

Grippers + accessory

# Catalogue



WE WILL HOLD, WHAT YOU PROMISE

# OTT

Spanntechnik

JAKOB

# Clamping Technology

# Introduction



The name OTT has been standing for high technology for more than 135 years. Meeting the customer's requirements is our daily work. We are the right contact partner for you in the clamping sector. OTT stands for the state-of-the-art products. Our product's flexibility and adaptability are the basis for satisfied customers throughout world.

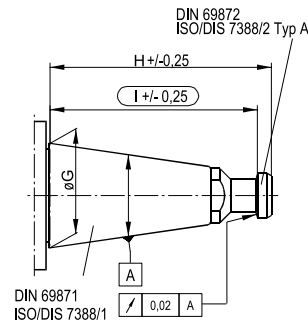
OTT-JAKOB's products are exported worldwide. The implementation of our drawbars provides the evidence of good quality.

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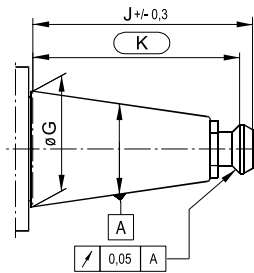
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SK 30	4+5
SK 40	6+7
SK 50	8+9
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# Tool Standard SK

Tool Standard A			
DIN 69871 / 69872	ISO 7388 / 1 / 2 Typ A		
	G	H +/- 0,25	I +/- 0,25
SK 30	31,75	71,65	66,65
SK 40	44,45	94,25	88,25
SK 50	69,85	135,60	126,60
SK 60	107,95	201,65	191,65

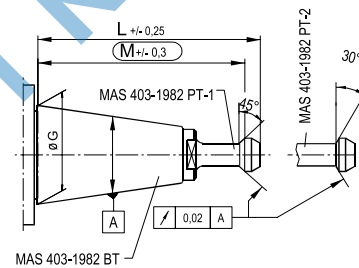


**C**



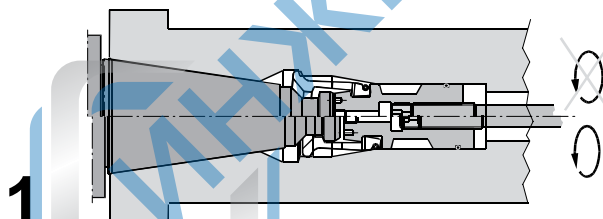
Tool Standard C			
ANSI B5.50-78	ISO 7388 / 1 / 2 Typ B		
	G	J +/- 0,30	K +/- 0,30
SK 30	31,75	59,30	55,65
SK 40	44,45	84,50	79,25
SK 50	69,85	127,00	119,40
SK 60	107,95	199,95	189,45

Tool Standard F		Tool Standard E	
MAS 403-1982 BT/PT 1 (45°)	MAS 403-1982 BT/PT 2 (30°)		
	G	L +/- 0,25	M +/- 0,25
SK 30	31,75	71,35	66,35
SK 40	44,45	100,35	93,35
SK 50	69,85	146,75	136,75

