Centrifuge Tubes
离心管

CENTRIFUGE TUBES AND STAND TO MEASURE SETTLING VOLUME
测量沉淀量的离心管及其支架

Centrifuge Tubes are used to monitor the concentration of magnetic particles and the level of contamination in Magnaglo® fluorescent and Magnavis® visible baths.

离心管用于测量Magnaglo®荧光和Magnavis®非荧光磁悬液中磁粉的浓度和污染程度。

BATH STRENGTH 磁悬液浓度

The amount of magnetic particles per gallon of fluid in the inspection bath is called its strength or concentration. If the bath concentration is below recommended strength, weak particle indications will be produced or possibly no indication will appear; therefore, defects will not be detected. If there are too many particles in the bath, indications may be masked by heavy background buildup. The usable limits of bath strength are quite broad, but for consistent results the bath strength should be maintained constant at all times.

每加仑磁悬液中磁粉含量称为其强度或浓度。如果磁悬液浓度低于推荐浓度，将使磁粉的缺陷上的磁痕变弱或可能不会出现任何磁痕；　因此，就不会检测到缺陷。如果磁悬液中有太多磁粉，则可能会因背景过重而掩盖磁痕。磁悬液浓度的可用范围非常大，但为了获得一致性较高的检测结果，磁悬液浓度应始终保持恒定。

A light bath strength usually forms good indications on deep cracks, but a heavier particle concentration will show fine defects better. The bath concentration, which will best detect all defects, should be determined and held constant. Bath strength should be checked at least once each day.

低浓度磁悬液通常能在较深的裂纹上形成良好的磁痕，但高浓度磁悬液会更好地显示出细小缺陷的磁痕。因此，应确定能够在所有类型缺陷检测中都能产生最佳结果的磁悬液浓度，并保持其恒定。应至少每天检查一次磁悬液浓度。

After the entire bath has been thoroughly mixed and agitated, it is essential to check it for strength. The most widely used method is by gravity settling in a graduated ASTM pear shaped centrifuge tube.

必须在磁悬液彻底混合并搅拌后，检查其浓度。最广泛使用的方法是通过重力沉降在梨形的ASTM梨形离心管中进行检测。

Part No. 件号	Product 产品	Measurements Printed on Tubes 离心管底部刻度
2461	7C/9C Visible 7C/9C非荧光磁粉	1.5 ml in .10 ml graduations 1.5ml，最小0.1ml
8493	14A, 14AM and 20B Fluorescent 14A，14AM和20B荧光磁粉	1.0 ml in .05 ml graduations 1.0ml，最小0.05ml
507923	MG 410 and MG 3410 MG 410和MG 3410	0.2 ml in .01 ml graduations 0.2ml，最小0.01ml

DAILY INSTRUCTIONS (INCLUDING NEW BATH)

每日检测说明(包括新配置的磁悬液)

1. Let pump motor run for up to 30 minutes to agitate the suspension.

使搅拌泵运行30分钟,搅匀磁悬液。

2. Flow the bath mixture through hose and nozzle for a few moments to clear hose.

打开喷头阀门,让磁悬液流出一段时间,清洁软管内部。

3. Fill the centrifuge tube to the 100 ml line.

将磁悬液灌入离心管,灌满100ml。

4. Place the tube in the stand. If required by written procedure, demag the tube (note that the stand is non-ferrous and will not interfere with particle settling). Let the tube stand in a vibration-free area to allow particles to settle. Settling time is 30 minutes for a water bath or 60 minutes for an oil bath.

将离心管放入支架中。如果有流程要求,请对离心管进行退磁(注意支架是非铁磁性材料,不会干扰磁粉沉降)。将离心管立在无振动干扰区域,让磁粉沉淀下来。

水基磁悬液的沉淀时间为30分钟,油基磁悬液的沉淀时间为60分钟。

The gravity settling method applies to either oil or water suspension. In hot weather the water bath should be checked more often as is it more volatile than oil.

沉淀法适用于油基或水基磁悬液。在炎热的天气中,应该更频繁地检查水磁悬液,因为它比油更易挥发。

Therefore, as water is lost by evaporation, it must be replaced.

因此,水由于蒸发损失,必须更换。

The settled particles (measured in ml) in the bottom of the tube indicate the amount of magnetic particles in suspension. A UV lamp, such as the Magnaflux EV6000 LED UV-A Lamp, must be used for fluorescent particles.

离心管底部沉淀的磁粉(以ml计)表示磁悬液中磁粉的量。对于荧光磁粉,必须使用黑光灯观察,例如Magnaflux EV6000 LED 黑光灯,。

Do not include dirt particles in your centrifuge tube readings. They usually settle on the top of the magnetic particles. Dirt will not fluoresce under UV-A irradiation.

读数时不要将离心管内的污垢颗粒包含在内。它们通常沉淀在磁粉的顶部。在UV-A照射下,污垢不会发出荧光。

In visible particles, the appearance of dirt is very different than that of the particles. Dirt will be coarser and irregular in shape. See illustrations for recommended settling volume.

在非荧光磁粉中,污垢的外观与磁粉的外观明显不同。污垢更粗糙且形状不规则。有关建议的沉降量,请参见附图。

BATH MAINTENANCE TIPS

磁悬液维护技巧

To maintain proper bath suspension during inspection requires that it be agitated prior to and while the bath is in use. The agitator pipe should be removed and thoroughly cleaned monthly or more often, if needed. Also, check area where sump screen connects to tank, clean and remove any foreign material that may restrict flow.

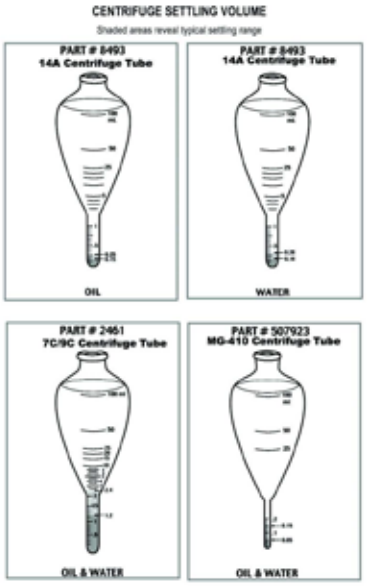
为了在检查期间保持适当的磁悬液浓度,需要在使用前和后对其进行搅拌。如果需要,应每月或更频繁地拆下搅拌器管路并彻底清洁。另外,检查搅拌泵滤网与液槽连接的区域,清洁并清除任何可能限制流量的异物。

Constant use of the bath requires a daily check for evaporation of oil or water, loss of particles due to carry off and contamination. Eventually the bath will become so contaminated by dirt, lint, oil or other foreign material that efficient formation of indications will become impossible.

持续使用的磁悬液需要每天检查油或水的蒸发情况,由于工件带走和污染导致的磁粉损失。最终,磁悬液将被污垢、棉绒、油或其他异物污染,从而无法有效地形成磁痕。

Contamination can be checked by noting the amount of foreign material that settles out with the particles in the centrifuge tube. Covering equipment, when not in use, will reduce contamination and evaporation.

可以通过记录离心管中的和磁粉同事沉淀出的异物量来检查污染情况。在不使用时,盖上设备以减少污染和蒸发。



SPECIFICATIONS COMPLIANCE 符合规范

ASTM E709-08 (Sections 20.6.1 & X5)

ASTM E1444/E1444M-12 (Section 7.2.1)

ASME (Section V, Article 7: T-765)