

SEÑOR A4MIXTO-EC 20 G

**HYBRID DAMPER WITH DUAL METRIC OUTPUT AND
ANGLE CORRECTION FOR ACOUSTIC SUSPENDED
CEILING**

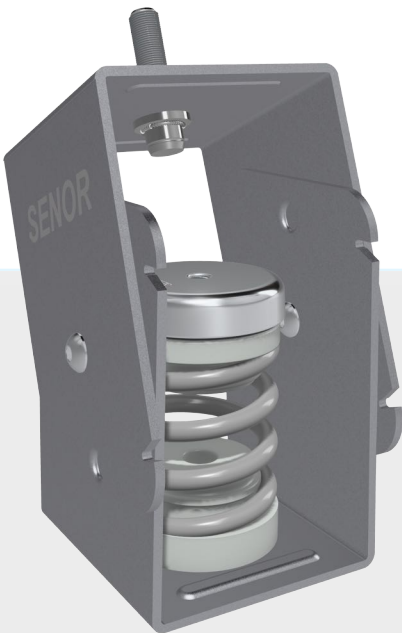
It is a high-performance, innovative, and upgraded **HYBRID** damper. Manufactured using cutting-edge technology and designed to suppress all solid-borne acoustic pollution.

The **A4MIXTO-EC 20 G** features a robust steel frame with an innovative dual rotary joint mechanism (RT-10). This design enables precise angle adjustment between the two independently functioning metric outputs, providing remarkable versatility. This functionality is crucial in ensuring that the elastic component's compression remains strictly axial, preventing any torsion that could compromise its integrity. By limiting the vectorial degrees of polymer deformation, the system optimizes the elastic component's performance, ultimately enhancing durability and operational efficiency. For instance, in applications that require continuous and precise movement, this mechanism minimizes the risk of structural failure and ensures smooth, reliable operation.

Preview in Augmented Reality 



Scan the QR code to open this 3D Model on your iOS or Android device.



I+D+i

**System registered with the Spanish Patent and Trademark Office (OEPM).*

Recommended for USE with acoustic ceilings, structure suspensions, and machinery with an operational frequency above 350 RPM and a load ranging between 3 and 20 kg per support point.



REF	COLOUR	APPLICATION FIELD	LOAD (Kg) MIN-MAX	METRIC (min-max)
SE-A4MIXTO-EC 20 G		Acoustic Ceilings, Structures and Machinery	3 - 20	6 - 8

HYBRID System: The result of combining the most advanced polymer with a helical steel spring.

- Helical Spring: Manufactured using steel wire in accordance with **DIN 2095-UNE EN 10270** standards, featuring an anti-corrosion finish and **metallic grey epoxy** coating.
- Rubber Polymer: Manufactured by KRAIBURG-TPE for SEÑOR, following UNE-EN ISO 10846-1:2009 standards.

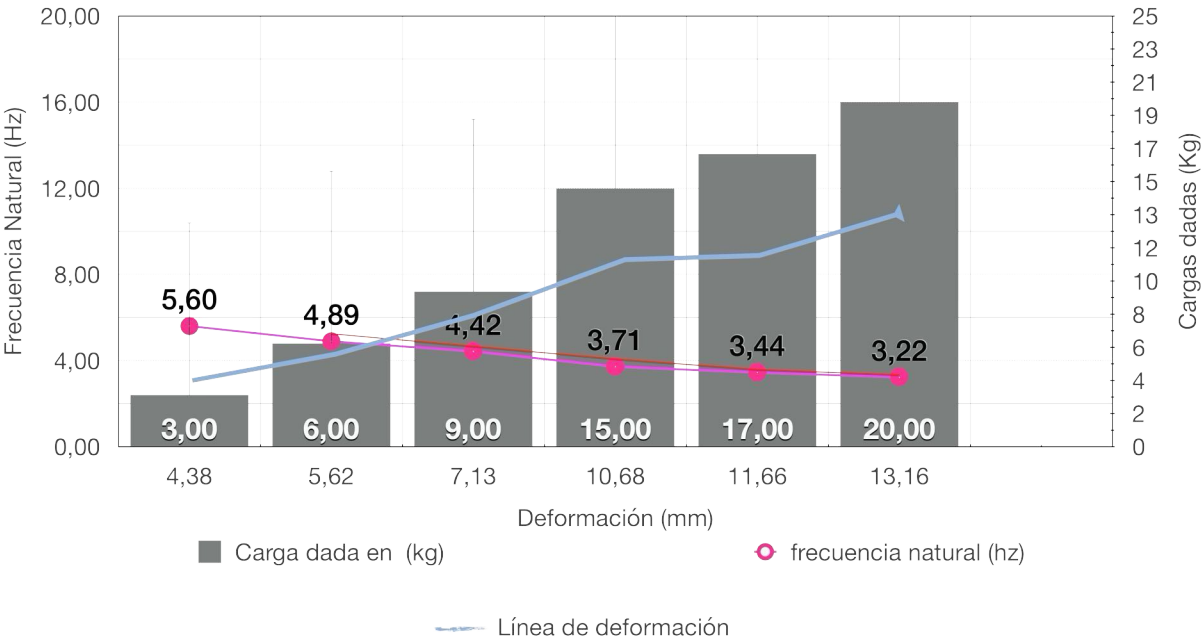
✓ Resonance Frequency: 3-7Hz

Dynamic Behaviour and Axial Deformation

Steel helical springs exhibit dynamic stiffness equivalent to their static stiffness, making them ideal for applications that demand predictable mechanical properties. In contrast, viscoelastic materials exhibit more complex behavior. The dynamic stiffness of these materials never equals their static stiffness, as they absorb and dissipate energy, adapting to the frequency and magnitude of vibrations. To fully understand this phenomenon, the dynamic behavior of viscoelastic materials cannot be determined through theoretical calculations alone; it requires specific laboratory testing to ensure accurate data for industrial applications.

TABLE AND GRAPH OF LAB RESULTS

LOAD (Kg)	DEFORMATION (mm)	RESONANCE FREQUENCY (Hz)	SWEEP (Hz)	% SOUNDPROOFING
3	4,38	5,60	50	98,73
6	5,62	4,89		99,03
9	7,13	4,42		99,21
15	10,68	3,71		99,45
17	11,66	3,44		99,52
20	13,16	3,22		99,58

