

# **TDL-1 SERIES**

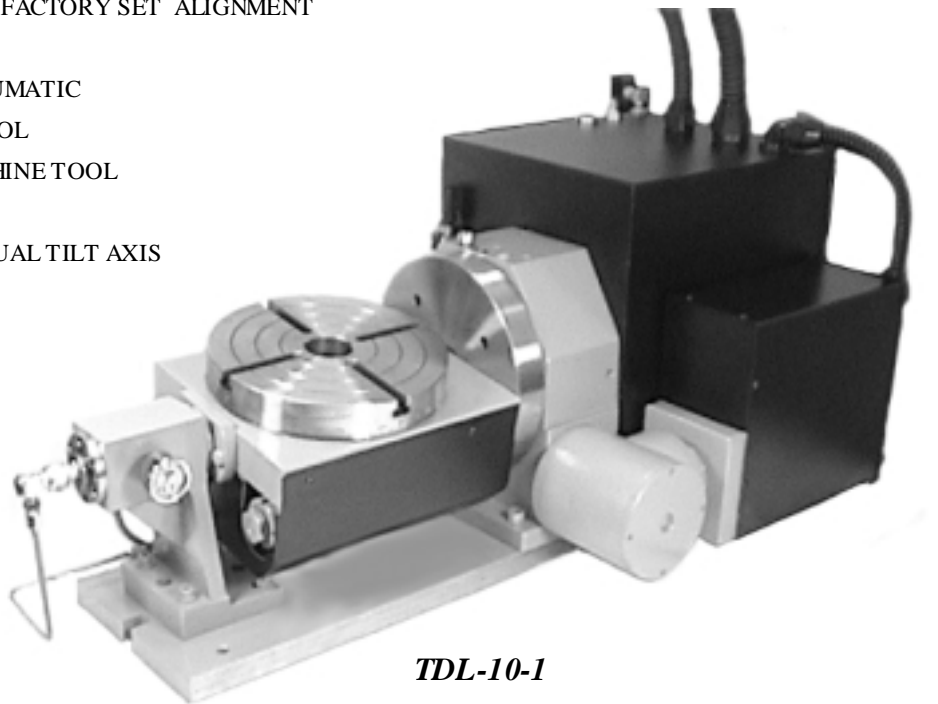
*SINGLE ROTARY / TILTING*

## **STANDARD FEATURES:**

- DUAL LEAD WORMSET ALLOWS FOR SIMPLE BACKLASH ADJUSTMENT
- TIN-BRONZE WORMWHEEL MESHING WITH A HARDENED AND GROUND STEEL-ALLOY WORMSHAFT RUNNING IN A BATH OF OIL OR GREASE
- HIGH PRECISION SPINDLE BEARINGS
- TURCITE BEARING SURFACES
- INTERNAL PNEUMATIC AND / OR HYDRAULIC BRAKE
- PRECISION GROUND SURFACES
- ZERO RETURN / HOME SWITCHES ON ROTARY AXIS
- +/- OVERTRAVEL LIMIT SWITCHES ON TILT AXIS
- MS CABLE RECEPTACLES

## **OPTIONAL FEATURES:**

- PNEUMATIC CLAMPING OUTBOARD SUPPORT
- HYDRAULIC CLAMPING OUTBOARD SUPPORT (REQUIRES HYDRAULIC SUPPLY OR AIR-OVER-HYDRAULIC UNIT)
- SUBPLATE - TIES UNIT TOGETHER FOR FACTORY SET ALIGNMENT
- CHUCKS - MANUAL OR PNEUMATIC
- COLLET FIXTURES - MANUAL OR PNEUMATIC
- SINGLE AXIS PROGRAMMABLE CONTROL
- CABLES - FOR INTERFACING TO MACHINE TOOL
- AIR OVER HYDRAULIC UNIT (AHU)
- MANUAL ROTARY AXIS AND / OR MANUAL TILT AXIS



