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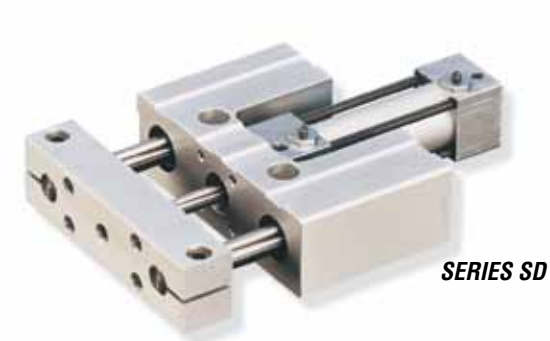
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SD, SE

VERSATILE THRUSTER PNEUMATIC SLIDE

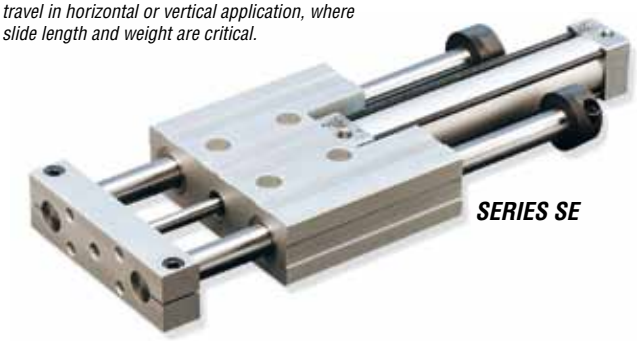
Major Benefits

- Offered in short or long body
- Can be ordered with standard or oversize shafts
- Standard dowel pin holes for ease of mounting
- Several switch options
- 5 bore sizes
- Versatile unit with over 45 standard options



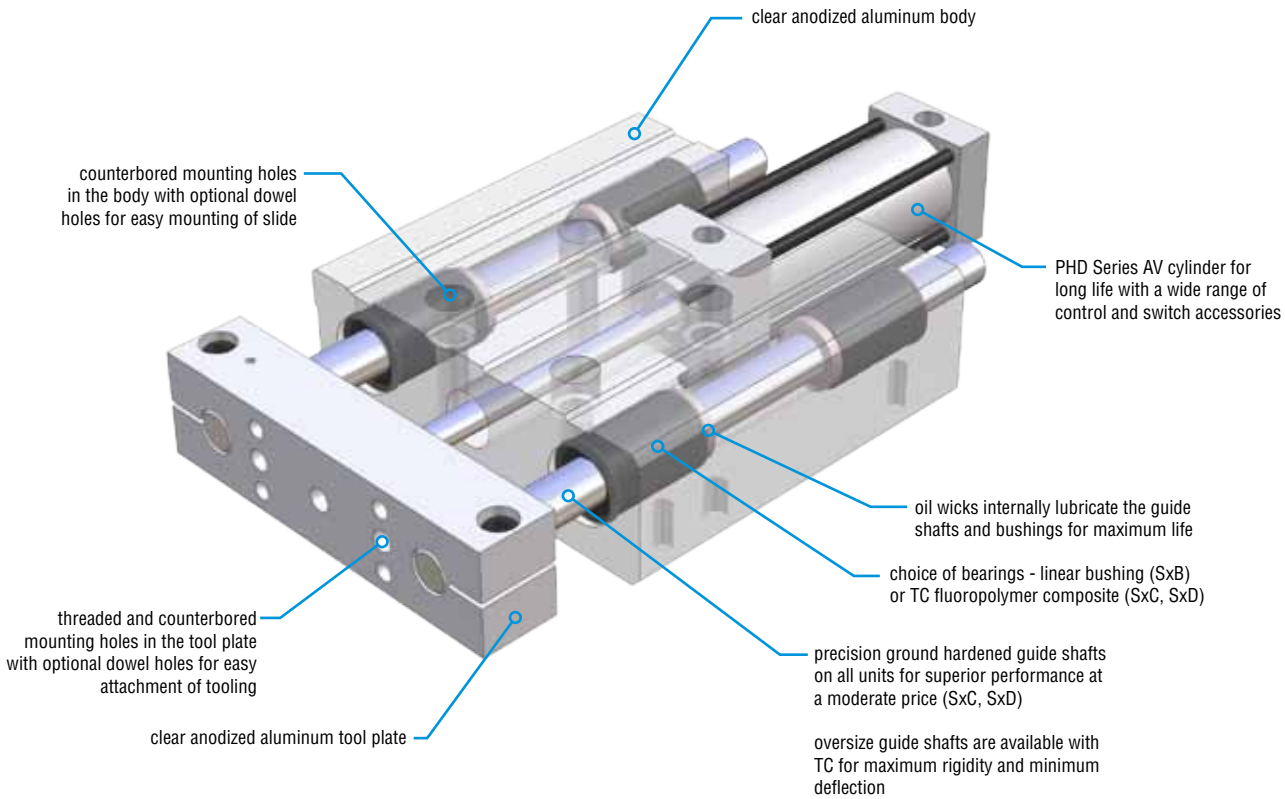
SERIES SD

The SD version is compact and ideal for short travel in horizontal or vertical application, where slide length and weight are critical.



SERIES SE

The SE version has a greater distance between bushings for longer slide travels and greater shaft stability.



BASIC MODEL

TO ORDER SPECIFY:
Product, Series, Type, Three Position, Slide Size, Slide Travel, Mid-Position Travel, Tool Plate Extension, and Options.

PRODUCT
S - Slide

SERIES
D - Short Body
E - Long Body

THREE POSITION UNIT
(specify only if needed)

TOOL PLATE EXTENSION
Additional distance between tool plate and bearing block in 1" increments. Leave blank if no additional extension is required.
(specify only if needed)

S E B E 25 x 2-1/4 x 1-1/8 x 1

SLIDES WITH *TC* COMPOSITE BUSHINGS

TYPE	SLIDE SIZE	SHAFT SIZE DIA.	CYLINDER BORE	EFF. AREA (EXTENSION)
C	22	3/8"	3/4"	.44
D	22	1/2" (oversize)	3/4"	.44
C	23	1/2"	1"	.78
D	23	5/8" (oversize)	1"	.78
C	24	5/8"	1-1/8"	.99
D	24	3/4" (oversize)	1-1/8"	.99
C	25	3/4"	1-3/8"	1.48
D	25	1" (oversize)	1-3/8"	1.48
C	26	1"	2"	3.14
D	26	1-3/8" (oversize)	2"	3.14

SLIDES WITH LINEAR BALL BUSHINGS

TYPE	SLIDE SIZE	SHAFT SIZE DIA.	CYLINDER BORE	EFF. AREA (EXTENSION)
B	22	3/8"	3/4"	.44
B	23	1/2"	1"	.78
B	24	5/8"	1-1/8"	.99
B	25	3/4"	1-3/8"	1.48
B	26	1"	2"	3.14

SLIDE TRAVEL (in)

SIZE SERIES D
22 - 1/4 to 12
23 - 1/4 to 14
24 - 1/4 to 18
25 - 1/4 to 18
26 - 1/4 to 22

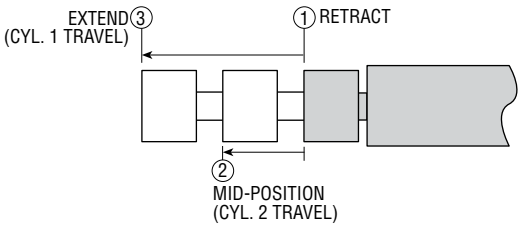
SIZE SERIES E
22 - 1/4 to 16
23 - 1/4 to 18
24 - 1/4 to 24
25 - 1/4 to 24
26 - 1/4 to 28

Available in 1/4" increments. Consult factory for longer travel lengths.

3 POSITION SLIDES
Total slide travel from retract position 1 to extend position 3.

MID-POSITION TRAVEL
Specify for 3 position units.
Travel from retract position 1 to mid-position 2.

3 POSITION DETAIL



Options may affect unit length. See dimensional pages and option information details.

Refer to this product's online catalog in the product section for complete information including related dimensions and additional specifications. See link at bottom of this page.

Designer's Resource myphd®

CAD & Sizing Assistance

Use PHD's free online Product Sizing and CAD Configurator at www.phdinc.com/myphd

ADDITIONAL OPTIONS

SHOCK ABSORBER OPTIONS

GM - Provisions for Shock Absorber mounting on extension*
GN - Provisions for Shock Absorber mounting on retraction*
GO - Provisions for Shock Absorber mounting on extension and retraction*
G2 - Shock Absorber and 8 mm Proximity Switch Ready on extension and retraction*
G3 - Shock Absorber and 8 mm Proximity Switch Ready on extension*
G4 - Shock Absorber and 8 mm Proximity Switch Ready on retraction*
G12 - Shock Absorber and 12 mm Proximity Switch Ready on extension and retraction*
G13 - Shock Absorber and 12 mm Proximity Switch Ready on extension*
G14 - Shock Absorber and 12 mm Proximity Switch Ready on retraction*
BK - HushStop on extension for use with appropriate shock absorber option -Gx
BL - HushStop on retraction for use with appropriate shock absorber option -G x
BS - Shock Pads on extension for use with option -GM, -GO, -G2, -G3, -G12, or -G13 only*
BT - Shock Pads on retraction for use with option -GN, -GO, -G2, -G4, -G12, or -G14 only*

– PB – AR – GM – BS

OPTIONS

PB - Port Controls® on extension and retraction*
DB - Adjustable Cushions on extension and retraction*
U7 - Ports and control needles in position 3 (180° from standard)
E - Solid State Magnetic Piston
M - Reed Switch Magnetic Piston
BR - Shock Pads on retraction*
BJ - HushStop on retraction*
GV - Side mounting holes in position 2
H1 - Slide only, no cylinder
H4 - Replacement cylinder only (see note 7)
H47 - Rodlok unit preassembled (see note 7)
J1 - Close fit dowel pin holes in the tool plate
J2 - Normal fit dowel pin holes in the tool plate
J6 - Normal fit dowel pin holes in the body. Close fit dowel pin holes are standard in the body.
L10 - Oversize ports (sizes 25 & 26 only)
Q1 - Corrosion resistant guide shafts
V1 - Fluoro-Elastomer Seals
Z1 - Electroless nickel plate on all external ferrous parts excluding piston rod, rod end, and guide shafts

SHOCK PADS

STANDARD	HUSHSTOP	GENERAL SLIDE OPTIONS
AR	AT	- Travel Adjustment and Shock Pads on retraction*
AE	AS	- Travel Adjustment and Shock Pads on extension*
GG	G22	- Travel Adjustment and Shock Pads on extension with provisions for Proximity Switch mounting in both directions*
GH	G23	- Travel Adjustment and Shock Pads on retraction with provisions for Proximity Switch mounting on retract only*
GI	G24	- Travel Adjustment and Shock Pads with provisions for Proximity Switch mounting in both directions*

NOTES:

1) Shock absorbers must be ordered separately. See option pages. Shock mounting brackets must be ordered separately for -GM, -GN, and -GO option.
2) Provisions for shock absorber mounting options include shock stops mounted on the shaft, a stop collar on the opposite shaft, and threaded holes in the slide body for mounting the shock bracket.
3) For stop and travel adjustment kits see option pages or chart below.
4) BJ, -BR and -GG options not available with tool plate extension.
5) Proximity switches and brackets must be ordered separately for -GG, -GH, -GI, -GM, -GN, or -GO options. See option pages and the Switches and Sensors section.
6) For HushStop options (AS, AT, BJ, BK, BL, G22, G23, & G24) stop locations may vary due to compression of softer shock pad.
7) Rodlok must be ordered separately when a replacement cylinder -H4 is ordered with an -H47 unit.
8) *Caution: Unit dimensions are affected by these options. You must allow for these changes. See option drawings for complete details. Shock pads come standard with the travel adjustment options and do not need to be specified separately when travel adjustment is ordered.