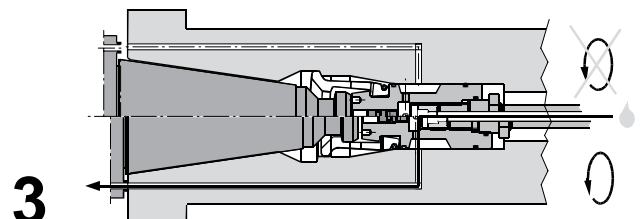


**F E**

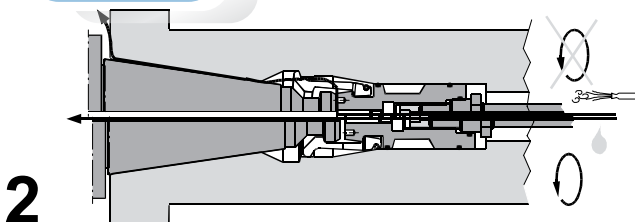
# Medium Transfer SK



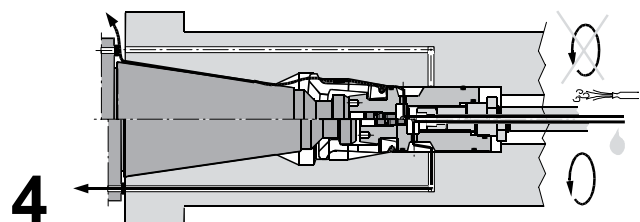
Without medium transfer



Radial medium transfer

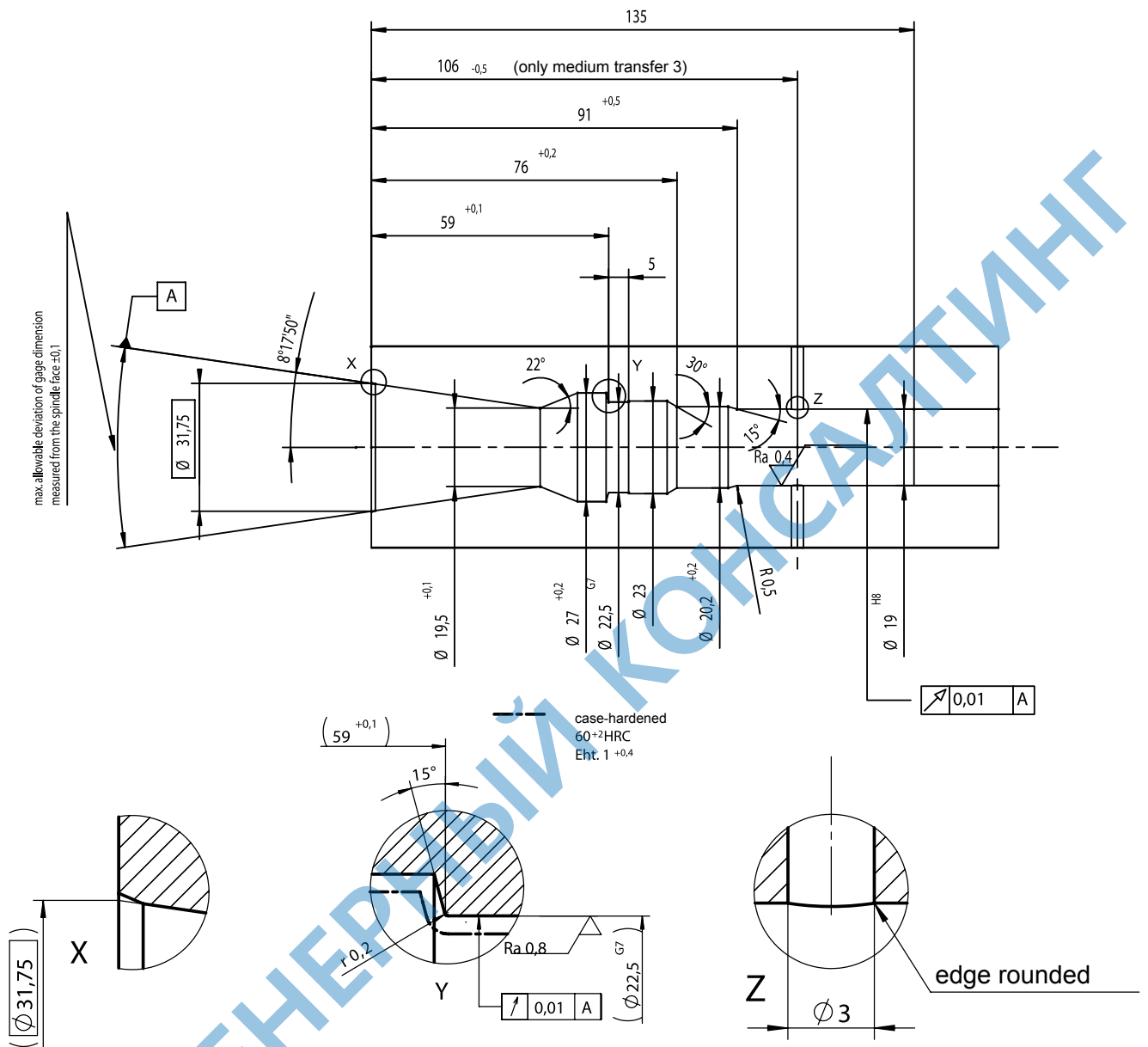


Axial medium transfer

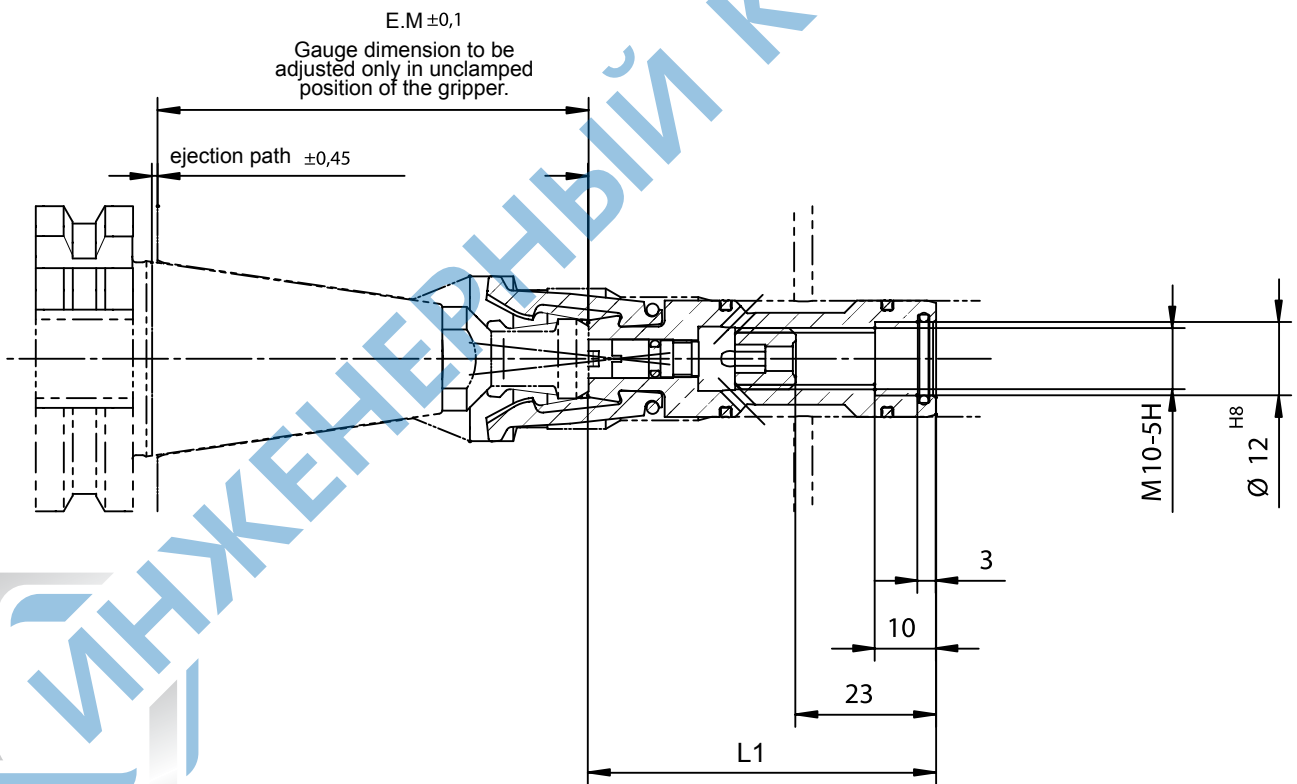
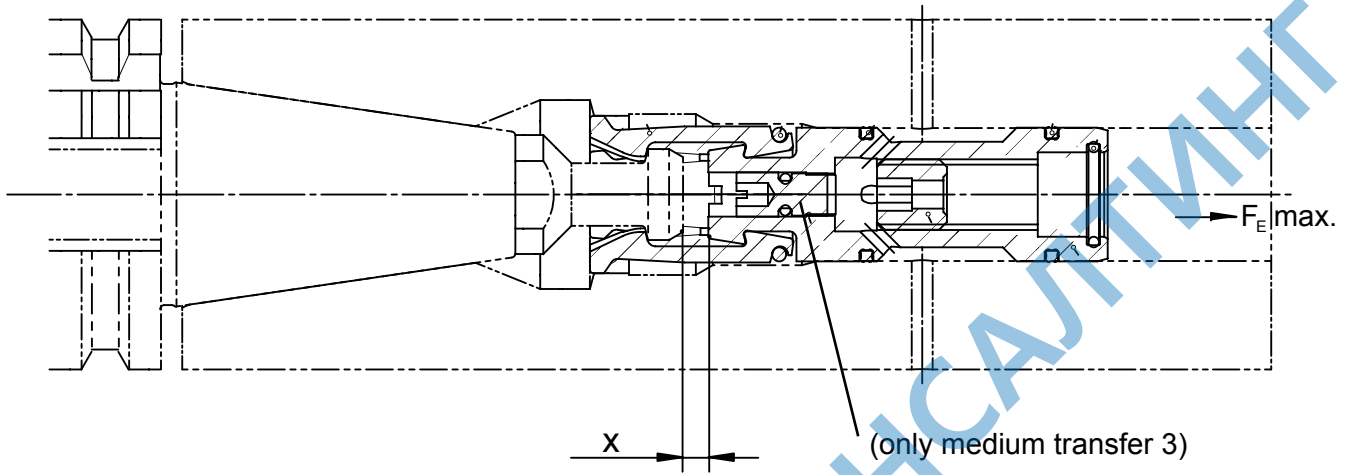


Radial coolant transfer axial air transfer  
(transfer collar)

# SK 30



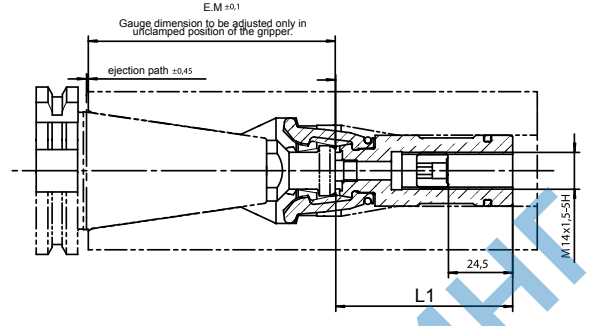
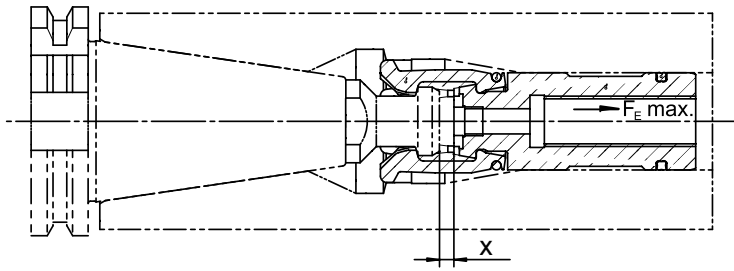
Tool Standard	A	C	E	F
Form	I			
Medium Transfer	1 / 2 / 3			
Pull force $F_E$ max. (N)	6000			
Stroke min. (mm)	5,5			
Ejection path (mm)	0,95	1,6	0,95	0,95
Gauge dimension E.M. (mm)	70,7	57,7	70,4	70,4
x	3,8	2,9	3,1	3,05
$L_1$	57,1	69,8	57,8	57,8
<b>Order number</b>				
Gripper with holder	95.101.452.3.2	95.101.450.3.2	95.101.453.3.2	95.101.451.3.2
Mounting tool	95.101.280.9.2			



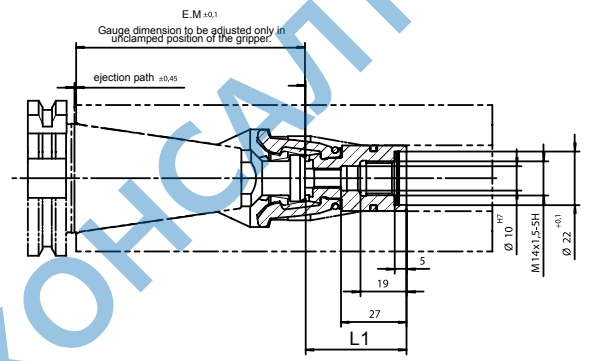
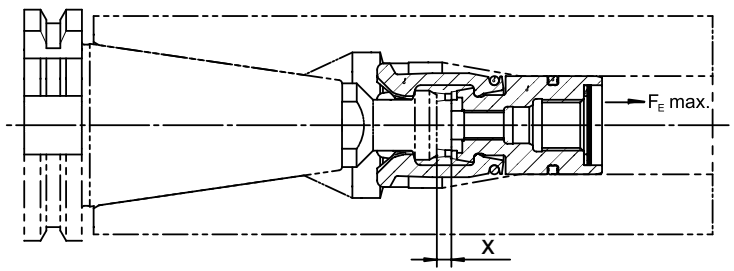




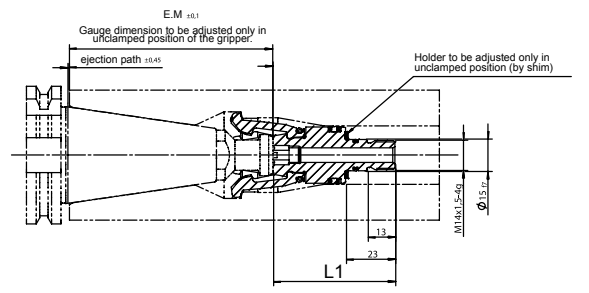
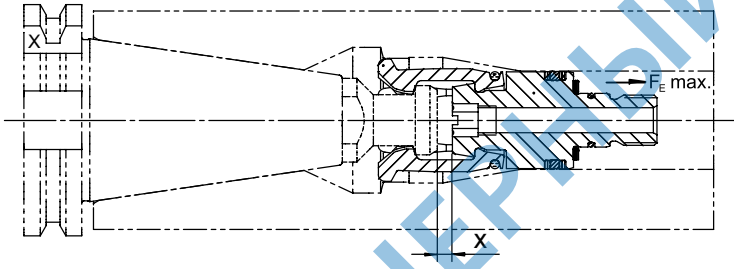
I



