



ER*SYSTEM*

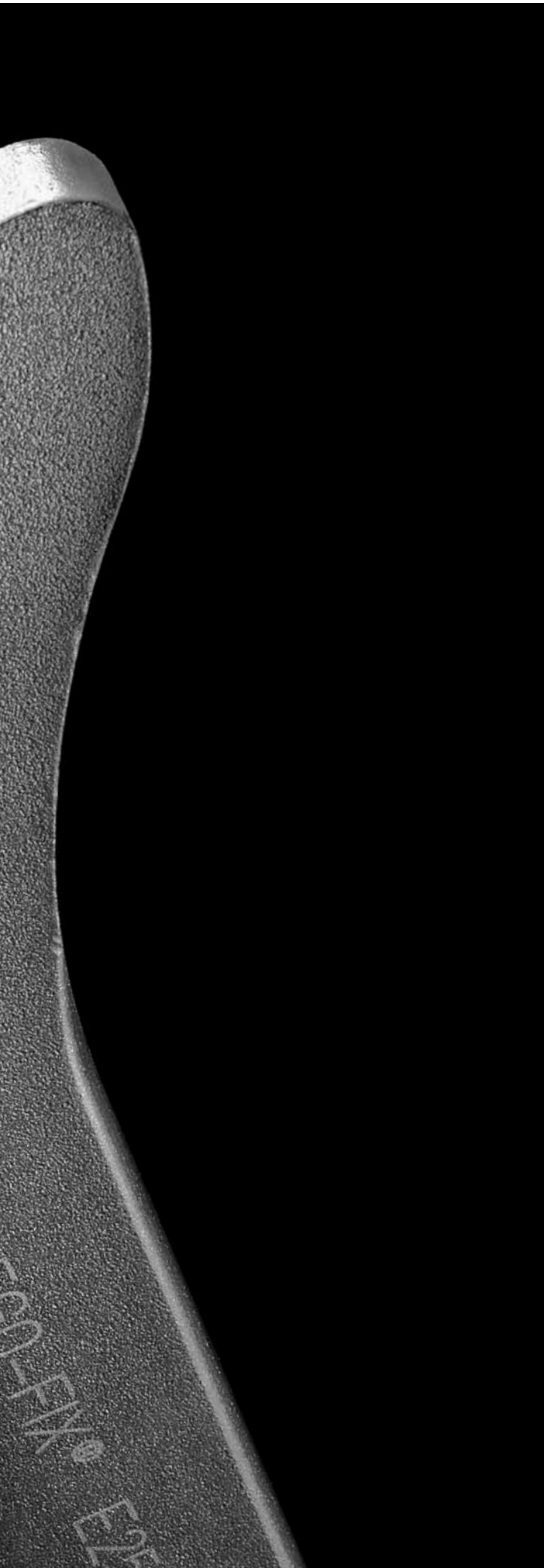
- 13.01 Wrenches**
- 13.03 Wrench Heads**
- 13.04 Torque Wrenches**
- 13.05 Features and Benefits of Counter Nut**
- 13.05 CM/ER Counter Nut**
- 13.06 Trays for Collet Sets**
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powRgrip*SYSTEM*

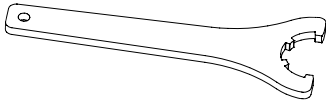
- 13.07 Clamping Units PGU/PGC**

Other Accessories

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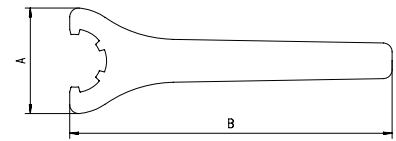


