

## DIRECTION FOR USE

Evid. č. 1520304

### SAFETY THREAD-CUTTING HEADS

Zhb 21, Zhb 31, Zhb 41, Zhb 51  
Zhb 21A, Zhb 31A, Zhb 41A



Manufacturer:



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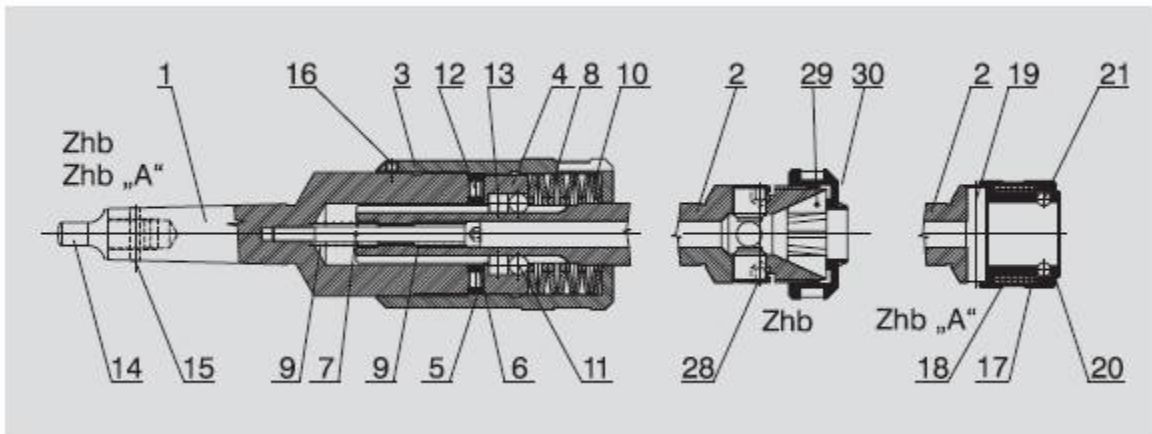
**1. Introduction**

The production of prior safety thread-cutting heads Zhb 2, Zhb 3, Zhb 2A and Zhb 3A was discontinued on March, 1<sup>st</sup>, 2000 and these heads will be supplied till selling out the stock only. These types are replaced by innovated heads having higher technical level by comparable price. The repair works and spare parts of prior types are delivered as well.

**2. Application of Heads:**

- 2.1 These heads are applicable on lathes, drilling-, boring- and milling machines etc. – the backward running of the spindle is necessary for backing out of taps.
- 2.2 These heads are designed for chucking of taps for tapping of right- and left- hand threads in clear and blind holes.
- 2.3 The adjustable safety clutch protects the tap from the breakage by sudden increase of the torque.
- 2.4 The axial compensation compensates the difference between thread pitch and machine spindle feed.
- 2.5 The heads facilitate the rapid change of taps being chucked in exchangeable bushes RVK and NVH (for modifications “A” only).

### 3. Description



The head consists of three following basic parts: the body with shank (Pos. 1); the sleeve (Pos. 2), pushfitted in the body for tap clamping and the clutch (Pos. 4) transmitting the torque from the body to the sleeve by means of balls (Pos. 11) for the model Zhb 21 and 31 and rollers (Pos. 13) for the model Zhb 41 only. The position 2. of the model Zhb "A" represents a sleeve for clamping of exchangeable bushes.

The roller-type clutch function as a claw-type clutch. The thrust on the rollers (Pos. 12) is induced by the sleeve /Pos. 3) by means of the set of disk springs (Pos. 8 and 10). The thrust increases by the sleeve screwing-in. The transmitted torque is adjusted either tentatively by tapping or directly on the rated value being measured by torque wrench. The scale on the circumference of the nut serves for information only. The sleeve is locked by the screw (Pos. 16).

The taper shank with MORSE-taper is box-threaded and is fitted with removable tang (Pos. 14) with cross locking pin (Pos. 15). This arrangement fulfils the specifications of standards ČSN 22 0420 and ČSN 22 0424 (DIN 228A and DIN 1806).

The taps are chucked in collets RUBBER FLEX JACOBS (Pos. 29) or in collets PLASTIC used in exchangeable bush NVH only. Two opposite locking screws (Pos.28) or jaws of the bush NVH engage the tap square and protect the tap against angular displacement in the collet.

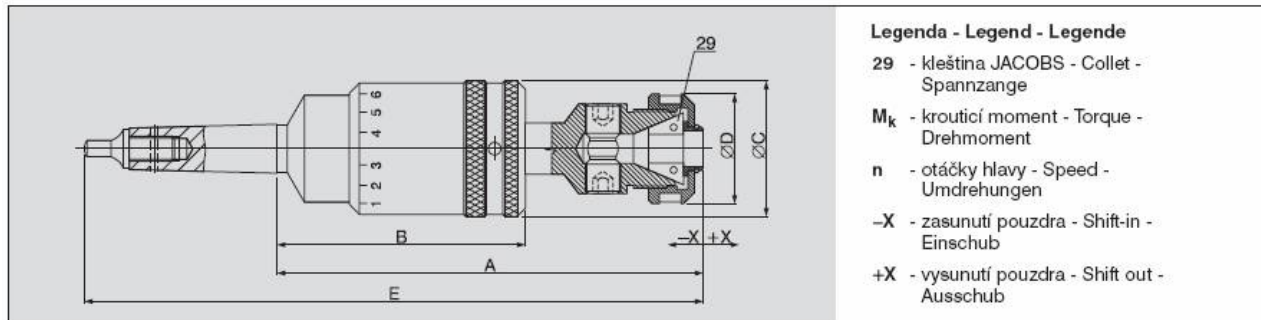
The axial motion of the sleeve (Pos. 2) compared with the body compensates the difference between the pitch of the tapped thread and the axial feed of the machine spindle. The range of the extreme position is specified in the table of the main technical data as a value "X". The sleeve returns in the base position owing to the springs (Pos. 9) automatically.


