



HARTNER

Precision Cutting Tools

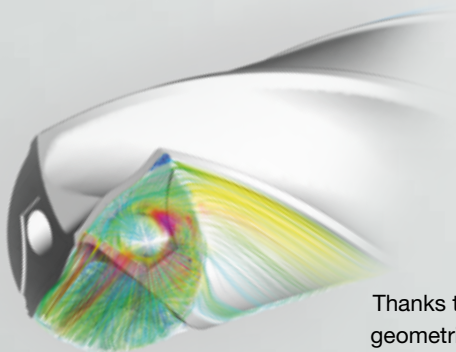


**RE-GRINDING AND
RE-COATING SERVICE**

Price List 2020

Maximum economic efficiency thanks to refurbishing to original quality

Even the most resilient tool will wear at some time when heavily stressed. Thanks to refurbishing to original geometries and coatings Hartner succeeds in re-producing the original performance of your tools.



Service with manufacturer's know-how

Thanks to our comprehensive expertise in the development of cutting materials, geometries and coatings, we have know-how in all fields relevant for tool manufacturing. And thus also in the field of re-conditioning of cutting tools. Globally uniform standards in production and service promise stable quality parameters for your tools.



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HARTNER

Re-grinding | HSS drills

BASIC PRICES for re-grinding HSS drills

| | Twist drills | NC spotting drills | Centre drills | Core drills Z3 |
|----------------|--------------|--------------------|---------------|----------------|
| Diameter range | € / piece | € / piece | € / piece | € / piece |
| 8 - 10 | 5.65 | 7.40 | 8.55 | 7.15 |
| > 10 - 12 | 6.40 | 8.40 | 9.60 | 8.15 |
| > 12 - 14 | 7.05 | 9.25 | 10.70 | 9.00 |
| > 14 - 16 | 7.50 | 9.60 | 11.40 | 9.65 |
| > 16 - 18 | 11.00 | 14.00 | on request | 14.10 |
| > 18 - 20 | 12.65 | 15.85 | on request | 16.25 |
| > 20 - 30 | 16.05 | 17.70 | on request | 20.50 |
| > 30 - 40 | 22.00 | on request | on request | 28.20 |
| > 40 - 50 | 29.05 | on request | on request | 38.10 |
| > 50 - 60 | 36.40 | on request | on request | 46.70 |
| > 60 - 80 | 43.20 | on request | on request | on request |
| > 80 - 100 | 54.00 | on request | on request | on request |
| > 100 - 120 | 64.50 | on request | on request | on request |

All prices refer to bright finish tools. For coating, pre- and post-treatment see prices page 12.
Please observe our minimum order value of € 50.00.

Scope of service and re-grind prices for HSS twist drills to DIN 338, 340, 341, 345, 346, 1869, 1870 and 1897 as well as special designs. If not otherwise requested we manufacture the relieved cone point geometry to DIN with web thinning form A. Other point geometries are of course possible for an additional charge.

Prices apply to standard wear. We reserve the right of assessment of existing wear features. Crumbling and very heavy wear will be invoiced at cost. Inscriptions, marking, special labelling, measuring protocols etc. involves greater expenditure and effort and is also invoiced at cost.

+ SURCHARGE protection chamfer, special point geometries or stepped tools

| | Step drill 1st countersinking step | each additional countersinking step | Protection chamfer (for cast iron) | Centre and M point |
|----------------|---------------------------------------|--|---------------------------------------|--------------------|
| Diameter range | € / piece | € / piece | € / piece | € / piece |
| 8 - 10 | 6.15 | 5.65 | 2.05 | 8.05 |
| > 10 - 12 | 7.00 | 6.45 | 2.55 | 9.00 |
| > 12 - 14 | 7.70 | 7.10 | 2.55 | 9.45 |
| > 14 - 16 | 8.40 | 7.65 | 2.55 | 9.45 |
| > 16 - 18 | 12.25 | 11.25 | 3.50 | 11.60 |
| > 18 - 20 | 14.00 | 12.95 | 3.50 | 11.60 |
| > 20 - 30 | 18.10 | 16.65 | 3.80 | 14.60 |
| > 30 - 40 | 25.25 | 23.35 | 4.00 | 16.05 |
| > 40 - 50 | 32.00 | 29.75 | 4.65 | 17.70 |
| > 50 - 60 | 40.35 | 38.60 | 5.25 | 19.45 |
| > 60 - 80 | 48.35 | 46.30 | 5.95 | 21.40 |
| > 80 - 100 | 58.15 | 57.40 | 7.00 | 23.60 |

Scope of service and re-grind prices for step drills with relieved cone point geometry and web thinning form A to DIN 8374, 8375, 8376, 8377 8378 and 8379 as well as special designs. If not requested otherwise we manufacture the relieved cone point geometry to DIN with web thinning form A. Other point geometries are of course possible for an additional charge.

