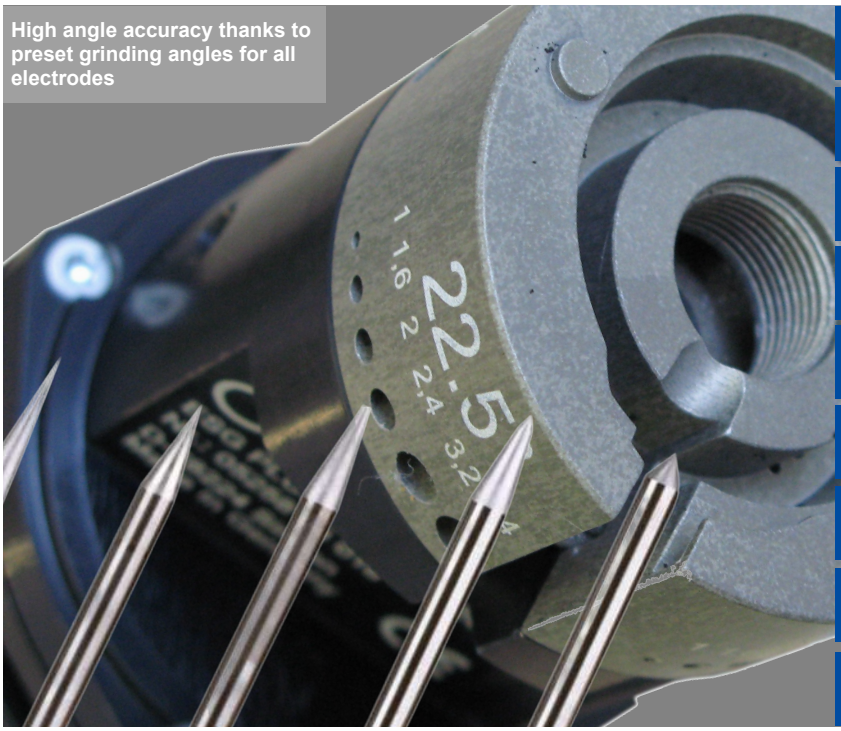
# ESG Plus, ESG Plus $^{2}$

## Electrode grinders

**The optimal solution for precise and fast processing of welding electrodes.**
**For processing, grinding, and cutting welding electrodes used in TIG welding machines.**




- **High angle accuracy thanks to preset grinding angles for all electrodes** ✓
- **Easy and fast processing** ✓
- **Optimal preparation for orbital or manual welding** ✓
- **Longitudinal grinding for optimum arc ignition and high arc stability** ✓
- **Guarantees longer service life and easier ignition of the tungsten electrode** ✓
- **Specially designed for small series production directly on the construction site** ✓
- **Compact design, optimal durability, and perfect repeatability** ✓
- **Functional design** ✓
- **Precise round grinding** ✓

**The powerful hand-held electrode grinder for grinding, planing, and cutting.**

One device – complete electrode processing:

- Grinding electrodes:
  – 4 different angles
  – 6 different electrode diameters
- Squaring the electrode tip
- Cutting electrodes to length

The devices are equipped with a high-quality, powerful drive in 230 or 110 V versions. The machine and accessories are delivered in a sturdy transport case.

**Further advantages:**

- Device for easy cutting of electrodes to length (optional)
- External vacuum cleaner can be easily adapted
- Short processing times thanks to high grinding performance
- Reduced workload without setup time

**Additional features of ESG Plus$^{2}$:**

- Portable electrode grinder with 2 different grinding wheels. This allows the electrode to be pre-ground with the coarse diamond grinding wheel and finished with the fine diamond grinding wheel without any effort.

