

BTS

Support Tailstocks with Hydraulic Clamping

The heavy duty BTS series of tailstocks are fitted with a distortion free hydraulic brake assembly for maximum holding power. Used to support long and / or heavy piece parts or when fabricating a trunion style work holding fixture.

Operating pressure = 35 bar



Accessories



BTS Tailstock



Fixture plate support bracket



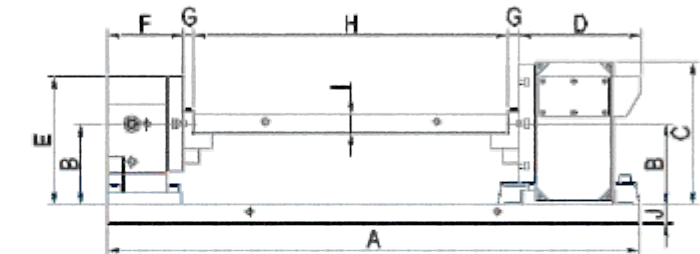
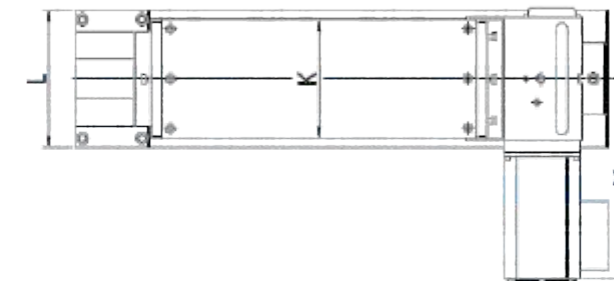
Table: NC or Indexing



Base Plate



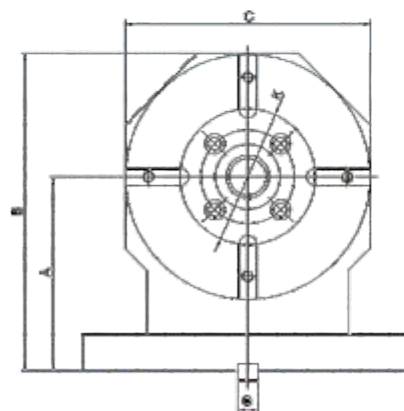
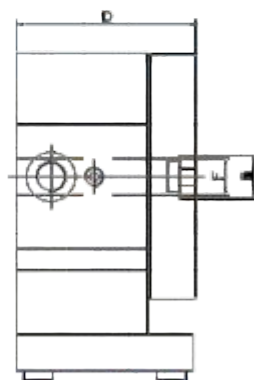
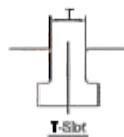
Fixture Plate



BTS Support Tailstock with Hydraulic Clamping											Table model #		
Mode	Central height	B	C	D	E	F	G	K	T	Net weight	NCT	HC	CT-V
BTS-125	110	190	195	150	40 ^{H7}	25	14 ^{H7}	70	12 ^{H7}	30	NCT-125		
	135	221								27	NCT-170	HC-200	
BTS-170	135	221	170	125	30 ^{H7}	25	14 ^{H7}	94	12 ^{H7}	27	NCT-200		
	155	241								33			CT-200V
	155	255								41			CT-200V
BTS-200	170	270	200	160	30 ^{H7}	27	18 ^{H7}	100	12 ^{H7}	47	NCT-250	HC-250	
	210	310								55			CT-250V
	170	300								79	NCT-250	HC-250	
BTS-250	210	340	260	150	50 ^{H7}	32	18 ^{H7}	120	12 ^{H7}	85	NCT-(B)-320		CT-250V
	230	360								90		HC-320	CT-320V
	210	390								116	NCT-(B)-320		
BTS-320	230	390	320	195	50 ^{H7}	32	18 ^{H7}	150	14 ^{H7}	120		HC-320	CT-320V
	250	410								122	NCT-(B)-400	HC-400	
	250	455								238	NCT-(B)-400	HC-400	
BTS-400	310	515	410	230	60 ^{H7}	51	18 ^{H7}	140	14 ^{H7}	258	NCT-B-500	HC-500	
	400	605								290	NCT-B-630		
	480	685								350	NCT-B-800		
	400	705								547	NCT-B-630		
BTS-600	480	785	610	240	75 ^{H7}	65	18 ^{H7}	200	18 ^{H7}	656	NCT-B-800		
	650	955								1378	NCT-B-1000		
	480	890								787	NCT-B-800		
BTS-800	650	1060	820	350	295 ^{H7}	250	22 ^{H7}	360	22 ^{H7}	1653	NCT-B-1000		
	750	1160								1985	NCT-B-1200		
BTS-1000	650	1160	1020	380	305 ^{H7}	260	22 ^{H7}	410	22 ^{H7}	1985	NCT-B-1000		
	750	1260								2382	NCT-B-1200		

* Most models are available with an integral Hirth coupling for an increased tangential load capacity.

BTS



Model / Size	A*	B	C	D	E	F	G	H*	I	J	K	L*	M
NCT-125R+BTS-125	700	110	235	224	190	150	22	258	25	30	125	240	325
NCT-170R+BTS-170	800	135	275	245	220	125	22	392	30	35	170	250	350
NCT-200R+BTS-170	1000	135	273	246	220	125	22	587	40	40	200	250	355
NCT-250R+BTS-200	1120	170	300	256	270	160	22	662	40	40	250	290	420
NCT-320R+BTS-250	1200	210	385	328	340	150	25	710	50	50	320	340	410

* Details to suit the application

DNS

AC Digital Single Axis NC Controller with Mitsubishi General Purpose Servo System

DNS series, self-contained single axis controllers are used in conjunction with Exact CNC Rotary and Rotary / Tilting Tables. Easily programming from the front mounted keyboard, available M-code connection to a machine control for an auto-start function. A portable electric handwheel is also available on request.



