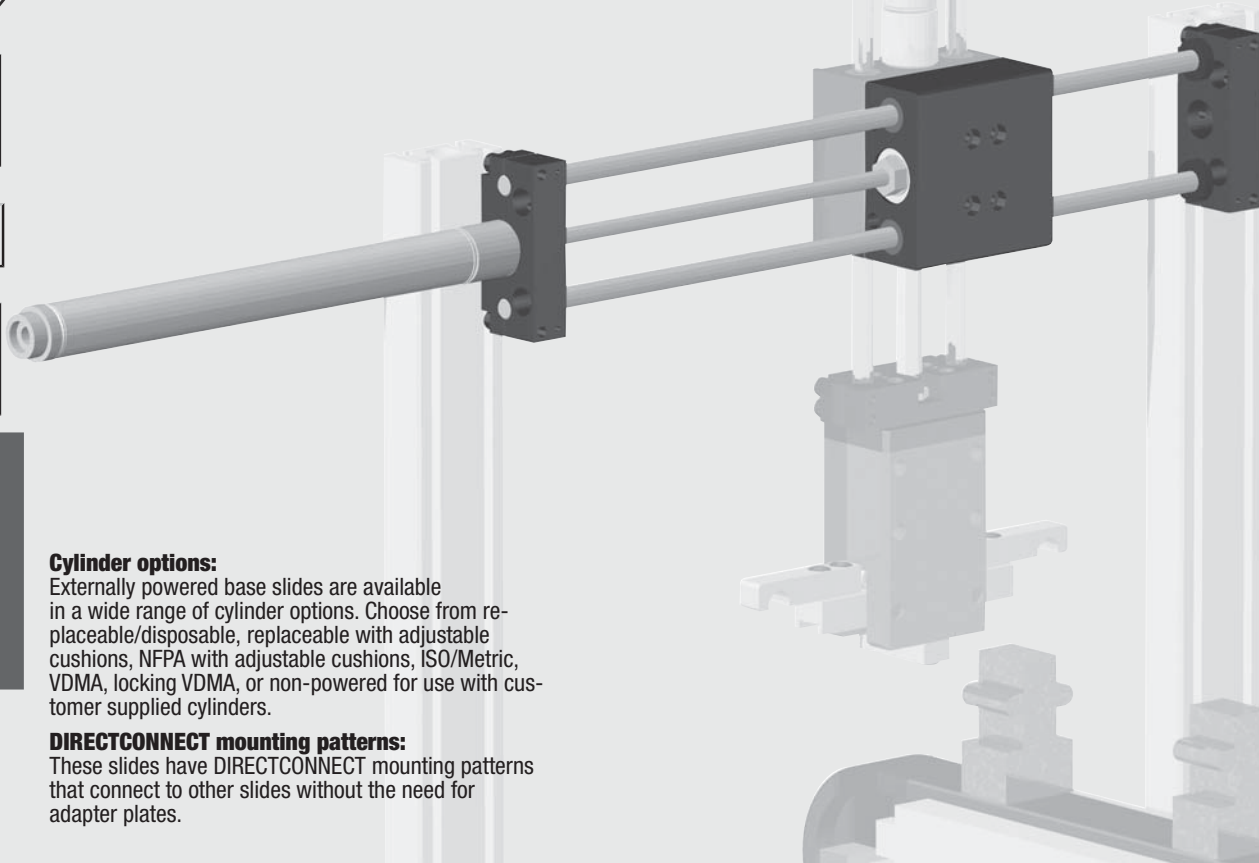


# Externally Powered Base Slides

DLB SERIES

4.20



**Cylinder options:**

Externally powered base slides are available in a wide range of cylinder options. Choose from replaceable/disposable, replaceable with adjustable cushions, NFPA with adjustable cushions, ISO/Metric, VDMA, locking VDMA, or non-powered for use with customer supplied cylinders.

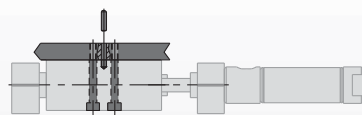
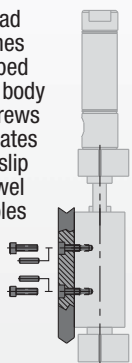
**DIRECTCONNECT mounting patterns:**

These slides have DIRECTCONNECT mounting patterns that connect to other slides without the need for adapter plates.

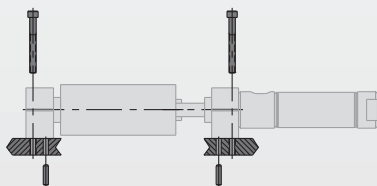
**Mounting Information:**

**Mounts and operates in any orientation**

Payload attaches to tapped holes in body with screws and locates using slip fit dowel pin holes



Payload attaches with screws through clearance and counter-bored holes in body and locates using slip fit dowel pin holes



End blocks mount with screws and locate with slip fit dowel pin holes

**Technical Specifications:**

**Pneumatic Specifications**

Pressure Operating Range\*  
Cylinder Type  
Dynamic Seals  
Valve Required to Operate

**Imperial**  
40-100 psi  
**Metric**  
3-7 bar  
Double Acting  
Internally Lubricated Buna-N  
4-way, 2-position

**Air Quality Requirements**

Air Filtration  
Air Lubrication  
Air Humidity

40 Micron or Better  
Not Necessary\*\*  
Low Moisture Content (dry)

**Temperature Operating Range**

Buna-N Seals (standard)    -30°~180° F    -35°~80° C  
Viton Seals (optional)      -20°~300° F    -30°~150° C

**Maintenance Specifications†**

Expected Life	5 million cycles
Normal Application	10+ million cycles†
w/ Preventative Maintenance	No
Field Repairable	No
Seal Repair Kits Available	No

**Application Restrictions**

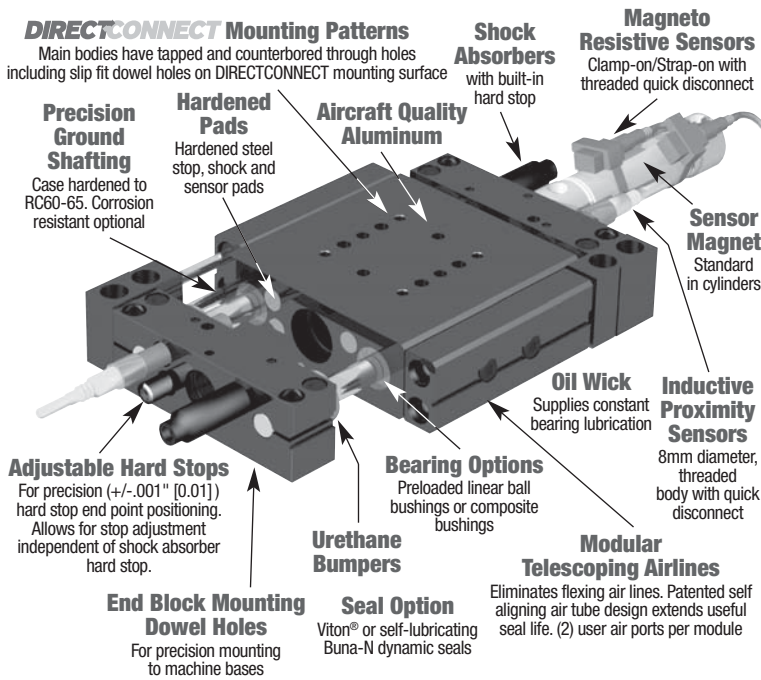
Flow controls, shock absorbers and urethane bumpers recommended for nearly all applications. Use composite bushing in dirty or gritty environments. Never use silicone based lubricants with composite bushings.

\*Higher pressure possible. Consult factory with application details.

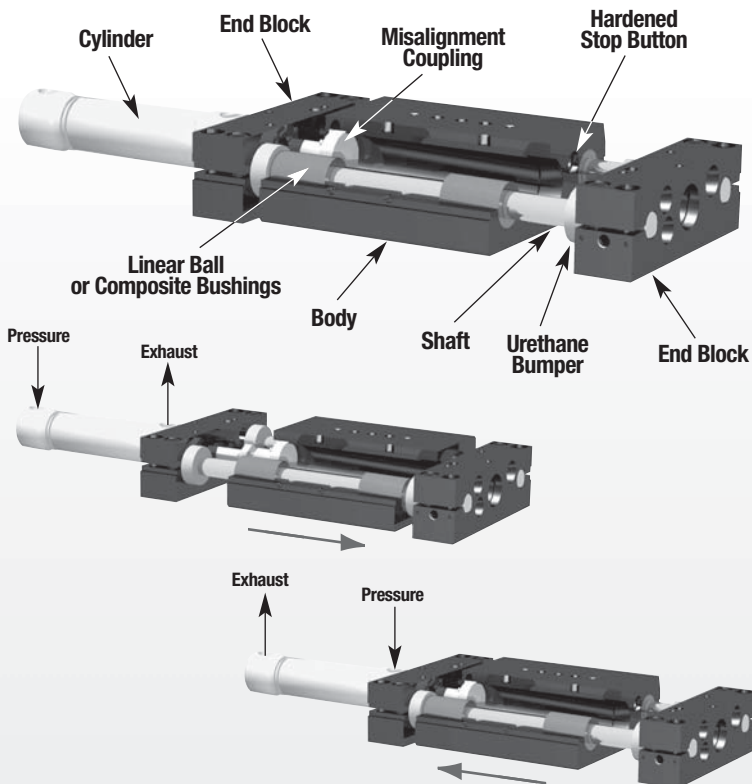
\*\*Addition of lubrication will greatly increase service life

† See Maintenance Section

## Product Features



## Operating Principle



- A moveable body is supported by four linear bushings which slide on two hardened steel shafts.
- The shafts are supported on each end of the slide by two fixed end blocks.
- A double acting air cylinder is mounted to one of the end blocks.
- The piston rod of the cylinder is connected to the slide body with a misalignment coupling.
- When air pressure is applied to the cylinder the slide body moves.

