

INSTRUCTION MANUAL
No 001 903

HAND-OPERATED LATHE CHUCKS

READ INSTRUCTIONS!



1. SCOPE OF MANUAL

The manual covers fitting, operation and maintenance of hand-operated lathe chucks:

- 2-jaw, 3100 type scroll chucks
- 3-jaw, 3200, 3300 type self-centering standard scroll chucks
- 3-jaw, 3500 type precision self-centering scroll chucks
- 3-jaw, 3564, 3565 type super precision self-centering scroll chucks with fine adjustment
- 3-jaw 3264, 3265 type super precision self-centering scroll chucks with fine adjustment
- 4-jaw, 3600 type self-centering standard scroll chucks
- 4-jaw, 3700 type precision self-centering scroll chucks
- 6-jaw, 3864, 3865 type super precision self-centering scroll chucks with fine adjustment
- 4-jaw, 4300 type independent chucks
- 3-jaw, 4500, 4700 type self-centering and individually adjustable scroll chucks
- 4-jaw 4600, 4800 type self-centering and individually adjustable scroll chucks
- 6-jaw, 3800 type self-centering standard scroll chucks.

2. APPLICATION

Lathe chucks are purposed for holding the workpieces on lathes or grinders. They can also be used as an accessory of the index heads or other devices.

3. CONSTRUCTION OF CHUCKS

3.1. Construction of the scroll chucks

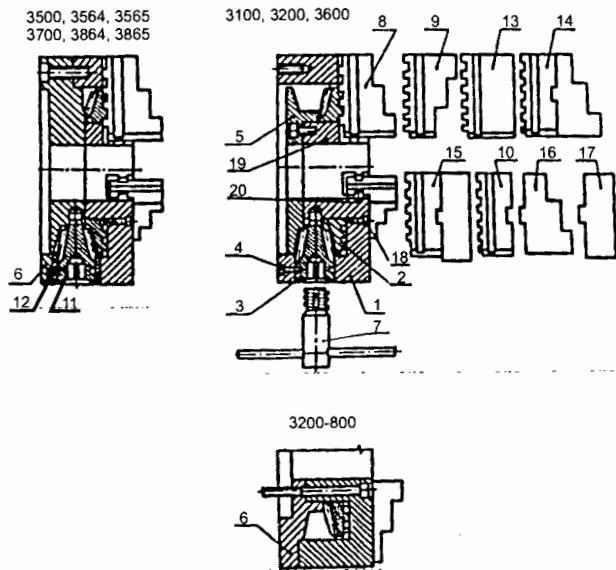


Fig. 1

- 1 - body, 2 - scroll plate, 3 - pinion, 4 - stud bolt, 5 - cover,
 6 - driver plate, 7 - wrench, 8 - outside solid jaw, 9 - inside solid jaw,
 10 - master jaw, 11 - sleeve bearing, 12 - locking half-ring, 13 - soft solid jaw,
 14 - hard sectional jaw, 15 - soft sectional jaw, 16 - hard top jaw, 17 - soft top jaw,
 18 - lubricant fitting, 19 - hub, 20 - guide

3.2. Construction of 4-jaw independent chuck

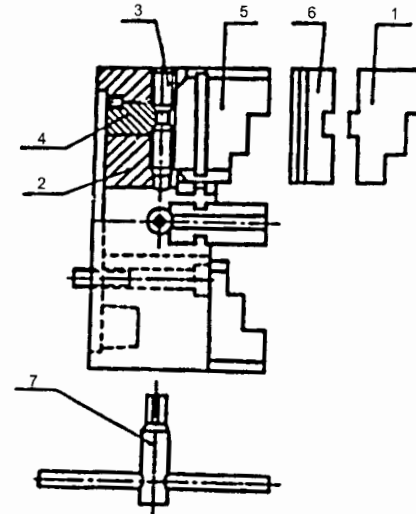


Fig. 2

- 1 - hard top jaw, 2 - body, 3 - operating screw, 4 - holder, 5 - solid jaw,
 6 - master jaw, 7 - wrench

