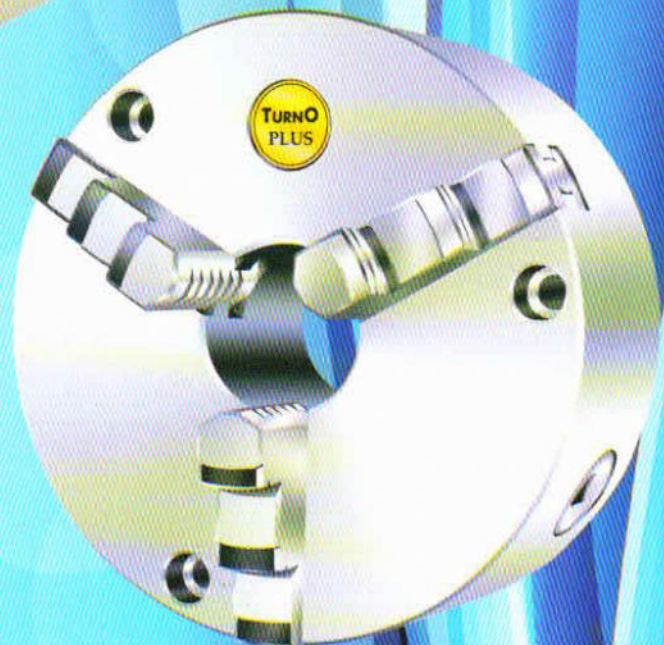
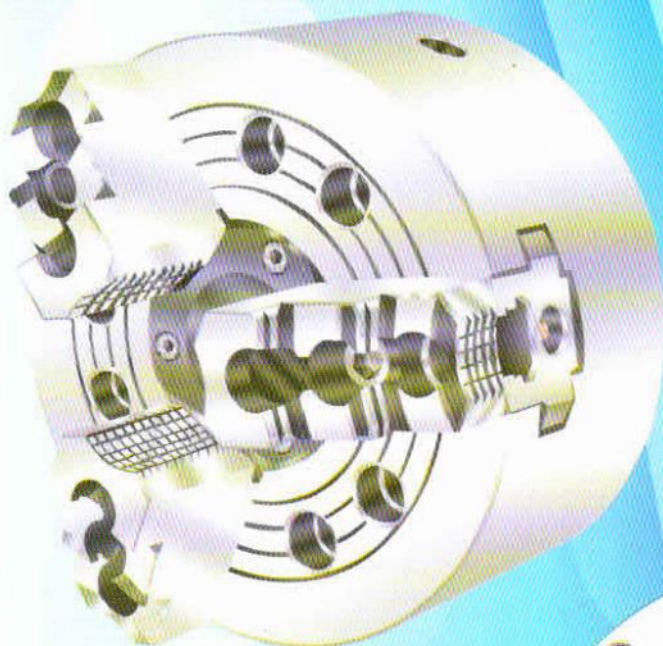


TURNO

PLUS

- ▶ ATTITUDE
- ▶ TECHNOLOGY
- ▶ WORKMANSHIP
- ▶ PRECISION
- ▶ RANGE



- ▶ Hydraulic Power Chucks
- ▶ Self Centring Chucks
- ▶ Independent Chucks
- ▶ Rotary Cylinders
- ▶ Back Plates

An ISO Certified Company

TURNO

PLUS

SELF CENTRING CHUCKS

STANDARD JAWS



SJ TYPE

STANDARD JAWS SELF CENTRING CHUCKS

Standard jaw Chucks are supplied with One Set Forward & One Set Reverse. These chucks are used in Production Jobs.

MATERIAL COMPOSITION

BODY

Semi Steel Bodies are Manufactured from High Tensile Grade 25 Cast Iron, Hardness 180-210 Bhn.

JAWS

Jaws are Made of Low Carbon Case Hardening Steel and Hardened in Modern Heat Treatment Plant. Hardness 55-60 HRC.

