

# BC4 INTERNAL BEARING RODLESS CYLINDER



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# BC4 BAND CYLINDER

## ENDURANCE TECHNOLOGY<sup>SM</sup>

*Endurance Technology features are designed for maximum durability to provide extended service life.*

### LOAD-SUPPORTING BEARING DESIGN

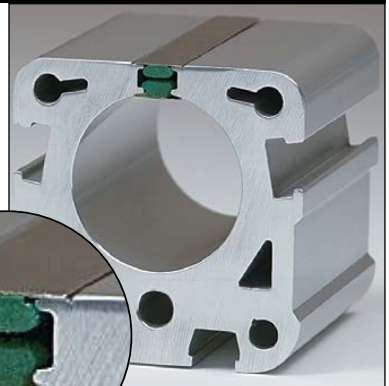
- Self-lubricating bearing runs the length of carrier web for maximum bearing surface, this patented floating bearing system provides smooth movement and maximum transverse load resistance
- Durable, engineered resin piston has 50% greater bearing area
- Thicker and longer web has 60% greater material for increased robustness
- Maximum bearing life for millions of cycles



The BC4 was designed in response to customer requests for a basic rodless cylinder for use in applications that have guidance and support for the load. The BC4 features durable stainless steel bands, field replaceable engineered bearings and a large carrier mounting pattern. Built-to-order in stroke lengths up to 206 inches.

### STAINLESS STEEL SEALING BAND SYSTEM

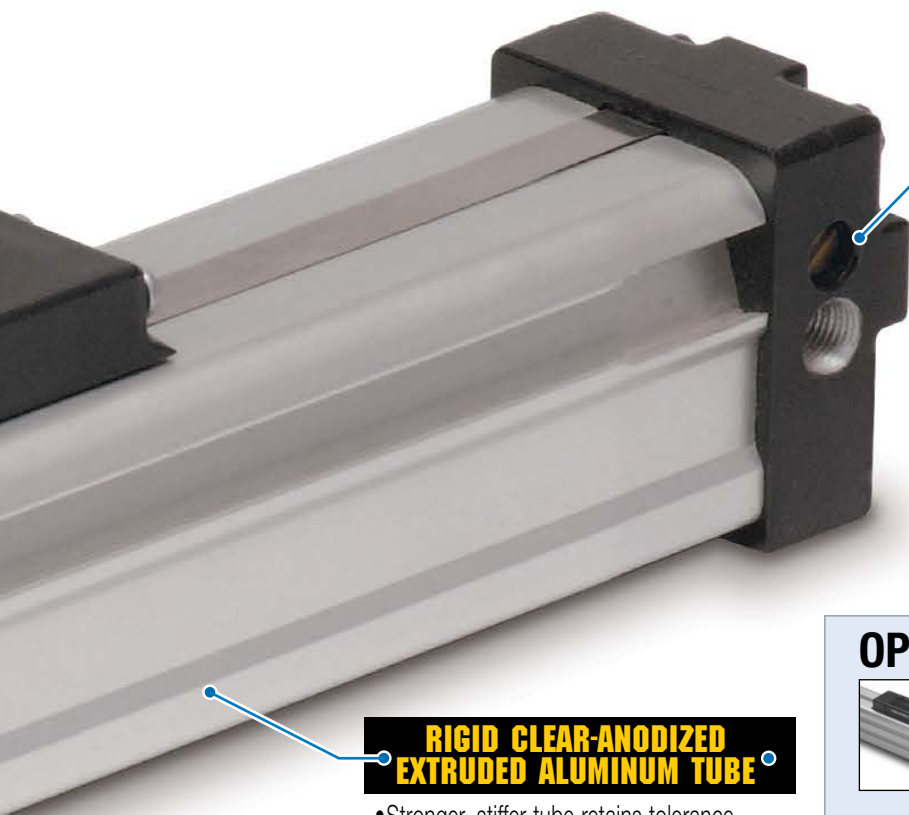
- Fatigue resistant stainless steel bands are specifically made to provide longer life and will not elongate, like elastomers
- Outer band keeps out contaminants for extended performance
- Inner band provides a smooth surface for less seal wear



### FORMED END CAP WIPER SEAL

- Keeps contaminants from entering the sealing area
- Protects internal components
- Reduces maintenance while increasing productivity

# TOLOMATIC...THE RODLESS CYLINDER LEADER



## ADJUSTABLE CUSHIONS

- Adjustable cushions are standard, not optional
- Easy screw adjustment for end-of-stroke deceleration
- Protects actuator and load from damage

## RIGID CLEAR-ANODIZED EXTRUDED ALUMINUM TUBE

- Stronger, stiffer tube retains tolerance specifications when chamber is pressurized
- Keeps sealing band in place for maximized air efficiency
- Tube supports are minimized
- Solid structural support provides durability and long life performance

## OPTIONS



### AUXILIARY CARRIER

- Substantially higher load capacity
- Substantially higher bending moment capacity



### LONG CARRIER

- Substantially higher  $M_y$  and  $M_z$  bending moment capacity
- Larger load bearing mounting surface



### FLOATING MOUNT

- Compensates for non-parallelism between band cylinder and externally guided load



### TUBE SUPPORT MOUNTS

- Used for intermediate support



### FOOT MOUNTS

- For end mounting of band cylinder



### SHOCK ABSORBERS

- Smooth deceleration, higher productivity
- Allows increased operating speed
- Self-compensates for load or speed changes
- Minimizes impact load to equipment
- Adjustable position shocks available



### SINGLE END PORTING

- Simplifies air connections



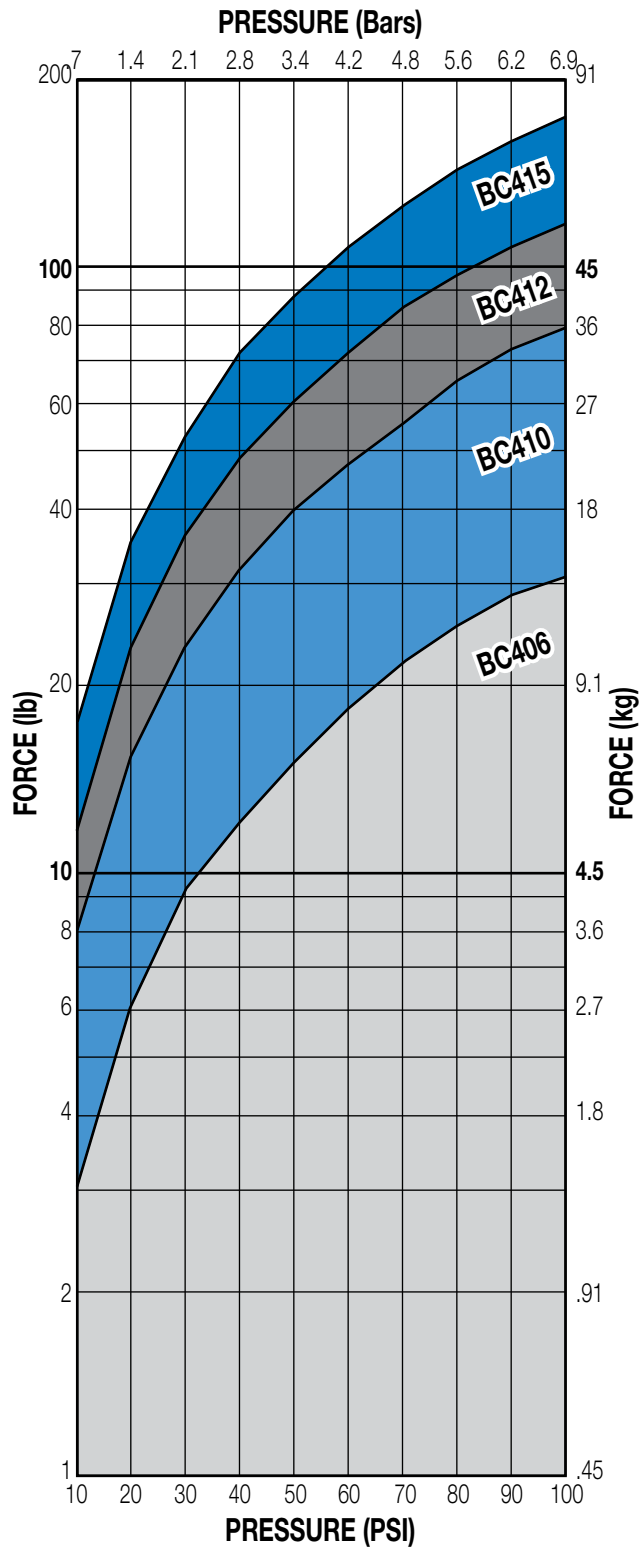
### SWITCHES

- Available in Reed, Hall-effect and Triac
- 15ft. cable with flying leads; available with quick-disconnect couplers

# BC4 Internal Bearing Rodless Cylinder

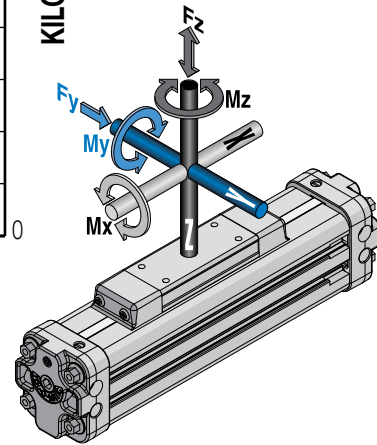
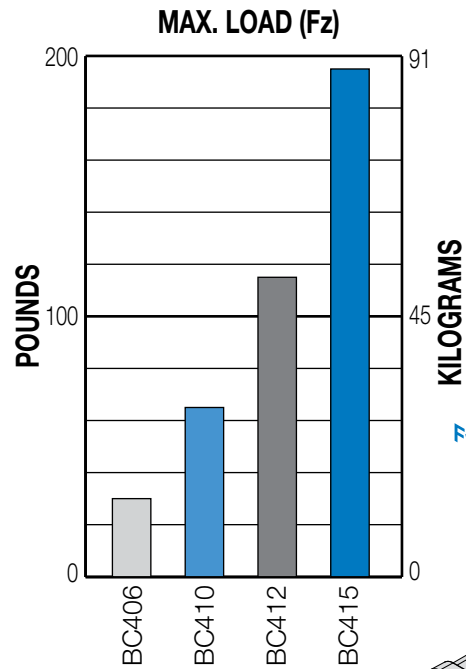
## PERFORMANCE

### BC4 THEORETICAL FORCE vs PRESSURE

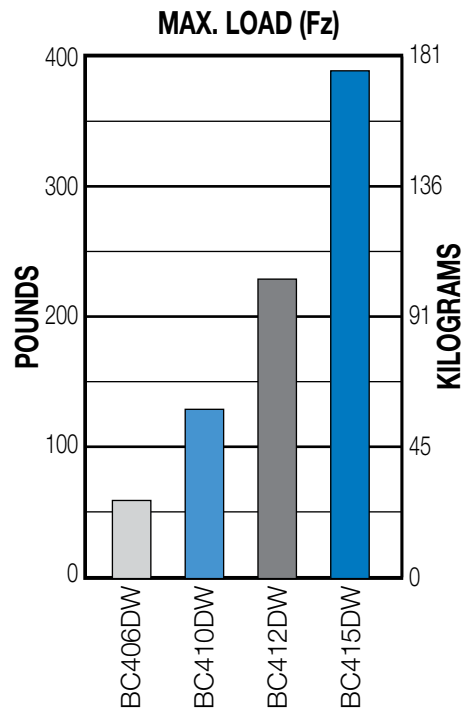


### BC4 MAX. LOAD

#### STANDARD ACTUATOR



#### AUXILIARY CARRIER OPTION

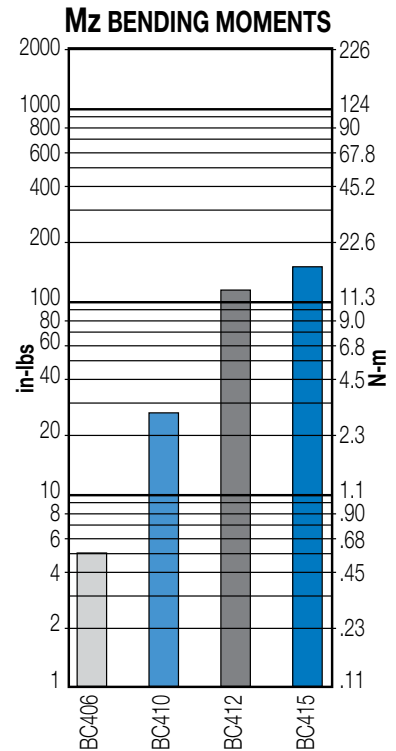
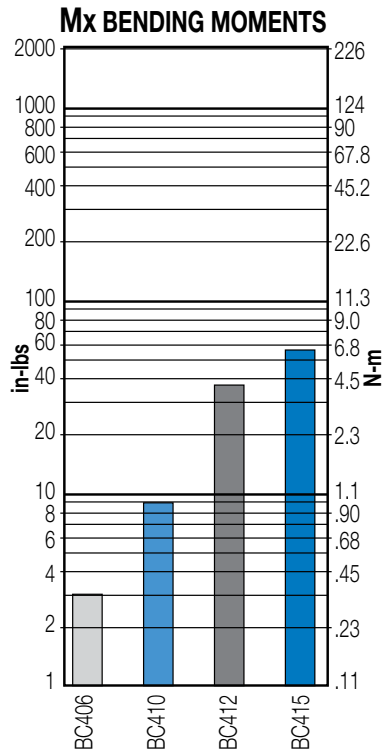
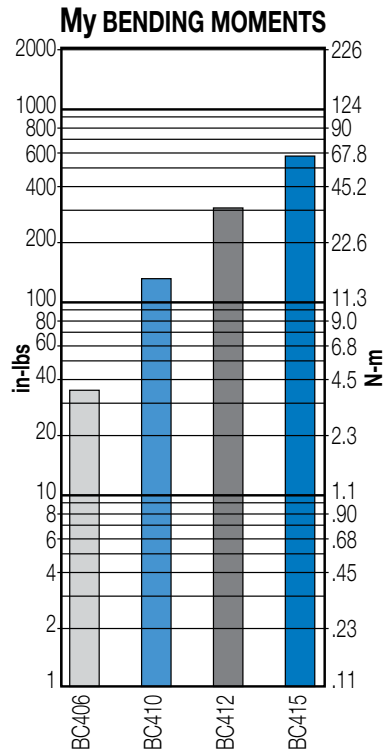


# BC4 Internal Bearing Rodless Cylinder

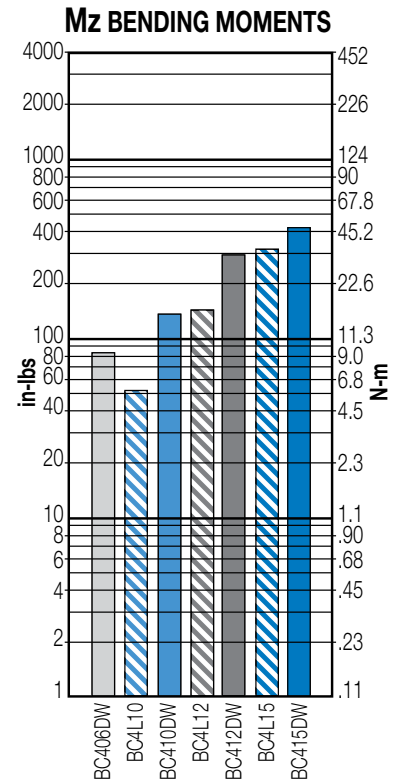
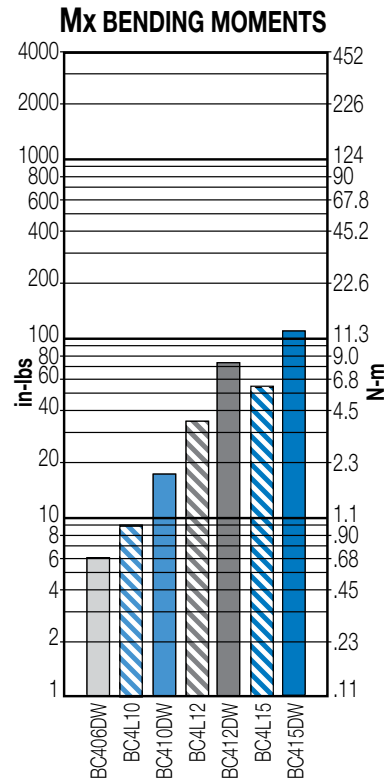
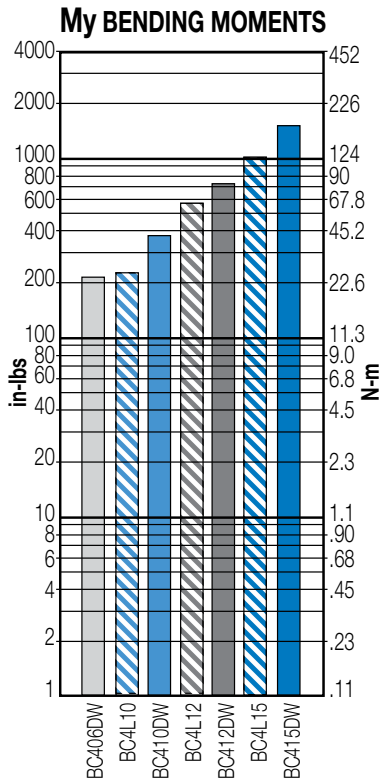
## PERFORMANCE

