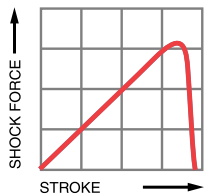
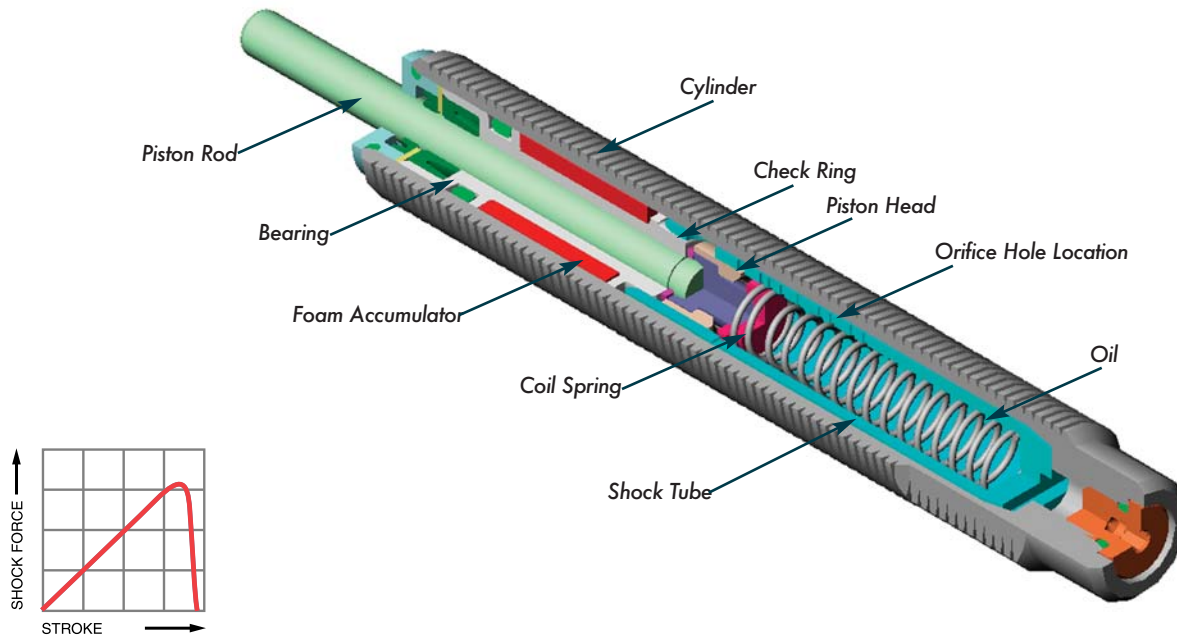
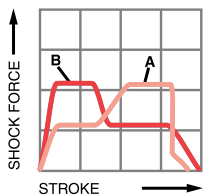


## Enidine Non-Adjustable Multiple Orifice Shock Absorbers



**Progressive damping** provides deceleration with a gradually increasing shock force. The initial minimal resistance at impact protects delicate loads and machinery from damage. Progressive damping shock absorbers also have built-in self-compensation, so they can operate over a wide range of weights and velocities. This type of damping provides smooth deceleration in applications where energy conditions may change.



**Self-compensating damping** maintains acceptable deceleration with conventional type damping characteristics. Self-compensating shock absorbers operate over a wide range of weights and velocities. These shock absorbers are well suited for high drive force, low velocity applications, and where energy conditions may change. Curve A shows the *shock force vs. stroke* curve of a self-compensating shock absorber impacted with a low velocity and high drive force. Curve B shows the *shock force vs. stroke* curve of a self-compensating shock absorber impacted with a high velocity and low drive force.

The design of a multi-orifice shock absorber features a double cylinder arrangement with space between the concentric shock tube and cylinder, and a series of orifice holes drilled down the length of the shock tube wall.

During piston movement, the check ring is seated and oil is forced through the orifices in the shock tube wall, into the closed cellular foam accumulator and behind the piston head.

As the piston head moves it closes off orifice holes, thus reducing the available orifice area in proportion to the velocity. After the load is removed the coil spring pushes the piston rod outward. This unseats the check ring and permits the oil to flow from the accumulator and across the piston head, back into the shock tube. This allows quick repositioning for the next impact.

Low Pressure multiple orifice shock absorbers can provide progressive or self-compensating damping, depending on the impact conditions.

## Shock Absorbers

Example 1: Standard Products

**10**   **PRO 50**   **IF**   **- 2**   **B**

Select quantity

Select catalog number

Select thread designation from engineering data chart (If applicable)

Select damping constant from appropriate sizing graph

Select piston rod type

- “-” (without button)
- “B” (with button)
- “CM” (Clevis mount)

## Ordering Information/Application Worksheet

Example 2: Custom Orifice Products

**10**   **PRO 100**   **APPLICATION DATA**

Select quantity

Select catalog number

Specify:

- Vertical, rotary or horizontal motion
- Weight
- Impact velocity
- Propelling force (if any)
- Other (temperature or other environmental conditions)
- Cycles per hour

\*Enidine will specify individual part number for each application.

## Accessories

Example 1

**10**   **UF 3/4-16**   Universal Mounting Flange

(P/N U120275095)

Select quantity

Select catalog/part number

Example 2

**5**   **UC 8609**   Urethane Striker Cap

(P/N C98609079)

Select quantity

Select catalog/part number

## Application Worksheet

FAX NO.: \_\_\_\_\_

DATE: \_\_\_\_\_

ATTN: \_\_\_\_\_

COMPANY: \_\_\_\_\_

The Enidine Application Worksheet makes shock absorber sizing and selection easier.

Fax, phone, or mail worksheet data to Enidine headquarters or your nearest Enidine subsidiary/affiliate or distributor. (See catalog back cover for Enidine locations, or visit [www.enidine.com](http://www.enidine.com) for a list of Enidine distributors.)

Upon Enidine's receipt of this worksheet, you will receive a detailed analysis of your application and product recommendations. (For custom design projects, Enidine representatives will consult with you for specification requirements.)

### GENERAL INFORMATION

CONTACT: \_\_\_\_\_

DEPT/TITLE: \_\_\_\_\_

COMPANY: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

TEL: \_\_\_\_\_ FAX: \_\_\_\_\_

EMAIL: \_\_\_\_\_

PRODUCTS MANUFACTURED: \_\_\_\_\_

### APPLICATION DESCRIPTION

Motion Direction (Check One):

- Horizontal    Vertical    Up    Incline   Angle \_\_\_\_\_
- Down    Down    Down   Height \_\_\_\_\_
- Rotary Horizontal    Rotary Vertical    Up
- Down

Weight (Min./Max.): \_\_\_\_\_ (lbs.)(Kg)

Cycle Rate: \_\_\_\_\_ (cycles/hour)

Additional Propelling Force (If Known): \_\_\_\_\_ (lbs.)(N)

Air Cyl: Bore \_\_\_\_\_ (in.)(mm) Max. Pressure \_\_\_\_\_ (psi)(bar) Rod Dia. \_\_\_\_\_ (in.)(mm)

Hydraulic Cyl: Bore \_\_\_\_\_ (in.)(mm) Max. Pressure \_\_\_\_\_ (psi)(bar) Rod Dia. \_\_\_\_\_ (in.)(mm)

Motor \_\_\_\_\_ (hp)(kW) Torque \_\_\_\_\_ (in-lbs.)(Nm)

Ambient Temp.: \_\_\_\_\_ °F (°C)

Environmental Considerations: \_\_\_\_\_

### SHOCK ABSORBER APPLICATION

(All Data Taken at Shock Absorber)

Number Shock Absorbers to Stop Load

Impact Velocity (min./max.): \_\_\_\_\_ (in./sec.)(m/sec.)

Shock Absorber Stroke Requirements: \_\_\_\_\_ (in.)(mm)

G Load Requirements: \_\_\_\_\_ (G)(m/sec<sup>2</sup>)

### RATE CONTROL APPLICATION

(All Data Taken at Shock Absorber)

Number of Rate Controls to Control the Load: \_\_\_\_\_

Control Direction:    Tension (T)    Compression (C)

Required Stroke: \_\_\_\_\_ (in.)(mm) Est. Stroke Time: \_\_\_\_\_ (sec.)

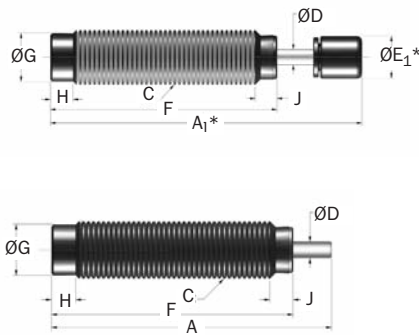
Estimated Velocity at the Rate Control: \_\_\_\_\_ (in./sec.)(m/sec)

# Non-Adjustable Series Hydraulic Shock Absorbers

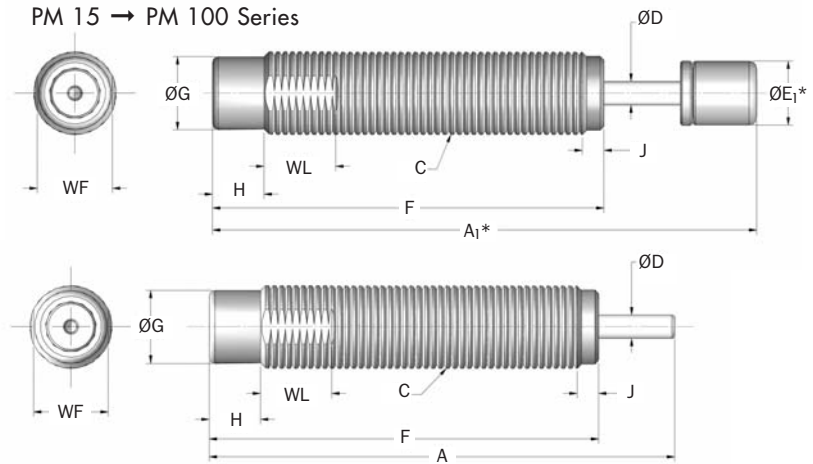
## PM Micro and Small-Bore Series

### Standard

PMX 8 → PMX 10 Series



PM 15 → PM 100 Series



\*Note: A<sub>1</sub> and E<sub>1</sub> apply to button models and urethane striker cap accessory.

