

Rotary Indexing Solutions



UCAM - Engineering Excellence. *Exactly.*

UCAM, a pioneer in CNC Rotary Tables in India, has established itself as a market leader in the field of precision CNC Rotary Tables, Index Tables and pallet changing system. UCAM products are known for their quality, reliability and performance in challenging and high precision applications, in industries such as Automobile, Aerospace, Power Generation, Medical & Orthopaedic Implants, Oil & Gas exploration, Pumps & Valves, General Engineering etc.

Cutting edge technology is what sets UCAM apart! Continuous product innovation through R&D and pro-active Customer relations management has made UCAM a global brand in the Machine Tool industry.

The need for high precision components that go into UCAM tables, has resulted in backward integration and persistent R&D efforts. This has lead to UCAM's diversification into two new verticals viz.,

Design and R&D Facilities:

UCAM has a **vibrant, in-house Design and R&D** department.

UCAM's Research and Development centre, certified by the Department of scientific and Industrial Research (DSIR), Govt. of India, has been able to design and deliver innovative products which are well accepted by global Customers.

The use of high end 3D software for product design and design validation, using FEA analysis software, ensures quality engineering. UCAM team works closely with its Customers, right at the design stage! Hence ensuring that the new products are in line with what the Customer requires.



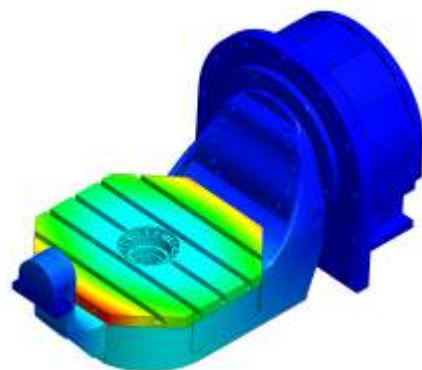
Our other business verticals:

Nimble Machines & Nimble Electric.

Nimble Machines designs and manufactures, sophisticated machines like precision Gear Hobbing Machines, Thread Grinding Machines and Surface Grinding Machines.

Nimble Electric designs and manufactures, high performance Torque Motors which finds applications not only in machine tools but also across various industries like Agriculture, Aerospace, Automobile and Defence.

At UCAM Technology and challenges are a way of life!



State of the art Manufacturing Facility

UCAM has moved into its sophisticated Dobbaspeth Facility which is spread over an area of 28,500 Square Meters, near Bangalore, India. This State of Art, integrated world class plant, is capable of manufacturing and testing a wide range of high precision products for the global market.



High end machines produce precision components which ensure high precision Rotary Tables for its customers and their demanding applications.

List of Machines:

- Horizontal machining centers
- Vertical machining centers
- CNC universal machining centers
- CNC vertical turning lathe
- CNC surface grinding machine
- CNC Gear Hobber
- CNC Thread Grinding machine

Capability

Capable of producing a wide range of rotary tables, ranging from sizes of *Dia. 125mm to as big as Dia. 4000 mm*,

UCAM boasts of an array of products -

4th Axis & 5th Axis Solutions,

Direct Drive Rotary Table solutions,

Tooled up rotary table solutions,

Special rotary table products for machine tool builders,

Large size rotary tables and Custom built rotary table solutions.

Quality and Certifications

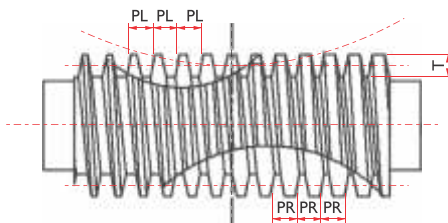
An ISO 9001 certified company, Quality is non-negotiable at UCAM! The company lays high emphasis on quality, at all stages of manufacturing. From the component level to the final finished product.

List of Advanced Test Facilities:

- Renishaw Rotary Calibration System
- Mahr Gear Tester
- Zeiss Coordinate Measuring Machine
- Brown & Sharpe Coordinate Measuring Machine
- Autocollimator
- Acceleration and deceleration test equipment
- Tilting and tangential moment test equipment
- Clamping torque test set
- Leak proof test set up
- Running test set up



Drive Technology:



Axial Pitch - Right Flank = PR
Axial Pitch - Left Flank = PL
Tooth Height = T

Backlash Adjustment with Dual lead worm:

Backlash is set easily by axial movement of the worm shaft without disturbing the crucial center distance and axial alignment of the worm and worm wheel.



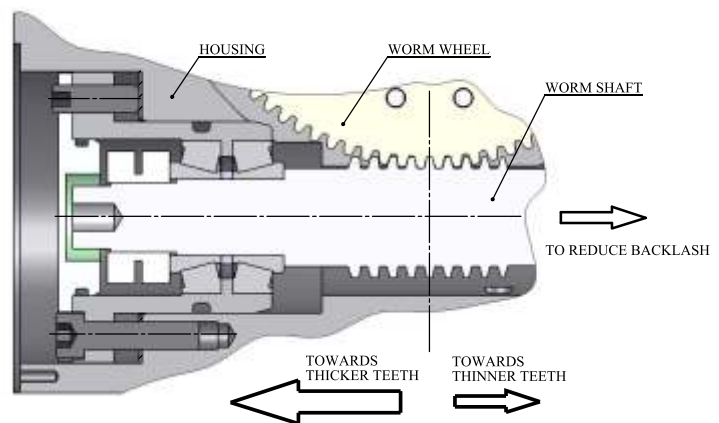
Dual Lead Worm Gear:

The worm shaft, made of case hardened steel, is a specially designed and profile corrected one for higher efficiency, higher load carrying capacity and better accuracy.

Worm wheel is made of special non ferrous alloy with high wear resistance. Special profile on worm wheel ensures improved contact between worm wheel and worm shaft guaranteeing better accuracy, lesser wear & tear and also the load is uniformly distributed.

The special design is validated by German University.

This drive technology is used in all standard 4th axis and 5th axis Rotary Tables.



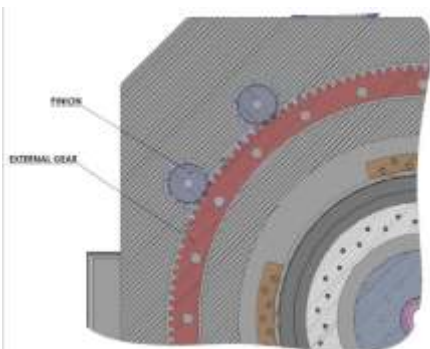
Direct Drive:

Torque motors from Nimble Electric (A business unit of UCAM Pvt. Ltd.) is used in Direct Drive Rotary Tables. The torque motors are with high speed and high torque. These rotary tables have zero backlash, high rigidity, quick response, lesser wear & tear.

Double Pinion backlash free Gear drive:

Large diameter internal/ external gear driven by two precision pinions either by a single motor or two motors enables precise indexing of heavier loads. The double pinion gears have lesser wear & tear and hence negligible backlash problems.

This drive technology is widely used for large size rotary table which requires higher peripheral velocities.





Bearing Technology:



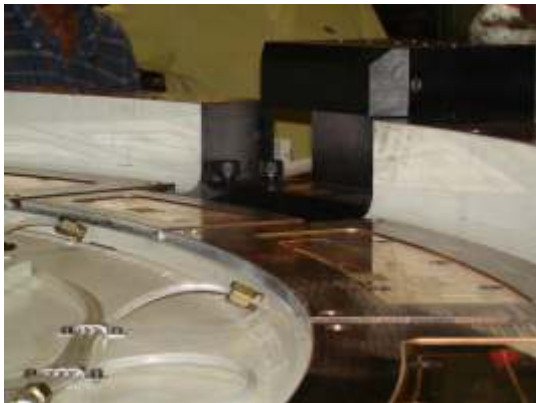
Axial Radial Roller Bearing:

- Commonly used bearing technology for rotary table construction.
- Optimum axial and radial preload for higher rigidity
- Compact in design with higher load carrying capacity
- Higher tilting rigidity ensures higher tilting moment capacity
- Used in all standard 4th & 5th Axis rotary tables



Cross Roller Bearing:

The cross roller bearing are with large bore and used specially for large bore rotary table applications.



Hydrostatic Bearing:

Presurised fluid film avoids direct metal to metal contact while rotating ensuring negligible wear & tear, lesser friction and smooth rotation.

These bearing technology is used in medium and large size rotary tables for heavy duty applications.

Clamping:

Specially processed high friction disc enables higher clamping torque.

The new series rotary tables are with double acting double piston arrangement which generates higher clamping thrust ensuring positive and faster clamping / declamping of rotary tables.

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LARGE BORE ROTARY TABLE

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LARGE BORE ROTARY TABLE

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DIRECT DRIVE ROTARY TABLE

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CNC TILTING ROTARY TABLE

URH-153-TN URH-200-TN USSR-201-TN

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CNC TILTING ROTARY TABLE

ULSR-201-TN USSR-251-TN URH-320T-N

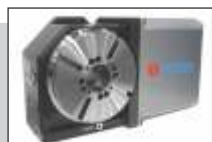
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CNC ROTARY TABLE



Features:

- Pneumatic / Hydraulic Clamping
- Pre Loaded Axial Radial Roller Bearing
- Gear Mechanism - Motor to Worm Shaft
- Dual Lead Worm Gear set
- Vertical mounting
- Option available with Vertical/Horizontal mounting

Specification

Model		URH-151	URH-170	URH-201	URH-251
Turn Table diameter (mm)		ø150	ø170	ø200	ø250
Table Center height (mm)		110	135	140	160
Center Bore diameter (H7) (mm)		ø40	ø40	ø60	ø60
T-Slot size (mm)	Ref slots (H7)	10x2	12x1	12x2	12x2
	Other slots (H8)	10x2	12x2	12x2	12x6
Tenon Slot size (H7) (mm)		14	14	14	18
Servo Motor Torque (Nm) [#]		2	3	3	6
Speed Reduction ratio		1:90	1:90	1:90	1:120
Table Gyration angle/pulse		0.001 °	0.001 °	0.001 °	0.001 °
Table Rotation speed (rpm)	(Motor 3000 rpm)	33.3	33.3	33.3	25
Load Capacity (kg)	Horizontal	100	200	300	350
	Vertical	60	100	150	180
	With tailstock support	100	200	300	350
Max. Thrust load (N)	Horizontal	8000	12000	14000	20000
	Vertical	2500	4500	5000	7000
Tilting moment (Nm)	Horizontal (FxL)	400	1000	1200	2000
	Vertical (FxL)	150	650	700	1300
Clamp Torque (Nm)	Pneumatic @ 5 bar	150	200	250	400
	Hydraulic @ 30 bar	250	450	500	600
Driving Torque (Nm)		150	250	250	400
Allowable work Inertia	(kg.m ²)	0.5	0.8	1.5	2.4
Indexing Accuracy * (Arc Sec)		±20"	±15"	±15"	±15"
Repeatability (Arc Sec)		4"	4"	4"	4"
NetWeight (kg) (approx)		39	45	60	100

* Higher Accuracy ± 5" on request

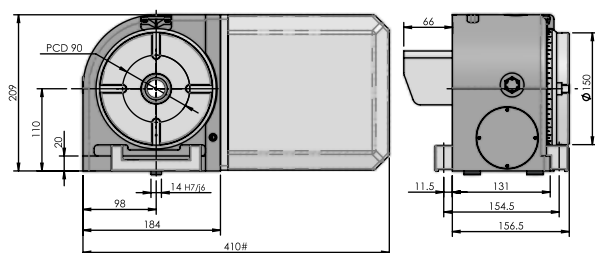
Check motor models on Page No. 70

Option available with pressurisation - Please contact us

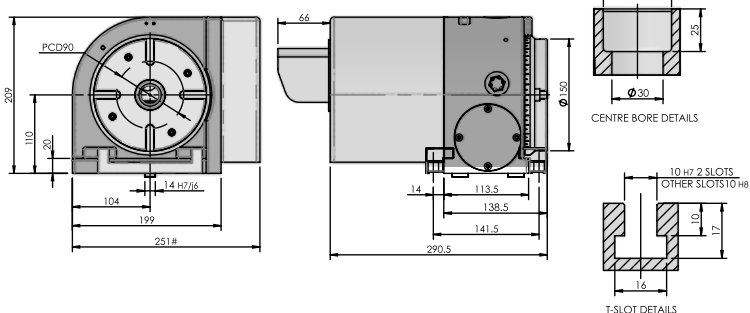
DIMENSIONAL DIAGRAMS



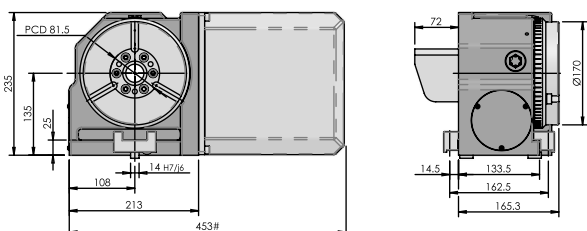
MODEL URH-151 (RIGHT HAND MOTOR MOUNTING)



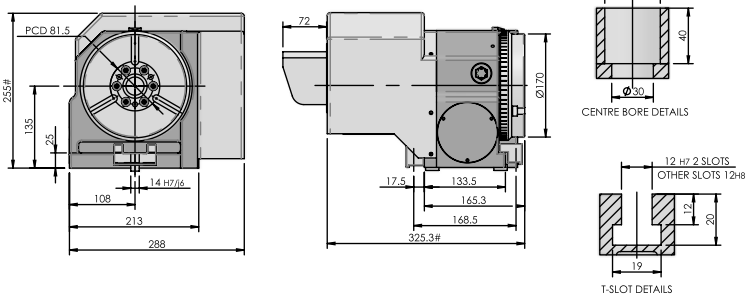
MODEL URH-151 (REAR MOTOR MOUNTING)



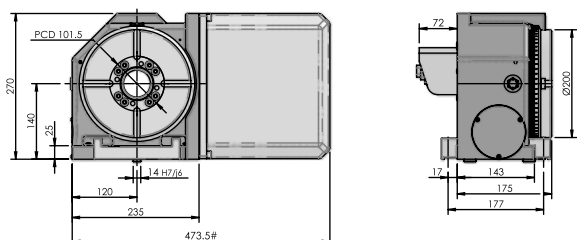
MODEL URH-170 (RIGHT HAND MOTOR MOUNTING)



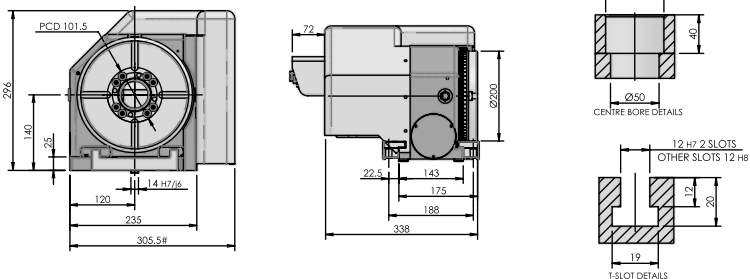
MODEL URH-170 (REAR MOTOR MOUNTING)



MODEL URH-201 (RIGHT HAND MOTOR MOUNTING)

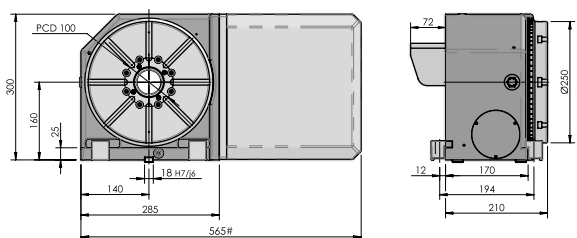


MODEL URH-201 (REAR MOTOR MOUNTING)

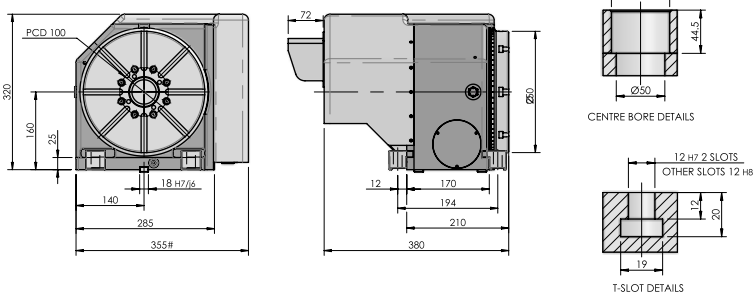


Left hand Motor Mounting also available.

MODEL URH-251 (RIGHT HAND MOTOR MOUNTING)



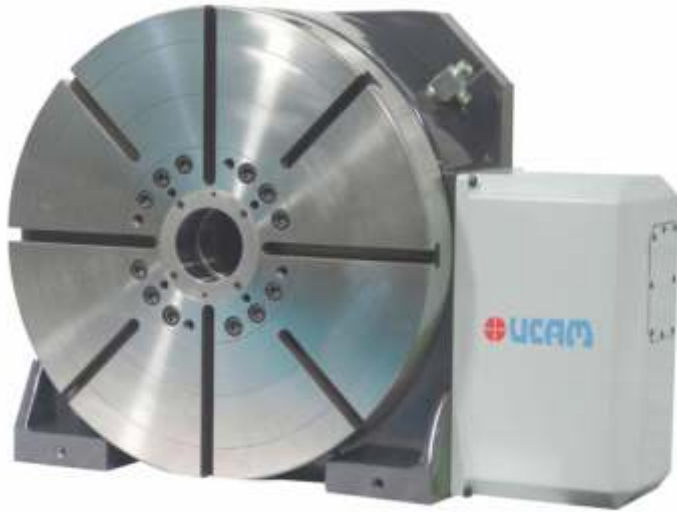
MODEL URH-251 (REAR MOTOR MOUNTING)



Left hand Motor Mounting also available.

Dimensions marked as # may vary according to the motor being used.

CNC ROTARY TABLE



Ordering code for CNC Rotary Tables

URH - 500 - X-RPS

S-Special None-Standard

Braking System

H-Hydraulic Clamping

P-Pneumatic Clamping

Motor Mounting

B-Rear Mounting

L-Left Mounting

R-Right Mounting

Table Top

None-Round

Sq-Square

Size of the table

CNC Rotary Tables

Specification

Model		URH-321	URH-401	URH-500	URH-631
Turn Table diameter (mm)		ø320	ø400	ø500	ø630
Table Center height (mm)		210	230	310	325
Center Bore diameter (H7) (mm)		ø100	ø100	ø100	0100
T-Slot size (mm)	Ref slots (H7)	14x2	14x2	18x2	18x2
	Other slots (H8)	14x6	14x6	18x6	18x6
Tenon Slot size (H7) (mm)		18	18	18	22
Servo Motor Torque (Nm) #		6	9	12	12
Speed Reduction ratio		1:144	1:180	1:144	1:180
Table Gyration angle/pulse		0.001°	0.001°	0.001°	0.001°
Table Rotation speed (rpm)	(Motor 3000 rpm)	20.83	16.66	13.88#	11.1 #
Load Capacity (kg)	Horizontal	600	750	900	2200
	Vertical	250	350	400	500
	With tailstock support	600	750	900	2200
Max. Thrust load (N)	Horizontal	24000	30000	35000	40000
	Vertical	8500	10000	11000	12000
Tilting moment (Nm)	Horizontal (FxL)	3000	4500	6000	8000
	Vertical (FxL)	2000	2400	3000	3000
Clamp Torque (Nm)	Hydraulic @ 30 bar	1100	2000	2750	3500
Driving Torque (Nm)		636	800	1000	1800
Allowable work Inertia	(kg.m ²)	34	44	52	68
Indexing Accuracy * (Arc Sec)		±15"	±15"	±15"	±15"
Repeatability (Arc Sec)		4"	4"	4"	4"
NetWeight (kg) (approx)		200	250	470	675

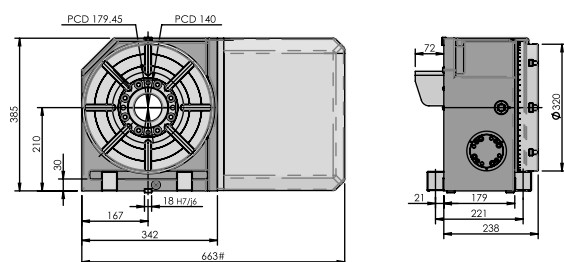
* Higher Accuracy ± 5" on request

Check motor models on Page No. 70

Option available with pressurisation - Please contact us

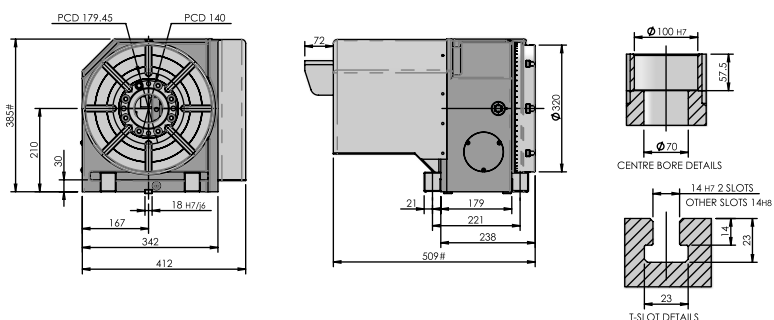


MODEL URH-321 (RIGHT HAND MOTOR MOUNTING)

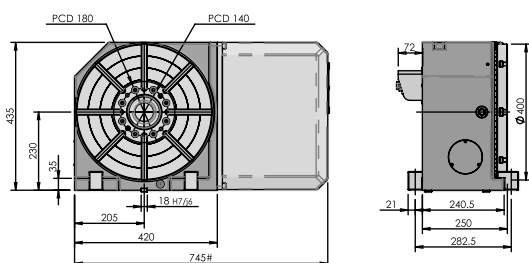


Left hand Motor Mounting also available.

MODEL URH-321 (REAR MOTOR MOUNTING)

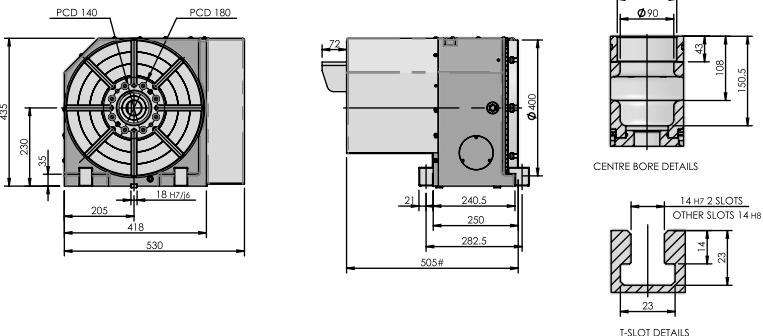


MODEL URH-401 (RIGHT HAND MOTOR MOUNTING)

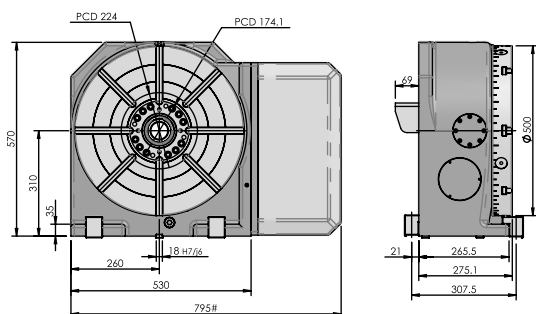


Left hand Motor Mounting also available.

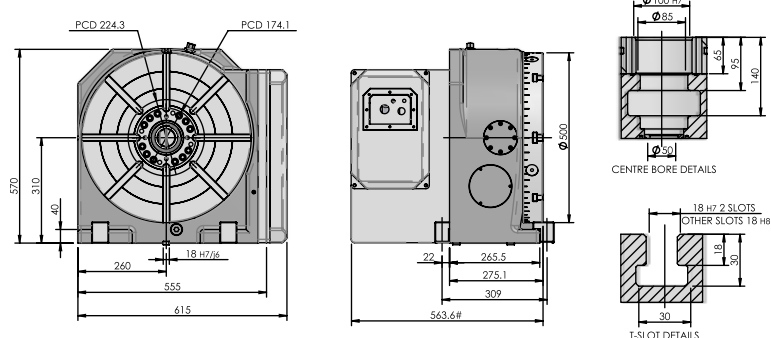
MODEL URH-401 (REAR MOTOR MOUNTING)



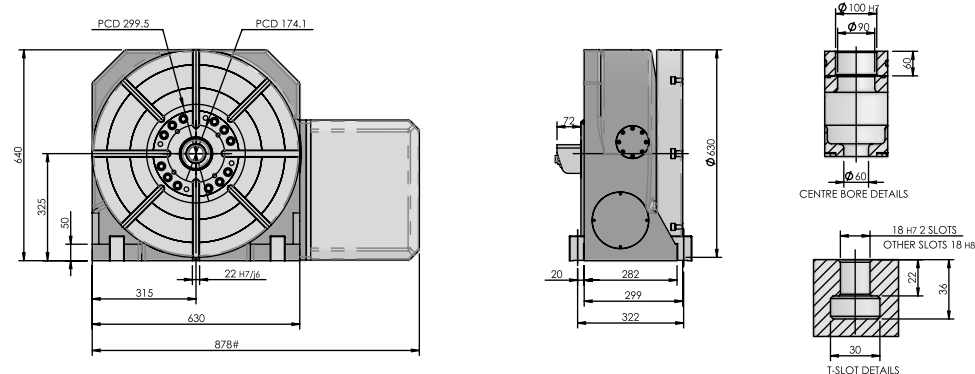
MODEL URH -500 (RIGHT HAND MOTOR MOUNTING)



MODEL URH -500 (REAR MOTOR MOUNTING)



MODEL URH-631 (RIGHT HAND MOTOR MOUNTING)



Dimensions marked as # is dependent on motor being used.