If it is necessary to determine exactly the moment of entering of the tap regarding to the spindle position, it is possible to remove the spring 9a after screwing-off the screw (Pos. 7) and to join this spring to the spring 9b. Now in the basic position, the sleeve rests upon the body and it has the chance to shift out in the length equal to 80% of double initial value "X" only.

If the sleeve Pos. 17 is depressed and the locking balls (Pos. 21) are disengaged, it is possible to put the exchangeable bushes in/out the adapter head. It is necessary to turn the bush a little for engaging in the adapter head (Pos.19).

## 4. The basic parameters of these thread-cutting heads

### Zhb - Safety Thread-Cutting Head – Basic Model

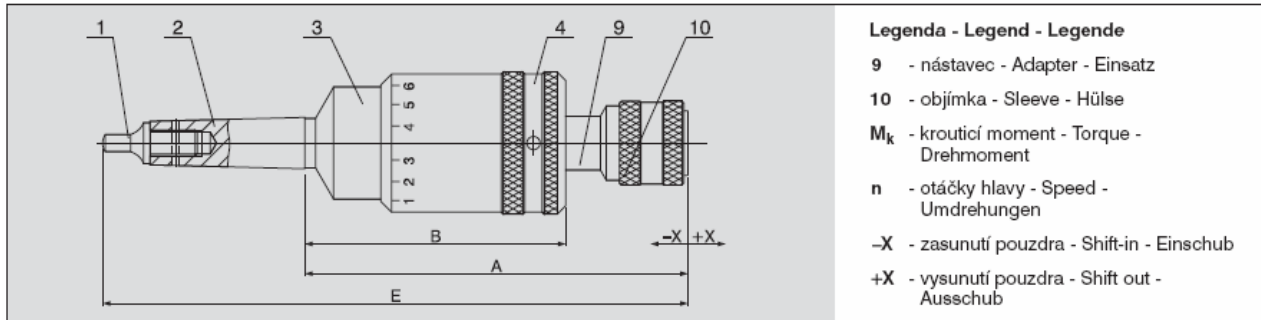


Kód Code Code	Typ Type Typ	Upínací stopka Shank Schaft	Kleština Collet Spannzange	Rozměry - Dimensions - Abmessungen [mm]						$M_k$ [Nm]	$n_{max}$ [min <sup>-1</sup> ]	
				A	B	C	D	E	X			
222 097	Zhb 21	W20 x 50	J 423	144	92	37	54	196	+7,5	7,5	600	1,03
222 172	Zhb 21	Mk2 DIN 228B	J 420					219	-7,5			1,09
222 059	Zhb 21	Mk3 x M12						238				1,29
222 103	Zhb 31	W25 x 65	J 443	195	118	50	66	251	+10	50	300	2,90
222 219	Zhb 31	Mk2 DIN 228B	J 440					275	-10			2,85
222 066	Zhb 31	Mk3 x M12						294				3,05
222 189	Zhb 41	W25 x 65		255	165	62	78	307		175	200	5,40
222 073	Zhb 41	Mk3 x M12	J 461					349	+12			5,56
222 080	Zhb 41	Mk4 x M16	J 462					380	-12			6,00
222 110	Zhb 41	Mk5 x M20						441				6,75

### Offer of Shanks

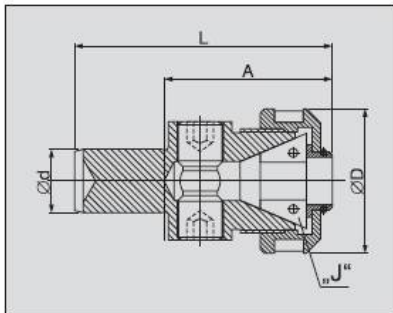
- 4.1 Straight shank – system WELDON according to DIN 1835  
Marking: diameter x length [mm]
- 4.2 Taper shank MORSE – size 3, 4, 5 and 6 with removable tang  
Marking: taper size x internal thread diameter [mm]
- 4.3 Taper shank MORSE – size 2 with fixed tang according to ČSN 22 0424 (DIN 228B)  
Marking: taper size

Zhb A - Safety Thread-Cutting Hrade – Model with the Exchangeable Busch



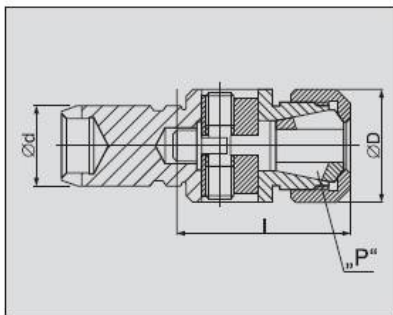
- Legenda - Legend - Legende**
- 9 - nástavec - Adapter - Einsatz
  - 10 - objímka - Sleeve - Hülse
  - $M_k$  - krouticí moment - Torque - Drehmoment
  - $n$  - otáčky hlavy - Speed - Umdrehungen
  - X - zasunutí pouzdra - Shift-in - Einschub
  - +X - vysunutí pouzdra - Shift out - Ausschub

