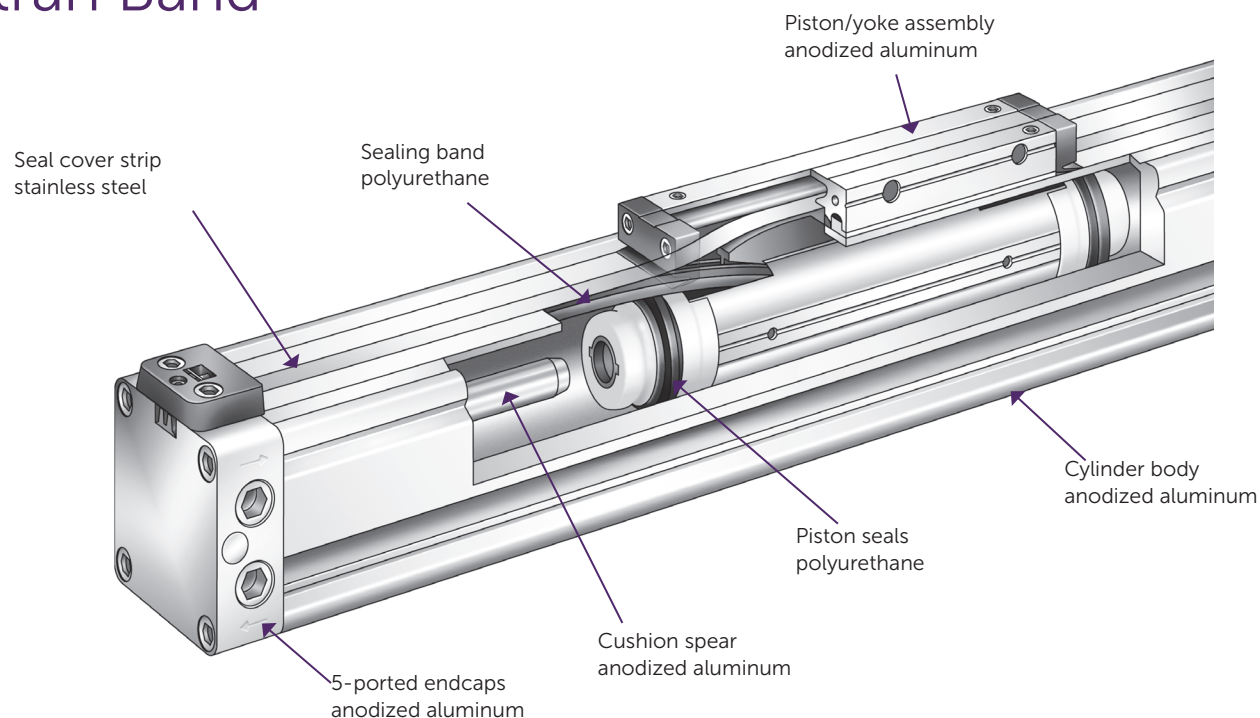
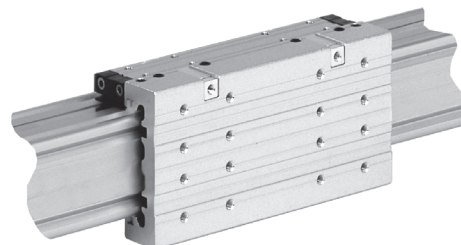