CNC ROTARY TABLE



Features:

- Pneumatic / Hydraulic Clamping
- Pre Loaded Axial Radial Roller Bearing
- Gear Mechanism - Motor to Worm Shaft
- Dual Lead Worm Gear set
- Vertical mounting
- Option available with Vertical /Horizontal mounting
- High Clamping Torque

Specification

Model		URX-180	URX-200	URX-250	URX-320
Turn Table diameter (mm)		ø180	ø200	ø250	ø320
Table Center height (mm)		135	140	160	210
Center Bore diameter (H7) (mm)		ø60	ø60	ø60	ø100
T-Slot size (mm)	Ref slots (H7)	12x2	12x2	12x6	14x2
	Other slots (H8)	12x2	12x2	12x6	14x6
Tenon Slot size (H7) (mm)		14	14	18	18
Servo Motor Torque (Nm) #		3	3	6	6
Speed Reduction ratio		1:90	1:90	1:120	1:144
Table Gyration angle/pulse		0.001 °	0.001 °	0.001 °	0.001 °
Table Rotation speed (rpm)	(Motor 3000 rpm)	33.33	33.33	25	20.83
Load Capacity (kg)	Horizontal	250	300	400	600
	Vertical	125	150	180	250
	With tailstock support	250	300	400	600
Max. Thrust load (N)	Horizontal	12000	14000	20000	24000
	Vertical	4500	5000	7000	8500
Tilting moment (Nm)	Horizontal (FxL)	1100	1200	2000	3000
	Vertical (FxL)	650	700	1300	2000
Clamp Torque (Nm)	Pneumatic @ 5 bar	350	400	450	-
	Hydraulic @ 30 bar	450	900	1100	1700
Driving Torque (Nm)		250	250	400	636
Allowable work Inertia	(kg.m ²)	1.0	1.5	2.4	34
Indexing Accuracy * (Arc Sec)		±15"	±15"	±15"	±15"
Repeatability (Arc Sec)		4"	4"	4"	4"
NetWeight (kg) (approx)		45	60	100	180

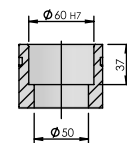
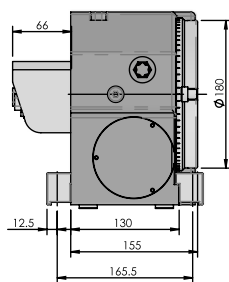
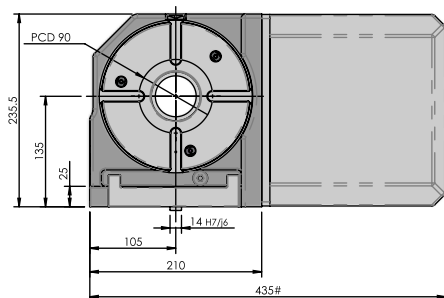
* Higher Accuracy ± 5" on request

Check motor models on Page No. 70

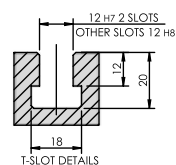
Option available with pressurisation - Please contact us



MODEL URX-180 (RIGHT HAND MOTOR MOUNTING)

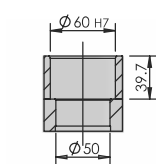
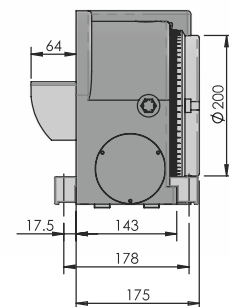
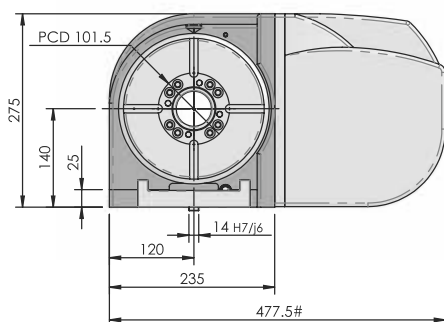


CENTRE BORE DETAILS

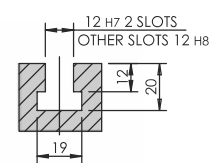


T-SLOT DETAILS

MODEL URX-200 (RIGHT HAND MOTOR MOUNTING)

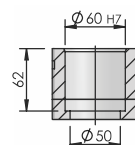
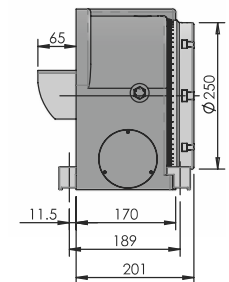
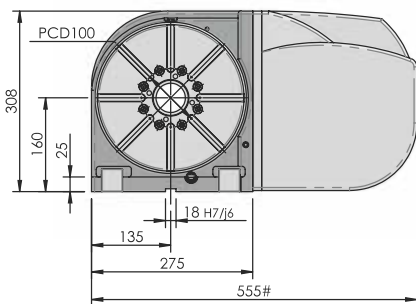


CENTRE BORE DETAILS

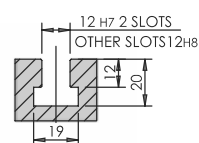


T-SLOT DETAILS

MODEL URX-250 (RIGHT HAND MOTOR MOUNTING)

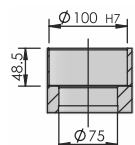
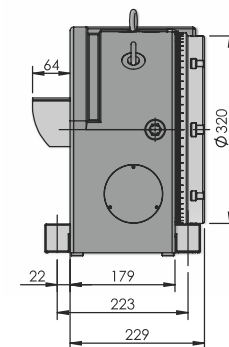
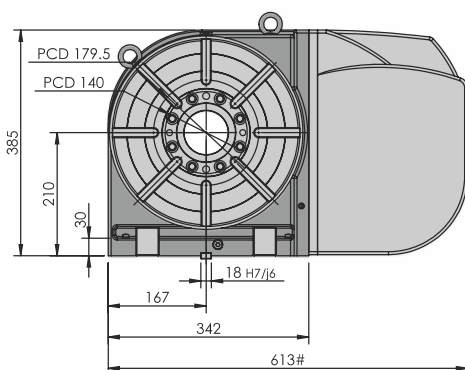


CENTRE BORE DETAILS

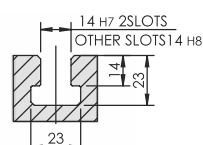


T-SLOT DETAILS

MODEL URX-320 (RIGHT HAND MOTOR MOUNTING)



CENTRE BORE DETAILS



T-SLOT DETAILS

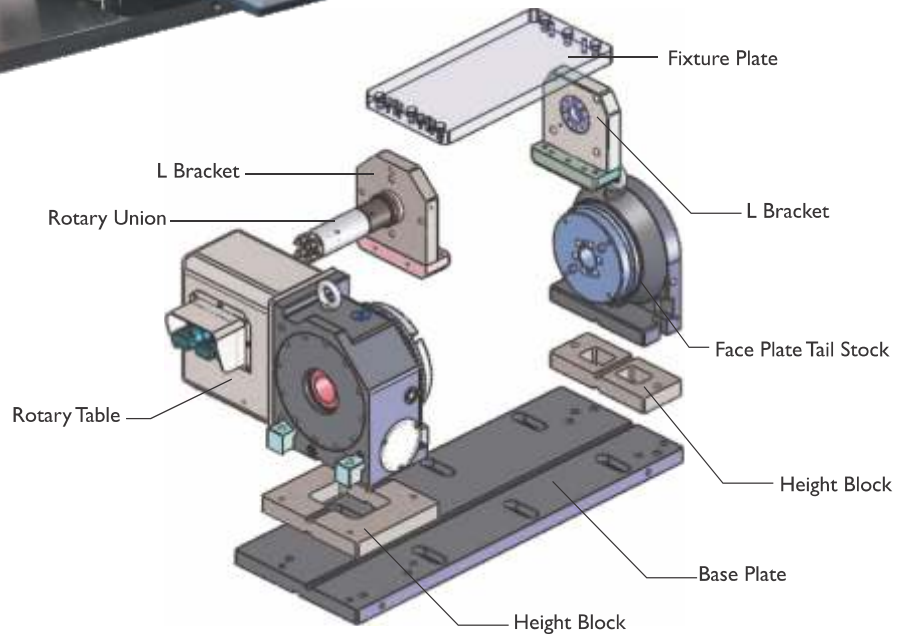
Dimensions marked as # is dependent on motor being used.

ROTARY PRODUCTION SYSTEM



Features:

- Modular concept design
- Drop-in Rotary Union for power clamp
- Clamps can be used without plumbing



Specification

Model		URPS-201	URPS-251	URPS-321
Turn Table diameter (mm)		ø200	ø250	ø320
Table Center height (mm)		140	160	210
Center Bore diameter		ø60	ø60	ø100
T-Slot size (mm)	Ref slots (H7)	12x2	12x2	14x2
	Other slots (H8)	12x2	12x6	14x6
Tenon Slot size (H7) (mm)		14	18	18
Servo Motor Torque (Nm) [#]		6	6	8
Speed Reduction ratio	Rotary axis	1:90	1:120	1:144
Table Gyration angle/pulse		0.001°	0.001°	0.001°
Table Rotation speed (rpm)	(Motor 3000 rpm)	33.33	25	20.83
Load Capacity (kg)		300	350	600
Max. Thrust load (N)	Horizontal	14000	20000	24000
Tilting moment (Nm)	Horizontal (FxL)	1200	2000	3000
Clamp Torque [^] (Nm)	Pneumatic @ 5 bar	450	600	-
	Hydraulic @ 30 bar	950	1050	1700
Driving Torque (Nm)		250	400	636

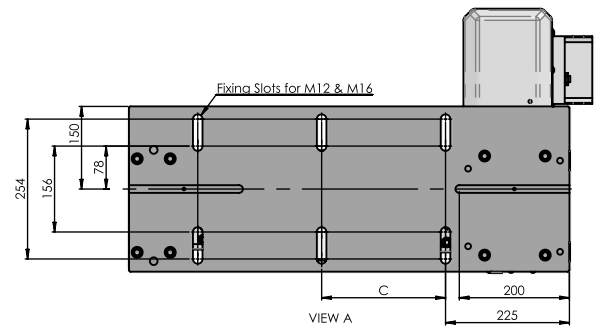
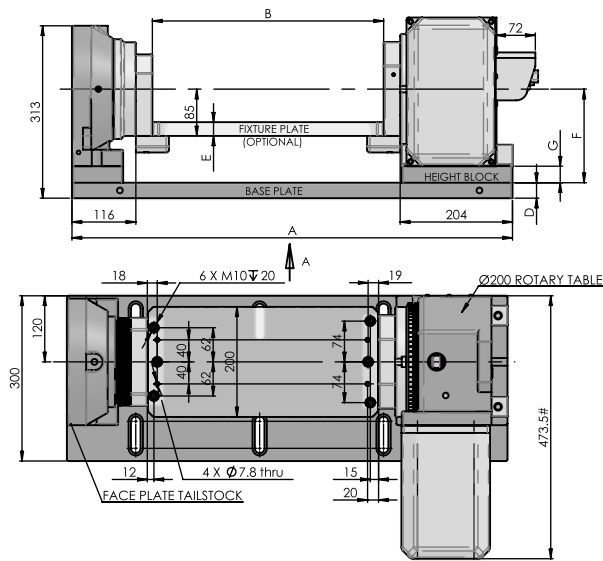
[^] Also available with Higher Clamp Torque

[#] Check Motor Models on Page No. 70

DIMENSIONAL DIAGRAMS



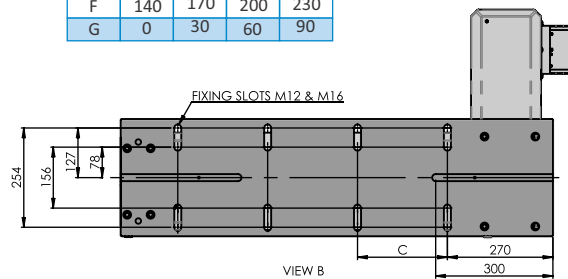
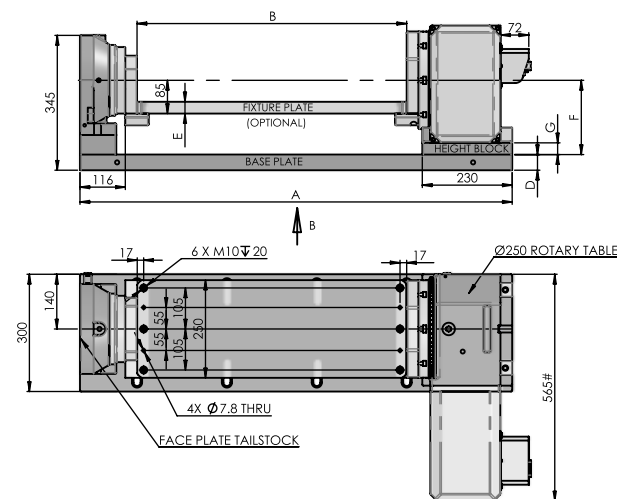
MODEL URPS-201



	A	B	C	D	E	Approx.Wt(kgs)
Option I	700	320	175	28	25	166
Option II	800	420	225	28	40	177
Option III	900	520	275	28	40	190
Option IV	1000	620	275	28	40	200
Option V	1100	720	275	40	50	235
Option VI	1200	820	275	40	50	255

Height Block (optional)				
F	140	170	200	230
G	0	30	60	90

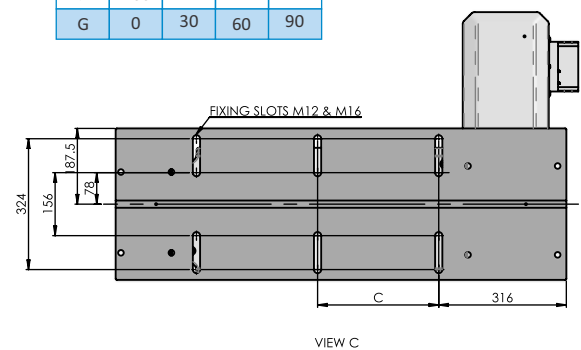
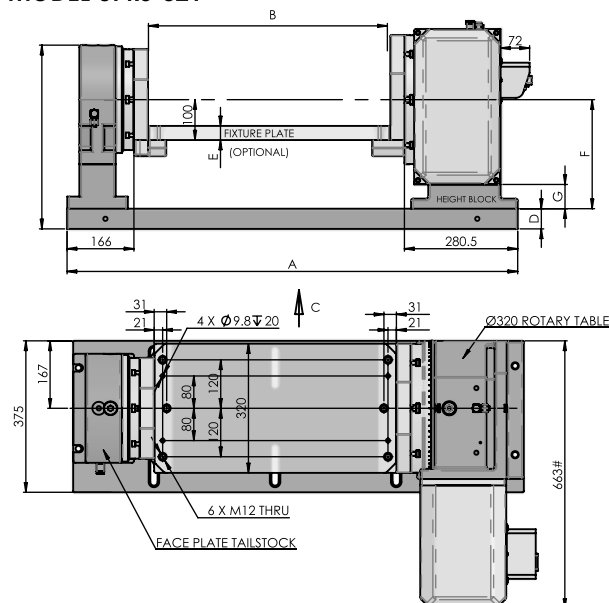
MODEL UPRS-251



	A	B	C	D	E	Approx.Wt(kgs)
Option II	806	390	200 (3 slots)	28	25	166
Option III	906	490	250 (3 slots)	28	40	177
Option IV	1006	590	200 (4 slots)	28	40	190
Option V	1106	690	230 (4 slots)	28	40	200
Option VI	1206	790	250 (4 slots)	40	50	235

Height Block (optional)				
F	160	190	220	250
G	0	30	60	90

MODEL UPRS-321



	A	B	C	D	E	Approx.Wt(kgs)
Option V	1116	600	300	50	50	475
Option VI	1216	700	350	50	50	490
Option VII	1316	800	400	50	50	505

Height Block (optional)				
F	210	240	270	300
G	0	30	60	90

Dimensions marked as # is dependent on motor being used.

MULTI SPINDLE ROTARY TABLE



Features:

- Rotary spindles at close center distances.
- Compact drive through AC Servomotor.
- Common wormshaft, yet independent backlash adjustment.

Specification

Model		URH-125		URH-170	
		2S	3S	2S	3S
Turn Table diameter (mm)		ø125		ø170	
Table Center height (mm)		110		155	
Center Bore diameter (H7) (mm)		ø30		ø40	
Number of Spindles (Pitch-mm)*		2,3(145)		2,3(200)	
T-Slot size (mm)	Ref slots (H7)	10x2		12x1	
	Other slots (H8)	10x2		12x2	
Tenon Slot size (H7) (mm)		14		14	
Servo Motor Torque (Nm) #		2	3	6	
Speed Reduction ratio		1:90		1:90	
Table Gyration angle/pulse		0.001°		0.001°	
Table Rotation speed (rpm)	(Motor 3000 rpm)	33.3		33.3	
Load Capacity (kg)	Horizontal 	30		180	
	Vertical 	15		80	
Max. Thrust load (N)	Horizontal 	5000		12000	
	Vertical 	1500		4500	
Tilting moment (Nm)	Horizontal (FxL) 	200		1000	
	Vertical (FxL) 	150		650	
Clamp Torque ^ (Nm)	Hydraulic @ 30 bar 	150		400	
	Pneumatic @ 5 bar 	60		175	
Driving Torque (Nm) 		50		225	
Indexing Accuracy * (Arc Sec)		±30"	±30"	±20"	
Repeatability (Arc Sec)		4"		4"	
NetWeight (kg) (approx)		75	100	130	160

^ Also available with Higher Clamp Torque

Check motor models on Page No. 50

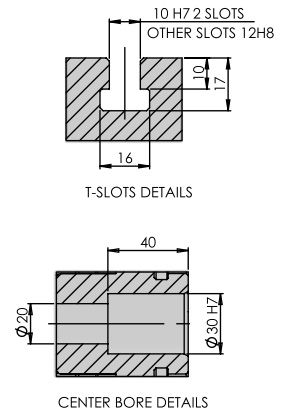
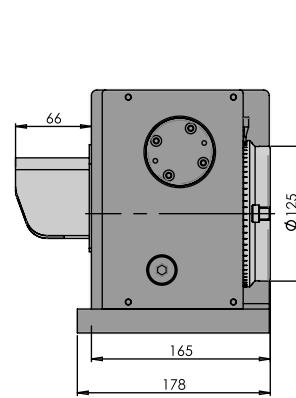
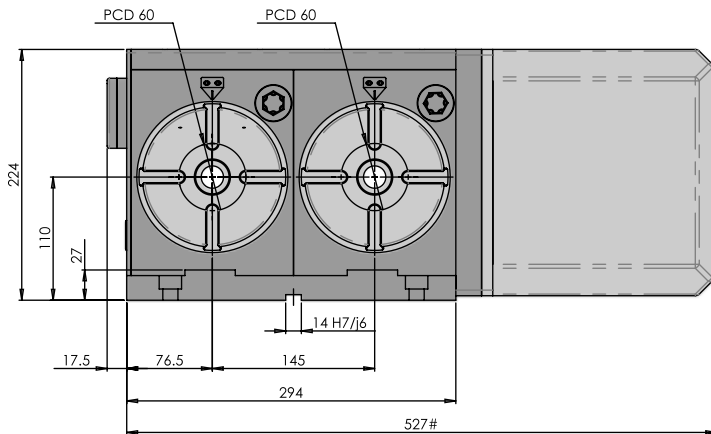
* Customized pitch available on request

Option available with pressurisation - Please contact us

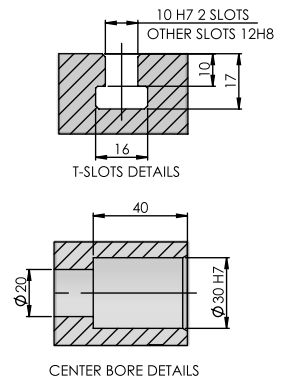
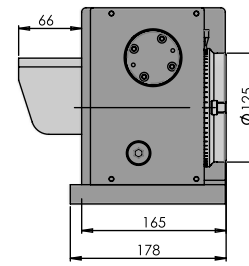
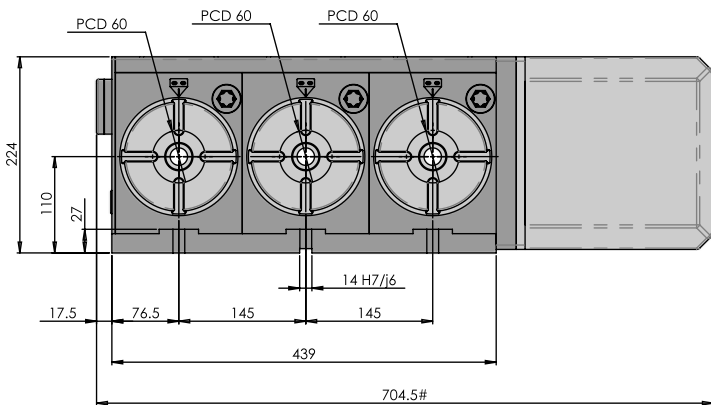
DIMENSIONAL DIAGRAMS



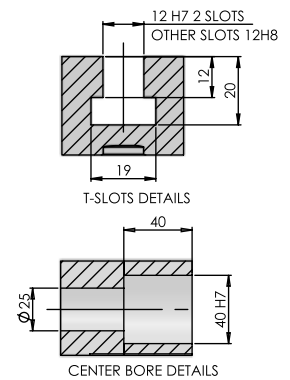
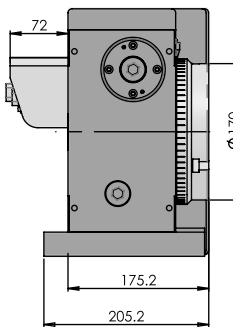
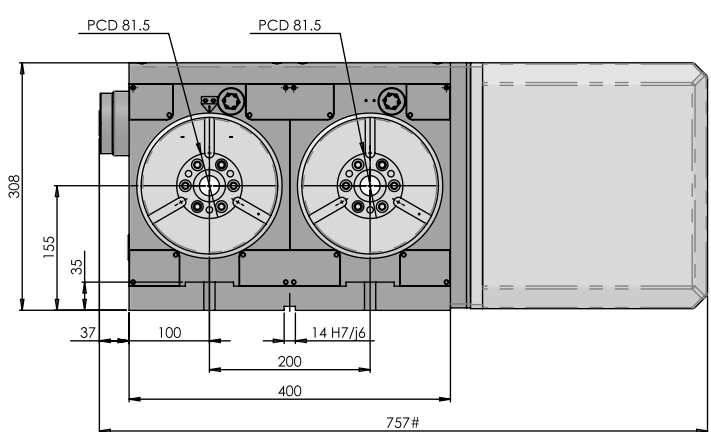
MODEL URH-125-2S



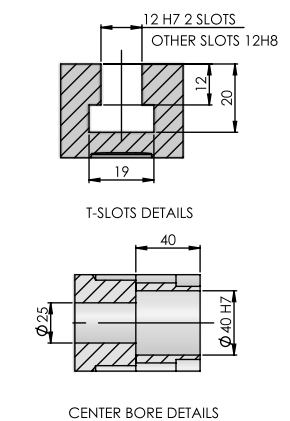
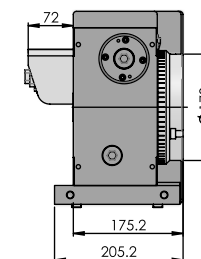
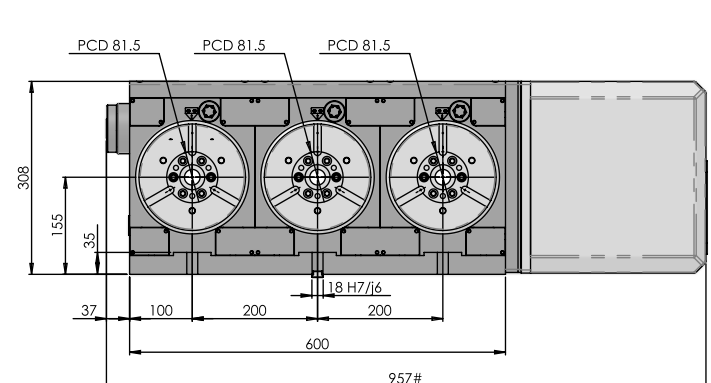
MODEL URH-125-3S



MODEL URH-170-2S

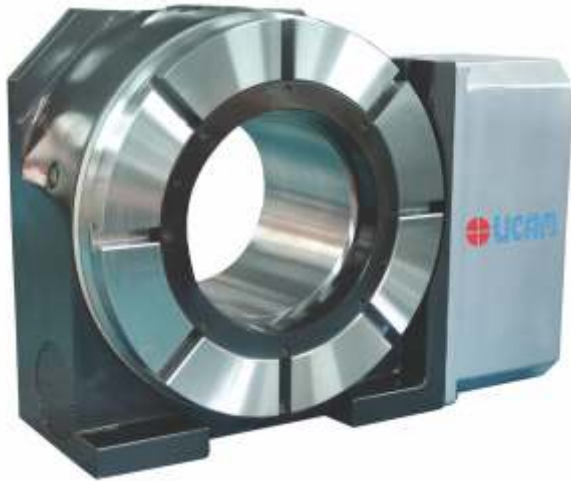


MODEL URH-170-3S



Dimension Marked as '#' is Dependent on Motor being used

LARGE BORE ROTARY TABLE



Features:

- Hydraulic Clamping.
- High Grade CI Construction.
- Dual Lead Worm Gear Set.
- Motor mounting & Drive elements to suit motor.
- Vertical mounting.
- Option available with Vertical / Horizontal mounting.