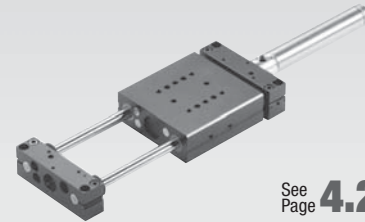
**Designed and manufactured in the USA**

### Style -T, A Replaceable Cyl.

**Size -10M** (Metric -A only) (shown)

**-12M** (Metric -A only)

**-16M** (Metric -A only)

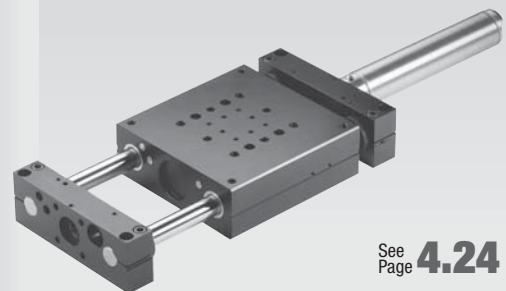


See Page **4.22**

### Style -T, A Replaceable Cyl.

**Size -20** (shown)

**-25**



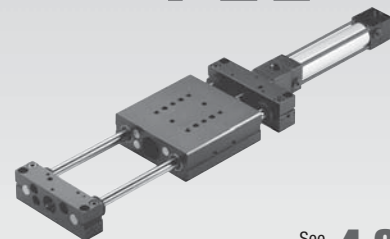
See Page **4.24**

### Style -N, U Replaceable Cyl.

**Size -10** (shown)

**-12**

**-16**

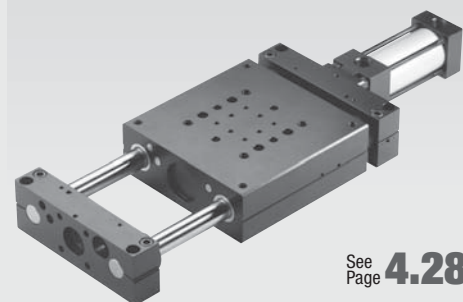


See Page **4.26**

### Style -N, R, U Replaceable Cyl.

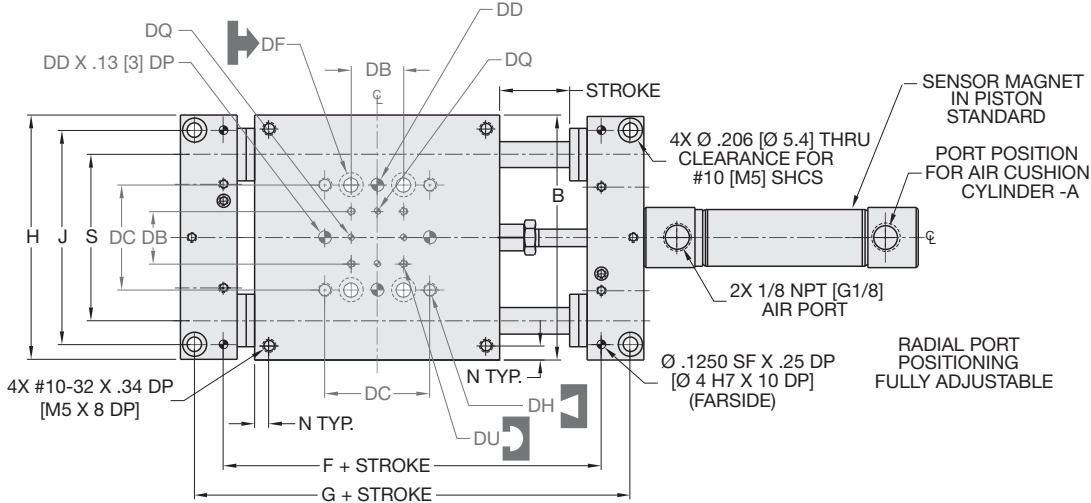
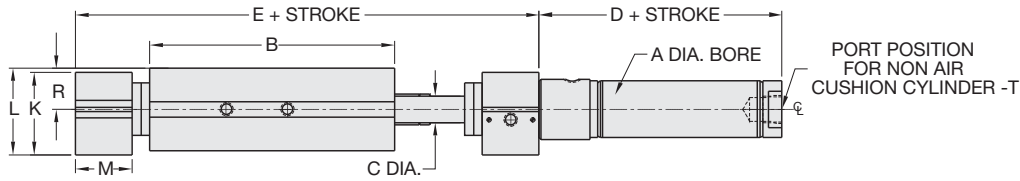
**Size -20M** (shown)

**-25M**



See Page **4.28**

# BASE SLIDE DLB -10M, 12M, 16M -T, A REPLACEABLE CYLINDER WITH OR W/O ADJUST. AIR CUSHIONS



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

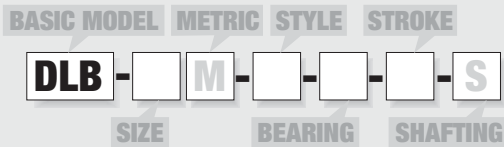
Symbol	Imperial in.	Metric [mm]
$\varnothing$	0.00 = ± .01	[0.] = [± .25]
$\varnothing$	0.000 = ± .005	[0.0] = [± .13]
$\varnothing$	0.0000 = ± .0005	[0.00] = [± .013]

MODEL #	BORE DIA.			BODY SIZE											SHAFT DIA.
	A	B	C	D	E	F	G	H	J	K	L	M	N	R	
DLB-10	3/4	3.50	.375	2.91	5.63	4.3975	5.228	3.485	3.060	1.178	1.245	.813	N/A	.594	2.375
DLB-12	1/16	4.00	.472	2.88	6.13	4.8975	5.728	3.985	3.500	1.615	1.657	.813	.375	.813	2.750
DLB-16	1/16	4.75	.630	2.88	6.88	5.6475	6.478	4.735	4.250	1.615	1.657	.813	.375	.813	3.250
DLB-10M	20	88.9	9.5	88.0	149.4	118.05	139.1	88.5	77.7	29.9	31.6	20.7	N/A	15.09	60.33
DLB-12M	25	101.6	12	91.5	162.1	130.75	151.8	101.2	88.9	41.0	42.1	20.7	9.5	20.65	69.85
DLB-16M	25	120.7	16	91.5	181.1	149.80	170.9	120.3	107.9	41.0	42.1	20.7	9.5	20.65	82.55

## DIRECTCONNECT DIMENSIONS STANDARD MOUNTING PATTERN FOR ALL SIZES

	Imperial (inches)	Metric (mm)
DB	.750	19.1
DC	1.500	38.1
DD	.1880 x .25 DP	5mm H7 x 6 DP
DF	Clearance for #10	Clearance for M5
DH	#10-32 x .34 DP	M5 x 8.5 DP
DQ	.0940 x .078 DP	3H7 x 2 DP
DU	#4-40 X .25 DP	M3 X 6 DP

## How to Order: Basic Unit



- SIZE** 10, 12, 16
- METRIC** M
- STYLE** T Replaceable cylinder w/o adjustable air cushions (Not avail. in metric)  
A Replaceable cylinder with adjustable air cushions
- BEARING** B Linear ball bearings  
C Composite bushings
- STROKE** (inches)  
DLB-10 1-12 @ 1" increments  
DLB-12 1-16 @ 1" increments  
DLB-16 1-20 @ 1" increments  
Custom strokes available. Please consult factory.
- STROKE** (mm)  
DLB-10M 25, 50, 80, 100, 125, 160, 200, 250, 300  
DLB-12M 25, 50, 80, 100, 125, 160, 200, 250, 300, 320, 360, 400  
DLB-16M 25, 50, 80, 100, 125, 160, 200, 250, 300, 320, 360, 400, 500
- SHAFTING** S Corrosion resistant shafting

### SAMPLE ORDER: DLB-10M-A-B-25

Exc Base Slide, Size 10 Metric, Replaceable Cylinder w/Adjustable Air Cushions, Linear Ball Bushings, 25mm Stroke

## Accessories: (Order Separately)

### SHOCK/STOP ACCESSORIES

	DLB-10M	DLB-12M	DLB-16M	QTY/SLIDE
Shock Absorber	SHOK-028	SHOK-010	SHOK-010	1 or 2
Adjustable Hard Stop	DLT-1023	DLT-1023	DLT-1023	1 or 2

### INDUCTIVE SENSOR ACCESSORIES †

	DLB-10M	DLB-12M	DLB-16M	QTY/SLIDE
Inductive Sensor PNP Qk. Disconnect	OISP-011	OISP-011	OISP-011	1 or 2
Inductive Sensor NPN Qk. Disconnect	OISN-011	OISN-011	OISN-011	1 or 2
Quick. Disconnect 2M Cable Length	CABL-010	CABL-010	CABL-010	1 or 2
Quick. Disconnect 5M Cable Length	CABL-013	CABL-013	CABL-013	1 or 2

### MAGNETIC SENSOR ACCESSORIES †\*\*

	DLB-10M	DLB-12M	DLB-16M	QTY/SLIDE
Magneto Resistive Sensor PNP Qk. Disc.	OHSP-005	OHSP-005	OHSP-005	1 or 2
Magneto Resistive Sensor NPN Qk. Disc.	OHSN-005	OHSN-005	OHSN-005	1 or 2
Quick. Disconnect 2M Cable Length	CABL-010	CABL-010	CABL-010	1 or 2
Quick. Disconnect 5M Cable Length	CABL-013	CABL-013	CABL-013	1 or 2

### PNEUMATIC ACCESSORIES

	DLB-10M	DLB-12M	DLB-16M	QTY/SLIDE
1/8 NPT Telescopic Airlines (up to 6")	OTAL-039	OTAL-039	OTAL-039	1,2,3 or 4
1/8 NPT Telescopic Airlines (up to 12")	OTAL-040	OTAL-040	OTAL-040	1,2,3 or 4
1/8 NPT Telescopic Airlines (up to 18")	OTAL-041	OTAL-041	OTAL-041	1,2,3 or 4
1/8 NPT Telescopic Airlines (up to 24")	OTAL-042	OTAL-042	OTAL-042	1,2,3 or 4
1/8 NPT Adjustable Flow Control	VLVF-004	VLVF-004	VLVF-004	1 or 2
G1/8 Telescopic Airlines (up to 160mm)	OTAL-045	OTAL-045	OTAL-045	1,2,3 or 4
G1/8 Telescopic Airlines (up to 300mm)	OTAL-046	OTAL-046	OTAL-046	1,2,3 or 4
G1/8 Telescopic Airlines (up to 450mm)	OTAL-047	OTAL-047	OTAL-047	1,2,3 or 4
G1/8 Telescopic Airlines (up to 600mm)	OTAL-048	OTAL-048	OTAL-048	1,2,3 or 4
G1/8 Adjustable Flow Control	VLVF-005	VLVF-005	VLVF-005	1 or 2

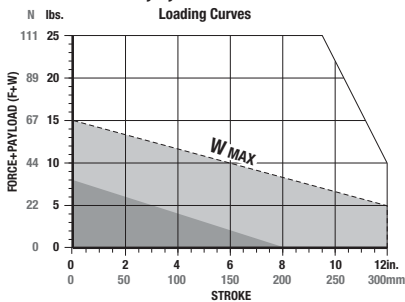
†Sensor and cable sold separately \*\*Piston magnet standard



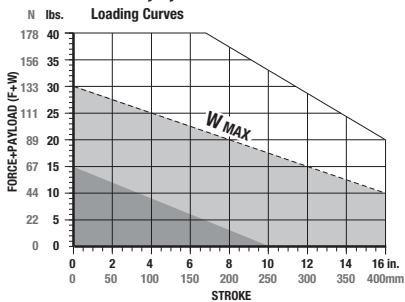
# BASE SLIDE DLB -10M, 12M, 16M -T, A REPLACEABLE CYLINDER WITH OR W/O ADJUST. AIR CUSHIONS



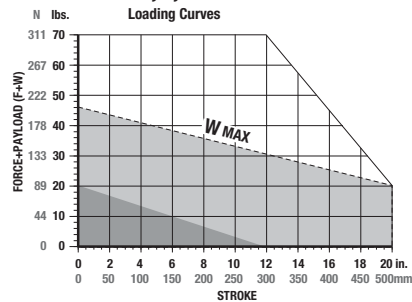
## DLB-10M-T,A,U



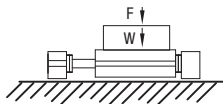
## DLB-12M-T,A,U



## DLB-16M-T,A,U



**F**=Externally applied force (lbs. or N)  
**W**=Weight of payload (lbs. or N)  
**F+W**=Total force (lbs. or N)



**Shock Absorbers and Flow Controls are recommended for nearly all applications**

**(W)** in this range use **Single Shock** in both directions **(W)** in this range use **Bumpers or Cushioned Cylinder**

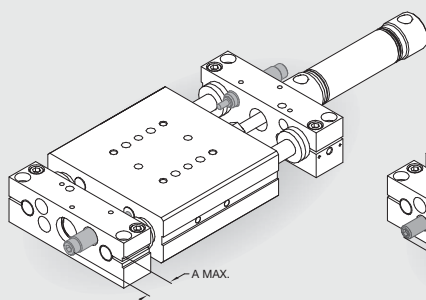
Shaded shock absorption ranges of horizontal payload (W) @ 80psi, flow controls fully open. For vertical applications do not exceed 1/2 of the recommended payload due to the additional acceleration effect of gravity.