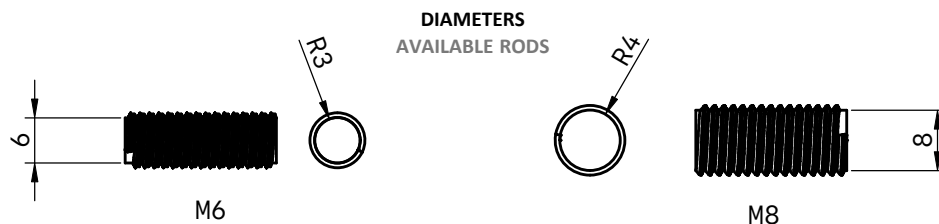
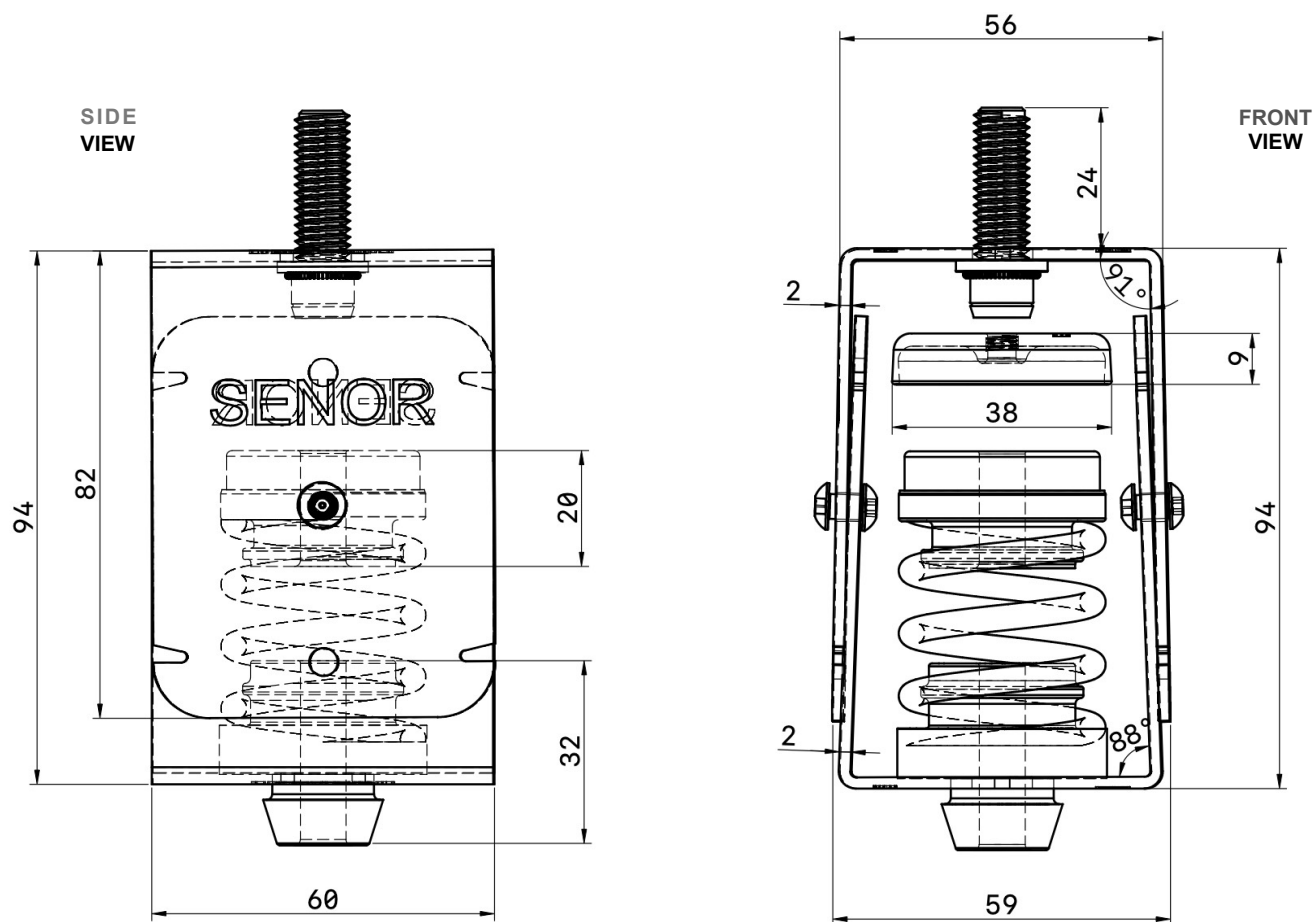




SENOR A4MIXTO-EC 20 G

Dimensions

You'll be amazed by its performance! It's the perfect damper for designing acoustic technical ceilings. **Say NO to noise.**



KEY Features

A4MIXTO-EC 20 G is the **most powerful damper** on the market for suspending ceilings with direct attachment to the slab, offering the present and future solution for noisy spaces.

Construct acoustic ceilings with maximum performance, achieving improvements in airborne noise reduction of over **21dB**, and a **34dB** reduction in impact noise, based on tested results and in accordance with UNE-EN ISO 717-2:2021 standards.

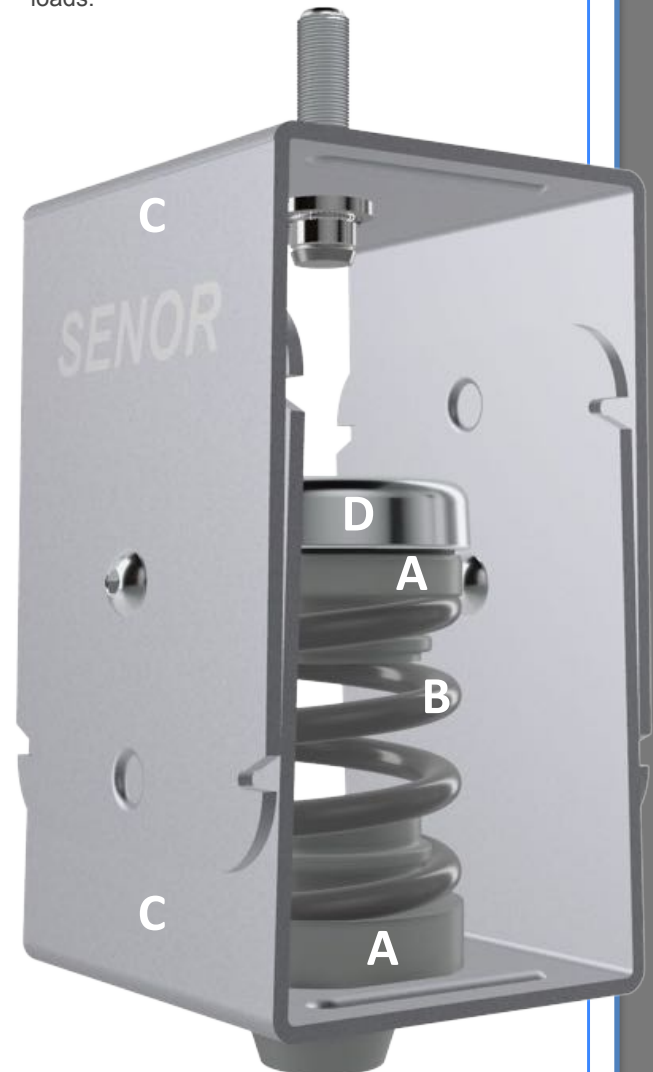
Our **engineers** drive **innovation**.

A: The **TC3/EXN Rubber Top Cap** is distinguished by its design with an extended collar, an innovative feature that prevents unwanted contact between the threaded rod and the steel housing. This is critical for ensuring both the durability and performance of the system in which it is used. This component serves not only as a physical decoupler but also plays a pivotal role in vibration damping. Its ability to effectively reduce vibrations in the mid-to-high-frequency range (measured in hertz, Hz) makes it an ideal solution for applications where stability and smooth operation are paramount. Furthermore, its design guarantees the proper seating of the helical wire of the spring, enhancing the overall functioning of the mechanism, preventing premature wear, and extending the service life of the components involved.

B: The **Steel Helical Spring** is recognized for its ability to effectively eliminate vibro-mechanical energy contamination, particularly in the mid and low-frequency ranges, typically within the hertz (Hz) spectrum. This spring is designed to absorb and dissipate unwanted vibrations, making it an ideal solution for applications where stability and noise control are critical.

C: The **STEEL housing** is crafted from high-quality galvanized steel, specifically of type **Dx51d + Z275**, providing excellent corrosion resistance and long-lasting durability in harsh environments. With a thickness of **2 mm**, this structure not only offers substantial rigidity to the system but also plays a vital role in the axial compression of the elastic components, ensuring they maintain optimal performance and stability under load. This robustness is crucial for industrial applications requiring safe and efficient handling of dynamic forces.

D: The Leveling Cup is made from **DC04** deep-drawing steel, compliant with the **EN10131** steel standard, and has a thickness of 1.5 mm. It is designed to withstand heavy loads.



SENR A4MIXTO-EC 20 G

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SENR Acoustic Dampers



SENR Products
ACOUSTIC Ceiling

Installation Method



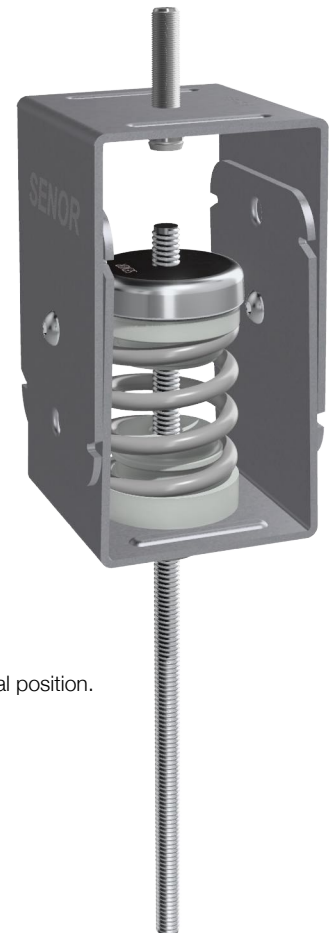
1.

Remove the product from its packaging.



2.

Rotate the housing to facilitate the insertion of the threaded rod.



