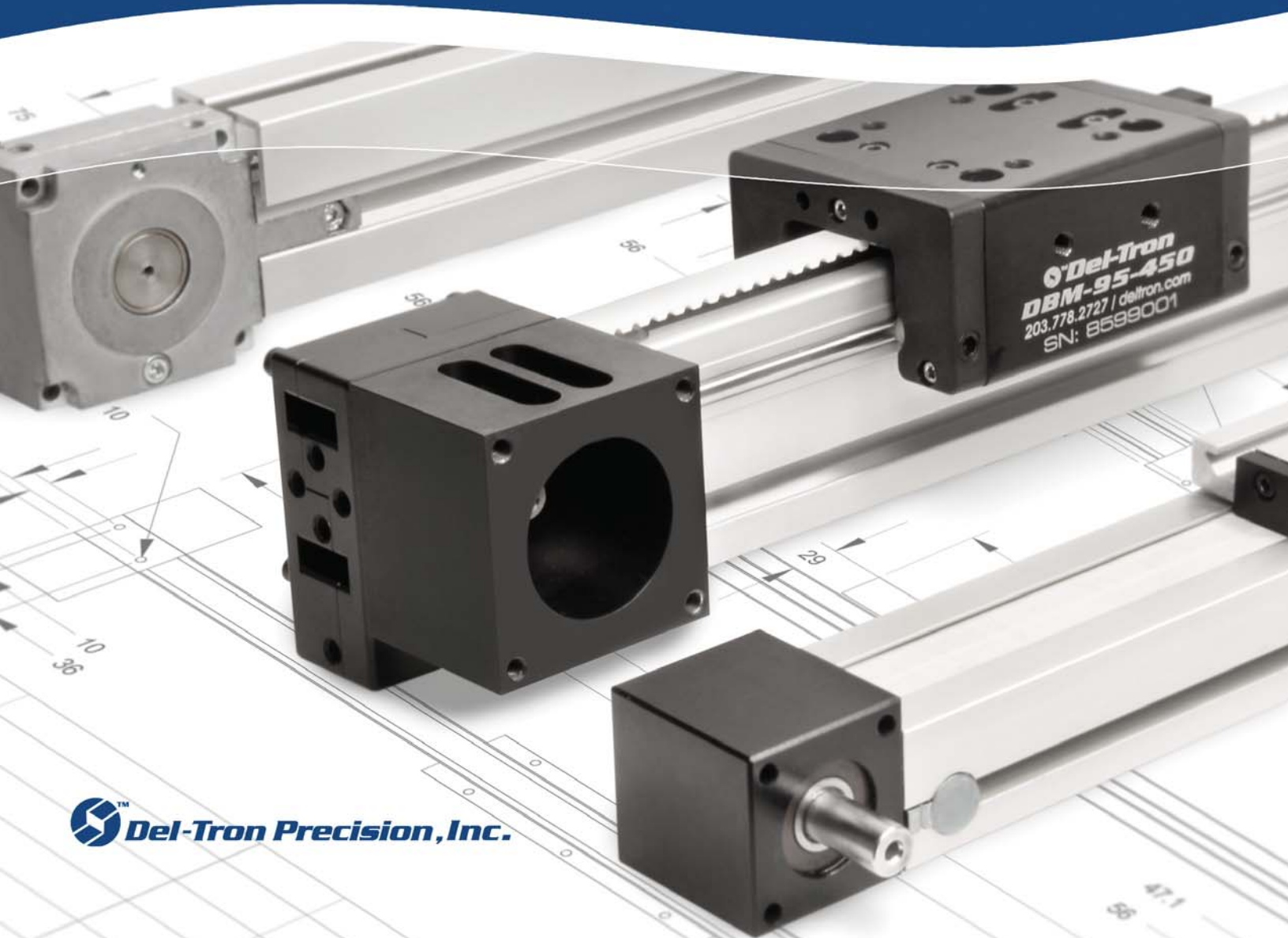




DB SERIES

# Belt Drive Actuators

High Speed Linear Actuators



# DB SERIES

## **DB Series**

***High Speed Long Travel***

***Positive Belt Drive***

***High Output Gearheads***

***Steel or Plastic Bearings***

***Custom Designs***



Del-Tron's belt-driven DB series actuators operate at speeds up to 5.1 meters per second (MPS) and do not require lubrication or maintenance under normal operating conditions. Del-Tron's DB series actuators are ideal for use in applications where speed is critical such as pick-and-place applications on high speed automation equipment. Another advantage of the new DB series is that they can provide travel lengths up to 6 meters while maintaining repeatability of  $\pm 0.025$  mm and linear accuracy of  $\pm 0.083$  mm per meter.

New DB series actuators feature a steel-reinforced polyurethane belt that helps deliver repeatable positioning by avoiding belt stretching. The positive timing belt drive provides further improvements in accuracy and speed. A proprietary extrusion design provides long travel, smooth movements, and excellent repeatability. DB series actuators are available standard to accept NEMA 17, 23, and 34 motors and can be configured to accept other sizes.

The DB series planetary gearheads contribute to the performance of the actuators by providing gear geometry optimized for planetary systems using zero helix angle gears to avoid unbalanced forces caused by helical gears. Generously-sized sealed deep-groove ball bearings support the output shaft. All gears are case hardened for high surface hardness and high strength ductile core. The gearhead handles input speeds up to 10,000 rpm and delivers exceptionally high output loads.

Different types of bearings are offered. Steel concave rollers (DBM) riding on chrome-plated steel rails provide excellent positioning accuracy even in applications that require long travel. A plastic coated needle (DBN) bearing assembly offers the highest possible speeds. Finally, plastic bearings (DBP) running on aluminum rails provide the ultimate in durability in tough push-pull applications. The steel bearings are supplied with lifetime lubrication while both types of plastic bearings require no lubrication at all.

Del-Tron applications engineers can help you select the appropriate belt actuator and gear box for your application. Del-Ton can also provide special designs of DB series actuators for nearly any application. To request a quotation please use the form provided.