# Technical specification

| SCOPE OF DELIVERY / AREA OF APPLICATION | | ESG PLUS | ESG PLUS [2] |
|---|---|---|---|
| Code | [230 V] | 790052485 (15°/18°/22.5°/30°)<br>790052545 (15°/30°/45°/60°) | 790052585 (15°/18°/22.5°/30°)<br>790052546 (15°/30°/45°/60°) |
| | [110 V] | 790052486 (15°/18°/22.5°/30°)<br>790052645 (15°/30°/45°/60°) | 790052586 (15°/18°/22.5°/30°)<br>790052646 (15°/30°/45°/60°) |
| Electrode Grinding Device | PCS | 1 | 1 |
| Transport case | PCS | 1 | 1 |
| Grinding head for electrode Ø<br>1.0 - 1.6 - 2.0 - 2.4 - 3.2 - 4.0 mm<br>(0.04" - 1/16" - 0.08" - 3/32" - 1/8" - 5/32")<br>Grinding angle:<br>15° - 18° - 22.5° - 30° **or**<br>15° - 30° - 45° - 60° | PCS | 1 | 2 |
| Diamond grinding wheel, fine (790 052 487) | PCS | – | 1 |
| Diamond grinding wheel, rough (790052488) | PCS | 1 | – |
| Diamond grinding wheel Coarse (790052550) | PCS | – | 1 |
| Tool for changing the grinding wheel | PCS | 1 | 1 |
| Operating instructions & Spare parts list<br>Download link PDF:<br>https://www.orbitalum.com/de/download.html | Set | 1 | 1 |




*Illustration: Electrode grinding: 4 different angles, 6 different electrode diameters*




*Illustration: Plane electrode tip*




*Illustration: Cutting electrodes to length*



*Illustration: Replaceable, double-sided coated diamond grinding wheels for optimum operational performance.*

| TECHNICAL SPECIFICATION | | ESG PLUS | ESG PLUS ² |
|---|---|---|---|
| Dimensions (with drive) | [mm] | Ø 65 x 350 | Ø 65 x 350 |
| | [inch] | Ø 2.56 x 13.78 | Ø 2.56 x 13.78 |
| Power | [W] | 500 | 500 |
| Duty cycle | [%] | 100 | 100 |
| Speed (idling speed) | [rpm] | 30,000 | 30,000 |
| Power cord (length) | [m] | 3 | 3 |
| | [inch] | 118.1 | 118.1 |
| Vibration level (EN 28662, Part 1) | [m/s ²] | < 2.5 | < 2.5 |
| Sound pressure level at the workplace (idling), approx. | [dB (A)] | 83 | 83 |

The technical specification is non-binding. It does not constitute a guarantee of properties. Subject to change without notice.



*Illustration: ESG Plus*



*Illustration: ESG Plus2*

| ITEM | VERSION | GRINDING ANGLE [°] | CODE | MACHINE WEIGHT KG | SHIPPING WEIGHT KG |
|---|---|---|---|---|---|
| ESG Plus | 230 V, 50/60 Hz EU | 15 / 18 / 22,5 / 30 | 790052485 | 1,430 | 3,56 |
| ESG Plus | 110 V, 50/60 Hz US | 15 / 18 / 22,5 / 30 | 790052486 | 1,430 | 3,56 |
| ESG Plus | 230 V, 50/60 Hz EU | 15 / 30 / 45 / 60 | 790052545 | 1,430 | 3,56 |
| ESG Plus | 110 V, 50/60 Hz US | 15 / 30 / 45 / 60 | 790052645 | 1,430 | 3,56 |
| ESG Plus² | 230 V, 50/60 Hz EU | 15 / 18 / 22,5 / 30 | 790052585 | 1,520 | 3,825 |
| ESG Plus² | 110 V, 50/60 Hz US | 15 / 18 / 22,5 / 30 | 790052586 | 1,520 | 3,825 |
| ESG Plus² | 230 V, 50/60 Hz EU | 15 / 30 / 45 / 60 | 790052546 | 1,520 | 3,825 |
| ESG Plus² | 110 V, 50/60 Hz US | 15 / 30 / 45 / 60 | 790052646 | 1,520 | 3,825 |

# Accessories for ESG Plus and ESG Plus² electrode grinding machines

## Diamond grinding wheels

Replaceable, double-sided coated diamond grinding wheels for optimum performance.

