

# Elastomeric Bumpers

*for Energy Control*

*Outperform Rubber, Urethane and Coiled Steel*



***Enertrols***<sup>®</sup>

EXPERTS IN DECELERATION & MOTION CONTROL

*Lightweight, Ultra-Strong, Exceedingly Durable, Economical*

## Absorbs More Energy

Elastomeric high performance bumpers from Enertrols are highly engineered products that absorb more energy per unit of weight and volume than many known materials. In various applications, these dependable bumpers significantly outperform rubber, urethane and coiled steel. Elastomeric bumpers consistently solve energy absorption problems where other materials have failed or simply don't exist.

These durable bumpers solve difficult energy management problems in applications involving shock isolation, vibration isolation and return springs. Elastomeric bumpers from Enertrols are reshaping performance standards in cost-effective energy absorption, durability, resilience and application flexibility.

Elastomeric bumpers are comprised of a thermal plastic co-polyester material that is excellent in resisting oil, grease, chemicals, salt water, ultra-violet light and microorganisms. They do not absorb water and will not swell.

The secret is in both the shape and in the proprietary manufacturing process. Each elastomeric bumper is specifically processed to a precise shape to meet the required load rates.

The result is a highly tailored, highly engineered product that adds performance and value to each application.

## Proven Endurance and Resilience

The success of the proven elastomer bumper is demonstrated by the following information:

- **Thousands of hours in mine trucks without failure**
- **Many years in rail car impact devices without failure**
- **Millions of cycles at maximum deflection without failure on step machines for the fitness industry**
- **More than 10 years in forklift truck masts without failure**
- **Millions of parts in automobiles without failure**

Proven elastomeric bumpers are ideally suited for applications in the electric drive, heavy corrosive and crane bumper markets as well as numerous others.

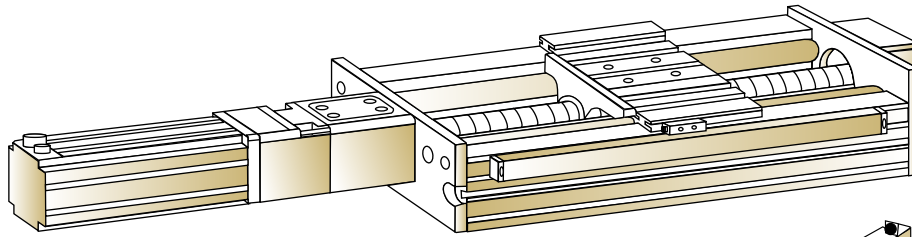
Elastomeric bumpers from Enertrols are the lightweight, ultra-strong, exceedingly durable and economical product solution for your bumper application needs.

### Advantages

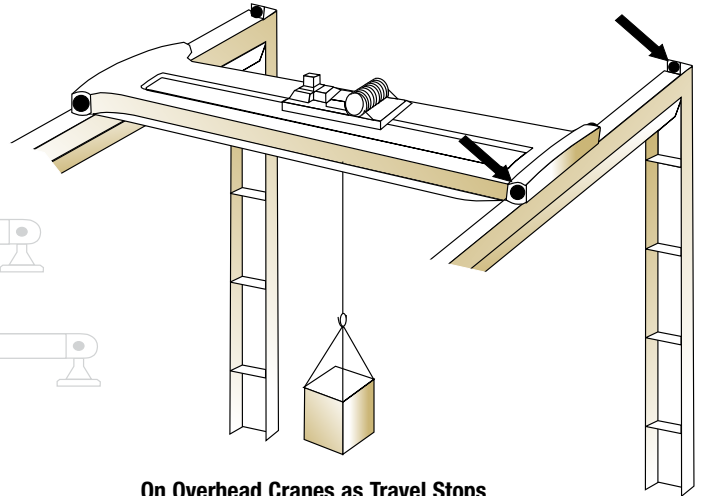
Cost-effective  
 Space saving design  
 Low weight  
 Long life expectancy  
 Easily adaptable to existing systems  
 Unaffected by oil, grease, chemicals, salt spray, ozone, sunlight, hydraulic fluids or fuels  
 Maintenance free  
 Wide service temperature range

### Elastomeric Bumpers Durability

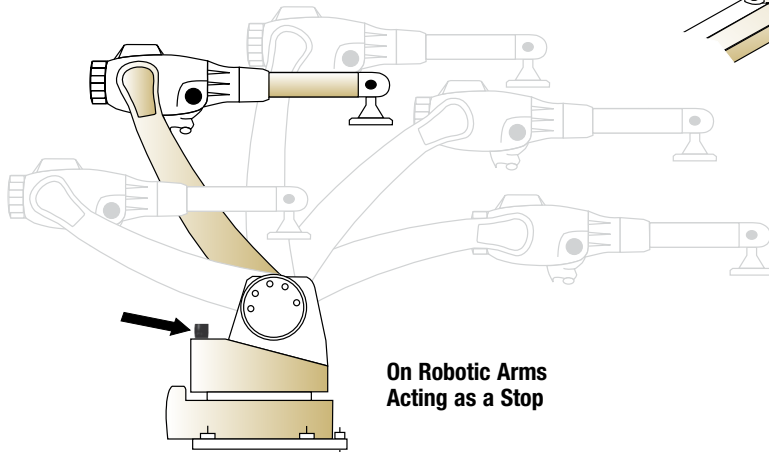
5 times longer life expectancy than coiled steel  
 10 times greater than rubber  
 20 times greater than urethane