Prices apply to standard wear. We reserve the right of assessment of existing wear features. Crumbling and very heavy wear will be invoiced at cost.

Prices refer to tools with one step. For each additional step we apply a surcharge.

Re-grinding | Solid carbide drills

BASIC PRICES for re-grinding solid carbide drills*

| | Solid carbide drills up to 12xD | Solid carbide NC spotting drills | Solid carbide radius drills TS 100 R | Solid carbide deep hole drills TS 100 T up to 40xD |
|----------------|------------------------------------|-------------------------------------|---|---|
| Diameter range | € / piece | € / piece | € / piece | € / piece |
| 2 - 6 | 12.85 | 8.75 | 19.75 | 35.70 |
| > 6 - 8 | 13.60 | 9.55 | 21.10 | 47.95 |
| > 8 - 10 | 14.40 | 10.30 | 22.10 | 51.35 |
| > 10 - 12 | 17.40 | 12.55 | 26.95 | 55.05 |
| > 12 - 14 | 22.65 | 16.45 | 32.85 | 59.15 |
| > 14 - 16 | 24.20 | 17.80 | 35.80 | 64.50 |
| > 16 - 18 | 25.70 | 18.50 | 41.55 | - |
| > 18 - 20 | 27.25 | 19.05 | 44.25 | - |
| > 20 - 30 | 33.45 | - | - | - |

All prices refer to bright finish tools. For coating, pre- and post-treatment see prices page 12.
Please observe our minimum order value of € 50.00.

Scope of service and re-grind prices for solid carbide drills to DIN, TS-Drills TS 100 U, TS 100 H, TS 80 U, TS 100 INOX, TS 150 GG, TS 3 G, TS 100 Alu and solid carbide twist drills as well as similar tools. Other point geometries are of course possible for an additional charge.

Prices apply to standard wear. We reserve the right of assessment of existing wear features. Crumbling and very heavy wear will be invoiced at cost. Customer specific inscriptions, marking, special labelling, measuring protocols etc. involves greater expenditure and effort and is also invoiced at cost.

* axial metal removal max. 1 mm, the diameter is reduced depending on the back-taper value.
Please specify the minimum lengths and Ø tolerances in the order.

+ SURCHARGE protection chamfer or stepped tools

| | Step drill 1st countersinking step | each additional countersinking step | Protection chamfer (for cast iron) | Centre and M point |
|----------------|---------------------------------------|--|---------------------------------------|--------------------|
| Diameter range | € / piece | € / piece | € / piece | € / piece |
| 2 - 6 | 12.15 | 11.50 | 3.00 | 12.45 |
| > 6 - 8 | 13.40 | 12.65 | 3.95 | 13.90 |
| > 8 - 10 | 14.30 | 13.60 | 3.95 | 13.90 |
| > 10 - 12 | 17.10 | 16.45 | 3.95 | 13.90 |
| > 12 - 14 | 22.45 | 21.40 | 5.35 | 17.00 |
| > 14 - 16 | 22.65 | 21.90 | 5.35 | 17.00 |
| > 16 - 18 | 24.40 | 23.65 | 5.75 | 21.30 |
| > 18 - 20 | 25.70 | 24.90 | 6.10 | on request |
| > 20 - 30 | 32.40 | 30.65 | 7.10 | on request |

Scope of service and re-grind prices for step drills type TS 80, TS 100 U, TS 150 GG and TS 3 G as well as similar tools.

Other point geometries are of course possible for an additional charge.

Prices apply to standard wear. We reserve the right of assessment of existing wear features.

Crumbling and very heavy wear will be invoiced at cost.

Prices refer to tools with one step. For each additional step we apply a surcharge.