Model	TRT		NCT	HC
DNS 106	TRT-100, TRT-170	Rotary Tilting	NCT-125	
DNS 110	TRT-250, TRT-320	Rotary Tilting	NCT-170, NCT-200, NCT-250 NCT-250T, Multi-spindle series	HC-200, HC-250
DNS 120	TRT-450	Rotary Tilting	NCT-(B)-320, NCT-(B)-400, NCT-B-500 NCT-320T, NCT-400T	HC-320, HC-400, HC-500
DNS 135			NCT-B-630, NCT-B-800, NCT-B-1000	

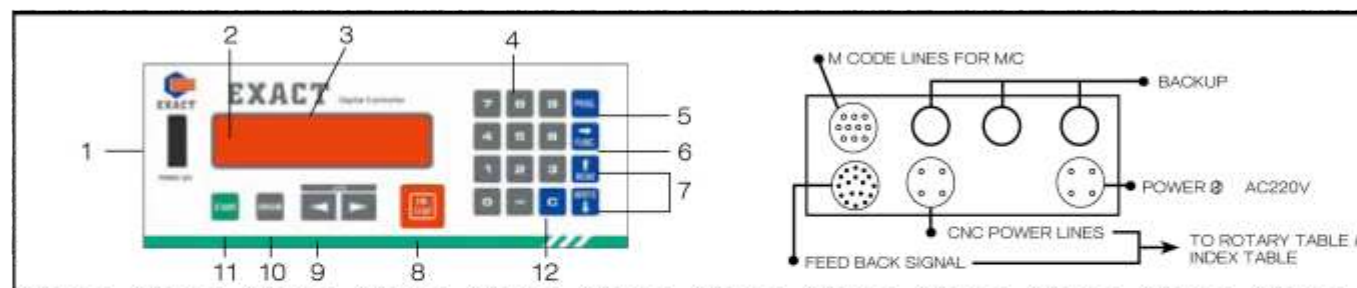
Item	Specification	Item	Specification
Dimensions	290 x 400 x 130mm (L x W x H)	Programmable angle	0.001°~360°
Input power	3 phase AC 220V ±10% 50 / 60 Hz	Mini increment	0.001°
Servo motor	AC servo with feedback	Feeding rate	F1~F2000
Servo driver	AC servo driver	Program capacity	9 programs, 99 lines for each program
Zero return	Available by software/ hardware	Loop count	Up to 999 times/ per step
Input system	Key board	Programmable pulse	1~±9999
Emergency stop	Emergency button and Power switch	Dividing into equal parts	2 - 999 equal division
Parameter setting	Available setting parameter	M Code	Connecting M/C
Program edit	Front Key board PROG writing	Weight	9.8kg

