Gaging for HSK- Toolholders

ISO 12164-1

Advanced Machine & Engineering Co., 2500 N. Latham Street, Rockford, IL 61103
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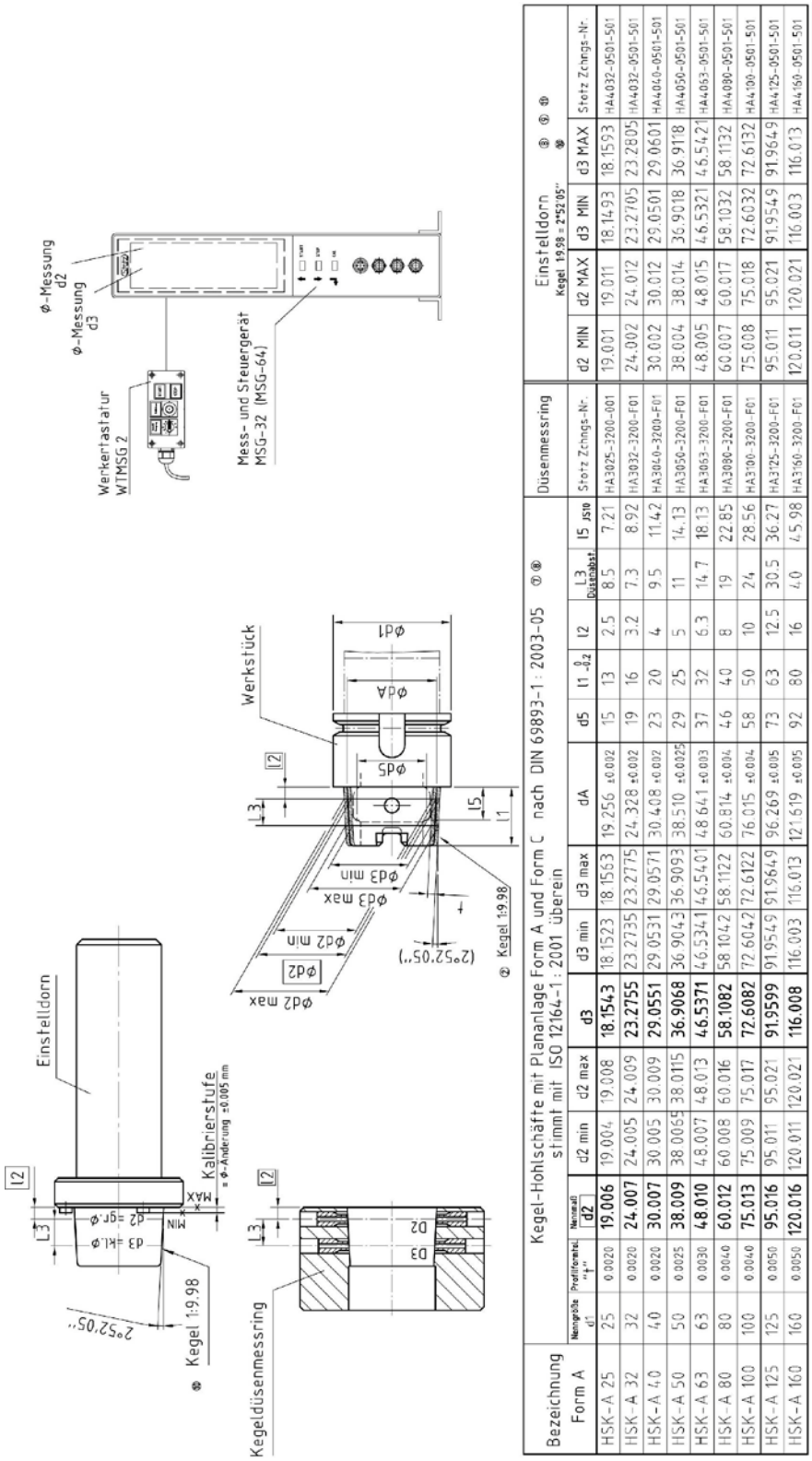
Data Sheet for HSK Toolholder Gages