Kód Code Code	Typ Type Typ	Upinací stopka Shank Schaft	Pouzdro Bush Futter	Rozměry - Dimensions - Abmessungen [mm]						$M_k$ [Nm]	$n_{max}$ [min <sup>-1</sup> ]	
				A	B	C	D	E	X			
222 196	Zhb 21A	W20 x 50	RVK 21	151	95	37	54	203	+7,5 -7,5	7,5	600	1,26
222 202	Zhb 21A	Mk2 DIN 228B	NVH 2					226				1,32
222 134	Zhb 21A	Mk3 x M12	NKC 12 NH 21					245				1,52
222 189	Zhb 31A	W25 x 65	RVK 31	176	120	50	66	232	+10 -10	50	300	3,33
222 141	Zhb 31A	Mk3 x M12	NKC 12 NH 31					275				3,48
222 226	Zhb 41A	W25 x 65	RVK 41	248	169	62	78	300	+12 -12	175	200	6,32
222 158	Zhb 41A	Mk3 x M12	NVH 3					342				6,48
222 165	Zhb 41A	Mk4 x M16	NKC 20 NH 41					373				6,92



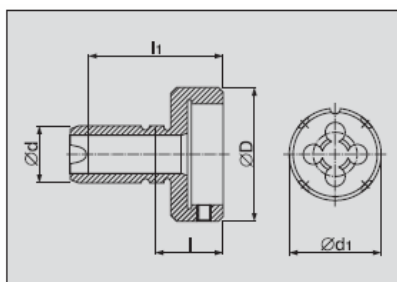
Výměnné pouzdro přesné - kleština RUBBER FLEX "J"  
Exchangeable Precise Bush - Collet RUBBER FLEX "J"  
Futter, auswechselbar präzis - Spannzange RUBBER FLEX "J"

Kód Code Code	Typ Type Typ	Rozměry - Dimensions - Abmessungen [mm]				"J"	
		A	L	D	d		
281 308	RVK 21	34	68	36	22	J423, J420	0,23
281 315	RVK 31	54	89,5	50	22	J443, J440	0,43
281 322	RVK 41	67	115	62	33	J461, J462	0,92



Výměnné pouzdro - plastová středící kleština PLASTIC "P"  
Exchangeable Bush - Plastic Centring Collet PLASTIC "P"  
Futter, auswechselbar - Zentrierspannzange PLASTIC "P"

Kód Code Code	Typ Type Typ	Rozměry - Dimensions - Abmessungen [mm]			"P"	
		d	D	l		
281 117	NVH 2	22	40	53	P11, P12, P13 P14, P15, P16	0,38
281 124	NVH 3	33	49	66	P21, P22, P23 P24, P25, P26	1,05

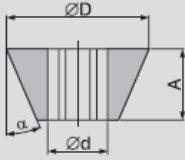


Výměnné pouzdro pro závitovou čelist  
Exchangeable Bush for Circular Die  
Futter, auswechselbar - für Schneideisen

Kód Code Code	Typ Type Typ	Rozměry - Dimensions - Abmessungen [mm]				$d_1$ [mm]	
		d	D	l	$l_1$		
281 100	NKC 12	22	50	20	45	∅ 20/25/30/38 M3 ÷ M12	0,31
281 353	NKC 20	33	65	28	62	∅ 30/38/45 M10 ÷ M20	0,83

## Collets

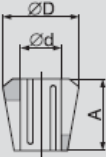
Upínací kleština  
Spring Collet  
Spannzange



Kleštiny RUBBER FLEX JACOBS - J  
Collets RUBBER FLEX JACOBS - J  
Spannzangen RUBBER FLEX JACOBS - J

Kód Code Code	Typ Type Typ	Rozsah - Range - Bereich d [mm]	Rozměry - Dimensions - Abmessungen [mm]		
			D	A	α°
281 018	J 423	2,0 ÷ 4,5	23	13	20
281 025	J 420	4,5 ÷ 8,0			
281 032	J 443	2,8 ÷ 7,0			
281 049	J 440	7,0 ÷ 13,0	32,5	16	22,5
281 063	J 461	10,0 ÷ 16,0			
281 070	J 462	16,0 ÷ 23,0	47	20	25

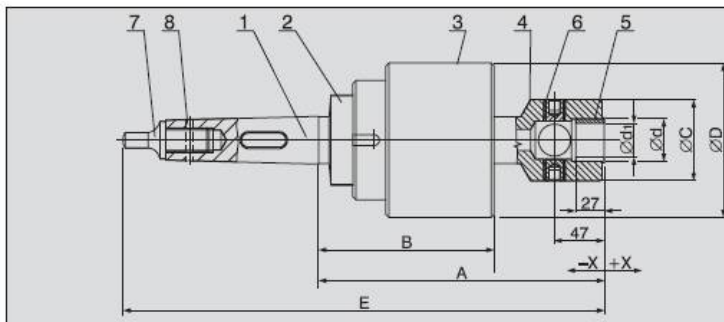
Středící kleština  
Collet for centring  
Zentrierspannzange