### Technical Data

Catalog No./ Model	(S) Stroke in. (mm)	(E <sub>T</sub> ) Max. in.-lbs./cycle (Nm/cycle)	(E <sub>T</sub> C) Max. in.-lbs./hour (Nm/h)	(F <sub>P</sub> ) Max. Reaction Force lbs. (N)	Nominal Coil Spring Force		(F <sub>D</sub> ) Max. Propelling Force lbs. (N)	Model Weight lbs. (Kg)
					Extended lbs. (N)	Compressed lbs. (N)		
PMX 8 (B)	0.25 (6,4)	25 (3,0)	50,000 (5 650)	200 (890)	0.6 (2,7)	1.2 (5,6)	45 (200)	.5 (16)
PMX 10 (B)	0.28 (7,0)	50 (6,0)	110,000 (12 400)	360 (1 600)	0.5 (2,2)	1.0 (4,5)	80 (350)	1.0 (28)
PM 15 (B)	0.41 (10,4)	90 (10,0)	250,000 (28 200)	450 (2 000)	0.7 (3,0)	1.6 (7,0)	50 (220)	2.0 (56)
SPM 25 (B)	0.50 (12,7)	180 (20,0)	300,000 (34 000)	625 (2 800)	1.0 (4,5)	2.5 (11,0)	200 (890)	2.4 (68)
PM 25 (B)	0.63 (16,0)	235 (26,0)	350,000 (34 000)	625 (2 800)	1.0 (4,5)	2.5 (11,0)	200 (890)	2.4 (68)
SPM 50 (B)	0.50 (12,7)	250 (28,0)	400,000 (45 200)	850 (3 750)	1.5 (6,0)	3.5 (15,0)	360 (1 600)	4.0 (123)
PM 50 (B)	0.88 (22,0)	485 (54,0)	475,000 (53 700)	850 (3 750)	2.0 (8,9)	6.8 (30,0)	360 (1 600)	4.8 (136)
PM 100 (B)	1.00 (25,0)	800 (90,0)	622,000 (70 000)	1,250 (5 500)	3.0 (13,0)	6.0 (27,0)	500 (2 200)	10.5 (297)

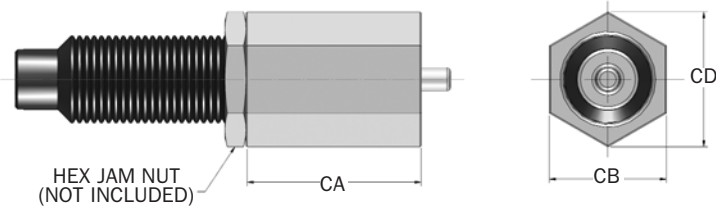
Catalog No./ Model	Damping Constant	A in. (mm)	A <sub>1</sub> in. (mm)	C in. (mm)	D in. (mm)	E <sub>1</sub> in. (mm)	F in. (mm)	G in. (mm)	H in. (mm)	J in. (mm)	WF in. (mm)	WL in. (mm)
PMX 8 IF (B)	-1,-2,-3	1.86 (47,0)	2.25 (57,0)	3/8 - 32 UNEF M8 x 0,75	.10 (2,5)	0.27 (6,8)	1.61 (40,9)	.26 (6,6)	.18 (4,6)	.10 (2,5)	-	-
PMX 8 MF (B)	-1,-2,-3			M8 x 1,0							-	-
PMX 8 MC (B)	-1,-2,-3										-	-
PMX 10 IF (B)	-1,-2,-3	2.12 (54,0)	2.51 (64,0)	7/16 - 28 UNEF M10 x 1,0	.12 (3,0)	0.34 (8,6)	1.83 (46,5)	.34 (8,6)	.18 (4,6)	.13 (3,3)	-	-
PMX 10 MF (B)	-1,-2,-3										-	-
PM 15 IF (B)	-1,-2,-3	2.45 (62,2)	2.85 (72,4)	7/16 - 28 UNEF M12 x 1,0	.12 (3,0)	.40 (10,2)	2.10 (52,1)	.39 (9,9)	.27 (6,9)	.10 (2,5)	.39 (11,0)	.38 (9,5)
PM 15 MF(B)	-1,-2,-3			M12 x 1,0								
PM 15 IC (B)	-1,-2,-3			1/2 - 20 UNEF								
SPM 25 IF (B)	-1,-2,-3	3.25 (82,7)	3.63 (92,2)	1/2 - 20 UNF M14 x 1,0	.16 (4,0)	0.44 (11,2)	2.74 (69,5)	.43 (10,9)	.20 (5,1)	.04 (1,0)	.50 (12,7)	.44 (11,2)
SPM 25 MF (B)	-1,-2,-3			M14 x 1,0								
SPM 25 IC (B)	-1,-2,-3			9/16 - 18 UNF M14 x 1,5								
SPM 25 MC (B)	-1,-2,-3											
PM 25 IF (B)	-1,-2,-3	3.84 (97,5)	4.22 (107,2)	1/2 - 20 UNF M14 x 1,0	.16 (4,0)	.44 (11,2)	3.20 (81,3)	.43 (10,9)	.30 (7,6)	.04 (1,0)	.50 (12,7)	.50 (12,7)
PM 25 MF (B)	-1,-2,-3			M14 x 1,0								
PM 25 IC (B)	-1,-2,-3			9/16 - 18 UNF M14 x 1,5								
PM 25 MC (B)	-1,-2,-3											
SPM 50 IF (B)	-1,-2,-3	4.66 (118,4)	5.13 (130,3)	3/4 - 16 UNF M20 x 1,5	.19 (4,8)	0.50 (12,7)	2.93 (74,4)	.64 (16,3)	.30 (7,6)	.04 (1,0)	.68 (18,0)	.50 (12,7)
SPM 50 MC (B)	-1,-2,-3			M20 x 1,5								
PM 50 IF (B)	-1,-2,-3	5.07 (128,8)	5.57 (141,5)	1-12 UNF M25 x 1,5	.25 (6,4)	0.62 (15,7)	4.04 (102,6)	.87 (22,0)	.50 (12,7)	.18 (4,6)	.88 (23,0)	.50 (12,7)
PM 50 MF (B)	-1,-2,-3			M25 x 1,5								
PM 50 MC (B)	-1,-2,-3			M27 x 3,0								

Notes: 1. Dash numbers in page color are non-standard lead time items, contact Enidine.  
2. See page 57 for constant damping curves.

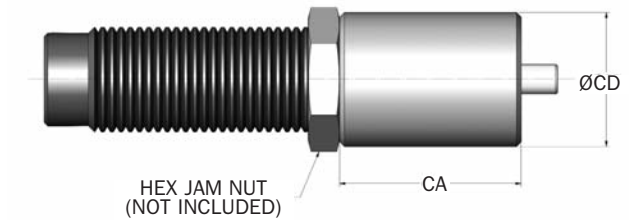
PMX 8 → PM 100 Series

## Stop Collar (SC)

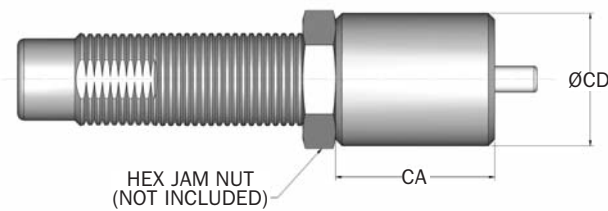
PMX8 (Metric/Imperial)



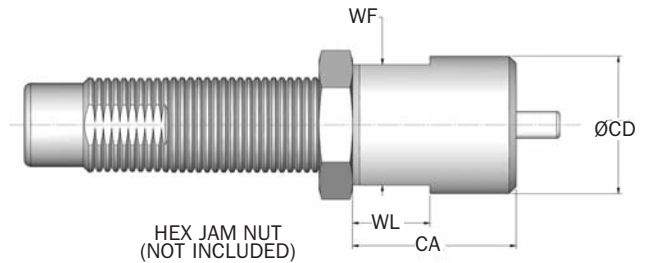
PMX10 (Metric/Imperial)



PM15 → PM100 (Imperial)

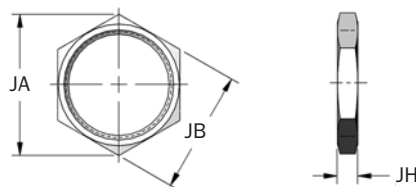


PM15(M) → PM100(M) (Metric)



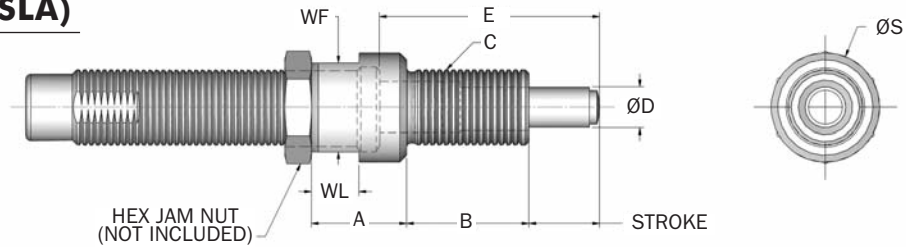
Catalog No./Model	Part Number	Model (Ref)	CA in. (mm)	CB in. (mm)	CD in. (mm)	WF in. (mm)	WL in. (mm)	Weight (mass) oz. (g)
SC 3/8 - 32	M99137057	PMX 8 (B)	0.75	.50	0.58	-	-	.5
SC M8 x 0,75	M99137175	PMX 8 MF (B)	(19,0)	(12,0)	(14,0)	-	-	(23)
SC M8 x 1	M99137058	PMX 8 MC (B)	(19,0)	(12,0)	(14,0)	-	-	(23)
SC 1/4 - 28	M95588057	PMX 10 IF (B)	0.75	-	0.63	-	-	.5
SC M10 x 1	M98921058	PMX 10 MF (B)	(19,0)	-	(14,3)	-	-	(11)
SC 7/16 - 28	M95588057	PM 15 (B)	0.75	-	0.63	-	-	.5
SC M12 x 1	M930289171	PM 15 M (B)	(19,0)	-	(16,0)	(14,0)	(9,0)	(14)
SC 1/2 - 20	M93935057	SPM/PM 25 IF (B)	1.00	-	0.75	-	-	1.0
SC M14 x 1,5	M930281171	SPM/PM 25 MF (B)	(25,4)	-	(21,0)	(19,0)	(12,0)	(38)
SC 5/16 - 18	M94950199	SPM/PM 25 IC (B)	1.00	-	0.69	-	-	1.0
SC M14 x 1	M930286171	SPM/PM 25 MF (B)	(25,4)	-	(18,0)	(17,0)	(12,0)	(20)
SC 3/4 - 16	M92646057	SPM/PM 50 (B)	1.50	-	1.00	-	-	2.0
SC M20 x 1,5	M930282171	SPM/PM 50 M (B)	(38,0)	-	(25,0)	(22,0)	(12,0)	(63)
SC 1-12 x 1	M92587057	PM 100 (B)	1.75	-	1.50	-	-	8.0
SC M25 x 1,5	M930284171	PM 100 MF (B)	(44,5)	-	(38,0)	(32,0)	(15,0)	(215)