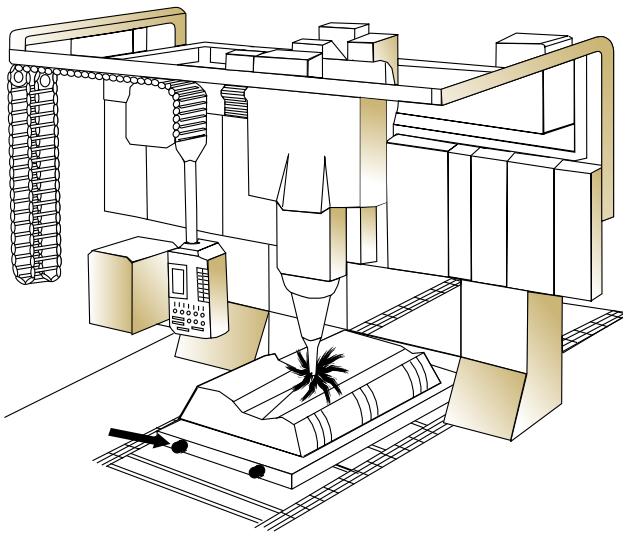
**On Electric Drive Units**



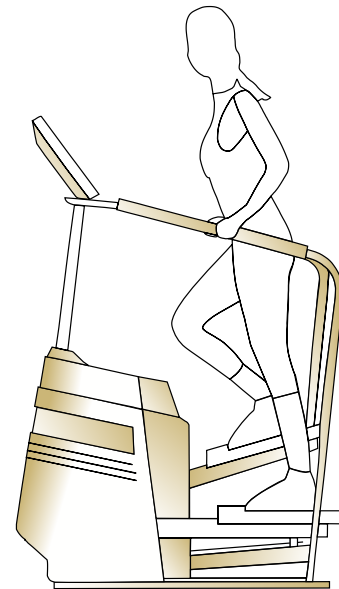
**On Overhead Cranes as Travel Stops**



**On Robotic Arms Acting as a Stop**



**On Machining Centers as Dampening Elements**



**As System Cushion Units on Fitness Industry Equipment**

## Additional Selected Application Areas Include:

On equipment in heavy  
corrosive environments  
Mining equipment

Jounce stops  
Rebound bumpers and stops  
Sawmill equipment

Steel mill equipment  
Paper mill equipment  
Oil well heads

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## ETA-Series Elastomeric Bumpers



**ETA-Series elastomeric bumpers are designed to provide the maximum amount of energy absorption in the minimum amount of space.**

These dependable units are available in numerous model sizes to handle your energy control needs. Elastomeric bumpers from Enertrols, in various applications, outperform rubber, urethane and coiled steel.

### Technical Data

**Service temperature:** -30° to 150°F (-34° to 65°C)

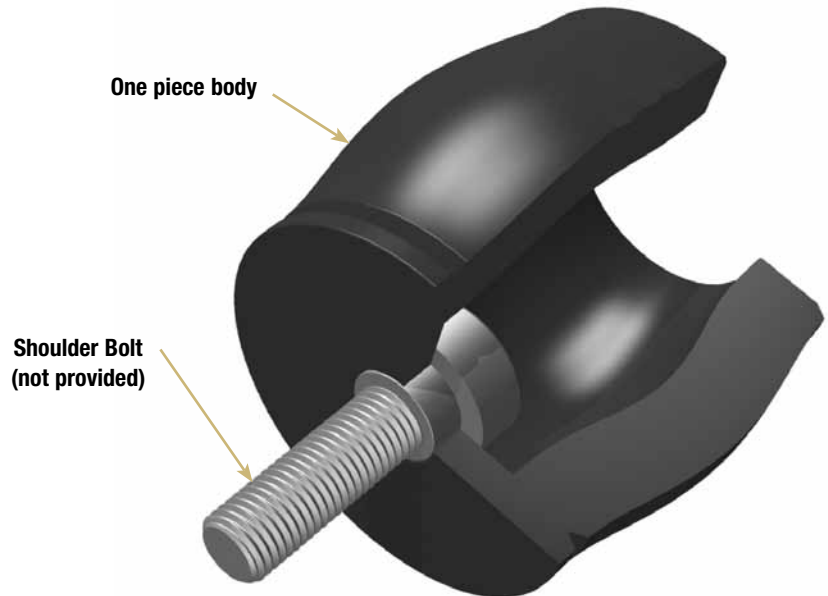
**Energy absorption:** 40 to 66%

**Energy capacity:** 20 to 17,000 in-lbs (2 to 1,921 Nm)

**Peak dynamic force:** 181 to 18,000 lbs (805 to 82,288 N)

**Elastomeric material:** excellent resistance to chemicals, salt water, ultra-violet light and microorganisms. Does not absorb water and will not swell.

## ETA-Series Elastomeric Bumpers



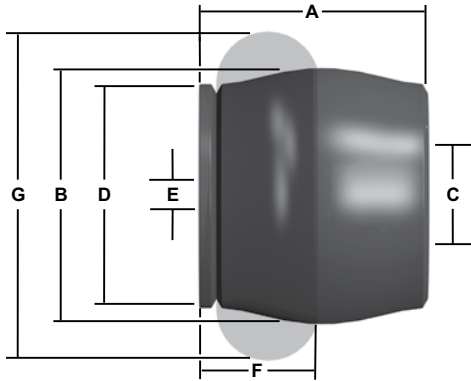
## Ordering Information

### ETA 22-10

ETA-Series

Model Number

12-5	34-14	50-22	70-29	90-38
17-7	37-16	54-22	72-31	98-40
21-9	40-16	57-24	80-32	116-48
22-10	43-18	62-25	82-35	
28-12	47-20	65-27	85-36	