### BC4 BENDING MOMENTS AND LOAD

#### STANDARD ACTUATOR



#### AUXILIARY CARRIER & LONG CARRIER OPTIONS



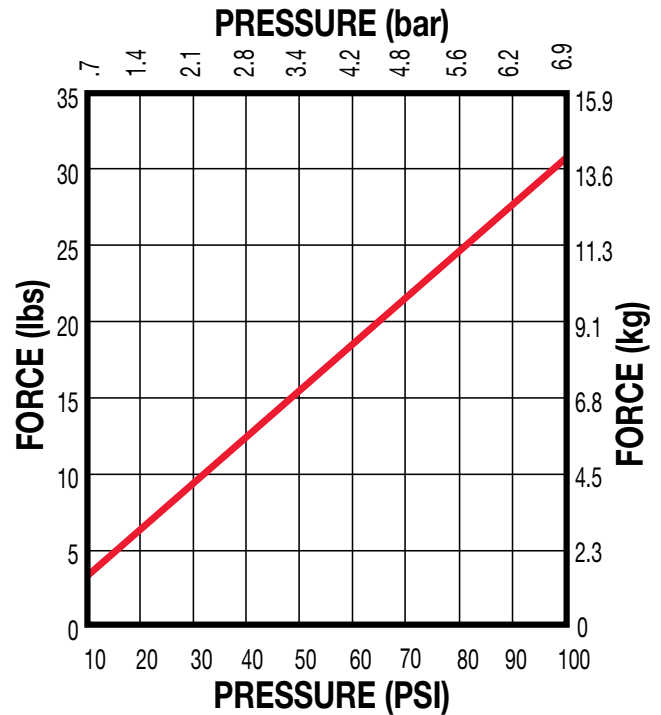
\*Auxiliary carrier bending moments indicated are at minimum center to center distance. Additional My + Mz load capacity can be obtained by increasing "D" dimension. Refer to auxiliary carrier data on page BC4\_16.

# BC406 Internal Bearing Rodless Cylinder

## PERFORMANCE

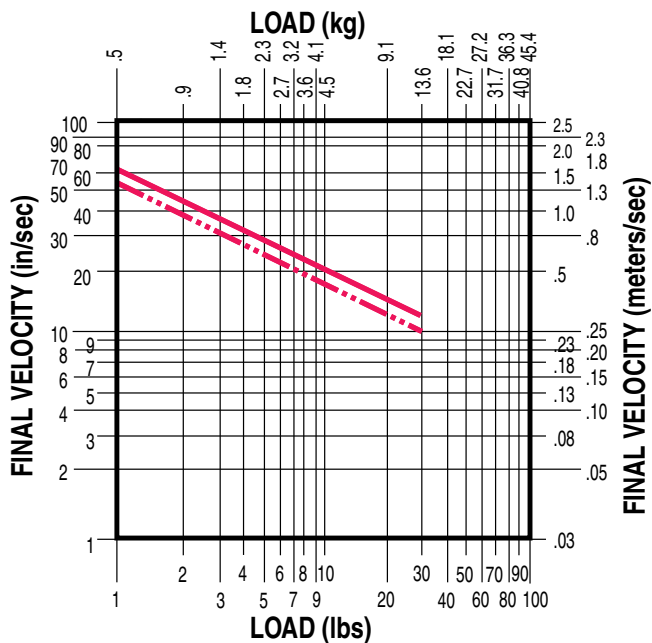
BC406	
	
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## THEORETICAL FORCE vs PRESSURE



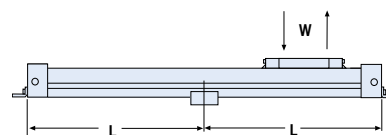
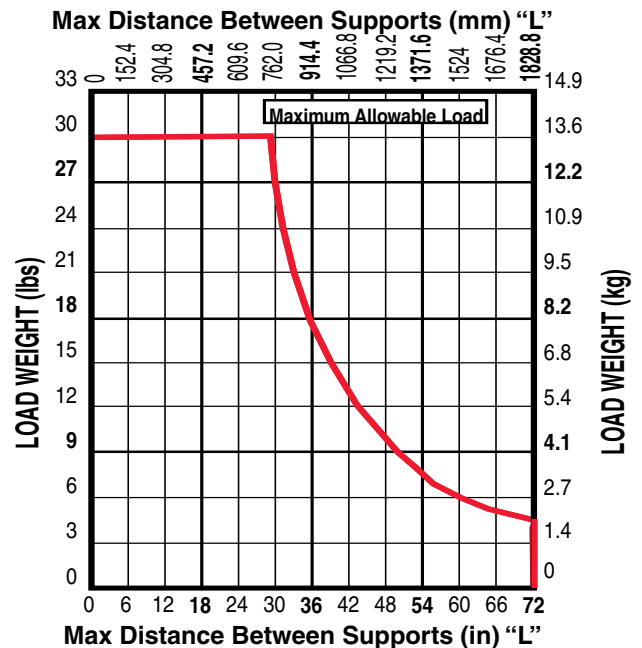
## TUBE SUPPORT REQUIREMENTS

## CUSHION DATA



### NOTE:

- Max. for any application
- - - - - Max. for continuously cycled application



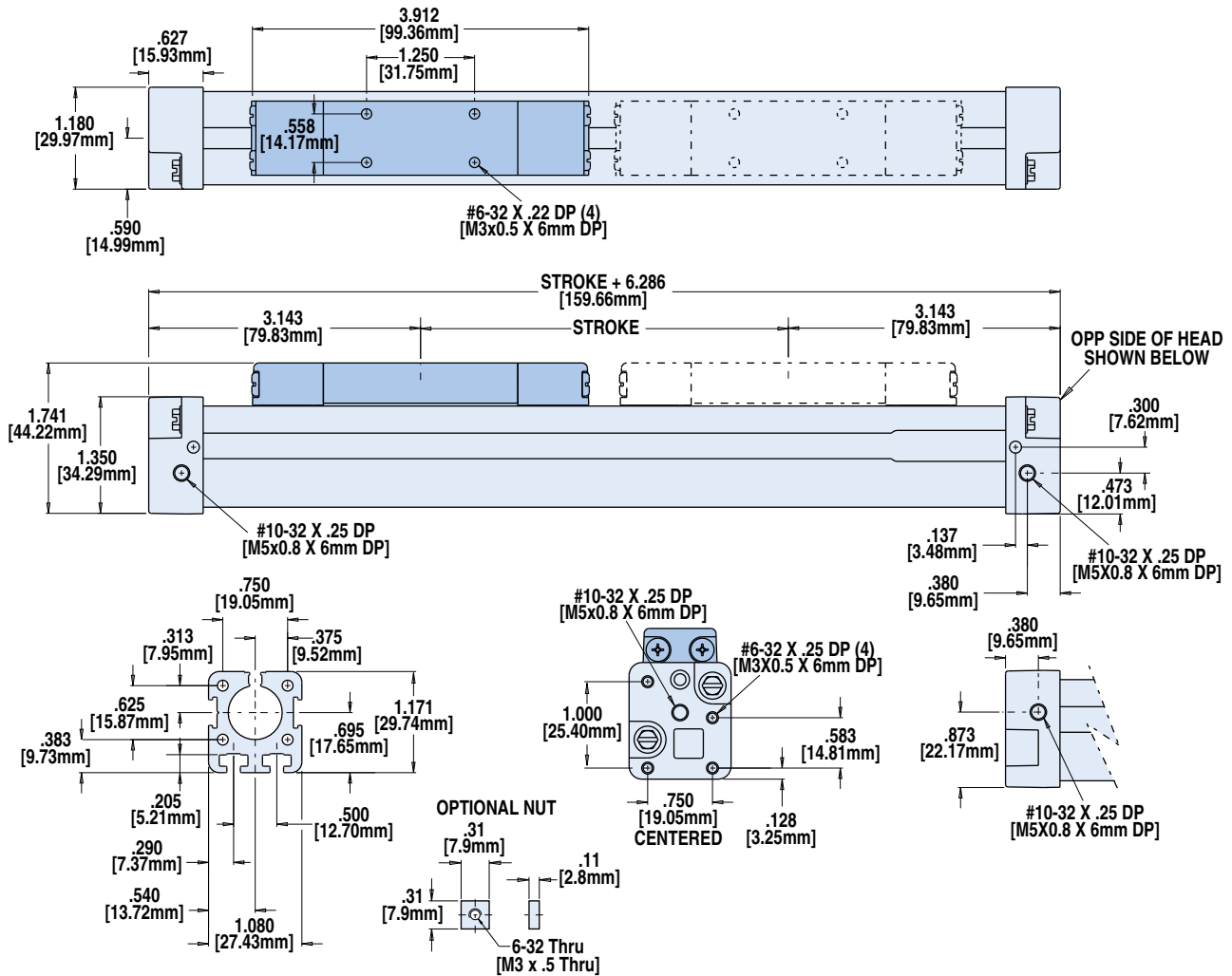
# BC406 Internal Bearing Rodless Cylinder

3D CAD available at  
www.tolomatic.com



## DIMENSIONS

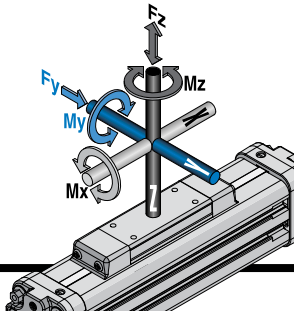
Always use configured CAD solid model  
to determine critical dimensions



Dimensions in inches [brackets indicate dimensions in millimeters]

## SPECIFICATIONS

### BC406 BENDING MOMENTS AND LOAD



	BORE SIZE	MAX. BENDING MOMENT			MAX. LOAD
		$M_y$	$M_x$	$M_z$	$F_z$
<b>U.S.</b>	0.625 in	35 in-lbs	3.0 in-lbs	5.0 in-lbs	30.0 lbs
<b>Metric</b>	16 mm	3.95 N-m	0.34 N-m	0.56 N-m	13.61 kg

	BORE SIZE	WEIGHT		MAX. STROKE LENGTH*	MAX. PRESSURE	TEMPERATURE RANGE
		BASE	PER UNIT OF STROKE			
<b>U.S.</b>	0.625 in	0.68 lb	0.063 lb/in	206 in	100 PSI	20° to 140° F
<b>Metric</b>	16 mm	0.31 kg	0.028 kg/mm	5232 mm	6.895 bar	-7° to 60° C

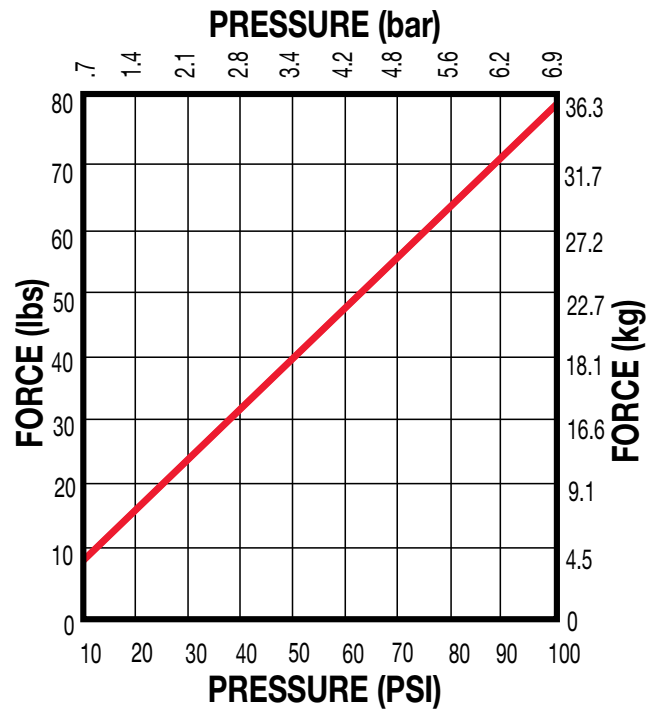
\*For longer strokes, alternate materials, mounting and/or fasteners – consult Tolomatic

# BC410 Internal Bearing Rodless Cylinder

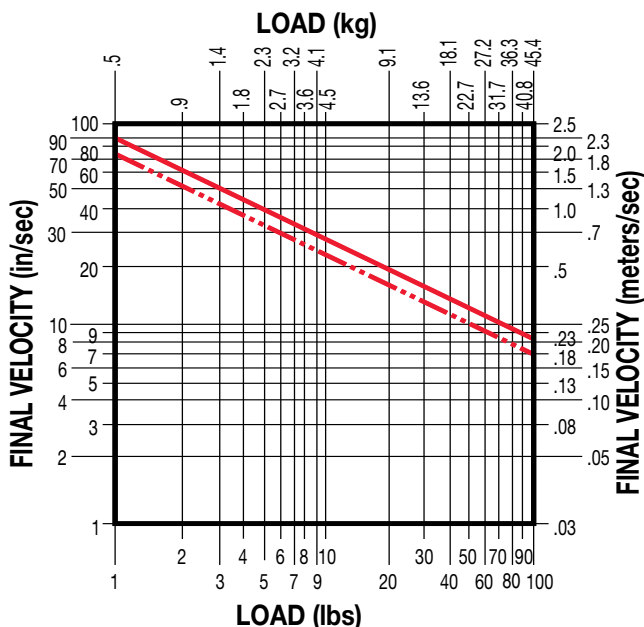
## PERFORMANCE

BC410	
	
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## THEORETICAL FORCE vs PRESSURE



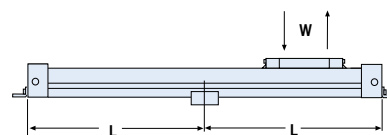
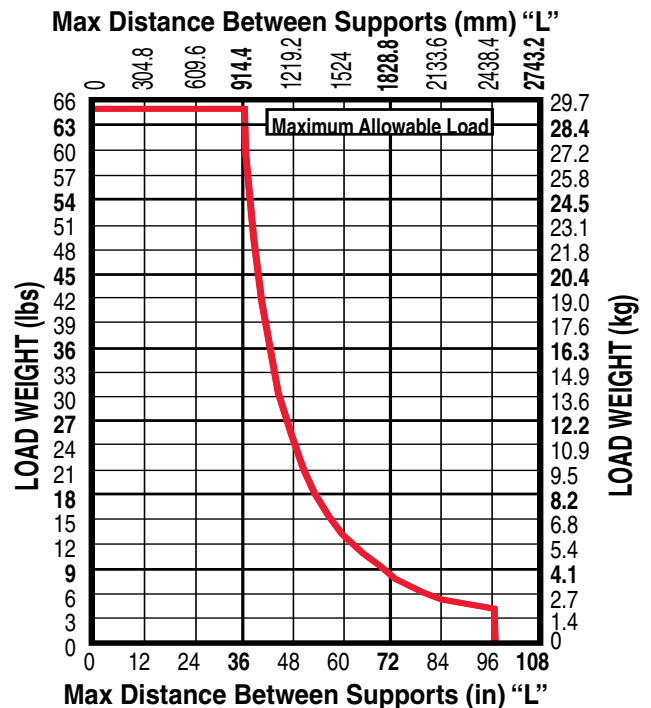
## CUSHION DATA