ISO 12164-1



Kegel-Hohlschäfte mit Plananlage Form A und Form C nach DIN 69893-1 : 2003-05 ⑦ ⑧
stimmt mit ISO 12164-1 : 2001 überein

Bezeichnung Form A	Nenngröße d1	Profiltoleranz ±µm	Nennmaß d2	d2 min	d2 max	d3	d3 min	d3 max	dA	d5	l1 -0,2	l2	L3 Distanzhülse	l5 js10	Düsenmessring Stotz Zeichn.-Nr.	Einstelldorn Kegel 1:9,98 = 2°52'05" ⑧ ⑨ ⑩ d2 MIN	d2 MAX	d3 MIN	d3 MAX	Stotz Zeichn.-Nr.
HSK-A 25	25	0.0020	19.006	19.004	19.008	18.1543	18.1523	18.1563	19.256 ±0.002	15	13	2.5	8.5	7.21	HA3025-3200-001	19.001	19.011	18.1493	18.1593	HA4032-0501-501
HSK-A 32	32	0.0020	24.007	24.005	24.009	23.2755	23.2735	23.2775	24.328 ±0.002	19	16	3.2	7.3	8.92	HA3032-3200-F01	24.002	24.012	23.2705	23.2805	HA4032-0501-501
HSK-A 40	40	0.0020	30.007	30.005	30.009	29.0551	29.0531	29.0571	30.408 ±0.002	23	20	4	9.5	11.42	HA3040-3200-F01	30.002	30.012	29.0501	29.0601	HA4040-0501-501
HSK-A 50	50	0.0025	38.009	38.0065	38.0115	36.9068	36.9043	36.9093	38.510 ±0.0025	29	25	5	11	14.13	HA3050-3200-F01	38.004	38.014	36.9018	36.9118	HA4050-0501-501
HSK-A 63	63	0.0030	48.010	48.007	48.013	46.5371	46.5341	46.5401	48.641 ±0.003	37	32	6.3	14.7	18.13	HA3063-3200-F01	48.005	48.015	46.5321	46.5421	HA4063-0501-501
HSK-A 80	80	0.0040	60.012	60.008	60.016	58.1082	58.1042	58.1122	60.814 ±0.004	46	40	8	19	22.85	HA3080-3200-F01	60.007	60.017	58.1032	58.1132	HA4080-0501-501
HSK-A 100	100	0.0040	75.013	75.009	75.017	72.6082	72.6042	72.6122	76.015 ±0.004	58	50	10	24	28.56	HA3100-3200-F01	75.008	75.018	72.6032	72.6132	HA4100-0501-501
HSK-A 125	125	0.0050	95.016	95.011	95.021	91.9599	91.9549	91.9649	96.269 ±0.005	73	63	12.5	30.5	36.27	HA3125-3200-F01	95.011	95.021	91.9549	91.9649	HA4125-0501-501
HSK-A 160	160	0.0050	120.016	120.011	120.021	116.008	116.003	116.013	121.619 ±0.005	92	80	16	4.0	45.98	HA3160-3200-F01	120.011	120.021	116.003	116.013	HA4160-0501-501

Taper Air Jet Ring

Hard Chrome plated with 2 measuring levels according to ISO 12164-1 in accordance with Sketch Nr. 1392 with hose 1.5 meters long and quick connect coupler for connection to MSG.

Type	Part Number
HSK-A32 = HSK-B40	STO-415-2240-004122
HSK-A40 = HSK-B50	STO-415-2240-004123
HSK-A50 = HSK-B63	STO-415-2240-004124
HSK-A63 = HSK-B80	STO-415-2240-004125
HSK-A80 = HSK-B100	STO-415-2240-004126
HSK-A100 = HSK-B125	STO-415-2240-004127
HSK-A125 = HSK-B160	STO-415-2240-004768
HSK-A160	STO-415-2240-004769

Taper Master Plug

With calibration step, according to ISO 12164-1 in accordance with Sketch Nr. 1401, hardened and aged steel with international certification.