3.

Rotate the housing back to its original position.
Now, it's ready for use!

Note

SENR
A4MIXTO-EC 20 G. Ideal for suspending
acoustic ceilings beneath sloped roofs.

SEÑOR A4MIXTO-EC 45 V

HYBRID DAMPER WITH DUAL METRIC OUTPUT AND ANGLE CORRECTION FOR ACOUSTIC SUSPENDED CEILING

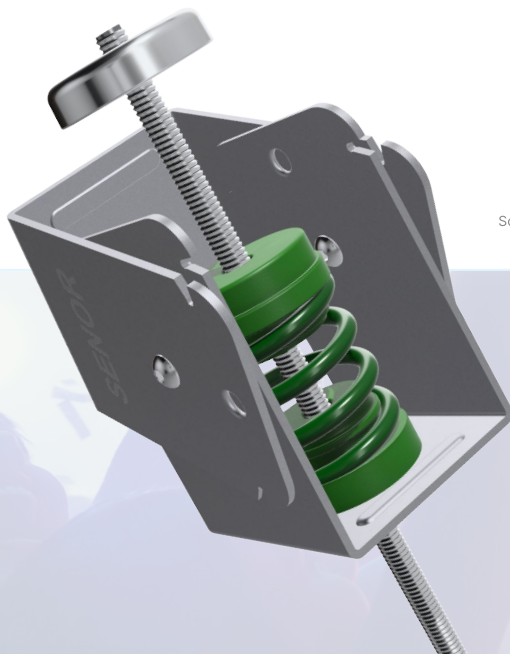
It is a high-performance, innovative, and upgraded **HYBRID** damper. Manufactured using cutting-edge technology and designed to suppress all solid-borne acoustic pollution.

The **A4MIXTO-EC 45 V** features a robust steel frame with an innovative dual rotary joint mechanism (**RT-10**). This design enables precise angle adjustment between the two independently functioning metric outputs, providing remarkable versatility. This functionality is crucial in ensuring that the elastic component's compression remains strictly axial, preventing any torsion that could compromise its integrity. By limiting the vectorial degrees of polymer deformation, the system optimizes the elastic component's performance, ultimately enhancing durability and operational efficiency. For instance, in applications that require continuous and precise movement, this mechanism minimizes the risk of structural failure and ensures smooth, reliable operation.

Preview in Augmented Reality



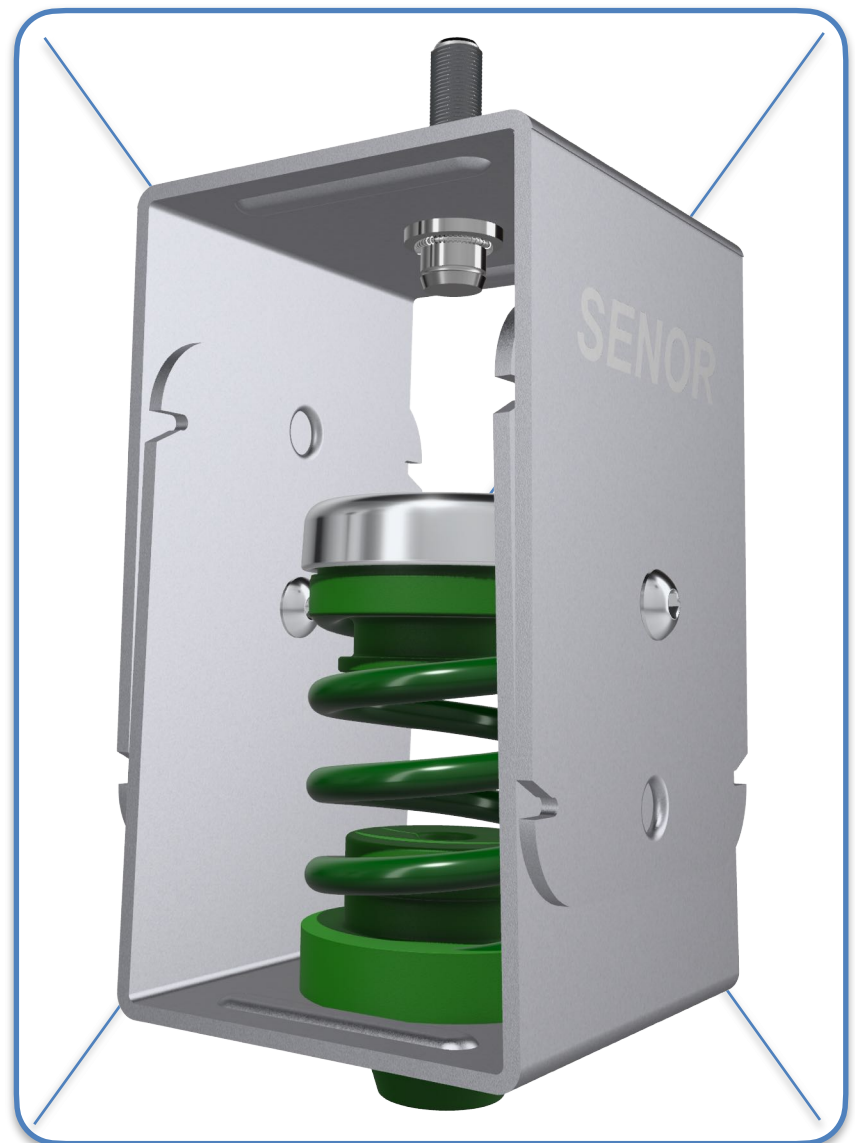
Scan the QR code to open this 3D Model
on your iOS or Android device.




I+D+i

*System registered with
the **Spanish Patent and
Trademark Office**
(OEPM).

Recommended for USE with acoustic ceilings, structure suspensions, and machinery with an operational frequency above 350 RPM and a load ranging between 10 and 45 kg per support point.



REF.	COLOUR	APPLICATION FIELD	LOAD (Kg) MIN-MAX	METRIC (min-max)
SE-A4MIXTO-EC 45 V		Acoustic Ceilings, Structures and Machinery	10 - 45	6 - 8

HYBRID System: The result of combining the most advanced polymer with a helical steel spring.

- Helical Spring: Manufactured using steel wire in accordance with DIN 2095-UNE EN 10270 standards, featuring an anti-corrosion finish and metallic green epoxy coating.
- Rubber Polymer: Manufactured by KRAIBURG-TPE for SEÑOR, following UNE-EN ISO 10846-1:2009 standards.

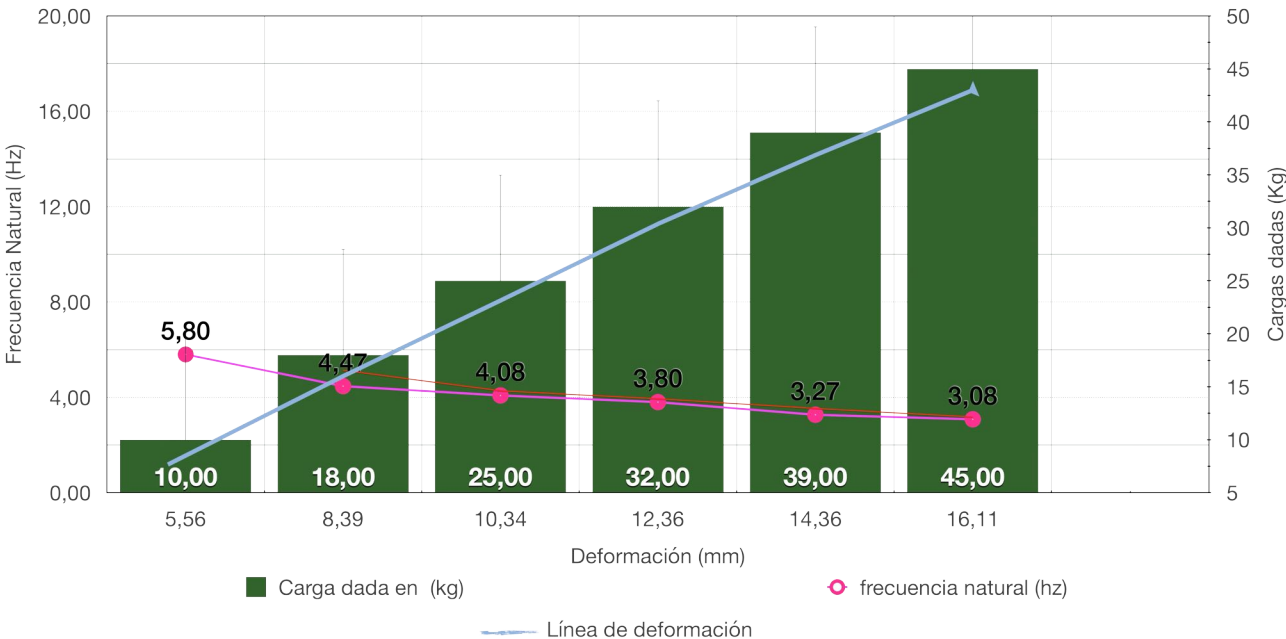
✓ Resonance Frequency: 3-7 Hz.

