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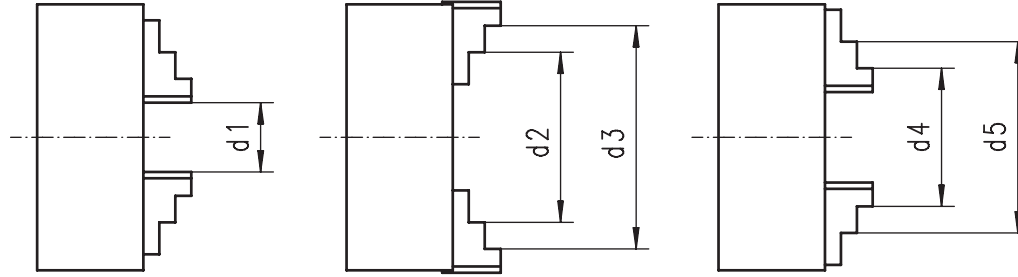
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CLAMPING RANGES

■ Do not exceed the maximum allowable clamping ranges!



32**, 35**, 36**, 37**

■ 3- and 4-jaw scroll chucks

Chuck size [in]	Hard solid jaws					Hard 2-piece jaws					Max. swing diameter
	d1	d2	d3	d4	d5	d1	d2	d3	d4	d5	
3"	0.08 - 1.06	0.98 - 1.97	1.89 - 2.8	0.87 - 1.81	1.77 - 2.72	-	-	-	-	-	3.54
4"	0.12 - 1.3	1.26 - 2.44	2.44 - 3.66	0.98 - 2.2	2.2 - 3.43	-	-	-	-	-	4.61
5"	0.12 - 1.97	1.54 - 3.27	3.15 - 4.92	1.34 - 2.91	2.83 - 4.53	0.12 - 1.97	2.05 - 3.78	3.74 - 4.92	1.34 - 2.99	2.95 - 4.65	5.94
6"	0.12 - 2.52	1.97 - 4.21	3.86 - 6.3	1.65 - 3.94	3.7 - 6.06	0.12 - 2.52	2.44 - 4.76	4.53 - 6.3	1.65 - 3.82	3.46 - 5.75	8.03
8"	0.16 - 3.54	2.36 - 5.71	5.12 - 7.87	2.05 - 5.31	4.72 - 7.95	0.16 - 3.54	2.83 - 6.14	5.24 - 7.87	1.97 - 5.12	4.13 - 7.48	9.69
10"	0.2 - 4.6	3 - 7.4	6.3 - 9.8	2.4 - 6.9	5.7 - 10.1	0.2 - 4.65	3.39 - 7.76	6.3 - 9.84	2.28 - 6.5	4.92 - 9.25	12.05
12"	0.4 - 5.2	3.5 - 8.5	7.5 - 12.4	3.1 - 7.9	6.8 - 11.8	0.39 - 5.16	4.06 - 8.9	7.48 - 12.4	2.56 - 7.17	5.7 - 10.4	15.12
16"	0.4 - 7.1	4.1 - 10.7	9.1 - 15.7	3.3 - 9.9	8.3 - 15	0.4 - 7.1	5 - 11.6	9.1 - 15.7	2.8 - 9	6.5 - 13	18.58
20"	0.8 - 9.3	5.5 - 14.1	10.9 - 19.7	4.7 - 13.2	9.6 - 18.7	0.8 - 9.3	4.3 - 15.7	7.5 - 19.7	4.7 - 16.1	7.9 - 19.1	23.62
25"	1.2 - 13.2	7.1 - 19.2	13.6 - 24.8	6.3 - 18.3	12.8 - 24.8	1.2 - 13.2	4.7 - 22.4	7.9 - 24.8	5.5 - 23.2	8.3 - 24.8	30.31
32"	5.9 - 19	11.9 - 25	18.4 - 31.5	11.1 - 24.2	17.6 - 30.7	5.9 - 19	9.4 - 28.5	12.4 - 31.5	9.9 - 29	12.9 - 31.5	37.01
40"	-	-	-	-	-	3.9 - 23.6	13.8 - 34.6	16.9 - 39.4	16.7 - 35.4	19.7 - 39.4	44.88
49"	-	-	-	-	-	18.9 - 39.4	23 - 42.9	29.1 - 49.2	22.8 - 42.1	29.5 - 49.2	54.72
55"	-	-	-	-	-	18.9 - 45.3	23 - 48.8	29.5 - 55.1	22.8 - 48	29.5 - 55.1	60.63
63"	-	-	-	-	-	18.9 - 52.4	23 - 55.9	29.5 - 63	22.8 - 55.1	29.5 - 63	68.50
71"	-	-	-	-	-	18.9 - 60.2	23 - 63.8	29.5 - 70.9	22.8 - 63	29.5 - 70.9	76.77
79"	-	-	-	-	-	18.9 - 67.9	23 - 71.5	29.5 - 78.7	22.8 - 70.9	29.5 - 78.7	84.65

