SCHMIDT

Serving Marking Needs Worldwide Since 1895.

ROTARY MARKING SYSTEMS

Four different models and a choice of feed systems for a variety of high-volume marking applications.
Principles of Rotary Marking

For pure marking speed, nothing can compare to Geo. T. Schmidt rotary systems. Usually, they can mark up to 4,000 parts per hour, but specially designed systems have achieved speeds up to 15,000 parts per hour!

The explanation for this extraordinary speed is simple: rotary systems are engineered for continuous marking action, not one-at-a-time cycling like conventional roll markers.

Parts are automatically fed to a constantly rotating carrier dial that transports them past a fixed concave marking die. The impression is indented largely by forcing parts through a pinch point created between the air-spring-pressured marking head and the pressure dial.

SCHMIDT is the preferred source for rotary marking systems, with more than 70 years of application experience.

Because automation and in-line integration of these units is a common need, SCHMIDT also provides all types of feed and discharge systems.

The drawings on the facing page illustrate the four basic rotary models offered by SCHMIDT. The units differ based on application requirements: the need for internal support of the parts, vertical or horizontal orientation of the carrier dial, and special carrier dials to handle unstable parts.

Virtually every machine we build is customized for a specific application, but all of our rotary systems share some common specifications: 110 volt power supply, 80 psi air source, and DC motors to permit variable speed operation.

Benefits
Rotary systems were developed in the 1920s for high-speed, dedicated marking of relatively small and well-balanced parts that are cylindrical (or conical) in shape. Easy to automate or integrate into a production line, they provide a continuous marking cycle that reduces part handling and minimizes or eliminates labor.

- **Speed:** Mark 4,000-15,000 pieces per hour
- **Productivity:** Gain 500%-1,000% vs. roll marking
- **Automation:** Automatic feed means no need for constant operator attention
- **Flexibility:** Variable speed to match production requirements

Application Considerations
Rotary marking is ideal for many applications, but it is not the right choice for every high-volume marking job. The following rotary marking specifications should be considered:

- **Marking Depth:** Rotary units generate light marking pressure, so if you need deep indenting an automated roll marker might be a better choice.
- **Part Diameter:** Most rotary marking machines can accept parts up to 4 inches in diameter; specially-designed units are required to handle larger diameters.
- **Part Range:** Marking diameters that vary by more than ¾” is more labor intensive because it involves the time-consuming task of changing pressure dials.

Rotary systems are ideal for marking small, round parts that are stable enough to stand up on a flat surface. Specific applications include: sockets, welding tips, screws, drills and rods.
Rotary Marking Applications

This bowl-fed unit was built for an automotive customer that uses manufacturing cells. Each cell is totally self-sufficient, marking each ring with a data code and customer name.

To provide internal support for these relatively delicate rings, the carrier dial has mandrels on which the parts are positioned before marking.

A concave marking tool (inset photo) provides better performance than straight tooling.

Most rotary marking equipment is not built to provide enough pressure for adequate knurling depth, but this Model 20 unit was specially engineered to indent a vertical-pattern grip band on socket head cap screws up to 3/8 in diameter.

Even more remarkable, this unit incorporates unique gear ratio and torque characteristics for exceptional speed. Combined with a bowl feed, it marks 15,000 pieces per hour.
This large, powerful Model 20 can apply a knurling band on bigger socket head cap screws with diameters of 1 inch, thanks to the larger gearbox and 4 HP motor built in by SCHMIDT engineers. It is an in-line unit that is fed directly from a threading machine through a chute. Marked parts are automatically discharged and carried to the next processing station.

The machine seen here is integrated into the production line of a major automotive manufacturer to mark codes on front wheel drive couplings. Parts enter the rotary marking station directly from a machining operation, and, after being marked, they exit directly into an induction heating station. The rotary machine is connected to previous and subsequent processing stations by a walking beam conveyor system.

