



1gdynamics

Mono-base & Stand-alone Slip Tables

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Mono-base and Stand-alone Slip Tables

With today's demanding test requirements there is an increasing need for slip tables to facilitate testing in a horizontal position. 1g Dynamics offers mono-base and stand-alone slip tables available with low, medium and high-pressure hydrostatic guidance bearings in standard sizes ranging from 300 mm (12 in) to 2500 mm (98 in). Virtually any size of slip table can be produced to suite the customer's required over-turning moment in the Pitch and Roll directions and Yaw axis when testing large payloads with an offset centre of gravity.

In a mono-base configuration the vibrator and slip table share a structural steel body that enables rapid conversion between vertical and horizontal positions, and the accurate alignment of the vibrator relative to the slip table when rotated to the horizontal position.

In a stand-alone configuration an independent steel platform supported by leveling feet allows any vertical vibrator from 1g Dynamics or other manufacturer to couple with the slip table assembly.



◆ Photograph shows the D60 -98 kN mono-base vibrator with a 1200 x 1200 mm LPT Series slip table.

LPT Series Mono-base Low Pressure Slip Tables 300 to 1200 mm (11.8 to 47.25 in)

LPT Series oil film tables are designed for general-purpose horizontal testing of small and medium sized products with a low centre of gravity. Oil is supplied through portholes in the granite base and is dispersed throughout the underside of the slip plate. The oil film provides a low friction surface, a damping medium for restraint of resonances, pitch and roll moments. Yaw restraint is provided by the V-groove guide bearings combined with the armature guidance system.

LPT Series guide bearings are primarily designed for use with 1g Dynamics mono-base vibrators but are available as a stand-alone slip table for any existing or new vibration test system.

- ◆ Light weight magnesium slip plate
- ◆ Integral hydraulic pump, reservoir and filter
- ◆ Yaw restraint provided by V-groove guide bearings combined with the armature guidance system
- ◆ Less expensive technique to perform horizontal testing

T-Series Medium Pressure Slip Tables 800 to 2500 mm (27.5 to 98 in)

The T-Series slip table systems from 1g Dynamics are based upon modular T-film hydrostatic bearing elements operating at 600-psi oil pressure. Each element measuring 300 x 300mm (12 x 12in) is designed to support a slip table of the same size, exactly as a granite slip surface which the bearing elements replace. Virtually any size of slip table can be produced to suite the customer's required over-turning moment in the Pitch and Roll directions. Special bearings are available to provide extra restraint in the Yaw axis when testing heavy asymmetric payloads with high centres of gravity.

The T-Series Slip Tables are available with any mono-base shaker and as a stand-alone product for any existing single and multi-shaker installation.

- ◆ Extraordinary payload capability
- ◆ Excellent control of vertical cross-axis motion
- ◆ Outstanding dynamic stiffness and transmissibility
- ◆ Adaptable to suite customer's required over-turning moment
- ◆ Lower maintenance costs over an extended period of time

HBT Series Mono-base High Pressure Slip Tables 600 to 1800 mm (23.6 to 71 in)

The HBT Series design provides a high over-turning moment and cross-axial restraint. This concept combines a standard slip table assembly with 3,000-psi hydrostatic bearings to provide high dynamic moment restraint while preserving the damping characteristics of an oil film. This system allows testing of tall and heavy products with high centers gravity by reacting moments through the hydrostatic bearings. Cross-axis motion is constrained and is typically less than 10% of input at frequencies up to 2000 Hz. except at resonance. Additional hydrostatic bearings can be supplied to provide extra restraint when testing parameters require a higher overturning moment.

The HBT Series Slip Tables can be configured to any size or shape and are available with any mono-base shaker and as a stand-alone product for any existing single and multi-shaker installation.

