

ANNEX I

Definitions applicable for the annexes

The following definitions shall apply:

- (1) 'commercial dishwasher' means a machine which cleans, rinses, and *optionally* dries wash ware, such as dishware, glassware, cutlery, and other utensils connected to the preparation, cooking, arrangement or serving of food (including drinks), using chemical, mechanical, and thermal means; which is connected to electric mains and which is designed to be used principally for commercial (*non-household, non-industrial*) purposes as stated by the manufacturer in the Declaration of Conformity (DoC);
- (2) 'cycle' means a complete cleaning, rinsing and drying process, as defined by the programme selected, consisting of a series of operations until all activity ceases;
- (3) 'component' means a product intended to be incorporated into another product, including chemical substances and mixtures;
- (4) 'hood-type dishwasher' means a manually loaded, programmable, hood-type, pass-through machine with typically one detergent-circulating zone and a fresh-water rinsing process;
- (5) 'guarantee' means any undertaking by the retailer or a manufacturer to the consumer to:
 - (a) reimburse the price paid; or
 - (b) replace, repair or handle commercial dishwashers in any way if they do not meet the specifications set out in the guarantee statement or in the relevant advertising;
- (6) 'mains' or 'electric mains' means the electricity supply from the grid of 230 ($\pm 10\%$) volts of alternating current at 50 Hz;
- (7) 'professional repairer' means an operator or undertaking which provides services of repair and professional maintenance of commercial dishwashers;
- (8) 'programme' means a series of operations that are pre-defined and are declared by the manufacturer, importer or authorised representative as suitable for specified levels of soil or types of load, or both;
- (9) 'programme duration' (T_t) means the length of time beginning with the initiation of the programme selected, excluding any user programmed delay, until the end of the programme is indicated and the user has access to the load;
- (10) 'rated capacity' means the maximum number of plates, which can be cleaned, rinsed and dried in a commercial dishwasher in one cycle when loaded in accordance with the manufacturer's, importer's or authorised representative's instructions;
- (11) 'ready-to-use mode' means a mode after which the dishwasher has been filled with water, the water has been heated (ready for operation) and the machine is ready to start the cycle as indicated in the instructions for use;
- (12) 'resoiling performance' means the performance of the commercial dishwasher regarding the soiling of the washware (e.g. on the rear side of the washware) by the cleaning process, which causes a deterioration of the cleaning result;
- (13) 'spare part' means a separate part that can replace a part with the same or similar function in a product;

- (14) 'standard programme' means the name of the programme of a commercial dishwasher declared by the manufacturer, importer or authorised representative as suitable to clean normally soiled tableware, and to which the ecodesign requirements on energy and water efficiency, cleaning, resoiling and hygiene performance relate;
- (15) 'standard programme energy consumption' (SPEC) means the energy consumption of a commercial dishwasher for standard programme, expressed in kilowatt hour per plate;
- (16) 'standard programme water consumption' (SPWC) means the water consumption of a commercial dishwasher for the standard programme, expressed in litres per plate;
- (17) 'under-counter one-tank dishwasher' means a manually loaded, programmable, undercounter front loader with typically one detergent circulating zone and a fresh-water rinsing process.

ANNEX II
Ecodesign requirements

1. PROGRAMME REQUIREMENTS

From *XX.XX.XXXX [18 months after adoption of this Regulation]*, commercial dishwashers shall provide a standard programme set as the default programme for commercial dishwashers equipped with automatic programme selection or any function maintaining the selection of a programme, or, if there is no automatic programme selection, available for direct selection without the need for any other selection such as a specific temperature or load.

2. FUNCTIONAL REQUIREMENTS

From *XX.XX.XXXX [18 months after adoption of this Regulation]*, commercial dishwashers shall meet the following requirements for the standard programme:

- (a) the cleaning performance (x_{clean}) shall be greater than 90 %;
- (b) the minimum hygiene requirements as specified in Annex III.

x_{clean} shall be calculated in accordance with Annex III.

3. ENERGY CONSUMPTION REQUIREMENTS

From *XX.XX.XXXX [18 months after adoption of this Regulation]*, commercial dishwashers shall meet the following requirements:

- (a) for under-counter one-tank dishwashers, the energy consumption for the standard programme cycle (SPEC) shall be less than 0.021 kWh/plate;
- (b) for hood-type dishwashers, the energy consumption for the standard programme cycle (SPEC) shall be less than 0.023 kWh/plate.

