

GEOPHONE



Specifications of Geophone Element

Type	ZF-4.5HS	ZF-5	ZF-24HP	ZF-32CT	ZF-10	ZF-20DX-10Hz
Natural frequency (Hz)	4.5 ±7.5%	5 ±7.5%	10 ±2.5%	10 ±2.5%	10 ±2.5%	10 ±5%
Coil resistance (Ω)	2500 ±5%	1850 ±5%	375 ±2.5%	395 ±2.5%	350 ±3.5%	395 ±5%
Resistance with shunt 1KΩ resistor (Ω)	/	/	273 ±2.5%	283 ±2.5%	/	283 ±5%
Sensitivity(V/m/s)	100 ±5%	80 ±5%	28.8 ±2.5%	27.5 ±2.5%	22.8 ±2.5%	28 ±5%
Sensitivity with shunt 1KΩ resistor (V/m/s)	/	/	20.9 ±2.5%	19.7 ±2.5%	/	20.1 ±5%
Open damping	0.52 ±7.5%	0.6 ±7.5%	0.25	0.316	0.68 ±5%	0.3
Damping with shunt 1kΩ resistor	/	/	0.686(+0%/+5%)	0.698 ±2.5%	/	0.707 ±5%
Distortion(@12Hz&0.7 in/s)	≤0.1%	≤0.1%	≤0.1%	≤0.1%	≤0.075%	≤0.2%
Typical spurious frequency (Hz)	≥160	≥240	≥240Hz	≥250Hz	≥240	≥200
Moving mass(g)	24	22.7	11	11.2	8.4	11
Coil travel peak-peak (mm)	3	3	2	1.5	1.78	1.5
Length(mm)	41.7	41.7	33.3	33.3	27.4	33.5
Diameter (mm)	30.2	27.4	25.4	25.4	30.15	25.4
Weight (g)	139	136	87	89	83	87
Storage temperature (°C)	-40 to +80	-40 to +80	-40 to +100	-40 to +80	-40 to +100	-40 to +80
Limited warranty period (year)	3	3	3	3	3	3

Note:
Except where otherwise noted all electromechanical specifications are valid at 22°C and from 0 to 10 degree tilt.



Specifications of Geophone Element

Type	ZF-2	ZF-4.5	ZF-One	ZF-14	ZF-28	ZF-60HS	ZF-100
Natural frequency (Hz)	2 ±15%	4.5±10%	10 ±3.5%	14±5%	28±5%	60±5%	100±5%
Coil resistance (Ω)	5800 ±5%	375 ±5%	1800 ±3.5%	395 ±5%	395 ±5%	2800 ±5%	570 ±5%
Resistance with shunt 1KΩ resistor (Ω)	/	/	/	283±5%	283±5%	/	/
Sensitivity(V/m/s)	200 ±10%	28.8±7.5%	85.8 ±3.5%	28±2.5%	39±5%	80±5%	23±5%
Sensitivity with shunt 1kΩ resistor (V/m/s)	/	/	/	20.1±5%	28±5%	/	/
Open damping	0.6 ±20%	0.56±10%	0.51 ±7.5%	0.22	0.22	0.55 ±7.5%	0.38±7.5%
Damping with shunt 1kΩ resistor	/	/	/	0.51±5%	0.552±5%	/	/
Distortion(@12Hz&0.7 in/s)	≤0.2%	≤0.2%	≤0.1%	≤0.2%(@14Hz &0.7 in/s)	≤0.2%(@28Hz &0.7 in/s)	≤0.2%(@60Hz &0.7 in/s)	≤0.2%(@100Hz &0.7 in/s)
Typical spurious frequency (Hz)	≥160	≥200Hz	≥240	≥250Hz	≥350Hz	≥500Hz	≥600Hz
Moving mass(g)	60	11.1	14	11	11	15	5
Coil travel peak-peak (mm)	3	4	2.54	1.5	1.5	1	1.5
Length(mm)	47.5	37.3	40	33.5	33.5	41.7	33.3
Diameter (mm)	41.2	25.4	30.2	25.4	27	30.2	27
Weight (g)	267	92	146	87	95	123	93
Storage temperature (°C)	-40 to +80	-40 to +80	-40 to +80	-40 to +80	-40 to +80	-40 to +80	-40 to +80
Limited warranty period (year)	1	2	3	3	3	3	2

Note:
Except where otherwise noted all electromechanical specifications are valid at 22°C and from 0 to 10 degree tilt.