## ETA Specifications and Dimensions

Model	E3 Capacity in-lbs (Nm)	Peak Dynamic Force lbs (N)	A Free Height in (mm)	B Free Bulge Diameter in (mm)	C Wrench Opening in (mm)	D Base Diameter in (mm)	E Mounting Hole in (mm)	F Solid Height in (mm)	G Bulge at Solid Height in (mm)	Shipping Weight oz (g)
ETA 12-5	20 (2)	181 (805)	0.43 (11)	0.48 (12)	0.23 (6)	0.42 (11)	0.15 (4)	0.24 (6)	0.60 (15)	0.08 (2)
ETA 17-7	51 (6)	353 (1,570)	0.61 (15)	0.66 (17)	0.33 (8)	0.60 (15)	0.17 (4)	0.39 (10)	0.82 (21)	0.13 (4)
ETA 21-9	89 (10)	494 (2,197)	0.72 (18)	0.81 (21)	0.39 (10)	0.71 (18)	0.21 (5)	0.39 (10)	1.01 (26)	0.14 (4)
ETA 22-10	100 (11)	700 (3,114)	0.76 (19)	0.85 (22)	0.41 (10)	0.75 (19)	0.31 (8)	0.40 (10)	1.07 (27)	0.16 (5)
ETA 28-12	250 (28)	1,200 (5,334)	1.01 (26)	1.11 (28)	0.56 (14)	0.98 (25)	0.31 (8)	0.53 (14)	1.43 (36)	0.37 (11)
ETA 34-14	400 (45)	2,000 (8,896)	1.18 (30)	1.35 (34)	0.66 (17)	1.16 (30)	0.31 (8)	0.63 (16)	1.70 (43)	0.62 (18)
ETA 37-16	550 (62)	2,400 (10,675)	1.31 (33)	1.47 (37)	0.72 (18)	1.28 (32)	0.31 (8)	0.69 (17)	1.88 (48)	0.86 (24)
ETA 40-16	700 (79)	2,500 (11,120)	1.37 (35)	1.55 (39)	0.80 (20)	1.35 (34)	0.42 (11)	0.73 (18)	2.00 (50)	1.00 (28)
ETA 43-18	900 (102)	3,600 (16,013)	1.49 (38)	1.70 (43)	0.79 (20)	1.48 (38)	0.42 (11)	0.79 (20)	2.15 (55)	1.40 (40)
ETA 47-20	1,100 (124)	3,300 (14,678)	1.62 (41)	1.83 (47)	0.93 (24)	1.61 (41)	0.55 (14)	0.86 (22)	2.33 (59)	1.70 (48)
ETA 50-22	1,400 (158)	3,800 (16,902)	1.77 (45)	1.96 (50)	1.02 (26)	1.71 (43)	0.55 (14)	0.92 (23)	2.51 (64)	2.00 (57)
ETA 54-22	1,700 (192)	5,000 (22,240)	1.86 (47)	2.08 (54)	1.02 (26)	1.84 (47)	0.55 (14)	0.99 (25)	2.69 (68)	2.20 (62)
ETA 57-24	2,000 (226)	5,000 (22,240)	2.02 (51)	2.25 (57)	1.16 (30)	1.97 (50)	0.55 (14)	1.06 (27)	2.86 (73)	3.10 (88)
ETA 62-25	2,500 (283)	5,300 (23,574)	2.11 (54)	2.43 (62)	1.23 (31)	2.08 (53)	0.55 (14)	1.12 (28)	3.05 (78)	3.70 (105)
ETA 65-27	3,000 (1,339)	6,100 (27,133)	2.26 (57)	2.54 (65)	1.30 (33)	2.23 (57)	0.55 (14)	1.19 (30)	3.22 (82)	4.60 (130)
ETA 70-29	3,500 (396)	6,600 (29,357)	2.38 (61)	2.70 (69)	1.38 (35)	2.35 (60)	0.56 (14)	1.25 (32)	3.40 (86)	5.10 (145)
ETA 72-31	4,000 (452)	7,500 (33,360)	2.54 (65)	2.81 (71)	1.41 (36)	2.46 (63)	0.80 (21)	1.32 (33)	3.58 (91)	6.10 (171)
ETA 80-32	5,000 (565)	8,300 (36,918)	2.72 (69)	3.10 (79)	1.57 (40)	2.71 (69)	0.79 (20)	1.45 (37)	3.94 (100)	7.80 (221)
ETA 82-35	6,000 (678)	8,700 (38,698)	2.91 (74)	3.22 (82)	1.69 (43)	2.82 (72)	0.81 (21)	1.52 (39)	4.12 (105)	9.10 (258)
ETA 85-36	7,000 (791)	9,600 (42,701)	3.00 (76)	3.35 (85)	1.70 (43)	2.95 (75)	0.79 (20)	1.58 (40)	4.30 (109)	10.60 (301)
ETA 90-38	8,000 (904)	10,800 (48,038)	3.13 (80)	3.50 (89)	1.75 (45)	3.07 (78)	0.81 (21)	1.65 (42)	4.48 (114)	11.80 (335)
ETA 98-40	10,000 (1,130)	14,000 (62,272)	3.37 (86)	3.83 (97)	1.92 (49)	3.34 (85)	0.80 (21)	1.78 (45)	4.83 (123)	14.90 (422)
ETA 116-48	17,000 (1,921)	18,000 (82,288)	3.98 (101)	4.56 (116)	2.26 (57)	3.93 (100)	0.80 (21)	2.11 (54)	5.73 (146)	26.10 (740)

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## ETS-Series Elastomeric Bumpers



**ETS-Series elastomeric bumpers are designed for applications where the energy absorption need not be maximized for the space available.**

This results in a significantly lower end load with only slightly longer stroke. These durable bumpers from Enertrols can be easily mounted to horizontal or vertical surfaces with a single socket head cap screw.