Dynamic Behaviour and Axial Deformation

Steel helical springs exhibit dynamic stiffness equivalent to their static stiffness, making them ideal for applications that demand predictable mechanical properties. In contrast, viscoelastic materials exhibit more complex behavior. The dynamic stiffness of these materials never equals their static stiffness, as they absorb and dissipate energy, adapting to the frequency and magnitude of vibrations. To fully understand this phenomenon, the dynamic behavior of viscoelastic materials cannot be determined through theoretical calculations alone; it requires specific laboratory testing to ensure accurate data for industrial applications.

TABLE AND GRAPH OF LAB RESULTS

LOAD (Kg)	DEFORMATION (mm)	RESONANCE FREQUENCY (Hz)	SWEEP (Hz)	SOUNDPROOF. %
10	5,56	5,80	50	98,64
18	8,39	4,47		99,19
25	10,34	4,08		99,33
32	12,36	3,80		99,42
39	14,36	3,27		99,57
45	16,11	3,08		99,62

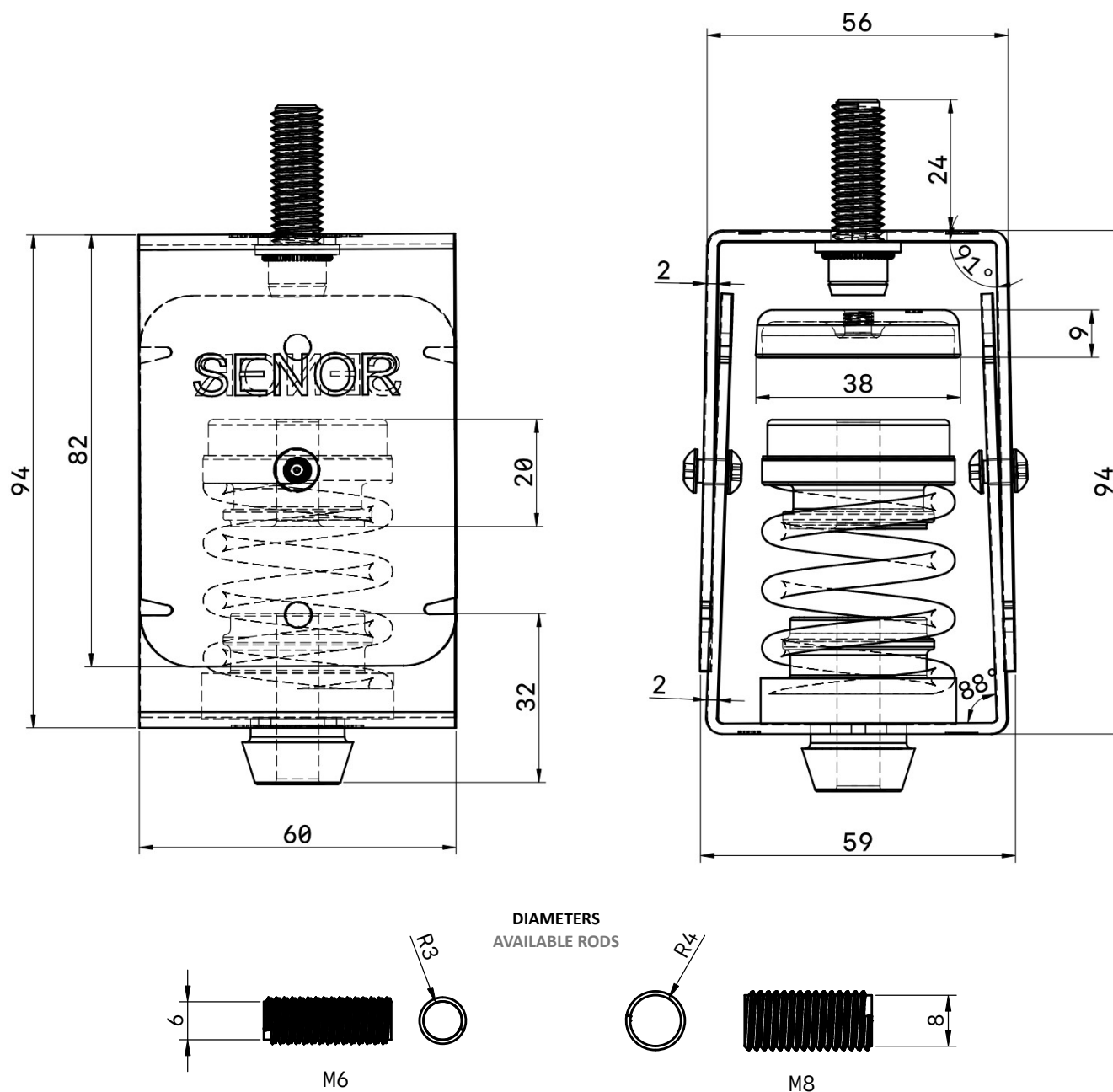




SENOR A4MIXTO-EC 45 V

Dimensions

You'll be amazed by its performance! It's the perfect damper for designing acoustic technical ceilings. Say NO to noise.



SENOR A4MIXTO-EC 45 V

 Youtube
SENOR Acoustic Dampers



SENOR Products
ACOUSTIC Ceilings

KEY Features

A4MIXTO-EC 45 V is the **most powerful** damper on the market for suspending ceilings with direct attachment to the slab, offering the present and future solution for **noisy** spaces.

Construct acoustic ceilings with maximum performance, achieving improvements in airborne noise reduction of over **21dB**, and a **34dB** reduction in impact noise, based on tested results and in accordance with UNE-EN ISO 717-2:2021 standards.

Our **engineers** drive **innovation**.

A: The **TC4/GPN Rubber Top Cap** is distinguished by its design with an extended collar, an innovative feature that prevents unwanted contact between the threaded rod and the steel housing. This is critical for ensuring both the durability and performance of the system in which it is used. This component serves not only as a physical decoupler but also plays a pivotal role in vibration damping. Its ability to effectively reduce vibrations in the mid-to-high-frequency range (measured in hertz, Hz) makes it an ideal solution for applications where stability and smooth operation are paramount. Furthermore, its design guarantees the proper seating of the helical wire of the spring, enhancing the overall functioning of the mechanism, preventing premature wear, and extending the service life of the components involved.

B: The **Steel Helical Spring** is recognized for its ability to effectively eliminate vibro-mechanical energy contamination, particularly in the mid and low-frequency ranges within the hertz (Hz) spectrum. This spring is designed to absorb and dissipate unwanted vibrations, making it an ideal solution for applications where stability and noise control are critical.

C: The **STEEL housing** is crafted from high-quality galvanized steel, specifically of type **Dx51d + Z275**, providing excellent corrosion resistance and long-lasting durability in harsh environments. With a thickness of 2 mm, this structure not only offers substantial rigidity to the system but also plays a vital role in the axial compression of the elastic components, ensuring they maintain optimal performance and stability under load. This robustness is crucial for industrial applications requiring safe and efficient handling of dynamic forces.

D: The **Leveling Cup** is made from **DC04** deep-drawing steel, compliant with the **EN10131** steel standard, and has a thickness of 1.5 mm. It is designed to withstand heavy loads.



SENOR A4MIXTO-EC 45 V

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SENOR Acoustic Dampers



SENOR Products
ACOUSTIC Ceilings

Installation Method

1.

Remove the product from its packaging.

2.

Rotate the housing to facilitate the insertion of the threaded rod.

3.

Rotate the housing back to its original position.