## Jam Nut (JN)



Catalog No./Model	Part Number	Model (Ref)	JA in. (mm)	JB in. (mm)	JH in. (mm)	Weight (mass) oz. (g)
JN 3/8 - 32	J14421034	PMX 8 (B)	0.58	0.50	.09	0.1
JN M8 x 0,75	J29137185	PMX 8 MF (B)	(14,0)	(12,0)	(4,0)	(2)
JN M8 x 1	J29137035	PMX 8 MC (B)	(14,0)	(12,0)	(4,0)	(2)
JN 7/16 - 28	J15588034	PMX 10 IF (B)/PM 15 (B)	0.65	0.56	.16	0.1
JN M10 x 1	J24421035	PMX 10 MF (B)	(17,3)	(15,0)	(4,0)	(2)
JN M12 x 1	J25588035	PM 15 M (B)	(15,0)	(13,0)	(3,2)	(2)
JN 1/2 - 20	J13935034	SPM/PM 25 IF (B)	0.72	0.63	.12	0.1
JN M14 x 1	J24950035	SPM/PM 25 MF (B)	(19,7)	(17,0)	(4,0)	(3)
JN 9/16 - 18	J14950034	SPM/PM 25 IC (B)	1.01	0.88	.31	0.6
JN M14 x 1,5	J23935035	SPM/PM 25 MC (B)	(19,7)	(17,0)	(4,0)	(3)
JN 3/4 - 16	J12646034	SPM/PM 50 IC (B)	1.08	0.94	.18	0.3
JN M20 x 1,5	J22646035	SPM/PM 50 MC (B)	(27,7)	(24,0)	(4,6)	(9)
JN 1-12	J11976034	PM 100 (B)	1.30	1.13	.18	0.5
JN M25 x 1,5	J23004035	PM 100 MF (B)	(37,0)	(32,0)	(4,6)	(15)

### Side Load Adaptor (SLA)



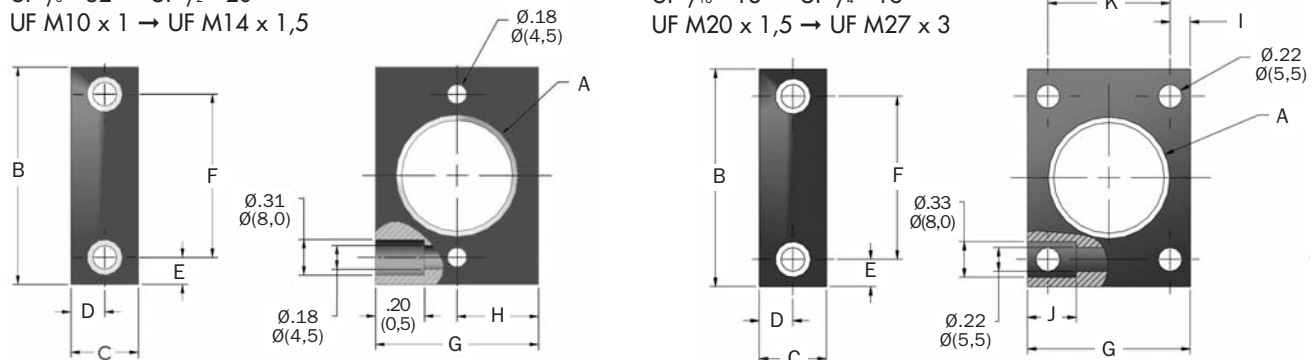
Catalog No./ Model	Part Number	Model (Ref)	Stroke in. (mm)	A in. (mm)	B in. (mm)	C in. (mm)	D in. (mm)	E in. (mm)	S in. (mm)	WF in. (mm)	WL in. (mm)
SLA 7/16-28 x .28 SLA 10 MF	SLA 33974 SLA 33457	PMX 10 PMX 10 MF	.28 (6,4)	.47 (12)	.43 (11)	7/16-28 UNEF M10 x 1	.20 (5,0)	.87 (21,9)	.63 (13,0)	.56 (11,0)	.16 (4,0)
SLA 7/16-28 x .41 SLA 12 MF	SLA 33844 SLA 33299	PM 15 IF PM 15 MF	.41 (10,0)	.71 (18)	.55 (14)	7/16-28 UNEF M12 x 1	.24 (6,0)	1.28 (32,4)	.63 (14,0)	.56 (13,0)	.28 (7,0)
SLA 1/2-20 x .41 SLA 14 MF	SLA 71146 SLA 33849	PM 15 IC PM 25 IF	.41 (16,0)	.71 (26)	.55 (13)	1/2-20 UNF M14 x 1	.24 (8,0)	1.28 (45,2)	.63 (18,0)	.56 (15,0)	.28 (7,0)
SLA 1/2-20 x .63 SLA 14 MF	SLA 33849 SLA 33297	PM 25 IF PM 25 MF	.63 (16,0)	1.02 (26)	.51 (13)	1/2-20 UNF M14 x 1	.31 (8,0)	1.62 (45,2)	.71 (18,0)	.63 (15,0)	.28 (7,0)
SLA 9/16-18 x .63 SLA 14 MC	SLA 33850 SLA 33298	PM 25 IC PM 25 MC	.63 (12,7)	1.02 (20)	.51 (16)	9/16-18 UNF M14 x 1,5	.31 (8,0)	1.62 (39,2)	.71 (18,0)	.63 (15,0)	.28 (7,0)
SLA 1/2-20 x .50 SLA 14 MFS	SLA 33845 SLA 33306	SPM 25 IF SPM 25 MF	.5 (12,7)	.79 (20)	.63 (16)	1/2-20 UNF M14 x 1	.31 (8,0)	1.55 (39,2)	.71 (18,0)	.63 (15,0)	.28 (7,0)
SLA 7/16-18 x .50 SLA 14 MCS	SLA 33846 SLA 33301	SPM 25 IC SPM 25 MC	.5 (12,7)	.79 (20)	.63 (16)	9/16-18 UNF M14 x 1,5	.31 (8,0)	1.55 (39,2)	.71 (18,0)	.63 (15,0)	.28 (7,0)
SLA 3/4-16 x .88 SLA 20 MC	SLA 33851 SLA 33302	PM 50 PM 50 M	.88 (22,0)	1.26 (32)	.67 (17)	3/4-16 UNF M20 x 1,5	.43 (11,0)	2.44 (62,0)	.98 (25,0)	.88 (22,0)	.28 (7,0)
SLA 3/4-16 x .50 SLA 20 MCS	SLA 33847 SLA 33262	SPM 50 SPM 50 M	.5 (12,7)	.94 (24)	.55 (14)	3/4-16 UNF M20 x 1,5	.43 (11,0)	1.64 (41,5)	.98 (25,0)	.88 (22,0)	.28 (7,0)
SLA 1-12 x 1 SLA 25 MF	SLA 33848 SLA 33263	PM 100 PM 100 MF	1.00 (25,4)	1.50 (38)	1.18 (30)	1-12 UNF M25 x 1,5	.59 (15,0)	2.88 (73,2)	1.42 (36,0)	1.25 (32,0)	.39 (7,0)
SLA 25 MC	SLA 33296	PM 100 MC	(25,4)	(38)	(30)	M27 x 3	(15,0)	(73,2)	(36,0)	(32,0)	(10,0)

Notes: 1. Maximum sideload angle is 30°. 2. Part numbers in page color are non-standard lead time items, contact Enidine.

### Universal Retaining Flange (UF)

UF 3/8 - 32 → UF 1/2 - 20  
UF M10 x 1 → UF M14 x 1,5

UF 9/16 - 18 → UF 3/4 - 16  
UF M20 x 1,5 → UF M27 x 3



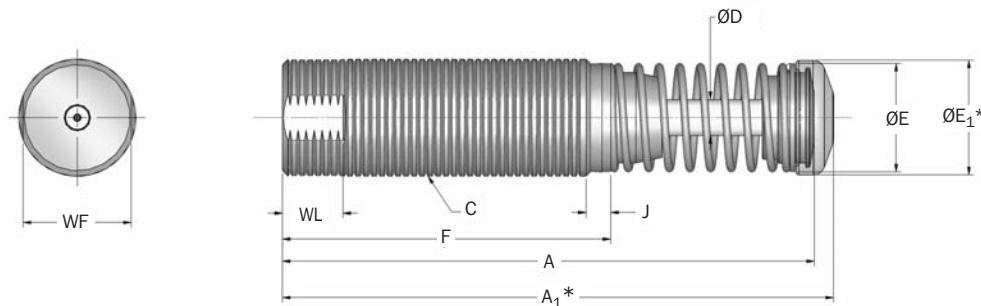
Catalog No./ Model	Part Number	Model (Ref)	A in. (mm)	B in. (mm)	C in. (mm)	D in. (mm)	E in. (mm)	F in. (mm)	G in. (mm)	H in. (mm)	I in. (mm)	J in. (mm)	K in. (mm)
UF 3/8 - 32	U19070095	PMX 8	3/8 - 32 UNF	1.50	.56	.28	.25	1.00	1.00	0.50	-	.20	-
UF M10 x 1	U16363189	PMX 10M	M10 x 1	(38,0)	(12,0)	(6,0)	(6,25)	(25,5)	(25,0)	(12,5)	-	(5,0)	-
UF 7/16 - 28	U15588095	PM 15 (B)/PMX 10 (B)	7/16 - 28 UNF	1.50	.56	.28	.25	1.00	1.00	0.50	-	.20	-
UF M12 x 1	U15588189	PMX 15 M (B)	M12 x 1	(38,0)	(12,0)	(6,0)	(6,25)	(25,5)	(25,0)	(12,5)	-	(5,0)	-
UF 1/2 - 20	U13935095	PM/SPM 25 IF (B)	1/2 - 20 UNF	1.50	.56	.28	.25	1.00	1.00	0.50	-	.20	-
UF M14 x 1	U14950189	PM/SPM 25 MF (B)	M14 x 1,5	(45,0)	(16,0)	(8,0)	(5,0)	(35,0)	(30,0)	(15,0)	-	(5,0)	-
UF 9/16 - 18	U19018095	PM/SPM 25 IC (B)	9/16 - 18 UNF	1.81	.62	.31	.22	1.38	1.38	-	.19	.32	1.00
UF M14 x 1,5	U13935143	PM/SPM 25 MC (B)	M14 x 1,5	(45,0)	(16,0)	(8,0)	(5,0)	(35,0)	(30,0)	(15,0)	-	(5,0)	-
UF 3/4 - 16	U120275095	PM/SPM 50 (B)	3/4 - 16 UNF	2.00	.62	.31	.25	1.50	1.50	-	.19	.45	1.12
UF M20x 1,5	U12646143	PM/SPM 50 MC (B)	M20 x 1,5	(48,0)	(16,0)	(8,0)	(6,5)	(35,0)	(35,0)	-	(4,75)	(10,0)	(25,5)
UF 1-12	U19599095	PM 100	1-12 UNF	2.00	.62	.31	.25	1.50	1.50	-	.19	.39	(25,5)
UF M25 x 1,5	U13004143	PM 100/110M	M25 x 1,5	(48,0)	(16,0)	(8,0)	(6,5)	(35,0)	(35,0)	-	(4,75)	(10,0)	(25,5)
UF M27 x 3	U12587143	PM 100 MC	M27 X 3	(48,0)	(16,0)	(8,0)	(6,5)	(35,0)	(35,0)	-	(4,75)	(10,0)	(25,5)