Wrenches

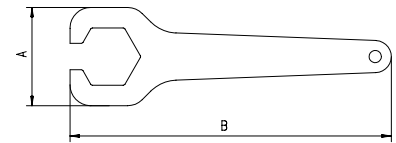


Types: Spanner | Hex | Mini-Nut | MS | AX

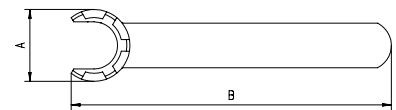
| Type | Part No. | Size | A [mm] | B [mm] |
|-----------------------------------|------------|-------|--------|--------|
| Spanner Style Wrenches | | | | |
| E 16 | 7111.16000 | ER 16 | 50.0 | 160 |
| E 20 | 7111.20000 | ER 20 | 55.0 | 180 |
| E 25 | 7111.25000 | ER 25 | 65.0 | 210 |
| E 32 | 7111.32000 | ER 32 | 75.0 | 250 |
| E 40 | 7111.40000 | ER 40 | 90.0 | 290 |
| E 50 | 7111.50000 | ER 50 | 110.0 | 350 |
| Hex Style Wrenches | | | | |
| E 11 P | 7112.11010 | ER 11 | 32.0 | 95 |
| E 16 P | 7112.16010 | ER 16 | 44.0 | 145 |
| E 20 P | 7112.20010 | ER 20 | 52.0 | 170 |
| Mini-Nut Style Wrenches | | | | |
| E 8 M | 7113.08000 | ER 8 | 12.4 | 74 |
| E 11 M | 7113.11000 | ER 11 | 16.8 | 95 |
| E 16 M | 7113.16000 | ER 16 | 22.5 | 117 |
| E 20 M | 7113.20000 | ER 20 | 29.0 | 129 |
| E 25 M | 7113.25000 | ER 25 | 36.0 | 141 |
| MS Nut Wrenches (Slotted) | | | | |
| E 8 MS | 7114.08000 | ER 8 | 19.2 | 76 |
| E 11 MS | 7114.11000 | ER 11 | 22.0 | 100 |
| E 16 MS | 7114.16000 | ER 16 | 33.0 | 130 |
| E 20 MS | 7114.20000 | ER 20 | 42.0 | 140 |
| AX Nut Wrenches (Dovetail) | | | | |
| E 11 AX | 7117.11000 | ER 11 | 16.5 | 108 |
| E 16 AX | 7117.16000 | ER 16 | 22.5 | 131 |
| E 20 AX | 7117.20000 | ER 20 | 26.0 | 148 |
| E 25 AX | 7117.25000 | ER 25 | 29.5 | 162 |
| E 32 AX | 7117.32000 | ER 32 | 37.5 | 196 |
| E 40 AX | 7117.40000 | ER 40 | 47.5 | 220 |



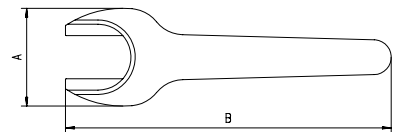
Spanner Nut Type



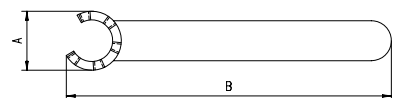
Hex Nut Type



Mini-Nut Type



MS Nut Wrench (Slotted)



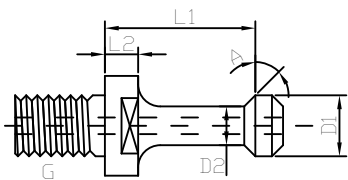
AX Nut Wrench (Dovetail)