Note.

SENOR
A4MIXTO-EC 45 V — Ideal for suspending
acoustic ceilings beneath sloped roofs.

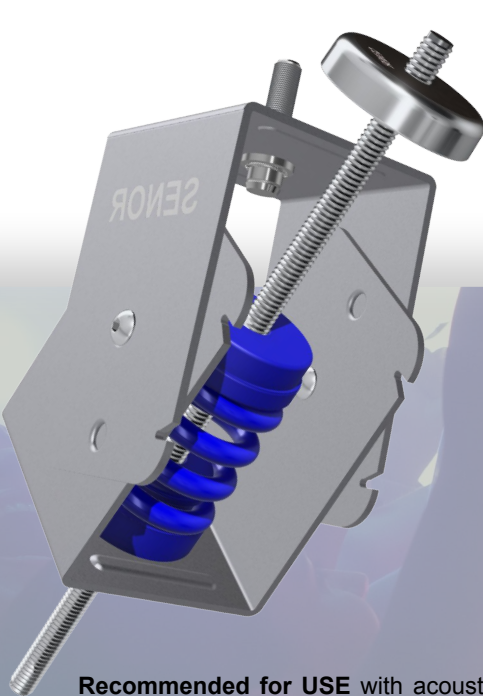


SENOR A4MIXTO-EC 75 A

**HYBRID DAMPER WITH DUAL METRIC OUTPUT AND
ANGLE CORRECTION FOR ACOUSTIC SUSPENDED
CEILINGS**

It is a high-performance, innovative, and upgraded **HYBRID** damper. Manufactured using cutting-edge technology and designed to suppress all solid-borne acoustic pollution.

The **A4MIXTO-EC 75 A** features a robust steel frame with an innovative dual rotary joint mechanism (**RT-10**). This design enables precise angle adjustment between the two independently functioning metric outputs, providing remarkable versatility. This functionality is crucial in ensuring that the elastic component's compression remains strictly axial, preventing any torsion that could compromise its integrity. By limiting the vectorial degrees of polymer deformation, the system optimizes the elastic component's performance, ultimately enhancing durability and operational efficiency. For instance, in applications that require continuous and precise movement, this mechanism minimizes the risk of structural failure and ensures smooth, reliable operation.



Preview in Augmented Reality 




Scan the QR code to open this 3D Model on your iOS or Android device.



*System registered with the Spanish Patent and Trademark Office (OEPM).

Recommended for USE with acoustic ceilings, structure suspensions, and machinery with an operational frequency above 350 RPM and a load ranging between 30 and 75 kg per support point.



REF	COLOUR	APPLICATION FIELD	LOAD (Kg) MIN-MAX	METRIC (min-max)
SE-A4MIXTO-EC 75 A		Acoustic Ceilings, Structures and Machinery	30 - 75	6 - 8

HYBRID System: The result of combining the most advanced polymer with a helical steel spring.

- Helical Spring: Manufactured using steel wire in accordance with **DIN 2095-UNE EN 10270** standards, featuring an anti-corrosion finish and **metallic blue epoxy** coating.
- Rubber Polymer: Manufactured by KRAIBURG-TPE for SENOR, following UNE-EN ISO 10846-1:2009 standards.

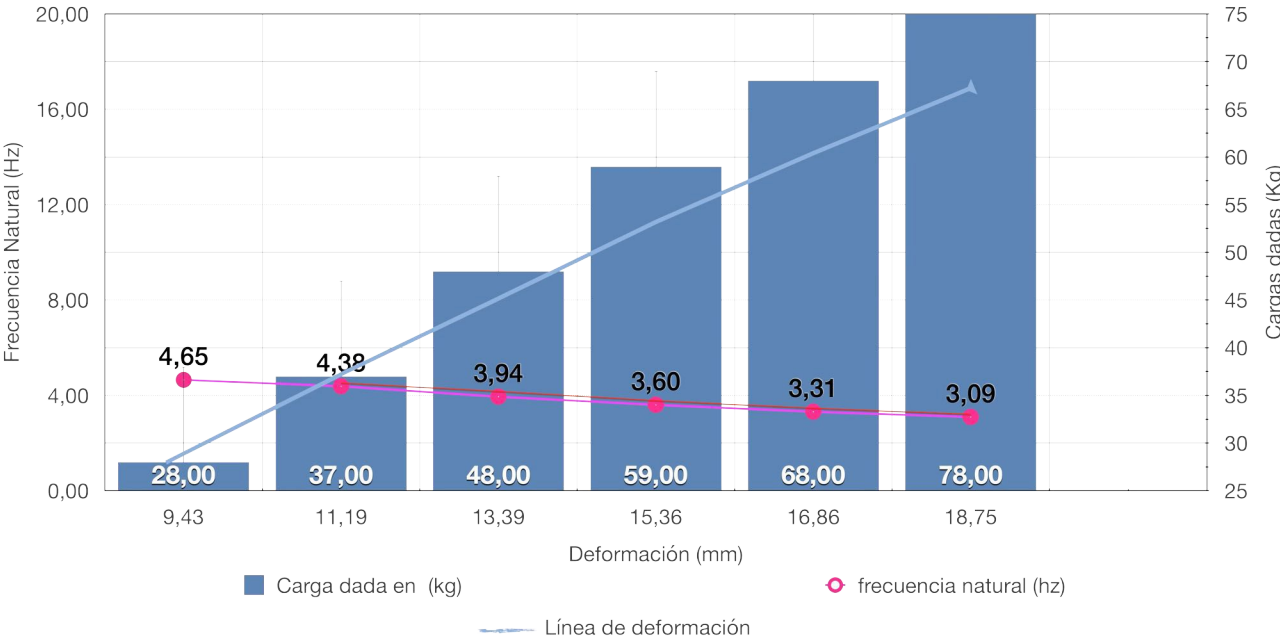
✓ Resonance Frequency: 3-7Hz

Dynamic Behaviour and Axial Deformation

Steel helical springs exhibit dynamic stiffness equivalent to their static stiffness, making them ideal for applications that demand predictable mechanical properties. In contrast, viscoelastic materials exhibit more complex behavior. The dynamic stiffness of these materials never equals their static stiffness, as they absorb and dissipate energy, adapting to the frequency and magnitude of vibrations. To fully understand this phenomenon, the dynamic behavior of viscoelastic materials cannot be determined through theoretical calculations alone; it requires specific laboratory testing to ensure accurate data for industrial applications.

TABLE AND GRAPH OF LAB RESULTS

LOAD (Kg)	DEFORMATION (mm)	RESONANCE FREQUENCY (Hz)	SWEEP (Hz)	SOUNDPROOFING %
28	9,43	4,65	50	99,13
37	11,19	4,38		99,23
48	13,39	3,94		99,38
59	15,36	3,60		99,48
68	16,86	3,31		99,56
78	18,75	3,09		99,62