Specifications	DLB-10	DLB-10M
Maximum Air Pressure .....	100 psi	6.9 bar
Thrust Force @ 80psi/5.5bar..	31 lbs.	145 N
Weight (Basic Unit -T, -A) .....	1.98 lbs.	0.90 kg
Additional Weight per Stroke ..	0.09 lbs./in.	1.4 g/mm
Cylinder Bore Diameter .....	3/4"	20 mm
Shaft Diameter .....	0.375"	9.5 mm
Maximum Moment Load .....	75 in.-lbs.	8.4 N-m

Specifications	DLB-12	DLB-12M
Maximum Air Pressure .....	100 psi	6.9 bar
Thrust Force @ 80psi/5.5bar..	65 lbs.	289 N
Weight (Basic Unit -T, -A) .....	3.73 lbs.	1.66 kg
Additional Weight per Stroke ..	0.15 lbs./in.	2.9 g/mm
Cylinder Bore Diameter .....	1-1/16"	25 mm
Shaft Diameter .....	0.472"	12 mm
Maximum Moment Load .....	150 in.-lbs.	16.9 N-m

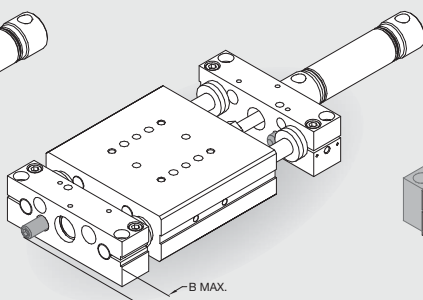
Specifications	DLB-16	DLB-16M
Maximum Air Pressure .....	100 psi	6.9 bar
Thrust Force @ 80psi/5.5bar..	65 lbs.	289 N
Weight (Basic Unit -T, -A) .....	5.03 lbs.	2.3 kg
Additional Weight per Stroke ..	0.23 lbs./in.	4.2 g/mm
Cylinder Bore Diameter .....	1-1/16"	25 mm
Shaft Diameter .....	0.630"	16 mm
Maximum Moment Load .....	300 in.-lbs.	33.9 N-m

## Accessory Mounting Technical Data



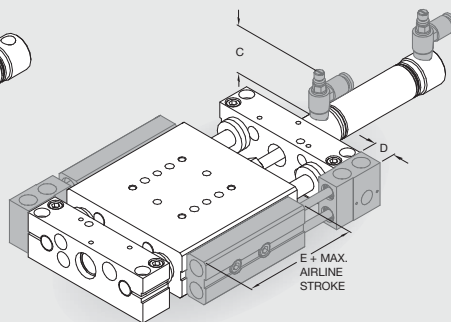
### Shock Absorbers

- Full stroking piston rod
- Built-in hard stop
- Allen wrench adjustable



### Adjustable Hard Stops

- For precision (+/- .001") hard stop end point positioning
- Allows for stop adjustment independent of shock absorber hard stop
- Allen wrench adjustable

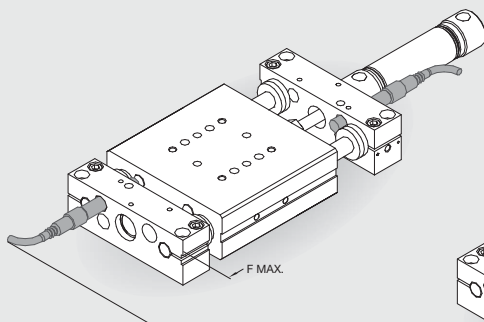


### Telescoping Airlines

- Eliminate flexing air lines
- Self aligning air tube design extends useful seal life
- Modular stackable design. Up to (4) modules can be stacked
- Modules can be mounted on either side of slide
- 1/8 NPT or G1/8 pipe threads
- (2) user air ports per module

### Flow Controls for Cylinders

- Thumb screw adjust with locking nut for adjusting cylinder speed
- 1/8 NPT or G1/8 pipe threads

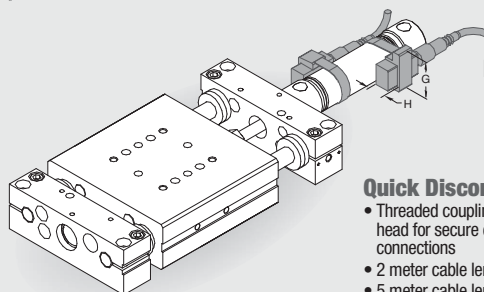


### Inductive Proximity Sensors

- 8mm diameter
- Threaded quick disconnect with built-in LED output
- PNP and NPN available

### Quick Disconnect Cable

- Threaded coupling with knurled head for secure electrical connections
- 2 meter cable length
- 5 meter cable length



### Magneto Resistive Sensors

- For all externally mounted cylinders
- Quick Disconnect with built in LED output
- Strap-on mounting kit included
- PNP and NPN available

### Quick Disconnect Cable

- Threaded coupling with knurled head for secure electrical connections
- 2 meter cable length
- 5 meter cable length

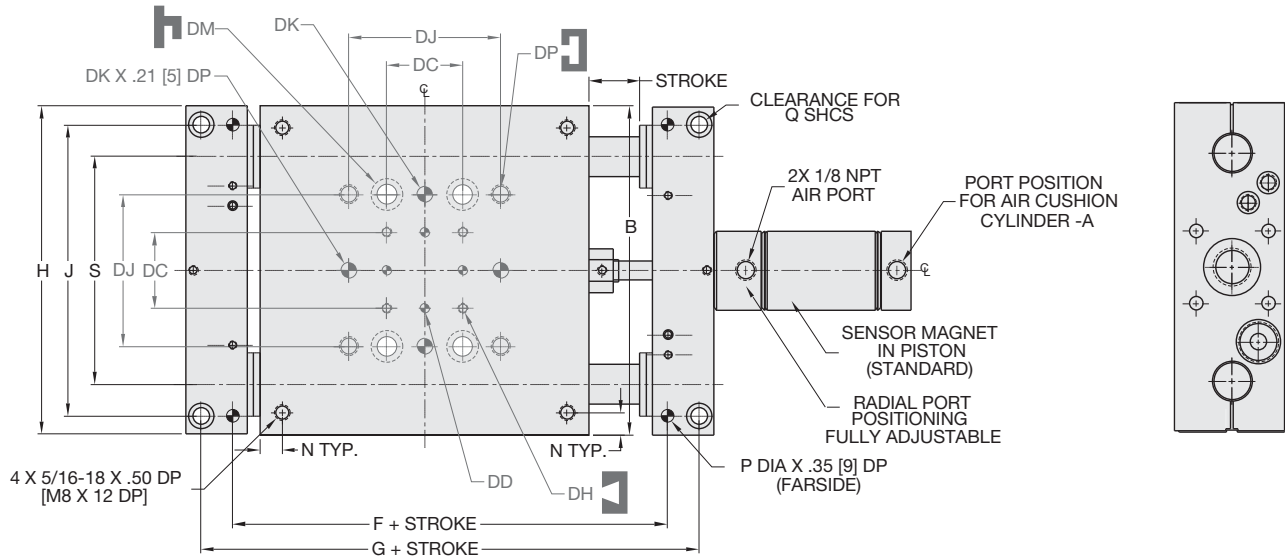
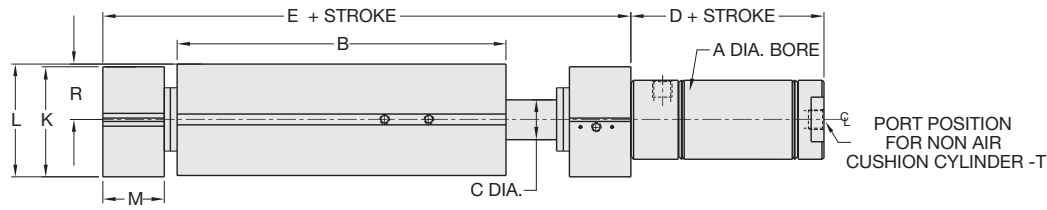
	A	B	C	D	E	F	G	H
DLB-10	.70"	.47	1.25	.577	3.60	2.5	1.00	.43
DLB-12	.95"	.47	1.25	.577	3.60	2.5	1.00	.43
DLB-16	.95"	.47	1.25	.577	3.60	2.5	1.00	.43
DLB-10M	17.8mm	11.9	31.8	14.7	91.4	63.5	25.4	10.9
DLB-12M	24.1mm	11.9	31.8	14.7	91.4	63.5	25.4	10.9
DLB-16M	24.1mm	11.9	31.8	14.7	91.4	63.5	25.4	10.9

DLB SERIES

4.23

DIRECTCONNECT™

# BASE SLIDE DLB -20, 25 -T, A REPLACEABLE CYLINDER WITH OR W/O ADJUST. AIR CUSHIONS



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance $\pm .0005$ " or $\pm .013$ mm	Metric Threads Course Pitch	Imperial in. 0.00 = $\pm .01$ 0.000 = $\pm .005$ 0.0000 = $\pm .0005$	Metric [mm] [0.] = $\pm .25$ [0.0] = $\pm .13$ [0.00] = $\pm .013$
---	------------------------	--	-----------------------------	--	---

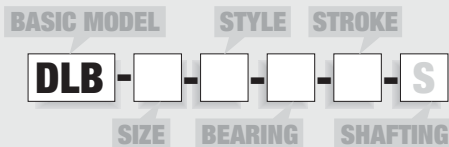
## DIRECTCONNECT DIMENSIONS

STANDARD MOUNTING PATTERN FOR ALL SIZES

	Imperial (inches)
DC	1.500
DD	.1880 x .25 DP
DH	#10-32 x .38 DP
DJ	3.000
DK	.3130 x .37 DP
DM	Clearance for $\frac{1}{8}$
DP	$\frac{1}{8}$ -16 x .50 DP

MODEL #	BORE DIA.		BODY SIZE		SHAFT DIA.												
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S
DLB-20	1 1/2	6.50	.787	3.0	9.42	7.5850	8.836	6.480	5.7500	2.180	2.236	1.210	.438	.2505	1/16	1.100	4.500
DLB-25	1 1/2	7.50	.984	3.0	10.84	8.7320	10.108	7.480	6.7500	2.180	2.236	1.420	.438	.3130	3/8	1.100	5.250

## How to Order: Basic Unit



SIZE **20, 25**

STYLE **T** Replaceable cylinder w/o adjustable air cushions  
**A** Replaceable cylinder with adjustable air cushions

BEARING **B** Linear ball bearings  
**C** Composite bushings

Custom strokes available.  
Please consult factory.