II

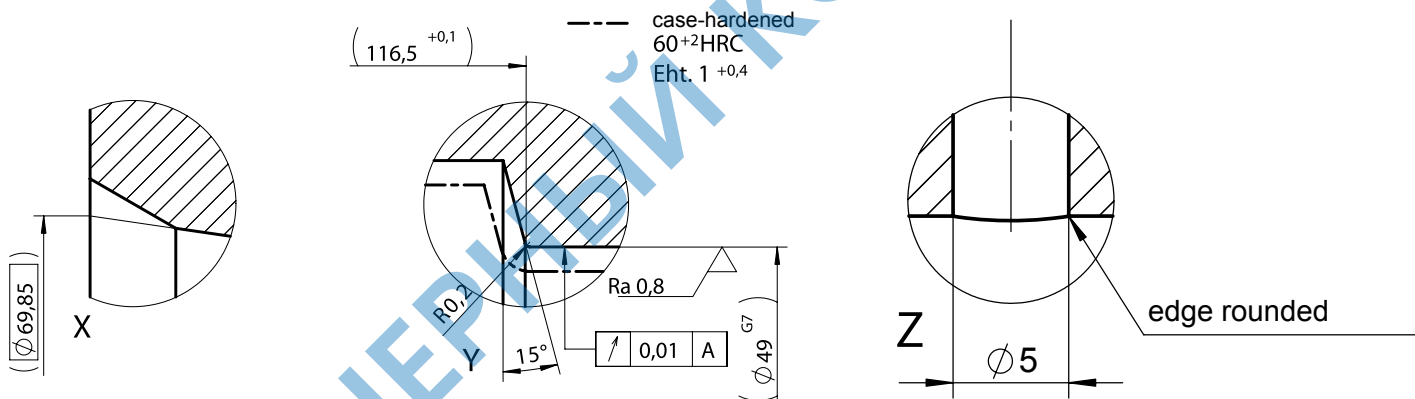
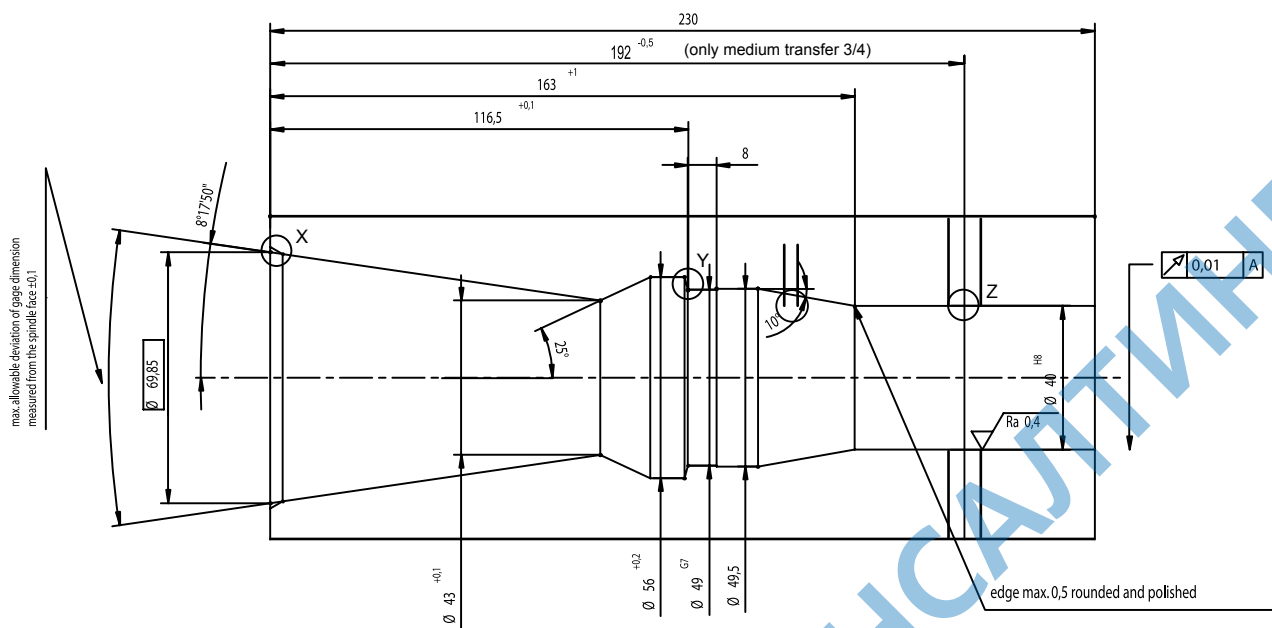


III



C		C		C		E		F	
I	I	I	II	III	I	II	I	II	
2	3	4	1/2	1/2	1/2	1/2	1/2	1/2	
15000									
5,5									
1,6					0,65				
82,9					99,7				
2,65	2,65	2,65	2,65	2,65	3,85	3,85	3,85	3,85	
77,5	77,9	78,2	51,6	67,3	60,3	35,3	60,3	35,3	
95.101.233.3.2	95.101.290.3.2	95.101.295.3.2	95.101.685.3.2	95.101.569.3.2	95.101.485.3.2	95.101.687.3.2	95.101.486.3.2	95.101.686.3.2	
95.101.372.5.1	95.101.372.5.1	95.101.372.5.1			95.101.372.5.1		95.101.372.5.1		
95.101.281.9.2	95.101.281.9.2	95.101.281.9.2	95.100.975.4.2	95.100.975.4.2	95.101.281.9.2	95.100.975.4.2	95.101.281.9.2	95.100.975.4.2	

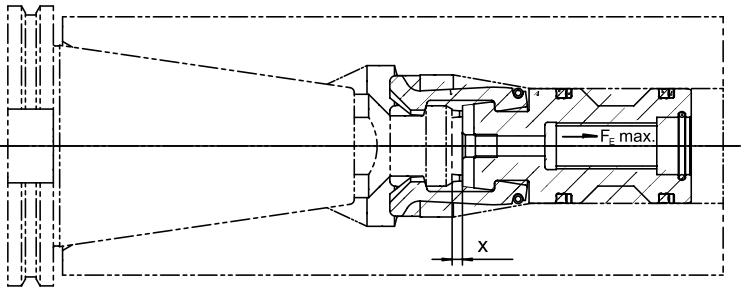
# SK 50



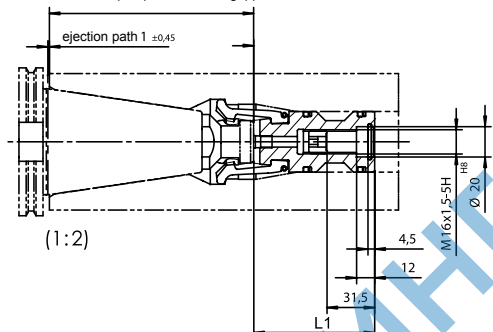
Tool Standard	A	A	A	A
Form	I	I	I	II
Medium Transfer	1/2	3	4	1/2
Pull force $F_E$ max. (N)				
Stroke min. (mm)				
Ejection path (mm)				
Gauge dimension E.M. (mm)	134,6			
x	3,6	3,6	3,6	3,7
L1	79,7	79,7	79,7	46,2
<b>Order number</b>				
Gripper with holder	95.101.297.3.2	95.101.298.3.2	95.101.356.3.2	95.101.540.3.2
Lock screw	95.103.636.5.1	95.103.636.5.1	95.103.636.5.1	95.103.636.5.1
Mounting tool	95.101.337.9.2	95.101.337.9.2	95.101.337.9.2	95.101.337.9.2



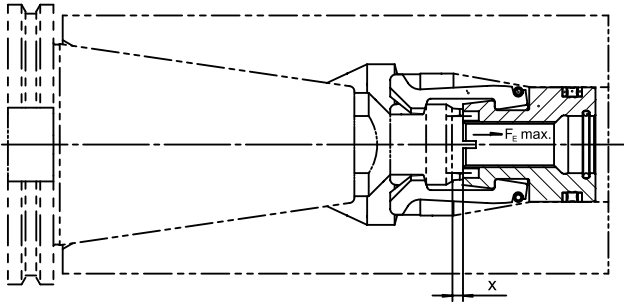
I



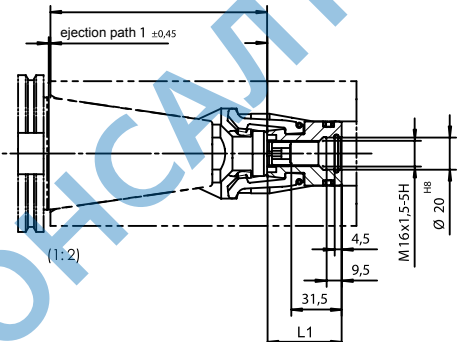
E.M ±0,1  
Gauge dimension to be adjusted only in unclamped position of the gripper.



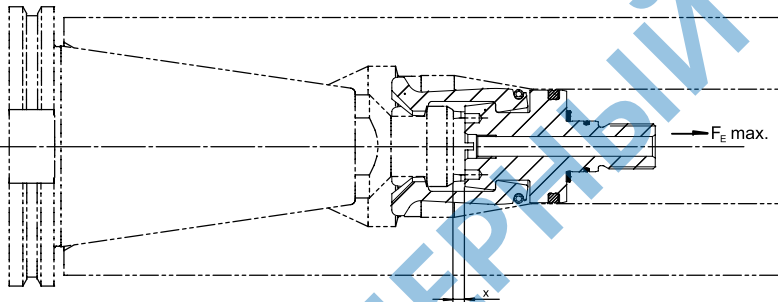
II



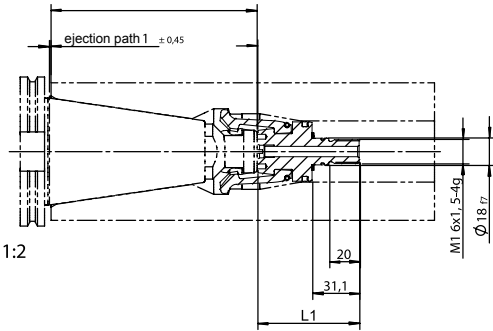
E.M ±0,1  
Gauge dimension to be adjusted only in unclamped position of the gripper.