3864, 3865

■ 6-jaw scroll chucks

Chuck size [in]	Hard solid jaws					Hard 2-piece jaws					Max. swing diameter
	d1	d2	d3	d4	d5	d1	d2	d3	d4	d5	
5"	0.24 - 1.69	1.65 - 3.07	3.27 - 4.72	1.34 - 2.68	2.91 - 4.33	0.24 - 1.69	1.97 - 3.43	3.7 - 4.92	1.3 - 2.76	2.99 - 4.69	5.94
6"	0.31 - 2.52	2.05 - 4.21	4.02 - 6.3	1.85 - 3.94	3.86 - 6.06	0.31 - 2.52	2.64 - 4.76	4.65 - 6.3	1.77 - 3.82	3.62 - 5.75	8.03
8"	0.31 - 3.54	2.52 - 5.71	5.2 - 7.87	2.17 - 5.31	4.76 - 7.95	0.31 - 3.54	2.91 - 6.14	5.28 - 7.87	2.05 - 5.12	4.29 - 7.48	9.69
10"	0.47 - 4.65	3.23 - 7.4	6.5 - 9.84	2.68 - 6.85	5.9 - 10.1	0.47 - 4.65	3.23 - 7.4	6.46 - 9.84	2.68 - 6.85	5.9 - 10.1	12.05
12"	0.47 - 5.16	3.74 - 8.46	7.56 - 12.4	3.23 - 7.87	7.0 - 11.77	0.47 - 5.16	4.25 - 8.9	6.02 - 12.4	2.68 - 7.17	5.9 - 10.4	15.12
16"	0.6 - 8	5.5 - 12.1	9.1 - 15.7	3.7 - 11	8.4 - 15.7	0.6 - 8	5.2 - 11.7	9.3 - 15.7	2.9 - 9.9	6.7 - 13.9	18.58
20"	1.2 - 9.3	6 - 14.2	11.5 - 19.7	5.2 - 13.2	10.6 - 18.7	1.2 - 9.3	4.8 - 15.8	7.8 - 18.8	5.3 - 16.3	8.3 - 19.3	23.62
25"	1.6 - 13.2	7.6 - 19.2	14.1 - 24.8	6.9 - 18.4	13.4 - 24.8	1.6 - 13.2	5.2 - 21.9	8.3 - 24.8	5.9 - 23	8.7 - 24.8	30.31
32"	-	-	-	-	-	7.1 - 19	11.4 - 25.4	16.5 - 31.5	11.2 - 25	17.3 - 31.5	37.01
40"	-	-	-	-	-	12.2 - 23.6	16.1 - 37.4	22.8 - 39.4	16.3 - 33.1	20.9 - 39.4	44.88
49"	-	-	-	-	-	18.9 - 39.4	23 - 42.9	29.1 - 49.2	22.8 - 42.1	30.3 - 49.2	54.72
55"	-	-	-	-	-	18.9 - 45.3	23 - 48.8	29.5 - 55.1	22.8 - 48	30.3 - 55.1	60.63
63"	-	-	-	-	-	18.9 - 52.4	23 - 55.9	29.5 - 63	22.8 - 55.1	30.3 - 63	68.50
71"	-	-	-	-	-	18.9 - 60.2	23 - 63.8	29.5 - 70.9	22.8 - 63	30.3 - 70.9	76.77
79"	-	-	-	-	-	18.9 - 67.9	23 - 71.5	29.5 - 78.7	22.8 - 70.9	30.3 - 78.7	84.65