STROKE (inches)  
DLB-20 **1-24** @ 1" increments  
DLB-25 **1-26** @ 1" increments

SHAFTING **S** Corrosion resistant shafting

## Accessories: (Order Separately)

### SHOCK/STOP ACCESSORIES

	DLB-20	DLB-25	QTY/SLIDE
Shock Absorber (adjustable dampening)	<b>SHOK-029</b>	<b>SHOK-029</b>	<b>1 or 2</b>
Adjustable Hard Stop	<b>DLT-1023</b>	<b>DLT-1023</b>	<b>1 or 2</b>

### INDUCTIVE SENSOR ACCESSORIES †

	DLB-20	DLB-25	QTY/SLIDE
Inductive Sensor PNP Qk. Disconnect	<b>OISP-011</b>	<b>OISP-011</b>	<b>1 or 2</b>
Inductive Sensor NPN Qk. Disconnect	<b>OISN-011</b>	<b>OISN-011</b>	<b>1 or 2</b>
Quick. Disconnect 2M Cable Length	<b>CABL-010</b>	<b>CABL-010</b>	<b>1 or 2</b>
Quick. Disconnect 5M Cable Length	<b>CABL-013</b>	<b>CABL-013</b>	<b>1 or 2</b>

### MAGNETIC SENSOR ACCESSORIES † \*\*

	DLB-20	DLB-25	QTY/SLIDE
Magneto Resistive Sensor PNP Qk. Disc.	<b>OHSP-005</b>	<b>OHSP-005</b>	<b>1 or 2</b>
Magneto Resistive Sensor NPN Qk. Disc.	<b>OHSN-005</b>	<b>OHSN-005</b>	<b>1 or 2</b>
Quick. Disconnect 2M Cable Length	<b>CABL-010</b>	<b>CABL-010</b>	<b>1 or 2</b>
Quick. Disconnect 5M Cable Length	<b>CABL-013</b>	<b>CABL-013</b>	<b>1 or 2</b>

### PNEUMATIC ACCESSORIES

	DLB-20	DLB-25	QTY/SLIDE
1/8 NPT Telescopic Airlines (up to 6")	<b>OTAL-039</b>	<b>OTAL-039</b>	<b>1, 2, 3 or 4</b>
1/8 NPT Telescopic Airlines (up to 12")	<b>OTAL-040</b>	<b>OTAL-040</b>	<b>1, 2, 3 or 4</b>
1/8 NPT Telescopic Airlines (up to 18")	<b>OTAL-041</b>	<b>OTAL-041</b>	<b>1, 2, 3 or 4</b>
1/8 NPT Telescopic Airlines (up to 24")	<b>OTAL-042</b>	<b>OTAL-042</b>	<b>1, 2, 3 or 4</b>
1/8 NPT Adjustable Flow Control	<b>VLVF-004</b>	<b>VLVF-004</b>	<b>1 or 2</b>

†Sensor and cable sold separately    \*\*Piston magnet standard

## SAMPLE ORDER: DLB-20-A-B-8

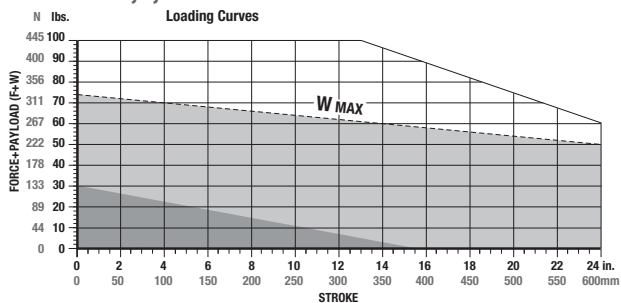
Ex: Base Slide, Size 20, Replaceable Cylinder w/Adjustable Air Cushions, Linear Ball Bushings, 8 inch Stroke



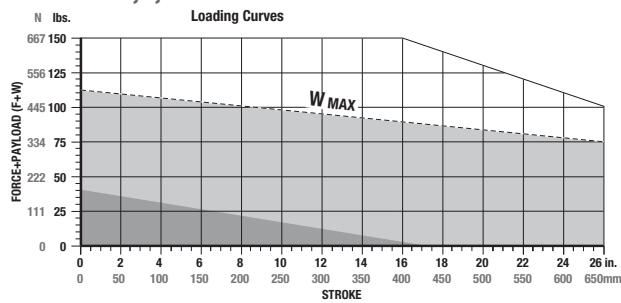
# BASE SLIDE DLB -20, 25 -T, A REPLACEABLE CYLINDER WITH OR W/O ADJUST. AIR CUSHIONS

DLB SERIES

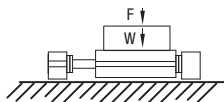
## DLB-20-T,A,U



## DLB-25-T,A,U



**F**=Externally applied force (lbs. or N)  
**W**=Weight of payload (lbs. or N)  
**F+W**=Total force (lbs. or N)



**Shock Absorbers and Flow Controls are recommended for nearly all applications**

**(W)** in this range use **Single Shock** in both directions **(W)** in this range use **Bumpers or Cushioned Cylinder**

Shaded shock absorption ranges of horizontal payload (W) @ 80psi, flow controls fully open. For vertical applications do not exceed 1/2 of the recommended payload due to the additional acceleration effect of gravity.

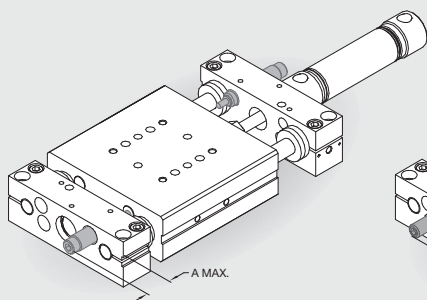
### Specifications

	DLB-20
Maximum Air Pressure .....	100 psi
Thrust Force @ 80psi/5.5bar .....	130 lbs.
Weight (Basic Unit -T, -A) .....	12.6 lbs.
Additional Weight per Stroke .....	0.38 lbs./in.
Cylinder Bore Diameter .....	1-1/2"
Shaft Diameter .....	0.787"
Maximum Moment Load .....	600 in.-lbs.

### Specifications

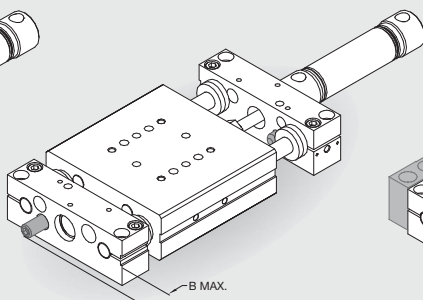
	DLB-25
Maximum Air Pressure .....	100 psi
Thrust Force @ 80psi/5.5bar .....	130 lbs.
Weight (Basic Unit -T, -A) .....	17.7 lbs.
Additional Weight per Stroke .....	0.53 lbs./in.
Cylinder Bore Diameter .....	1-1/2"
Shaft Diameter .....	0.984"
Maximum Moment Load .....	1200 in.-lbs.

## Accessory Mounting Technical Data



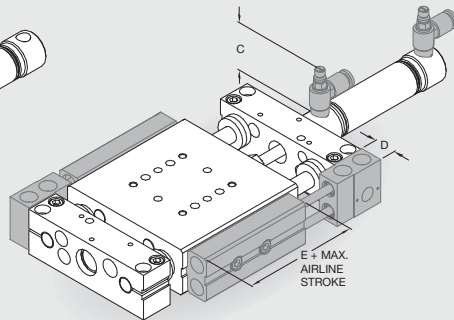
### Shock Absorbers

- Full stroking piston rod
- Built-in hard stop
- Position adjustable
- Adjustable dampening



### Adjustable Hard Stops

- For precision (+/- .001") hard stop end point positioning
- Allows for stop adjustment independent of shock absorber hard stop
- Allen wrench adjustable

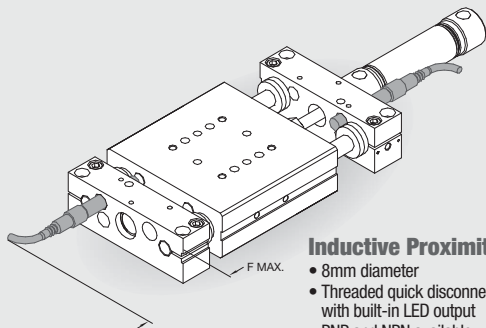


### Telescoping Airlines

- Eliminate flexing air lines
- Self aligning air tube design extends useful seal life
- Modular stackable design. Up to (4) modules can be stacked
- Modules can be mounted on either side of slide
- 1/8 NPT pipe threads
- (2) user air ports per module

### Flow Controls for Cylinders

- Thumb screw adjust with locking nut for adjusting cylinder speed
- 1/8 NPT pipe threads

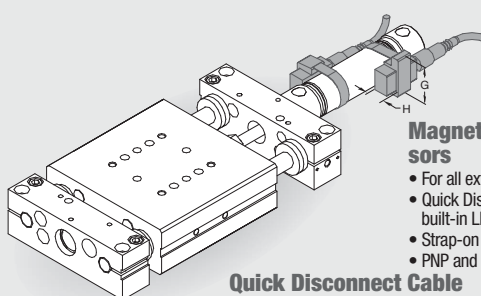


### Inductive Proximity Sensors

- 8mm diameter
- Threaded quick disconnect with built-in LED output
- PNP and NPN available

### Quick Disconnect Cable

- Threaded coupling with knurled head for secure electrical connections
- 2 meter cable length
- 5 meter cable length



### Magneto Resistive Sensors

- For all externally mounted cylinders
- Quick Disconnect with built-in LED output
- Strap-on mounting kit included
- PNP and NPN available

### Quick Disconnect Cable

- Threaded coupling with knurled head for secure electrical connections
- 2 meter cable length
- 5 meter cable length