Ultran Band

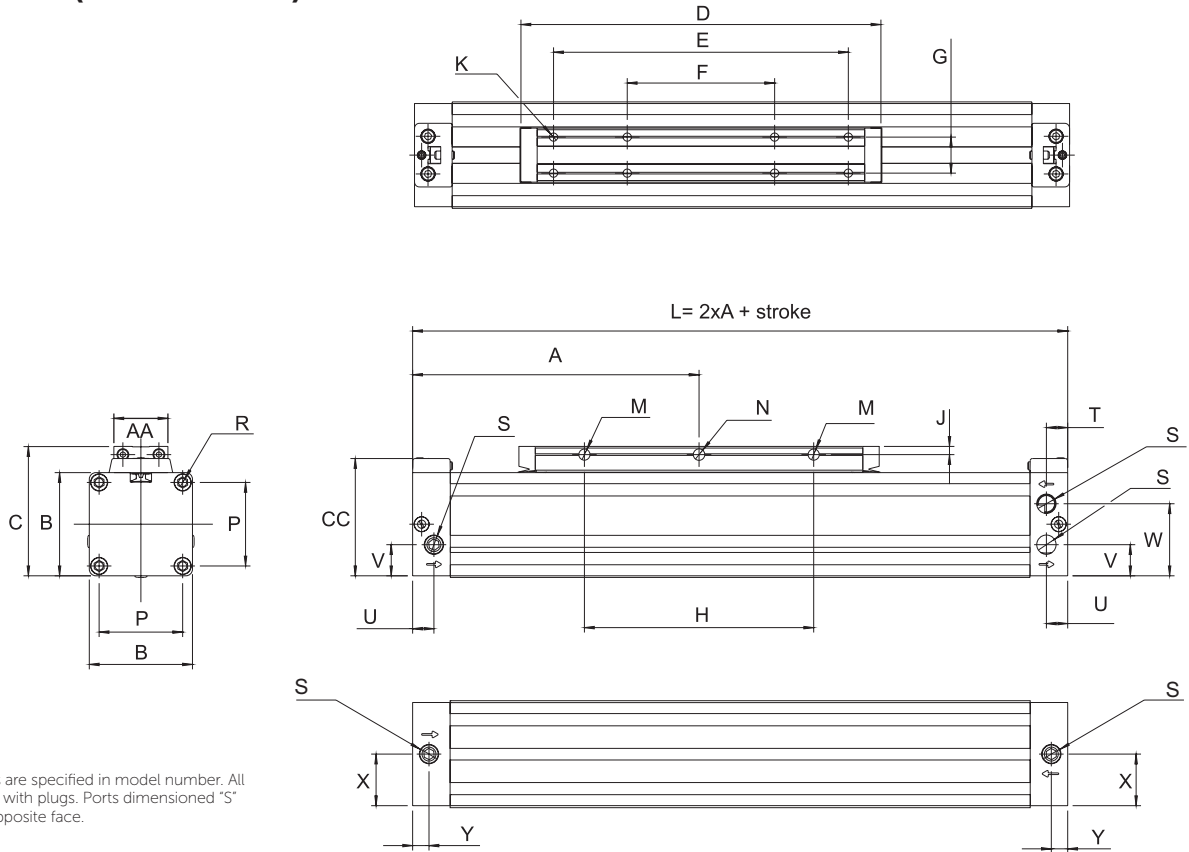


Features and Benefits

- The IMI Bimba Ultran Band is a mechanically-coupled rodless cylinder, providing overall length savings in excess of 40% vs. traditional cylinders.
- Specially engineered sealing strip out performs all other band sealing systems on the market.
- Stainless steel cover strip protects the sealed area and prolongs band life.
- Bore sizes range from 18mm to 63mm in basic model as well as with additional guiding.
- All models are switch-ready and come standard with finely adjustable cushioning.
- Unique five-ported endcaps provide maximum plumbing flexibility.



Dimensions (Ultraband)



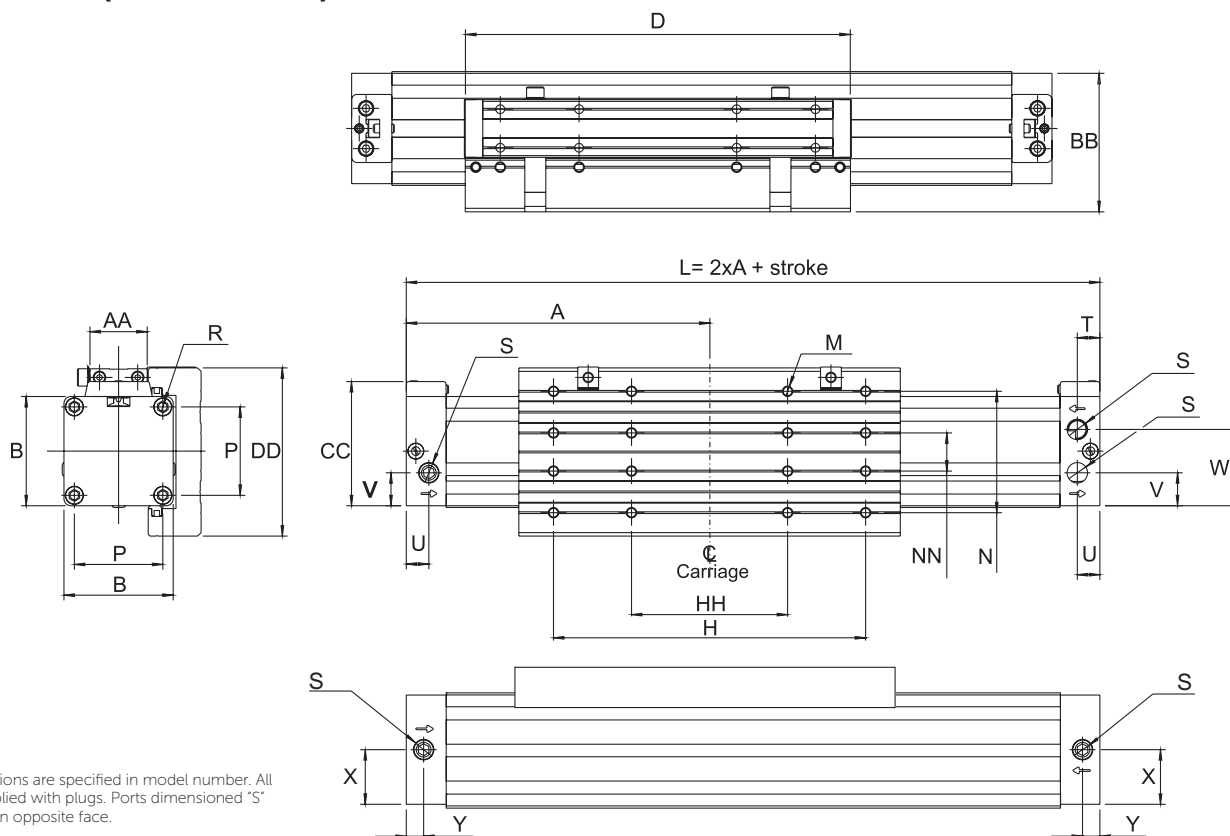
Active port positions are specified in model number. All other ports supplied with plugs. Ports dimensioned "S" are duplicated on opposite face.

Bore Size	A	AA	B	C	CC	D	E	F	G	H
18mm	80 (3.15)	15.5 (0.61)	30 (1.18)	39 (1.54)	36.5 (1.44)	103 (4.06)	75 (2.95)	-	10 (0.39)	50 (1.97)
25mm	100 (3.94)	20 (0.79)	42 (1.65)	53 (2.09)	50.2 (1.98)	131 (5.16)	100 (3.94)	50 (1.97)	13 (0.51)	70 (2.76)
32mm	120 (4.72)	25 (0.98)	52 (2.05)	65 (2.56)	60.2 (2.37)	171 (6.73)	140 (5.51)	70 (2.76)	16 (0.63)	100 (3.94)
40mm	150 (5.91)	33 (1.3)	63 (2.48)	79 (3.11)	71.6 (2.82)	220 (8.66)	180 (7.09)	90 (3.54)	22 (0.87)	140 (5.51)
50mm	180 (7.09)	42 (1.65)	78 (3.07)	96 (3.78)	86.6 (3.41)	280 (11.02)	220 (8.66)	110 (4.33)	29 (1.14)	180 (7.09)
63mm	215 (8.46)	54 (2.13)	93 (3.66)	113.5 (4.47)	101.6 (4)	333 (13.11)	280 (11.02)	140 (5.51)	40 (1.57)	230 (9.06)