43**

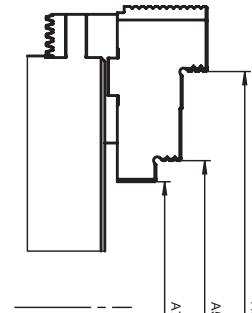
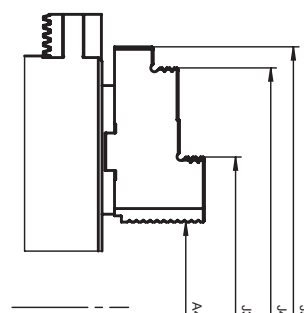
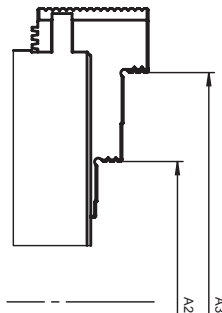
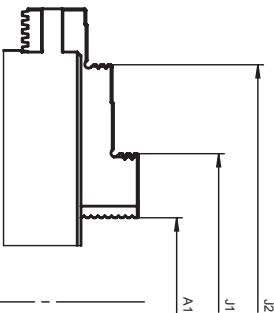
■ 4-jaw independent chucks

Chuck size [in]	d1 min.	d2 max.	Max. swing diameter
	[in]		
3-1/2"	0.12	3.35	3.98
4"	0.12	0.39	4.57
5"	0.31	4.92	5.91
6"	0.31	6.30	7.28
8"	0.39	7.87	9.25
10"	0.39	9.84	11.60
12"	0.59	12.40	14.50
13-2/3"	0.59	13.80	15.90
16"	0.79	15.70	18.30
20"	1.77	19.70	22.40
25"	1.97	24.80	28.30
32"	1.97	31.50	35.40
40"	6.69	39.40	42.90
49"	6.69	49.20	52.80
55"	18.50	55.10	59.60
63"	18.50	63.00	67.50
71"	18.50	70.90	75.60
79"	18.50	78.70	83.50

4505, 4605, 4705, 4805

■ 3- and 4-jaw combination chucks

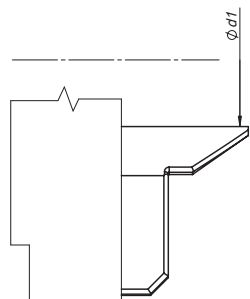
Chuck size [in]	d1 min.	d2 max.	Max. swing diameter
	[in]		
8"	0.16	7.87	9.45
10"	0.20	9.84	11.80
12"	0.39	12.40	14.60
16"	0.59	15.70	18.50
20"	0.79	19.70	22.60
25"	1.18	24.80	28.50
32"	1.97	31.50	35.40
40"	6.89	39.40	43.30
49"	13.8	49.20	52.90
55"	13.8	55.10	59.80
63"	13.8	63.00	67.90
71"	13.8	70.90	75.80
79"	13.8	78.70	83.90



