

ZITHER®

SELF CENTRING CHUCKS

Precision beyond Imagination !!!



ISO 9001:2000 Certified Company



Gripping Force Since 1959

ZITHER®
ZITMAC

Zither Machine Tools Industries is an ISO 9001:2000 certified company and Zither Self Centring chucks represent a renowned Gripping Force since 1959. This experience of more than 40 years is behind Zither in the development of Precision Chucks comparable to International Standards. Our chucks are manufactured at a most sophisticated plant well equipped with modern CNC machines and with updated measuring instruments. Strict quality control measures applied from raw materials purchase, its inspection, machining, heat treatment, fitting, final inspection and despatch assure international level quality to the satisfaction of our valued customers. This catalogue contains description of full range of manually operated chucks available with us.

No doubt CNC machines have become popular in these days, but still manually operated chucks form a major chunk in the industries because a lot of development has been made in Tooling Systems which can be used on conventional machines which help in obtaining more production with minimum of cost which is the need of the day. So the customer expects following features from manually operated Self centring Chucks :

- ⑦ Economy
- ⑦ High Accuracy
- ⑦ High Gripping Power
- ⑦ Long Service Life
- ⑦ Safety

Continuous Research & Development at Zither has helped to fulfill the above mentioned expectations. Improvements are being made from time to time so that our customers get best value for their money.

We offer manually operated self centring chucks with

- ⑦ Cast Iron Bodies
- ⑦ Steel Bodies
- ⑦ Spheroidal Graphite (SG) Iron Bodies

Chucks with Cast Iron Bodies are economical but their only limitation is that the same cannot be used at high rotational speeds. However where high rotational speed is required, Steel Body Chucks are recommended.

We have tried our best to include every information regarding the manually operated self centring chucks available with us. The chuck sizes and mountings specified in the tables of dimensions represent the popular requirement. Due to continuous Research & Development, the dimensions in tables can be changed without prior notice.

Variations in Sizes and Special type of Jaws can be available on request.

All Parts of Chucks are Interchangeable. The chucks come with a Guarantee of One Year against any manufacturing defect.

ZITHER[®] ZITMAC

ZITHER Self Centring Chucks:

ZITHER brand chucks are widely accepted since 1959. These are economically priced and offer best value for the money spent.

Bodies of these chucks are made out of alloyed cast iron for maximum wear resistance. The bodies have hardness of 190 to 210 BHN. Steel and SG Iron Bodies are also available.

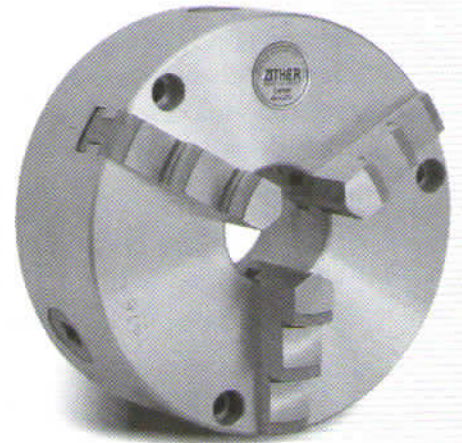
Jaws are made out of Case hardening steel and are suitably heat treated. The gripping portions have hardness of 57 to 62 HRC. These are precisely ground for perfect fitting in the body.

Pinions are manufactured out of case hardening steel and are suitably heat treated. These have hardness of 43 to 47 HRC.

Scroll is made out of high strength steel and is suitably hardened to 38 to 45 HRC for maximum wear resistance. The threads of scroll are precisely ground which provide long service life to the chuck.

Operating key of suitable strength is provided with each chuck.

Mounting bolts & Inspection report is provided with each chuck.



ZITMAC Self Centring Chucks:

ZITMAC is the result of continuous research and development and have been manufactured to compete with imported reputed brand chucks.

Bodies of these chucks are made out of alloyed cast iron for maximum wear resistance. The bodies have hardness of 190 to 210 BHN. Steel and SG Iron Bodies are also available.

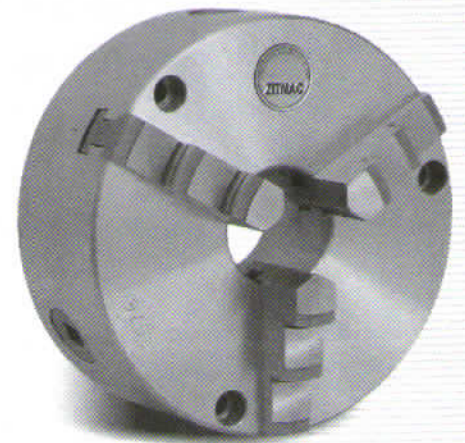
Jaws are made out of ALLOYED Case hardening steel and are suitably heat treated. The gripping portions have hardness of 57 to 62 HRC. These are precisely ground for perfect fitting in the body. The threads are also ground for perfect mesh with the scroll.

Pinions are manufactured out of ALLOYED high strength steel and are suitably heat treated. These have hardness of 43 to 47 HRC.

Scroll is made out of ALLOYED high strength steel and is suitably hardened to 38 to 45 HRC for maximum wear resistance. The threads of scroll are precisely ground which provide long service life to the chuck.

Operating key of HIGH strength is provided with each chuck.

Mounting bolts & Inspection report is provided with each chuck.