Bore Size	J	K	OM	ON	P	R	Port S	T
18mm	3 (0.12)	M3x7 (#4-48x0.28)	3.4 (0.13)	3.5 (0.14)	23.5 (0.93)	M3x8 (#4-48x0.31)	M5 (10-32)	9.5 (0.37)
25mm	3.5 (0.14)	M4X7 (#8-36x0.28)	4.4 (0.17)	4.5 (0.18)	33 (1.3)	M4x10 (#8-36x0.39)	G1/8 (1/8 NPT)	7 (0.28)
32mm	4.5 (0.18)	M5X9 (#10-32x0.35)	5.3 (0.21)	5.5 (0.22)	41 (1.61)	M5x11 (#10-32x0.43)	G1/8 (1/8 NPT)	7 (0.28)
40mm	5 (0.20)	M6X10 (1/4-28x0.39)	6.8 (0.27)	7 (0.28)	51 (2.01)	M6x13 (1/4-28x0.51)	G1/4 (1/4 NPT)	13 (0.51)
50mm	6.5 (0.26)	M8X12.5 (5/16-24x0.49)	6.8 (0.27)	7 (0.28)	63 (2.48)	M8x13 (5/16-24x0.51)	G1/4 (1/4 NPT)	12 (0.47)
63mm	8 (0.31)	M8X15 (5/16-24x0.59)	8.8 (0.35)	9 (0.35)	78 (3.07)	M8x13 (5/16-24x0.51)	G3/8 (3/8 NPT)	13 (0.51)

Bore Size	U	V	W	X	Y
18mm	9.5 (0.37)	9.3 (0.37)	20.7 (0.81)	15 (0.59)	6.5 (0.26)
25mm	13 (0.51)	13.5 (0.53)	28.5 (1.12)	21 (0.83)	7.0 (0.28)
32mm	7 (0.28)	15.5 (0.61)	36.5 (1.44)	26 (1.02)	9.0 (0.35)
40mm	13 (0.51)	19 (0.75)	44 (1.73)	31.5 (1.24)	10 (0.39)
50mm	12 (0.47)	21 (0.83)	50 (1.97)	39 (1.54)	12 (0.47)
63mm	12 (0.47)	23 (0.91)	61.5 (2.42)	46.5 (1.83)	12 (0.47)

Dimensions (Ultraband)



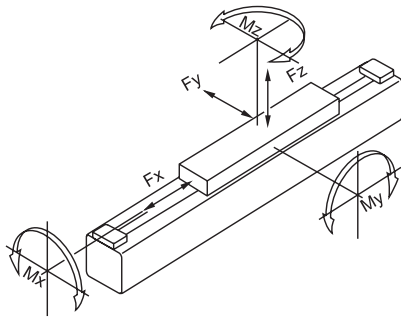
Active port positions are specified in model number. All other ports supplied with plugs. Ports dimensioned "S" are duplicated on opposite face.

Bore Size	A	AA	B	BB	CC	D	DD	H	HH
18mm	80 (3.15)	15.5 (0.61)	30 (1.18)	39 (1.54)	36.5 (1.44)	103 (4.06)	50 (1.97)	75 (2.95)	-
25mm	100 (3.94)	20 (0.79)	42 (1.65)	53 (2.09)	50.2 (1.98)	131 (5.16)	66 (2.6)	100 (3.94)	50 (1.97)
32mm	120 (4.72)	25 (0.98)	52 (2.05)	65 (2.56)	60.2 (2.37)	171 (6.73)	80 (3.15)	140 (5.51)	70 (2.76)
40mm	150 (5.91)	33 (1.3)	63 (2.48)	79 (3.11)	71.6 (2.82)	220 (8.66)	97 (3.82)	180 (7.09)	90 (3.54)
50mm	180 (7.09)	42 (1.65)	78 (3.07)	96 (3.78)	86.6 (3.41)	280 (11.02)	116 (4.57)	220 (8.66)	110 (4.33)
63mm	215 (8.46)	54 (2.13)	93 (3.66)	113.5 (4.47)	101.6 (4)	333 (13.11)	136 (5.35)	280 (11.02)	140 (5.51)

Bore Size	M	N	NN	P	R	Port S	T	U
18mm	M3x7 (#4-48x0.28)	35 (1.38)	10 (0.39)	23.5 (0.93)	M3x8 (#4-48x0.31)	M5 (#10-32)	9.5 (0.37)	9.5 (0.37)
25mm	M4x7 (#8-36x0.28)	45 (1.77)	13 (0.51)	33 (1.30)	M4x10 (#8-36x0.39)	G1/8 (1/8 NPT)	7 (0.28)	13 (0.51)
32mm	M5x9 (#10-32x0.35)	55 (2.17)	16 (0.63)	41 (1.61)	M5x11 (#10-32x0.43)	G1/8 (1/8 NPT)	7 (0.28)	7 (0.28)
40mm	M6x10 (1/4-28x0.39)	70 (2.76)	22 (0.87)	51 (2.01)	M6x13 (1/4-28x0.51)	G1/4 (1/4 NPT)	13 (0.51)	13 (0.51)
50mm	M8x12.5 (5/16-24x0.49)	85 (3.35)	29 (1.14)	63 (2.48)	M8x13 (5/16-24x0.51)	G1/4 (1/4 NPT)	12 (0.47)	12 (0.47)
63mm	M8x15 (5/16-24x0.59)	105 (4.13)	40 (1.57)	78 (3.07)	M8x13 (5/16-24x0.51)	G3/8 (3/8 NPT)	13 (0.51)	12 (0.47)