# Specifications

Specifications	Del-Tron Model	SLM	DBM-95	DBN-325
	Units			
Repeatability	in			±.001
	mm			±0.025
Linear Accuracy	in/36			±.003
	mm/m			±0.083
Breakaway Torque	oz-in			8 TO 10
	Nm			0.057 TO 0.071
Belt Tensile Limit	lbs	585		1150
	N	2600		5120
Belt Running Load	lbs	146		288
	N	650		1280
Travel/Revolution	in/rev	1.969		4.134
	mm/rev	50		105
Pulley Diameter	in	0.627		1.316
	mm	15.915		33.426
Pulley Weight	oz	1.75		5.24 (DS); 4.81 (SS); 4.37 (NS)
	kg	0.049		0.149 (DS); 0.136 (SS); 0.124 (NS)
Maximum Speed	in/sec	100		200
	m/s	2.54		5.1
Acceleration Exceeding Motor Mount/Coupling	G's	5		5
	Nema	17;23		23; 34
Straight Line Accuracy	in/36"	±.015	±.003	±.015
	mm/m	±.38	±.07	±.38
Shipping Weight First Meter of Length	lbs	5.60	10.0	6.8
	kg	2.54	4.5	3.1
Additional Per Meter	lbs	3.85	4.0	3.6
	kg	1.74	1.8	1.6
<b>Inertia</b>				
Cart & Hardware	lbs-in-s <sup>2</sup>	1.05157E-04	1.29481E-03	3.17030E-03
	kg-m <sup>2</sup>	1.18412E-05	1.46294E-04	3.58196E-04
Belt/First Meter of Travel	lbs-in-s <sup>2</sup>	5.86034E-05	2.55233E-04	2.81280E-04
	kg-m <sup>2</sup>	6.61080E-06	2.88375E-05	3.17804E-05
Pulleys	lbs-in-s <sup>2</sup>	3.71326E-05 (SS); 3.28557E-05 (NS)	1.16951E-03 (DS); 1.15846E-03 (SS); 1.11474E-03 (NS)	
	kg-m <sup>2</sup>	4.19542E-06 (SS); 3.71220E-06 (NS)	1.32137E-04 (DS); 1.30888E-04 (SS); 1.29640E-04 (NS)	
<b>Weight</b>				
Cart & Hardware	lbs	0.413	1.155	2.829
	kg	0.187	0.524	1.283
Belt/Meter of Travel	lbs/meter	0.195		0.095
	kg/meter	0.088		0.043

DS = Double Shafted pulley

SS = Single shaft pulley

NS = Pulley without protruding shaft

# Specifications

Specifications	Del-Tron Model	DBP-125		DBP-225		DBP-325	
	Units						
Repeatability	in			±.001			
	mm			±0.025			
Linear Accuracy	in/36			±.003			
	mm/m			±0.083			
Breakaway Torque	oz-in			12 TO 16			
	Nm			0.085 TO 0.113			
Belt Tensile Limit	lbs			1150			
	N			5120			
Belt Running Load	lbs			288			
	N			1280			
Travel/Revolution	in/rev			4.134			
	mm/rev			105			
Pulley Diameter	in			1.316			
	mm			33.426			
Pulley Weight	oz			5.24 (DS); 4.81 (SS); 4.37 (NS)			
	kg			0.149 (DS); 0.136 (SS); 0.124 (NS)			
Maximum Speed	in/sec			20 to 30 - load dependent			
	m/s			0.51 to 0.76 - load dependent			
Acceleration Exceeding Motor Mount/Coupling	G's			up to 2 - load dependent			
	Nema			23; 34			
Straight Line Accuracy	in/36"			±.030			
	mm/m			±.76			
Shipping Weight First Meter of Length	lbs	4.6		5.3		6.0	
	kg	2.1		2.4		2.7	
Additional Per Meter	lbs	3.0		3.0		3.0	
	kg	1.4		1.4		1.4	
<b>Inertia</b>							
Cart & Hardware	lbs-in-s <sup>2</sup>	9.48866E-04		1.75689E-03		2.56738E-03	
	kg-m <sup>2</sup>	1.07208E-04		1.98502E-04		2.90075E-04	
Belt/First Meter of Travel	lbs-in-s <sup>2</sup>	2.59930E-04		2.70605E-04		2.81280E-04	
	kg-m <sup>2</sup>	2.93682E-05		3.05743E-05		3.17804E-05	
Pulleys	lbs-in-s <sup>2</sup>	1.16951E-03 (DS); 1.15846E-03 (SS); 1.11474E-03 (NS)					
	kg-m <sup>2</sup>	1.32137E-04 (DS); 1.30888E-04 (SS); 1.29640E-04 (NS)					
<b>Weight</b>							
Cart & Hardware	lbs	0.847		1.567		2.291	
	kg	0.384		0.711		1.039	
Belt/Meter of Travel	lbs/meter			0.095			
	kg/meter			0.043			

