Operator manual for AMT-RM20 and –RM12 WriteStar roller-marking-tool

1. Construction and function of AMT-RM20- and AMT-RM12-WriteStar

Both tools are high-quality marking tools for CNC-machine tools. A non-transient, high quality and stressless marking is possible on surfaces up to 60 HRC hardness. With AMT-RM20 surfaces with an unevenness up to 5 mm can be marked. With AMT-RM12 surfaces with an unevenness up to 3 mm can be marked.

Marking is generated by a kind of roll-on, a combination of material compression and material displacement. By that, no chips and no burr will be produced. WriteStars don`t need spindle rotation and supply from lubricant or pressured air. WriteStars can mark as fast as machine tool can move.

WriteStars AMT-RM20 and RM12 can be mounted in tool holder or in collet chuck with 20 or 12 mm bore.

RM12

RM20

2. Application possibilities

This WriteStars can be used in every CNC-machine tool with an automatic tool change or with turret and on robots. WriteStars are suited for marking of most materials like plastics, aluminium, copper, graphite, titanium, stainless steel and steel up to 60 HRC. This tools work well on raw and machined surfaces up to an unevenness from 5 mm with AMT-RQ20 and up to 3 mm with AMT-RQ12.

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Advice:

> Please start with 6 mm deepness of setscrew (size A).

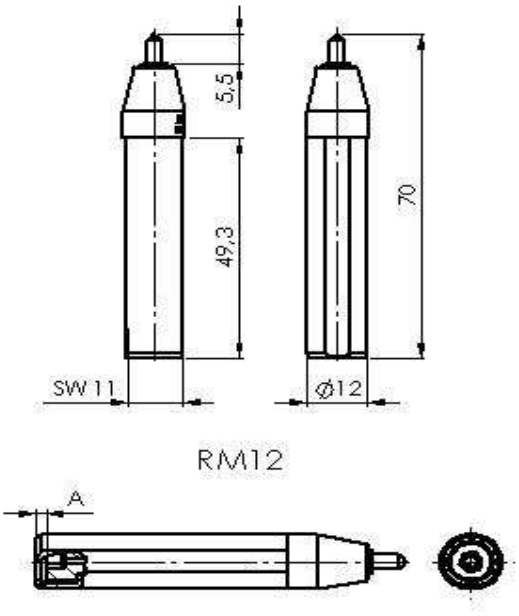
> Chamfers up to 15°can be marked.

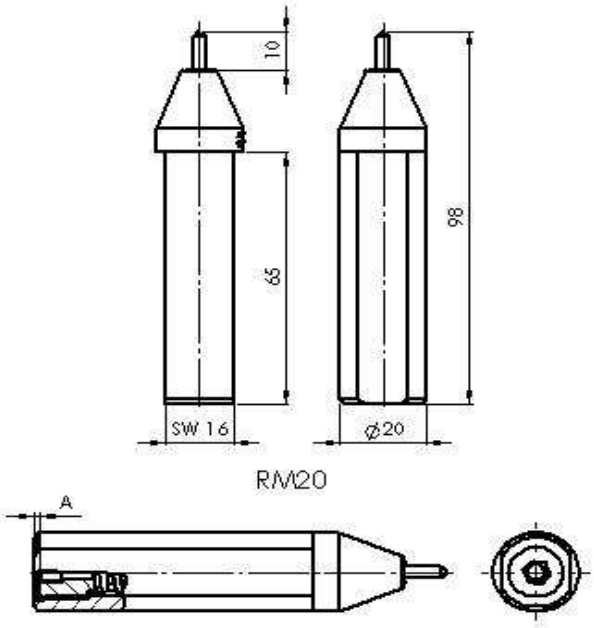
> With dismounting of tools guarantee and warranty expires.

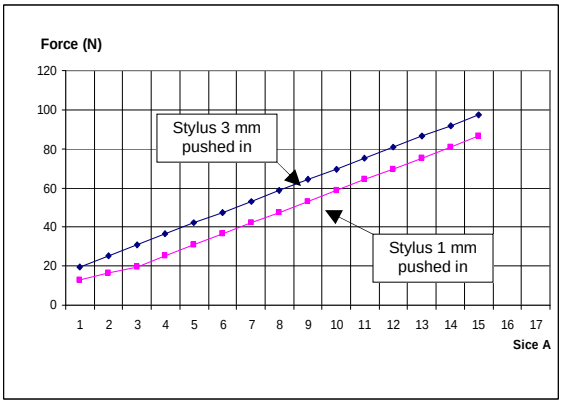
> Marking speed is as high as machine tool can move the contour.

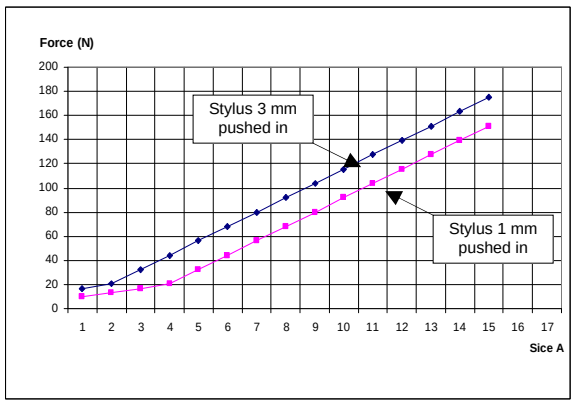
> Clamp screws of the tool fixture should work on a flat clamping plate onto WriteStar, because case can be destroyed. Maximal clamping force is 500 N/cm².

3. Dimensions and force diagram









4. Operator instruction

⇒ Take care that marking tool is fixed carefully and tight in tool holder.
⇒ Please start with setscrew deepness (A = 6 mm) and with a dunk in of stylus from 1 mm.
⇒ For deeper marking turn in setscrew 1 or 2 mm more and try marking again.
⇒ If burr existing reduce setscrew deepness 2 mm and try marking again.
⇒ For uneven surface higher dunk in position of stylus so much, that stylus contact surface every time.
⇒ If lubricant is already on surface mark with lubricant.
⇒ Maximum dunk in range of stylus from AMT-RQ20 is 5 mm.
⇒ Maximum dunk in range pf stylus from AMT-RQ12 is 3 mm.
⇒ Realize setscrew deepness (A) higher than 15 mm only in very special cases. In this case reduce dunk in range of stylus in the same way you exceed 15 mm setscrew deepness.

Advice:

> *If a burr appeers along the marking line, contact force is to high, turn setscrew back some mm.*
> *Some machine tool controls like Siemens, Heidenhain, Haas a. s. o. already have subroutines on board to bring letters, logos and other figures. If not, please ask your machine tool builder. Software for marking in machine tool you can find also at internet by NC-Font 5.0.*

5. Safety hints

⇒ Take care that WriteStar is carefully and well tighten in tool holder or collet chuck.
⇒ Do not turn WriteStar faster than 500 rpm.
⇒ Use WriteStar only in protected areas of machine tool or in secured areas of robots.
⇒ Turning setscrew has no influence on tool length.
⇒ The depth of immersion of the tool equates not to the depth of marking.
⇒ The spindle position should be programmed so that the needle is compressed about 1 to 2 mm.

6. Liftetime

Lifetime of WriteStar is not limited.
Lifetime of needle usually is some years or depending for material mostly more than 40 km working line.

7. Maintenance

⇒ WriteStars are provided with lifetime lubrication.
⇒ Please handle WriteStars as carefully as cutting tools.
⇒ WriteStars should be cleaned every week with clear water or oil.

Kempten, June 2010
NC-Automation GmbH