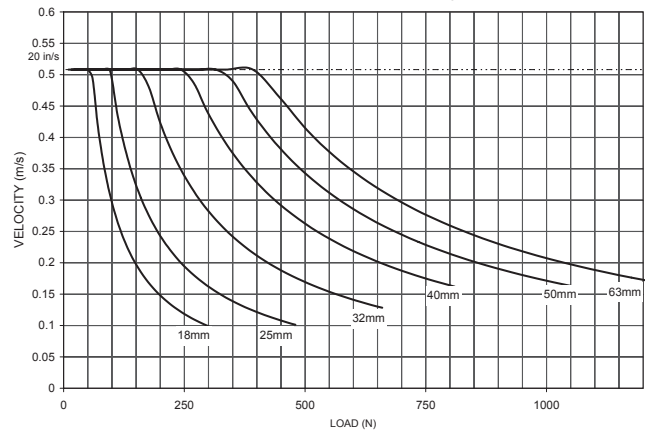
Bore Size	V	W	X	Y
18mm	9.3 (0.37)	20.7 (0.81)	15 (0.59)	6.5 (0.26)
25mm	13.5 (0.53)	28.5 (1.12)	21 (0.83)	7 (0.28)
32mm	15.5 (0.61)	36.5 (1.44)	26 (1.02)	9 (0.35)
40mm	19 (0.75)	44 (1.73)	31.5 (1.24)	10 (0.39)
50mm	21 (0.83)	50 (1.97)	39 (1.54)	12 (0.47)
63mm	23 (0.91)	61.5 (2.42)	46.5 (1.83)	12 (0.47)

Engineering Specifications (Ultraband)

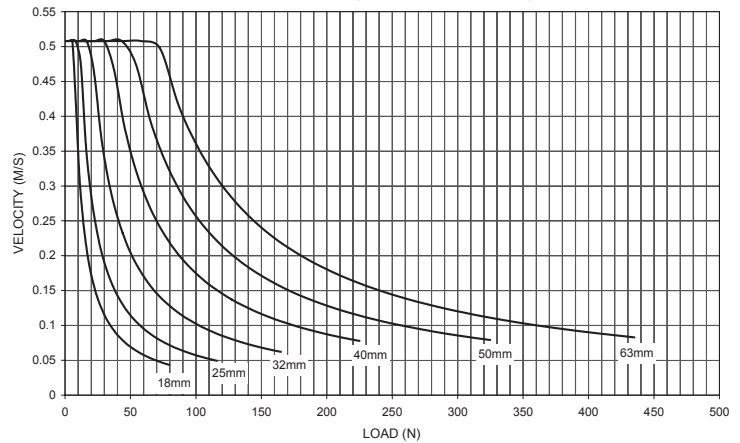


Bore Size	Maximum Moment, Nm (in-lb)		
	Mx	My	Mz
18mm	1 (8.8)	3 (26.5)	3 (26.5)
25mm	2 (17.7)	13 (115)	13 (115)
32mm	3.5 (31)	25 (221.2)	25 (221.2)
40mm	5.5 (48.7)	40 (354)	40 (354)
50mm	10 (88.5)	65 (575.2)	65 (575.2)
63mm	16 (141.6)	100 (885)	100 (885)

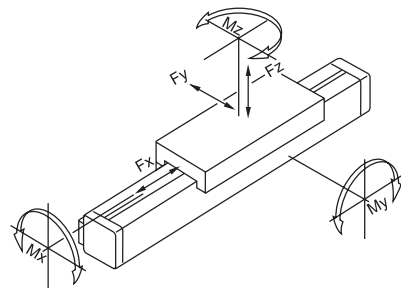
Load (Fz) vs. Velocity



Load (Fy) vs. Velocity

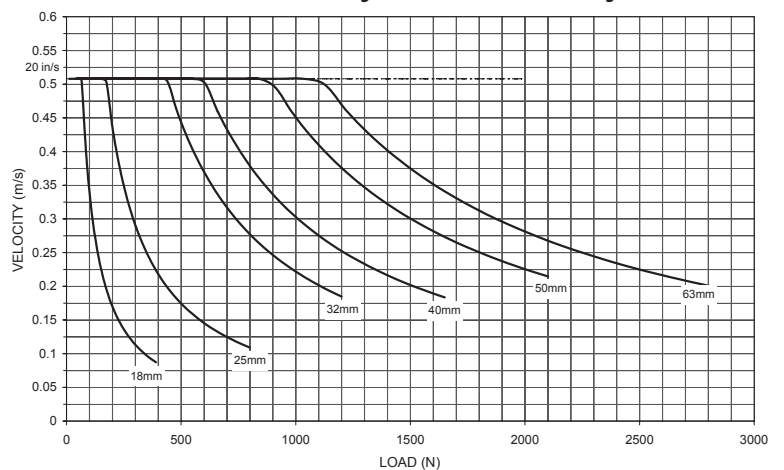


Engineering Specifications (UBS, UBSM)



Bore Size	Maximum Moment, Nm (in-lb)		
	Mx	My	Mz
18mm	3.5 (31)	6 (53.1)	6 (53.1)
25mm	10 (88.5)	20 (177)	20 (177)
32mm	25 (221.2)	45 (398.2)	45 (398.2)
40mm	40 (354)	75 (663.7)	75 (663.7)
50mm	80 (708)	150 (1327.4)	150 (1327.4)
63mm	110 (973.5)	250 (2212.4)	250 (2212.4)

Load (Fy or Fz) vs. Velocity



Nx 0.225 = LB

m/sec x 39.4 = in/sec

Engineering Specifications (Ultran Band)

Kinetic Energy

Term	Description	S.I. Units	U.S. Units
KE	Kinetic energy	N-m	in-lb.
W	Weight of applied load	kg	lb.
k	Bore constant	kg	lb.
V	Maximum velocity*	M/sec	in/sec

NOTE: Maximum velocity, or impact velocity, is typically = 2 x average velocity

Using S.I. Units

$$KE = 1/2 \times (W + k) \times V^2$$

Bore Size	UB, UBM	UBS, UBSM	UB, UBM, UBS, UBSM	UBS, UBSM	
	Bore Constant (k) (kg)		Max KE, no shocks* (N-m)	Max KE with shocks (N-m)	Max KE/hr with shocks (N-m/hr)
18mm	0.07	0.16	0.56	27	33894
25mm	0.15	0.33	1.70	27	33894
32mm	0.30	0.62	4.52	27	33894
40mm	0.55	1.15	8.20	192	75698
50mm	1.02	1.99	12.35	192	75698
63mm	1.73	3.09	15.46	192	75698

NOTE: Any application where velocity exceeds 0.5 m/sec (20 in/sec) requires shock absorbers.

