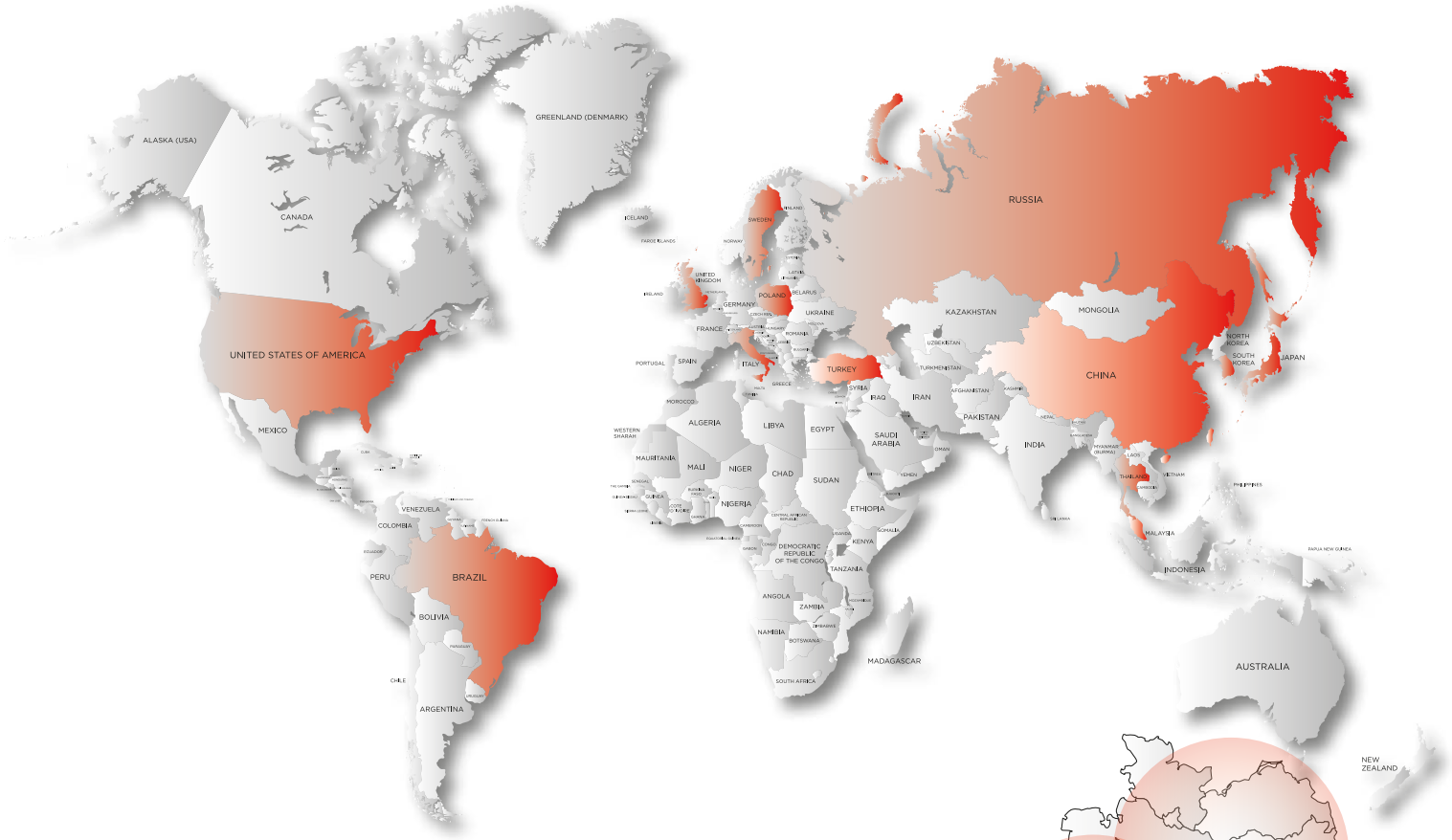
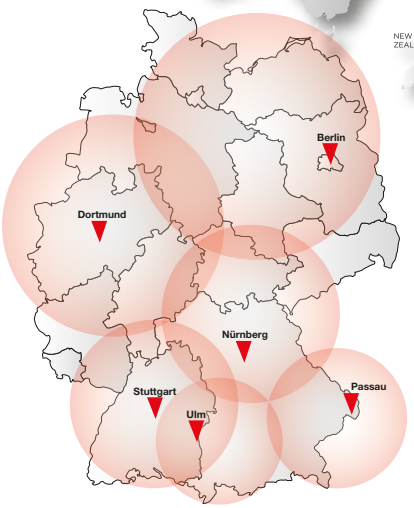
OUR GLOBAL
AFTER SALE SERVICE NETWORK





