3F — Framework for FEMM

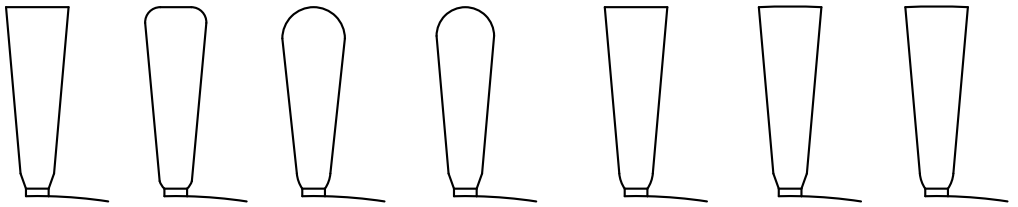
13th August 2016

Contents

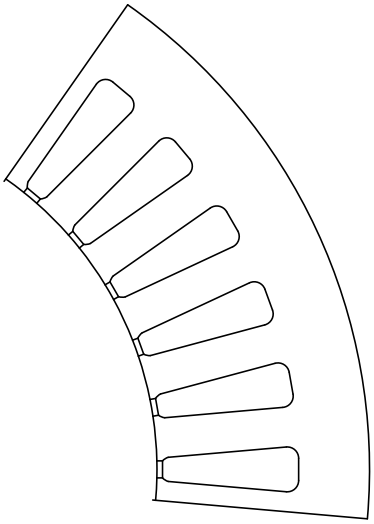
Chapter 1

Geometry

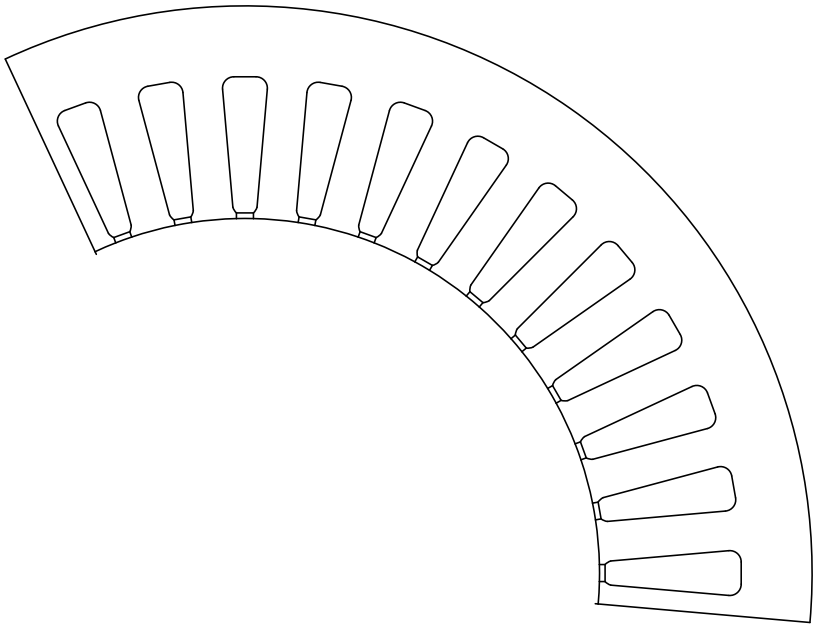
1.1 Slots



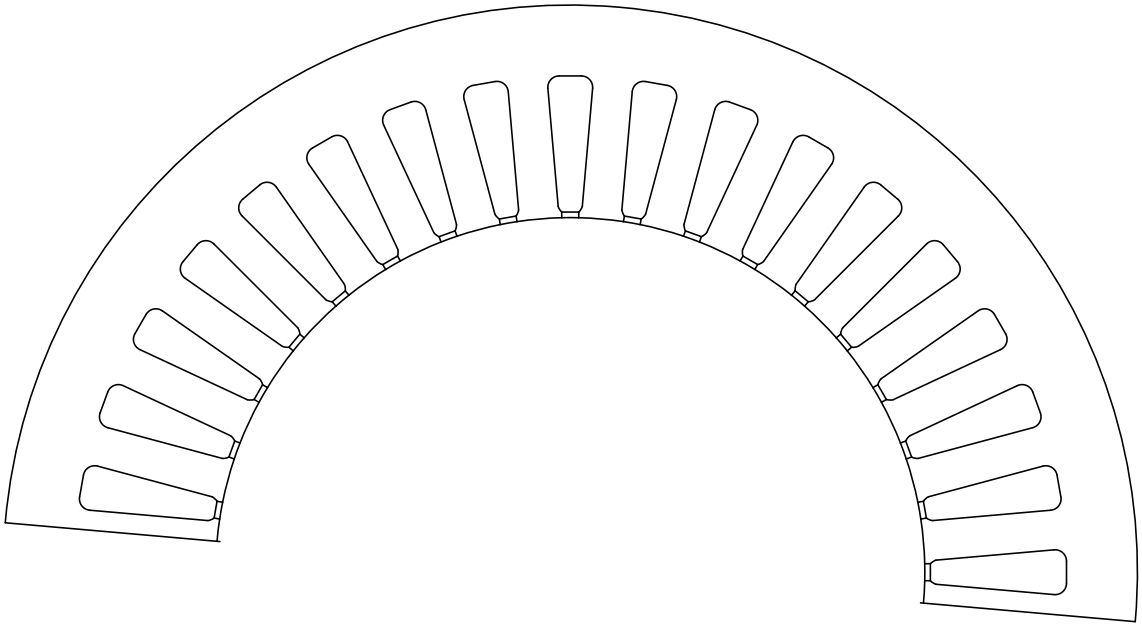
1.2 Stators



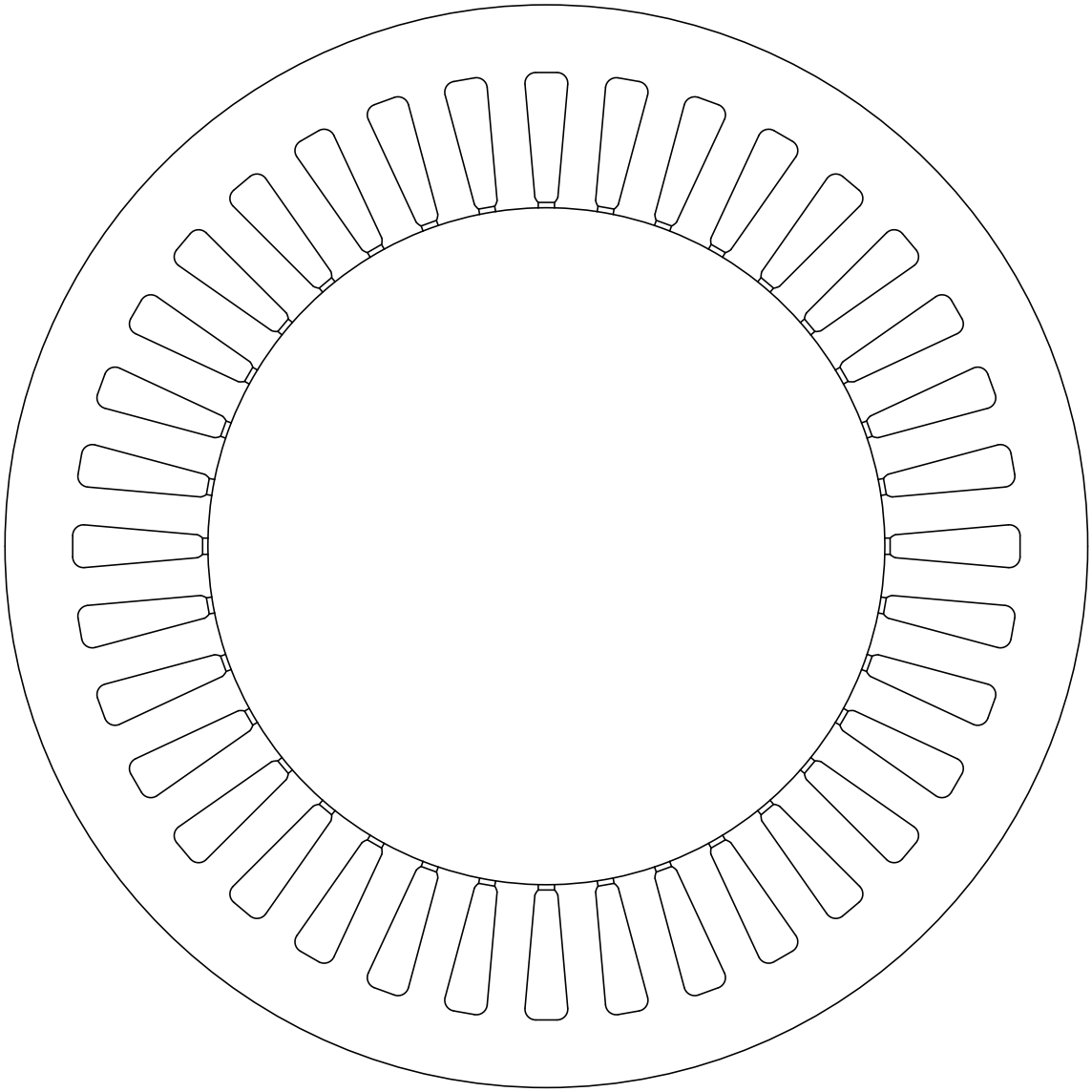
1 pole



2 poles

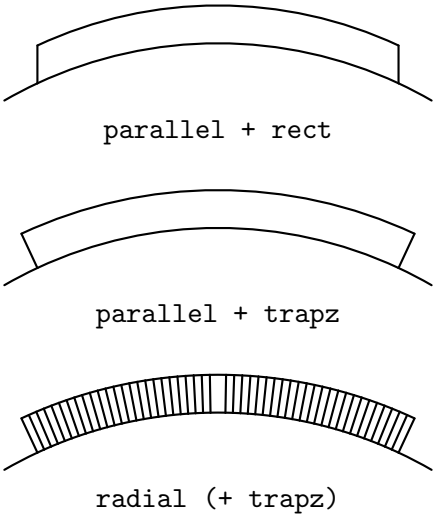