SCROLL

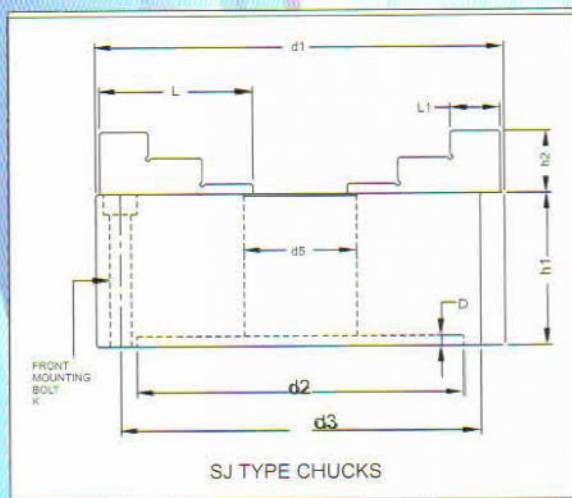
Scroll Plates are Manufactured from Forged Wear Resistant Alloy Steel. Hardness 40-45 HRC.

PINION

Pinions are Made of Case Hardening Alloy Steel. Hardness 40-45 HRC.

SPECIAL FEATURES OF TURNO PLUS

- Knob & Jaws Ways of Body Hardened & Ground.
- Scroll Bore & Threads Precision Ground from Both Sides.
- Jaws Teeth Precision Ground from Both Sides.
- Hardened & Ground Pinion.
- Accuracy Less Than 0.05mm from 160-315 mm Chucks.
- Parts Interchangeable



DIMENSIONAL DATA OF SELF CENTRING CHUCKS

Nominal Size d_1	d_2 H_7	P.C.D		d_5	h_1	h_2	D	L	K	L_1	Size of Sq. of Handle	Thickness of Jaw	Approx. Wt. in Kgs.			RECCOMENDED R.P.M.		
		d_3	Tol. on d_3										SJ3	SJ4	SJ6	CAST IRON BODY	S.G. IRON BODY	STEEL BODY
80	56	67	± 0.2	16	44	14	3	32	M6	9	6	10.5	1.3	1.7	-	3000	3500	4000
100	70	83	± 0.25	20	50	18	3	42	M8	14	8	14	2.1	2.7	-	2500	3200	3800
125	95	108	± 0.25	33	60	22	4	48	M8	16	9	16.5	4.0	4.6	6.1	2000	2500	3200
160	125	140	± 0.3	42	67	29	5	65	M10	19	10	18	7.5	8.5	9.5	1700	2000	2500
200	160	176	± 0.35	55	75	31	5	76	M10	24	11	22	12.5	15.5	17.5	1300	1600	2000
250	200	224	± 0.35	76	86	36	6	97	M12	32	12	28.5	23	27	31	1100	1300	1600
270	220	245	± 0.35	90	86	36	6	97	M12	32	12	28.5	27	30	35	1000	1200	1500
315	260	286	± 0.4	108	86	36	6	120	M12	36	14	28.5	36	39	44	800	1000	1300
375	320	349	± 0.4	140	95	58	6	140	M12	38	16	34	54	58	66	700	800	1000
400	330	362	± 0.4	150	105	58	8	160	M16	40	16	34	71	76	86	700	800	1000
500	433	462	± 0.5	203	104	63	8	170	M16	47	16	40	14	155	185	650	700	800
610	538	567	± 0.5	260	130	80	10	200	M16	55	19	50	135	155	185	400	500	700

3 JAWS MTJ TYPE



MTJ TYPE MASTER GRIPPING SELF CENTRING CHUCKS

In these chucks the jaws are made in two portions. The one is base hard jaw fitted in the body. One set of top hard reversible and one set of top soft jaw are supplied with each chuck. Top hard reversible & top soft jaws are mountable on the same base hard jaw with allen bolts provided with the chuck. The advantage of these chucks are that user can modified the soft jaws as per their requirement. These chucks are supplied in 2,3,4, & 6 jaws.

MATERIAL COMPOSITION

BODY

Semi Steel Bodies are Manufactured from High Tensile Grade 25 Cast Iron, Hardness 180-210 Bhn.

JAWS

Jaws are Made of Low Carbon Case Hardening Steel and Hardened in Modern Heat Treatment Plant. Hardness 55-60 HRC.

SCROLL

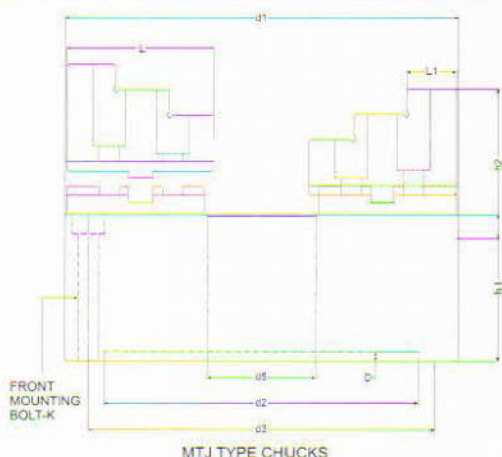
Scroll Plates are Manufactured from Forged Wear Resistant Alloy Steel. Hardness 40-45 HRC.

