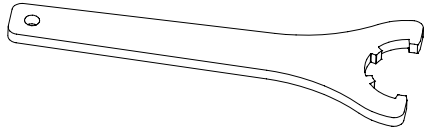


Accessories & Cleaning

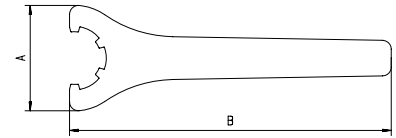
- 1 Wrenches**
- 2 Torque Wrenches**
- 3 Torque Wrench Heads**
- 4 Roller Bearing Tooling Fixture**
- 5 Toolboy Tooling Fixture**
- 6 Spindle Wiper**
- 7 Toolholder Taper Cleaner**
- 8 Collet & Disk Trays**
- 9 Balancing Rings**
- 10 Work Station & Tool Cart**
- 11 UltraSonic Cleaner**
- 12 Drawbar Force Check**
- 13 Pull Studs**
- 14 Hydroball**
- 15 HSK Coolant Tubes**
- 16 Notes**

Wrenches

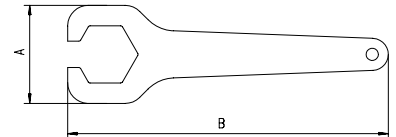


Types: Spanner | Hex | Mini-Nut | MS | AX

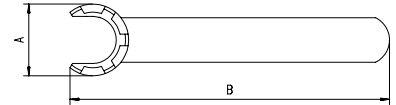
Type	Part No.	Size	A [mm]	B [mm]
Spanner Style Wrenches				
E 16	7111.16000	ER 16	50.0	160
E 20	7111.20000	ER 20	55.0	180
E 25	7111.25000	ER 25	65.0	210
E 32	7111.32000	ER 32	75.0	250
E 40	7111.40000	ER 40	90.0	290
E 50	7111.50000	ER 50	110.0	350
Hex Style Wrenches				
E 11 P	7112.11010	ER 11	32.0	95
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



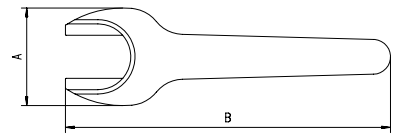
Spanner Nut Type



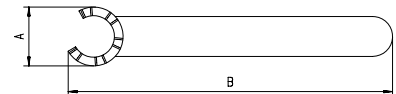
Hex Nut Type



Mini-Nut Type



MS Nut Wrench (Slotted)



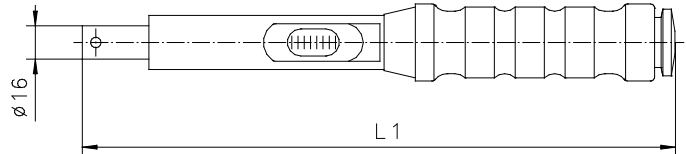
AX Nut Wrench (Dovetail)

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



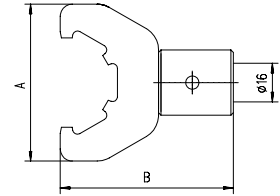
Fully adjustable torque wrench bodies with setting lock. Simply rotate handle to the desired torque value and engage the lock.

- Scale readout in ft-lbs and Nm
- Torque setting lock
- Interchangeable wrench heads
- Length based on torque rating

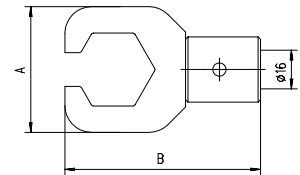
Torque Wrench Heads

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

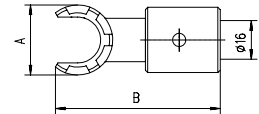
Type	Part No.	Size	A [mm]	B [mm]
Spanner Nut Style				
A-E 16	7151.16000	ER 16	50.0	62.0
A-E 20	7151.20000	ER 20	55.0	62.0
A-E 25	7151.25000	ER 25	65.0	72.0
A-E 32	7151.32000	ER 32	75.0	72.0
A-E 40	7151.40000	ER 40	90.0	82.0
A-E 50	7151.50000	ER 50	110.0	94.0
Hex Nut Style				
A-E 11 P	7152.11010	ER 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