Accessories

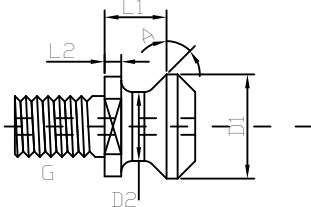
Pull Studs



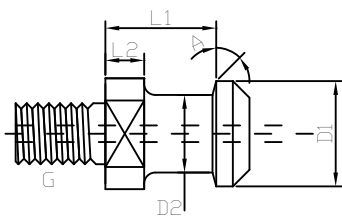
**Figure 1
(MAS profile)**



**Figure 2
(ANSI profile)**



**Figure 3
(DIN Profile)**



| PULL STUD | TAPER | L1 | L2 | D1 | D2 | A | G | FIG |
|-----------|--------|-------|-------|-------|-------|----|----------|-----|
| R300MX45 | BT 30 | 0.709 | 0.197 | 0.433 | 0.276 | 45 | M12X1.75 | 1 |
| RC300MX45 | BT 30 | 0.709 | 0.197 | 0.433 | 0.276 | 45 | M12X1.75 | 1 |
| RC300MX60 | BT 30 | 0.709 | 0.197 | 0.433 | 0.276 | 45 | M12X1.75 | 1 |
| R400DX15 | BT 40 | 0.905 | 0.275 | 0.748 | 0.551 | 15 | M16 X 2 | 3 |
| R400MX45 | BT 40 | 1.102 | 0.236 | 0.59 | 0.39 | 45 | M16 X 2 | 1 |
| R400MX60 | BT 40 | 1.102 | 0.236 | 0.59 | 0.39 | 60 | M16 X 2 | 1 |
| RC400DX15 | BT 40 | 0.905 | 0.275 | 0.748 | 0.551 | 15 | M16 X 2 | 3 |
| R401AX45 | BT 40 | 0.552 | 0.236 | 0.74 | 0.49 | 45 | M16 X 2 | 2 |
| RC401AX45 | BT 40 | 0.552 | 0.236 | 0.74 | 0.49 | 45 | M16 X 2 | 2 |
| R402AX45 | CAT 40 | 0.44 | 0.12 | 0.74 | 0.49 | 45 | 5/8 X 11 | 2 |
| R403MX45 | CAT 40 | 0.99 | 0.236 | 0.59 | 0.39 | 45 | 5/8 X 11 | 1 |
| R403MX90 | CAT 40 | 0.99 | 0.236 | 0.59 | 0.39 | 90 | 5/8 X 11 | 3 |
| R404MX90 | CAT 40 | 0.99 | 0.12 | 0.59 | 0.39 | 90 | 5/8 X 11 | 3 |
| RC405AX45 | CAT 40 | 0.44 | 0.118 | 0.74 | 0.49 | 45 | 5/8 X 11 | 2 |
| RC406MX15 | CAT 40 | 0.792 | 0.275 | 0.748 | 0.551 | 15 | 5/8 X 11 | 1 |
| RC406MX45 | CAT 40 | 0.99 | 0.236 | 0.59 | 0.39 | 45 | 5/8 X 11 | 1 |
| RC406MX90 | CAT 40 | 0.99 | 0.236 | 0.59 | 0.39 | 90 | 5/8 X 11 | 3 |
| RO407MX90 | CAT 40 | 0.99 | 0.236 | 0.59 | 0.39 | 90 | 5/8 X 11 | 3 |
| R500MX45 | CAT 50 | 1.386 | 0.394 | 0.906 | 0.669 | 45 | 1 X 8 | 1 |
| R500MX90 | CAT 50 | 1.386 | 0.394 | 0.906 | 0.669 | 90 | 1 X 8 | 3 |
| RC500AX45 | CAT 50 | 0.7 | 0.2 | 1.14 | 0.82 | 45 | 1 X 8 | 2 |
| RC500MX45 | CAT 50 | 1.386 | 0.394 | 0.906 | 0.669 | 45 | 1 X 8 | 1 |
| RC500MX90 | CAT 50 | 1.386 | 0.394 | 0.906 | 0.669 | 90 | 1 X 8 | 3 |

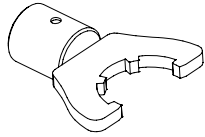
R = Standard

RC = Coolant through

RO = O-ring seal

Other styles available, please call for information

| Pull Stud Torque | |
|------------------|--------|
| Taper | ft-lbs |
| 30 | 20 |
| 40 | 40 |
| 50 | 75 |