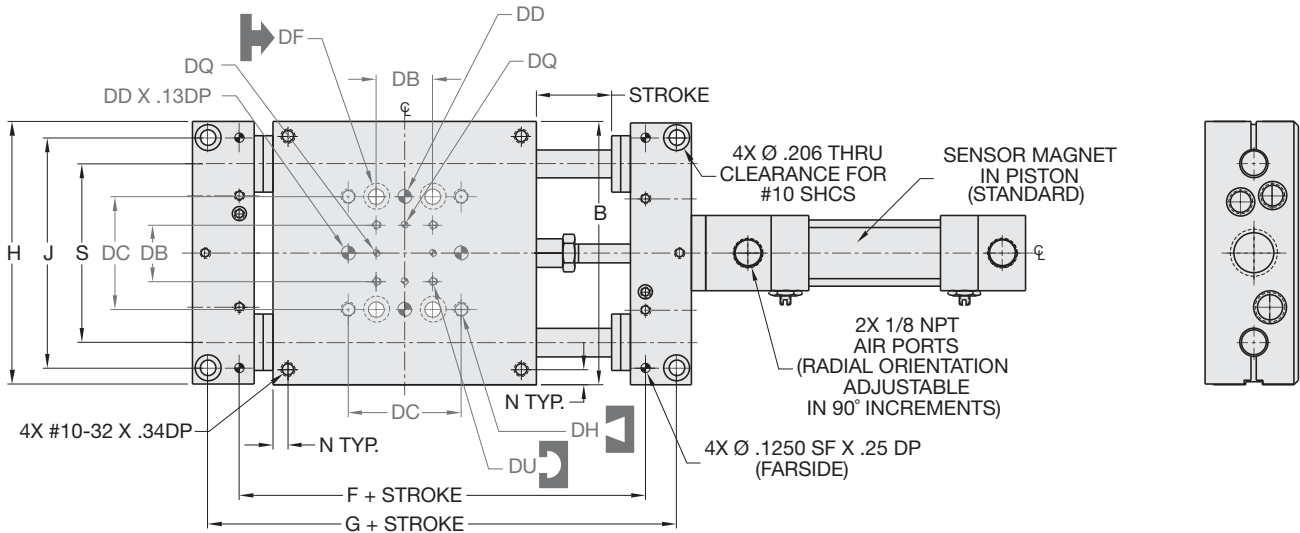
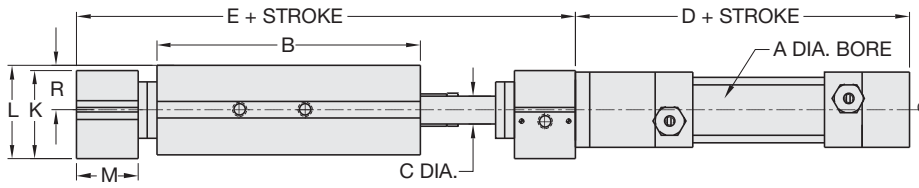
	A	B	C	D	E	F	G	H
DLB-20	2.03"	.10	1.25	.577	3.60	2.12	1.00	.43
DLB-25	1.82"	.10	1.25	.577	3.60	1.90	1.00	.43

DLB SERIES

4.25

DIRECTCONNECT™

# BASE SLIDE DLB -10M, 12M, 16M -N, U REPAIRABLE (NFPA STYLE) CYLINDER W/FIXED AIR CUSHIONS



DLB SERIES

4.26

UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

$\varnothing$				<b>Imperial in.</b>	<b>Metric [mm]</b>
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance $\pm .0005"$ or $\pm .013\text{mm}$	Metric Threads Course Pitch	0.00 = $\pm .01$ 0.000 = $\pm .005$ 0.0000 = $\pm .0005$	[0.] = $\pm .25$ [0.0] = $\pm .13$ [0.00] = $\pm .013$

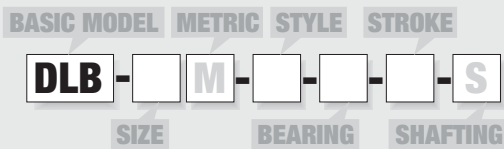
## DIRECTCONNECT DIMENSIONS

STANDARD MOUNTING PATTERN FOR ALL SIZES

	Imperial (inches)
DB	.750
DC	1.500
DD	.1880 x .25 DP
DF	Clearance for #10
DH	#10-32 x .34 DP
DQ	.0940 x .078 DP
DU	#4-40 X .25 DP

MODEL #	BORE DIA.		BODY SIZE		SHAFT DIA.												
	A	B	C	D	E	F	G	H	J	K	L	M	N	R	S		
DLB-10	3/4	3.50	.375	3.44	5.63	4.3975	5.228	3.485	3.0600	1.178	1.245	.813	N/A	.594	2.375		
DLB-12	1/8	4.00	.472	3.44	6.13	4.8975	5.728	3.985	3.5000	1.615	1.657	.813	.375	.813	2.750		
DLB-16	1/8	4.75	.630	3.44	6.88	5.6475	6.478	4.735	4.2500	1.615	1.657	.813	.375	.813	3.250		

## How to Order: Basic Unit



SIZE **10, 12, 16**

STYLE **N** Repairable NFPA cylinder w/fixed air cushions  
(Not available in Metric)

**U** Non-powered unit (Without cylinder. **Metric Units:** Mount VDMA cylinder directly. NFPA not available. **Imperial Units:** Mount NFPA cylinders using NFPA mounting kit. VDMA not available.)

BEARING **B** Linear ball bearings  
**C** Composite bushings

STROKE (inches)  
DLB-10 **1-12** @ 1" increments  
DLB-12 **1-16** @ 1" increments  
DLB-16 **1-20** @ 1" increments

Custom strokes available.  
Please consult factory.

STROKE (mm)  
DLB-10M **25, 50, 80, 100, 125, 160, 200, 250, 300**  
DLB-12M **25, 50, 80, 100, 125, 160, 200, 250, 300, 320, 360, 400**  
DLB-16M **25, 50, 80, 100, 125, 160, 200, 250, 300, 320, 360, 400, 500**

SHAFTING **S** Corrosion resistant shafting

### SAMPLE ORDER: DLB-10-N-B-6

Ex: Base Slide, Size 10, Repairable Cylinder w/Fixed Air Cushions, Linear Ball Bushings, 6 Inch Stroke

## Accessories: (Order Separately)

### SHOCK/STOP ACCESSORIES

Shock Absorber	<b>SHOK-028</b>	<b>SHOK-010</b>	<b>SHOK-010</b>	<b>1 or 2</b>
Adjustable Hard Stop	<b>DLT-1023</b>	<b>DLT-1023</b>	<b>DLT-1023</b>	<b>1 or 2</b>

### INDUCTIVE SENSOR ACCESSORIES†

Inductive Sensor PNP Qk. Disconnect	<b>OISP-011</b>	<b>OISP-011</b>	<b>OISP-011</b>	<b>1 or 2</b>
Inductive Sensor NPN Qk. Disconnect	<b>OISN-011</b>	<b>OISN-011</b>	<b>OISN-011</b>	<b>1 or 2</b>
Quick. Disconnect 2M Cable Length	<b>CABL-010</b>	<b>CABL-010</b>	<b>CABL-010</b>	<b>1 or 2</b>
Quick. Disconnect 5M Cable Length	<b>CABL-013</b>	<b>CABL-013</b>	<b>CABL-013</b>	<b>1 or 2</b>

### MAGNETIC SENSOR ACCESSORIES†\*\*

Magneto Resistive Sensor PNP Qk. Disc.	<b>OHSP-005</b>	<b>OHSP-005</b>	<b>OHSP-005</b>	<b>1 or 2</b>
Magneto Resistive Sensor NPN Qk. Disc.	<b>OHSN-005</b>	<b>OHSN-005</b>	<b>OHSN-005</b>	<b>1 or 2</b>
Quick. Disconnect 2M Cable Length	<b>CABL-010</b>	<b>CABL-010</b>	<b>CABL-010</b>	<b>1 or 2</b>
Quick. Disconnect 5M Cable Length	<b>CABL-013</b>	<b>CABL-013</b>	<b>CABL-013</b>	<b>1 or 2</b>

### PNEUMATIC ACCESSORIES

NFPA Cylinder Mounting Kit (-U only)	<b>ODLT-001</b>	<b>ODLT-002</b>	<b>ODLT-002</b>	<b>1</b>
1/8 NPT Telescopic Airlines (up to 6")	<b>OTAL-039</b>	<b>OTAL-039</b>	<b>OTAL-039</b>	<b>1,2,3 or 4</b>
1/8 NPT Telescopic Airlines (up to 12")	<b>OTAL-040</b>	<b>OTAL-040</b>	<b>OTAL-040</b>	<b>1,2,3 or 4</b>
1/8 NPT Telescopic Airlines (up to 18")	<b>OTAL-041</b>	<b>OTAL-041</b>	<b>OTAL-041</b>	<b>1,2,3 or 4</b>
1/8 NPT Telescopic Airlines (up to 24")	<b>OTAL-042</b>	<b>OTAL-042</b>	<b>OTAL-042</b>	<b>1,2,3 or 4</b>
1/8 NPT Adjustable Flow Control	<b>VLVF-004</b>	<b>VLVF-004</b>	<b>VLVF-004</b>	<b>1 or 2</b>

†Sensor and cable sold separately \*\*Piston magnet standard

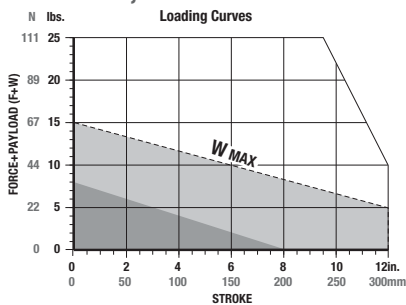
DIRECTCONNECT



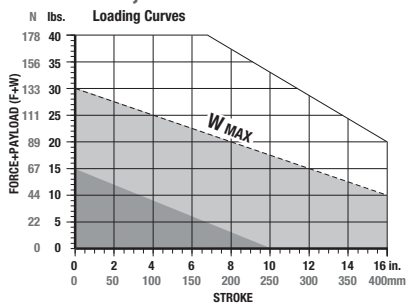
# BASE SLIDE DLB -10M, 12M, 16M -N, U REPAIRABLE (NFPA STYLE) CYLINDER W/ADJ. AIR CUSHIONS



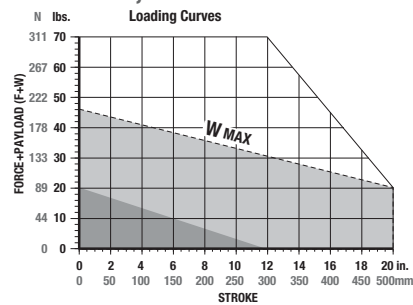
## DLB-10-N,U



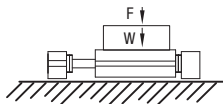
## DLB-12-N,U



## DLB-16-N,U



**F**=Externally applied force (lbs. or N)  
**W**=Weight of payload (lbs. or N)  
**F+W**=Total force (lbs. or N)



**Shock Absorbers and Flow Controls are recommended for nearly all applications**

**(W)** in this range use **Single Shock** in both directions **(W)** in this range use **Bumpers or Cushioned Cylinder**

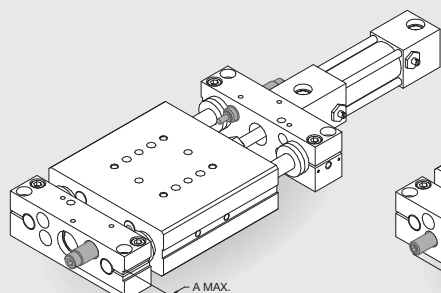
Shaded shock absorption ranges of horizontal payload (W) @ 80psi, flow controls fully open. For vertical applications do not exceed 1/2 of the recommended payload due to the additional acceleration effect of gravity.

