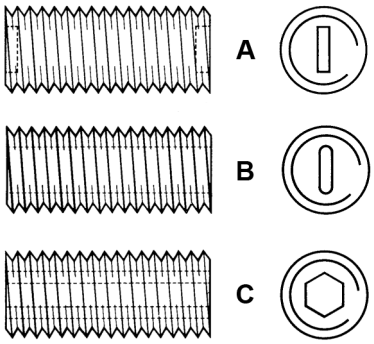
Ferrite Screw Cores



Dimensional Data

The types of screw cores in the table below are designated by their nominal diameter and pitch of thread.

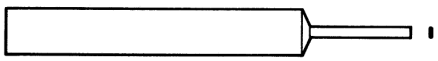
Type	Standard length (mm) <17mm ±0.40, >17mm ±0.75									Major diam. (mm)		Slots	Material grade					
										min.	max.							
3x0.5	6	7.5		10						2.70	2.75	A		F14	F16		F25	F29
4x0.5	6	7.5		10	13					3.84	3.89	A		F14	F16	F22	F25	F29
6x1			9		13	16	20	25	30	5.79	5.87	A or B	F8	F14	F16		F25	F29
H6x1		7.5			13	16				5.79	5.87	C	F8	F14				

Trimming Slots

Ferrite screw cores are manufactured with either a full length (through) slot or with a slot at each end, depending upon the length to diameter ratio of the core.

Trimming Tools

74-005-94



T.T.5 For 3 mm screw cores.

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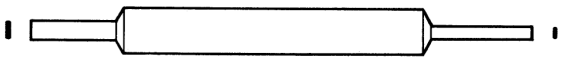

T.T.2 For 4 and 6 mm screw cores.

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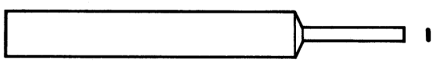
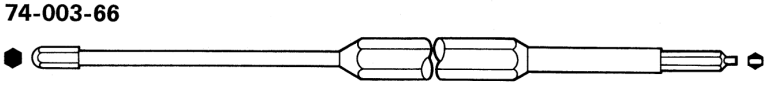


T.T.1 For 4 mm screw cores.

74-003-66



H.S.3 For H6 screw cores.

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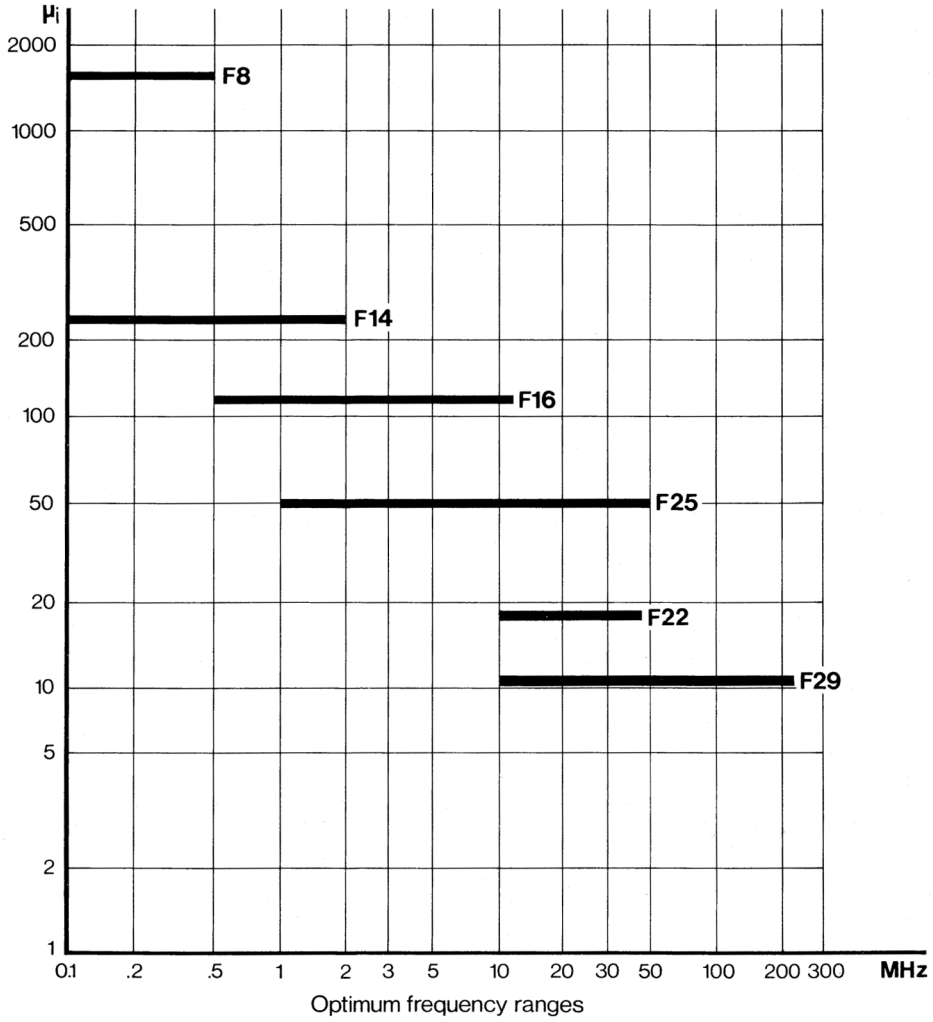
Core Retention
Self-locking screw cores can be supplied which have a retention deposit (core brake) already applied, suitable for the former in which the core is to be used. Alternatively, rubber string of appropriate size can be supplied when this method of retention is preferred.

Electrical Specification

Working Frequency
The optimum choice of the grade of material for a given frequency can be ascertained from the graph.



Optimum frequency ranges

Permeability
The tolerance on coil permeability (inductance ratio) is ±5%. This figure relates to measurements under standard test conditions.

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Material

The choice of material for a particular application should be based upon the intended frequency range and, to a lesser degree, upon the required inductance adjustment. A magnetic circuit that contains only a screw core produces a very low coil permeability (i.e., the ration of inductances with and without the core) as compared with the initial permeability of the core material, particularly when high permeability grades are used. The degree of permeability dilution increases as length-to-diameter ratio decreases; it also increases as the initial permeability increases. This is illustrated by the following example:

Screw cores type 6x1x13mm were measured in a typical single layer coil. The results were as follows:

Initial permeability

12	50	200	525	875

Coil permeability

2.9	4.0	4.5	4.6	4.65

It is obvious from this that Q considerations are more important than permeability.

To order a screw core the type, length and grade of material need to be quoted, e.g. 6x1x13, grade F14.

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