Re-grinding | Multiplex inserts

BASIC PRICES for re-grinding Multiplex inserts

| | Multiplex interchangeable inserts HSS-E/HSS-E-PM | Multiplex interchangeable inserts Solid carbide | Multiplex HPC interchangeable inserts Solid carbide |
|----------------|---|--|--|
| Diameter range | €/ piece | €/ piece | €/ piece |
| > 10 - 12 | 15.30 | 21.80 | on request |
| > 12 - 14 | 16.95 | 26.65 | 29.45 |
| > 14 - 16 | 17.60 | 28.65 | 31.45 |
| > 16 - 18 | 18.90 | 30.65 | 33.45 |
| > 18 - 20 | 19.25 | 32.70 | 35.45 |
| > 20 - 30 | 20.55 | 41.15 | 43.50 |
| > 30 - 40 | 21.35 | 47.85 | 50.15 |
| > 40 - 50 | 24.30 | on request | - |
| > 50 - 60 | 30.75 | on request | - |
| > 60 - 80 | 37.80 | on request | - |
| > 80 -100 | 48.15 | - | - |
| > 100 -120 | on request | - | - |

All prices refer to bright finish tools. For coating, pre- and post-treatment see prices page 12.

The re-conditioning service for Multiplex inserts includes the web thinning at the point and the grinding of clearance angle, flute, chamfer for cast materials and chip breakers if applicable.

Customer specific inscription, marking, special labels, measuring protocol etc. is connected with extra expense and charged for at cost.

+ SURCHARGE Radius or corner chamfer

| | Radius | corner chamfer |
|----------------|------------|----------------|
| Diameter range | €/ piece | €/ piece |
| > 10 - 12 | 2.30 | 2.30 |
| > 12 - 14 | 2.30 | 2.30 |
| > 14 - 16 | 2.30 | 2.30 |
| > 16 - 18 | 2.30 | 2.30 |
| > 18 - 20 | 2.30 | 2.30 |
| > 20 - 30 | 2.30 | 2.30 |
| > 30 - 40 | 2.30 | 2.30 |
| > 40 - 50 | 2.30 | 2.30 |
| > 50 - 60 | 2.30 | 2.30 |
| > 60 - 80 | 2.30 | 2.30 |
| > 80 -100 | 2.30 | 2.30 |
| > 100 -120 | on request | on request |



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Re-grinding | Gun drills

BASIC PRICES for re-grinding carbide-tipped gun drills and solid carbide gun drills

| | Single-fluted carbide-tipped gun drills E 80 | Two-fluted carbide tipped gun drills Z 80 | Solid carbide single-fluted gun drills E 100 |
|----------------|---|--|---|
| Diameter range | €/ piece | €/ piece | €/ piece |
| up to 2 | - | - | 17.00 |
| > 2 - 6 | 15.45 | 17.00 | 17.00 |
| > 6 - 10 | 16.45 | 24.60 | 18.50 |
| > 10 - 14 | 19.05 | 32.20 | 23.15 |
| > 14 - 18 | 19.55 | 38.60 | 26.25 |
| > 18 - 22 | 23.15 | 42.60 | on request |
| > 22 - 26 | 26.75 | on request | on request |
| > 26 - 30 | 32.95 | on request | on request |
| > 30 - 40 | on request | on request | on request |

All prices refer to bright finish tools. For coating, pre- and post-treatment see prices page 12.
Please observe our minimum order value of € 50.00.

Extra expense for aligning the gun drill is invoiced at cost. Customer specific inscription, marking, special labels, measuring protocol etc.
is connected with extra expense and charged for at cost.



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Re-grinding | Countersinks

BASIC PRICES for re-grinding countersinks

| | HSS / HSCO countersinks | Solid carbide countersinks* | HSS counterbores / pilot counterbores | Sol.carbide counterbores* / pilot counterbores |
|----------------|-------------------------|-----------------------------|---------------------------------------|--|
| Diameter range | € / piece | € / piece | € / piece | € / piece |
| 3 - 6 | 7.30 | 11.70 | 9.00 | 13.05 |
| > 6 - 8 | 7.90 | 12.60 | 9.65 | 14.05 |
| > 8 - 10 | 8.60 | 13.60 | 10.40 | 15.15 |
| > 10 - 12 | 9.30 | 14.65 | 11.20 | 16.25 |
| > 12 - 14 | 10.15 | 15.85 | 12.10 | 17.50 |
| > 14 - 16 | 11.00 | 17.10 | 13.00 | 18.85 |
| > 16 - 18 | 11.95 | 18.25 | 14.05 | 20.25 |
| > 18 - 20 | 12.90 | 19.50 | 15.30 | 21.80 |
| > 20 - 30 | 20.05 | 30.55 | 21.60 | 33.35 |
| > 30 - 40 | 24.70 | 37.95 | 26.55 | 41.05 |
| > 40 - 50 | 32.50 | 49.20 | 35.30 | 54.55 |
| > 50 - 60 | 37.05 | on request | 39.95 | on request |
| > 60 - 70 | 42.70 | on request | 46.00 | on request |
| > 70 - 80 | 47.35 | on request | 50.95 | on request |
| > 80 - 90 | on request | on request | on request | on request |
| > 90 - 100 | on request | on request | on request | on request |