Notes: 1. Part numbers in page color are non-standard lead time items, contact Enidine.



PM 120 → PM 225 Series

### Standard



\*Note: A<sub>1</sub> and E<sub>1</sub> apply to button models and urethane striker cap accessory.

Catalog No./ Model	(S) Stroke in. (mm)	Optimal Velocity Range in./sec. (mm)	(E <sub>T</sub> ) Max. in.-lbs./cycle (Nm/cycle)	(E <sub>T</sub> C) Max. in.-lbs./hour (Nm/h)	(F <sub>p</sub> ) Max. Reaction Force lbs. (N)	Nominal Coil Spring Force		(F <sub>D</sub> ) Max. Propelling Force lbs. (N)	Weight (mass) lbs. (Kg)
						Extended lbs. (N)	Compressed lbs. (N)		
PM 120 IF (B)	0.63 (16,0)	1.00 (25,0)	1,400 (160,0)	670,000 (75 700)	2,500 (11 120)	12.5 (56,0)	20.0 (89,0)	700 (3 100)	17.0 (482)
PM 120 MF (B)	0.63 (16,0)	1.00 (25,0)	1,400 (160,0)	774,000 (91 000)	2,500 (11 120)	12.5 (56,0)	20.0 (89,0)	700 (3 100)	21.0 (595)
PM 125 IF (B)	0.63 (16,0)	2.00 (50,0)	2,750 (310,0)	800,000 (90 300)	2,500 (11 120)	7.0 (31,0)	20.0 (89,0)	700 (3 100)	23.0 (652)
PM 125 MF (B)	0.63 (16,0)	2.00 (50,0)	2,750 (310,0)	900,000 (111 000)	2,500 (11 120)	7.0 (31,0)	20.0 (89,0)	700 (3 100)	27.0 (765)
PM 220 IF (B)	0.63 (16,0)	2.00 (50,0)	2,750 (310,0)	900,000 (111 000)	2,500 (11 120)	7.0 (31,0)	20.0 (89,0)	700 (3 100)	27.0 (765)
PM 220 MF (B)	0.63 (16,0)	2.00 (50,0)	2,750 (310,0)	900,000 (111 000)	2,500 (11 120)	7.0 (31,0)	20.0 (89,0)	700 (3 100)	27.0 (765)
PM 225 IF (B)	0.63 (16,0)	2.00 (50,0)	2,750 (310,0)	900,000 (111 000)	2,500 (11 120)	7.0 (31,0)	20.0 (89,0)	700 (3 100)	27.0 (765)
PM 225 MF (B)	0.63 (16,0)	2.00 (50,0)	2,750 (310,0)	900,000 (111 000)	2,500 (11 120)	7.0 (31,0)	20.0 (89,0)	700 (3 100)	27.0 (765)

Catalog No./ Model	Damping Constant	A in. (mm)	A <sub>1</sub> in. (mm)	C in. (mm)	D in. (mm)	E in. (mm)	E <sub>1</sub> in. (mm)	F in. (mm)	J in. (mm)	WF in. (mm)	WL in. (mm)
PM 120 IF (B)	-1,-2,-3	5.52 (140,2)	5.72 (145,3)	1 1/4-12 UNF	.38 (9,5)	1.13 (29,0)	1.20 (30,5)	3.41 (87,0)	.21 (5,3)	1.12 (30,0)	.63 (16,0)
PM 120MF (B)	-1,-2,-3	5.52 (140,2)	5.72 (145,3)	M33 x 1,5	.38 (9,5)	1.13 (29,0)	1.20 (30,5)	3.41 (87,0)	.21 (5,3)	1.12 (30,0)	.63 (16,0)
PM 125 IF (B)	-1,-2,-3	8.14 (207,0)	8.34 (212,0)	1 3/8-12 UNF	.38 (9,5)	1.13 (29,0)	1.20 (30,5)	5.03 (128,0)	.21 (5,3)	1.25 (33,0)	.63 (16,0)
PM 125 MF (B)	-1,-2,-3	8.14 (207,0)	8.34 (212,0)	M36 x 1,5	.38 (9,5)	1.13 (29,0)	1.20 (30,5)	5.03 (128,0)	.21 (5,3)	1.25 (33,0)	.63 (16,0)
PM 220 IF (B)	-1,-2,-3	8.14 (207,0)	8.34 (212,0)	1 3/8-12 UNF	.38 (9,5)	1.13 (29,0)	1.20 (30,5)	5.03 (128,0)	.21 (5,3)	1.25 (33,0)	.63 (16,0)
PM 220 MF (B)	-1,-2,-3	8.14 (207,0)	8.34 (212,0)	M36 x 1,5	.38 (9,5)	1.13 (29,0)	1.20 (30,5)	5.03 (128,0)	.21 (5,3)	1.25 (33,0)	.63 (16,0)
PM 225 IF (B)	-1,-2,-3	8.14 (207,0)	8.34 (212,0)	1 3/8-12 UNF	.38 (9,5)	1.13 (29,0)	1.20 (30,5)	5.03 (128,0)	.21 (5,3)	1.25 (33,0)	.63 (16,0)
PM 225 MF (B)	-1,-2,-3	8.14 (207,0)	8.34 (212,0)	M36 x 1,5	.38 (9,5)	1.13 (29,0)	1.20 (30,5)	5.03 (128,0)	.21 (5,3)	1.25 (33,0)	.63 (16,0)

Notes: 1. Dash numbers in page color are non-standard lead time items, contact Enidine.  
2. See page 57 for constant damping curves.

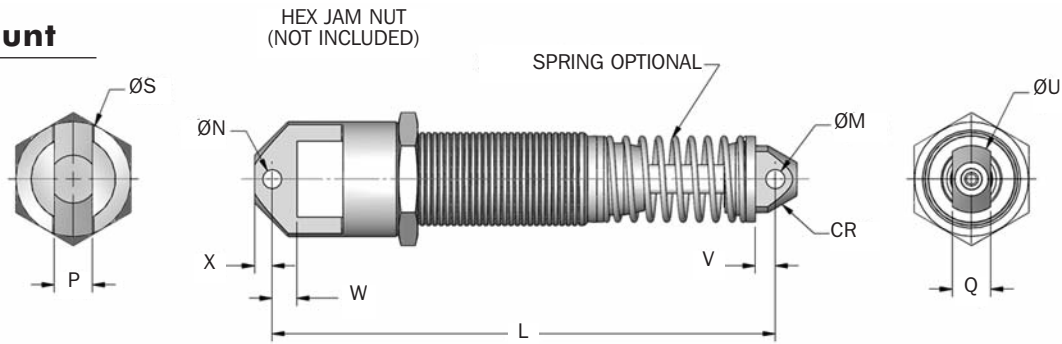
# Non-Adjustable Series Hydraulic Shock Absorbers

## PM Small-Bore Series

### Accessories

PM 120 → PM 225 Series

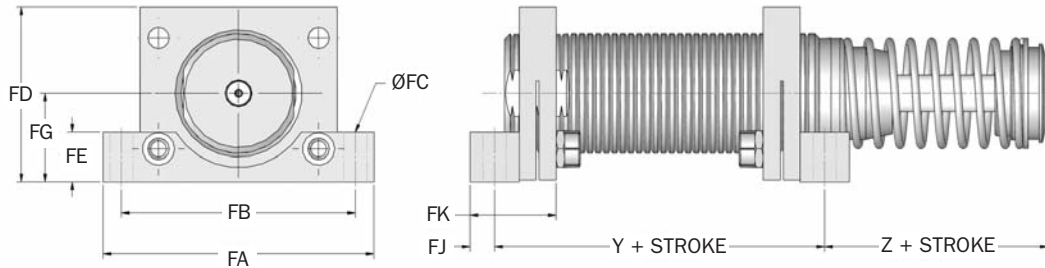
### Clevis Mount



Catalog No./ Model	L in. (mm)	M +.005/- .000 in. (mm)	N +.005/- .000 in. (mm)	P +.000/- .010 in. (mm)	Q +.000/- .010 in. (mm)	S in. (mm)	U in. (mm)	V in. (mm)	W in. (mm)	X in. (mm)	CR in. (mm)	Weight (mass) lbs. (Kg)
Δ PM 120 CM (S)	6.59 (167)	.251 (6,38)	.251 (6,38)	.500 (12,70)	.500 (12,70)	1.50 (38)	.88 (23)	.23 (6)	.48 (12)	.31 (6,1)	.44 (11,2)	1.3 (0,59)
Δ PM 220 CM (S)	9.22 (234)	.251 (6,38)	.251 (6,38)	.500 (12,70)	.500 (12,70)	1.50 (38)	.88 (23)	.23 (6)	.48 (12)	.31 (6,1)	.44 (11,2)	1.7 (0,77)
Δ PM 125 CM (S)	6.59 (180)	.251 (6,38)	.251 (6,38)	.500 (12,70)	.500 (12,70)	1.50 (38)	.88 (22)	.23 (6)	.93 (24)	.23 (6,0)	.44 (11,2)	1.6 (0,73)
Δ PM 225 CM (S)	9.22 (230)	.251 (6,38)	.251 (6,38)	.500 (12,70)	.500 (12,70)	1.50 (38)	.88 (22)	.23 (6)	.93 (24)	.23 (6,0)	.44 (11,2)	1.9 (0,86)

Notes: 1. Δ = Non-standard lead time items, contact Enidine.  
2. (S) indicates model comes with spring.