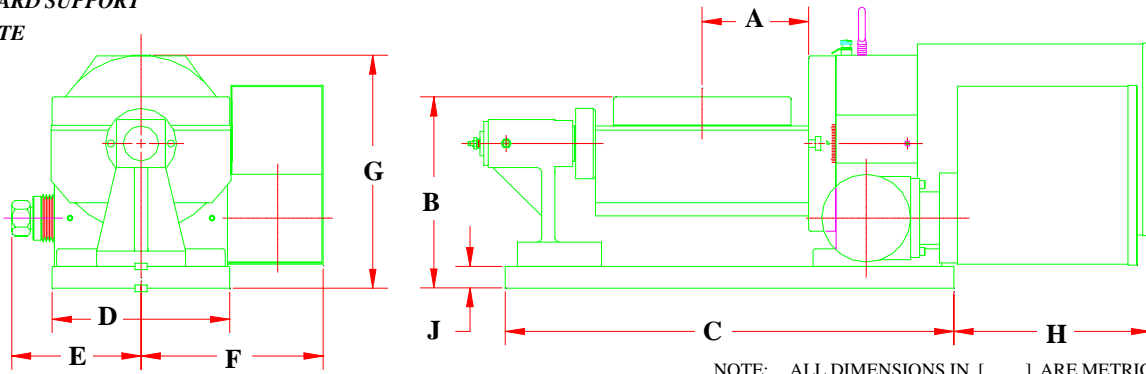
*TDL-10-1*

## **CUSTOM SPECIFIED FEATURES:**

- OVERSIZE CENTER THRU HOLES (ROTARY AXIS ONLY)
- DIRECT SPINDLE MOUNT POSITION FEEDBACK (HEIDENHAIN OR INDUCTOSYN) (ROTARY AXIS ONLY)

**TROYKE MFG. CO. - CINCINNATI, OH    PHONE - 01.513.769.4242    FAX - 01.513.769.6362    WEB SITE - TROYKE.COM**

**TDL-10-1 w/ HOS-10**  
**HYD. OUTBOARD SUPPORT**  
**AND SUBPLATE**



NOTE: ALL DIMENSIONS IN [ ..... ] ARE METRIC UNITS  
 \* CONSULT FACTORY

MODEL	A	B	C	D	E	F	G	H	J
TDL-8-1	4.50 [114]	9.31 [236]	18.81 [477]	9.50 [241]	6.43 [163]	10.25 [260]	13.87 [352]	13.50 [342]	.88 [22]
TDL-10-1	6.00 [152]	10.87 [276]	23.87 [606]	10.25 [260]	7.25 [184]	10.25 [260]	15.25 [387]	14.87 [377]	1.24 [31]
TDL-15-1	8.75 [222]	13.75 [349]	29.00 [736]	14.87 [377]	10.00 [254]	13.00 [330]	18.50 [469]	14.87 [377]	1.50 [38]
TDL-20-1	11.25 [285]	17.18 [334]	37.50 [952]	21.00 [533]	13.06 [331]	16.81 [427]	23.87 [606]	16.25 [412]	2.00 [50]
TDL-25-1	13.00 [330]	19.81 [503]	41.00 [1041]	21.00 [533]	13.06 [331]	16.81 [427]	26.12 [663]	16.25 [412]	2.00 [50]

**SPECIFICATIONS - ROTARY AXIS**

MODEL	TDL-8-1	TDL-10-1	TDL-15-1	TDL-20-1	TDL-25-1
<b>TURNTABLE DIAMETER [MM]</b>	8.00 [203]	10.00 [254]	15.00 [381]	20.00 [508]	25.00 [635]
<b>STANDARD THRU HOLE DIA [MM]</b>	1.0 [25.4]	1.968 [50.0]	1.968 [50.0]	2.000 [50.8]	2.000 [50.8]
<b>OVERSIZE THRU HOLE DIA [MM]</b>	*	*	*	*	*
<b>MAXIMUM LOAD CAPACITY [KG]</b>	100 [45]	300 [136]	300 [136]	1000 [450]	1000 [450]
<b>FACEPLATE T-SLOT WIDTH [MM]</b>	.47 [12] X 4	.47 [12] X 4	.63 [16] X 8	.56 [14.2] X 8	.56 [14.2] X 8
<b>STANDARD TOTAL GEAR RATIO</b>	180:1	180:1	360:1	240:1	240:1
<b>MAX. SPEED RANGE (STD RATIO)</b>	0-10 RPM	0-10 RPM	0-5 RPM	0-7 RPM	0-7 RPM
<b>CONTINUOUS TORQUE LBS-FT[NM]</b>	187 [254]	375 [508]	750 [1017]	500 [677]	500 [677]
<b>BRAKE METHOD</b>	PNEUMATIC	PNEUMATIC	PNEUMATIC	HYDRAULIC	HYDRAULIC
<b>BRAKE TORQUE LBS-FT [NM]</b>	125 [169]	250 [338]	250 [338]	500 [677]	500 [677]
<b>PROGRAMMABLE RESOLUTION</b>	.001 DEG.	.001 DEG.	.001 DEG.	.001 DEG.	.001 DEG.
<b>STD. TOTAL ANGULAR ACCURACY</b>	+/-60 SEC.	+/-60 SEC.	+/-30 SEC.	+/-30 SEC.	+/-30 SEC.
<b>STD. REPEATABILITY</b>	+/-20 SEC.	+/-20 SEC.	+/-10 SEC.	+/-10 SEC.	+/-10 SEC.
<b>UNIT WEIGHT LBS [KG]</b>	400 [179]	550 [247]	900 [403]	1750 [785]	1900 [852]
<b>SHIP WEIGHT LBS [KG]</b>	475 [213]	625 [280]	1000 [449]	1900 [852]	2050 [919]