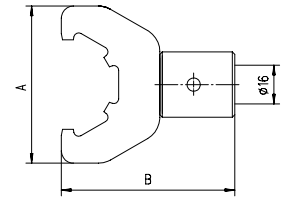


Torque Wrench Heads

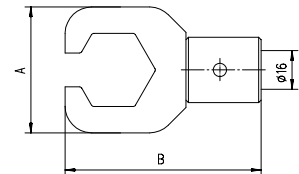
Torque Wrench Heads: Spanner | Hex | Mini | AX

| Type | Part No. | Size | A [mm] | B [mm] |
|----------------------------------|------------|-------|--------|--------|
| Spanner Nut Style | | | | |
| A-E 16 | 7151.16000 | ER 16 | 50.0 | 62.0 |
| A-E 20 | 7151.20000 | ER 20 | 55.0 | 62.0 |
| A-E 25 | 7151.25000 | ER 25 | 65.0 | 72.0 |
| A-E 32 | 7151.32000 | ER 32 | 75.0 | 72.0 |
| A-E 40 | 7151.40000 | ER 40 | 90.0 | 82.0 |
| A-E 50 | 7151.50000 | ER 50 | 110.0 | 94.0 |
| Hex Nut Style | | | | |
| A-E 11 P | 7152.11010 | ER 11 | 32.0 | 61.0 |
| A-E 16 P | 7152.16010 | ER 16 | 44.0 | 71.0 |
| A-E 20 P | 7152.20010 | ER 20 | 52.0 | 81.0 |
| Mini-Nut Style | | | | |
| A-E 8 M | 7153.08000 | ER 8 | 12.4 | 53.0 |
| A-E 11 M | 7153.11000 | ER 11 | 16.8 | 54.0 |
| A-E 16 M | 7153.16000 | ER 16 | 22.5 | 56.0 |
| A-E 20 M | 7153.20000 | ER 20 | 29.0 | 68.0 |
| A-E 25 M | 7153.25000 | ER 25 | 36.0 | 70.0 |
| Mini-High Speed Nut Style | | | | |
| A-E 8 MS | 7154.08000 | ER 8 | 19.2 | 51.0 |
| A-E 11 MS | 7154.11000 | ER 11 | 22.0 | 57.0 |
| A-E 16 MS | 7154.16000 | ER 16 | 33.0 | 60.0 |
| A-E 20 MS | 7154.20000 | ER 20 | 42.0 | 73.0 |
| AX Nut Style (dovetail) | | | | |
| A-E 11 AX | 7157.11000 | ER 11 | 16.5 | 62.1 |
| A-E 16 AX | 7157.16000 | ER 16 | 22.5 | 63.5 |
| A-E 20 AX | 7157.20000 | ER 20 | 26.0 | 64.8 |
| A-E 25 AX | 7157.25000 | ER 25 | 29.5 | 93.0 |
| A-E 32 AX | 7157.32000 | ER 32 | 37.5 | 95.8 |
| A-E 40 AX | 7157.40000 | ER 40 | 47.5 | 99.4 |

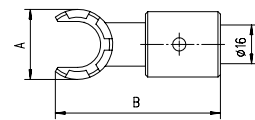
Recommended tightening torque on page 14.03/14.04



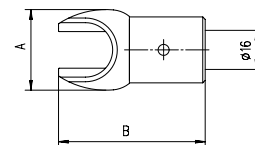
Spanner Nut Type



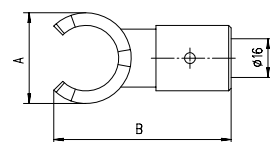
Hex Nut Type



Mini-Nut Type

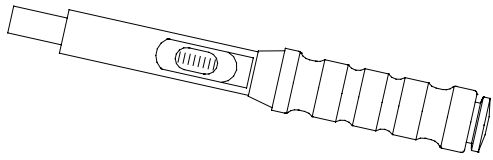


Mini-High Speed Nut Type



AX Nut Type (Dovetail)