Type	Part Number
HSK-A32 = HSK-B40	STO-300-0008-004128
HSK-A40 = HSK-B50	STO-300-0008-004129
HSK-A50 = HSK-B63	STO-300-0008-004130
HSK-A63 = HSK-B80	STO-300-0008-004131
HSK-A80 = HSK-B100	STO-300-0008-004132
HSK-A100 = HSK-B125	STO-300-0008-004133
HSK-A125 = HSK-B160	STO-300-0008-004770
HSK-A160	STO-300-0008-004771

Clamping Shoulder – L5 - Mechanical

For the measurement of the L5 according to ISO 12164-1 in accordance with Sketch Nr. 1421, includes master and dial indicator.

Type	Part Number
HSK-A32 = HSK-B40	STO-421-1102-104170
HSK-A40 = HSK-B50	STO-421-1102-104171
HSK-A50 = HSK-B63	STO-421-1102-104172
HSK-A63 = HSK-B80	STO-421-1102-104173
HSK-A80 = HSK-B100	STO-421-1102-104174
HSK-A100 = HSK-B125	STO-421-1102-104175
HSK-A125 = HSK-B160	STO-421-1102-104797
HSK-A160	STO-421-1102-105199

Pre-measurement device for the Toolholder Flange

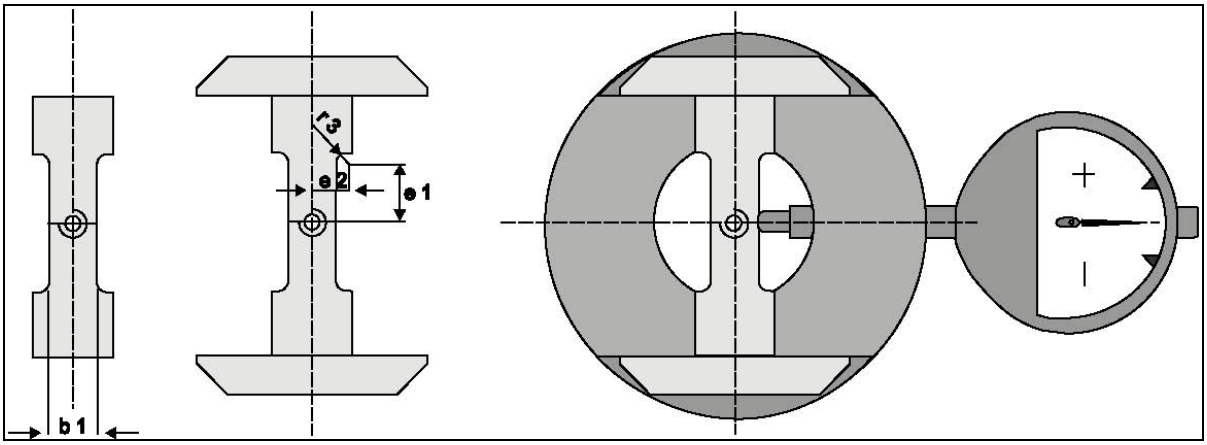
HSK tool shank according to ISO 12164-1 and Sketch 1477 incl. Gage with indicator and certificate.

Type	Part Number
HSK-A32 = HSK-B40	STO-411-1302-104285
HSK-A40 = HSK-B50	STO-411-1302-104286
HSK-A50 = HSK-B63	STO-411-1302-104287
HSK-A63 = HSK-B80	STO-411-1302-104288
HSK-A80 = HSK-B100	STO-411-1302-104421
HSK-A100 = HSK-B125	STO-411-1302-104558
HSK-A125 = HSK-B160	STO-411-1302-104773
HSK-A160	STO-411-1302-104774

Key Gages

Measures the size and radius of HSK tool holder drive keys.