- ◆ High dynamic moment restraint
- ◆ Hydrostatic bearings restrain high Pitch, Roll and Yaw moments
- ◆ Light weight magnesium slip plate

Options

- ◆ Economical aluminium slip plate available
- ◆ American size grid pattern (in) and armature insert pattern - UNC
- ◆ Air Isolation feet
- ◆ Air Casters
- ◆ Leveling feet
- ◆ Geared Body Rotation - manual
- ◆ Motorised Body Rotation
- ◆ Thermal Barriers

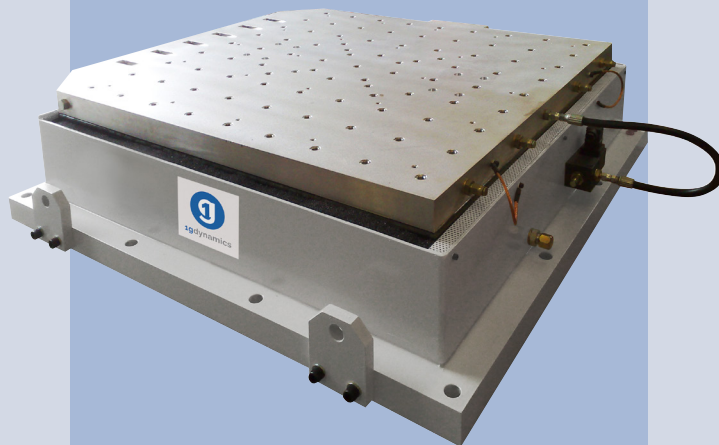
Additional Options for HBT Bearings

- ◆ Additional Hydrostatic Journal Bearings to increase overturning moments - either side of the central thrust axis.

Additional Options for T-Film Bearings

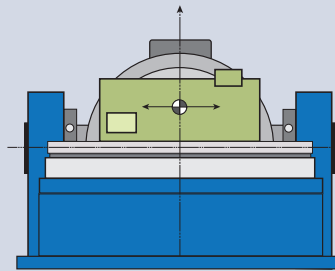
- ◆ Special T-Series Yaw restraint hydrostatic bearing

- ◆ Photograph shows a stand-alone HBT 900 Slip Table

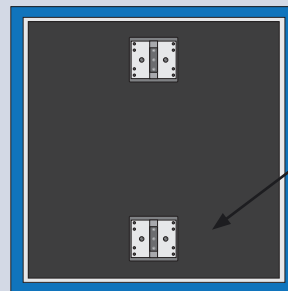


LPT Series oil-film slip table

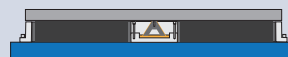
LPT Series oil film tables are designed for general-purpose horizontal testing of small and medium sized products with a low centre of gravity.



Low Pressure
Mono-base Slip Table
LPT 1200

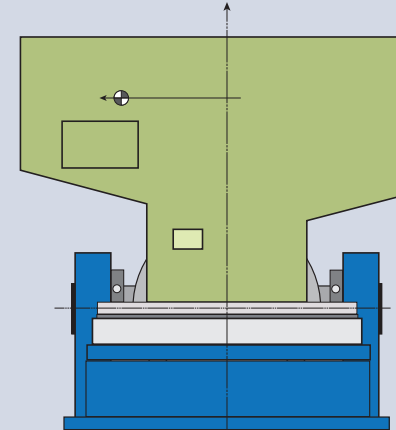


Standard configuration with two
V-Groove bearings LPT 1200

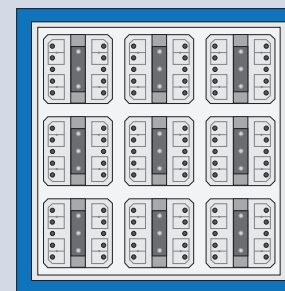


T Series oil-film slip table

T Series oil film tables are designed for testing extremely heavy asymmetric payloads with a high center of gravity.



Medium Pressure
Mono-base Slip Table
T-Film 1200

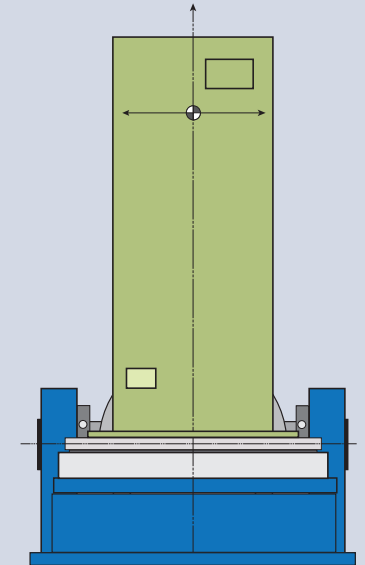


Standard configuration with
9 hydrostatic bearings - T-Film 1200

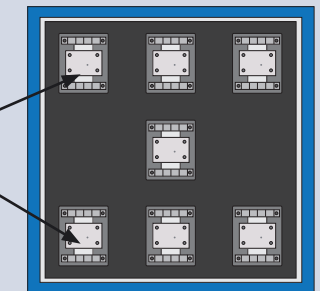


HBT Series oil-film slip table

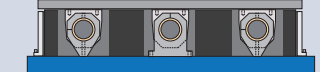
The HBT Series design allows testing of tall and heavy products with high center of gravity by reacting moments through the hydrostatic bearings.



