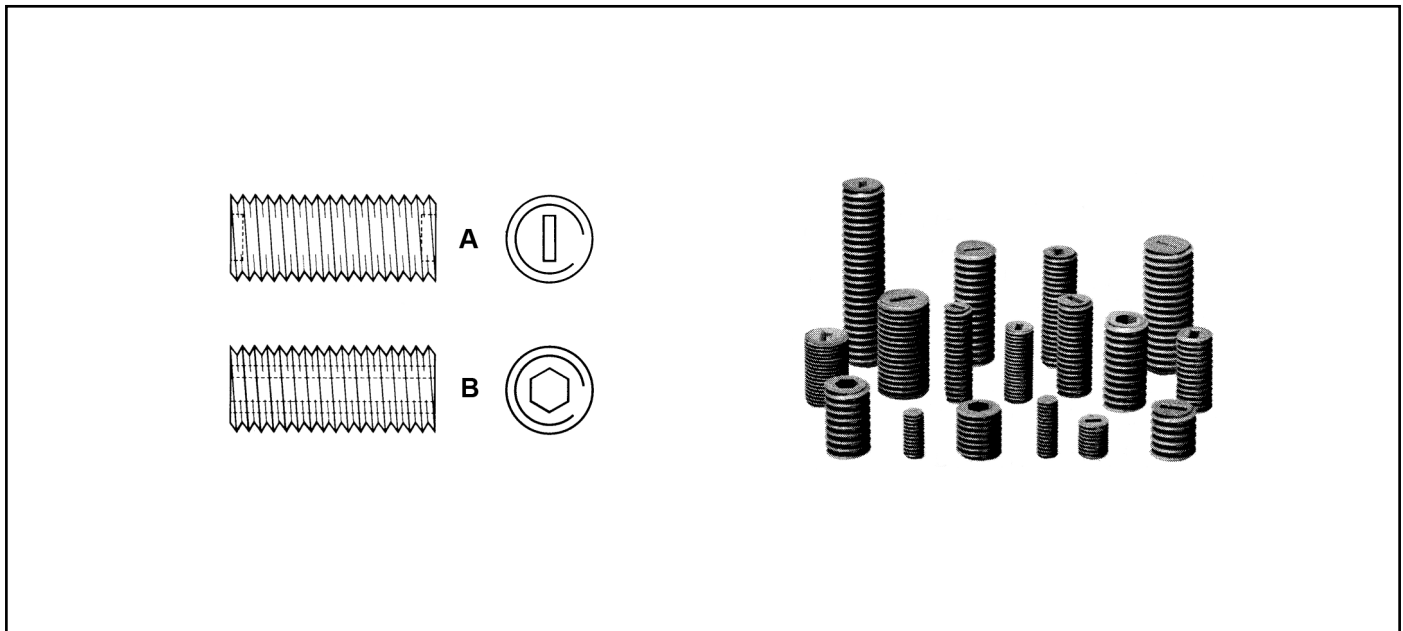


# Iron Powder Screw Cores



## Dimensional Data

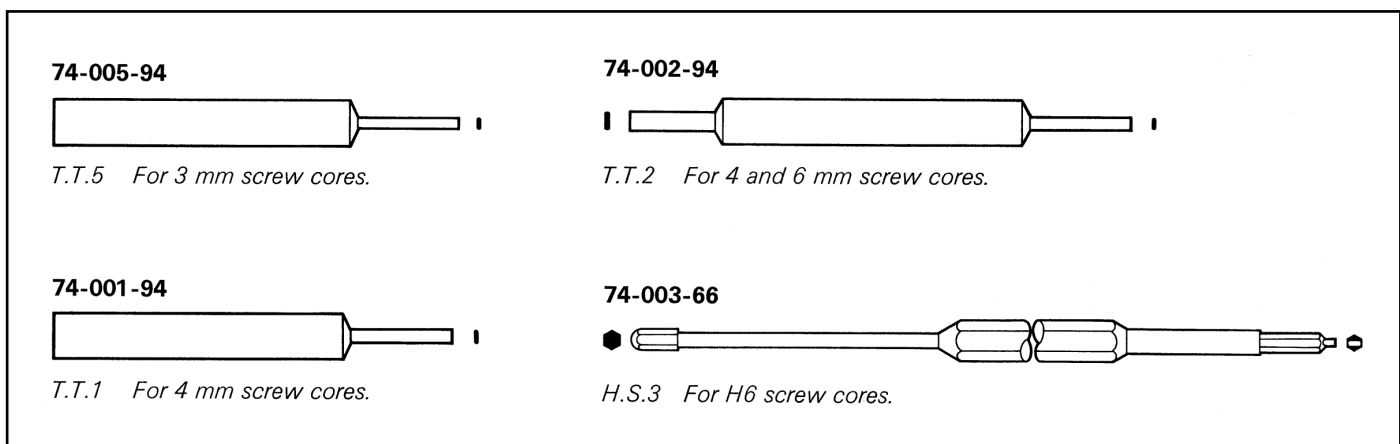
The types of screw cores in the table below are designated by their nominal diameter and pitch of thread.