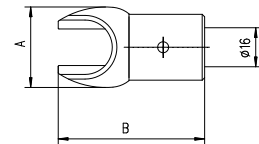
Spanner Nut Type



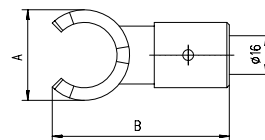
Hex Nut Type



Mini-Nut Type



Mini-High Speed Nut Type



AX Nut Type

Roller Bearing Tooling Fixture

Tooling Fixture

Type	Part Number
HSK 40	E8100.45400
BT 30	E8100.41300
ISO 30 / HSK 50 / C5	E8100.45500
CT 40	E8100.41400
HSK 63 / C6 / BT40	E8100.45630
HSK 80	E8100.45800
CT 50	E8100.43500
BT 50 / HSK 100	E8100.45000

Table mounted roller bearing tool fixture. Available for most standard tool holder taper types.

- Mounts directly to table top
- Two (2) way roller bearings
- Clock-wise lock for tightening
- Counter clock-wise lock for loosening
- One year full warranty



Toolboy Tooling Fixture

Toolboy

Part Number	Description
P5000.00000	Basic unit w/o tool adapter
P5000.00001	Bracket for 2 tool adapters
P5000.40300	Tool adapter CAPTO C3
P5000.40400	Tool adapter CAPTO C4
P5000.40500	Tool adapter CAPTO C5
P5000.40600	Tool adapter CAPTO C6
P5000.40800	Tool adapter CAPTO C8
P5000.23200	Tool adapter HSK-A 32
P5000.24000	Tool adapter HSK-A 40
P5000.25000	Tool adapter HSK-A 50
P5000.26300	Tool adapter HSK-A 63
P5000.28000	Tool adapter HSK-A 80
P5000.21000	Tool adapter HSK-A 100
P5000.53200	Tool adapter KM 32
P5000.54000	Tool adapter KM 40
P5000.55000	Tool adapter KM 50
P5000.56300	Tool adapter KM 63
P5000.58000	Tool adapter KM 80
P5000.12500	Tool adapter ISO 25
P5000.13000	Tool adapter ISO 30
P5000.13500	Tool adapter ISO 35
P5000.14000	Tool adapter ISO 40
P5000.14500	Tool adapter ISO 45
P5000.15000	Tool adapter ISO 50



Advantages of the ToolBoy Toolholder:

- Interchangeable toolholder system
- Rotate tool in 4 different positions
- Assemble the whole tool without re-clamping
- Prevents tool and spindle damage
- Minimum locking force required
- Mounting space 5 ½ inches x 4 inches
- Available in Steep taper, HSK, VDI, Capto and KM
- Mount on table or tool cart

Spindle Wipers

Spindle Wiper

Type	Complete Wiper Part No.	Replacement Blades Part No.
ISO 25 taper wiper	S8000.30250	S8000.30251
ISO 30 taper wiper	S8000.30300	S8000.30301
ISO 35 taper wiper	S8000.30350	S8000.30351
ISO 40 taper wiper	S8000.30400	S8000.30401
ISO 45 taper wiper	S8000.30450	S8000.30451
ISO 50 taper wiper	S8000.30500	S8000.30501

Removes oils and contaminants for increased taper contact resulting in better overall tooling system performance and life.

