

7.1 Update to MAGSEP standard

FINAL MAGNETIC SEPARATION DEVICES for REMOVING FERROMAGNETIC and WEAKLY FERROMAGNETIC PARTICLES from FOOD PRODUCT STREAMS
HACCP International Food Safety Standard

0909MAGSEP 2-2021

INTRODUCTION

HACCP International operates a certification scheme for providers of food-safe equipment, materials and services to the food industry.

The *HACCP International Food Safety Standard FINAL MAGNETIC SEPARATION DEVICES for REMOVING FERROMAGNETIC and WEAKLY FERROMAGNETIC PARTICLES from FOOD PRODUCT STREAMS 0909MAGSEP* lists the requirements for final magnetic separation devices in food or feed manufacturing processes, for the purposes of product certification. It is a voluntary standard.

The standard has been updated. Issue 2-2021 contains a number of minor amendments to wording and layout and five changes to requirements.

BACKGROUND

HACCP International published issue 1-2010 of the standard in 2010. It has been downloaded widely by food manufacturers and magnetic equipment suppliers.

The new issue was developed using extensive consultation over a period of four years, with magnetic equipment manufacturers, suppliers, food businesses and food safety professionals all contributing extensive input. The final drafts of the standard were reviewed, discussed, amended and ultimately approved by a consensus committee of competent individuals representing magnetic equipment manufacturers, food manufacturers, food safety auditors and food safety certification body.

OVERVIEW of CHANGES

The majority of changes in issue 2-2021 have been made to add clarity and improve ease-of-use of the standard.

However, there are 5 notable changes to requirements:

1. The definition of *approved gauss meter* (Clause 3.11) has changed:
 - a. Requirements for organisations that may calibrate an 'approved gauss meter' have changed, so that more calibration service providers are eligible;
 - b. Axial probe gauss meters are allowed, if performance criteria and calibration requirements are met;
 - c. The instruction to test the gauss meter against a standard magnet before use has been moved from the definition to Appendix A and changed from *must* to *should*.
2. Fasteners: stainless steel dome nuts are now permitted in the splash zone when tightened flush and positioned such that if they become loose they will not enter the food product stream.
3. Bar magnets: the upper and lower limits to diameters of bar magnets have been removed.
4. Requirements for minimum thickness of pole plates have been removed, because specifying this dimension does not improve the overall performance of a magnet bar which is already defined by the pole spacing limits.
5. Installation instructions are now addressed. This will help ensure that magnetic separation devices are installed correctly in relation to the direction of food product flow.

Equipment that is currently certified by HACCP International will, in almost all instances, already be compliant with the requirements of the new standard.

Detailed descriptions of the new requirements can be found on pages 3 - 5.

TIMEFRAMES FOR COMPLIANCE

There is a three year transition period, starting 1st May 2021, for currently certified organisations. During the transition period, compliance to the 'new' standard (issue 2-2021) will be assessed and reported to certificate licence holders, but non-conformities will not be raised. Conformance with the 'old' standard (issue 1-2010) will continue to be required for re-certification until 30th April 2024.

From 30th April 2024, re-certification evaluations will be conducted against issue 2-2021 and compliance with 2-2021 will be required for certified equipment.

New applicants for certification and new products (not previously certified) will be assessed against the requirements of issue 2-2021 from 1st November 2021.

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NEW REQUIREMENTS IN ISSUE 2-2021

The table below describes changes made in issue 2-2021.

| Clause | Changes |
|--|---|
| 1 Purpose and Scope | Addition of a paragraph explaining that effective functioning of a magnetic separation device also relies on it being correctly specified, sized, positioned, located, maintained, cleaned and replaced. |
| 3.2 Final Magnetic Separation Devices (definition) | Minor word change to improve readability. No change to meaning. |
| 3.5 Food (definition) | Pet food included (in addition to 'animal feed' which was in 1-2010). |
| 3.11 Approved Gauss Meter (definition) | <p>Clarity has been improved with the addition of bullet points and line breaks.</p> <p>Axial tip shape is now allowed (major change).</p> <p>Calibration requirements have been amended to better explain traceability requirements. In addition, there have been changes to which organisations may calibrate an 'approved gauss meter' so that more calibration service providers are eligible (major change).</p> <p>The instruction to test the Gauss meter against a reference magnet before use has been moved to an appendix and changed from <i>must</i> to <i>should</i>.</p> |
| 3.12 Pole Plate Thickness (definition) | An error has been corrected; 'opposing' has been replaced with 'adjacent' in relation to poles between which a pole plate is inserted. |
| 5.1 General Requirements for Sanitary Design | <p>Ease-of-use of the standard has been improved by splitting this section into 5 sub-clauses.</p> <p>The final paragraph (service temperatures) has been re-worded to improve clarity; no change to intent.</p> |
| 5.2 Surfaces in the Food Zone | <p>Ease-of-use of the standard has been improved by splitting this section into 2 sub-clauses.</p> <p>Minor word change to first paragraph (roughness requirement) to improve clarity; no change to intent.</p> |
| 5.3 Joints within the Food Zone | Ease-of-use of the standard has been improved by splitting this section into 3 sub-clauses. |
| 5.4 Angles and Corners in the Food Zone | <p>Ease-of-use of the standard has been improved by splitting this section into 3 sub-clauses.</p> <p>Minor wording change to improve readability; no change to intent.</p> |

