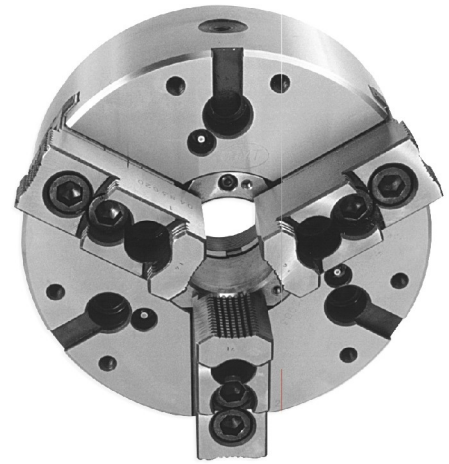


# PHNC



## POWER OPERATED THREE JAW CHUCK WITH THROUGH BORE

Power Operated Hollow High Speed Chucks are designed to rotate at high speeds on CNC lathes. The compact construction of the PHNC Chucks offer further advantage of less weight and low inertia which have positive influence on the dynamic effect of CNC machine spindle. These chucks have a large through bore and are therefore suitable for bar work. The base jaws and top jaws weight are reduced in these chucks. This not only reduces the mass but also lowers the centre of gravity, which make the centrifugal losses low.

- Chucks on CNC machines need to deliver high initial gripping force. We take care of this in the design by making the chuck operate with a large drawbar pull. Consequently the wedge is designed to have large contact area with the base jaws.
- The weight of the body, base jaws and hard jaws are less, without the other essential criteria being sacrificed.
- The chuck body is recessed to remove a large extent of material to reduce the weight (from sizes 250 mm to 500 mm)

The chuck body is forged steel. The guideways are hardened and ground.

The wedge, made of nickel chrome steel, is case hardened and ground on all the working surfaces.

The base jaws also made of nickel chrome steel, are case hardened and ground to match both the wedge and the body guideways.

The base jaws are guided in the deep, wide, hardened slots in the body, which provide the ample bearing area necessary to withstand the forces resulting from high gripping action.

Provision has been made for manual lubrication of the sliding surfaces through grease nipples.

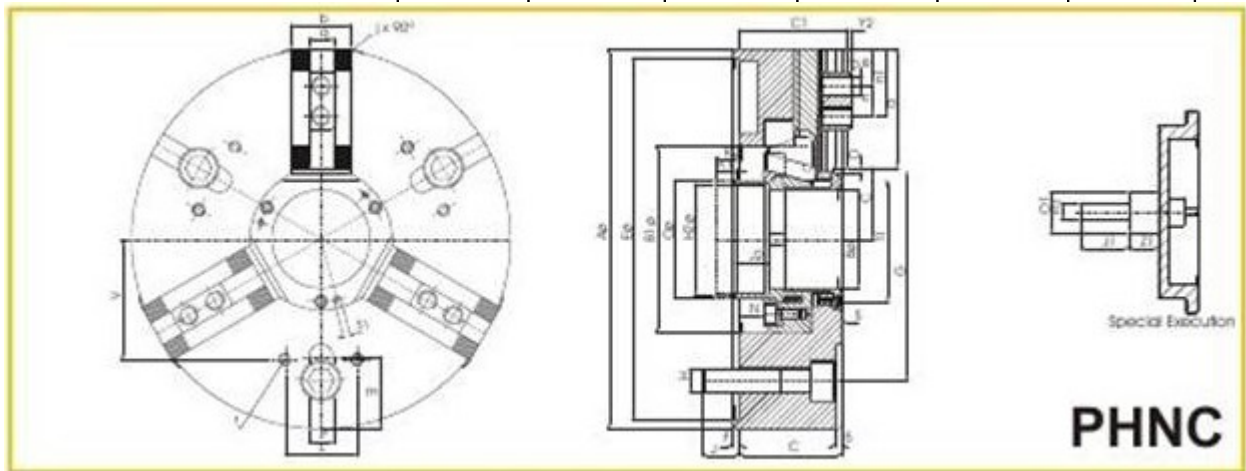
Serrations are ground on the top face of the base jaws. The reversible hard jaws have ground serrations on the bottom to match the base jaws.

The various radii on the hard jaws in conjunction with the serrations are designed to grip a wide range of diameters.

The hardened guideways of the body, nickel chrome case hardened and ground base jaws and the wedge ensure high load carrying capacity over a very long period.

Chuck performance detail			2 Jaw and 4 Jaw chuck with through bore can be offered on request						
Chuck Size			135	165	200	250	315	400	500
Clamping Range	External	Max	128	165	200	250	315	400	500
		Min	10	32	25	28	42	45	74
	Internal	Max	-	165	200	250	315	400	500
		Min	-	62	70	76	84	105	138
Max Drawbar pull (Kgf)			1780	2000	4000	6000	6000	9000	9000

Max gripping force (Kgf)	3670	5400	8000	12000	13000	20000	21000
RPM max	7000	5000	5000	4000	3200	2500	2000
Weight (Kgs)	6	12.5	19.5	27	43	94	132
Flywheel effect $GD^2$ (Kpm <sup>2</sup> )	0.17	0.2	0.38	0.8	2.6	8.4	24.8
Max top jaw weight (Kgs)	0.7	1.5	1.7	3.5	4	7.5	7.5



### DIMENSIONAL SPECIFICATION:-

Model	04-72	04-73	04-74	04-75	04-76
<b>Size Ø</b>	<b>200</b>	<b>250</b>	<b>315</b>	<b>400</b>	<b>500</b>
A Ø	200	250	315	400	500
A 1 Ø	215	265	330	425	525
B Ø H7	48	65	82	120	160
B1 Ø	102	127	145	191	231
C	90	98	108	128	128
C1	94	102	112.5	133	133.5
D Jaw Stroke	5.3	5.3	5.3	8	8
E Ø H6	170	220	300	380	380
F	6	6	6	6	6
G PCD	133.4	171.4	235	330.2	330.2
H	3 x M12	3 x M16	3 x M20	3 x M24	6 x M24
H1	M20	M20	M20	M30	M30
H2	M55 x 2	M72 x 2	M92 x 2	M133 x 2	M172 x 3
O Ø g6	62	78	98	142	182
O1 Ø	35	35	35	46	46
J	15	24	28	31	36
J1	55	55	55	55	55
J2	28	28	28	28	28

K1 Max	4.5	9.5	19.5	16.5	13
K2 Max	15.5	10.5	0.5	13.5	17
N	20	20	20	30	30
S	8	8	8	12	12
S1	M6	M6	M6	M9	M8
T1 PCD	68	86	104	145	185
Z1	30	30	30	30	30
a	59	76	98	118	150
b	40	45	50	60	60
c min	35.7	43.7	54.2	74	92
c max	41	49	59.5	82	100
d	M12	M16	M16	M20	M20
e min	8	10	10	15	15
j x 90°	1/16"	1/16"	1/16"	3/32"	3/32"
n	19	25	25	34	34
n1 max	50	60	85	103	130
q H7	17	21	21	25.5	25.5
y2	3.5	3.5	3.5	3.5	3.5
p H12	16	16	20	20	20
r	M8	M10	M10	M12	M12
m	23.5	26.5	56	60	115
l	45	60	60	80	100
V	80	105	125	155	170