Using U.S. Units

$$KE = 1/773 \times (W + k) \times V^2$$

Bore Size	UB, UBM	UBS, UBSM	UB, UBM, UBS, UBSM	UBS, UBSM	
	Bore Constant (k) (lb)		Max KE, no shocks* (in-lb.)	Max KE with shocks (in-lb.)	Max KE/hr with shocks (in-lb./hr)
18mm	0.15	0.35	4.96	239	299947
25mm	0.33	0.73	15.04	239	299947
32mm	0.66	1.37	40.00	239	299947
40mm	1.21	2.53	72.57	1699	669894
50mm	2.25	4.38	109.29	1699	669894
63mm	3.81	6.81	136.81	1699	669894

General Specifications

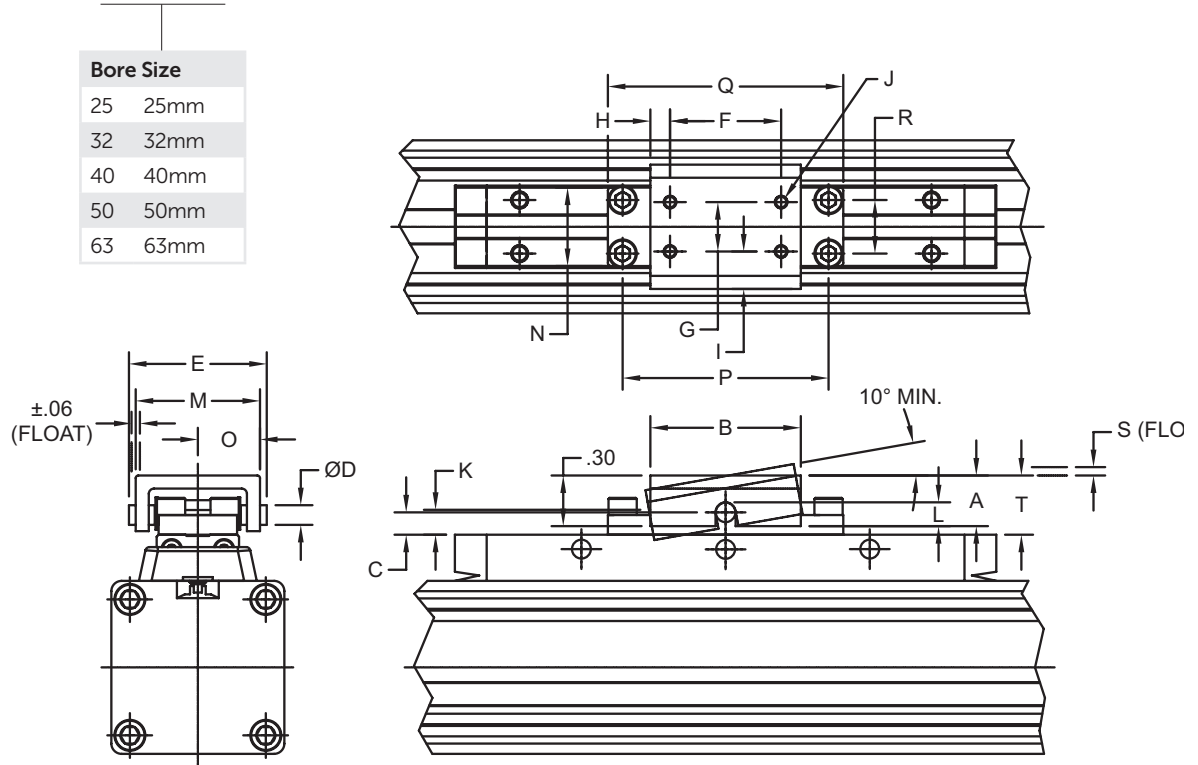
Pressure Rating:	2 to 8 bar (30 to 110 PSI), dry filtered air
Breakaway:	15 PSI or less (UB, UBM) 30 PSI or less (UBS, UBSM)
Leakage:	100 sccm or less
Operating Temperature:	20° C to 80° C (-4° F to 175° F)
Expected Service Life:	1,000 linear miles
Lubrication:	Silicone grease
Maximum Speed:	100 in/sec (impact velocity) 50 in/sec (average velocity)

Floating Mounting Bracket (Ultram Band)

Only suitable for use on UB models sized 25mm and larger. Not suitable for use on UBS, UBM, and UBSM models. If a floating mounting bracket is required for these models, contact IMI Bimba.

Ideal when a non-parallel or floating interface is required for interfacing the carriage to an external guiding system. Prevents binding between the UB and the external guiding hardware.