| Clause | Changes |
|---|---|
| 5.5 Fasteners | <p>Ease-of-use of the standard has been improved by splitting this section into 3 sub-clauses.</p> <p>Stainless steel dome nuts are now allowed as a fastener in the splash zone, when tightened flush and positioned such that if they become loose they will not enter the food product stream (major change).</p> |
| 5.6 Requirements for Sanitary Design, Non-food zone | <p>Ease-of-use of the standard has been improved by splitting this section into 3 sub-clauses.</p> <p>Minor word change in final paragraph to improve readability; no change to intent.</p> |
| 6.2 Plate Magnets | <p>Ease-of-use of the standard has been improved by splitting this section into 2 sub-clauses.</p> <p>Clarity of magnetic flux strength requirement has been improved by adding 'as measured at the food contact surface and in accordance with <i>Appendix A Determination of Magnet Strength...</i>'; no change to intent.</p> |
| 6.3 Bar Magnets | <p>Ease-of-use of the standard has been improved by splitting this section into 5 sub-clauses.</p> <p>Clarity of magnetic flux strength requirement has been improved by adding 'as measured at the food contact surface and in accordance with <i>Appendix A Determination of Magnet Strength...</i>'; no change to intent.</p> <p>Upper and lower limits to diameters of bar magnets have been removed (major change).</p> <p>Pole spacing specifications for bars of greater than 65 mm diameter have been specified (major change).</p> <p>Requirements for pole plate minimum thickness have been removed, because specifying this dimension does not improve the overall performance of the magnet bar which is already defined by the pole spacing limits; no change to intent.</p> <p>A reference to Figure 1 has been added to the third paragraph (now 6.3.5)</p> <p>For ease-of-use of the standard, a table that summarises pole spacing requirements for different diameter bars has been added.</p> |
| 7 Coverage of Product Stream | <p>Ease-of-use of the standard has been improved by splitting this section into 2 sub-clauses.</p> |
| 8 Cleaning methods | <p>No changes</p> |

| Clause | Changes |
|---|--|
| 9 Operations Manual | <p>This section has been renamed to 'Operations Manual and Installation Instructions'.</p> <p>Ease-of-use of the standard has been improved by splitting this section into 7 sub-clauses.</p> <p>The third paragraph (now 9.3) has been completely re-worded to improve clarity, including by removing the word 'fines' which had not been defined and removing reference to '50% of the magnetic surface' which was unnecessary; no change to intent.</p> <p>Minor wording improvement in fourth paragraph (now 9.4); replace 'final magnets' with 'final magnetic separation devices'; no change to intent.</p> <p>Fifth paragraph (now 9.5); minor word addition to improve clarity. Replace 'final magnets' with 'final magnetic separation devices'; no change to intent.</p> <p>New requirement (9.7) requiring installation instructions to state that the magnetic separation device must be installed correctly in relation to the direction of food product flow for it to perform effectively and describe how to install it correctly (new requirement).</p> |
| ANNEX A – Requirements for Determination of Magnet Strength | <p>This section has been renamed to APPENDIX A – Determination of Magnet Strength.</p> <p>The intent of the content is the same*, however, compared to the previous issue this section has significantly more detail. More advice regarding calculations, averaging and record keeping has been added.</p> <p>The section has been re-written to improve clarity and has an easier-to-use layout.</p> <p>*The pre-use check of the gauss meter, which was previously specified in clause 3.11, is now included in the Appendix (new clause A2). The requirement has been amended to "The gauss meter <i>should</i> be checked prior to use against a reference magnet" (major change).</p> |
| Throughout | <p>Minor grammatical and punctuation changes to correct errors and improve consistency have been made throughout.</p> |

QUESTIONS?

Ask us! Contact your HACCP International Project Manager, call us on (02) 9956 6911 or write to us at info@haccp.com.au.

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