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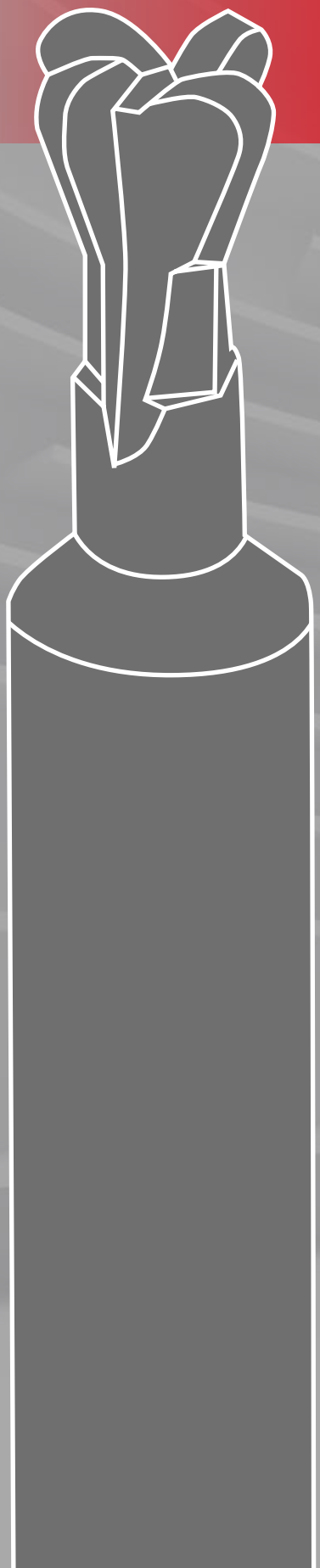
ISOG

SII

For standard and special tools
as well as specific tasks



Universal Tool Grinding

SII

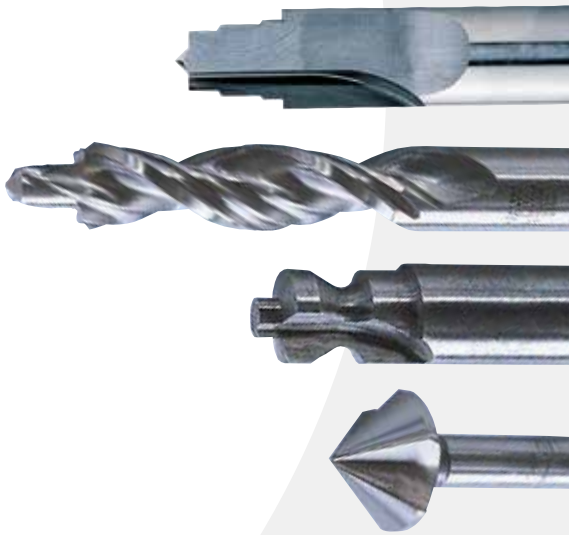
VERSATILE AND HIGHLY PRECISE
EVEN FOR DIFFICULT GRINDING TASKS

The S11 from ISOG has been specifically designed for grinding modern precision tools. It even masters most complex, demanding and highly precise tools with brilliant performance.

With the S11, you can grind single tools and small batches amazingly fast, economically and with versatility – and all this with the highest operating ease.

More than one thousand enthusiastic customers all over the world use the ISOG S11 for their demanding grinding tasks and benefit from unique advantages:

- Patented T-shaped design for easy one-side operation.
- Motor-driven height and fine adjustments.
- Exact and smooth axis positioning.
- Infinitely variable grinding spindle speed.
- Axially adjusted grinding spindle.
- Versatile accessories.



THE S11 IS ESPECIALLY SUITABLE FOR RESHARPENING AND MANUFACTURING

► end mills ► drills ► countersinks and counter bores ► die sinking cutters ► step drills ► reamers ► form cutters ► radius tools ► special drills ► boring tools ► shell end mills ► taps and many other tools

EXTRAS – PROPERLY THOUGHT-OUT DOWN TO THE DETAIL

With the S11, you can grind a wide variety of precision tools without any cumbersome accessories, for we have already provided the basic machine with such extras as you will only find on the S11. And with good reason: We want you to be enthusiastic about the performance of your machine from the very beginning.