CLAMPING RANGES

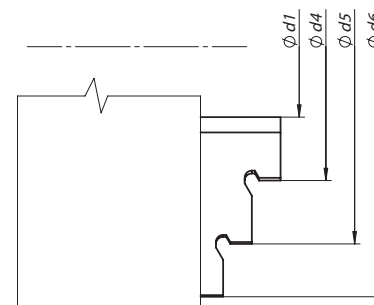
34**
■ 3-jaw wedge bar chucks

Chuck size [in]	Hard solid jaws					Hard 2-piece jaws						
	A1	J1	J2	A2	A3	A4	J3	J4	A5	A6	J5	A7
5"	0.16 - 1.14	1.1 - 2.09	3.94 - 4.92	1.5 - 2.48	3.94 - 4.92	0.39 - 0.98	1.5 - 3.15	4.21 - 4.92	1.06 - 2.44	3.54 - 4.92	2.83 - 4.33	2.36 - 3.74
6"	0.16 - 3.54	1.34 - 4.72	3.54 - 6.3	2.4 - 5.91	3.54 - 6.3	0.39 - 1.54	2.36 - 5.28	3.39 - 6.3	3.94 - 5.79	4.72 - 6.3	5.2 - 6.3	1.38 - 3.46
8"	0.2 - 4.13	1.93 - 5.87	3.94 - 7.87	2.76 - 6.69	3.94 - 7.87	0.39 - 1.97	2.76 - 7.24	4.06 - 7.87	3.94 - 6.85	4.72 - 7.87	5.98 - 7.87	1.77 - 4.88
10"	0.31 - 5.12	2.6 - 7.4	5.04 - 9.84	3.19 - 6.69	4.72 - 9.84	0.39 - 2.52	3.7 - 6.69	6.85 - 9.84	3.15 - 6.06	6.3 - 9.25	7.68 - 9.84	2.36 - 7.28
12"	0.39 - 6.1	2.91 - 7.87	5.59 - 12.4	3.74 - 7.44	5.98 - 12.4	0.94 - 3.46	4.25 - 8.27	8.43 - 12.4	3.94 - 8.46	5.71 - 12.4	9.29 - 12.4	3.15 - 7.68
16"	0.4 - 6.9	4.7 - 10.9	10.2 - 15.7	4.6 - 10.9	10.2 - 16.3	0.6 - 6.6	4.9 - 10.7	10.4 - 16.2	4.5 - 10.6	10.2 - 16.1	-	-
20"	2 - 10	6.2 - 14.1	11.4 - 19.7	6.5 - 14.2	12 - 19.7	2.5 - 10.1	6.5 - 14.2	12 - 19.8	6.5 - 14.2	12 - 19.7	-	-
25"	-	-	-	-	-	1 - 12.8	6.5 - 19.3	13.2 - 24.8	8.3 - 20.2	13.9 - 25.7	-	-
32"	-	-	-	-	-	6.7 - 16.1	13.2 - 22.6	18.7 - 28.1	14.5 - 26	20.1 - 31.5	-	-
40"	-	-	-	-	-	11.8 - 24.8	18.9 - 33.9	24.4 - 39.4	22.4 - 33.9	28.1 - 39.4	-	-
47"	-	-	-	-	-	18.9 - 35.2	25.4 - 41.7	30.9 - 47.2	30.3 - 41.7	35.8 - 47.2	-	-



3868
■ 3-jaw lever scroll chucks

Chuck size [in]	Ø d1 [in]
3868-3-1/3"	0.06 - 0.98



3286
■ 3-jaw scroll chucks

Chuck size [in]	Ø d1	Ø d2	Ø d3	Ø d4	Ø d5	Ø d6	Ø d7
	[in]						
3286-2"-M12x1	0.02 - 1.26	0.67 - 1.54	1.38 - 2.24	0.79 - 1.06	1.46 - 2.48	1.97 - 2.95	0.2 - 0.55
3286-2-1/3"-M16x1	0.02 - 1.38	0.79 - 1.65	1.5 - 2.36	0.79 - 2.05	1.46 - 2.76	2.4 - 3.35	0.2 - 0.79

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MAXIMUM PERMISSIBLE ROTATION SPEEDS (RPM)

Admissible revolutions of the chuck depend on many factors, such as cutting parameters, weight of the workpiece and its balance or type of machining (interrupted or continuous turning) etc. The max. speeds as indicated in the table below should not cause a decrease of the clamping force to the half of its initial value. When machining in the stable conditions (machining material, tools, working conditions), the clamping force may be reduced by up to 67% of its initial value. This relates to the chuck equipped with standard jaws, that do not protrude beyond the outer diameter of the chuck and the unbalance condition of the 'chuck-machining workpiece' is maintained (not exceeding 20gmm/kg). The chuck and jaws must be in good condition. Otherwise, refer to the calculations as indicated in the PN-M-60650.

3105, 32, 35**, 36**, 37**, 38****

■ 3-, 4- and 6-jaw scroll chucks

Chuck size [in]	Max. rpm			
	Steel body		Cast iron body	
	35**, 356*, 37**	38**, 386*	3105, 32**, 36**	38**
3"	7,000	-	5,000	-
4"	6,300	-	4,500	-
5"	5,500	3,800	4,000	-
6"	4,600	3,200	3,600	-
8"	4,000	2,800	3,000	2,000
10"	3,500	2,400	2,500	1,500
12"	2,800	1,900	2,000	1,200
16"	2,000	1,400	1,600	800
20"	1,300	900	1,000	600
25"	1,000	700	800	500
32"	800	560	600	400
40"	600	400	400	-
49"	500	350	300	-
55"	440	-	250	-
63"	380	-	220	-
71"	340	-	190	-
79"	300	-	170	-