Standard accessories

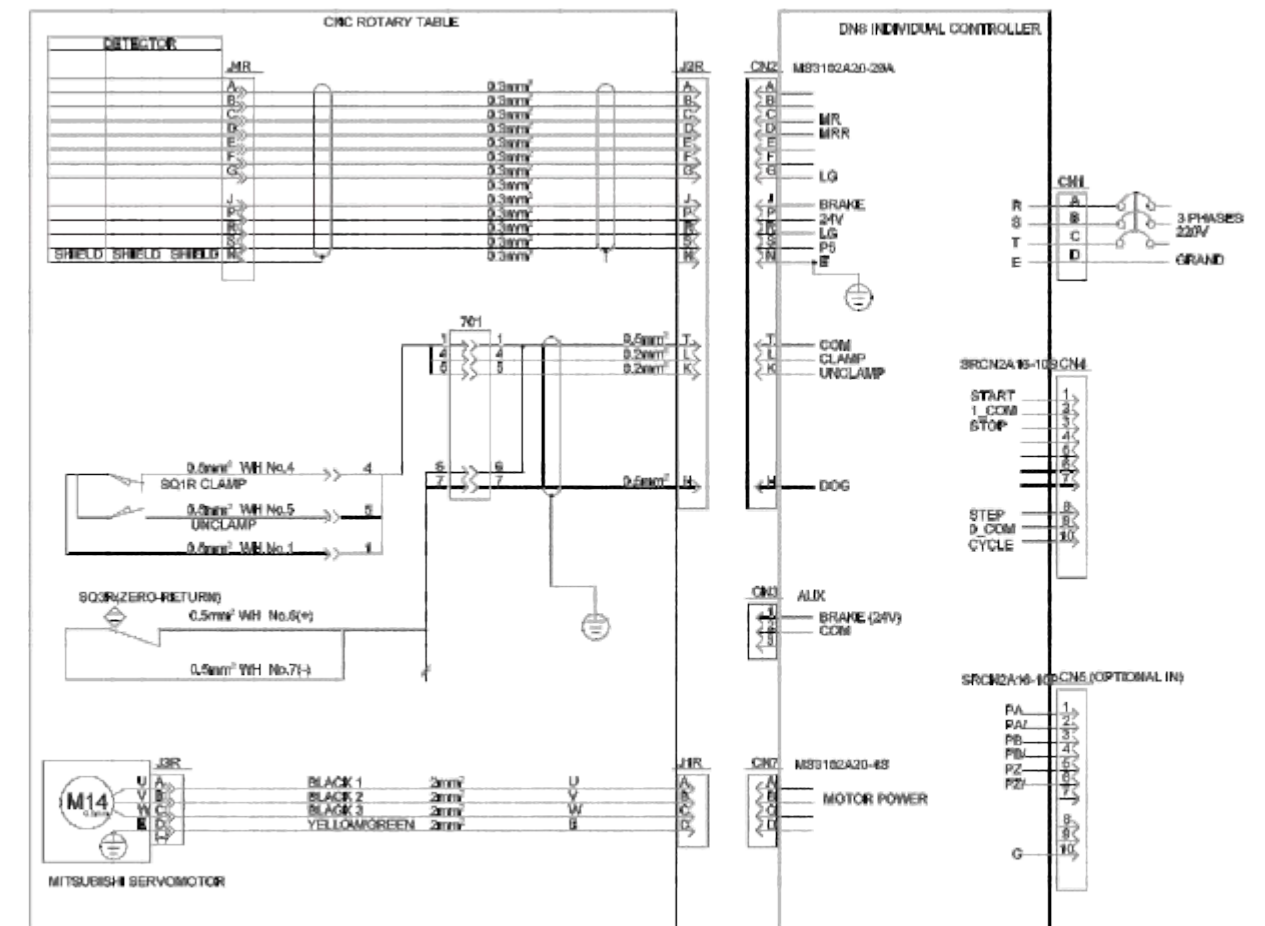
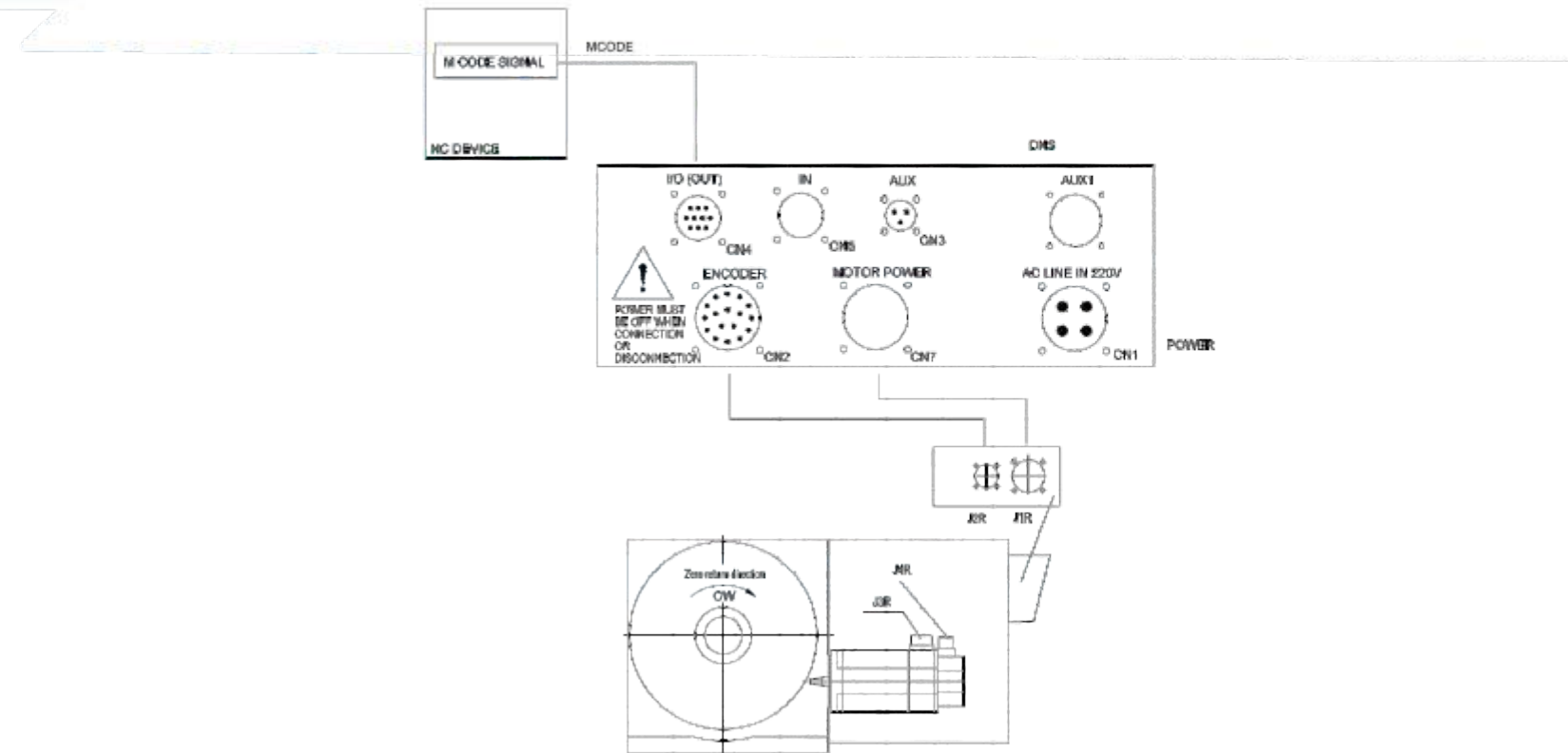
External cables with connector			M-code connector
Main Power	Motor power	Motor feedback	⊙

Optional accessories

Handle-wheel
*



1. Main power switch 2. Program step display 3. Data display Position, speed and loop 4. Date enter keys Program edit 5. Mode button Program edit / data display normal → glisten	6. Function button Program edit / angle speed Loop 7. Program step browsing button 8. Emergency stop button (Pause)	9. Jog button 10. Zero return button 11. Start button 12. Clear button Program edit / clear error input Operation / position clear to "0"
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DNS-A

AC Digital NC Controller with Yaskawa Servo System

DNS-A series, self-contained controllers are used in conjunction with Exact CNC Rotary and Rotary/Tilting Tables. Easily programming on the modern touch screen and editing by the same programming logic as machine CNC unit. A portable electric handwheel is available on request. DNS-A series is available to control 2 rotation axes on request.