The energy consumption shall be calculated in accordance with Annex III.

4. WATER CONSUMPTION REQUIREMENTS

From *XX.XX.XXXX [18 months after adoption of this Regulation]*, commercial dishwashers shall meet the following requirements:

- (a) for under-counter one-tank dishwashers, the water consumption for the standard programme cycle (SPWC) shall be lower than 0.186 l/plate;
- (b) for hood-type dishwashers, the water consumption for the standard programme cycle (SPWC) shall be lower than 0.173 l/plate.

The water consumption shall be calculated in accordance with Annex III.

5. RESOURCE EFFICIENCY REQUIREMENTS

From *XX.XX.XXXX [18 months after adoption of this Regulation]*, commercial dishwashers shall meet the following requirements:

- (1) availability of spare parts:
 - (a) the manufacturers, importers or authorised representatives of commercial dishwashers shall make available to professional repairers at least the following spare parts, for a minimum period of ten years after placing the last unit of the model on the market:
 - parts of the dosing system;

- parts related to the water circulation system, e.g. circulation pump, piping, nozzles;
 - pumps;
 - heating elements;
 - chemical dispensers;
 - printed circuit boards (PCBs);
 - relais/contactors;
 - thermostats and temperature sensors;
 - pressure sensors or switches.
- (c) the manufacturers, importers or authorised representatives of commercial dishwashers shall ensure that the spare parts mentioned in points (a) can be replaced with the use of commonly available tools and without permanent damage to the appliance;
- (d) the list of spare parts concerned by point (a) and the procedure for ordering them and the repair instructions shall be publicly available on the free access website of the manufacturer, importer or authorised representative, when placing the first unit of a model on the market and until the end of the period of availability of these spare parts;
- (2) maximum delivery time of spare parts:
- (a) during the period mentioned under point (1)(a), the manufacturer, importer or authorised representative shall ensure the delivery of the spare parts within five working days after having received the order until the handover of spare parts to an express logistics provider;
- (b) in the case of spare parts concerned by point (1)(a), the availability of spare parts may be limited to professional repairers registered in accordance with point (3)(a) and (b);
- (3) access to repair and maintenance information:
- when placing the first unit of a model on the market, and until the end of the period mentioned under (1), the manufacturer, importer or authorised representative shall provide access to the appliance repair and maintenance information to professional repairers in the following conditions:
- (a) the manufacturer's, importer's or authorised representative's website shall indicate the process for professional repairers to register for access to information; to accept such a request, the manufacturers, importers or authorised representatives may require the professional repairer to demonstrate that:
- (i) the professional repairer has the technical competence to repair commercial dishwashers and complies with the applicable regulations for repairers of electrical equipment in the Member States where it operates. Reference to an official registration system as professional repairer, where such system exists in the Member States concerned, shall be accepted as proof of compliance with this point;

- (ii) the professional repairer is covered by insurance covering liabilities resulting from its activity regardless of whether this is required by the Member State;
 - (b) the manufacturers, importers or authorised representatives shall accept or refuse the registration within 5 working days from the date of the request;
 - (c) the manufacturers, importers or authorised representatives may charge reasonable and proportionate fees for access to the repair and maintenance information or for receiving regular updates. A fee is reasonable if it does not discourage access by failing to take into account the extent to which the professional repairer uses the information;
 - (d) once registered, a professional repairer shall have access, within one working day after requesting it, to the requested repair and maintenance information. The information may be provided for an equivalent model or model of the same family, if relevant;
 - (e) the available repair and maintenance information shall include:
 - the unequivocal appliance identification;
 - a disassembly map or exploded view;
 - list of necessary repair and test equipment;
 - component and diagnosis information (such as minimum and maximum theoretical values for measurements);
 - wiring and connection diagrams;
 - diagnostic fault and error codes (including manufacturer-specific codes, where applicable);
 - instructions for installation of relevant software and firmware including reset software; and
 - information on how to access data records of reported failure incidents stored on the commercial dishwasher (where applicable);
- (4) information requirements for refrigerant gases:
- without prejudice to Regulation (EU) 2024/573 of the European Parliament and of the Council¹, for commercial dishwashers equipped with a heat pump, the chemical name of the refrigerant gas used, or equivalent reference such as a commonly used and understood symbol, label or logo, shall be displayed permanently and in a visible and readable way on the exterior of the appliance, for example on the back panel. More than one reference can be used for the same chemical name;
- (5) requirements for dismantling for material recovery and recycling while avoiding pollution:
- manufacturers, importers or authorised representatives shall ensure that commercial dishwashers are designed in such a way that the materials and