PROXIMITY SWITCHES

PART NO.	DESCRIPTION
51422-005-02	8 mm Inductive Proximity Switch NPN (Sink) with 2 meter Cable
51422-006-02	8 mm Inductive Proximity Switch PNP (Source) with 2 meter Cable

See Switches and Sensors section for switch details. Switches and brackets are ordered separately.

PROXIMITY SWITCH BRACKET AND TARGET KITS

SLIDE SIZE	SWITCH SIZE 8 mm	SWITCH SIZE 12 mm
22	53101-01-1	63998-01-1
23	53101-01-1	63998-01-1
24	53101-02-1	63998-02-1
25	53101-02-1	63998-02-1
26	53101-03-1	63998-03-1

Kit contains all components for standard non-Z1 unit for one direction only.

ENGINEERING DATA: SERIES SD & SE SLIDES

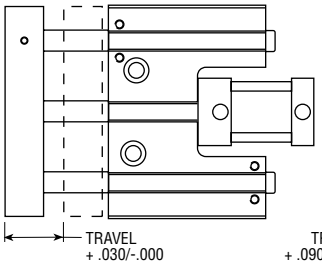
SPECIFICATIONS	SERIES SD/SE
OPERATING PRESSURE	20 psi min to 150 psi max [1.4 bar min to 10 bar max] air
OPERATING TEMPERATURE	-20° to + 180°F [-29° to + 82°C]
TRAVEL TOLERANCE	Nominal travel, +.030/- .000 in [+ .76/- 0.0 mm]
TOOL PLATE EXTENSION	+ .090/-.000 [+2.3/-0.0 mm]
3-POSITION	Mid-location ± .030 [0.76 mm]
REPEATABILITY	± .001" [± .025 mm] of original position
VELOCITY	
W/OUT PORT CONTROLS	50 in/sec [1.3 m/sec] max., zero load at 100 psi [6.9 bar]
WITH OPTION PB	16 in/sec [.4 m/sec] max., zero load at 100 psi [6.9 bar]
LUBRICATION	Factory lubricated for life
MAINTENANCE	Field repairable

SIZE	TYPE	SHAFT DIAMETER in	SHAFT DIAMETER mm	BORE DIAMETER in	BORE DIAMETER mm	EFFECTIVE AREA DIRECTION	EFFECTIVE AREA in²	EFFECTIVE AREA mm²	SERIES SD BASE WEIGHT lb	SERIES SD BASE WEIGHT kg	SERIES SE BASE WEIGHT lb	SERIES SE BASE WEIGHT kg	TRAVEL WEIGHT ADDER lb/in	TRAVEL WEIGHT ADDER kg/mm	TYPICAL DYNAMIC LOAD lb	TYPICAL DYNAMIC LOAD N
22	B	.375	9.5	.750	19.1	EXTEND	.44	285	1.59	.72	2.38	1.08	.10	.002	8	36
	C	.375	9.5			RETRACT	.39	254	1.59	.72	2.38	1.08	.10	.002		
	D	.500	12.7						1.66	.75	2.55	1.16	.15	.003		
23	B	.500	12.7	1.000	25.4	EXTEND	.79	506	3.25	1.47	4.6	2.10	.18	.003	15	67
	C	.500	12.7			RETRACT	.71	457	3.25	1.47	4.6	2.10	.18	.003		
	D	.625	15.9						3.27	1.48	4.8	2.17	.25	.004		
24	B	.625	15.9	1.125	28.6	EXTEND	1.00	642	4.70	2.13	6.4	2.88	.28	.005	25	111
	C	.625	15.9			RETRACT	.88	570	4.70	2.13	6.4	2.88	.28	.005		
	D	.750	19.1						4.75	2.15	6.5	2.95	.35	.006		
25	B	.750	19.1	1.375	34.9	EXTEND	1.49	958	8.57	3.89	11.7	5.31	.42	.007	35	156
	C	.750	19.1			RETRACT	1.29	832	8.57	3.89	11.7	5.31	.42	.007		
	D	1.000	25.4						8.74	3.96	12.3	5.58	.62	.011		
26	B	1.000	25.4	2.000	50.8	EXTEND	3.14	2026	16.57	7.52	23.7	10.73	.70	.012	50	223
	C	1.000	25.4			RETRACT	2.84	1829	16.57	7.52	23.7	10.73	.70	.012		
	D	1.375	34.9						17.55	7.96	25.8	11.72	1.07	.019		

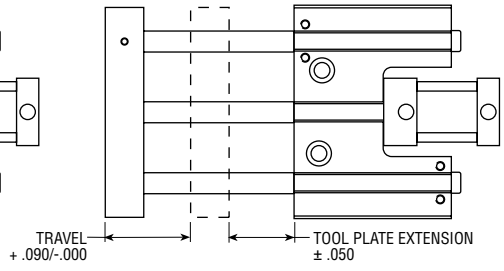
NOTE: Thrust capacity, allowable mass and dynamic moment capacity must be considered when selecting a slide. Refer to sizing software or the product technical manual for complete sizing and selection information.

TOLERANCES

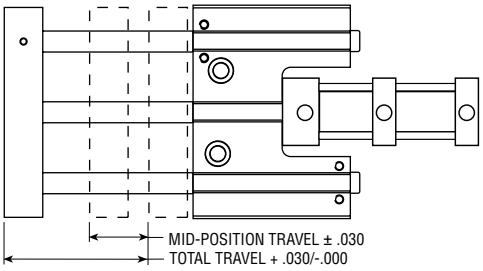
STANDARD UNIT



UNIT WITH TOOL PLATE EXTENSION



3 POSITION UNIT



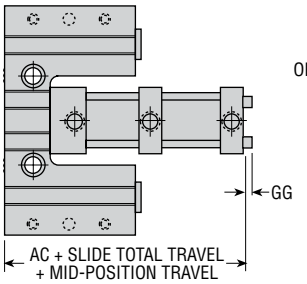
CYLINDER FORCE CALCULATIONS

		IMPERIAL F = P x A	METRIC F = 0.1 x P x A
F	= Cylinder Force	lbs	N
P	= Operating Pressure	psi	bar
A	= Effective Area (Extend or Retract)	in²	mm²

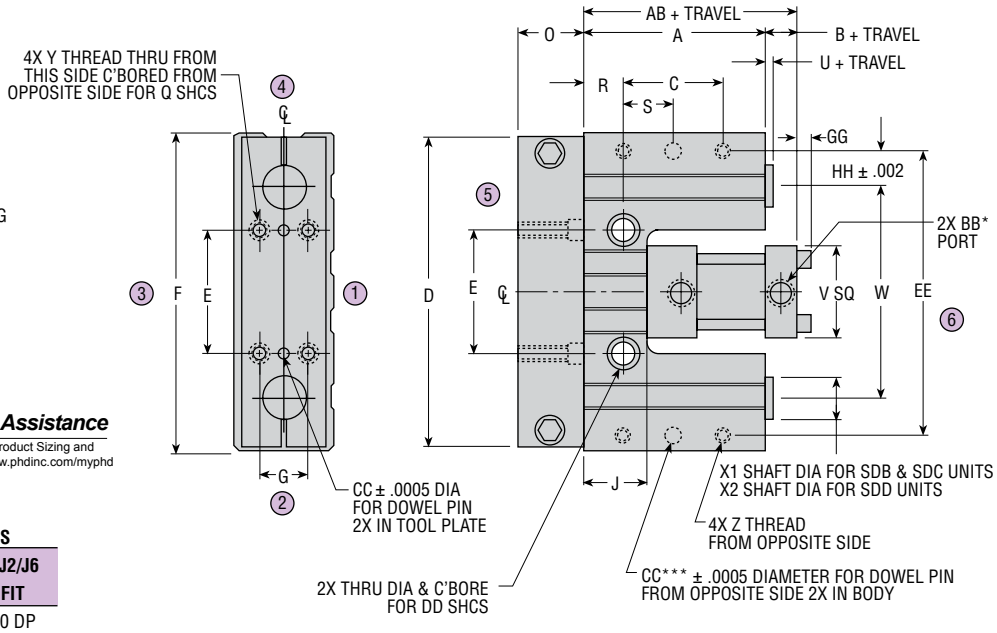


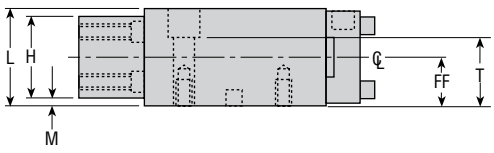
Sizing & Application Assistance

Use PHD's free online Product Sizing Application or view the Product Sizing Catalog at: www.phdinc.com/apps/sizing



3 POSITION DETAIL





CAD & Sizing Assistance

Use PHD's free online Product Sizing and CAD Configurator at www.phdinc.com/myphd

OPTIONAL CC DOWEL PIN HOLES

SLIDE MODEL	OPTION J1/*** CLOSE FIT	OPTION J2/J6 NORMAL FIT
Sxx22	.1884 x .250 DP	.1913 x .250 DP
Sxx23	.2509 x .312 DP	.2520 x .312 DP
Sxx24	.2509 x .312 DP	.2520 x .312 DP
Sxx25	.3759 x .470 DP	.3770 x .470 DP
Sxx26	.3759 x .500 DP	.3770 x .500 DP

3 POSITION TRAVEL OPTION

SLIDE MODEL	AC	*FOR EACH CUSHION	*PORT CONTROL® PB
SDxE22	5.102	.500	.250
SDxE23	5.292	.500	.250
SDxE24	5.792	.500	.250
SDxE25	6.894	.875	—
SDxE26	8.587	—	—

OPTION ADDERS

SIZE	PB	DB	BR/BJ	AR/AT	AE/AS	GG/GN/G22	GH/GM/G23	GI/GO/G24
22	.250	1.000	.250	.750	.750	.750	.750	1.500
23	.250	1.000	.250	.750	.750	.750	.750	1.500
24	.250	1.000	.250	.750	.750	.750	.750	1.500
25	0.000	1.750	.250	.750	.750	.750	.750	1.500
26	0.000	0.000	.250	.875	.875	.875	.875	1.750

NOTES:

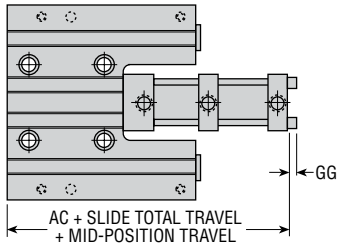
1) FOR OPTIONS PB AND DB, ADD TO CYLINDER'S LENGTH (AFFECTS DIMENSIONS B, AB, AC)
2) FOR OPTIONS BR, BJ, AR, AT, GN, G23 AND GH, ADD BETWEEN DIMENSIONS O AND AC, O AND AB
3) FOR OPTIONS GM, AE, AS, AND GG, G22 ADD TO DIMENSION U
4) FOR OPTIONS GO AND GI, ADD HALF BETWEEN DIMENSIONS O AND AC, O AND AB, AND HALF TO DIMENSION U
5) SEE OPTION PAGES FOR DETAILED OPTION INFORMATION
6) STROKE IS + .030/– .000
7) ALL DIMENSIONS ARE CENTERED ON DESIGNATED CENTERLINE OF THE UNIT UNLESS OTHERWISE SPECIFIED
8) PORT LOCATION FOR SDx26 IS NOT ON CENTERLINE
9) *PORT IS #10-32 WITH OPTION -PB ON SIZE 22
10) **TOLERANCE IS ± .0008 BETWEEN CLOSE FIT DOWEL PIN HOLES. TOLERANCE IS ± .001 BETWEEN NORMAL FIT DOWEL PIN HOLES
11) ***CLOSE FIT DOWEL PINS ARE STANDARD IN BODY
12) CIRCLED NUMBERS INDICATE POSITION