### NOTE:

- Max. for any application
- - - Max. for continuously cycled application

## TUBE SUPPORT REQUIREMENTS



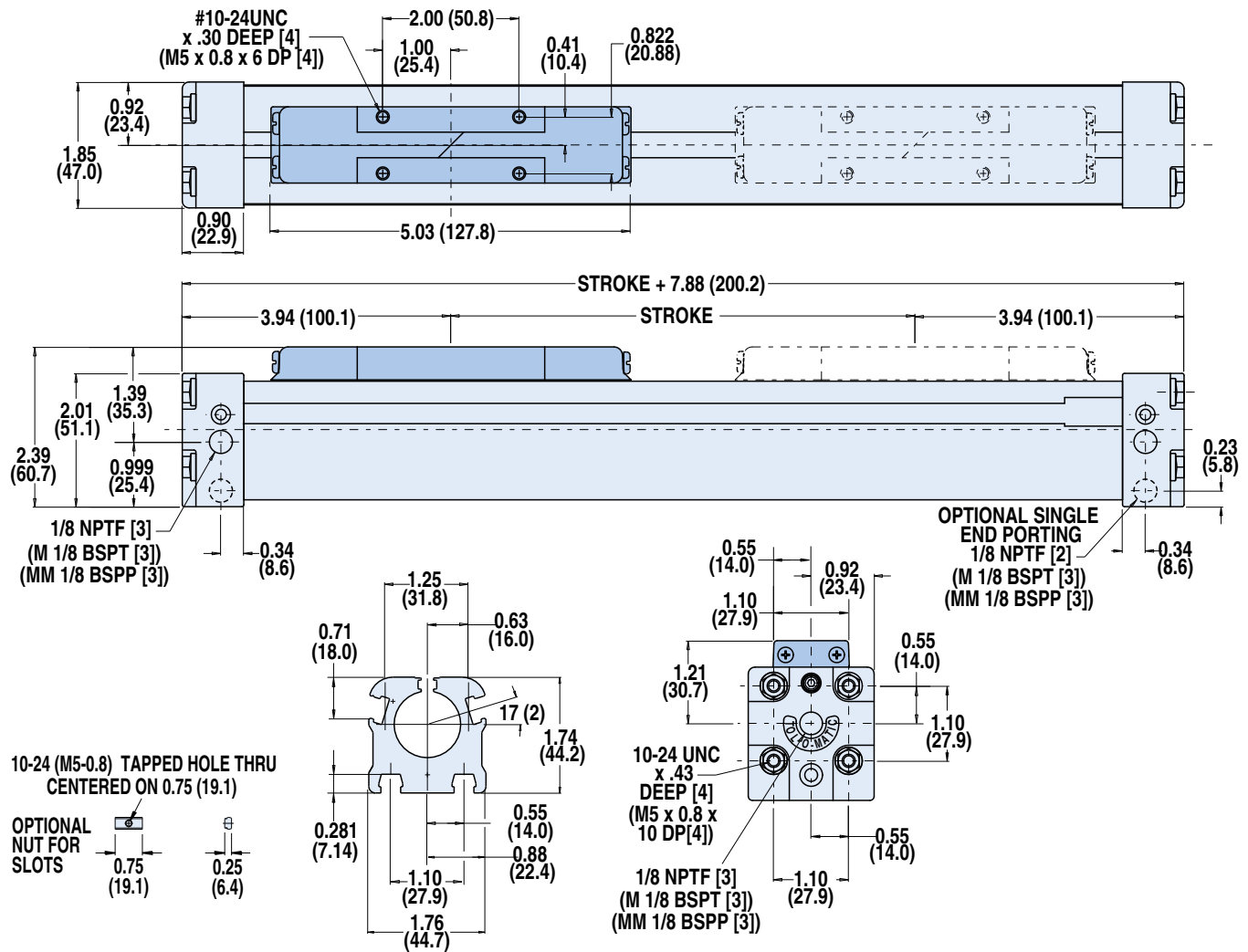
# BC410 Internal Bearing Rodless Cylinder

3D CAD available at  
www.tolomatic.com



## DIMENSIONS

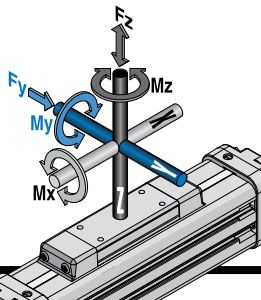
Always use configured CAD solid model  
to determine critical dimensions



Dimensions in inches (parenthesis indicate dimensions in millimeters)

## SPECIFICATIONS

### BC410 BENDING MOMENTS AND LOAD



	BORE SIZE	MAX. BENDING MOMENT			MAX. LOAD
		My	Mx	Mz	Fz
<b>U.S.</b>	1.00 in	132 in-lbs	9 in-lbs	27.0 in-lbs	65 lbs
<b>Metric</b>	25 mm	14.91 N-m	1.02 N-m	3.05 N-m	29.48 kg

	BORE SIZE	WEIGHT		MAX. STROKE LENGTH*	MAX. PRESSURE	TEMPERATURE RANGE
		BASE	PER UNIT OF STROKE			
<b>U.S.</b>	1.00 in	2.36 lbs	0.17 lbs/in	205 in	100 PSI	20° to 140° F
<b>Metric</b>	25 mm	1.07 kg	0.0771 kg/mm	5207 mm	6.895 bar	-7° to 60° C

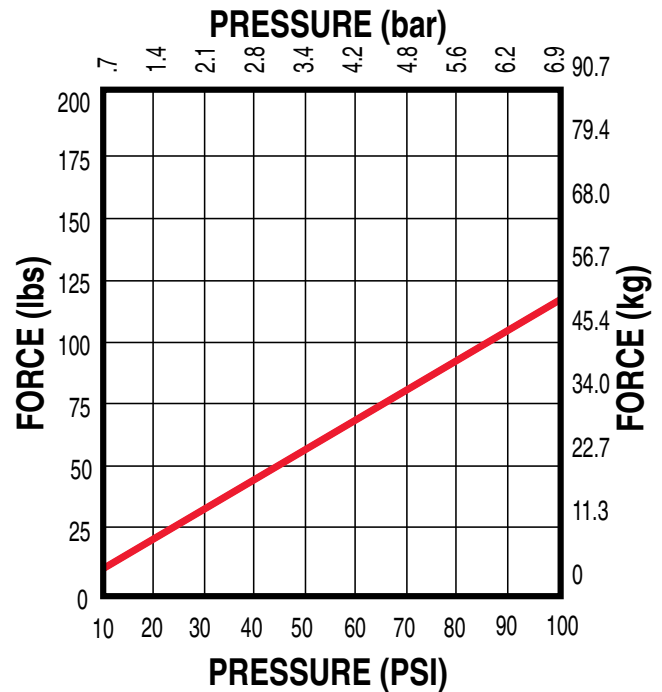
**\*For longer strokes, alternate materials, mounting and/or fasteners – consult Tolomatic**

# BC412 Internal Bearing Rodless Cylinder

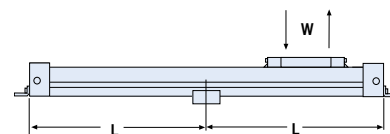
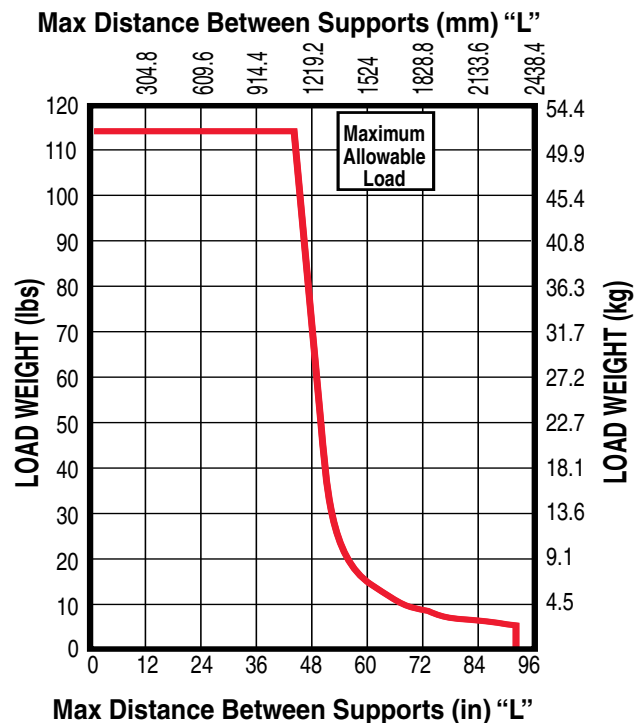
## PERFORMANCE



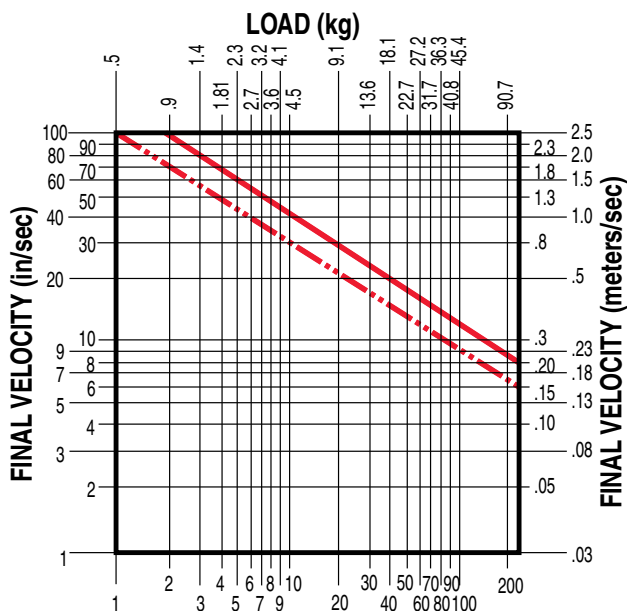
## THEORETICAL FORCE vs PRESSURE



## TUBE SUPPORT REQUIREMENTS



## CUSHION DATA



### NOTE:

- Max. for any application
- ..... Max. for continuously cycled application

## DIMENSIONS



10-24 (M5-0.8) TAPPED HOLE THRU  
CENTERED ON 0.75 (19.1)

OPTIONAL  
NUT FOR  
SLOTS

0.75 (19.1)

0.25 (6.4)

0.84 (21.3)

2.14 (54.4)

10.00°

1.45 (36.8)

0.90 (22.9)

1.08 (27.4)

1.53 (38.9)

2.16 (54.9)

0.281 (7.14)

0.63 (16.0)

0.71 (18.0)

0.38 (9.7)

1.42 (36.1)

0.75 (19.0)

1.19 (30.2)

1.33 (33.8)

2.60 (66.0)

1.75 (44.4)

0.88 (22.4)

5.21 (132.3)

1/4-20 X .375 DP [4]  
(M6-1 X 10 DP [4])

STROKE + 9.73 (247.1)

STROKE

4.87 (123.7)

4.87 (123.7)

3.06 (77.7)

0.336 (8.53)

2.61 (66.3)

1.05 (26.7)

Ø .19 (4.8) THRU TO BORE

1/4-18 NPTF BOTH SIDES  
(M 1/4-19 BSPT BOTH SIDES)  
(MM 1/4-19 BSPP BOTH SIDES)

OPTIONAL SINGLE 1/4 NPTF [2]  
END PORTING (M 1/4 BSPT [2])  
(MM 1/4 BSPP [2])

0.33 (8.4)

0.66 (16.8)

1/4-20 X .47 DP [4]  
(M6-1 X 12 DP [4])

0.44 (11.2)

0.61 (15.5)

1.62 (41.1)

0.58 (14.7)

0.11 (2.8)

1.19 (30.2)

0.81 (20.6)

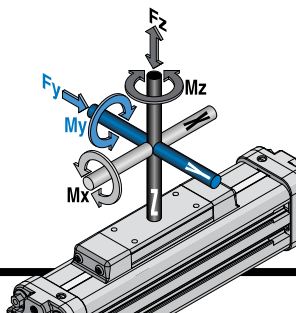
1.62 (41.1)

2.38 (60.5)

1/4-18 NPTF  
(M 1/4-19 BSPT)  
(MM 1/4-19 BSPP)

## SPECIFICATIONS

## BC412 BENDING MOMENTS AND LOAD



	BORE SIZE	MAX. BENDING MOMENT			MAX. LOAD
		My	Mx	Mz	Fz
<b>U.S.</b>	1.25 in	318 in-lbs	36 in-lbs	120 in-lbs	115 lbs
<b>Metric</b>	32 mm	35.93 N-m	3.95 N-m	13.56 N-m	52.16 kg

	BORE SIZE	WEIGHT		MAX. STROKE LENGTH*	MAX. PRESSURE	TEMPERATURE RANGE
		BASE	PER UNIT OF STROKE			
U.S.	1.25 in	3.98 lbs	0.27 lbs/in	204 in	100 PSI	20° to 140° F
Metric	32 mm	1.81 kg	0.1225 kg/mm	5182 mm	6.895 bar	-7° to 60° C

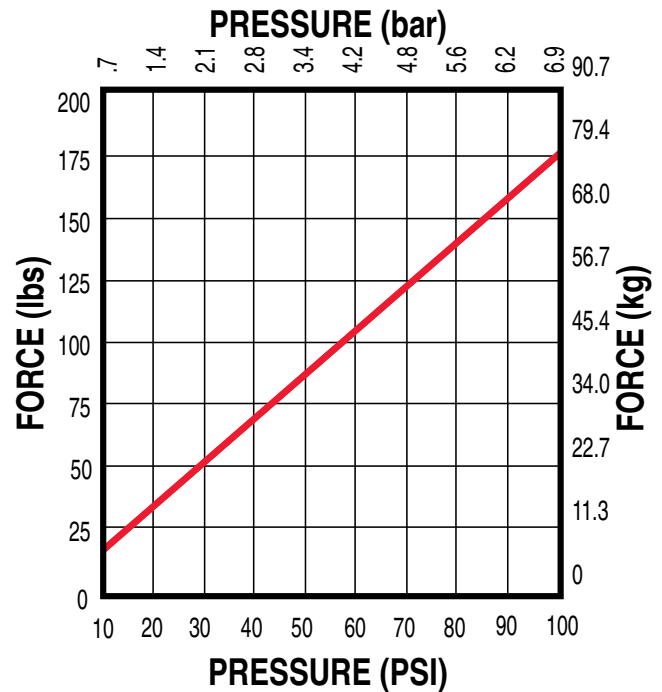
**\*For longer strokes, alternate materials, mounting and/or fasteners – consult Tolomatic**

# BC415 Internal Bearing Rodless Cylinder

## PERFORMANCE

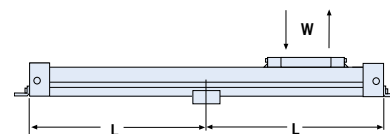
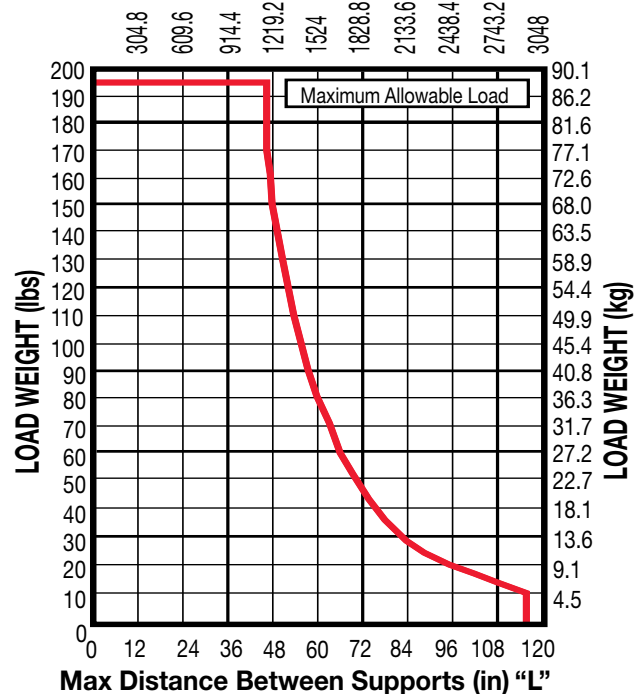
BC415	
	