Specification

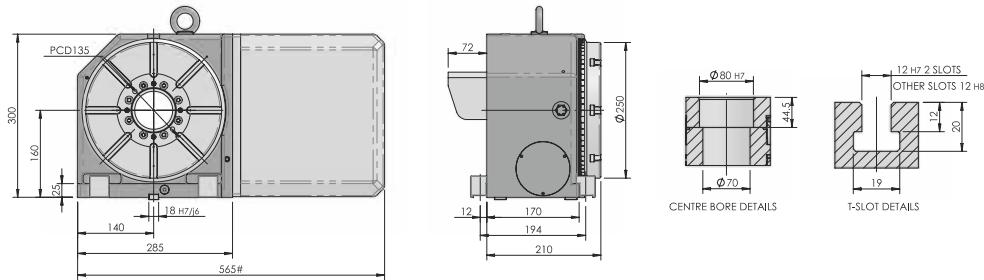
Model		ULBR-250	ULBR-320	ULBR-400	ULBR-500
Turn Table diameter (mm)		ø250	ø320	ø400	ø500
Table Center height (mm)		160	210	230	290
Center Bore diameter (H7) (mm)		ø80	ø115	ø150	ø280
Thru Bore (mm)		ø70	ø110	ø140	ø270
T-Slot size (mm)	Ref slots (H7)	12x2	14x2	14x2	18x2
	Other slots (H8)	12x6	14x6	14x6	18x6
Tenon Slot size (H7) (mm)		18	18	18	18
Servo Motor Torque (Nm) #		6	6	9	12
Speed Reduction ratio		1:120	1:180	1:180	1:144
Table Gyration angle/pulse		0.001°	0.001°	0.001°	0.001°
Table Rotation speed (rpm)	(Motor 3000 rpm)	25	16.66	16.66	20.83
Load Capacity (kg)	Horizontal	350	600	750	1200
	Vertical	180	250	350	500
	With tailstock support	350	600	750	1200
Max. Thrust load (N)	Horizontal	20000	24000	30000	30000
	Vertical	7000	8500	10000	9350
Tilting moment (Nm)	Horizontal (FxL)	2000	3000	4500	5000
	Vertical (FxL)	1300	2000	2400	2500
Clamp Torque ^ (Nm)	Hydraulic @ 30 bar	600	1100	2000	2300
Driving Torque (Nm)		400	636	800	1000
Allowable work Inertia	(kg.m ²)	2.4	34	44	52
Indexing Accuracy * (Arc Sec)		±15"	±15"	±15"	±15"
Repeatability (Arc Sec)		4"	4"	4"	4"
Net Weight (kg) (approx)		100	200	250	500

* Larger thru bore size available on request

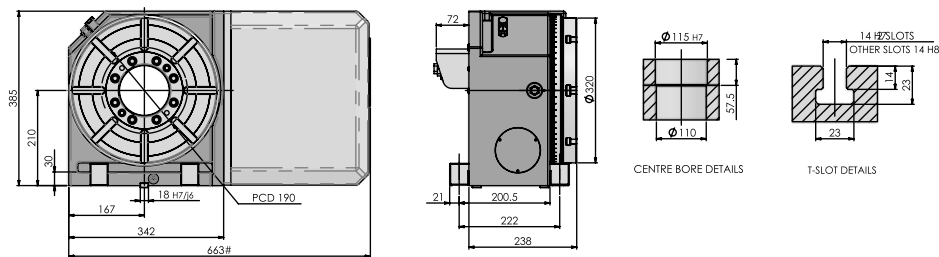
Option available with pressurisation - Please contact us



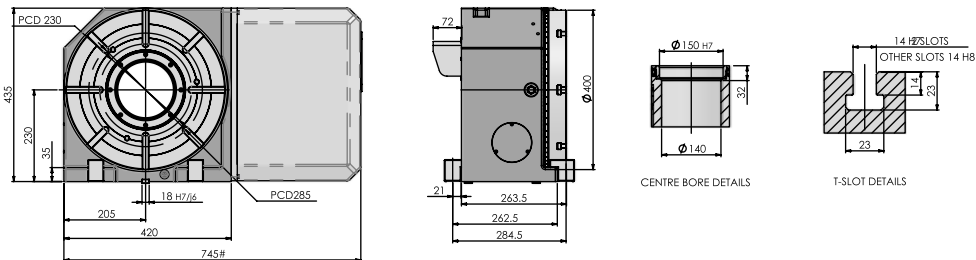
MODEL ULBR-250



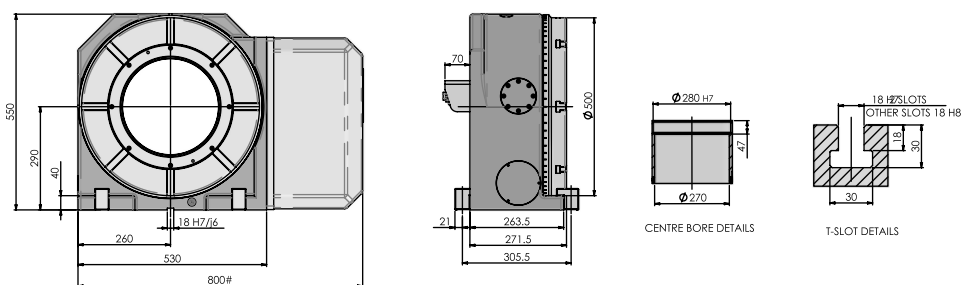
MODEL ULBR-320



MODEL ULBR-400



MODEL ULBR-500



Dimension Marked as '#' is Dependent on Motor being used

LARGE BORE ROTARY TABLE



Features:

- Hydraulic Clamping.
- High Grade CI Construction.
- Dual Lead Worm Gear Set.
- Motor mounting & Drive elements to suit motor.
- Vertical mounting.
- Option available with Vertical / Horizontal mounting.

Specification

Model		ULBR-630	ULBR-800	ULBR-1000
Turn Table diameter (mm)		ø630	ø800	ø1000
Table Center height (mm)		350	440	575
Center Bore diameter (H7) (mm)		ø350	ø260	ø525
Thru Bore (mm)		ø340	ø254	ø500
T-Slot size (mm)	Ref slots (H7)	18x2	18x2	22x2
	Other slots (H8)	18x6	18x6	22x6
Tenon Slot size (H7) (mm)		22	22	22
Servo Motor Torque (Nm) #		12	16	30
Speed Reduction ratio		1:180	1:300	1:300
Table Gyration angle/pulse		0.001°	0.001°	0.001°
Table Rotation speed (rpm)	(Motor 3000 rpm)	16.66#	6.6#	6.6#
Load Capacity (kg)	Horizontal 	1300	3000	5000
	Vertical 	635	1200	2500
	With tailstock support 	1300	3000	5000
Max. Thrust load (N)	Horizontal 	34000	40000	60000
	Vertical 	10000	20000	30000
Tilting moment (Nm)	Horizontal (FxL) 	6800	10000	22000
	Vertical (FxL) 	2900	5000	17500
Clamp Torque ^ (Nm)	Hydraulic @ 30 bar 	2700	3500	10000
Driving Torque (Nm)		1800	2200	4000
Allowable work Inertia	(kg.m ²) 	70	110	310
Indexing Accuracy * (Arc Sec)		±15"	±15"	±15"
Repeatability (Arc Sec)		4"	4"	4"
Net Weight (kg) (approx)		675	1300	3100

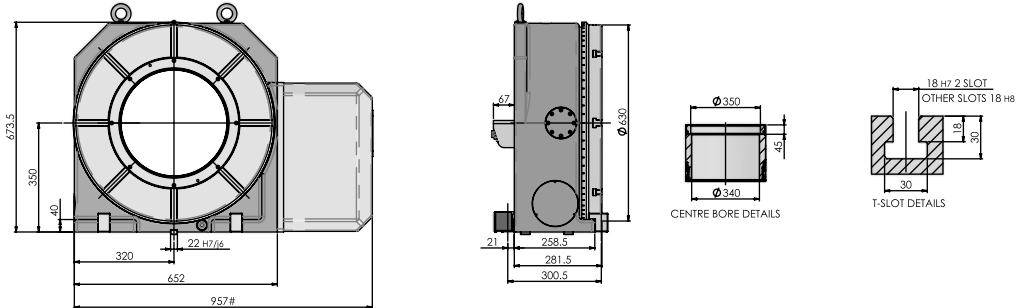
* Larger thru bore size available on request

Servo Motor at 2000 rpm

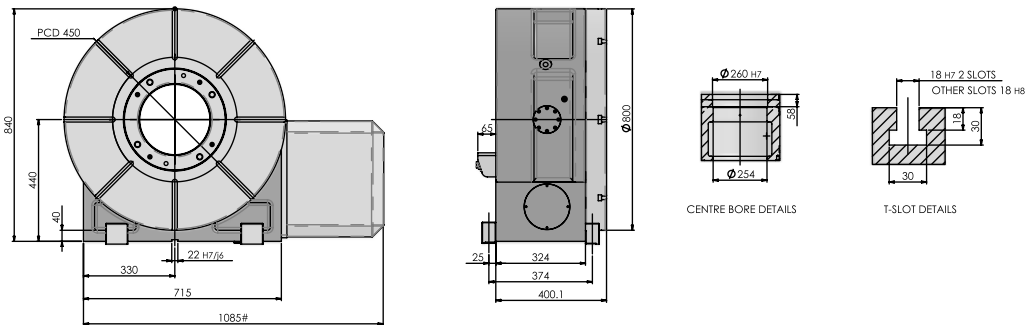
Option available with pressurisation - Please contact us



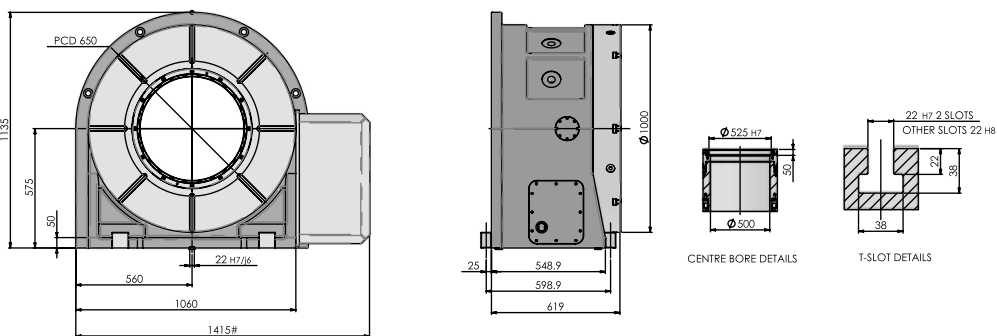
MODEL ULBR-630



MODEL ULBR-800



MODEL ULBR-1000



Dimension Marked as '#' is Dependent on Motor being used

DIRECT DRIVE ROTARY TABLE



Features:

- Dynamic Performance
- Higher Acceleration / Deceleration
- Higher RPM
- Zero Backlash
- Pre Loaded Axial Radial Roller Bearing
- Direct Measurement for Precision Positioning

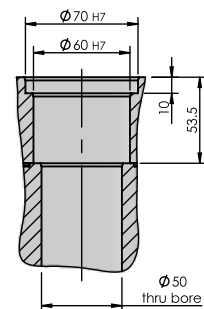
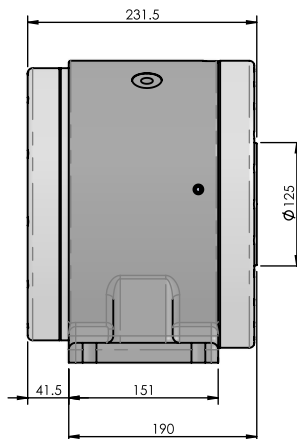
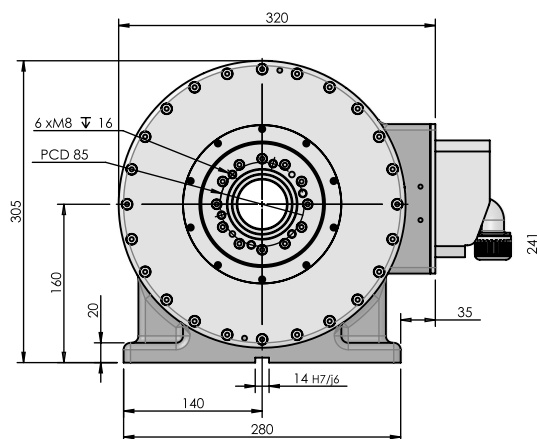
Specification

Model	VMC Application	
	UDDR-T 200/100	UDDR-T 200/ 100 With Table Top
Turn Table diameter (mm)	-	ø250
Table Center height (mm)	160	
Center Bore diameter (H7) (mm)	ø60	
Thru Bore diameter (H7) (mm)	ø50	
Tenon Slot size (H7) (mm)	14	
Table Gyration angle/pulse	0.001°	
Clamp Torque (Nm)	650 (Pneumatic @ 5 bar)	
Table Rotation speed (rpm)	200	
Safe load on the Rotary table (max) (kg)	100	
Max.Thrust load (N)	4500	
Tilting moment - (FxL) (Nm)	650	
Indexing Accuracy (Arc Sec)	±10"	
Repeatability (Arc Sec)	4"	
NetWeight (kg) (approx)	90	

Contact us for application information

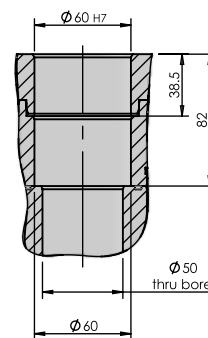
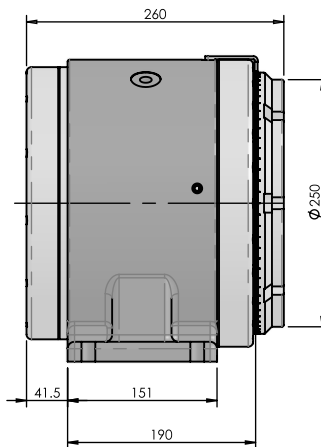
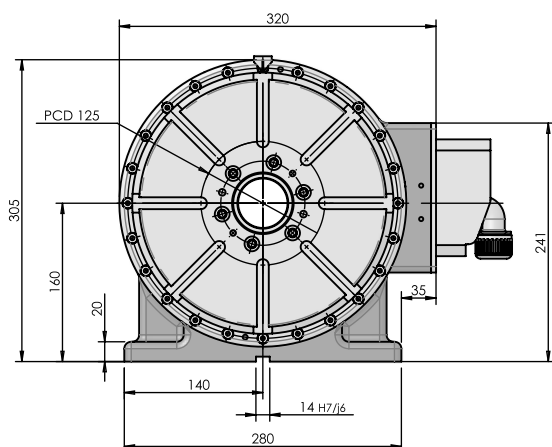


MODEL UDDR-T 200/100 (WITHOUT TABLE TOP)

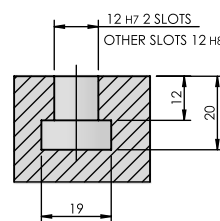


CENTRE BORE DETAILS

MODEL UDDR-T 200/100 (WITH TABLE TOP)



CENTRE BORE DETAILS



T-SLOT DETAILS

CNC TILTING ROTARY TABLE

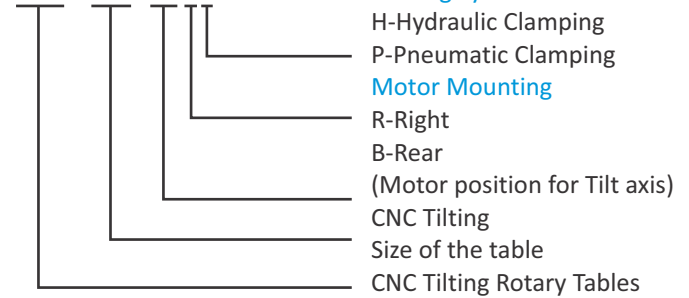


Features:

- Pneumatic / Hydraulic Clamping
- Pre Loaded Axial Radial Roller Bearing.
- Dual Lead Worm Gear set.

Ordering code for CNC Rotary Tables

URH - 200 - TNRP



Specification

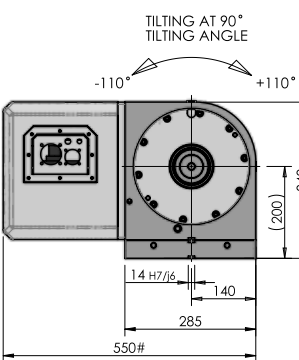
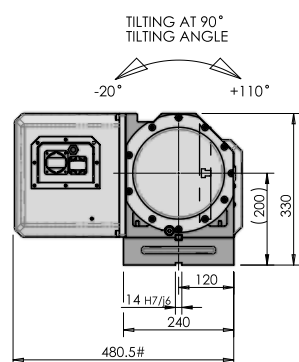
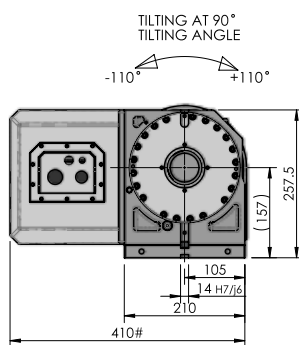
Model		URH-153-TN	URH-200-TN	USSR-201-TN
Turn Table diameter (mm)		ø150	ø200	ø200
Swing (mm)		ø190	ø200	ø250
Center Bore diameter (H7) (mm)		ø40	ø60	ø60
T-Slot size (mm)	Ref slots (H7)	10x2	12x2	12x2
	Other slots (H8)	10x2	12x2	12x2
Tenon Slot size (H7) (mm)		14	14	14
Servo Motor Torque (Nm) [#]	Rotary axis	2	3	3
	Tilting axis	4	4	6
Speed Reduction ratio	Rotary axis	1:90	1:90	1:90
	Tilting axis	1:90	1:90	1:120
Table Gyration angle/pulse		0.001°	0.001°	0.001°
Table Rotation speed (rpm) (Motor 3000 rpm)	Rotary axis	33.3	33.3	33.3
	Tilting axis	33.3	33.3	25
Load capacity (kgs)	Horizontal	35	80	100
	Vertical	20	45	65
Clamp Torque (Nm) Hydraulic 30 bar	Rotary axis	300	500	650
	Tilting axis	300	500	750
Clamp Torque ^ (Nm) Pneumatic 5 bar	Rotary axis	100	250	380
	Tilting axis	100	250	550
Driving Torque (Nm)		100	250	250
Indexing Accuracy* (Arc Sec)	Rotary axis	±30"	±15"	±15"
	Tilting axis	±45"	±30"	±30"
Repeatability (Arc Sec)		4"	4"	4"
Tilting angle (Degree)		-110 to	-20 to	-110 to
		+ 110	+ 110	+ 110
Net Weight (kg) (approx)		75	170	200

* Higher Accuracy ± 5" on request

^ Also available with Higher Clamp Torque

Check motor models on Page No. 70

Option available with pressurisation - Please contact us



25

CNC TILTING ROTARY TABLE

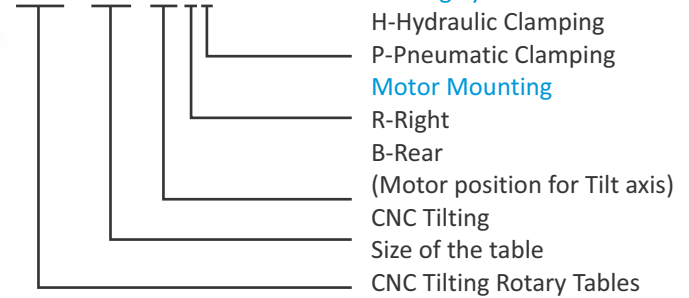


Features:

- Pneumatic / Hydraulic Clamping
- Pre Loaded Axial Radial Roller Bearing.
- Dual Lead Worm Gear set.

Ordering code for CNC Rotary Tables

URH - 200 - TNRP



Specification

Model		ULSR-201-TN	USSR-251-TN	URH-320T-N
Turn Table diameter (mm)		ø200	ø250	ø320
Swing (mm)		ø400	ø250	ø320
Center Bore diameter (H7) (mm)		ø60	ø60	ø100
T-Slot size (mm)	Ref slots (H7)	12x2	12x2	14x2
	Other slots (H8)	12x2	12x6	14x6
Tenon Slot size (H7) (mm)		14	14	18
Servo Motor Torque (Nm)*	Rotary axis	3	3	6
	Tilting axis	6	6	8
Speed Reduction ratio	Rotary axis	1:90	1:90	1:180
	Tilting axis	1:120	1:120	1:90
Table Gyration angle/pulse		0.001°	0.001°	0.001°
Table Rotation speed (rpm) (Motor 3000 rpm)	Rotary axis	33.33	33.33	16.66
	Tilting axis	25	25	33.3
Load capacity (kgs)	Horizontal	100	100	200
	Vertical	65	65	100
Clamp Torque (Nm) Hydraulic 30 bar	Rotary axis	650	650	1100
	Tilting axis	750	750	1100
Clamp Torque ^ (Nm) Pneumatic 5 bar	Rotary axis	380	380	-
	Tilting axis	550	550	-
Driving Torque (Nm)		250	250	750
Indexing Accuracy* (Arc Sec)	Rotary axis	±15"	±15"	±15"
	Tilting axis	±30"	±30"	±30"
Repeatability (Arc Sec)		4"	4"	4"
Tilting angle (Degree)		-110 to +110	-110 to +110	-20 to +110
Net Weight (kg) (approx)		290	210	350

* Higher Accuracy ± 5" on request

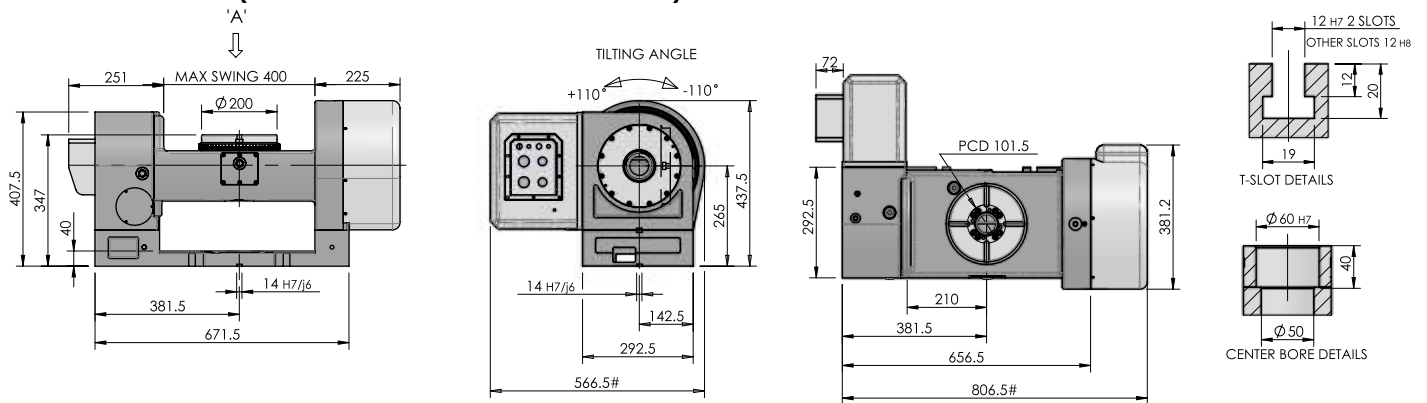
^ Also available with Higher Clamp Torque

Check motor models on Page No. 70

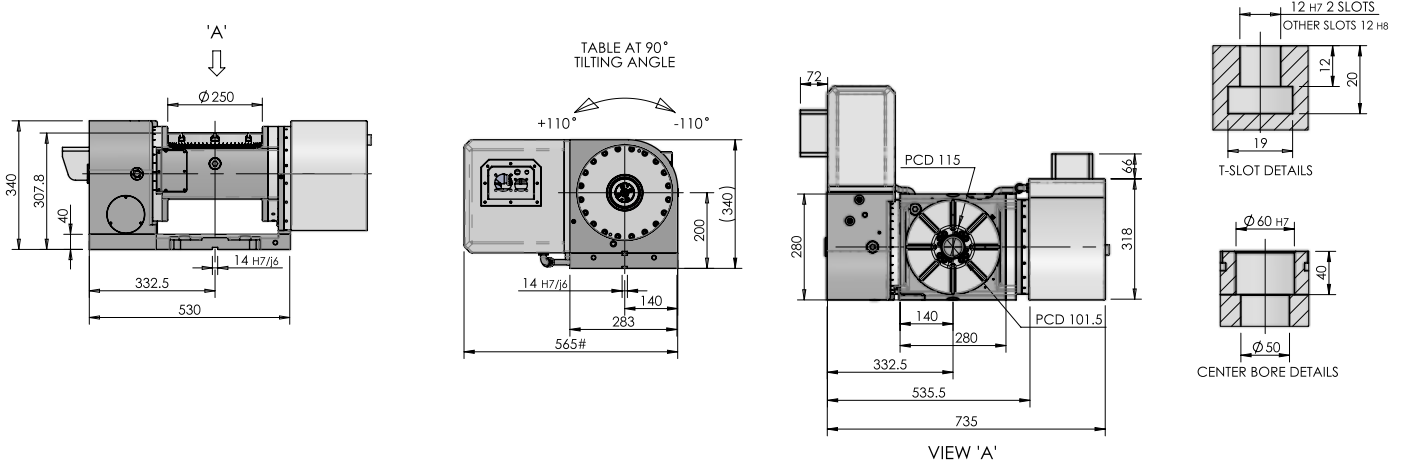
Option available with pressurisation - Please contact us



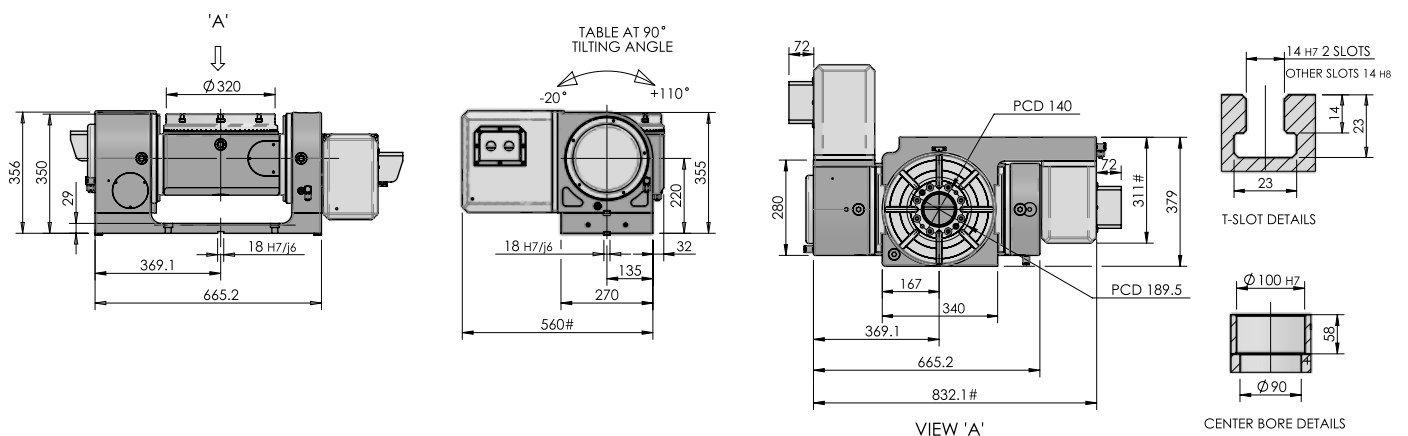
MODEL ULSR-201-TN (LARGE SWING TILTING ROTARY TABLE)



MODEL USSR-251-TN



MODEL URH-320-TN



Dimension Marked as '#' is Dependent on Motor being used

CNC DEEP TILTING TABLE



Features:

- High Grade CI Construction
- Pre Loaded Axial Radial Roller Bearing
- Dual Lead worm Gear set
- Hydraulic Clamping
- Larger Swing Diameter