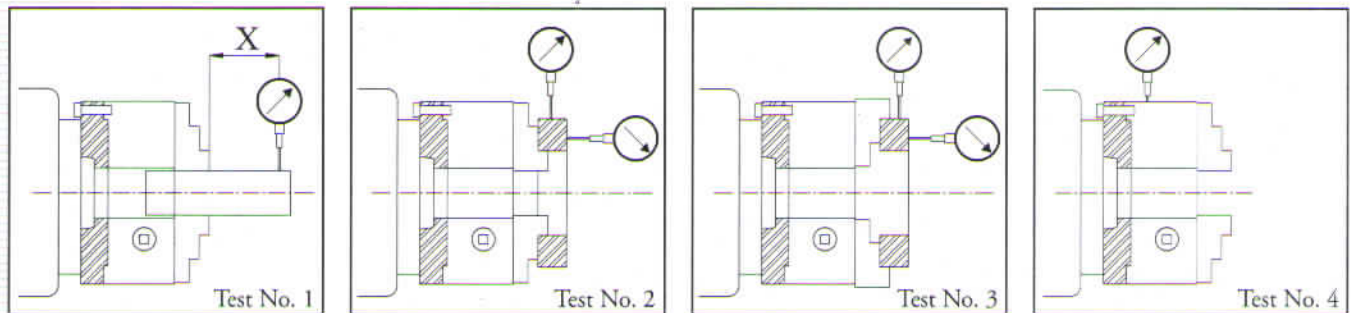
Difference between ZITMAC and ZITHER Chucks

ZITMAC chucks offer more service life than ZITHER brand chucks.

ZITMAC chucks retain accuracy for a longer period. However Initial accuracy is same.

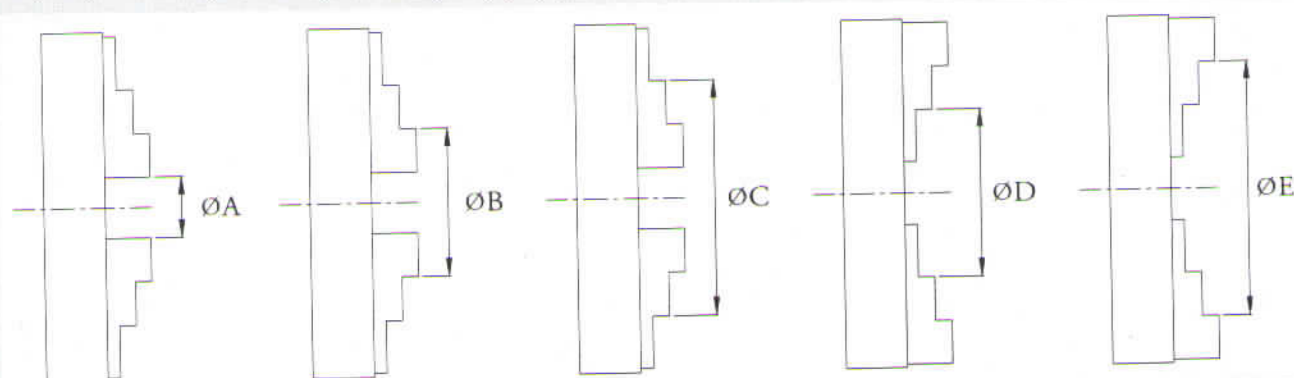
The above differences are due to high quality ALLOYED STEEL materials used in the parts. In the long run, Zitmac chucks will prove to be economical though initial cost is higher.

Accuracy of Self Centring Chucks



Test No.	Test Applied	Over	Size of chuck Upto and Including	Permissible Deviation in mm
1	Accuracy of Grip on Test Bar (Using Master Pinion)		160 mm X = 50 mm	0.040
		160 mm	250 mm X = 50 mm	0.060
		250 mm	400 mm X = 75 mm	0.075
		400 mm	600 mm X = 100 mm	0.100
1	Accuracy of Grip on Test Bar (Using Any Pinion)		160 mm X = 50 mm	0.080
		160 mm	250 mm X = 50 mm	0.080
		250 mm	400 mm X = 75 mm	0.100
		400 mm	600 mm X = 100 mm	0.150
2 & 3	Accuracy of Grip on Test Rings when gripped internally or Externally (Using Master Pinion)		160 mm	0.030
		160 mm	250 mm	0.040
		250 mm	400 mm	0.060
		400 mm	600 mm	0.075
2 & 3	Accuracy of Grip on Test Rings on the Face of Ring		160 mm	0.025
		160 mm	250 mm	0.030
		250 mm	400 mm	0.040
		400 mm	600 mm	0.050
4	Concentricity of Outside Diameter		160 mm	0.030
		160 mm	250 mm	0.040
		250 mm	400 mm	0.060
		400 mm	600 mm	0.080

Gripping Capacity of Self Centring Chucks

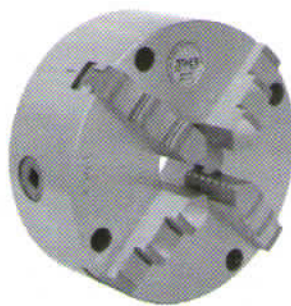
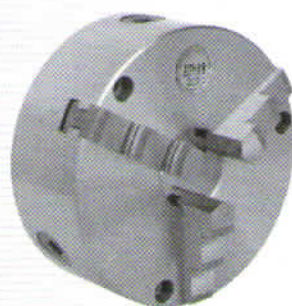


Size in mm	A (mm)		B (mm)		C (mm)		D (mm)		E (mm)	
	Min.	Max	Min.	Max	Min.	Max	Min.	Max	Min.	Max
80	2	27	22	45	40	69	24	50	40	71
100	3	33	25	60	55	87	32	70	60	93
125	3	42	34	80	70	112	38	90	80	120
160	3	68	42	105	90	154	48	110	100	160
200	4	90	52	130	110	194	60	140	120	200
230	5	100	56	150	115	220	65	155	135	230
250	5	110	62	165	120	240	75	170	145	250
270	7	130	70	185	135	260	85	195	155	270
315	10	180	80	200	150	299	96	225	165	315
400	20	200	100	260	190	380	120	290	205	400
500	35	260	135	300	225	480	155	370	265	500
600	50	350	170	400	245	580	170	470	365	600