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## THEORETICAL FORCE vs PRESSURE

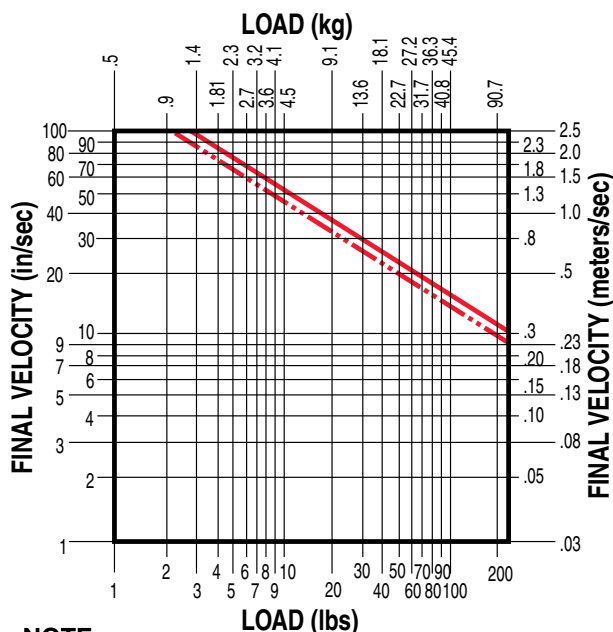


## TUBE SUPPORT REQUIREMENTS

### Max Distance Between Supports (mm) "L"



## CUSHION DATA



### NOTE:

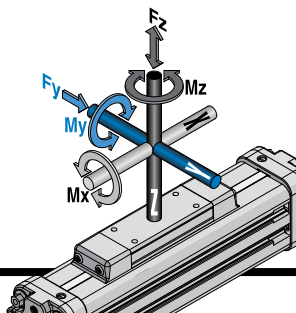
- Max. for any application
- ..... Max. for continuously cycled application

## DIMENSIONS

[illegible]

Dimensions in inches (parenthesis indicate dimensions in millimeters)

## BC415 BENDING MOMENTS AND LOAD



	BORE SIZE	MAX. BENDING MOMENT			MAX. LOAD
		My	Mx	Mz	Fz
U.S.	1.50 in	575 in-lbs	55 in-lbs	156 in-lbs	195 lbs
Metric	40 mm	64.97 N-m	6.21 N-m	17.63 N-m	88.45 kg

	BORE SIZE	WEIGHT		MAX. STROKE LENGTH*	MAX. PRESSURE	TEMPERATURE RANGE
		BASE	PER UNIT OF STROKE			
U.S.	1.50 in	7.56 lbs	0.41 lbs/in	202 in	100 PSI	20° to 140° F
Metric	40 mm	3.43 kg	0.1860 kg/mm	5130 mm	6.895 bar	-7° to 60° C

**\*For longer strokes, alternate materials, mounting and/or fasteners – consult Tolomatic**

# BC4 Long Carrier - All Sizes

3D CAD available at  
www.tolomatic.com



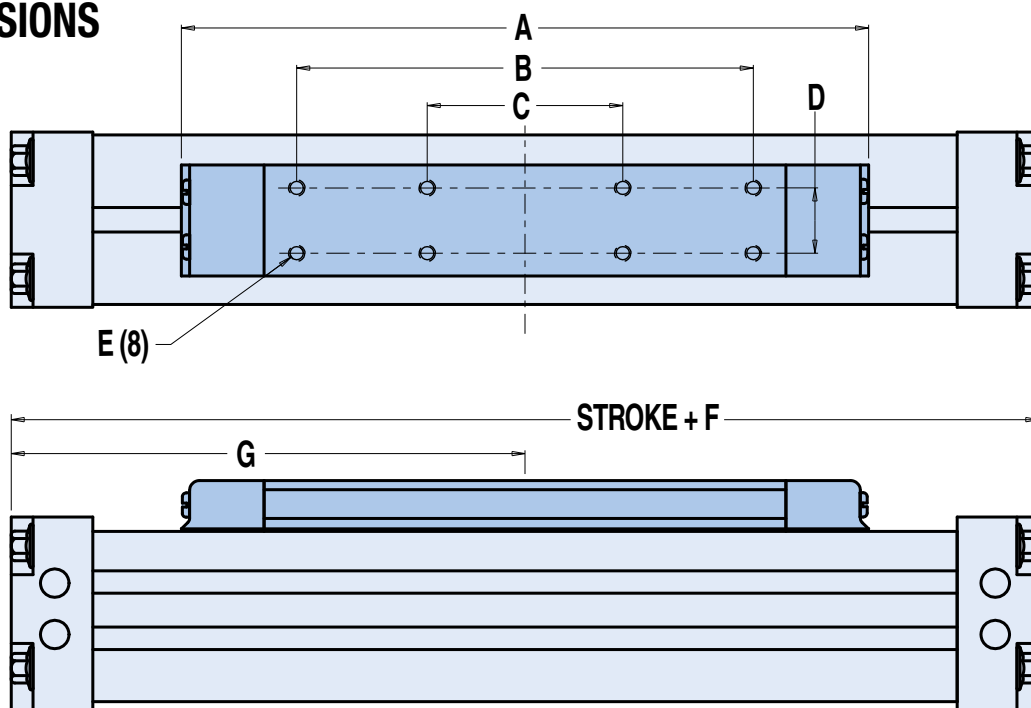
Always use configured CAD solid model  
to determine critical dimensions



**Long carrier option greatly increases the “My” and “Mz” moment load capacity.** This broadens the application range for these models. Other benefits include larger mounting surface and virtual elimination of chatter for vertical cantilever loads.

**NOTE:** Not available for BC406/BC4M06 size

## DIMENSIONS



	BORE	A	B*	C*	D	E	F <sup>§</sup>	G
<b>L10</b>	1.00	8.03	4.75	2.00	0.82	#10-24 x .30 DP	10.63	5.31
<b>L12</b>	1.25	8.53	5.00	1.75	0.75	1/4-20 x .38 DP	13.06	6.53
<b>L15</b>	1.50	10.53	7.00	3.00	1.00	1/4-20 x .38 DP	15.75	7.88

Dimensions in inches

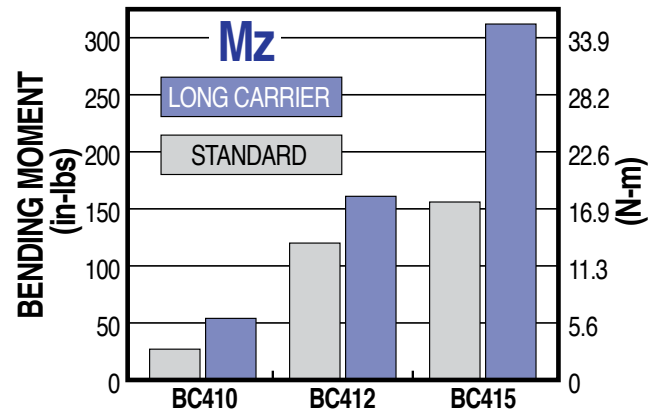
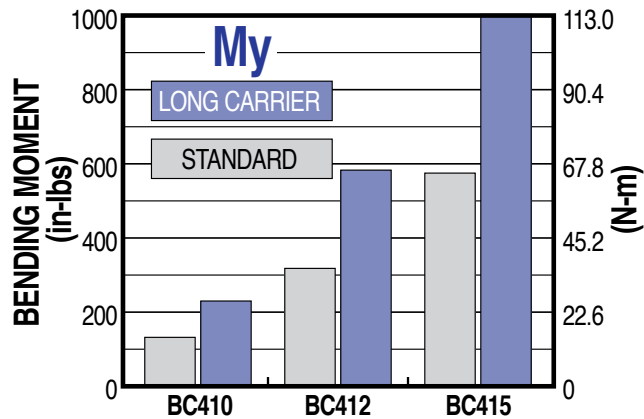
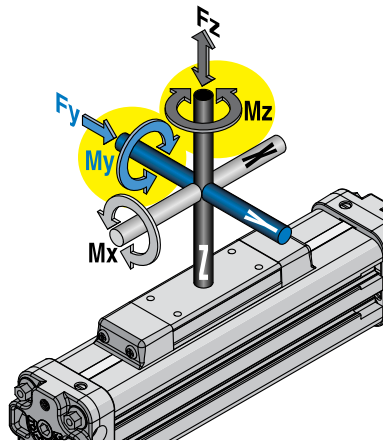
	BORE	A	B*	C*	D	E	F <sup>§</sup>	G
<b>L10</b>	25	204.0	120.7	50.8	20.9	M5 x 0.8 x 6DP	270.0	134.9
<b>L12</b>	32	216.7	127.0	44.5	19.1	M6 x 1.0 x 10DP	331.7	165.8
<b>L15</b>	40	267.5	177.8	76.2	25.4	M6 x 1.0 x 10DP	400.1	200.0

Dimensions in millimeters

\*Not the same as standard BC4 carrier  
§Actuator is longer than with standard BC4 carrier

# BC4 Long Carrier - All Sizes

## PERFORMANCE



	BORE SIZE	MAXIMUM BENDING MOMENT					MAX. LOAD
		My (Standard)	My (Long)	Mx†	Mz (Standard)	Mz (Long)	Fz†
L10	1.00 in	132 in.-lbs.	<b>230 in.-lbs.</b>	9 in.-lbs.	27 in.-lbs.	<b>54 in.-lbs.</b>	65 lbs.
L12	1.25 in	318 in.-lbs.	<b>583 in.-lbs.</b>	36 in.-lbs.	120 in.-lbs.	<b>161 in.-lbs.</b>	115 lbs.
L15	1.50 in	575 in.-lbs.	<b>1003 in.-lbs.</b>	55 in.-lbs.	156 in.-lbs.	<b>312 in.-lbs.</b>	195 lbs.

Dimensions in inches

	BORE SIZE	MAXIMUM BENDING MOMENT					MAX. LOAD
		My (Standard)	My (Long)	Mx†	Mz (Standard)	Mz (Long)	Fz†
L10	25mm	14.91 N-m	<b>25.99 N-m</b>	1.02 N-m	0.33 N-m	<b>6.10 N-m</b>	29.48 kg
L12	32mm	35.93 N-m	<b>65.83 N-m</b>	3.95 N-m	13.56 N-m	<b>18.20 N-m</b>	52.16 kg
L15	40mm	64.97 N-m	<b>113.36 N-m</b>	6.21 N-m	17.63 N-m	<b>35.26 N-m</b>	88.45 kg

Dimensions in millimeters

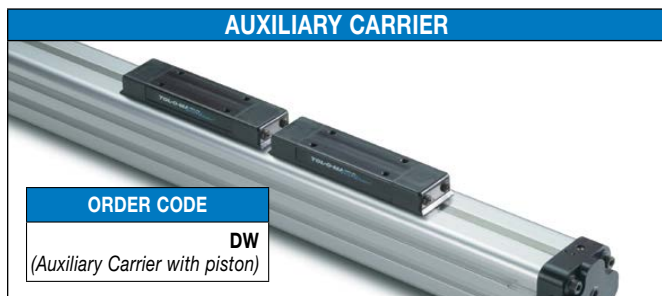
†Mx Bending Moment and Fz (Maximum Load) are the same for Standard and Long Carrier BC4.

# BC4 Auxiliary Carrier - All Sizes

3D CAD available at  
www.tolomatic.com



Always use configured CAD solid model  
to determine critical dimensions



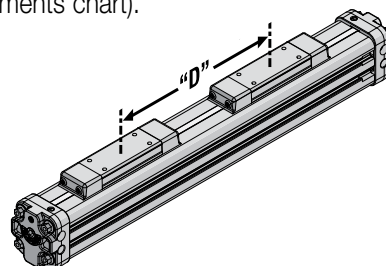
The auxiliary carrier option substantially increases load carrying and bending moments capacity over the standard single carrier models. As a general rule, the auxiliary carrier option is highly recommended in vertical applications (My) if the distance from the carrier mounting surface to the load center of gravity (CG) exceeds the overall length of the carrier. For the BC4 auxiliary carriers can only be ordered with "DW" an internal piston. (BC2 & BC3 auxiliary carriers may be ordered "DO" without a piston.)



NOTE: breakaway pressure will increase when using auxiliary carrier.

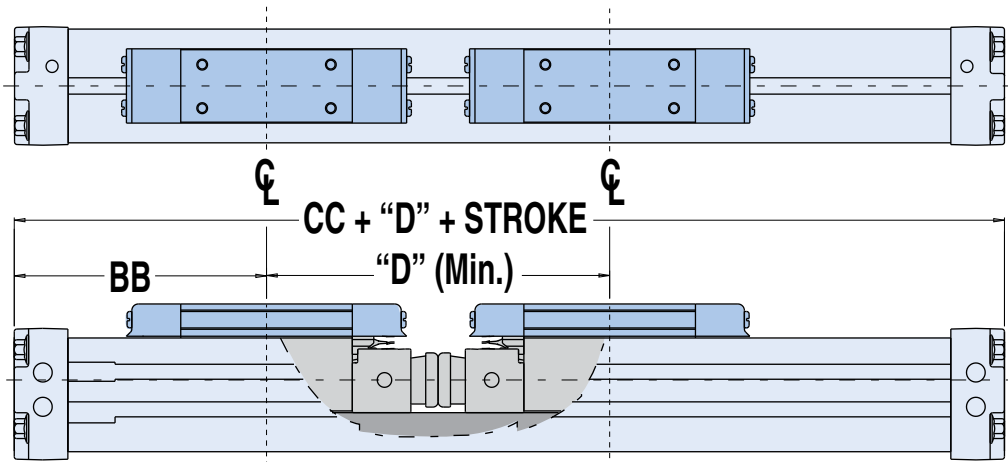
## ORDERING INFORMATION

When ordering, determine the minimum distance required between carriers (dimension "D" in Auxiliary Carrier Bending Moments chart).



Determine your working stroke and your "D" dimension, then enter these into your configuration string. (Example: BC415SK50.00DW15.00RT2) The configurator will calculate the overall length of the actuator.

