

ADVANCED ENGINEERING SOLUTIONS **POWERFLEX**

COMPACT WIROPE ISOLATORS



TOTAL PROTECTION
FROM SHOCK AND VIBRATION

PWHK

S · E · R · I · E · S

TECHNICAL DATA &
PERFORMANCE
CHARACTERISTICS

POWERFLEX "PWHK SERIES"

MAIN TYPICAL APPLICATIONS

The PWHK Series Wire Rope Isolators are the compact version of PWHs Series.

The standard version has got 6000 series aluminium alloy bars, AISI 316 stainless steel rope, A4 stainless steel threaded inserts and screws. A special version with AISI 316 stainless steel bars is also available. The standard version is available with rope diameter ranging from 6,3mm to 28.5mm.

They are designed to effectively reduce mechanical vibrations and shocks in extreme environmental conditions such as high temperatures and humidity, low temperatures and ice, thermal shocks, salt fog, fuels, oils, fire etc.

They are designed to be compliant with the Defense & Space main design standards as MIL STD 810, MIL S 901, NAV 30 A001-A002, BV 0230-0240, RTCA DO 160.

MAIN TYPICAL APPLICATIONS

Defense Sector

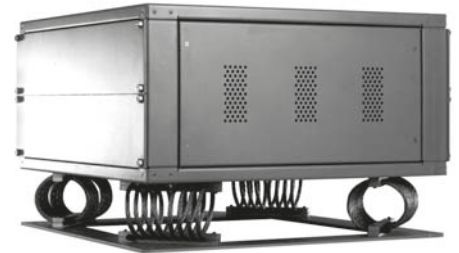
Shelter, ICT cabinets, consoles, displays, containers, radars, antennas, missile and torpedo cradles, engine cradles, generator sets, data recorders, ARINC trays.

Space Sector

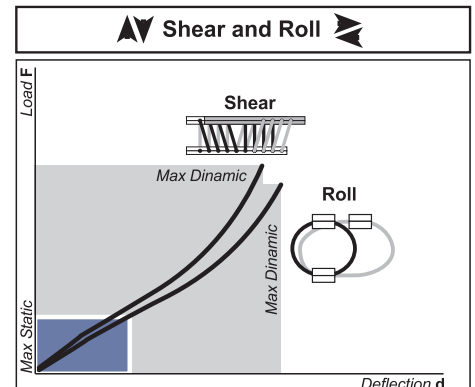
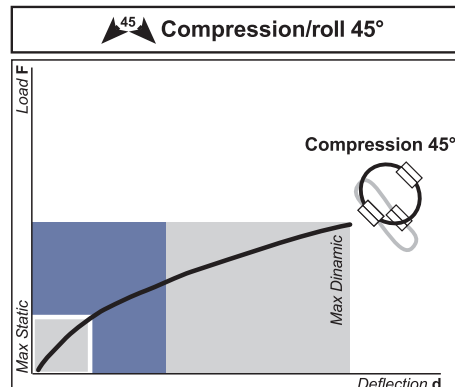
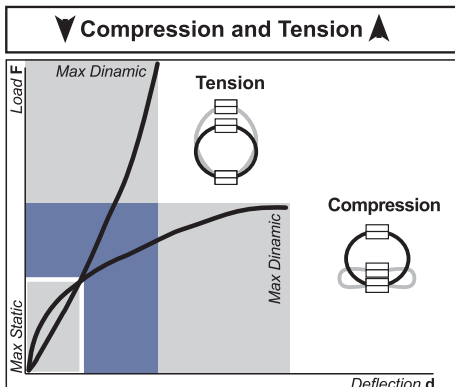
Satellites, Mechanical & Electrical GSEs

Industrial Sector

Vibrating machines, moulding machines, electrodynamic presses, generator sets, air conditioners, fans.



Performances



SHOCK and VIBRATION SPECIFICATIONS

MIL STD 810, MIL S 901, NAV 30 A001-A002, BV 0230-0240, RTCA DO 160.