p poles

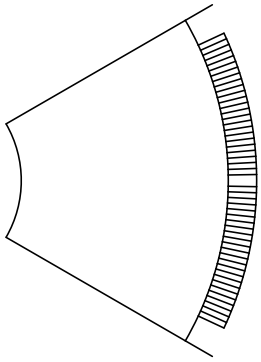


$2p$ `poles`

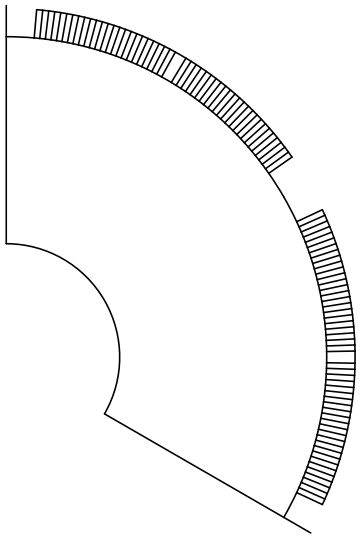
1.3 SPM Magnets



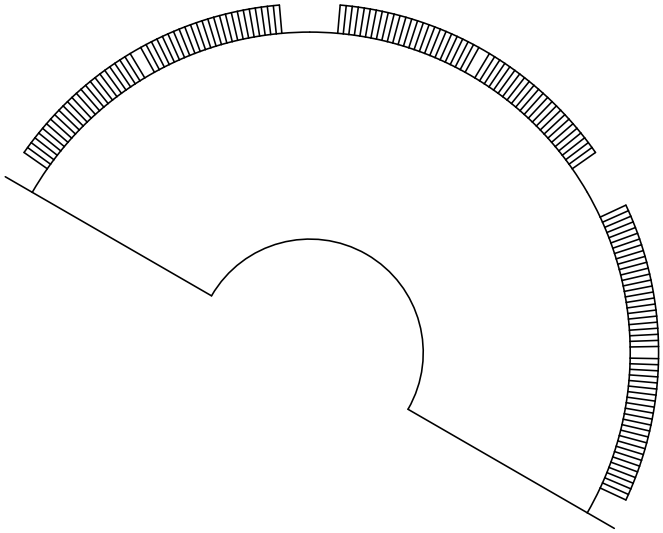
1.4 SPM Rotors



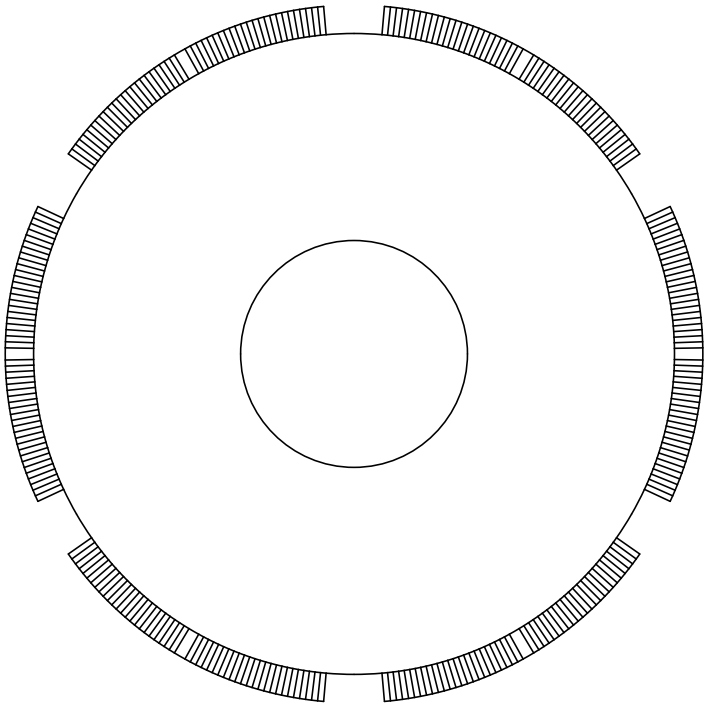
1 pole



2 poles



p poles



$2p$ poles

Chapter 2

Winding

We will characterise a winding through

Name	Math symbol	Code symbol
N. of phases	m	`m`
N. of coils	N_{coils}	`coils`
N. of turns per coil	N_{turns}	`turns`
N. of layers	N_{layers}	`layers`

Typically, given a lamination stack with Q slots

$$N_{\text{coils}} = \frac{Q}{2} N_{\text{layers}}$$

so if the number of layers is one, the number of coils is half the number of slots, given the fact that a coil side occupies a full slot.