### Technical Data

**Service temperature:** -30° to 150°F (-34° to 65°C)

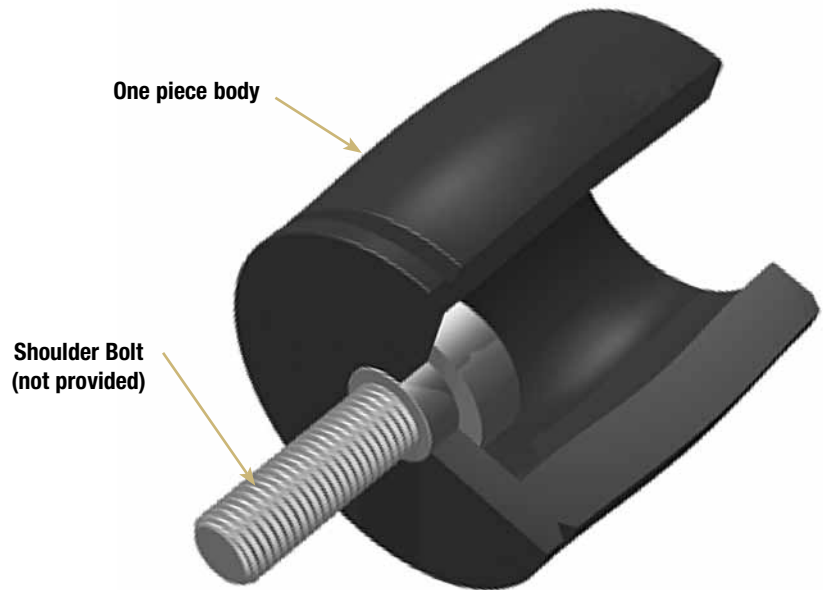
**Energy absorption:** 26 to 56%

**Energy capacity:** 18 to 8,000 in lbs (2 to 904 Nm)

**Peak dynamic force:** 104 to 5,500 lbs (463 to 24,464 N)

**Elastomeric material:** excellent resistance to chemicals, salt water, ultra-violet light and microorganisms. Does not absorb water and will not swell.

## ETS-Series Elastomeric Bumpers



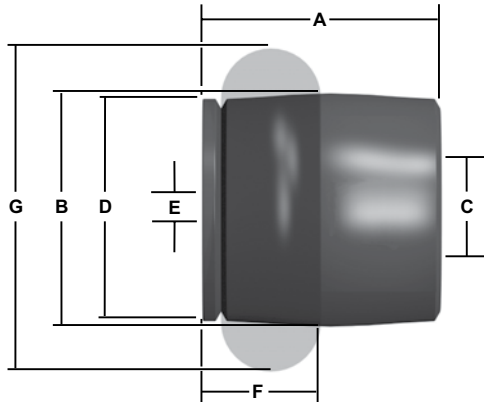
## Ordering Information

### ETS 20-10

ETS-Series

Model Number

14-7	35-19	51-27	68-36	90-47
18-9	40-19	54-29	75-39	107-56
20-10	41-21	58-30	78-40	
26-15	44-23	61-32	82-44	
32-16	48-25	64-34	84-43	



## ETS Specifications and Dimensions

Model	E3 Energy Capacity in-lbs (Nm)	Peak Dynamic Force lbs (N)	A Free Height in (mm)	B Free Bulge Diameter in (mm)	C Wrench Opening in (mm)	D Base Diameter in (mm)	E Mounting Hole in (mm)	F Solid Height in (mm)	G Bulge at Solid Height in (mm)	Shipping Weight oz (g)
ETS 14-7	18 (2)	104 (463)	0.58 (15)	0.54 (14)	0.34 (9)	0.51 (13)	0.18 (5)	0.29 (7)	0.76 (19)	0.05 (1)
ETS 18-9	33 (3.7)	236 (1,049)	0.74 (19)	0.70 (18)	0.43 (11)	0.65 (17)	0.19 (5)	0.40 (10)	0.96 (24)	0.10 (3)
ETS 20-10	50 (6)	300 (1,334)	0.81 (21)	0.79 (20)	0.48 (12)	0.73 (18)	0.31 (8)	0.40 (10)	1.08 (27)	0.14 (4)
ETS 26-15	100 (11)	400 (1,779)	1.09 (28)	1.02 (26)	0.63 (16)	0.98 (25)	0.31 (8)	0.53 (13)	1.45 (37)	0.32 (9)
ETS 32-16	200 (23)	600 (2,669)	1.27 (32)	1.24 (31)	0.77 (20)	1.18 (30)	0.31 (8)	0.63 (16)	1.72 (44)	0.56 (16)
ETS 35-19	250 (28)	700 (3,114)	1.42 (36)	1.38 (35)	0.84 (21)	1.28 (32)	0.31 (8)	0.69 (17)	1.90 (48)	0.77 (22)
ETS 40-19	300 (34)	900 (4,003)	1.48 (38)	1.46 (37)	0.82 (21)	1.35 (34)	0.31 (8)	0.73 (18)	1.99 (50)	1.00 (28)
ETS 41-21	400 (45)	1,100 (4,893)	1.63 (41)	1.60 (41)	0.93 (24)	1.48 (38)	0.56 (14)	0.79 (20)	2.17 (55)	1.30 (37)
ETS 44-23	550 (62)	1,300 (5,782)	1.75 (45)	1.68 (44)	0.98 (25)	1.58 (40)	0.56 (14)	0.86 (22)	2.35 (60)	1.50 (42)
ETS 48-25	700 (79)	1,600 (7,119)	1.91 (48)	1.88 (48)	1.09 (28)	1.73 (44)	0.56 (14)	0.92 (23)	2.53 (64)	2.10 (59)
ETS 51-27	800 (90)	1,900 (8,451)	2.03 (52)	1.99 (50)	1.12 (28)	1.85 (47)	0.56 (14)	0.99 (25)	2.71 (69)	2.50 (71)
ETS 54-29	1,000 (113)	2,000 (8,896)	2.18 (55)	2.11 (54)	1.21 (31)	1.97 (50)	0.55 (14)	1.06 (27)	2.89 (73)	2.80 (79)
ETS 58-30	1,200 (136)	2,200 (9,786)	2.33 (59)	2.28 (58)	1.30 (33)	2.09 (53)	0.55 (14)	1.12 (28)	3.07 (78)	3.50 (99)
ETS 61-32	1,400 (158)	2,600 (11,565)	2.45 (62)	2.40 (61)	1.39 (35)	2.21 (56)	0.81 (21)	1.19 (30)	3.25 (83)	4.20 (119)
ETS 64-34	1,700 (192)	3,000 (13,344)	2.58 (65)	2.53 (64)	1.46 (37)	2.33 (59)	0.81 (21)	1.25 (32)	3.43 (87)	5.00 (142)
ETS 68-36	2,000 (226)	3,500 (15,568)	2.71 (69)	2.67 (68)	1.51 (38)	2.47 (63)	0.77 (21)	1.32 (33)	3.61 (92)	5.70 (162)
ETS 75-39	2,500 (282)	3,500 (15,568)	2.96 (75)	2.94 (75)	1.70 (43)	2.71 (69)	0.80 (20)	1.45 (37)	3.97 (101)	7.40 (210)
ETS 78-40	3,000 (339)	3,700 (16,458)	3.11 (79)	3.05 (77)	1.82 (46)	2.82 (72)	0.81 (21)	1.52 (39)	4.15 (105)	8.50 (241)
ETS 82-44	3,500 (395)	4,300 (19,126)	3.31 (84)	3.24 (82)	1.88 (48)	2.95 (75)	0.80 (21)	1.58 (40)	4.33 (110)	9.60 (272)
ETS 84-43	4,000 (452)	4,400 (19,571)	3.36 (85)	3.29 (84)	1.97 (50)	3.07 (78)	0.80 (21)	1.65 (42)	4.52 (115)	10.60 (300)
ETS 90-47	5,000 (565)	5,300 (23,574)	3.62 (92)	3.55 (90)	2.14 (54)	3.32 (84)	0.80 (21)	1.78 (45)	4.88 (124)	13.80 (391)
ETS 107-56	8,000 (904)	5,500 (24,464)	4.31 (109)	4.22 (107)	2.56 (65)	3.95 (100)	0.80 (21)	2.11 (54)	5.78 (147)	21.60 (612)

