

Quick-change Clamping System QCS

# Catalogue



WE WILL HOLD, WHAT YOU PROMISE

# OTT

Spanntechnik

JAKOB

## Quick-change Clamping System QCS

# 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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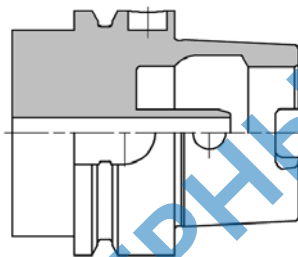
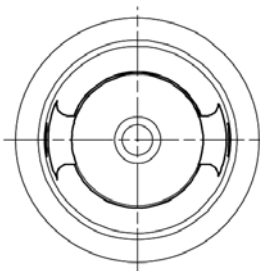
## HSK-T

The HSK interface is the worldwide leading interface of high precision in the sector of rotating tools. Rotating tools in the spindle and static tools on the revolver or other static devices should use the same tool interface in the future. The HSK has a great performance and has great advantages in the sector of rotating applications.

You can minimize the number of different systems due to the use of this interface in the static sector. The modification of the revolver isn't necessary and you can reduce the set-up time.

### Standard

Hollow shaft taper ISO 12164-3; form T



Features:

- high accuracy of the drive keys
- high tool change accuracy
- static tool holding

Application:

- turning centers

OTT-Jakob, a member of the HSK-T working group, offers a manual HSK clamping system with great features and suits the HSK-T and the ICTM standard.



### Quick-change Clamping System QCS

#### Manual quickchange with HSK for shorter set-up times

## Quick, easy and safe clamping

- Clamp- and release procedure with operation angle of only 140°
- low actuating torque to realize high clamping force
- with big hex wrench for solid operation
- designed for holding HSK-T 40 - holder; also suitable for other HSK holder

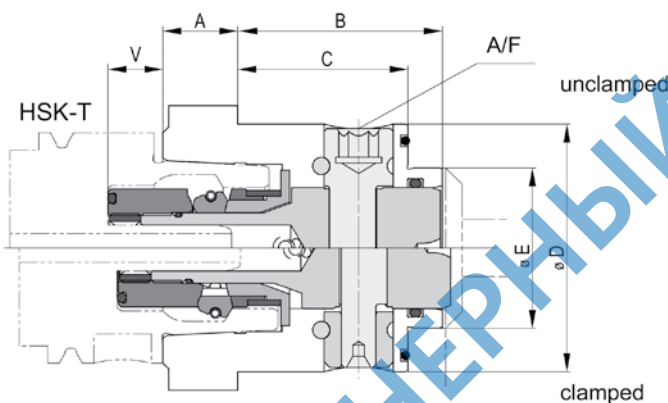


3D-Animation

## Clamping System for high tool change accuracy and repeatability

- Constant load of pull-in force by a symmetric clamping system
- High repeatability by continuous force development
- High repeatability by the HSK-T standard and constant pull-in force even with different tool tolerances

## Dimensions



	Nominal size	32	40	50	63
mm)	Control measure K.M. $\pm 0,05$	9,2	9,5	11,8	11,8
	A	27	34	42	54
	L	43	53,5	63,5	82
	SW	5	6	6	8
	d	35	43	54	68

## Ordering numbers

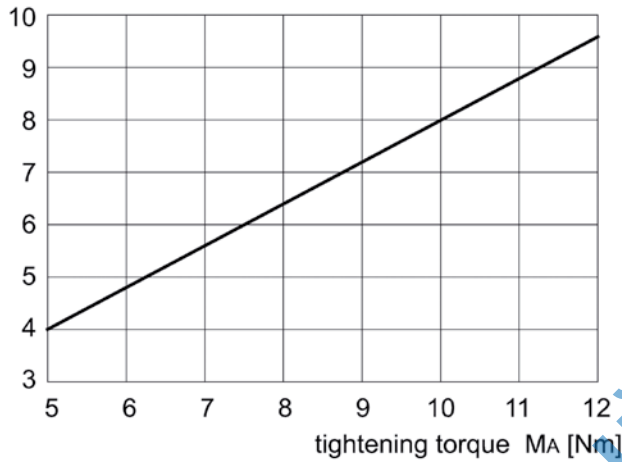
Nominal size	Order number
32	95.700.004.2.6
40	95.700.001.2.6
50	95.700.002.2.6
63	95.700.003.2.6