High Pressure
Mono-base Slip Table
HBT 1200



Standard configuration with
3 hydrostatic bearings - HBT 1200



Precision ground
granite base

Additional
hydrostatic
bearings (4 off)



LPT Series Mono-base Low Pressure Slip Tables - 300 to 1200 mm (11.8 to 47.25 in)

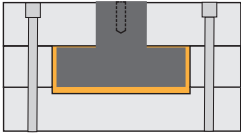
LPT Series oil film tables are designed for general-purpose horizontal testing of small and medium sized products with a low centre of gravity.

LPT Series guide bearings are available as a stand-alone slip table for any existing or new vibration test system.

Slip Table Model	LPT300		LPT400		LPT500		LPT600		LPT700		LPT800		LPT900		LPT1000		LPT1200		
	metric	USA	metric	USA	metric	USA	metric	USA	metric	USA	metric	USA	metric	USA	metric	USA	metric	USA	
Max Payload kg (lb)	300	660	300	660	400	880	550	1212	800	1763	900	1984	1100	2425	1200	2645	1200	2645	
Slip Plate Working Surface - square mm (in)	300	11.8	400	15.75	500	19.7	600	23.6	700	27.5	800	31.5	900	35.4	1000	39.3	1200	47.25	
Slip Plate Material	Magnesium		Magnesium		Magnesium		Magnesium		Magnesium		Magnesium		Magnesium		Magnesium		Magnesium		
Slip Plate Thickness kg (lb)	25	1	25	1	45	1.75	45	1.75	45	1.75	45	1.75	45	1.75	50	1.96	50	1.96	
Slip Plate Grid Pattern + armature pattern mm	100 grid		100 grid		100 grid		100 grid		100 grid		100 grid		100 grid		100 grid		100 grid		
Slip Plate Mass - Magnesium kg (lb)	7	15.4	9	20	25	55	34	75	44	97	56	123	70	154	99	218	138	304	
Optional Aluminium Slip Plate Mass - kg (lb)	9	20	14	31	36	80	50	110	66	145	85	187	107	236	149	328	210	463	
Number of V-groove Guide Bearings	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	
Mass per V-groove Bearing kg (lb)	0.58	1.27	0.58	1.27	0.58	1.27	0.58	1.27	0.58	1.27	0.58	1.27	0.58	1.27	0.58	1.27	0.58	1.27	
Driver Bar Weight including bolts	The Driver Bar Weight depends on the armature diameter of the vibrator selected - see table below																		
Overturning Moment Pitch N.m (lbf.ft)	1036	764	1295	955	2529	1865	4370	3223	8536	6296	11642	8587	14749	10878	20232	14923	34961	25787	
Overturning Moment Roll N.m (lbf.ft)	1036	764	1295	955	2529	1865	4370	3223	8536	6296	11642	8587	14749	10878	20232	14923	34961	25787	
Overturning Moment Yaw N.m (lbf.ft)	203	150	203	150	203	150	203	150	203	150	203	150	203	150	203	150	203	150	