III



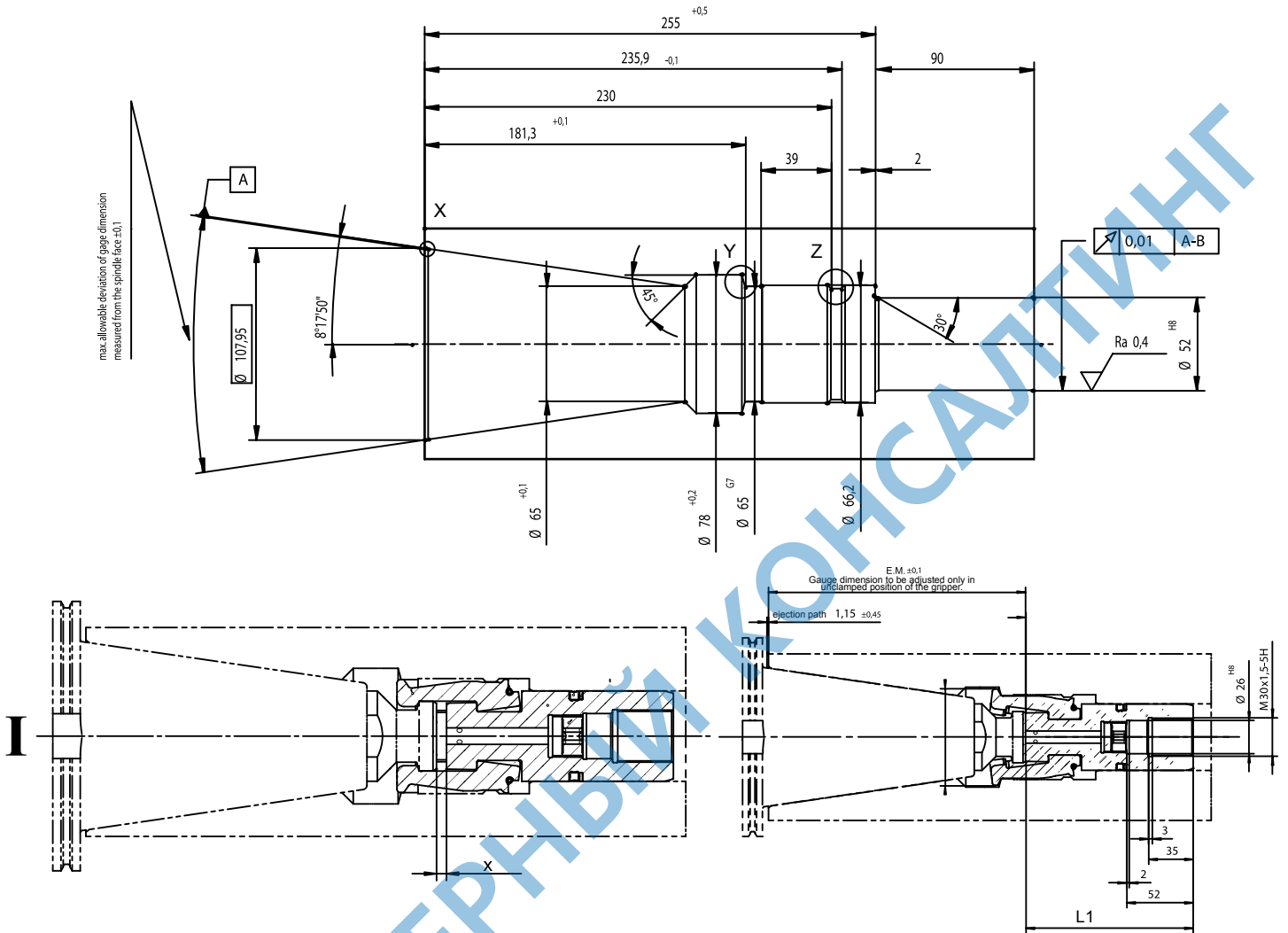
E.M ±0,1  
Gauge dimension to be adjusted only in unclamped position of the gripper.



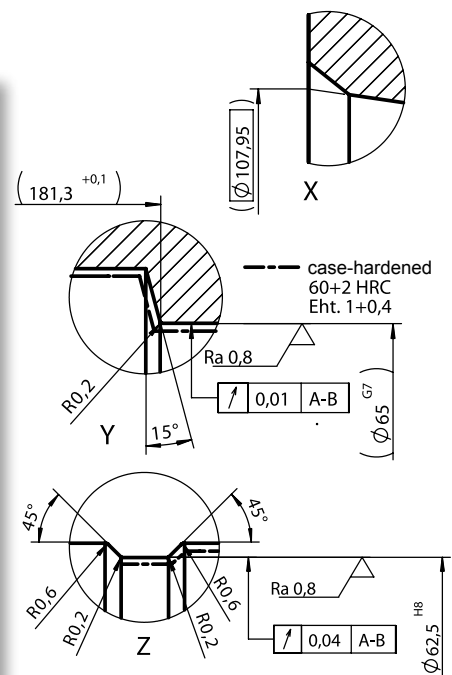
A	C	C	C	C	E	F
III	I	I	II	III	I	I
1/2	1/2	4	1/2	1/2	1/2	1/2
	25000					
	6					
	1					
	126			145,75		
3,6	3,65	3,65	3,65	3,65	3,55	3,55
66,8	87,9	87,9	55	75,9	68,8	68,8
95.101.386.3.2	95.101.306.3.2	95.101.522.3.2	95.101.668.3.2	95.101.385.3.2	95.101.476.3.2	95.101.506.3.2
	95.103.636.5.1	95.103.636.5.1	95.103.636.5.1		95.103.636.5.1	95.103.636.5.1
95.100.421.4.2	95.101.337.9.2	95.101.337.9.2	95.101.337.9.2	95.100.421.4.2	95.101.337.9.2	95.101.337.9.2



# SK 60



Tool Standard	A	C
Form	I	I
Medium Transfer	1/2	1/2
Pull force $F_E$ max. (N)	80000	
Stroke min. (mm)	8,5	
Ejection path (mm)	1,15	0,95
Gauge dimension E.M. (mm)	200,5	199
x	5,75	5,6
L1	130,5	132,2
<b>Order number</b>		
Gripper with holder	95.101.308.3.2	95.101.307.3.2
Lock screw	95.101.092.4.1	95.101.092.4.1
Mounting tool	95.101.284.9.2	95.101.284.9.2

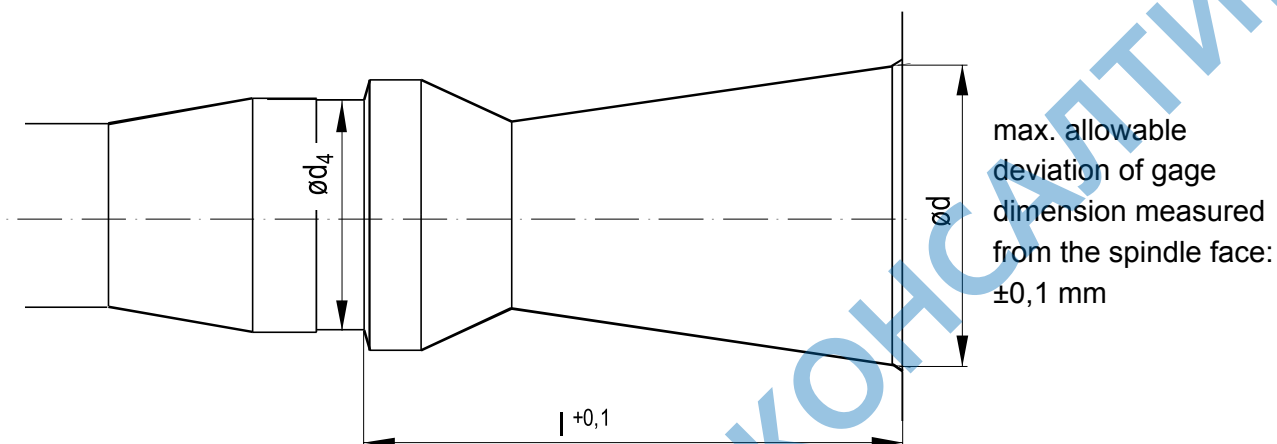


# Measuring Device

## SK-Spindle-Edge

Use the measuring device for measuring:

- the position of the diameter  $d$
- the measure  $l$



Size	$l$	$\varnothing d$	$\varnothing d_4$	Tool Standard	Order number
<b>SK30</b> universal- contour	59	31,75	22,5	DIN 69871 / 69872 // ISO 7388 / 1 / 2 type A	95.102.575.3.2
				ANSI B 5.50 – 1978 // ISO 7388 / 1 / 2 type B	
				MAS 403-1982 BT/PT 30° / 45°	
<b>SK40</b> universal- contour	79,5	44,45	34	DIN 69871 / 69872 // ISO 7388 / 1 / 2 type A	95.100.120.3.2
				DIN 2080 OTT-Rille	
				ANSI B 5.50 – 1978 // ISO 7388 / 1 / 2 type B	
				MAS 403-1982 BT/PT 30° / 45°	
<b>SK50</b> universal- contour	116,5	69,85	49	DIN 69871 / 69872 // ISO 7388 / 1 / 2 type A	95.101.270.3.2
				DIN 2080 OTT-Rille	
				ANSI B 5.50 – 1978 // ISO 7388 / 1 / 2 type B	
				MAS 403-1982 BT/PT 30° / 45°	
<b>SK60</b> universal- contour	181,3	0	65	DIN 69871 / 69872 // ISO 7388 / 1 / 2 type A	95.101.274.2.2
				ANSI B 5.50 – 1978 // ISO 7388 / 1 / 2 type B	

## HSK CLAMPING SYSTEM FOR AUTOMATIC TOOL CHANGE (DIN 69893)

Studies at the RWTH-Aachen and customer applications have shown significant advantages in precision and stiffness of the HSK-interface compared to the steep taper interface.

- Higher position accuracy of the tool due to axial face and taper position.
- Ideal for high speed machining.
- Easy tool handling due to low weight and dimensions of the short taper.
- Heavy duty chip removal can be achieved through total stiffness of the Interface, high pull forces and the resulting transmittable torque.