setting gage measuring gage 1 gage ring with dial



for dial indicator for drive keys indicator and measuring gage 2 for drive keys

Tool Taper per ISO 12164-1	Part Number	b1 +/-0.040	e1	e2	r3 +/-0.020
HSK 32	**STO-283.001**	7.05	8.905	4.903	1.38
HSK 40	**STO-283.002**	8.05	11.081	5.903	1.88
HSK 50	**STO-283.003**	10.54	13.997	7.648	2.38
HSK 63	**STO-283.004**	12.54	18.110	9.150	2.88
HSK 80	**STO-283.005**	16.04	22.073	11.898	3.88
HSK 100	**STO-283.006**	20.02	27.561	14.888	4.88
HSK 125	**STO-283.007**	25.02	35.580	18.388	5.88
HSK 160	**STO-283.008**	30.02	44.538	22.888	7.88

Description

Complete set with case includes measuring ring with dial indicator, measuring gage for lower deviation, measuring gage for upper deviation, mean deviation and setting gage for dial indicator.

Function

The setting gage is placed into the gage ring, and the dial indicator is set to zero. The measuring gage 1 is then used to measure the lower deviation of the drive key, and the measuring gage 2 the upper deviation.

Air Gaging HSK-Spindle

ISO 12164-2

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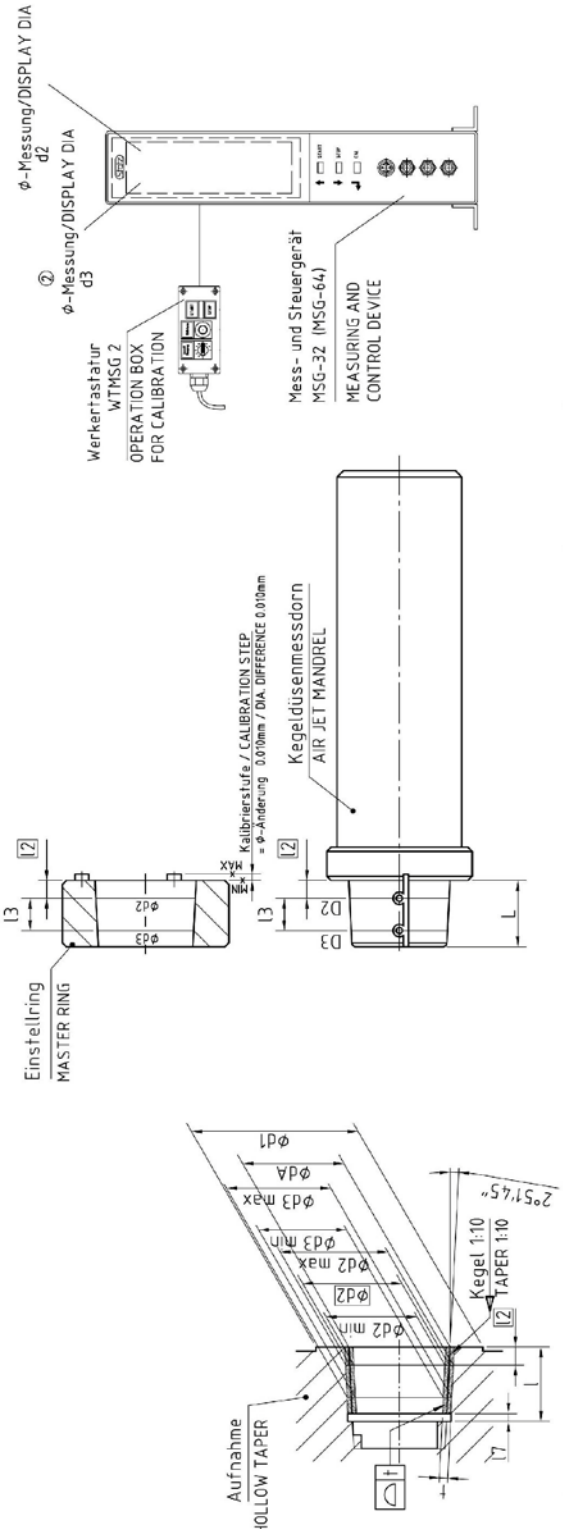
Data Sheet for HSK Spindle Gages