Kleštiny PLASTIC - P  
Collets PLASTIC - P  
Spannzangen PLASTIC - P

Kód Code Code	Typ Type Typ	Rozsah - Range - Bereich d [mm]	Rozměry - Dimensions - Abmessungen [mm]		
			D	A	α°
281 209	P10	SADA, SET, SATZ	19	18	10
281 391	P11	3,5 ÷ 4,0			
281 407	P12	4,5 ÷ 5,0			
281 414	P13	5,6 ÷ 6,3			
281 421	P14	7,1 ÷ 8,0			
281 438	P15	9,0 ÷ 10,0			
281 445	P16	11,2 ÷ 12,5	32	31	10
281 216	P20	SADA, SET, SATZ			
281 452	P21	9,0 ÷ 10,0			
281 469	P22	11,2 ÷ 12,5			
281 476	P23	14,0			
281 483	P24	16,0			
281 490	P25	18,0			
281 506	P26	20,0			

## Zhb 51 - Safety Thread-Cutting Head



### Legenda - Legend - Legende

- 1 - upínací stopka - Taper Shank - Schaft
- 2 - těleso - Body - Körper
- 3 - objímka - Sleeve - Hülse
- 4 - pouzdro - Sleeve - Futter
- 5 - redukční vložka - Reduction Sleeve - Reduziereinsatz
- 6 - šroub - Screw - Schraube
- 7 - vyjímatelný vyrážec - Removable Tang - Lappen, abnehmbar
- 8 - kolík - Locking Pin - Stift

Kód Code Code	Typ Type Typ	Upínací stopka Shank - Schaft	Rozměry - Dimensions - Abmessungen [mm]							M <sub>k</sub> [Nm]	n <sub>max</sub> [min <sup>-1</sup> ]	kg			
			A	B	C	D	d	E	X						
222 110	Zhb 51	Mk 5 x M20	277	172	76	145	40	427	+20	600	150	17,0			
222 233	Zhb 51	Mk 6 x M24						488	-20			20,9			
Nabídka redukčních vložek d <sub>1</sub> - Offer of Reduction Sleeves d <sub>1</sub> - Angebot der Reduziereinsätze d <sub>1</sub>															
Ø d <sub>1</sub> [mm]	Standard		20	22	22,4	25	26	28	31,5	32	33	35,5	36	37	38

Taps aren't clamped into the collets but to adapters (see above picture Zhb 51)

## 5. Working Range

ŘEZÁNÍ VNITŘNÍCH ZÁVITŮ - ROZSAHY POUŽITÍ HLAV

TAPPING

INNENGEWINDESCHNEIDEN

Typ Type - Typ	Metrický Metric - Metrisches	Whitworthův Whitworth - Whitworth	Trubkový Pipe - Rohr	Palcový UN Imperial (UN) - Zoll-UN
Zhb 21 Zhb 21A	M2 ÷ M8	W1/8" ÷ W5/16"	G1/16"	1/4" ÷ 5/16"
Zhb 31 Zhb 31A	M5 ÷ M16	W3/16" ÷ W5/8"	G1/16" ÷ G3/8"	1/4" ÷ 5/8"
Zhb 41 Zhb 41A	M16 ÷ M30	W5/8" ÷ W1"	G3/8" ÷ G7/8"	5/8" ÷ 1"
Zhb 51	M30 ÷ M52	W1 1/4" ÷ W2"	G7/8" ÷ G1 1/2"	1 3/16" ÷ 2"

ŘEZÁNÍ VNĚJŠÍCH ZÁVITŮ

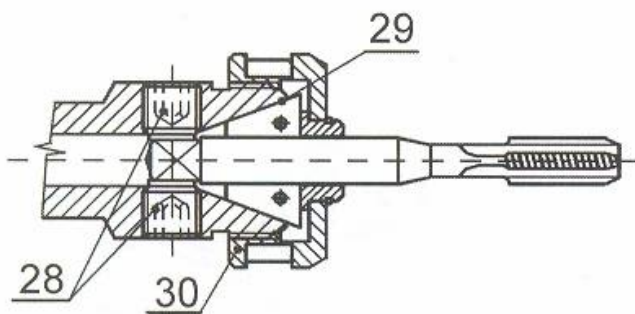
EXTERNAL THREAD CUTTING

AUSSENGEWINDSCHNEIDEN

Typ Type - Typ	Typ výměnného pouzdra Type of Exchangeable Bush Typ des Futters [mm]	Metrický závit Thread Diameter Gewindedurchmesser [mm]	L <sub>MAX</sub> [mm]
Zhb 21A	NKC 12	M3 ÷ M8	35
Zhb 31A	NKC 12	M3 ÷ M12	33

## 6. Chucking of Taps

### 6.1 Zhb 21, Zhb 31, Zhb 41, Zhb 21A, Zhb 31A, Zhb 41A with collets JACOBS – J

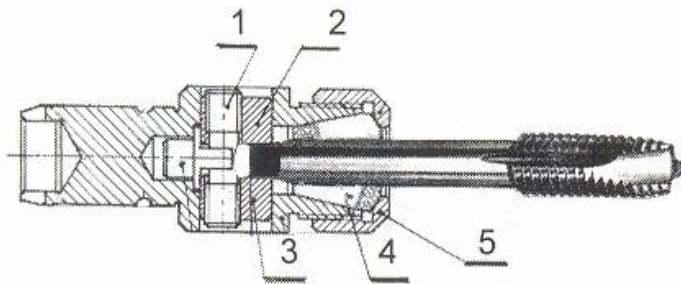


30 – Clamping Nut  
28 – Set Screw  
29 – Collet JACOBS

6.1 It is necessary to keep the following procedure for chucking of taps:

Put the tap in the collet so as the square shank lies between two set screws. Tighten the nut by hand, tighten slightly the set screws on the square and subsequently tighten the nut (Pos. 30) with hook wrench and the set screws again. If the nut is tightened sufficiently, the collet is able to chuck the tap perfectly. The locking screws (Pos. 28) serve here for securing only.

