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标题

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03 Numbering for IQC dimensions added	DWU	ROM	DWU	15.06.2010
04 More flexible requirements for major dimensions. Measuring points and layers.	DWU	ROM	DWU	06.04.2012
05 Additional marking for calibration items	ROM	FKÜ	DZO	08.11.2013
06 Gauge check added	APR	ROM	DZO	15.01.2015

Scope / 范围

This EGSTON Standard defines the dimensioning und marking of technical documents just as the symbols to be used.

This standard is valid for all applications, departments just as for all EGSTON-documents.

本标准定义技术图纸的尺寸及标识，以及图纸中用到的标记。

本标准对所有的应用和部门有效，也适用于所有的EGSTON 文件

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1 GENERAL | 综述

Only for Offer

Drawings, which are not final, but are used for quotations from suppliers, have to be clearly marked with "Only for Offer".

Capability Study

For all significant characteristics, where a process capability study (CpK value) is required, the QS 9000 PPAP requirements (latest revision) have to be followed.

Consecutive Numbers

All dimensions used in measurement reports must have a number. The numbers must be put in a separate layer or in a separate file version of the drawing.

Test dimensions for IQC must always have a number and the numbers must be part of the original layer and drawing, i.e. must always be visible.

报价图纸

对仅用于向供应商报价而不是最终版本的图纸，必须在图纸上清楚地标上“仅供报价”。

过程能力研究

对所有重要特性，要求做过程能力研究，而且必须遵从 QS9000 PPAP(最后版本)的要求。

尺寸序号

所有在检测报告中用到的尺寸，都必须有一个序号。如果尺寸序号太多，必须建立一个尺寸序号图层并把尺寸序号放在该图层，或者把序号标在一个单独的图纸文件里。

以上要求不包括主要尺寸和 IQC 检测尺寸。对主要尺寸和 IQC 检测尺寸，任何时候它们都必须有一个序号而且该序号必须是原始图层和图纸的一部分。也就是说，这些序号必须是看得到的。

2 SYMBOLS | 标记

Symbols used on Egston drawings:

益仕敦图纸所用标记

Symbol	Explanation	解释
	Nominal dimension General tolerances as stated in the title block apply.	名义尺寸 未注明公差的尺寸按照未注公差表要求执行。
	Nominal dimension The tolerances stated override the general tolerances.	名义尺寸 带公差的尺寸按注明公差要求，不需执行未注公差要求。
	Auxiliary dimension ¹⁾ Is an overdimensioning of the part and is used for the production and inspection. The general tolerances are not valid for such a dimension.	辅助尺寸 ¹⁾ 零件的过约束尺寸，仅用于制造检测。 未注明公差表不适用于这类尺寸。
	Theoretical accurate dimension	理论正确尺寸
	Major Dimension: <ul style="list-style-type: none"> for special purposes, where details are written on the document (e.g. Cp instead of CpK values). for EGSTON internal equipment requirements which have to be checked frequently. 	主要尺寸: 有特殊用途的尺寸，具体要求在图纸中注明（如：用 CP 代替 CpK 数据）。 益仕敦内部设备要求需周期性检查的尺寸。
	Major Dimension: Record values ⁶⁾	主要尺寸：记录数据 ⁶⁾
	Major Dimension: CpK ≥ 1.33 ²⁾	主要尺寸: CpK ≥ 1,33 ²⁾
	Major Dimension: CpK ≥ 1.67 ³⁾	主要尺寸: CpK ≥ 1,67 ³⁾
	Major Dimension: 100% inspection ⁴⁾	主要尺寸: 100%检测 ⁴⁾
	Gauge check: Record values ²⁾ These dimensions have to be checked with a gauge. If already available, the number of the gauge has to be mentioned on the document! Old documents: \triangle	量具检测：记录数值 ²⁾ 这些尺寸必须用量具进行检测。量具的号码须在文件中说明！ 旧文件： \triangle
	Gauge check: 100% inspection ⁴⁾ These dimensions have to be checked with a gauge. If already available, the number of the gauge has to be mentioned on the document!	量具检测：100% 检测 ⁴⁾ 这些尺寸必须用量具进行检测。量具的号码须在文件中说明！