### Flange Foot Mount



Catalog No./ Model	Part Number	Model (Ref)	Y in. (mm)	Z in. (mm)	FA in. (mm)	FB in. (mm)	FC in. (mm)	FD in. (mm)	FE in. (mm)	FG in. (mm)	FJ in. (mm)	FK in. (mm)	Bolt Size in. (mm)	Kit Weight oz. (g)
FM 1 1/4 - 12	2F21049305	PM 120/220	2.25	1.25	2.75	2.38	.23	1.77	.50	.90	.25	.88	#10	4.0
FM M33 x 1,5	2F21049306	PM 120/220M	(57,2)	(31,8)	(70,0)	(60,3)	(5,90)	(45,0)	(12,7)	(22,7)	(6,4)	(22,2)	(M5)	(100)
FM 1 3/8 - 12	2F21293305	PM 125/225	2.25	1.25	2.75	2.38	.23	1.77	.50	.90	.25	.88	#10	4.0
FM M36 x 1,5	2F21293306	PM 125/225M	(57,2)	(31,8)	(70,0)	(60,3)	(5,90)	(45,0)	(12,7)	(22,7)	(6,4)	(22,2)	(M5)	(100)

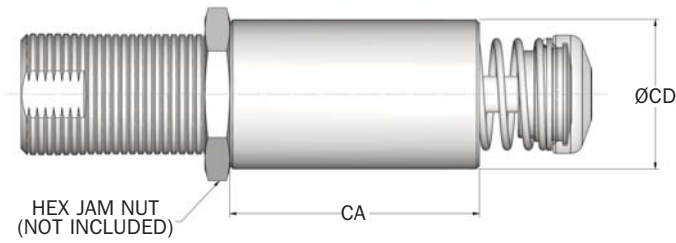
Notes: 1. Shock absorber must be ordered separately from foot mount kit.  
2. All foot mount kits include two foot mounts.

PM 120 → PM 225 Series

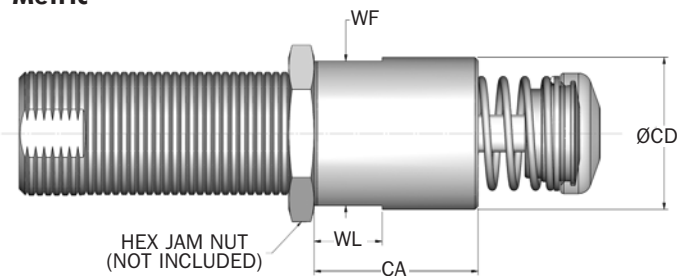
Stop Collar (SC)

Non-Adjustable Series

Imperial

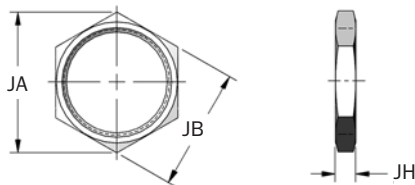


Metric



Catalog No./ Model	Part Number	Model (Ref)	CA in. (mm)	CD in. (mm)	WF in. (mm)	WL in. (mm)	Weight (mass) oz. (g)
SC 1 1/4-12	M921049057	PM 120/220	2.50	1.50	—	—	7.0
SC M33 x 1,5	M930290171	PM 120/220 M	(41,0)	(38,0)	(36,0)	(17,0)	(210)
SC 1 3/8-12	M921293057	PM 120/220	2.50	1.69	—	—	7.0
SC M36 x 1,5	M930285058	PM 120/220 M	(63,5)	(43,0)	(41,0)	(18,0)	(210)

Jam Nut (JN)

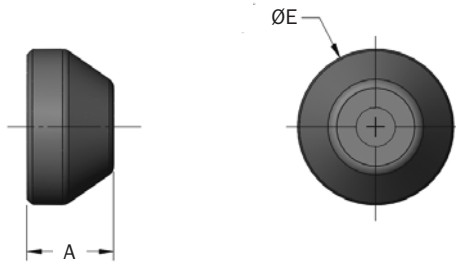


Catalog No./ Model	Part Number	Model (Ref)	JA in. (mm)	JB in. (mm)	JH in. (mm)	Weight (mass) oz. (g)
JN 1 1/4-12	J18609034	PM120/220	1.73	1.50	.25	0.9
JN M33 x 1,5	F88637049	PM120/220 M	(47,3)	(41,0)	(6,4)	(27)
JN 1 3/8-12	J13164034	PM125/225	1.73	1.50	.25	0.9
JN M36 x 1,5	F83010049	PM125/225 M	(47,3)	(41,0)	(6,4)	(27)



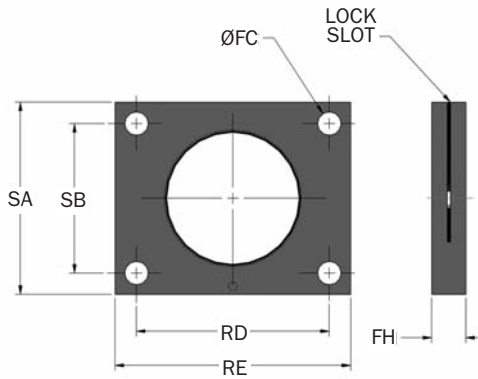
PM 120 → PM 225 Series

### Urethane Striker Cap (USC)



Catalog No./ Model	Part Number	Model (Ref)	A in. (mm)	E1 in. (mm)	Weight (mass) oz. (g)
UC 8609	C98609079	PM 120, 125, 220 & 225	.39 (10,0)	1.20 (30,5)	0.1 (3)

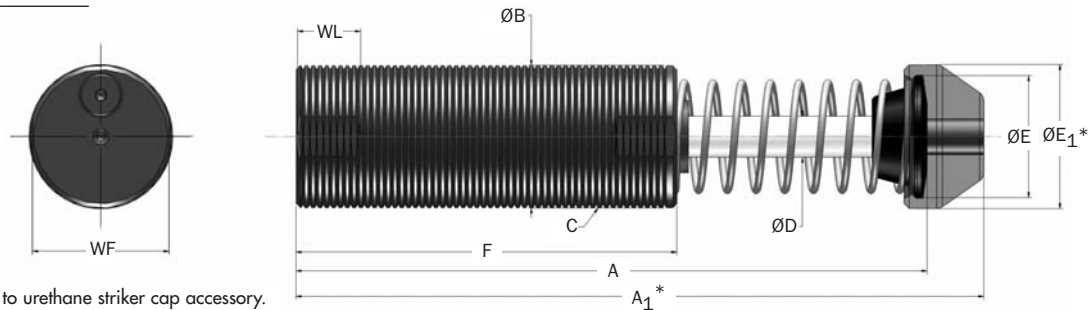
### Rectangular Flange (RF)



Catalog No./ Model	Part Number	Model (Ref)	FC in. (mm)	FH in. (mm)	RD in. (mm)	RE in. (mm)	SA in. (mm)	SB in. (mm)	Bolt Size in. (mm)	Wt. (mass) oz. (g)
RF 1 1/4 - 12	N121049129	PM 120/220	.22	.38	1.63	2.00	1.75	1.13	#10	1.0
RF M33 x 1,5	N121049141	PM 120/ 220M	(5,5)	(9,5)	(41,3)	(50,8)	(44,5)	(28,6)	(M5)	(30)
RF 1 1/8 - 12	N121293129	PM 125/225	.22	.38	1.63	2.00	1.75	1.13	#10	1.0
RF M36 x 1,5	N121293129	PM 125/225M	(5,5)	(9,5)	(41,3)	(58,8)	(44,5)	(28,6)	(M5)	(30)

PMXT 1525 → PMXT 2150 Series

### Standard



\*Note: A<sub>1</sub> and E<sub>1</sub> apply to urethane striker cap accessory.

Catalog No./ Model	(S) Stroke in. (mm)	(E <sub>T</sub> ) Max. in.-lbs./cycle (Nm/cycle)	(E <sub>T</sub> C) Max. in.-lbs./hour (Nm/h)	(F <sub>P</sub> ) Max. Reaction Force lbs. (N)	Nominal Coil Spring Force		(F <sub>D</sub> ) Max. Propelling Force lbs. (N)	Weight (mass) lbs. (Kg)
					Extended lbs. (N)	Compressed lbs. (N)		
PMXT 1525	1.00 (25,0)	3,250 (367,0)	1,120,000 (126 000)	6,500 (29 000)	11.0 (48,0)	15.0 (68,0)	1,500 (6 700)	2.2 (1,0)
PMXT 1550	2.00 (50,0)	6,500 (735,0)	1,475,000 (167 000)	6,500 (29 000)	11.0 (29,0)	18.0 (78,0)	1,500 (6 700)	2.4 (1,1)
PMXT 1575	3.00 (75,0)	10,000 (1 130,0)	1,775,000 (201 000)	6,500 (29 000)	7.0 (31,0)	18.0 (78,0)	1,500 (6 700)	2.7 (1,3)
PMXT 2050	2.00 (50,0)	16,500 (1 865,0)	2,400,000 (271 000)	13,750 (60 500)	17.0 (80,0)	35.0 (155,0)	4,000 (17 800)	6.0 (2,7)
PMXT 2100	4.00 (100,0)	33,000 (3 729,0)	3,200,000 (362 000)	13,750 (60 500)	16.0 (69,0)	36.0 (160,0)	4,000 (17 800)	7.3 (3,3)
PMXT 2150	6.00 (150,0)	50,000 (5 650,0)	3,730,000 (421 000)	13,750 (60 500)	20.0 (87,0)	64.0 (285,0)	4,000 (17 800)	9.3 (4,2)