Recommended grinding wheel grit sizes according to electrode diameter:

| | |
|---|---|
| 1.0 mm / 1.6 mm | Fine |
| 2.0 mm / 2.4 mm | Medium |
| 3.2 mm / 4.0 mm | Coarse |



*Illustration: Diamond grinding wheel*

| ARTICLE | CAN BE USED WITH | GRIT | DISC Ø [MM] | DISC Ø [INCH] | S [MM] | S [INCH] | CODE | KG |
|---|---|---|---|---|---|---|---|---|
| Diamond grinding wheel | ESG 4 | Standard | 32.00 | 1,290 | 1,2 | 0.047 | 790052460 | 0.005 |
| Diamond grinding wheel | ESG Plus, ESG Plus2 | Fine | 33.50 | 1,319 | 2,2 | 0.087 | 790052487 | 0.010 |
| Diamond grinding wheel | ESG Plus, ESG Plus2 | Medium | 33.50 | 1,319 | 2,2 | 0.087 | 790052488 | 0.011 |
| Diamond grinding wheel | ESG Plus, ESG Plus2 | Coarse | 33.5 | 1,319 | 2,2 | 0.087 | 790052550 | 0.011 |

## Cutting device

For easy cutting of electrodes.

Can be used for electrode diameters up to 2.4 mm (0.094").

| ARTICLE | SETTING | CUTTING LENGTHS [MM] | CUTTING LENGTHS [INCHES] | CODE | KG |
|---|---|---|---|---|---|
| Cutting device | fixed | 12.0<br>13.0<br>15.0<br>17.0 | 0.472<br>0.512<br>0.591<br>0.669 | 790052513 | 0.030 |

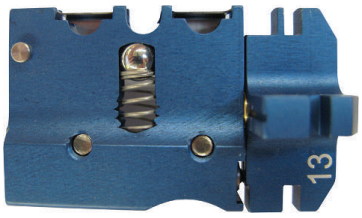



*Illustration: Cutting device*



*Illustration: Electrode holder with collet*



*Illustration: Replacement collet*

## Electrode holder

For processing smaller electrodes.

The electrode holder is delivered including 1 flexible collet..

| ARTICLE | SETTING | ELECTRODE Ø [MM] | ELECTRODE Ø [INCH] | CODE | KG |
|---|---|---|---|---|---|
| Electrode holder with collet chuck | Stepless | 1.0 - 3.2 | 0.039 - 0.126 | 790052457 | 0.023 |
| Replacement collet | Stepless | 1.0 - 3.2 | 0.039 - 0.126 | 790 052 481 | 0.002 |



*Illustration: Wall/table/vise mount*

## Wall, table, vise mount

For stationary use of the ESG Plus and ESG Plus2.

Simple and rapid mounting to a wall, a table or a vice.

| ARTICLE | CODE | KG |
|---|---|---|
| Wall/table/vise mount | 790 052 483 | 0.102 |

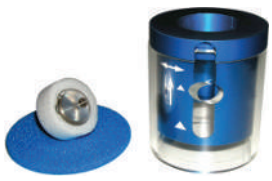


*Illustration: Dust cover*

## Dust cover

Easy to attach to the ESG grinding head.

With integrated mount for extraction systems with Ø 31 mm (1.220").

For use with thorium-containing electrodes.

Country-specific regulations, standards, and guidelines must be observed.

| ARTICLE | CODE | KG |
|---|---|---|
| Dust cover ESG Plus | 790052496 | 0.170 |
| Dust cover ESG Plus2 | 790052596 | 0.220 |



*Illustration: Double-decker kit*

## Double-decker kit

Easy to mount on the ESG Plus. This attachment allows simultaneous processing with two different grinding wheels.

Includes:

- 1 grinding head
- 1 diamond grinding wheel (coarse)
- 1 cylinder screw with collar (M4x34)
- 1 spindle extension

| ARTICLE | CAN BE USED WITH | GRINDING ANGLE [°] | CODE | KG |
|---|---|---|---|---|
| Double-decker kit | ESG Plus | 15 / 18 / 22.5 / 30 | 790052490 | 0.160 |
| Double-decker kit | ESG Plus | 15 / 30 / 45 / 60 | 790052390 | 0.100 |