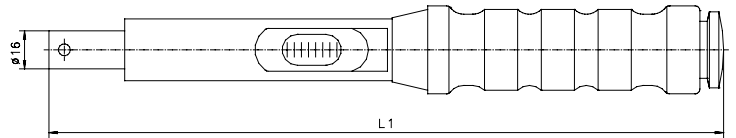
Torque Wrenches



Torque Wrenches

| Type | Part No. | Range | | L1 [mm] |
|--------|------------|----------|-------------|------------|
| | | [Nm] | [ft-lbs] | |
| Micro | 7150.05050 | 5 – 50 | 3.7 – 37 | 335 |
| Small | 8020.08060 | 5 – 50 | 5.9 – 44 | 300 |
| Medium | 8020.20100 | 20 – 200 | 14.8 – 73.8 | 340 |
| Large | 8020.60300 | 60 – 300 | 44.3 – 221 | 545 |

Recommended tightening torque on page 14.03/14.04





Swiss Precision Tools

Features | Benefits



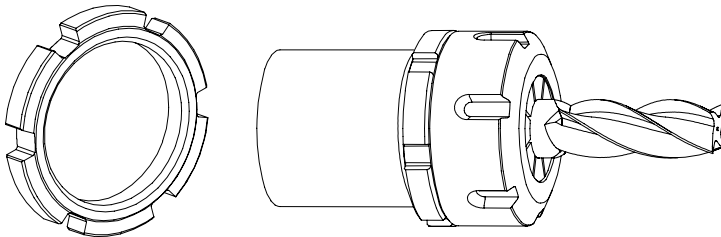
Counter Locking Nut for High Speed

The CM/ER counter nut has been specially designed for high speed machine spindles.

The CM/ER secures the ER clamping nut against accidental loosening due to a sudden stop or reversal of the machine spindle.



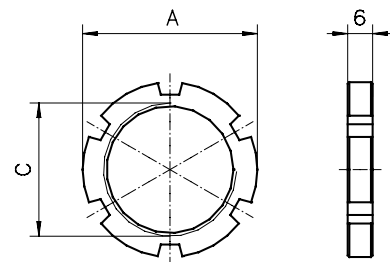
When using counter nuts, it is important to make sure that the thread of the toolholder is long enough.

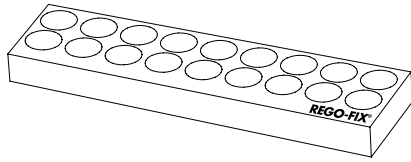


CM | ER
DIN 6499

Counter Nuts for Securing Clamping Nuts

| Type | Part No. | A [mm] | C | Wrench |
|------------|------------|--------|------------|------------|
| CM / ER 16 | 3116.90000 | 32 | M 22 x 1.5 | 7111.16000 |
| CM / ER 20 | 3120.90000 | 35 | M 25 x 1.5 | 7111.20000 |
| CM / ER 25 | 3125.90000 | 42 | M 32 x 1.5 | 7111.25000 |
| CM / ER 32 | 3132.90000 | 50 | M 40 x 1.5 | 7111.32000 |
| CM / ER 40 | 3140.90000 | 63 | M 50 x 1.5 | 7111.40000 |





Trays for Metric Collet Sets

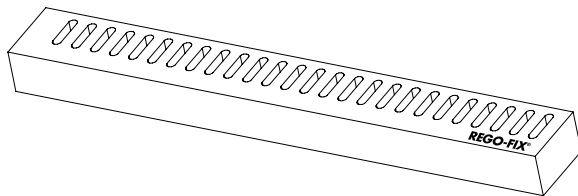
| Type | Part No. | Number of Collets |
|----------|------------|-------------------|
| ZWT / 8 | 7121.08000 | 9 |
| ZWT / 11 | 7121.11000 | 13 |
| ZWT / 16 | 7121.16000 | 10 |
| ZWT / 20 | 7121.20000 | 12 |
| ZWT / 25 | 7121.25000 | 15 |
| ZWT / 32 | 7121.32000 | 18 |
| ZWT / 40 | 7121.40000 | 23 |
| ZWT / 50 | 7121.50000 | 12 |

Storage Overview

The collet bore diameters are marked on the tray and are chemical and oil resistant.

