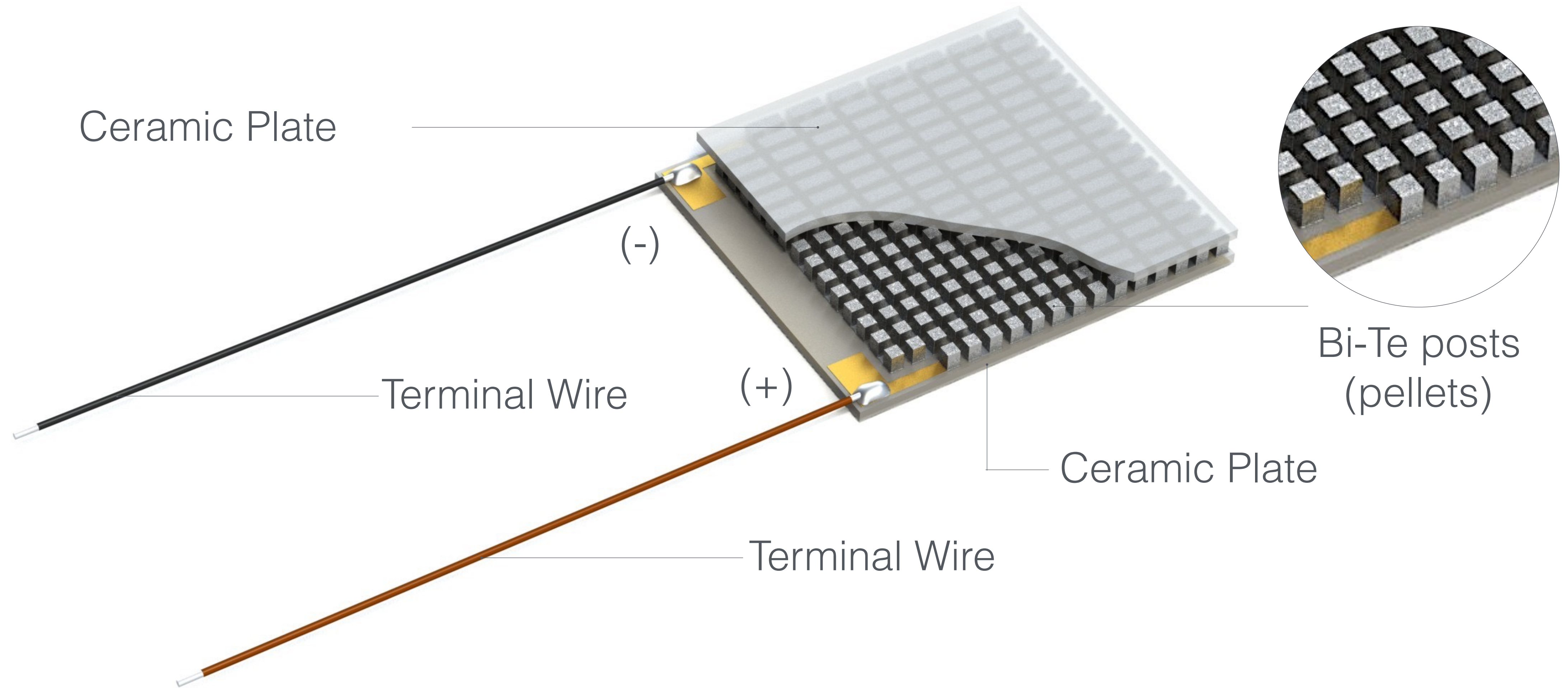




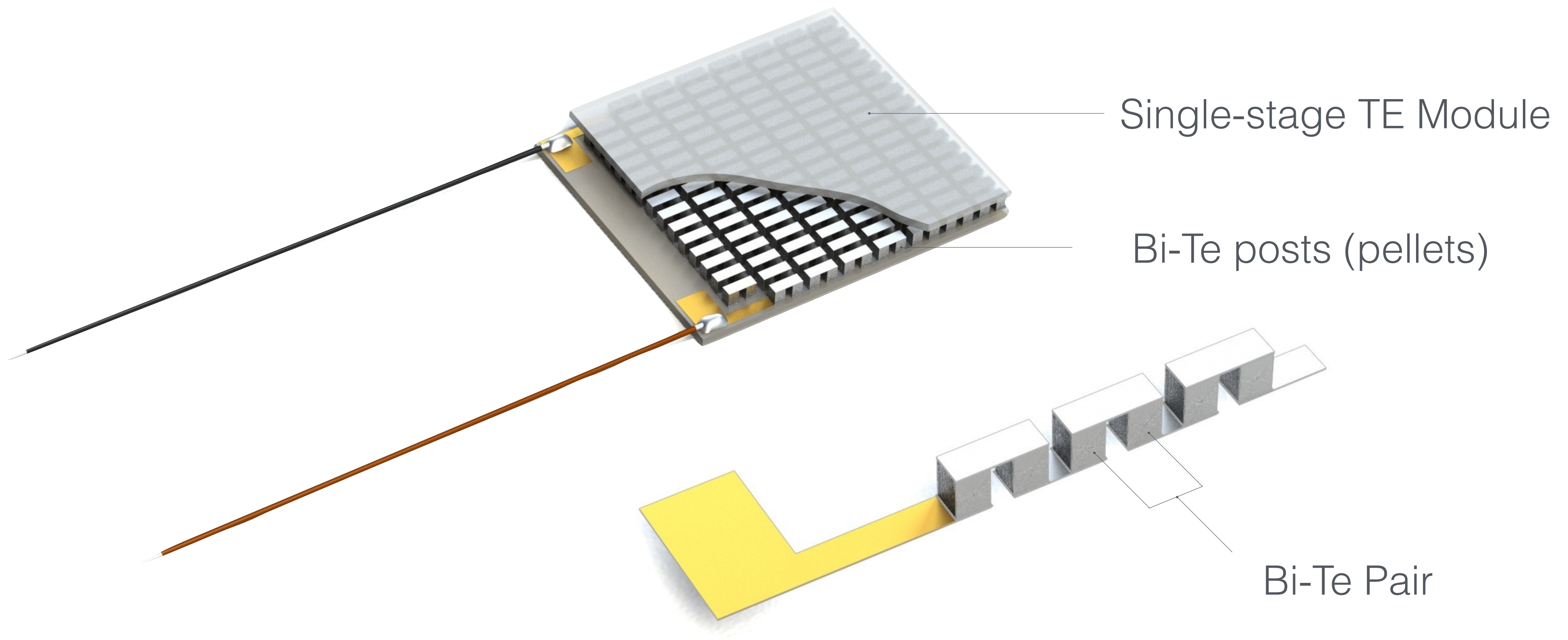
Thermoelectric Module Construction



Typical single-stage thermoelectric module consists of two ceramic plates and BiTe posts in between.