A universal indexing head for precision at any position

Whether fly-mounted or between centres – with this compact universal indexing head, you can clamp tools of almost any geometry and size.
Each of the two setting axes can be swung around by 360°, and zero positioning can be done by an unlocking 180° stop.

This universal indexing head is available with an SK40 spindle taper.
The built-in dividing unit can be easily operated with one hand. A worm-gear fine setting device, by means of which you can radially adjust and exactly position the tool clamped in the indexing head, also offers special operating convenience.

The spiral and relief grinding attachment – simple and versatile

In combination with the universal indexing head, a spiral and relief grinding attachment transforms the longitudinal motion of the tool slide into your desired rotation.

Thus, you can grind easily and precisely

- faces and flanks on spiral-fluted left-hand and right-hand cutting tools,
- countersinks,
- taps, step drills and
- form cutters.

Spiral and relief grinding attachment

Spiral leads from zero to infinite

When grinding cylindrical tools, you can set their spiral leads on the scale from zero to infinite.

Any unknown spiral leads can be determined in a flash with the aid of a dial gauge.

Does your tool need to be axially or radially relief-ground or even in an axial-radial combination?

Take it easy: The S11 can do anything, even radial relief-grinding using the wheel‘s circumference.

Simple radial relief-grinding

TOTALLY INGENIOUS:
THE RADIUS GRINDING ATTACHMENT

Radius grinding attachment

With the radius grinding attachment for the S11, you can grind perfect radii on any tools, no matter whether they are convex, concave or straight, or have straight or spiral flutes.

Even for difficult radii such as the flutes in the radius areas of die sinking cutters (see picture on the right) or for flanks on radius tools with spiral flutes, the S11 provides proof of its really impressive strength: transitionless grinding of radius and peripheral flanks in one single, continuous pass.
This unique method of comfortable radius grinding is only offered by the S11 from ISOG.

Measuring and setting gauge.

Difficult grinding problems solved without any effort

What is new for the radius grinding attachment is a universal indexing head with its radial adjusting device and the option to directly take up an opto-electronic measuring system.

Trouble-free resharpening

For radius tools, even resharpening is not so easy. In addition to the experience of the grinding operator, a perfect result, not least, depends on intelligent, well thought-out machine details. In the S11 accessories offered, we, from ISOG, have implemented a lot of ideas gathered from theory and practice.

In the radius grinding attachment, you can incline the tool, precisely adjust it in lengthwise and crosswise direction and freely swivel it, and limit the swivel angle by adjustable stops. With the aid of a measuring and setting gauge, you can position the tool into its centre of rotation and exactly measure the finished tool in its clamped state.

THE PC-VIDEO MEASURING SYSTEM:
SEEING BETTER, GRINDING MORE PRECISELY

New technologies call for more and more precise and complex tools at constantly shrinking times. Without permanent observation and control of the grinding process in the machine, such requirements are hard to meet, and this is exactly what we have designed the S11 video measuring system for.

In this measuring system, a pc-video camera takes the function of the eye and transmits the image visibly and three-dimensionally to a colour flat screen. Even people who wear glasses can use this video equipment to perfectly observe the grinding area and avoid tiring work.

Those who decide on the pc-video measuring system will benefit from

- measuring in the machine,
- drastically reduced grinding times,
- no change between the machine and the measuring desk,
- no clamping errors, which are normally inevitable after unclamping and reclamping,
- impressive repeat accuracy,
- the option of constantly checking the grinding process to guarantee the desired work quality.
- High-definition picture quality with very fine crosshairs
- Easy assessing of surface quality (outbursts, edge wear, etc.)
- Quick adjustable zoom (25-to 170 x)
- High accuracy (0.005 mm) at 110 × magnification
- Import of DXF files
- Generation of measuring protocols

Measuring range	
Longitudinal	150 mm
Transverse	65 mm + 32 mm coarse adjustment
Full Radii / Segments of a circle	up to 3 mm/ indefinitely
Field of vision	6,5 * 9,2 mm at 25x magnification
Measuring accuracy	
Linear dimensions	better than 0,005 mm
Angles	better than 0,001°
Position indicator resolution	0,005 mm
Magnification	25–170fold
Max. measuring point distance	
From the indexing head spindle face	170 mm
With additional extension	270 mm