ISO 12164-2



Bezeichnung TAPER HSK Form A TYPE A	Werkzeugmaschinen-Aufnahmen für Kegel-Hohlschäfte Form A und Form C nach DIN 69063-1 / August 2008 MACHINE TOLLS- TOLL RECEIVER FOR HOLLOW TAPER SHANKS TYPE E ACCORDING TO ISO 12164-2 / 2001-12-01													Düsenmessdorn AIR JET MANDREL	Einstellring MASTER RING				
	NOMINAL SIZE d1	f7	d2	d2 min	d2 max	d3	d3 min	d3 max	dA	l	12	NOZZLE DIST. l3	l7 ±0.1	Stotz-Zeichnungs-Nr.	d2 MIN	d2 MAX	d3 MIN	d3 MAX	Stotz Zchngs-Nr.
HSK - A 25	25	0.0010	18.998	18.9970	18.9990	18.598	18.5970	18.5990	19.248 ±0.0010	9.4	2.5	4.0	1.5	HA1025-3200-001	18.993	19.003	18.593	18.603	HA2025-0501-501
HSK - A 32	32	0.0015	23.998	23.9965	23.9995	23.548	23.5465	23.5495	24.318 ±0.0015	11.4	3.2	4.5	2.0	HA1032-3200-F01	23.993	24.003	23.543	23.553	HA2032-0501-501
HSK - A 40	40	0.0015	29.998	29.9965	29.9995	29.348	29.3465	29.3495	30.398 ±0.0015	14.4	4	6.5	2.0	HA1040-3200-F01	29.993	30.003	29.343	29.353	HA2040-0501-501
HSK - A 50	50	0.0020	37.998	37.996	38.000	37.198	37.196	37.200	38.498 ±0.0020	17.9	5	8	2.0	HA1050-3200-F01	37.993	38.003	37.193	37.203	HA2050-0501-501
HSK - A 63	63	0.0020	47.998	47.996	48.000	46.828	46.826	46.830	48.628 ±0.0020	22.4	6.3	11.7	2.5	HA1063-3200-F01	47.993	48.003	46.823	46.833	HA2063-0501-501
HSK - A 80	80	0.0025	59.997	59.9945	59.9995	58.447	58.4445	58.4495	60.797 ±0.0025	28.4	8	15.5	3.0	HA1080-3200-F01	59.992	60.002	58.442	58.452	HA2080-0501-501
HSK - A 100	100	0.0030	74.997	74.994	75.000	72.997	72.994	73.000	75.997 ±0.0030	35.4	10	20.0	3.0	HA1100-3200-F01	74.992	75.002	72.992	73.002	HA2100-0501-501
HSK - A 125	125	0.0035	94.996	94.9925	94.9995	92.446	92.4425	92.4495	96.246 ±0.0035	44.4	12.5	25.5	4.0	HA1125-3200-F01	94.991	95.001	92.441	92.451	HA2125-0501-501
HSK - A 160	160	0.0035	119.995	119.9915	119.9985	116.495	116.4915	116.4985	121595 ±0.0035	57.4	16	35	4.0	HA1160-3200-F01	119.990	120.000	116.490	116.500	HA2160-0501-501

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Taper Air Jet Mandrel

Hard Chrome plated with 2 measuring levels according to ISO 12164-2 in accordance with Sketch Nr. 1395 with hose 1.5 meters long and quick connect coupler for connect to MSG.

Type	Part Number
HSK-A32 = HSK-B40	STO-310-2240-004095
HSK-A40 = HSK-B50	STO-310-2240-004094
HSK-A50 = HSK-B63	STO-310-2240-004060
HSK-A63 = HSK-B80	STO-310-2240-004061
HSK-A80 = HSK-B100	STO-310-2240-004062
HSK-A100 = HSK-B125	STO-310-2240-004063
HSK-A125 = HSK-B160	STO-310-2240-004756
HSK-A160	STO-310-2240-004757

Taper Master Ring

With calibration step, according to ISO 12164-2 in accordance to Sketch Nr. 1396, hardened and aged steel with international certificate.