Specifications	DLB-10
Maximum Air Pressure .....	100 psi
Thrust Force @ 80psi/5.5bar .....	29 lbs.
Weight (Basic Unit -N) .....	2.01 lbs.
Additional Weight per Stroke .....	0.08 lbs./in.
Cylinder Bore Diameter .....	3/4"
Shaft Diameter .....	0.375"
Maximum Moment Load .....	75 in.-lbs.

Specifications	DLB-12
Maximum Air Pressure .....	100 psi
Thrust Force @ 80psi/5.5bar .....	71 lbs.
Weight (Basic Unit -N) .....	3.79 lbs.
Additional Weight per Stroke .....	0.16 lbs./in.
Cylinder Bore Diameter .....	1-1/8"
Shaft Diameter .....	0.472"
Maximum Moment Load .....	150 in.-lbs.

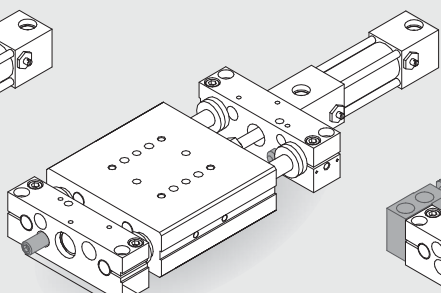
Specifications	DLB-16
Maximum Air Pressure .....	100 psi
Thrust Force @ 80psi/5.5bar .....	71 lbs.
Weight (Basic Unit -N) .....	5.09 lbs.
Additional Weight per Stroke .....	0.24 lbs./in.
Cylinder Bore Diameter .....	1-1/8"
Shaft Diameter .....	0.630"
Maximum Moment Load .....	300 in.-lbs.

## Accessory Mounting Technical Data



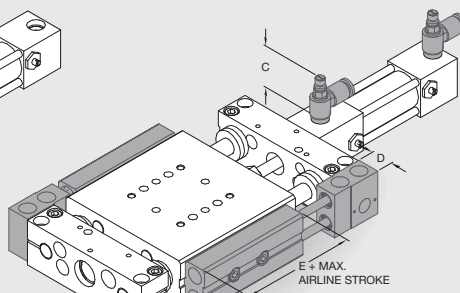
### Shock Absorbers

- Full stroking piston rod
- Built-in hard stop
- Allen wrench adjustable



### Adjustable Hard Stops

- For precision (+/- .001") hard stop end point positioning
- Allows for stop adjustment independent of shock absorber hard stop
- Allen wrench adjustable

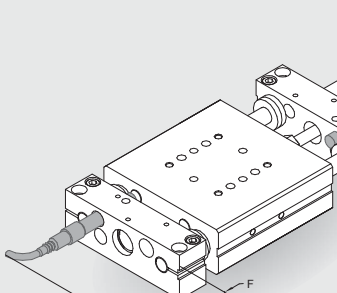


### Flow Controls for Cylinders

- Thumb screw adjust with locking nut for adjusting cylinder speed
- 1/8 NPT pipe threads

### Telescoping Airlines

- Eliminate flexing air lines
- Self aligning air tube design extends useful seal life
- Modular stackable design. Up to (4) modules can be stacked
- Modules can be mounted on either side of slide
- 1/8 NPT pipe threads
- (2) user air ports per module

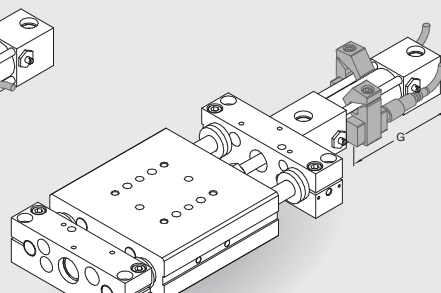


### Inductive Proximity Sensors

- 8mm diameter
- Threaded quick disconnect with built-in LED output
- PNP and NPN available

### Quick Disconnect Cable

- Threaded coupling with knurled head for secure electrical connections
- 2 meter cable length
- 5 meter cable length

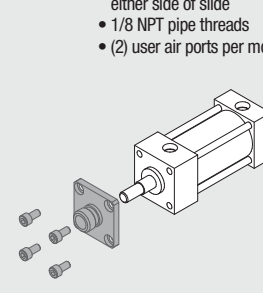


### Magneto Resistive Sensors

- For all externally mounted cylinders
- Quick Disconnect with built in LED output
- Clamp-on mounting kit included
- PNP and NPN available

### Quick Disconnect Cable

- Threaded coupling with knurled head for secure electrical connections
- 2 meter cable length
- 5 meter cable length



### NFPA Cylinder Mounting Kit

- Used to mount standard face mounted NFPA cylinders to non-powered units (-U)

	A	B	C	D	E	F	G
DLB-10	.70"	.47	1.25	.577	3.60	2.5	3.00
DLB-12	.95"	.47	1.25	.577	3.60	2.5	3.00
DLB-16	.95"	.47	1.25	.577	3.60	2.5	3.00
DLB-10M	17.8mm	11.9	31.8	14.7	91.4	63.5	76.2
DLB-12M	24.1mm	11.9	31.8	14.7	91.4	63.5	76.2
DLB-16M	24.1mm	11.9	31.8	14.7	91.4	63.5	76.2

DLB SERIES

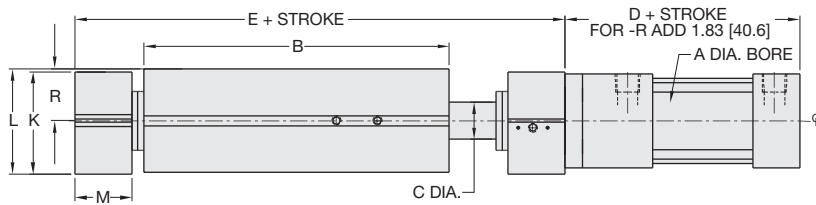
4.27

DIRECTCONNECT™

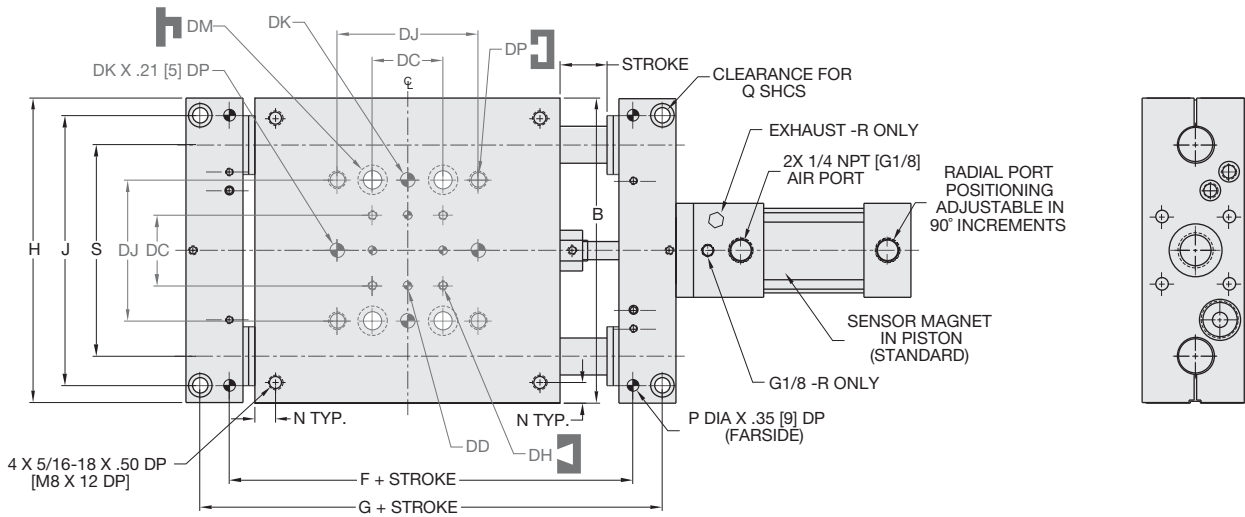




# BASE SLIDE DLB -20M, 25M -N, R, U REPAIRABLE (NFPA/VDMA) CYLINDER W/ ADJ. AIR CUSHIONS



**New! -R Locking  
Cylinder Style**



**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

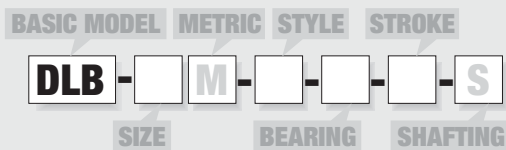
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or ±.013mm	Metric Threads Course Pitch	<b>Imperial in.</b> 0.00 = ± .01 0.000 = ± .005 0.0000 = ± .0005	<b>Metric [mm]</b> [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]
---	------------------------	--	-----------------------------	---	---

## DIRECTCONNECT® DIMENSIONS STANDARD MOUNTING PATTERN FOR ALL SIZES

	Imperial (inches)	Metric (mm)
DC	1.500	38.1
DD	.1880 x .25 DP	5mm H7 x 6 DP
DH	#10-32 x .38 DP	M5 x 9 DP
DJ	3.000	76.2
DK	.3130 x .37 DP	8mm H7 x 9.4 DP
DM	Clearance for 1/8"	Clearance for M10
DP	3/8-16 X .50 DP	M10 X 12 DP

MODEL #	BORE DIA. -N		B	C	BASIC UNIT DIMENSIONS										R	S		
	A	BORE DIA. -R			D	E	F	G	H	J	K	L	M	N			P	Q
DLB-20	1/2	32mm	6.50	.787	3.63	9.42	7.5850	8.836	6.480	5.7500	2.180	2.236	1.210	.438	.2505	1/16	1.100	4.500
DLB-25	1/2	32mm	7.50	.984	3.63	10.84	8.7320	10.108	7.480	6.7500	2.180	2.236	1.420	.438	.3130	1/8	1.100	5.250
DLB-20M	32	32	165.1	20	98.0	239.3	192.66	224.4	164.6	146.05	55.4	56.8	30.7	11.1	6.00	M8	27.94	114.30
DLB-25M	32	32	190.5	25	98.0	275.3	221.79	256.7	190.0	171.45	55.4	56.8	36.1	11.1	8.00	M10	27.94	113.35

## How to Order: Basic Unit



SIZE **20, 25**

METRIC **M**

**STYLE** **N** Repairable NFPA/VDMA cylinder w/adjustable air cushions  
**R** Repairable locking VDMA cylinder w/adjustable air cushions  
**U** Non-powered unit (Without cylinder. **Metric Units:** Mount VDMA cylinder directly. NFPA not available. **Imperial Units:** Mount NFPA cylinders using NFPA mounting kit. VDMA not available.)