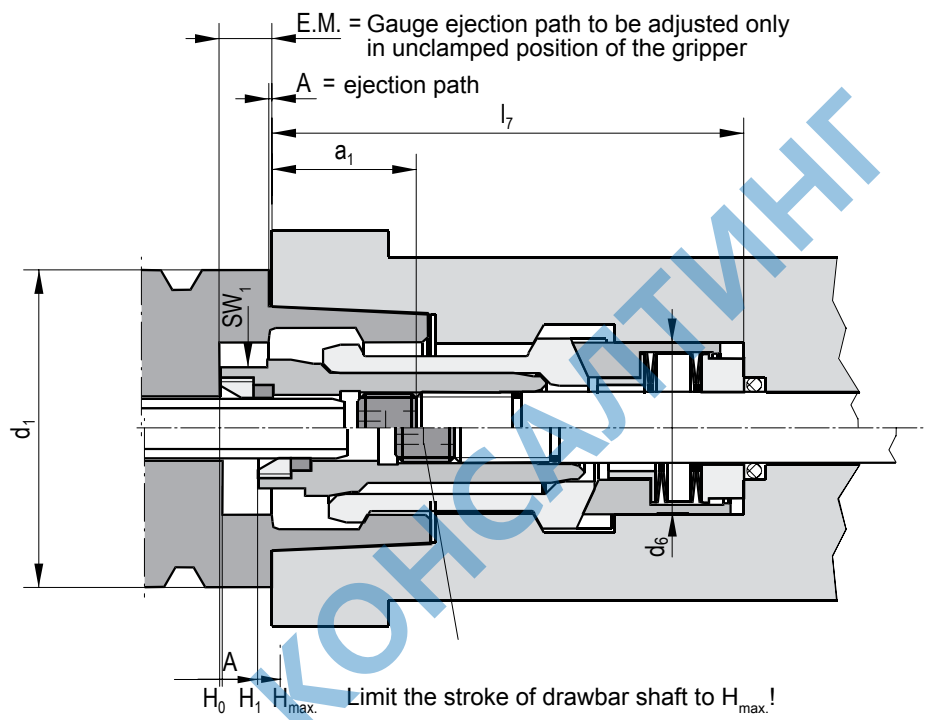
The automatic interfaces HSK 25 - HSK 160 are available in 4 forms:

- Form A  
Is the most common tool standard with internal drive keys.
- Form B:  
Has external drive keys, a larger flange diameter, and is used mainly for heavy duty chip removal.
- Form E:  
Without drive key, is used for high speed operation.
- Form F:  
Has no sealing against coolant and is used mainly in the wood working and plastic industry.

All automatic tool clamping systems (Form A/B/E/F) are equipped with the patented OTT-JAKOB gripper geometry. This contour allows to triple the transmittance of the pull force. The forces therefore, occur mainly in the interface area of the spindle.



# HSK standard (type K)



Features
<ul style="list-style-type: none"> <li>• Parallel moving gripper segments</li> <li>• High static and dynamic stiffness</li> <li>• Large contact area</li> </ul>

Type	E25	A32 B40 E32	A40 B50 E40 F50	A50 B63 E50 F63	A63 B80 E63 F80	A80 B100	A100 B125	A125 B160	A160	
Clamping force F max. (N)*	2800	5000	6800	11000	18000	28000	45000	70000	115000	
Stroke max. (mm)	7,0	7,5	8,0	9,0	10,0	11,0	12,5	15,8	24,5	
E.M. +/- 0,1 (mm)	6,5	8,5	8,5	10,5	10,5	13,0	13,0	16,5	17,0	
Ejection (mm)	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	1,0	
F <sub>Spring</sub> (N)	980	1750	2400	3850	6000	9200	15000	24500	40000	
Stroke with tool	4,6	5,1	5,6	6,4	7,4	8,3	9,15	10,8	17,5	
Lock screw	SW 3	SW 3	SW 4	SW 4	SW 5	SW 6	SW 6	SW 14	SW 16	
sw <sub>1</sub>	SW 10	SW 12	SW 15	SW 18	SW 22	SW 27	SW 36	SW 46	SW 55	
a <sub>1</sub>	5,5	19,5	27	26,5	31,5	31,5	34,5	40,5	56	
d <sub>1</sub> min.	A/E	25	32	40	50	63	80	100	125	160
	B/F		40	50	63	80	100	125	160	
d <sub>6</sub>	14	17	21	26	34	42	53	67	85	
l <sub>7</sub>	40	62,5	78	84	94	98	124	149	188	
<b>Order number</b>										
Clamping unit	95.600.011.3.6	95.600.008.3.6	95.600.007.3.6	95.600.004.3.6	95.600.001.3.6	95.600.002.3.6	95.600.003.3.6	95.600.009.3.6	95.600.010.3.6	
			F50 = 95.600.016.3.6	F63 = 95.600.083.3.2	F80 = 95.600.015.3.6					
Lock screw	95.600.271.4.1	95.600.121.4.1	95.600.122.4.1	95.101.597.5.1	95.101.372.5.1	95.103.636.5.1	95.103.636.5.1	95.600.101.4.1	95.600.372.4.1	
Mounting tool	95.601.561.3.2	95.601.111.3.1	95.601.112.3.1	95.601.113.3.1	95.601.114.3.1	95.601.115.2.1	95.601.116.2.1	95.601.117.2.1	95.601.118.2.1	

\* The clamping forces in this table are the standard forces.  
Our HSK clamping units can realize much higher clamping forces.  
Please contact us for further information.





# HSK black (type B)

A shorter tool changing time represents a constant challenge, which even increased with HSC-manufacturing. Fast working automatic clamping systems are necessary which have to be more accurate, rigid and universal than conventional systems. OTT-JAKOB met these requirements by developing a complete new HSC-clamping unit.



In our company in Lengenwang several clamping units were clamped and unclamped up to 9 million times with a speed of 0.13 seconds. The wear was minimal and the clamping force reduction insignificant.

The OTT-JAKOB HSK clamping unit type B has a controlled movement of the fingers and guarantees safe clamping and unclamping of the tool. Fastest clamping is thus only a topic of the control and the process optimization in the machine software.

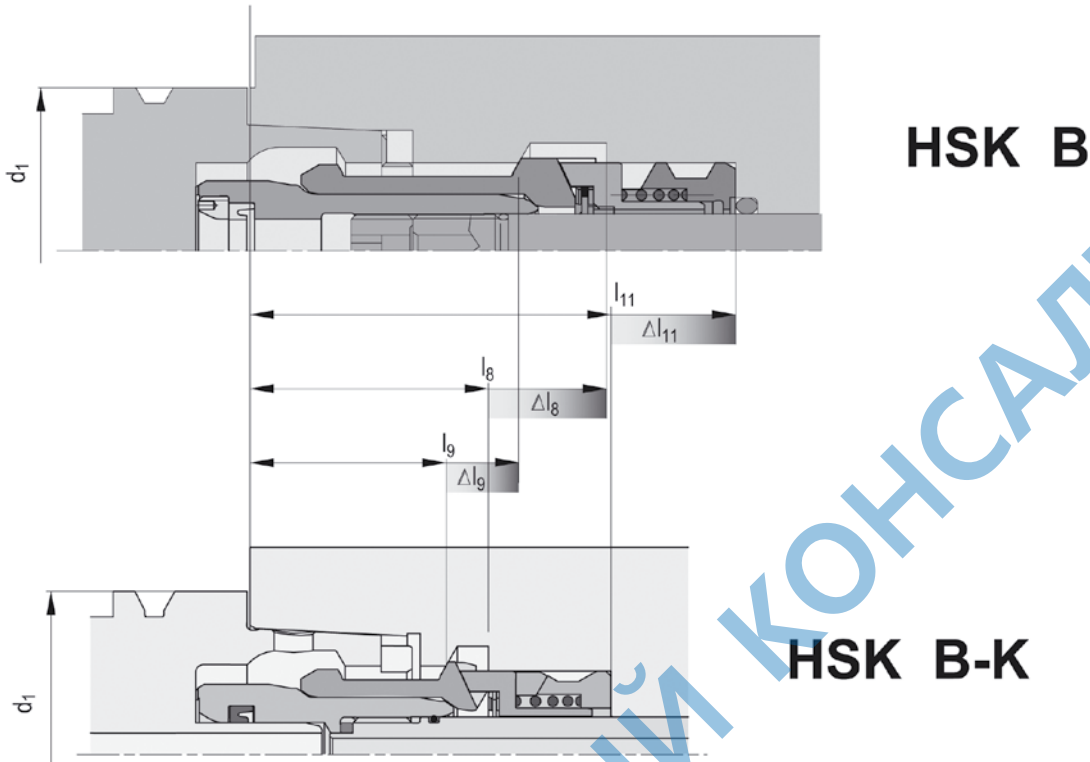
Type	E20	E25	A32 B40 E32	A40 B50 E40 F50	A50 B63 E50 F63	A63 B80 E63 F80	A80 B100	A100 B125	
Clamping force F max. N)*	1800	2800	5000	6800	11000	18000	28000	45000	
Stroke max. (mm)	6,5	7,0	7,5	8,0	9,0	10,0	11,0	12,5	
E.M. +/- 0,1 (mm)	5,5	6,5	8,5	8,5	10,5	10,5	13,0	13,0	
Ejection (mm)	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5	
F <sub>Spring</sub> (N)	600	980	1750	2400	3850	6000	9200	15000	
Stroke with tool	3,5	4,6	5,1	5,6	6,4	7,4	8,3	9,15	
Lock screw	SW 2	SW 3	SW 3	SW 4	SW 4	SW 5	SW 6	SW 6	
sw <sub>1</sub>	SW 8	SW 10	SW 12	SW 15	SW 18	SW 22	SW 27	SW 36	
a <sub>1</sub>	7	5,5	19,5	27	26,5	31,5	31,5	34,5	
d <sub>1</sub> min.	A/E	20	25	32	40	50	63	80	100
	B/F			40	50	63	80	100	125
d <sub>6</sub>	11	14	17	21	26	34	42	53	
l <sub>7</sub>	32	40	62,5	78	84	94	98	124	
<b>Order number</b>									
Clamping unit	95.600.149.3.6	95.600.038.3.6	95.600.113.3.6	95.600.034.3.6	95.600.035.3.6	95.600.033.2.6	95.600.036.2.6	95.600.037.2.6	
Lock screw	95.603.185.4.1	95.600.271.4.1	95.600.121.4.1	95.600.122.4.1	95.101.597.5.1	95.101.372.5.1	95.103.636.5.1	95.103.636.5.1	

\* The clamping forces in this table are the standard forces.  
Our HSK clamping units can realize much higher clamping forces.  
Please contact us for further information.