¹ Regulation (EU) 2024/573 of the European Parliament and of the Council of 7 February 2024 on fluorinated greenhouse gases, amending Directive (EU) 2019/1937 and repealing Regulation (EU) No 517/2014 (OJ L 253, 20.2.2024, p. 1–67)

components referred to in Annex VII to Directive 2012/19/EU can be removed with the use of commonly available tools;

- manufacturers, importers or authorised representatives shall fulfil the obligations laid down in Article 15, Point 1 of Directive 2012/19/EU.

6. INFORMATION REQUIREMENTS OTHER THAN SUBSTANCES OF CONCERN

From **XX.XX.XXXX** [18 months after adoption of this Regulation], commercial dishwashers shall meet the following requirements:

User and installer instructions shall be provided in the form of a user manual on a free access website of the manufacturer, importer or authorised representative, and shall include:

- (1) the information on technical parameters included in Table 1, with its parameters measured and calculated (where necessary) in accordance with Annex III and showing the number of significant figures indicated in the table;
- (2) information that the standard programme is suitable to clean normally soiled tableware and fulfil hygiene requirements, and that it is used to assess compliance with the EU Ecodesign for Sustainable Products Regulation (ESPR);
- (3) information that loading the commercial dishwasher up to the capacity indicated by the manufacturer will contribute to energy and water savings and information on correct loading of tableware and main consequences of incorrect loading;
- (4) information that manual pre-rinsing of tableware items leads to increased water consumption and is not recommended;
- (5) information that the values given for programmes other than the standard programme are indicative only; and,
- (6) instruction on how to find the model information stored in the product database, as set out in Regulation (EU) **XXXX/XXX** [OP - Please insert here number of Regulation C(XXXX) XXXX on ecodesign requirements for commercial dishwashers] by means of a weblink that links to the model information as stored in the product database or a link to the product database and information on how to find the model identifier on the product.

The user instructions shall also include instructions for the user to perform maintenance operations. Such instructions shall as a minimum include instructions for:

- (1) correct installation (including level positioning, connection to mains, connection to water inlets, cold and/or hot if appropriate);
- (2) correct use of detergent and rinse aid, and main consequences of incorrect dosage;
- (3) foreign object removal from the commercial dishwasher;
- (4) periodic cleaning, including optimal frequency and limescale prevention, and procedure;
- (5) periodic checks of filters, including optimal frequency, and procedure;
- (6) identification of errors, the meaning of the errors, and the action required, including identification of errors requiring professional assistance;
- (7) how to access professional repair (internet webpages, addresses, contact details).

Such instructions shall also include information on:

- (1) any implications of self-repair or non-professional repair for the safety of the end-user and for the guarantee;
- (2) the minimum period during which spare parts for the commercial dishwasher are available.

Table 1 - Information requirements for technical parameters

General information		
Supplier's name or trade mark		
Supplier's address		
Model identifier		
Type of commercial dishwasher	Under-counter one-tank dishwasher	[Yes/No]
	Hood-type dishwasher	[Yes/No]
Design options implemented	Exhaust heat recovery (regenerator)	[Yes/No]
	Exhaust air heat pump	[Yes/No]
	Automatic programme for load and soil recognition	[Yes/No]
	Improved thermal insulation (double-walled design)	[Yes/No]
	Further substitution of metals by polymers	[Yes/No]
	Modular design and reuse of electronics	[Yes/No]
	Energy recovery from drain water	[Yes/No]
	Other (please specify):	[Yes/No]
Performance of the standard programme		
Energy consumption for initial fill	X,X	kWh
Water consumption for initial fill	X,X	l
Power of ready-to-use mode	X,X	kW
Number of plates per rack	X	-
Cleaning performance (X_{clean})	X	%