Specification

Model		URH-320i-DT-S	URH-320-DT-S	URH-500-DT-S	URH-630-DT-S
Turn Table diameter (mm)		ø320		ø500	ø630
Swing (mm)		400	700	550	1000
Center Bore diameter (H7) (mm)		ø60H7	ø100H7	ø100H7	ø100H7
T-Slot size (mm)	Ref slots (H7)	14H7x2	14x2	18x2	18x2
	Other slots (H8)	14H8x6	14x6	18x6	18x6
Tenon Slot size (H7) (mm)		18	18	18	18
Servo Motor Torque (Nm)*	Rotary axis	6	8	12	12
	Tilting axis	12	22	22	28
Speed Reduction ratio	Rotary axis	1:120	1:180	1:144	1:180
	Tilting axis	1:90	1:180	1:180	1:180
Table Gyration angle/pulse		0.001°	0.001°	0.001°	0.001°
Table Rotation speed (rpm) (Motor 3000 rpm)	Rotary axis	16.66	11.11	13.88	11.11
	Tilting axis	22.22	11.11	11.11	11.11
Load capacity (kgs)	Horizontal	110	200	400	600
	Vertical	70	200	400	600
Clamp Torque ^ (Nm) Hydraulic 30 bar	Rotary axis	600	1500	2750	3500
	Tilting axis	950	4000	5000	7000
Driving Torque (Nm)		400	800	1800	1800
Indexing Accuracy* (Arc Sec)	Rotary axis	±15"	±15"	±15"	±15"
	Tilting axis	±30"	±30"	±30"	±30"
Repeatability (Arc Sec)		4"	4"	4"	4"
Tilting angle (Degree)		-110 to +110		-110 to +110	-110 to +110
Net Weight (kg)(approx)	w/o base	675	900	1300	3000

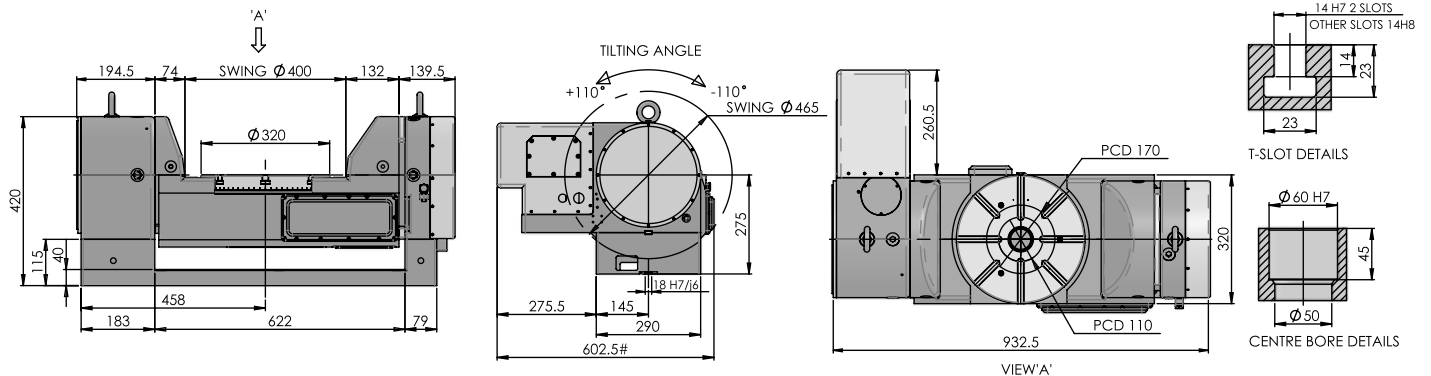
* Higher Accuracy ± 5" on request

^ Also available with Higher Clamp Torque

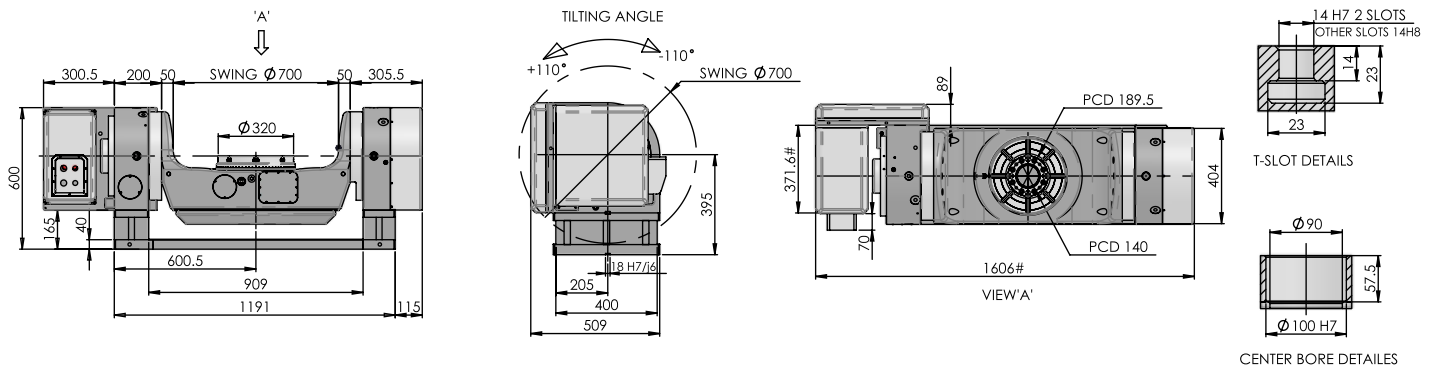
Option available with pressurisation - Please contact us



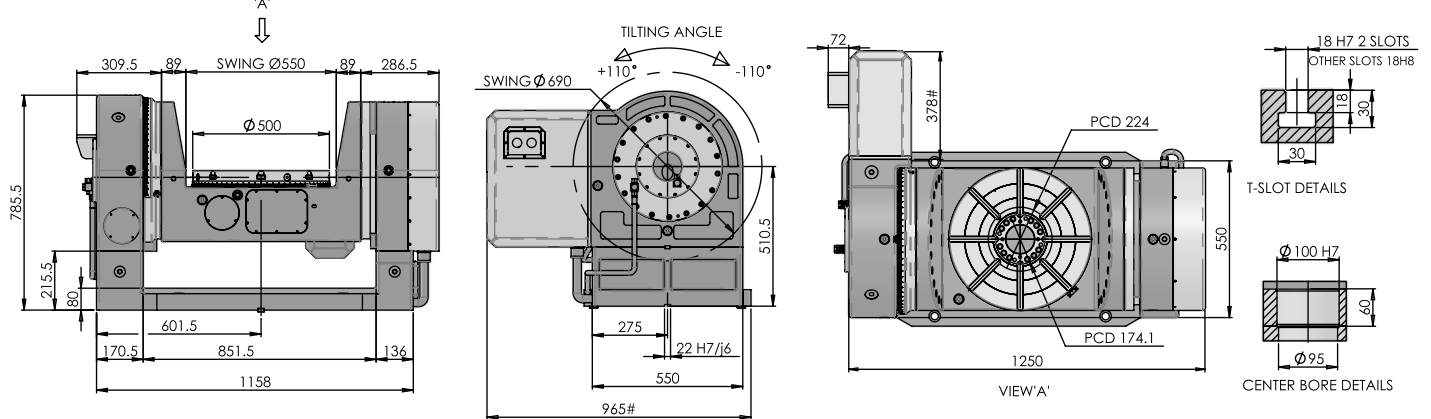
MODEL URH-320i-DT-S (SWING $\varnothing 400$) (Mint Tilting)



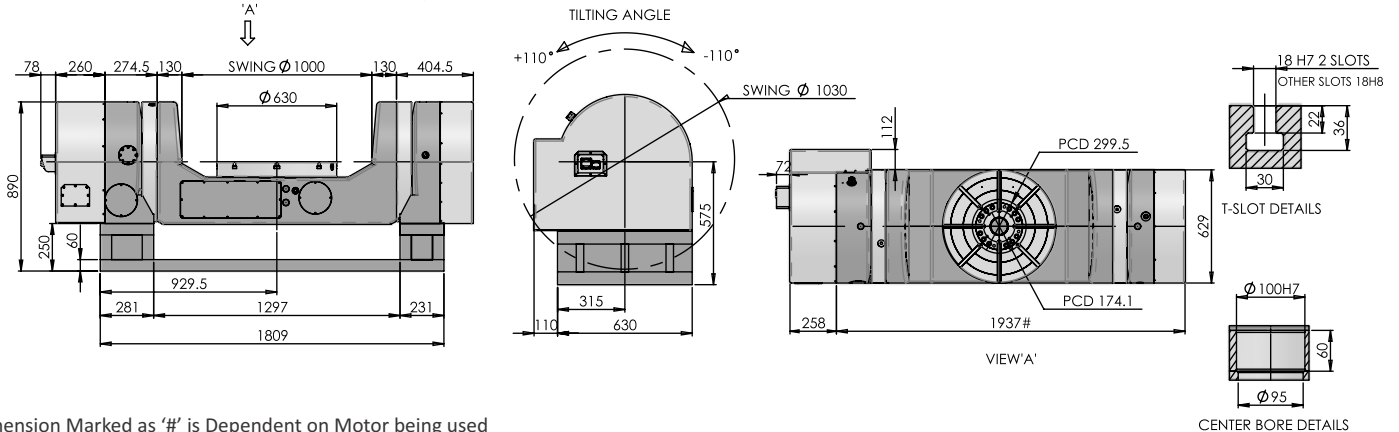
MODEL URH-320-DT-S (SWING $\varnothing 700$)



MODEL URH-500-DT-S (SWING $\varnothing 550$)



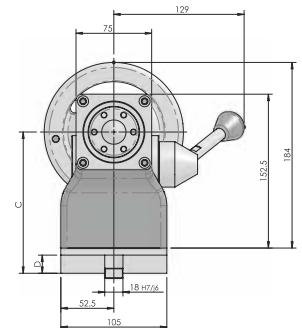
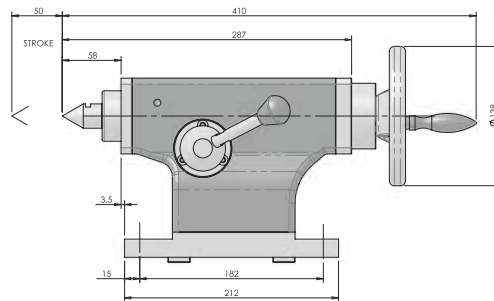
MODEL URH-630-DT-S (SWING $\varnothing 1000$)



Dimension Marked as '#' is Dependent on Motor being used

ACCESSORIES

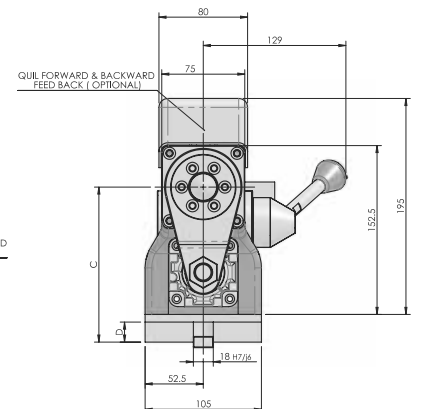
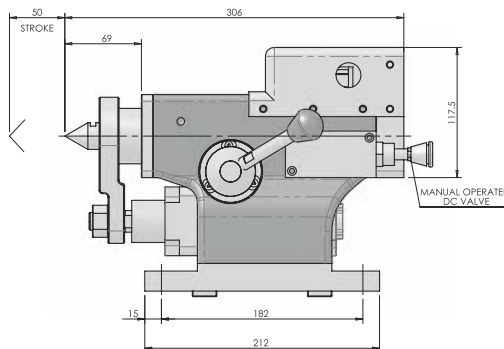
Manual Tailstock



Dimensional Data

Model	Suitable Rotary Table	C	D	Dead Center	Stroke	Net Weight (Kgs) (approx)
UTAIL-135-Mi	URH-170 / URX-180	135	13	MT# 3	50	16
UTAIL- 140-Mi	URH-201 / URX-200	140	18	MT# 3	50	19
UTAIL-160-Mi	URH-251 / URX-250	160	18	MT# 3	50	22
UTAIL-200-Mi	URH-200-TN /USSR-201	200	18	MT# 3	50	25
UTAIL-210-Mi	URH-321 / URX-320	210	18	MT# 3	50	26
UTAIL-220-Mi	URH-320-TN	220	18	MT# 3	50	27
UTAIL-230-Mi	URH-401	230	18	MT# 3	50	28

Pneumatic Tailstock

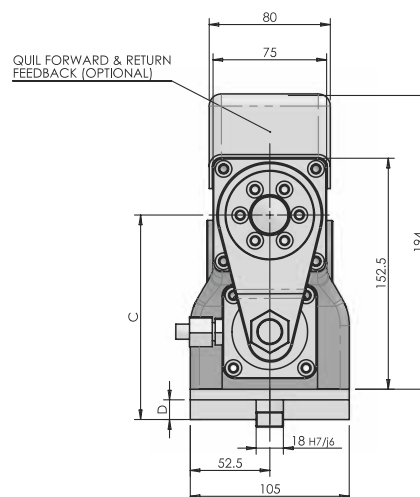
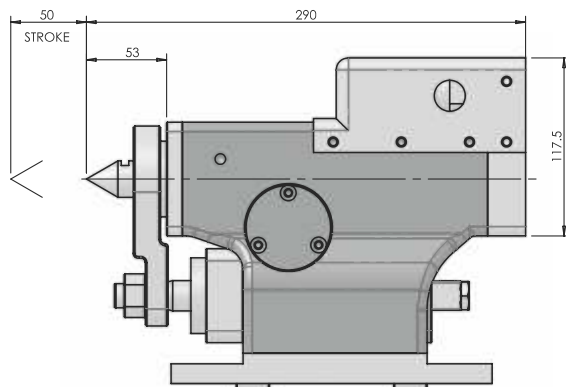
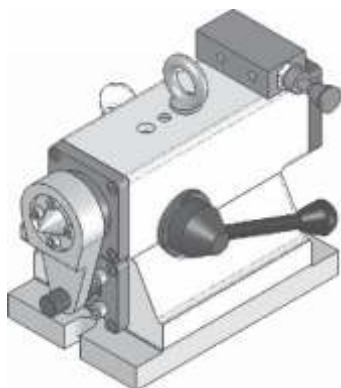


Dimensional Data

Model	For Rotary Table	C	D	Dead Center	Stroke	Axial Thrust Pneu @ 5 Bar	Net Weight (Kgs) (approx)
UTAIL-135-Pi	URH-170 / URX-180	135	13	MT# 3	50	1000N	18
UTAIL-140-Pi	URH-201 / URX-200	140	18	MT# 3	50	1000N	21
UTAIL-160-Pi	URH-251 / URX-250	160	18	MT# 3	50	1000N	24
UTAIL-200-Pi	URH-200-TN /USSR-201	200	18	MT# 3	50	1000N	27
UTAIL-210-Pi	URH-321 / URX-320	210	18	MT# 3	50	1000N	28
UTAIL-220-Pi	URH-320-TN	220	18	MT# 3	50	1000N	29
UTAIL-230-Pi	URH-401	230	18	MT# 3	50	1000N	30



Hydraulic Tailstock



Dimensional Data

Model	For Rotary Table	C	D	Dead Center	Stroke	Axial Thrust Pneu @ 30 Bar	Net Weight (Kgs) (approx)
UTAIL-135-Hi	URH-170 / URX-180	135	13	MT# 3	50	3750N	18
UTAIL-140-Hi	URH-201 / URX-200	140	18	MT# 3	50	3750N	21
UTAIL-160-Hi	URH-251 / URX-250	160	18	MT# 3	50	3750N	24
UTAIL-200-Hi	URH-200-TN / USSR-201	200	18	MT# 3	50	3750N	27
UTAIL-210-Hi	URH-321 / URX-320	210	18	MT# 3	50	3750N	28
UTAIL-220-Hi	URH-320-TN	220	18	MT# 3	50	3750N	29
UTAIL-230-Hi	URH-401	230	18	MT# 3	50	3750N	30

Revolving Centers for Tailstocks (optional)



Standard Option

Non Standard Option

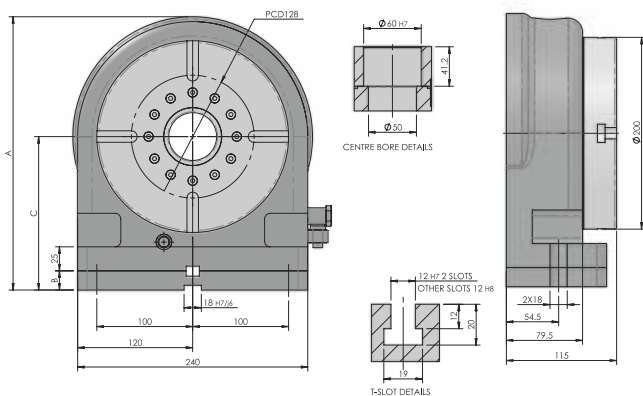
ACCESSORIES

Face Plate Tailstock

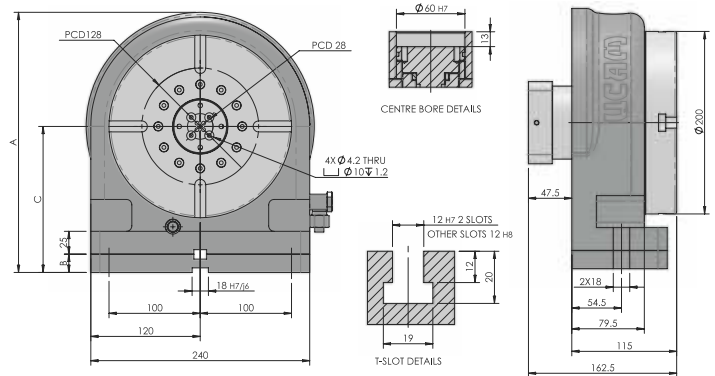


Face Plate Tailstock with 4 line
Rotary Union (option 5 line)

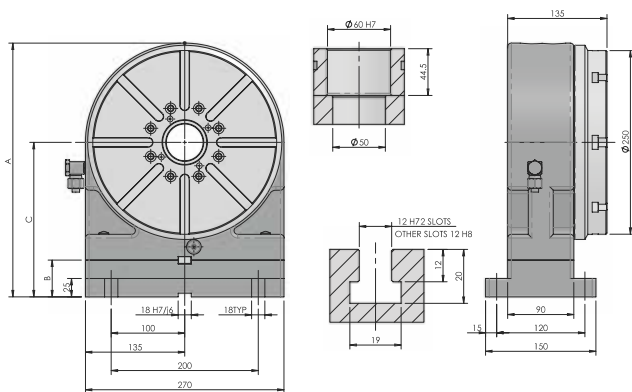
UFT-140/160



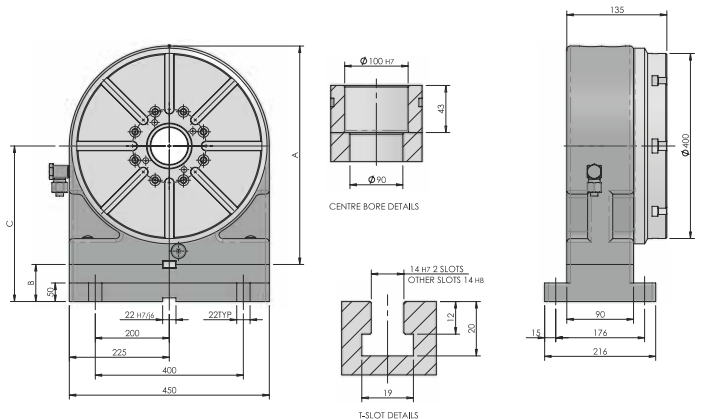
UFT-140/160-RU



UFT-210/230



UFT-310/325



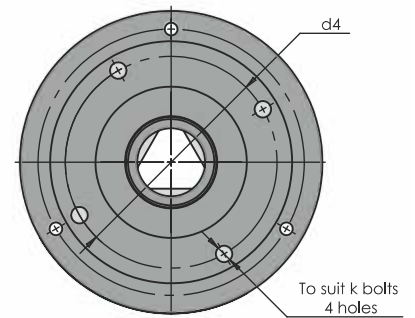
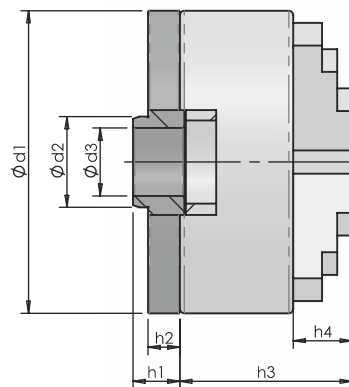
Dimensional Data

Model	For Rotary Table	A	B	C	Clamp Torque		Weight
					Pneu@5bar	Hyd@30bar	
							18
UFT-140i	URH-201/URX-250	265	0	140	200Nm	500Nm	21
UFT-160i	URH-251/URX-250	285	20	160	200Nm	500Nm	24
UFT-210-H	URH-321/URX-320	295	50	210	NA	600Nm	27
UFT-230-H	URH-401	315	70	230	NA	600Nm	28
UFT-310-H	URH-501	480	75	310	NA	2000Nm	29
UFT-325-H	URH-631	495	90	325	NA	2000Nm	30

NA: Not Applicable



Manual Scroll Chuck



Dimensional Data

Applicable NCRT model	d1	d2	d3	d4 (pcd)	h1	h2	h3	h4	k
URH-170/ URX-180	160	40h6	-	140 ±0.2	26	16	96	29	M10
URH-201/ URX-200	200	60 h6	45H7	176 ±0.2	31	21	106	31	M10
URH-251/ URX-250	250	60 h6	40H7	224 ±0.2	36	26	121	36	M10
URH-321/ URX-320	320	100 h6	80H7	286 ±0.2	39	24	123	36	M12

Chuck runout: 0.04mm

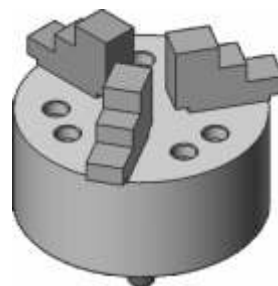
* Fine Adjustable Chucks available for finer runout

Collet Chucks

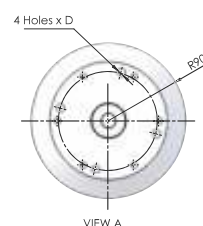
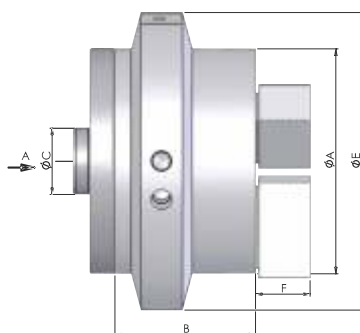
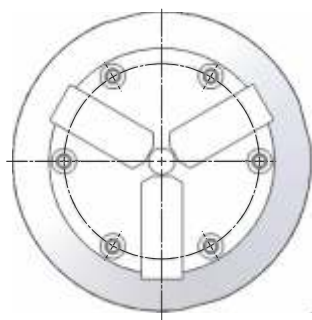


Sizes based on requirment

ACCESSORIES



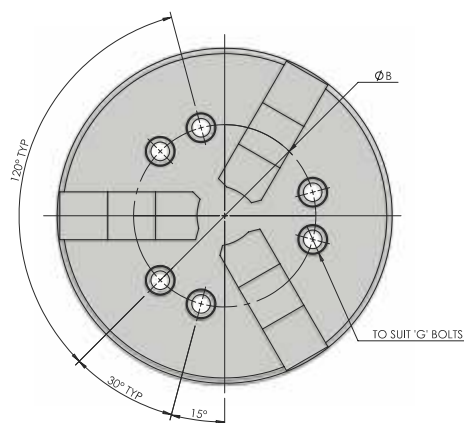
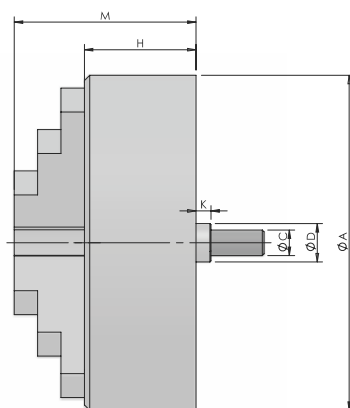
Rotary Air Chuck



Dimensional Data

Application	A	B	C	D	E	F	Gripping Force
Rotary Table Model							(N)
URH-150	136	85	40	M8	180	33	9000
URH-170/URX-180	166	93	40	M10	210	40	16000
URH-201/URX-200	215	112	60	M10	250	42	26000
URH-251/URX-250	255	120	60	M10	290	46	38000

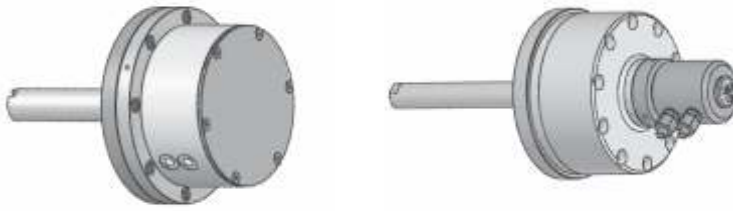
Hydraulic Power Chuck



Dimensional Data

Applicable NCRT model	A	B (PCD)	C	D	G	H	K	M	Gripping Force (N)
URH-170/URX-180	160	104.8	M16	32	M10	75	20	114	37000
URH-201/URX-200	200	133.4	M20	36	M12	90	20	148	58000
URH-251/URX-250	250	133.4/171.4	M20	36	M12/M16	97	20	155	79000
URH-321/URX-320	315	171.4/235	M20	36	M16/M18	105	20	171	107000

Chuck runout: 0.025mm



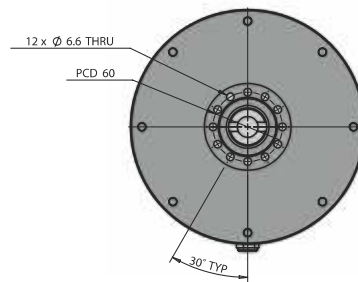
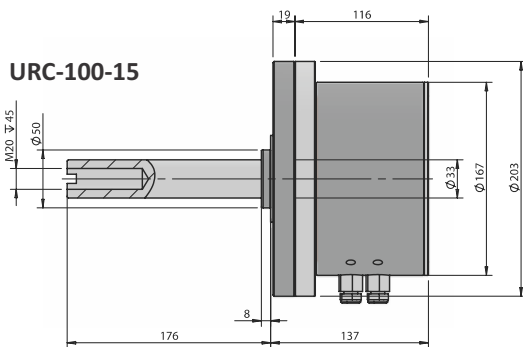
Hydraulic Rotary Cylinders