## Clamping system for high clamping force

- low actuating torque necessary to reach the nominal pull-in force
- constant pull-in force equal to angular position of the clamping screw
- lowest torque compared to competitors

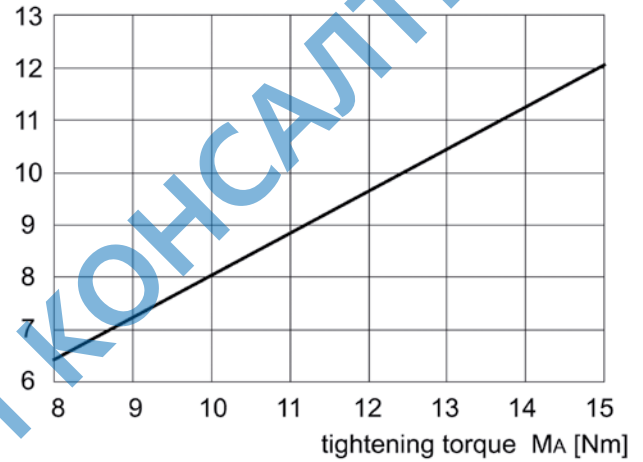
QCS 32

pull force [kN]



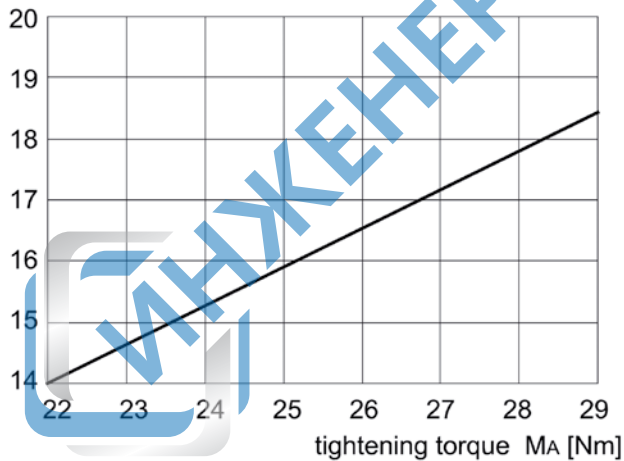
QCS 40

pull force [kN]



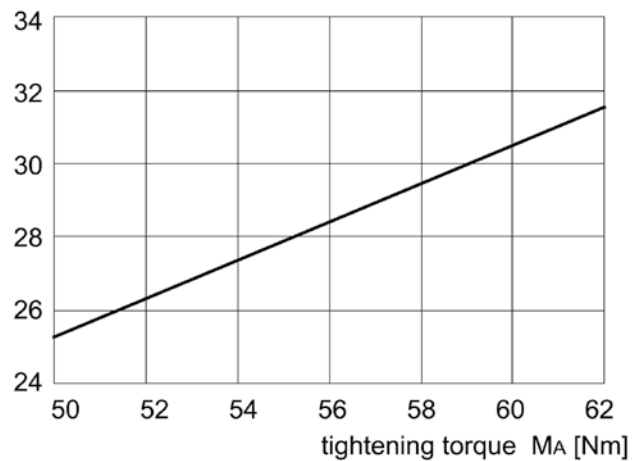
QCS 50

pull force [kN]