## DIMENSIONS

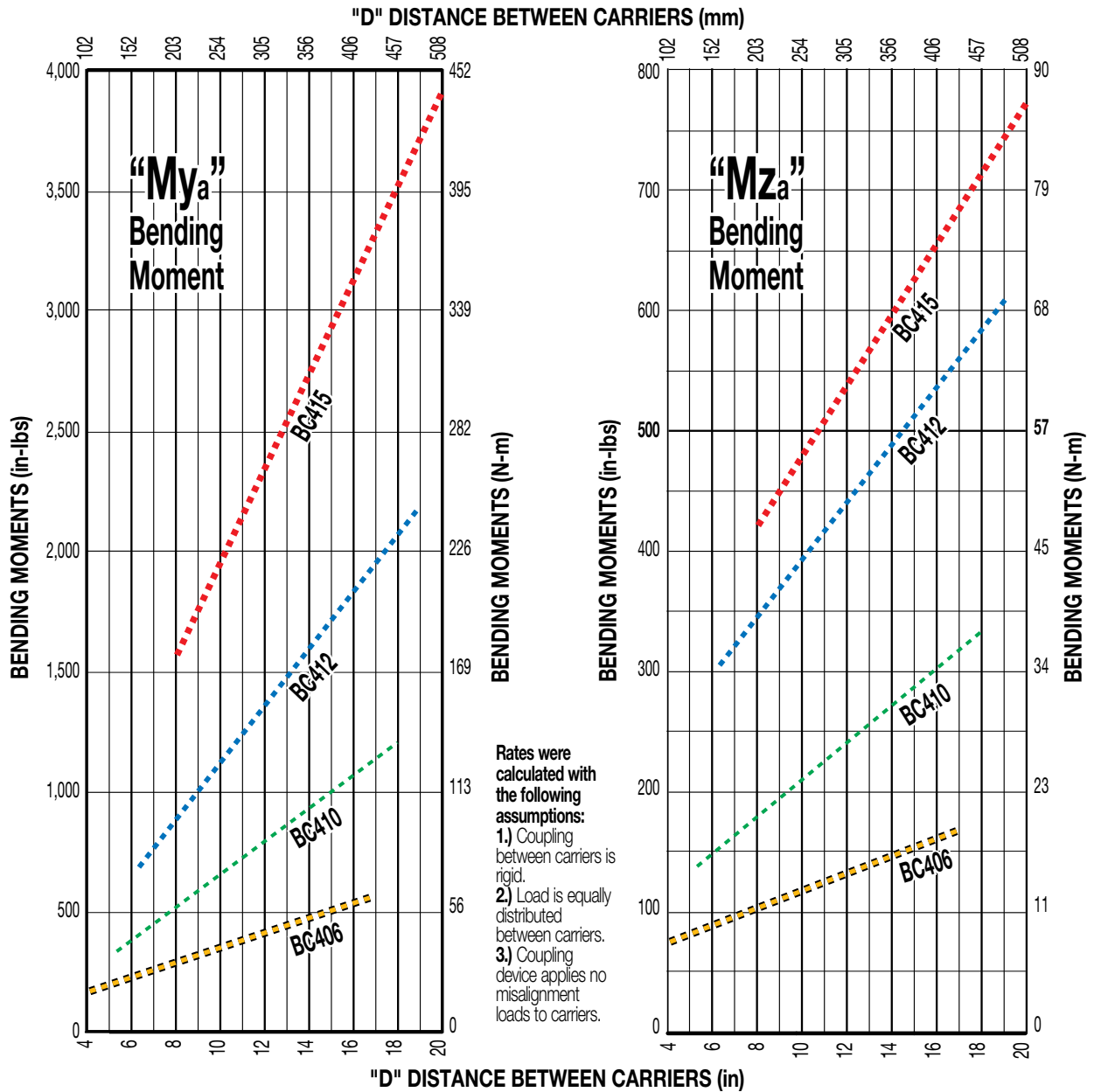


	BORE SIZE		BB		CC		"D" MINIMUM (with Piston)	
	in	mm	in	mm	in	mm	in	mm
<b>06</b>	0.625	16	3.15	79.9	6.30	159.8	4.26	108.2
<b>10</b>	1.00	25	3.94	100.2	7.88	200.4	5.30	134.6
<b>12</b>	1.25	32	4.87	123.7	9.74	247.4	6.23	158.2
<b>15</b>	1.50	40	5.88	149.4	11.81	300.0	8.00	203.2

# BC4 Auxiliary Carrier - All Sizes

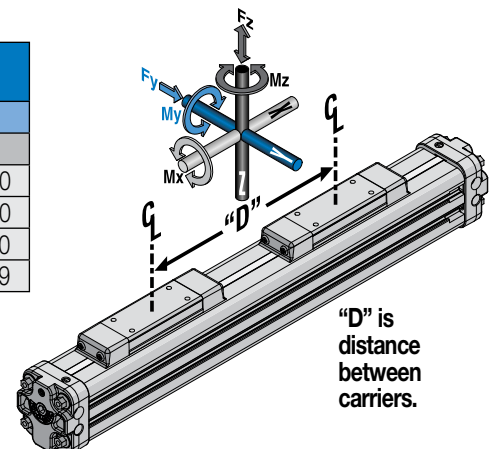
## PERFORMANCE

### BENDING MOMENTS

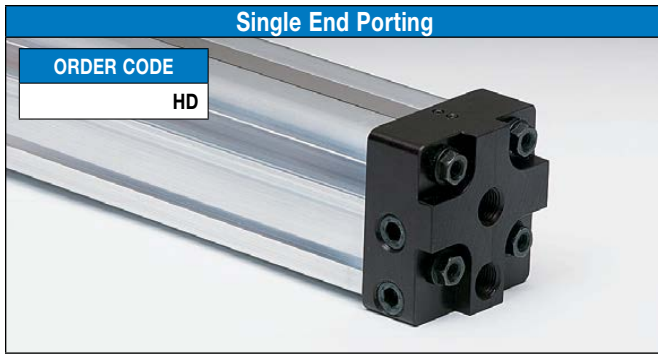


	BORE SIZE		"D" MINIMUM *		MAX. BENDING MOMENT		MAX. LOAD	
			(with Piston)		Mx		Fz	
	in	mm	in	mm	in-lbs	N-m	lbs	kg
06	0.625	16	4.26	108.2	6	0.68	60	27.0
10	1.00	25	5.30	134.5	18	2.03	130	59.0
12	1.25	32	6.23	158.2	72	8.13	230	104.0
15	1.50	40	8.00	203.2	110	12.43	390	176.9

\* "D" is distance between carriers



# BC4 Single End Porting - 10, 12, 15 Sizes

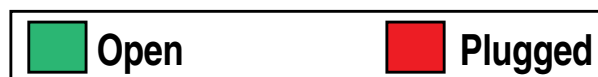
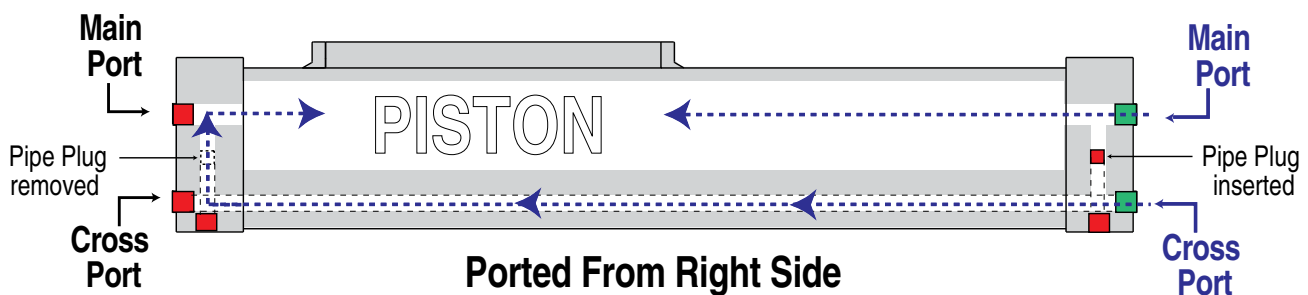
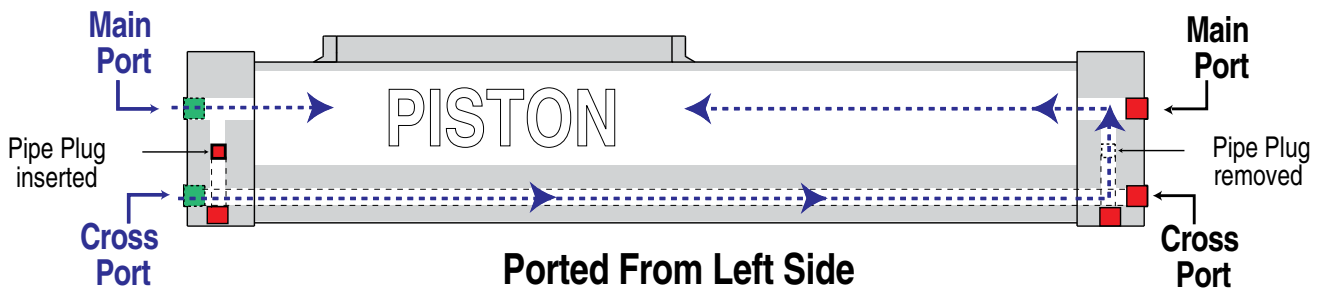
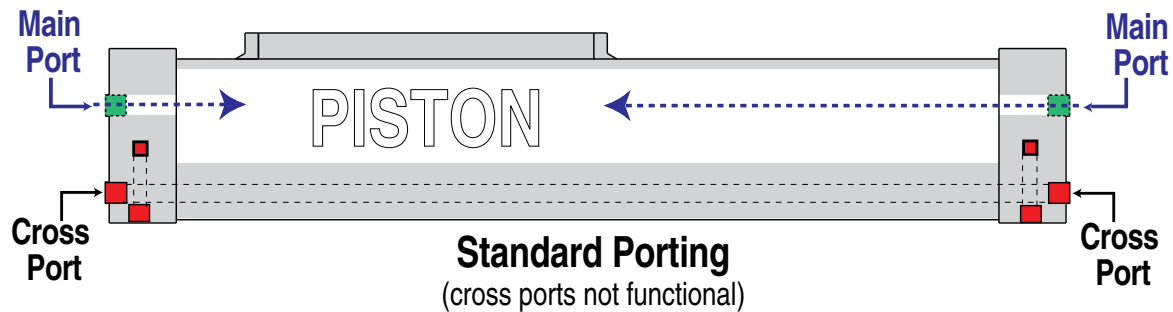


## SINGLE END PORTING ALLOWS THE GREATEST FLEXIBILITY IN AIR HOOK UP.

This option allows you to run air lines to just one end of the BC4, simplifying air hook up. The Single End Porting option for the BC410 is factory installed on the right side.

✗ Not available for 06 (5/8" bore).

## AIR FLOW DIAGRAMS



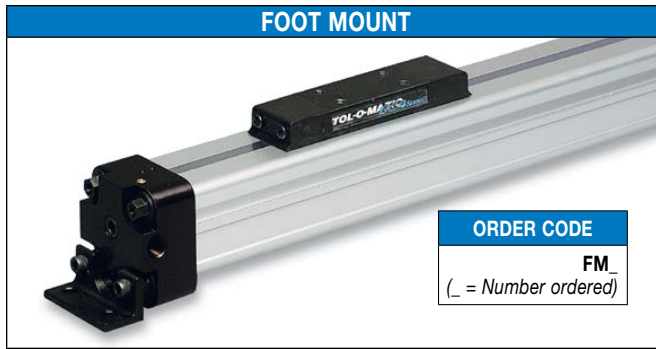
NOTE: Standard porting may be field converted to ported from left or ported from right. For complete instructions refer to parts sheet.

# BC4 Foot Mounts - ALL Sizes

3D CAD available at  
www.tolomatic.com



Always use configured CAD solid model  
to determine critical dimensions



ORDER CODE

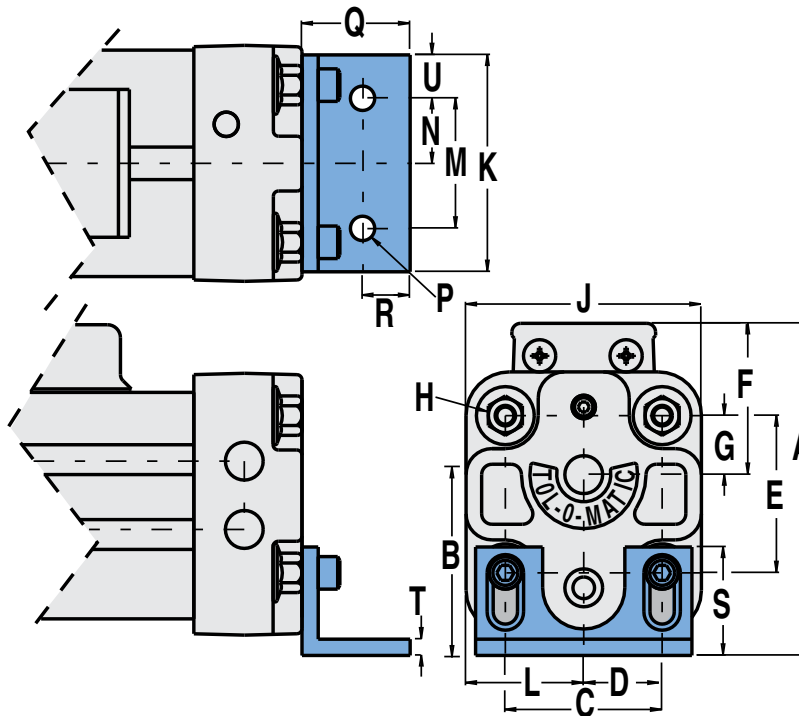
FM

(\_ = Number ordered)

For mounting other than flush. Foot mounts may be specified on one or both ends of the cylinder.

## DIMENSIONS

06, 10, 12, 15



	BORE SIZE	A MIN.	A MAX.	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U
06	0.625	1.87	1.87	0.90	0.75	0.38	1.00	0.97	0.36	—	1.18	1.00	0.59	0.50	0.25	Ø .15 Thru (2)	0.70	0.30	0.38	0.06	0.25
10	1.00	2.19	2.54	0.98	1.10	0.55	1.10	1.21	0.55	10-24 $\nabla$ 0.43	1.85	1.60	0.92	1.00	0.50	Ø .27 Thru (2)	1.00	0.28	0.98	0.19	0.30
12	1.25	2.93	3.20	1.46	1.62	0.81	1.62	1.47	0.61	1/4-20 $\nabla$ 0.47	2.38	2.25	1.19	1.50	0.75	Ø .28 Thru (2)	1.00	0.40	1.00	0.19	0.38
15	1.50	3.38	3.83	1.64	1.81	0.91	1.81	1.74	0.68	1/4-20 $\nabla$ 0.47	2.72	2.50	1.36	1.50	0.75	Ø .28 Thru (2)	1.25	0.55	1.25	0.19	0.50

Dimensions in inches

	BORE SIZE	A MIN.	A MAX.	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U
06	16	47.5	47.5	22.9	19.1	9.7	25.4	24.6	9.1	—	30.0	25.4	15.0	12.7	6.3	Ø 3.8 Thru (2)	17.8	7.6	9.7	1.5	6.35
10	25	55.6	64.5	24.9	27.9	14.0	27.9	30.8	14.0	M5 $\nabla$ 10	47.0	40.6	23.4	25.4	12.7	Ø 6.9 Thru (2)	25.4	7.0	24.9	4.8	7.62
12	32	74.3	81.3	37.1	41.1	20.6	41.1	37.3	15.5	M6 $\nabla$ 12	60.5	57.1	30.2	38.1	19.1	Ø 7.1 Thru (2)	25.4	10.2	25.4	4.8	9.65
15	40	85.9	97.3	41.7	46.0	23.1	46.0	44.2	17.3	M6 $\nabla$ 12	69.1	63.5	34.5	38.1	19.1	Ø 7.1 Thru (2)	31.8	14.0	31.8	4.8	12.70

Dimensions in millimeters

# BC4 Tube Supports - ALL Sizes

3D CAD available at  
www.tolomatic.com



Always use configured CAD solid model  
to determine critical dimensions



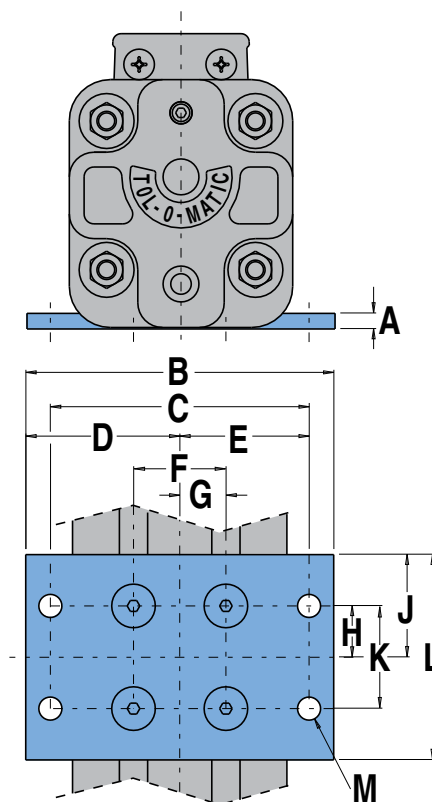
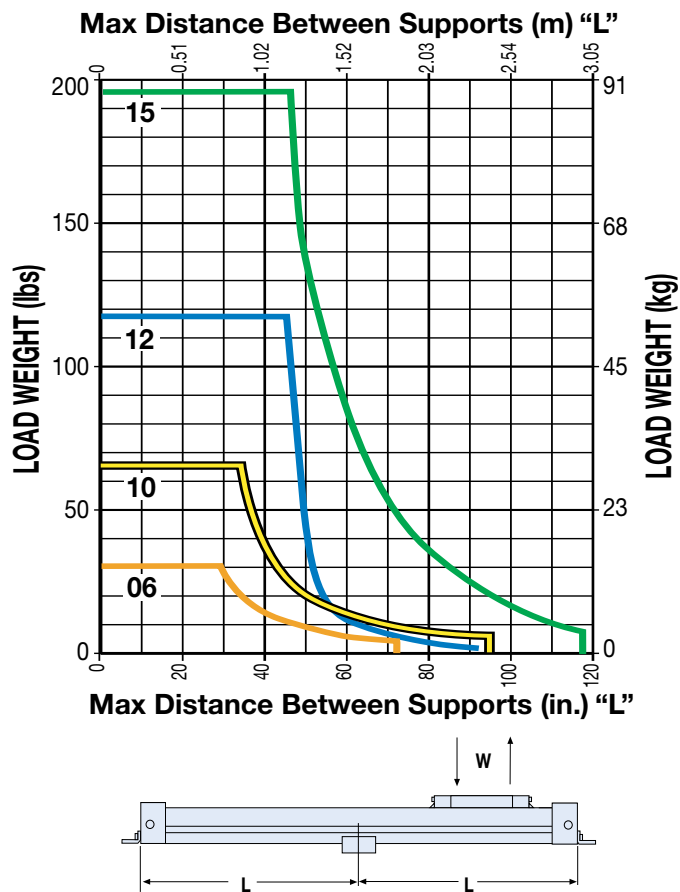
Made of anodized aluminum, BC4 tube supports are designed to attach to T-nuts inside the grooves which run the length of the cylinder tube. Refer to the tube support graph to determine the number of tube supports required.