PERFORMANCE CHARACTERISTICS

PWKS063 Series

P/Number	h	v	W	F	▼	▲	▲ ⁴⁵	▲▼	▲▼	
PWHK 06310-04	50	60	4	Max Static	daN	30.0	30.0	25.0	20.0	20.0
					mm	3.0	2.1	5.5	3.5	4.5
				Max Dinamic	daN	84.0	87.0	73.0	73.0	67.0
				mm	11.4	5.6	20.0	15.0	12.5	
PWHK 06320-04	60	70	4	Max Static	daN	25.0	25.0	20.0	15.0	15.0
					mm	4.1	2.3	6.3	7.3	6.7
				Max Dinamic	daN	92.0	135.0	50.0	71.0	70.0
				mm	24.3	11.2	30.0	24.4	21.5	
PWHK 06330-04	70	80	4	Max Static	daN	20.0	20.0	15.0	10.0	10.0
					mm	4.3	3.0	5.0	6.8	6.1
				Max Dinamic	daN	75.0	81.0	46.0	42.0	34.0
				mm	30.0	11.9	40.0	24.3	22.9	

P/Number	h	v	W	F	▼	▲	▲ ⁴⁵	▲▼	▲▼	
PWHK 06340-04	80	90	4	Max Static	daN	17.0	17.0	10.0	7.0	7.0
					mm	8.0	3.5	6.3	10.0	10.0
				Max Dinamic	daN	56.0	82.0	28.0	37.0	41.0
				mm	43.0	15.3	56.0	35.0	39.3	
PWHK 06350-04	90	100	4	Max Static	daN	12.0	12.0	10.0	6.0	6.0
					mm	6.0	2.8	8.8	10.0	8.8
				Max Dinamic	daN	46.0	41.0	22.0	35.0	30.0
				mm	46.5	13.2	46.8	40.0	37.8	
PWHK 06360-04	85	110	4	Max Static	daN	12.0	12.0	8.0	6.0	6.0
					mm	9.0	8.5	15.5	15.1	16.8
				Max Dinamic	daN	35.0	120.0	22.0	45.0	39.0
				mm	48.0	40.0	72.0	63.2	60.0	

PWHK080 Series

P/Number	h	v	W	F	▼	▲	▲ ⁴⁵	▲▼	▲▼	
PWHK 08010-04	50	60	4	Max Static	daN	74.0	74.0	55.0	37.0	37.0
					mm	3.0	2.5	5.0	5.0	6.0
				Max Dinamic	daN	222.0	725.0	186.0	267.0	259.0
				mm	17.0	12.0	25.0	14.3	20.0	
PWHK 08020-04	55	65	4	Max Static	daN	62.0	62.0	46.0	30.0	30.0
					mm	4.0	3.5	7.0	6.3	8.0
				Max Dinamic	daN	185.0	575.0	115.0	206.0	192.0
				mm	23.0	15.0	35.0	21.2	25.0	
PWHK 08030-04	60	70	4	Max Static	daN	50.0	50.0	37.0	25.0	25.0
					mm	5.0	4.2	8.2	8.1	9.5
				Max Dinamic	daN	150.0	490.0	93.0	173.0	161.0
				mm	27.0	20.0	41.0	26.4	30.0	

P/Number	h	v	W	F	▼	▲	▲ ⁴⁵	▲▼	▲▼	
PWHK 08040-04	65	80	4	Max Static	daN	40.0	40.0	30.0	20.0	20.0
					mm	5.8	5.2	9.5	9.3	10.8
				Max Dinamic	daN	120.0	425.0	75.0	145.0	136.0
				mm	30.0	25.0	47.0	33.6	37.0	
PWHK 08050-04	70	100	4	Max Static	daN	25.0	25.0	19.0	12.0	12.0
					mm	6.5	6.2	10.5	10.2	2.9
				Max Dinamic	daN	77.0	367.0	51.0	120.0	112.0
				mm	34.0	45.0	50.0	52.7	55.0	
PWHK 08060-04	80	110	4	Max Static	daN	25.0	25.0	18.0	12.0	12.0
					mm	9.0	8.2	15.5	2.2	2.9
				Max Dinamic	daN	75.0	271.0	47.0	93.0	82.0
				mm	48.0	40.0	72.0	56.3	58.0	