PINION

Pinions are Made of Case Hardening Alloy Steel Hardness 40-45 HRC.

SPECIAL FEATURES OF TURNO PLUS

- Knob & Jaws Ways of Body Hardened & Ground.
- Scroll Bore & Threads Precision Ground from Both Sides. Jaws Teeth Precision Ground from Both Sides.
- Hardened & Ground Pinion.
- Accuracy Less Than 0.05mm from 160-315 mm Chucks.
- Parts Interchangeable.



DIMENSIONAL DATA OF MTJ TYPE CHUCKS

Nominal Size d_1	d_2 H_7	P.C.D		d_5	h_1	h_2	D	L	K	L_1	Size of Sq. of Handle	Approx. Wt. in Kgs.		
		d_3	Tol. on d_3									MTJ3	MTJ4	MTJ6
160	125	140	± 0.3	42	67	50	5	75	M10	19	10	7.5	8.5	9.5
200	160	176	± 0.35	55	75	53	5	80	M10	24	11	12.5	15.4	17.5
250	200	224	± 0.35	76	86	59	6	102	M12	32	12	23.0	27.0	31.0
315	260	286	± 0.4	108	86	69	6	120	M12	36	14	35.0	41.0	44.0
375	320	349	± 0.4	140	95	97	6	140	M12	38	16	58.0	62.0	66.0
400	330	362	± 0.4	150	105	110	8	160	M16	44	16	97.0	104.0	110.0
500	433	462	± 0.5	203	104	110	8	180	M16	50	16	120.0	128.0	135.0
610	538	567	± 0.5	260	130	110	10	200	M16	55	19	228.0	236.0	240.0

TURNO

PLUS

ACCURACY ADJUSTABLE CHUCKS

3 JAWS AS TYPE



AS TYPE

ACCURACY ADJUSTABLE SELF CENTRING CHUCKS

As type chucks are generally used for 2nd. operations & in toolroom where's higher accuracy is required.

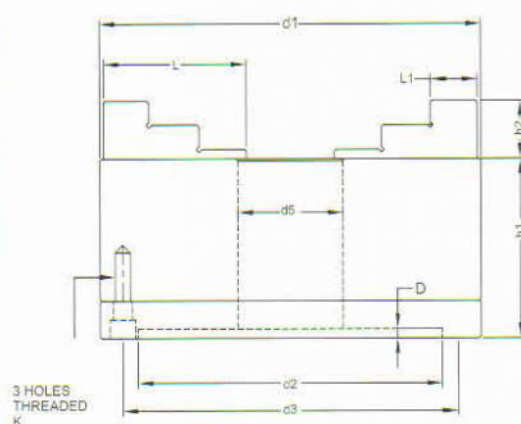
These chucks are adjustable up to 0.005 mm and repeating accuracy within 0.015 mm on the same dia.

LIMITATIONS:

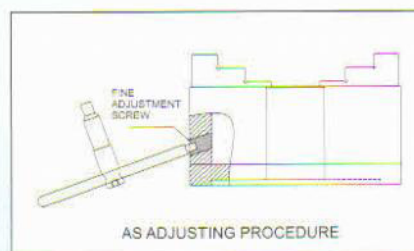
As type Chucks are slightly unbalance due to adjustment feature and may cause spindle vibration at high speed.

ADJUSTING PROCEDURE

Hold the workpiece in this chuck in normal manner. Slacken the adjusting screws with dual purpose key provided. Place the dial indicator against workpiece and rotate the chuck till lowest reading is obtained. The adjusting screws nearest to low reading is then tightened until gauge needle moves half of the total concentricity reading. The same procedure is repeated till the desired level of concentricity is achieved. All adjusting screws then finally be checked for full tightness. No further adjustment is required for repetitive machining of similar jobs of the same dia which is possible within 0.015 mm accuracy. Always use NOMINATED PINION for repetitive gripping accuracy.



