

Catalog No. (Model)	Bore Size (mm)	(S) Stroke (mm)	Optimal Velocity Max. Range (m/sec)	(E _F) Max. Nm/cycle	(E _F C) Max. Nm/hour	(F _P) Max. Shock Force (N)	Nominal Coil Spring Force		(F _D) Max. Propelling Force (N)	Model Weight (g)
							Extended (N)	Compressed (N)		
HP110MF/MC-1	14	40	4,0 – 6,0	190	75 000	7 500	18	49	2 200	454
HP110MF/MC-2	14	40	2,0 – 4,5	190	75 000	7 500	18	49	2 200	454
HP110MF/MC-3	14	40	0,75 – 3,0	190	75 000	7 500	18	49	2 200	454

All dimensions in millimeters.

Catalog No. (Model)	A	C	D	E	F	G	H	JA	JB	JH
HP110MF-1, -2, -3	215	M25 x 1,5	8	22	138	22	20	36,7	31,8	4,6
HP110MC-1, -2, -3	215	M25 x 2,0	8	22	138	22	20	36,7	31,8	4,6

All dimensions in millimeters.



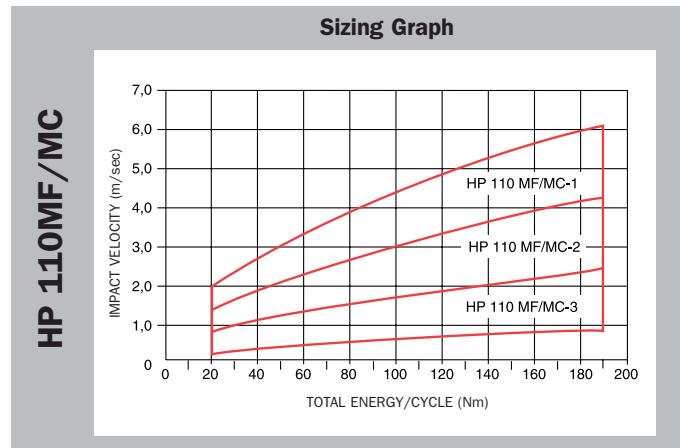
Adjustable Hydraulic Series

HP Series Shock Absorber Sizing

1. Determine load weight (kg), impact velocity (m/sec), propelling force (N) if any, and cycles per hour.
2. Calculate total energy per cycle (Nm/c) and total energy per hour (Nm/hr). Consult this catalog's sizing section (pages 5-12) for assistance if required.
3. Compare the calculated total energy per cycle (Nm/c), total energy per hour (Nm/hr) and propelling force (kg) to the values listed above.
4. Locate the intersection point of the determined impact velocity (m/sec) and total energy per cycle (Nm/c) on the sizing graph to select the appropriate model.
5. Refer to the usable adjustment settings graph (below) to determine the maximum adjustment setting.
6. Contact Enidine for applications with requirements which fall outside the sizing graph.

Example: Horizontal Application

1. Weight (W): 16 kg
Impact Velocity (V): 4,5 m/sec
Propelling Force (F_D): None
Cycles/Hour (C): 80
2. Total Energy/Cycle (E_T): 162 Nm/c
Total Energy/Hour (E_TC): 12 960 Nm/hr
3. Compare total energy/cycle (162 Nm) and total energy/hour (12 960 Nm/hr) to the HP Engineering Data chart.
4. Intersection Point: HP 110 MC-1



Useable Adjustment Settings

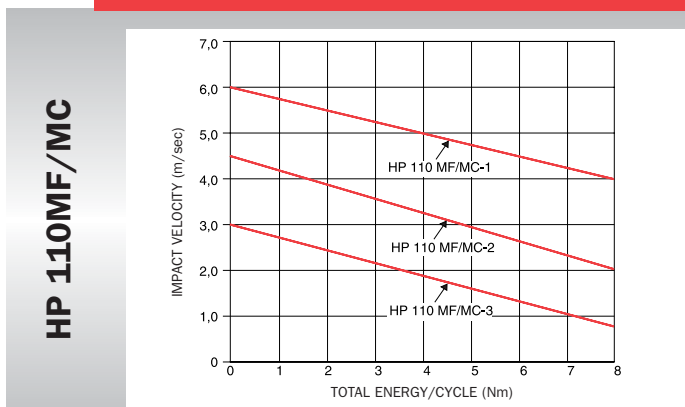
After properly sizing the shock absorber, the useable range of adjustment settings for the application can be determined.

1. Locate the intersection point of the application's impact velocity and the selected HP model graph line.
2. The intersection is the **maximum** adjustment setting to be used. Adjustments exceeding this setting could overload the shock absorber.
3. The useable adjustment range is from the 0 setting to the **maximum** adjustment setting as determined in step 2.

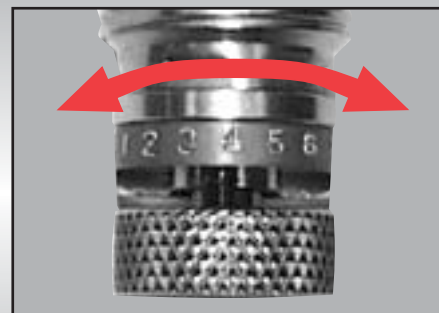
Example: HP 110 MF/MC-1

1. Impact Velocity: 4,5 m/sec
2. Intersection Point: Adjustment Setting 6
3. Useable Adjustment Setting Range: 0 to 6

Useable Adjustment Settings



Position 0 provides minimum damping force, position 8 provides maximum damping force.



180° adjustment with setscrew locking.