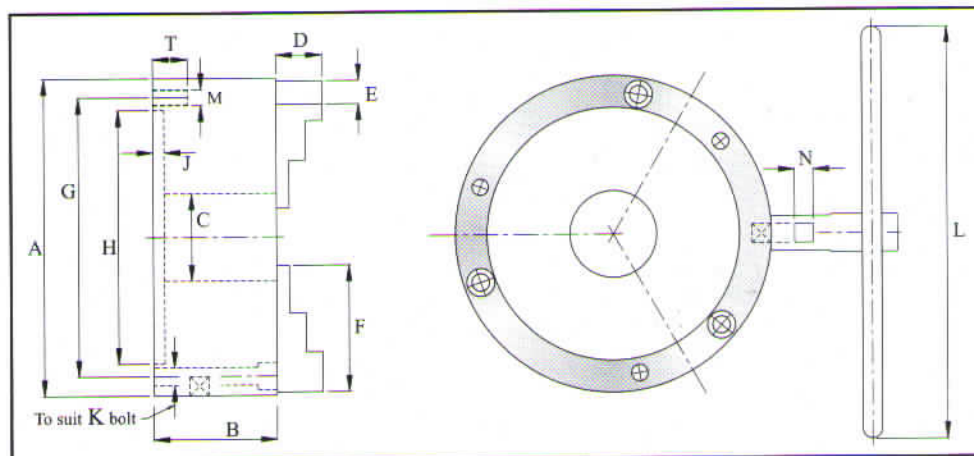
Max. Recommended Revolutions per minute (RPM) of Self Centring Chucks

Size in mm	80	100	125	160	200	230	250	270	315	400	500	600
Cast Iron Body	3000	2500	2000	1700	1300	1200	1100	1000	800	700	500	400
Steel Body	4000	3800	3200	2500	2000	1800	1600	1500	1300	1000	800	700

3-Jaw, 4-Jaw & 6-Jaw Standard Self Centring Chucks



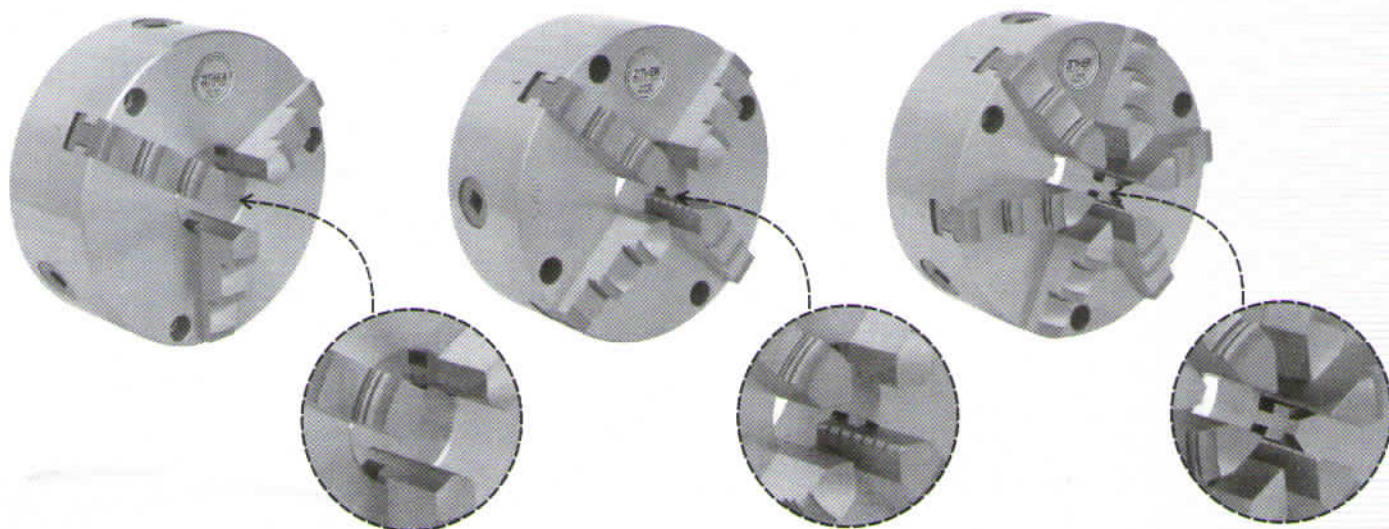
These chucks are available with 3 jaws, 4 jaws and 6 jaws and are referred as STC-3, STC-4 and STC-6 respectively. STC-3 chucks are most popular. STC-4 chucks are used when the job is square. STC-6 chucks are used to grip jobs having thin walls as holding pressure is divided on six sides. One set of reverse Jaws, Mounting Bolts, Operating Key and Inspection Report is provided with each chuck