AS TYPE CHUCKS



AS ADJUSTING PROCEDURE

DIMENSIONAL DATA OF AS TYPE CHUCKS

Nominal Size d_1	d_2	d_3	d_5	h_1	h_2	L_1	L	D	K	Approx. Wt. in Kgs.	
										AS3	AS6
80	56	67	16	56	14	9	32	3	M6	1.6	-
100	70	83	20	62	18	14	42	3	M8	3.2	-
125	95	108	32	72	22	16	48	4	M8	5.0	6.0
160	125	140	42	85	29	19	65	5	M10	9.0	10.0
200	160	176	55	95	31	24	76	6	M10	14.5	17.5
250	200	224	76	112	36	32	97	6	M12	30.0	33.0
315	260	286	108	120	36	36	120	6	M14	45.0	48.0



IC TYPE INDEPENDENT CHUCKS

TECHNICAL FEATURES

BODY

Made from high strength cast iron and machined within tolerance for accurate fitting of jaws , screw and screw lock
Hardness 180-210 Bhn.

JAWS

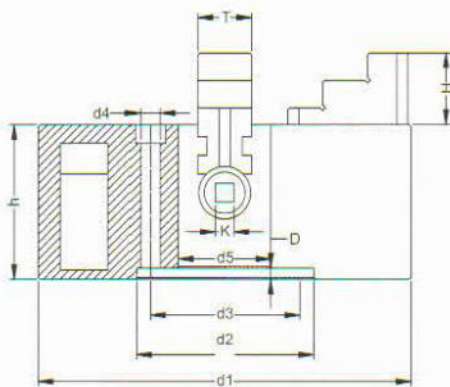
Jaws are Made of low Carbon Case hardening steel and hardened in modern heat treatment plant. Jaw's slots are ground for accurate fitting and long life.
Hardness 55-60 HRC.

SCREW

Made from case hardening alloy steel and harden and ground bearing areas for longer life.

SCREW LOCK

Case hardened steel and harden to provide longer life.



INDEPENDENT CHUCK

DIMENSIONAL DATA OF INDEPENDENT CHUCKS

Nominal Size d1	d2	d3	d4	d5	D	T	h	k	L	H	Approximate Weight in Kgs
125	100	80	M8	33	5	19	56	7	49	25	5
160	125	140	M10	45	6	24	66	8	55	25	9
200	95	80	M10	50	6	24	83	10	76	34	15
250	125	105	M12	60	8	29	83	10	87	34	20
305	160	130	M12	75	10	34	93	12	98	43	33
350	160	130	M12	86	12	34	93	12	108	43	59
400	200	170	M16	100	14	40	103	14	125	57	65
450	200	170	M16	100	14	40	103	14	135	57	76

TURN O

PLUS

POWER CHUCK OPEN CENTRE

3 JAWS OPEN CENTRE



Turno Plus Power Chuck 3 Jaws wedge type Open Centre. Powerful gripping Force and high turning speed. Manufactured from high grade alloy steel Hardened and ground for accuracy and repeatability. Available in 2, 3 and 4 Jaws.

MATERIAL COMPOSITION

BODY

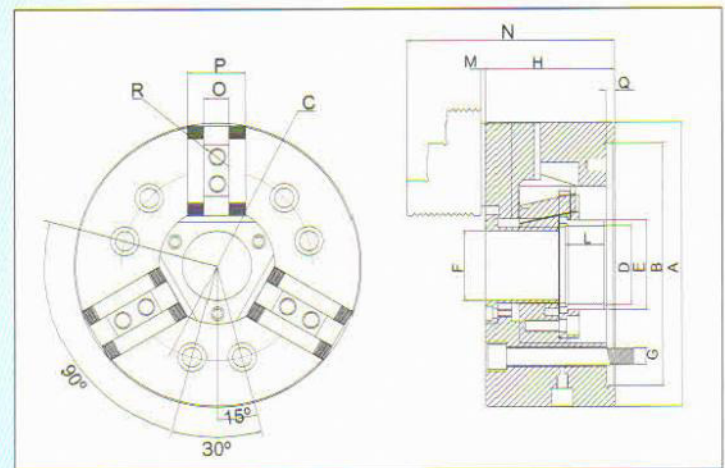
The body of Turno Plus Power Chucks are manufactured from high tensile alloy steel, case hardened and precision ground for accurate fitting & repetitive accuracy. Hardness 50-55 HRC.

WEDGE

It is made of high tensile alloy steel, case hardened and precision ground. It is designed to bear high forces. Hardness 55-60 HRC.