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## ETR-Series Elastomeric Bumpers



**ETR-Series elastomeric bumpers are designed for applications where a long, soft energy absorption is required.** This equates to the minimum end load with the maximum stroke. These proven elastomeric bumpers from Enertrols can be easily mounted to horizontal or vertical surfaces with a single socket head cap screw.

### Technical Data

**Service temperature:** -30° to 150°F (-34° to 65°C)

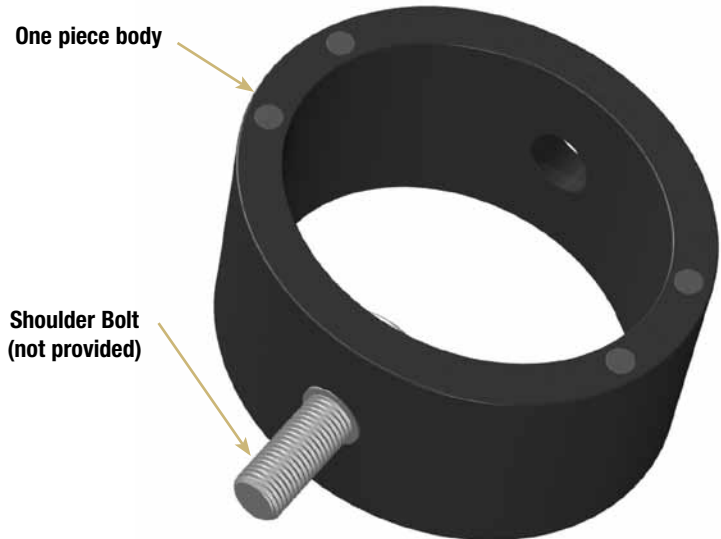
**Energy absorption:** 17 to 35%

**Energy capacity:** 10 to 1,000 in-lbs (1 to 113 Nm)

**Peak dynamic force:** 75 to 1,400 lbs (334 to 6,227 N)

**Elastomeric material:** excellent resistance to chemicals, salt water, ultra-violet light and microorganisms. Does not absorb water and will not swell.