UBFM -



Dimensions (in)

Bore Size	A	B	C	D	E	F	G	H	I	J
25mm	0.53	1.44	0.19	0.19	1.32	1.06	0.47	0.19	0.36	#4-40 UNC
32mm	0.63	1.69	0.19	0.25	1.65	1.19	0.75	0.25	0.38	#6-32 UNC
40mm	0.75	1.88	0.19	0.25	2.01	1.50	1.00	0.19	0.44	#8-32 UNC
50mm	0.75	1.88	0.25	0.25	2.01	1.50	1.00	0.19	0.44	#8-32 UNC
63mm	0.94	2.75	0.31	0.37	2.85	2.13	1.63	0.31	0.55	#10-24 UNC

Bore Size	K	L	M	N	O	P	Q	R	S	T
25mm	0.24	0.25	1.19	0.75	0.59	1.97	2.25	0.51	0.15	0.56
32mm	0.25	0.31	1.52	1.00	0.76	2.76	3.25	0.63	0.19	0.63
40mm	0.28	0.31	1.88	1.30	0.94	3.54	4.13	0.87	0.19	0.75
50mm	0.28	0.31	1.88	1.61	0.94	4.33	4.91	1.14	0.19	0.81
63mm	0.42	0.44	2.72	2.04	1.36	5.51	6.25	1.58	0.25	1.00

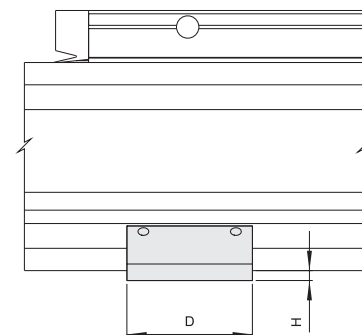
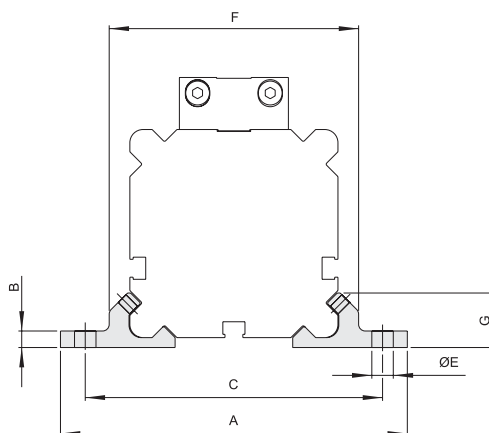
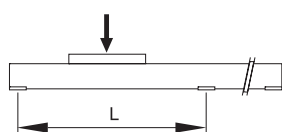
Center Supports

Kit includes: 2 supports and mounting hardware. Additional cylinder support is needed for cylinder span and load combinations as shown in table.

Bore Size	Distance L mm (inch) with 0.5mm deflection						
	250 N (56 lb)	500N (112 lb)	750N (169 lb)	1000N (225 lb)	1500N (337 lb)	2000N (450 lb)	2500N (562 lb)
18mm	700 (28)	-	-	-	-	-	-
25mm	1100 (43)	1350 (53)	700 (28)	-	-	-	-
32mm	1400 (55)	1100 (43)	950 (37)	850 (33)	-	-	-
40mm	1600 (63)	1300 (51)	1150 (45)	1050 (41)	900 (35)	-	-
50mm	2050 (81)	1700 (67)	1550 (61)	1350 (53)	1150 (45)	1050 (41)	-
63mm	2450 (96)	2050 (81)	1850 (73)	1700 (67)	1550 (61)	1350 (53)	1250 (49)

UBCS -

Bore Size	
18	18mm
25	25mm
32	32mm
40	40mm
50	50mm
63	63mm

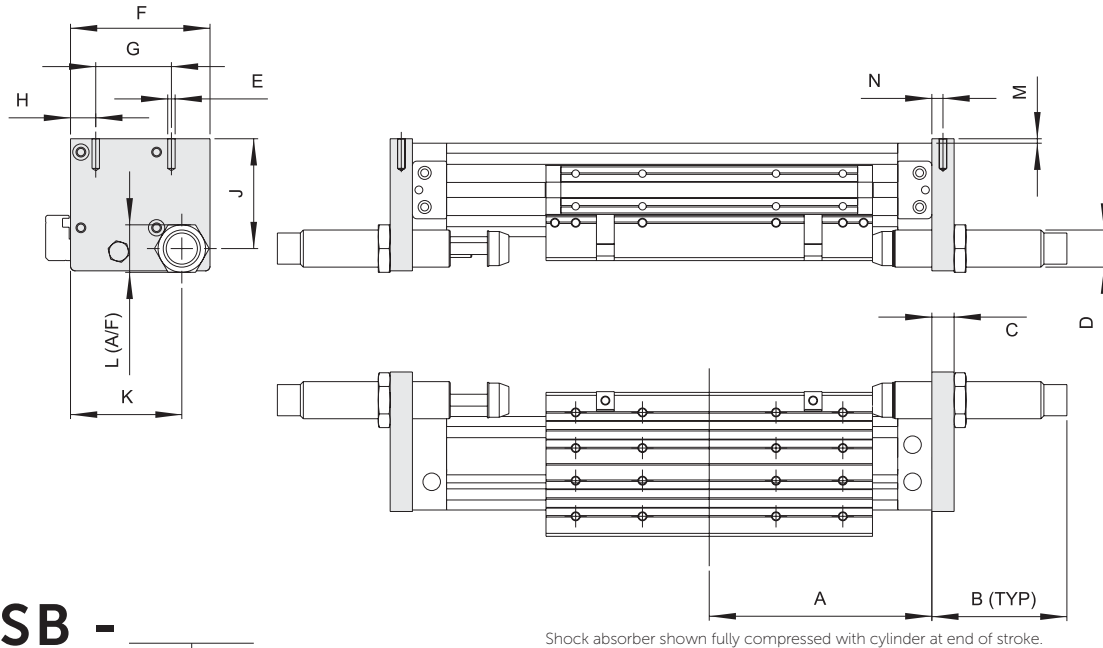


Dimensions mm (in)