NOTE: Switches cannot be mounted on the same face of the actuator as tube supports.

## PERFORMANCE

### TUBE SUPPORT REQUIREMENTS



	BORE SIZE	A	B	C	D	E	F	G	H	J	K	L	M
06	0.625	0.12	1.69	1.38	0.84	0.69	0.50	0.25	0.75	1.00	1.50	2.00	Ø .15 Thru (4)
10	1.00	0.19	2.75	2.25	1.38	1.13	1.10	0.55	0.50	0.88	1.00	1.75	Ø .23 Thru (4)
12	1.25	0.30	3.50	2.84	1.75	1.42	0.90	0.45	0.50	1.00	1.00	2.00	Ø .28 Thru (4)
15	1.50	0.19	3.75	3.15	1.88	1.58	1.13	0.56	0.63	1.25	1.25	2.50	Ø .28 Thru (4)

Dimensions in inches

	BORE SIZE	A	B	C	D	E	F	G	H	J	K	L	M
06	16	3.2	41.7	34.9	21.4	17.5	12.7	6.4	19.1	25.4	38.1	50.8	Ø 3.9 Thru (4)
10	25	4.8	69.9	57.1	35.1	28.7	27.9	14.0	12.7	22.2	25.4	44.4	Ø 5.8 Thru (4)
12	32	7.6	88.9	72.1	44.4	38.1	22.9	11.4	12.7	25.4	25.4	50.8	Ø 7.1 Thru (4)
15	40	4.8	95.3	80.0	47.8	40.1	28.7	14.2	16.0	31.8	31.8	63.5	Ø 7.1 Thru (4)

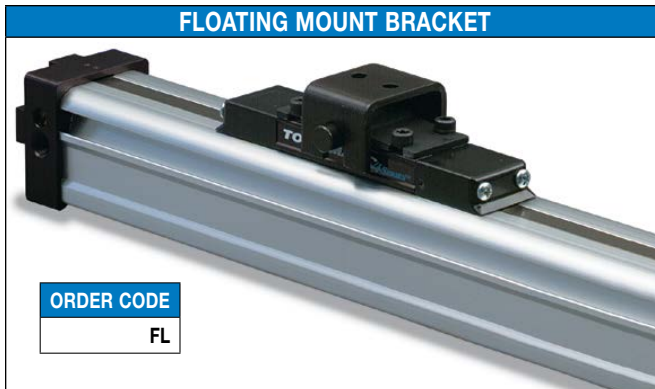
Dimensions in millimeters

# BC4 Floating Mount Bracket - ALL Sizes

3D CAD available at  
www.tolomatic.com



Always use configured CAD solid model  
to determine critical dimensions



ORDER CODE  
FL

For applications where a BC4 band cylinder is moving a load that is externally guided and supported. An externally guided load, not parallel to the BC4 band cylinder may result in cylinder binding. The floating mount bracket compensates for nonparallelism between the cylinder and the external guide.

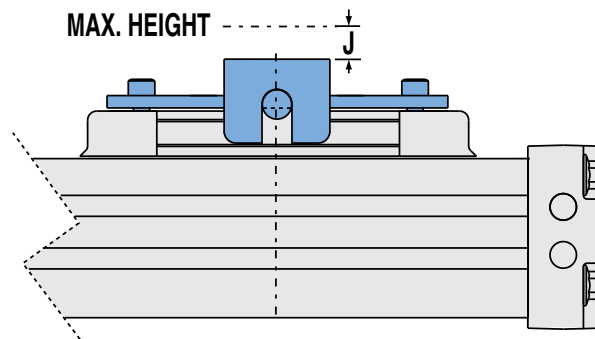
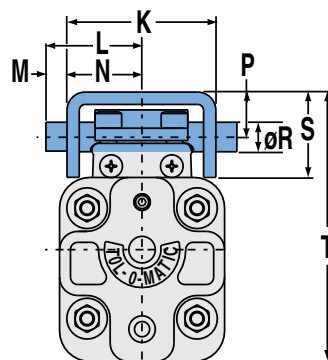
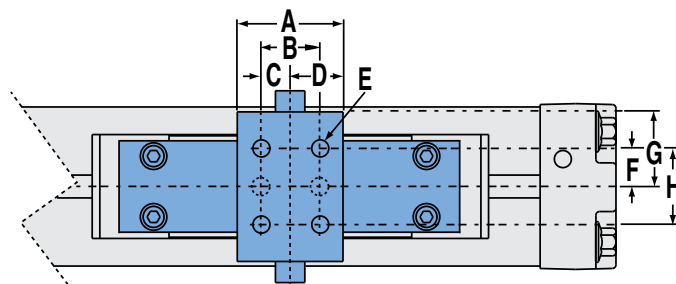
✗ (Floating mount brackets are not to be used in conjunction with shock absorbers)

## DIMENSIONS

06, 10, 12, 15

**Please Note: For Dimension "E"**

BC406 and BC410 use 2 center holes  
BC412 and BC415 use 4 corner holes



	BORE SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N	P	ØR	S	T
06	0.625	0.90	0.50	0.25	0.45	Ø .17 Thru (2)	—	0.63	—	0.33	1.27	0.81	0.18	0.63	0.38	0.25	0.72	2.18
10	1.00	1.26	0.63	0.32	0.63	Ø .22 Thru (2)	—	0.82	—	0.33	1.64	1.00	0.18	0.82	0.56	0.38	1.01	3.04
12	1.25	1.50	0.75	0.37	0.75	Ø .28 Thru (4)	0.50	1.09	1.00	0.44	2.18	1.50	0.41	1.09	0.99	0.44	1.49	4.10
15	1.50	1.50	0.75	0.38	0.75	Ø .28 Thru (4)	0.63	1.24	1.25	0.52	2.48	1.63	0.39	1.24	0.99	0.44	1.56	4.62

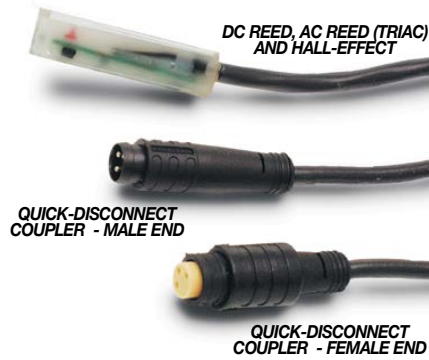
Dimensions in inches

	BORE SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N	P	ØR	S	T
06	16	22.9	12.7	6.4	11.5	Ø 4.3 Thru (2)	—	16.1	—	8.3	32.2	20.7	4.6	16.0	9.7	6.4	18.3	55.4
10	25	32.0	16.0	8.0	16.0	Ø 5.3 Thru (2)	—	20.8	—	8.3	41.7	25.4	4.6	20.8	14.2	9.7	25.7	77.2
12	32	38.1	19.0	9.4	19.0	Ø 7.1 Thru (4)	12.7	27.7	25.4	11.2	55.4	38.1	10.4	27.7	25.1	11.2	37.8	104.1
15	40	38.1	19.0	9.7	19.0	Ø 7.1 Thru (4)	16.0	31.5	31.8	13.2	63.0	41.4	9.9	31.5	25.1	11.2	39.6	117.3

Dimensions in millimeters

# BC4 Switches - ALL Sizes

## SWITCHES






There are 10 sensing choices: DC reed, form A (open) or form C (open or closed); AC reed (Triac, open); Hall-effect, sourcing, PNP (open); Hall-effect, sinking, NPN (open); each with either flying leads or QD (quick disconnect). Commonly used to send analog signals to PLC (programmable logic controllers), TLL, CMOS circuit or other controller device. These switches are activated by the actuator's magnet.

Switches contain reverse polarity protection. QD cables are shielded; shield should be terminated at flying lead end.

If necessary to remove factory installed switches, be sure to reinstall on the same side of actuator with scored face of switch toward internal magnet.

## SPECIFICATIONS

	REED DC				REED AC		HALL-EFFECT DC			
ORDER CODE	RT	RM	BT	BM	CT	CM	TT	TM	KT	KM
LEAD	5m	QD*	5m	QD*	5m	QD*	5m	QD*	5m	QD*
CABLE SHIELDING	Unshielded	Shielded†	Unshielded	Shielded†	Unshielded	Shielded†	Unshielded	Shielded†	Unshielded	Shielded†
SWITCHING LOGIC	"A" Normally Open		"C" Normally Open or Closed		Triac Normally Open		PNP (Sourcing) Normally Open		NPN (Sinking) Normally Open	
MECHANICAL CONTACTS	Single-Pole Single-Throw		Single-Pole Double-Throw		Single-Pole Single-Throw		NO, These Are Solid State Components			
COIL DIRECT	Yes		Yes		Yes		—			
POWER LED	None		None		None		None		None	
SIGNAL LED	Red						Red		Red	
OPERATING VOLTAGE	200 Vdc max.		120 Vdc max.		120 Vac max.		5 - 25 Vdc			
OUTPUT RATING	—				—		25 Vdc, 200mA dc			
OPERATING TIME	0.6 msec max. (including bounce)		0.7 msec max. (including bounce)		—		< 10 micro sec.			
OPERATING TEMPERATURE	-40°F [-40°C] to 158°F [70°C]						0°F [-18°C] to 150°F [66°C]			
RELEASE TIME	1.0 msec. max.				—		—			
ON TRIP POINT	—				—		150 Gauss maximum			
OFF TRIP POINT	—				—		40 Gauss minimum			
**POWER RATING (WATTS)	10.0 §		3.0 §§		10.0		5.0			
VOLTAGE DROP	2.6 V typical at 100 mA		NA		—		—			
RESISTANCE	0.1 Ω Initial (Max.)				—		—			
CURRENT CONSUMPTION	—				1 Amp at 86°F [30°C]	0.5 Amp at 140°F [60°C]	200 mA at 25 Vdc			
FREQUENCY	—				47 - 63 Hz		—			
CABLE MIN. BEND RADIUS	STATIC	0.630" [16mm]								
	DYNAMIC	Not Recommended								

**CAUTION: DO NOT OVER TIGHTEN SWITCH HARDWARE WHEN INSTALLING!**

**\*\* WARNING:** Do not exceed power rating (Watt = Voltage X Amperage). Permanent damage to sensor will occur.

\*QD = Quick Disconnect; Male coupler is located 6" [152mm] from sensor, Female coupler to flying lead distance is 197" [5m] also see Cable Shielding specification above

**REPLACEMENT OF QD SWITCHES MANUFACTURED BEFORE JULY 1, 1997:** It will be necessary to replace or rewire the female end coupler.



**Reed Switch Life Expectancy:** Up to 200,000,000 cycles (depending on load current, duty cycle and environmental conditions)

†Shielded from the female quick disconnect coupler to the flying leads. Shield should be terminated at flying lead end.

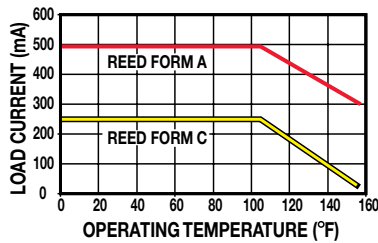
§ Maximum current 500mA (not to exceed 10VA) Refer to Temperature vs. Current graph and Voltage Derating graph

§§ Maximum current 250mA (not to exceed 3VA) Refer to Temperature vs. Current graph and Voltage Derating graph

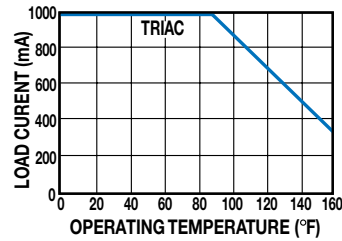
# BC4 Switches - ALL Sizes

## PERFORMANCE

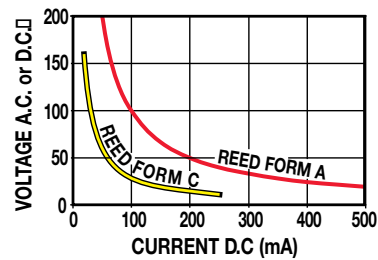
TEMP. vs CURRENT, DC REED



TEMP. vs CURRENT, AC REED

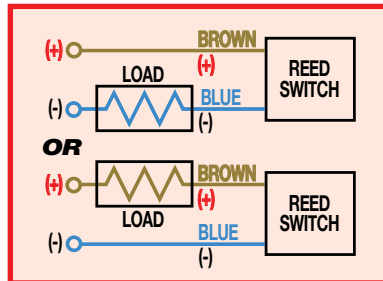


VOLTAGE DERATING, DC REED

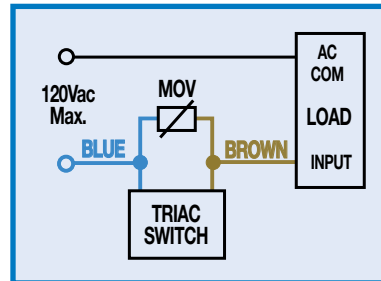


## WIRING DIAGRAMS

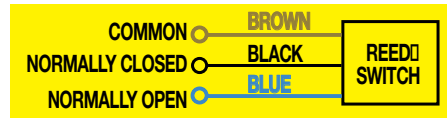
**R****T** & **R****M** DC REED, FORM A



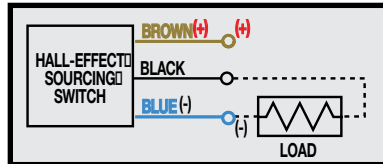
**C****T** & **C****M** AC REED, TRIAC



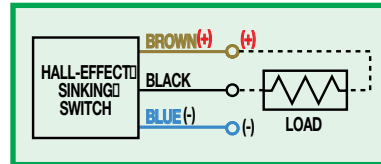
**B****T** & **B****M** DC REED, FORM C



**T****T** & **T****M** HALL-EFFECT, SOURCING, PNP



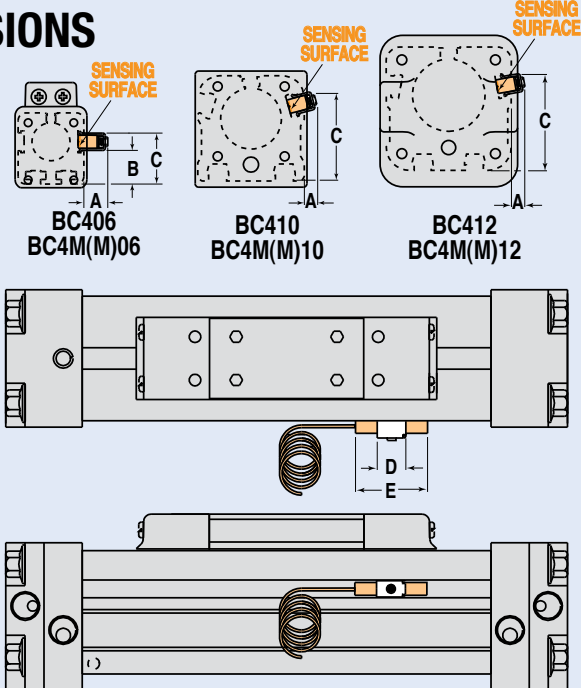
**K****T** & **K****M** HALL-EFFECT, SINKING, NPN



**⚠** THE NOTCHED FACE OF THE SWITCH INDICATES THE SENSING SURFACE AND MUST FACE TOWARD THE MAGNET.

Some actuators may require switch mounting on a specific side of the assembly. Call Tolomatic for details.