## ETR-Series Elastomeric Bumpers



## Ordering Information

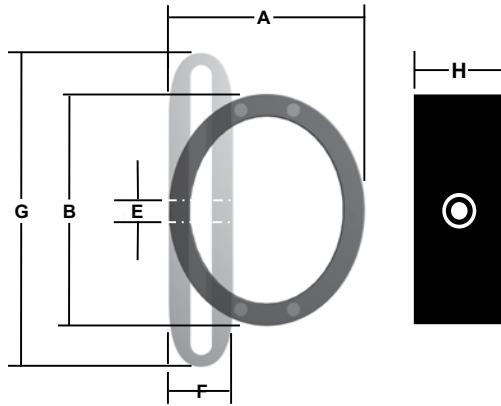
### ETR 29-17

ETR-Series

Model Number

29-17	50-35	76-46	93-57
37-22	63-43	83-50	100-60
43-25	67-40	85-50	





## ETR Specifications and Dimensions

Model	E3 Energy Capacity in-lbs (Nm)	Peak Dynamic Force lbs (N)	A Free Height in (mm)	B Free Bulge Diameter in (mm)	E Mounting Hole in (mm)	F Solid Height in (mm)	G Bulge at solid Height in (mm)	H Width	Shipping Weight oz (g)
<b>ETR 29-17</b>	10 (1)	75 (334)	0.97 (25)	1.12 (28)	0.22 (6)	0.32 (8)	1.51 (38)	0.52 (13)	0.24 (7)
<b>ETR 30-15H</b>	20 (2)	125 (556)	0.91 (23)	1.18 (30)	0.21 (5)	0.32 (8)	1.51 (38)	0.52 (13)	0.16 (5)
<b>ETR 37-22</b>	20 (2)	100 (445)	1.25 (32)	1.44 (37)	0.22 (6)	0.41 (10)	1.96 (50)	0.76 (19)	0.48 (14)
<b>ETR 39-19H</b>	50 (6)	225 (1,001)	1.17 (30)	1.52 (39)	0.21 (5)	0.41 (10)	1.96 (50)	0.75 (19)	0.47 (14)
<b>ETR 43-25</b>	30 (3)	150 (667)	1.47 (37)	1.67 (43)	0.21 (6)	0.48 (12)	2.27 (58)	0.79 (20)	1.60 (17)
<b>ETR 45-23H</b>	75 (9)	250 (1,112)	1.40 (36)	1.78 (45)	0.21 (5)	0.48 (12)	2.27 (58)	0.79 (20)	0.63 (18)
<b>ETR 50-35</b>	50 (6)	200 (890)	1.72 (44)	1.95 (49)	0.22 (6)	0.37 (9)	2.68 (68)	1.36 (34)	0.90 (25)
<b>ETR 52-32H</b>	100 (11)	275 (1,223)	1.64 (42)	2.03 (52)	0.21 (5)	0.37 (9)	2.68 (68)	1.34 (34)	0.80 (23)
<b>ETR 63-43</b>	100 (11)	300 (1,334)	2.17 (55)	2.48 (63)	0.22 (6)	0.47 (12)	3.43 (87)	1.70 (43)	1.80 (51)
<b>ETR 64-41H</b>	200 (23)	475 (2,113)	2.08 (53)	2.53 (65)	0.22 (6)	0.47 (11)	3.43 (87)	1.70 (43)	1.76 (50)
<b>ETR 67-40</b>	200 (23)	475 (2,113)	2.31 (59)	2.61 (66)	0.22 (6)	0.74 (19)	3.47 (88)	1.82 (46)	2.80 (79)
<b>ETR 68-37H</b>	550 (62)	1,050 (4,671)	2.20 (56)	2.67 (68)	0.22 (6)	0.74 (19)	3.47 (88)	1.80 (46)	2.71 (77)
<b>ETR 76-46</b>	300 (34)	600 (2,669)	2.65 (67)	3.00 (76)	0.28 (7)	0.85 (22)	4.03 (102)	1.80 (46)	3.60 (102)
<b>ETR 79-42H</b>	700 (79)	1,300 (5,783)	2.52 (64)	3.12 (79)	0.28 (7)	0.85 (22)	4.03 (102)	1.78 (45)	3.67 (104)
<b>ETR 83-50</b>	400 (45)	725 (3,225)	2.88 (73)	3.28 (83)	0.28 (7)	0.92 (23)	4.30 (109)	2.00 (51)	5.30 (150)
<b>ETR 85-50</b>	600 (68)	1,000 (4,448)	2.88 (73)	3.33 (85)	0.37 (10)	0.92 (23)	4.37 (111)	2.65 (67)	6.90 (196)
<b>ETR 86-45H</b>	1,100 (124)	1,675 (7,451)	2.70 (69)	3.39 (86)	0.27 (7)	0.92 (23)	4.30 (109)	2.00 (51)	5.12 (145)
<b>ETR 87-46H</b>	1,400 (158)	2,150 (9,564)	2.68 (68)	3.39 (86)	0.39 (10)	0.92 (23)	4.37 (111)	2.65 (67)	6.71 (191)
<b>ETR 93-57</b>	800 (90)	1,250 (5,560)	3.27 (83)	3.67 (93)	0.40 (10)	1.03 (26)	4.87 (124)	3.25 (83)	10.30 (292)
<b>ETR 95-50H</b>	2,000 (226)	2,800 (12,455)	3.01 (77)	3.72 (95)	0.37 (9)	1.03 (26)	4.87 (124)	3.21 (82)	9.43 (268)
<b>ETR 100-60</b>	1,000 (113)	1,400 (6,227)	3.47 (88)	3.94 (100)	0.40 (10)	1.11 (28)	5.22 (133)	3.20 (81)	11.40 (323)
<b>ETR 102-56H</b>	2,500 (283)	3,225 (14,346)	3.30 (84)	4.03 (102)	0.40 (10)	1.11 (28)	5.22 (133)	3.19 (81)	11.19 (318)

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## ETC-Series Elastomeric Bumpers



**ETC-Series bumpers are designed for handling crane bumper type applications.** These rugged bumpers meet the minimum requirements for existing industry standards for OSHA and CMAA through the use of a unique “dual-concept” for the device’s spring rate. They are the proven, cost-effective choice for high-load energy management systems, and can be mounted with a single socket head cap screw.

