Unit 5 Woodcock Rd. Ind. Est.
Warminster
Wiltshire
BA12 9DX. UK

eMail: Sales@AntiVibrationMethods.co.uk
Tel: +44 (0) 1985 219032

www.AVMR.com

Helical Coil Wire Rope Mounts (Cavoflex)

These mounts are a development of the original helical coil mounts developed in the USA in the 1950s. Originally designed for Military use, these are now much more widespread in their application and are still used by NATO and other Defence organisations.

Cavoflex are commonly used for both shock and vibration management, and excel in both requirements.

Our standard range covers wire diameters from 1.5 to 32mm, however bespoke options can be made.

Standard products have been heavily tested to generate performance data. Due to the non-linear nature of the product performance, actual vibration and shock results are much more reliable than theoretical models.

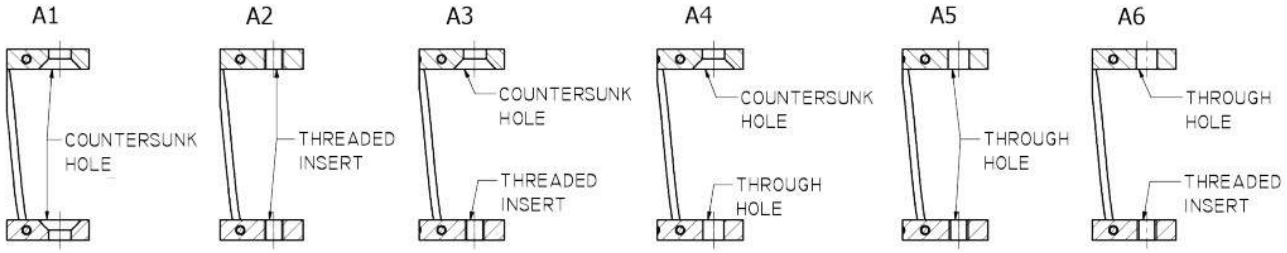
Key features across this range include:

- Multi-direction anti-vibration and anti-shock
- Exceptional reliability, long life, and low aging
- High damping; transmissibility at resonance is lower than 3.
- Non magnetic and corrosion resistant
- Temperature range of -100°C to +260°C
- Mounts are typically offered with 8 or 10 wire rope loops, however fewer loops are available. If only 4 loops are used, shorter mounting bars are also used.

Materials:

- Cable: Stainless steel (316)
- Bars: Aluminium Alloy (6000) with SURTEC 650 surface treatment.
    - Stainless steel is optional
- Screws and inserts: Stainless steel

Helical Coil Wire Rope Mounts – Mounting options



All products must be specified with fixtures which are added to the end of the product number (e.g. "-A4"):

- A1: Countersunk holes on both sides.
- A2: Threaded inserts on both sides.
- A3: Countersunk holes on one side, threaded inserts on the other.
- A4: Countersunk holes on one side, through-holes on the other.
- A5: Through-holes on both sides.
- A6: Through-holes on one side, threaded inserts on the other.

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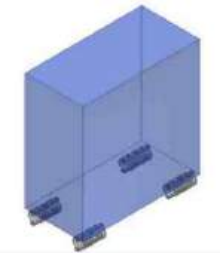
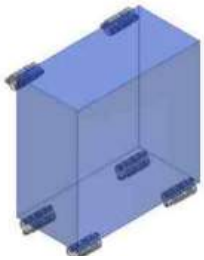
Helical Coil Wire Rope Mounts – Basic model selection

We have given the default Cavoflex models for certain simple scenarios on this page. Model selection is for guidance only, please contact us with any enquiries or alternative scenarios, if required.

These mounts should be loaded in compression either with or without stabilising mounts, as per the diagrams below. These assume that shock or vibration loads are in line with the weight of the isolated equipment (vertical).



Base mounting



Base mounting with stabilisers

Cavoflex for Shock Management			
Load per mount (Kg)		Suggested Mount*	
Min	Max	2.0 m/s	3.0 m/s
0.5	1	V-H-15-40	V-H-25-46
1	2	V-H-25-43	V-H-30-52
2	3	V-H-30-52	V-H-40-64
3	5	V-H-40-53	V-H-50-80
5	7	V-H-50-80	V-H-60-96
7	10	V-H-60-90	V-H-70-108
10	15	V-H-70-90	V-H-80-109
15	21	V-H-80-92	V-H-100-108-4S
21	28	V-H-100-105-4S	V-H-100-108-6S
28	37	V-H-100-105-6S	V-H-100-108
37	49	V-H-100-105	V-H-130-133-4S
49	66	V-H-130-105-4S	V-H-130-133-6S
66	87	V-H-130-105-6S	V-H-130-133
87	110	V-H-130-105	V-H-160-135-6S
110	150	V-H-160-120-4S	V-H-160-135
150	190	V-H-160-120-6S	V-H-190-160-6S
190	240	V-H-160-120	V-H-190-160
240	320	V-H-190-145-6S	V-H-220-178-6S
320	430	V-H-190-145	V-H-220-178
430	570	V-H-220-165-6S	-
570	760	V-H-220-165	-
* suggested Cavoflex mount for given input shock (m/s)			

Cavoflex for Vibration Management		
Load per mount (Kg)		Suggested
Min	Max	Mount*
1	2	V-H-15-38
2	4	V-H-25-43
4	8	V-H-40-61
8	15	V-H-50-80
15	22	V-H-60-96
22	35	V-H-70-90
35	60	V-H-80-92
60	90	V-H-100-108-6S
90	130	V-H-100-108
130	170	V-H-130-133-6S
170	220	V-H-130-133
220	280	V-H-160-135-6S
280	370	V-H-160-135
370	500	V-H-190-145-6S
500	650	V-H-190-145
650	800	V-H-220-165-6S
800	1000	V-H-220-165
1000	1250	V-H-290-241-6S
1250	1550	V-H-290-241
* suggested mounts for forcing frequencies over 1,400 RPM (23.3 Hz)		