Catalog No./ Model	Damping Constant	A in. (mm)	A <sub>1</sub> in. (mm)	C in. (mm)	D in. (mm)	E in. (mm)	E <sub>1</sub> in. (mm)	F in. (mm)	WF in. (mm)	WL in. (mm)
PMXT 1525 IF	-1,-2,-3	5.68	6.37	(IF) 1 3/4-12 UN	.50	1.48	1.75	3.63	1.70	0.75
PMXT 1525 MF	-1,-2,-3	(144,0)	(162,0)	(MF) M45 x 1,5	(12,7)	(38,0)	(44,5)	(92,0)	(43,5)	(19,0)
PMXT 1550 IF	-1,-2,-3	7.68	8.37	(IF) 1 3/4-12 UN	.50	1.48	1.75	4.63	1.70	0.75
PMXT 1550 MF	-1,-2,-3	(195,0)	(213,0)	(MF) M45 x 1,5	(12,7)	(38,0)	(44,5)	(118,0)	(43,5)	(19,0)
PMXT 1575 IF	-1,-2,-3	9.68	10.37	(IF) 1 3/4-12 UN	.50	1.48	1.75	5.63	1.70	0.75
PMXT 1575 MF	-1,-2,-3	(246,0)	(264,0)	(MF) M45 x 1,5	(12,7)	(38,0)	(44,5)	(143,0)	(43,5)	(19,0)
PMXT 2050 IF	-1,-2,-3	8.90	9.55	(IF) 2 1/2-12 UN	.75	1.98	2.25	5.50	2.42	0.75
PMXT 2050 MF	-1,-2,-3	(226,0)	(243,0)	(MF) M64 x 2,0	(19,0)	(50,0)	(57,0)	(140,0)	(61,5)	(19,0)
PMXT 2100 IF	-1,-2,-3	12.90	13.55	(IF) 2 1/2-12 UN	.75	1.98	2.25	7.50	2.42	0.75
PMXT 2100 MF	-1,-2,-3	(328,0)	(345,0)	(MF) M64 x 2,0	(19,0)	(50,0)	(57,0)	(191,0)	(61,5)	(19,0)
PMXT 2150 IF	-1,-2,-3	17.97	18.62	(IF) 2 1/2-12 UN	.75	2.38	2.38	9.50	2.42	0.75
PMXT 2150 MF	-1,-2,-3	(956,0)	(473,0)	(MF) M64 x 2,0	(19,0)	(60,0)	(60,0)	(241,0)	(61,5)	(19,0)

Notes: 1. Dash numbers in page color are non-standard lead time items, contact Enidine.  
 2. See page 59 for constant damping curves.  
 3. Urethane striker caps are available as accessories for models PM 1525 to PM 2150.

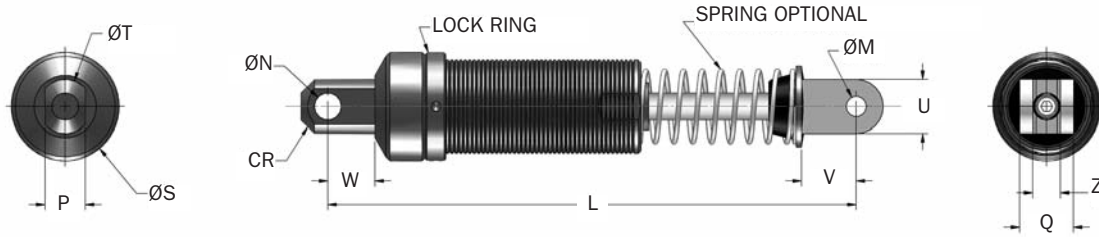
# Non-Adjustable Series Hydraulic Shock Absorbers

## PMXT Mid-Bore Series

### Accessories

PMXT 1525 CM → PMXT 2150 CM Series

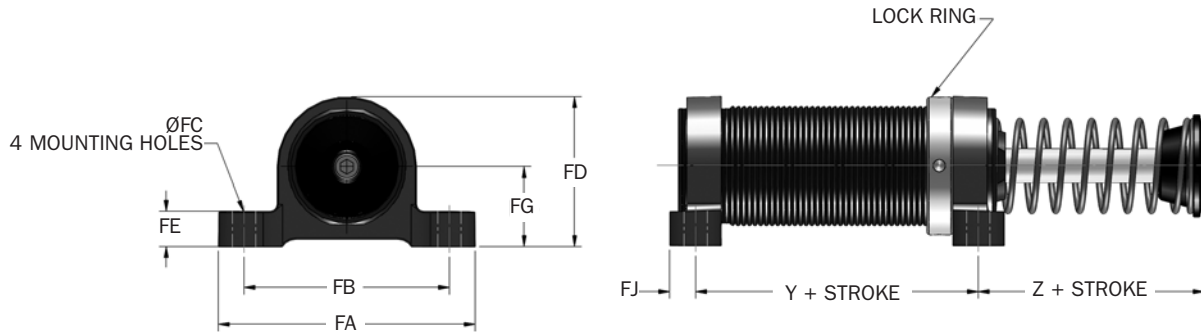
### Clevis Mount



Catalog No./ Model	L in. (mm)	M +.005/-0.000 (+0,13/-0,00) in. (mm)	N +.005/-0.000 (+0,13/-0,00) in. (mm)	P +.000/-0.010 (+0,00/-0,25) in. (mm)	Q +.000/-0.010 (+0,00/-0,25) in. (mm)	S in. (mm)	T in. (mm)	U in. (mm)	V in. (mm)	W in. (mm)	Z +.020/-0.000 (+0,51/-0,00) in. (mm)	CR in. (mm)	Weight (mass) lbs. (Kg)
ΔPMXT 1525 CM (S)	7.84 (199)	.376 (9,60)	.501 (12,70)	.750 (19,00)	1.00 (25,4)	2.00 (51)	1.00 (25)	1.00 (25)	1.01 (26)	.87 (22)	.505 (12,9)	.56 (14,3)	3.0 (1,36)
ΔPMXT 1550 CM (S)	9.84 (250)	.376 (9,60)	.501 (12,70)	.750 (19,00)	1.00 (25,4)	2.00 (51)	1.00 (25)	1.00 (25)	1.01 (26)	.87 (22)	.505 (12,9)	.56 (14,3)	3.2 (1,45)
ΔPMXT 1575 CM (S)	11.84 (300)	.376 (9,60)	.501 (12,70)	.750 (19,00)	1.00 (25,4)	2.00 (51)	1.00 (25)	1.00 (25)	1.01 (26)	.87 (22)	.505 (12,9)	.56 (14,3)	3.6 (1,63)
ΔPMXT 2050 CM (S)	12.06 (306)	.751 (19,07)	.751 (19,07)	1.250 (31,70)	1.50 (38,0)	2.88 (73)	1.50 (38)	1.50 (38)	1.40 (35)	1.06 (26)	.630 (16,0)	.90 (23,0)	8.2 (3,72)
ΔPMXT 2100 CM (S)	16.06 (408)	.751 (19,07)	.751 (19,07)	1.250 (31,70)	1.50 (38,0)	2.88 (73)	1.50 (38)	1.50 (38)	1.40 (35)	1.06 (26)	.630 (16,0)	.90 (23,0)	9.3 (4,22)
ΔPMXT 2150 CM (S)	21.13 (537)	.751 (19,07)	.751 (19,07)	1.250 (31,70)	1.50 (38,0)	2.88 (73)	1.50 (38)	1.50 (38)	1.40 (35)	1.06 (26)	.630 (16,0)	.90 (23,0)	11.2 (5,08)

Notes: 1. Δ = Non-standard lead time items, contact Enidine.  
2. (S) indicates model comes with spring.

### Flange Foot Mount

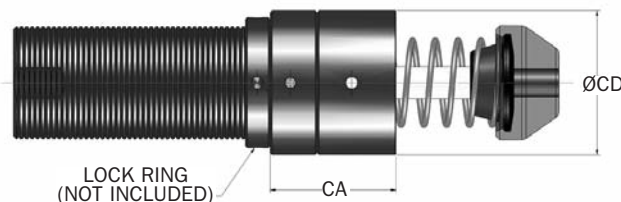


Catalog No./ Model	Part Number	Model (Ref)	Y in. (mm)	Z in. (mm)	FA in. (mm)	FB in. (mm)	FC in. (mm)	FD in. (mm)	FE in. (mm)	FG in. (mm)	FJ in. (mm)	Bolt Size in. (mm)	Kit Weight oz. (g)	Notes
FM 1 3/4 - 12	2FE2740	PMXT 1500 Series	2.38 (60,5)	1.06 (26,9)	3.75 (95,3)	3.00 (76,2)	.34 (8,60)	2.16 (55,0)	.50 (12,7)	1.16 (29,5)	.38 (9,7)	5/16	12.0 oz. (370)	3
FM M45 x 1,5	2F8637	PMXT 1500M Series										M8		3
FM 2 1/2 - 12	2FE3010	PMXT 2000 Series	3.00 (76,2)	1.56 (39,6)	5.63 (143,0)	4.88 (124,0)	.41 (10,40)	3.38 (85,6)	.63 (16,0)	1.75 (44,5)	.44 (11,2)	3/8	2.3 lbs. (1 050)	1,3
FM M64 x 2	2F3010	PMXT 2000M Series										M10		1,3

Notes: 1. PM 2150 Z dimension is 2.69 in.  
2. Shock absorber must be ordered separately from foot mount kit.  
3. All foot mount kits include two foot mounts and lock ring.