PWHK095 Series

P/Number	h	v	W	F	▼	▲	▲ ⁴⁵	▲▼	▲▼	
PWHK 09510-04	75	90	4	Max Static	daN	57.5	57.5	50.0	37.5	37.5
					mm	5.0	1.5	7.5	8.2	11.0
				Max Dinamic	daN	250.0	400.0	122.5	120.0	173.5
				mm	35.8	6.7	41.0	22.0	30.5	
PWHK 09520-04	90	110	4	Max Static	daN	45.0	45.0	37.5	25.0	25.0
					mm	5.0	3.0	10.0	9.5	10.0
				Max Dinamic	daN	167.5	85.0	92.5	120.0	106.0
				mm	35.0	6.3	54.5	33.0	33.0	
PWHK 09530-04	100	115	4	Max Static	daN	43.5	43.5	25.0	20.0	20.0
					mm	10.0	5.8	9.3	13.0	13.0
				Max Dinamic	daN	153.5	135.0	78.5	78.5	71.0
				mm	58.0	16.9	63.5	38.8	40.5	

P/Number	h	v	W	F	▼	▲	▲ ⁴⁵	▲▼	▲▼	
PWHK 09540-04	110	135	4	Max Static	daN	37.5	37.5	20.0	17.5	17.5
					mm	11.0	2.0	9.0	12.5	16.3
				Max Dinamic	daN	141.5	180.0	66.5	116.0	94.0
				mm	75.0	47.5	88.0	62.5	63.5	
PWHK 09550-04	125	145	4	Max Static	daN	28.0	28.0	20.0	14.0	14.0
					mm	14.5	10.0	26.0	26.0	28.8
				Max Dinamic	daN	84.0	221.0	50.0	71.0	63.5
				mm	82.0	35.0	122.0	66.5	72.0	
PWHK 09560-04	135	155	4	Max Static	daN	25.0	25.0	19.0	12.5	12.5
					mm	16.0	11.0	29.0	30.0	32.0
				Max Dinamic	daN	75.0	197.5	45.0	65.0	56.0
				mm	90.0	40.0	137.0	77.1	80.0	

PWHK110 Series

P/Number	h	v	W	F	▼	▲	▲ ⁴⁵	▲▼	▲▼	
PWHK 11010-04	75	90	4	Max Static	daN	147.5	147.5	110.0	74.0	74.0
					mm	7.0	5.0	11.5	9.1	13.0
				Max Dinamic	daN	440.0	1215.0	265.0	410.0	380.0
				mm	37.0	20.0	55.0	28.4	35.0	
PWHK 11020-04	90	110	4	Max Static	daN	108.0	108.0	80.0	54.0	54.0
					mm	9.0	6.5	16.0	15.1	17.5
				Max Dinamic	daN	320.0	895.0	192.0	290.0	270.0
				mm	50.0	28.0	75.0	42.6	47.0	

P/Number	h	v	W	F	▼	▲	▲ ⁴⁵	▲▼	▲▼	
PWHK 11030-04	105	125	4	Max Static	daN	89.0	89.0	67.0	44.0	44.0
					mm	11.5	8.0	21.0	20.0	23.0
				Max Dinamic	daN	265.0	699.0	157.0	219.0	204.0
				mm	65.0	30.0	98.0	54.3	58.0	
PWHK 11040-04	110	145	4	Max Static	daN	67.0	67.0	50.0	33.0	33.0
					mm	12.5	10.0	22.5	22.1	24.0
				Max Dinamic	daN	200.0	627.0	125.0	208.0	187.0
				mm	68.0	45.0	102.0	67.3	70.0	