**BEARING** **B** Linear ball bearings  
**C** Composite bushings  
 Custom strokes available. Please consult factory.

**STROKE** (inches)  
 DLB-20 **1-24** @ 1" increments  
 DLB-25 **1-26** @ 1" increments

**STROKE** (mm)  
 DLB-20M **25, 50, 80, 100, 125, 160, 200, 250, 300, 320, 360, 400, 500**  
 DLB-25M **25, 50, 80, 100, 125, 160, 200, 250, 300, 320, 360, 400, 500**

**SHAFTING** **S** Corrosion resistant shafting

### SAMPLE ORDER: DLB-20-N-B-12

Ex: Base Slide, Size 20, Repairable NFPA Cylinder w/Adjustable Air Cushions, Linear Ball Bushings, Inch Stroke

## Accessories: (Order Separately)

### SHOCK/STOP ACCESSORIES

Shock Absorber (adjustable dampening)	<b>SHOK-029</b>	<b>SHOK-029</b>	<b>1 or 2</b>
Adjustable Hard Stop	<b>DLT-1023</b>	<b>DLT-1023</b>	<b>1 or 2</b>

### INDUCTIVE SENSOR ACCESSORIES†

Inductive Sensor PNP Qk. Disconnect	<b>OISP-011</b>	<b>OISP-011</b>	<b>1 or 2</b>
Inductive Sensor NPN Qk. Disconnect	<b>OISN-011</b>	<b>OISN-011</b>	<b>1 or 2</b>
Quick. Disconnect 2M Cable Length	<b>CABL-010</b>	<b>CABL-010</b>	<b>1 or 2</b>
Quick. Disconnect 5M Cable Length	<b>CABL-013</b>	<b>CABL-013</b>	<b>1 or 2</b>
Cable Extension Cord 1M Length	<b>CABL-015</b>	<b>CABL-015</b>	<b>1 or 2</b>
Cable Extension Cord 2M Length	<b>CABL-016</b>	<b>CABL-016</b>	<b>1 or 2</b>

### MAGNETIC SENSOR ACCESSORIES† \*\*

Magneto Resistive Sensor PNP Qk. Disc.	<b>OHSP-020</b>	<b>OHSP-020</b>	<b>1 or 2</b>
Magneto Resistive Sensor NPN Qk. Disc.	<b>OHSN-020</b>	<b>OHSN-020</b>	<b>1 or 2</b>
Quick. Disconnect 2M Cable Length	<b>CABL-010</b>	<b>CABL-010</b>	<b>1 or 2</b>
Quick. Disconnect 5M Cable Length	<b>CABL-013</b>	<b>CABL-013</b>	<b>1 or 2</b>
Cable Extension Cord 1M Length	<b>CABL-015</b>	<b>CABL-015</b>	<b>1 or 2</b>
Cable Extension Cord 2M Length	<b>CABL-016</b>	<b>CABL-016</b>	<b>1 or 2</b>

### PNEUMATIC ACCESSORIES

NFPA Cylinder Mounting Kit (-U only)	<b>ODLB-001</b>	<b>ODLB-001</b>	<b>1</b>
1/8 NPT Telescopic Airlines (up to 6")	<b>OTAL-039</b>	<b>OTAL-039</b>	<b>1, 2, 3 or 4</b>
1/8 NPT Telescopic Airlines (up to 12")	<b>OTAL-040</b>	<b>OTAL-040</b>	<b>1, 2, 3 or 4</b>
1/8 NPT Telescopic Airlines (up to 18")	<b>OTAL-041</b>	<b>OTAL-041</b>	<b>1, 2, 3 or 4</b>
1/8 NPT Telescopic Airlines (up to 24")	<b>OTAL-042</b>	<b>OTAL-042</b>	<b>1, 2, 3 or 4</b>
1/4 NPT Adjustable Flow Control	<b>VLVF-006</b>	<b>VLVF-006</b>	<b>1 or 2</b>
G1/8 Telescopic Airlines (up to 160mm)	<b>OTAL-045</b>	<b>OTAL-045</b>	<b>1, 2, 3 or 4</b>
G1/8 Telescopic Airlines (up to 300mm)	<b>OTAL-046</b>	<b>OTAL-046</b>	<b>1, 2, 3 or 4</b>
G1/8 Telescopic Airlines (up to 450mm)	<b>OTAL-047</b>	<b>OTAL-047</b>	<b>1, 2, 3 or 4</b>
G1/8 Telescopic Airlines (up to 600mm)	<b>OTAL-048</b>	<b>OTAL-048</b>	<b>1, 2, 3 or 4</b>
G1/8 Adjustable Flow Control	<b>VLVF-005</b>	<b>VLVF-005</b>	<b>1 or 2</b>
G1/8 Male to 1/8 NPT Adapter	<b>PLFT-025</b>	<b>PLFT-025</b>	<b>1 or 2</b>

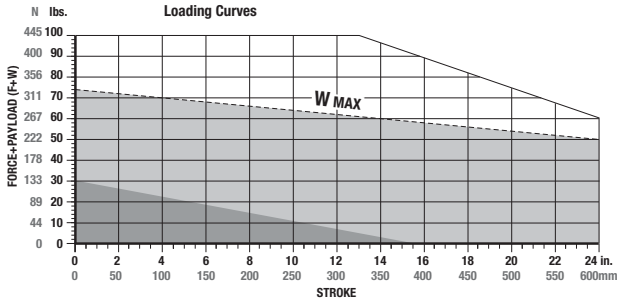
†Sensor and cable sold separately \*\*Piston magnet standard



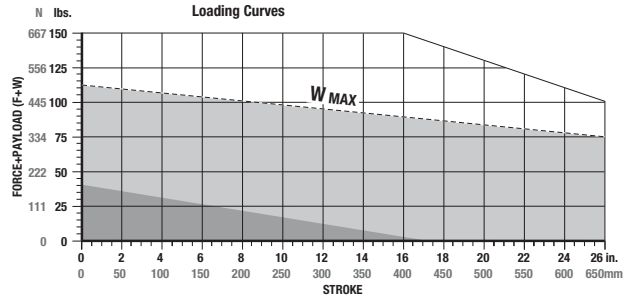
# BASE SLIDE DLB -20M, 25M -N, R, U REPAIRABLE (NFPA/VDMA) CYLINDER W/ ADJ. AIR CUSHIONS



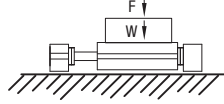
## DLB -20M -N, R, U



## DLB -25M -N, R, U



**F**=Externally applied force (lbs. or N)  
**W**=Weight of payload (lbs. or N)  
**F+W**=Total force (lbs. or N)



Shock Absorbers and Flow Controls are recommended for nearly all applications

(W) in this range use **Single Shock** in both directions

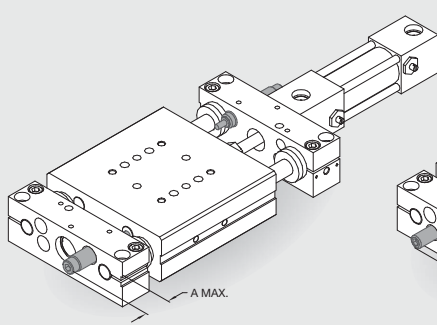
(W) in this range use **Bumpers or Cushioned Cylinder**

Shaded shock absorption ranges of horizontal payload (W) @ 80psi, flow controls fully open. For vertical applications do not exceed 1/2 of the recommended payload due to the additional acceleration effect of gravity.

Specifications	DLB-20	DLB-20M
Maximum Air Pressure	100 psi	6.9 bar
Thrust Force @ 80psi/5.5bar	117 lbs.	443 N
Weight (Basic Unit -N, -R)	12.9 lbs.	5.9 kg
Additional Weight per Stroke -N, -R	0.53 lbs./in.	9.5 g/mm
Cylinder Bore Diameter -N	1-1/2"	32 mm
Cylinder Bore Diameter -R	32 mm	32 mm
Shaft Diameter	0.787"	20 mm
Maximum Moment Load	600 in.-lbs.	67.8 N-m
Min. Air Pressure to Release Cylinder Lock -R	60 psi	4 bar
Holding Force of Locking Mechanism -R	123 psi	550 N

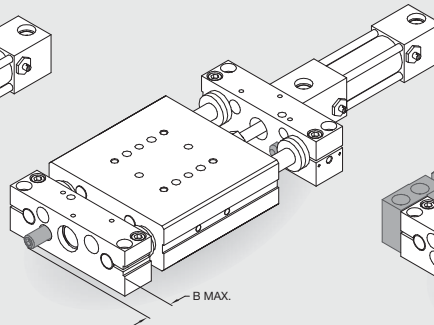
Specifications	DLB-25	DLB-25M
Maximum Air Pressure	100 psi	6.9 bar
Thrust Force @ 80psi/5.5bar	117 lbs.	443 N
Weight (Basic Unit -N, -R)	18.0 lbs.	8.3 kg
Additional Weight per Stroke -N, -R	0.68 lbs./in.	12.1 g/mm
Cylinder Bore Diameter -N	1-1/2"	32 mm
Cylinder Bore Diameter -R	32 mm	32 mm
Shaft Diameter	0.984"	25 mm
Maximum Moment Load	1200 in.-lbs.	135 N-m
Min. Air Pressure to Release Cylinder Lock -R	60 psi	4 bar
Holding Force of Locking Mechanism -R	123 psi	550 N

## Accessory Mounting Technical Data



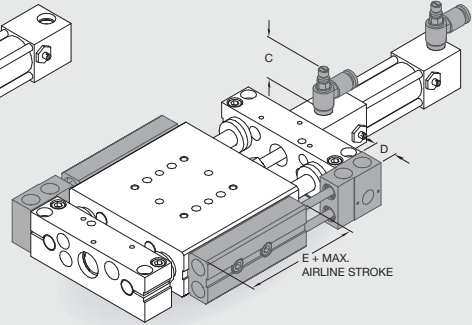
### Shock Absorbers

- Full stroking piston rod
- Built-in hard stop
- Position adjustable
- Adjustable dampening



### Adjustable Hard Stops

- For precision (+/- .001") hard stop end point positioning
- Allows for stop adjustment independent of shock absorber hard stop
- Allen wrench adjustable