Trays for Inch Collet Sets

| Type | Part No. | Number of Collets |
|---------------|------------|-------------------|
| ZWT / 8 inch | 7121.08300 | 3 |
| ZWT / 11 inch | 7121.11300 | 7 |
| ZWT / 16 inch | 7121.16300 | 12 |
| ZWT / 20 inch | 7121.20300 | 7 |
| ZWT / 25 inch | 7121.25300 | 9 |
| ZWT / 32 inch | 7121.32300 | 12 |
| ZWT / 40 inch | 7121.40300 | 14 |



Trays for Sealing Disk Sets

| Type | Part No. | Number of Sealing Disks |
|----------|------------|-------------------------|
| DSR / 16 | 7122.16000 | 14 |
| DSR / 20 | 7122.20000 | 20 |
| DSR / 25 | 7122.25000 | 26 |
| DSR / 32 | 7122.32000 | 34 |
| DSR / 40 | 7122.40000 | 46 |

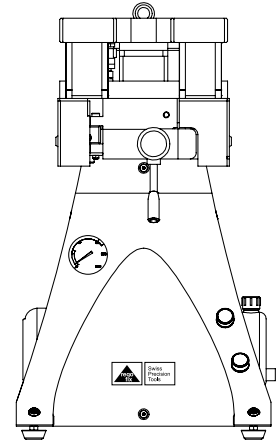
Storage Overview

The sealing disc bore diameters are marked on the tray and are chemical and oil resistant.

PGU 9000 Automatic Clamping Unit

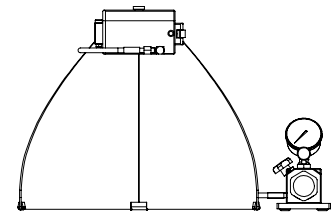
| Type | Part No. | Description | Measurement W x D x H | Weight | Incl. Taper Cleaner |
|------------|------------|---|--------------------------|--------|------------------------|
| PGU 9000 A | 7610.90100 | powRgrip® Automatic clamping unit 110 V | 465 x 555 x 739 mm | 198 lb | |
| APG 910 | 7611.10900 | Clamping insert for PGU 9000 / PG 10 | – | – | ■ |
| APG 915 | 7611.15900 | Clamping insert for PGU 9000 / PG 15 | – | – | ■ |
| APG 925 | 7611.25900 | Clamping insert for PGU 9000 / PG 25 | – | – | ■ |
| APG 932 | 7611.32900 | Clamping insert for PGU 9000 / PG 32 | – | – | ■ |

PGU 9000 automatic clamping unit with push-button operation and auto clamping insert recognition. Designed to make operation easy, fast and reliable. Easy interchangeable inserts and safety interlocks make the machine safe for all operators.

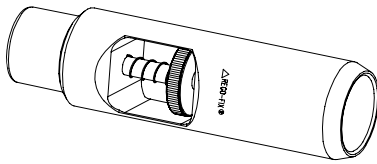


PGC Manual Clamping Unit

| Type | Part No. | Description | Measurement W x D x H | Incl. Taper Cleaner |
|--|------------|---|--------------------------|------------------------|
| Single PG Series Complete Compact Sets (Fixed dies non-interchangeable) | | | | |
| PG 10 Set | 7620.10901 | PG 10 Complete Compact Set* | 450 x 492 x 280 | ■ |
| PG 15 Set | 7620.15901 | PG 15 Complete Compact Set* | 450 x 492 x 280 | ■ |
| PG 25 Set | 7620.25901 | PG 25 Complete Compact Set* | 450 x 492 x 280 | ■ |
| Compact Set with Interchangeable Inserts for the different PG series | | | | |
| PGC 2510 | 7621.25109 | powRgrip® Compact hydraulic clamping unit | 450 x 492 x 280 | |
| APC 25 | 7622.25000 | Insert for PGC 2510 for PG 25 toolholders | | ■ |
| APC 15 | 7622.15000 | Insert for PGC 2510 for PG 15 toolholders | | ■ |
| APC 10 | 7622.10000 | Insert for PGC 2510 for PG 10 toolholders | | ■ |