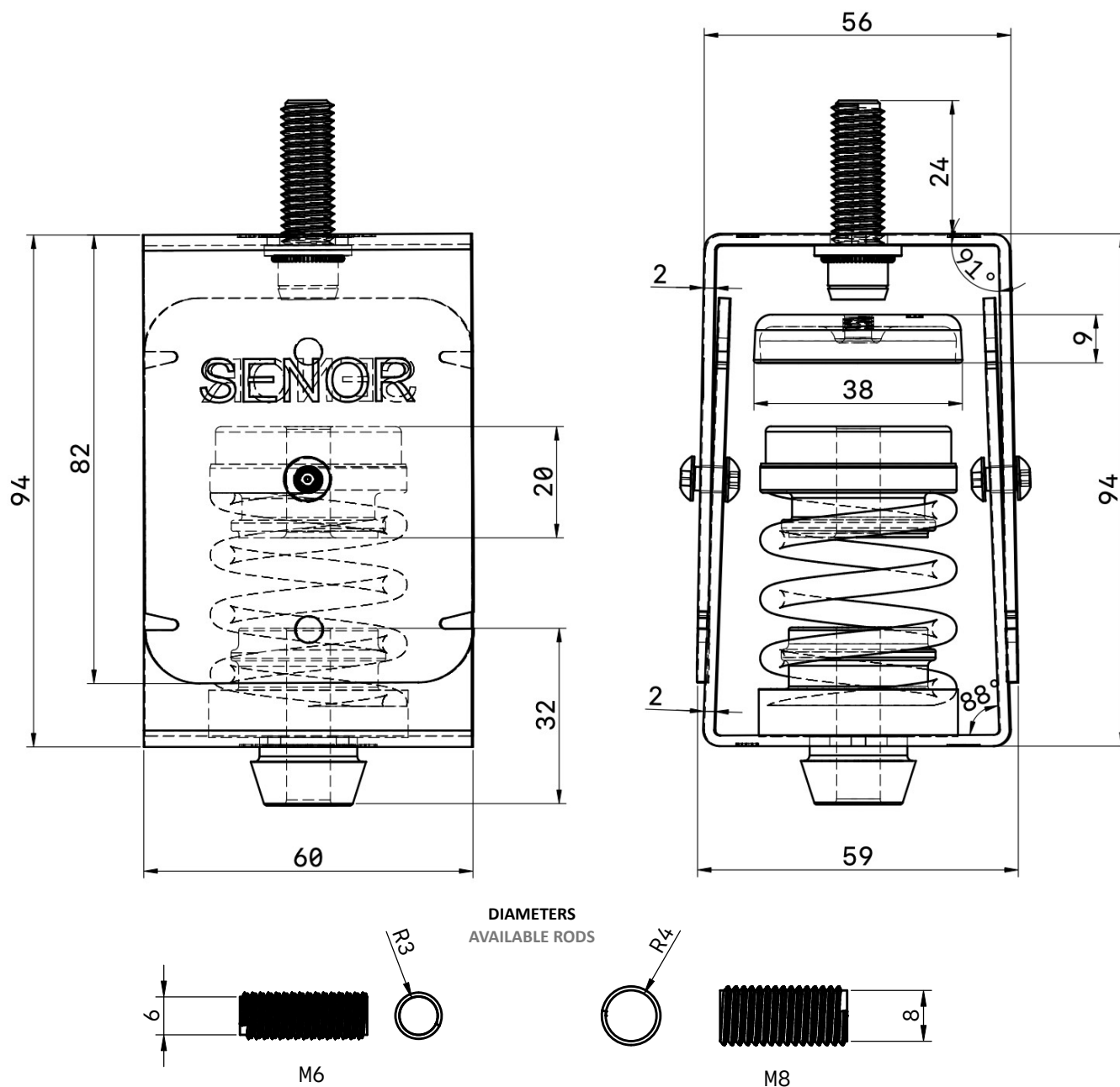




SENOR A4MIXTO-EC 75 A

Dimensions

You'll be amazed by its performance! It's the perfect damper for designing acoustic technical ceilings. **Say NO to noise.**



SENOR A4MIXTO-EC 75 A

 **Youtube**
SENOR Acoustic Dampers


SENOR
SENOR Products
ACOUSTIC Ceilings

KEY Features

A4MIXTO-EC 75 A is the **most powerful damper** on the market for suspending ceilings with direct attachment to the slab, offering the present and future solution for **noisy** spaces.

Construct acoustic ceilings with maximum performance, achieving improvements in airborne noise reduction of over **21dB**, and a **34dB** reduction in impact noise, based on tested results and in accordance with UNE-EN ISO 717-2:2021 standards.

Our **engineers** drive **innovation**.

A: The **TC5/EXN Rubber Top Cap** is distinguished by its design with an extended collar, an innovative feature that prevents unwanted contact between the threaded rod and the steel housing. This is critical for ensuring both the durability and performance of the system in which it is used. This component serves not only as a physical decoupler but also plays a pivotal role in vibration damping. Its ability to effectively reduce vibrations in the mid-to-high-frequency range (measured in hertz, Hz) makes it an ideal solution for applications where stability and smooth operation are paramount. Furthermore, its design guarantees the proper seating of the helical wire of the spring, enhancing the overall functioning of the mechanism, preventing premature wear, and extending the service life of the components involved.

B: The **Steel Helical Spring** is recognized for its ability to effectively eliminate vibro-mechanical energy contamination, particularly in the mid and low-frequency ranges, typically within the hertz (Hz) spectrum. This spring is designed to absorb and dissipate unwanted vibrations, making it an ideal solution for applications where stability and noise control are critical.

C: The **STEEL housing** is crafted from high-quality galvanized steel, specifically of type **Dx51d + Z275**, providing excellent corrosion resistance and long-lasting durability in harsh environments. With a thickness of **2 mm**, this structure not only offers substantial rigidity to the system but also plays a vital role in the axial compression of the elastic components, ensuring they maintain optimal performance and stability under load. This robustness is crucial for industrial applications requiring safe and efficient handling of dynamic forces.

D: The **Leveling Cup** is made from **DC04** deep-drawing steel, compliant with the **EN10131** steel standard, and has a thickness of 1.5 mm. It is designed to withstand heavy loads.



SENOR A4MIXTO-EC 75 A

 **Youtube**
SENOR Acoustic Dampers



SENOR Products
ACOUSTIC Ceiling

Installation Method

1.

Remove the product from its packaging.

2.

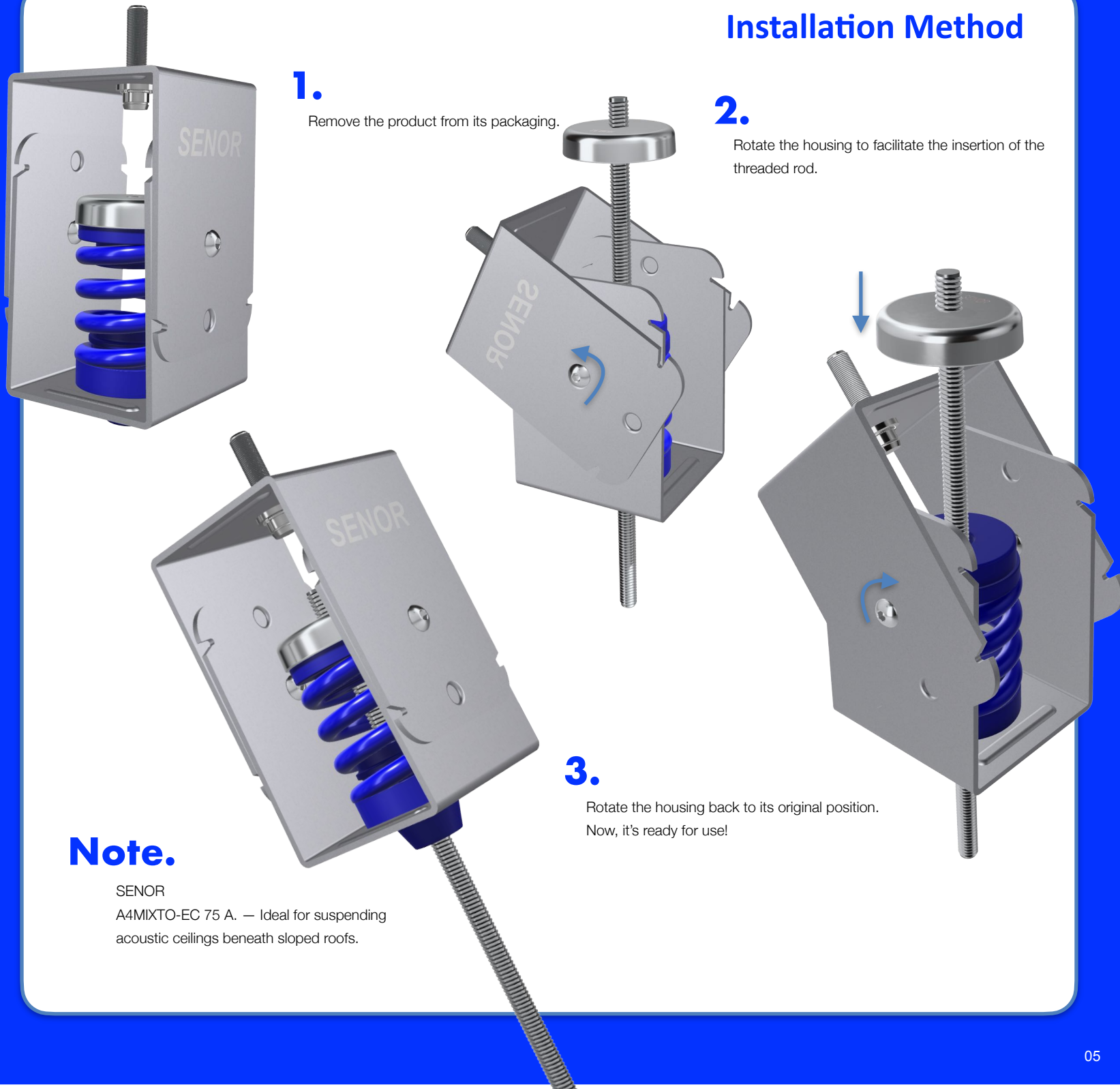
Rotate the housing to facilitate the insertion of the threaded rod.