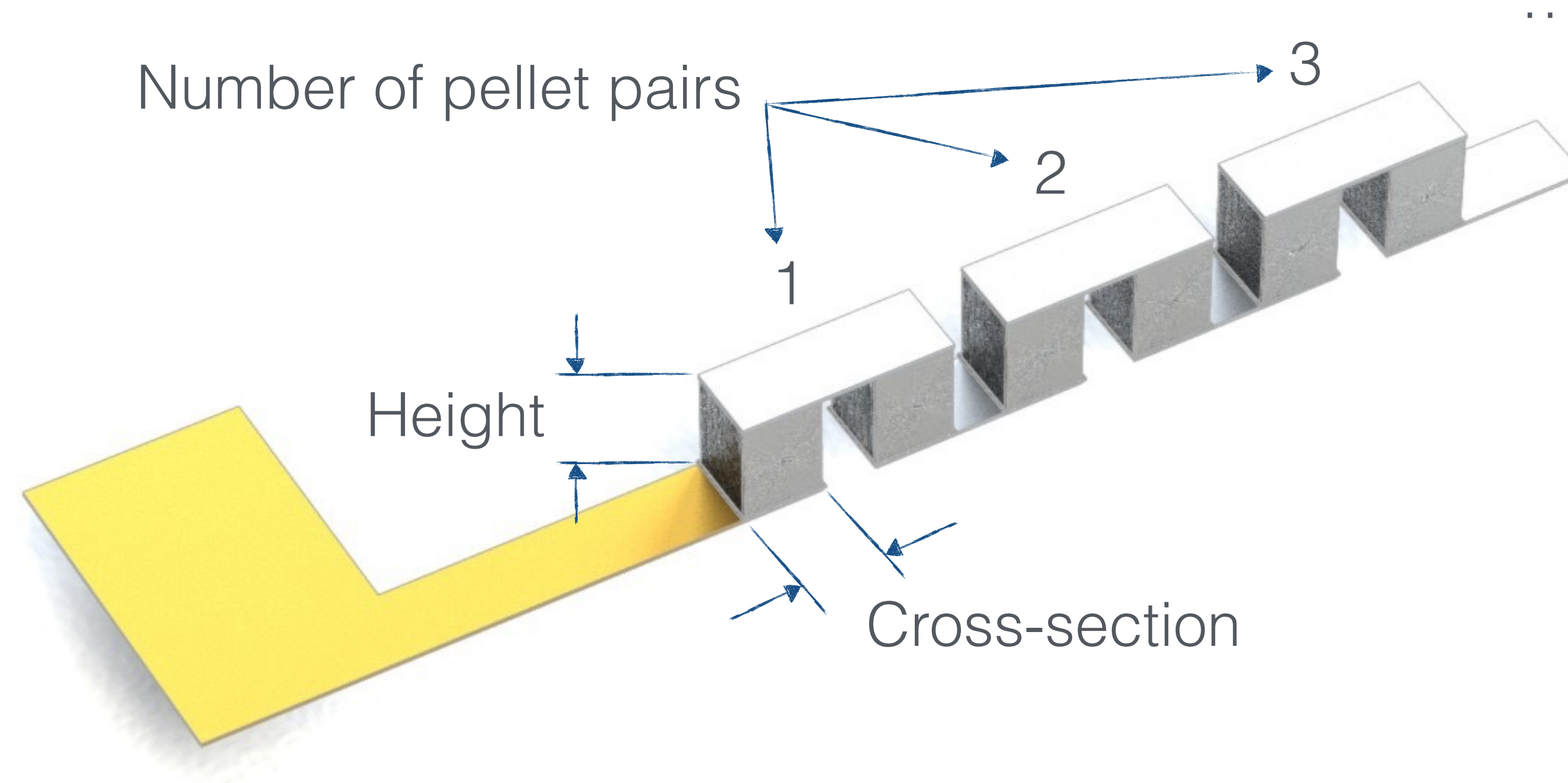
Thermoelectric Module Construction



All Bi-Te posts inside TECs are connected in pairs



Thermoelectric Module Construction

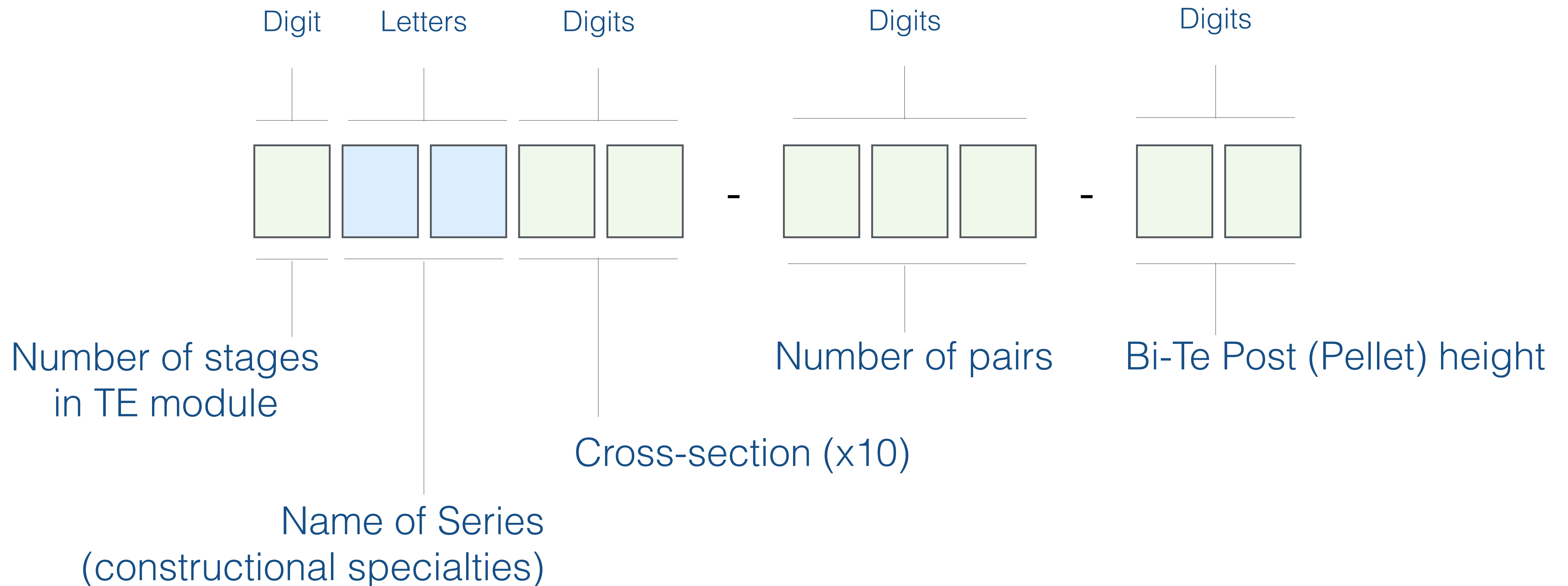


Post cross-section, height and number of pellet pairs set the main TE module parameters:
 dT_{max} , Q_{max} , U_{max} , I_{max} .