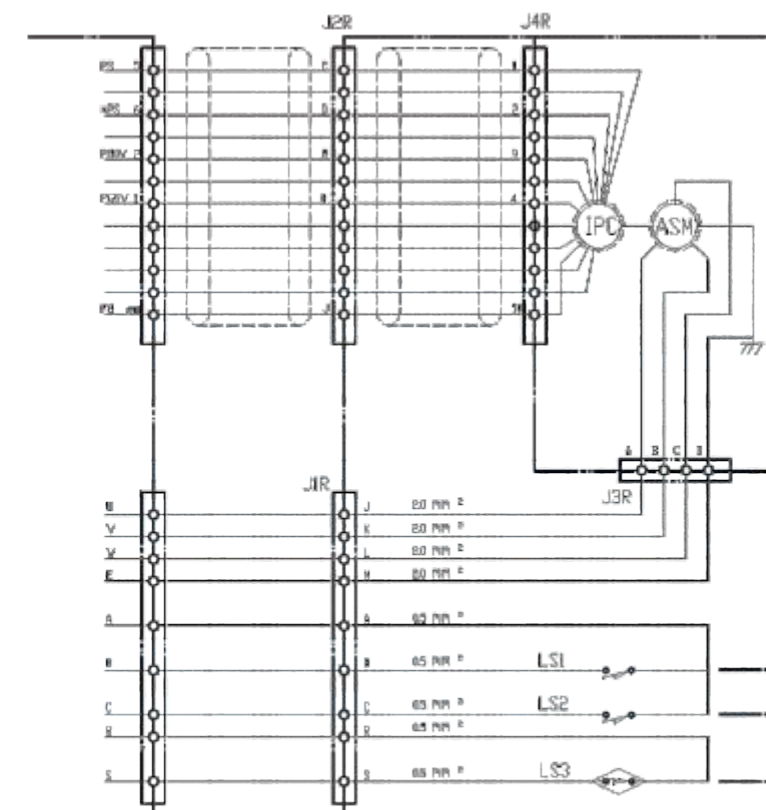
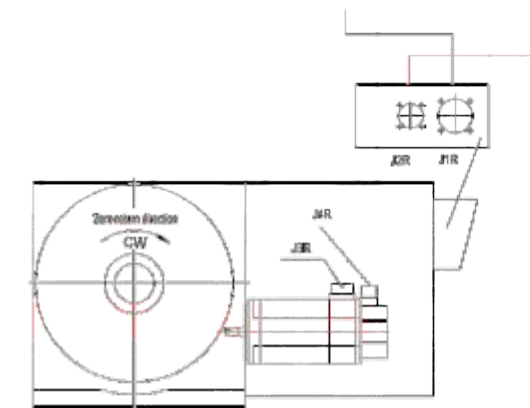
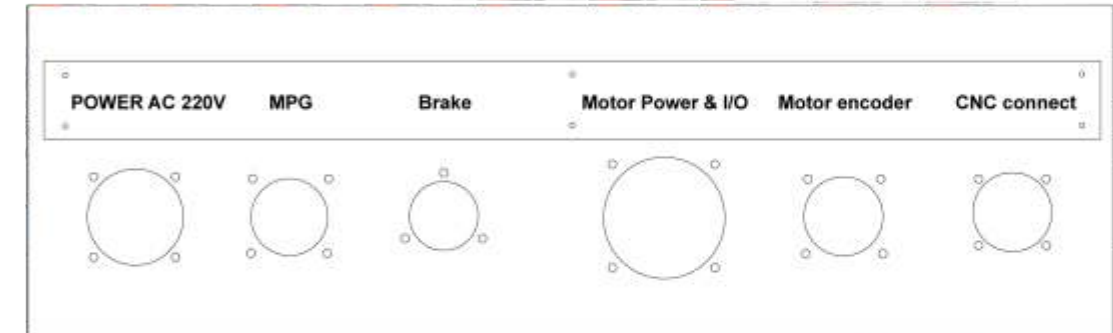
Model	TRT		NCT	HC
DNS 108A	TRT-100, TRT-170	Rotary Tilting	NCT-125	
DNS 113A			NCT-170, NCT-200, NCT-250 NCT-250T, Multi-spindle series	HC-200, HC-250
DNS 118A	TRT-250, NCT-320		NCT-250, NCT-250T	HC-250
DNS 129A	TRT-450	Rotary Tilting	NCT-(B)-320, NCT-(B)-400, NCT-B-500 NCT-320T, NCT-400T	HC-320, HC-400, HC-500
DNS 144A			NCT-B-630, NCT-B-800, NCT-B-1000	HC-630H, HC-800H
DNS 155A			NCT-B-1200 or special application	

Operation Panel



Operation Mode

Machine Coordination	Current axis coordination degree	JOG	Press JOG button and press A+ or A- to execute jog rotation
Feed rate	Current axis rotation speed (mm/min)	HOME	Under this module, press A+,A- to execute home position returned
G00	G00 Percentage setting (rapd feed)	A+	Rotary/Indexing table Clockwise jogging.
G01	G01 Percentage setting (cutting feed)	A-	Rotary/Indexing table Counter-Clockwise jogging.
MPG	Enable to operate Portable Electric Handwheel	AUTO	Execute program automatic working
Clamp	Rotary/Indexing Table clamping	MPG Simulation	For trial processing.
Unclamp	Rotary/Indexing Table unclamping	Single Block	G code execution is pause after one block is finished.