All prices refer to bright finish tools. For coating, pre- and post-treatment see prices page 12.
Please observe our minimum order value of € 50.00.

Prices apply to standard wear. We reserve the right of assessment of existing wear features. Crumbling and very heavy wear will be invoiced at cost.
Customer specific inscriptions, marking, special labelling, measuring protocols etc. involves greater expenditure and effort and is also invoiced at cost.

* axial metal removal max. 1 mm, the diameter is reduced depending on the back-taper value.
Please specify minimum lengths and Ø-tolerances on order.

+ SURCHARGE for special forms

| | from 4 cutting edges |
|----------------|----------------------|
| Diameter range | € / piece |
| 3 - 6 | 3.40 |
| > 6 - 8 | 3.40 |
| > 8 - 10 | 3.40 |
| > 10 - 12 | 3.60 |
| > 12 - 14 | 3.80 |
| > 14 - 16 | 4.00 |
| > 16 - 18 | 4.30 |
| > 18 - 20 | 4.75 |
| > 20 - 30 | 5.45 |
| > 30 - 40 | 6.30 |
| > 40 - 50 | 8.65 |
| > 50 - 60 | 9.80 |
| > 60 - 70 | 11.95 |
| > 70 - 80 | 13.70 |
| > 80 - 90 | 14.60 |
| > 90 - 100 | 15.75 |



HARTNER

Re-grinding | Reamers

BASIC PRICES for re-grinding reamers

| | HSS reamers | Solid carbide reamers* | Solid carbide high-performance reamers TR 300 HP* |
|----------------|-------------|------------------------|---|
| Diameter range | €/ piece | €/ piece | €/ piece |
| up to 6 | 16.55 | 22.45 | 33.45 |
| > 6 - 8 | 16.55 | 22.45 | 35.50 |
| > 8 - 10 | 16.55 | 22.45 | 37.65 |
| > 10 - 12 | 17.55 | 23.65 | 37.55 |
| > 12 - 14 | 18.10 | 24.45 | 38.20 |
| > 14 - 16 | 18.60 | 25.20 | 39.20 |
| > 16 - 18 | 19.20 | 25.85 | 39.60 |
| > 18 - 20 | 19.70 | 26.60 | 40.25 |
| > 20 - 30 | 23.65 | 31.90 | 48.45 |
| > 30 - 40 | 24.30 | 32.95 | 53.00 |
| > 40 - 50 | 32.95 | 44.50 | on request |
| > 50 - 60 | 40.00 | 53.90 | on request |
| > 60 - 80 | 50.40 | 68.25 | on request |

All prices refer to bright finish tools. For coating, pre- and post-treatment see prices page 12.
 All coated reamers receive a standard de-coating. Please see our de-coating prices on page 12.
 The diameter of all reamers is checked during the refurbishment process.

Please observe our minimum order value of € 50.00.

Prices apply to standard wear. We reserve the right of assessment of existing wear features. Crumbling and very heavy wear will be invoiced at cost.
 Customer specific inscriptions, marking, special labelling, measuring protocols etc. involves greater expenditure and effort and is also invoiced at cost.

* Axial metal removal max. 1 mm. Always face ground on CNC machines.

Re-grinding | Taps and thread milling cutters

BASIC PRICES for re-grinding machine taps and solid carbide thread milling cutters

| | HSS / HSS-E taps | Carbide / Solid Carbide taps |
|----------------|------------------|------------------------------|
| Diameter range | € / piece | € / piece |
| up to 10 | 10.20 | 12.15 |
| > 10 - 14 | 13.90 | 13.90 |
| > 14 - 20 | 16.65 | 17.50 |
| > 20 - 24 | 20.80 | 22.45 |
| > 24 - 30 | 22.95 | 26.05 |
| > 30 - 36 | 30.75 | 33.65 |
| > 36 - 40 | 32.95 | 37.95 |
| > 40 - 70 | on request | on request |
| | | |
| | | |

All prices refer to bright finish tools. For coating, pre- and post-treatment see prices page 12.
Please observe our minimum order value of € 50.00.