Specification

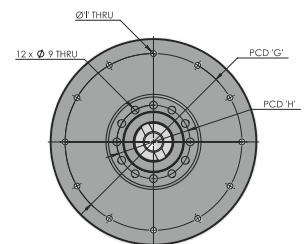
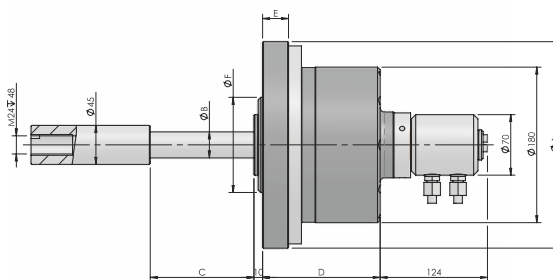
Model	Applicable Rotary Table	Clamp Thrust (Kg)	Stroke (mm)	Hydraulic Pressure (Bar)
URC- 100- 15	URH-201	1350	15	30
URC- I40-25S	URH-251	4500	25	30
URC - I40-25B	URH - 321	4500	25	30

Chuck runout: 0.04mm

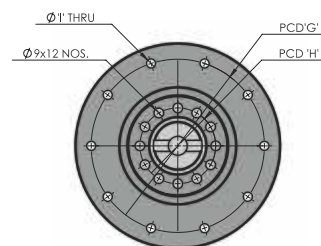
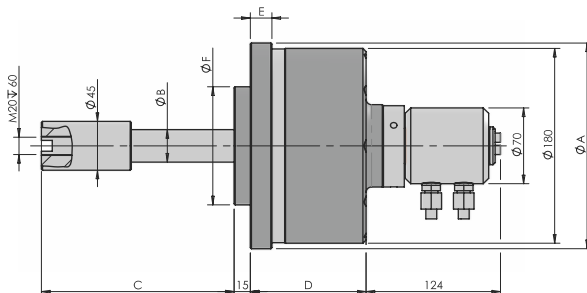
* Fine Adjustable Chucks available for finer runout



URC-140-25B



URC-140-25S



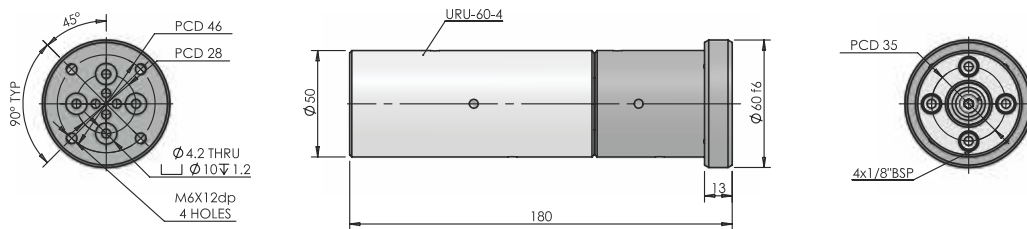
Dimensional Data

Model	A	B	C	D	E	F	G	H	I
URC-140- 25-S	190	28	210	107	20	109	160	70	6.8x10Nos
URC-I40-25-B	240	35	262	131	25	125	204.5	85	6.8x12Nos

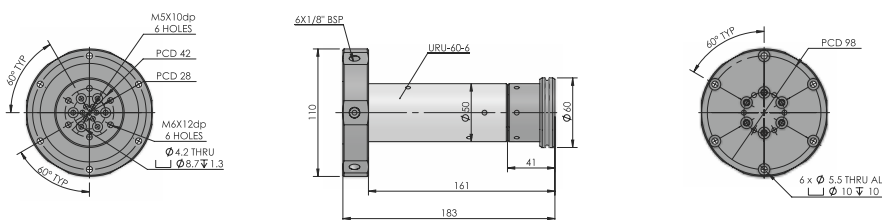
ACCESSORIES

Rotary Union

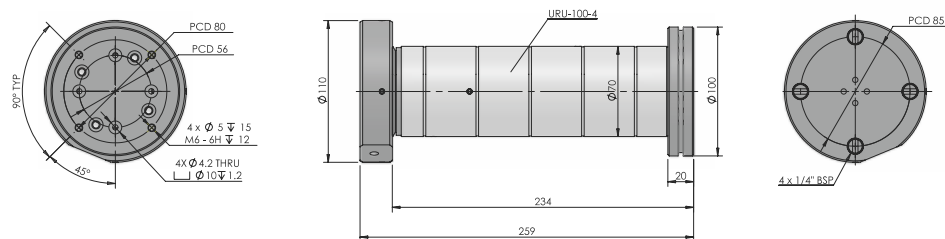
URU-60-4



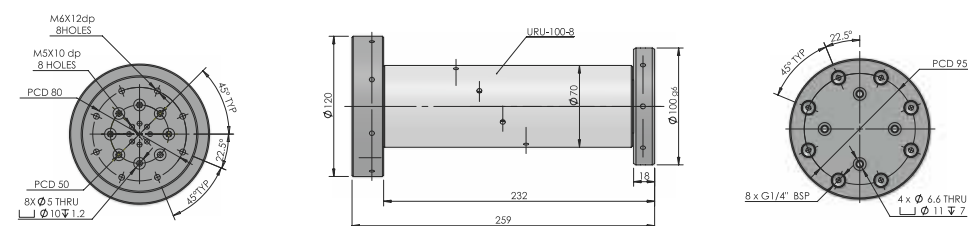
URU-60-6



URU-100-4



URU-100-8



*Above Rotary Union suitable for operating pressure upto 100 bar,
Request for special Rotary Union for operating pressure higher than 100 bar

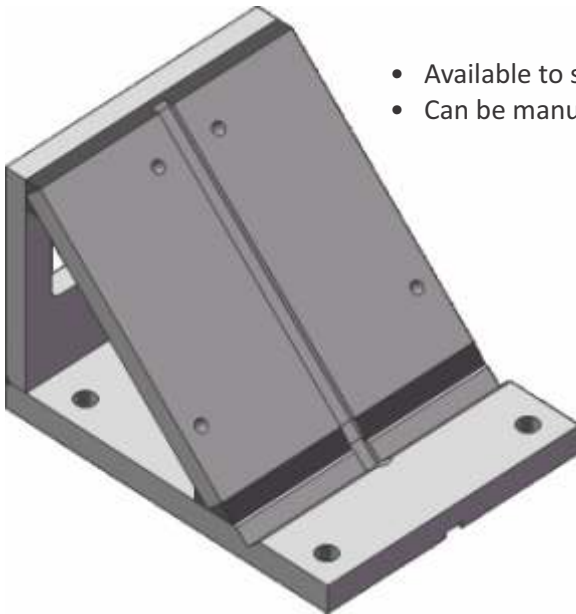
Dimensional Data

Model	For Rotary Table	No. of Lines	Input connection
URU - 60 - 4	URH-201 URH-251	4	GI/8" BSP
URU - 60 - 6	URH-201 URH-251	6	GI/8" BSP

Model	For Rotary Table	No. of Lines	Input connection
URU - 100-4	URH-321 URH-401	4	GI/4" BSP
URU - 100-8	URH-321 URH-401	8	GI/4" BSP



Angle Plate



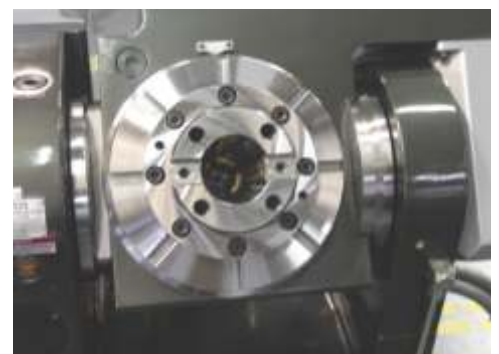
- Available to suit different models of Rotary Tables
- Can be manufactured to match required angles



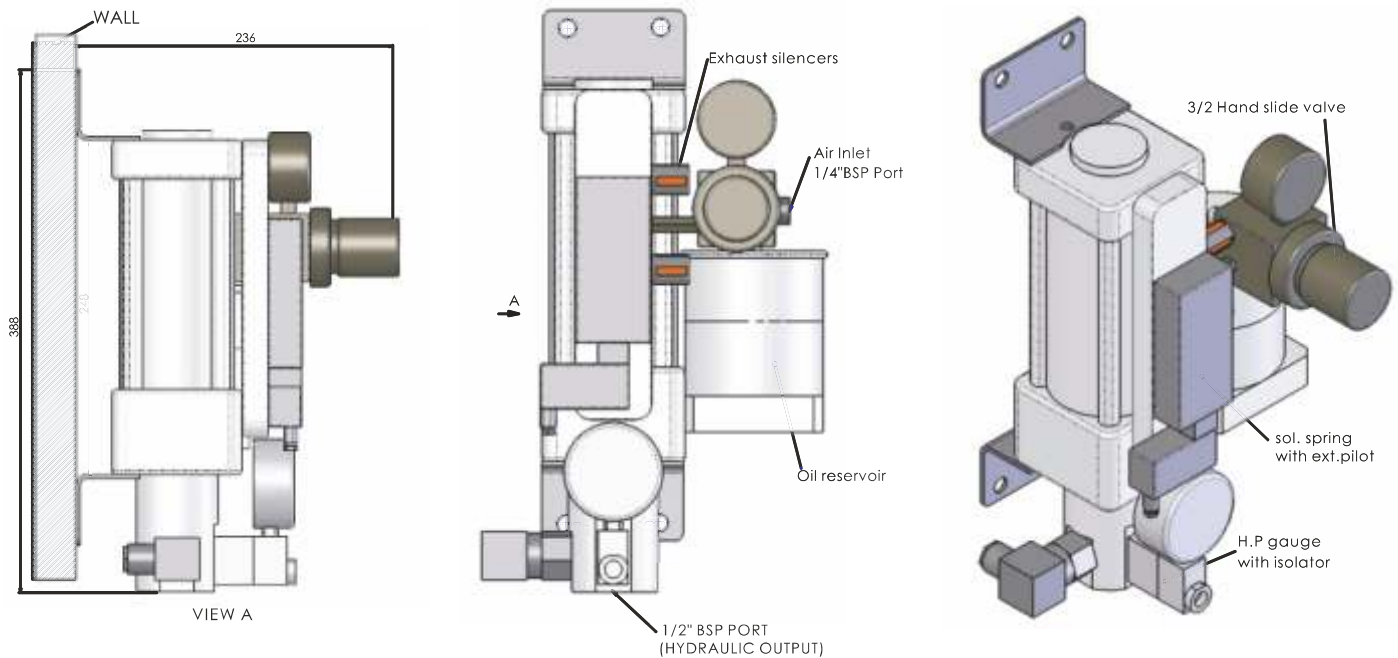
Taper Adaptor and Taper Center Bore



- Standard adaptors available for BT30, BT40, MT3, MT4 Tapers
- Dia 200 Rotary Tables and Tilting Tables also available with integrated taper center bore as option



Hydropneumatic Booster



Specification

Model	Applicable Rotary Table	Applicable Rotary Production System	Applicable Tilting Table *
UHPB - 80	Dia - 150,170,180,200,250,320	Dia - 180,200	Dia 150,200,250,320 (Rotary Axis)
UHPB - 100	Dia - 400,500,630	Dia-250,320	Dia 320 (Tilt Axis)

* For Tilting Table 2 Hydro Pneumatic Booster are required

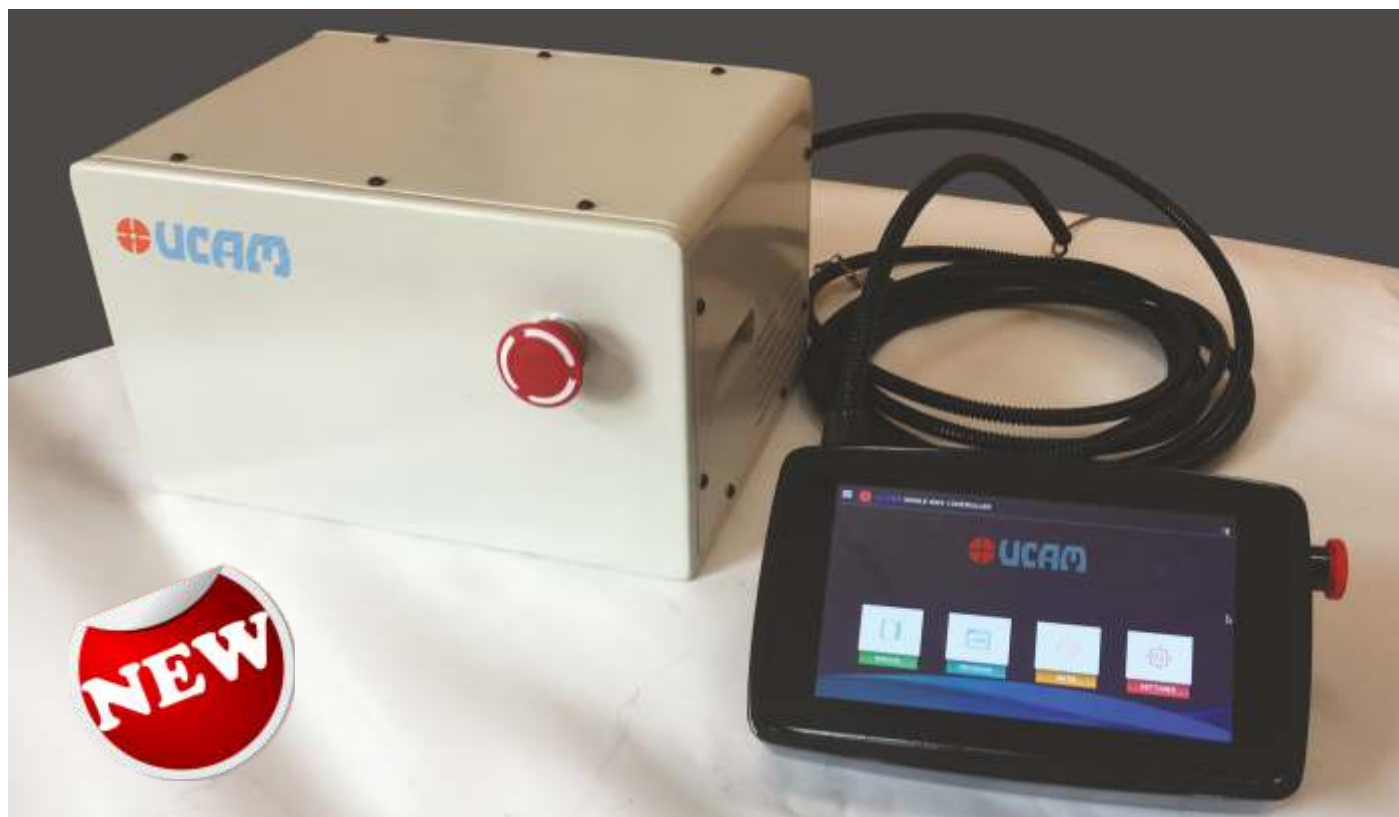
Hydraulic Power Pack

- Flow:6.8/9/12lpm
- Pressure: 30 Bar Max.
- Solenoid valves and pressure switches depends on your applications
- Continuous duty





JAMUN - ROTARY AXIS CONTROLLER



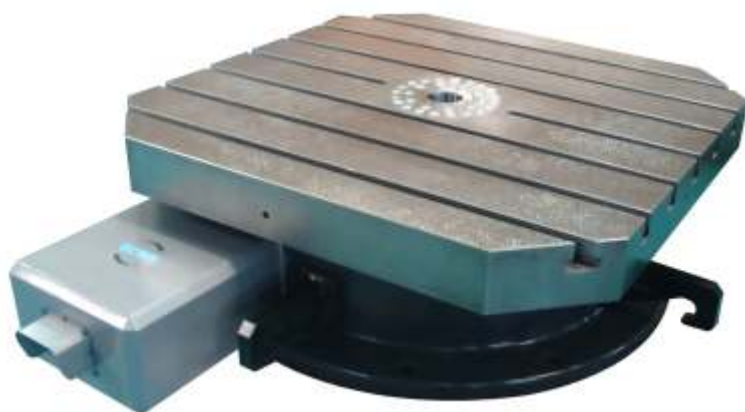
Jamun - The New Rotary Axis Controller designed and developed by UCAM, is INDUSTRY 4.0 ready. This Rotary Axis Controller is enabled for IoT (Internet of Things) wherein it is Wi-Fi enabled and can be linked to Android enabled Smart Phones so that the Rotary Axis Controller can be programmed and controlled through smart phone itself. A special “App” is made available for Smart phone operations. The control display is dual mode i.e primary or fixed display in Rotary Axis Controller and the secondary android app based display. This allows the operator to operate the Rotary Axis Controller easily from distances upto 30 mtrs.

Technology:

- Capacitive type touch pad based Human Machine Interface (HMI)
- Graphical User Interface (GUI) with wire / wireless option and Wi-fi communication
- The GUI supports Android app, this app can be directly download through App store in android phones.
- Built on Single Board Computer (SBC) which runs on ARM Cortex-A53.
- 17 bit absolute encoder for higher accuracies

Specification	
Description	Specifications
Minimum increment	0.001°
Programmable Angle	0-359.999°
In-put to system	Through HMI Pendant or android app & I/O's connector.
Feed-rate	1-2000 RPM.
Programming Capacity	Standard ISO codes for programing. More than 500 programs upto 16GB
In-put supply to system	Single phase 230V, 50Hz AC.
Mode selection after power on	Manual, Auto & Program manager.
System Memory	Expandable upto 2 TB
Limit switch	Hardware limit & software limit for safety precaution.
Machine interfacing signals	24 V DC signal, Alarm signal possible for safety interlock
USB Interface	User friendly USB 2.0 interface
Servo Motor	AC servo motor with 17bit absolute encoder.

CNC ROTARY TABLE FOR HORIZONTAL APPLICATION



Features:

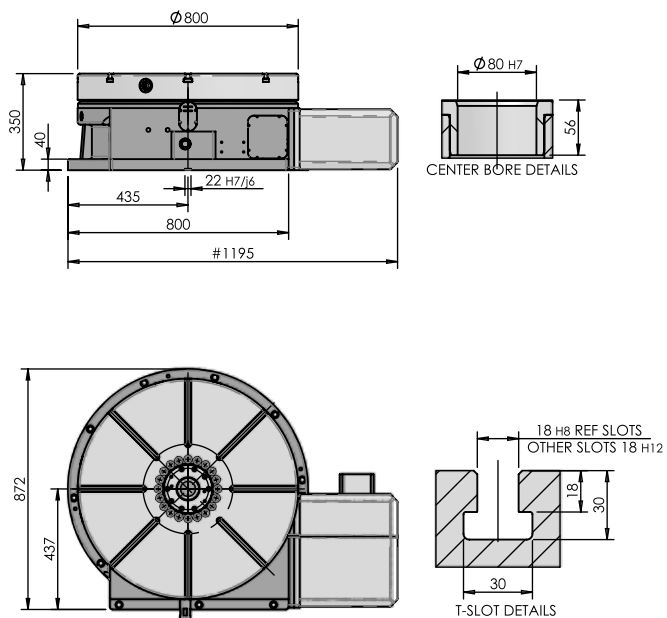
- Hydraulic Clamping
- High Grade CI Construction.
- Dual Lead Worm Gear Set.
- Horizontal mounting.

Specification					
Model		URH-800-RH	URH-SQ-800-RH	URL-1000-RH	URL-SQ-1000-RH
Dimensional data					
Turn Table size (mm)		ø800	SQ800	ø1000	SQ1000
Table height (mm)		350	355	350	365
Center Bore diameter (H7) (mm)		ø80	ø80	ø80	ø80
T - Slots size (mm)	- Reference slot width (H8)(mm)	18	18	18	18
	- Other slot width (H12)(mm)	18	18	18	18
Tenon Slot size (H7) (mm)		22	22	22	22
Operational data					
Servo motor torque (Nm)		16	16	16	16
Speed Reduction ratio		1:300	1:300	1:300	1:300
Table Gyration angle/pulse		0.001°	0.001°	0.001°	0.001°
Table rotation speed @ motor rpm 2000 (rpm)		6.66	6.66	6.66	6.66
Load and force data					
Load carrying capacity Horizontal @ concentric (Kg)		8100	8000	7850	7650
Thrust against table top (N)		75000	74000	72500	70500
Tilting moment Horizontal (FxL) (Nm)		26000	26000	26000	26000
Clamping torque-Hydraulic @ 60 Bar (Nm)		12000	12000	12000	12000
Driving torque (Nm)		7000	7000	7000	7000
Accuracies					
Indexing Accuracy*(Arc sec.)		±15"	±15"	±15"	±15"
Repeatability (Arc sec.)		4"	4"	4"	4"
Table top flatness (mm)		0.020	0.020	0.020	0.020
Table top runout (mm)		0.025	0.025	0.025	0.025
Parallelism of table top base (Horizontal position) (mm)		0.03	0.03	0.03	0.03
Center bore run out (mm)		0.01	0.01	0.01	0.01
Overall weight					
Net weight (Approx) (kg)		1100	1200	1350	1550

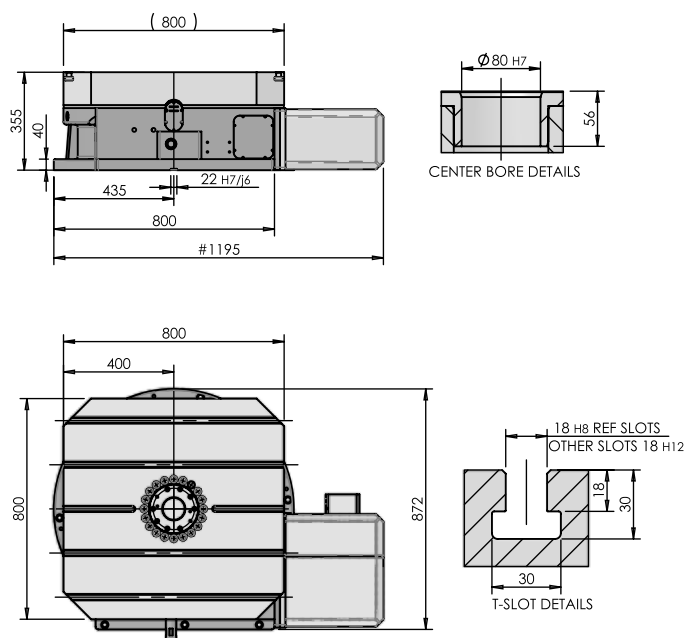
* Higher accuracy ± 5" on request



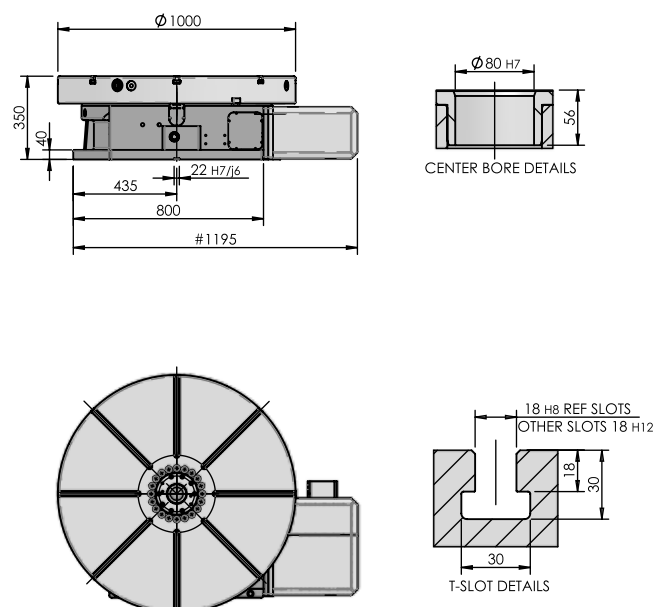
URH-800-RH



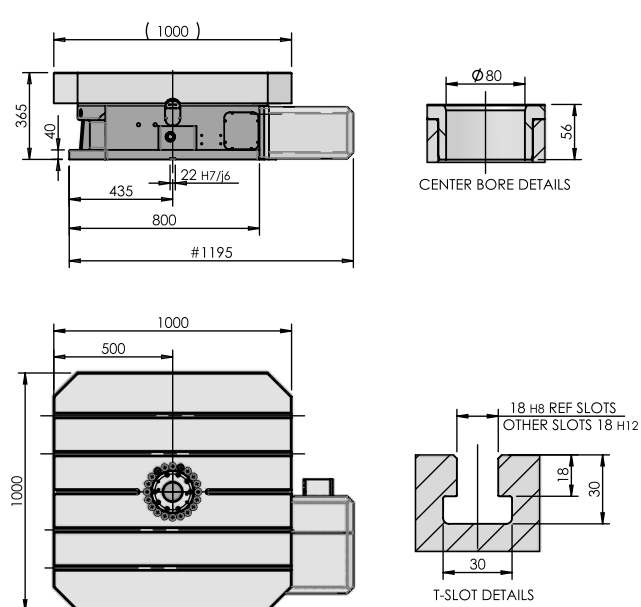
URH-SQ-800-RH



URL-1000-RH



URL-SQ-1000-RH



Dimensions marked as # is dependent on motor being used

CNC ROTARY TABLE FOR HORIZONTAL APPLICATION



Features:

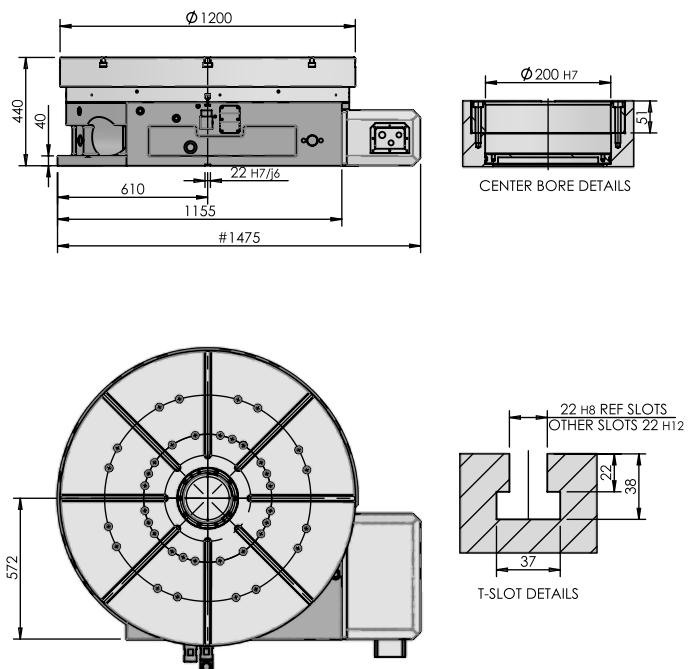
- Hydraulic Clamping
- High Grade CI Construction.
- Dual Lead Worm Gear Set.
- Horizontal mounting.

