

# When It Comes To Honing Hydraulic Components, Sunnen Delivers:

- More Machines
- More Automation
- More Fluids
- More Tooling
- More Fixturing
- More Precision
- More Abrasives
- More Gaging
- More Choices



Sunnen is the first place to stop before you start the precision honing of all types of hydraulic components. Our systems are designed with a focus on reliability, flexibility and ease of use.

Sunnen delivers the industry's largest selection of honing machines – horizontal or vertical, single or multi-spindle, automated or manual, standard or customized. We can provide a system for virtually any hydraulic application, including:

- All types of materials
- Bore diameters from 1,5 mm – 165 mm (.118 inch – 6.5 inch)\*
- Wide range of surfaces finishes
- Multi-land bores or simple bores
- With and without cross bores
- Open or blind bores

Sunnen's worldwide sales and service team supports the installation and operation of every system we manufacture. For the name of your nearest Sunnen representative, visit our website: [www.sunnen.com](http://www.sunnen.com)

## Custom Honing Systems



Sunnen can customize and/or automate many of our systems to meet your specialized hydraulic component honing requirements.

Just contact your Sunnen Representative for a FREE needs analysis or to get the design process started. Our technical experts will work with you to determine the exact number of spindles, style of tooling, fixturing, abrasives, in-process and/or post-process gaging, and method of parts loading and unloading required (including robotics), and provide a written proposal.

After the system is built, we'll set up a live run-off demonstration at our facility. Once the system meets all specifications, we'll install the system and train your staff. From start to finish, you have our commitment to total service and quality assurance.

## SV-1000 Series Vertical Honing Machines



The SV-1000 Series delivers power, durability and precision far superior to I.D. grinding — as fine as 0,00025 mm (0.00010 inch — and incorporates a patented servo-driven ball-screw design that ensures long, trouble-free life. The SV-1000 Series delivers mid- to high-production manufacturers the lowest cost per honed part, while delivering tight bore tolerances. To meet your job requirements, systems can be automated or otherwise customized to your exact specifications, including multiple honing spindles and air gaging.

**Bore Diameter Range (I.D.):**  
■ 3 mm – 65 mm (.118 inch – 2.56 inch)\*

## KGM-5000NT CrossGrinding® System



No other mid- to high-production horizontal honing system on the market today delivers the precision roundness, straightness, bore size and finish as the KGM-5000NT. The system is capable of holding the industry's tightest production-environment tolerances – as fine as 0,00025 mm (0.00010 inch) – tolerances far superior to I.D. grinding.

**Bore Diameter Ranges (I.D.):**  
■ 3 mm – 65 mm (.118 inch – 2.56 inch)\*

## ML-5000 Automatic Honing Machine



The Sunnen ML-5000 horizontal power stroked honing machine is up to six times faster than I.D. grinding and can be set up in half the time. It delivers optimum bore geometry and produces a desirable oil-bearing crosshatch finish and can be automated for mid- to high-production applications.

**Diameter Ranges (I.D.):**  
■ 1,5 mm - 165,1 mm (.060 inch - 6.500 inch)\*

## VSS™ Single Stroke Honing® System



The VSS is a value-priced single pass honing machine that delivers precise bore size, geometry and surface finish. It is very easy to set up and operate and is the most productive machine in its class. The system is the perfect solution for short-run (manual) to medium- and high-production (automated) applications that are suited to single pass bore sizing.

**Bore Diameter Range (I.D.):**  
■ 4 mm – 65 mm (.156 to 2.56 in.)\*

\*Other sizes available upon review.