Item	Description	Specification	Brand
LS1	Proximity Switch	E2E2-X3D1 NO	OMRON
LS2	Proximity Switch	E2E2-X3D1 NO	OMRON
LS3	Proximity Switch	E2E2-X3D2 NC	OMRON
J1R	MS Connector	MS3102A28-11P MS3108A28-11S	JAF
J2R	MS Connector	MS3102A20-29P MS3108A20-29S	JAF
J3R	MS Connector	MS3102A18-10P MS3108A18-10S	JAF
J4R	MS Connector	CM10-R10P-D CM10-SP10S-M	JAF

Hirth Coupling Gear

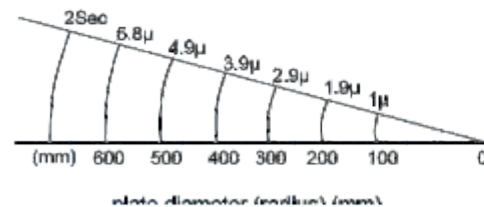
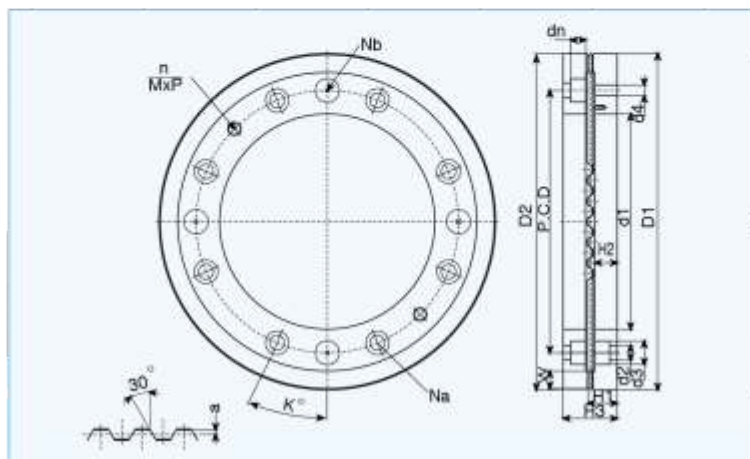
2 Piece Hirth Couplings

Made from quality materials that ensure rigidity and durability. Precision hardened and ground for a guaranteed tooth spacing accuracy of +/- 2 seconds of arc. All pieces are interchangeable with each other.

*Custom sizes upon request



Model No.	Teeth	Out Diameter	In Diameter	Teeth Profile	Teeth Thickness	Teeth Thickness	Thickness	Mounting screws					Dowel pin holes				Extractor screws				Pitch of top end
								Number	P.C.D.	Diameter	Top Diameter	Hole depth	Number	P.C.D.	Hole angle	Diameter	Number	P.C.D.	Specification of the teen		
																				Na	
24-12060 HV	24	120	118	60	8	18.30	14.0	34	6	80	6.6	11.0	6.0	1	80	30°	8	2	80	M8X1.25	1.3
40-14080 HV	40	140	138	80	12	18.37	14.0	34	6	100	6.6	11.0	6.0	3	100	30°	8	2	100	M8X1.25	1.37
24-180120 HV	24	180	178	120	10	21.61	16.5	40	8	140	9.0	14.0	8.0	3	140	22.5°	8	2	140	M8X1.25	1.61
24-200120 HV	24	200	198	120	10	21.63	16.5	40	8	150	9.0	14.0	8.0	3	150	22.5°	8	2	150	M8X1.25	1.63
72-200120 HV	72	200	198	120	10	20.99	16.5	40	8	150	9.0	14.0	8.0	3	150	22.5°	8	2	150	M8X1.25	0.99
24-250160 HV	24	250	248	160	11	21.42	16.5	40	8	195	11.0	17.5	10.0	3	195	22.5°	10	2	195	M10X1.50	1.42
72-250160 HV	72	250	248	160	12	21.42	16.5	40	8	195	11.0	17.5	10.0	3	195	22.5°	10	2	195	M10X1.50	1.42
360-250160 HV	360	250	248	160	7	20.30	16.5	40	8	195	11.0	17.5	10.0	3	195	22.5°	10	2	195	M10X1.50	0.3
72-320210 HV	72	320	318	210	12	30.74	25.5	58	12	258	13.0	20.0	12.0	3	285	15°	12	4	258	M12X1.75	1.74
360-320210 HV	360	320	318	210	8	29.35	25.5	58	12	258	13.0	20.0	12.0	3	285	15°	12	4	258	M12X1.75	0.85
72-360250 HV	72	360	358	250	12	30.37	26.0	58	12	300	13.0	20.0	12.0	3	300	15°	12	4	300	M12X1.75	1.37
360-360250 HV	360	360	358	250	10	29.39	26.0	58	12	300	13.0	20.0	12.0	3	300	15°	12	4	300	M12X1.75	0.39
72-400280 HV	72	400	398	280	14	31.52	26.0	60	12	335	13.0	20.0	12.0	3	335	15°	12	4	335	M12X1.75	1.52
360-400280 HV	360	400	398	280	13	30.45	25.0	60	12	335	13.0	20.0	12.0	3	335	15°	12	4	335	M12X1.75	0.45
72-420320 HV	72	420	418	320	14	31.59	26.0	60	12	360	13.0	20.0	12.0	3	360	15°	12	4	360	M12X1.75	1.59
360-420320 HV	360	420	418	320	13	30.45	26.0	60	12	360	13.0	20.0	12.0	3	360	15°	12	4	360	M12X1.75	0.45
72-520415 HV	72	520	518	415	16	31.97	26.0	60	12	450	13.0	20.0	12.0	3	450	15°	12	2	450	M12X1.75	1.97
360-520415 HV	360	520	518	415	16	30.57	26.0	60	12	450	13.0	20.0	12.0	3	450	15°	12	2	450	M12X1.75	0.57
72-600480 HV	72	600	598	480	20	37.28	29.0	70	12	530	17.0	26.0	16.0	3	530	15°	12	4	530	M12X1.75	2.28
360-600480 HV	360	600	598	480	16	35.66	29.0	70	12	530	17.0	26.0	16.0	3	530	15°	12	4	530	M12X1.75	0.66
72-800660 HV	72	800	798	660	19	39.20	32.0	75	18	710	17.0	26.0	16.0	3	710	10°	14	4	710	M12X1.75	1.70
360-800660 HV	360	800	798	660	19	38.26	32.0	75	18	710	17.0	26.0	16.0	3	710	10°	14	4	710	M12X1.75	1.95
72-900740 HV	72	900	898	740	21	41.70	34.5	80	18	800	17.0	26.0	16.0	3	800	10°	14	4	800	M12X1.75	2.20
360-900740 HV	360	900	898	740	21	40.96	34.5	80	18	800	17.0	26.0	16.0	3	800	10°	14	4	800	M12X1.75	0.98