**SPECIFICATIONS - TILT AXIS**

MODEL	TDL-8-1	TDL-10-1	TDL-15-1	TDL-20-1	TDL-25-1
<b>STANDARD TOTAL GEAR RATIO</b>	240:1	180:1	240:1	180:1	180:1
<b>MAX. SPEED RANGE (STD RATIO)</b>	0-1 RPM	0-1 RPM	0-1 RPM	0-1 RPM	0-1 RPM
<b>BRAKE METHOD</b>	PNEUMATIC	PNEUMATIC	PNEUMATIC	PNEUMATIC	PNEUMATIC
<b>BRAKE TORQUE @ 100 PSI LBS-FT [NM]</b>	125 [169]	250 [338]	250 [338]	800 [1081]	800 [1081]
<b>[POS-] BRAKE TORQUE LBS-FT [NM]</b>	125 [169]	125 [169]	125 [169]	N/A	N/A
<b>[HOS-] BRAKE TORQUE LBS-FT [NM]</b>	200 [270]	200 [270]	330 [446]	330 [446]	330 [446]
<b>[HOS-HT] BRAKE TORQUE LBS-FT [NM]</b>	N/A	N/A	N/A	1400 [1890]	1400 [1890]
<b>STD. TOTAL ANGULAR ACCURACY</b>	+/-2 MIN.	+/-2 MIN.	+/-2 MIN.	+/-2 MIN.	+/-2 MIN.
<b>STD. REPEATABILITY</b>	+/- 30 SEC.	+/-30 SEC.	+/-30 SEC.	+/-30 SEC.	+/-30 SEC.