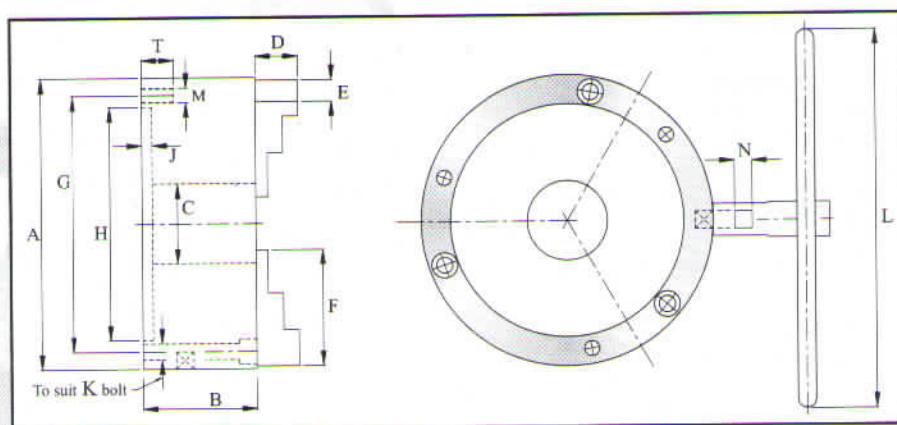
*Product Code	Size in mm	A	B	C	D	E	F	G	H	J	K/M	L	N	T	WEIGHT IN KGS (APPROX.)		
															3 JAW	4 JAW	6 JAW
1001-803	80	83	45	19	13	12	29	71.3	63.5	3	M5	140	6	12	2.0	2.1	--
1001-1003	100	103	52	26	17	15	37	89	76.2	3	M6	175	8	12	3.2	3.3	--
1001-1253	125	125	55	35	19	16	45	108	95	4	M8	175	8	15	4.4	4.5	6.1
1001-1603	160	160	70	42	24	20	65	140	125	6	M10	200	10	20	9.2	9.5	10.3
1001-2003	200	200	78	55	29	22	80	176	160	7	M10	285	12	22	15.5	16.1	16.8
1001-2303	230	230	78	70	29	22	80	205	180	7	M10	285	12	22	21	21.9	22
1001-2503	250	250	86	76	35	29	95	224	200	7	M12	315	13	25	26.2	27.5	29.7
1001-2703	270	270	86	90	35	29	95	245	220	7	M12	315	13	25	29	30.2	33
1001-3153	315	315	88	105	42	32	109	286	260	7	M12	350	14	25	40.5	42.3	44.2
1001-4003	400	400	95	140	50	38	141	362	330	7	M16	450	16	32	65	70	75
1001-5003	500	500	110	190	57	45	160	458	420	7	M16	550	18	32	110	120	130
1001-6003	600	600	110	260	57	45	160	558	520	7	M16	650	18	32	215	225	235

* The Product codes in the table are for Zither 3-Jaw Standard Self Centring Cast Iron Body Chucks. Please refer the Last Page to know how to use the Product Code.

3-Jaw, 4-Jaw & 6-Jaw Big Bore Chucks



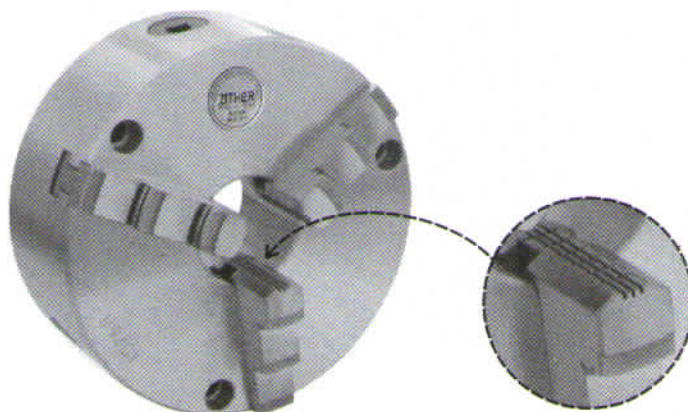
These chucks are available with 3 jaws, 4 jaws and 6 jaws and are referred as BBC-3, BBC-4 and BBC-6 respectively. These are similar to Normal Standard Chucks, the only difference is that the bore is larger than normal Chucks. These chucks are used where machine is lighter and the job requires large bore in the chuck. One set of Reverse Jaws, Mounting bolts, Operating Key and inspection report is provided with each chuck.



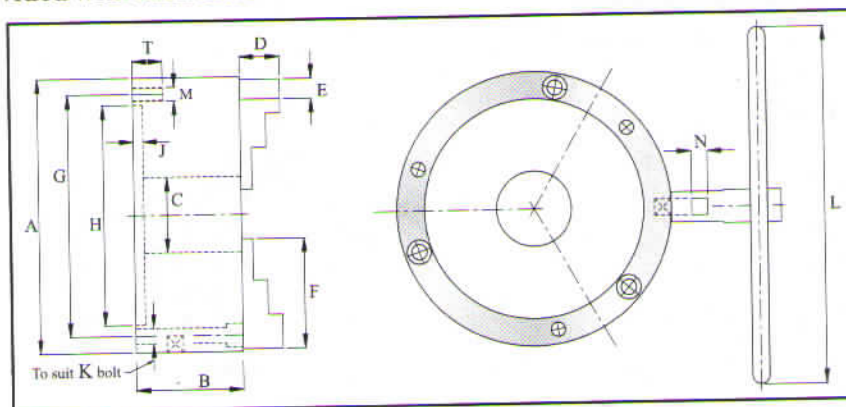
*Product Code	Size in mm	A	B	C	D	E	F	G	H	J	K/M	L	N	T	WEIGHT IN KGS (APPROX.)		
															3 JAW	4 JAW	6 JAW
1003-1603	160	160	70	52	24	20	65	140	125	6	M10	200	10	20	9.1	9.4	10.2
1003-2003	200	200	78	70	29	22	80	176	160	7	M10	285	12	22	15.3	15.9	16.6
1003-2503	250	250	86	90	35	29	95	224	200	7	M12	315	13	25	26	27.3	29.5
1003-3153	315	315	88	130	42	32	109	286	260	7	M12	350	14	25	40.2	42	43.9
3	400	400	95	160	50	38	141	362	330	7	M16	450	16	32	64	69	74

Codes in the table are for Zither 3-Jaw Big Bore Self Centring Cast Iron Body Chucks. Please refer the Last Page to know how to use the Product Code.