BORE SIZE	LETTER SIZE	DIMENSION A	B	C	D	E**	F	G	H	J	L	M	O	Q	R	S	T	U
22	3/4	2.390	.680	1.375	3.800	1.625	3.880	.580	1.000	.790	1.200	.100	.700	#10 x .215 DP	.500	.500	.825	.160
23	1	2.880	.380	1.500	4.720	1.875	4.820	.750	1.250	.980	1.500	.125	.950	#10 x .215 DP	.625	.750	1.045	.045
24	1-1/8	3.390	.370	1.750	5.400	2.000	5.500	.900	1.500	1.480	1.700	.100	.950	1/4 x .275 DP	.750	.875	1.260	.035
25	1-3/8	3.650	.704	1.750	6.450	2.375	6.550	1.300	2.000	1.500	2.200	.100	1.200	5/16 x .338 DP	.875	.875	1.542	.025
26	2	5.000	.346	3.000	8.375	3.125	8.500	1.625	2.500	1.700	2.750	.125	1.450	3/8 x .400 DP	1.000	1.500	2.050	.175

SIZE	V	W	X1	X2	Y	Z	AB	BB	CC***	DD	EE**	FF	GG	HH
22	1.000	2.625	.375	.500	1/4-20	#10-24 x .37 DP	3.116	1/8 NPT*	.1884 x .25 DP	1/4	3.437	.600	–	.406
23	1.375	3.250	.500	.625	1/4-20	1/4-20 x .40 DP	3.306	1/8 NPT	.2509 x .31 DP	5/16	4.330	.750	–	.540
24	1.500	3.625	.625	.750	5/16-18	1/4-20 x .50 DP	3.806	1/8 NPT	.2509 x .31 DP	3/8	5.000	.850	–	.688
25	1.875	4.250	.750	1.000	3/8-16	3/8-16 x .69 DP	4.354	1/8 NPT	.3759 x .47 DP	3/8	5.875	1.100	.265	.813
26	2.500	5.750	1.000	1.375	1/2-13	3/8-16 x .75 DP	5.346	1/4 NPT	.3759 x .50 DP	1/2	7.750	1.375	.322	1.000

All dimensions are reference only unless specifically toleranced.

DIMENSIONS: SERIES SE SLIDES

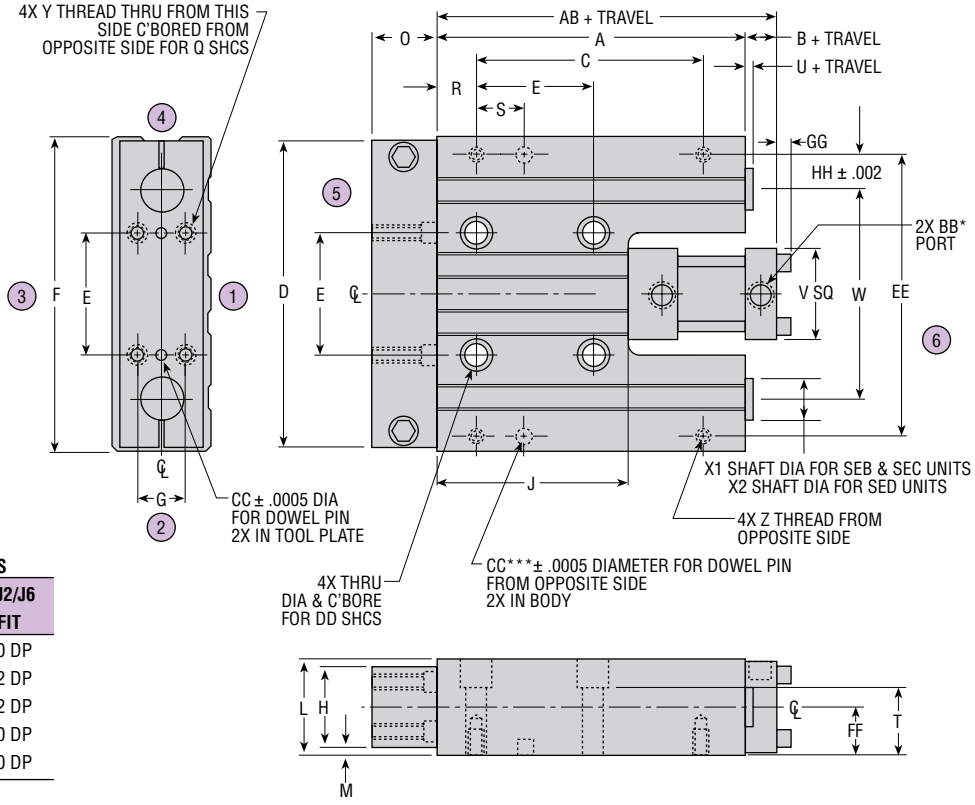


3 POSITION DETAIL



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OPTIONAL CC DOWEL PIN HOLES

SLIDE MODEL	OPTION J1/*** CLOSE FIT	OPTION J2/J6 NORMAL FIT
Sxx22	.1884 x .250 DP	.1913 x .250 DP
Sxx23	.2509 x .312 DP	.2520 x .312 DP
Sxx24	.2509 x .312 DP	.2520 x .312 DP
Sxx25	.3759 x .470 DP	.3770 x .470 DP
Sxx26	.3759 x .500 DP	.3770 x .500 DP

3 POSITION TRAVEL OPTION

SLIDE MODEL	AC	*FOR EACH CUSHION	*PORT CONTROL® PB
SExE22	6.852	.500	.250
SExE23	7.292	.500	.250
SExE24	7.542	.500	.250
SExE25	9.144	.875	—
SExE26	11.587	—	—

OPTION ADDERS

SIZE	PB	DB	BR/BJ	AR/AT	AE/AS	GG/GN/G22	GH/GM/G23	GI/GO/G24
22	.250	1.000	.250	.750	.750	.750	.750	1.500
23	.250	1.000	.250	.750	.750	.750	.750	1.500
24	.250	1.000	.250	.750	.750	.750	.750	1.500
25	.000	1.750	.250	.750	.750	.750	.750	1.500
26	.000	.000	.250	.875	.875	.875	.875	1.750

NOTES:

1) FOR OPTIONS PB AND DB, ADD TO CYLINDER'S LENGTH (AFFECTS DIMENSIONS B, AB, AC)
2) FOR OPTIONS BR, BJ, AR, AT, GN, AND GH, G23 ADD BETWEEN DIMENSIONS O AND AC, O AND AB
3) FOR OPTIONS GM, AE, AS, AND GG, G22 ADD TO DIMENSION U
4) FOR OPTIONS GO AND GI, ADD HALF BETWEEN DIMENSIONS O AND AC, O AND AB, AND HALF TO DIMENSION U
5) SEE OPTION PAGES FOR DETAILED OPTION INFORMATION
6) STROKE IS + .030/– .000
7) ALL DIMENSIONS ARE CENTERED ON DESIGNATED CENTERLINE OF THE UNIT UNLESS OTHERWISE SPECIFIED
8) PORT LOCATION FOR SEx26 IS NOT ON CENTERLINE
9) *PORT IS #10-32 WITH OPTION -PB ON SIZE 22
10) **TOLERANCE IS ± .0008 BETWEEN CLOSE FIT DOWEL PIN HOLES, TOLERANCE IS ± .001 BETWEEN NORMAL FIT DOWEL PIN HOLES
11) ***CLOSE FIT DOWEL PINS ARE STANDARD IN BODY
12) CIRCLED NUMBERS INDICATE POSITION

SIZE	BORE SIZE	LETTER DIMENSION A	B	C	D	E**	F	G	H	J	L	M	O	Q	R	S	T	U
22	3/4	4.140	.680	3.125	3.800	1.625	3.880	.580	1.000	2.540	1.200	.100	.700	#10 x .215 DP	.500	.500	.825	.160
23	1	4.770	.490	3.500	4.720	1.875	4.820	.750	1.250	2.980	1.500	.125	.950	#10 x .215 DP	.625	.750	1.045	.045
24	1-1/8	5.020	.490	3.500	5.400	2.000	5.500	.900	1.500	3.230	1.700	.100	.950	1/4 x .275 DP	.750	.875	1.260	.035
25	1-3/8	5.770	.834	4.000	6.450	2.375	6.550	1.300	2.000	3.750	2.200	.100	1.200	5/16 x .338 DP	.875	.875	1.542	.025
26	2	8.000	.346	6.000	8.375	3.125	8.500	1.625	2.500	4.700	2.750	.125	1.450	3/8 x .400 DP	1.000	1.500	2.050	.175

SIZE	V	W	X1	X2	Y	Z	AB	BB	CC***	DD	EE**	FF	GG	HH
22	1.000	2.625	.375	.500	1/4-20#10-24 x .37 DP		4.866	1/8 NPT*	.1884 x .25 DP	1/4	3.437	.600	–	.406
23	1.375	3.250	.500	.625	1/4-201/4-20 x .40 DP		5.306	1/8 NPT	.2509 x .31 DP	5/16	4.330	.750	–	.540
24	1.500	3.625	.625	.750	5/16-181/4-20 x .50 DP		5.556	1/8 NPT	.2509 x .31 DP	3/8	5.000	.850	–	.688
25	1.875	4.250	.750	1.000	3/8-163/8-16 x .69 DP		6.604	1/8 NPT	.3759 x .47 DP	3/8	5.875	1.100	.265	.813
26	2.500	5.750	1.000	1.375	1/2-133/8-16 x .75 DP		8.346	1/4 NPT	.3759 x .50 DP	1/2	7.750	1.375	.322	1.000

All dimensions are reference only unless specifically toleranced.

PB PORT CONTROL®

The exclusive PHD Port Control®, based on the "meter-out" principle, features an adjustable needle and check seal. Both are built into the cylinder head and cap and are used to control the speed of the slide over its entire travel.

NOTE: Port Controls add 1/4" to the cylinder length (affects dimensions AB, AC, and B) on sizes 22, 23, and 24.

E MAGNET FOR PHD SOLID STATE SWITCHES

This option equips the cylinder with a magnetic band on the piston for use with PHD 1750 Solid State Switches.

M MAGNET FOR PHD REED SWITCHES

This option equips the cylinder with a magnetic band on the piston for use with PHD 1750 Reed Switches.

See Switches Section at phdinc.com for specific Solid State and Reed Switch information. **SWITCHES MUST BE ORDERED SEPARATELY.**

BJ HushStop SHOCK PADS ON RETRACTION

This option provides composite shock pads on retraction only, eliminating metal-to-metal contact as the tool plate reaches the slide body. This option, quieter than the BR option, greatly reduces noise and shock upon slide retraction. Not available with tool plate extension. Due to the composite shock pads, stop locations may vary. For close tolerance stop locations, use BR option.

AR TRAVEL ADJUSTMENT AND SHOCK PADS ON RETRACTION

This option provides both travel adjustment stop collars and polyurethane shock pads on retraction only. The travel adjustment stop collars provide infinite adjustment while the shock pads eliminate metal-to-metal contact, thereby quieting the unit.

AE TRAVEL ADJUSTMENT AND SHOCK PADS ON EXTENSION

This option provides both travel adjustment stop collars and polyurethane shock pads on extension only. The travel adjustment stop collars provide infinite adjustment while the shock pads eliminate metal-to-metal contact, thereby quieting the unit.

Options may affect unit length. See dimensional pages and option information details.

Refer to this product's online catalog in the product section for complete information including related dimensions and additional specifications. See link at bottom of this page.

U7 PORTS AND CONTROL NEEDLE IN POSITION 3

This option provides for the ports, Port Control®, and cushions to be in position 3, or underside of the unit (180° from standard).