# HSK black (type BK)

Our HSK-clamping unit type B is also available in shorter versions.  
 (Attention: Not to be confused with repair-clamping-units on page 20)



Dimensions		$l_9$	$l_8$	$l_{11}$	
A32	B	95.600.113.3.6	30	43	62,5
	B-K	95.600.045.3.6	25	38	57,5
A40	B	95.600.034.3.6	44	58	78
	B-K	95.600.173.2.6	25,5	35	50
A50	B	95.600.035.3.6	45	61	84
	B-K	95.600.118.3.6	31,5	45	64
	B-K	95.600.176.2.6	30	37,5	53
A63	B	95.600.033.2.6	52	69	94
	B-K	95.600.051.2.6	40	57	82
	B-K	95.600.172.2.6	38	46,5	65
A80	B	95.600.036.2.6	56	72	98
	B-K	95.600.152.1.6	45	59	77
A100	B	95.600.037.2.6	70	93	124
	B-K	95.600.156.1.6	55	73,5	92
A125	B	-	86	112,5	149
	B-K	95.600.159.1.6	68	88	107

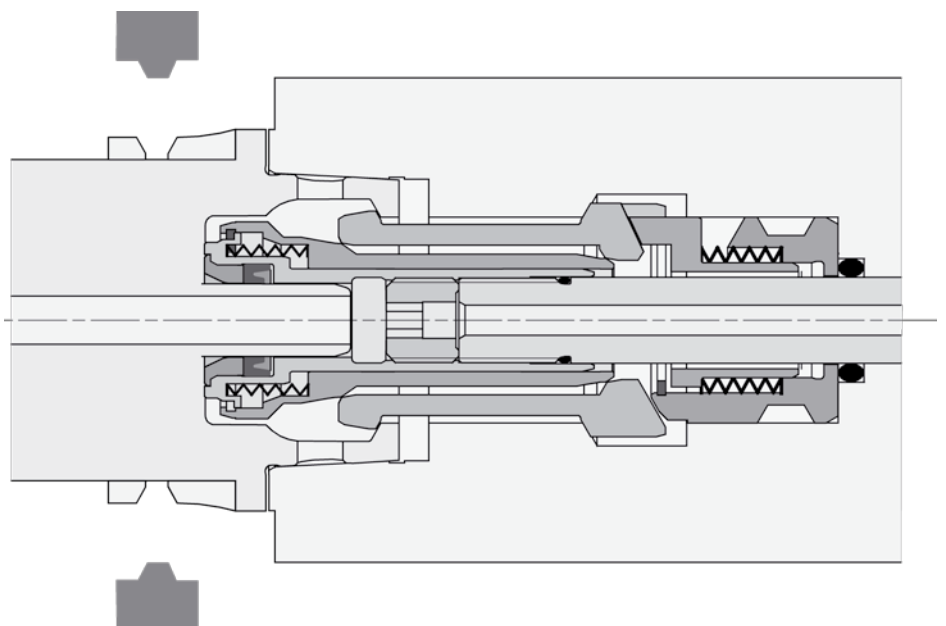
# HSK 2S (Typ C)



The HSK clamping unit 2S (2 Step) is the next generation of OTT-JAKOB clamping units. This clamping unit features a holding function for the tool. When the clamping unit is positioned for tool change, the tools are held by a specified force in the tool change position. With automatic tool changing, the tool changer must be rigidly designed to withstand the tool pull forces. All types of clamping units of the same size will fit in the same spindle contour.

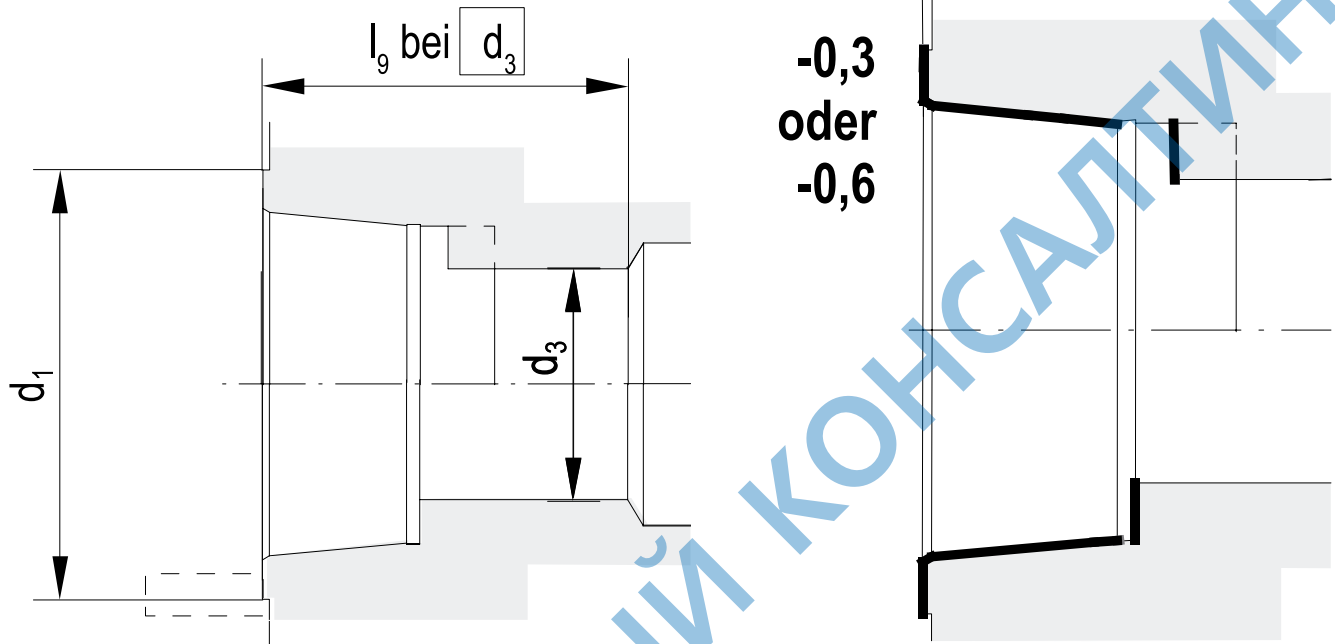
## Features

- Parallel moving gripper segments
- High static and dynamic stiffness
- Locking geometry
- High life expectancy
- Tool holding function



# Repair-clamping-units

We have special repair-clamping-units, if fashioning of the receiver is necessary.



Nominal size	Clamping unit HSK B		Repair-clamping-units HSK B-E 0,3		Repair-clamping-units HSK B-E 0,6	
	complete	$l_9$	complete	$l_9$	complete	$l_9$
E25	95.600.038.3.6	18,5	95.600.071.9.6	18,2	95.600.087.9.6	17,9
A32 / B40 / E32	95.600.113.3.6	30,0	95.600.072.9.6	29,7	95.600.088.9.6	29,4
A40 / B50 / E40	95.600.034.3.6	44,0	95.600.073.9.6	43,7	95.600.090.9.6	43,4
A50 / B63 / E50	95.600.035.3.6	45,0	95.600.074.9.6	44,7	95.600.091.9.6	44,4
A63 / B80 / E63	95.600.033.2.6	52,0	95.600.075.9.6	51,7	95.600.095.9.6	51,4
A80 / B100	95.600.036.2.6	56,0	95.600.076.9.6	55,7	95.600.096.9.6	55,4
A100 / B125	95.600.037.2.6	70,0	95.600.077.9.6	96,7	95.600.097.9.6	69,4

# Maintenance HSK

## Preventive maintenance schedule

To guarantee the function of the power drawbar the following preventive maintenance schedule must be adhered to.

### Every week

- Check the packing ring in the clamping unit (visual check)
- Check the gripper, is it damaged or dirty, is it sufficient greased (visual check)

Pay attention to:

The regrease cycle depends on the loss of lubrication of the clamping unit.

Cause for the loss of lubrication:

- Seal in the clamping cone is defective
  - Type of medium used can desolve grease
  - Cleaning spray from outside directly on the clamping unit etc.
- Note: METAFLEX Moly-Spray No.70-82 is recommended for a quick regreasing of the clamping unit without gripper-disassembly.

### Every six month or after 200.000 tool changes at the latest

- In unclamped position: Check dimension gauge E.M.
- counter through a clamped tool again
- Test Pull-in-force (we recommend:use Power-Check):  
If the pull-in-force is smaller than 70% of the nominal value, following procedures have to be performed in the following sequence:
  - regrease and test pull-in force again
  - exchange gripper and test again
  - exchange drawbar completely

### Every year or after 500.000 tool changes at the latest

- Exchange the packing ring

### Grease for HSK-clamping unit

Name	Quantity	Order number
METAFLEX-grease-paste Nr. 70-8508*	4 g	0.929100.012
METAFLEX-moly-spray Nr. 70-82	400 ml	06.21001.010
KLÜBER-grease-paste ME 31-52	10 g	06.21001.014
KLÜBER-spray ALTEMP Q NB 50	400 ml	06.21001.015

\* original lubrication and first equipment

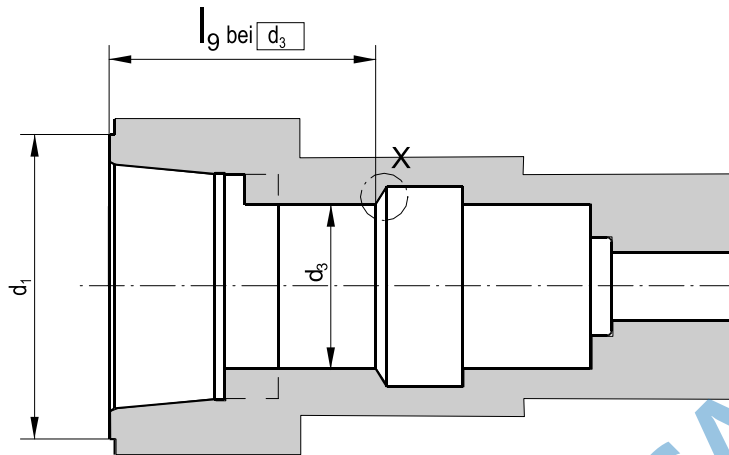
Note: take only grease of one company; do not mix the grease!