DESCRIPTIONS

Standards

Cable: AISI 316 Stainless Steel

Retaining Bars: 6000 Series Aluminium Alloy, MIL DTL 5541 treated

Screws: A4 Stainless Steel

Threaded Inserts: A4 Stainless Steel

Optionals

Retaining Bars: AISI 316 Stainless Steel

PWHK125 Series

P/Number	h	v	W	F	▼	▲	▲ ⁴⁵	▲	▼	
PWHK 12510-04	75	90	4	Max Static	daN	175.0	175.0	150.0	62.5	62.5
				mm	6.6	3.7	10.0	4.8	5.2	
				Max Dynamic	daN	520.0	650.0	387.5	332.5	192.5
				mm	25.0	10.3	43.0	18.4	15.4	
PWHK 12520-04	90	105	4	Max Static	daN	150.0	150.0	100.0	62.5	62.5
				mm	8.3	5.0	8.8	8.3	10.4	
				Max Dynamic	daN	1220.0	1700.0	485.0	530.0	275.0
				mm	53.0	18.3	40.0	27.5	21.7	
PWHK 12530-04	95	120	4	Max Static	daN	125.0	125.0	87.5	56.0	56.0
				mm	10.0	5.0	10.8	9.0	10.3	
				Max Dynamic	daN	372.5	372.5	187.5	155.0	82.5
				mm	40.0	14.0	39.5	20.7	15.5	

P/Number	h	v	W	F	▼	▲	▲ ⁴⁵	▲	▼	
PWHK 12540-04	125	145	4	Max Static	daN	117.5	117.5	82.5	55.0	55.0
				mm	13.5	9.0	25.0	23.1	25.0	
				Max Dynamic	daN	355.0	237.5	212.5	325.0	280.0
				mm	75.0	23.0	115.0	70.0	65.0	
PWHK 12550-04	135	155	4	Max Static	daN	102.5	102.5	77.5	55.0	55.0
				mm	15.5	10.5	28.0	8.0	30.0	
				Max Dynamic	daN	307.5	825.0	185.0	265.0	240.0
				mm	85.0	40.0	130.0	82.0	78.0	
PWHK 12560-04	110	150	4	Max Static	daN	82.5	82.5	62.5	35.0	35.0
				mm	17.5	9.0	16.3	12.0	11.5	
				Max Dynamic	daN	275.0	237.5	127.5	112.5	69.0
				mm	70.0	23.0	52.5	38.5	24.8	

PWHK160 Series

P/Number	h	v	W	F	▼	▲	▲ ⁴⁵	▲	▼	
PWHK 16010-04	100	110	4	Max Static	daN	250.0	250.0	225.0	125.0	125.0
				mm	5.8	2.5	7.5	6.0	9.0	
				Max Dynamic	daN	645.0	1687.0	550.0	332.0	215.0
				mm	21.3	15.0	35.0	18.0	18.0	
PWHK 16020-04	100	125	4	Max Static	daN	250.0	250.0	200.0	125.0	125.0
				mm	7.5	4.5	10.0	8.0	9.3	
				Max Dynamic	daN	1062.0	1427.0	510.0	275.0	417.0
				mm	51.0	20.5	50.0	21.7	30.0	
PWHK 16030-04	110	135	4	Max Static	daN	225.0	225.0	175.0	112.0	112.0
				mm	10.0	8.3	12.5	11.0	13.8	
				Max Dynamic	daN	660.0	855.0	405.0	300.0	389.0
				mm	43.0	25.0	51.0	32.5	40.0	

P/Number	h	v	W	F	▼	▲	▲ ⁴⁵	▲	▼	
PWHK 16040-04	125	150	4	Max Static	daN	210.0	210.0	162.0	105.0	105.0
				mm	11.0	10.0	19.0	19.1	20.5	
				Max Dynamic	daN	631.0	2198.0	397.0	777.0	720.0
				mm	60.0	48.0	90.0	78.2	70.0	
PWHK 16050-04	135	180	4	Max Static	daN	160.0	160.0	121.0	81.0	81.0
				mm	13.5	12.5	24.5	24.7	26.0	
				Max Dynamic	daN	485.0	1750.0	307.0	575.0	545.0
				mm	75.0	62.0	110.0	99.0	90.0	
PWHK 16060-04	145	185	4	Max Static	daN	155.0	155.0	117.0	77.0	77.0
				mm	15.5	13.5	28.0	27.1	29.0	
				Max Dynamic	daN	467.0	1560.0	292.0	505.0	482.0
				mm	85.0	62.0	125.0	103.0	95.0	