BASE JAWS & TOP HARD JAWS

These are made from high tensile steel case hardened and precision ground all surfaces for close fitting and longer life. Serrations of both jaws are ground. Hardness 55-60 HRC.



DIMENSIONS DATA OF OPEN CENTRE POWER CHUCKS

A	B H6	TAPER NOSE	C	D	E	F	G	H	L	M	N	O H7	P	Q	R	SERRATIONS	Max. R.P.M	Jaw Stroke
135	110	A2-4	82.6	M36x2	48	30	M10	61	23	2	92	10	27	4	M8	1/16x90°	6000	2.75
165	140	A2-5	104.8	M42x1.5	48	35	M10	82	26	5	122	12	35	5	M10	1/16x90°	6000	2.75
170	140	A2-5	104.8	M55x2	60	45	M10	81	20	2	118	12	32	5	M10	1/16x90°	6000	2.75
200	170	A2-6	133.4	M55x2	62	48	M12	90	28	3	145	17	40	5	M12	1/16x90°	5000	3.75
210	170	A2-6	133.4	M60x2	66	52	M12	91	20	3	145	14	37	5	M12	1/16x90°	5000	3.75
250	220	A2-8	171.4	M72x2	79	68	M16	94	28	4	153	21	45	6	M14	1/16x90°	4200	4.50
254	220	A2-8	171.4	M85x2	94	75	M16	100	20	2	157	16	42	6	M12	1/16x90°	4200	4.50
315	220	A2-8	171.4	M92x2	102	80	M16	91	28	4	153	21	50	6	M16	1/16x90°	3200	4.50
400	380	A2-15	330.2	M133x2	142	120	M24	126	42	7	208	25.4	60	6	M20	1/16x90°	2500	5.30



Turno Plus Power Chuck 3 Jaws wedge type Close Centre.

Powerful gripping Force and high turning speed. Manufactured from high grade alloy steel Hardened and ground for accurate fitting and repeatability. Available in 2,3 and 4 Jaws.

MATERIAL COMPOSITION

BODY

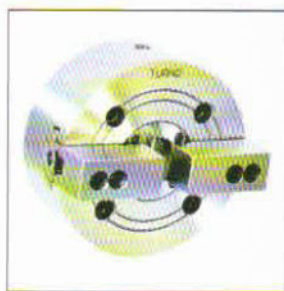
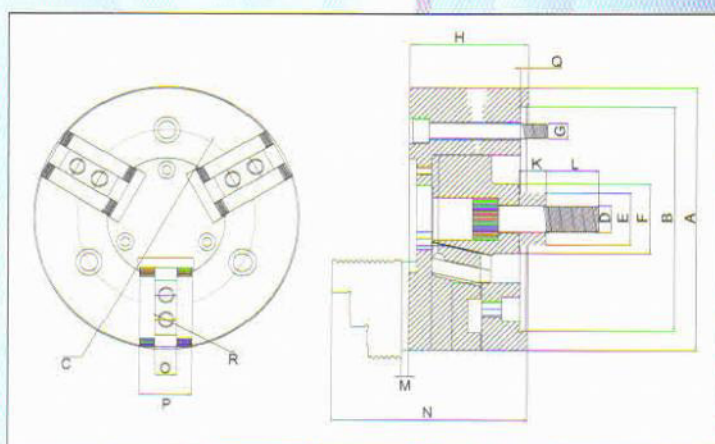
The body of Turno Plus Power Chucks are manufactured from high tensile alloy steel, case hardened and precision ground for accurate fitting & repetitive accuracy. Hardness 50-55 HRC.

WEDGE

It is made of high tensile alloy steel, case hardened and precision ground. It is designed to bear high forces. Hardness 55-60 HRC.

BASE JAWS & TOP HARD JAWS

These are made from high tensile steel case hardened and precision ground all surfaces for close fitting and longer life. Serrations of both jaws are ground Hardness 55-60- HRC.