Type	Part Number
HSK-A32 = HSK-B40	STO-405-0009-004097
HSK-A40 = HSK-B50	STO-405-0009-004096
HSK-A50 = HSK-B63	STO-405-0009-004064
HSK-A63 = HSK-B80	STO-405-0009-004065
HSK-A80 = HSK-B100	STO-405-0009-004066
HSK-A100 = HSK-B125	STO-405-0009-004067
HSK-A125 = HSK-B160	STO-405-0009-004758
HSK-A160	STO-405-0009-004759

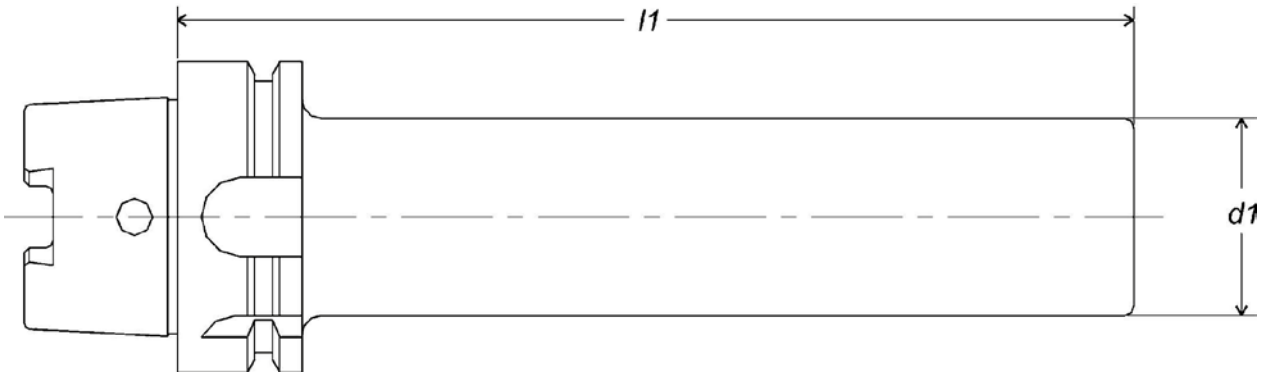
Pre-measurement device for Spindle,

HSK spindle according to ISO 12164-2 and Sketch 1578 including dial indicator and certificate. (No master).

Type	Part Number
HSK-A32 = HSK-B40	STO-411-2302-104713
HSK-A40 = HSK-B50	STO-411-2302-104714
HSK-A50 = HSK-B63	STO-411-2302-104715
HSK-A63 = HSK-B80	STO-411-2302-104716
HSK-A80 = HSK-B100	STO-411-2302-104717
HSK-A100 = HSK-B125	STO-411-2302-104718
HSK-A125 = HSK-B160	STO-411-2302-104777
HSK-A160	STO-411-2302-107195

Run-Out Arbors

Spindle runout arbors offer a quick and easy way to verify that a machine spindle is running true after a crash, after a machine has been moved, or periodically as a performance check. Other sizes available on request.



HSK	d1	l1	Part Number
HSK-A25	20	140	SCH-4971-125,025
HSK-A32	24	180	SCH-4971-150,032
HSK-A40	24	180	SCH-4971-150,040
HSK-A50	32	236	SCH-4971-200,050
HSK-A63	40	346	SCH-4971-300,063
HSK-A80	40	346	SCH-4971-300,080
HSK-A100	40	349	SCH-4971-300,100
CAT40	40	320	SCH-4970-300,040
CAT50	40	320	SCH-4970-300,050

Test Arbor is in wooden box with certificate.

- Dimensions shown are in mm.
- Other sizes and custom arbors are available. Contact us for more information.
- A certificate of accuracy is included.

Other sizes available on request!

Power-Check Information

The Power-Check and the Power-Check II are measuring devices used to check the force with which the tool is pulled into the spindle taper. The specified pull force is very important for quality of machining and, if included into your preventative maintenance schedule, will allow you to notice a reduction of pull force and prevent problems before they occur.