PWHK190 Series

P/Number	h	v	W	F	▼	▲	▲ ⁴⁵	▲	▼	
PWHK 19010-04	105	125	4	Max Static	daN	500.0	500.0	374.0	250.0	250.0
				mm	7.0	6.0	12.5	12.0	13.5	
				Max Dynamic	daN	1495.0	4832.0	927.0	1731.0	1675.0
				mm	40.0	28.0	60.0	31.0	42.0	
PWHK 19020-04	125	160	4	Max Static	daN	320.0	320.0	240.0	160.0	160.0
				mm	10.5	9.5	19.0	19.0	20.5	
				Max Dynamic	daN	960.0	3375.0	604.0	1136.0	1097.0
				mm	58.0	47.0	90.0	60.0	68.0	

P/Number	h	v	W	F	▼	▲	▲ ⁴⁵	▲	▼	
PWHK 19030-04	145	185	4	Max Static	daN	255.0	255.0	192.0	127.0	127.0
				mm	14.0	12.5	25.5	25.0	26.5	
				Max Dynamic	daN	765.0	2615.0	480.0	847.0	821.0
				mm	75.0	60.0	115.0	82.0	90.0	
PWHK 19040-04	175	215	4	Max Static	daN	205.0	205.0	155.0	102.0	102.0
				mm	19.0	15.5	35.0	33.0	35.0	
				Max Dynamic	daN	617.0	1950.0	380.0	625.0	595.0
				mm	105.0	68.0	155.0	103.0	110.0	

PWHK220 Series

P/Number	h	v	W	F	▼	▲	▲ ⁴⁵	▲	▼	
PWHK 22010-04	150	185	4	Max Static	daN	500.0	500.0	375.0	150.0	150.0
				mm	9.0	8.8	11.5	6.0	5.8	
				Max Dynamic	daN	1437.0	1687.0	875.0	400.0	515.0
				mm	55.0	29.0	57.0	24.4	36.0	

P/Number	h	v	W	F	▼	▲	▲ ⁴⁵	▲	▼	
PWHK 22030-04	160	195	4	Max Static	daN	500.0	500.0	250.0	200.0	200.0
				mm	13.8	10.0	12.5	13.8	14.0	
				Max Dynamic	daN	1300.0	1800.0	695.0	550.0	750.0
				mm	64.5	40.0	55.0	50.0	60.0	

PWHK285 Series

P/Number	h	v	W	F	▼	▲	▲ ⁴⁵	▲	▼	
PWHK 28510-04	185	210	4	Max Static	daN	925.0	925.0	690.0	460.0	460.0
				mm	13.0	11.0	23.0	22.6	24.0	
				Max Dynamic	daN	2765.0	9885.0	1730.0	3325.0	3250.0
				mm	70.0	52.0	10.0	66.0	77.0	

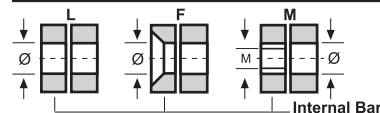
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PWHK 28520-04	215	240	4	Max Static	daN	810.0	810.0	607.0	405.0	405.0
				mm	20.0	13.5	35.0	34.1	36.0	
				Max Dynamic	daN	2430.0	6790.0	1462.0	2195.0	2140.0
				mm	105.0	53.0	155.0	86.0	95.0	

The technical data specified is solely for information purpose only. Powerflex S.r.l. has the right to modify data without prior notice. L.M.01/10

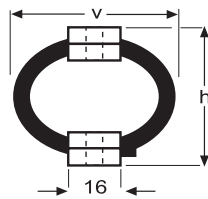
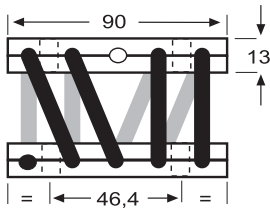
CHARACTERISTICS