3.

Rotate the housing back to its original position.
Now, it's ready for use!

Note.

SENOR
A4MIXTO-EC 75 A. — Ideal for suspending
acoustic ceilings beneath sloped roofs.

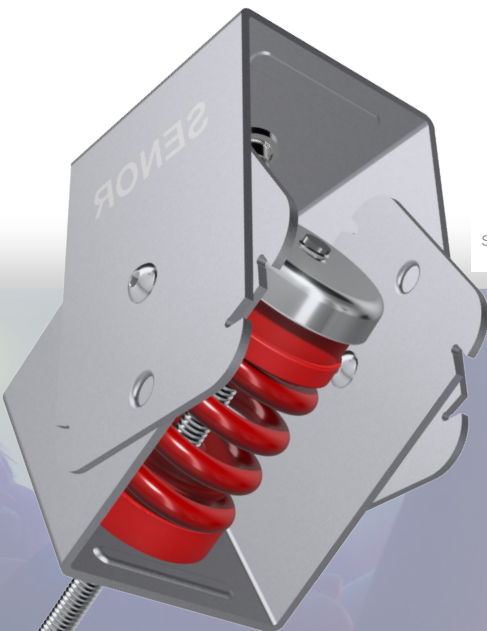


SEÑOR
A4MIXTO-EC 120 R

**HYBRID DAMPER WITH DUAL METRIC OUTPUT AND
ANGLE CORRECTION FOR ACOUSTIC SUSPENDED
CEILING**

It is a high-performance, innovative, and upgraded **HYBRID** damper. Manufactured using cutting-edge technology and designed to suppress all solid-borne acoustic pollution.

A4MIXTO-EC 120 R features a robust steel frame with an innovative dual rotary joint mechanism (**RT-10**). This design enables precise angle adjustment between the two independently functioning metric outputs, providing remarkable versatility. This functionality is crucial in ensuring that the elastic component's compression remains strictly axial, preventing any torsion that could compromise its integrity. By limiting the vectorial degrees of polymer deformation, the system optimizes the elastic component's performance, ultimately enhancing durability and operational efficiency. For instance, in applications that require continuous and precise movement, this mechanism minimizes the risk of structural failure and ensures smooth, reliable operation.



Preview in Augmented Reality 




Scan the QR code to open this 3D Model on your iOS or Android device.

I+D+i

*System registered with the
**Spanish Patent and
Trademark Office
(OEPM).**

Recommended for USE with acoustic ceilings, structure suspensions, and machinery with an operational frequency above 350 RPM and a load ranging between 60 and 120 kg per support point.



REF	COLOUR	APPLICATION FIELD	LOAD (Kg) MIN-MAX	METRIC (min-max)
SE-A4MIXTO-EC 120 R		Acoustic Ceilings, Frameworks and Machinery	60 - 120	6 - 8

HYBRID System: The result of combining the most advanced polymer with a helical steel spring.

- Helical Spring: Manufactured using steel wire in accordance with **DIN 2095-UNE EN 10270** standards, featuring an anti-corrosion finish and **metallic Red epoxy** coating.
- Rubber Polymer: Manufactured by KRAIBURG-TPE for SENOR, following UNE-EN ISO 10846-1:2009 standards.

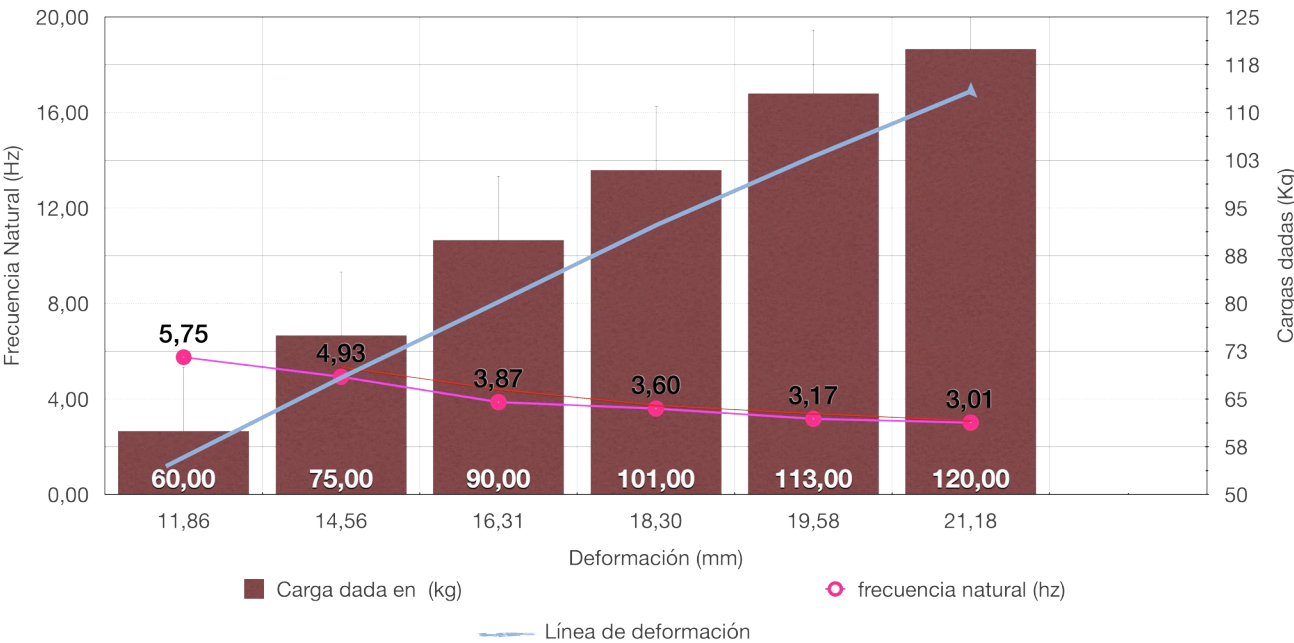
✓ Resonance Frequency: 3-7Hz

Dynamic Behaviour and Axial Deformation

Steel helical springs exhibit dynamic stiffness equivalent to their static stiffness, making them ideal for applications that demand predictable mechanical properties. In contrast, viscoelastic materials exhibit more complex behavior. The dynamic stiffness of these materials never equals their static stiffness, as they absorb and dissipate energy, adapting to the frequency and magnitude of vibrations. To fully understand this phenomenon, the dynamic behavior of viscoelastic materials cannot be determined through theoretical calculations alone; it requires specific laboratory testing to ensure accurate data for industrial applications.