Power-Check

- **Easily exchange adapters for all tapered standards and sizes (CAT, ANSI, BT, MAS, HSK, CAPTO, special forms)**
- **The system is light, compact, and very easy to use.**
- **Adjustable Range to simulate the tolerance range of the tool/spindle**
- **The pull force is easily read on the LCD display in kN or klb**

Technical Data

Measuring range	**2-75kN / 10-75 kN**
Measuring system	Straingage
Display	Big 3.5 digit LCD-display
Power source	9 volt battery
Weight	Max. 6.6 lbs.
Temperature Range	14°F to 122°F

- **Easily exchange adapters for all tapered standards and sizes (CAT, ANSI, BT, MAS, HSK, CAPTO, special forms)**
- **Has gripping channel for automatic tool change and positioning in the tool magazine**
- **Automatic Mode – activates the unit by itself during the tool change**
- **More Compact than the Power-Check and much more suitable for difficult space conditions**
- **Adjustable Range to simulate the tolerance range of the tool/spindle**
- **Energy Saving Mode for long battery life**
- **LED-display shows the measured force even in difficult lighting conditions**
- **Internal memory stores up to 8,000 measurements (machine ID, date, time, pull force, adjusted range)**
- **USB Connection to download the internal memory and to charge the internal battery**

Power-Check II

Technical Data

Measuring range	**0.14-5 kN / 0.4-15 kN / 2-75 kN**
Measuring system	Straingage
Display	Big 3.5 digit LCD-display
Charging process	Via USB interface
Weight	Max. 3.3 lbs.
Temperature Range	60°F to 95°F

Order numbers

Basic unit

Order number Power Check	Measuring Range
AOT-95.101.712.2.2	2 - 15 kN
AOT-95.101.600.2.2	10 – 75 kN

Order number Power Check II	Measuring Range
AOT-95.103.134.9.2	0.14 - 5 kN
AOT-95.103.135.9.2	0.4 – 15 kN
AOT-95.103.136.9.2	2 – 75 kN

Adapter for HSK / manual operation

Nominal size	Order number
E 25 / F 32	AOT-95.600.069.9.2
A 32 / B 40	AOT-95.600.070.9.2
A 40 / B 50	AOT-95.600.071.9.2
A 50 / B 63	AOT-95.600.072.9.2
A 63 / B 80	AOT-95.600.073.9.2
A 80 / B 100	AOT-95.600.074.9.2
A 100 / B 125	AOT-95.600.075.9.2
A 125 / B 160	AOT-95.600.076.9.2

Adapter for steep taper / manual operation

Size CAT (SK)	DIN 69871 / 69872 ISO 7388 / 1 / 2 Type A	ANSI B 5.50-09 ISO 7388 / 1 / 2 Type B	MAS 403-1982 BT / PT-I (45°)	MAS 403-1982 BT / PT-II (30°)
CAT 30	AOT-95.101.582.9.2	AOT-95.101.583.9.2	AOT-95.101.584.9.2	AOT-95.101.585.9.2
CAT 40	AOT-95.101.586.9.2	AOT-95.101.587.9.2	AOT-95.101.588.9.2	AOT-95.101.589.9.2
CAT 45	AOT-95.101.590.9.2	AOT-95.101.591.9.2	AOT-95.101.592.9.2	AOT-95.101.593.9.2
CAT 50	AOT-95.101.594.9.2	AOT-95.101.595.9.2	AOT-95.101.596.9.2	AOT-95.101.597.9.2
CAT 60	AOT-95.101.598.9.2	AOT-95.101.599.9.2	AOT-95.101.601.9.2	AOT-95.101.602.9.2

Adapter for Capto / manual operation

Nominal Size	Order Number
C4 ISO 26623-1	AOT-95.601.481.9.2
C5 ISO 26623-1	AOT-95.601.482.9.2
C6 ISO 26623-1	AOT-95.601.266.9.2
C8 ISO 26623-1	AOT-95.601.483.9.2

Adapter for hollow shaft with gripper groove for automatic tool change.