Hirth Coupling Gear

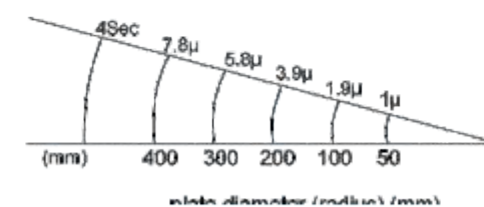
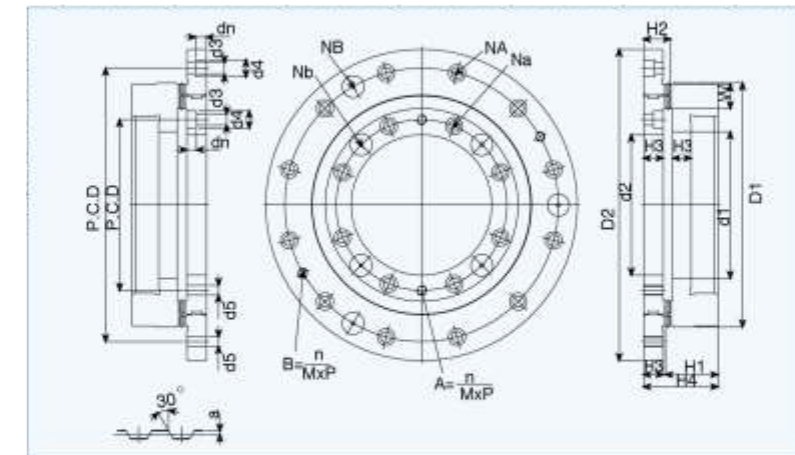
3 Piece Hirth Couplings

Made from quality materials that ensure rigidity and durability. Precision hardened and ground for a guaranteed tooth spacing accuracy of +/- 4 seconds of arc. All pieces are interchangeable with each other.