3.3. Construction of 3-and 4-jaw self-centering and individually adjustable scroll chuck

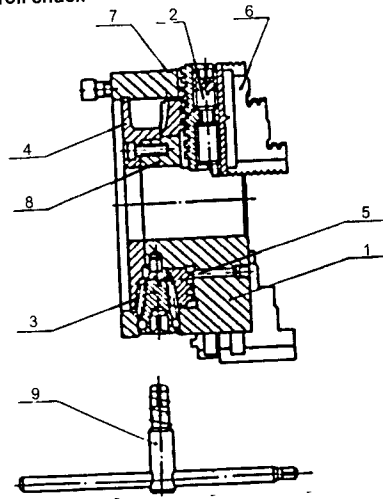


Fig. 3

1 - body, 2 - operating screw, 3 - pinion, 4 - cover, 5 - scroll plate, 6 - solid jaw, 7 - master jaw, 8 - hub, 9 - wrench

Note!

Screw (2) may only be used for moving the jaws (6) independently one to another. Rotating the pinion (3) with wrench (9) results in advancement of jaws (6) by the same stroke.

4. OPERATING DIRECTIONS

4.1. Preparation the chuck for fitting

Having the chuck removed from its package check completeness of delivery, then remove the preservative from all surfaces except the

surfaces of guides in jaws and body. Chuck seat and jaw gripping surfaces should be cleaned particularly carefully.

4.2. Fitting the chuck on the machine tool

4.2.1. Fitting the chuck with direct mounting on the spindle nose

The directions apply to chucks with mounting seats according to DIN 55026, DIN 55027, DIN 55029, ISO 702 and ANSI B.5.9.

The chuck should be mounted on the spindle nose which accuracy conditions are presented in Fig. 4 and Table 1.

In case of chucks with 7:24 taper tighten the nut provided on the spindle nose. While fitting the chucks with 1:4 taper pay attention to make the chuck seat on conical surface and then tightened against face surface.

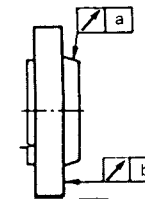


Fig. 4

Table 1

Chuck	Index	Chuck size												
		80	100	125	160	200	250	315	400	500	630	800	1000	1250
		85	110	140	180	220	280	350	450	560	710	900	1150	1500
3500	a, b	0,003						0,005						
3200		0,003				0,005				-				
4300	a	0,003	r 0,005				0,01							
	b	0,003	0,005											

4.2.2. Fitting the chuck with plain back mounting

The chuck with plain back mounting is mounted on the spindle nose via adapter. These chucks are primarily intended for threaded spindle noses. Connection dimensions of adapters are given in Figs. 5 + 7 and Tables 2 + 3. Centering surfaces of the adapters should be fayed against the chuck body with the clearance the smallest possible.

Admissible runout of "A" and "B" adapter surfaces (Fig. 5 and 7) for chucks within diameters range is:

- ∅ 80 - ∅ 160 - 0,003 mm
- ∅ 200 - ∅ 800 - 0,005 mm

Note!

After having mounted the chucks of diameter exceeding 400 on the adapter, remove the transport eye screw from the chuck body.

4.2.2.1. Adapters for scroll chucks

a) ∅ 80 - 630 chucks

Table 2

Chuck size D	D ₁	D ₂	d ₁	d ₂	h _{min}	c	N° of holes
80	56	67	6,4	10,4	6,2	2,5	3
100	70	83	8,4	13,5	8,3	2,5	
110	80	95	8,4	13,5	8,3	3,5	
125	95	108	8,4	13,5	8,3	3,5	
140	105	120	8,4	13,5	8,3	3,5	
160	125	140	10,5	16,5	10,3	3,5	6
200	160	176	10,5	16,5	10,3	3,5	
250	200	224	13,0	19,0	12,3	4,5	
315	260	286	17,0	25,0	12,3	4,5	
400	330	362	17,0	25,0	16,5	4,5	
500	420	458	17,0	25,0	16,5	4,5	
630	545	586	17,0	25,0	16,5	6,5	

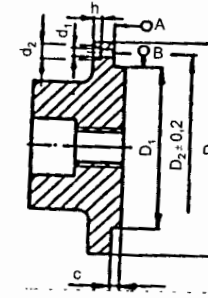


Fig. 5

b) ∅ 800 chuck

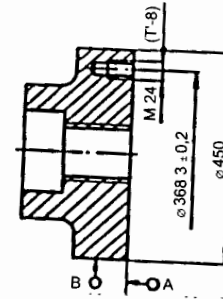


Fig. 6

Adapter for chuck mounting on threaded spindle nose.