### 6.2 Zhb 21A, Zhb 31A, Zhb 41A with Collets PLASTIC – P

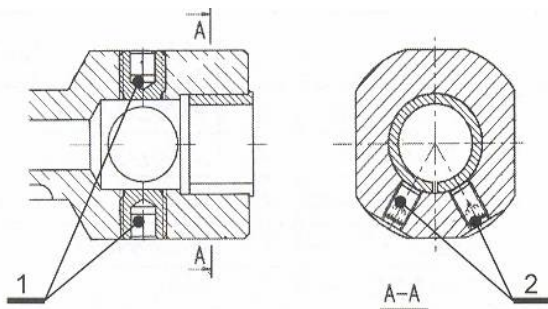


- 1 –Screw (left and righ-hand trhead)
- 2 – Jaw
- 3 – Jaw
- 4 – Collet PLASTIC
- 5 – Clamping Nut

6.2 It is necessary to keep the following procedure for chucking of taps in the exchangeable bushes NVH2 and NVH3:

Put the tap in the collet so as the square shank lies between two set screws. ATTENTION: The tap cannot touch the screw (Pos. 1). Tighten the nut and subsequently the jaws (Pos. 2 and 3). ATTENTION! The collet centres the tap only, the jaws transmit the torque.

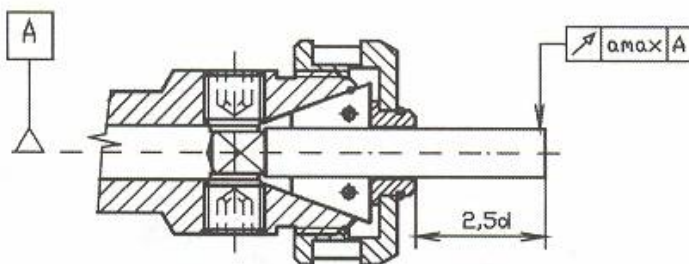
### 6.3 Zhb 51



The tap is centred by the boring of the exchangeable reduction sleeve that is lengthwise cut. The tap is clamped by gripping of this sleeve with two screws Pos. 2 and by tightening of two screws Pos. 1 on the tap square.

The centring of the tap requires the correct choice of the boring diameter of this reduction sleeve. This dimension depends on the size and type of the applied tap. The reduction sleeves are necessary to specify by their boring diameters in the order.

### 6.4 Clamping Accuracy





Typ hlavy (JACOBS)	$a_{max}$ [mm]	Typ hlavy (JACOBS)	$a_{max}$ [mm]	Typ hlavy (PLASTIC)	$a_{max}$ [mm]
Zhb 21	0,15	Zhb 21A	0,20	Zhb 21A	0,30
Zhb 31	0,20	Zhb 31 A	0,25	Zhb 31 A	0,40
Zhb 41	0,30	Zhb 41 A	0,40	Zhb 41 A	0,60
Zhb 51	0,50				

Limits of radial run-out

The radial run-out is caused by running clearance and has not any effect upon the accuracy of tapped thread – the tap is centred by entering in the hole. This clearance reduces the requirement on the axial alignment of the hole and the thread cutting head. The maximal value of the non-alignment is equal to one half of  $a_{max}$  for corresponding head type. If the radial run-out exceeds this limit, we recommend to loosen the nut, turn a little the collet in its seat and retighten the nut.

## 7. Adjusting of the Safety Clutch

For the reliable operation of the head, it is necessary to adjust the safety clutch according to the size of the tapped thread, strength of the machined material and the tool sharpness.

Adjusting Process:

The thrust of the disk springs pushing the clutch (Pos. 4) in engagement increases by the nut (Pos. 3) screwing in.

The clutch springs away and disengages with exceeding of the adjusted torque.

The torque value should be adjusted by two ways:

- 1) The thrust of the springs is increased consecutively till the tap cuts continuously in the whole length.
- 2) The hexagon head screw is chucked in the thread-cutting head and the actual torque of the safety clutch will be checked with torque wrench of necessary measuring range.

Torque value for orientation for material strength 600 – 800 MPa:

Application of taps is recommended by producers. For tapping of blind holes, it is suitable to apply the spiral fluted taps owing to the better chip flow.

## 8. Patent Rights

The roller-type-clutch is protected by the patent specification Nr. 9456 of the Czech Republic.