DIMENSIONS DATA OF CLOSE CENTRE POWER CHUCKS

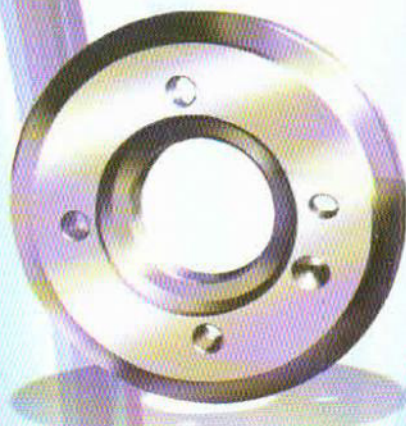
A	B H6	TAPER NOSE	C	D	E	F	G	H	K	L	M	N	O H7	P	Q	R	SERRATIONS	Max. R.P.M	Jaw Stoke
125	115	A2-4	82.6	M12	24	35	M10	59	20	25	9	100	10	25	4	M8	1/16X90°	3000	3.50
160	140	A2-5	104.8	M16	32	42	M10	75	20	25	5	115	12	35	5	M10	1/16X90°	4000	4.50
200	170	A2-6	133.4	M20	39	52	M12	91	20	35	6	148	17	40	6	M12	1/16X90°	3800	4.50
250	220	A2-8	171.4	M20	39	52	M16	97	20	45	3	155	21	45	6	M14	1/16X90°	2500	5.50
315	220	A2-8	171.4	M20	39	60	M16	105	20	45	4	171	21	45	6	M16	1/16X90°	2000	5.50

TURN O

PLUS

BACK PLATES A-2, D-1, L-1 SERIES

A-2 SERIES BACK PLATE



Range:-

These Plates are available in L1, D1 & A2 Series in all sizes. These plates are suitable for kirloskar, H.M.T., P.S.G. and CNC Lathe Machines

D-1



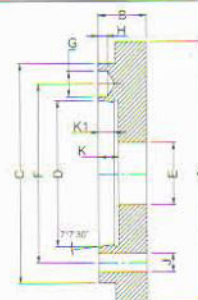
L-1



DIMENSIONAL DATA OF A-2 TYPE BACK PLATE

SIZE	A2-4	A2-5	A2-6	A2-8	A2-11
A	160,200,250	160,200,250	200,250,315	250,315,400	315,400,600
B	33	35	40	45	45
C	108	133	165	210	280
D	63.52	82.56	106.37	139.71	196.86
E(Max)	61	79	103	136	193
F	82.6	104.8	133.4	171.4	235
G	14.7	16.3	19.45	24.2	29.4
H	6.5	6.5	6.5	8	10
J	12	12	14	18	20
K	13	15	16	18	20
K1	10	12	13	14	16

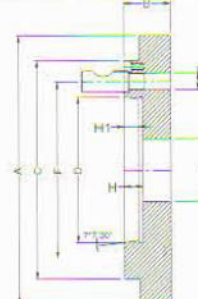
A-2



DIMENSIONAL DATA OF D-1 TYPE BACK PLATE

SIZE	D1-4	D1-5	D1-6	D1-8	D1-11
A	160,200,250	160,200,250	200,250,315	250,315,400	315,400,600
B	33	35	40	45	50
C	112	135	170	220	290
D	63.52	82.56	106.37	139.71	196.86
E(Max)	61	79	103	136	193
F	82.6	104.8	133.4	177.4	235
G	M10X1	M10X1	M12X1	M16X1	M20X1
H	13	15	16	18	20
H1	10	12	13	14	16

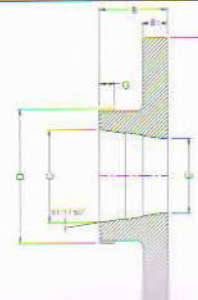
D-1

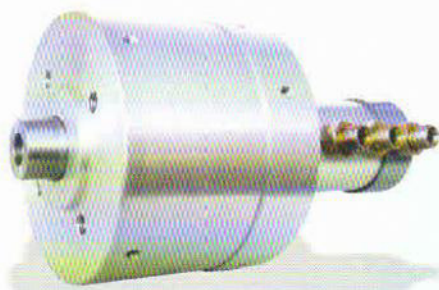


DIMENSIONAL DATA OF L-1 TYPE BACK PLATE

SIZE	A	B	B1	C	D	E	G
L0	160, 200, 250, 315	63.5	28	82.6	4.1/4X6	66	15
L1	200,250, 315, 400	76.2	28	104.8	6X6	84.5	16

L-1





Turno Plus

Close Centre Rotary Hydraulic Cylinder Suitable for CNC And Auto Lathes.