Thus any thermoelectric module can be classified by pellets geometry and number of pairs



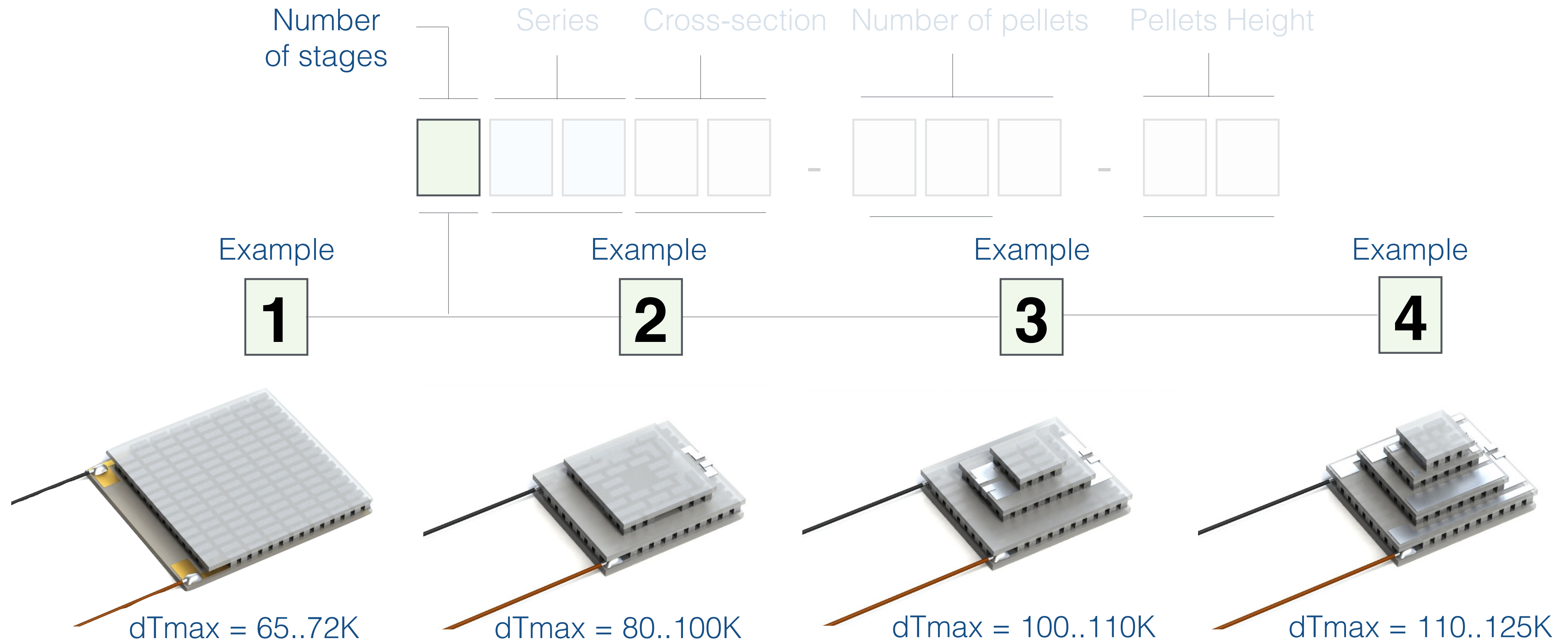
System of Numbering of Thermoelectric Modules“© by Dr. Gromov



All the key information about TE Module is coded in it's nomenclature name



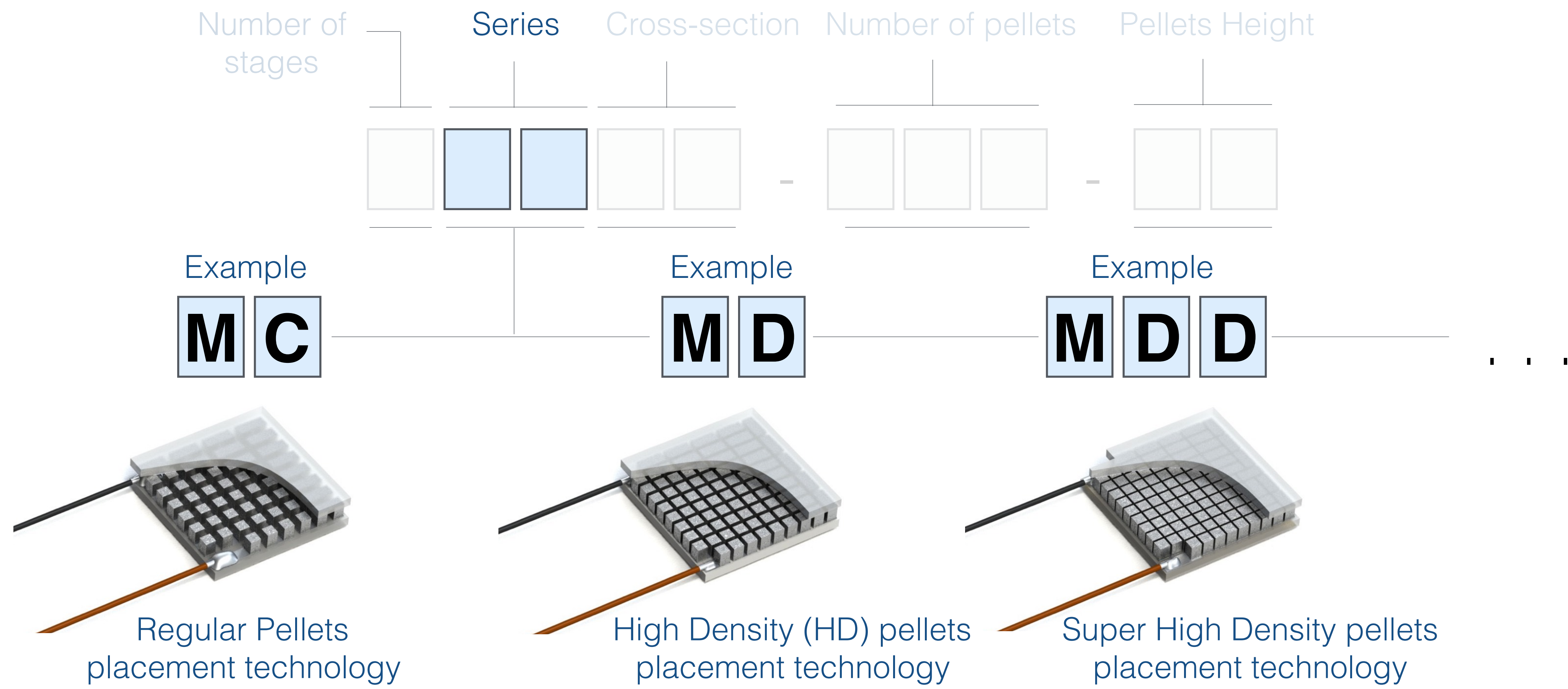
System of Numbering of Thermoelectric Modules“© by Dr. G.Gromov Number of Stages



Number of stages is coded by first digit. Number of stages is connected to dT_{max}