3-Jaw Crankshaft Grinder Chucks



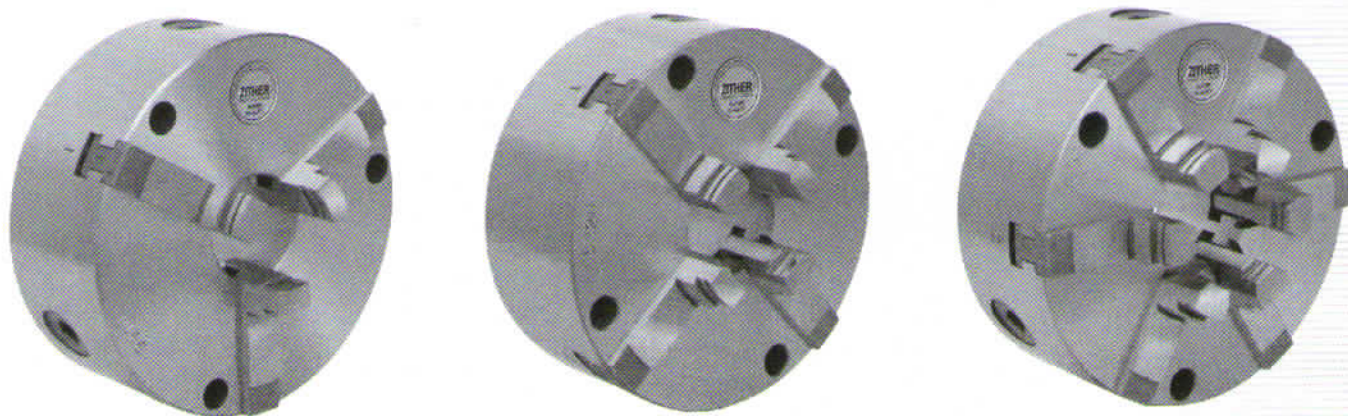
This chuck is available with 3 jaws only and is referred as CRC-3. This chuck is similar to Normal Standard Chuck. The only difference is that the gripping portion of jaws have serrations & rod of Operating key is longer. This is done to obtain maximum grip on crankshaft. One set of reverse Jaws, Mounting bolts, Operating Key and inspection report is provided with each chuck.



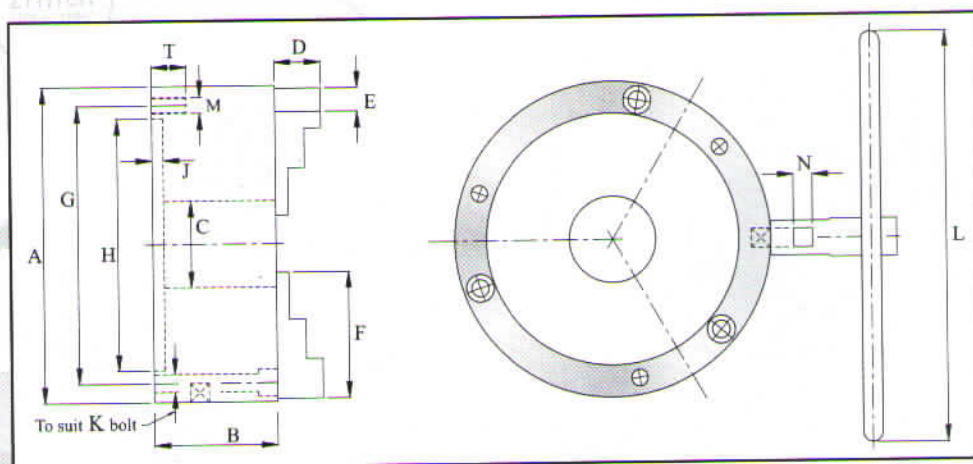
*Product Code	Size in mm	A	B	C	D	E	F	G	H	J	K/M	L	N	T	WEIGHT IN KGS (APPROX.) 3 JAW
1005-1603	160	160	70	42	24	20	65	140	125	6	M10	300	10	20	9.2
1005-1803	180	181	78	48	29	22	80	161	145	7	M10	350	12	22	12.9
1005-1903	190	191	78	55	29	22	80	167	150	7	M10	350	12	22	14.3
1005-2003	200	200	78	55	29	22	80	176	160	7	M10	350	12	22	15.5
1005-2303	230	230	78	70	29	22	80	205	180	7	M10	350	12	22	21
1005-2503	250	250	86	76	35	29	95	224	200	7	M12	350	13	25	26.2
1005-2703	270	270	86	90	35	29	95	245	220	7	M12	350	13	25	29
1005-3153	315	315	88	105	42	32	109	286	260	7	M12	350	14	32	40.5

* The Product codes in the table are for Zither 3-Jaw Crankshaft Grinder Self Centring Cast Iron Body Chuck. Please refer the Last Page to know how to use the Product Code.

3-Jaw, 4-Jaw & 6-Jaw Bearing Races Chucks



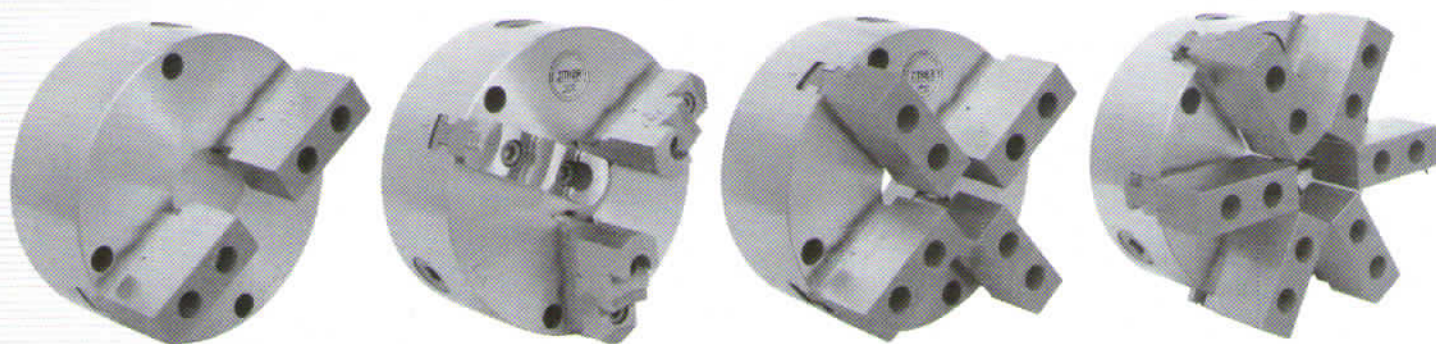
These chucks are available with 3 jaws, 4 jaws and 6 jaws and are referred as BRC-3, BRC-4 and BRC-6 respectively. The jaws are specially designed to grip machined or un-machined Bearing races. BRC-6 chucks are used to grip bearing races having thin walls as holding pressure is divided on six sides. One set of reverse Jaws, Mounting Bolts, Operating Key and Inspection Report is provided with each chuck