## DIMENSIONS



SIZE	BORE	A	B	C	D	E
06	0.625	0.39	0.55	0.84	0.50	1.25
10	1.000	0.22	-	1.47	0.50	1.25
12	1.250	0.23	-	1.66	0.50	1.25
15	1.500	0.16	-	1.98	0.50	1.25

Dimensions in inches

SIZE	BORE	A	B	C	D	E
06	12	9.91	13.97	21.34	12.70	31.75
10	25	5.59	-	37.34	12.70	31.75
12	32	5.84	-	42.16	12.70	31.75
15	40	4.06	-	50.29	12.70	31.75

Dimensions in millimeters

# BC4 Shock Absorbers - All Sizes

3D CAD available at  
www.tolomatic.com



Always use configured CAD solid model  
to determine critical dimensions

## SHOCK ABSORBERS



### ORDER CODE

SD\_ or SH\_ or SL\_  
(\_ = Number ordered)

Rodless cylinders with standard internal cushion offer an effective method of decelerating loads. However, all Tolomatic rodless cylinders are capable of carrying heavier loads at higher velocities than the cylinder cushion can absorb. Optional shock absorbers can be used to increase the cylinder's life and broaden the application range for the cylinder model you have chosen.

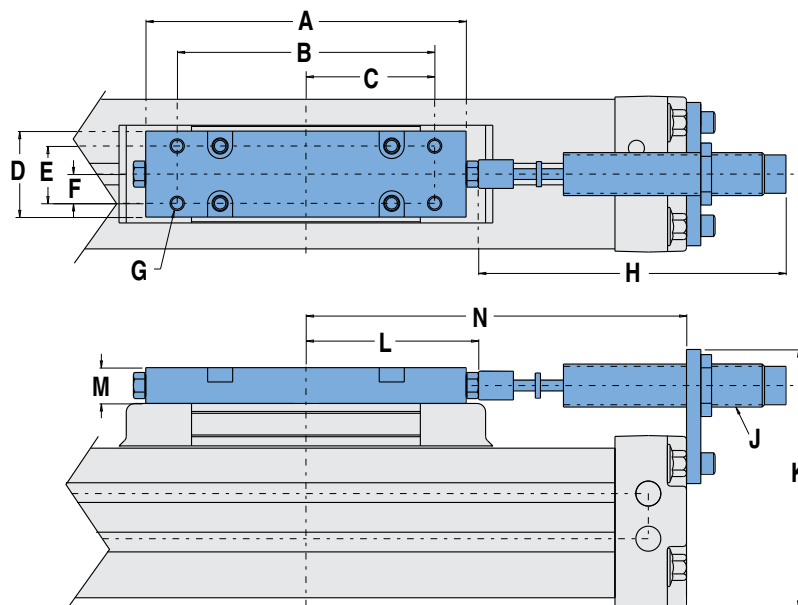
A shock stop plate must be used in conjunction with the BC4 shock to provide a stopping surface on the carrier.

Typical shock absorber life varies between 1-2 million cycles (depending on environment) appropriate preventative maintenance should be considered in high cyclic applications.

**NOTE:** When 2 shock absorbers are ordered, the unit will be assembled with NO internal cushions.

**CAUTION:** In applications which result in a load bending moment at deceleration, care should be taken to decelerate the load rather than the carrier of the band cylinder.

## DIMENSIONS



SIZE	BORE	A	B	C	D	E	F	G	H(min.)	H(max.)	J	K	L	M	N
06	0.625	3.89	2.25	1.13	0.72	0.50	0.25	#6-32 Thru (4)	2.25	2.79	3/8-32 UNF-2B	2.25	1.72	0.44	3.15
10	1.000	4.00	3.00	1.50	1.09	0.75	0.38	#10-24 Thru (4)	3.71	4.25	9/16-18 UNF-2B	3.03	2.18	0.50	3.94
12	1.250	4.00	3.18	1.58	1.31	0.75	0.37	1/4-20 Thru (4)	4.50	5.38	3/4-16 UNF THD	3.92	2.25	0.63	5.89
15	1.500	5.60	4.50	2.25	1.50	1.00	0.51	1/4-20 Thru (4)	4.50	5.38	3/4-16 UNF THD	4.50	3.02	0.63	6.65

Dimensions in inches

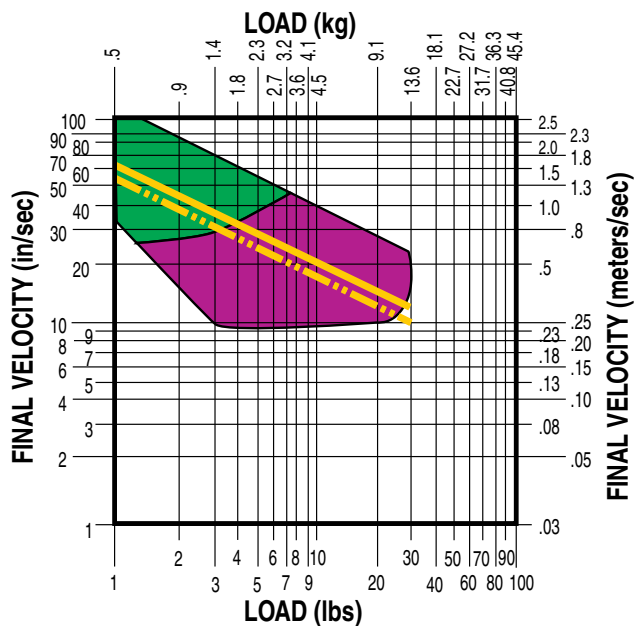
SIZE	BORE	A	B	C	D	E	F	G	H(min.)	H(max.)	J	K	L	M	N
06	16	98.8	57.2	28.6	18.3	12.7	6.4	#6-32 Thru (4)	57.2	70.9	M8 x 1.0	57.2	43.6	11.1	79.9
10	25	101.6	76.2	38.1	27.7	19.0	9.7	M5 x 0.8 Thru (4)	94.2	107.9	M14 x 1.5	77.0	55.4	12.7	100.1
12	32	101.6	80.8	40.4	33.3	19.0	9.4	M6 x 1.0 Thru (4)	114.3	136.7	M20 x 1.5	99.6	57.1	16.0	149.6
15	38	142.2	114.3	57.1	38.1	25.4	13.0	M6 x 1.0 Thru (4)	114.3	136.7	M20 x 1.5	114.3	76.7	16.0	168.9

Dimensions in millimeters

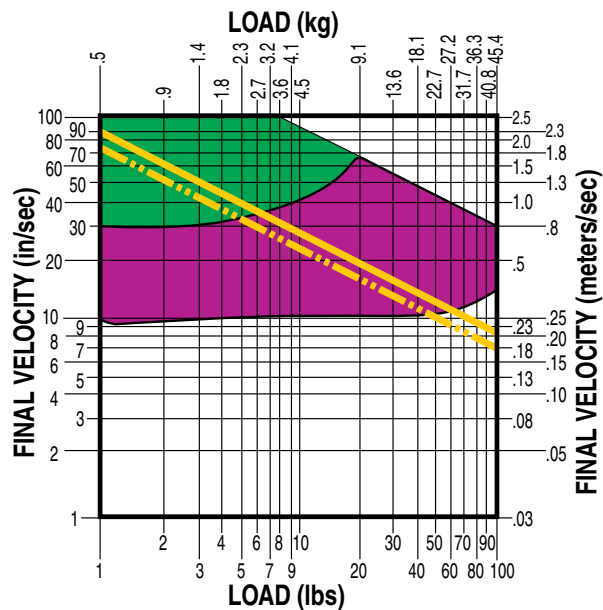
# BC4 Shock Absorbers - All Sizes - PERFORMANCE

## VELOCITY vs LOAD

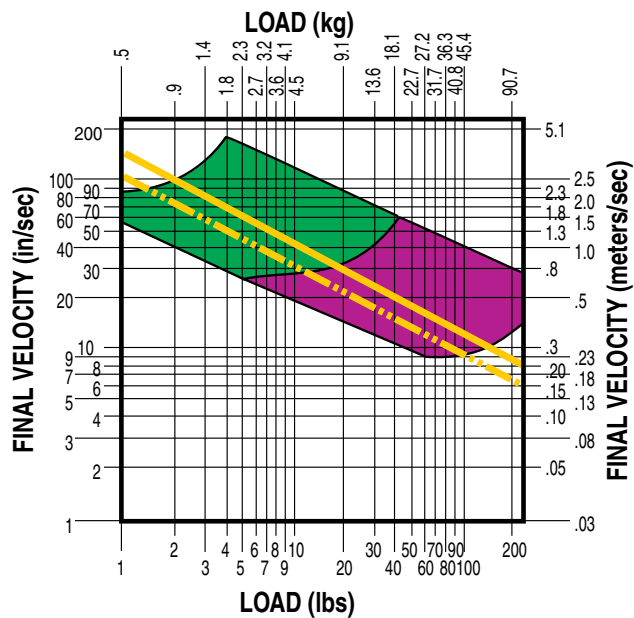
**BC406**



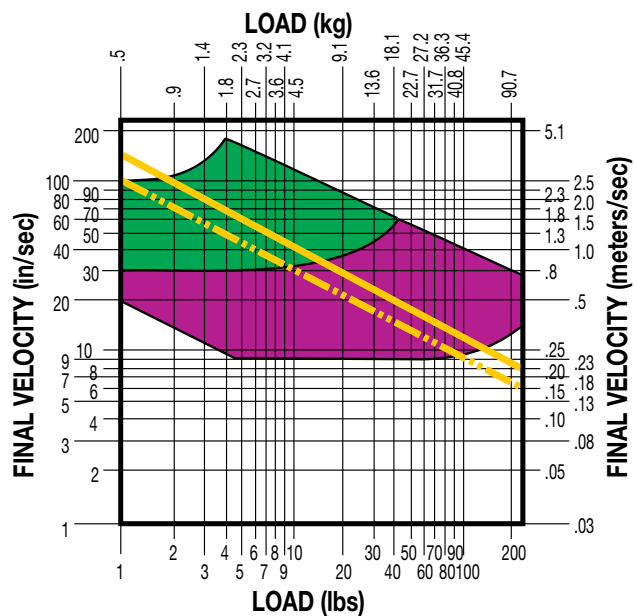
**BC410**



**BC412**



**BC415**



LIGHT DUTY (Light load/High velocity)

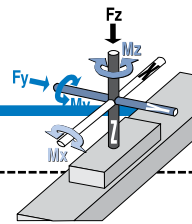
HEAVY DUTY (Heavy load/Low velocity)

AIR CUSHION DATA



NOTE: If final (or impact) velocity cannot be calculated directly, a reasonable guideline to use is 2 x average velocity.

# Application Data Worksheet



## STROKE LENGTH

☐ inch (S I) (U.S. Standard) ☐ millimeters (Metric)

## AVAILABLE AIR PRESSURE

☐ PSI (U.S. Standard) ☐ bar (Metric)

## REQUIRED THRUST FORCE

☐ lbf (U.S. Standard) ☐ N (Metric)

## LOAD

☐ lb (U.S. Standard) ☐ kg (Metric)

## LOAD CENTER OF GRAVITY DISTANCE TO CARRIER CENTER

☐ inch (U.S. Standard) ☐ millimeters (Metric)

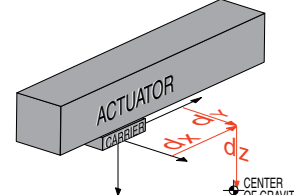
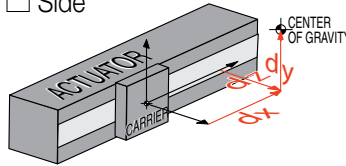
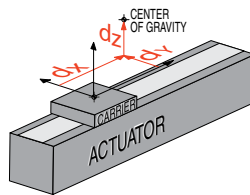
$d_x$  \_\_\_\_\_  
 $d_y$  \_\_\_\_\_  
 $d_z$  \_\_\_\_\_

## ORIENTATION

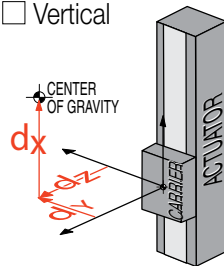
☐ Horizontal

☐ Side

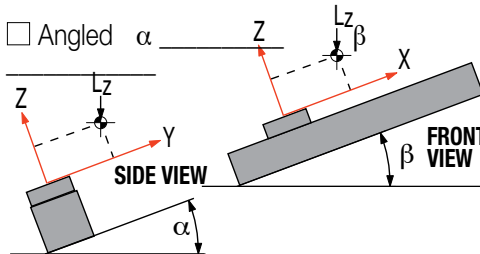
☐ Horizontal Down



☐ Vertical



☐ Angled  $\alpha$



## OTHER ISSUES:

(i.e. Environment,  
Temperature,  
Contamination, etc.)

Contact information:



Fax (1-763-478-8080) or call Tolomatic (1-800-328-2174) with the above information. We will provide any assistance needed to determine the proper actuator.

# Rodless Cylinder Selection Guidelines - BC2, BC3, BC4, LS - All Sizes

## PROVIDING LOAD GUIDANCE AND SUPPORT

The process of selecting a load bearing actuator for a given application can be complex. It is highly recommended that you contact Tolomatic or a Tolomatic Distributor for assistance in selecting the best actuator for your application. The following overview of the selection guidelines are for educational purposes only.

### 1 COMPILE APPLICATION REQUIREMENTS

To determine the appropriate Band Cylinder or Linear Slide model for an application, compile the following information:

- Available pressure (PSI)
- Weight of load (lbs or kg)
- Orientation of load (lbs or kgs)
- Velocity of load (in/sec or mm/sec)
- Stroke length (in or mm)

HINT: Use Tolomatic sizing and selection software, download at: [tolomatic.com](http://tolomatic.com)

### 2 SELECT CYLINDER SIZE

- Consult the Theoretical Force vs. Pressure charts.
- Cross-reference the load force (or load weight if force is not known) and the available operating pressure. If the intersection falls below the diagonal line, and if moments do not exceed maximum values listed for that model (see Step 3), the actuator will accommodate the application.

If the intersection is above the diagonal line, a larger cylinder bore size should be considered.

NOTE: Additional force may be required to obtain the necessary acceleration for vertical or horizontal loads.

### 3 DETERMINE NATURE OF LOAD AND THE EFFECT OF BENDING MOMENTS

If the cylinder will guide and support a load located directly over the center of carrier, bending moments will not be a factor in the cylinder selection.

NOTE: The maximum load "L" must not exceed the capacity limits of the cylinder selected.

- Bending Moments

For off center or side loads, determine the distance from the center of mass of the load to the center of the carrier bracket. This measurement is needed to calculate the torque for bending moments. (Refer to Bending Moment chart for each model.)

Should the resulting maximum bending moment exceed figures indicated on the chart, external guides, auxiliary carrier/s or a larger cylinder should be considered.

- Auxiliary Carrier Bending Moments

The auxiliary carrier option (available on most models) increases load carrying capacity and bending moments. Auxiliary carriers can be ordered with or without an internal piston. (Auxiliary

carriers without a piston have no internal cushion on the cylinder end closest to the auxiliary carrier.)

IMPORTANT: When ordering, determine the working stroke, then the minimum distance required between carriers (dimension "D" in Auxiliary Carrier Bending Moments chart). When ordered, Tolomatic's configurator will calculate the overall length of the actuator.