Type	Standard length (mm) <17mm ±0.25, >17mm ±0.40							Major diam. (mm)		Slots	Material grade		
								min.	max.				
3x0.5	6	7.5						2.70	2.75	A	500	900	901
4x0.5	6	7.5		10	13			3.84	3.89	A	500	900	901
6x1	6		9		13	16	25	5.79	5.87	A	500	900	901
H6x1		7.5	9		13	16		5.79	5.87	B	500	900	

### Trimming Slots

Iron powder screw cores have trimming slots at both ends except type B which have a full length hexagonal hole through the centre of the core.

### Trimming Tools



# Iron Powder Screw Cores

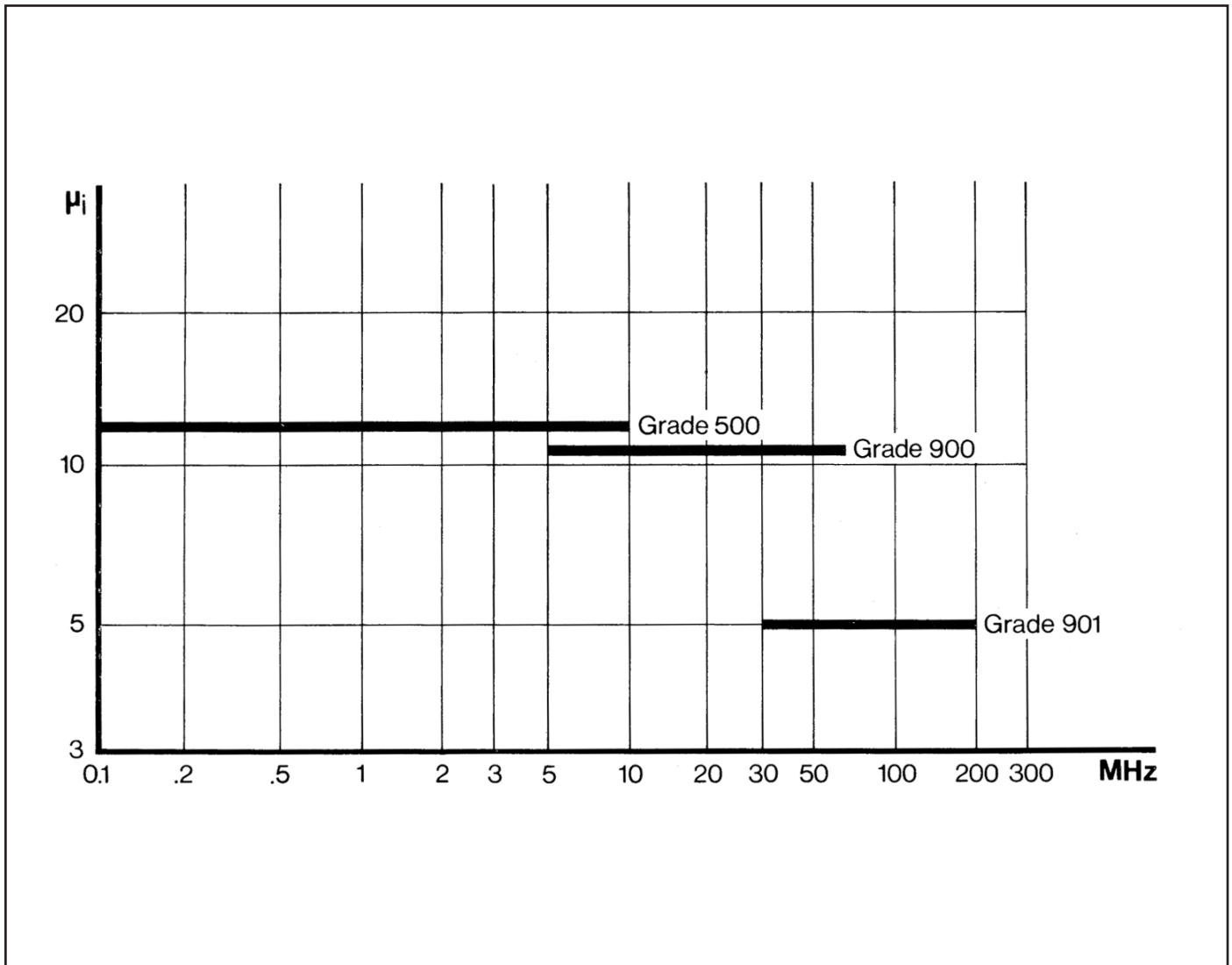
## Core Retention

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.



### Permeability

The tolerance on coil permeability (inductance ratio) is  $\pm 3\%$ . This figure relates to measurements under standard test conditions.



## Material

The cores listed in the table can be supplied in iron powder grades 500, 900 and 901. 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

5	12
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Coil permeability

1.65	2.9
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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 500.**