DB ADJUSTABLE CUSHIONS

PHD Cushions are designed for smooth deceleration at each end of travel. When the cushion is activated, the remaining volume in the cylinder must exhaust past an adjustable needle which controls the amount of deceleration. The wide adjustment range makes the cushion ideal for end of travel shock reduction. Cushion needles are located on the same side as the Port Control® needles for easy access and adjustment.

NOTE: Cushions add to the cylinder length (affects dimensions AB, AC, and B) add 1.000" on sizes 22, 23, and 24; and 1.750" on size 25.

L10 OVERSIZED PORTS (available on sizes 25 & 26 only)

This option provides an oversized port on the head and cap of the cylinder for size 25 and 26. This will then allow ports to match appropriate sized NFPA cylinder standards.
Size 25 ports become 1/4 NPT instead of 1/8 NPT. Size 26 ports become 3/8 NPT instead of 1/4 NPT. Ports will remain in standard port locations.

BR SHOCK PADS ON RETRACTION

This option provides polyurethane shock pads on retraction only, eliminating metal-to-metal contact as the tool plate reaches the slide body. This option greatly reduces noise and shock upon slide retraction. Not available with tool plate extension.

AT TRAVEL ADJUSTMENT AND HushStop SHOCK PADS ON RETRACTION

This option, quieter than the AR option, provides both travel adjustment stop collars and composite shock pads on retraction only. The travel adjustment stop collars provide infinite adjustment while the shock pads eliminate metal-to-metal contact, thereby quieting the unit. Due to the composite shock pads, stop locations may vary. For close tolerance stop locations, use the AR option.

AS TRAVEL ADJUSTMENT AND HushStop SHOCK PADS ON EXTENSION

This option, quieter than the AE option, provides both travel adjustment stop collars and composite shock pads on extension only. The travel adjustment stop collars provide infinite adjustment while the shock pads eliminate metal-to-metal contact, thereby quieting the unit. Due to the composite shock pads, stop locations may vary. For close tolerance stop locations, use the AE option.

G22 TRAVEL ADJUSTMENT AND HushStop SHOCK PADS ON EXTENSION WITH PROVISIONS FOR PROXIMITY SWITCH MOUNTING IN BOTH DIRECTIONS

This option, quieter than the GG option, provides both travel adjustment and composite shock pads on extension; and provisions for mounting of proximity switch targets and brackets on both ends. For close tolerance stop locations, use the GG option.

G23 TRAVEL ADJUSTMENT AND HushStop SHOCK PADS ON RETRACTION WITH PROVISIONS FOR PROXIMITY SWITCH MOUNTING ON RETRACTION

This option, quieter than the GH option, provides both travel adjustment and composite shock pads on retraction and provisions for mounting of proximity switch targets and brackets in the retraction direction only. For close tolerance stop locations, use the GH option.

G24 TRAVEL ADJUSTMENTS, HushStop SHOCK PADS, AND PROVISIONS FOR PROXIMITY SWITCHES IN BOTH DIRECTIONS

This option,quieter than the GI option, provides both travel adjustment and composite shock pads in both directions and provisions for mounting of proximity switch targets and brackets on both ends. For close tolerance stop locations, use the GI option.

Q1 CORROSION RESISTANT GUIDE SHAFTS

Extremely hard corrosion-resistant coating on the guide shafts for use in applications where moisture may corrode hardened ground shafts. End faces of the shafts remain uncoated. Consult PHD for fully coated shafts.

GG TRAVEL ADJUSTMENT AND SHOCK PADS ON EXTENSION WITH PROVISIONS FOR PROXIMITY SWITCH MOUNTING IN BOTH DIRECTIONS

This option provides both travel adjustment and polyurethane shock pads on extension; and provisions for mounting of proximity switch targets and brackets on both ends. Not available with tool plate extension. With tool plate extension use GH option.

GH TRAVEL ADJUSTMENT AND SHOCK PADS ON RETRACTION WITH PROVISIONS FOR PROXIMITY SWITCH MOUNTING ON RETRACTION

This option provides both travel adjustment and polyurethane shock pads on retraction and provisions for mounting of proximity switch targets and brackets in the retraction direction only.

GI TRAVEL ADJUSTMENTS, SHOCK PADS, AND PROVISIONS FOR PROXIMITY SWITCHES IN BOTH DIRECTIONS

This option provides both travel adjustment and polyurethane shock pads in both directions and provisions for mounting of proximity switch targets and brackets on both ends.

V1 FLUORO-ELASTOMER SEALS

Fluoro-Elastomer seals are available for seal compatibility with certain fluids. Seal compatibility should be checked with the fluid manufacturer for proper application. Consult PHD for high temperature applications.

Z1 ELECTROLESS NICKEL PLATING

This option provides electroless nickel plating on all externally exposed ferrous parts except the guide shafts and cylinder rod end. This optional plating can be used for protecting the slide from severe or corrosive environments. The guide shafts can be made corrosion-resistant by specifying the -Q1 shaft option.

NOTE: Shock absorbers are not plated with -Z1 option.

Options may affect unit length. See dimensional pages and option information details.

Refer to this product's online catalog in the product section for complete information including related dimensions and additional specifications. See link at bottom of this page.

GM PROVISIONS FOR SHOCK ABSORBER MOUNTING ON EXTENSION

This option provides for mounting a bracket for a shock absorber in the extend direction. This includes mounting holes in the slide body, a shock stop on one shaft, and a stop collar on the other shaft. This arrangement allows the shock absorber to double as a travel adjustment in the extension direction.

Shock stop and mounting bracket are supplied ready for proximity switch bracket and target mounting.

GO PROVISIONS FOR SHOCK ABSORBER MOUNTING ON EXTENSION AND RETRACTION

This option provides for mounting brackets for shock absorbers in both the extend and retract direction. This includes two sets of mounting holes in the slide body, shock stops mounted on the shafts in each direction, and stop collars mounted on the opposite shafts. **T**his arrangement allows the shock absorbers to double as travel adjustments in both directions.

Shock stops and brackets are supplied ready for proximity switch bracket and target mounting.

G3 SHOCK ABSORBER & PROXIMITY SWITCH READY ON EXTENSION

G13

This option provides mounting brackets for a shock absorber and proximity switch on the extension only. This includes mounting brackets for both shock absorber and proximity switch, a proximity target and mounting hardware, with a stop collar and stop on the shafts. This arrangement allows the shock absorber to double as a travel adjustment in the extension direction.

G3 = 8 mm Proximity Switch
G13 = 12 mm Proximity Switch

GN PROVISIONS FOR SHOCK ABSORBER MOUNTING ON RETRACTION

This option provides for mounting a bracket for a shock absorber in the retract direction. This includes mounting holes in the slide body, a shock stop on one shaft, and a stop collar on the other shaft. This arrangement allows the shock absorber to double as a travel adjustment in the retraction direction.

Shock stop and mounting bracket are supplied ready for proximity switch bracket and target mounting.

G2 SHOCK ABSORBER AND PROXIMITY SWITCH READY ON EXTENSION AND RETRACTION

G12

This option provides mounting brackets for shock absorbers and proximity switches in both directions. This includes mounting brackets for both shock absorbers and proximity switches, proximity targets, and mounting hardware with stop collars and stops mounted on the shafts. This arrangement allows the shock absorbers to double as travel adjustments in both directions.

G2 = 8 mm proximity switch
G12 = 12 mm proximity switch

G4 SHOCK ABSORBER & PROXIMITY SWITCH READY ON RETRACTION

G14

This option provides mounting brackets for a shock absorber and proximity switch on the retraction only. This includes mounting brackets for both shock absorber and proximity switch, shaft, a proximity target and mounting hardware, with a stop collar and stop on the other shafts. This arrangement allows the shock absorber to double as a travel adjustment in the retract direction.

G4 = 8 mm Proximity Switch
G14 = 12 mm Proximity Switch

The shock absorber and shock mounting kit must be ordered separately.

Options may affect unit length. See dimensional pages and option information details.

Refer to this product's online catalog in the product section for complete information including related dimensions and additional specifications. See link at bottom of this page.

BK HushStop SHOCK PADS ON EXTENSION

The -BK option adds composite shock pads on extension to the -GM, -GO, -G2, -G3, -G12, or -G13 shock absorber option. The shock pads are assembled between the shock stop (stop collar) and the slide body. The purpose of this option, quieter than the -BS option, is to complement the shock absorber by eliminating metal to metal contact at the end of slide extension. Shock pads do not affect length adders for shock absorber options.

Due to the composite shock pads, stop locations may vary. For close tolerance stop locations, use the -BS option.

BS SHOCK PADS ON EXTENSION

The -BS option adds shock pads on extension to the -GM, -GO, -G2, -G3, -G12, or -G13 shock absorber option. The shock pads are assembled between the shock stop (stop collar) and the slide body. The purpose of this option is to complement the shock absorber by eliminating metal to metal contact at the end of slide extension. Shock pads do not affect length adders for shock absorber options.

BT SHOCK PADS ON RETRACTION

The -BT option adds shock pads on retraction to the -GN, -GO, -G2, -G4, -G12, or -G14 shock absorber option. The shock pads are assembled between the shock stop (stop collar) and the slide body. The purpose of this option is to complement the shock absorber by eliminating metal to metal contact at the end of slide retraction. Shock pads do not affect length adders for shock absorber options.

BL HushStop SHOCK PADS ON RETRACTION

The -BL option adds composite shock pads on retraction to the -GN, -GO, -G2, -G4, -G12, or -G14 shock absorber option. The shock pads are assembled between the shock stop (stop collar) and the slide body. The purpose of this option, quieter than the -BT option, is to complement the shock absorber by eliminating metal to metal contact at the end of slide retraction. Shock pads do not affect length adders for shock absorber options.

Due to the composite shock pads, stop locations may vary. For close tolerance stop locations, use the -BT option.

Options may affect unit length. See dimensional pages and option information details.

Refer to this product's online catalog in the product section for complete information including related dimensions and additional specifications. See link at bottom of this page.

GV SIDE MOUNTING HOLES IN POSITION 2

This option provides an additional mounting pattern on one side of the slide body. This pattern is ideal if the slide is to be mounted on edge for applications where a narrow profile is required.

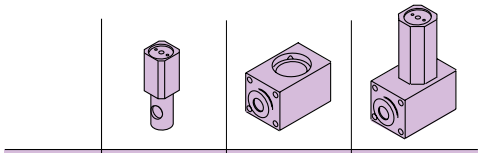
H47 RODLOK SLIDE & RODLOK

PHD's Rodlok is ideal for locking the tool plate while in a static/ stationary position. When the pressure is removed from the port of the Rodlok, the mechanism will grip the piston rod of the cylinder and prevent it from moving. The loads are held indefinitely without power. Rodlok performance is application and environment sensitive (cleanliness of rod or Rodlok will also affect performance). THE RODLOK IS NOT DESIGNED TO BE USED AS A PERSONNEL SAFETY DEVICE.

	STATIC LOCKING FORCE*	
SIZE	lb	N
22	40	180
23	56	250
24	79	350
25	135	600
26	338	1500

NOTE: *Locking force given in table is the actual locking force with a dry clean rod and does not include any safety factor.

REPLACEMENT RODLOK KITS



MODEL NO.	LOCKING DEVICE KIT	ADAPTOR KIT*	COMPLETE RODLOK*
SDx22	64476	63931-06	63935-06
SEx22	64476	63931-07	63935-07
SD/SEx23	64477	63931-08	63935-08
SD/SEx24	64478	63931-09	63935-09
SD/SEx25	64479	63931-10	63935-10
SD/SEx26	64480	63931-05	63935-05

NOTES:
1) *Kits ship with cylinder mounting hardware.
2) Part numbers listed above are intended for replacement purposes only and are to be used specifically on slides with the -H47 option.

The Rodlok locking device and adaptor can be purchased separately as kits. See chart above. The locking device and adaptor are not available with a corrosion resistant (-Z1 option) finish.