Prices apply to standard wear. We reserve the right of assessment of existing wear features. Crumbling and very heavy wear will be invoiced at cost.
Customer specific inscriptions, marking, special labelling, measuring protocols etc. involves greater expenditure and effort and is also invoiced at cost.

Re-grinding | Solid carbide milling cutters

BASIC PRICES for re-grinding solid carbide milling cutters

| | Solid carbide end mills with up to 4 flutes | Solid carbide end mills TF 100 with up to 4 flutes | Solid carbide end mills TF 100 MULTI-MILL/MASTER-MILL | Solid carbide ball nose milling cutters | Solid carbide cham- fering milling cutters |
|----------------|--|---|--|--|---|
| Diameter range | € / piece | € / piece | € / piece | € / piece | € / piece |
| 6 - 8 | 9.70 | 13.15 | 16.25 | 19.05 | 12.60 |
| > 8 - 10 | 11.70 | 15.95 | 19.50 | 20.05 | 13.60 |
| > 10 - 12 | 15.45 | 20.50 | 24.50 | 21.10 | 14.65 |
| > 12 - 14 | 16.75 | 22.45 | 26.45 | 25.70 | 15.85 |
| > 14 - 16 | 18.25 | 24.40 | 29.00 | 25.70 | 17.10 |
| > 16 - 18 | 19.75 | 26.55 | 31.20 | 33.95 | 18.25 |
| > 18 - 20 | 21.10 | 28.30 | 33.95 | 33.95 | 19.50 |
| > 20 - 25 | 30.75 | 41.05 | - | 38.60 | - |
| > 25 - 40 | 35.50 | 46.80 | - | 43.75 | - |

All prices refer to bright finish tools. For coating, pre- and post-treatment see prices page 12.
Please observe our minimum order value of € 50.00.

Prices apply to standard wear. We reserve the right of assessment of existing wear features. Crumbling and very heavy wear will be invoiced at cost.
Customer specific inscriptions, marking, special labelling, measuring protocols etc. involves greater expenditure and effort and is also invoiced at cost.

+ SURCHARGE for special dimensions, special forms, radii

| | from 5 flutes | Roughing cutters | Corner radius per flute | Neck clearance |
|----------------|---------------|------------------|-------------------------|----------------|
| Diameter range | € / piece | € / piece | € / piece | € / piece |
| 6 - 8 | 2.25 | 4.10 | 1.15 | 4.65 |
| > 8 - 10 | 2.85 | 4.10 | 1.35 | 4.65 |
| > 10 - 12 | 3.60 | 4.10 | 1.75 | 4.65 |
| > 12 - 14 | 4.40 | 4.10 | 2.15 | 4.65 |
| > 14 - 16 | 5.35 | 4.20 | 2.35 | 4.65 |
| > 16 - 18 | 5.65 | 4.20 | 2.55 | 4.65 |
| > 18 - 20 | 5.95 | 4.20 | 2.55 | 4.65 |
| > 20 - 25 | 6.55 | 4.65 | 2.80 | 4.65 |
| > 25 - 40 | 11.85 | 4.65 | - | - |

Please pay attention to:

Services for re-grinding solid carbide milling cutters

- flute geometry is not re-qualified. Re-qualification is carried out on request, invoiced at cost.
- Finishing cutters = grinding of fluting, face and diameter
- Roughing cutters = grinding of fluting and face
- Ball nose milling cutters = grinding of ball nose, not diameter, diameter on request, invoiced at cost.