### Aid for regreasing with paste in mounted state (clamped without tool):

Name	HSK-size	Order number
brush	A50 - A100	06.16001.001

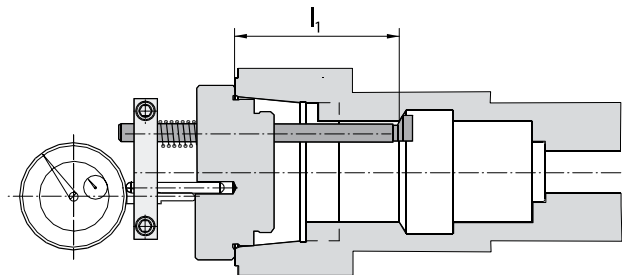
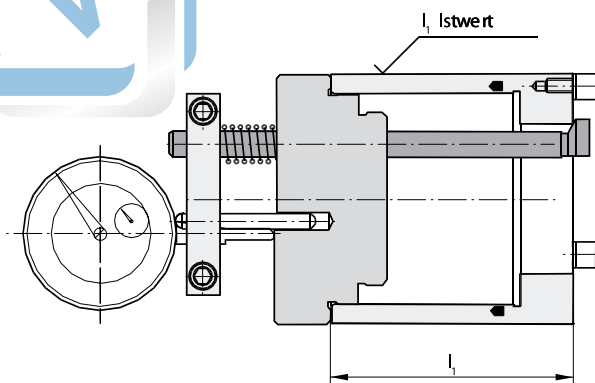
# Measuring Device

## HSK-Spindle-Edge



Nominal size	„reference length“		Order number
	$l_{g \text{ js8}}$	(at $d_3$ )	
E 25	18,5 ±0,0165	(14)	95.601.342.3.2
A 32 / B 40 / E 32	30 ±0,0165	(17)	95.601.340.3.2
A 40 / B 50 / E 40	44 ±0,0195	(21)	95.601.332.3.2
A 50 / B 63 / E 50 / F 63	45 ±0,0195	(26)	95.601.322.3.2
A 63 / B 80 / E 63 / F 80	52 ±0,023	(34)	95.600.760.3.2
A 80 / B 100	56 ±0,023	(42)	95.601.358.3.2
A 100 / B 125	70 ±0,023	(53)	95.601.361.3.2
A 125 / B 160	86 ±0,027	(67)	95.601.361.3.2
A 160	113 ±0,027	(85)	95.601.363.3.2
A 50 short / B 63 short / E 50 short / F 63 short	31,5 ±0,0195	(26)	95.601.329.3.2
A 63 short	40 ±0,0195	(34)	95.600.898.3.2
A 63 short - 38	38 ±0,0195	(34)	95.601.204.3.2

### Procedure for setting gage Inner contour measuring





# Power-Check II

The power check is a measuring device used to check the force with which the tool is being pulled into the spindle taper. The specified pull force is very important for the quality of machining.

If the pull force falls below a specified value which will eventually occur due to mechanical fatigue (e.g. spring wear, breakage, etc.). Then one or more of the following will result

- tool wear will significantly increase
- the tool vibrates and leaves a bad surface finish
- fretting occurs in the spindle taper and tool holders
- unexpected tool breakage
- reduced tool life
- safety of the machine operator is at risk

Including the power check into your preventive maintenance schedule will allow you to notice a reduction of the pull force and prevent the above mentioned problems before they occur. Early preventive actions can be taken to:

- avoid unnecessary machine shut down
- avoid a number of blurry problems, which can not be defined (e.g. excessive tool wear, loss of tool life, and tool breakage)

## Features

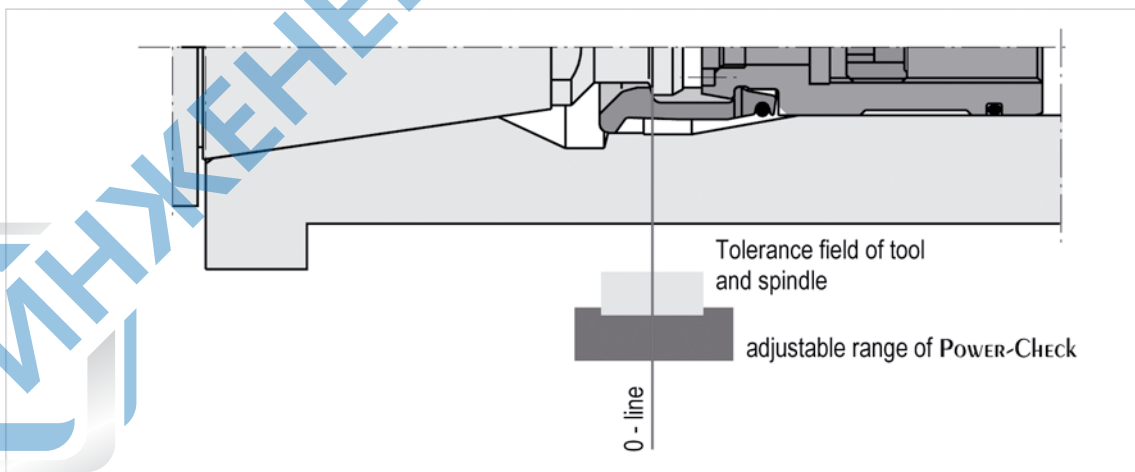
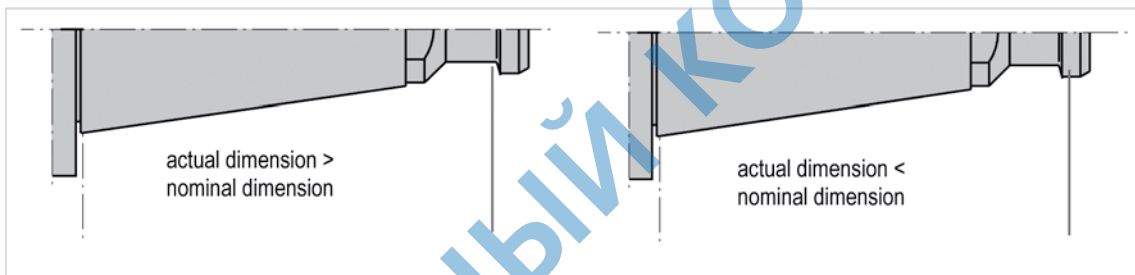
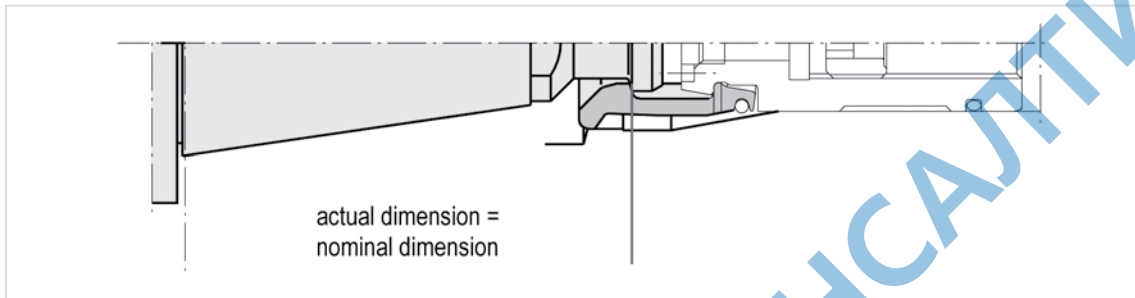
- Exchangeable adapter ensures the universal use for all steep taper and HSK standards.
- pull force measuring mechanism integrated in base unit
- no power connection required
- auto power off
- display in kilonewton
- internal data memory for a large number of measured values
- tool magazine storage ensures applicability at any time
- Standby mode for reduced power consumption and extended battery life



WEEE-Reg.-Nr.DE 93666638

# Power-Check II

Force measuring within the tolerancefield of spindle and tool is possible. Common powercheck gages measure only the nominal dimensions of the taper. If the part dimensions deviate, the measured value would be wrong. The Power-Check offers the possibility to take those tolerances in its consideration.



# Power-Check II

The Power-Check II can be used in various modes.

## Manual operation

The measured pull-force is read from the display during manual operation. In addition, the measured value is stored internally and may be logged by an adequate reading device (USB interface).