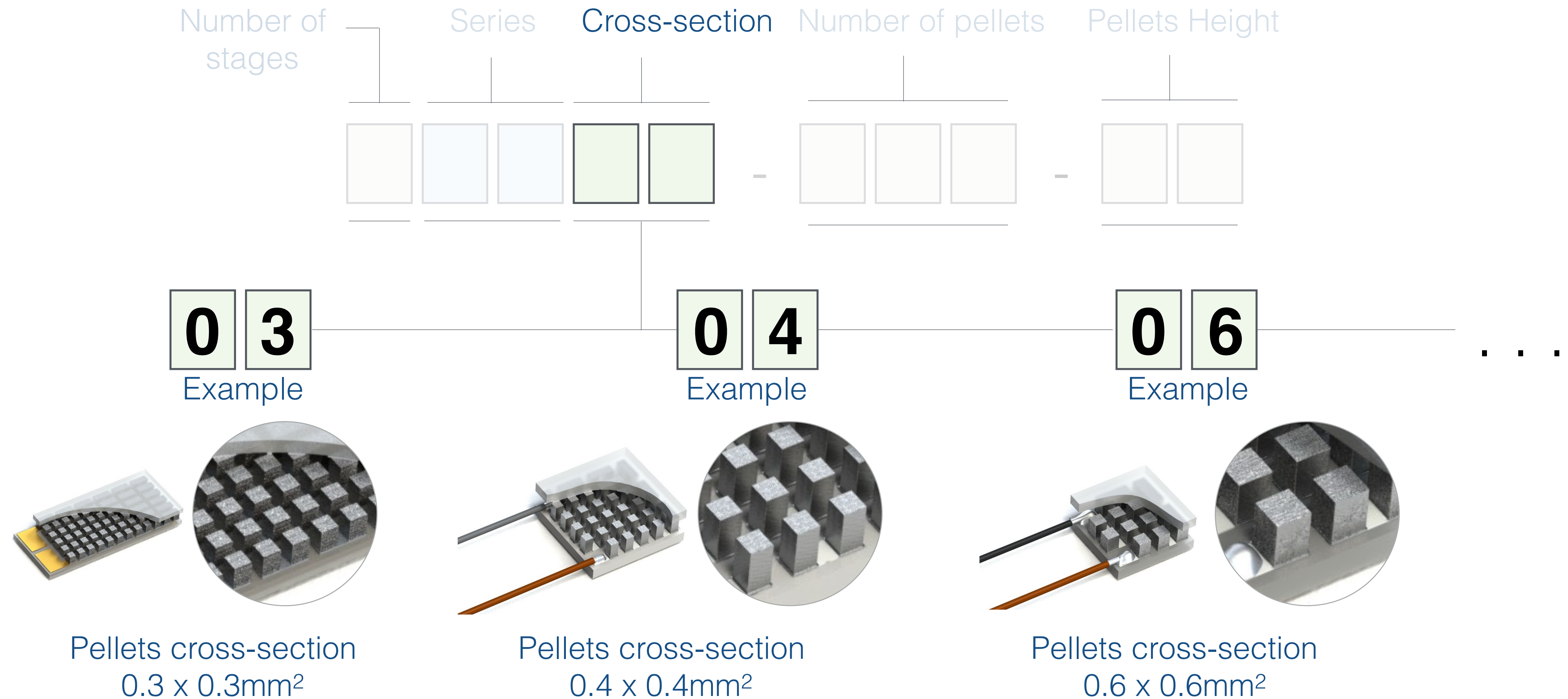
System of Numbering of Thermoelectric Modules“© by Dr. G.Gromov Series



Series letters indicate applied assembly technology or specific application focus



System of Numbering of Thermoelectric Modules“© by Dr. G.Gromov Pellets Cross-section

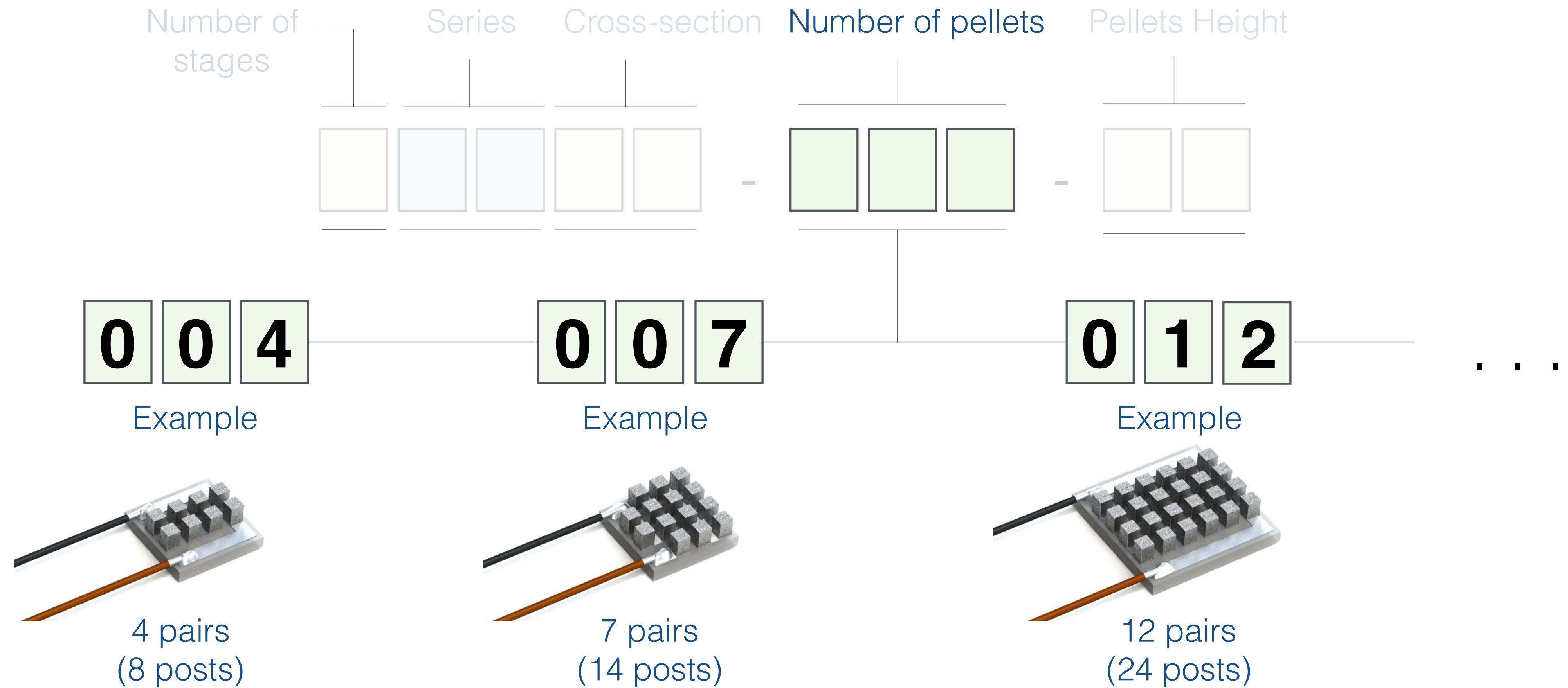


Pellets Cross-Section is coded by 2 digits after Series. Cross-section is connected to I_{max} , Q_{max}