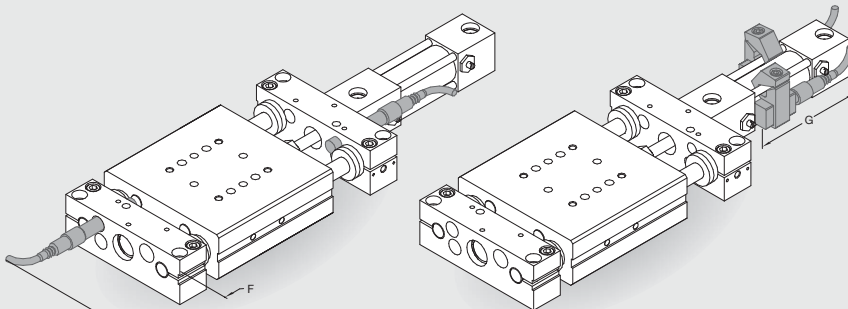


### Telescoping Airlines

- Eliminate flexing air lines
- Self aligning air tube design extends useful seal life
- Modular stackable design. Up to (4) modules can be stacked
- Modules can be mounted on either side of slide
- 1/8 NPT or G1/8 pipe threads
- (2) user air ports per module

### Flow Controls for Cylinders

- Thumb screw adjust with locking nut for adjusting cylinder speed
- 1/4 NPT or G1/8 pipe threads



### Inductive Proximity Sensors

- 8mm diameter
- Threaded quick disconnect with built-in LED output
- PNP and NPN available

### Quick Disconnect Cable

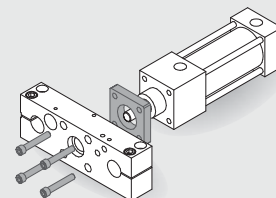
- Threaded coupling with knurled head for secure electrical connections
- 2 meter cable length
- 5 meter cable length
- Quick disconnect cable extensions cords available in 1 or 2 meter lengths

### Magneto Resistive Sensors

- For all externally mounted cylinders
- Quick Disconnect with built in LED output
- Clamp-on mounting kit included
- PNP and NPN available

### Quick Disconnect Cable

- Threaded coupling with knurled head for secure electrical connections
- 2 meter cable length
- 5 meter cable length
- Quick disconnect cable extensions cords available in 1 or 2 meter lengths



### NFPA Cylinder Mounting Kit

- Used to mount standard face mounted NFPA cylinders to non-powered units (-U) Refer to accessories mounting section.

	A	B	C	D	E	F	G
DLB-20	2.03"	.10	1.40	.577	3.60	2.12	3.00
DLB-25	1.82"	.10	1.40	.577	3.60	1.90	3.00
DLB-20M	51.6mm	2.5	31.8	14.7	91.4	53.8	76.2
DLB-25M	46.2mm	2.5	31.8	14.7	91.4	48.3	76.2

DLB SERIES

4.29

DIRECTCONNECT™

# DLB-T, A, N, R, U SERIES EXPLODED VIEW



DLB-T, A, N, R, U  
SERIES  
MAINTENANCE  
4.30

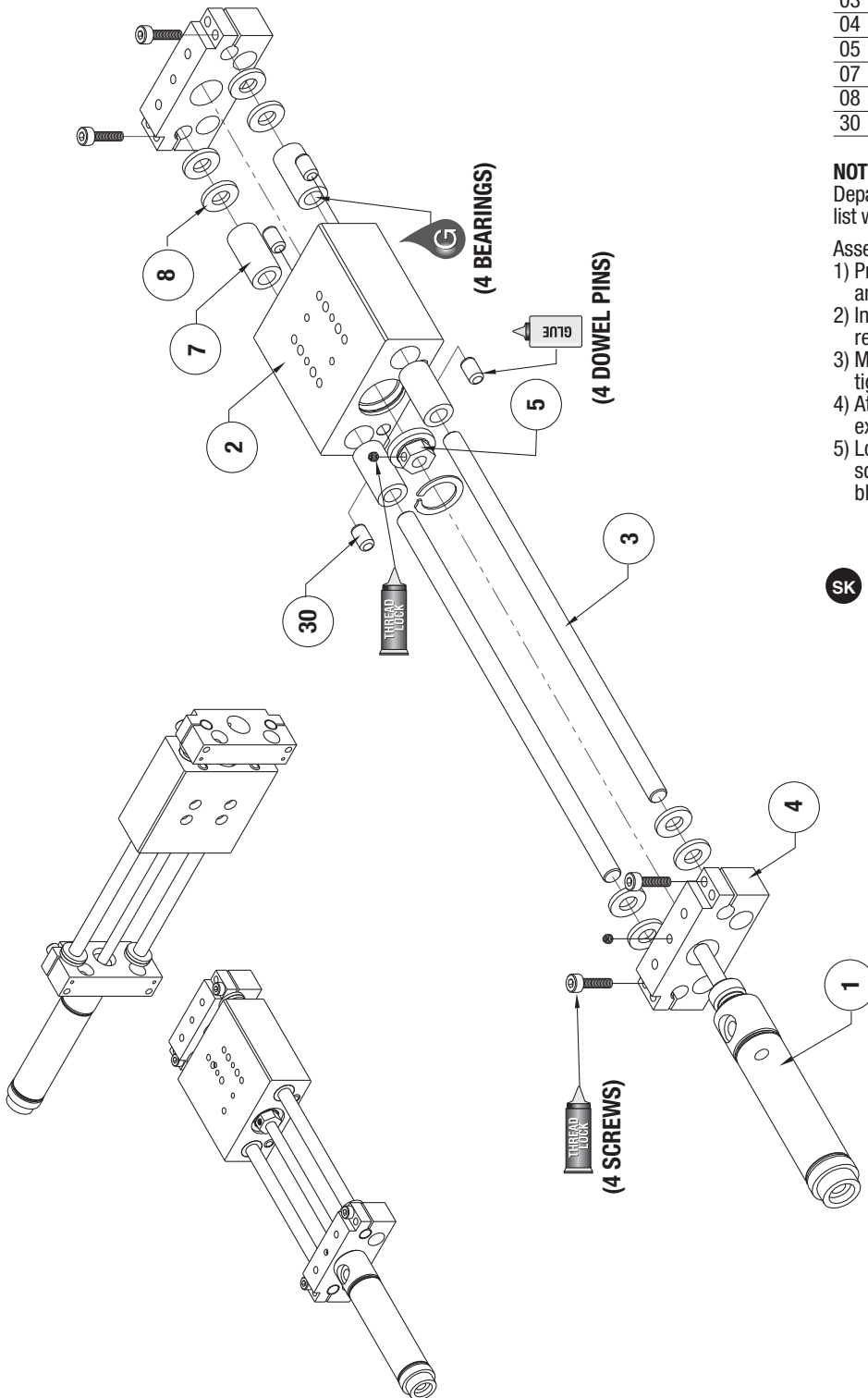
Item	Qty	Name
01	1	Cylinder
02	1	Body, Internally Powered
03	2	Guide Shaft
04	2	End Block
05	1	Coupling, Externally Powered
07	4	Bushing
08	8	Shock Pad, Urethane
30	4	Dowel Pin

**NOTE:** Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.

**Assembly Procedure**

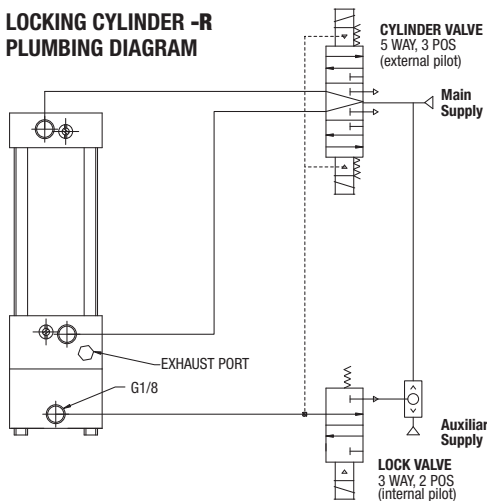
- 1) Press bearings into body, insert shafts, and slide bumpers over each shaft end.
- 2) Install external coupler to body with retainer ring.
- 3) Mount end blocks onto shaft ends and tighten.
- 4) Attach cylinder through end block and external coupler.
- 5) Lock cylinder in place by tightening set screws in the external coupler and end block.

**SK Seal Repair Kit Order #'s See Product Data Sheets**



<b>SK</b> Seal Kit Items	 Thread Locker	 Krytox™ Lubricant	 Lightweight Machine Oil	 Teflon™ Based Grease	 Super Bonder	 Third Angle Projection
-----------------------------	-------------------	-----------------------	-----------------------------	--------------------------	------------------	----------------------------

## LOCKING CYLINDER -R PLUMBING DIAGRAM

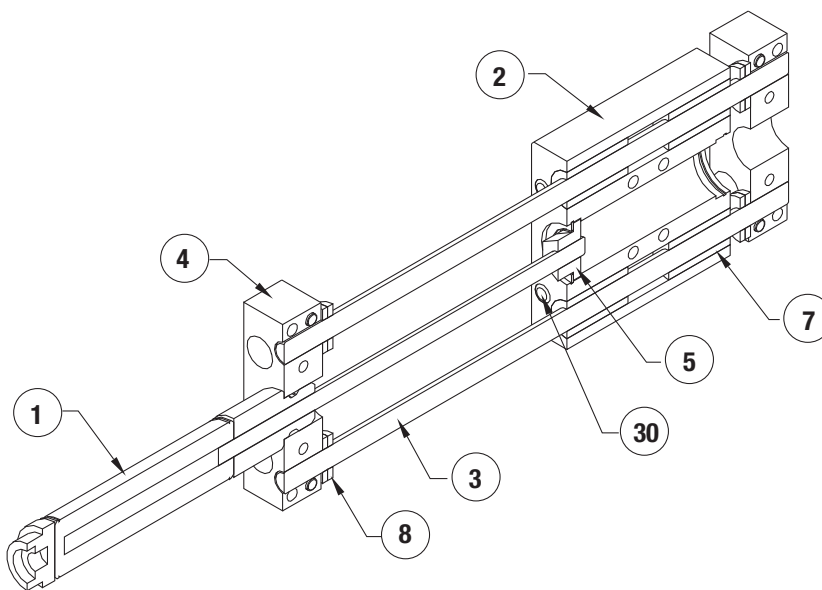


- 1) Lock valve must be maintained energized during cylinder motion, otherwise lock is engaged and cylinder valve shifts to mid position.
- 2) Cylinder valve must be maintained energized during extend or retract. Also, keep energized at end of stroke until change of direction is desired.
- 3) Mid-position of 5/3 cylinder valve may be pressurized outlets if the combination of pressure load on the cylinder and inertia effects of the attached load do not exceed the holding force rating of the locking device, including allowance for wear.
- 4) DO NOT use cylinder lines for any logic functions - pressure levels vary too much.

Item	Qty	Name
01	1	Cylinder
02	1	Body, Internally Powered
03	2	Guide Shaft
04	2	End Block
05	1	Coupling, Externally Powered
07	4	Bushing
08	8	Shock Pad, Urethane
30	4	Dowel Pin

**NOTE:** Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.

**NOTE:** For accessory mounting, see product data sheets.



Seal Kit  
Items



Thread  
Locker



Krytox™  
Lubricant



Lightweight  
Machine Oil



Teflon™ Based  
Grease



Super  
Bond



Third Angle  
Projection