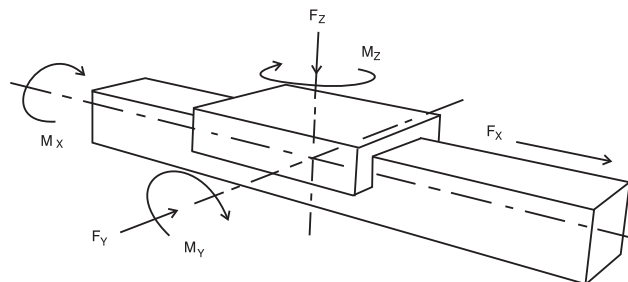
DS = Double Shafted pulley

SS = Single shaft pulley

NS = Pulley without protruding shaft

## System Allowable Loads

		SLM	DBM-95	DBN-325	DBP-125	DBP-225	DBP-325
<b>LOADS (Dynamic)</b>							
Fz max	[N]	240	240	220			
	[Lbs]	54	54	49			
Fz max (Tension)	[N]				125	328	530
	[Lbs]				28	74	119
Fz max (Compression)	[N]				220	577	933
	[Lbs]				49	130	210
Fy max	[N]	420	420	60	63	166	268
	[Lbs]	94	94	13	14	37	60
<b>LOADS (Static)</b>							
Foz max	[N]	200	200	280			
	[Lbs]	45	45	63			
Foz max (Tension)	[N]				2500	6560	10600
	[Lbs]				562	1474	2382
Foz max (Compression)	[N]				4400	11540	18660
	[Lbs]				989	2593	1493
Foy max	[N]	330	330	300	1260	3320	5360
	[Lbs]	74	74	67	283	746	1204
<b>MOMENTS (Dynamic)</b>							
Mx max	[N-m]	3.5	3.4	2.1	661	1734	2802
	[Lb-in]	31	30	19	6	15	25
Mz max	[N-m]	8.6	10.7	5.4	634	4338	11355
	[Lb-in]	76	94	48	6	38	100
My max	[N-m]	4.9	6.1	11.2	626	4289	11226
	[Lb-in]	44	54	99	6	38	99
<b>Moments (Static)</b>							
Mox max	[N-m]	2.9	2.9	2.7	13220	34680	56040
	[Lb-in]	26	25	24	117	307	496
Moz max	[N-m]	6.8	8.4	27.1	12680	86760	227100
	[Lb-in]	60	74	240	112	768	2009
Moy max	[N-m]	4.1	5.1	14.2	12520	85780	224520
	[Lb-in]	36	45	126	111	759	1986



## Belt Load Calculations-Metric

Require:

Units Load, Stroke, Velocity, Acceleration, Acceleration in time (Theoretical)  
(N=Newtons, mm=millimeter, m/s=meter per second, m/s<sup>2</sup>=meter per second squared, s=seconds)

N Translating Mass=Load + System Mass(.384)

MM Belt Length=Stroke x 2 + System Length(See Table 1)

N Belt Mass=Length x Mass/meter(.043)

Kg-m<sup>2</sup> Translating Inertia=Moving Mass + Belt Mass x .000279

Kg-m<sup>2</sup> Total Inertia=Translating Inertia + System Inertia(.000262)

Nm Torque Due to Inertia=Total Inertia x Velocity x 59.83/Acceleration in time

Nm Torque Due to Friction=(.0978xLN(V)+.46)+ Load x Factor 1(See Table 1)

Nm Total Torque= Torque Due to Inertia + Torque Due to Friction

N Calculated Load Due to Torque= Torque x 59.839

Safety Factor=Strength of Belt/Calculated Load

RPM Input speed=Velocity x 14.51

Table 1	Metric	
Model Number	System Length	Factor 1
SLM	362	0.0159
DBP-125	435	0.0328
DBP-225	535	0.0328
DBP-325	635	0.0328
DBM-95	391	.00574
DBN-325	635	0.00738

## Belt Load Calculations-Inch

Require:

Units Load, Stroke, Velocity, Acceleration, Acceleration in time (Theoretical)  
(Lbs=pounds, in/s= inch per second, in/s<sup>2</sup>= inches per second-squared, s=seconds)

Lbs Translating Mass=Load + System Mass(.384)

In Belt Length= Stroke x 2 + System Length(See Table 1)

Lbs Belt Mass= Length x Mass/meter(.043)

lb-in-s<sup>2</sup> Translating Inertia=Moving Mass + Belt Mass x .000279

lb-in-s<sup>2</sup> Total Inertia= Translating Inertia + System Inertia(.000262)

lb-in Torque Due to Inertia=Total Inertia x Velocity x 59.83/Acceleration in time

lb-in Torque Due to Friction=(.0978 x LN(V)+.46)+Load x Factor 1(See Table 1)

lb-in Total Torque=Torque Due to Inertia + Torque Due to Friction

lb Calculated Load Due to Torque=Torque x 59.839

Safety Factor= Strength of Belt/Calculated Load

RPM Input speed=velocity x 14.51

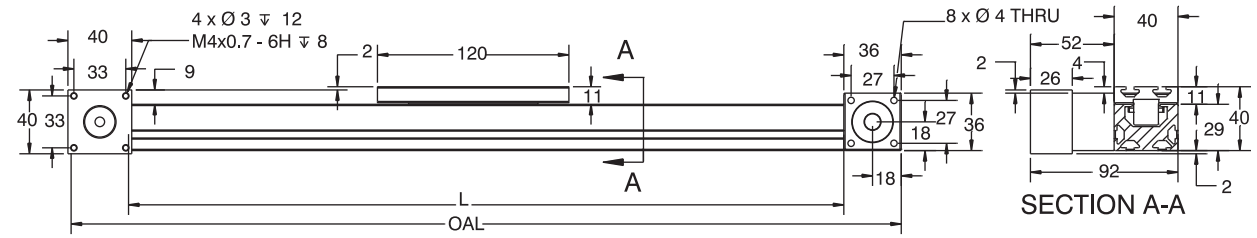
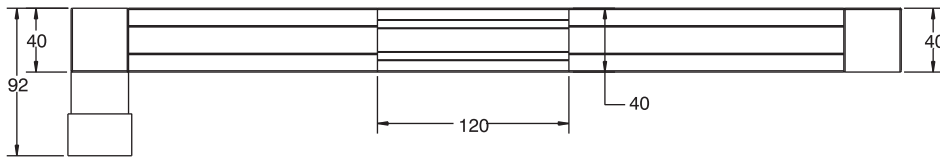
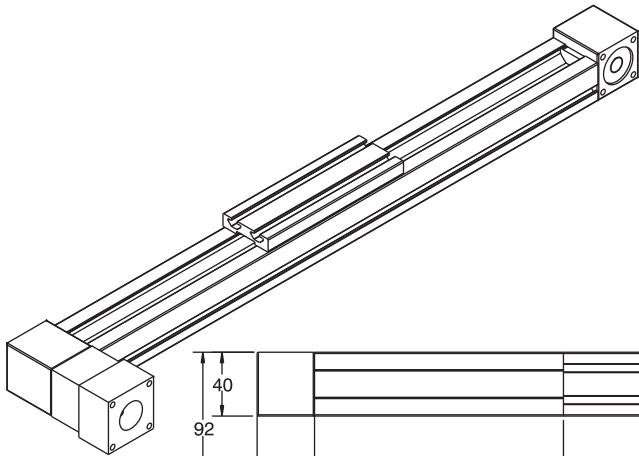
Table 1	Inch	
Model Number	System Length	Factor 1
SLM	14.251	0.0628
DBP-125	17.125	0.1316
DBP-225	21.062	0.1316
DBP-325	24.999	0.1316
DBM-95	15.55	0.0023
DBN-325	24.999	0.0029

# SLM

Among the smallest commercially available belt drive systems the SLM is a lightweight and compact alternative to the larger belt drives with the same repeatability and linear accuracy.