Symbol	Explanation	解释
	Test dimension for IQC Egston ⁵⁾ Has a consecutive number which is different from the normal consecutive numbers below.	益仕敦 IQC 检测尺寸 ⁵⁾ 用一个带连续数字的符号标注，该数字不同于普通尺寸的连续数字。
	Adjustable measurement Tool changes are expected. The tool maker must ensure a simple tool change (remove material).	可调整的尺寸 可能会改模的尺寸。模具制造商必须保证可以做适当的模具修改(比如在模具上切掉钢材)。
	Revision marker for changes All changed dimensions are marked with the current drawing version.	改动处的版本标识 所有改动尺寸必须用当前的图纸版本号做标识。
	Current and specified dimension The specified dimension remains 40, but 39.6 is the current, valid dimension. In case a new tool will be made, the valid dimension is 40 again.	当前尺寸和指定尺寸 指定尺寸保持 40，但 39.6 是当前产品的有效尺寸。如果重新制作一套新模具，有效尺寸用回 40。
	Consecutive number An identification number for dimensions. See section 1.	连续数字 标识尺寸的一组数字。参照第 1 章。
	Measuring Points Define the exact point where to measure a dimension. The MPs to use for a dimension is written below the dimension in parenthesis (read "MP1-MP4, MP7-MP9" as MPs 1, 2, 3, 4, 7, 8, and 9).	测量点 定义测量尺寸的准确测量点。尺寸的测量点用括号标注在尺寸下面(举例:"MP1-MP4,MP7-MP9"指测量点 1、2、3、4、7、8 和 9)。
	Measuring Layer Define a layer/plane used for measuring a dimension. The layer (or layers) to use for a dimension is written below the dimension in parenthesis. The position of the layer is specified with a theoretical accurate dimension.	测量面 用于定义测量尺寸的面/层。测量面用括号标注在尺寸下面。 测量面的位置用理论尺寸在图面上做明确定义。

3 EXPLANATIONS | 解释

3.1 Examples | 举例

Symbol	Explanation	解释
	A major dimension with tolerance +0.3 and -0.2 and a CpK value of ≥ 1.67 (valid for supplier and Egston). It has the consecutive number 12 (for all measuring reports). This dimension is also checked by Egston	一个公差+0.3/-0.2，并且要求 CpK 值 ≥ 1.67 (对供应商和益仕敦有效)。该尺寸的图纸序号为 12(针对全尺寸检测报告)。该尺寸也必须由益仕敦的 IQC 做检测，IQC 检测时用尺寸序号 7。

Symbol	Explanation	解释
	IQC as dimension number 7.	
	<p>The inner diameter is not constant due to a draft angle. It has to be measured at layer ML1 and ML2 and both measurements have to be within the specified tolerance.</p>	<p>由于产品上有拔模斜度，内径尺寸是变化的，该尺寸必须取两个测量面 ML1 和 ML2 上做测量，并且两个测量结果都必须满足指定的公差要求。</p>

3.2 Quality Requirements | 品质要求

1)	<p>Auxiliary dimension are not measured for the initial sample report. Such dimensions are shown by the technical design department, to emphasize some aspects of the function of the part.</p>	<p>辅助尺寸在首样检测时不需要做测量。该类尺寸由技术设计部门指出，以强调零件功能上的特征。</p>
2)	<p>Such dimensions require a machine capability index CmK ≥ 1.67.</p> <p>For an FMEA the severity index has to be between 6 to 8.</p> <p>The process capability studies have to been done for the whole production, and have to be handed out to Egston upon request at any time.</p>	<p>此类尺寸要求机器能力指数 CmK ≥ 1.67。</p> <p>FMEA 中的严重度系数必须是 6 到 8 之间。</p> <p>整个生产中都必须做过程能力研究，当任何时候益仕敦有要求时，供应商必须提交报告。</p>
3)	<p>Such dimensions require a machine capability index CmK ≥ 2.</p> <p>For an FMEA the severity index has to be 9.</p> <p>The process capability studies have to been done for the whole production, and have to be handed out to Egston upon request at any time.</p>	<p>此类尺寸要求机器能力指数 CmK ≥ 2。</p> <p>FMEA 中的严重度系数必须是 9。</p> <p>整个生产中都必须做过程能力研究，当任何时候益仕敦有要求时，供应商必须提交报告。</p>
4)	<p>Such dimensions require 100 % checking during production. The checks have to be done according Poka Yoke system. No wrong part must be forwarded to the next production step.</p> <p>For an FMEA the severity index has to be 10. It is required to have the risk priority number RPN ≤ 80.</p> <p>Each measurement during series production has to be recorded, and has to be handed out to Egston upon request at any time.</p>	<p>此类尺寸要求在生产时做 100% 检查。产品检测必须满足 Poka Yoke 系统要求。不能有坏品流入到下道生产工序。</p> <p>FMEA 中的严重度系数必须是 10。要求风险关键指数 RPN ≤ 80。</p> <p>在量产过程中，每一个测量结果都必须做记录，当任何时候益仕敦有要求时，供应商必须提交报告。</p>
5)	<p>The incoming quality check (IQC) department of the receiving Egston company has to check such dimensions according to AQL-spot check plan.</p>	<p>来料检验部门 (IQC) 必须按照 AQL 检测计划检测此类尺寸。</p>
6)	<p>Such dimensions require a machine capability index CmK ≥ 1.33.</p> <p>This has to be done for the whole production, and the recorded data have to be handed out to Egston upon request at any time.</p>	<p>此类尺寸要求机器能力指数 CmK ≥ 1.33。</p> <p>在量产过程中，每一个测量结果都必须做记录，当任何时候益仕敦有要求时，供应商必须提交报告。</p>