CLAIMS

1- A suspension spring for a refrigeration compressor of the type which comprises a shell ~~(10)~~ and a block ~~(21)~~ forming, with the stator ~~(22)~~ of an electric motor, a stationary assembly ~~(20)~~ which is mounted in the interior of the shell ~~(10)~~ by means of a suspension including an assembly of helical springs ~~(30)~~, each spring presenting a lower end ~~(31)~~ and an upper end ~~(32)~~, each said end ~~(31, 32)~~ being coupled, respectively, to an adjacent part of shell ~~(10)~~ and of stationary assembly ~~(20)~~, wherein said helical spring ~~being characterized in that it~~ presents, for a predetermined dimensional range of one of the spring parameters defined by the spring average diameter (D), the pitch (p) of its coils, the spring wire diameter (d) and the active height (h), a ratio between at least two of each pair of the other three parameters, defined to provide, to said helical suspension spring ~~30~~, for a desired frequency band, a stiffness corresponding, at minimum, to that of the structural reliability of the suspension, and an attenuation in its acoustic transmissibility, in relation to the springs dimensioned only as a function of their suspension structural requirements for a desired frequency band.

2- The suspension spring, as set forth in claim 1, ~~characterized in that~~ wherein said helical spring~~it~~ presents, for a predetermined range of spring wire diameters (d), a ratio between the spring average diameter (D) and the pitch (p) of its coils and a ratio between the spring average diameter (D) and its active height (h), defined to provide, to said helical spring ~~(30)~~, a stiffness corresponding, at minimum, to that of structural reliability of the suspension, and an attenuation in the acoustic transmissibility, in relation to the springs dimensioned only as a function of their suspension structural requirements.

3- The suspension spring, as set forth in claim 2, ~~characterized in that it~~wherein said helical spring presents, for a predetermined

range of spring wire diameters (d), defined between 1.3mm and 1.7mm, a relation between the spring diameter (D) and the pitch (p) of its coils varying between 4.9 and 7.85 and a relation between the spring diameter (D) and its active height (h) between 0.81 and 0.90, in order to provide an attenuation in the acoustic transmissibility of the spring of up to about 30dB.

4- The suspension spring, as set forth in claim 3, ~~characterized in that~~wherein the spring wire diameter (d) is from 1.3mm to 1.7mm, the pitch (p) is from 2mm to 3mm, the spring average diameter (D) is from 14.7mm to 15.7mm and the spring active height (h) is from 17.5mm to 18.0mm, attenuating, in 6dB, the sound power level radiated by the compressor, in the band of 1/3 octave at 1600Hz.