QCS 63

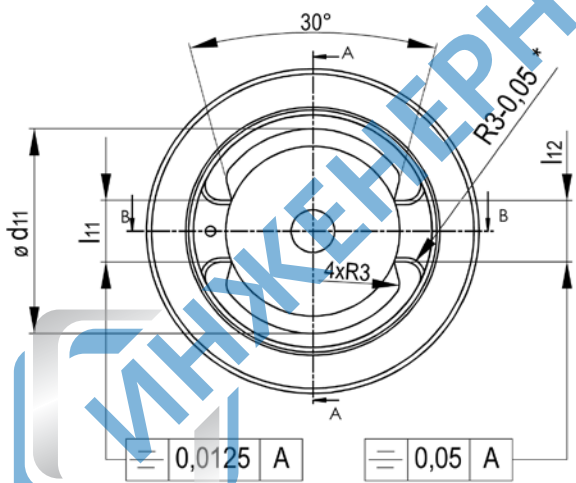
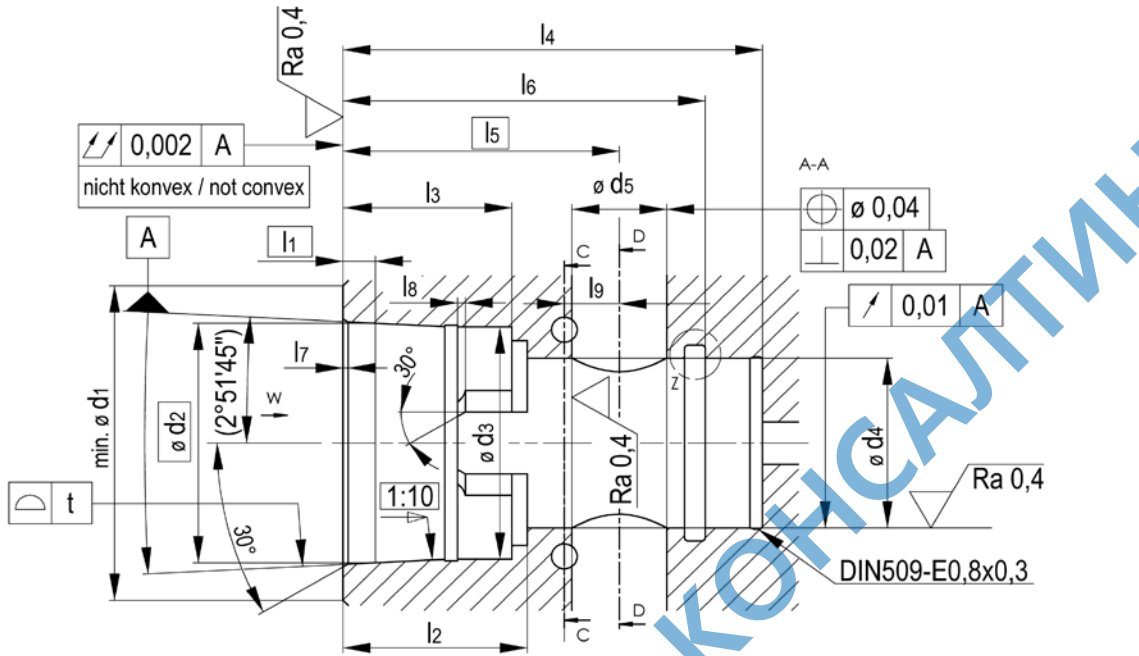
pull force [kN]



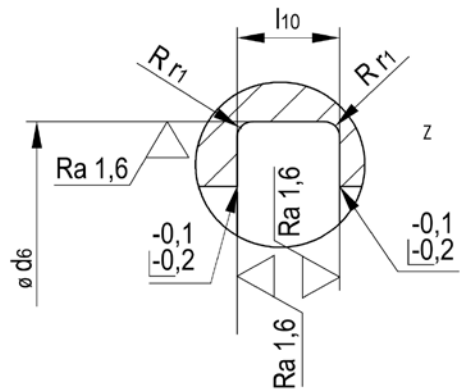
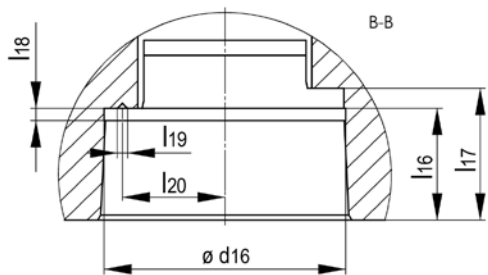
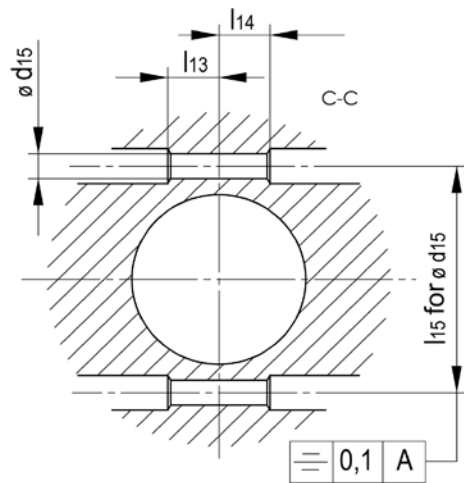
Nominal size	32	40	50	63
Tightening torque [Nm]	~ 10	~ 13	~ 25	~ 55
Pull force [kN]	8	10	16	28