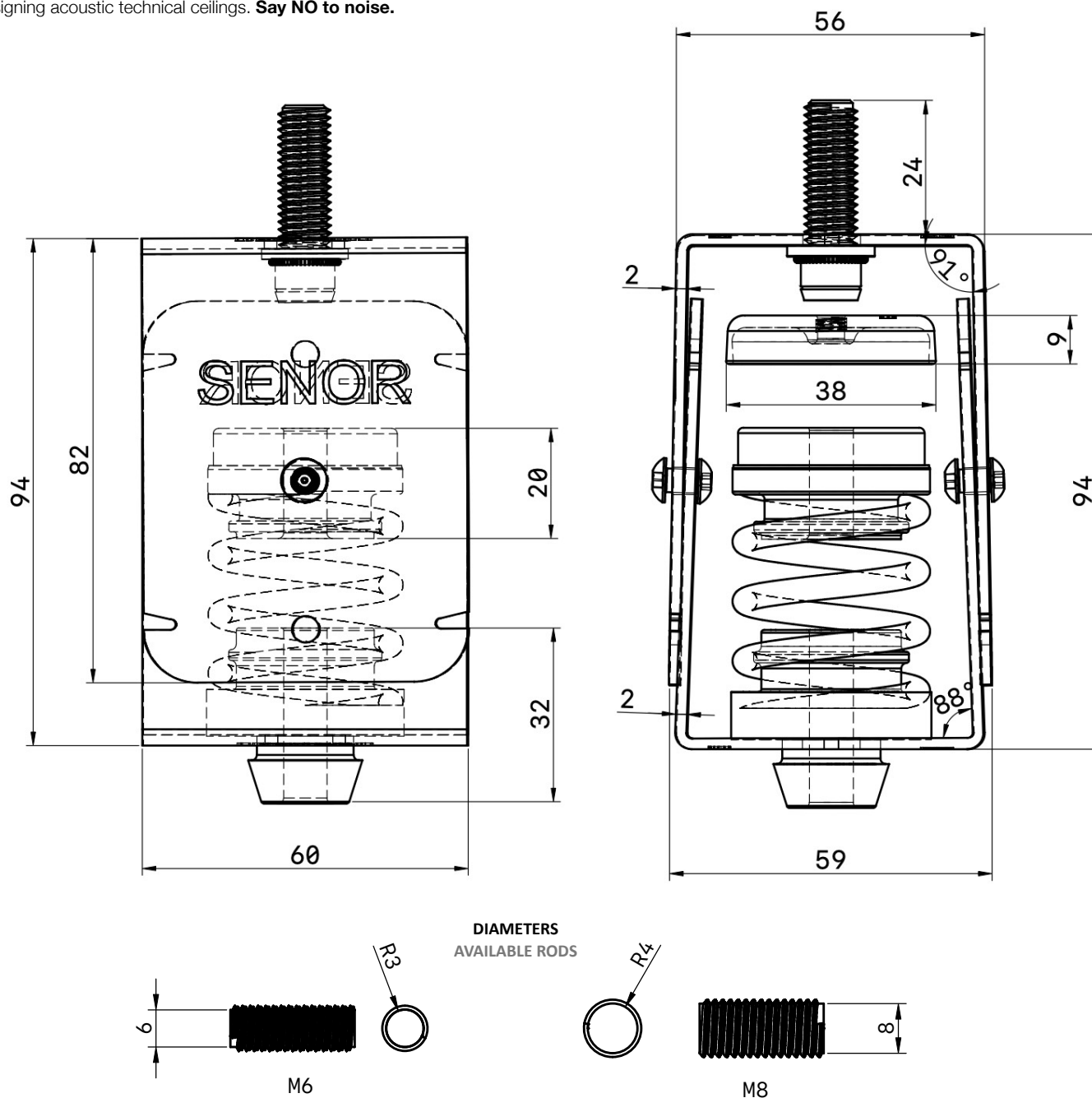
TABLE AND GRAPH OF LAB RESULTS

LOAD (Kg)	DEFORMATION (mm)	RESONANCE FREQUENCY (Hz)	SWEEP (Hz)	SOUNDPROOFING %
60	11,86	5,75	50	98,66
75	14,56	4,93		99,02
90	16,31	3,87		99,40
101	18,30	3,60		99,48
113	19,58	3,17		99,60
120	21,18	3,01		99,64



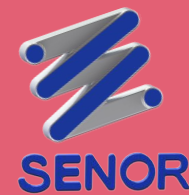
Dimensions

You'll be amazed by its performance! It's the perfect damper for designing acoustic technical ceilings. **Say NO to noise.**



SENOR A4MIXTO-EC 120 R

 **Youtube**
SENOR Dampers



SENOR Products
ACOUSTIC Ceilings

KEY Features

A4MIXTO-EC 120 R is the **most powerful** damper on the market for suspending ceilings with direct attachment to the slab, offering the present and future solution for **noisy** spaces.

Construct acoustic ceilings with maximum performance, achieving improvements in airborne noise reduction of over **21dB**, and a **34dB** reduction in impact noise, based on tested results and in accordance with UNE-EN ISO 717-2:2021 standards.

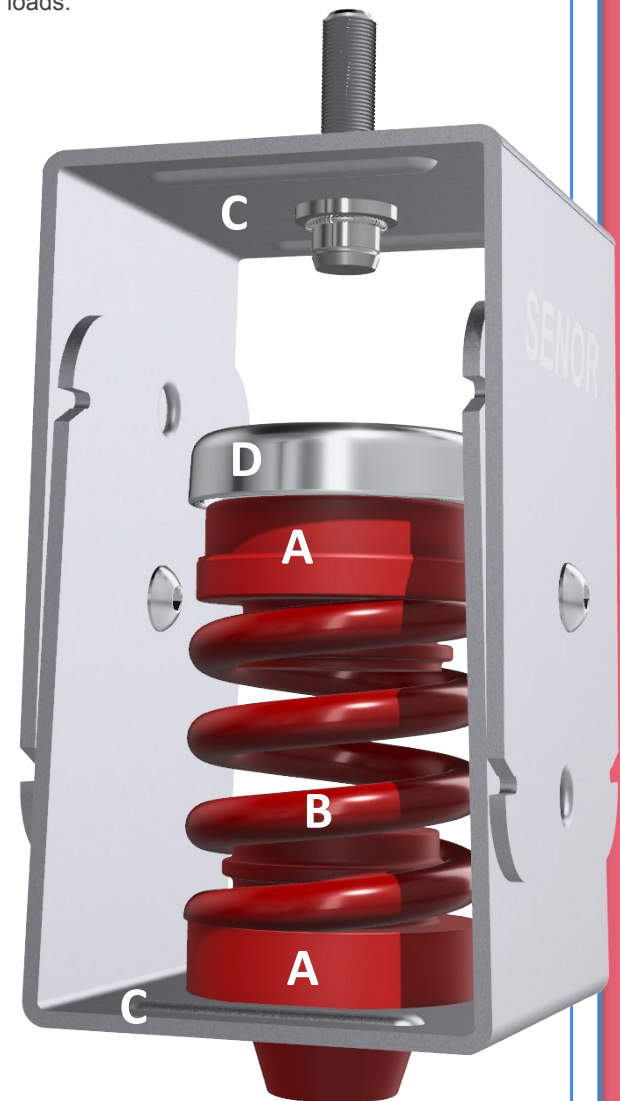
Our **engineers** drive **innovation**.

A: The **TC6/EXN Rubber Top Cap** is distinguished by its design with an extended collar, an innovative feature that prevents unwanted contact between the threaded rod and the steel housing. This is critical for ensuring both the durability and performance of the system in which it is used. This component serves not only as a physical decoupler but also plays a pivotal role in vibration damping. Its ability to effectively reduce vibrations in the mid-to-high-frequency range (measured in hertz, Hz) makes it an ideal solution for applications where stability and smooth operation are paramount. Furthermore, its design guarantees the proper seating of the helical wire of the spring, enhancing the overall functioning of the mechanism, preventing premature wear, and extending the service life of the components involved.

B: The **Steel Helical Spring** is recognized for its ability to effectively eliminate vibro-mechanical energy contamination, particularly in the mid and low-frequency ranges, typically within the hertz (Hz) spectrum. This spring is designed to absorb and dissipate unwanted vibrations, making it an ideal solution for applications where stability and noise control are critical.

C: The **STEEL housing** is crafted from high-quality galvanized steel, specifically of type **Dx51d + Z275**, providing excellent corrosion resistance and long-lasting durability in harsh environments. With a thickness of **2 mm**, this structure not only offers substantial rigidity to the system but also plays a vital role in the axial compression of the elastic components, ensuring they maintain optimal performance and stability under load. This robustness is crucial for industrial applications requiring safe and efficient handling of dynamic forces.

D: The **Leveling Cup** is made from **DC04** deep-drawing steel, compliant with the **EN10131** steel standard, and has a thickness of 1.5 mm. It is designed to withstand heavy loads.



SENOR A4MIXTO-EC 120 R

 **Youtube**
SENOR Antivibration Mounts



SENOR Products
ACOUSTIC Ceilings

Installation Method

1.

Remove the product from its packaging.

2.

Rotate the housing to facilitate the insertion of the threaded rod.

3.

Rotate the housing back to its original position.
Now, it's ready for use!

Note.

SENOR
A4MIXTO-EC 120 R. — Ideal for suspending
acoustic ceilings beneath sloped roofs.