NOTE: breakaway pressure will increase when using auxiliary carriers.

### 4 DETERMINE INTERNAL CUSHION CAPACITY

- Consult the Cushion Data chart for the model selected. The velocities listed on the cushion charts are final or cushion impact velocities. On applications where the internal cushions or bumpers are to be used, be sure the actual, final or impact velocity is known. If the velocity is not known, use of limit switches with valve deceleration circuits or shock absorbers should be considered. NOTE: The BC205 uses external bumpers in place of internal cushions, LS05 & LS10 do not have cushions or bumpers.
- Cross-reference the final velocity and weight of the load. If the intersection is below the diagonal lines, the internal cushions on the actuator may be used. If the point falls above the dashed diagonal line or if the velocity is not known, use deceleration circuits, external shock absorbers or select a

larger cylinder with greater cushion capacity. On high-cyclic applications, use of external stops is strongly recommended.

### 5 DETERMINE TUBE SUPPORT REQUIREMENTS

- Consult the Tube Support chart for the model selected.
- Cross reference the load weight and maximum distance between supports.

### 6 CONSIDER OPTIONS

- Switches— dc Reed, Hall-effect or ac Triac

Band Cylinders and Linear Slides each have different standard features and options. Check the options section for the actuator you have selected.

- Shock Absorbers— if needed.
- Foot Mounting Kits
- Floating Mount Bracket — use when lack of parallelism occurs between the cylinder and an external guided and supported load.
- Single End Porting (BC3, BC4)
- Long Carrier (BC4)
- Proximity Sensors (LS)
- Dual 180° Carrier (BC3)

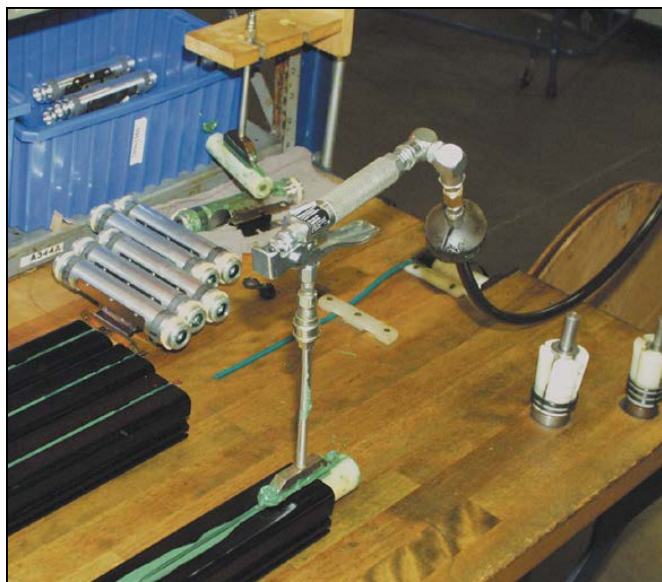
# Application Guidelines

The following conditional statements are intended as general guidelines for use of Tolomatic actuators. Since all applications have their own specific operating requirements, consult Tolomatic, Inc. or your local Tolomatic distributor if an application is unconventional or if questions arise regarding the selection process.

## CUSHION NEEDLE ADJUSTMENT (BC2, BC3, BC4, CC, SA, DP, TC ONLY)



Adjust the cushion needles in the cylinder heads carefully to obtain a smooth, hesitation free deceleration for your particular application. If there are questions on proper adjustment, please consult Tolomatic, Inc.



## LUBRICATION GUIDELINES

All Tolomatic actuators (except Cable Cylinders) are prelubricated at the factory. To ensure maximum actuator life, the following guidelines should be followed.

### • Filtration

We recommend the use of dry, filtered air in our products. "Filtered air" means a level of 10 Micron or less. "Dry" means air should be free of appreciable amounts of moisture. Regular maintenance of installed

filters will generally keep excess moisture in check.


### • External Lubricators (optional)

The factory prelubrication of Tolomatic actuators will provide optimal performance without the use of external lubrication. However, external lubricators can further extend service life of pneumatic actuators if the supply is kept constant.

Oil lubricators, (mist or drop) should supply a minimum of 1 drop per 20 standard cubic feet per minute to the

cylinder. As a rule of thumb, double that rate if water in the system is suspected. Demanding conditions may require more lubricant.

If lubricators are used, we recommend a non-detergent, 20cP @ 140°F 10-weight lubricant. Optimum conditions for standard cylinder operation are +32° to +150°F (+0° to 65.5°C).

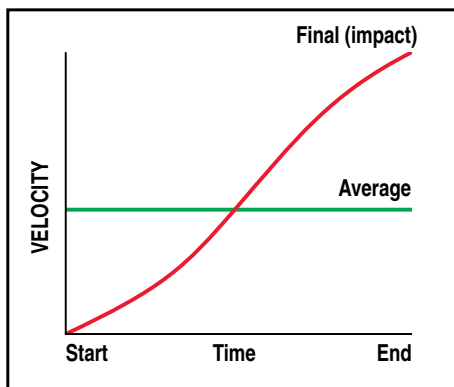
 **NOTE:** Use of external lubricators may wash away the factory installed lubrication. External lubricants must be maintained in a constant supply or the results will be a dry actuator prone to premature wear.

### • Sanitary Environments

Oil mist lubricators must dispense "Food Grade" lubricants to the air supply. Use fluids with ORAL LD50 toxicity ratings of 35 or higher such as Multitherm® PG-1 or equivalent. Demanding conditions can require a review of the application.

## FINAL VELOCITY CALCULATION

Velocity calculations for all rodless cylinders need to differentiate between final velocity and average velocity. For example: Stroking a 100-inch BC3 model in one second yields an average velocity of 100 inches per second. To properly determine the inertial forces for cushioning, it is important to know the



final (or impact) velocity. Rodless cylinders accelerate and decelerate at each end of the stroke. Therefore this acceleration must be considered (see diagram).

If final (or impact) velocity cannot be calculated directly, a reasonable guideline is to use 2 x average velocity.

# BC4 Service Parts Ordering - ALL Sizes

Inch (U.S. Standard) SIZE	06	10	12	15	20	25	30	40
<b>Auxiliary Carrier Option</b>	6906-9023	6910-9023	6912-9023	6915-9023	6920-9023	6925-9023	6930-9023	6940-9023
<b>Floating Mount Kits</b>	6906-9004	6910-9004	6912-9004	6915-9004	6920-9004	6925-9004	6930-9004	6940-9004
<b>Foot Mount Kits</b> <sup>1</sup>	6906-9003	6910-9003	6912-9003	6915-9003	6920-9003	6925-9003	6930-9003	6940-9003
<b>Shock Abs. Field Retrofit Kit – Heavy Duty</b> <sup>2</sup>	6906-9006	6910-9020	6912-9020	6915-9020	6920-9020	6925-9020	–	–
<b>Shock Abs. Field Retrofit Kit – Lite Duty</b> <sup>2</sup>	6906-9005	6910-9005	6912-9005	6915-9005	6920-9005	6925-9005	–	–
<b>Shock Abs. Field Mount Kit (Hardware Only)</b> <sup>3</sup>	6906-9024	6910-9024	6912-9024	6915-9024	6920-9024	6925-9024	–	–
<b>Shock Stop Kit</b> <sup>4</sup>	6906-9019	6910-9019	6912-9019	6915-9019	6920-9019	6925-9019	–	–
<b>Shock Stop Kit (Long Carrier)</b> <sup>4</sup>	6906-9029	6912-9029	6912-9029	6915-9029	–	–	–	–
<b>Single End Porting</b> <sup>5</sup>	NA	6910-9018	6912-9018	6915-9018	6920-9017	6925-9017	Std.	Std.
<b>Tube Supports</b> <sup>6</sup>	6906-9002	6910-9002	6912-9002	6915-9002	6920-9002	6925-9002	6930-9002	6940-9002
<b>Repair Kits</b> <sup>7,8</sup>	RKBC406NP	RKBC410NP	RKBC412NP	RKBC415NP	RKBC420NP	RKBC425NP	RKBC430NP	RKBC440NP
<b>Seal Kits</b> <sup>9</sup>	6906-9022	6910-9022	6912-9022	6915-9022	6920-9022	6925-9022	6930-9022	6940-9022

Metric SIZE	06	10	12	15	20	25	30	40
<b>Auxiliary Carrier Option</b>	7906-9023	7910-9023	7912-9023	7915-9023	7920-9023	7925-9023	7930-9023	7940-9023
<b>Floating Mount Kits</b>	7906-9004	7910-9004	7912-9008	7915-9008	7920-9004	7925-9004	7930-9005	7940-9005
<b>Foot Mount Kits</b> <sup>1</sup>	7906-9003	7910-9003	7912-9004	7915-9003	7920-9003	7925-9003	7930-9003	7940-9003
<b>Shock Abs. Field Retrofit Kit – Heavy Duty</b> <sup>2</sup>	7906-9006	7910-9007	7912-9006	7915-9005	7920-9020	7925-9020	–	–
<b>Shock Abs. Field Retrofit Kit – Lite Duty</b> <sup>2</sup>	7906-9005	7910-9005	7912-9005	7915-9006	7920-9005	7925-9005	–	–
<b>Shock Abs. Field Mount Kit (Hardware Only)</b> <sup>3</sup>	7906-9024	7910-9024	7912-9024	7915-9024	7920-9024	7925-9024	–	–
<b>Shock Stop Kit</b> <sup>4</sup>	7906-9019	7910-9008	7912-9007	7915-9004	7920-9019	7925-9019	–	–
<b>Shock Stop Kit (Long Carrier)</b> <sup>4</sup>	7906-9029	7910-9029	7912-9029	7915-9029	–	–	–	–
<b>Single End Porting Taper (TP)</b> <sup>5</sup>	NA	7910-9006	7912-9001	7915-9001	7920-9017	7925-9017	Std.	Std.
<b>Single End Porting Parallel (GP)</b> <sup>5</sup>		8910-9002	8912-9001	8915-9001	8920-9017	8925-9017		
<b>Tube Supports</b> <sup>6</sup>	7906-9002	7910-9002	7912-9002	7915-9002	7920-9002	7925-9002	7930-9002	7940-9002
<b>Repair Kits (Taper Port “TP”)</b> <sup>7,8</sup>	RKBC406TP	RKBC410TP	RKBC412TP	RKBC415TP	RKBC420TP	RKBC425TP	RKBC430TP	RKBC440TP
<b>Repair Kits (Parallel Port “GP”)</b> <sup>7,8</sup>	RKBC406GP	RKBC410GP	RKBC412GP	RKBC415GP	RKBC420GP	RKBC425GP	RKBC430GP	RKBC440GP
<b>Seal Kits</b> <sup>9</sup>	6906-9022	6910-9022	6912-9022	6915-9022	6920-9022	6925-9022	6930-9022	6940-9022

CONFIG. CODE ORDERING	
Mounting Hardware & FE conn. included	
DESCRIPTION	CODE
Switch Kit, Reed, Form C, 5m	BT
Switch Kit, Reed, Form C, Male Conn.	BM
Switch Kit, Reed, Form A, 5m	RT
Switch Kit, Reed, Form A, Male Conn.	RM
Switch Kit, Triac, 5m	CT
Switch Kit, Triac, Male Conn.	CM
Switch Kit, Hall-effect, Sinking, 5m	KT
Switch Kit, Hall-effect, Sinking, Male Conn.	KM
Switch Kit, Hall-effect, Sourcing, 5m	TT
Switch Kit, Hall-effect, Sourcing, Male Conn.	TM

NOTE: When kit is ordered female connector & all mounting hardware is included

## Switch Ordering NOTES:

To order field retrofit switch and hardware kits for all Tolomatic actuators: SW (Then the model and bore size, and type of switch required)

**Example: SWBC415RT**

(Hardware and Form A Reed switch with 5 meter lead for 1.5" bore BC4 band cylinder)



## Service Parts Ordering NOTES:

- 1 Foot Mount Kit contains one bracket and mounting hardware.
- 2 Shock Field Retrofit Kit contains one shock absorber, impact bolt, and mounting hardware.
- 3 Shock Field Mount Kit contains one set of mounting hardware and impact bolt.
- 4 Shock Stop Kit contains shock plate and screws.
- 5 Single End Porting Kit contains replacement head and plugs.
- 6 Contains one tube support and mounting hardware.
- 7 Repair Kit contains End Caps, Bearing Rods, O-rings, U-cups, Wear Rings, Cushion Seals, Band Inserts, Spring Clamps, Sealing Band and Dust Band.
- 8 When ordering repair kits, specify stroke as “SK” then indicate the desired length in decimal inches after the order code indicated above. EXAMPLE: RKBC410SK10.00
- 9 Seal Kit contains End Caps, Bearing Rods, O-rings, U-cups, Wear Rings, Cushion Seals, Band Inserts and Spring Clamps.

**NA** = Not Available

**Std.** = Standard Feature

# BC4 Ordering - ALL Sizes

**MODEL, BORE, STROKE** **OPTIONS**

BC4 10 L NP SK 100-250 DW 6-0 TS 3 FM 2 SH 2 BM 2

## MODEL

**BC4** BC4 Band Cylinder

## BORE SIZE

<b>06</b>	0.625" (16mm)
<b>10</b>	1.00" (25mm)
<b>12</b>	1.25" (32mm)
<b>15</b>	1.50" (40mm)

## LONG CARRIER (BC4\_14)

**L** Long carrier available for 10, 12, 15 sizes

## MOUNTING & PORTS

- NP** US standard mounting & NPT ports
- TP†** Metric mounting with metric taper port
- GP†** Metric mounting with metric parallel port

† The metric version provides metric tapped holes for mounting of the load to the carrier and of the actuator to mounting surfaces & metric ports

## STROKE LENGTH & MOUNTING TYPE

- SK** \_ \_ \_ Stroke, enter desired stroke length in inches
- SM†** \_ \_ \_ Stroke, enter desired stroke length in millimeters

**NOTE:** Actuator mounting threads and mounting fasteners will be either inch or metric; depending on how stroke length is indicated.

**SK** = inch mounting  
**SM** = metric mounting

## MAXIMUM STROKE

SIZE	...SK	...SM
	in	mm
<b>06</b>	206	5,232
<b>10</b>	205	5,207
<b>12</b>	204	5,182
<b>15</b>	202	5,130

 Not all codes listed are compatible with all options. Contact Tolomatic with any questions.

## AUXILIARY CARRIER (BC4\_16)

**DW** Auxiliary carrier With piston & "D" distance  
\_ \_ \_ "D" Distance between carriers in inches (**SK**) or millimeters (**SM**)  
(Same unit of measure as stroke length is required)

✗ Not available for 06 size

## MINIMUM "D" DISTANCE BETWEEN CARRIERS

	with Piston	
	in	mm
<b>06</b>	4.26	108.2
<b>10</b>	5.30	134.6
<b>12</b>	6.23	158.2
<b>15</b>	8.00	203.2

\*When ordering auxiliary carrier option, enter the distance required between carriers. The configurator will calculate the overall length of the actuator.

## TUBE SUPPORTS (BC4\_20)

**TS** \_ Tube Support & number required

## T-NUTS

**TN** \_ additional T-Nuts (see individual dimensional drawings for sizes)

## FOOT MOUNT (BC4\_19)

**FM** \_ Foot Mount & number required (1 or 2)

## FLOATING MOUNT (BC4\_21)

**FL** Floating Mount Bracket


✗ Not compatible with shock absorbers

## SHOCK ABSORBERS (BC4\_24)

\***SD** \_ Shock hardware Only and number required

\***SH** \_ Shock, Heavy duty and number required

\***SL** \_ Shock, Light duty and number required

 \*NOTE: When shock absorbers are ordered cushion seals are removed.

## SWITCHES (BC4\_22)

TYPE		QUICK-DISCONNECT	CODE	QUANTITY	LEAD LENGTH
REED	Form A	QD	RM	After code enter quantity desired	5 meters
		no	RT		
	Form C	QD	BM		
		no	BT		
HALL-EFFECT	Sinking	QD	KM		
		no	KT		
	Sourcing	QD	TM		
		no	TT		
TRIAC		QD	CM		
		no	CT		

## PORTING OPTION

**HD** Single End Porting

✗ Not available for 06 size