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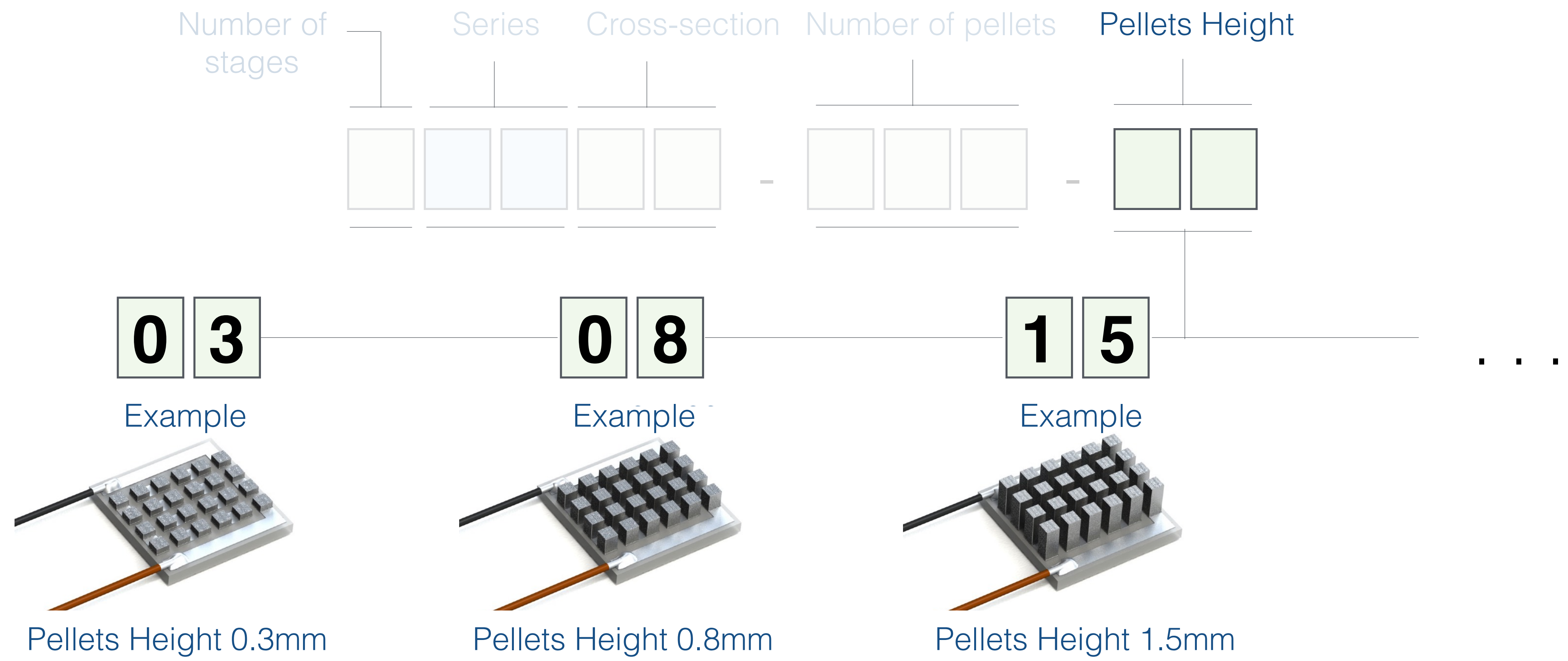
Number of Pellet Pairs



Number of pellets is coded after Cross-Section and points to U_{max} (~0.12V per Pair)



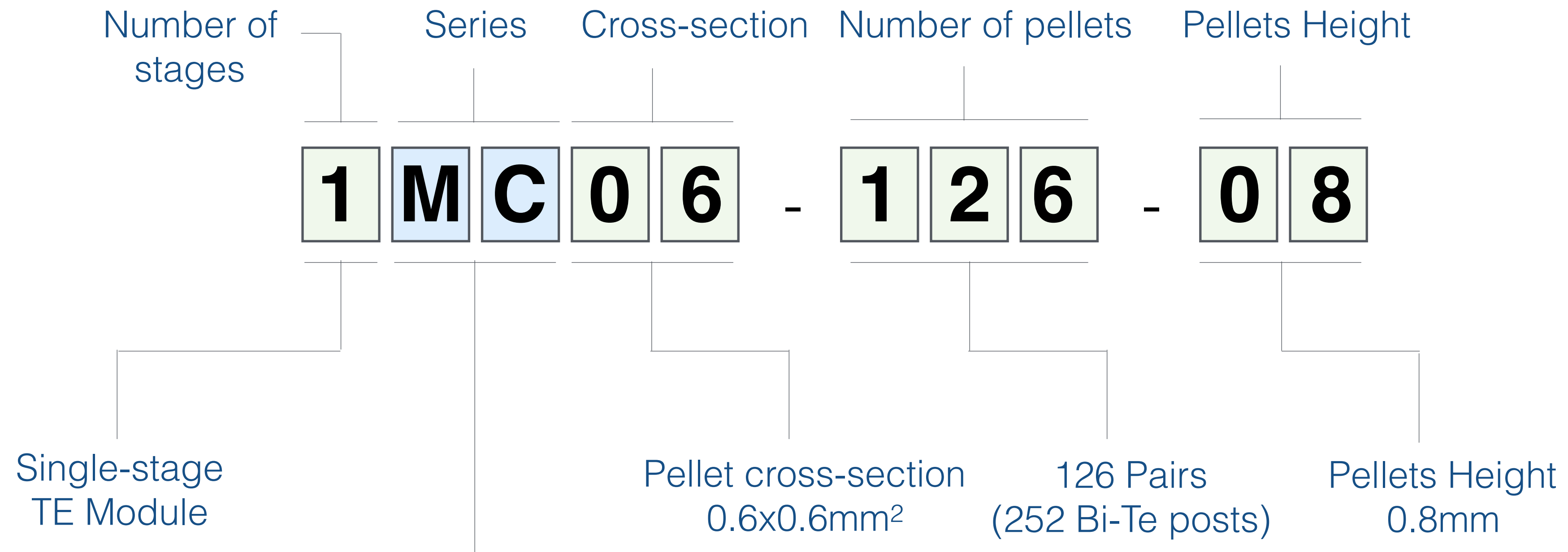
System of Numbering of Thermoelectric Modules“© by Dr. G.Gromov Pellets Height



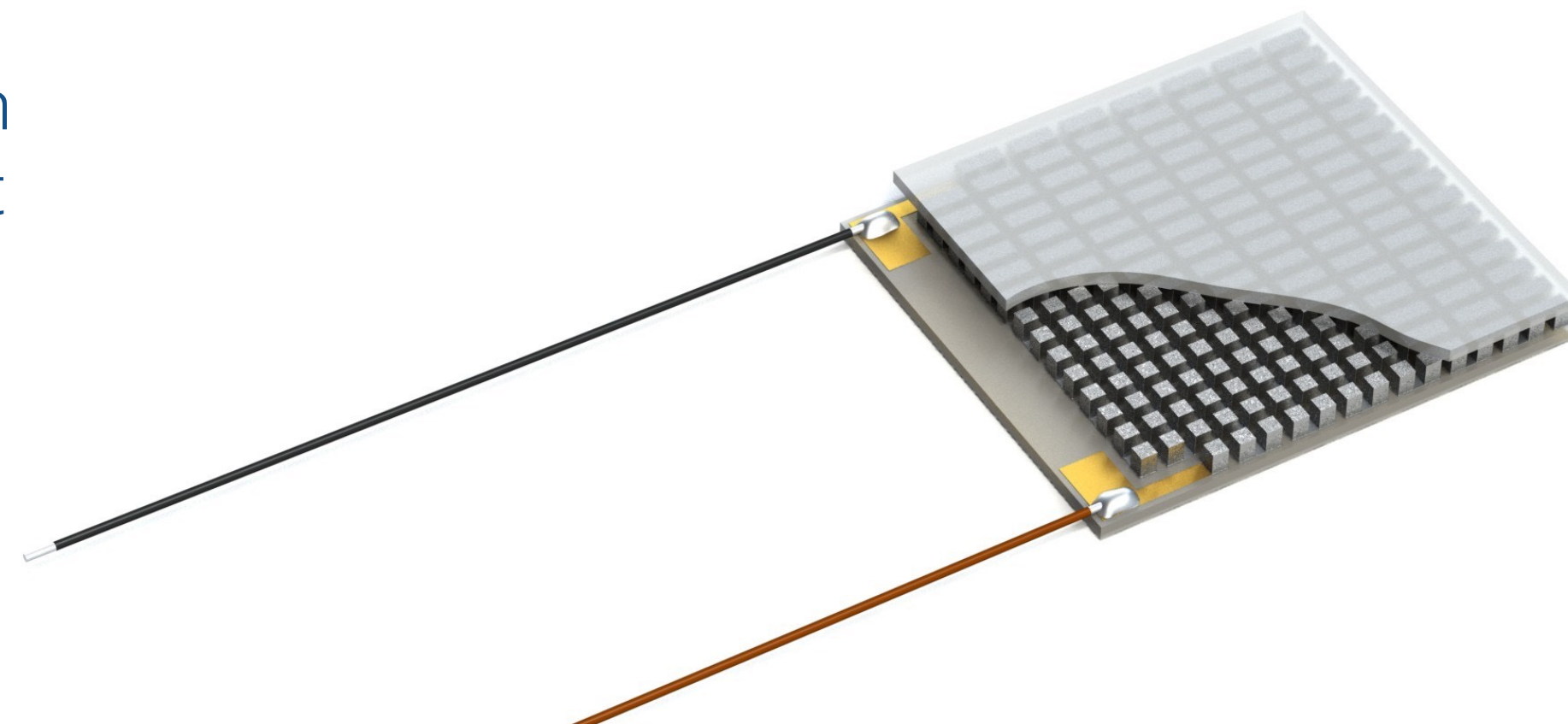
Last 2 digits point to Pellets Height (x10). Pellets Height is connected to dTmax and I_{max}