MATERIAL COMPOSITION

BODY

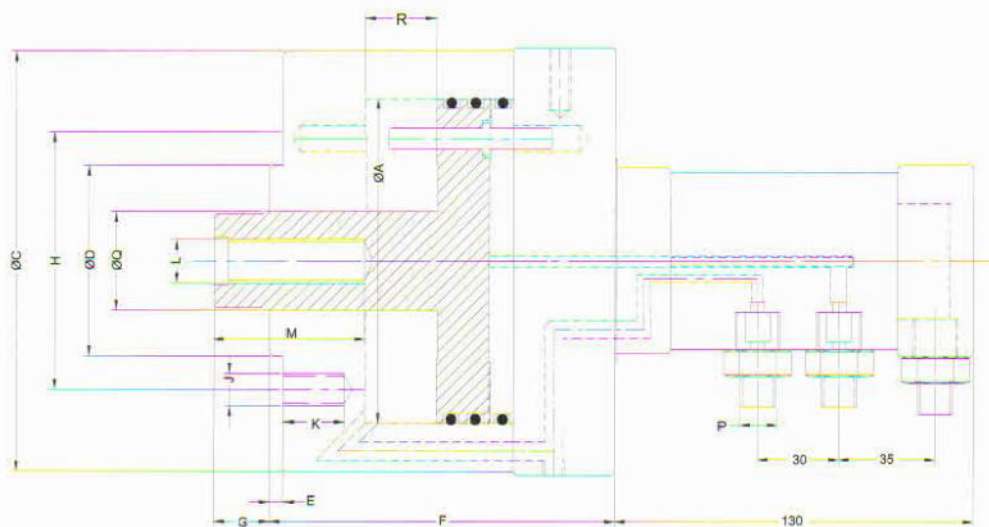
Made from alloy aluminium and precision machined for accurate fitting and long life.

PISTON

Made from EN-8 steel and precision machined for accurate fitting and long life.

ROTARY MANIFOLD

Made from alloy aluminium and EN-8 steel fitted with accurate and high speed bearings.



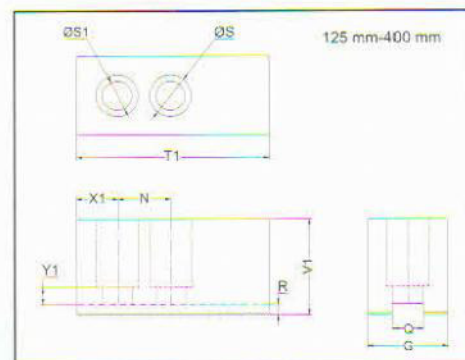
DIMENSIONAL DATA OF HYDRAULIC CLOSE CENTER ROTARY CYLINDERS

MODEL	Ø A	Ø C	Ø D H6	E	F	G MIN	G MAX	H P.C.D	J	K	L	M	P	Q	R	Wt App. Kgms	DRAW BAR PULL IN KGS at 25 Kg/cm ²	RPM
CBC 90	90	125	70	5	120	51	76	95	4xM10	20	M14	50	3/8" BSP	30	25	6.5	1400	3000
CBC 120	120	155	70	5	120	51	76	95	4xM12	20	M16	50	3/8" BSP	36	25	10	2600	3000
CBC 160	160	200	95	5	125	51	81	145	4xM16	25	M24	50	3/8" BSP	36	30	15	4800	3000

SOFT JAWS

SIZE	125/135MM	165MM	170MM	200MM	210MM	250MM	254MM	315MM	400MM
G	25	32	32	40	37	45	40	45	60
N	15	19	19	19	25	25	30	25	34
Q H7	10	12	12	17	14	21	16	21	25.5
R	4.5	5	5	5	5	6	6	6	6
S	13.5	17.5	17.5	19.5	19.5	22.5	19.5	25.5	34
S1	9.5	11.5	11.5	13.5	13.5	15.5	13.5	17.5	22
T1	60	75	75	85	90	110	115	120	155
V1	30	40	40	45	45	60	60	60	60
X1	16	15	15	19	19	25	30	35	41
Y1	6	8	8	8	8	8	8	8	12
SERRATIONS	1/16X90°	1/16X90°	1/16X90°	1/16X90°	1/16X90°	1/16X90°	1/16X90°	1/16X90°	1/16X90°

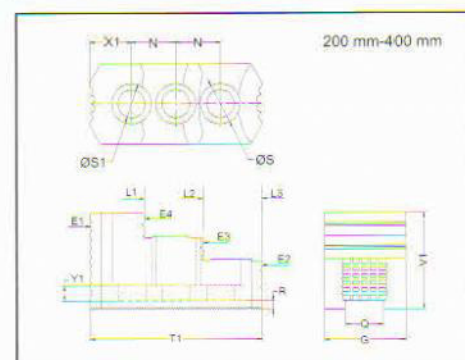
NOTE: 1.5MM X 60° SERRATIONS ARE OPTIONAL