PB PORT CONTROL®

The exclusive PHD Port Control®, based on the "meter-out" principle, features an adjustable needle and check seal. Both are built into the cylinder head and cap and are used to control the speed of the slide over its entire travel.

The self-locking needle has micrometer threads and is adjustable under pressure. It determines the orifice size which controls the exhaust volume only of the cylinder proper. The check seal is closed while fluid is exhausting from the cylinder, but opens to permit full flow of incoming fluids. The PHD Port Control® provides the optimum in speed control for slides. All adjustments are made from the top surface of the slide. It saves space and eliminates the cost of installation and fittings for external flow control valves.

NOTE: Port Controls add 1/4" to the cylinder length (affects dimensions AB, AC, and B) on sizes 22, 23, and 24.

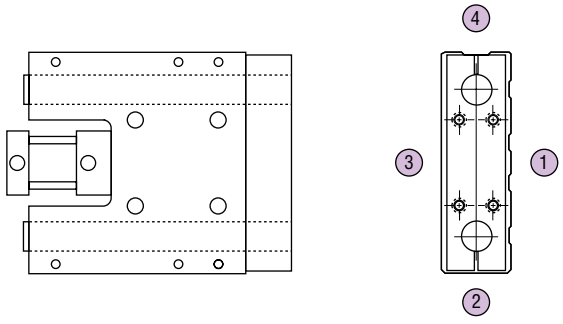
MAXIMUM SLIDE VELOCITY
SD & SE SLIDES

50 in/sec without Port Controls®
16 in/sec with Port Controls®

The above figures are based on a working pressure of 100 psi and a no load horizontal condition.

U7 PORTS AND CONTROL NEEDLE IN POSITION 3

This option provides for the ports, Port Control®, and cushions to be in position 3, or underside of the unit (180° from standard).

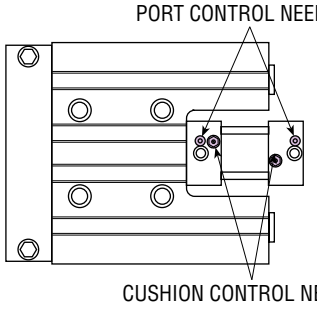


DB ADJUSTABLE CUSHIONS

PHD Cushions are designed for smooth deceleration at each end of travel. When the cushion is activated, the remaining volume in the cylinder must exhaust past an adjustable needle which controls the amount of deceleration. The wide adjustment range makes the cushion ideal for end of travel shock reduction. Cushion needles are located on the same side as the Port Control® needles for easy access and adjustment.

NOTE: Cushions add to the cylinder length (affects dimensions AB, AC, and B) add 1.000" on sizes 22, 23, and 24; and 1.750" on size 25.

PORT CONTROL® & CUSHION ADJUSTMENT POSITIONS



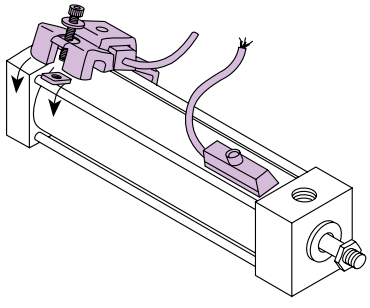
Effective cushion length 1/2" on size 22 through 24 and 3/4" on size 25.

E MAGNET FOR PHD SOLID STATE SWITCHES

This option equips the cylinder with a magnetic band on the piston for use with PHD 1750 Solid State Switches.

M MAGNET FOR PHD REED SWITCHES

This option equips the cylinder with a magnetic band on the piston for use with PHD 1750 Reed Switches.



These cylinder-mounted switches are an easy and convenient way of interfacing the slide to various programmable controllers or logic systems. See page 2-54 for specific Solid State and Reed Switch information. **SWITCHES MUST BE ORDERED SEPARATELY.**

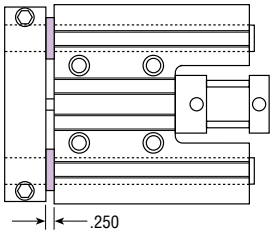
L10 OVERSIZED PORTS
(available on sizes 25 & 26 only)

This option provides an oversized port on the head and cap of the cylinder for size 25 and 26. This will then allow ports to match appropriate sized NFPA cylinder standards.

Size 25 ports become 1/4 NPT instead of 1/8 NPT. Size 26 ports become 3/8 NPT instead of 1/4 NPT. Ports will remain in standard port locations.

BR SHOCK PADS ON RETRACTION

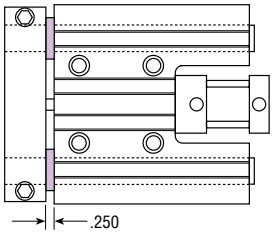
This option provides polyurethane shock pads on retraction only, eliminating metal-to-metal contact as the tool plate reaches the slide body. This option greatly reduces noise and shock upon slide retraction. Not available with tool plate extension.



ADD TO BASIC SLIDE DIMENSIONS

BJ HushStop SHOCK PADS ON RETRACTION

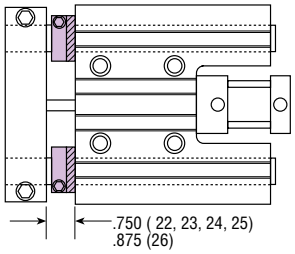
This option provides composite shock pads on retraction only, eliminating metal-to-metal contact as the tool plate reaches the slide body. This option, quieter than the BR option, greatly reduces noise and shock upon slide retraction. Not available with tool plate extension. Due to the composite shock pads, stop locations may vary. For close tolerance stop locations, use BR option.



ADD TO BASIC SLIDE DIMENSIONS

AR TRAVEL ADJUSTMENT AND SHOCK PADS ON RETRACTION

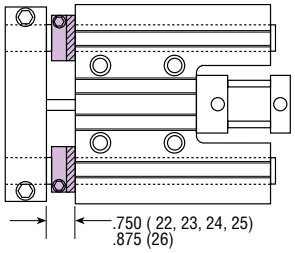
This option provides both travel adjustment stop collars and polyurethane shock pads on retraction only. The travel adjustment stop collars provide infinite adjustment while the shock pads eliminate metal-to-metal contact, thereby quieting the unit.



ADD TO BASIC SLIDE DIMENSIONS

AT TRAVEL ADJUSTMENT AND HushStop SHOCK PADS ON RETRACTION

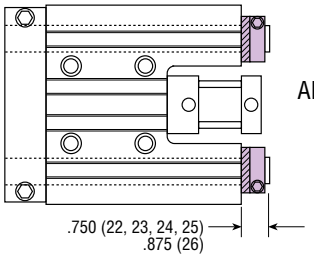
This option, quieter than the AR option, provides both travel adjustment stop collars and composite shock pads on retraction only. The travel adjustment stop collars provide infinite adjustment while the shock pads eliminate metal-to-metal contact, thereby quieting the unit. Due to the composite shock pads, stop locations may vary. For close tolerance stop locations, use the AR option.



ADD TO BASIC SLIDE DIMENSIONS

AE TRAVEL ADJUSTMENT AND SHOCK PADS ON EXTENSION

This option provides both travel adjustment stop collars and polyurethane shock pads on extension only. The travel adjustment stop collars provide infinite adjustment while the shock pads eliminate metal-to-metal contact, thereby quieting the unit.

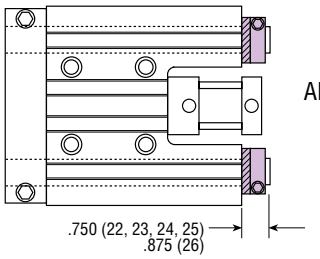


ADD TO BASIC SLIDE DIMENSIONS

All dimensions are reference only unless specifically toleranced.

AS TRAVEL ADJUSTMENT AND HushStop SHOCK PADS ON EXTENSION

This option, quieter than the AE option, provides both travel adjustment stop collars and composite shock pads on extension only. The travel adjustment stop collars provide infinite adjustment while the shock pads eliminate metal-to-metal contact, thereby quieting the unit. Due to the composite shock pads, stop locations may vary. For close tolerance stop locations, use the AE option.



ADD TO BASIC SLIDE DIMENSIONS

STOP & TRAVEL ADJUSTMENT KITS

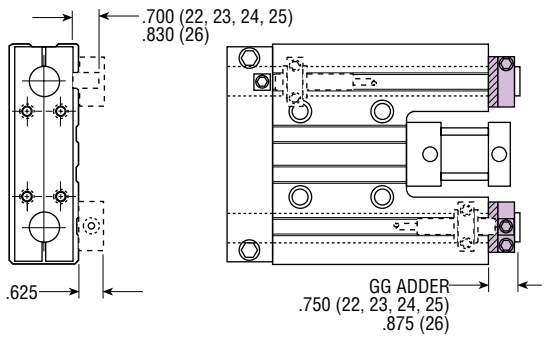
KIT TYPE	SHAFT	22	23	24	25	26
STANDARD TRAVEL ADJUSTMENT (-AR OR -AE)	STANDARD	59737-01	59737-03	59737-05	59737-07	59737-09
	OVERSIZED	59737-02	59737-04	59737-06	59737-08	59737-10
HushStop TRAVEL ADJUSTMENT (-AT OR -AS)	STANDARD	67653-01	67653-03	67653-05	67653-07	67653-09
	OVERSIZED	67653-02	67653-04	67653-06	67653-08	67653-10
STANDARD PROXIMITY & TRAVEL ADJUSTMENT (-GG OR -GH)	STANDARD	59745-01	59745-03	59745-05	59745-07	59745-09
	OVERSIZED	59745-02	59745-04	59745-06	59745-08	59745-10
HushStop PROXIMITY & TRAVEL ADJUSTMENT (-G22 OR -G23)	STANDARD	67651-01	67651-03	67651-05	67651-07	67651-09
	OVERSIZED	67651-02	67651-04	67651-06	67651-08	67651-10
SHOCK ABSORBER STOP (-GM OR -GN)	STANDARD	59746-01	59746-03	59746-05	59746-07	59746-09
	OVERSIZED	59746-02	59746-04	59746-06	59746-08	59746-10

Kit contains all components for standard non-Z1 units for one direction only.

GG TRAVEL ADJUSTMENT AND SHOCK PADS ON EXTENSION

WITH PROVISIONS FOR PROXIMITY SWITCH MOUNTING IN BOTH DIRECTIONS

This option provides both travel adjustment and polyurethane shock pads on extension; and provisions for mounting of proximity switch targets and brackets on both ends. **Switches and bracket kits must be ordered separately.** See page 2-40-11 for bracket/target kits and for switch ordering information. Not available with tool plate extension. With tool plate extension use GH option.



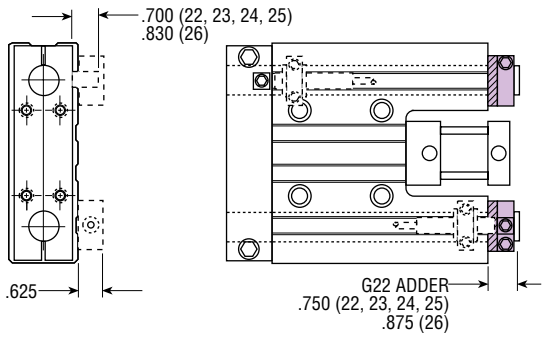
ADD TO BASIC SLIDE DIMENSIONS

G22 TRAVEL ADJUSTMENT AND HushStop SHOCK PADS ON EXTENSION

WITH PROVISIONS FOR PROXIMITY SWITCH MOUNTING IN BOTH DIRECTIONS

This option, quieter than the GG option, provides both travel adjustment and composite shock pads on extension; and provisions for mounting of proximity switch targets and brackets on both ends. **Switches and bracket kits must be ordered separately.** See page 2-40-11 for bracket/target kits and for switch ordering information.