## 9. Basic and supplementary accessories of heads – sets

Zhb 21	1 pc hexagon socket wrench 2 1 pc hexagon socket wrench 5 1 pc hook wrench 30 – 35 1 pc hook wrench 50 – 55 1 pc spring collet JACOBS J 420 1 pc spring collet JACOBS J 423	Zhb 21A RVK 21	1 pc hexagon socket wrench 2 1 pc hexagon socket wrench 5 1 pc hook wrench 30 – 35 1 pc hook wrench 50 – 55 2 pcs exchangeable bush RVK 21 2 pcs spring collet JACOBS J 420 2 pcs spring collet JACOBS J 423
Zhb 21A NVH 2	1 pc hexagon socket wrench 2 1 pc hexagon socket wrench 4 1 pc hook wrench 50 – 55 2 pcs exchangeable bush NVH 2 2 sets spring collets PLASTIC P10	Zhb 31	1 pc hexagon socket wrench 1 pc hexagon socket wrench 1 pc hook wrench 50 – 55 1 pc hook wrench 60 – 68 2 pcs spring collet JACOBS J 440 2 pcs spring collet JACOBS J 443
Zhb 31A RVK 31	1 pc hexagon socket wrench 3 1 pc hexagon socket wrench 6 1 pc hook wrench 50 – 55 1 pc hook wrench 60 – 68 2 pcs exchangeable bush RVK 31 2 pcs spring collet JACOBS J 440 2 pcs spring collet JACOBS J 443	Zhb 31A NVH 2	1 pc hexagon socket wrench 3 1 pc hexagon socket wrench 4 1 pc hook wrench 60 – 68 2 pcs exchangeable bush NVH 2 2 sets spring collets PLASTIC P10
Zhb 41	1 pc hexagon socket wrench 6 1 pc hexagon socket wrench 3 1 pc hook wrench 75 – 80 1 pc hook wrench 60 – 68 1 pc spring collet JACOBS J 461 1 pc spring collet JACOBS J 462	Zhb 41A RVK 41	1 pc hexagon socket wrench 6 1 pc hexagon socket wrench 3 1 pc hook wrench 75 – 80 1 pc hook wrench 60 – 68 2 pcs exchangeable bush RVK 41 2 pcs spring collet JACOBS J 461 2 pcs spring collet JACOBS J 462
Zhb 41A NVH 3	1 pc hexagon socket wrench 6 1 pc hexagon socket wrench 3 1 pc hook wrench 75 – 80 2 pc exchangeable bush NVH 3  2 sets spring collets PLASTIC P20	Zhb 51	1 pc hexagon socket wrench 4 1 pc hexagon socket wrench 6 1 pc hook wrench 110 -115 Reduction sleeves according to the boring specification

The supplementary accessories are delivered only if they are specified as a separate item in the order or the entire set is ordered.

### Accessories of the Exchangeable Bush NKC

NKC 12	1 pc reduction sleeve Ø20 1 pc reduction sleeve Ø25 1 pc reduction sleeve Ø30
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## 10. Packing, Storage, Guarantee, Maintenance

The thread cutting heads with the accessories are placed in wooden boxes.

They are treated with suitable preserving agent, corrosion resisting till 18 month from the date of delivery.

The thread cutting heads should be stored in dry rooms free of acid and another corrosive vapours.

The guarantee for the thread cutting head is accepted within 12 month from the date of sale.

The heads do not require any demanding maintenance. After finishing the work, it is necessary to clean the cavity for the spring collet, the nut and other polluted parts. We recommend to apply the suitable preserving oil on the exposed ground surfaces. If the head is used regularly, it is efficient to oil the cylindrical part of the sleeve once in a month.

Oiling Process:

We put out the sleeve from the body so far as the grooves for the driving balls appear. We oil these grooves and hold the head vertically with the shank down moving axially the sleeve so that the oil may get into the body.

The guide surfaces, threads, sleeves and nuts have to be greased.

The service life of the head is guaranteed for 5000 running hours at usual conditions.

## 11. Ordering of the Safety Thread-Cutting Heads

The tables with technical parameters are applied for determining of the code numbers.

- 11.1 It is necessary to specify all ordered items by code number and type.
- 11.2 If the head with complete basic and supplementary accessories are ordered, it is possible to use the description in the one line according to the graphic diagram of the order. The specification has to be completed with the code number determining the shank.
- 11.3 The order of the head size Zhb 51 has to include the code number of the head and the specification of ordered reduction sleeves (the boring parameters).
- 11.4 For the order of spare parts, it is necessary to specify the type of the head, the name of the part and the position number.

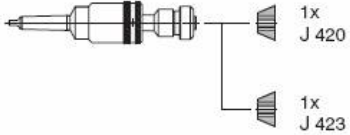
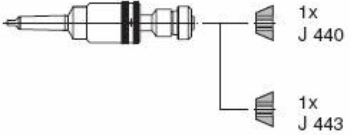
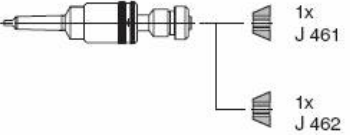
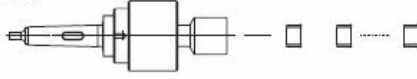
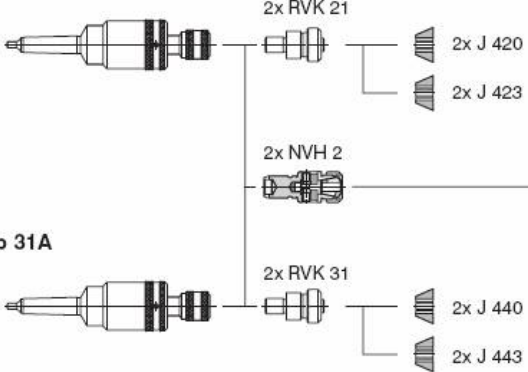
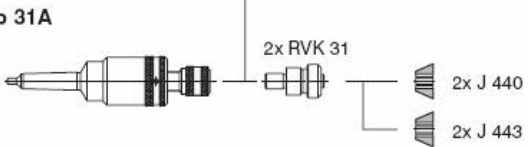
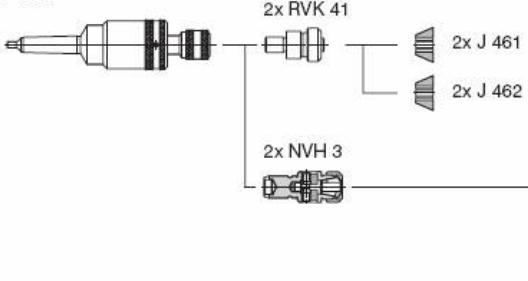
Example of Order