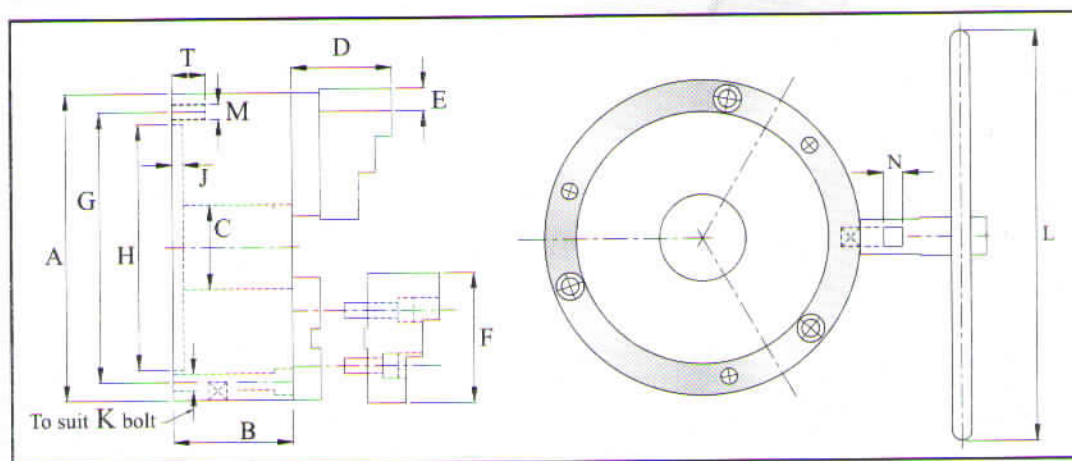
*Product Code	Size in mm	A	B	C	D	E	F	G	H	J	K/M	L	N	T	WEIGHT IN KGS (APPROX.)		
															3 JAW	4 JAW	6 JAW
1004-1603	160	160	70	42	24	20	65	140	125	6	M10	200	10	20	9.2	9.5	10.3
1004-2003	200	200	78	55	29	22	80	176	160	7	M10	285	12	22	15.5	16.1	16.8
1004-2303	230	230	78	70	29	22	80	205	180	7	M10	285	12	22	21	21.9	22
1004-2503	250	250	86	76	35	29	95	224	200	7	M12	315	13	25	26.2	27.5	29.7
1004-2703	270	270	86	90	35	29	95	245	220	7	M12	315	13	25	29	30.2	33
1004-3153	315	315	88	105	42	32	109	286	260	7	M12	350	14	25	40.5	42.3	44.2

* The Product codes in the table are for Zither 3-Jaw Bearing Races Self Centring Cast Iron Body Chucks. Please refer the Last Page to know how to use the Product Code.

2-Jaw, 3-Jaw, 4-Jaw & 6-Jaw Master Grip Chucks



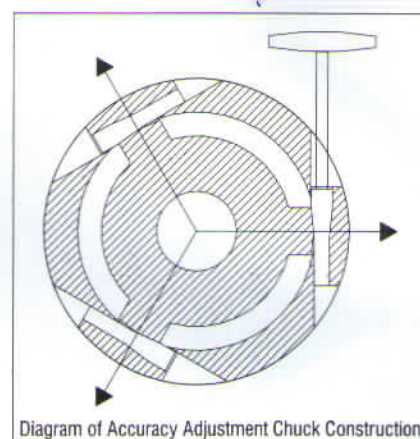
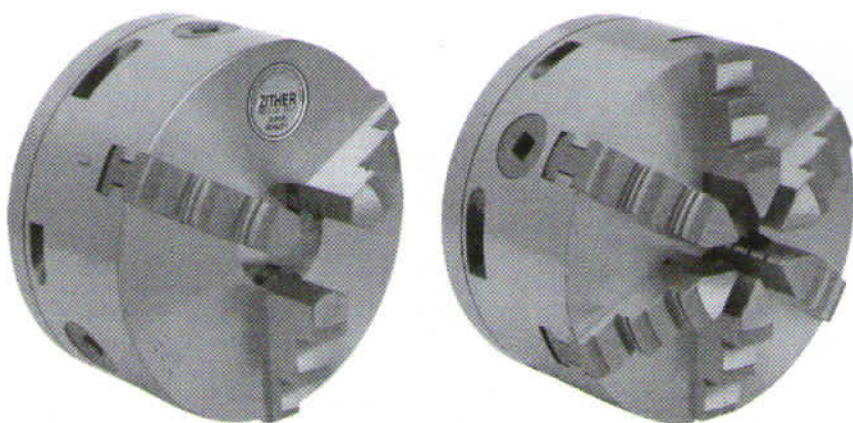
These chucks are available with 2 jaws, 3 jaws, 4 jaws and 6 jaws and are referred as MGC-2, MGC-3, MGC-4 and MGC-6 respectively. The Jaws are made in two portions. There is one threaded base which is hardened. One set of reversible hard top and one set of soft jaw is provided with each chuck. These top jaws are tightened on the base with allen bolts. The advantage of these chucks is that special type of jaws can be made at user's end to suit any type of job which is not possible with normal jaws. Mounting Bolts, Allen Key, Operating Key and Inspection Report is provided with each chuck