MODEL NUMBER	L	OAL	OT
SLM	TRAVEL + 149	TRAVEL + 221	29
OT=OVER TRAVEL DESIGNED IN SYSTEM			

MODEL	TRAVEL	L	OAL	OT
SLM-300	300	449	521	29
SLM-600	600	749	821	
SLM-900	900	1049	1121	
OT=OVER TRAVEL DESIGNED IN SYSTEM				

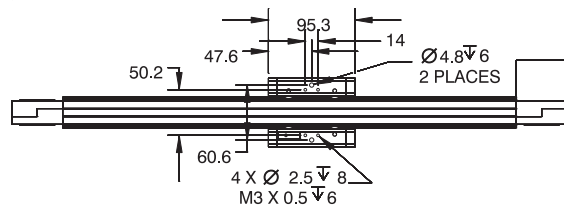
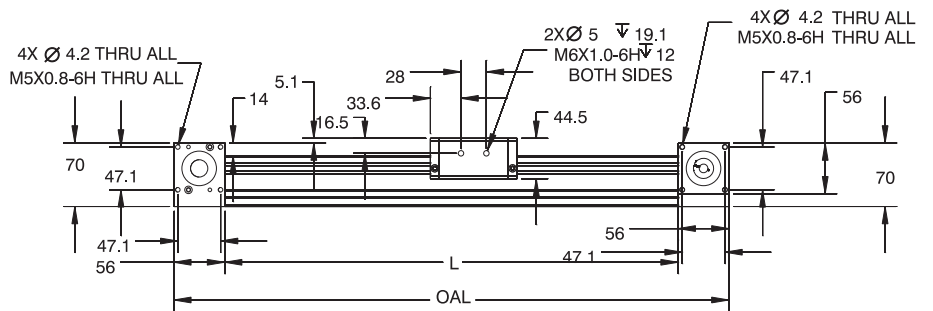
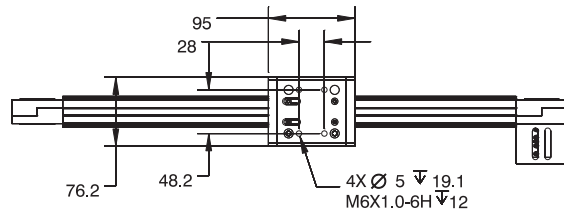
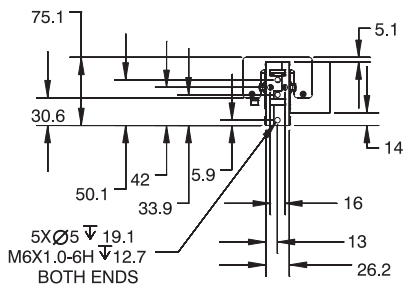
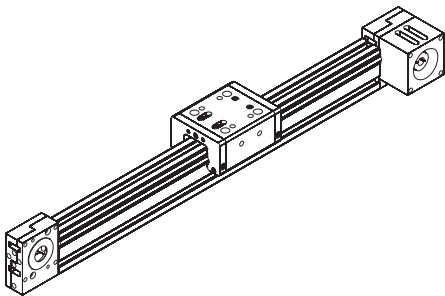


# DBM-95

The DBM series utilizes steel concave rollers riding on chrome-plated steel rails to provide excellent positioning accuracy even in applications that require long travel. The steel bearings are supplied with lifetime lubrication. High acceleration and maximum speeds are possible with this series.