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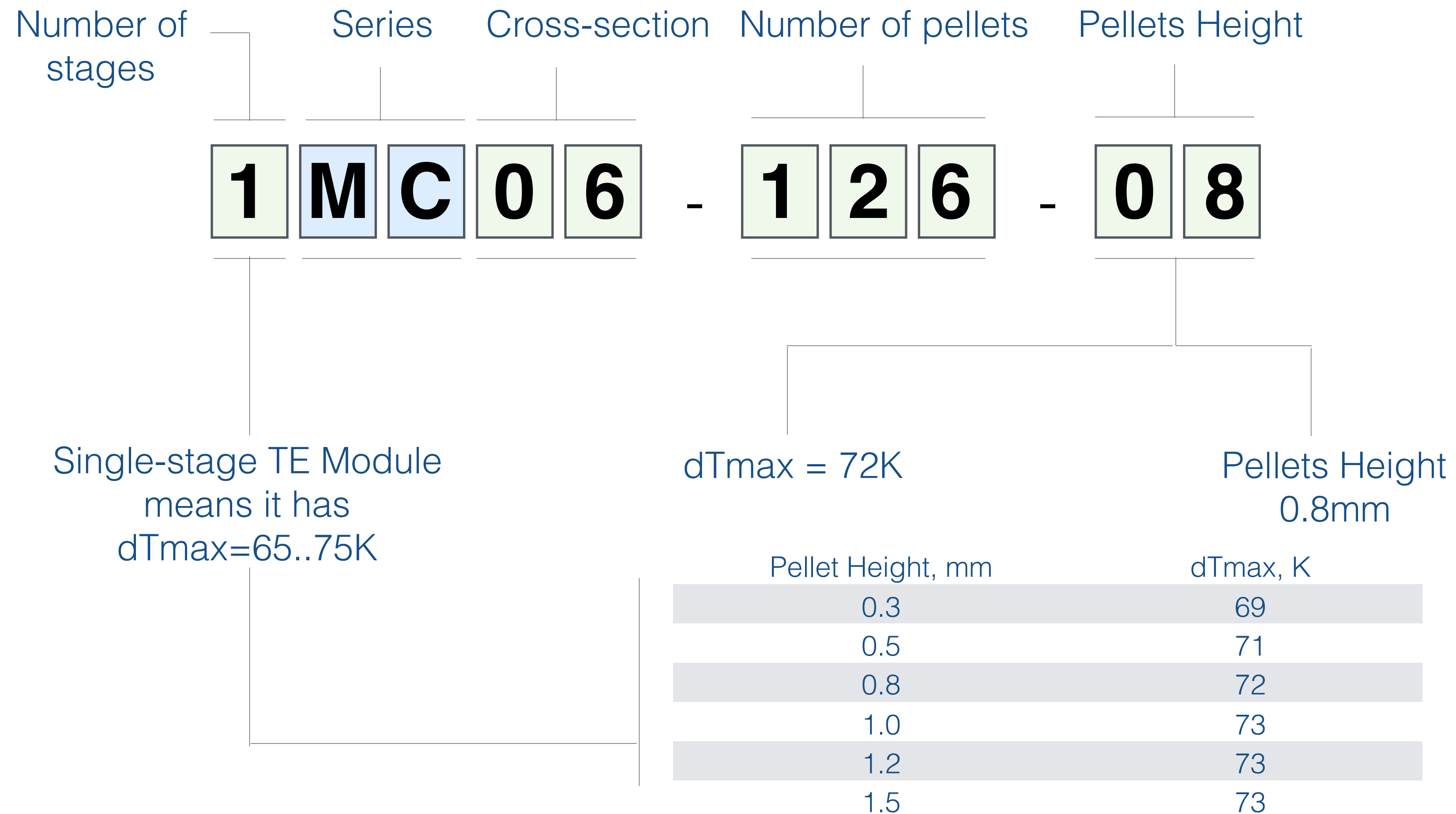


MC Series
(standard technology with regular pellets placement density)