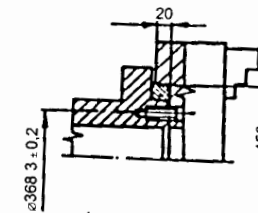


Fig. 7

Example of chuck mounting on the spindle nose with 1:4 taper, A1 version. Taper size = 20.

4.2.2.2. Adapters for 4-jaw independent chucks

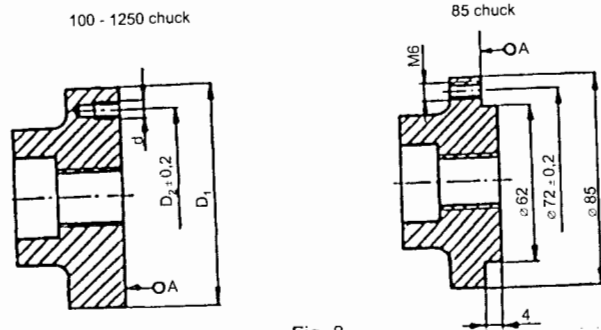


Fig. 8

Table 3

Chuck size D	D ₁	D ₂	d	Number of holes d
100	79,38	54,00	M8	4
125	69,85	54,00	M8	
160	82,55	69,85	M10	
200	110,00	82,60	M10	
250	150,00	104,80	M12	
315	175,00	133,40	M16	
350	175,00	133,40	M16	
400	200,00	171,40	M16	
500	270,00	235,00	M20	
630	270,00	235,00	M20	
800	380,00	330,20	M24	8
915	370,00	330,00	M24	
1000	370,00	330,00	M24	
1250	550,00	500,00	M24	

4.2.3. Fitting the precision chuck with fine adjustment (Fig. 9)

Mount the chuck on the adapter (1) and slightly tighten all the screws connecting the chuck and adapter (3).

In order to obtain the desired chuck setting accuracy, grip the workpiece with jaws on their entire length and fix securely. Tighten the adjusting screws (2) to the slight contact with the adapter. Place the indicator on workpiece about 60 mm from the jaws and rotate the chuck.

Determine maximum and minimum points on indicator and location of the nearest adjusting screws.

Rotate the chuck to the nearest adjusting screw of maximum indicator point and slightly unscrew it. Rotate to the oppositely located adjusting screw and screw it in by a half of the TIR error.

Repeat these steps until required accuracy is reached and all the adjusting screws are equally tightened. Having the adjustment completed tighten the screws connecting chuck and adapter.

Use the ground bar stock for setting to obtain maximum accuracy.

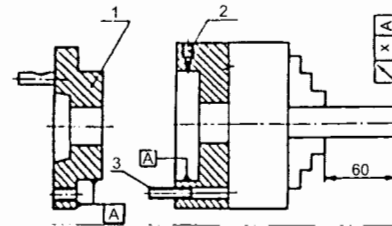


Fig. 9

4.2.4. Fitting 3264 and 3265 type standard chuck with fine adjustment (fig. 10)

Mount the chuck on adapter (1) and tighten all screws (2) connecting the chuck with the plate. Slightly loosen screws (5) connecting the chuck body and driver (3). In order to obtain the required accuracy of the chuck, grip the workpiece with jaws on their entire length and fix securely. Tighten the taper adjusting screws (4) to the slight contact with the adapter (3). Place the indicator on workpiece about 60 mm from the jaws and rotate the chuck.

Determine maximum and minimum points on indicator and location of the nearest and location of respective nearest adjusting screws.
 Rotate the chuck to the nearest adjusting screw for the location of maximum indicator point and unscrew it slightly. Rotate the chuck to the oppositely located adjusting screws and screw them in by 1/3 of TIR error. In case the location of maximum indicator point is placed in-between two adjusting screws, the chuck should be rotated to the oppositely located adjusting screw which should be screwed in by half of the TIR error.
 Repeat these steps until the required accuracy is reached and all adjusting screws are equally tightened. Having the adjustment completed tighten the screws connecting chuck and adapter.