Bore Size	A	B	C	D	ØE	F	G	H
18mm	56 (2.20)	2.5 (0.10)	46 (1.81)	23 (0.91)	4.3 (0.17)	36.5 (1.44)	8.3 (0.33)	2.0 (0.08)
25mm	70 (2.76)	3.5 (0.14)	60 (2.36)	28 (1.10)	5.3 (0.21)	50.0 (1.97)	11.0 (0.43)	2.0 (0.08)
32mm	85 (3.35)	4.0 (0.16)	73 (2.87)	33 (1.30)	5.3 (0.21)	61.5 (2.42)	13.8 (0.54)	3.0 (0.12)
40mm	105 (4.13)	4.5 (0.18)	90 (3.54)	38 (1.50)	6.5 (0.26)	75.0 (2.95)	16.5 (0.65)	3.0 (0.12)
50mm	122 (4.80)	5.0 (0.20)	106 (4.17)	43 (1.69)	8.5 (0.33)	91.0 (3.58)	19.0 (0.75)	3.0 (0.12)
63mm	144 (5.67)	6.0 (0.22)	125 (4.92)	48 (1.89)	8.5 (0.33)	107 (4.21)	22.0 (0.87)	4.5 (0.18)

Shock Absorber Bracket (Ultraband)

Kit includes: 2 brackets and mounting hardware.



UBSB -

UBMSB -

Bore Size

18	18mm
25	25mm
32	32mm
40	40mm
50	50mm
63	63mm

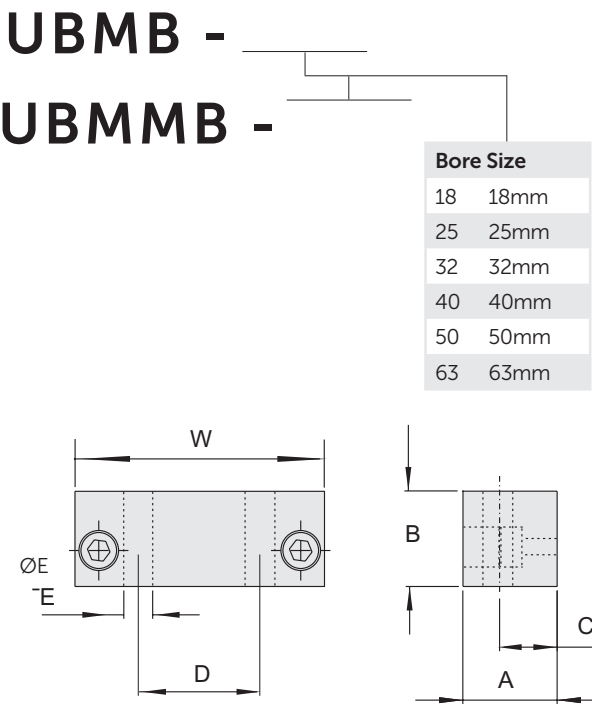
Dimensions (in)

Bore Size	A	B	C	D	E	F	G	H
18mm	80 (3.15)	62 (2.44)	8 (0.31)	M14x1.0 (1/2-20)	M3x10 (#4-40)	44.5 (1.75)	23.5 (0.93)	9 (0.35)
25mm	100 (3.94)	56 (2.2)	10 (0.39)	M14x1.0 (1/2-20)	M4x10 (#8-32)	58 (2.28)	33 (1.3)	13.5 (0.53)
32mm	120 (4.72)	56 (2.2)	12 (0.47)	M14x1.0 (1/2-20)	M5x12 (10-24)	71 (2.79)	41 (1.61)	15.5 (0.61)
40mm	150 (5.91)	91 (3.58)	15 (0.59)	M25x1.5 (1-12)	M6x15 (1/4-20)	94 (3.70)	51 (2.01)	17 (0.67)
50mm	180 (7.09)	91 (3.58)	15 (0.59)	M25x1.5 (1-12)	M8x20 (5/16-18)	103 (4.06)	63 (2.48)	23.5 (0.93)
63mm	215 (8.46)	82.5 (3.25)	15 (0.59)	M25x1.5 (1-12)	M8x20 (5/16-18)	119.5 (4.7)	78 (3.07)	21 (0.83)

Bore Size	J	K	L	M	Shock Absorber PIN
18mm	37 (1.46)	36.5 (1.44)	17 (0.67)	2 (0.08)	SSM-27 (SS-09)
25mm	50 (1.97)	50 (1.97)	17 (0.67)	2 (0.08)	SSM-27 (SS-09)
32mm	61.5 (2.42)	61 (2.4)	17 (0.67)	2 (0.08)	SSM-27 (SS-09)
40mm	74 (2.91)	75 (2.95)	32 (1.26)	3 (0.12)	SSM-50 (SS-31)
50mm	90 (3.54)	89 (3.5)	32 (1.26)	3 (0.12)	SSM-50 (SS-31)
63mm	107 (4.21)	105.5 (4.15)	32 (1.26)	4.5 (0.18)	SSM-50 (SS-31)

Mounting Block (Ultran Band)

Kit includes: 2 blocks, 4 bolts to attach to cylinder.



Dimensions mm (in)

Bore Size	A	B	C	D	ØE	W
18mm	10 (0.39)	14.5 (0.57)	5 (0.2)	14 (0.55)	4.5 (0.18)	30 (1.18)
25mm	15 (0.59)	17 (0.67)	7.5 (0.3)	22 (0.87)	5.5 (0.22)	42 (1.65)
32mm	15 (0.59)	20 (0.79)	7.5 (0.3)	23.5 (0.93)	7 (0.28)	52 (2.05)
40mm	15 (0.59)	23 (0.91)	7.5 (0.3)	30 (1.18)	9 (0.35)	63 (2.48)
50mm	16 (0.63)	26 (1.02)	8 (0.31)	39 (1.54)	9 (0.35)	78 (3.07)
63mm	20 (0.79)	27.5 (1.08)	10 (0.39)	52 (2.05)	11 (0.43)	93 (3.66)