D-Series Driver Bar Weights

Vibrator Armature Dia. mm (in)	110 (4.4)		150 (5.9)		200 (7.9)		240 (9.5)		280 (11.0)		320 (12.6)		340 (13.4)		400 (15.8)		445 (17.5)		445 (17.5)	
D Series Vibrator Models	<i>D10-100</i>		<i>D10-300</i>		<i>D10-600</i>		<i>D10-1000</i>		<i>D10-1500</i>		<i>D20-2000</i>		<i>D30LS-3000</i>		<i>D20-3200</i>		<i>D20-5000</i>		<i>D20-6000</i>	
	<i>D10-200</i>														<i>D20-4000</i>		<i>D30LS-4000</i>		<i>D20-6500</i>	
																	<i>D30LS-5400</i>			
	metric	USA	metric	USA	metric	USA	metric	USA	metric	USA	metric	USA	metric	USA	metric	USA	metric	USA	metric	USA
Driver Bar Weight including bolts kg (lb)	1.4	3	1.4	3	2.2	4.8	4.6	10.1	5.8	12.8	8	17.6	8	17.6	13	28.7	19.7	43.5	19.7	43.5
Vibrator Armature Mass kg (lb)	2	4.4	2	4.4	3	6.6	6	13.2	18	39.6	22	48.5	38	84	40	88.2	49	108	58	128
Total Moving Mass excluding slip table	3.4	7.4	3.4	7.4	5.2	11.4	10.6	23.3	23.8	52.4	30	66.1	46	101.6	53	116.9	68.7	151.5	77.7	171.5
Insert Thread size	M8		M8		M8		M10		M10		M10		M10		M10		M12 / M16		M16	



T-Series Hydrostatic Bearing Slip Table - 800 to 2500 mm (27.5 to 98 in)

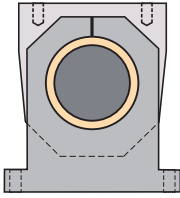
The T-Series slip table systems from 1g Dynamics are based upon modular T-film hydrostatic bearing elements operating at 600-psi oil pressure. Virtually any size of slip table can be produced to suite the customer's required over-turning moment in the Pitch and Roll directions and special bearings are available to provide extra restraint in the Yaw axis when testing large payloads with an offset centre of gravity.

The T-Series Hydrostatic Slip Tables are available with any mono-base shaker and as a stand-alone product for any existing single and multi-shaker installation.

Slip Table Model	T-Film 800		T-Film 900		T-Film 1000		T-Film 1200		T-Film 1500		T-Film 1800		T-Film 2000		T-Film 2500	
	metric	USA	metric	USA	metric	USA	metric	USA	metric	USA	metric	USA	metric	USA	metric	USA
Max Payload kg (lb)	8000	17637	8000	17637	1000	22046	1000	22046	15000	33000	15000	33000	18000	39680	25000	55100
Slip Plate Working Surface - square mm (in)	800	31.5	900	35.4	1000	39.3	1200	47.25	1500	59	1800	71	2000	78.5	2500	98
Slip Plate Material	Magnesium		Magnesium		Magnesium		Magnesium		Magnesium		Magnesium		Magnesium		Magnesium	
Slip Plate Thickness kg (lb)	45	1.75	45	1.75	50	1.96	50	1.96	50	1.96	60	2.3	60	2.3	60	2.3
Slip Plate Grid Pattern + armature pattern mm	100 grid		100 grid		100 grid		100 grid		100 grid		100 grid		100 grid		100 grid	
Slip Plate Mass - Magnesium kg (lb)	81	178	95	209	145	320	183	403	292	644	384	846	598	1318	909	2004
Optional Aluminium Slip Plate Mass - kg (lb)	110	242	132	290	195	430	254	555	408	900	553	1220	875	1930	1214	2676
Number of T-film Hydrostatic Bearings	4	4	4	4	9	9	9	9	16	16	16	16	25	25	36	36
Mass per T-film Hydrostatic Bearing kg (lb)	5.5	12	5.5	12	5.5	12	5.5	12	5.5	12	5.5	12	5.5	12	5.5	12
Driver Bar Weight including bolts	The Driver Bar Weight depends on the armature diameter of the vibrator selected - see table below															
Overturning Moment Pitch kN.m (lbf.ft)	45	33190	45	33190	90	66380	112	82606	200	147512	224	165213	238	175539	265	195453
Overturning Moment Roll kN.m (lbf.ft)	38	28027	38	28027	82	60480	98	72281	156	115059	178	131286	195	143824	202	148987
Overturning Moment Yaw kN.m (lbf.ft)	8.6	6343	8.6	6343	15	11063	17	12538	24	17701	28	20651	36	26552	45	33190