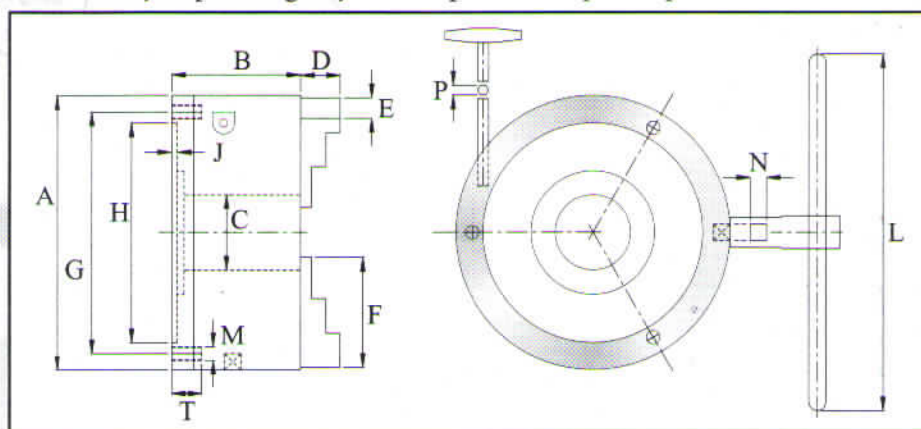
*Product Code	Size in mm	A	B	C	D	E	F	G	H	J	K/M	L	N	T	WEIGHT IN KGS (APPROX.)			
															2 JAW	3 JAW	4 JAW	6 JAW
1006-1603	160	160	70	42	56	28.8	70	140	125	6	M10	200	10	20	10	10.6	11.5	13.1
1006-2003	200	200	78	55	61	30.5	85	176	160	7	M10	285	12	22	16.2	17.2	18.4	21
1006-2503	250	250	86	76	61	30.5	100	224	200	7	M12	315	13	25	26.3	28	30	34.2
1006-3153	315	315	88	105	66	35.25	114	286	260	7	M12	350	14	25	40.5	43.1	45.8	52.2

* The Product codes in the table are for Zither 3-Jaw Master Grip Self Centring Cast Iron Body Chucks. Please refer the Last Page to know how to use the Product Code.

3-Jaw & 6-Jaw Accuracy Adjustment Chucks



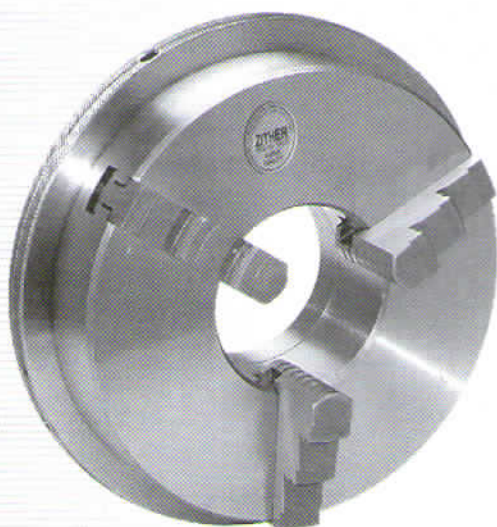
These chucks are available with 3 jaws and 6 jaws and are referred as AAC-3 and AAC-6 respectively. These are used where same size of job is to be held repeatedly and accuracy desired is very high. The chuck accuracy can be adjusted within 0.005 mm with the help of micro-adjustment screws. The repetitive accuracy available with these type of chucks is within 0.013 mm. These chucks are used for tool room and grinding shop work. One set of reverse Jaws, Mounting Bolts, Allen Key, Operating Key and Inspection Report is provided with each chuck.



*Product Code	Size in mm	A	B	C	D	E	F	G	H	J	M	L	N	T	P	WEIGHT IN KGS (APPROX.)	
																3 JAW	6 JAW
1008-803	80	83	55	19	13	12	29	71.3	63.5	3	M5	140	6	12	4	2.0	--
1008-1003	100	103	65	26	17	15	37	89	76.2	3	M6	175	8	12	5	3.9	--
1008-1253	125	125	68	35	19	16	45	108	95	4	M8	175	8	15	5	5.5	6.2
1008-1603	160	160	86	42	24	20	65	140	125	4	M10	200	10	20	6	10.4	13
1008-2003	200	200	94	55	29	22	80	176	160	4	M10	285	12	22	6	17	21
1008-2503	250	250	106	76	35	29	95	224	200	5	M12	315	13	25	6	28	34
1008-3153	315	315	108	105	42	32	109	286	260	5	M12	350	14	25	8	43	52

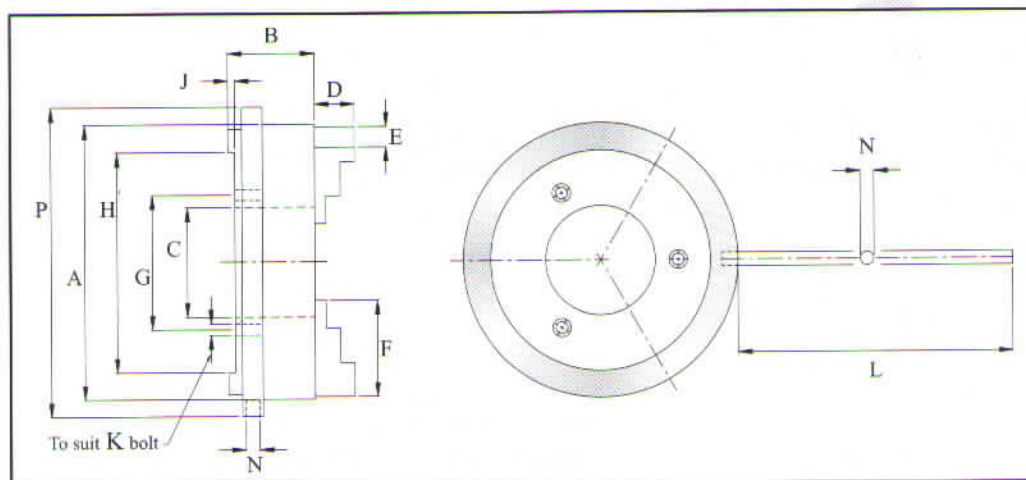
* The Product codes in the table are for Zither 3-Jaw Accuracy Adjustment Self Centring Cast Iron Body Chucks. Please refer the Last Page to know how to use the Product Code.