PMXT 1525 → PMXT 2150 Series

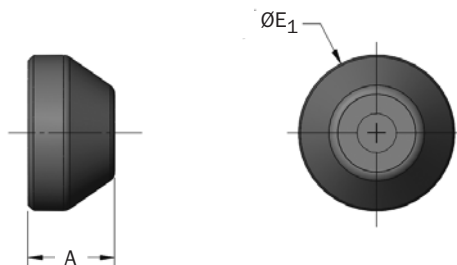
### Stop Collar (SC)



Catalog No./ Model	Part Number	Model (Ref)	CA in. (mm)	CD in. (mm)	Weight (mass) oz. (g)
SC 1 3/4 - 12	8KE2940	PMXT 1500 Series	1.94	2.22	12.0
SC M45 x 1,5	8K8637	PMXT 1500M Series	(49,0)	(56,5)	(340)
SC 2 1/2 - 12 x 2	8KE3010	PMXT 2050 / 2100 Series	2.47	3.00	23.0
SC M64 x 2 x 2	M93010057	PMXT 2050M Series	(89,0)	(76,0)	(936)
SC 2 1/2 - 12 x 6	8KE3012	PMXT 2150 Series	3.66	3.00	35.0
SC M64 x 2 x 4	M93011057	PMXT 2100M Series	(114,0)	(76,0)	(1 191)
SC M64 x 2 x 6	M93012057	PMXT 2150M Series	(143,0)	(76,0)	(1 475)

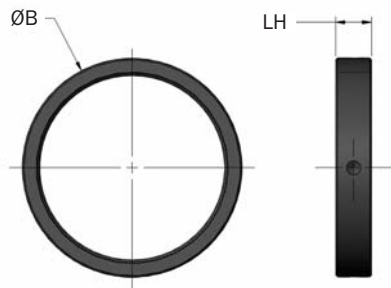
Note: 1. Part numbers in page color are non-standard lead time items, contact Enidine.

### Urethane Striker Cap (USC)



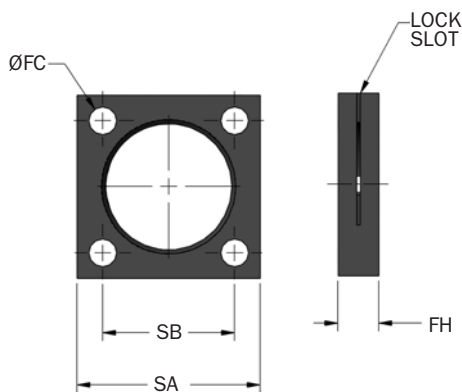
Catalog No./ Model	Part Number	Model (Ref)	A in. (mm)	E1 in. (mm)	Weight (mass) oz. (g)
UC 2940	C92940079	PMXT 1500	.97 (24,5)	1.75 (44,5)	0.5 (14)
UC 3010	C93010079	PMXT 2000	.95 (24,0)	2.25 (57,0)	0.8 (23)

### Lock Ring (LR)



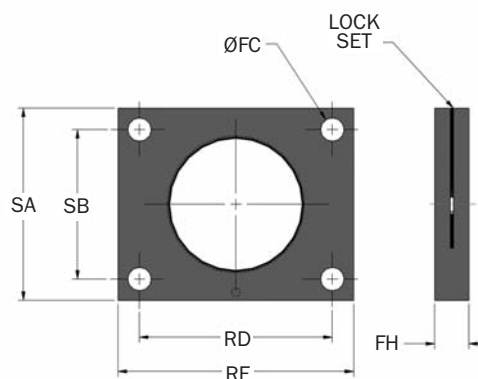
Catalog No./Model	Part Number	Model (Ref)	B in. (mm)	LH in. (mm)	Weight (mass) oz. (g)
LR 1 3/4 - 12	F8E2940049	PMXT 1500 Series	2.00	.38	2.0
LR M45 x 1,5	F88637049	PMXT 1500M Series	(57,2)	(9,5)	(75)
LR 2 1/2 - 12	F8E3010049	PMXT 2000 Series	2.88	.38	3.0
LR M64 x 2	F83010049	PMXT 2000M Series	(72,9)	(12,7)	(85)

### Square Flange (SF)

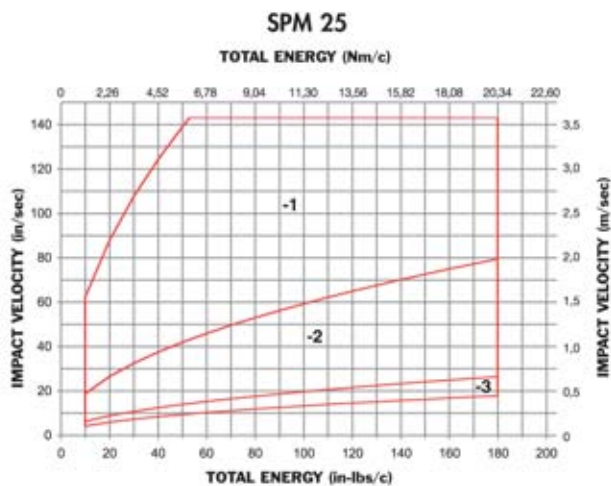
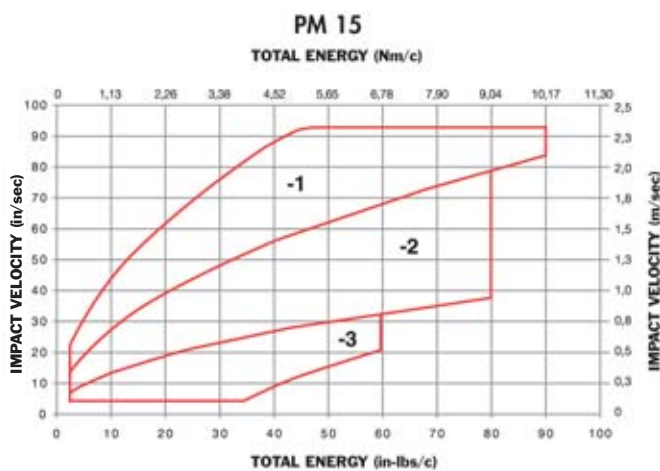
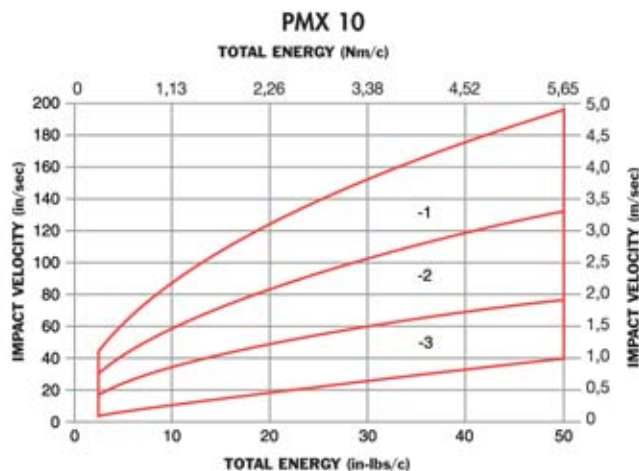
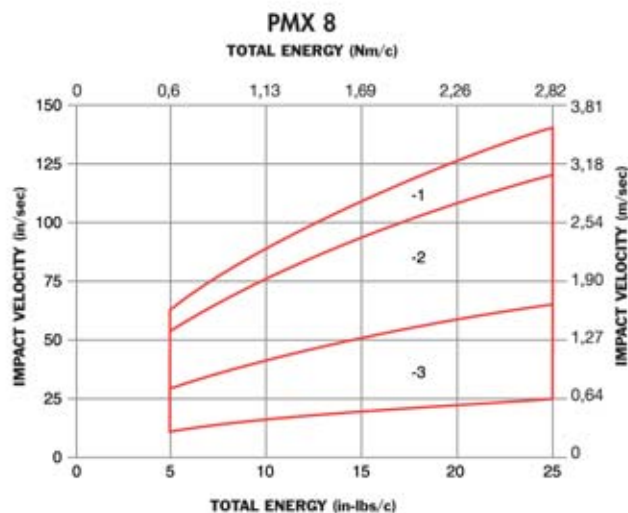


Catalog No./ Model	Part Number	Model (Ref)	FC in. (mm)	FH in. (mm)	SA in. (mm)	SB in. (mm)	Bolt Size in. (mm)	Weight (mass) oz. (g)
SF 1 3/4 - 12	M4E2940056	PMXT 1500 Series	.34	.50	2.25	1.63	5/16	5
SF M45 x 1,5	M48637056	PMXT 1500M Series	(8,6)	(12,7)	(57,2)	(41,3)	(M8)	(140)
SF 2 1/2 - 12	M4E3010056	PMXT 2000 Series	.41	.62	3.50	2.75	3/8	20
SF M64 x 2	M43010056	PMXT 2000M Series	(10,4)	(15,7)	(85,1)	(69,9)	(M10)	(570)