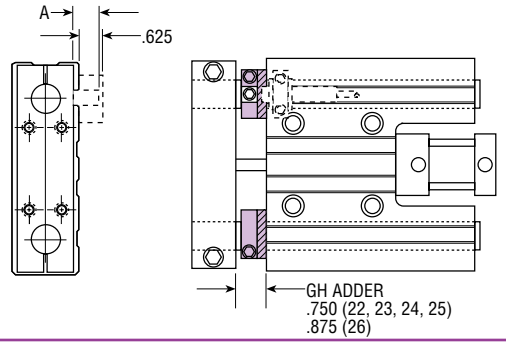
Due to the composite shock pads, stop locations may vary. For close tolerance stop locations, use the GG option.



ADD TO BASIC SLIDE DIMENSIONS

GH TRAVEL ADJUSTMENT AND SHOCK PADS ON RETRACTION
WITH PROVISIONS FOR PROXIMITY SWITCH MOUNTING ON RETRACTION

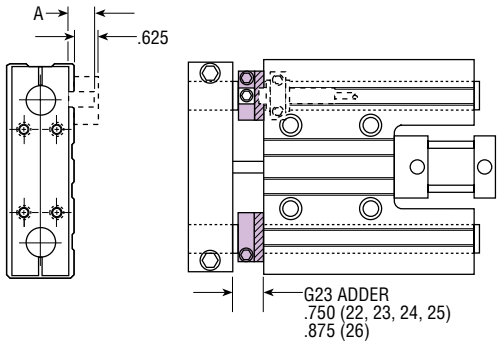
This option provides both travel adjustment and polyurethane shock pads on retraction and provisions for mounting of proximity switch targets and brackets in the retraction direction only. **Switches and bracket kits must be ordered separately.** See page 2-40-11 for bracket/target kits and for switch ordering information.



G23 TRAVEL ADJUSTMENT AND HushStop SHOCK PADS ON RETRACTION
WITH PROVISIONS FOR PROXIMITY SWITCH MOUNTING ON RETRACTION

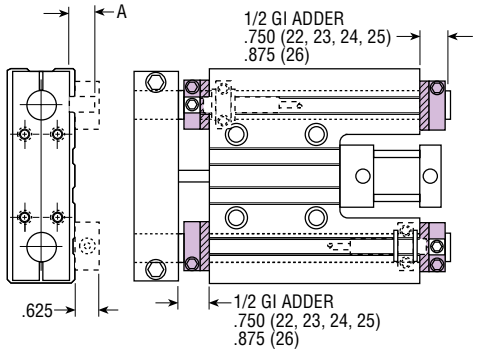
This option, quieter than the GH option, provides both travel adjustment and composite shock pads on retraction and provisions for mounting of proximity switch targets and brackets in the retraction direction only. **Switches and bracket kits must be ordered separately.** See page 2-40-11 for bracket/target kits and for switch ordering information.

Due to the composite shock pads, stop locations may vary. For close tolerance stop locations, use the GH option.



GI TRAVEL ADJUSTMENTS, SHOCK PADS, AND PROVISIONS FOR PROXIMITY SWITCHES IN BOTH DIRECTIONS

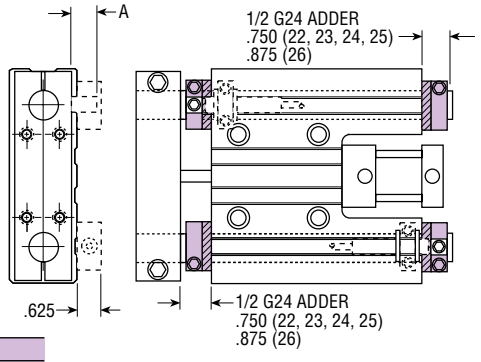
This option provides both travel adjustment and polyurethane shock pads in both directions and provisions for mounting of proximity switch targets and brackets on both ends. **Switches and bracket kits must be ordered separately.** See page 2-40-11 for bracket/target kits and for switch ordering information.



G24 TRAVEL ADJUSTMENTS, HushStop SHOCK PADS, AND PROVISIONS FOR PROXIMITY SWITCHES IN BOTH DIRECTIONS

This option,quieter than the GI option, provides both travel adjustment and composite shock pads in both directions and provisions for mounting of proximity switch targets and brackets on both ends. **Switches and bracket kits must be ordered separately.** See page 2-40-11 for bracket/target kits and for switch ordering information.

Due to the composite shock pads, stop locations may vary. For close tolerance stop locations, use the GI option.



SLIDE SIZE	A	
	8 mm PROX	12 mm PROX
22	.700	1.500
23	.700	1.500
24	.700	1.000
25	.700	1.000
26	.830	1.125

ADD TO BASIC SLIDE DIMENSIONS

All dimensions are reference only unless specifically toleranced.

Q1 CORROSION RESISTANT GUIDE SHAFTS

Extremely hard corrosion-resistant coating on the guide shafts for use in applications where moisture may corrode hardened ground shafts. End faces of the shafts remain uncoated. Consult PHD for fully coated shafts.

V1 FLUORO-ELASTOMER SEALS

Fluoro-Elastomer seals are available for seal compatibility with certain fluids. Seal compatibility should be checked with the fluid manufacturer for proper application. Consult PHD for high temperature applications.

Z1 ELECTROLESS NICKEL PLATING

This option provides electroless nickel plating on all externally exposed ferrous parts except the guide shafts and cylinder rod end. This optional plating can be used for protecting the slide from severe or corrosive environments. The guide shafts can be made corrosion-resistant by specifying the -Q1 shaft option.

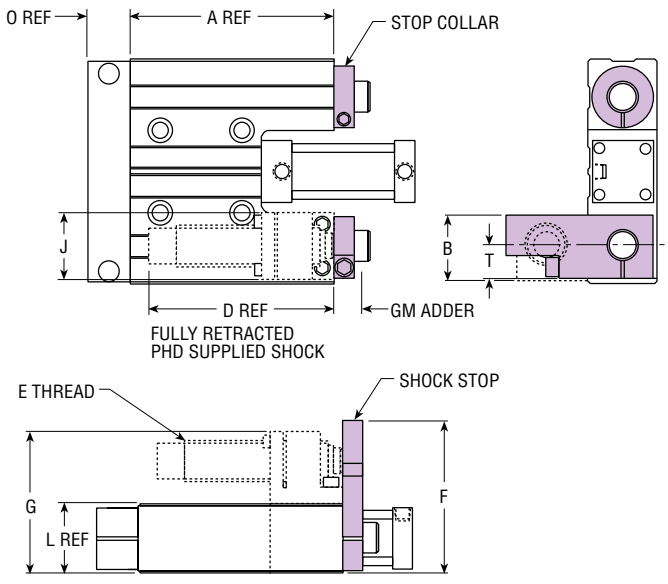
NOTE: Shock absorbers are not plated with -Z1 option.

GM PROVISIONS FOR SHOCK ABSORBER MOUNTING ON EXTENSION

This option provides for mounting a bracket for a shock absorber in the extend direction. This includes mounting holes in the slide body, a shock stop on one shaft, and a stop collar on the other shaft. **The shock absorber and shock mounting kit must be ordered separately.** This arrangement allows the shock absorber to double as a travel adjustment in the extension direction.

See page 2-40-11 for shock mounting kit and shock absorber ordering information.

Shock stop and mounting bracket are supplied ready for proximity switch bracket and target mounting.



ADD TO BASIC SLIDE DIMENSIONS

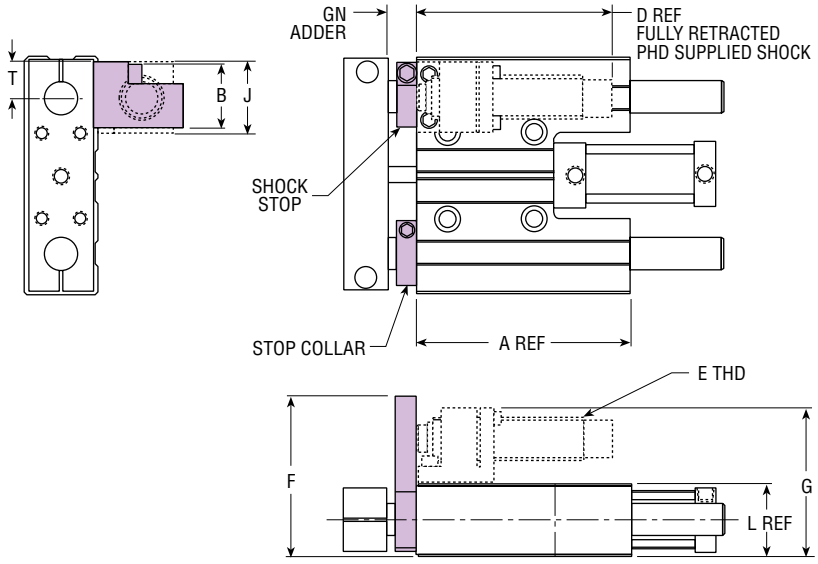
SIZE	A REF. SD	A REF. SE	B	GM ADDER	D	E THREAD	F	G	J	L REF.	O REF.	T
22	2.390	4.140	1.000	.750	4.00	3/4-16 UNF	2.575	2.450	1.125	1.200	.700	.563
23	2.875	4.765	1.250	.750	4.00	3/4-16 UNF	2.875	2.750	1.125	1.500	.950	.695
24	3.390	5.015	1.500	.750	4.75	1-12 UNF	3.575	3.450	1.650	1.700	.950	.815
25	3.650	5.765	2.000	.750	4.75	1-12 UNF	4.075	3.950	1.650	2.200	1.200	1.050
26	5.000	8.000	2.500	.875	4.75	1-12 UNF	4.875	4.750	2.000	2.750	1.450	1.325

All dimensions are reference only unless specifically toleranced.

GN PROVISIONS FOR SHOCK ABSORBER MOUNTING ON RETRACTION

This option provides for mounting a bracket for a shock absorber in the retract direction. This includes mounting holes in the slide body, a shock stop on one shaft, and a stop collar on the other shaft. **The shock absorber and shock mounting kit must be ordered separately.** This arrangement allows the shock absorber to double as a travel adjustment in the retraction direction.

See page 2-40-11 for shock mounting kit and shock absorber ordering information. Shock stop and mounting bracket are supplied ready for proximity switch bracket and target mounting.



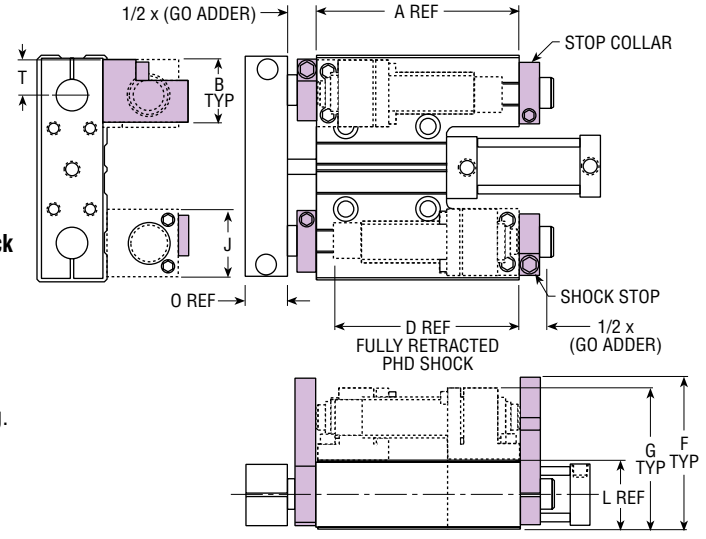
ADD TO BASIC SLIDE DIMENSIONS

SIZE	A REF. SD	A REF. SE	B	GN ADDER	D	E THREAD	F	G	J	L REF.	T
22	2.390	4.140	1.000	.750	4.00	3/4-16 UNF	2.575	2.450	1.125	1.200	.563
23	2.875	4.765	1.250	.750	4.00	3/4-16 UNF	2.875	2.750	1.125	1.500	.695
24	3.390	5.015	1.500	.750	4.75	1-12 UNF	3.575	3.450	1.650	1.700	.815
25	3.650	5.765	2.000	.750	4.75	1-12 UNF	4.075	3.950	1.650	2.200	1.050
26	5.000	8.000	2.500	.875	4.75	1-12 UNF	4.875	4.750	2.000	2.750	1.325

GO PROVISIONS FOR SHOCK ABSORBER MOUNTING ON EXTENSION AND RETRACTION

This option provides for mounting brackets for shock absorbers in both the extend and retract direction. This includes two sets of mounting holes in the slide body, shock stops mounted on the shafts in each direction, and stop collars mounted on the opposite shafts. **The shock absorbers and shock mounting kits must be ordered separately.** This arrangement allows the shock absorbers to double as travel adjustments in both directions.