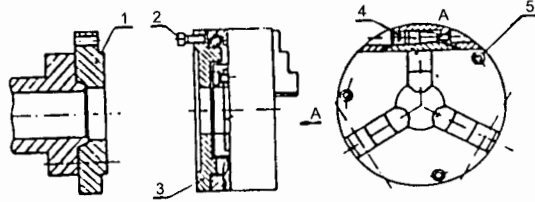


Fig. 10

4.3. Gripping ranges

4.3.1. For 3- and 4-jaw scroll chucks (Table 4, Fig. 11)

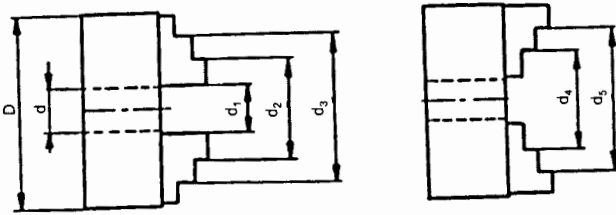


Fig. 11

Table 4

Chuck size	80	100	110	125	140	160	200	250	315	400	500	630	800
3- and 4-jaw scroll chucks													
d	15	20	27	32	40	42	55	76	103	136	190	252	320
d ₁	2-27	3-33	3-33	3-50	3-64	4-90	4-90	5-118	10-131	10-180	20-235	30-335	150-482
d ₂	22-46	25-56	25-56	34-74	42-100	52-135	62-174	78-200	85-252	120-335	140-485	282-814	
d ₃	45-69	56-87	56-87	72-115	94-154	120-202	145-256	172-289	210-380	245-476	325-630	448-780	
d ₄	25-50	32-62	32-62	39-83	50-107	60-145	77-188	90-215	103-272	140-357	180-487	302-634	
d ₅	48-71	62-83	62-83	80-125	98-160	130-200	160-250	190-315	230-400	276-500	345-630	468-800	
d ₁				3-50	3-64	4-90	5-118	10-131	10-180	20-235	30-235	150-482	
d ₂				34-76	42-97	50-130	58-165	66-182	72-228	120-410	140-590	252-736	
d ₃				75-118	88-146	105-190	125-235	145-265	165-329	200-485	210-685	328-812	
d ₄				52-96	62-121	72-156	86-197	103-226	127-294	110-400	120-570	240-724	
d ₅				95-125	115-160	133-200	160-250	190-315	230-400	190-500	200-630	316-800	
6-jaw scroll chuck with fine adjustment													
d				35	42	55	76	103	136	190	252		
d ₁				6-43	8-64	8-90	12-118	12-131	15-202	30-235	40-335		
d ₂				34-68	47-100	55-135	68-174	82-200	95-280	132-335	175-467		
d ₃				74-110	98-154	121-202	150-256	178-299	213-400	270-474	340-630		
d ₄				42-78	52-107	64-145	82-188	95-215	140-308	152-361	192-487		
d ₅				83-120	102-160	132-200	165-250	192-315	232-400	291-500	358-630		
d ₁				6-43	8-64	8-90	12-118	12-131	15-202	30-235	40-335		
d ₂				33-70	45-97	52-130	68-174	86-182	73-252	135-413	150-685		
d ₃				76-119	92-146	105-190	150-256	169-353	169-353	210-489	220-661		
d ₄				50-87	67-121	74-156	82-188	108-226	132-296	121-402	132-555		
d ₅				94-125	118-160	134-200	164-250	153-315	236-400	197-478	210-630		

4.3.2. For 4-jaw independent chucks, for 3- and 4-jaw self-centering and individually adjustable scroll-chucks (Table 5, Fig. 12)

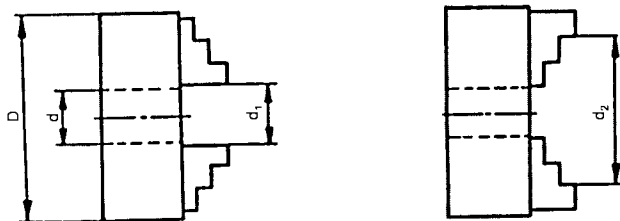


Fig. 12

Table 5

Chuck size	85	100	125	150	160	200	250	315	350	400	500	630	800	915	1000	1250
	mm															
d, min.	3	3	8	8	8	10	10	15	15	20	45	50	50	80	250	250
d, maks	85	100	125	150	160	200	250	315	350	400	500	630	800	915	1000	1250
d	25	25	26	42	42	45	60	75	75	95	120	155	195	190	190	190