Amplification Factor: < 5
 Equivalent Viscous Critical Damping Ratio: 0,05 to 0,15
 Working Frequencies: Depending on static and dynamic load
 Operating Temperature: -180 C to +300 C

BAR FIXING



PWHK063 / PWHK080 Series



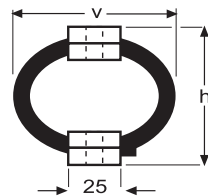
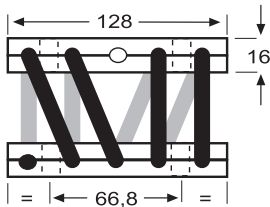
DIMENSIONS (mm)

Tolerances:
 Holes $\pm 0,3$ mm
 Center distances $\pm 0,5$ mm
 $h \pm 2,5$ mm
 $v \pm 3,5$ mm
Number of Loops:
 (W) 4 (standard)
Fixing Holes: No. 4
Mass: 300 g to 600 g

BAR FIXING

L2: 4 Clearance Hole $\varnothing 7$
FL: 2 Countersink Hole $\varnothing 7$
 2 Clearance Hole $\varnothing 7$
F2: 4 Countersink Hole $\varnothing 7$
ML: 2 Threaded Insert M6
 2 Clearance Hole $\varnothing 7$
M2: 4 Threaded Insert M6
FM: 2 Countersink Hole $\varnothing 7$
 2 Threaded Insert M6

PWHK95 / PWHK110 Series



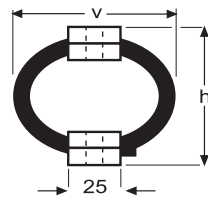
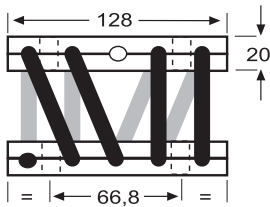
DIMENSIONS (mm)

Tolerances:
 Holes $\pm 0,3$ mm
 Center distances $\pm 0,5$ mm
 $h \pm 3,5$ mm
 $v \pm 5$ mm
Number of Loops:
 (W) 4 (standard)
Fixing Holes: No. 4
Mass: 700 g to 1 kg

BAR FIXING

L2: 4 Clearance Hole $\varnothing 7$
FL: 2 Countersink Hole $\varnothing 7$
 2 Clearance Hole $\varnothing 7$
F2: 4 Countersink Hole $\varnothing 7$
ML: 2 Threaded Insert M6
 2 Clearance Hole $\varnothing 7$
M2: 4 Threaded Insert M6
FM: 2 Countersink Hole $\varnothing 7$
 2 Threaded Insert M6

PWHK125 Series



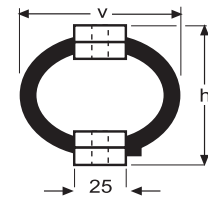
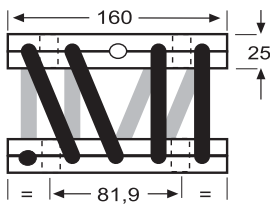
DIMENSIONS (mm)

Tolerances:
 Holes $\pm 0,3$ mm
 Center distances $\pm 0,5$ mm
 $h \pm 3,5$ mm
 $v \pm 5$ mm
Number of Loops:
 (W) 4 (standard)
Fixing Holes: No. 4
Mass: 700 g to 1,5 kg

BAR FIXING

L2: 4 Clearance Hole $\varnothing 9$
FL: 2 Countersink Hole $\varnothing 9$
 2 Clearance Hole $\varnothing 9$
F2: 4 Countersink Hole $\varnothing 9$
ML: 2 Threaded Insert M8
 2 Clearance Hole $\varnothing 9$
M2: 4 Threaded Insert M8
FM: 2 Countersink Hole $\varnothing 9$
 2 Threaded Insert M8

PWHK160 Series



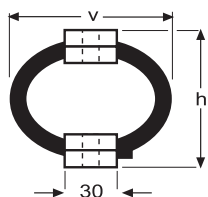
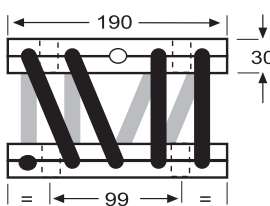
DIMENSIONS (mm)