ACCESSORIES:
PLUS POINTS FOR YOUR SII

	Universal index head 2555201		Support arm assembly 2576000		
Cylindrical and taper-shank end mills, shell end mills	▲	▲			
Side mills, T-slot cutters, single and double angle cutters	▲				
Die sinking cutters, radius cutters	▲	▲			
Cylindrical reamers up to approx. 200 mm (8“) length	▲		▲		
Countersinks, taps	▲	▲	▲ b)		
Twist drills *)	▲				
Straight-fluted multi-step counterbores	▲		▲ b)		
Spiral-fluted multi-step counterbores	▲	▲	▲ b)		
Form turning tools	▲				
Radius turning tools	▲	▲		▲	
Hollow-out turning tools, form cutters (radial relief, profile relief)					

	Spiral and relief grinding attachment 2580000		Roller arm 2589204		
Cylindrical and taper-shank end mills, shell end mills					
Side mills, T-slot cutters, single and double angle cutters					
Die sinking cutters, radius cutters					
Cylindrical reamers up to approx. 200 mm (8“) length					
Countersinks, taps					
Twist drills *)					
Straight-fluted multi-step counterbores					
Spiral-fluted multi-step counterbores					
Form turning tools					
Radius turning tools					
Hollow-out turning tools, form cutters (radial relief, profile relief)	▲	▲	▲		

Notes on the accessory items

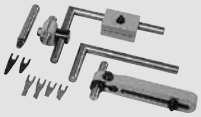
a) Not required if only bevel lead/chamfer is ground.

b) Required if tools are ground between centers or with end supported by center.

c) Required if radius is generated with the aid of profiled grinding wheels.

*) Special cup grinding wheels are required for the arc-shaped point.

Here we show you what S11 accessories you will need to grind certain tools and tool shapes.
For your easier understanding, we have marked **with a red triangle** (s) the **necessary accessories.**
Those items that are **required to a limited extent** have been marked **with a black triangle** (s).

Tool holder 2617500	Setting gauge 2665000	Drive motor unit 2667000	Universal setting gauge 2570000	Tooth rest 2571000	Swivel-mounted support finger 2575300
					
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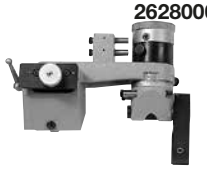
The motor drive belongs to the "universal indexing head" option and is suitable for simple cylindrical grinding work.

The machine vice is adjustable about three axes. It is used for grinding simple turning tools and for other operations.

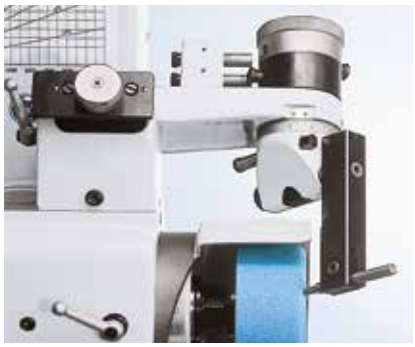
Recommended for the machining of particularly precise tools. To facilitate permanent monitoring of the grinding process on the screen. Useful addition: measuring system for height and transverse movements (2683200)

The extension is part of the "opto-electronic measuring unit" and permits longer tools to be measured.

adius grinding ttachment 601200	Support finger for radius cutters 2618004	Machine vice 2635000	Universal wheel dresser 2628000	Opto-electronic measuring unit with video 2684X00	Extension for measuring unit 2650804
					

INDIVIDUAL ACCESSORIES IN DETAIL

▸ Dressing unit



In addition to end faces, conical and cylindrical surfaces, you can use this facility to dress convex or concave radius surfaces as well as profile shapes.

▸ Motor drive

For fitting to the universal indexing head. Running in clockwise and anti-clockwise directions, for simple cylindrical grinding.

▸ Support arm assembly

Various tailstock centres permit the precise resharpening of straight and tapered tools.

▸ Handwheel attachment

Especially helpful for short-stroke motions of the tool slide, for example, to grind side-and-face mills.

▸ Machine vice

For grinding simple structural parts and tools. Swivelling in three axes (vertical 360°, lengthwise 180°, crosswise 90°); jaw width 80 mm, opening 80 mm.

▸ Tool cabinets

With our tool cabinets, you will have your accessories clearly arranged and in good order. With specifically designed shelves, everything will be put in order and kept ready to hand.