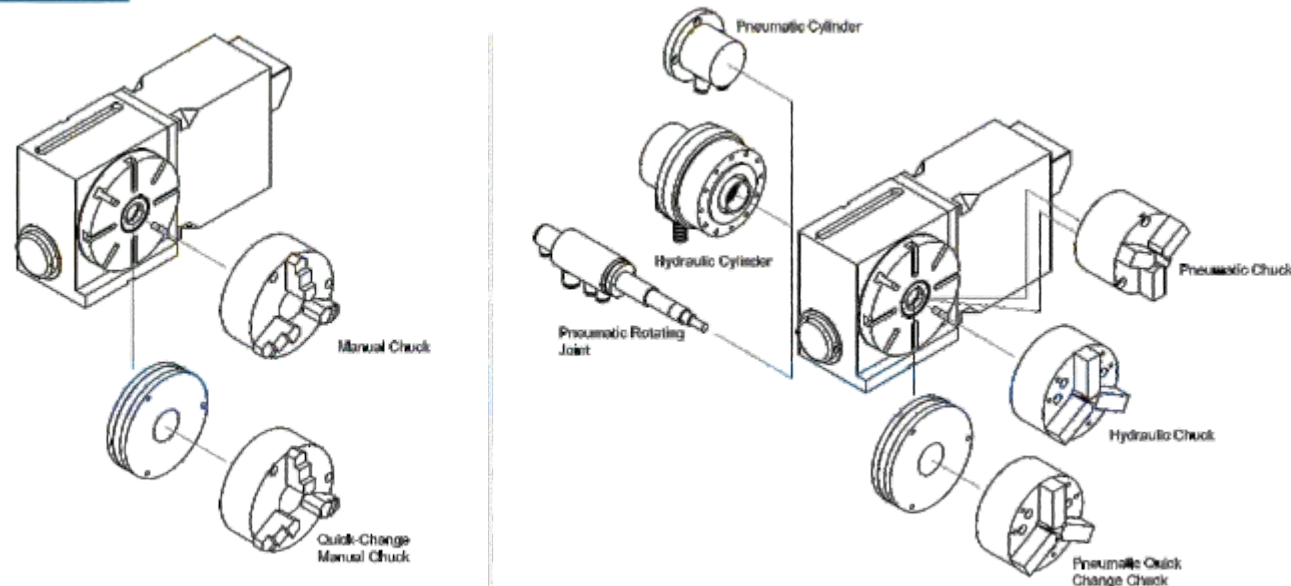
*Custom sizes upon request



Model No.		Teeth	Teeth Profile	Out Diameter	In Diameter	Out Diameter	In Diameter	Teeth Thickness	Teeth Thickness	Thickness	Total Thickness	Pitch of top end	Mounting screws			Dowel pin holes		Extractor screws	
													P.C.D.	Number	Diameter	Top Diameter	Number	Number	Specification of the teen
TN	W	D1	d1	D2	d2	H1	H2	H3	H4	a									
24-170069	AB	24	17	-	-	170	69	-	18	12	57	2.5	150 88	8	7	11	4	2	M6xP1
	C	24	17	158	95	-	-	43	-	-	57	2.5	-	8	7	11	4	2	M6xP1
24-226100	AB	24	16	-	-	226	100	-	26	16	67	2	204 120	8	8	14	4	2	M8xP1.25
	C	24	16	176	100	-	-	45	-	-	67	2	-	8	8	14	4	2	M8xP1.25
24-255115	AB	24	20	-	-	255	115	-	22	16	61	2	224 140	8	9	14	4	2	M8xP1.25
	C	24	20	200	120	-	-	43	-	-	61	2	-	8	9	14	4	2	M8xP1.25
48-255115	AB	48	20	-	-	255	115	-	22	16	61	2	224 140	8	9	14	4	2	M8xP1.25
	C	48	20	200	120	-	-	43	-	-	61	2	-	8	9	14	4	2	M8xP1.25
72-340160	AB	72	24	-	-	340	160	-	24.5	18	74	2	300 200	8	11	17.5	4	2	M10xP1.5
	C	72	24	274	165	-	-	53.5	-	-	74	2	-	8	11	17.5	4	2	M10xP1.5
72-420230	AB	72	22	-	-	420	230	-	28	21	76	2	380 270	12	14	20	4	2	M12xP1.75
	C	72	22	346	200	-	-	45	-	-	76	2	-	12	14	20	4	2	M12xP1.75
72-630390	AB	72	31	-	-	630	390	-	38	31	98	2	570 430	12	18	26	4	2	M16xP2
	C	72	31	527	260	-	-	65	-	-	98	2	-	12	18	26	4	2	M16xP2



Accessories



Manual Chuck

Manual Chuck	Manual Chuck			Suitable model			
	Model	Size	Sub Plate	TRT	NCT	HC	CT-V
	SC-5	5"	⊙		NCT-125		
	SK-6	6"	⊙	TRT-170	NCT-170		
	SK-7	7"	⊙		NCT-200	HC-200	CT-200V
	SK-8	8"	⊙	TRT-250	NCT-250	HC-250	CT-250V
	SK-10	10"	⊙	TRT-320	NCT-(B)-320	HC-320	CT-320V
	SK-12	12"	⊙	TRT-450	NCT-(B)-400 NCT-B-500	HC-400 HC-500	
	SK-16	16"	⊙	TRT-450	NCT-(B)-400 NCT-B-500	HC-400 HC-500	

PHC
(Air over Oil intensifier)
Pneumatic source 5~8 bar
Solenoid valve DC24V or
AC 110V/220V



Quick Change Chuck



Hydraulic unit
1HP x 4P, 12 liter / min, 40L
2HP x 4P, 30 liter / min, 70L



Oil Manifold



Connector Selection



Servomotor
(FANUC, MITSUBISHI.....)



Servo motor selection chart

FANUC	α2	α4	α8	α12	α22	α30
	α2 / 5000i	α4 / 5000i	α8 / 3000i	α12 / 3000i	α22 / 3000i	α30 / 3000i
MITSUBISHI	α2 / 5000is	α4 / 5000is	α8 / 4000is	α12 / 4000is	α22 / 4000is	α30 / 4000is
	HA-33NC-TS	HA-40NC-S	HA-80NC-S	HA-100NC-S	HA-200NC-S	X
	HF-75T	HF-54T	HF-104S	HF-204S	HF-354S	HF-453S
	HF-44T	HF-53T	HF-103T	HF-203S	HF-353S	X
SIEMENS	X	HC-SF102	HC-SF152	HC-SF202	HC-SF352	X
	1FT6034	1FT6062	1FT6064	1FT6082	1FT6084 / 6102	1FT6086
HEIDENHAIN	1FK7042	1FK7060	1FK7063	1FK7083	1FK7101 / 7103	1FK7103
FAGOR	QSY-96G	QSY116C	QSY116J	QSY155B	QSY155D	QSY155F
	FXM31	FXM32	FXM34	FXM54	FXM73	FXM74
	FKM22	FKM42	FKM44	FKM64	FKM66	X

※ If you have any other requirement, please contact us to get detail information.

Connector selection chart

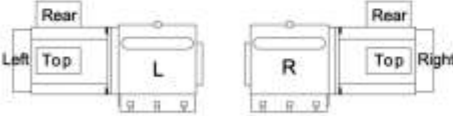
Motor	axes	FANUC		Mitsubishi	
		Male connector	Female connector	Male connector	Female connector
Power Cable	Rotary axis	MS3102A28-11P	MS3108A28-11S	MS3102A28-11P	MS3108A28-11S
	Tilting axis	MS3102A28-11PZ	MS3108A28-11SZ	MS3102A28-11PZ	MS3108A28-11SZ
Signal Cable	Rotary axis	MS3102A20-29PW	MS3108A20-29SW	MS3102A22-14P	MS3108A22-14S
	Tilting axis	MS3102A20-29PZ	MS3108A20-29SZ	MS3102A22-14PZ	MS3108A22-14SZ

Encoder-Heidenhain

	Indexing accuracy	±10"	±5"	±2.5"	±2"	±1"
	Incremental Encoder	ERN180	RON225 RON275 RON285	RON287	RON786	RON886
	Absolute Encoder	ECN223F ECN225	RCN2380 RCN2390F RCN5380 RCN5390F	RCN2580 RCN2590F RCN5580 RCN5590F	RCN8380 RCN8390F	RCN8580 RCN8590F

※Other requirement, please contact us.