* Includes: stand, hand pump and clamping head



Presetting Tool

| Type | Part No. | Description |
|--------|------------|--|
| VEW 10 | 7619.10000 | PG 10 Presetting tool for PG 10 colletholder |
| VEW 15 | 7619.15000 | PG 15 Presetting tool for PG 15 colletholder |
| VEW 25 | 7619.25000 | PG 25 Presetting tool for PG 25 colletholder |
| VEW 32 | 7619.32000 | PG 32 Presetting tool for PG 32 colletholder |

The powRgrip® presetting tool accepts the powRgrip® collets, and is placed into the toolholder. The tool has a small thumb wheel for precise tool length adjustments, and allows maximum repeatability in the toolholder assembly.



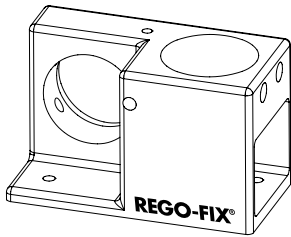
Taper Cleaner

| Type | Part No. | Description |
|---------|------------|--------------------------------|
| TKCP 10 | 7657.10000 | PG 10 Taper cleaner |
| TKCP 15 | 7657.15000 | PG 15 Taper cleaner |
| TKCP 25 | 7657.25000 | PG 25 Taper cleaner |
| TKCP 32 | 7657.32000 | PG 32 Taper cleaner |
| CPS 10 | 7658.10000 | Cleaning paper set for TKCP 10 |
| CPS 15 | 7658.15000 | Cleaning paper set for TKCP 15 |
| CPS 25 | 7658.25000 | Cleaning paper set for TKCP 25 |
| CPS 32 | 7658.32000 | Cleaning paper set for TKCP 32 |

Provides a quick and easy method of cleaning the powRgrip® holder bore of oil and debris before insertion of the tool.

Other Accessories

WMB



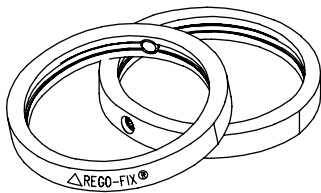
Tool Holding Fixture BT | CAT | TC

| Type Steeptaper | Part No. | Fits These Tapers |
|-----------------|------------|-------------------|
| WMB / SK 30 | 7811.30100 | BT / CAT / TC |
| WMB / SK 40 | 7811.40100 | BT / CAT / TC |
| WMB / SK 50 | 7811.50100 | BT / CAT / TC |

All WMB blocks come with taper inserts (not shown)

Tool Holding Fixture HSK | Coromant Capto

| Type HSK | Part No. | Fits These Tapers |
|---------------------|------------|------------------------|
| WMB / HSK 25 | 7811.25800 | HSK 25 |
| WMB / HSK 32 | 7811.32800 | HSK 32 |
| WMB / HSK 40 | 7811.40800 | HSK 40 / CAPTO C4 |
| WMB / HSK 50 | 7811.50800 | HSK 50 / CAPTO C5 |
| WMB / HSK 63 | 7811.63800 | HSK 63 / CAPTO C6 |
| WMB / HSK 80 | 7811.80800 | HSK 80 / CAPTO C8 |
| WMB / HSK 100 A + C | 7811.00300 | HSK-A 100 / HSK-C 100* |