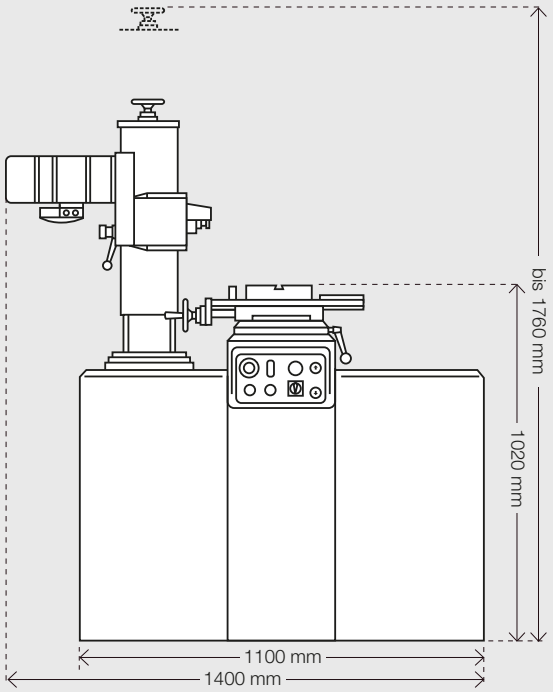
Other accessories

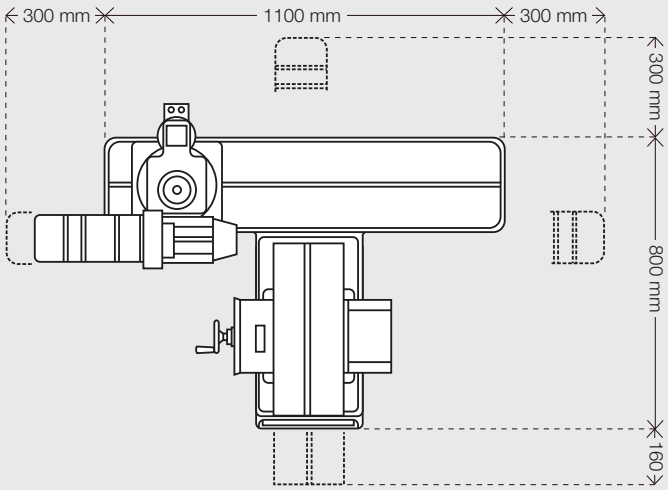
▸ Tool holders ▸ Protective guards ▸ Tooth supports
▸ Grinding wheel holding arbors and grinding wheels

Technical Specifications SII

Clamping range			
Tool slide clamping surface		500 x 180 mm	20“ u 7“
Max. tool diameter between centers		130 mm	5,13“
Max. tool diameter, fly-mounted on universal index head		620 mm	24,4“
Max. tool length between centers		270 mm	10,66“
T-slot width, machine base		12 mm	0,47“
T-slot width, grinding head, tool slide and attachments		8 mm	0,3“
Adjustment ranges			
Operational	Grinding stroke	190 mm	7,5“
	Grinding stroke in spiral grinding	190 mm	7,5“
	Tool slide transverse travel	100 mm	4“
	Grinding head vertical travel	325 mm	12,8“
	Grinding spindle axial feed	5 mm	0,2“
Coarse settings	Tool slide carrier	220 mm	8,6“
	Grinding head carrier	800 mm	31,5“
	Universal index head on tool slide	330 mm	13“
Swivel angles	Grinding head carrier	360°	
	Grinding head	360°	
	Tool slide carrier	360°	
Grinding spindle			
Three-phase AC drive motor		1,1 kW at 2,800 min^{-1}	1.5 hp at 2,800 rpm
Rated spindle torque		approx. 2,8 Nm	approx. 2.06 ft lb.
Infinitely variable spindle speeds		2,000 to 12,000 rpm	
Max. grinding wheel diameter		125 mm	5“
Max. cut-off wheel diameter		200 mm	8“
Main dimensions			
Weight		520 kg	1,145 lbs.
Dimensions (Width x Length x Height)		800 x 1100 x 1760 mm	43,3“ x 31,5“ x 69,3“
Floor space (incl. operator)		2.5 x 2.3 m	8.2 x 7.5 ft
Connected load		2 kVA	

Dimensions





Note: Each machine comes with an operating instructions manual and a spare parts list.
Subject to modifications consistent with technical advance and errors excepted.
Imperial sizes are approximations.
The representations and descriptions in this brochure include options with costs.