Selection form of Rotary Table / Indexing Table

Machine Specification	Brand		Model	
	Controller	☐ Fanuc ☐ Mitsubishi ☐ Siemens ☐ Heidenhain ☐ Fagor ☐ Other		
	Driver for 4 th Axis and cable	☐ No	☐ Driver + Cable (Electric cabinet to connector)	☐ Software and PLC for 4 th Axis
Dimension of woking table	Dimension : T - slot : Width mm * Pitch mm * Number			
Rotary Table / Indexing Table	Model of Rotary Table : _____			
	Model of Indexing Table : _____ Minimum input increment : ☐ 1° / ☐ 5°			
Motor mounting position	☐ Right (R) ☐ Left (L) ☐ Back (RB)			
Position of cable connection	☐ Right	☐ Back	☐ Up	☐ Left
				
Model of Servomotor (Optional)	Fanuc	Mitsubishi	Siemens	Other_____
	☐ Straight Shaft ☐ Taper Shaft	☐ Straight Shaft ☐ Taper Shaft	☐ Straight Shaft ☐ Taper Shaft	☐ Straight Shaft ☐ Taper Shaft
Model of Driver (Optional)	Fanuc	Mitsubishi	Siemens	Other_____
Connector of Power and Signal Cable	☐ Standard Connector (Japanese Standard)		☐ Adherent connector (Euro Standard)	☐ Direct connect without connector
Tailstock (Optional)	☐ Manual Tailstock MTS		☐ Hydraulic Auto Tailstock ATS	☐ Pneumatic Auto Tailstock ATS
	☐ Support Tailstock with Hydraulic clamping BTS		☐ Support Tailstock with Pneumatic clamping BTS	
Power of PHC (Optional)	☐ AC220V		☐ AC110V	☐ DC24V
Hydraulic Unit (Optional)	☐ 1HPx4P, 12L/min, 40L Single circuit solenoid valve for NCT only		☐ 2HPx4P, 30L/min, 70L Double circuit solenoid valve for HC only	☐ Other_____
Other accessories (Optional)	☐ Chuck		☐ Pneumatic Chuck, Model: ☐ Manual Chuck, Model: ☐ Hydraulic Chuck, Model:	
	☐ Oil manifold		Specification: Input / Output	
	☐ DNS Controller Power 220V/3PH		Model:	
Language of operation manual	☐ Chinese		☐ English	☐ Other_____

Selection form of Tilting Rotary Table (5th AXIS)

Machine Specification	Brand		Model	
	Controller	☐ Fanuc ☐ Mitsubishi ☐ Siemens ☐ Heidenhain ☐ Fagor ☐ Other		
	Driver for 4 th Axis and cable	☐ No	☐ Driver + Cable (Electric cabinet to connector)	☐ Software and PLC FOR 4 TH and 5 th Axis
Dimension of woking table	Dimension : T - slot : Width mm * Pitch mm * Number			
Tilting Rotary Table	☐ TRT-100 ☐ TRT-170 ☐ TRT-200 ☐ TRT-250 ☐ TRT-320 ☐ TRT-450 ☐ ERT-250 ☐ ERT-350 ☐ ERT-500			
Position	☐ Parallel with X Axis ☐ Parallel with Y Axis			
Position of cable connection	☐ Right	☐ Back	☐ Up	☐ Left
Model of Servomotor on Rotary Axis (Optional)	Fanuc	Mitsubishi	Siemens	Other_____
	☐ Straight Shaft ☐ Taper Shaft	☐ Straight Shaft ☐ Taper Shaft	☐ Straight Shaft ☐ Taper Shaft	☐ Straight Shaft ☐ Taper Shaft
Model of Driver on Rotary Axis (Optional)	Fanuc	Mitsubishi	Siemens	Other_____
Model of Servomotor on Tilting Axis (Optional)	Fanuc	Mitsubishi	Siemens	Other_____
	☐ Straight Shaft ☐ Taper Shaft	☐ Straight Shaft ☐ Taper Shaft	☐ Straight Shaft ☐ Taper Shaft	☐ Straight Shaft ☐ Taper Shaft
Model of Driver on Tilting Axis (Optional)	Fanuc	Mitsubishi	Siemens	Other_____
Connector of Power and Signal Cable	☐ Standard Connector (Japanese Standard)		☐ Adherent connector (Euro Standard)	☐ Direct connect without connector
Tailstock (Optional)	☐ Manual Tailstock MTS		☐ Hydraulic Auto Tailstock ATS	☐ Pneumatic Auto Tailstock ATS
Power of PHC (Optional)	2 set Power : ☐ AC220V ☐ AC110V ☐ DC24V			
Hydraulic Unit (Optional)	☐ 1HPx4P, 12L/min, 40L Single circuit solenoid valve		Other_____	
Other accessories (Optional)	☐ Chuck	☐ Pneumatic Manual Chuck, Model: ☐ Manual Chuck, Model: ☐ Hydraulic Chuck, Model:		
	☐ DNS Controller (2 sets) Power 220V/3PH	Model:		
Language of operation manual	☐ Chinese		☐ English	☐ Other_____