3-Jaw Lever Operated Scroll Chucks



This chuck is available with 3 jaws and is referred as LOC-3. This is light weight lever operated chuck is specially designed for use by craftsmen on instruments, watchmaker's lathe, bench lathes, grinding machines as well as on small sized machine tools. The body of this chuck is made out of SG Iron to avoid breakage due to slim design of body. The grip of these chucks is limited as the design is without gearing. However this feature has advantage also. The sensitive movement avoids the danger of crushing and have great versatility for gripping fragile materials and components.

Knurled ring, which operates the jaws, give ample grip for light work when hand operated, but a lever is provided for use where a stronger grip is required.

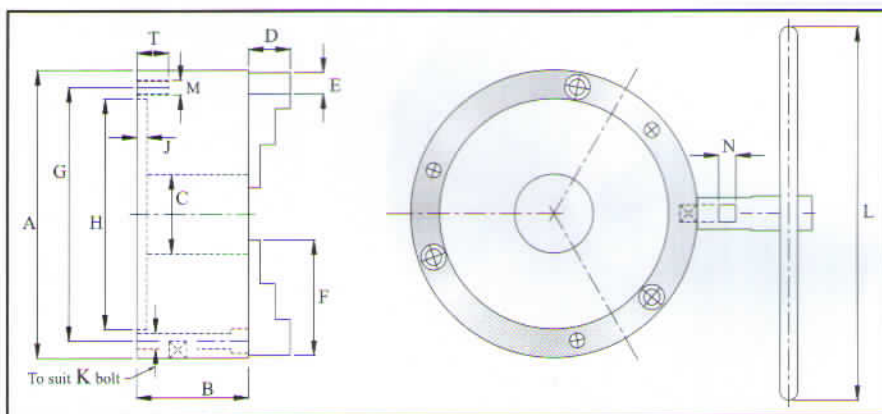
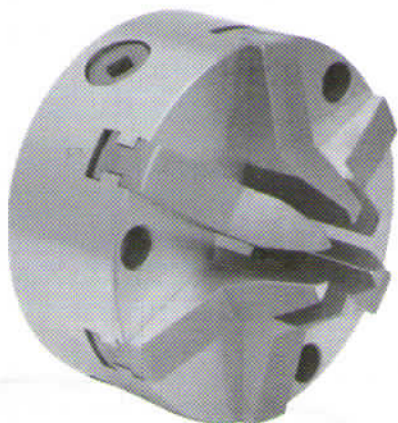


*Product Code	Size in mm	A	P	B	C	D	E	F	G	H	J	K	L	N	WEIGHT IN KGS (APPROX.)
1010-803	80	83	89	34	15.7	13	12	29	27.2	40	3	M5	100	8	1.25
1010-1003	100	103	110	38	31.7	17	15	37	43.2	56	3	M5	100	8	2.50
1010-1253	125	125	136	46	42	19	16	45	56	70	3	M6	150	10	4.00
1010-1603	160	160	180	53	52	24	20	65	66	125	5	M6	200	10	7.00
1010-2003	200	200	225	63	80	29	22	80	98	160	5	M8	200	10	10.0

* The Product codes in the table are for Zither 3-Jaw lever operated Self Centring Cast Iron Body Chucks. Please refer the Last Page to know how to use the Product Code.

6-Jaw Drill Point Grinder Chucks




This chuck is available with 6 jaws and is referred as DPG-6. This chuck is specially designed to grip drills for sharpening purpose. Mounting Bolts, Operating Key and Inspection Report is provided with each chuck



*Product Code	Size in mm	A	B	C	D	E	F	G	H	J	K/M	L	N	T	WEIGHT IN KGS (APPROX.) 6 JAW
1009-1256	125	125	55	42	42	16	45	108	95	4	M8	175	8	15	6.5
1009-1606	160	160	65	52	52	19	65	140	125	4	M10	200	10	20	10.8

* The Product codes in the table are for Zither 6-Jaw Drill Point Grinder Self Centring Cast Iron Body Chucks. Please refer the Last Page to know how to use the Product Code.

Back Plates / Mounting Flanges

	Model	Suitable for	Sizes/Product Code			
			160mm	200mm	250mm	315mm
	L1	LB-17/20/25 (HMT) H-22/26 (HMT) A-124-124 (PSG)	1013-160	1013-200	1013-250	1013-315
	A2-4	Turnmaster-35 (Kirloskar), EP-380 (Kirloskar)	1017-160	1017-200	1017-250	1017-315
	A2-6	Turnmaster-40/45 (Kirloskar), NH-22/26, NL-22/26 (HMT), LMT-20, L2-22 TP/LT-20 (HMT), 9B/VIKRAM, A24UP(HMT)	--	1019-200	1019-250	1019-315
	A2-8	Turnmaster-50 (Kirloskar) BECO	--	1020-200	1020-250	1020-315
	D1-4	Turnmaster-35/Nagmati-175, EP-1330/1550/355 (Kirloskar)	1026-160	1026-200	1026-250	--
	D1-6	Turnmaster-40/45, EP-1675/400/425 (Kirloskar), VIKRAM (HMT)	--	1028-200	1028-250	1028-315
	D1-8	Turnmaster-50, EP-1810/450/500 (Kirloskar) B-32 (HMT)	--	1029-200	1029-250	1029-315
	D1-11	EP-2210/2215/2615 (Kirloskar), L-45 (HMT)	--	1030-200	1030-250	1030-315