See table for minimum diameter for tools (with straight face and corner radius):

| Nominal diameter | Finishing cutters (smooth cutting) | | Roughing cutters (knuckle-type) | |
|------------------|------------------------------------|-----------------------------|--|--------------|
| | minimum diameter (mm) | | (others-) minimal width of body clearance (mm) | |
| | 2 to 10 teeth | max. metal removal per side | 3 to 5 teeth | 6 to 8 teeth |
| 6 | 5.3 | 0.35 | 1.0 | 0.8 |
| 8 | 7.1 | 0.45 | 1.0 | 0.8 |
| 10 | 8.9 | 0.55 | 1.5 | 1.2 |
| 12 | 10.7 | 0.65 | 1.5 | 1.2 |
| 14 | 12.5 | 0.75 | 2.0 | 1.6 |
| 16 | 14.2 | 0.90 | 2.0 | 1.6 |
| 18 | 16.0 | 1.00 | 3.0 | 2.0 |
| 20 | 17.8 | 1.10 | 3.0 | 2.0 |
| 25 | 22.3 | 1.35 | 4.0 | 3.0 |
| 30 | 26.7 | 1.65 | 5.0 | 4.0 |
| 32 | 28.5 | 1.75 | 5.0 | 4.0 |

Re-coating

+ SURCHARGE for pre- and post-treatment

| | De-coating | Polishing |
|----------------|------------|------------|
| Diameter range | €/ piece | €/ piece |
| up to 6 | 3.40 | 4.65 |
| > 6 - 8 | 3.40 | 4.65 |
| > 8 - 10 | 3.40 | 4.65 |
| > 10 - 12 | 3.40 | 5.15 |
| > 12 - 14 | 4.90 | 5.65 |
| > 14 - 16 | 4.90 | 6.15 |
| > 16 - 18 | 4.90 | 8.25 |
| > 18 - 20 | 4.90 | 8.75 |
| > 20 - 30 | 4.90 | 10.30 |
| > 30 - 40 | 4.90 | 14.10 |
| > 40 - 50 | 5.15 | 14.90 |
| > 50 - 60 | on request | on request |
| > 60 - 80 | on request | on request |
| > 80 - 100 | on request | on request |

De-coating of extra length tools is invoiced at cost.

+ SURCHARGE for coating

| | Standard coatings * | Special coatings ** | Head coating up to 12xD *** | Head coating up to 20xD *** | Head coating up to 40xD *** |
|----------------|---------------------|---------------------|-----------------------------|-----------------------------|-----------------------------|
| Diameter range | €/ piece | €/ piece | €/ piece | €/ piece | €/ piece |
| up to 6 | 4.75 | 8.25 | 8.55 | 12.80 | 17.10 |
| > 6 - 8 | 4.75 | 8.25 | 8.55 | 12.80 | 17.10 |
| > 8 - 10 | 4.75 | 8.25 | 8.55 | 12.80 | 17.10 |
| > 10 - 12 | 5.45 | 9.45 | 9.90 | 14.80 | 18.40 |
| > 12 - 14 | 6.05 | 10.50 | 11.00 | 16.50 | 19.55 |
| > 14 - 16 | 6.55 | 11.30 | 11.85 | 17.75 | 20.35 |
| > 16 - 18 | 8.85 | 15.25 | 15.95 | 23.90 | 24.50 |
| > 18 - 20 | 9.50 | 16.45 | 17.20 | 25.80 | 25.70 |
| > 20 - 30 | 11.50 | 19.95 | - | - | - |
| > 30 - 40 | 12.15 | 21.40 | - | - | - |
| > 40 - 50 | 13.25 | on request | - | - | - |
| > 50 - 60 | on request | on request | - | - | - |
| > 60 - 80 | on request | on request | - | - | - |
| > 80 - 100 | on request | on request | - | - | - |

* TiN, TiCN, TiAlN, FIRE, AlTiN, AlTiN nano

** TiAlSiN, AlTiZrN

*** TiN, TiCN, TiAlN, FIRE, TiAlSiN

Differing coatings on request.

Coating of extra length tools is invoiced at cost.

Head coatings larger than 40xD is invoiced at cost.

Tools re-coated without prior de-coating have a larger diameter.

Please observe our minimum order value of € 50.00.

Repair service for hydraulic expansion chucks

REPAIR SERVICE for hydraulic expansion chucks

| Description | Article no. | Repair/calibration | Recommendation | € / piece |
|-------------------------------------|-------------|--|--------------------------------------|-----------|
| Hydraulic chucks | all | Clamping function Hartner product or comparable products | | 77.15 |
| | | Clamping function and length setting Hartner product | with loss of clamping force | 123.50 |
| | | or comparable products | | |
| Clamping force measuring instrument | 89780 | Calibration | Once a year inspection / calibration | 223.80 |
| | | Repairs (quote at cost) | | |



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