MODEL NUMBER	L	OAL	OT
DBM-95	TRAVEL + 148	TRAVEL + 260	53
OT=OVER TRAVEL DESIGNED IN SYSTEM			

MODEL	L	OAL	OT
DBM-95-150	298	410	53
DBM-95-300	448	560	
DBM-95-450	598	710	
DBM-95-600	748	860	



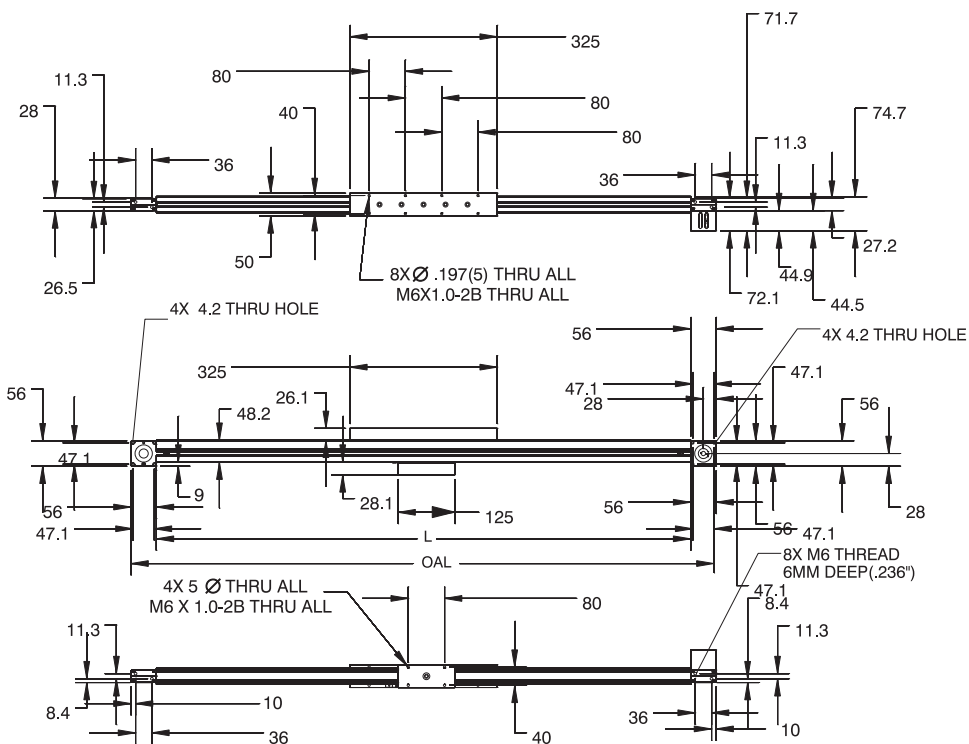
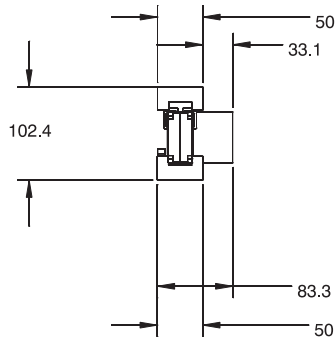
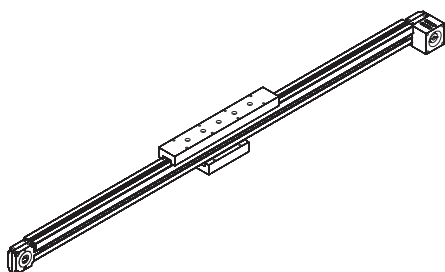


# DBN-325

A plastic coated needle bearing assembly offered in this series allows the highest possible speeds while requiring no lubrication. High speeds and high G forces are no problem for this series

MODEL NUMBER	L	OAL	OT
DBN-325	TRAVEL + 388	TRAVEL + 500	63
OT=OVER TRAVEL DESIGNED IN SYSTEM			

MODEL	L	OAL	OT
DBN-325-150	538	650	63
DBN-325-300	688	800	
DBN-325-450	838	950	
DBN-325-600	988	1100	

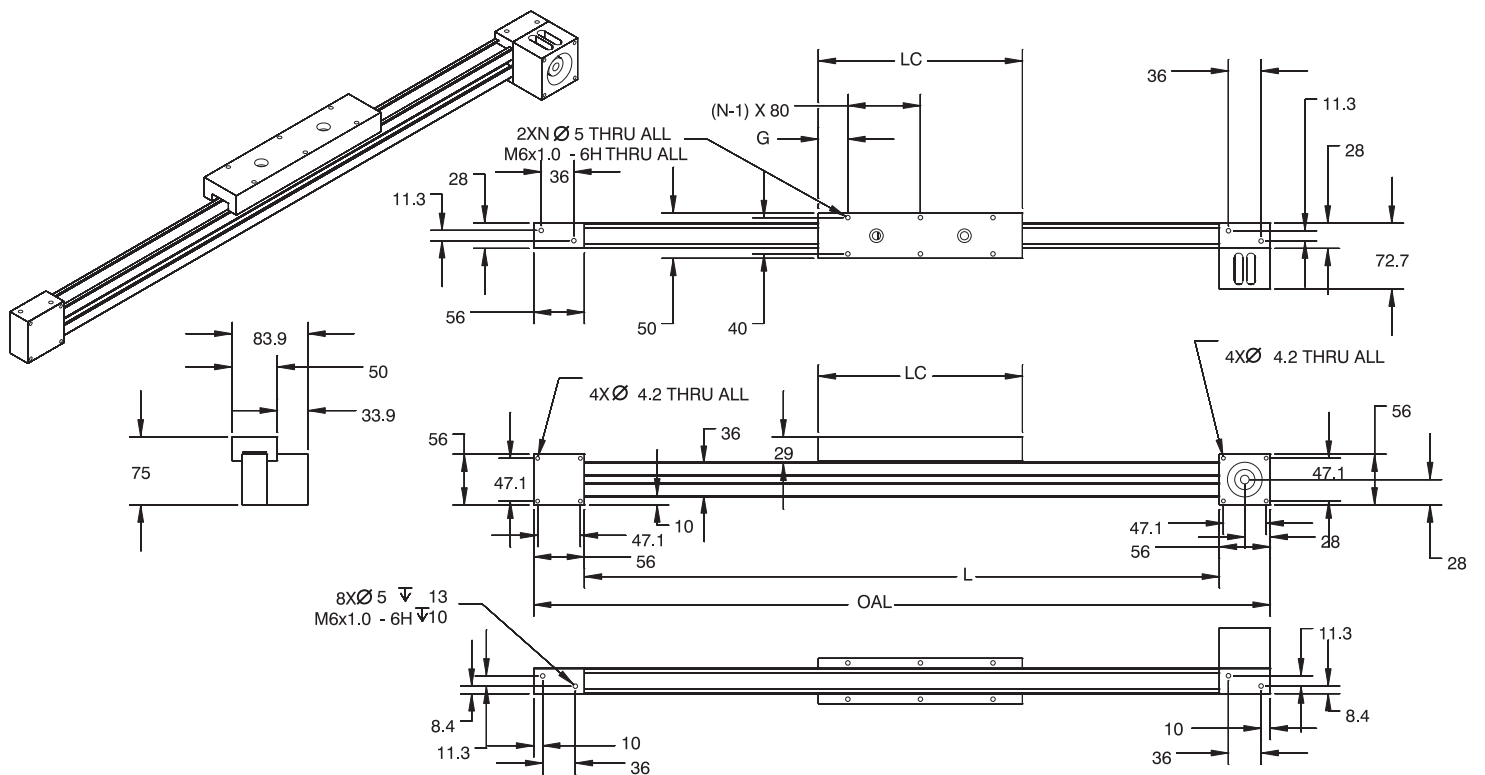


# DBP Series

Plastic bearings running on aluminum rails provide the ultimate in durability in tough push-pull applications and require no lubrication. DBP actuators are the value leaders among Del-Tron's belt drive systems.