# Inside Contour clamping unit



\* tangend with  $\varnothing d_3$  and measure  $l_{12}$  or  $l_{11}$



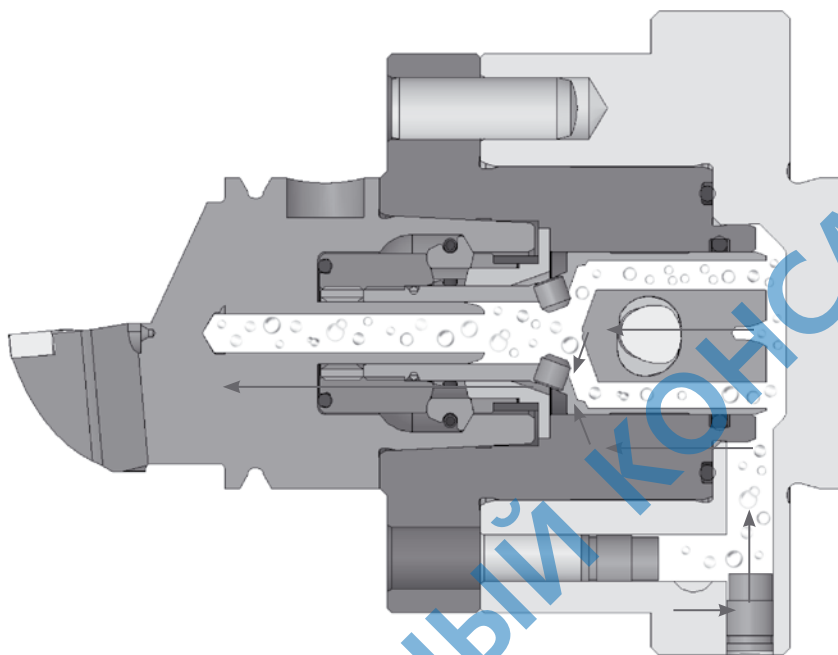
## Dimensions Inside Contour clamping unit

		Nominal size				
		32	40	50	63	
[mm]	d <sub>1</sub>					
	d <sub>2</sub>		23,998	29,998	37,998	47,998
	d <sub>3</sub>	+0,1	23,28	29,06	36,85	46,53
	d <sub>4</sub>	H7	17	21	26	34
	d <sub>5</sub>	H7	10	12	15	18
	d <sub>6</sub>	+0,1	19,5	24,3	30,3	39,2
	d <sub>11</sub>	+0,2	21,5	27	33	41
	d <sub>15</sub>	H12	3	3	4	5
	d <sub>16</sub>	+0,2	23,8	29,6	37,5	47,2
	l <sub>1</sub>		3,2	4	5	6,3
	l <sub>2</sub>	±0,1	17,5	22	27,5	36
	l <sub>3</sub>	+0,2	16,5	20,5	25,5	33
	l <sub>4</sub>		43	53,5	63,5	82
	l <sub>5</sub>		27	34	42	54
	l <sub>6</sub>	-0,2	36	45,4	55	70,8
	l <sub>7</sub>		0,8	0,8	1	1
	l <sub>8</sub>		1	1	1,5	1,5
	l <sub>9</sub>	±0,05	6,10	6,55	8,55	10,55
	l <sub>10</sub>	+0,2	2	2,7	3,3	4
	l <sub>11</sub>	-0,025	6,92	7,92	10,41	12,41
l <sub>12</sub>	±0,05	6,8	7,8	10,3	12,3	
l <sub>13</sub>	±0,2	8	8	10	10	
l <sub>14</sub>	±0,2	8	8	10	10	
l <sub>15</sub>		22 ±0,05	28,5 ±0,05	36 ±0,1	45 ±0,1	
l <sub>16</sub>	+0,2	11,4	14,4	17,9	22,4	
l <sub>17</sub>	+0,2	13,4	16,9	20,9	26,4	
l <sub>18</sub>	±0,1	2	2	2	2,5	
l <sub>19</sub>		~1,5	~2	~2	~2	
l <sub>20</sub>		10	12,5	15,5	20	
r <sub>1</sub>		0,3	0,3	0,5	0,6	
t		0,0015	0,0015	0,0020	0,0020	