Specification				
Model	URH-1200-RH	URH-SQ-1200-RH	URL-I600-RH	URL-SQ-1600-RH
Dimensional data				
Turn Table size (mm)	ø1200	SQ1200	ø1600	SQ1600
Table height (mm)	440	450	470	490
Center Bore diameter (H7) (mm)	ø80	ø80	ø80	ø80
T - Slots size (mm)	- Reference slot width (H8)(mm)	22	22	22
	- Other slot width (H12)(mm)	22	22	22
Tenon Slot size (H7) (mm)	22	22	22	22
Operational data				
Servo motor torque (Nm)	28	28	28	28
Speed Reduction ratio	1:360	1:360	1:360	1:360
Table Gyration angle/pulse	0.001°	0.001°	0.001°	0.001°
Table rotation speed @ motor rpm 2000 (rpm)	5.5	5.5	5.5	5.5
Load and force data				
Load carrying capacity Horizontal @ concentric (Kg)	12200	12000	11200	10800
Thrust against table top (N)	180000	178000	170000	166000
Tilting moment Horizontal (FxL) (Nm)	70000	70000	70000	70000
Clamping torque-Hydraulic @ 60 Bar (Nm)	25000	25000	25000	25000
Driving torque (Nm)	17000	17000	17000	17000
Accuracies				
Indexing Accuracy*(Arc sec.)	±15"	±15"	±15"	±15"
Repeatability (Arc sec.)	4"	4"	4"	4"
Table top flatness (mm)	0.025	0.025	0.025	0.025
Table top runout (mm)	0.03	0.03	0.03	0.03
Parallelism of table top base (Horizontal position) (mm)	0.04	0.04	0.04	0.04
Center bore run out (mm)	0.01	0.01	0.01	0.01
Overall weight				
Net weight (Approx) (kg)	2850	3100	3850	4250

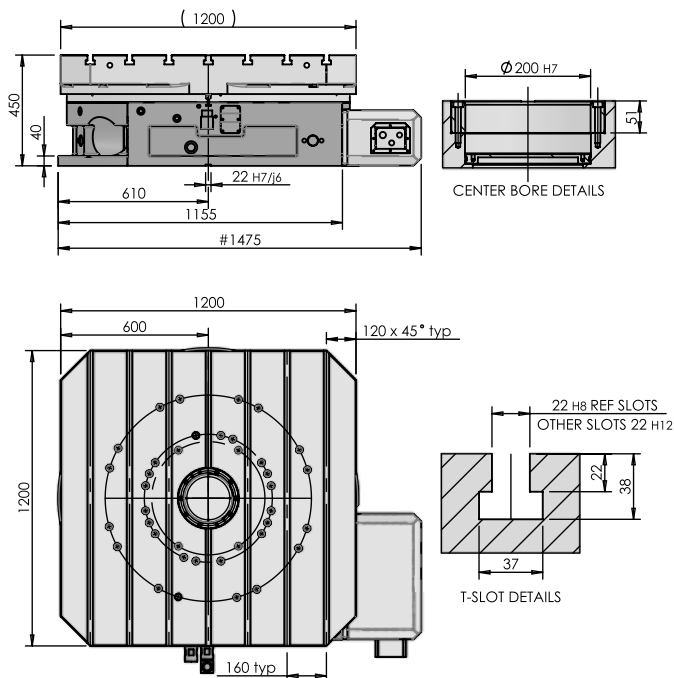
Higher accuracy ± 5" on request



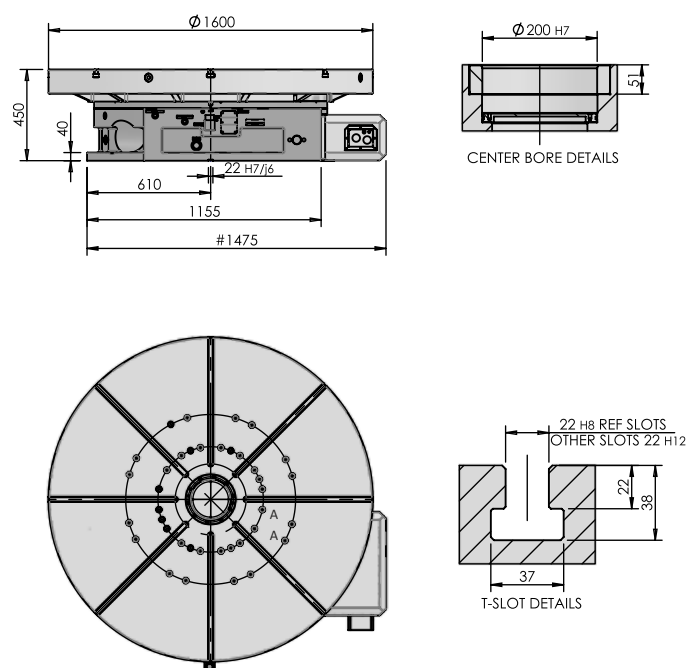
URH-1200-RH



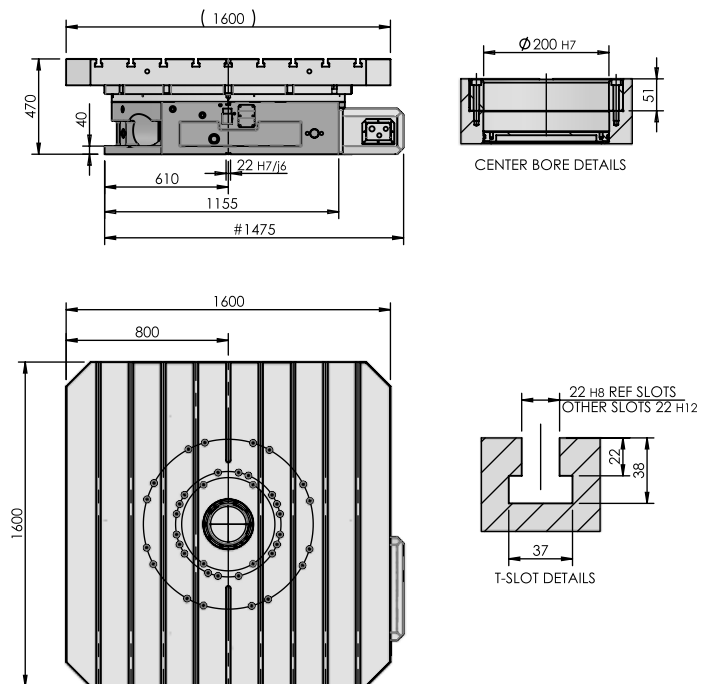
URH-SQ-1200-RH



URL-1600-RH



URL-SQ-1600-RH



Dimensions marked as # is dependent on motor being used

CNC ROTARY TABLE FOR HORIZONTAL APPLICATION



Features:

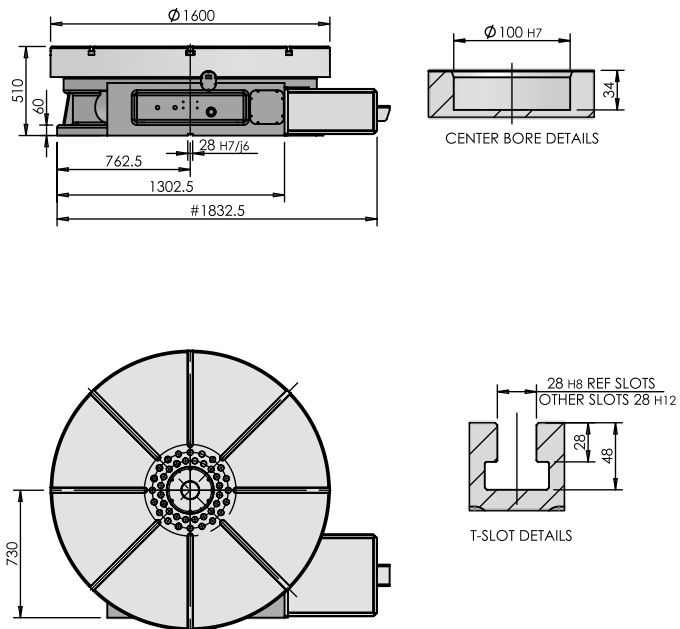
- Hydraulic Clamping
- High Grade CI Construction.
- Dual Lead Worm Gear Set.
- Horizontal mounting.

Specification				
Model	URH-1600-RH	URH-SQ-1600-RH	URL-2000-RH	URL-SQ-2000-RH
Dimensional data				
Turn Table size (mm)	ø1600	SQ1600	ø2000	SQ2000
Table height (mm)	510	525	520	550
Center Bore diameter (H7) (mm)	ø100	ø100	ø100	ø100
T - Slots size (mm)	- Reference slot width (H8)(mm)	28	28	28
	- Other slot width (H12)(mm)	28	28	28
Tenon Slot size (H7) (mm)	28	28	28	28
Operational data				
Servo motor torque (Nm)	35	35	35	35
Speed Reduction ratio	1:600	1:600	1:600	1:600
Table Gyration angle/pulse	0.001°	0.001°	0.001°	0.001°
Table rotation speed @ motor rpm 2000 (rpm)	3.33	3.33	3.33	3.33
Load and force data				
Load carrying capacity Horizontal @ concentric (Kg)	18700	18000	17300	16000
Thrust against table top (N)	250000	243000	236000	223000
Tilting moment Horizontal (FxL) (Nm)	100000	100000	100000	100000
Clamping torque-Hydraulic @ 60 Bar (Nm)	32000	32000	32000	32000
Driving torque (Nm)	28000	28000	28000	28000
Accuracies				
Indexing Accuracy*(Arc sec.)	±15"	±15"	±15"	±15"
Repeatability (Arc sec.)	4"	4"	4"	4"
Table top flatness (mm)	0.025	0.025	0.025	0.025
Table top runout (mm)	0.03	0.03	0.03	0.03
Parallelism of table top base (Horizontal position) (mm)	0.04	0.04	0.04	0.04
Center bore run out (mm)	0.015	0.015	0.015	0.015
Overall weight				
Net weight (Approx) (kg)	4800	5500	6200	7500

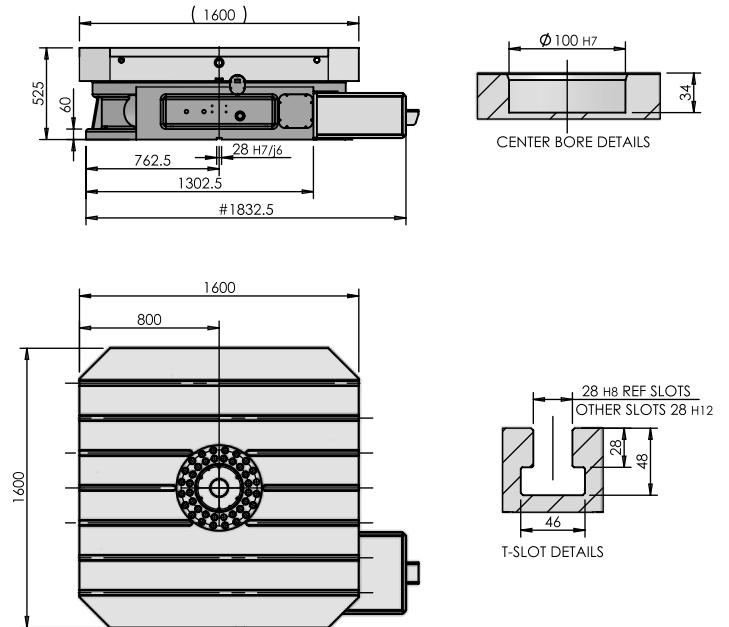
Higher accuracy ± 5" on request



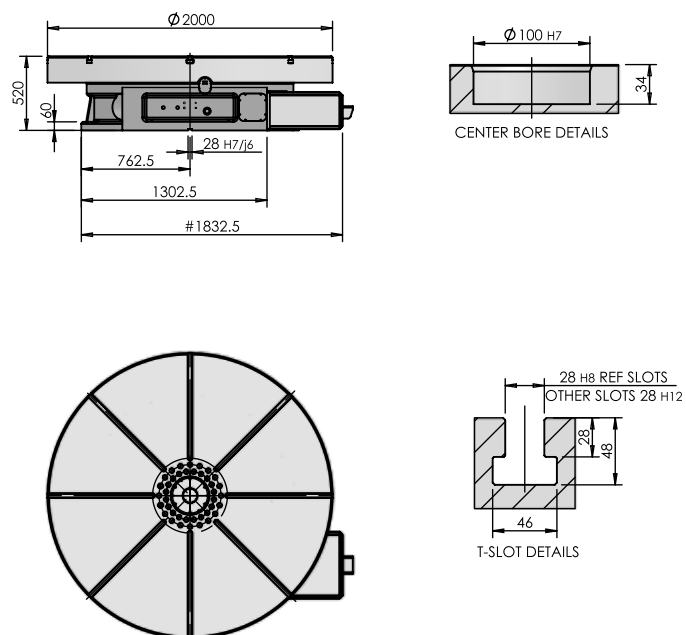
URH-1600-RH



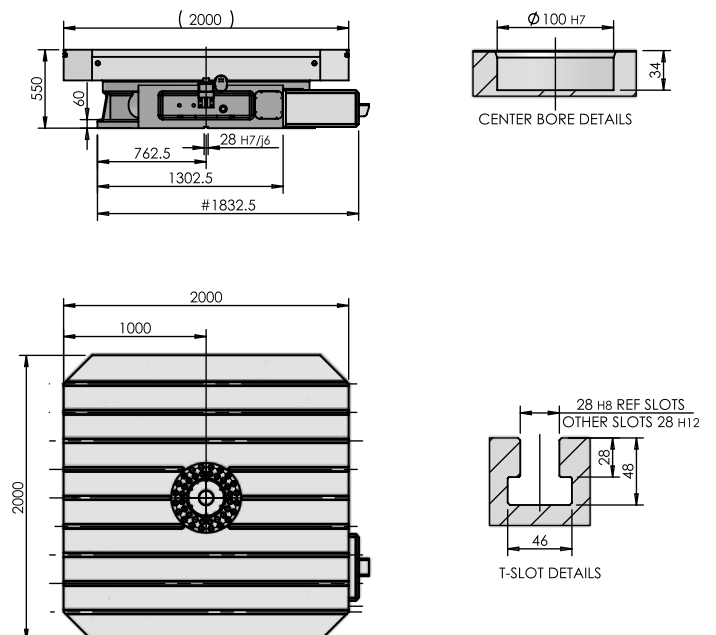
URH-SQ-1600-RH



URL-2000-RH



URL-SQ-2000-RH



CNC ROTARY TABLE FOR VERTICAL APPLICATION



Features:

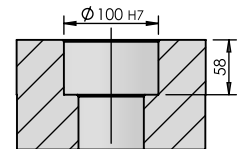
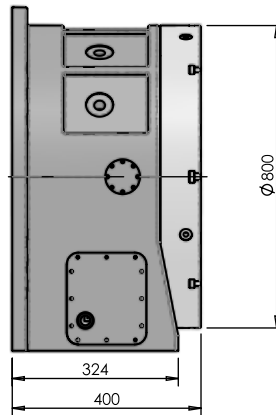
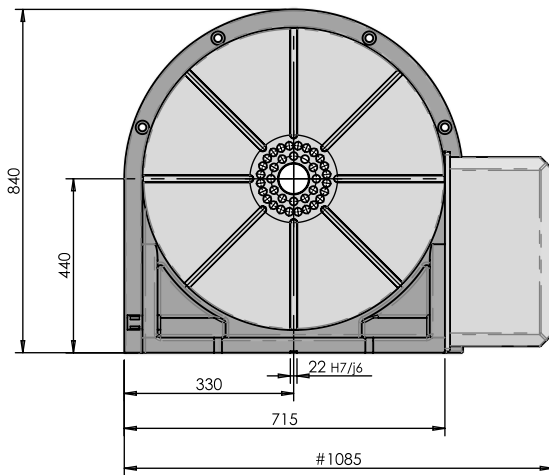
- Hydraulic Clamping
- High Grade CI Construction.
- Dual Lead Worm Gear Set.
- Vertical mounting.

Specification			
Model		URV-800-RH	URV-1000-RH
Dimensional data			
Turn Table size (mm)		ø800	ø1000
Table height (mm)		440	575
Center Bore diameter (H7) (mm)		ø100	ø100
T - Slots size (mm)	- Reference slot width (H8)(mm)	18	22
	- Other slot width (H12)(mm)	18	22
Tenon Slot size (H7) (mm)		22	22
Operational data			
Servo motor torque (Nm)		16	22
Speed Reduction ratio		1:300	1:300
Table Gyration angle/pulse		0.001°	0.001°
Table rotation speed @ motor rpm 2000 (rpm)		6.66	6.66
Load and force data			
Load carrying vertical (kg)		1200	3000
Load capacity With tail stock support (kg)		3000	5000
Tilting moment Vertical (FxL) (Nm)		5000	17500
Clamp torque-Hydraulic @ 30 Bar(Nm)		3500	10000
Driving torque (Nm)		2200	4000
Accuracies			
Indexing Accuracy (Arc sec.)		±15"	±15"
Repeatability (Arc sec.)		4"	4"
Table top flatness (mm)		0.015	0.03
Center bore run out runout (mm)		0.015	0.02
Perpendicularity of table top base (Vertical position) (mm)		0.02	0.03
Overall weight			
Net weight (Approx) (kg)		1300	2100

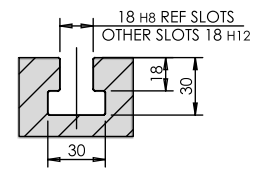
Higher accuracy ± 5" on request



URV-800-RH

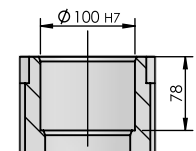
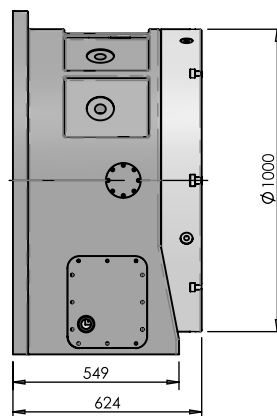
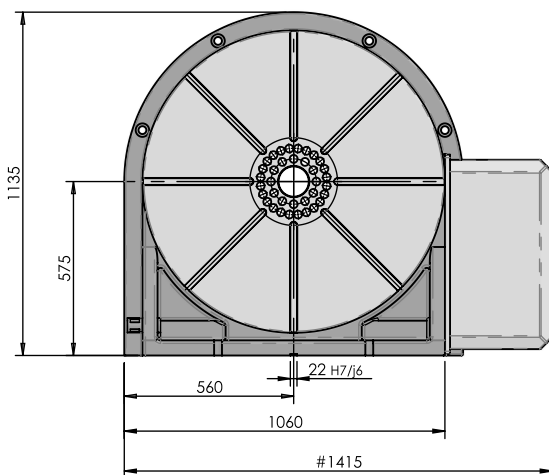


CENTER BORE DETAILS

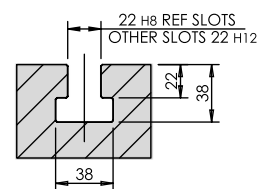


T-SLOT DETAILS

URV-1000-RH



CENTER BORE DETAILS



T-SLOT DETAILS

LARGE SIZE ROTARY TABLE WITH LINEAR AXIS



Unique Features:

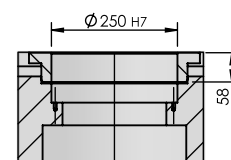
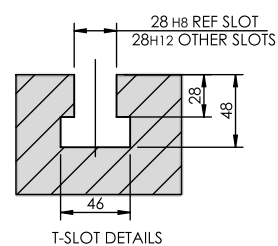
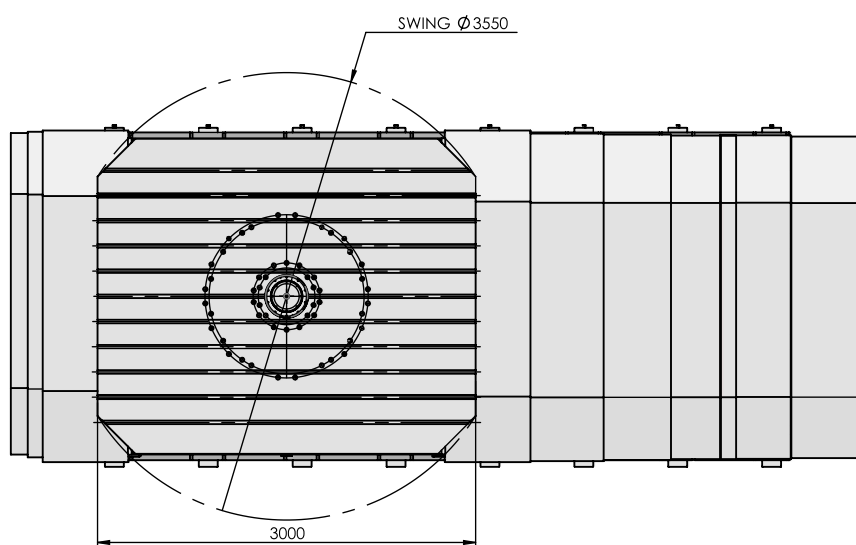
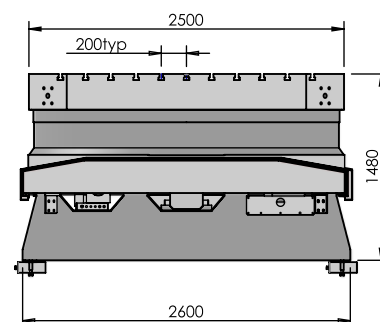
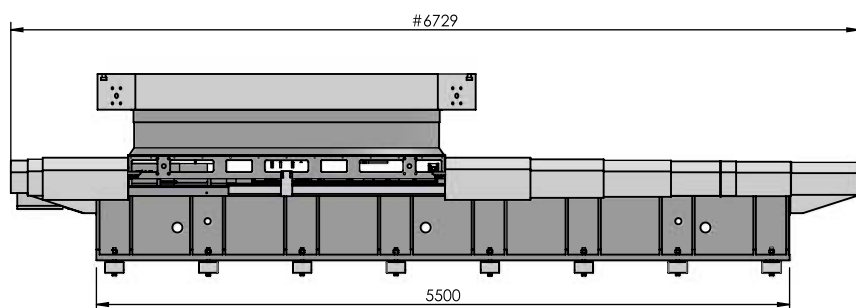
- Hydrostatic Bearing Technology
- Double pinion drive with electronic backlash compensation
- Indexing Accuracy $\pm 5''$
- Linear Axis stroke of 2500 mm with positioning accuracy of $\pm 3\mu\text{m}$

Specification		
Model		URH-2500X(sp)
Dimensional data		
Turn Table size (mm)		3000x2500 [#]
Table height (mm)		1480
Center Bore diameter (mm)		$\phi 250\text{H7}$
T - Slots size	- Refs slots (mm)	28H8
	- Other slots (mm)	28H12
Stroke in linear axis (mm)		2500
Table gyration angle / pulse		0.001°
Table rotation speed @motor rpm 2000 (rpm)		4.54
Speed reduction ratio		1:440
Safe load capacity (concentric) (kg)		40,000
Axial load (N)		1,50,000
Tilting moment-Horizontal (FxL) (Nm)		1,20,000
Clamp torque-hydraulic@30 bar (Nm)		70,000
Driving torque (peak) (Nm)		80,000
Accuracy		
Indexing Accuracy (Arc sec)		$\pm 5''$
Repeatability (Arc sec)		4''
Table top flatness (mm/m)		0.025
Bed flatness (mm/m)		0.02/ Meter
Centre bore run out (mm)		0.02
Table top run out (mm/m)		0.04
Accuracy linear axis (mm/m)		± 0.003
Net weight (approx) (kg)		36,000

Other sizes available on request



URH-2500X(sp)



LARGE SIZE DEEP TILTING ROTARY TABLE



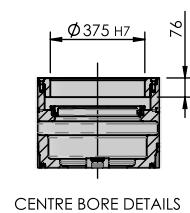
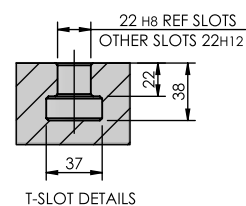
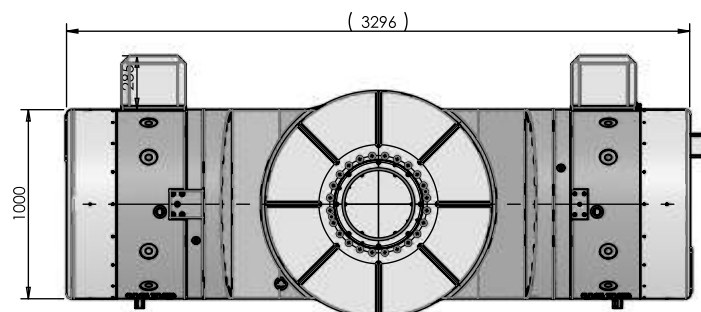
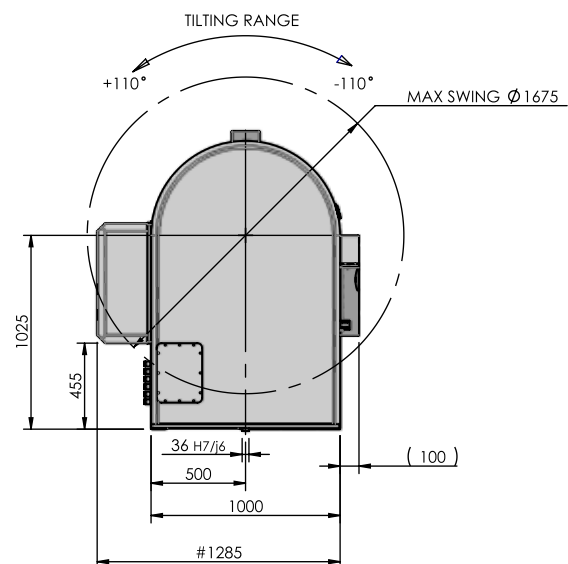
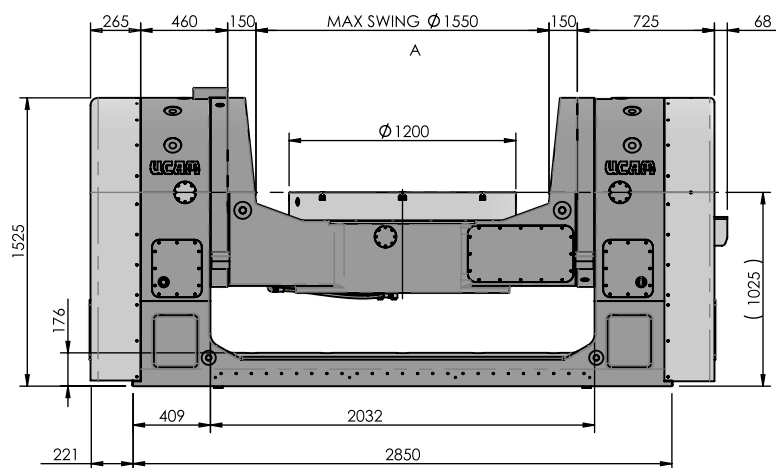
Features:

- Swing Dia. of 1550 mm
- Load Carrying Capacity: 5 Tons
- Gantry type of drive for Tilt Axis

Specification		
Model		URH-1200-DT-S
Dimensional data		
Turn Table diameter (mm)		Ø1200
Table Center height (mm)		1025
Center Bore diameter (H7) (mm)		Ø375
T - Slots size	- Reference slot width (H8) (mm)	22
	- Other slot width (H12) (mm)	22
	- Numbers	8
Tenon Slot size (H8) (mm)		36
Tilting Range		±110°
Operational data		
Servo Motor Torque (Nm)	Rotary	30
	Tilting	2x38
Speed Reduction ratio	Rotary	1:360
	Tilting	1:300
Table rotation speed @ motor rpm 2000 (rpm)	Rotary	5.5
	Tilting	6.66
Table Gyration angle/pulse (deg)		0.001°
Load and force data		
Max load carrying capacity (kg)		5000
Maximum tilting moment (FxL) (Nm)		26000
Thrust against table top face (N)		75000
Clamp torque- Hydraulic @ 30 Bar (Nm)	Rotary	20000
	Tilting	45000
Driving torque (Nm)	Rotary	12000
	Tilting	12000
Accuracies		
Indexing Accuracy*((Arc sec.)	Rotary	±20"
	Tilting	±40"
Repeatability (Arc sec.)		4"
Parallelism of Table Top to base @ 0° (mm/m)		0.04
Center bore run out (mm)		0.025
Table top run out (mm/m)		0.03
Accuracy		
Net weight (Approx) With Base plate (kg)		12000



URH-1200-DT-S



CONTINUOUS MILLING ROTARY TABLE



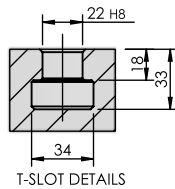
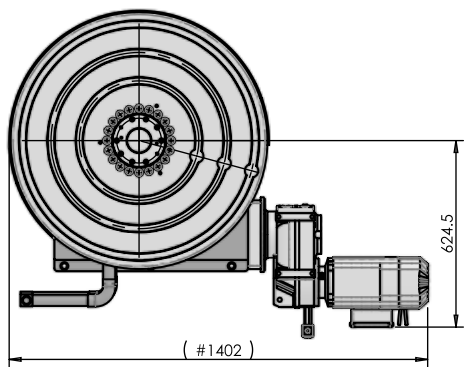
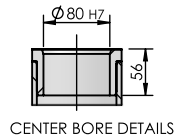
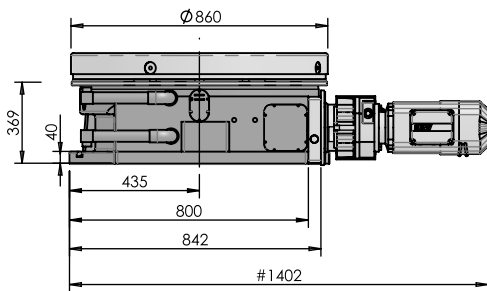
Features:

- High Grade CI Construction.
- Dual Lead Worm Gear Set.
- Horizontal mounting.
- High Driving Torque.