MODEL NUMBER	L	OAL	OT	LC	N	G
DBP-125	TRAVEL + 188	TRAVEL + 300	63	125	2	22.5
DBP-225	TRAVEL + 288	TRAVEL + 400	63	225	3	32.5
DBP-325	TRAVEL + 388	TRAVEL + 500	63	325	4	42.5

OT=OVER TRAVEL DESIGNED IN SYSTEM



# Planetary Servo Gearheads

**OPTIMIZED GEAR GEOMETRY** Gear geometry optimized for planetary system using zero helix angle gears to avoid unbalanced forces caused by helical gears. Crowned gear profile with tip relief.

**CASE HARDENED GEARS** All gears are case hardened for high surface hardness and high strength ductile core.

**HIGH TORQUE DENSITY** Industry highest torque ratings; 4 planets are used in the output stage to boost loadability.

**APPLICATION FRIENDLY OPTIONS** Available option such as solid free accessible high speed shaft, NEMA output flanges.

**2 SIZES** 40, 60mm round housing / ratios per size (3:1 to 512:1).

**PLANETS SUPPORTED IN NEEDLE ROLLER BEARINGS** Planets are supported in needle roller bearings for high loadability and precise run.

**HIGH OUTPUT SHAFT LOADS** Generously sized sealed deep-groove ball bearings supporting the output shaft.

**LIFETIME LUBRICATION** Lubricated for life with high grade synthetic grease.

**HOUSING PROTECTION CLASS** Dedicated input and output housing, protection class IP54.

**FLEXIBLE MOUNTING** Can be mounted to virtually any servo motor; using the patented PCS® clamping system.

**STRONG CARRIER / OUTPUT SHAFT** Planet carrier and output shaft are made of one integral piece.

**INTEGRAL RING-GEAR & HOUSING** Ring gears are machined directly into the housing, case hardened and honed.

**TRUE, RELIABLE TORQUE RATINGS** Transparent, reliable torque ratings, based on fatigue strength and L10 bearing life according to recognized standards.

**HIGH INPUT SPEEDS** Peak input speeds up to 10,000 rpm.

**EXCEPTIONAL LONG RELIABLE LIFE** Up to 5 years limited warranty on gearing.



Ratio	GEARHEAD SIZE - TORQUE RATING (1)		
	G 40	G 60	Stages (2)
3	4.5 (40)	12 (106)	1
4	6.0 (53)	16 (141)	1
5	6.0 (53)	16 (141)	1
8	5.0 (44)	15 (132)	1
9	20 (177)	44 (389)	2
12	20 (177)	44 (389)	2
15	18 (159)	44 (389)	2
16	20 (177)	44 (389)	2
20	20 (177)	44 (389)	2

(1) Rated torque is based on continuous duty, uniform load, 30 000 hrs L10 life at 100 rpm output speed. (2) Number of planetary reduction stages.

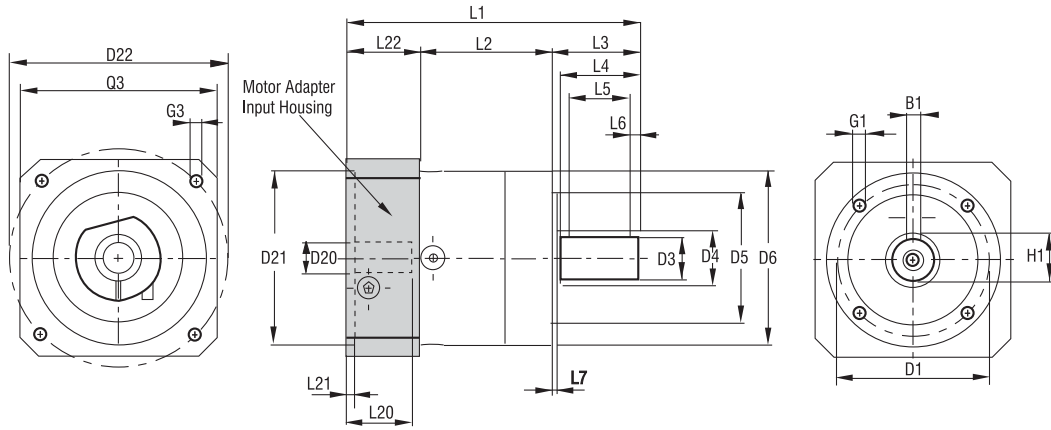
Efficiency at Full load %	Stages	PLE 40	PLE 60
		1	96
	2	94	94
Torsional Stiffness Nm/ang.min (lbin /arc.min)	1	0.45 (3.9)	1.5 (13.2)
	2	0.47 (4.1)	1.5 (13.2)
Rotational Backlash (3) (arc.min)	1	<30	<20
	2	<35	<25

(3) Maximum value of the rotational backlash measured at the output in arc minutes (1 arc min = 1 angular min). Average backlash is approximately 30% smaller than the listed worst case value.

Emergency Stop / Short Term Peak Torque 200% to 300% of the rated torque. The gearhead will withstand this torque only for a few thousand load cycles. -Torques at this magnitude shall not be part of the normal operating cycle!

		Stages	PLE 40	PLE 60
Output shaft max. radial load <sup>(1)</sup>	N (lb)	1,2	200 (44)	500 (112)
Output shaft max. axial load <sup>(1)</sup>	N (lb)	1,2	200 (44)	600 (134)
Max. peak input speed	rpm	1,2	10,000	8,000
Continuous input speed <sup>(2)</sup>	rpm	1,2	4,500	4,000
Noise level <sup>(3)</sup> dBA		1,2	55	58
Gearhead weight	kg (lb)	1	0.35 (0.77)	0.9 (1.9)
		2	0.45 (0.99)	1.1 (2.4)
Max. motor weight	kg (lb)	1,2	2 (4.4)	3.5 (7.7)

(1) Based on 10,000 hrs. L10 life, 100 rpm mean output speed, radial load at shaft midpoint. (Detailed bearing life calculation utility is available at [www.neugartusa.com](http://www.neugartusa.com) or contact Neugart USA with the application data.) (2) Recommended continuous duty mean input rpm. The gearhead temperature shall not exceed 90°C (194°F). (3) Sound pressure level measured at 3,000 rpm, no load, at 1m distance from the gearhead.



