

## Weld fasteners

### Earth studs with a large-diameter flange



The newly developed earth studs with a large-diameter flange provide a large upper contact area for the attachment of cable lugs and similar.

The welded-on earth studs feature a complete fusion across the flange providing the highest possible weld strength. When using the SRM welding process, these new design weld studs can also be welded onto thin gauge sheet metal (ratio between sheet thickness and stud diameter is 1:10).



The new earth studs, which are available in all standard sizes at favourable prices, are particularly suitable for use in electrical control cabinets and car bodies.

### Threaded studs with a reduced flange diameter



Threaded studs with a reduced flange diameter exhibit a considerably smaller contact area when welded on than conventional CD threaded studs with an ignition tip and a flange. This, however, hardly affects the strength of the welded joint.

The new weld studs with a reduced flange diameter allow the complete usage of the stud thread up to the surface of the workpiece.



SOYER threaded studs with a reduced flange diameter made of copper-plated steel and stainless steel are available from M3 x 6 mm to M8 x 60 mm.

## Quality

### EQS-3 quality assurance system



The EQS-3 Quality Assurance System, a patented mobile calibration device (Patent No. 100 59 659), allows trained personnel to calibrate, verify and validate stud welding devices according to the standard DIN EN ISO 17662:2005 irrespective of the device's manufacturer.

For this innovative product, we have won the 2008 Bundesinnovationspreis, one of Germany's most coveted innovation prizes.

Endowed with a gold medal, the innovation prize recognizes the important contribution made by the EQS-3 to a significant improvement in the reliability and quality of security-relevant stud welding applications, in particular in batch production when using the EQS-3 in conjunction with stationary CNC stud welding machines.

## Your reliable partner in stud welding technology!



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In our new Online Shop, you can now quickly and simply order our weld studs and fasteners - directly from the manufacturer! We offer certified quality and safety at rock-bottom prices, supply worldwide and can fulfil short delivery times.

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Innovation



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Process variants

**Nut welding**



SOYER short-cycle drawn arc stud welders are now also capable of welding nuts using stud welding in radially symmetrical magnetic fields. This sophisticated method enables standard nuts to be welded onto punched and non-punched sheet metal in an instant.



Nuts made of stainless steel, rust- and acid-resistant steel (V4A) from M8 - M12 can be ordered from us at very favourable prices.

SOYER stud welding products offer optimum solutions for every type of application. Take advantage of our 40 years of expertise!

**Ball welding**



Besides weld studs and pin-shaped weld fasteners, it is now also possible to quickly and securely weld steel and stainless steel balls from 2 - 12 mm in diameter onto metallic workpieces. This innovation offers major user benefits and opens up new fields of application for the entire metalworking industry.

The balls are fully automatically fed from the UVR-300 universal feeder into the manual stud welding gun or stationary welding head.



Ball welding produces high-quality, optimal welds with an excellent decorative appearance and is ideal for metal furniture production.

Welding processes

**SRM welding**



Stud welding in radially symmetrical magnetic fields (SRM) has been developed by combining the advantages of capacitor discharge welding with those of short-cycle drawn arc welding. SRM uses a magnetically impelled arc that allows for optimal support of the weld pool when welding with a one-sided or unbalanced earth connection.

This trend-setting innovation (Patent No. 10 2004 051 389) has made it possible for the very first time to produce high-quality welds for security-relevant applications using thick studs with diameters up to M16 on thin sheet metal.



The ratio between minimum sheet thickness and stud diameter is nearly 1:10. SRM welding guarantees gentle, homogenous, inseparable and absolutely tight welded connections. It can be easily automated and is extremely cost-effective.

Weld fasteners

**M6 and M8 tapped bosses and weld studs up to M12**



Besides producing an extensive range of standard weld fasteners, we also manufacture in-house - M10 and M12 threaded studs, type PT and type PS - M6 up to M8 internally threaded bosses, type IT and type IS.

We only use metallurgically tested raw materials with optimal chemical and mechanical properties.

The use of high-quality raw materials in combination with optimum manufacturing and testing procedures are the best prerequisite for the production of welding studs. This ensures that faulty welds involving possible product liability claims, consequential damages and supplementary costs are excluded from the outset.

SOYER quality weld studs for all stud welding processes can be supplied quickly and are available from stock at favourable price. We look forward to your enquiry!

**Threaded weld studs with a flat level weld base**



Studs with a flat level weld base can be welded without requiring any pre-treatment or special machining. These new design weld studs exhibit no weld fillet and allow the usage of the thread length up to the surface of the workpiece when welded on (Patent No. 10 2006 016 553).



Advantages and special features

- ▶ Low cost weld studs in all standard sizes and materials available at short notice
- ▶ No welding splatter and weld fillet interference
- ▶ Complete fusion across the stud flange
- ▶ 50% energy saving
- ▶ Production of high-quality welds
- ▶ Ratio between stud diameter and sheet thickness is 10:1
- ▶ Simple automatic stud feed, no sorting required as both ends of the stud can be welded
- ▶ Outstanding customer benefits

**Decor cupped head pins**



SOYER decor cupped head pins made of stainless steel (V2a) offer an ideal solution for all applications requiring superior quality, design and reliability.

The new and patent pending decor cupped head pin (Patent No. 10 2008 005 508) is available in all common sizes.



Material

**Aluminium studs up to M12**



A decisive factor in achieving high-quality welded joints is the precise adaptation of welding parameters to the respective welding task.

Carefully targeted research activities and an extensive program of test welds have allowed us to further optimize a number of welding parameters such as current strength, welding time, lift, immersion depth and immersion speed. It is now possible to weld aluminium studs with diameters up to M12 onto thin metal sheet using automated processes that guarantee gentle, homogenous and absolutely tight welded connections.



Further advantages include top-notch weld appearance and penetration, small and regular weld collars, minimal splatter, a narrow fusion zone and minimal arc blow. Optimal welding results can also be achieved when making out-of-position welds.

The field-tested SOYER products have won numerous awards for quality, innovation and design. See for yourself!

Dimension

**CD stud welding up to M12**



Capacitor discharge stud welding has been successfully used for many years all over the world. So far this stud welding method has only been able to weld studs with a maximum diameter of M8.

When used in conjunction with SOYER weld studs, the advanced CD stud welding process allows the welding range to be extended to a maximum of M12. Above illustration shows a welded M12 stud. This weld was examined and approved as an optimum weld by the SLV, Munich (Training and Testing Institute of Welding). The regular shape of the weld collar verifies the premium quality of this stud welded joint.

This innovation allows studs from M3 to M12 to be welded in an instant and opens up new fields of application in stud welding technology.

Automation

**Automatic welding of insulation nails**



Our latest developments also include a new type of automatic equipment which allows insulation nails to be fully automatically fed into the welding gun. The automatic equipment consists of the BMS-10N stud welder, the PS-3A stud welding gun and the UVR-300 universal feeder.

Depending on the size of the nails to be used, the lightweight and easy-to-use PS-3A automatic stud welding gun allows up to 30 nails/min to be welded in the horizontal or overhead position.



Insulation nails from 15-50 mm in length can be fed automatically. Process automation allows you to achieve considerable cost and time savings and to improve product quality and occupational safety.