### Rectangular Flange (RF)

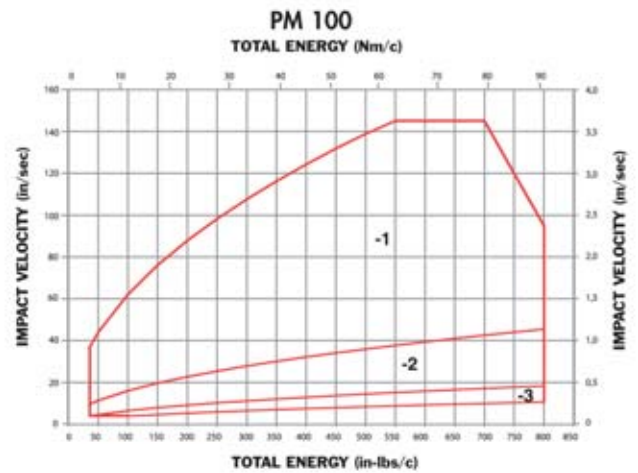
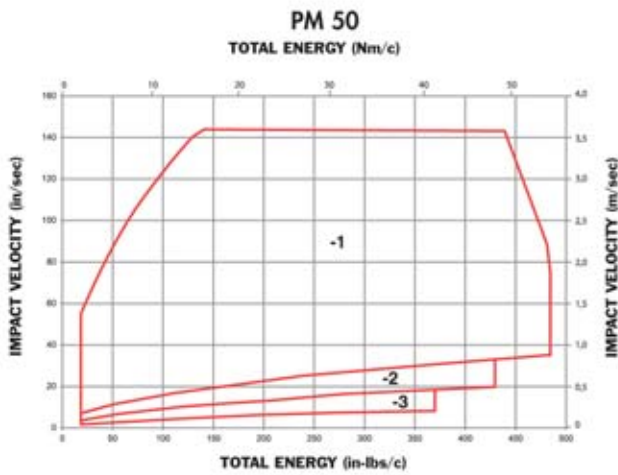
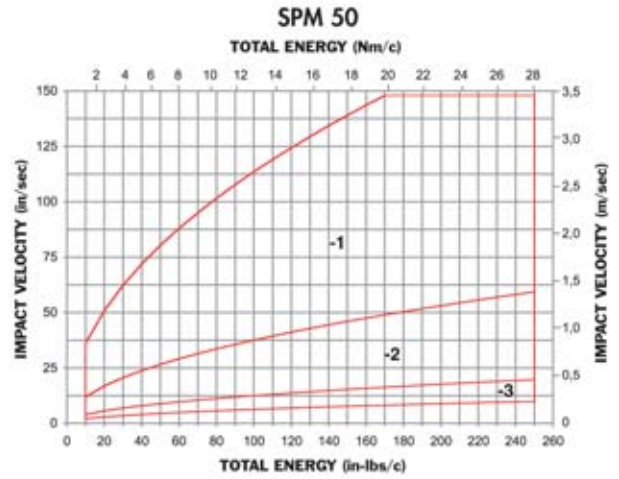
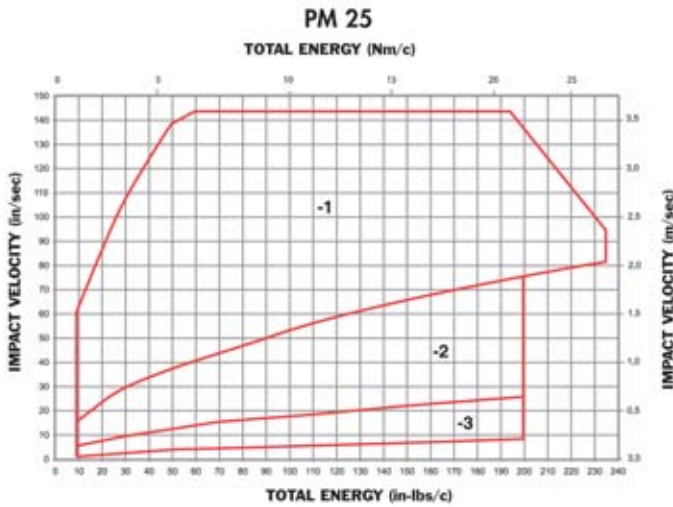


Catalog No./ Model	Part Number	FC Model (Ref)	FH in. (mm)	RD in. (mm)	RE in. (mm)	SA in. (mm)	SB in. (mm)	Size in. (mm)	Bolt (mass) in. (mm)	Wt. oz. (g)
RF 1 3/4 - 12	M5E2940053	PMXT 1500 Series	.34	.50	2.38	3.00	2.25	1.63	5/16	9
RF M45 x 1,5	M58637053	PMXT 1500M Series	(8,6)	(12,7)	(60,5)	(76,2)	(57,2)	(41,4)	(M8)	(260)

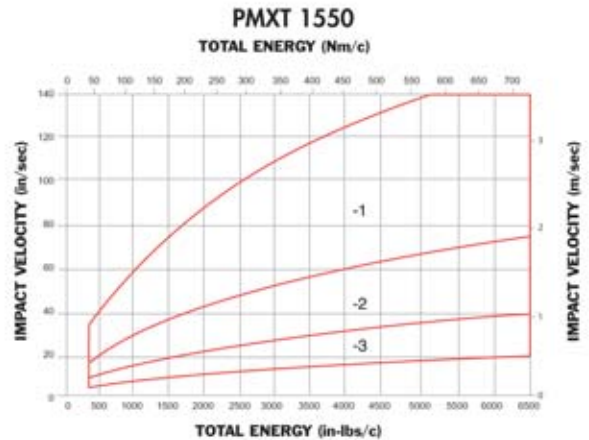
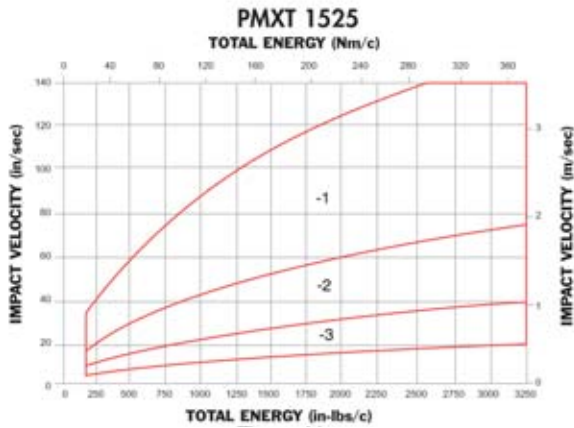
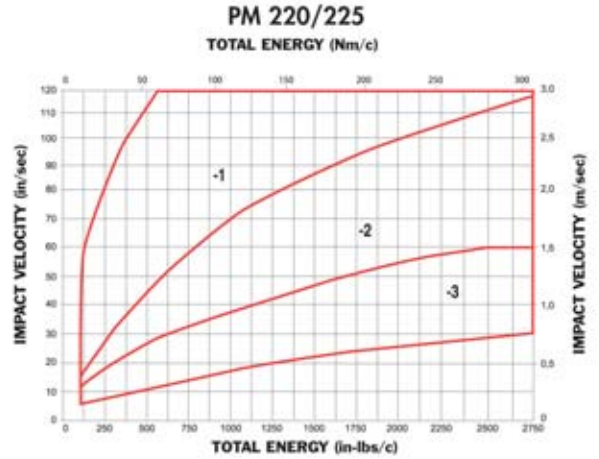
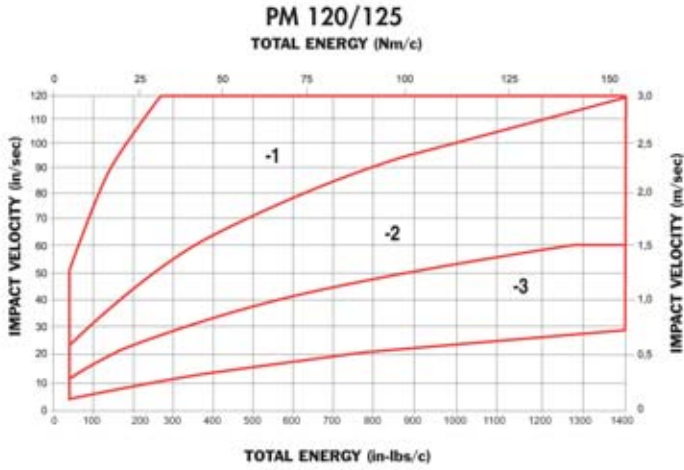


Note: Minimum impact velocity for PM models is 4 in./sec. (0,1 m/sec).





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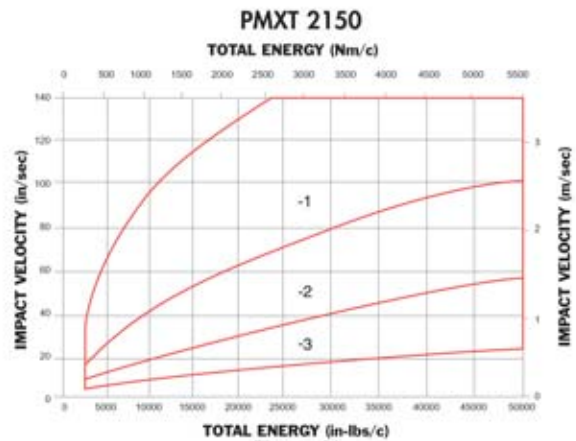
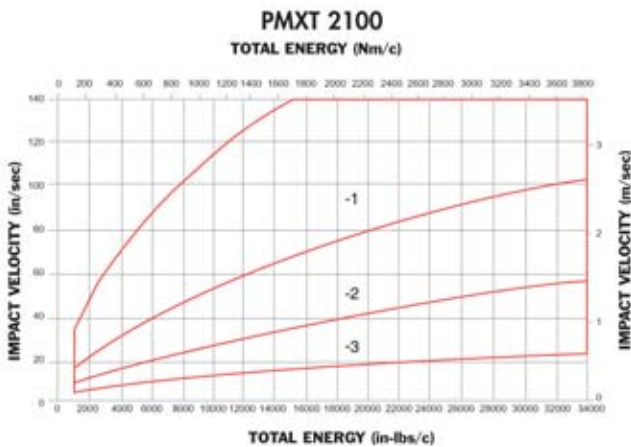
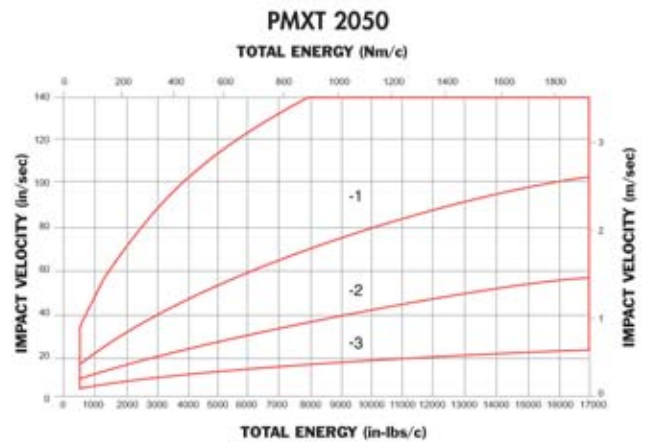
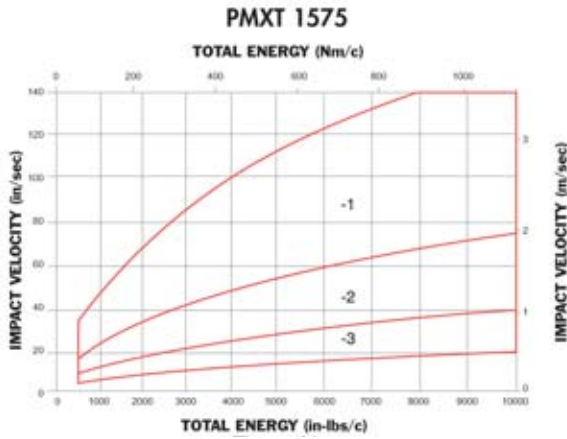
Note: Minimum impact velocity for PM models is 4 in./sec. (0,1 m/sec).

# Non-Adjustable Series Hydraulic Shock Absorbers

## PMXT Mid-Bore Series

PMXT 1575 → PMXT 2150 Series

### Sizing Curves



Note: Minimum impact velocity for PM models is 4 in./sec. (0,1 m/sec).