- Available in most standard spindle forms
- Replaceable cleaning blades.
- Improves holder to spindle contact
- Improves overall accuracy and precision
- Improves cutting tool life
- Increased machining capability
- Improves part surface finishes



Toolholder Taper Cleaner

Taper Cleaner

Type	Part No.
Base unit - standard for use with all head types	R8000.10000
30 Taper Cleaning Brush Head	R8000.10300
40 Taper Cleaning Brush Head	R8000.10400
50 Taper Cleaning Brush Head	R8000.10500
HSK 40 Cleaning Brush Head	R8000.40630
HSK 50 Cleaning Brush Head	R8000.40500
HSK 63 Cleaning Brush Head	R8000.40400

Other tapers available upon request.



Remove dirt and light rust from toolholder tapers.

- Improve and maintain proper spindle contact
- Increase toolholder life
- Available in Steep Taper (30,40, & 50), HSK, and CAPTO models.
- Compact tabletop design
- 110 V power
- User friendly and easy to operate

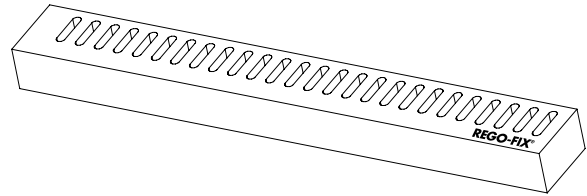
Collet & Disk Trays

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

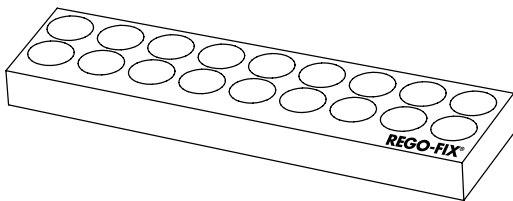
Trays for Sealing Disk Sets

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



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



Storage Overview

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

Storage Overview

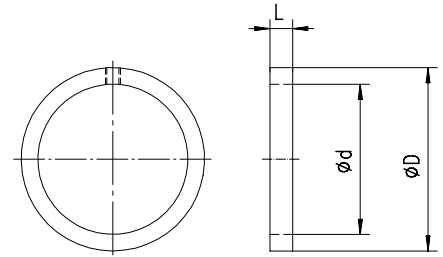
The sealing disk bore diameters are marked on the tray and are chemical and oil resistant.

Balancing Rings

Hi-Q® Balancing Ring Sets

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



Torque Screwdriver

Type	Part No.	Description
TSD 0.9 Nm	7159.09000	Torque screwdriver TORX 8 for balancing rings

Work Station & Tool Cart

Tool Cart

Type	Part No.
Basic tool cart	L8000.25000
30T pockets for cart (40 pockets)	L8000.25300
40T pockets for cart (28 pockets)	L8000.25400
50T pockets for cart (25 pockets)	L8000.25500
HSK32 pockets for cart (45 pockets)	L8000.25532
HSK40 pockets for cart (40 pockets)	L8000.25540
HSK50 pockets for cart (40 pockets)	L8000.25550
HSK63 pockets for cart (30 pockets)	L8000.25563
HSK100 pockets for cart (20 pockets)	L8000.25510

Tool cart features:

- Heavy-duty steel construction
- Removable top tool shelf
- Two (2) removable side stations
- Available in Steep Taper, HSK & CAPTO
- Large diameter industrial grade wheels

Work Station

Type	Part No.
Workstation table 60" x 30"	L8000.20000

The large tabletop surface allows for the placement of small machines, tool boxes or other tool room equipment

Work station features:

- Heavy-duty steel frame
- Butcher block work surface (60" W x 30" D)
- Multi-drawer tool storage system
- Ball bearing drawer guides
- Deep cavities for toolholders, collets, cutting tools and other accessories
- Drawer separators for easy organization



UltraSonic Tooling System Cleaner

UltraSonic Tooling System Cleaner

Type	Part No.
Ultrasonic Cleaning Unit	US-40SE
Ultrasonic Cleaning Solution	US-815CLEAN



Heavy duty stainless steel double-wall design provides highly efficient cleaning. The multi-frequency operating system ensures optimum cleaning conditions for most tooling system components.