Equipped with four different pressure dials, this Model 20 unit is used to mark nine different welding tips ranging from 3/8" to 1 1/2" in diameter. For feeding parts which are stable enough to stand on end, the machine is equipped with a vibrating tray that moves parts toward the marking area.

For unbalanced parts that will not stand on end, the machine is also equipped with an adjustable track that transports the tips to the carrier dial. The carrier dial has pockets to hold the parts in place during the marking cycle.

The rotary marking machine pictured here is a simple, basic version of our Model 20 design. It is probably the closest thing there is to a "standard" SCHMIDT rotary system. It is dedicated entirely to marking a product code on one single injector component, a component which exhibits all of the classic profile characteristics for which rotary markers were originally developed—it is small, cylindrical, solid, and well-balanced.

In this stand-alone application, parts are fed manually from a tray and discharged into a bin.
Four Types of Rotary Systems

**Model 19**
Designed specifically for drills and rods, these vertical-dial machines roll mark the outer diameter of parts that cannot stand on their own. The carrier dial picks up each part and transports it through the marking station, where it is rolled between the marking die and the pressure dial. Parts are automatically unloaded by gravity.

**Model 20**
Our most popular models, these high-speed systems mark cylindrical solids or heavy wall tubes that can stand on end or be fitted into slots in the carrier dial. Parts are loaded at random onto the horizontal, rotating carrier dial, which transports them through the marking station. Parts must be free to roll and heavy-walled enough to withstand marking pressure.

**Model 21**
Mandrel-type dial machines for roll marking thin wall tubes and cylinders that require internal support. Parts are loaded onto the mandrels of a carrier dial, which rotates to transport parts through the marking station. Elevating stripper plates automatically unload marked parts.

**Model 22**
Unique system for high-speed marking of the flat surface of a round part. The roll die is geared to a continuously rotating carrier dial, which makes multiple revolutions according to the number of work stations on the dial. Parts are loaded into slots in the dial, driven through the marking station, and ejected automatically.
With a centrally-located manufacturing plant, two regional facilities, and a national network of experienced Sales and Service Representatives, Geo. T. Schmidt, Inc. is positioned to answer your application questions and satisfy your marking needs. Your SCHMIDT Representative can assist you in evaluating your marking needs, in specifying the right equipment and tooling, and in assuring proper installation and operation. To learn the name of your SCHMIDT Representative, call toll-free 1-800-323-1332.

**Engraved Tooling, Type and Numbering Heads**

Only SCHMIDT offers such a complete line of type and tooling: hand stamps and code hammers...dies and inserts...steel type and typeholders...knurls and knurl typeholders...combination dies and chases...type and die holders...and knurl carriages. We also manufacture a wide spectrum of numbering heads: hand-style, manual, semi-automatic, automatic, embossing/debossing, and special/combination numbering heads.

**Stylus Marking Equipment**

SCHMIDT also manufactures programmable stylus markers—stand alone units or integration heads—that indent impressions on virtually any surface with a gentle marking action like a mini jack hammer.

Superior software makes SCHMIDT Styliner™ units better than other systems. You can create any kind of mark, including complex logos (HPGL format), by manipulating the size, position and orientation of the mark as desired. What you preview on the computer screen is the mark you get on your part. With Styliner, you can even achieve true radial marking!

**General Purpose Marking Equipment**

SCHMIDT offers all types of metal marking equipment: manual bench equipment for low-volume applications...powered tabletop units...pneumatic and hydraulic press marking and roll marking units...rotary machines for high-volume marking applications...even laser marking machines.

**Special Application Equipment**

During the past century, SCHMIDT has developed portable or stationary equipment, as well as automatic feeding systems, to solve almost every conceivable special marking problem. These include marking machines for vehicle frames and chassis, golf clubs, valve stems, electrical connectors, sockets, train wheels, and wrenches, to name just a few.

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**SCHMIDT**

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