D-Series Driver Bar Weights

Vibrator Armature Dia. mm (in)	320 (12.6)		340 (13.4)		400 (15.8)		445 (17.5)		445 (17.5)	
D Series Vibrator Models	<i>D20-2000</i>		<i>D30LS-3000</i>		<i>D20-3200</i>		<i>D20-5000</i>		<i>D20-6000</i>	
					<i>D20-4000</i>		<i>D30LS-4000</i>		<i>D20-6500</i>	
							<i>D30LS-5400</i>			
	metric	USA	metric	USA	metric	USA	metric	USA	metric	USA
Driver Bar Weight including bolts kg (lb)	8	17.6	8	17.6	13	28.7	19.7	43.5	19.7	43.5
Vibrator Armature Mass kg (lb)	22	48.5	38	84	40	88.2	49	108	58	128
Total Moving Mass excluding slip table	30	66.1	46	101.6	53	116.9	68.7	151.5	77.7	171.5
Insert Thread size	M10		M10		M10		M12 / M16		M16	



HBT Series Mono-base High Pressure Slip Tables - 600 to 1800 mm (23.6 to 71 in)

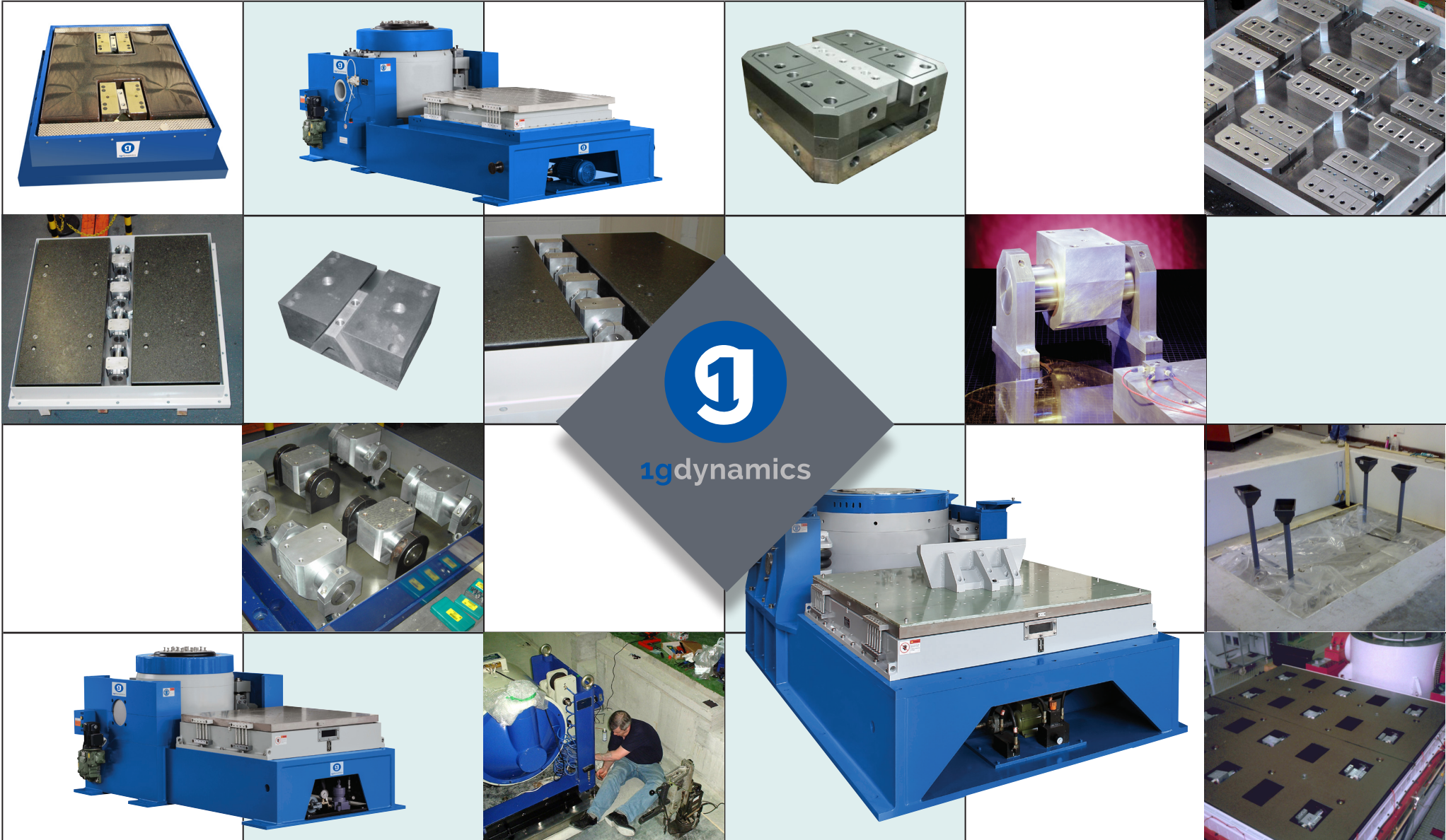
The HBT Series design allows testing of tall and heavy products with high centers of gravity by reacting moments through the hydrostatic bearings. Additional hydrostatic bearings can be supplied at time of order to provide extra restraint when testing parameters require a higher overturning moment. The HBT Series Hydrostatic Slip Tables can be configured to any size or shape and are available with any mono-base shaker and as a stand-alone product for any existing single and multi-shaker installation.