### Technical Data

**Service temperature:** -30° to 150°F (-34° to 65°C)

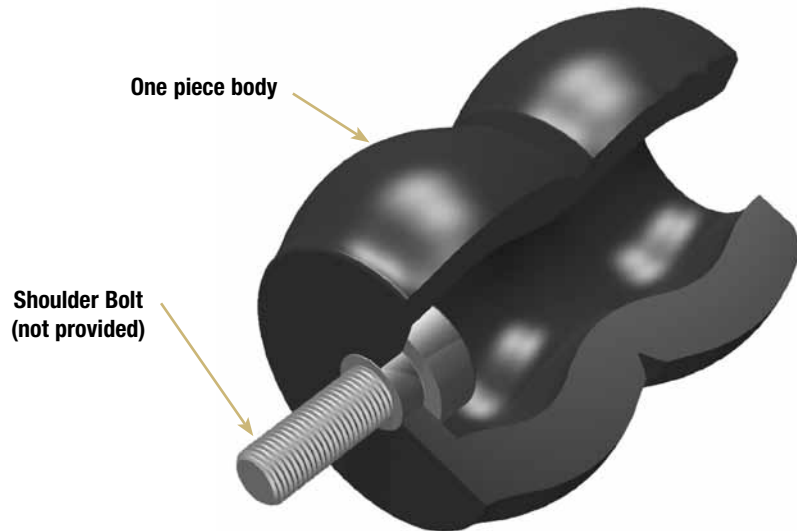
**Energy absorption:** 31 to 63%

**Energy capacity:** 330 to 9,375 ft-lbs (447 to 12,712 Nm)

**Peak dynamic force:** 18,000 to 220,000 lbs (80,064 to 978,560 N)

**Elastomeric material:** excellent resistance to chemicals, salt water, ultra-violet light and microorganisms. Does not absorb water and will not swell.

## ETC-Series Elastomeric Bumpers



## Ordering Information

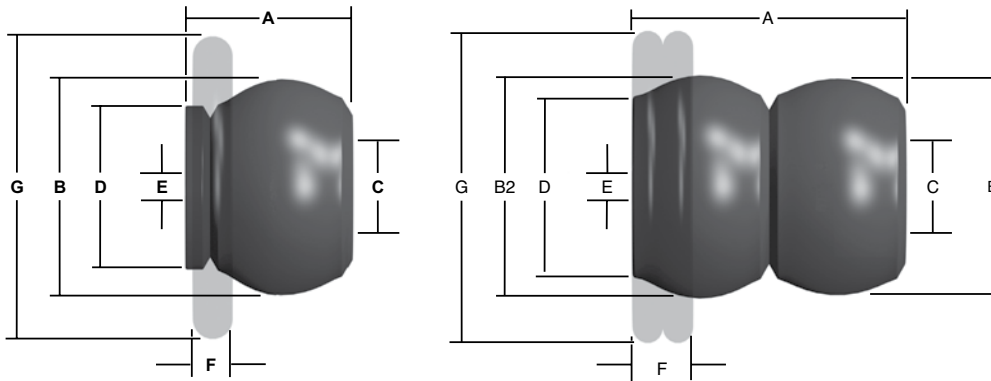
### ETC 64-62-S

ETC-Series

Model Number

64-62-S	87-59	117-97	146-67-S
74-76-S	90-49	134-146-S	150-178-S
83-73-S	102-63	136-65	153-178-S
86-39	108-30	137-90	168-124
			176-198-S

## ETC Specifications and Dimensions



Model	E3 Energy Capacity ft-lbs (Nm)	Peak Dynamic Force lbs (N)	A Free Height in (mm)	B Top/Free Bulge Diameter in (mm)	B2 Lower Bulge Diameter in (mm)	C Wrench Opening in (mm)	D Base Diameter in (mm)	E Mounting Hole in (mm)	F Solid Height in (mm)	G Bulge at Solid Height in (mm)
ETC 64-62-S	330 (447)	18,000 (80,064)	3.12 (79)	2.43 (62)	2.50 (63)	1.09 (28)	2.04 (52)	0.54 (14)	0.69 (17)	3.50 (89)
ETC 74-76-S	720 (976)	37,000 (164,576)	3.76 (96)	2.86 (73)	2.92 (74)	1.29 (33)	2.37 (61)	0.54 (14)	0.80 (20)	4.50 (114)
ETC 83-73-S	1,400 (1,898)	82,000 (364,736)	3.72 (93)	3.28 (83)	3.34 (83)	1.45 (37)	2.70 (69)	0.54 (14)	0.80 (20)	5.00 (127)
ETC 86-39	890 (1,207)	71,000 (315,808)	2.25 (56)	3.45 (86)	N/A	1.46 (37)	3.09 (78)	0.54 (14)	0.67 (17)	5.25 (133)
ETC 87-59	1,300 (147)	57,000 (253,536)	3.32 (84)	3.94 (100)	N/A	1.72 (44)	3.62 (91)	0.54 (14)	1.00 (25)	5.88 (149)
ETC 90-49	1,200 (1,627)	112,000 (498,176)	2.67 (68)	3.48 (88)	N/A	1.26 (32)	2.64 (67)	0.54 (14)	0.75 (19)	4.88 (124)
ETC 102-63	1,450 (1,966)	50,000 (222,400)	3.85 (98)	4.00 (102)	N/A	1.60 (41)	3.24 (82)	0.80 (20)	1.38 (35)	5.50 (140)
ETC 108-30	1,400 (1,898)	102,000 (453,696)	2.09 (53)	4.25 (108)	N/A	1.11 (28)	3.00 (77)	0.55 (14)	0.90 (23)	5.25 (133)
ETC 117-97	2,730 (3,702)	110,000 (489,280)	5.08 (129)	4.56 (117)	N/A	1.69 (44)	3.96 (100)	0.80 (20)	1.25 (32)	7.38 (187)
ETC 134-146-S	5,375 (7,288)	160,000 (711,680)	7.31 (187)	5.50 (134)	5.50 (134)	2.52 (64)	4.62 (117)	0.80 (20)	1.63 (41)	8.44 (214)
ETC 136-65	3,130 (4,244)	112,000 (498,176)	4.18 (106)	5.35 (136)	N/A	1.69 (44)	4.16 (106)	0.80 (20)	1.63 (41)	7.00 (178)
ETC 137-90	4,675 (6,339)	205,000 (911,840)	4.50 (115)	5.40 (137)	N/A	1.66 (43)	4.44 (113)	0.80 (20)	1.00 (25)	8.50 (216)
ETC 146-67-S	6,140 (8,326)	185,000 (822,880)	4.63 (118)	5.50 (140)	5.75 (146)	1.55 (44)	3.90 (99)	0.79 (20)	2.00 (51)	7.50 (190)
ETC 150-178-S	6,530 (8,855)	126,000 (560,448)	9.50 (241)	5.84 (148)	5.88 (149)	2.90 (74)	5.19 (132)	0.80 (20)	2.50 (63)	8.81 (224)
ETC 153-178-S	5,350 (7,255)	135,000 (600,480)	8.80 (226)	6.00 (152)	6.00 (152)	2.88 (74)	5.20 (131)	0.80 (20)	1.88 (48)	9.50 (241)
ETC 168-124	7,440 (10,089)	220,000 (978,560)	6.54 (166)	6.60 (168)	N/A	2.78 (72)	5.77 (147)	0.80 (20)	1.65 (42)	10.25 (260)
ETC 176-198-S	9,375 (12,712)	192,000 (854,016)	9.92 (252)	6.97 (175)	7.00 (176)	3.36 (86)	5.95 (150)	0.80 (20)	2.13 (54)	11.00 (279)