For information only; not a manufacturing drawing!

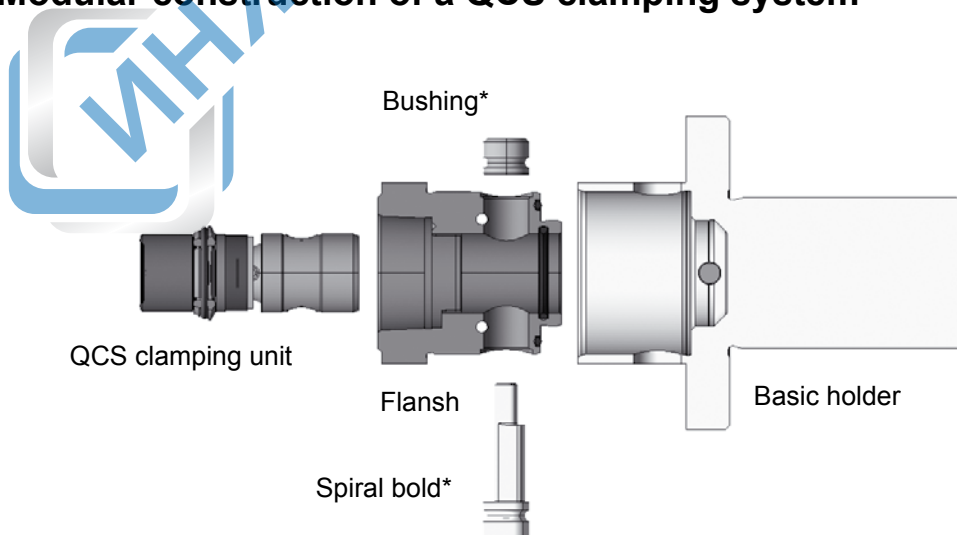
## Optimal coolant supply

- Big coolant cross section from entrance clamping unit to HSK toolholder-
- All way sealing of all parts of the clamping unit for extended life-time toolholders with or without coolant tube can be used



Nominal size	32	40	50	63
Coolant pressure max. [bar]	20	20	20	20
Flow area [mm <sup>2</sup> ]	9,8	17,1	27,7	39,3