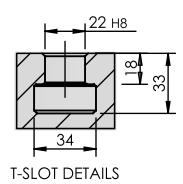
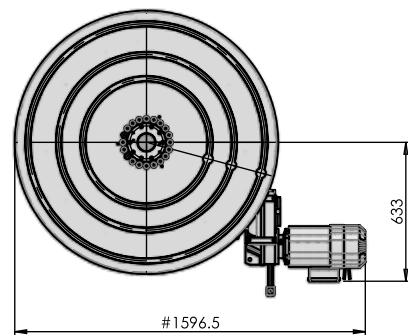
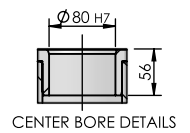
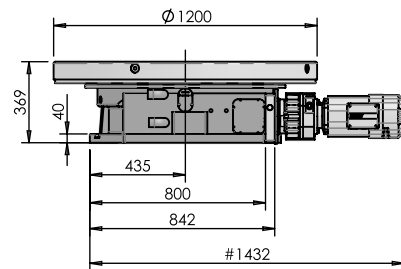
Specification				
Model	URH-860-CT	URH-1200-CT	URH-I500-CT	URH-I700-CT
Dimensional data				
Turn Table size (mm)	ø860	ø1200	ø1500	ø1700
Center Bore diameter (H7) (mm)	ø80	ø80	ø100	ø100
Tenon Slot size (H7) (mm)	18	18	22	22
T- slot size (Radial slots) - slot width x numbers (H9) (mm)	18x3	18x3	22x3	22x3
Operational data				
Rated power (Kw)	2.2	3	4	3
Table rotation speed (rpm)	0.8226	0.8252	0.4913	0.5739
Load and force data				
Load carrying capacity Horizontal (kg)	3500	4500	7000	8000
Driving torque (Nm)	12000	15000	14000	22500
Accuracies				
Indexing Accuracy (Arc sec.)	±15"	±15"	±15"	±15"
Repeatability (Arc sec.)	4"	4"	4"	4"
Table top flatness (mm)	0.020	0.025	0.025	0.03
Table top runout (mm)	0.025	0.03	0.03	0.03
Parallelism of table top base (Horizontal position) (mm)	0.03	0.04	0.04	0.04
Center bore run out (mm)	0.01	0.015	0.015	0.015
Overall weight				
Net weight (Approx) (kg)	1900	2100	3000	3500



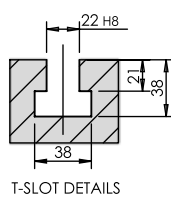
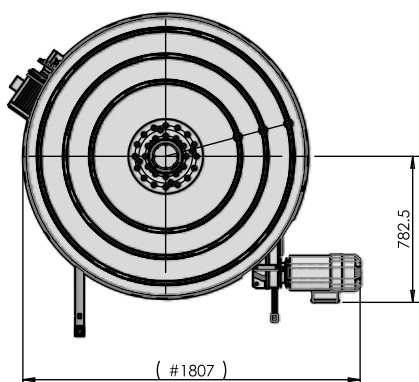
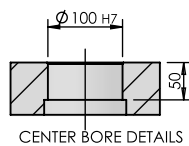
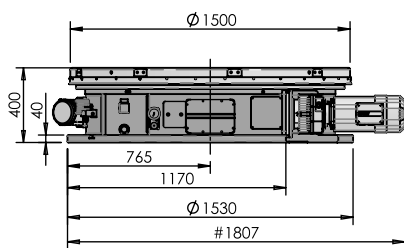
URH-860-CT



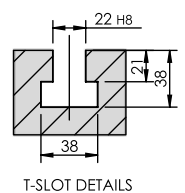
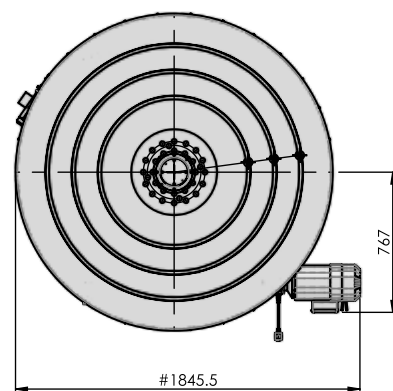
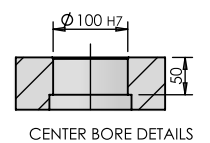
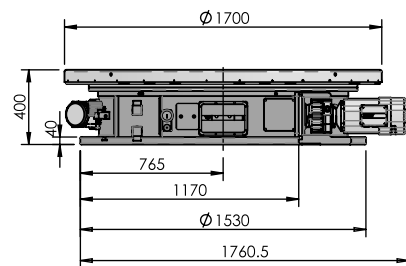
URH-1200-CT



URH-1500-CT



URH-1700-CT



ROTARY INDEX TABLES FOR HMC



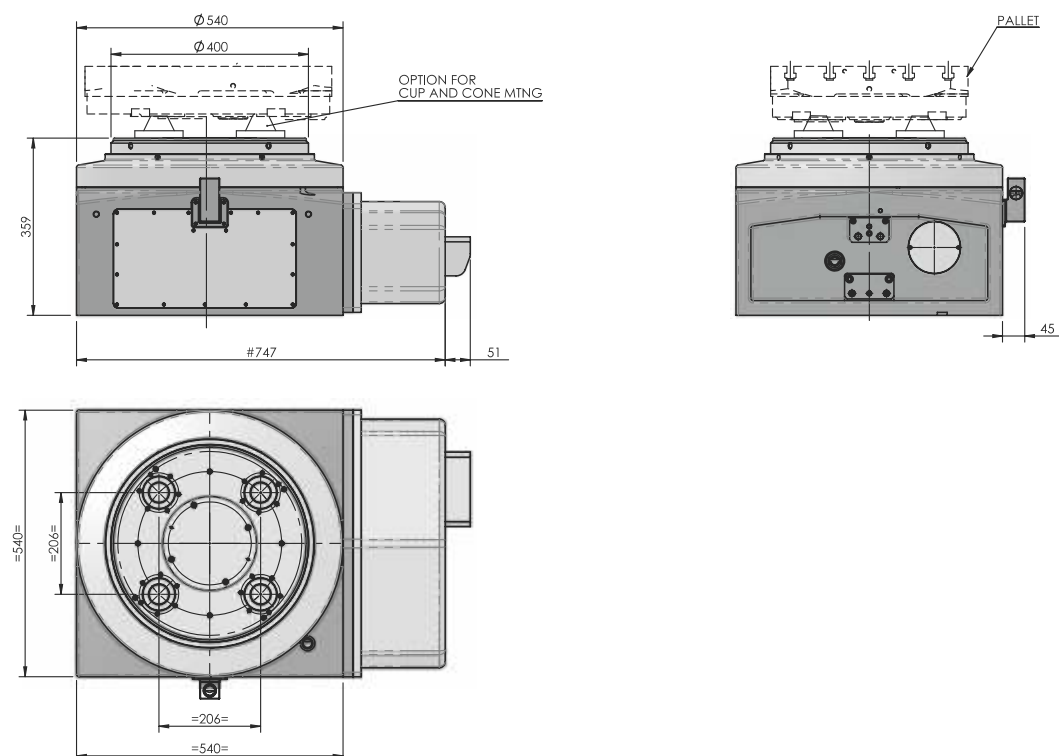
Specification		
Model	UHR-400-H	UHR-500-H
Table Gyration angle/pulse	0.001°	0.001°
Turn Table Size (mm)	ø400/□400	ø500/□500
Type of Mounting	Fixed/Moving	Fixed/Moving
Servo Motor Torque (Nm)	12	12
Speed Reduction ratio	90	144
Table Rotation speed (Motor at 2000 rpm)	22.22	13.88
Clamp Torque (Nm) Hydraulic	2000 @ 25 bar	2800 @ 20 bar
Load capacity (kg)	800	900
Tilting moment (Nm)	3500	6000
Max.Torque capacity of worm gear (Nm)	800	1000
Indexing Accuracy (Arc Sec)*	±15"	±15"
Repeatability	4"	4"
Net Weight (kg) (approx)	400	800
Table top flatness Per overall length 0.01 (mm)	0.015	0.015
Center bore run out (mm)	0.015	0.015
Table top to run out (mm)	0.02	0.02
Parallelism of table top to base (Horizontal position)(mm)	0.02	0.02

* Higher accuracy ±5" available on request

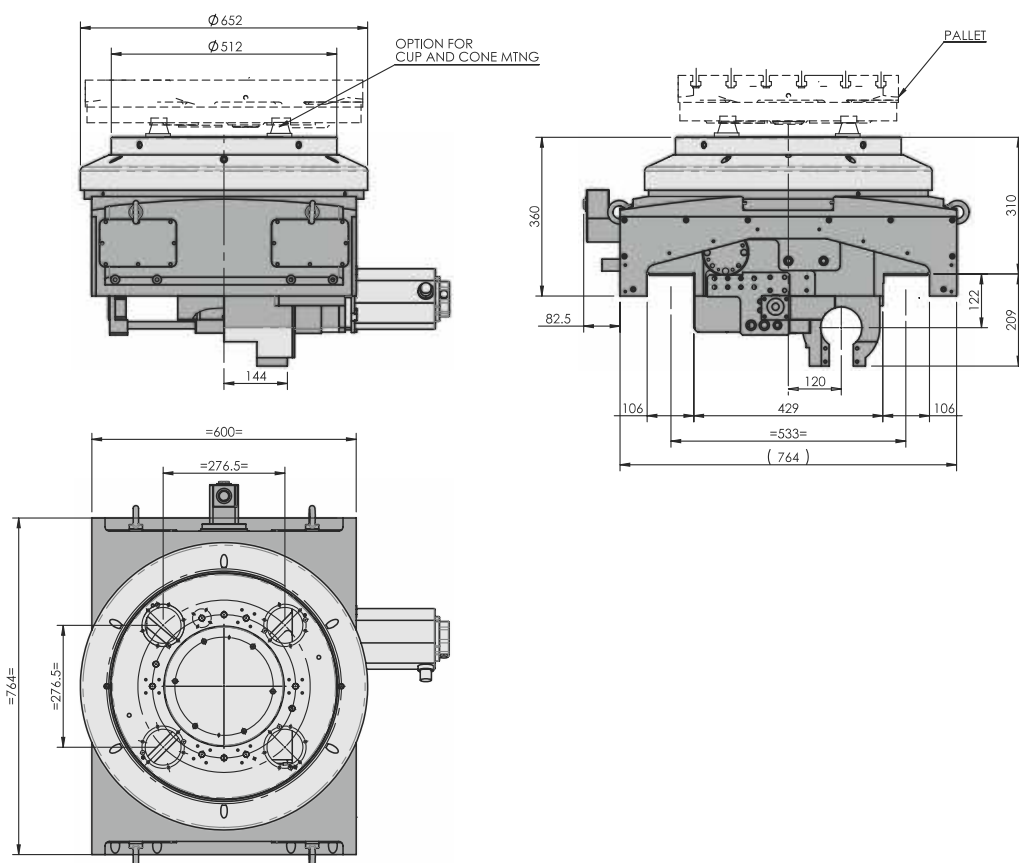
Also available in 1° indexing, 2 - piece coupling design



UHR-400-H-PC (FIXED TYPE)



UHR-500-H-PC (MOVING TYPE)



ROTARY INDEX TABLES FOR HMC



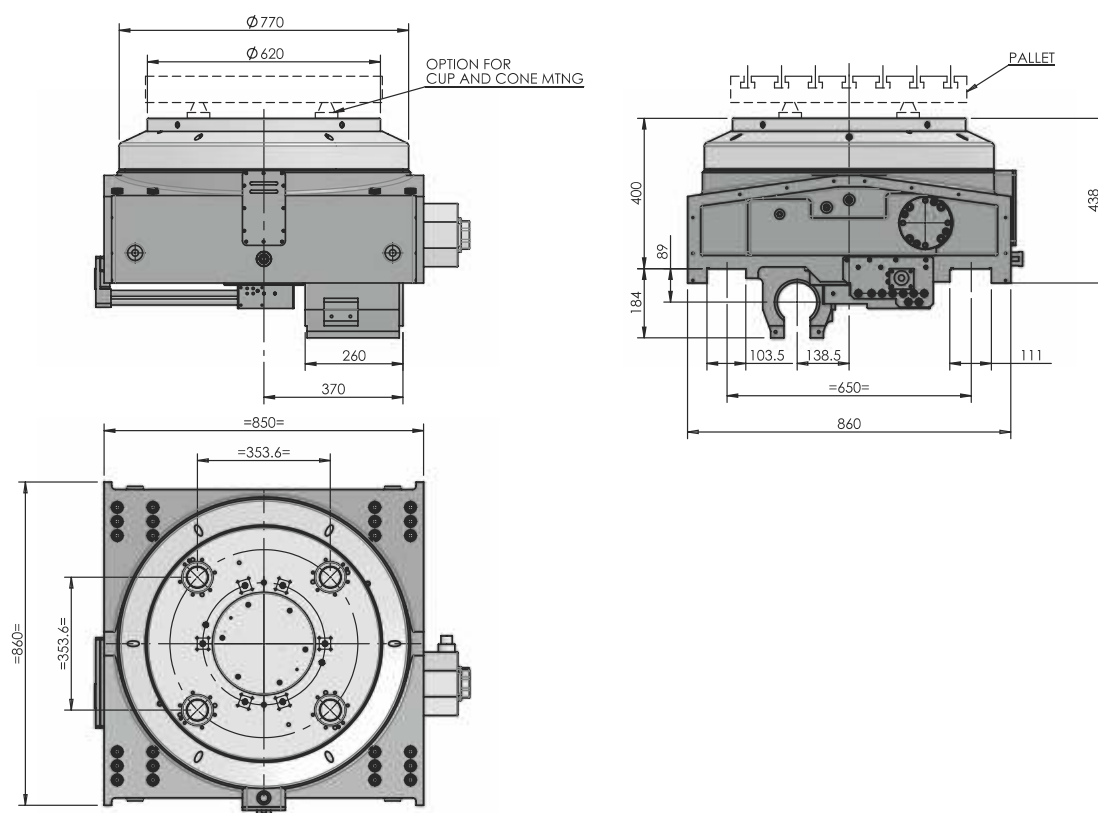
Specification		
Model	UHR-630-H	UHR-800-H
Table Gyration angle/pulse	0.001°	0.001°
Turn Table Size (mm)	ø630/□630	ø800/□800
Type of Mounting	Fixed/Moving	Fixed/Moving
Servo Motor Torque (Nm)	16	22
Speed Reduction ratio	1:180	1:180
Table Rotation speed (Motor 2000 rpm)	11.11	11.11
Clamp Torque (Nm) Hydraulic 25 Bar	7000	12000
Load capacity (kg)	2200	3000
Tilting moment (Nm)	9000	12000
Max.Torque capacity of worm gear (Nm)	2500	4000
Indexing Accuracy (Arc Sec)	±15"	±15"
Repeatability	2"	2"
Net Weight (kg) (approx)	1500	2100
Table top flatness Per overall length 0.01 (mm)	0.015	0.015
Center bore run out (mm)	0.015	0.015
Table top to run out (mm)	0.02	0.02
Parallelism of table top to base (Horizontal position)(mm)	0.02	0.02

* Higher accuracy ±5" available on request

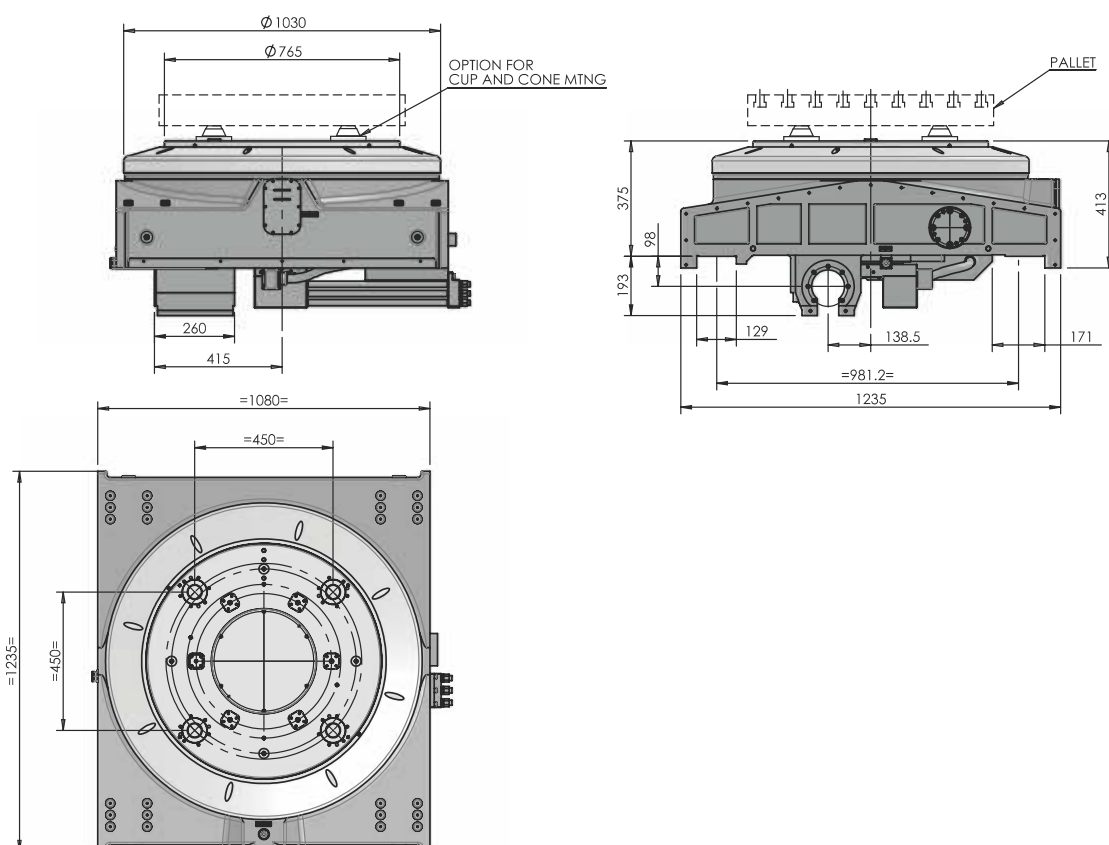
Also available in 1° indexing, 2 - piece coupling design



UHR-630-H-PC (MOVING TYPE)



UHR-800-H-PC (MOVING TYPE)



CANTILEVER TABLE



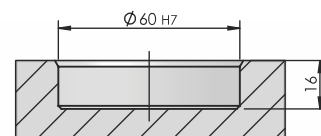
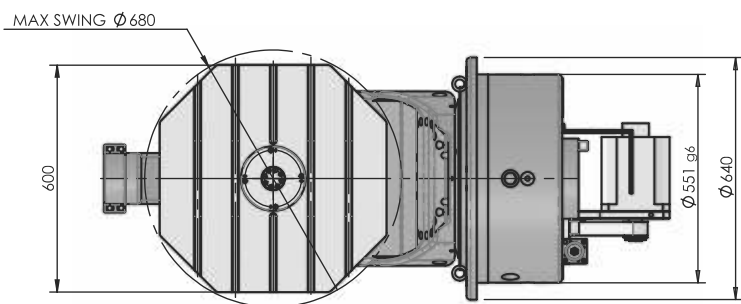
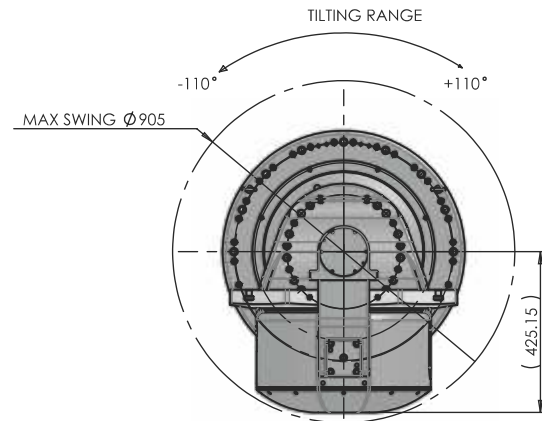
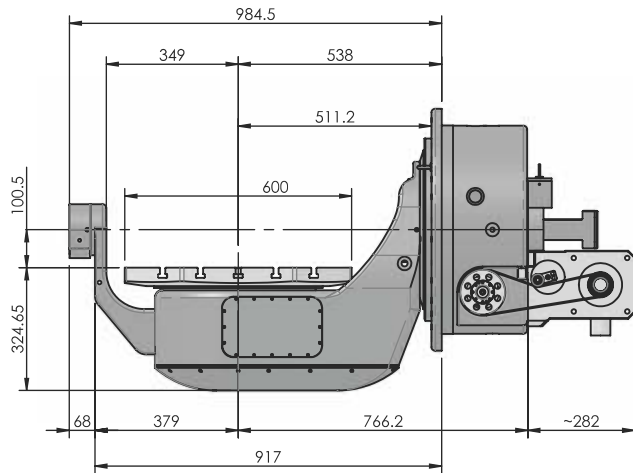
Features:

- Dual lead worm gear drive
- Hydraulic clamping
- Option with direct measuring encoder

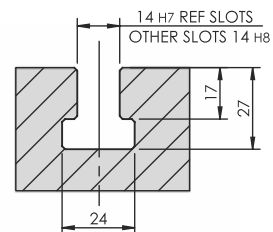
Specification		
Model		URH-SQ600i-ST
Dimensional data		
Turn Table size (mm)		Sq600
T - Slots size	Reference slot width (mm)	14H7
	other slots width (mm)	14H8
	T-slot pitch (mm)	100
Center bore diameter		Ø60H7
Rotary axis swing		Ø680
Tilting range		±110°
Table gyration angle / pulse		0.001°
Operational data		
Speed reduction ratio	Swivel axis	1:120
	Rotary axis	1:120
Table rotation speed (Motor 3000Rpm)	Swivel axis	25
	Rotary axis	25
Load and force data		
Safe load with support (max) Kg)		250
Servo motor torque (Nm)	Swivel axis	22
	Rotary axis	9
Clamp Torque (Hyd @ 70 bar)	Swivel axis	4000
	Rotary axis	2500
Driving Torque	Swivel axis	1400
	Rotary axis	900
Accuracies		
Table top flatness (mm)		0.01
Table top surface run out (mm)		0.015
Center bore run out (mm)		0.01
Indexing Accuracy # (sec.)	Swivel axis	±30
	Rotary axis	±10