Tolerances:
 Holes $\pm 0,3$ mm
 Center distances $\pm 0,5$ mm
 $h \pm 5$ mm
 $v \pm 5$ mm
Number of Loops:
 (W) 4 (standard)
Fixing Holes: No. 4
Mass: 1 kg to 1,5 kg

BAR FIXING

L2: 4 Clearance Hole $\varnothing 11$
FL: 2 Countersink Hole $\varnothing 11$
 2 Clearance Hole $\varnothing 11$
F2: 4 Countersink Hole $\varnothing 11$
ML: 2 Threaded Insert M10
 2 Clearance Hole $\varnothing 11$
M2: 4 Threaded Insert M10
FM: 2 Countersink Hole $\varnothing 11$
 2 Threaded Insert M10

PWHK190 Series



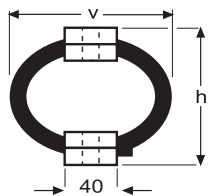
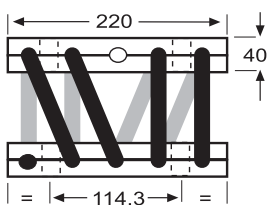
DIMENSIONS (mm)

Tolerances:
 Holes $\pm 0,3$ mm
 Center distances $\pm 0,5$ mm
 $h \pm 5$ mm
 $v \pm 5$ mm
Number of Loops:
 (W) 4 (standard)
Fixing Holes: No. 4
Mass: 1,1 kg to 1,7 kg

BAR FIXING

L2: 4 Clearance Hole $\varnothing 11$
FL: 2 Countersink Hole $\varnothing 11$
 2 Clearance Hole $\varnothing 11$
F2: 4 Countersink Hole $\varnothing 11$
ML: 2 Threaded Insert M10
 2 Clearance Hole $\varnothing 11$
M2: 4 Threaded Insert M10
FM: 2 Countersink Hole $\varnothing 11$
 2 Threaded Insert M10

PWHK220 Series



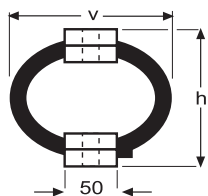
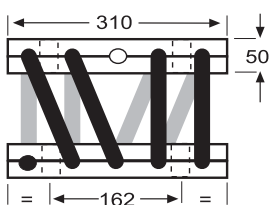
DIMENSIONS (mm)

Tolerances:
 Holes $\pm 0,3$ mm
 Center distances $\pm 0,5$ mm
 $h \pm 5$ mm
 $v \pm 7,5$ mm
Number of Loops:
 (W) 4 (standard)
Fixing Holes: No. 4
Mass: 5 kg to 6 kg

BAR FIXING

L2: 4 Clearance Hole $\varnothing 13$
FL: 2 Countersink Hole $\varnothing 13$
 2 Clearance Hole $\varnothing 13$
F2: 4 Countersink Hole $\varnothing 13$
ML: 2 Threaded Insert M12
 2 Clearance Hole $\varnothing 13$
M2: 4 Threaded Insert M12
FM: 2 Countersink Hole $\varnothing 13$
 2 Threaded Insert M12

PWHK285 Series



DIMENSIONS (mm)

Tolerances:
 Holes $\pm 0,3$ mm
 Center distances $\pm 0,5$ mm
 $h \pm 7,5$ mm
 $v \pm 10$ mm
Number of Loops:
 (W) 4 (standard)
Fixing Holes: No. 4
Mass: 8 kg to 10 kg

BAR FIXING

L2: 4 Clearance Hole $\varnothing 19$
FL: 2 Countersink Hole $\varnothing 19$
 2 Clearance Hole $\varnothing 19$
F2: 4 Countersink Hole $\varnothing 19$
ML: 2 Threaded Insert M18
 2 Clearance Hole $\varnothing 19$
M2: 4 Threaded Insert M18
FM: 2 Countersink Hole $\varnothing 19$
 2 Threaded Insert M18