4.4. Removing chucks from the spindle noses

4.4.1. From threaded spindle noses

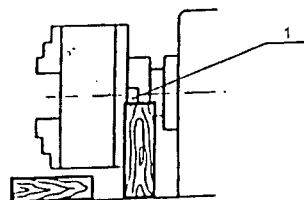


Fig. 13

During removing the chuck its necessary:

- screw the bolt (1) into threaded hole provided in the adapter,
- support the bolt with soft metal or wooden block,
- turn on the lowest reverse operating speed and loosen the adapter on its thread,
- unscrew the chuck by hand.

During the unscrewing, put under the chuck a wooden protecting board.

Note:

1. Chuck should not be unscrewed by directly hitting the jaws.
2. During removing the chucks larger then $\varnothing 400$ an eye-screw should be screwed into the chuck body and suitable hoisting crane should be employed for removing the chuck from the machine tool.

4.4.2. From the tapered spindle noses

During removing the chuck its necessary to:

- secure the spindle against rotation
- screw in the fixing element
- remove the chuck from the spindle nose.

During the removing put under the chuck a wooden protecting board.

4.5. Chuck maintenance

4.5.1. Recommended greases

Table 6

Item	Grease brand	Lubrication area
1	GLEITMO - 805	Jaw and body guides, jaw teeth, scroll, body hub, feed screws for the chucks with independent jaw setting
2	Machine grease 2	Toothing of scroll and toothed wheel

Another grease brands can be used providing their properties are not worse than of these given in Table 6.

4.5.2. Maintenance procedure

It is recommended, at least once a week, to remove the jaws from the chuck body; clean the working surfaces (guides, teeth and thread in case of independently set jaws) and lubricate them with greases according to Table 6, item 4.5.1.

In case of particularly heavy operating conditions of scroll chucks it is recommended to lubricate them additionally with machine oil type "16" through the lubricating nipple located on the chuck body face, at least after every 8 working hours.

Note! Cleaning the chuck with the compressed air is inadmissible

4.6. Surveys of the scroll chucks

Depending on needs, however at least once a year the chuck should be removed from the spindle and disassembled. Thoroughly clean and inspect all parts. Replace damaged parts. Lubricate all working surfaces according to directions contained in Table 6, item 4.5, and reassemble the chuck.

In case of shortage of the greases (item 1 and 2, Table 6) or equivalent ones, it is admitted to lubricate all the working surfaces with the machine grease type 2.

The survey should be performed at least every 6 months and minor decrease of the jaw gripping force should be taken into consideration.

Note: Jaws and guides in the scroll-chuck bodies are marked with sequential numbers. When assembling the chuck, jaws should be screwed into the guides marked with the same number.

Example: jaw No. 1 should be inserted in the guide No. 1.

4.7. General directions

4.7.1. In the scroll chucks it is recommended to grip the workpieces on these gripping jaw surfaces which location that ensure the scroll being in mesh with the jaw.

4.7.2. In 4-jaw independent chucks it is recommended to grip on these gripping surfaces which location in relation with screws ensures greatest possible number of working thread turns.

4.7.3. When assembling the sectional jaws be sure to remove the clearance in the jointing lock, by moving the top jaw outside to the master jaw.

4.7.4. The workpiece being gripped should be facing against face surfaces of jaws.

4.7.5. Longer workpieces should be machined with steady.

4.7.6. In case of heavily performance of the chuck, the jaws should be disassembled, problem found and fixed.

4.7.7. Hammering of jaws as well as using the extension pipe for fixing wrench is inadmissible.

4.8. Admissible operating parameters for scroll chucks

4.8.1. Jaw clamping force

Table 7

Chuck nominal size D	80	100 110	125 140	160	200	250	315	400	500	630	800
Wrench torque (Nm)	35	50	75	120	160	180	200	280	360	460	500
Total jaw force (daN)	1000	1700	2400	3100 2400*	3700 2900*	4600 3600*	5500 4400*	6500 4900*	7200	8000	9000

Clamping forces given in the Table 7 are being obtained with the jaws lubricated according to the directions contained under item 4.5.1.