43**

■ 4-jaw independent chucks

Chuck size [in]	Max. rpm	
	Steel body	Cast iron body
3"	7,640	-
3-1/2"	7,190	-
4"	6,120	-
5"	4,890	-
5-1/2"	4,370	-
6"	3,820	-
8"	3,060	1,800
10"	2,450	1,500
12"	1,940	1,200
16"	1,530	860
20"	1,220	690
25"	970	550
32"	760	430
36"	680	380
40"	610	340
49"	490	280
55"	440	250
63"	380	220
71"	340	190
79"	300	170

4505, 4605, 4705, 4805

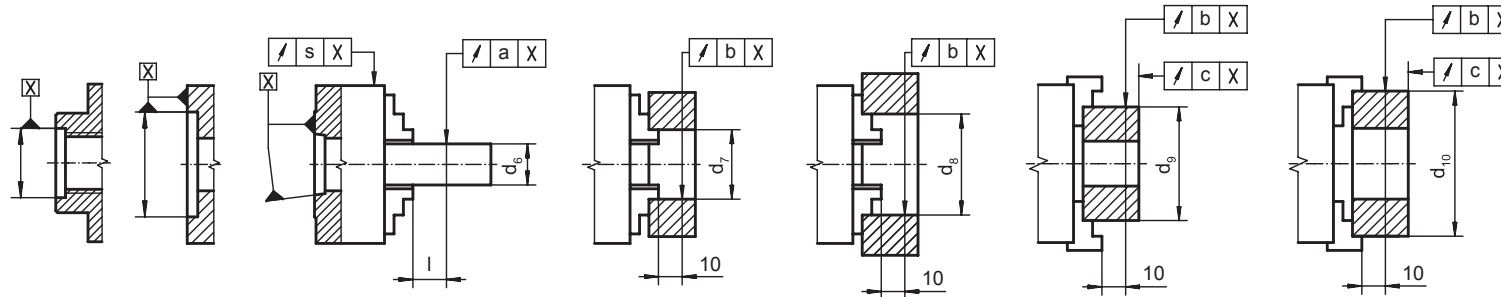
■ 3- and 4-jaw combination chucks

Chuck size [in]	Max. rpm			
	4505	4605	4705	4805
8"	2,500	2,000	3,000	2,500
10"	2,000	1,800	2,500	2,000
12"	1,500	1,200	2,000	1,700
16"	1,000	800	1,500	1,300
20"	700	600	1,000	800
25"	540	480	750	660
32"	420	360	600	520
40"	280	240	380	330
49"	210	170	-	-

34**

■ 3-jaw wedge bar chucks

Chuck size [in]	Max. rpm
5"	6,000
6"	5,400
8"	4,600
10"	4,200
12"	3,300
16"	2,400
20"	1,500
25"	1,200
32"	960
36"	840
40"	720
49"	600