ad 11.1	222 172 Zhb 21A	1 piece
	281 308 RVK 21	3 pieces
	281 018 J 423	3 pieces
ad 11.2	222 158 Thb 41A / NVH / set 1 piece	
222 110 Zhb 51      1 piece		
Reduction sleeves: Ø22, 25, 28, 32, 36		
Disk Spring, Pos. Number 16 for head Zhb 41		5 pieces

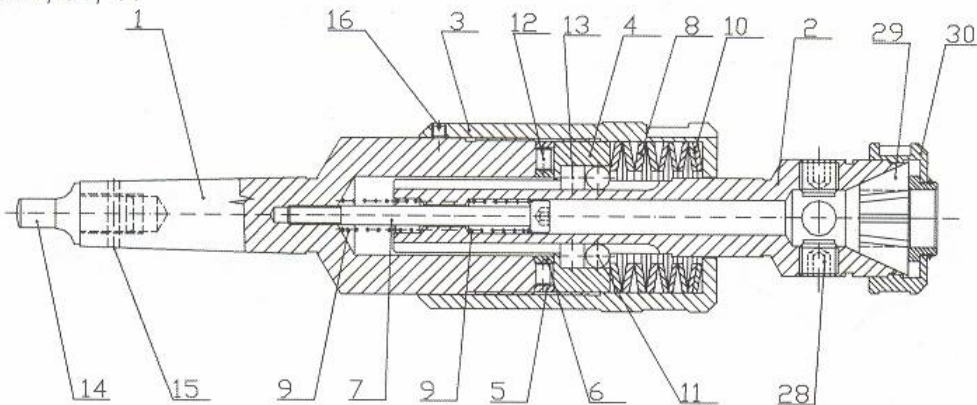
## Graphic Diagram of the Order

( The sets are mentioned on the sides 11 and 12. )

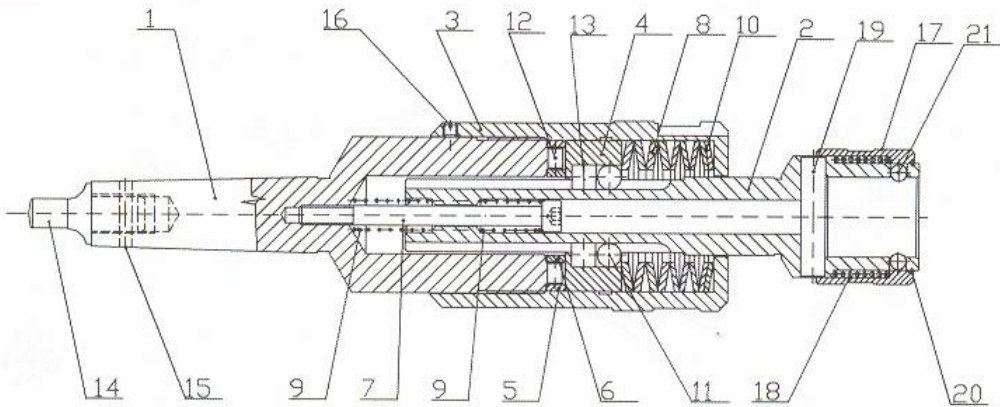
Komplety jsou uvedeny na stranách 11 a 12.

<p><b>Zhb 21 - komplet - set - Komplett</b></p> 	<p><b>Zhb 31 - komplet - set - Komplett</b></p> 	<p><b>Zhb 41 - komplet - set - Komplett</b></p> 
<p><b>Zhb 51</b></p>  <p>redukční vložky - specifikace velikostí otvorů reduction sleeves - specification of the boring diameters Reduziereinsätze - Spezifikation der Bohrungsdurchmesser</p>		
<p><b>Zhb 51</b></p>  <p><b>Zhb 31A</b></p> 		<p><b>Zhb 21A / RVK / komplet - set Komplett</b></p> <p><b>Zhb 21A / NVH / komplet - set Komplett</b></p> <p><b>Zhb 31A / NVH / komplet - set Komplett</b></p> <p><b>Zhb 31A / RVK / komplet - set Komplett</b></p>
<p><b>Zhb 41A</b></p> 		<p><b>Zhb 41A / RVK / komplet - set Komplett</b></p> <p><b>Zhb 41A / NVH / komplet - set Komplett</b></p>