Shocks with instantaneous variation of velocity:

- 2.0m/s: heavy commercial grade shock or standard military grade. For example:
  - 40g x 11ms triangular pulse
  - 60g x 6ms semi-sinusoidal pulse
  - 30g x 11ms semi-sinusoidal pulse
- 3.0m/s: heavy military grade. For example:
  - 60g x 11ms triangular pulse
  - 100g x 6ms triangular pulse
  - 50g x 11ms semi-sinusoidal pulse

For more information on each model, please see the following pages.

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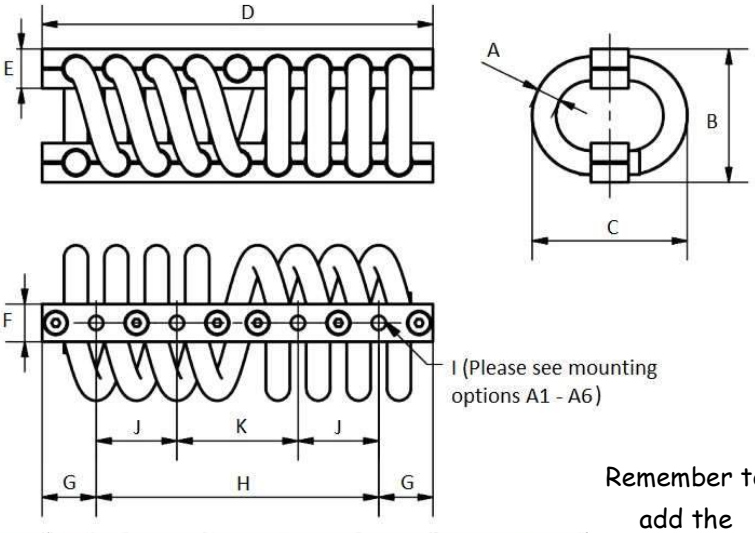
AVMR Anti Vibration Methods

Helical Coil Wire Rope Mounts (Cavoflex) – 10-32mm Ø wire

We have intentionally not given load and deflection data here as we strongly recommend asking for advice when selecting these mounts.

Note: The drawing is a schematic designed to give key information on the design. Minor details (e.g. screws holding the bars together) might not be relevant or precise to the selected product.



Product	Dimensions (mm)											Product Weight (Kg)
	A (Dia)	B	C	D	E	F	G	H	I (Dia)	J	K	
V-H-100-80	10.0	68	80	217	16.9	25	30.6	155.8	M8/ 9 Ø	44.5	66.8	1.1
V-H-100-84		71	84									1.2
V-H-100-90		74	90									1.2
V-H-100-105		76	105									1.3
V-H-100-108		89	108									1.4
V-H-100-121		105	121									1.5
V-H-100-140		108	140									1.6
V-H-100-143		124	143									1.7
V-H-100-153		135	153									1.9
V-H-130-92	13.0	76	92	217	21	25	30.65	155.7	M8/ 9 Ø	44.5	66.7	2
V-H-130-102		83	102									2.2
V-H-130-105		89	105									2.2
V-H-130-121		95	121									2.5
V-H-130-133		108	133									2.7
V-H-130-143		124	143									2.8
V-H-130-156		137	156									3
V-H-130-180		155	180									3.5
V-H-130-186		166	186									3.7
V-H-160-102	16.0	89	102	268	25	25	38.45	191.1	M10/ 11 Ø	54.6	81.9	3
V-H-160-112		96	112									3.2
V-H-160-120		100	120									3.4
V-H-160-135		109	135									3.7
V-H-160-152		119	152									4
V-H-160-165		127	165									4.3
V-H-160-178		135	178									4.5
V-H-160-185		146	185									4.8

Remember to add the mounting option (e.g "-A4") to the end of the part number!

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Helical Coil Wire Rope Mounts (Cavoflex) – 10-32mm Ø wire (continued)

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Note: The drawing is a schematic designed to give key information on the design. Minor details (e.g. screws holding the bars together) might not be relevant or precise to the selected product.

Product	Dimensions (mm)											Product Weight (Kg)
	A (Dia)	B	C	D	E	F	G	H	I (Dia)	J	K	
V-H-190-125	19.0	104	125	320	31.5	30	44.5	231	M10/ 11 Ø	66	99	4.9
V-H-190-135		110	135									5.2
V-H-190-145		117	145									5.5
V-H-190-160		125	160									5.8
V-H-190-175		135	175									6.3
V-H-190-185		145	185									6.8
V-H-190-200		160	200									7.3
V-H-190-215		175	215									7.9
V-H-220-140	22.0	133	140	368	41.6	40	50.65	266.7	M12/ 13 Ø	76.2	114.3	8.6
V-H-220-165		152	165									9.7
V-H-220-178		159	178									10.2
V-H-220-210		190	210									11.8
V-H-220-235		216	235									13.1
V-H-290-216	29.0	178	216	523	52.5	50	72.5	378	M18/ 19 Ø	108	162	21
V-H-290-241		216	241									24
V-H-290-260		235	260									25
V-H-320-210	32.0	178	210	523	52.5	50	72.5	378	M18/ 19 Ø	108	162	23
V-H-320-248		216	248									27
V-H-320-270		235	270									29

Remember to add the mounting option
(e.g "-A4") to the end of the part number!