See page 2-40-11 for shock mounting kit and shock absorber ordering information. Shock stops and brackets are supplied ready for proximity switch bracket and target mounting.



ADD TO BASIC SLIDE DIMENSIONS

SIZE	A REF. SD	A REF. SE	B	GO ADDER	D	E THREAD	F	G	J	L REF.	O REF.	T
22	2.390	4.140	1.000	1.500	4.000	3/4-16 UNF	2.575	2.450	1.125	1.200	.700	.563
23	2.875	4.765	1.250	1.500	4.000	3/4-16 UNF	2.875	2.750	1.125	1.500	.950	.695
24	3.390	5.015	1.500	1.500	4.750	1-12 UNF	3.575	3.450	1.650	1.700	.950	.815
25	3.650	5.765	2.000	1.500	4.750	1-12 UNF	4.075	3.950	1.650	2.200	1.200	1.050
26	5.000	8.000	2.500	1.750	4.750	1-12 UNF	4.875	4.750	2.000	2.750	1.450	1.325

All dimensions are reference only unless specifically toleranced.

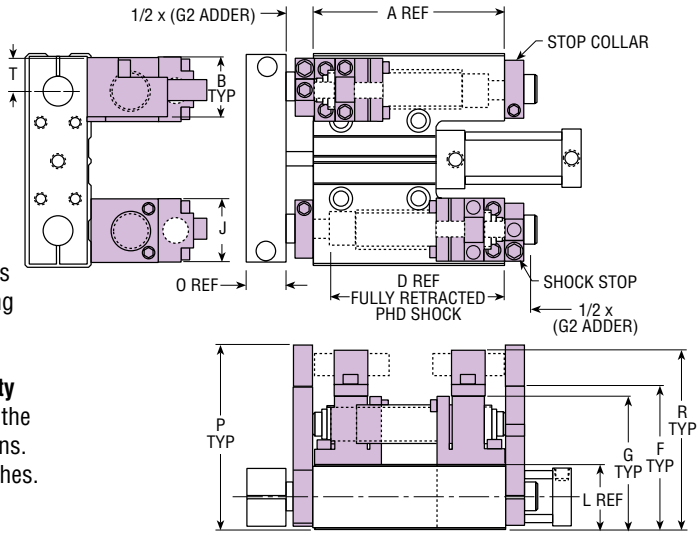
G2 G12

SHOCK ABSORBER AND PROXIMITY SWITCH READY ON EXTENSION AND RETRACTION

This option provides mounting brackets for shock absorbers and proximity switches in both directions. This includes mounting brackets for both shock absorbers and proximity switches, proximity targets, and mounting hardware with stop collars and stops mounted on the shafts. **The shock absorbers and proximity switches must be ordered separately.** This arrangement allows the shock absorbers to double as travel adjustments in both directions.

See page 2-40-11 for shock absorbers and proximity switches.

G2 = 8 mm proximity switch
G12 = 12 mm proximity switch



ADD TO BASIC SLIDE DIMENSIONS

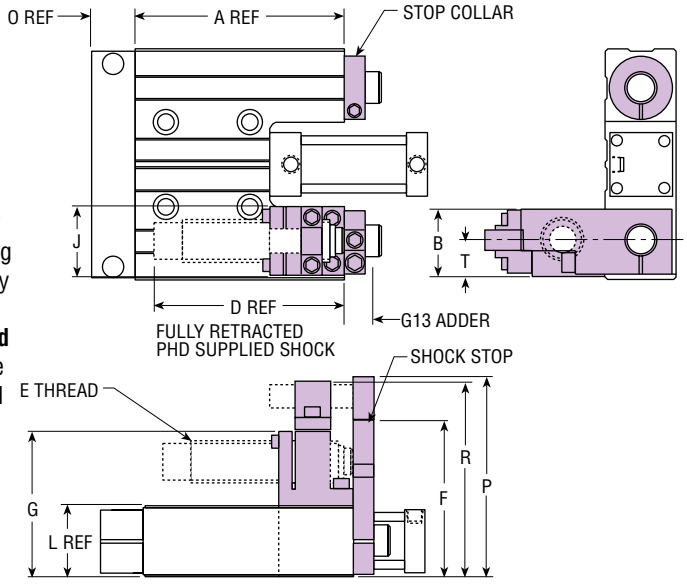
SIZE	A REF. SD	A REF. SE	B	G2/G12 ADDER	D	E THREAD	F	G	J	L REF.	O REF.	P 8 mm	P 12 mm	R 8 mm	R 12 mm	T
22	2.390	4.140	1.000	1.500	4.000	3/4-16 UNF	2.575	2.450	1.125	1.200	.700	3.275	4.075	3.075	3.700	.563
23	2.875	4.765	1.250	1.500	4.000	3/4-16 UNF	2.875	2.750	1.125	1.500	.950	3.575	4.375	3.375	4.000	.695
24	3.390	5.015	1.500	1.500	4.750	1-12 UNF	3.575	3.450	1.650	1.700	.950	4.275	4.575	4.075	4.330	.815
25	3.650	5.765	2.000	1.500	4.750	1-12 UNF	4.075	3.950	1.650	2.200	1.200	4.775	5.075	4.575	4.830	1.050
26	5.000	8.000	2.500	1.750	4.750	1-12 UNF	4.875	4.750	2.000	2.750	1.450	5.705	6.000	5.375	5.625	1.325

G3 G13

SHOCK ABSORBER & PROXIMITY SWITCH READY ON EXTENSION

This option provides mounting brackets for a shock absorber and proximity switch on the extension only. This includes mounting brackets for both shock absorber and proximity switch, a proximity target and mounting hardware, with a stop collar and stop on the shafts. **The shock absorber and proximity switch must be ordered separately.** This arrangement allows the shock absorber to double as a travel adjustment in the extension direction. See page 2-40-11 for shock absorbers and proximity switches.

G3 = 8 mm Proximity Switch
G13 = 12 mm Proximity Switch



ADD TO BASIC SLIDE DIMENSIONS

SIZE	A REF. SD	A REF. SE	B	G3/G13 ADDER	D	E THREAD	F	G	J	L REF.	O REF.	P 8 mm	P 12 mm	R 8 mm	R 12 mm	T
22	2.390	4.140	1.125	.750	4.00	3/4-16 UNF	2.575	2.450	1.125	1.200	.700	3.275	4.075	3.075	3.700	.563
23	2.875	4.765	1.250	.750	4.00	3/4-16 UNF	2.875	2.750	1.125	1.500	.950	3.575	4.375	3.375	4.000	.695
24	3.390	5.015	1.500	.750	4.75	1-12 UNF	3.575	3.450	1.650	1.700	.950	4.275	4.575	4.075	4.330	.815
25	3.650	5.765	2.000	.750	4.75	1-12 UNF	4.075	3.950	1.650	2.200	1.200	4.775	5.075	4.575	4.830	1.050
26	5.000	8.000	2.500	.875	4.75	1-12 UNF	4.875	4.750	2.000	2.750	1.450	5.705	6.000	5.375	5.625	1.325

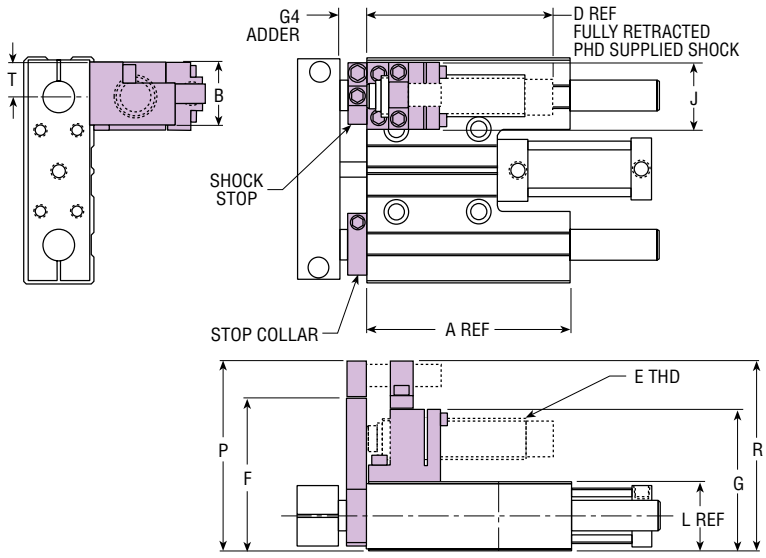
All dimensions are reference only unless specifically toleranced.

G4 G14

SHOCK ABSORBER & PROXIMITY SWITCH READY ON RETRACTION

This option provides mounting brackets for a shock absorber and proximity switch on the retraction only. This includes mounting brackets for both shock absorber and proximity switch, shaft, a proximity target and mounting hardware, with a stop collar and stop on the other shafts. **The shock absorber and proximity switch must be ordered separately.** This arrangement allows the shock absorber to double as a travel adjustment in the retract direction. See page 2-40-11 for shock absorbers and proximity switches.

G4 = 8 mm Proximity Switch
G14 = 12 mm Proximity Switch



ADD TO BASIC SLIDE DIMENSIONS

SIZE	A REF. SD	A REF. SE	B	G4/G14 ADDER	D	E THREAD	F	G	J	REF.	P 8 mm	P 12 mm	R 8 mm	R 12 mm	T
22	2.390	4.140	1.125	.750	4.00	3/4-16 UNF	2.575	2.450	1.125	1.200	3.275	4.075	3.075	3.700	.563
23	2.875	4.765	1.250	.750	4.00	3/4-16 UNF	2.875	2.750	1.125	1.500	3.575	4.375	3.375	4.000	.695
24	3.390	5.015	1.500	.750	4.75	1-12 UNF	3.575	3.450	1.650	1.700	4.275	4.575	4.075	4.330	.815
25	3.650	5.765	2.000	.750	4.75	1-12 UNF	4.075	3.950	1.650	2.200	4.775	5.075	4.575	4.830	1.050
26	5.000	8.000	2.500	.875	4.75	1-12 UNF	4.875	4.750	2.000	2.750	5.705	6.000	5.375	5.625	1.325

SHOCK KITS

Each shock mounting kit contains one shock bracket with all necessary hardware for mounting one shock absorber in either direction. Slide unit must be ordered as provisions for shock absorber. **Shock absorbers must be ordered separately.** See PHD Product Sizing Catalog for kit numbers.

SHOCK ABSORBERS

Shock absorbers are ordered separately and should be properly matched to the slide application. See PHD Product Sizing Catalog for proper shock absorber selection and shock numbers.

BS SHOCK PADS ON EXTENSION

The -BS option adds shock pads on extension to the -GM, -GO, -G2, -G3, -G12, or -G13 shock absorber option. The shock pads are assembled between the shock stop (stop collar) and the slide body. The purpose of this option is to complement the shock absorber by eliminating metal to metal contact at the end of slide extension. Shock pads do not affect length adders for shock absorber options.