Zhb 21, 31, 41

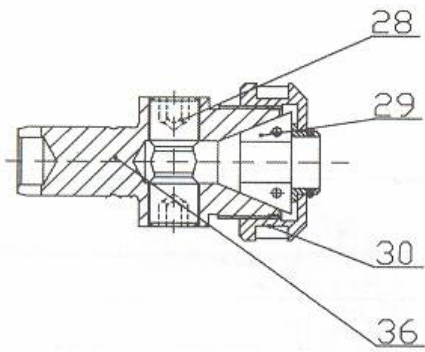


Zhb 21A, 31A, 41A



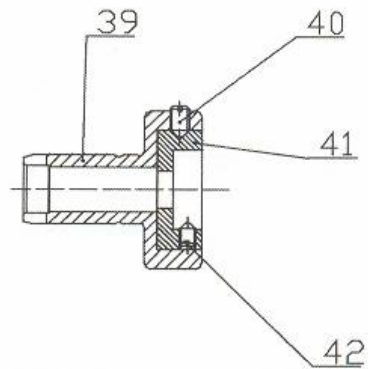
**Exchangeable Bush**

RVK 21, RVK 31, RVK 41



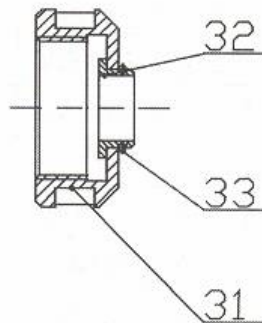
**Exchangeable Bush for Circular Die**

NKC 12, NKC 20

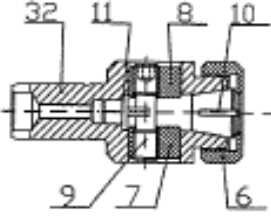


pos. 30

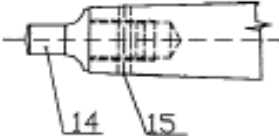
**Nut J21, J31, J41**



12. List of the Spare Parts

Exchangeable Bush NVH						
	Pos	Name	Pcs	NVH 2 Code Number	Pcs	NVH 3 Code Number
	6	Nut	1	200000010750100	1	200000010560100
	7	Jaw	1	200000010760100	1	200000010570100
	8	Jaw	1	200000010770100	1	200000010580100
	9	Screw	1	200000010780100	1	200000010590100
	10	Collet „P“	-	--	-	--
	11	Crutch	1	200000010790100	1	200000010610100
	32	Sleeve	1	200000015120100	1	200000015020100

Removable Tang			
	Tapper	Removable Tang pos. 14 Code Number	Locking Pin pos. 15 Code Number
	MORSE 2	--	--
	MORSE 3	20000000750200	20000000790200
	MORSE 4	200000002380100	200000000800100
	MORSE 5	200000002390100	200000002370100
	MORSE 6	200000003940100	200000003930100

Zhb – List of the Spare Parts							
Pos	Name	Zhb 21, Zhb 21A		Zhb 31, Zhb 31A		Zhb 41, Zhb 41A	
		Pcs	Code Number (ČJK)	Pcs	Code Number (ČJK)	Pcs	Code Number (ČJK)
1	Body - */ Code Number of Head	1	--	1	--	1	--
2	Sleeve Zhb	1	200000025930100	1	200000046170100	1	200000075420100
	Adapter (Zhb „A“)	1	200000078160100	1	200000078210100	1	200000078260100
3	Sleeve Zhb	1	200000025940100	1	200000046180100	1	200000075430100
	Sleeve (Zhb „A“)	1	200000078400100	1	200000078410100	1	200000078420100
4	Spojka	1	200000025950100	1	200000046190100	1	200000075440100
5	Outside Ring	1	200000025960100	1	200000046200100	1	200000075450100
6	Inside Ring	1	200000025970100	1	200000046210100	1	200000075460100
7	Screw	1	200000026030100	1	930954300809000	1	930954300810000
8	Disk spring	6	200000025980100	3	200000046230100	4	200000075470100
9	Spring	2	931523100456600	2	931523100009000	2	931523100754800
10	Disk spring	-	--	7	200000046270100	5	200000075510100
11	Ball	2	932491206005200	2	932491208005200	2	932491210005200
12	Roller	4	200000025990100	4	200000046250100	4	200000075520100
13	Roller	-	--	-	--	2	932491291710100
14	Removable Tang */	1	--	1	--	1	--
15	Pin */	1	--	1	--	1	--
16	Screw	1	930978700400500	1	930978700600600	1	930978700600600
17	Sleeve	1	200000015130100	1	200000015130100	1	200000015030100
18	Spring	1	931523100000800	1	931523100000800	1	931523100000500
19	Tenon	1	200000015150100	1	200000015150100	1	200000015050100
20	Fuse	1	200000015160100	1	200000015160100	1	200000015060100
21	Ball	2	932491204505700	2	932491204505700	2	932491409325200
24	Hexagon socket wrench	1	941332400020000	1	941332400030000	1	941332400030000
25	Hexagon socket wrench	1	941332400050000	1	941332400060000	1	941332400060000
26	Hook wrench	1	941332403035000	1	941332406055000	1	941332406068000
27	Hook wrench	1	941332405055000	1	941332406068000	1	941332407580000
28	Screw	2	200000045650100	2	200000018390100	2	200000018390100
29	Collect JACOBS	-	--	-	--	-	--
30	Nut – set	1	200000079500000	1	200000079510000	1	200000079520000
31	Nut	1	200000045630100	1	200000045530100	1	200000046550100
32	Ring	1	200000045640100	1	200000045540100	1	200000046560100
33	Ring	1	931173250001400	1	931173250002000	1	931173250003000
34	Hexagon socket wrench	1	943132400040000	1	943132400040000	-	--
35	Sleeve (RVK) – section	1	200000078170100	1	200000078220000	1	200000078260100