Resoiling performance (x_{res})	X,X	-
Hygienic performance	Number of bioindicators with a minimum reduction of 5-log level (in the cutlery tray)	X
	Number of bioindicators with a minimum reduction of 4-log level (in the cutlery tray)	X
	Share of bioindicators with a minimum reduction of 5-log level (on test plates)	X
	Number of bioindicators with a minimum reduction of 4-log level (on test plates)	X
	Number of bioindicators with a minimum reduction of 5-log level (in the test rack)	X
Energy consumption per cycle	X,X	kWh
Water consumption per cycle	X,X	l
Energy consumption per plate (SPEC)	X,XXX	kWh
Water consumption per plate (SPWC)	X,XXX	l
Programme time (T_{SPR})	X	s

7. INFORMATION REQUIREMENTS ON SUBSTANCES OF CONCERN

Information that makes it possible to track substances of concern shall be accessible through a data carrier included on the product, and shall incorporate the information on intentionally added substances of concern, if they are present in the product above the following concentrations at the level of components:

- (a) From **XX.XX.XXXX** [*XX months after adoption of this Regulation*], 0,1% weight by weight (w/w) for substances of concern defined in Article 2(27)(a) and (c) of Regulation (EU) 2024/1871;
- (b) From **XX.XX.XXXX** [*XX months after adoption of this Regulation*], for substances of concern defined in Article 2(27)(b) of Regulation (EU) 2024/1781:
 - (i) carcinogenicity categories 1 and 2: 0,1% w/w
 - (ii) germ cell mutagenicity category 1: 0,1% w/w
 - (iii) germ cell mutagenicity category 2: 1,0% w/w
 - (iv) reproductive toxicity categories 1 and 2: 0,1% w/w

- (v) endocrine disruption for human health category 1: 0,1 % w/w
- (vi) endocrine disruption for human health category 2: 1,0% w/w
- (vii) endocrine disruption for the environment category 1: 0,1% w/w
- (viii) endocrine disruption for the environment category 2: 1,0% w/w
- (ix) persistent, mobile and toxic or very persistent, very mobile properties: 0,1% w/w
- (x) persistent, bioaccumulative and toxic or very persistent, very bioaccumulative properties: 0,1% w/w
- (xi) respiratory sensitisation category 1: 0,1% w/w
- (xii) skin sensitisation category 1: 0,1% w/w
- (xiii) hazardous to the aquatic environment - categories chronic 1 to 4: 1,0% w/w
- (xiv) hazardous to the ozone layer: 0,1% w/w
- (xv) specific target organ toxicity - repeated exposure categories 1 and 2: 1,0 % w/w
- (xvi) specific target organ toxicity - single exposure categories 1 and 2: 1,0 % w/w

Components for the purpose of information requirements on substances of concern in commercial dishwashers include, but are not limited to:

- (1) Casings
- (2) Cooling agents (contained in heat pumps)
- (3) Dosing system (especially hoses, tubing, valves)
- (4) Fittings (for pumps, water inlets)
- (5) Gaskets
- (6) Housings (of motors and pumps)
- (7) LCD panels
- (8) Motors
- (9) O-rings
- (10) Printed circuit boards (especially program control units)
- (11) Pumps
- (12) Racks and baskets
- (13) Solenoid valves
- (14) Tanks
- (15) Wiring harnesses (electrical cables)

The information shall include the following:

- (a) the name or numerical code of the substance of concern present in the product, as follows:
 - (i) name in the International Union of Pure and Applied Chemistry (IUPAC) nomenclature, or another international name when IUPAC name is not available;
 - (ii) other names, including usual name, trade name, abbreviation;
 - (iii) European Community (EC) number, as indicated in the European Inventory of Existing Commercial Chemical Substances (EINECS), the European List of Notified Chemical Substances (ELINCS) or the No Longer Polymer (NLP) list or the number assigned by the European Chemicals Agency (ECHA), if available and appropriate;
 - (iv) the Chemical Abstract Service (CAS) name and number, if available;
- (b) the location of the substances of concern within the product;
- (c) the concentration range of the substances of concern, at the level of the components;
- (d) relevant instructions for the safe use of the product;
- (e) information relevant for disassembly, preparation for reuse, reuse, recycling and the environmentally sound management of the product at end-of-life.