		PLE 40	PLE 60
D1	Output flange bolt hole circle	34 (1.338)	52 (2.047)
G1	Mounting thread lengths	4x M4 x 6	M5 x 8
D3	Output shaft diameter	h7 10 (0.393)	14 (0.551)
D4	Shaft collar diameter	12 (0.472)	17 (0.669)
D5	Output flange pilot diameter	h7 26 (1.023)	40 (1.574)
D6	Housing diameter	40 (1.574)	60 (2.362)
L2	Main housing length	1 Stage 39 (1.535)	47 (1.850)
	2 Stage	52 (2.04)	59 (2.322)
L3	Shaft length (from pilot root)	26 (1.023)	35 (1.377)
L4	Shaft length (from the collar)	23 (0.905)	30 (1.181)
L5	Key length	18 (0.708)	25 (0.984)
L6	Distance from shaft end	2.5 (0.098)	2.5 (0.098)
L7	Pilot length	2 (0.078)	3 (0.118)
B1	Key width	3 (0.118)	5 (0.196)
H1	Key & Shaft height	11.2 (0.440)	16 (0.629)
Z	Thread in the output shaft	M3 x 9	M5 x 12
M	Thread x depth	8 (0.314)	11 (0.433)
D20	Maximum input pinion bore <sup>(1)</sup>	F7	14 (0.551) optional size
Available, standard bushing bore sizes			
	mm	4; 5; 6; 6.35; 8	6; 6.35; 7; 8; 9; 9.525; 11; {12; 12.7; 14} <sup>(1)</sup>
	in	0.157; 0.196; 0.236; 0.25; 0.314	0.236; 0.25; 0.275; 0.314; 0.354; 0.375; 0.433; 0.5; {0.472; 0.5; 0.551} <sup>(1)</sup>
Motor dependent dimensions: D21, D22, L1, L20, L21, L22, G3, Q3		Adaptor / Input Housing dimensions and unit overall length depend on motor shaft size, motor flange style and motor flange dimensions. To match your motor a customized adaptor / input housing is provided.	

For smaller diameter motor shafts matching bushing (insert) is used. See below the available standard bushing diameters.

(1) with optional 14 mm bore PLE 60 unit

## Gearheads Continued

### Lubrication

The 6 gearheads are lubricated for life with high grade synthetic grease "Kluberplex BEM 34-132" (Kluber Lubrication LP, - www.klueber.com). Under normal operating conditions it is not required to change or replenish the lubricant.

### Mounting Positions

Any mounting position is permissible.

### Operating Temperature

Temperature range is -25°C to +90° C (-13°F to 194°F) . Contact Del-Tron Precision if operating temperatures are outside this range.

### Recommended Motor Flange / Motor shaft run out tolerances

The motor shaft run out and flange perpendicularity should be according to DIN 42955-R tolerances to avoid unnecessary bearing loads and associated heat build up along with possible premature bearing wear.

### Seals

Integrated sealed bearing on input and output.

### Protection Class

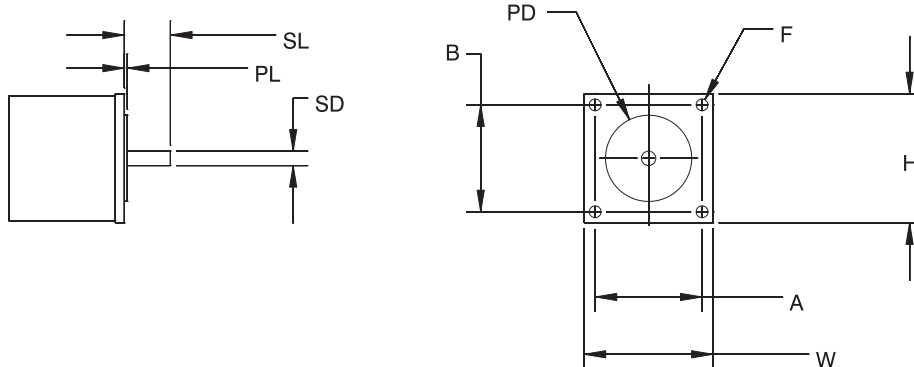
The enclosure protection class of the PLE planetary servo gearheads corresponds to class IP 54

Standard Motor Mount PLE Gearhead			
Moment of Inertia (at the input)		kgcm <sup>2</sup> (in-lb-sec <sup>2</sup> 10 <sup>-4</sup> )	
PLE 40	PLE 60	Ratio	Stages
0.031 (0.27)	0.135 (1.19)	3	1
0.022 (0.19)	0.093 (0.82)	4	1
0.019 (0.16)	0.078 (0.69)	5	1
0.017 (0.15)	0.065 (0.57)	8	1
0.03 (0.26)	0.131 (1.15)	9	2
0.029 (0.25)	0.127 (1.12)	12	2
0.023 (0.2)	0.077 (0.68)	15	2
0.022 (0.19)	0.088 (0.77)	16	2
0.019 (0.16)	0.075 (0.66)	20	2

## Motor Adaptors

Del-Tron standard motor adaptors are designed for motors with specifications as listed.

If you are using a motor with other specifications, please supply motor manufacturer and model number.