## Modular construction of a QCS clamping system



\* Installation rotated by 180° possible

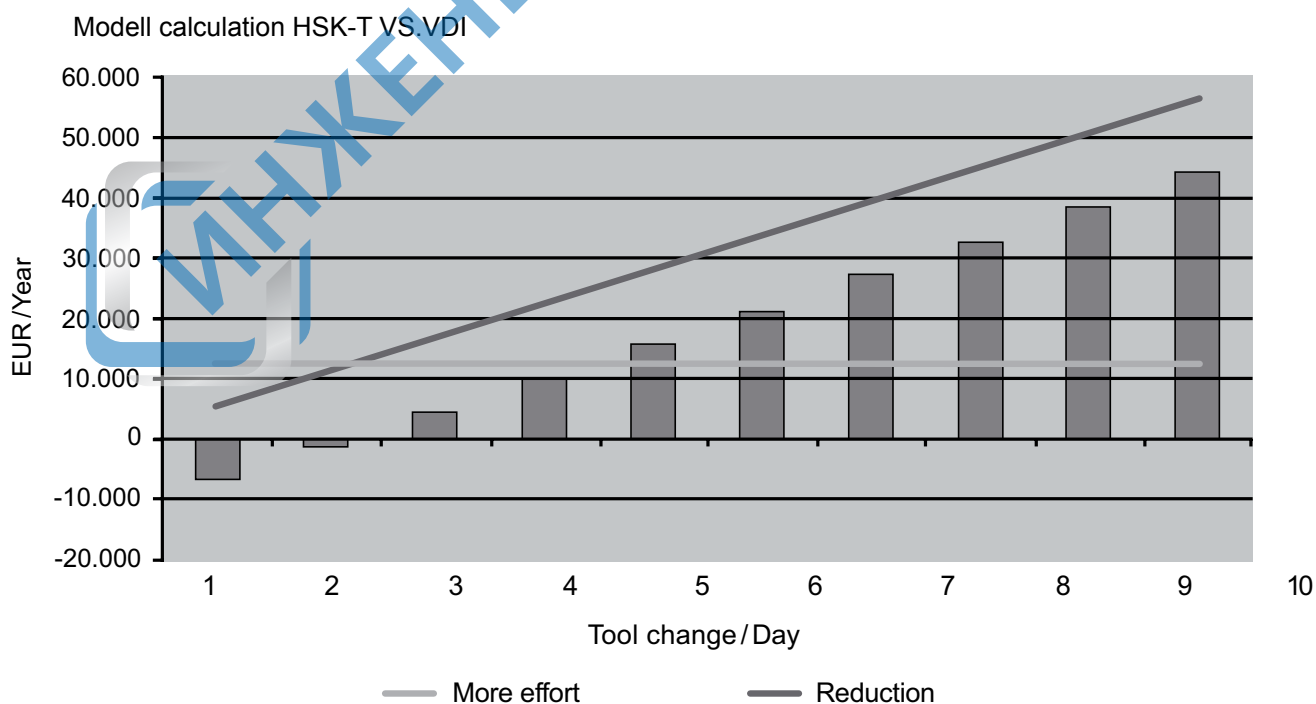


## Universal application

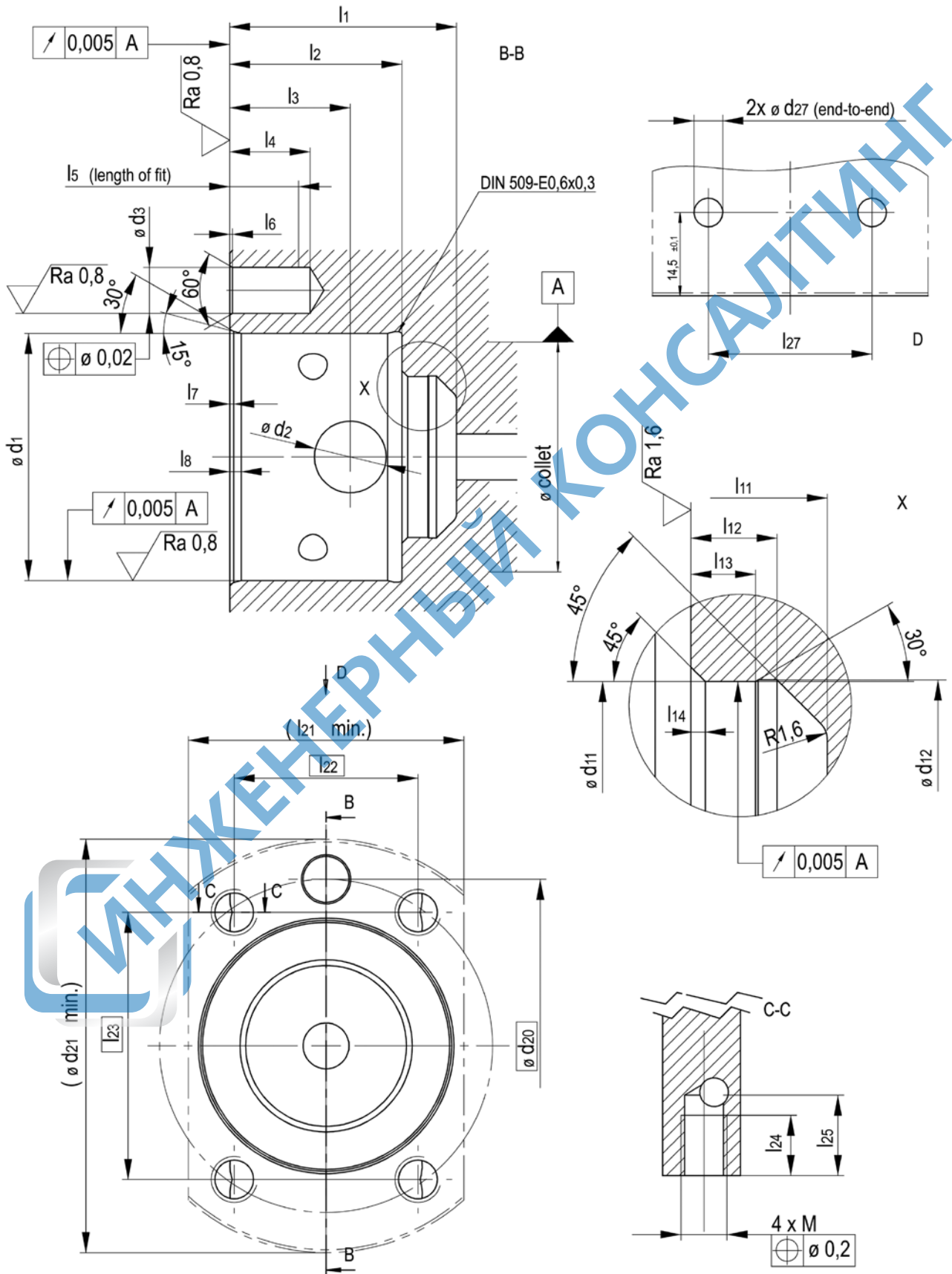
- All HSK toolholder can be used (HSK-A, HSK-C, HSK-T) without configuration on the clamping unit
- Clamping unit for all special and standard application



## Efficiency dependence of tool change/day



# Inside Contour Assembly Group




## Dimensions Inside Contour Assembly Group

			Nominal size			
			32	40	50	63
[mm]	d <sub>1</sub>	H6	34,5	43	54	68
	d <sub>2</sub>		10,5	12,5	15,6	19,5
	d <sub>3</sub>	H7	6	8	10	12
	d <sub>11</sub>	H6	22,5	28	35	44
	d <sub>12</sub>	+0,2	22,7	28,2	35,2	44,2
	d <sub>20</sub>		46,5	58	72	92
	d <sub>21</sub>	min.	58	72	90	114
	d <sub>27</sub>		5	5	6	8
	l <sub>1</sub>	+0,2	31	39,5	49	62
	l <sub>2</sub>	+0,05	24	30	37,5	47,5
	l <sub>3</sub>	±0,2	16,5	21	26	33,5
	l <sub>4</sub>	+1	12,5	14	17	22
	l <sub>5</sub>	+1	10,5	12	15	19
	l <sub>6</sub>		0,5	0,5	0,7	0,8
	l <sub>7</sub>		0,7	0,7	0,8	1
	l <sub>8</sub>		1,8	2	2,5	3
	l <sub>11</sub>	+0,2	31	39,5	49	62
	l <sub>12</sub>		5,5	6	7,5	9,5
	l <sub>13</sub>		3,8	4,5	5,6	7
	l <sub>14</sub>		1	1	1,5	1,5
	l <sub>21</sub>	min.	38	48	60	75
	l <sub>22</sub>		25,5	32	40	50,4
	l <sub>23</sub>		37	46,5	58	73,2
	l <sub>24</sub>	+0,5	7,2	10,5	13	16
	l <sub>25</sub>	+2	11	14	17	25
	l <sub>26</sub>	±0,1	10,4	14,5	17,5	22,7
	l <sub>27</sub>	±0,1	22	28,5	36	45,4
M		M6	M8	M10	M12	

For information only; not a manufacturing drawing!

# 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.

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