TOP HARD JAWS

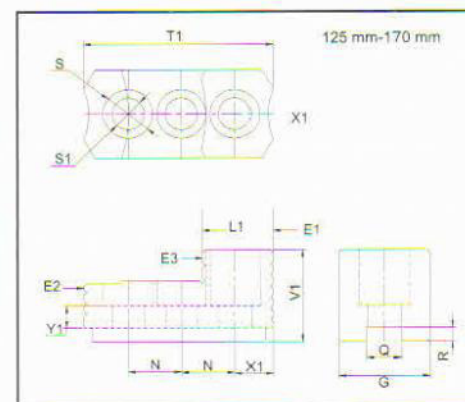
SIZE	125/135MM	165MM	170MM	200MM	210MM	250MM	254MM	315MM	400MM
G	25	32	32	40	35	45	40	45	60
N	15	19	19	19	25	25	30	25	34
Q H7	10	12	12	17	14	21	16	21	25.5
R	4.5	5	5	5	5	6	6	6	6
S	13.5	17.5	17.5	19.5	19.5	22.5	19.5	25.5	34
S1	9.5	11.5	11.5	13.5	13.5	15.5	13.5	17.5	22
T1	60	68	68	76	85	95	100	103	142
V1	30	35	35	52	52	55	55	60	75
X1	11.5	16	16	20	20	24	20	32	45
Y1	6	8	8	8	8	8	8	8	9
SERRATIONS	1/16X90°	1/16X90°	1/16X90°	1/16X90°	1/16X90°	1/16X90°	1/16X90°	1/16X90°	1/16X90°

NOTE: 1.5MM X 60° SERRATIONS ARE OPTIONAL



CLAMPING RANGE POWER CHUCK

SIZE	125/135MM	165MM	200MM	250MM	315MM	400MM
E1	15-60	22-72	25-99	28-104	42-170	45-265
E2	15-30	22-40	25-102	41-124	56-195	80-240
E3	80-125	80-129	74-152	123-206	135-275	129-354
E4	..	..	124-200	205-250	220-315	298-400
L1	60-115	62-136	70-150	76-160	84-218	105-265
L2	..	..	116-190	156-242	148-303	217-377
L3	..	..	166-200	236-250	228-315	331-400



CLAMPING RANGE OF MANUAL CHUCK

SIZE								
D1	D2	D3	D4	D5	D6	D7	D8	
80 mm	2	27	22	69	2	25	70	
100 mm	3	34	28	87	3	32	90	
125 mm	3	46	35	112	3	35	120	
160 mm	4	62	43	154	4	48	160	
200 mm	5	84	50	194	5	56	200	
250 mm	5	108	66	240	5	70	250	
315 mm	10	145	70	300	10	90	315	
375 mm	20	198	80	360	20	125	375	
400 mm	25	240	85	380	25	130	400	
500 mm	35	280	110	480	35	135	500	
610 mm	50	390	130	590	50	200	610	

SPARES FOR MANUAL CHUCKS

FORWARD JAW



REVERSE JAW



PINION & PIN



SCROLL



BASE HARD JAW



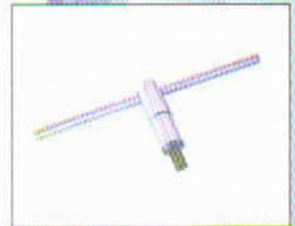
TOP HARD JAW



TOP SOFT JAW



HANDLE



REVERSIBLE JAW OF IC



SCREW



SCREW LOCK



SPARES FOR POWER CHUCKS

BASE HARD JAW OF O/C



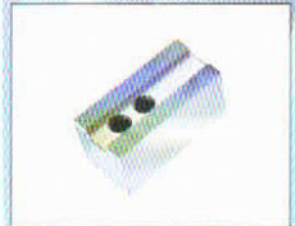
BASE HARD JAW OF C/C



TOP HARD JAW



TOP SOFT JAW



WEDGE OF O/C



WEDGE OF C/C



DRAWBAR NUT



WEDGE PLATE



FRONT COVER OF O/C



FRONT COVER OF C/C



T- NUT



SPANNNER