# **TDL-2 SERIES**

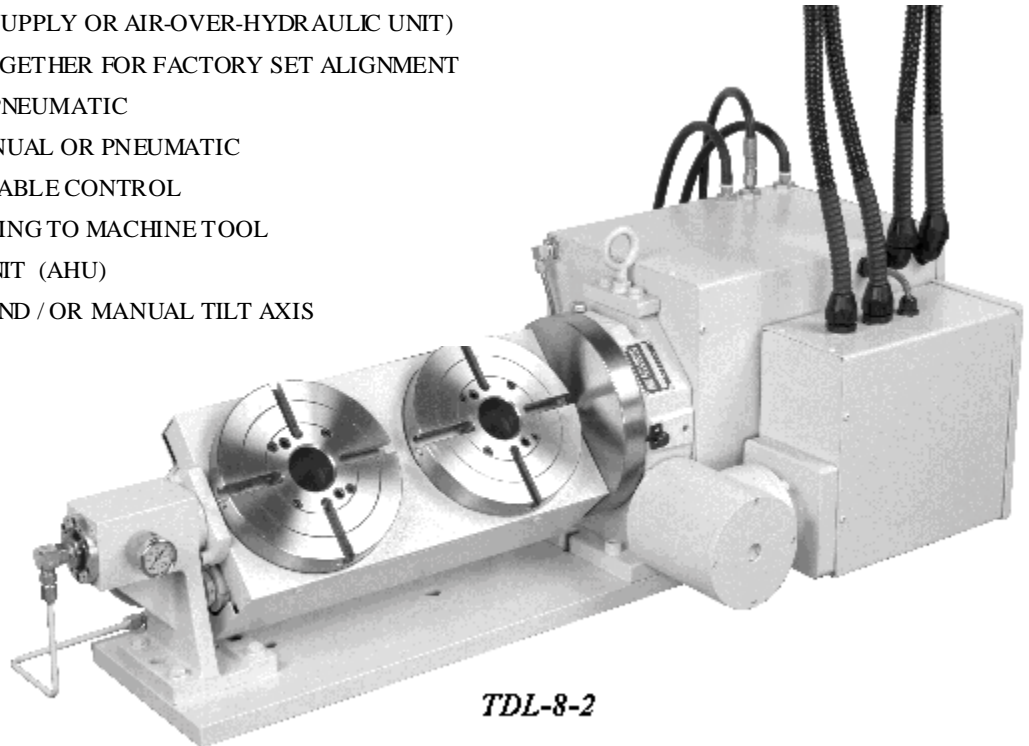
*DUAL ROTARY / TILTING*

## **STANDARD FEATURES:**

- DUAL LEAD WORMSET ALLOWS FOR SIMPLE BACKLASH ADJUSTMENT
- TIN-BRONZE WORMWHEEL MESHING WITH A HARDENED AND GROUND STEEL-ALLOY WORMSHAFT RUNNING IN A BATH OF OIL
- HIGH PRECISION SPINDLE BEARINGS
- TURCITE BEARING SURFACES
- INTERNAL PNEUMATIC OR HYDRAULIC BRAKE
- PRECISION GROUND SURFACES
- ZERO RETURN / HOME SWITCHES ON ROTARY AXIS
- +/- OVERTRAVEL LIMIT SWITCHES ON TILT AXIS
- MS CABLE RECEPTACLES

## **OPTIONAL FEATURES:**

- PNEUMATIC CLAMPING OUTBOARD SUPPORT
- HYDRAULIC CLAMPING OUTBOARD SUPPORT (REQUIRES HYDRAULIC SUPPLY OR AIR-OVER-HYDRAULIC UNIT)
- SUBPLATE - TIES UNIT TOGETHER FOR FACTORY SET ALIGNMENT
- CHUCKS - MANUAL OR PNEUMATIC
- COLLET FIXTURES - MANUAL OR PNEUMATIC
- SINGLE AXIS PROGRAMMABLE CONTROL
- CABLES - FOR INTERFACING TO MACHINE TOOL
- AIR OVER HYDRAULIC UNIT (AHU)
- MANUAL ROTARY AXIS AND / OR MANUAL TILT AXIS

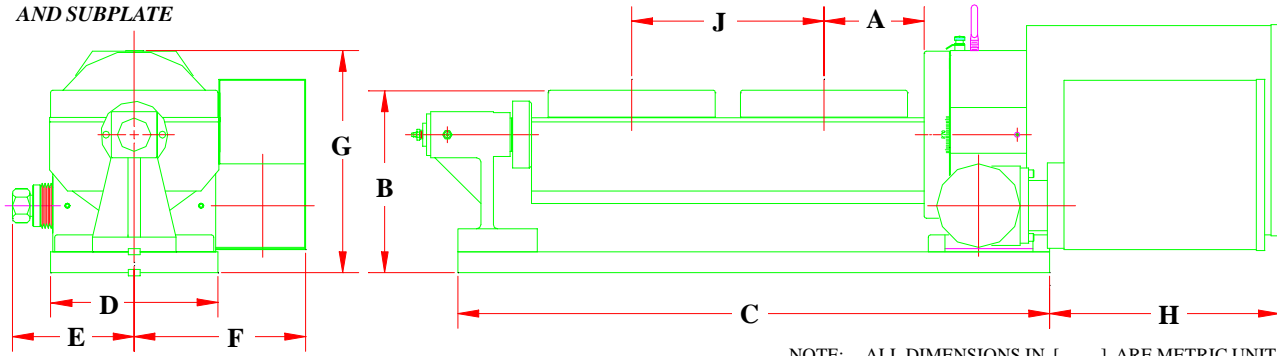


## **CUSTOM SPECIFIED FEATURES:**

- OVERSIZE CENTER THRU HOLES (ROTARY AXIS ONLY)
- DIRECT SPINDLE MOUNT POSITION FEEDBACK (HEIDENHAIN OR INDUCTOSYN) (ROTARY AXIS ONLY)

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**TDL-8-2 w/ HOS-9  
HYD. SUPPORT  
AND SUBPLATE**



NOTE: ALL DIMENSIONS IN [ ..... ] ARE METRIC UNITS  
\* CONSULT FACTORY

MODEL	A	B	C	D	E	F	G	H	J
TDL-8-2	4.50 [114]	9.31 [236]	27.56 [700]	9.50 [241]	6.43 [163]	10.25 [260]	13.87 [352]	13.50 [342]	9.44 [240]
TDL-10-2	6.00 [152]	10.87 [276]	35.38 [898]	10.25 [260]	7.25 [184]	10.25 [260]	15.25 [387]	14.87 [377]	11.50 [292]
TDL-15-2	8.75 [222]	13.75 [349]	43.62 [1108]	14.87 [377]	10.00 [254]	13.00 [330]	18.50 [469]	14.87 [377]	15.75 [400]
TDL-20-2	11.25 [285]	17.18 [334]	58.50 [1485]	21.00 [533]	13.06 [331]	16.81 [427]	23.87 [606]	16.25 [412]	21.00 [533]
TDL-25-2	13.00 [330]	19.81 [503]	63.50 [1612]	21.00 [533]	13.06 [331]	16.81 [427]	26.12 [663]	16.25 [412]	26.00 [660]

