	mm
	Exchange surface area	m ²
	Frontal area	m ²
Heat exchangers Fans	Number of fans	
	Number of blades per fan	
	Diameter of fan	mm
	Nominal power	W
	Total nominal output at defined pressure	(m ³ /h)
	Method of drive	
Expansion valve	Type	

- 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 *	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**	Number and type

*: Nature and thickness of materials constituting the body walls

** : Accessories that can have an impact on K coefficient

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 12 could be monitored