BT SHOCK PADS ON RETRACTION

The -BT option adds shock pads on retraction to the -GN, -GO, -G2, -G4, -G12, or -G14 shock absorber option. The shock pads are assembled between the shock stop (stop collar) and the slide body. The purpose of this option is to complement the shock absorber by eliminating metal to metal contact at the end of slide retraction. Shock pads do not affect length adders for shock absorber options.

BK HushStop® SHOCK PADS ON EXTENSION

The -BK option adds composite shock pads on extension to the -GM, -GO, -G2, -G3, -G12, or -G13 shock absorber option. The shock pads are assembled between the shock stop (stop collar) and the slide body. The purpose of this option, quieter than the -BS option, is to complement the shock absorber by eliminating metal to metal contact at the end of slide extension. Shock pads do not affect length adders for shock absorber options.

Due to the composite shock pads, stop locations may vary. For close tolerance stop locations, use the -BS option.

BL HushStop® SHOCK PADS ON RETRACTION

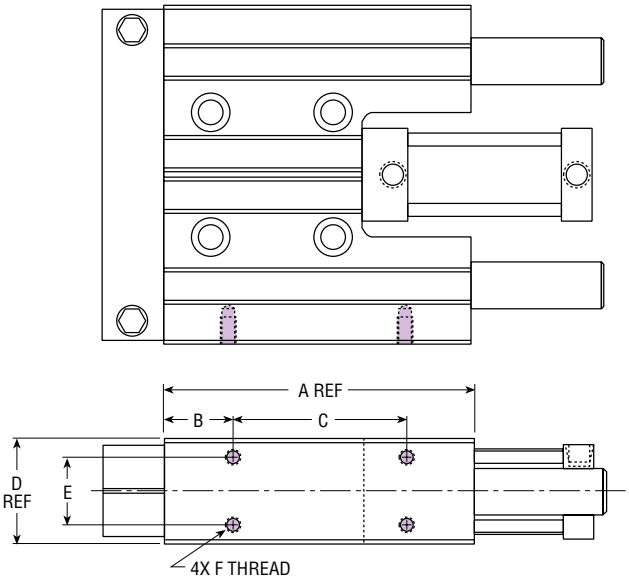
The -BL option adds composite shock pads on retraction to the -GN, -GO, -G2, -G4, -G12, or -G14 shock absorber option. The shock pads are assembled between the shock stop (stop collar) and the slide body. The purpose of this option, quieter than the -BT option, is to complement the shock absorber by eliminating metal to metal contact at the end of slide retraction. Shock pads do not affect length adders for shock absorber options.

Due to the composite shock pads, stop locations may vary. For close tolerance stop locations, use the -BT option.

All dimensions are reference only unless specifically toleranced.

GV SIDE MOUNTING HOLES IN POSITION 2

This option provides an additional mounting pattern on one side of the slide body. This pattern is ideal if the slide is to be mounted on edge for applications where a narrow profile is required.



NOTE: MTG HOLES CENTERED ON CENTERLINE OF UNIT

OPTION ADDERS

MODEL	A	B	C	D	E	F THREAD
SDx22	2.390	.750	.625	1.200	.750	10-24 x .375 DP
SEx22	4.140	.750	2.375	1.200	.750	10-24 x .375 DP
SDx23	2.875	.937	.875	1.500	1.062	1/4-20 x .375 DP
SEx23	4.765	.937	2.875	1.500	1.062	1/4-20 x .375 DP
SDx24	3.390	1.063	1.125	1.700	1.125	1/4-20 x .430 DP
SEx24	5.015	1.063	2.875	1.700	1.125	1/4-20 x .430 DP
SDx25	3.650	1.313	.875	2.200	1.500	3/8-16 x .650 DP
SEx25	5.765	1.313	3.125	2.200	1.500	3/8-16 x .650 DP
SDx26	5.000	1.500	2.000	2.750	2.000	3/8-16 x .750 DP
SEx26	8.000	1.500	5.000	2.750	2.000	3/8-16 x .750 DP

H47 RODLOK SLIDE & RODLOK

PHD's Rodlok is ideal for locking the tool plate while in a static/ stationary position. When the pressure is removed from the port of the Rodlok, the mechanism will grip the piston rod of the cylinder and prevent it from moving.
The loads are held indefinitely without power. Rodlok performance is application and environment sensitive (cleanliness of rod or Rodlok will also affect performance). THE RODLOK IS NOT DESIGNED TO BE USED AS A PERSONNEL SAFETY DEVICE.

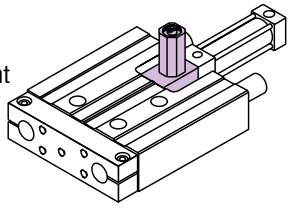
	STATIC LOCKING FORCE*	
SIZE	lb	N
22	40	180
23	56	250
24	79	350
25	135	600
26	338	1500

NOTE: *Locking force given in table is the actual locking force with a dry clean rod and does not include any safety factor.

OPERATING PRESSURE

The operating pressure for the locking device is different than the operating pressure for the slide to which it is attached. The locking device of the Rodlok is designed with an operating pressure range of 60 psi [4 bar] minimum to 150 psi [10 bar] maximum. The Series SD/SE Slide with a Rodlok attached has an operating pressure range of 45 psi [3 bar] minimum to 150 psi [10 bar] maximum.

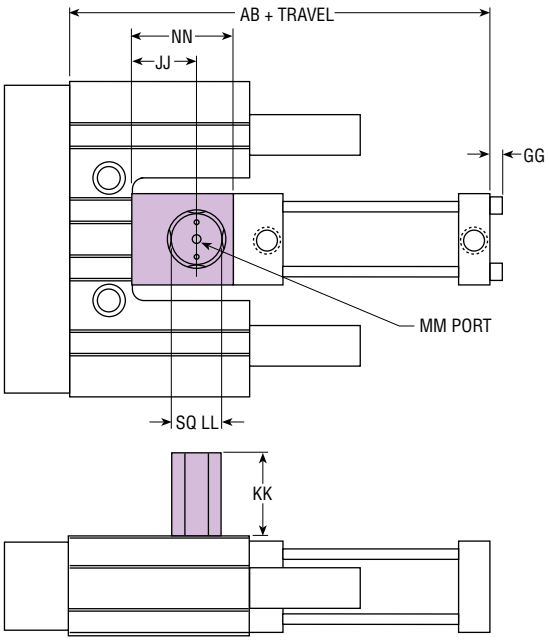
NOTE: When ordering a replacement cylinder (-H4), Rodlok must be ordered separately.



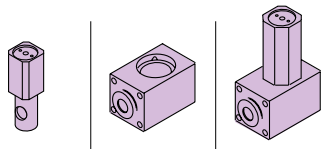
BORE in	DEVICE WEIGHT lb	ADAPTOR WEIGHT lb	TOTAL WEIGHT lb
SDx22	0.10	0.10	0.22
SEx22	0.10	0.10	0.22
SD/SEx23	0.14	0.18	0.35
SD/SEx24	0.14	0.22	0.41
SD/SEx25	0.20	0.40	0.70
SD/SEx26	0.58	0.70	1.54

NOTE: Total weight includes rod adder for -H46/-H47 cylinder.

All dimensions are reference only unless specifically toleranced.



REPLACEMENT RODLOK KITS



MODEL NO.	LOCKING DEVICE KIT	ADAPTOR KIT*	COMPLETE RODLOK*
SDx22	64476	63931-06	63935-06
SEx22	64476	63931-07	63935-07
SD/SEx23	64477	63931-08	63935-08
SD/SEx24	64478	63931-09	63935-09
SD/SEx25	64479	63931-10	63935-10
SD/SEx26	64480	63931-05	63935-05

NOTES:
1) *Kits ship with cylinder mounting hardware.
2) Part numbers listed above are intended for replacement purposes only and are to be used specifically on slides with the -H47 option.

The Rodlok locking device and adaptor can be purchased separately as kits. See chart above. The locking device and adaptor are not available with a corrosion resistant (-Z1 option) finish.

LETTER DIM.	MODEL NUMBER									
	SDxx22	SExx22	SDxx23	SExx23	SDxx24	SExx24	SDxx25	SExx25	SDxx26	SExx26
GG	–	–	–	–	–	–	.265	.265	.322	.322
KK	1.309	1.309	1.336	1.336	1.236	1.236	1.459	1.459	1.912	1.912
LL	.728	.728	.787	.787	.787	.787	.886	.886	1.279	1.279
MM	10-32	10-32	10-32	10-32	10-32	10-32	10-32	10-32	1/8 NPT	1/8 NPT
NN	1.50	1.50	1.50	1.50	1.50	1.50	1.750	1.750	3.000	3.000
JJ	.875	.875	.875	.875	.875	.875	.750	.750	1.299	1.299
AB	4.570	6.320	4.760	6.760	5.250	7.010	6.104	8.354	8.346	11.346

SWITCHES & BRACKETS

(FOR USE WITH -E OR -M OPTIONS)

See Switches and Sensors section for complete switch specifications.

BRACKETS

SLIDE SIZE	COMPACT SWITCH BRACKET NO.
22	17000-31-5
23	17000-32-5
24	17000-33-5
25	17000-34-5
26	58050-02

Each bracket contains components for one direction.

PROXIMITY SWITCHES

OPTION	TYPE	PART NO.	DESCRIPTION
-E	HALL	17503-2-06	Sink Type 10-30 VDC
		17504-2-06	Source Type 10-30 VDC
		17523-2	Sink Type 10-30 VDC, Quick Connect
		17524-2	Source Type 10-30 VDC, Quick Connect
-M	REED	17502-2-06	Sink or Source Type 10-30 VDC
		17509-3-06	AC Type 110-120 VAC with Current Limit
		17522-2	Sink or Source Type 10-30 VDC, Quick Connect
		17529-3	AC Type 110-120 VAC, Quick Connect with Current Limit

STRAIN RELIEF KITS

Compact switch bracket for sizes 22, 23, 24, and 25 have built in strain reliefs. Compact Switch Strain Relief Kit for size 26 is 18412. Consult PHD for availability of other PHD Switches and Brackets.

PROXIMITY SWITCH BRACKET & TARGET KITS (FOR USE WITH PROPER -Gxxx OPTION)

See Switches and Sensors section for complete switch specifications.

Each kit contains a bracket, target, and hardware for mounting one threaded proximity switch on an SD or SE Slide. Switches must be ordered separately. ***Slides must be ordered with provisions for proximity switches in order for these bracket and target kits to function. See individual proximity & switch ready options for switch dimensions.***

PROXIMITY SWITCH BRACKET AND TARGET KITS

SLIDE SIZE	SWITCH SIZE	
	8 mm	12 mm
22	53101-01-1	63998-01-1
23	53101-01-1	63998-01-1
24	53101-02-1	63998-02-1
25	53101-02-1	63998-02-1
26	53101-03-1	63998-03-1

Kit contains all components for standard non-Z1 unit for one direction only.

PROXIMITY SWITCHES

PART NO.	DESCRIPTION
51422-005-02	8 mm Inductive Proximity Switch NPN (Sink) with 2 meter Cable
51422-006-02	8 mm Inductive Proximity Switch PNP (Source) with 2 meter Cable

SHOCK ABSORBERS

See individual shock ready options for shock absorber dimensions.



SLIDE SIZE	PHD SHOCK ABSORBER NUMBER*
22	57057-02-x
23	57057-02-x
24	57057-03-x
25	57057-03-x
26	57057-03-x

* See PHD product sizing software or Sizing Catalog for proper shock selection.

SLIDE SIZE	PHD SHOCK MOUNTING KIT
22	54108-11
23	54108-11
24	54109-11
25	54109-11
26	54110-11

Kit contains components for standard non -Z1 units for one direction only.

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