MANUFACTURER MODEL NO MOTOR MODEL	NEMA 17		NEMA23		NEMA 34	
	STEPPER ORIENTAL PK243 MT17	SERVO YASKAWA SGMAH-A3 MV17	STEPPER ORIENTAL PK264 MT23	SERVO YASKAWA SGMAH-02 MV23	STEPPER ORIENTAL PK296 MT34	SERVO YASKAWA SGMAH-08A MV34
A	31	32.5	47.14	49.49	69.58	63.64
B	31	32.5	47.14	49.49	69.58	63.64
F	4-40 THREADS	4.3 THRU HOLES	4.5 THRU HOLES	5.5 THRU HOLES	6.5 THRU HOLES	7 THRU HOLES
SD	5	6	6.36	14	12.7	16
SL	20	25	20.6	30	37	40
PD	22	30	38.1	50	73	70
PL	2	2.5	1.6	3	2	3
W	42	40	56.4	60	85	80
H	42	40	56.4	60	85	80

Dimensions in mm

## Nomenclature

XXXX	XXX	XX	XXX	XX	XXXX	XX
Model Number	Stroke	Mounting Position	Gearhead	Ratio	Motor adaptor model number	Accessories
SLM	150	A1	G40	3	MT17	B
DBM-95	300	A2	G60	4	MV17	E1
DBN-325	450	A3	GCS	5	MT23	E2
DBP-125	600	A4	blank= no gearhead	8	MV23	E3
DBP-225	900	B1		9	MT34	FP
		B3		12	MV34	FR
				15	MCS	
				16	blank= no motor	
				20		

### Mounting Position

A= single shaft, B= double shaft (double shaft location 1+2 only.)

GCS = customer supplied gearhead for mounting.

Blank = no gearhead.

### Adapters for Motor Model Number

M= motor, T= stepper, V= servo, 17= NEMA 17, 23= NEMA 23, 34= NEMA 34.

MCS= Customer supplied motor

Blank= No motor

### Accessories

B=Bumpers and are available only on the DBM series.

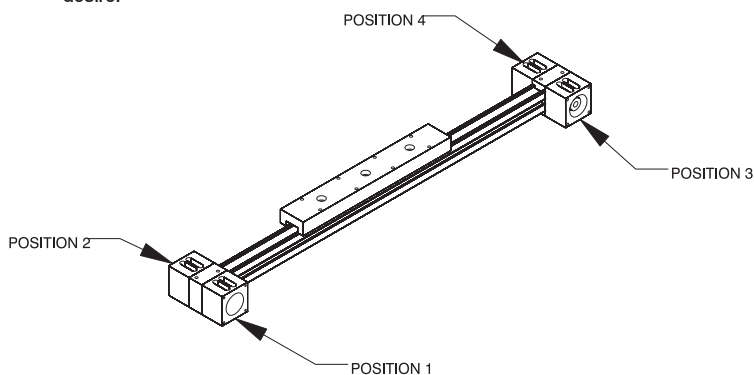
E1=One limit switch

E2=Two limit switches

E3=Three limit switches

FP=Mounting feet to attach to the pulley housing which has threads on the bottom for mounting.

FR=Mounting feet to attach to the rail through a drop in t-nut and be placed anywhere the customer would desire.



SHAFT PULLEY ASSEMBLY OPTIONS  
A= SINGLE SHAFTED PULLEY  
B= DOUBLE SHAFTED PULLEY

Model	Base Price	Option Price
SLM-300	\$919	<b>Gear Head</b> G40 Single \$643 G40 Double \$737
SLM-600	\$919	
SLM-900	\$919	
DBM-95-150	\$1243	G60 Single \$805 G60 Double \$924
DBM-95-300	\$1243	
DBM-95-450	\$1243	<b>Motor Adaptor</b> MT17-\$103 MV17-\$103 MT23 \$103 MT34 \$138 MV23 \$103 MV34 \$138
DPM-95-600	\$1243	
DBN-325-150	\$748	
DBN-325-300	\$748	<b>Limit Switches</b> E1 (1) \$70 1Total E2 (2) \$140 2Total E3 (3) \$210 3Total
DBN-325-450	\$748	
DBN-325-600	\$761	
DBP-125-150	\$484	<b>Rail Mounting Feet</b> FR (4) \$103 4 Total
DBP-125-300	\$484	
DBP-125-450	\$484	
DBP-125-600	\$484	<b>Pulley Housing Mounting Feet</b> FP (2) \$60 2 Total
DBP-225-150	\$484	
DBP-225-300	\$484	
DBP-225-450	\$484	<b>Bumpers</b> \$24 Each
DBP-225-600	\$484	
DBP-325-150	\$440	
DBP-325-300	\$440	
DBP-325-450	\$440	
DBP-325-600	\$440	

## Del-Tron Precision Belt Actuator Application Form

If you would like Del-Tron Precision to select the appropriate Belt Actuator and Gearhead if needed for you application, please fill out the form below and either fax it to 203-778-2721 or email it to deltron@deltron.com.

Date \_\_\_\_\_

Name \_\_\_\_\_

Company Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone \_\_\_\_\_

Fax \_\_\_\_\_

Email \_\_\_\_\_

Cost Goal \_\_\_\_\_

Expected Delivery \_\_\_\_\_

Anticipated Number of Units \_\_\_\_\_

Stroke \_\_\_\_\_

Load \_\_\_\_\_

Velocity \_\_\_\_\_

Acceleration and Deceleration \_\_\_\_\_

Moment Load \_\_\_\_\_

Duty Cycle \_\_\_\_\_

Repeatability \_\_\_\_\_

Linear Accuracy \_\_\_\_\_

Operating Temperature \_\_\_\_\_

Life Requirement \_\_\_\_\_

Gearhead- Del-Tron Precision Supplied or Customer Supplied or Customer Mount or NA

Size \_\_\_\_\_ Ratio \_\_\_\_\_

Motor Type \_\_\_\_\_ Servo or Stepper \_\_\_\_\_

Del-Tron Precision Motor Adaptor (Circle One)    MT23, MV23, MT34, MV34    Other

Other Motor Manufacturer and Model Number \_\_\_\_\_

Mounting of Actuator

Feet for Rail \_\_\_\_\_

Feet for Pulley Housing \_\_\_\_\_

Sensors Required

How Many \_\_\_\_\_

What Locations \_\_\_\_\_

Comments and Questions \_\_\_\_\_

\_\_\_\_\_