* - relates to type 3100 chucks

4.8.2. Admissible revolutions

Table 8

Chuck type	Admissible operating parameters	Chuck nominal size D (mm)										
		80	100 110	125	160 140	200	250	315 350	400	500	630	800
3500	Pz (daN)	10	15	20	25	30	40	50	60	70	80	-
	n max (rpm)	6000	5200	4800	4500	4000	3500	2800	2000	1200	1000	-
	Pz' (daN)	30	60	80	100	120	160	180	240	300	320	500
3700	n' max (rpm)	4200	3800	3500	3200	2800	2500	2000	1300	1000	700	500
	Pz'' (daN)	80	150	200	250	350	400	500	600	700	900	1400
	n'' max (rpm)	1900	1700	1600	1500	1200	1000	800	500	400	300	250
3100*	Pz' (daN)	30	60	80	100	120	160	180	240	300	320	500
3200	n' max (rpm)	4000	3500	3200	3000	2500	2000	1500	1000	700	500	300
3600*	Pz'' (daN)	80	150	200	250	350	400	500	600	700	900	1400
	n'' max (rpm)	1700	1600	1500	1400	1200	1100	700	400	300	250	250
3560	n max (rpm)	-	4200	3800	3500	3100	2700	2200	1800	1400	1000	-
3860	n max (rpm)	-	-	3000	2500	2200	1900	1500	1300	900	500	-
3800	n max (rpm)	-	-	-	-	-	-	-	-	-	-	250

Pz - cutting force
n - admissible revolutions
Pz, n - precision machining
Pz', n' - medium - precision machining
Pz'', n'' - rough machining

* - for chucks type 3100, 3600, the values of Pz' and Pz'' should be decreased by 50%

Admissible revolutions of the chucks depend on many factors, as cutting parameters, weight of the workpiece and its unbalance degree, type of machining (interrupted or continuous turning) etc.

Values of admissible revolutions presented in Table 8 relate to Pz value determined for the workpieces of symmetrical shape and under continuous turning.

In case of change of any condition, the value of admissible revolutions should be revised. For example in case of increasing of Pz value or any of the other parameters, admissible operating speeds should be decreased accordingly.

4.8.3. Conditions of clamping the workpieces

Admissible weight of the workpieces.

Admissible chuck load coming from the weight of the gripped workpieces depends on many factors such as machining parameters, and particularly the way of clamping the workpieces in the chuck.

To simplify the approach to this problem i.e. without including the effects of cutting forces and inertia forces of spinning workpieces onto chuck load, the following guide should help to determine the maximum weights of the workpieces loading the chuck:

a) with the workpiece unsupported in outside jaws and with all the teeth of the jaws in mesh with the scroll plate, acc. to Table 9 and Fig. 14.

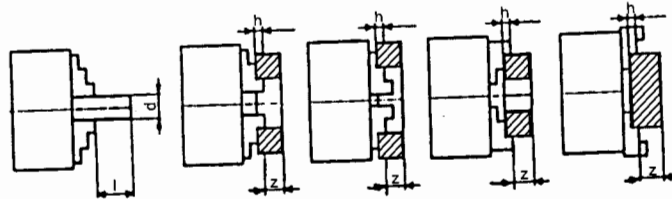


Fig. 14

Chuck size	80	100	125	160	200	250	315	400	500	630	800	915	1000	1250
	85	110	140				350							
l	1,2 d			1,5 d			1 d			0,5 d				
Weight in kgs	0,6	1	2	3	6	10	20	40	90	150	400	500	600	700

where: l - max. length of the workpiece projection outside the jaws
d - diameter of the workpiece being clamped in the jaws

b) with the workpiece unsupported in inside jaws and with all the teeth of the jaws in mesh with the scroll plate, acc. to Table 10.