CENTERING ACCURACY

32**, 35**, 36**, 37**, 38**
 ■ 3-, 4- and 6-jaw scroll chucks

Chuck size [in]	l	d ₆	d ₇	d ₈	d ₉	d ₁₀		Centering accuracy																		
						Hard solid jaws	Hard 2-piece jaws	35** PREMIUM				35**, 37**, 38**				32**, 36**				3284, 3285						
								a	b	c	s	a	b	c	s	a	b	c	s	a	b	c	s			
[in]																										
3"	1.6	0.4	-	0.6	1.6	2.4	1.4	2.5	-	0.0004	0.0005	0.0003	0.0004	0.0008	0.0010	0.0006	0.0008	0.0012	0.0010	0.0006	0.0008	0.0020	0.0030	0.0016	0.0020	
4"	1.6	0.4	0.5	0.7	1.6	3.0	2.0	3.2	-	0.0004	0.0005	0.0003	0.0004	0.0008	0.0010	0.0006	0.0008	0.0012	0.0010	0.0006	0.0008	0.0020	0.0030	0.0016	0.0020	
5"	2.4	0.7	1.0	1.2	2.0	3.9	2.4	3.9	4.7	0.0006	0.0007	0.0004	0.0006	0.0012	0.0014	0.0008	0.0012	0.0012	0.0014	0.0008	0.0012	0.0020	0.0030	0.0016	0.0020	
6"	2.4	0.7	1.2	1.6	2.0	5.3	3.5	3.9	5.9	0.0006	0.0007	0.0004	0.0006	0.0012	0.0014	0.0008	0.0012	0.0012	0.0014	0.0008	0.0012	0.0020	0.0030	0.0016	0.0020	
8"	3.1	1.2	1.6	2.1	3.2	6.4	3.8	6.3	7.3	0.0008	0.0009	0.0005	0.0008	0.0016	0.0018	0.0010	0.0016	0.0016	0.0018	0.0010	0.0016	0.0020	0.0030	0.0016	0.0020	
10"	3.1	1.2	2.1	3.0	3.2	7.9	5.9	6.3	8.9	0.0008	0.0009	0.0005	0.0008	0.0016	0.0018	0.0010	0.0016	0.0016	0.0018	0.0010	0.0016	0.0031	0.0030	0.0028	0.0031	
12"	4.7	2.1	3.0	3.9	4.9	9.9	8.3	9.8	11.8	0.0010	0.0011	0.0006	0.0010	0.0020	0.0022	0.0012	0.0020	0.0020	0.0022	0.0012	0.0020	0.0031	0.0030	0.0028	0.0031	
16"	4.7	2.1	3.9	4.9	4.9	11.1	9.8	9.8	13.8	0.0012	0.0013	0.0006	0.0012	0.0024	0.0026	0.0012	0.0024	0.0024	0.0026	0.0012	0.0024	-	-	-	-	
20"	6.3	2.9	3.9	4.9	7.9	11.1	11.8	15.8	15.8	0.0020	0.0022	0.0012	0.0020	0.0039	0.0030	0.0020	0.0039	0.0039	0.0039	0.0039	0.0020	0.0039	-	-	-	-
25"	6.3	2.9	4.9	6.3	7.9	12.8	15.8	15.8	15.8	0.0028	0.0030	0.0020	0.0028	0.0039	0.0039	0.0020	0.0039	0.0039	0.0039	0.0020	0.0039	-	-	-	-	
32"	6.3	6.3	7.9	9.8	12.8	19.7	15.8	19.7	19.7	0.0039	0.0039	0.0020	0.0039	0.0059	0.0059	0.0024	0.0059	0.0059	0.0059	0.0024	0.0059	-	-	-	-	
40"	6.3	9.8	12.4	15.8	19.7	24.8	19.7	-	24.8	0.0047	0.0047	0.0024	0.0047	0.0059	0.0059	0.0031	0.0059	0.0059	0.0059	0.0031	0.0059	-	-	-	-	
49"	7.9	-	-	19.7	31.5	31.5	39.4	-	39.4	0.0047	0.0047	0.0024	0.0047	0.0059	0.0059	0.0031	0.0059	0.0059	0.0059	0.0031	0.0059	-	-	-	-	
55"	7.9	-	-	19.7	31.5	31.5	39.4	-	39.4	0.0047	0.0047	0.0024	0.0047	0.0059	0.0059	0.0039	0.0059	0.0071	0.0071	0.0047	0.0071	-	-	-	-	
63"	7.9	-	-	19.7	31.5	31.5	39.4	-	39.4	0.0059	0.0059	0.0031	0.0059	0.0071	0.0071	0.0047	0.0071	0.0079	0.0079	0.0063	0.0079	-	-	-	-	
71"	7.9	-	-	19.7	31.5	31.5	39.4	-	39.4	0.0079	0.0079	0.0047	0.0079	0.0087	0.0087	0.0063	0.0087	0.0098	0.0098	0.0079	0.0098	-	-	-	-	
79"	7.9	-	-	19.7	31.5	31.5	39.4	-	39.4	0.0079	0.0079	0.0047	0.0079	0.0087	0.0087	0.0063	0.0087	0.0098	0.0098	0.0079	0.0098	-	-	-	-	

