

# **HRT** - Hydrostatic (Oil Film) Bearing Rotary Tables

## **Ultra-Precision / High Stiffness, Direct Drive Rotary Axis**



ABTech's Ultra-precision HRT-Series rotary tables combined with high torque brushless DC servo motors, digital drives, and high resolution rotary encoders provide the highest performing direct drive rotary tables on the market.

The 440C hardened stainless & electroless nickel plated steel bearing components, provide excellent way surfaces and machine tool durability for these ultra-stiff rotary tables.

ABTech incorporates a modular design approach which includes turn-key engineering solutions for the end user.

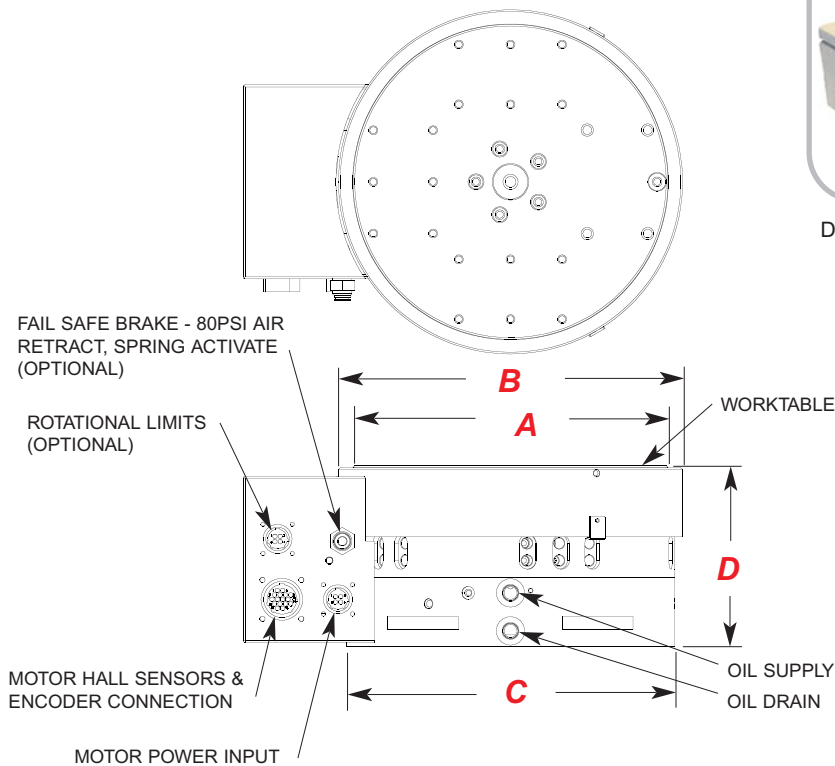
These tables are ideal as an additional axis in diamond turning/milling applications, as well as heavy duty positioning, machining, grinding, and more.

## **Features:**

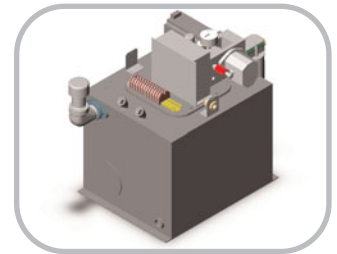
- "Zero" static friction
- Ultra-smooth motion with absolute repeatability
- Durable 440C stainless steel construction
- High load capacity and stiffness
- Non-contact drive (no drive train parts to wear)
- High torque brushless DC motors
- Sinusoidal or trapezoidal commutation
- 3-phase from 120VAC Line
- High resolution optical encoder
- Modular design
- Digital drive amplifier/controller
- Programmable (RS 232 serial)
- Optional user interfaces
- Digital readouts
- Variable speed control
- Optional multi-axis servo controllers
- Full 360° rotation or partial rotation w/ limits and hard stops
- Fail safe brake
- Servo controlled closed loop oil delivery systems available
- Custom tooling

# Specifications

## HRT Hydrostatic (Oil film) bearing w/Direct Drive



Digital amplifier/controller package



Servo controlled oil delivery unit

**Controllers Available:** Standard direct drive systems are provided with a programmable digital amplifier/controller package similar to the one shown above. ABTech's "modular design" approach allows the user to define the level of control desired for the most cost effective solution. Most commercially available control options can be used, including multi axis servo controllers, consult ABTech.

ABTech can also adapt our direct drive tables to your existing controller, Consult ABTech.

### Accessories/Options

- Servo controlled oil delivery units
- Special controllers
- Digital readouts
- Fail safe brake
- Rotary limit sensors & hard stops
- Granite surface plates & support
- Oil filter/regulator units
- Custom worktables
- Custom tooling

	HRT-230	HRT-330		HRT-230	HRT-330
<b>A</b>	Ø9.125" (230mm)	Ø13.100" (330mm)	Motor peak torque	18ft lbs(2.03N-m)	40ft lbs(4.52N-m)
<b>B</b>	Ø9.97" (253mm)	Ø14.50" (368mm)	Continuous torque	3.5ft lbs(.395N-m)	6.0ft lbs(.68N-m)
<b>C</b>	Ø9.50" (241mm)	Ø13.50" (343mm)	Control amp rating	10A cont./20A peak	
<b>D</b>	5.25" (133.3mm)	7.25" (184mm)	Max. Speed	18 rpm	9 rpm
Radial error motion	5µ" (0.125µm) @ 1.00" above table		Encoder resolution	0.14 arc-sec	0.069 arc-sec
Axial error motion	5µ" (0.125µm)		Operating pressure	150 - 250psi	250psi
Angular error motion	1.0µ"/In. (0.025µm/25mm)		Oil consumption	3.5inΔ/min	6.0inΔ/min
Position accuracy	5.0 arc-sec		Recommended oil	Velocite #10	
* Load capacity	350lbs (159Kg)	1000lbs (454Kg)			
* Axial stiffness	1.0lbs/µ"(178N/µm)	3.0lbs/µ"(534N/µm)			
* Radial stiffness	0.5lbs/µ"(89N/µm)	2.0lbs/µ"(356N/µm)			
* Moment stiffness	2.0in-lbs/µrad(.23N-m/µrad)	6.0in-lbs/µrad(.68N-m/µrad)			
Table weight	125lbs (56.7Kg)	250lbs (113.4Kg)			

\* = Load & stiffness are specified at 150psi.  
Specifications are subject to change without notification

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**ABTech inc.**  
**Pride In Precision**

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