**SPECIFICATIONS - ROTARY AXIS**

MODEL	TDL-8-2	TDL-10-2	TDL-15-2	TDL-20-2	TDL-25-2
<b>TURNTABLE DIAMETER [MM]</b>	8.00 [203]	10.00 [254]	15.00 [381]	20.00 [508]	25.00 [635]
<b>STANDARD THRU HOLE DIA [MM]</b>	1.0 [25.4]	1.968 [50.0]	1.968 [50.0]	2.000 [50.8]	2.000 [50.8]
<b>OVERSIZE THRU HOLE DIA [MM]</b>	*	*	*	*	*
<b>MAXIMUM LOAD CAPACITY [KG]</b>	100 [45]	300 [136]	300 [136]	1000 [450]	1000 [450]
<b>FACEPLATE T-SLOT WIDTH [MM]</b>	.47 [12] X 4	.47 [12] X 4	.63 [16] X 8	.56 [14.2] X 8	.56 [14.2] X 8
<b>STANDARD TOTAL GEAR RATIO</b>	180:1	180:1	360:1	240:1	240:1
<b>MAX. SPEED RANGE (STD RATIO)</b>	0-10 RPM	0-10 RPM	0-5 RPM	0-7 RPM	0-7 RPM
<b>CONTINUOUS TORQUE LBS-FT [NM]</b>	187 [254]	375 [508]	750 [1017]	500 [677]	500 [677]
<b>BRAKE METHOD</b>	PNEUMATIC	PNEUMATIC	PNEUMATIC	HYDRAULIC	HYDRAULIC
<b>BRAKE TORQUE LBS-FT [NM]</b>	125 [169]	250 [338]	250 [338]	500 [677]	500 [677]
<b>PROGRAMMABLE RESOLUTION</b>	.001 DEG.	.001 DEG.	.001 DEG.	.001 DEG.	.001 DEG.
<b>STD. TOTAL ANGULAR ACCURACY</b>	+/-60 SEC.	+/-60 SEC.	+/-30 SEC.	+/-30 SEC.	+/-30 SEC.
<b>STD. REPEATABILITY</b>	+/-20 SEC.	+/-20 SEC.	+/-10 SEC.	+/-10 SEC.	+/-10 SEC.
<b>UNIT WEIGHT LBS [KG]</b>	525 [235]	650 [291]	1100 [493]	2200 [986]	2400 [1076]
<b>SHIP WEIGHT LBS [KG]</b>	625 [280]	750 [336]	1250 [560]	2400 [1076]	2600 [1166]

**SPECIFICATIONS - TILT AXIS**

MODEL	TDL-8-2	TDL-10-2	TDL-15-2	TDL-20-2	TDL-25-2
<b>STANDARD TOTAL GEAR RATIO</b>	240:1	180:1	240:1	180:1	180:1
<b>MAX. SPEED RANGE (STD RATIO)</b>	0-1 RPM	0-1 RPM	0-1 RPM	0-1 RPM	0-1 RPM
<b>BRAKE METHOD</b>	PNEUMATIC	PNEUMATIC	PNEUMATIC	PNEUMATIC	PNEUMATIC
<b>BRAKE TORQUE @ 100 PSI LBS-FT [NM]</b>	125 [169]	250 [338]	250 [338]	800 [1081]	800 [1081]
<b>[POS-] BRAKE TORQUE LBS-FT [NM]</b>	125 [169]	125 [169]	125 [169]	N/A	N/A
<b>[HOS-] BRAKE TORQUE LBS-FT [NM]</b>	200 [270]	200 [270]	330 [446]	330 [446]	330 [446]
<b>[HOS-HT] BRAKE TORQUE LBS-FT [NM]</b>	N/A	N/A	N/A	1400 [1890]	1400 [1890]
<b>STD. TOTAL ANGULAR ACCURACY</b>	+/-2 MIN.	+/-2 MIN.	+/-2 MIN.	+/-2 MIN.	+/-2 MIN.
<b>STD. REPEATABILITY</b>	+/- 30 SEC.	+/-30 SEC.	+/-30 SEC.	+/-30 SEC.	+/-30 SEC.