ANNEX III

Measurement methods and calculations

For the purposes of compliance and verification of compliance with the requirements of this Regulation, measurements and calculations shall be made using harmonised standards the reference numbers of which have been published for this purpose in the *Official Journal of the European Union*, or other reliable, accurate and reproducible methods, which take into account the generally recognised state-of-the-art, and in line with the following provisions.

The standard programme at rated capacity shall be used for the measurement and calculation of the energy consumption, water consumption, cleaning and resoiling performance, and programme duration of a commercial dishwasher model.

1. ENERGY CONSUMPTION

The standard programme energy consumption (SPEC) is calculated as follows and rounded to three decimal place:

$$SPEC = \frac{E_C}{p_R}$$

where:

E_C is the standard programme energy consumption of the commercial dishwasher measured in kWh/cycle and rounded to three decimal places;

p_R is the number of plates per rack of the commercial dishwasher in the standard programme.

2. WATER CONSUMPTION

The standard programme water consumption (SPWC) is calculated as follows and rounded to three decimal places:

$$SPWC = \frac{V_C}{p_R}$$

where:

V_C is the standard programme water consumption of the commercial dishwasher measured in l/cycle and rounded to one decimal places;

p_R is the number of plates per rack of the commercial dishwasher in the standard programme.

3. CLEANING PERFORMANCE

The calculation of the cleaning performance (x_{clean}) of a commercial dishwasher model is calculated as follows and rounded to two decimal places:

$$x_{clean} = 1 - \frac{T_{NRD}}{T_{NAD}} \cdot 100\%$$

where:

T_{NRD} is the total number of remaining dots

T_{NAD} is the total number of applied dots

4. RESOILING PERFORMANCE

The calculation of the resoiling performance (x_{res}) of a commercial dishwasher model is calculated as follows and rounded to two decimal places:

$$x_{res} = \frac{T_{NFP}}{T_{NEP}}$$

where:

T_{NFP} is the total number of particles found;

T_{NEP} is the total number of evaluated plates.

5. PROGRAMME DURATION

The programme duration for the standard programme (T_{SPR}) is measured from the initiation of the programme (excluding any user-programmed delay) until an end of programme indicator is showing the end of the programme. T_{SPR} is expressed in seconds.

6. HYGIENIC PERFORMANCE

When measuring the above mentioned parameters, the commercial dishwasher shall fulfil the following hygienic requirements in the applied standard programme:

- (1) Bacterial reduction measured at bioindicators in the cutlery tray:
 - (a) Minimum 7 out of 8 bioindicators shall show a minimum reduction of 5-log levels²;
 - (b) None of the bioindicators shall show a reduction below 4-log levels^{Fehler! Textmarke nicht definiert.};
- (2) Bacterial reduction measured at bioindicators on test plates:
 - (a) Minimum 90 % of the bioindicators shall show a minimum reduction of 5-log levels^{Fehler! Textmarke nicht definiert.};
 - (b) None of the bioindicators shall show a reduction below 4-log levels^{Fehler! Textmarke nicht definiert.};
- (3) Bacterial reduction measured at bioindicators in the test rack: All 10 bioindicators shall show a minimum reduction of 5-log levels^{Fehler! Textmarke nicht definiert.}.

² Log levels are expressed as logarithms (base 10).

ANNEX IV

Verification procedure for market surveillance purposes

The verification tolerances defined in this Annex relate only to the verification of the declared parameters by Member State authorities and shall not be used by the manufacturer, importer or authorised representative as an allowed tolerance to establish the values in the technical documentation or in interpreting these values with a view to achieving compliance or to communicate better performance by any means.

Where a model has been designed to be able to detect it is being tested (e.g. by recognising the test conditions or test cycle), and to react specifically by automatically altering its performance during the test with the objective of reaching a more favourable level for any of the parameters specified in this Regulation or included in the technical documentation or included in any of the documentation provided, the model and all equivalent models shall be considered not compliant.