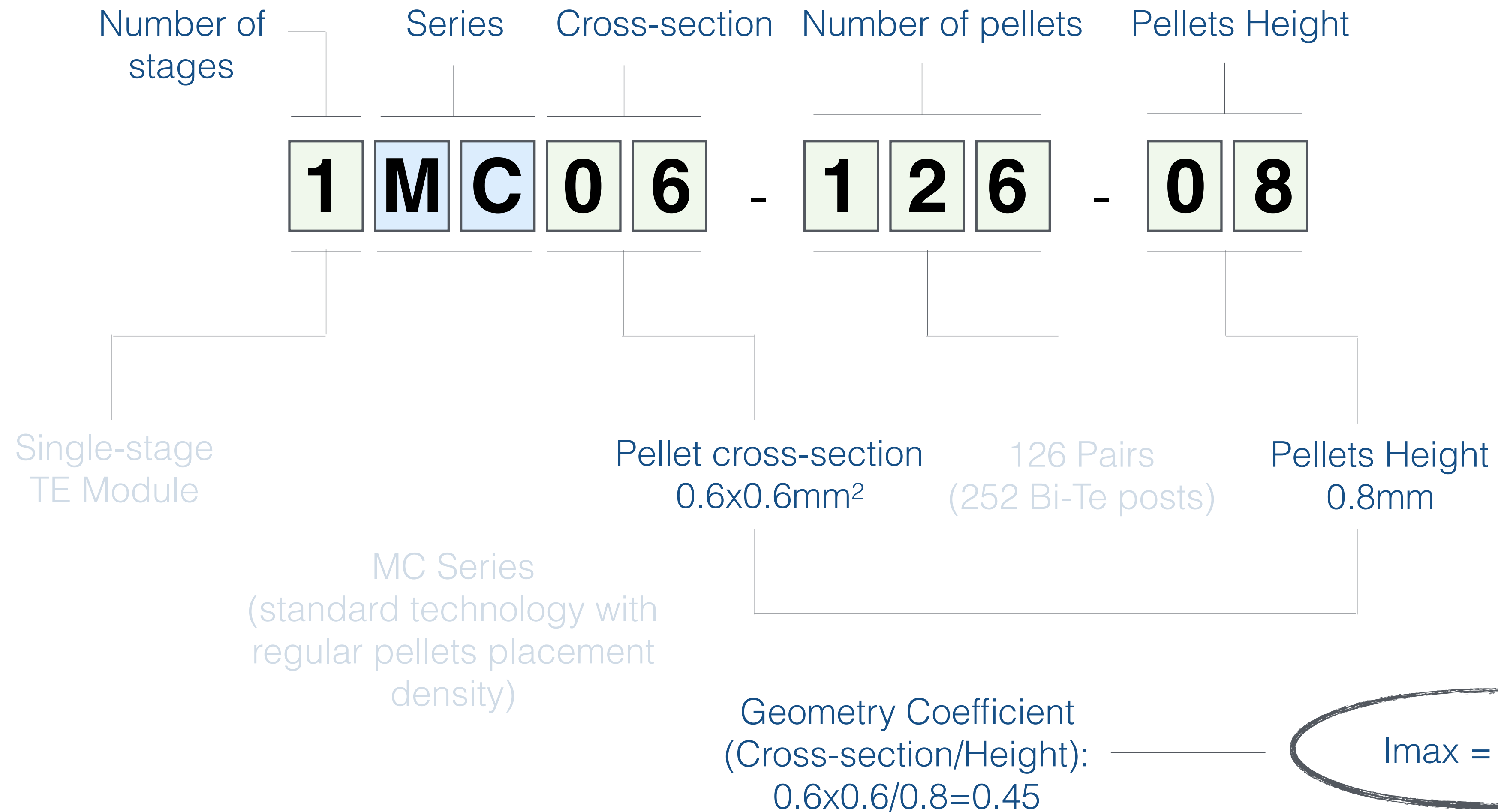
System of Numbering of Thermoelectric Modules“© by Dr. G.Gromov Deeper Analysis Example



dT_{max} can be estimated basing on number of stages in TE Module and Pellets Height



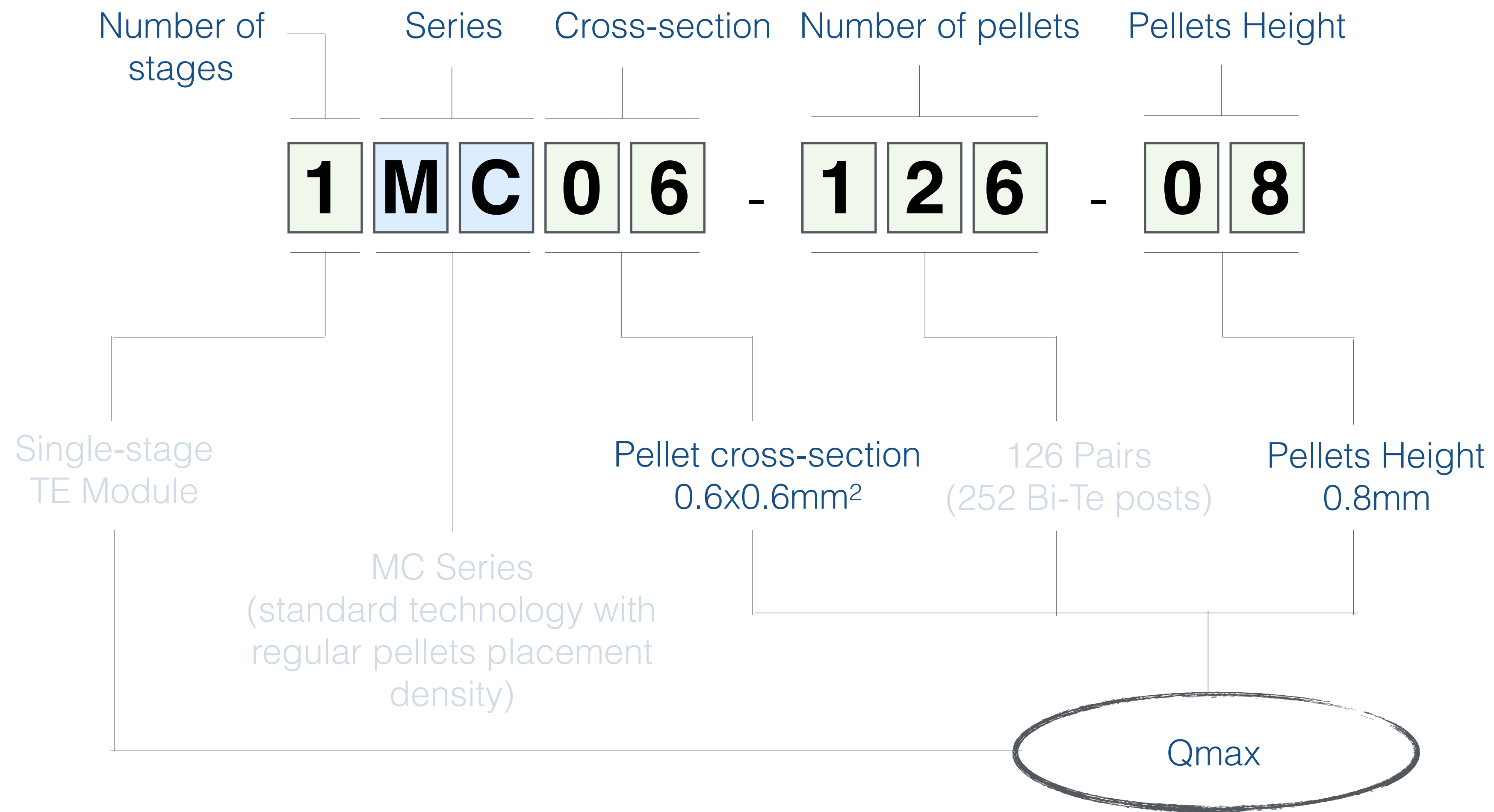
System of Numbering of Thermoelectric Modules“© by Dr. G.Gromov Deeper Analysis Example



Single-stage TE module I_{max} can be estimated as (Geometry Coefficient) x 4.528