Nominal Size	Order number
A 63 / B 80	AOT-95.601.851.9.2

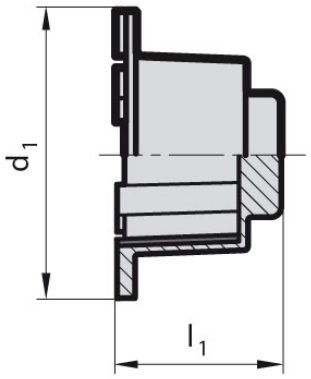
Adapter for steep taper with gripper groove for automatic tool change.

Nominal size	DIN 69871 / 69872 ISO 7388 / 1 / 2 Type A
CAT (SK) 50	AOT- 95.103.097.9.2

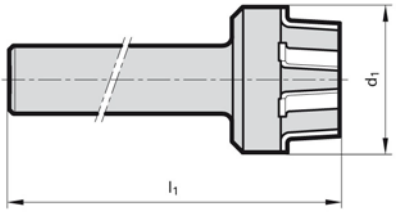
Other adapters available on request!

Cleaning Wipers

For cleaning the internal and external tapers and face.



For HSK-A/C/E	d1 mm	l1 mm	Part #
40	53	36	SCH-4947-1,040
50	66	42	SCH-4947-1,050
63	88	53	SCH-4947-1,063
80	103	58	SCH-4947-1,080
100	125	77	SCH-4947-1,100



For HSK-A/C/E	d1 mm	l1 mm	Part #
25	32	125	SCH-4914-19,000
32	46	140	SCH-4914-24,000
40	46	145	SCH-4914-30,000
50	55	155	SCH-4914-38,000
63	67	170	SCH-4914-48,000
80	85	180	SCH-4914-60,000
100	105	200	SCH-4914-75,000

QuickClean Tool Taper Cleaning Machine

Keep precision at the spindle interface by keeping tool holders clean..

Keep precision at the spindle interface by keeping tool holders clean

- Reduce waste
- Increase the tool life
- Protect the machine spindle
- Maintain lasting precision

Cleaning Unit

Top piece with 3 brushes

Taper Standard	Order Nr.	LxWxH	Weight
40 Steep Taper	530.310.840	9 x 9 x 7.9 in.	20 lb
50 Steep Taper	530.310.850	9 x 9 x 9.6 in.	20 lb
HSK-A,C,E 63	530.310.163	9 x 9 x 7.9 in.	20 lb
HSK-A,C,E 100	530.310.190	9 x 9 x 7.9 in.	20 lb

Drive Unit

100-240VAC, 45-65Hz, 0.3kW Max.

Order Nr.	LxWxH (in.)	Weight (lb)
530.310.000.100	16.5 x 9.8 x 6.7 in.	27 lb

Other sizes available on request!

Spindle Interface Solutions

As the exclusive U.S. distributor of OTTJakob steep taper or HSK drawbars and components, AME provides the most reliable and highest precision tool holding solutions in the world. OTT-Jakob is the gold standard, combining industry-leading technology with proven production processes to create durable, reliable tool holding products recognized worldwide for their accuracy, repeatability and uptime. You can count on OTTJakob products day after day, year after year. You can count on AME the same way. Our Spindle Interface Group backs every tool holding solution we sell with maintenance, repair and reconditioning services to ensure a long, productive life from your investment. AME engineers are also available for up-front application and integration assistance, so when you come to AME, you get a tool holding solution that's custom-tailored to your machines and your unique requirements.

OTT-JAKOB Power Drawbars and Components

hold cutting tools securely in place. Features include power-off clamping, intensified spring force with wedge mechanisms, compact design with minimal rotating mass, and quick-change design. AME is the exclusive North American distributor of OTT-JAKOB power drawbars and components.

Specialty tool holders

including steep taper, HSK and other designs are manufactured at AME for a variety of applications. Complete gauging capabilities ensure quality tooling.

AME's Spindle Interface Group Services

and repairs all spindle interface components. Complete services are available to repair, rebuild, re-engineer or manufacture any drawbar or spindle shaft to industry standards. Twenty-four hour turn-around is available on drawbar repairs. AME has the machining resources and skilled personnel on site to complete virtually any machining task.