34**
 ■ 3-jaw wedge bar chucks

Chuck size [in]	l	d ₆	d ₇	d ₈	d ₉	d ₁₀	Centering accuracy					
							a	b	c	s		
											[in]	
5"	2.4	0.6	0.8	1.1	2.0	3.9	3.7	4.9	0.0006	0.0006	0.0004	0.0008
6"	2.4	0.6	0.8	1.5	2.0	5.3	3.9	6.3	0.0008	0.0006	0.0004	0.0008
8"	3.1	0.6	0.9	2.0	3.1	6.4	5.9	7.9	0.0008	0.0008	0.0004	0.0008
10"	3.1	0.6	1.3	2.5	3.1	7.9	7.1	9.8	0.0008	0.0008	0.0004	0.0008
12"	4.7	0.8	2.5	3.5	4.9	9.9	8.9	11.4	0.0010	0.0010	0.0004	0.0010
16"	4.7	2.1	3.9	4.9	4.9	11.1	9.8	11.8	0.0012	0.0012	0.0006	0.0012
20"	6.3	3.0	3.9	4.9	7.9	12.8	11.8	15.7	0.0020	0.0020	0.0012	0.0020
25"	6.3	3.0	4.9	6.3	7.9	15.7	15.7	15.7	0.0028	0.0028	0.0020	0.0028
32"	6.3	7.9	9.8	11.1	15.7	19.7	15.7	24.8	0.0039	0.0039	0.0020	0.0039
40"	6.3	12.8	15.7	19.7	19.7	24.8	24.8	31.5	0.0047	0.0047	0.0024	0.0047
47"	6.3	19.7	24.8	-	27.6	31.5	31.5	39.4	0.0063	0.0063	0.0031	0.0063

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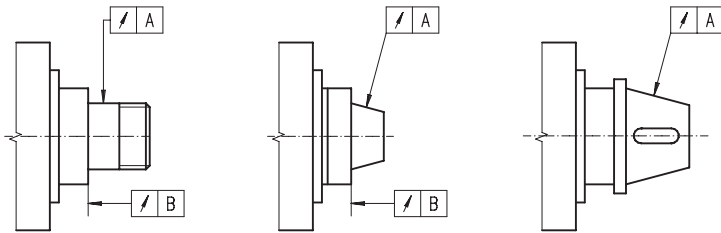
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6

SPINDLE NOSE CENTERING ACCURACY

To obtain the specified centering accuracy of a chuck mounted on a machine tool it is necessary:

- 1) to ensure the machine spindle nose run-out does not exceed the values specified,
- 2) to meet the basic requirements for correct mounting of the chuck on the spindle nose, according to the operations manual.



A - B			
35**		32**, 36**, 37**	
Ø 3 - 16"	0.0001"	Ø 3 - 6"	0.0001"
Ø 20 - 25"	0.0002"	Ø 8 - 32"	0.0002"

BALANCE VALUE

35**, 37**

- 3- and 4-jaw scroll chucks - steel body

Chuck size [in]	lb-in
3"	0.0616
4"	0.0896
5"	0.1288
6"	0.1792
8"	0.2520
10"	0.3527
12"	0.5039
16"	0.7839
20"	1.6797
25"	3.5834

34**

- 3-jaw wedge bar chucks

Chuck size [in]	lb-in
5"	0.0896
6"	0.1792
8"	0.3527
10"	0.6999
12"	1.3998

TOTAL GRIPPING FORCE

- The gripping force is the total sum of all jaws acting radially on the stationary, nonrotating workpiece.
- The data refer to a chuck in good condition lubricated with grease as recommended in the chuck manual.

3105, 32**, 35**, 36**, 37**, 38**,
45**, 46**, 47**, 48**

- All scroll, independent and combination chucks

Chuck size [in]	Torque on wrench [lb/ft]	Total gripping force [lbf]
3"	26	2,250
4"	37	3,821
5"	56	5,395
6"	89	6,969 (5,395*)
8"	118	8,317 (6,519*)
10"	133	10,341 (8,093*)
12"	148	12,364 (9,891*)
16"	207	14,612 (11,015*)
20"	266	16,186
25"	340	17,984
32"	370	20,232
40"	370	25,853
49"	370	28,101
55"	370	28,101
63"	370	28,101
71"	370	28,101
79"	370	28,101

* For Type 3105 - 2-jaw scroll chucks

34**

- 3-jaw wedge bar chucks

Chuck size [in]	Torque on wrench [lb/ft]	Total gripping force [lbf]
5"	30	6,740
6"	74	13,490
8"	118	19,110
10"	148	24,730
12"	185	29,225
16"	207	44,960
20"	237	51,700
25"	259	56,200
32"	259	56,200
40"	259	56,200
47"	259	56,200