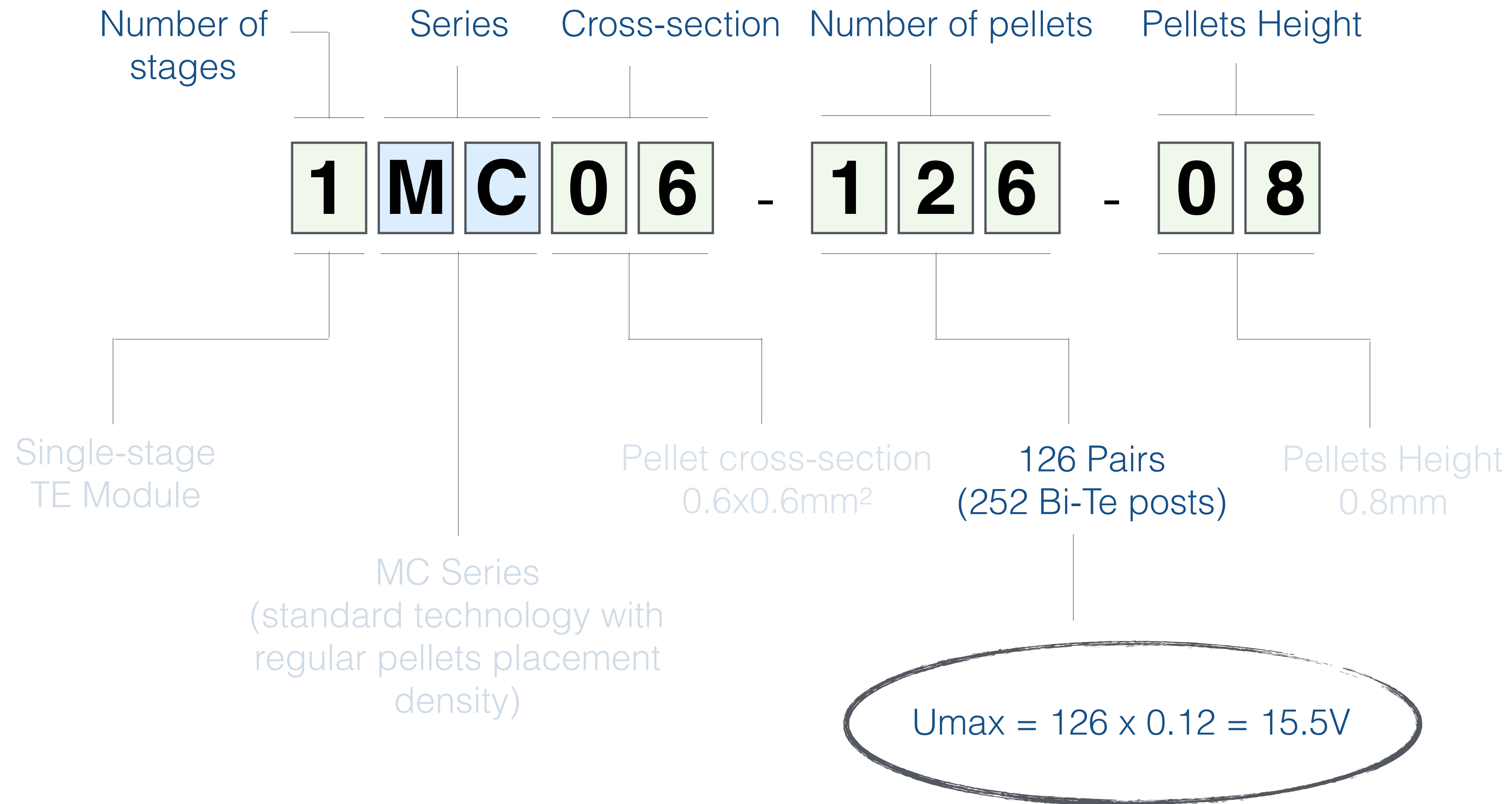
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Qmax is estimated basing on number of stages, Pellets cross-section and height, number of pellets



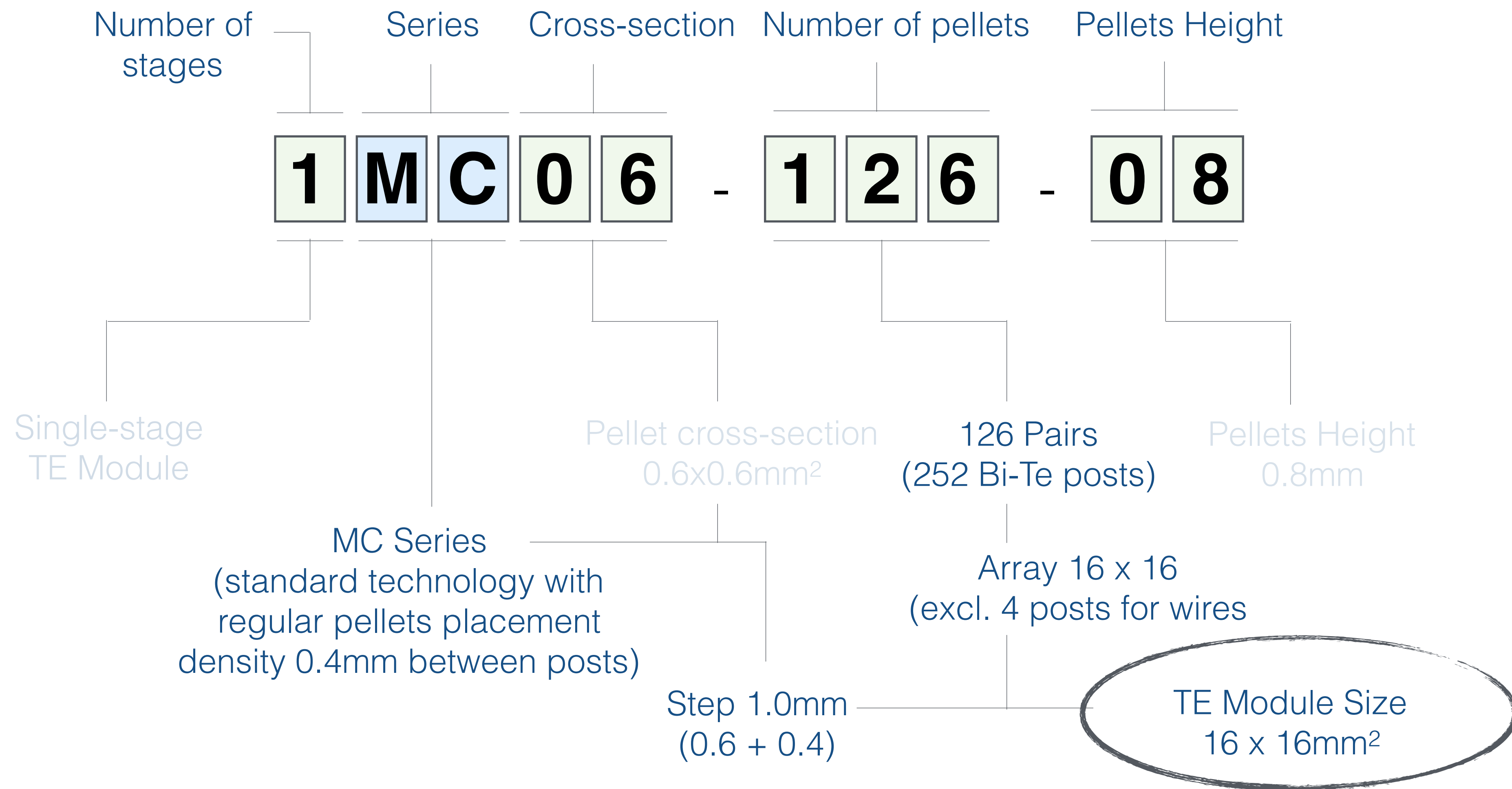
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Single-stage TE Module U_{max} parameter is estimated as Number of Pairs x 0.12V



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Basing on Series, Number of Pellets and Cross-section it's possible to estimate TE Module size