Position Sensing Switches

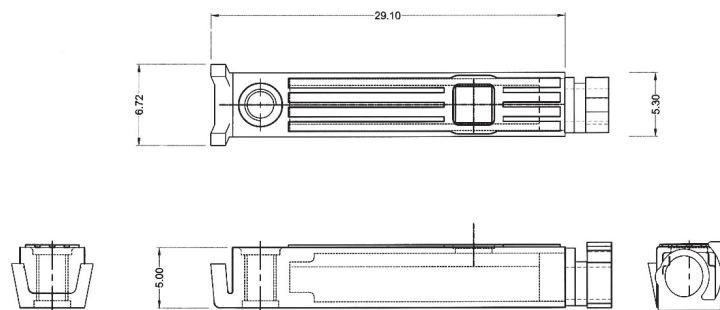
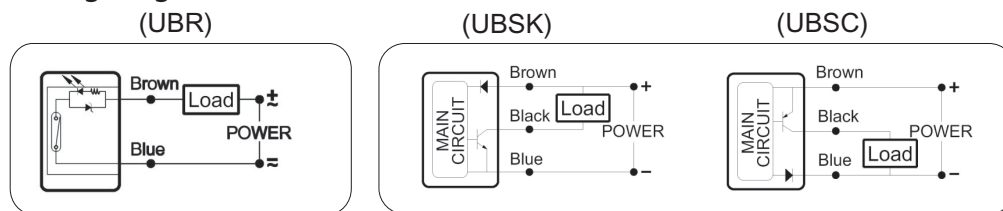
Switch Model Numbers		Description
18mm bore only	25mm-63mm bores	
MSK	UBSK	GMR, Sinking, 3m cable (NPN)
MSC	UBSC	GMR, Sourcing, 3m cable (PNP)
MR	UBR	Reed, 3m cable
MSKQ	UBSKQ	GMR, Sinking, M8 quick connect (NPN)
MSCQ	UBSCQ	GMR, Sourcing, M8 quick connect (PNP)
MRQ	UBRQ	Reed, M8 quick connect

Switch Specifications (25mm-63mm Bores)*

Characteristic	UBR	UBSK	UBSC
Switching Logic	SPST N/O	Solid State Output Normally Open	
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing
Operating Voltage	5~240V DC/AC	5~28V DC	
Switching Current	100mA max	200mA max	
Switching Power	10W max	6W max	
Current Consumption	- -	20mA max @ 24V (Active)	18mA max @ 24V (Active)
Voltage Drop	2.5V max @ 40mA DC	0.5V @ 200mA max (Resistive Load)	
Leakage Current	- -	0	.01mA max
Indicator	Red LED	Red LED	Green LED
Sensitivity	60 Gauss	40 Gauss	
Max Switching Frequency	1000 Hz	1000 Hz	
Temp Range	-10 ~ 70 deg C	-10 ~ 70 deg C	
Shock	30G	50G	
Vibration	9G	9G	
Enclosure Protection	IP67	IP67	
Circuit Protection	N one	Reverse Source Polarity; Surge suppression	

*For specifications on 18mm bore switches MS/MR, and Quick Connect mating cables, see Related Products Section.

Wiring Diagram



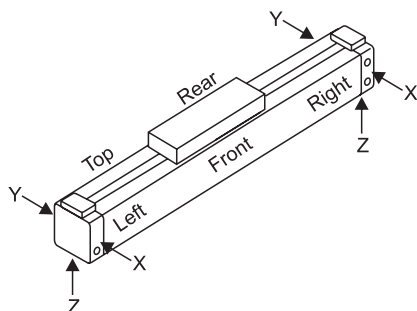
Ultran Band

The model number of Ultran Band cylinders consists of an alphanumeric cluster designating product type, bore size, stroke length, and other optional components that together make up the complete part number to use in ordering. Use the ordering information below to build a valid part number.

An example of a basic Ultran Band unit with 25mm bore, 12" stroke, and additional options is shown below.

UB - 25 12 - 1XCM

Model	Bore Size	Stroke Length	Options
UB Ultran Band	18 18mm	1" increments to 120" max. ¹ (UB, UBS)	1 Single end porting (RH) (X, Y positions only)
UBS Ultran Band, Side Guide	25 25mm	25mm increments to 3000mm max. (UBM, UBSM)	2 Single end porting (LH) (X, Y positions only)
UBM Ultran Band, Metric	32 32mm		3 Double end porting (X, Y, or Z positions)
UBSM Ultran Band, Metric, Side Guide	40 40mm		F Floating mounting bracket ²
	50 50mm		X Side front port position
	63 63mm		Y Side rear port position
			Z Bottom port position
			C Adjustable cushions
			M MRS position sensing



Notes:

Must specify port function and location.

All models have cushions; include "C" in all part numbers.

All models include magnet and are switch-ready; include "M" in all part numbers.

For port positioning, use diagram above.

² Only available on UB models sized 25mm and larger. Not available on 18mm models, or on UBS, UBM, and UBSM. If a floating mounting bracket is required for these models, contact IMI Bimba. For use when a non-parallel or floating interface with the carriage is required to prevent binding between the UB and external guiding systems. Refer to page 417 for dimensions.

Basic Repair Kits (Ultran Band)

Kits include: all seals, sealing band, cover strip, all assembly hardware.

Two kits are offered; one for strokes up to 3m stroke and one for strokes 3-6m.

Example: Basic repair kit for UB-2536-1XCM = RK9N0253

Bore Size	Kits for Stroke 0-3m (0-118")		Kits for Strokes 3-6m (118" +)	
	Seal Kit (3m) NPT (inch)	Seal Kit (3m) Metric	Seal Kit (6m) NPT (inch)	Seal Kit (6m) Metric
18mm	RK9N0183	RK9Y0183	RK9N0186	RK9Y0186
25mm	RK9N0253	RK9Y0253	RK9N0256	RK9Y0256
32mm	RK9N0323	RK9Y0323	RK9N0326	RK9Y0326
40mm	RK9N0403	RK9Y0403	RK9N0406	RK9Y0406
50mm	RK9N0503	RK9Y0503	RK9N0506	RK9Y0506
63mm	RK9N0633	RK9Y0633	RK9N0636	RK9Y0636