Chuck size	80	100	125	160	200	250	315	400	500	630	800	915	1000	1250
	85	110	140				350							
z	4 x h													
Weight in kgs	1,5	2,5	4	7	15	25	40	70	130	240	400	550	700	850

where: z - max. length of the workpiece projection outside the jaws
h - height of jaw step

c) with the workpiece supported by means of centers or clamped in two chucks, acc. to Table 11

Chuck size	80	100	125	160	200	250	315	400	500	630	800	915	1000	1250
	85	110	140				350							
P in kgs	40	60	100	150	250	500	1000	2500	4000	6000	8000	9000	11000	12500

where: P - load per chuck

The presented admissible weights of workpieces should be regarded as reference data only. The variety of chucking and machining methods makes the explicit stating of such values impossible. This is because during machining a lot of special cases occur for which the presented data has to be suitably corrected.

However, it should be possible for the user who has these approximate data to determine in most cases a safe and suitable working conditions.

4.9. Admissible operating speeds for 4-jaw independent chucks

For finishing machining and workpieces symmetrically clamped in the chuck, admissible operating speeds are given in Table 12.

Table 12

Chuck size												
85	100	125	160	200	250	315	400	500	630	800	1000	1250
n _m x _d (rpm) cast iron body												
-	-	-	-	1800	1500	1200	800	500	400	300	150	100
n _m x _d (rpm) steel body												
4000	3800	3500	3200	2500	2000	1500	1100	700	550	450	200	150

For rough machining shown rpm values should be decreased accordingly.

4.10. Admissible operating speeds for 3- and 4-jaw self-centering and individually adjustable scroll chucks, 4500, 4600, 4700 type are given in Table 13 (for cases of symmetrical clamping)

Table 13

Type	Chuck size					
	200	250	315	400	500	630
	n (rpm)					
4505	2500	2000	1500	1000	500	350
4705	3000	2500	2000	1500	1000	750
4605	2000	1300	1500	1000	500	350
4805	2500	2000	1700	1500	1000	750

4.11. Admissible weight of the workpieces

Similarly as in case of scroll chucks, the admissible weights of workpieces depends on many factors, mainly machining parameters.

Simplifying the problem, the following cases of clamping workpieces may be accepted:

a) with the workpiece unsupported in jaws and with all the teeth of the jaws in mesh with the scroll plate, acc. to Table 14.

Table 14

D	85	100	125	160	200	250	315	400	500	630	800	915	1000	1250
z	4 x h													
Weight in Kgs	1,5	2,5	4	7	15	25	40	70	130	140	400	550	700	850

where: z - max. length of the workpiece projection outside the jaws
h - height of the jaw step

b) with the workpiece supported by means of centers or clamped in two chucks, acc. to Table 15.

Table 15

D	85	100	125	160	200	250	315	400	500	630	800	915	1000	1250
P in kgs	15	50	150	250	600	1000	1500	3000	4500	6500	8500	9500	11500	13000

where: P - maximum load per chuck

Aforementioned data should be considered as directional ones. Variety of cases of workpieces clamping and sorts of machining does not allow for these data to be universally determined, since many particular cases arise during operation for which these data should be adjusted in view of correct processing and work safety.

5. LIST OF SPARE PARTS

5.1. For scroll chucks

Table 16

Part No. Acc. to Fig.	Part name	No. of pcs per chuck			
		2-jaw	3-jaw	4-jaw	6-jaw
2	Scroll plate	1	1	1	1
3*	Pinion	2	3	2	3
4*	Stud-bolt	2	3	2	-
7	Wrench	1	1	1	1
8	Outside solid jaw	-	3	4	6
9	Inside solid jaw	-	3	4	6
10	Master jaw	2	3	4	6
16	Hard top jaw	-	3	4	6
17	Soft top jaw	2	3	4	6
13	Soft solid jaw	-	3	4	6
11**	Sleeve bearing	-	3	4	6
12**	Locking half-ring	-	3	4	6
14	Sectional hard jaw	-	3	4	6
15	Sectional soft jaw	2	3	4	6

* for Ø80 chuck 1 pcs of each only

** for chuck 3500, 3700, 3800 type

5.2. For 4-jaw independent chucks

Table 17

No. of part acc. to Fig. 2	Part name	No. of pcs per chuck
3	Operating screw	4
4	Holder	4
5	Solid jaw	4
6	Master jaw	4
1	Hard top jaw	4
7	Wrench	1