- User friendly digital timer
- Frequency load control
- 40kHz / 250 Watt
- 4 gallon capacity
- Overall dimensions 16" W x 18" L x 16" H / Internal 12" W x 8" L x 10" D
- Heavy duty 14 gauge stainless steel construction
- Double welded walls and joints
- Stainless steel cleaning basket
- 2 year warranty - generator, workmanship and materials
- 10 year warranty - transducer bond

Drawbar Force Check

Force Check

Type	Part No.
ForceCheck Steep Taper 30 (BT) Complete Set (US)	F8000.41301
ForceCheck Steep Taper 40 (BT) Complete Set (US)	F8000.41401
ForceCheck Steep Taper 50 (BT) Complete Set (US)	F8000.41501
ForceCheck Steep Taper 30 (DIN) Complete Set, Metric Thread (US)	F8000.42301
ForceCheck Steep Taper 40 (CAT/ANSI) Complete Set, Inch Thread	F8000.43401
ForceCheck Steep Taper 40 and 50 (CAT/ANSI) Complete Set, Inch	F8000.43405
ForceCheck Steep Taper 50 (CAT/ANSI) Complete Set, Inch Thread	F8000.43501
ForceCheck Capto C4 Complete Set (US)	F8000.48041
ForceCheck Capto C5 Complete Set (US)	F8000.48051
ForceCheck Capto C6 Complete Set (US)	F8000.48061
ForceCheck Capto C8 Complete Set (US)	F8000.48081
ForceCheck HSK-A/C/E 100 Complete Set (US)	F8000.51001
ForceCheck HSK-A/C/E 32 Complete Set (US)	F8000.53201
ForceCheck HSK-A/C/E 40 / HSK-B/D/F 50 Complete Set (US)	F8000.54001
ForceCheck HSK-A/C/E 50/ HSK-B/D/F 63 Complete Set (US)	F8000.55001
ForceCheck HSK-A/C/E 80/ HSK-B/D/F 100 Complete Set (US)	F8000.58001
ForceCheck Universal Carrying Case	F8000.90000
Replacement ForceCheck Connecting Cable	F8000.90001
Replacement ForceCheck Display	F8000.90002



Quickly and accurately verify draw-bar retention force, ensuring optimum connection between the toolholder and machine spindle. This critical function for machine and tooling system performance is often not measured nor monitored after a machine is put into service.

- Hand-held display
- Inter-changeable measuring bars
- Schedule regular measurement of draw-bar force to detect system problems early
- Enable maintenance and repairs before catastrophic failures.
- Available in Tapers CAT, DIN, BT, ISO, HSK, Capto & KM



Pull Studs



Pull Stud

Part No.	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

Figure 1
(MAS profile)

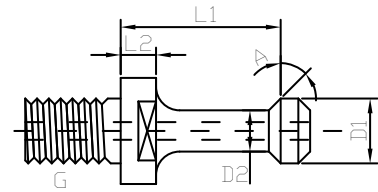


Figure 2
(ANSI profile)

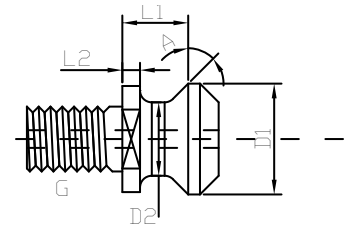
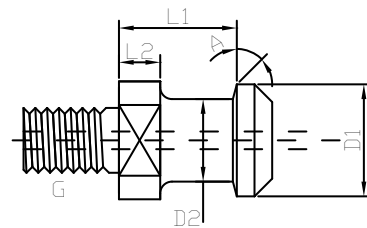


Figure 3
(DIN Profile)



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

HYDROBALL

Uses the machine's own coolant pressure to clean the table work area and machine walls from chips. Works best on machines with a traversing spindle.

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



Hydroball

Type	Part No.
Hydroball	8020.02300

HSK Coolant Tubes

Coolant Tubes | Spanners for Coolant Tubes

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.