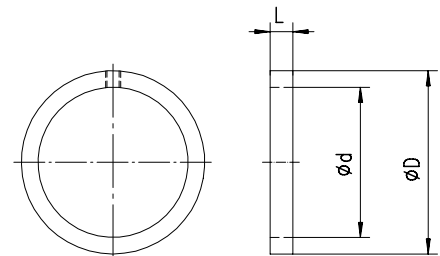
FWR

Hi-Q® Balancing Ring Sets | Torque Screwdriver

| Type | Part No. | d [mm] | D [mm] | L [mm] | Balancing capacity [gmm] | maximum rpm |
|-------------|------------|--------|--------|--------|--------------------------|-------------|
| Set FWR 225 | 7490.22500 | 22.5 | 30.5 | 6.0 | 32.00 | 80,000 |
| Set FWR 285 | 7490.28500 | 28.5 | 36.5 | 6.0 | 44.00 | 70,000 |
| Set FWR 325 | 7490.32500 | 32.5 | 40.5 | 6.0 | 56.00 | 60,000 |
| Set FWR 405 | 7490.40500 | 40.5 | 48.5 | 6.0 | 80.00 | 50,000 |
| Set FWR 505 | 7490.50500 | 50.5 | 60.5 | 7.0 | 170.00 | 42,000 |

Supplied: 1 Set with 2 Hi-Q Balancing Rings

| | | |
|------------|------------|---|
| TSD 0.9 Nm | 7159.09000 | Torque screwdriver TORX 8 for balancing rings |
|------------|------------|---|

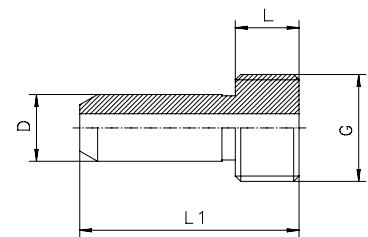


KSR

Coolant Tubes | Spanners for Coolant Tubes

For all HSK form A and HSK form E toolholders the following coolant tubes (KSR) can be used:

| Type | Part No. | For HSK-Type | G | D [mm] | L [mm] | L1 [mm] | Spanner | Part No. |
|---------|------------|--------------|------------|--------|--------|---------|---------|------------|
| KSR 32 | 7211.32000 | HSK 32 | M 10 x 1.0 | 6.00 | 5.5 | 25.7 | SKR 32 | 7212.32000 |
| KSR 40 | 7211.40000 | HSK 40 | M 12 x 1.0 | 8.00 | 7.5 | 29.2 | SKR 40 | 7212.40000 |
| KSR 50 | 7211.50000 | HSK 50 | M 16 x 1.0 | 10.00 | 9.5 | 32.7 | SKR 50 | 7212.50000 |
| KSR 63 | 7211.63000 | HSK 63 | M 18 x 1.0 | 12.00 | 11.5 | 36.2 | SKR 63 | 7212.63000 |
| KSR 80 | 7211.80000 | HSK 80 | M 20 x 1.5 | 14.00 | 13.5 | 39.7 | SKR 80 | 7212.80000 |
| KSR 100 | 7211.00000 | HSK 100 | M 24 x 1.5 | 16.00 | 15.5 | 43.6 | SKR 100 | 7212.00000 |



Coolant Tube Supplied with O-ring Seal.

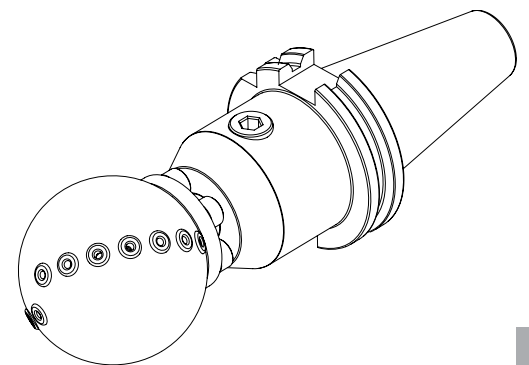
HYDROBALL

Hydroball Machine Cleaner

| Type | Part No. |
|-----------|------------|
| Hydroball | 8020.02300 |

Save time and money by using your machine's own coolant pressure to clean the table work area.

- Install in any 5/8" endmill or collet holder.
- Program machine to cycle side-to-side from top to bottom at 36-120 in/min.
- Set machine to 20–50 rpm
- Set coolant pressure to 210–1800 psi
- Control the coolant pattern by opening or closing the different nozzles on the ball.



Works best on machines with a traversing spindle.

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