URH-SQ600i-ST



CENTER BORE DETAILS



T-SLOT DETAILS

SPINDLE TILTING HEAD



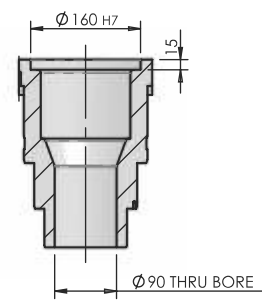
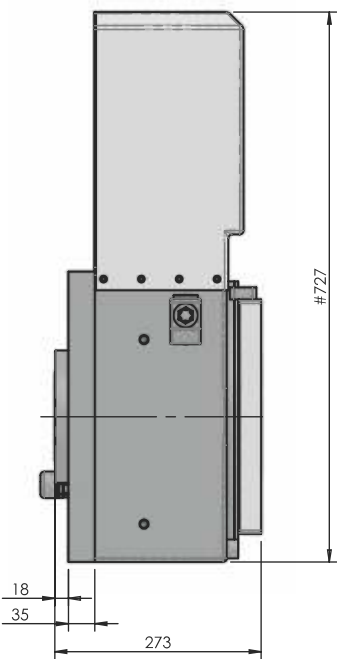
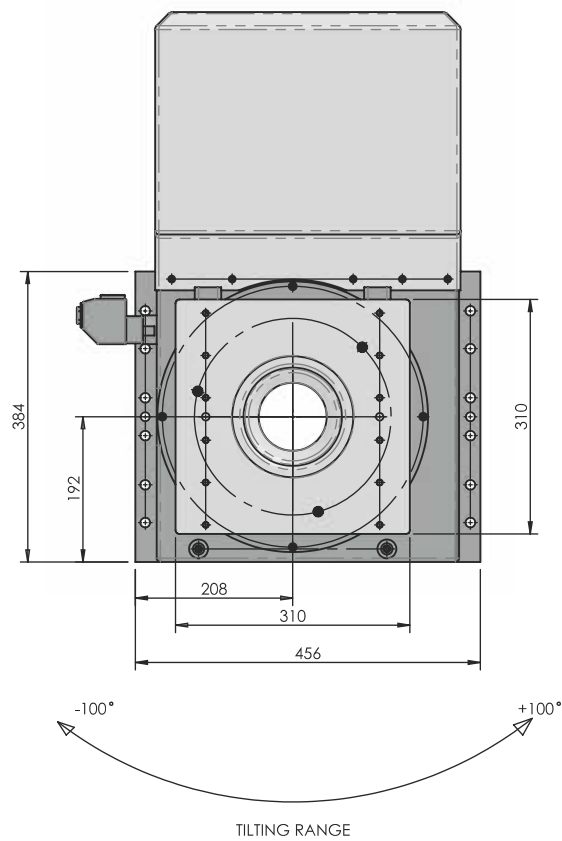
Features:

- Integrated Cable Management System
- Spindle Housing as Option

Specification	
Model	USTR-310-SQ-S2
Tilting range	+/-100°
Speed reduction ratio	1:90
Tilting Head Rotation speed @ motor rpm 3000	33.33
Thru bore diameter (mm)	Ø90
Tilting moment Nm	4500
Clamping Torque-Hydraulic @ 35Bar (Nm)	3000
Worm gear Torque (Nm)	1500
Servo Motor Torque (Nm)	22
Indexing Accuracy (with high resolution ring encoder) (sec)	± 7.5"
Indexing Accuracy(without encoder) (Arc sec)	± 15"
Repeatability (Arc sec)	4"
Spindle power kW	30/25/16
Spindle taper	BT 40/SK 40
Spindle rpm	10000/18000/24000
Approximate weight(without electro spindle) (kg)	300

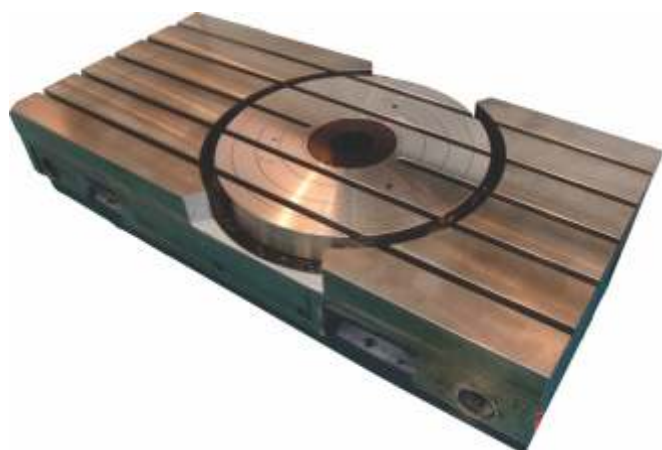


USTR-310-SQ-S2



CENTER BORE DETAILS

ROTARY TABLE INSIDE MACHINE TABLE



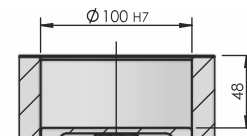
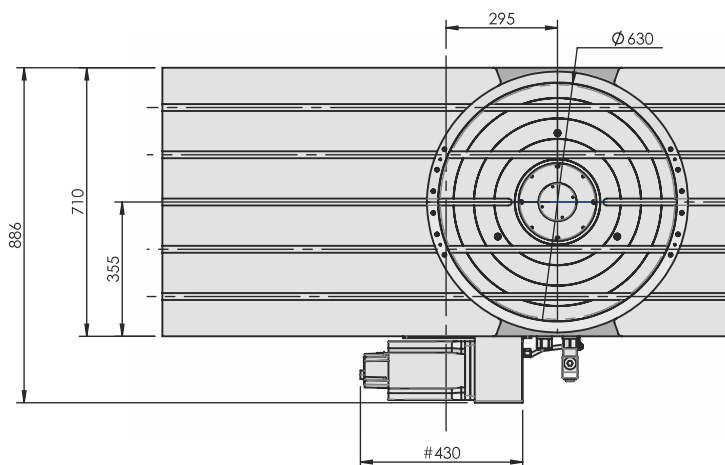
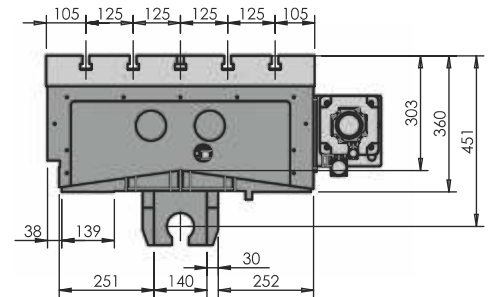
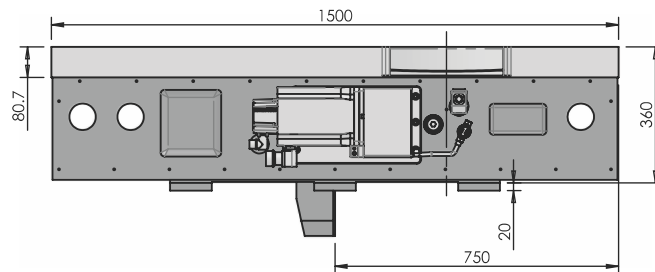
Features:

- Rotary Table built into machine bed
- Type of mounting: Fixing/Moving
- Option available with Direct Drive Rotary Table

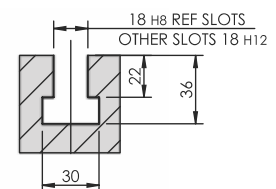
Specification		
Model		UTTR-630-Hi
Dimensional data		
Turn Table diameter (mm)		Ø630
Center bore diameter (H7) (mm)		Ø100H7
T - Slot	Nos	5
	Reference slots(H7) (mm)	18H7
	Fixing slots(H8) (mm)	18H11
Type of mounting		Moving
Operational data		
Servo Motor toque (Nm)		12
Speed reduction ratio		1:120
Table gyration angle / pulse		0.001°
Table rotation speed (Motor 3000rpm)		25
Load and force data		
Load capacity Horizontal (kg)		1300
Tilting moment (kg)		20,000
Clamp torque Hydraulic @ 55 Bar Nm		4500
Driving torque Nm		1800
Accuracies		
Indexing Accuracy (with high resolution encoder) (Arc/sec.)		+/- 5"
Repeatability		4"
Net weight (approx) (kg)		1450



UTTR-630-Hi

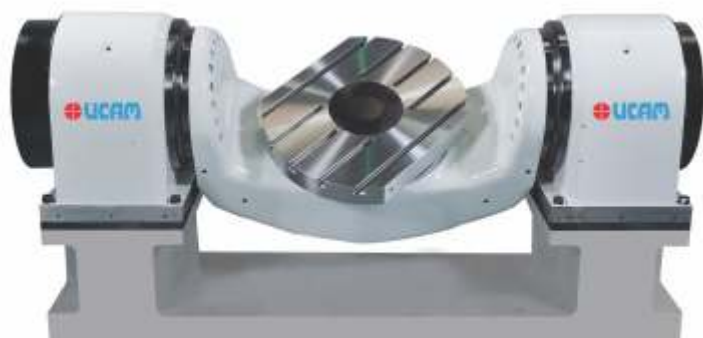


CENTER BORE DETAILS



T-SLOT DETAILS

DIRECT DRIVE TILTING ROTARY TABLE



Features:

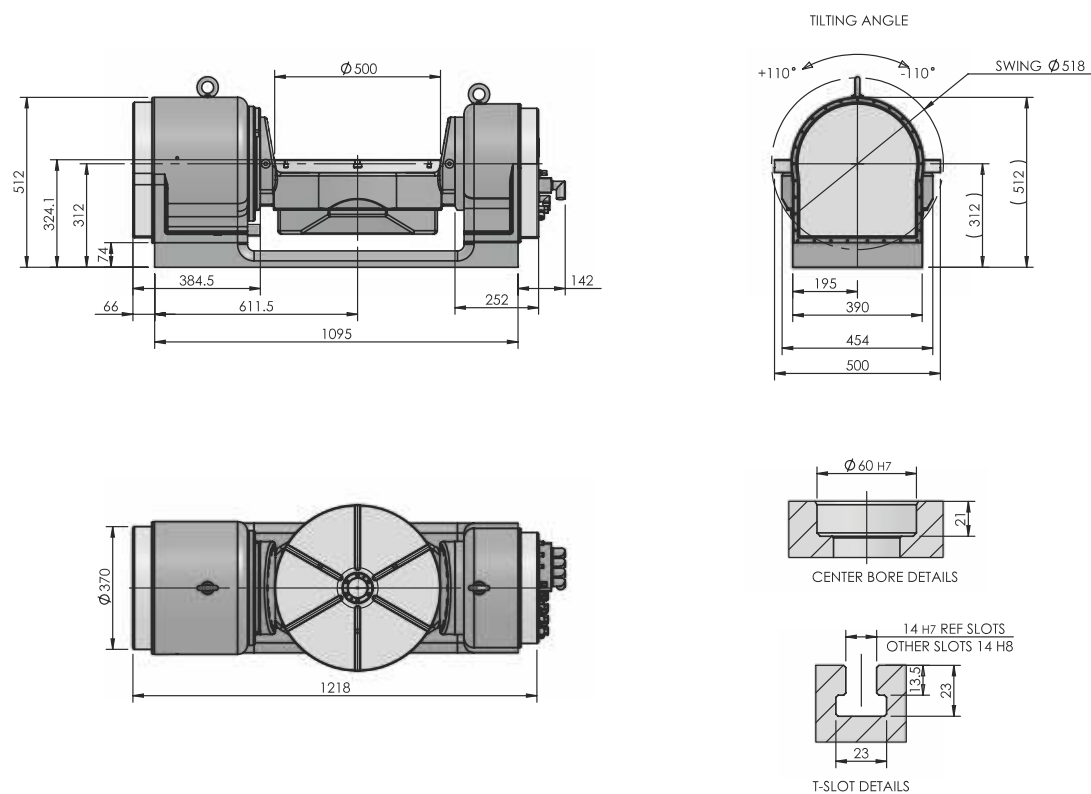
- Dynamic response
- Torque motor driven
- Compact in design

Specification

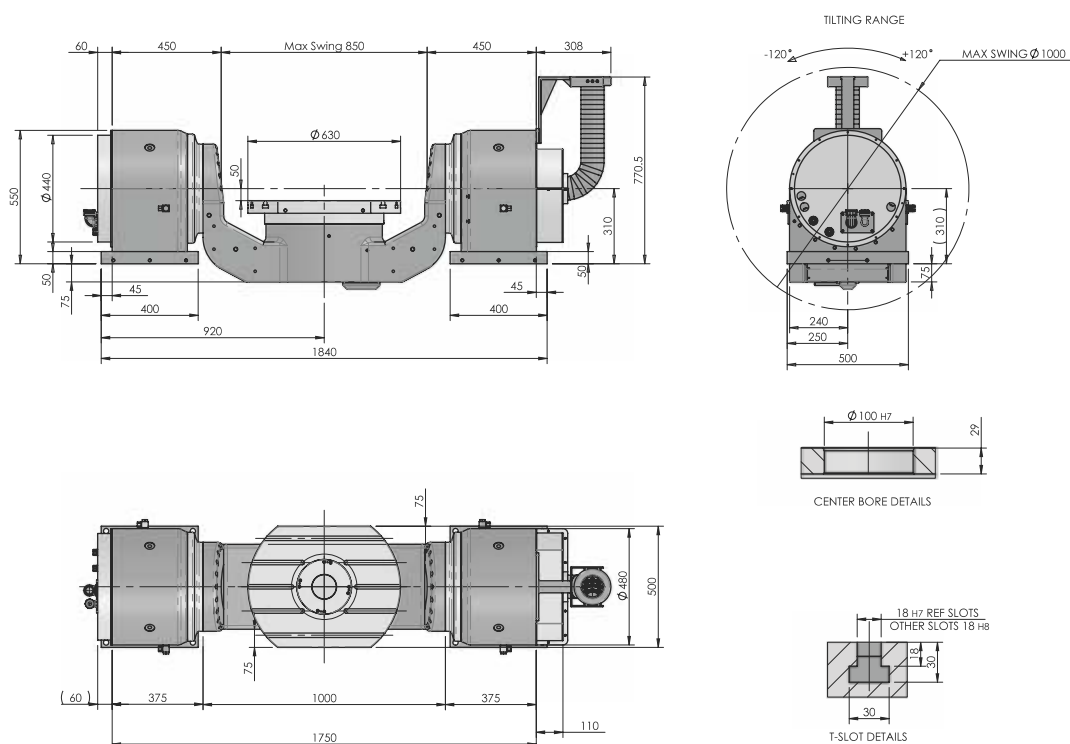
Model		UDDR-500-TN-S-500	UDDR-600-TN-S-850
ROTARY AXIS			
Dimensional data			
Turn Table diameter (mm)		Ø500	Ø600
T - Slot	Reference slots (mm)	14H7	18H7
	Other slots (mm)	14H8	18H8
Total number of slots		6	5
Operational data			
Continuous torque (Nm @ rpm)		231 @ 120	360 @ 50
Peak torque @ rpm (Nm @ rpm)		427 @ 120	930 @ 50
Table maximum rpm		400	50
Load and force data			
Clamping Torque Hyd (Nm)		1300	2500
Maximum Clamping pressure (bar)		50	30
Safety Clamp Torque (Nm)		350	1100
Accuracies			
Indexing Accuracy (Arc/sec.)		±6"	±5"
Chiller specifications			
Chiller flow (lpm)		6.3	15
Pressure (bar)		1	1
Maximum continuous power dissipation (W)		2.3	
Chiller Media		70%Water + 30% Glycol	70%Water + 30% Glycol
TILT AXIS			
Dimensional data			
Continuous torque @ rpm (Nm @ rpm)		685 @ 60	1820 @ 30
Peak torque @ rpm (Nm @ rpm)		1235 @ 60	3186 @ 30
Table maximum rpm		150	30
Load and force data			
Clamping Torque Hydraulic (Nm)		2750	5000
Maximum Clamping pressure (bar)		60	55
Safety Clamp Torque (Nm)		600	2200
Accuracies			
Indexing Accuracy (Arc/sec.)		±5"	±7.5"
Net weight of the Tilting Table (kg)		750	1460 (without base)



UDDR-500-TN-S-500



UDDR-600-TN-S-850



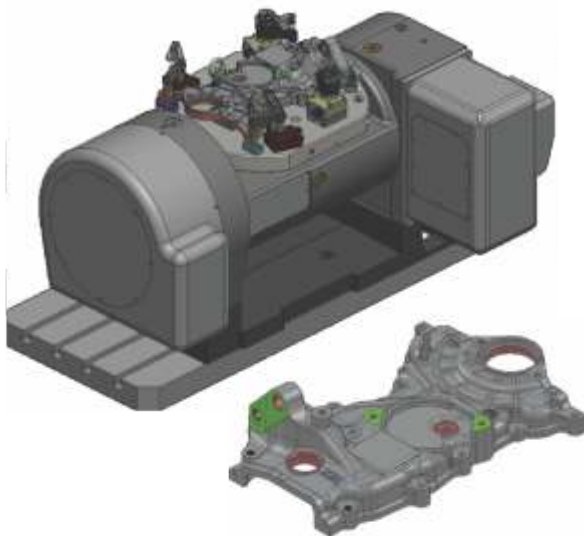
WORK HOLDING SOLUTIONS

UCAM is equipped to provide innovative work holding solution on rotary and tilting axis as per customer requirements.

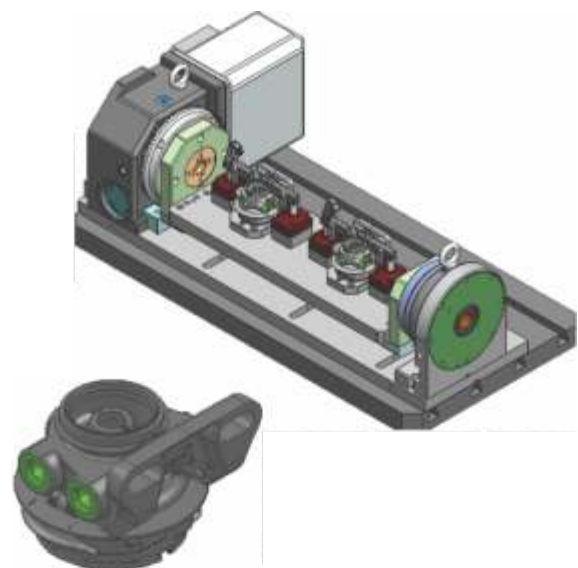
Dedicated team of qualified technicians in design and manufacturing provide cost effective solutions

Requirement: component drawing in STEP / IGES / Auto cad format along with machining details.

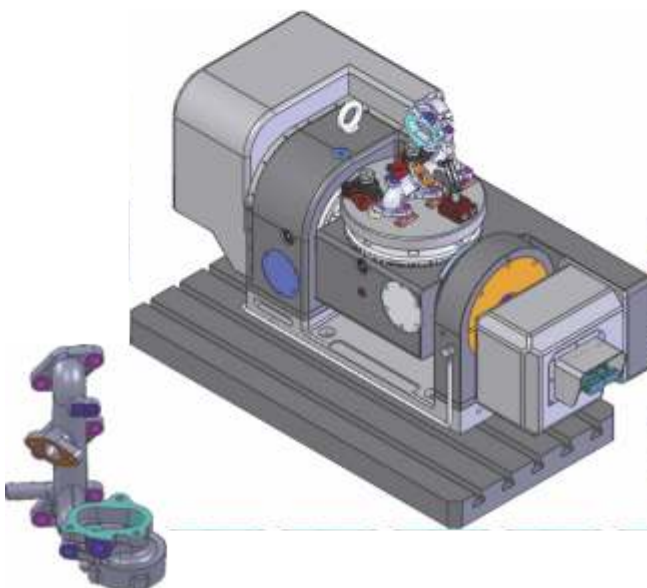
Solution for Components:



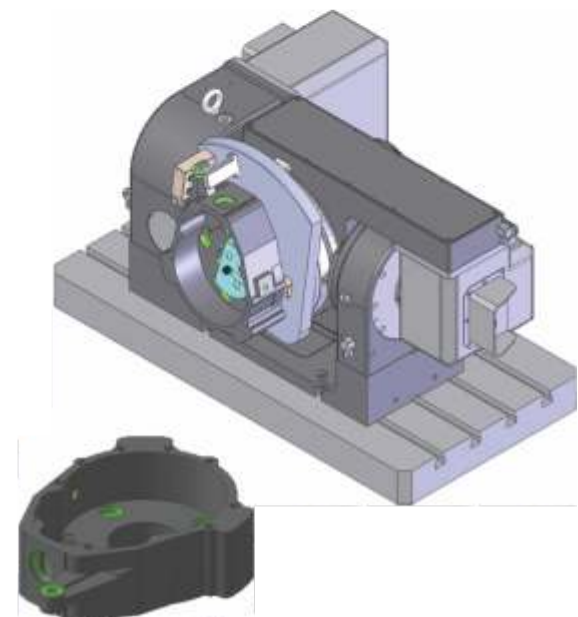
Case Chain



Header Filter



Housing Turbine



Challenger Housing



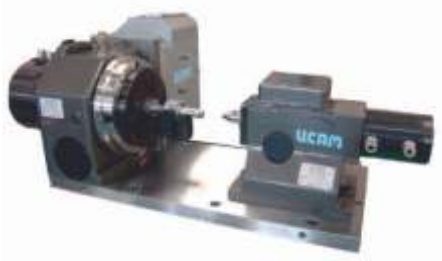
Pump Housing



Flange



Duct Air



Distributor Rotor



Master Cylinder



Filter Housing



Crank shaft



Basin Mixer



Bearing Cap

ACCURACY STANDARDS

CNC Rotary Tables

Model		URH-150	URH-170 URX-180	URH-201 URX-200	URH-251 URX-250	URH-321 URX-320	URH-401	URH-500	URH-631
Table top Flatness	Per overall length 	0.01	0.01	0.01	0.01	0.01	0.015	0.015	0.015
Center bore Runout (mm)		0.01	0.01	0.01	0.01	0.01	0.015	0.015	0.015
Table top Runout (mm)		0.015	0.015	0.015	0.015	0.015	0.015	0.02	0.02
Parallelism of Table top base (mm) (Horizontal position)	Per overall length 	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Perpendicularity of Table top to base (mm) (Vertical position)	Per overall length 	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02

Multi Spindle Rotary Tables

Model		URH-I25-2S, 3S	URH-I70-2S,3S
Table top Flatness (mm)	Per overall length 	0.01	0.01
Table top Runout (mm)		0.015	0.015
Parallelism of table top base (mm) (Horizontal position)	Per overall length 	0.02	0.02
Center bore runout (mm)		0.01	0.01
Perpendicularity of Table top to base (mm) (Vertical position)	Per overall length 	0.02	0.02
Parallelism of Table top face to tenon slot (mm) (Vertical position)		0.02	0.02
Center height difference (mm)		0.02	0.02
Height difference on Table top (mm)		0.03	0.03

CNC Tilting Rotary Tables

Model		URH-I53-TN	URH-200-TN	USSR-200-TN	URH-320-TN
Table top Flatness (mm)	Per overall length 	0.01	0.01	0.01	0.01
Table top Runout (mm)		0.015	0.015	0.015	0.015
Parallelism of Table top base (mm) (Horizontal position)	Per overall length 	0.02	0.02	0.02	0.02
Center bore Runout (mm)		0.01	0.01	0.01	0.01
Parallelism between Tilt axis center with base (mm)	Per overall length 	0.02	0.02	0.02	0.02
Parallelism between Table Top face and Guide Block (mm)	Per overall length 	0.02	0.02	0.02	0.02

Direct Drive Rotary Table

Model		UDDRT-200/100
Table Top Flatness (mm)	Per overall length 	0.01
Center Bore Runout (mm)		0.01
Table Top Runout (mm)		0.015
Parallelism of Table Top Base (mm) (Horizontal position)	Per overall length 	0.02
Perpendicularity of Table Top to base (mm) (Vertical position)	Per overall length 	0.02



Pneumatic Roto Pallet Changer: URPC-6040-P

Key Specifications

Pallet size (mm)	600 x 400
Max. load on pallet (Kgs / pallet)	200
Pallet change time (sec)	3.5
Pneumatic Drive (bar)	5

Other models on available request



Two Spindle CNC Tilting RotaryTable: URH-150-TNRP-2S



Key Specifications

Table Top Diameter (mm)	150
Tilting Angle	$\pm 110^\circ$
Center Distance between Spindle (mm)	175

Other models on request

Four Spindle CNC RotaryTable: URH-170-4S

Key Specifications

Table Top Diameter (mm)	170
No. of Spindle	4
Clamp Torque (Hydraulic-30 bar)(Nm)	450



SERVO MOTOR SELECTION CHART

		Fanuc		Siemens	Mitsubishi
		Beta Series	Alpha Series		
CNC Rotary Table					
URH-150		Beta 4iS/Beta 2iS	Alpha iS4/Alpha 2iS		HF-KP73
URH-170 / URX-180		Beta 4iS	Alpha iS4	1FK7042	HF-KP73
URH-201 / URX-200		Beta 4iS/Beta 8iS/ Beta iF4	Alpha iS4/Alpha iS8	1FK7060	HF123S / HG123S
URH-251 / URX-250		Beta 8iS/ Beta iF8	Alpha iS8	1FK7060	HF123S / HG123S
URH-321 / URX-320		Beta 8iS/ Beta iF8	Alpha iS8	1FK7063	HF142S / HG142S
URH-401		Beta 12iS/ Beta iF 12	Alpha iS12	1FK7063	HF223S/ HG223S
Rotary Production System					
URPS-201		Beta 8iS	Alpha iS8	1FK7060	HF123S / HG123S
URPS-251		Beta 8iS/ Beta iF8	Alpha iS8	1FK7063	HF142S / HG142S
URPS-321		Beta 12iS/ Beta iF 12	Alpha iS12	1FK7063	HF223S/ HG223S
Tilting Rotary Table					
URH-153-TN	Rotary Axis	Beta 4iS	Alpha iS4	1FK7042	HF-KP73
	Tilting Axis	Beta 4iS	Alpha iS4	1FK7042	HF-KP73
URH-201-TN	Rotary Axis	Beta 4iS	Alpha iS4	1FK7042	HF104S/ HG104S
	Tilting Axis	Beta 8iS	Alpha iS8	1FK7060	HF123S / HG123S
USSR-201-TN	Rotary Axis	Beta 4iS/ Beta iF4	Alpha iS4	1FK7060	HF104S/ HG104S
	Tilting Axis	Beta 8iS/ Beta iF8	Alpha iS8	1FK7060	HF123S / HG123S
ULSR-201-TN	Rotary Axis	Beta 8iS/ Beta iF 4	Alpha iS8	1FK7060	HF104S/ HG104S
	Tilting Axis	Beta 8iS/ Beta iF 8	Alpha iS8	1FK7060	HF123S / HG123S
USSR-251-TN	Rotary Axis	Beta 8iS	Alpha iS8	1FK7060	HF123S / HG123S
	Tilting Axis	Beta 8iS	Alpha iS8	1FK7063	HF224S/ HG224S
URH-320-TN	Rotary Axis	Beta 8iS	Alpha iS8	1FK7063	HF224S/ HG224S
	Tilting Axis	Beta 8iS	Alpha iS8	1FK7063	HF223S/ HG223S
URH-320i-DTS	Rotary Axis	Beta 8iS	Alpha iS8	1FK7063	
	Tilting Axis	Beta 12iS	Alpha iS12	1FK7063	
URH-320-DTS	Rotary Axis	Beta 12iS	Alpha iS12	1FK7063	
	Tilting Axis	Beta 22iS	Alpha iS22	1FK7101	



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