Model	Shipping Weight lbs (g)	Model	Shipping Weight lbs (g)	Model	Shipping Weight lbs (g)
ETC 64-62-S	0.35 (159)	ETC 102-63	1.13 (512)	ETC 146-67-S	3.28 (1,488)
ETC 74-76-S	0.52 (236)	ETC 108-30	0.78 (354)	ETC 150-178-S	5.69 (2,581)
ETC 83-73-S	0.62 (281)	ETC 117-97	2.21 (1,002)	ETC 153-178-S	5.13 (2,327)
ETC 86-39	0.56 (254)	ETC 134-146-S	3.44 (1,560)	ETC 168-124	5.13 (2,327)
ETC 87-59	1.13 (512)	ETC 136-65	2.38 (1,080)	ETC 176-198-S	7.94 (3,602)
ETC 90-49	0.56 (254)	ETC 137-90	2.38 (1,080)		

## Bulletin NA-Sub-Mini

**Sub-Miniature Threaded-Body Non-Adjustable Shock Absorbers**  
 (SMA Models)  
 1/2" - 2" Bore • 20" - 70" Stroke

**NEW from Enertrols...**  
 Enertrols available sizes, high capacity, small-bore, Sub-Miniature, Non-Adjustable, Self-Compensating hydraulic shock absorbers are ideal for use on relatively small, high speed turning equipment.

**TYPICAL INSTALLATIONS FOR MINIATURE FULL THREADED-BODY SHOCKS**

## Bulletin A-Mini

**Miniature Threaded-Body Adjustable Linear Decelerators**  
 (SMA & SLD Models)  
 1/2" - 2" Bore • 150" - 500" Stroke

**Energrols adds NEW Smaller Models**  
 Enertrols available, high-capacity, small-bore Miniature Adjustable, hydraulically mounted absorber line has grown with the addition of three new smaller bore sizes.

**TYPICAL INSTALLATIONS FOR MINIATURE FULL THREADED-BODY SHOCKS**

## Bulletin NA-Mini

**Miniature Threaded-Body Non-Adjustable Linear Decelerators**  
 (SMA-LD Models)  
 1/2" - 2" Bore • 400" - 600" Stroke

**Standard models feature a shock-cushion loading for durability and appearance.**

**By greatly reducing impact forces, they do not run at high speed (and are available with high speed options).**

## Data Sheet PSS102

**POSITIVE STOP SYSTEMS for Gold Line™ and SILVERLINE™ Primary Models**

**PSC™ POSITIVE STOP COLLAR**  
 Provides integral positive stop for re-mountable Primary Model Shock Absorbers.

**MSC™ MOUNTING STOP COLLAR**  
 Provides a secure through-hole front mount, plus integral positive stop for Primary Model Shock Absorbers.

**FSC™ FLANGED STOP COLLAR**  
 Provides a lock on flange front-mount, plus integral positive stop for Primary Model Shock Absorbers.

## Full Line Catalog

**HIGH PERFORMANCE Industrial Hydraulic Shock Absorbers**

## Bulletin GL-PMS

**Gold Line™ Primary-Mount Series**  
 1/2" - 1 1/2" Bore Adjustable Hydraulic Shock Absorbers

**Energrols Primary-Mounting Type Gold Line™ Series Shock Absorbers**

**Type of Mounting:**  
 Adjustable shock absorbers are available with a variety of mounting options.

## Bulletin SL-PMS

**SILVERLINE™ Adjustable Hydraulic Shock Absorbers for "Low-Velocity" Applications**  
 1/2" - 1 1/2" Bore Primary Mount Series  
 1/2" - 1 1/2" Bore Fixed Flange Series

**Low velocity. As a result, most of the energy comes from the propelling force directed back at moving coils, compressed drive discs, stop flanges, forged steel discs, and higher grade metal internally mounted with shock absorbers used in low velocity, high efficiency weight applications.**

## EDVC & EVC Catalog

**EDVC Dual Velocity EVC Precision**

## Bulletin GL-FMS

**Gold Line™ Fixed-Flange Series**  
 1/2" - 1 1/2" Bore Adjustable Hydraulic Shock Absorbers

**Energrols Fixed-Flange Mounting Type Gold Line™ Series Shock Absorbers**

**Consistent fixed flange shock absorbers have flanges permanently welded to plates. They are ideally suited for use by most construction OEMs using the same basic shock absorber to large volumes. Additionally, they are completely interchangeable with Enertrols Primary-Mount Series shock absorbers with minor changes, as well as other manufacturers units of the same bore size.**

For more than a quarter-century, Enertrols has been designing and manufacturing high performance industrial hydraulic shock absorbers now used worldwide.

These bulletins, data sheet and catalogs, cover most of the more than 100 standard models available with capacities from 4 to 1,700,000 inch-lbs per operating cycle.



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