5.3. For 3- and 4-jaw self-centering and individually adjusted scroll chucks, 4500, 4600, 4700 and 4800 type.

Table 18

No. of part acc. to Fig. 3	Part name	No. of pcs per chuck	
		4500, 4700	4600, 4800
2	Operating screw	3	4
5	Scroll plate	1	1
6	Solid jaw	3	4
7	Master jaw	3	4
9	Wrench	1	1

Note! When ordering spares for the chuck being operated be sure to specify chuck serial No. and year of manufacture, No. of part and part name and the quantity.

6. WORK SAFETY CONDITIONS

- Each person operating the chuck should become familiar with this manual prior to attempting to work and follow it strictly.
- In case of abnormal chuck operation or its damage, stop the work immediately and notify the supervising staff.
- Repairs and overhauls of the chuck may only be performed by suitably qualified personnel.
- Modification of wrenches delivered by the manufacturer together with chuck or usage of another wrenches is forbidden.

- Usage of wrenches which are not correctly matching the square seat in the scroll chuck pinion or screw head in the independent chucks is forbidden.
- Usage of square seat in the pinion of scroll-chuck or the screw head in the independent chuck for removing the chuck from the spindle of the machine tool is forbidden.
- Turning on the machine tool with the wrench engaged in the chuck is forbidden.
- Except above requirements, operator should follow local industrial work safety rules.

7. ADDITIONAL INFORMATIONS

Radial runout of the control arbours being clamped in the chuck with the complete of spare jaws should not exceed values given in Table 19, otherwise these jaws should be reground at site.

Table 19

MAXIMUM VALUES OF CONTROL ARBORS RUN-OUT*				
Chuck nominal size		The jaws fitted in bodies		
		of new chucks		of used chucks**
		of precision type class I	of precision type class II and standard	
over	up to			
-	100	0,045	0,080	0,100
100	160	0,060	0,090	0,100
160	250	0,070	0,100	0,150
250	315	0,090	0,120	0,150
315	400	0,100	0,150	0,200
400	500	0,120	0,180	0,250
500	630	-	0,180	0,250
630	-	-	0,220	0,300
800	-	-	0,280	0,380

*) The presented values should be regarded as approximate

**) The runout value in used chuck depends on its components wear. In case the runout value in used chuck exceed the ones given in Table 19, its further operation is not recommended.

FINAL REMARKS

Wilful changes in chuck construction are forbidden.
Master and top jaws which are not completed-up by manufacturer may turn to be of minimum lower clamping diameters in the range of workmanship tolerances.
Use the lubricants recommended in this manual.
Use only original accessories and spare parts.
Please observe to instructions included in this manual.
Failing to observe to this manual may cause the chuck damages.

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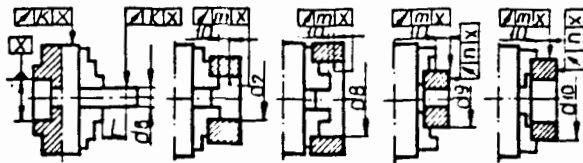
SPANNFUTTER MIT HANDEINSPANNUNG

LESEN SIE DIE ANWEISUNG!

DREHBANKFUTTER
LATHE CHUCK

PRÜFSCHEIN
INSPECTION CARD

Typ	NO
3284	
3285	5 1/2 x 8



Permissible Centring Accuracy Values						
Nominal value	100	125	160	200	250	315
d	4°	5°	6 1/4°	8°	10°	12 1/2°
d_6	10	18	18	30	30	53
	14	25	30	40	53	75
	18	30	40	53	75	100
L	40	60	60	80	80	120
d_7	40	50	50	80	80	125
d_8	75	100	135	162	200	252
d_9	50	62	88	96	150	210
d_{10}	solid jaws	80	100	100	160	250
	split jaws	-	120	150	185	300
k	0.05	0.05	0.05	0.05	0.08	0.08
m	0.075	0.075	0.075	0.075	0.075	0.075
n	0.04	0.04	0.04	0.04	0.07	0.07

Chuck NO 2907

Date 2002-03-19 Supervisor