Slip Table Model	HBT600		HBT700		HBT800		HBT900		HBT1000		HBT1200		HBT1500		HBT1800	
	metric	USA	metric	USA	metric	USA	metric	USA	metric	USA	metric	USA	metric	USA	metric	USA
Max Payload kg (lb)	6000	13227	6500	14330	7000	15432	7500	16534	8000	17637	1000	22046	12000	26455	13500	29762
Slip Plate Working Surface - square mm (in)	600	23.6	700	27.5	800	31.5	900	35.4	1000	39.3	1200	47.25	1500	59	1800	71
Slip Plate Material	Magnesium		Magnesium		Magnesium		Magnesium		Magnesium		Magnesium		Magnesium		Magnesium	
Slip Plate Thickness kg (lb)	50	1.96	50	1.96	50	1.96	50	1.96	50	1.96	50	1.96	50	1.96	60	2.3
Slip Plate Grid Pattern + armature pattern mm	100 grid		100 grid		100 grid		100 grid		100 grid		100 grid		100 grid		100 grid	
Slip Plate Mass - Magnesium kg (lb)	39.5	87	53	117	69	152	87	192	124	273	145	320	243	536	420	926
Optional Aluminium Slip Plate Mass - kg (lb)	68	150	85	187	110	242	132	290	195	430	254	555	408	900	553	1220
Number of Hydrostatic Journal Bearings	2	2	2	2	2	2	2	2	2	2	3	3	4	4	4	4
Mass per Hydrostatic Bearing kg (lb)	4.8	10.6	4.8	10.6	4.8	10.6	4.8	10.6	4.8	10.6	4.8	10.6	4.8	10.6	4.8	10.6
Driver Bar Weight including bolts	The Driver Bar Weight depends on the armature diameter of the vibrator selected - see table below															
Overturning Moment Pitch kN.m (lbf.ft)	26.5	19545	51.2	37800	54.2	40022	61.5	45355	88.4	65238	104	76750	161.7	119316	235.8	173970
Overturning Moment Roll kN.m (lbf.ft)	25	18440	36.8	27181	39	28780	51.3	37860	71.2	52497	83.7	61760	129.2	95333	191.1	140992
Overturning Moment Yaw kN.m (lbf.ft)	22.3	16500	43.1	31852	45.7	33726	46.7	34476	58.7	43320	69	51595	93.4	68951	117.8	86940

D-Series Driver Bar Weights

Vibrator Armature Dia. mm (in)	320 (12.6)		340 (13.4)		400 (15.8)		445 (17.5)		445 (17.5)	
D Series Vibrator Models	<i>D20-2000</i>		<i>D30LS-3000</i>		<i>D20-3200</i>		<i>D20-5000</i>		<i>D20-6000</i>	
					<i>D20-4000</i>		<i>D30LS-4000</i>		<i>D20-6500</i>	
							<i>D30LS-5400</i>			
	metric	USA	metric	USA	metric	USA	metric	USA	metric	USA
Driver Bar Weight including bolts kg (lb)	8	17.6	8	17.6	13	28.7	19.7	43.5	19.7	43.5
Vibrator Armature Mass kg (lb)	22	48.5	38	84	40	88.2	49	108	58	128
Total Moving Mass excluding slip table	30	66.1	46	101.6	53	116.9	68.7	151.5	77.7	171.5
Insert Thread size	M10		M10		M10		M12 / M16		M16	

Application Gallery





1gdynamics

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