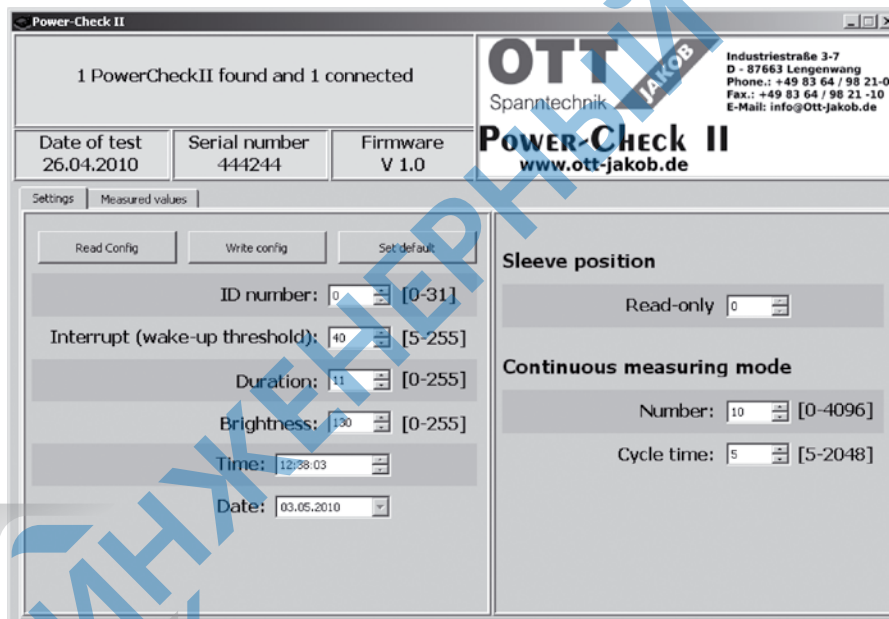
## Automatic operation

In automatic operation, the measured pull-force is stored internally and can be logged with an adequate reading device (USB interface). During automatic operation, application from a tool magazine is possible.

## Continuous measuring mode

In continuous measuring mode, it is possible to perform a defined number of measurements with a defined time interval. The number and time interval may be adjusted using the Power-Check II - PC software.

## Power-Check software



The software contains the driver for charging the pull force measurement system Power-Check II battery. The software allows adjusting system parameters and reading and exporting measured values stored in the system.

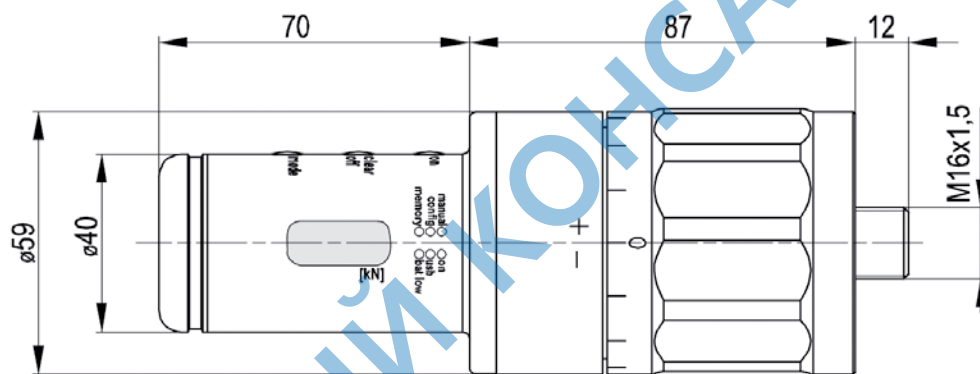
The following measured values are displayed here:

Measurement, Date, Time, Measured value [kN], Sleeve position, Device ID

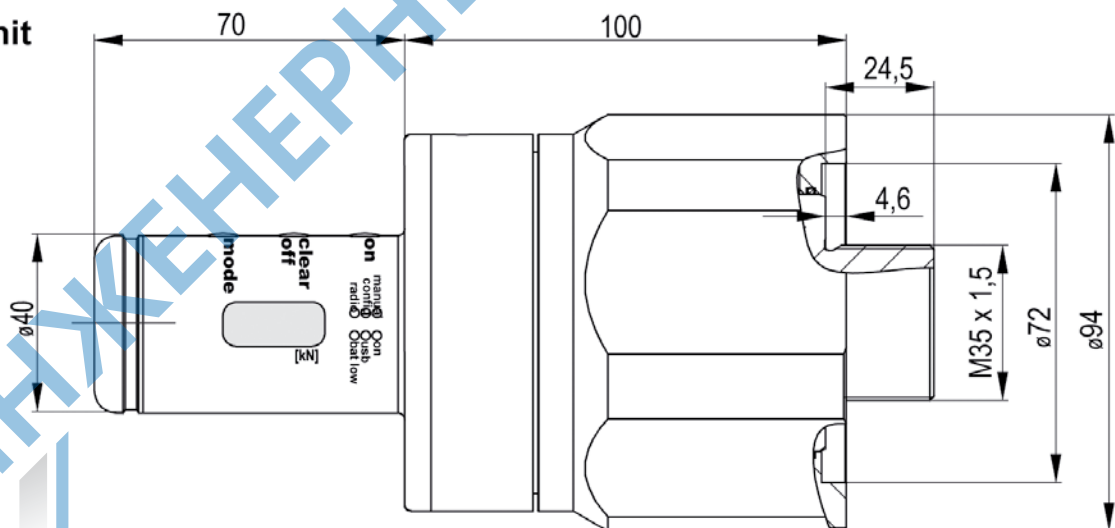
# Power-Check II

Term	Measuring range	Connecting Thread	Order number
Basic unit Power-Check II	0,5 - 5 kN	M16 x 1,5	95.103.134.9.2
	2,5 - 20 kN	M16 x 1,5	95.103.135.9.2
	10 - 75 kN	M16 x 1,5	95.103.136.9.2
	25 - 200 kN	M35 x 1,5	95.103.137.9.2

Basic units  
5, 20, 75 kN




Basic unit  
200 kN



# Power-Check II

Size	Tool standard	Adapter for manual operation	Adapter for automatic operation
<b>SK 30</b> (M16 x 1,5)	ISO DIN 69871/872	95.101.582.9.2	95.103.310.3.2
	ANSI B 5.50	95.101.583.9.2	95.103.311.3.2
	MAS 403/45 BT/PT 1	95.101.584.9.2	95.103.312.3.2
	MAS 403/30 BT/PT 2	95.101.585.9.2	95.103.313.3.2
	DIN 2080	95.101.625.9.2	
<b>SK 40</b> (M16 x 1,5)	ISO DIN 69871/872	95.101.586.9.2	95.103.237.3.2
	ANSI B 5.50	95.101.587.9.2	95.103.238.3.2
	MAS 403/45 BT/PT 1	95.101.588.9.2	95.103.239.3.2
	MAS 403/30 BT/PT 2	95.101.589.9.2	95.103.240.3.2
	MAS 403/0	95.101.694.9.2	
	DIN 2080	95.101.626.9.2	
<b>SK 45</b> (M16 x 1,5)	ISO DIN 69871/872	95.101.590.9.2	
	ANSI B 5.50	95.101.591.9.2	
	MAS 403/45 BT/PT 1	95.101.592.9.2	
	MAS 403/30 BT/PT 2	95.101.593.9.2	
	DIN 2080	95.101.627.9.2	
<b>SK 50</b> (M16 x 1,5)	ISO DIN 69871/872	95.101.594.9.2	95.103.097.9.2
	ANSI B 5.50	95.101.595.9.2	95.103.241.3.2
	MAS 403/45 BT/PT 1	95.101.596.9.2	95.103.242.3.2
	MAS 403/30 BT/PT 2	95.101.597.9.2	95.103.243.3.2
	MAS 403/0	95.101.662.9.2	
	DIN 2080	95.101.628.9.2	
<b>SK 60</b> (M16 x 1,5)	ISO DIN 69871/872	95.101.598.9.2	
	ANSI B 5.50	95.101.599.9.2	
	MAS 403/45 BT/PT 1	95.101.601.9.2	
	MAS 403/30 BT/PT 2	95.101.602.9.2	
<b>HSK</b> (M16 x 1,5)	E 25	95.600.069.9.2	
	A 32 / B 40 / E 32	95.600.070.9.2	95.602.045.3.2
	A 40 / B 50 / E 40 / F 50	95.600.071.9.2	95.602.120.3.2
	A 50 / B 63 / E 50 / F 63	95.600.072.9.2	95.602.046.3.2
	A 63 / B 80 / E 63 / F 80	95.600.073.9.2	95.601.851.9.2
	A 80 / B 100	95.600.074.9.2	95.602.140.3.2
	A 100 / B 125	95.600.075.9.2	95.602.047.3.2
	A 125 / B 160	95.600.076.9.2	95.602.048.3.2
<b>HSK</b> (M35 x 1,5)	A 100 / B 125 (only for PC II 200 kN)	95.602.327.3.2	
	A 125 / B 160 (only for PC II 200 kN)	95.602.328.3.2	
<b>Capto</b> (M16 x 1,5)	C4 ISO / PSC 40	95.601.481.9.2	
	C5 ISO / PSC 50	95.601.482.9.2	
	C6 ISO / PSC 63	95.601.266.9.2	
	C8 ISO / PSC 80	95.601.483.9.2	

# Complete Systems



Standardization requires meeting the needs of the user. The Ott universal inside spindle contour is an important step towards modular tooling. It offers the manufacturer of machines and/or spindle units the ability to clamp different steep taper tools (taper/retention knob standard) simply by exchanging the gripper unit.

Several variations of power drawbars with or without coolant, with hydraulic or pneumatic unclamp units can be built into the same spindles.

Our rotary unions and unclamp units together with our clamping systems and the original OTT-JAKOB HSK-clamping units form a unbeatable team.

#### **OTT-JAKOB HSK clamping units:**

Trust the original in all it's variations

#### **OTT-JAKOB rotary unions:**

1 and 2 channel rotary unions. We offer the right rotary union for your case of application.

#### **OTT-JAKOB unclamp units:**

Hydraulic, pneumatic or electric unclamping.

#### **OTT-JAKOB Power-Check II:**

A measuring device used check the force with which the tool is being pulled into the spindle taper.

#### **OTT-JAKOB Assistance Systems:**

Process- and conditon monitoring for tool spindle systems. Two-stage leakage monitoring integrated into the rotary union, position indication of the drawbar, monitoring of the planar tool flange contact and many more.

**WE WILL HOLD, WHAT YOU PROMISE**

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Spanntechnik

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