When verifying the compliance of a product model with the requirements laid down in this Regulation pursuant to Article 3(2) of Directive 2009/125/EC, for the requirements referred to in this Annex, the authorities of the Member States shall apply the following procedure:

- (1) the Member State authorities shall verify one single unit of the model;
- (2) the model shall be considered to comply with the applicable requirements if:
 - (a) the values given in the technical documentation pursuant to point (2) of Annex IV to Directive 2009/125/EC (declared values), and, where applicable, the values used to calculate these values, are not more favourable for the manufacturer, importer or authorised representative than the results of the corresponding measurements carried out pursuant to paragraph (g) thereof; and
 - (b) the declared values meet any requirements laid down in this Regulation, and any required product information published by the manufacturer, importer or authorised representative does not contain values that are more favourable for the manufacturer, importer or authorised representative than the declared values; and
 - (c) when the Member States authorities check the unit of the model, they find that the manufacturer, importer or authorised representative has put in place a system that complies with the requirements in the second paragraph of Article 6; and
 - (d) when the Member States authorities check the unit of the model, it complies with programme requirements in point 1, energy consumption requirements in point 3, water consumption requirements in point 4, resource efficiency requirements in point 5 and information requirements in point 6 of Annex II; and
 - (e) when the Member State authorities test the unit of the model, the determined values (the values of the relevant parameters as measured in testing and the values calculated from these measurements) comply with the respective verification tolerances as given in Table 3;
- (3) if the results referred to in point (2)(a), (b), (c) or (d) are not achieved, the model and all equivalent models shall be considered not to comply with this Regulation;
- (4) if the result referred to in point (2)(e) is not achieved, the Member State authorities shall select three additional units of the same model for testing. As an alternative, the three additional units selected may be of one or more equivalent models;

- (5) the model shall be considered to comply with the applicable requirements if, for these three units, the arithmetical mean of the determined values complies with the respective verification tolerances given in Table 3;
- (6) if the result referred to in point (5) is not achieved, the model and all equivalent models shall be considered not to comply with this Regulation;
- (7) the Member State authorities shall provide all relevant information to the authorities of the other Member States and to the Commission without delay after a decision being taken on the non-compliance of the model according to points (3) or (6).

The Member State authorities shall use the measurement and calculation methods set out in Annex III.

The Member State authorities shall only apply the verification tolerances that are set out in Table 3 and shall use only the procedure described in points 1 to 7 for the requirements referred to in this Annex. For the parameters in Table 3, no other tolerances, such as those set out in harmonised standards or in any other measurement method, shall be applied.

Table 3 - Verification tolerances

Parameter	Verification tolerances
Energy consumption for initial fill	The determined value* shall not exceed the declared value by more than 10 %.
Water consumption for initial fill	The determined value* shall not exceed the declared value by more than 10 %.
Power of ready-to-use mode	The determined value* shall not exceed the declared value by more than 10 %.
Rated capacity (number of plates)	The determined value* shall not exceed the declared value by more than 10 %.
Cleaning performance (x_{clean})	The determined value* shall not be less than the declared value of x_{clean} by more than 10 %.
Resoiling performance (x_{res})	Not applicable (indicative value)
Energy consumption per cycle	The determined value* shall not exceed the declared value by more than 10 %.
Water consumption per cycle	The determined value* shall not exceed the declared value by more than 10 %.
Standard programme energy consumption per plate (SPEC)	The determined value* shall not exceed the declared value of SPEC by more than 10 %.
Standard programme water consumption per plate (SPWC)	The determined value* shall not exceed the declared value of SPWC by more than 10 %.
Programme duration (T_{SPR})	The determined value* shall not exceed the declared value of T_{SPR} by more than 5 % or 6 seconds, whichever is the longer.

*In the case of three additional units tested as prescribed in point 4, the determined value means the arithmetical mean of the values determined for these three additional units.

ANNEX V
Benchmarks

INDICATIVE BENCHMARKS FOR COMMERCIAL DISWASHERS ON WATER AND ENERGY CONSUMPTION AND PROGRAMME DURATION

At the time of entry into force of this Regulation, the best available technology on the market for commercial dishwashers in terms of their energy and water consumption and programme duration for the standard programme was identified as follows:

- (1) Under-counter one-tank dishwasher:
 - (a) energy consumption: 0.0143 kWh/plate;
 - (b) water consumption: 0.128 L/plate;
 - (c) programme duration: 122 seconds;
- (2) Hood-type dishwasher
 - (a) energy consumption: 0.0199 kWh/plate;
 - (b) water consumption: 0.111 L/plate;
 - (c) programme duration: 609 seconds.